

# BID SET - NOT FOR CONSTRUCTION



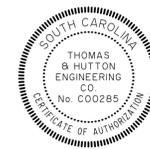
# PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS

## ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA

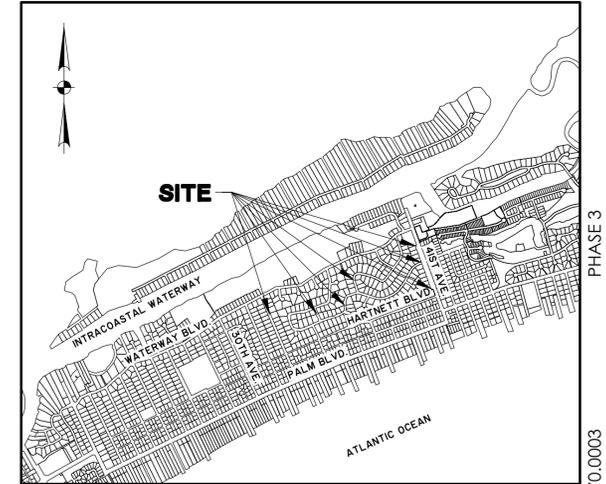
PREPARED FOR:  
**CITY OF ISLE OF PALMS**  
 1207 PALM BLVD.  
 ISLE OF PALMS, SC 29451

J- 27670.0003

PREPARED BY:



HYDRAULIC DESIGN REFERENCE  
 FOR THIS STUDY IS THE:  
 2009 EDITION  
 SC DEPARTMENT OF  
 TRANSPORTATION  
 REQUIREMENT FOR HYDRAULIC  
 DESIGN STUDIES



VICINITY MAP  
 SCALE: 1" = 2000'

PHASE 3  
 J-27670.0003  
 1/3/20  
 INTERNAL DRAINAGE IMPROVEMENTS

Sheet List Table

Sheet Number	Sheet Title
C0	COVER SHEET
G0.1	GENERAL NOTES & SHEET INDEX
D1.1	DEMOLITION PLAN
D1.2	DEMOLITION PLAN
D1.3	DEMOLITION PLAN
D1.4	DEMOLITION PLAN
EC0.1	SWPPP NOTES
EC0.2	SWPPP CHARTS
EC0.3	SWPPP DETAILS
EC0.4	SWPPP DETAILS
EC1.1	EROSION CONTROL PLAN
EC1.2	EROSION CONTROL PLAN
EC1.3	EROSION CONTROL PLAN
EC1.4	EROSION CONTROL PLAN
U1.1	UTILITY RELOCATION PLAN
U1.2	UTILITY RELOCATION PLAN
U1.3	UTILITY RELOCATION PLAN
U1.4	UTILITY RELOCATION PLAN
C1.1	PLAN & PROFILE
C1.2	PLAN & PROFILE
C1.3	PLAN & PROFILE
C1.4	PLAN & PROFILE
C1.5	PLAN & PROFILE
C1.6	PLAN & PROFILE
C1.7	PLAN & PROFILE
C2.1	DETAILS
C2.2	DETAILS
C2.3	DETAILS
C2.4	DETAILS
C2.5	DETAILS
C2.6	DETAILS

REVISION HISTORY			
REV. NO.	REVISION	BY	DATE
B	UPDATED UTILITY RELOCATION INFORMATION	DNF	5/27/20
A	REVISED PER SCDOT COMMENTS	HEA	4/21/20

SUBMITTAL HISTORY	
SUBMITTED TO	DATE
IOP WATER & SEWER COMMISSION	6/2/20
SCDOT RESUBMITTAL	4/22/20
SCDOT RESUBMITTAL	4/21/20
INITIAL SUBMITTAL TO ALL PERMITTING AGENCIES	3/18/20



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## ABBREVIATIONS

DBL	DOUBLE	FM	FORCE MAIN (SANITARY SEWER)	PC	POINT OF CURVE	TC	TOP OF CURB
BOT	BOTTOM	FP	FINISH PAD	PH	POST HYDRANT	TH	THROAT ELEVATION
CB	CATCH BASIN	FR	FRAME	PT	POINT OF TANGENT	TG	TOP OF GUTTER
CI	CURB INLET	GI	GRATE INLET	PVC	POLYVINYL CHLORIDE	TP	TOP OF PAVEMENT
CO	CLEAN OUT	GV	GATE VALVE	RCP	REINFORCED CONCRETE PIPE	TW	TOP OF WALK
CPP	CORRUGATED PLASTIC PIPE	HDPE	HIGH DENSITY POLYETHYLENE	RC	ROLL CURB INLET	TYP	TYPICAL
DBL	DOUBLE	HI	HOODED INLET	RCP	REINFORCED CONCRETE PIPE	VI	VALLEY INLET
DI	DITCH INLET	INV	INVERT ELEVATION	RI	ROOF INLET	W	WATER
DIP	DUCTILE IRON PIPE	JB	JUNCTION BOX	RJP	RESTRAINED JOINT PIPE	W/	WITH
EL	ELEVATION	LF	LINEAR FEET	R/W	RIGHT-OF-WAY	WV	WATER VALVE
ES	END SECTION	MAX	MAXIMUM	SD	STORM DRAINAGE	YI	YARD INLET
FES	FLARED END SECTION	MIN	MINIMUM	SDMH	STORM DRAINAGE MANHOLE	YI	YARD INLET
FG	FINISH GRADE	MH	MANHOLE	SF	SQUARE FEET		
FH	FIRE HYDRANT	OC	ON CENTER	SS	SANITARY SEWER		

## DRAINAGE LEGEND

DESCRIPTION	EXISTING	PROPOSED
PIPE	---	---
DITCH		→
CURB INLET (CI)		
CATCH BASIN (CB)		
CURB INLET - RIGHT (CI) OR CATCH BASIN - RIGHT (CB)	OR	OR
CURB INLET - LEFT (CI) OR CATCH BASIN - LEFT (CB)	OR	OR
CURB INLET - BOTH (CI) OR CATCH BASIN - LEFT (CB)	OR	OR
CONTROL STRUCTURE (CS)		
DITCH INLET (DI)		
GRATE INLET (GI)		
HOODED INLET (HI)	OR	OR
JUNCTION BOX (JB)		
MANHOLE (SDMH)		
ROLL CURB INLET (RC)		
ROOF INLET (RI)		
YARD INLET (YI)		
FLARED END SECTION (FES)		

## WATER LEGEND

DESCRIPTION	EXISTING	PROPOSED
WATER MAIN	10" W	10" W
SINGLE SERVICE LATERAL	---	---
DOUBLE SERVICE LATERAL		
VALVE AND BOX		
FIRE HYDRANT W/VALVE & BOX		
POST HYDRANT		
REDUCER		
BACKFLOW PREVENTOR		
CROSS		
TEE		
90° BEND - HORIZONTAL		
45° BEND - HORIZONTAL		
22-1/2° BEND - HORIZONTAL		
11-1/4° BEND - HORIZONTAL		
BEND - VERTICAL		
CAP		

## OTHER UTILITIES LEGEND

DESCRIPTION	EXISTING
NATURAL GAS	UGG
TELEPHONE	OHT
UNDERGROUND TELEPHONE	UTL
ELECTRICITY	OHP
UNDERGROUND ELECTRICITY	UGP

## GENERAL NOTES

- CONTRACTOR SHALL COORDINATE TIE-IN OF NEW WATER AND SEWER FACILITIES TO ISLE OF PALMS WATER & SEWER COMMISSION.
- CONTRACTOR SHALL MAINTAIN MINIMUM COVER OVER THE WATER MAIN PIPE BARREL OF 3'-0" UNLESS OTHERWISE INDICATED. TOP OF PIPE ELEVATIONS ARE SHOWN FOR CASES WHERE FUTURE STORM SEWERS ARE TO BE INSTALLED. IN NO CASE SHALL THE WATER MAIN BE INSTALLED AT A LOWER ELEVATION THAN THAT SHOWN.
- SHOULD PIPE, FITTINGS, AND OTHER MATERIALS BE NEEDED IN ADDITION TO THAT SHOWN ON THE DRAWINGS BECAUSE PIPELINE WAS NOT INSTALLED TO THE ALIGNMENT AND PROFILE SHOWN, THEN THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THOSE NECESSARY MATERIALS AND PROVIDING THE EQUIPMENT AND LABOR TO INSTALL THEM TO MEET THE DESIGN INTENT OF THE WATERMAIN AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER 48 HOURS IN ADVANCE OF ALL REQUIRED TESTS AND INSPECTIONS.
- THE CONTRACTOR WILL NOTIFY THE ENGINEER IF UNSUITABLE MATERIAL IS DISCOVERED PRIOR TO BEGINNING ANY REMOVAL OPERATION.
- ALL WATERMANS SHALL BE POLYVINYL CHLORIDE (PVC C900) UNLESS OTHERWISE INDICATED.
- ALL GRAVITY SEWER MAIN SHALL BE POLYVINYL CHLORIDE (PVC SDR35) UNLESS OTHERWISE INDICATED.
- SURVEYING AND BOUNDARY INFORMATION BY THOMAS AND HUTTON.
- ALL ELEVATIONS SHOWN ARE BASED ON NAVD88.
- TOPOGRAPHIC SURVEY BY THOMAS AND HUTTON.
- CONTRACTOR IS TO VERIFY ACCURACY OF ANY TEMPORARY BENCHMARKS SHOWN PRIOR TO UTILIZING THEM FOR CONSTRUCTION.
- THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES OTHER THAN THOSE SHOWN ARE ENCOUNTERED DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND TAKE STEPS TO PROTECT THE LINE(S) AND ENSURE CONTINUED SERVICE. DAMAGE CAUSED TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR. ADDITIONALLY, THE CONTRACTOR SHALL CONFIRM THE CONNECTION POINTS OF NEW UTILITIES TO EXISTING UTILITIES PRIOR TO BEGINNING NEW CONSTRUCTION.
- IF WORK IS SUSPENDED OR DELAYED FOR 14 DAYS, THE CONTRACTOR SHALL TEMPORARILY STABILIZE THE DISTURBED AREA AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL INSTALL ANY BARRICADES PRIOR TO BEGINNING CONSTRUCTION.
- THE FOLLOWING NOTES ARE SPECIFIED BY THE ENGINEER AND ARE TO BE EXECUTED BY THE CONTRACTOR:
  - ANY DAMAGE TO EXISTING PAVEMENT MUST BE REPAIRED AT CONTRACTORS EXPENSE AND TO THE SATISFACTION OF THE COUNTY ENGINEER AND THE PROJECT ENGINEER.
  - ALL RIGHT-OF-WAY AND DRAINAGE EASEMENT CONSTRUCTION SHALL MEET SCDOT STANDARD SPECIFICATIONS UNLESS SPECIFIED ELSEWHERE AND APPROVED IN WRITING BY THE COUNTY ENGINEER. ALL LOTS WITHIN THE DEVELOPMENT SHALL BE FILLED AND HAVE POSITIVE DRAINAGE TO THE APPROPRIATE EASEMENT OR RIGHT-OF-WAY AS APPROVED ON THE PLANS PRIOR TO THE ISSUANCE OF ANY BUILDING PERMITS OR FINAL ACCEPTANCE OF THE RIGHT-OF-WAYS BY THE COUNTY.
  - WHERE FIELD INSPECTIONS ARE REQUIRED BY THE COUNTY, THE CONTRACTOR SHALL NOTIFY THE ENGINEERING DIVISION A MINIMUM OF 48 HOURS IN ADVANCE TO SCHEDULE SUCH INSPECTIONS.
  - A COMPLETE SET OF APPROVED DRAWINGS AND SPECIFICATIONS MUST BE MAINTAINED ON SITE AT ALL TIMES THAT THE CONTRACTOR IS PERFORMING WORK. THESE DRAWINGS SHALL BE MADE AVAILABLE UPON REQUEST.
- ANY REVISIONS DURING CONSTRUCTION WHICH ALTER THE ROAD LAYOUT, CONSTRUCTION METHODS, RIGHT-OF-WAY LOCATION OR DRAINAGE MUST BE SUBMITTED AND APPROVED IN WRITING BY THE COUNTY ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL CONSTRUCTION PERMITS NECESSARY FROM OTHER RESPONSIBLE AGENCIES.
- ALL TREES SHOWING DISTURBANCE WITHIN THE PROTECTED ROOT ZONE SHALL BE PRUNED AND FERTILIZED BY A CERTIFIED ARBORIST PRIOR TO RECEIVING FINAL PLAT APPROVAL. (THIS WORK WILL BE DONE BY THE OWNER OUTSIDE OF THE CONTRACT.)
- LAKE CONTOURS SHOWN HEREIN WILL PROVIDE A DEPTH ONE FOOT GREATER THAN NECESSARY FOR STORM WATER MANAGEMENT. THIS IS TO PROVIDE FOR ONE FOOT OF SILT BUILDUP DURING CONSTRUCTION OF ANY AREA OF ANY POND WHICH SILTS MORE THAN ONE FOOT ABOVE DESIGNED BOTTOM ELEVATION SHALL BE RESTORED TO THE MINIMUM ACCEPTABLE DEPTH OF ONE FOOT LESS THAN ORIGINAL CONSTRUCTED DEPTH.
- ALL ABOVE GROUND UTILITIES ARE TO BE OUTSIDE OF THE R/W AND ALL AT GRADE UTILITIES ARE TO BE OUT OF THE CURB LINE.
- THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL AND PREVENTION STRUCTURES SHOWN ON THE PLANS. BOTH MUST BE APPROVED BY ENGINEER PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITIES.
- CONTRACTOR WILL BE REQUIRED TO ADJUST MANHOLE FRAMES TO MATCH FINAL GRADE AT NO ADDITIONAL COST.
- THE FOLLOWING NOTES ARE SPECIFIED BY THE SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL - OFFICE OF OCEAN AND COASTAL RESOURCES MANAGEMENT (SCDHEC-OCRM) AND ARE TO BE EXECUTED BY THE CONTRACTOR:
  - ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.
  - STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS ACTIVITY IN THAT PORTION OF THE SITE WILL RESUME WITHIN 14 DAYS.
  - RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING LOT CONSTRUCTION OR PROVIDE AN INDIVIDUAL PLAN MEETING SECTION R.72-307 OF THE STORM WATER MANAGEMENT AND SEDIMENT REDUCTION ACT REQUIREMENTS.
- ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CONSTRUCTED SIMULTANEOUSLY WITH THE DISTURBANCE OF THE LAND AND SHALL REMAIN FUNCTIONAL UNTIL THE CONTRIBUTING DISTURBED AREAS ARE STABILIZED. SILT BARRIERS WILL BE INSTALLED AS NECESSARY TO PREVENT EXCESSIVE SEDIMENTATION OF DOWNSTREAM AREAS. DEVICES SHALL BE IN ACCORDANCE WITH THE MANUAL OF "EROSION AND SEDIMENT CONTROL PRACTICES FOR DEVELOPING AREAS" BY THE S.C. LAND RESOURCES CONSERVATION COMMISSION.
- CONTRACTOR SHALL GRADE AREAS TO DRAIN FOR POSITIVE FLOW PRIOR TO FINAL APPROVAL.
- ALL TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON "UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND "SOUTH CAROLINA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BOTH CURRENT EDITIONS.
- ALL AREAS DISTURBED WILL BE GRASSED IMMEDIATELY AFTER THE INSTALLATION. GRASSING SHALL BE IN ACCORDANCE WITH SECTION 610 OF THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. CURRENT EDITION PAYMENT SHALL BE AS SHOWN IN THE BID FORM AND SHALL BE COMPENSATION FOR ALL NECESSARY WORK AND MATERIALS TO COMPLETE THE SEEDING IN ACCORDANCE WITH THESE SPECIFICATIONS. (SEE SPECIFICATIONS BELOW)
- ALL DRAINAGE WILL BE MADE FUNCTIONAL DAILY AS WORK PROGRESSES.
- EACH EXISTING ROAD WILL BE CLEANED UP AND RESTORED DAILY.
- NEW PAVEMENT TO BE FLUSH WITH EDGE OF EXISTING PAVEMENT.
- ALL STORM DRAIN PIPE INVERTS IN AND OUT ARE THE SAME AS THE BOX INVERT UNLESS OTHERWISE NOTED ON THE PLAN SHEETS AND/OR PROFILES.
- ALL SEWER VALVES SHALL BE IN ACCORDANCE WITH ISLE OF PALMS WATER AND SEWER COMMISSION (IOPWSC) STANDARDS.
- ALL WATER VALVES SHALL BE IN ACCORDANCE WITH ISLE OF PALMS WATER AND SEWER COMMISSION (IOPWSC) STANDARDS.
- ONLY TYPE S AND M MORTAR IS TO BE USED IN STORMWATER SYSTEM CONSTRUCTION AND ALL BRICKWORK AND BRICK MUST MEET SCDOT SPECIFICATIONS.
- THE DESIGN OF THE PAVEMENT AND EARTHWORK MATERIALS, PROCEDURES AND METHODS SPECIFIED ARE BASED ON THE CRITERIA AND RECOMMENDATIONS ESTABLISHED IN THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY TERRACON, DATED MARCH 3, 2020 AND SUBSEQUENT ADDENDUMS.

**PREPARED FOR:**  
**CITY OF ISLE OF PALMS**  
**P.O. DRAWER 508**  
**ISLE OF PALMS, SC 29451**  
**843-886-9912**

<b>COUNTY</b>	CHARLESTON	<b>SURVEYOR:</b>	THOMAS & HUTTON 682 JOHNNIE DODDS BLVD. MT. PLEASANT, SC 29464 (843) 849-0200	<b>GAS SERVICE:</b>	DOMINION ENERGY 4481 LEEDS PLACE WEST NORTH CHARLESTON, SC 29405 PHONE - 843-576-8932
<b>TOWN</b>	CITY IF ISLE OF PALMS			<b>ELECTRIC SERVICE:</b>	DOMINION ENERGY 1277 CHUCK DAWLEY BLVD MOUNT PLEASANT, SC 29464 PHONE - 843-576-8726
<b>ZONING</b>	RESIDENTIAL	<b>ENGINEER:</b>	THOMAS & HUTTON 682 JOHNNIE DODDS BLVD. MT. PLEASANT, SC 29464 (843) 849-0200	<b>WATER/SEWER</b>	ISLE OF PALMS WATER & SEWER COMMISSION P.O. BOX 528 1300 PALMS BLVD. ISLE OF PALMS, SC 29451 843-886-6148



## SHEET INDEX

SCALE: 1" = 600'



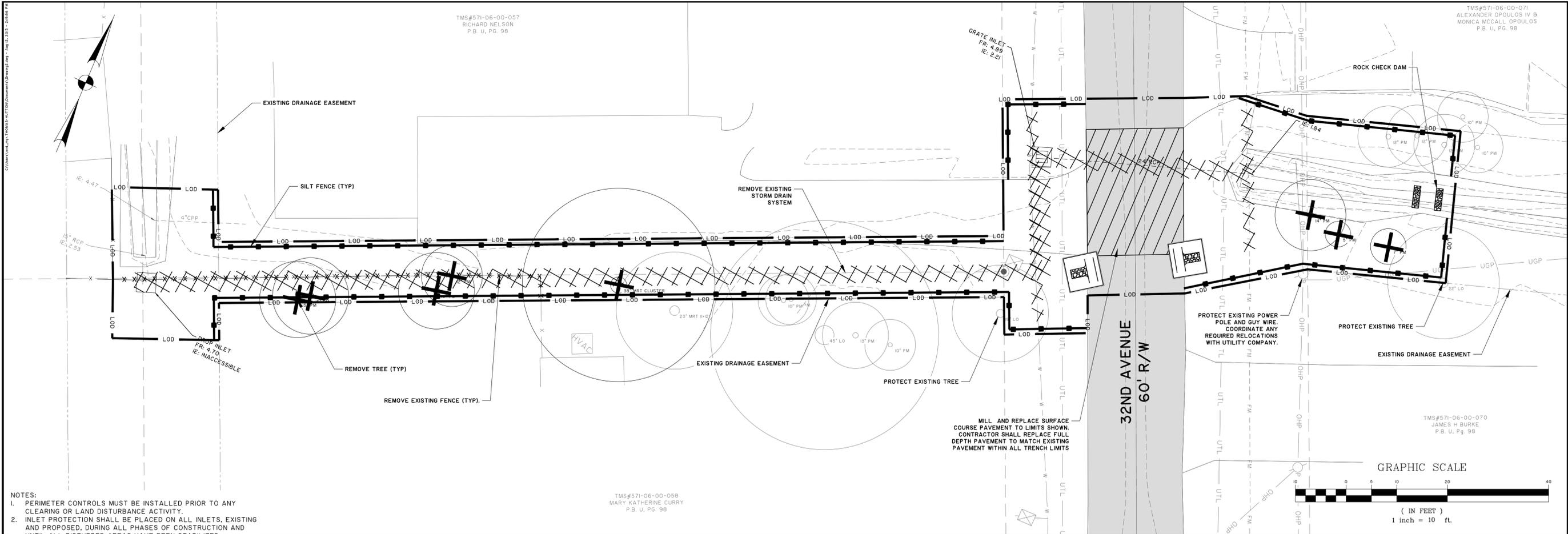
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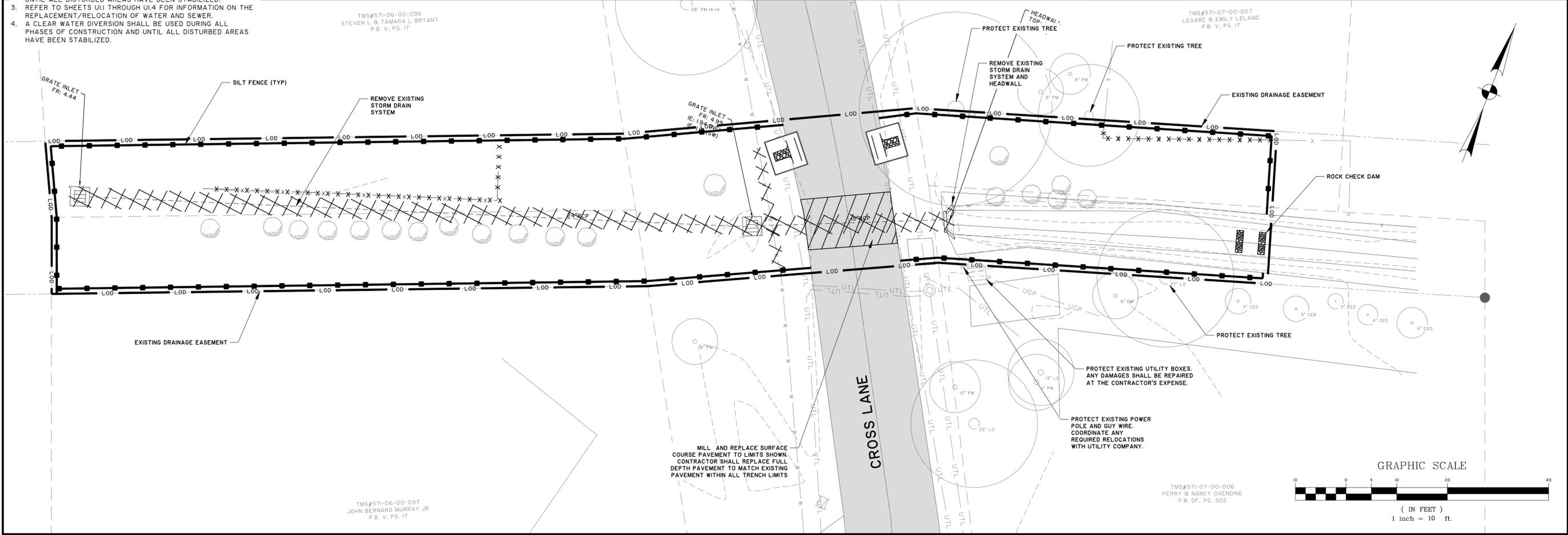
**CITY OF ISLE OF PALMS**  
 ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA  
**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**  
**GENERAL NOTES & SHEET INDEX**

<b>JOB NO.:</b>	J-27670.0003
<b>DATE:</b>	1/3/20
<b>DRAWN:</b>	HEA
<b>DESIGNED:</b>	HEA
<b>REVIEWED:</b>	RPK
<b>APPROVED:</b>	RPK
<b>SCALE:</b>	AS SHOWN

# G0.1



- NOTES:
- PERIMETER CONTROLS MUST BE INSTALLED PRIOR TO ANY CLEARING OR LAND DISTURBANCE ACTIVITY.
  - INLET PROTECTION SHALL BE PLACED ON ALL INLETS, EXISTING AND PROPOSED, DURING ALL PHASES OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.
  - REFER TO SHEETS U11 THROUGH U14 FOR INFORMATION ON THE REPLACEMENT/RELOCATION OF WATER AND SEWER.
  - A CLEAR WATER DIVERSION SHALL BE USED DURING ALL PHASES OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.



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**CITY OF ISLE OF PALMS**  
ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA

**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**

**DEMOLITION PLAN**

JOB NO: J-27670.0003  
DATE: 1/3/20  
DRAWN: HEA  
DESIGNED: HEA  
REVIEWED: RPK  
APPROVED: RPK  
SCALE: AS NOTED

**D1.1**

TMS#571-07-00-013  
LAURENCE S & NANCY D MCWHORTER  
P.B. V. PG. 17

TMS#571-11-00-001  
KIM SHAW  
P.B. V. PG. 17



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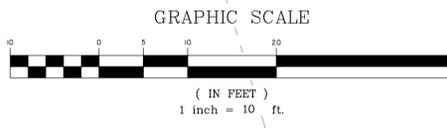
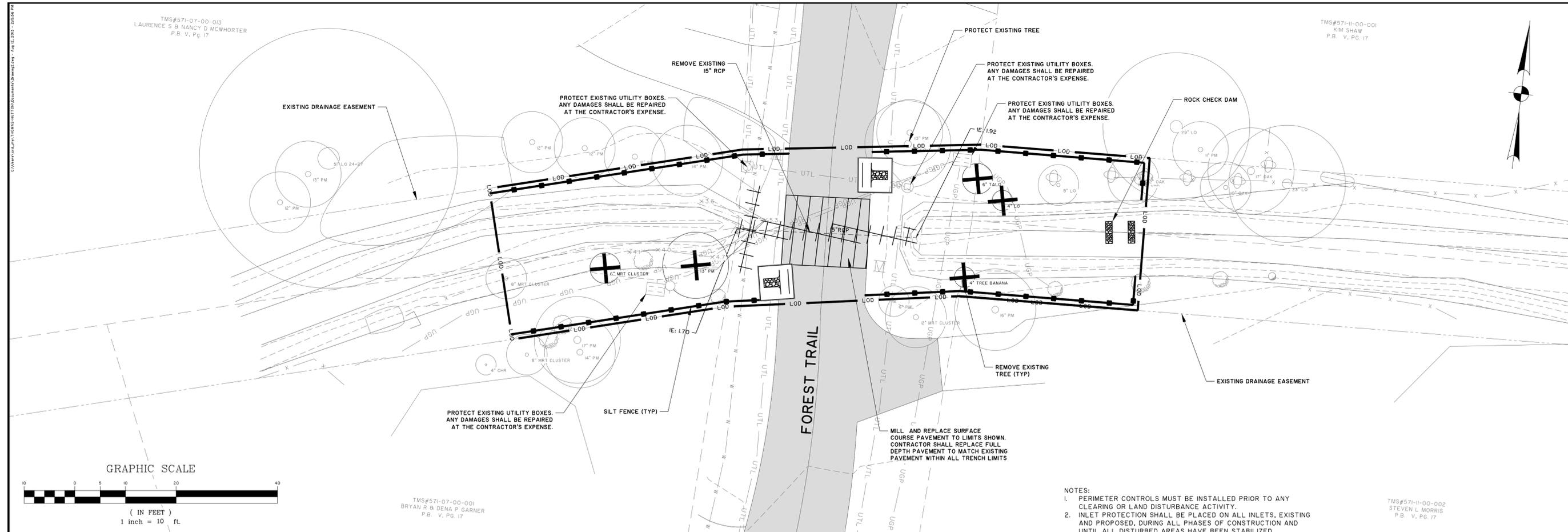
NO.	REVISIONS	BY	DATE
A	REVISED PER SCDDOT COMMENTS	HEA	4/22/20

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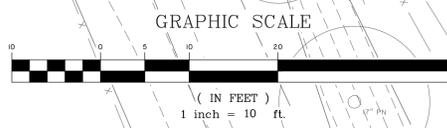
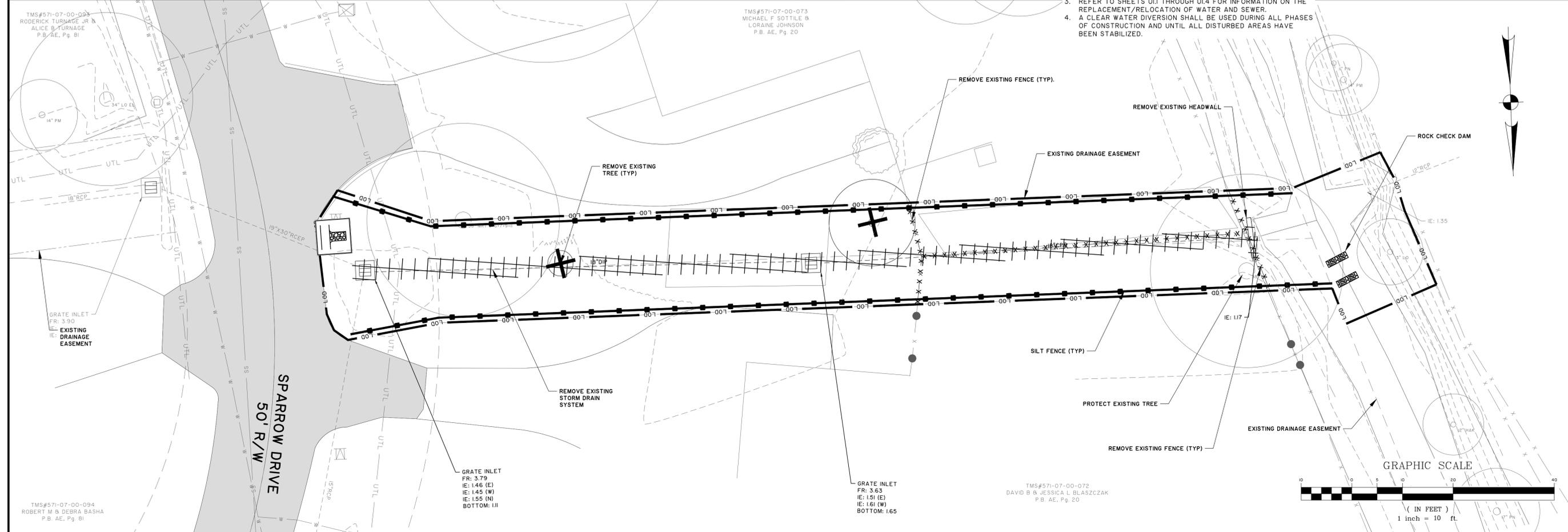
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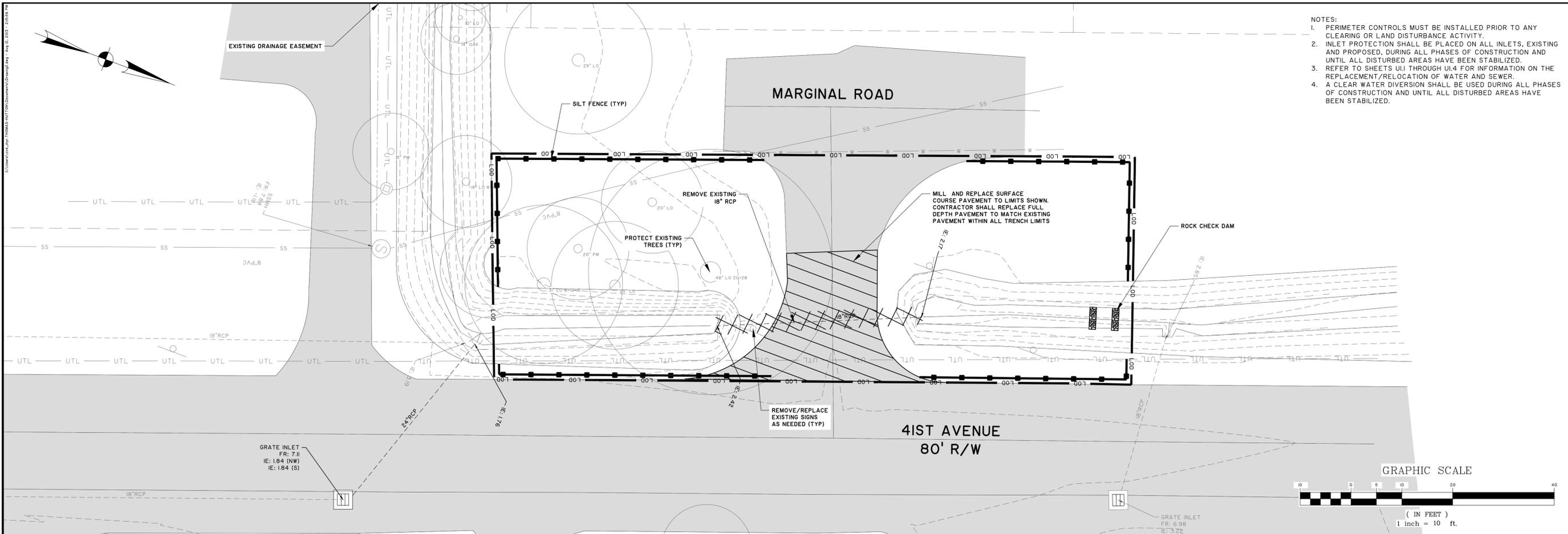
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**D1.2**

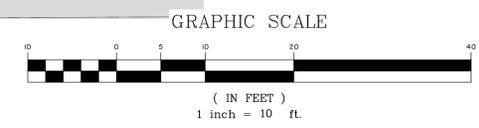
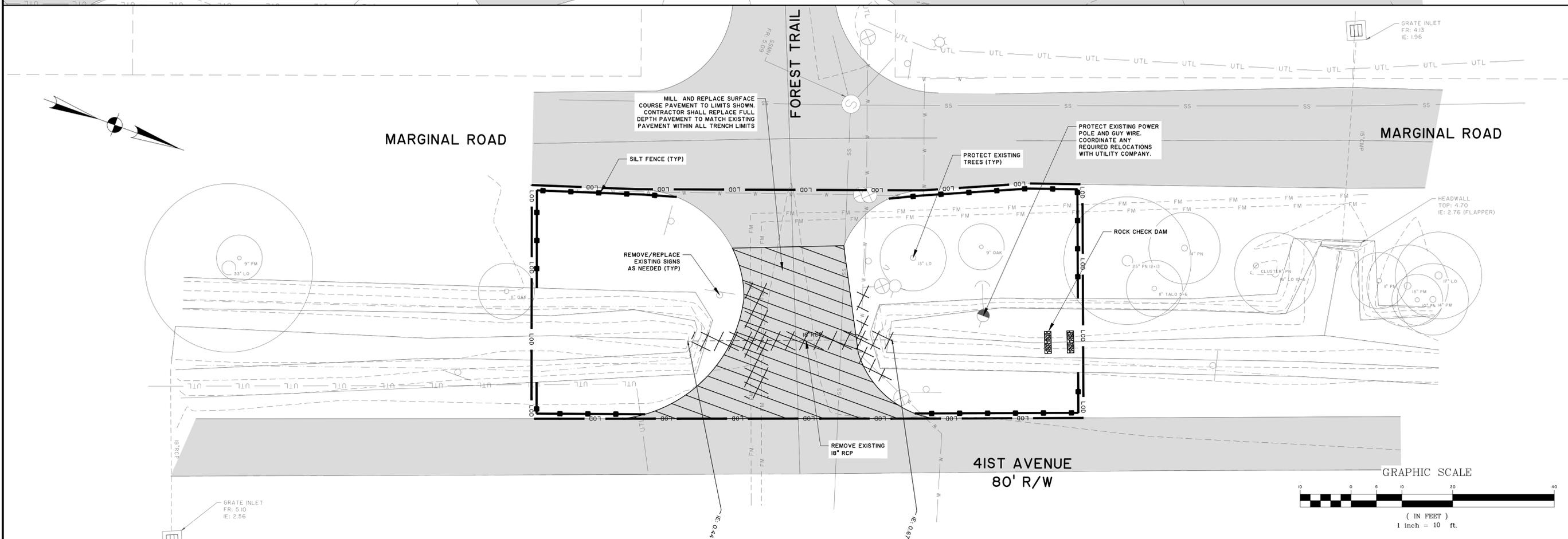
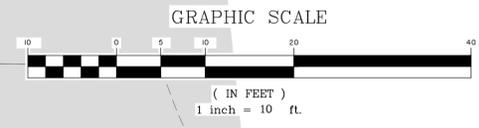


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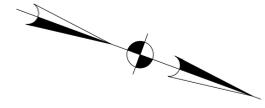
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**CITY OF ISLE OF PALMS**  
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**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**  
**DEMOLITION PLAN**

JOB NO: J-27670.0003  
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 DRAWN: HEA  
 DESIGNED: HEA  
 REVIEWED: RPK  
 APPROVED: RPK  
 SCALE: AS NOTED

**D1.3**

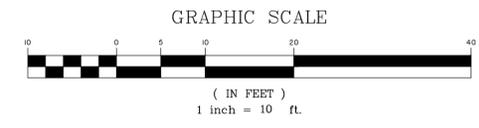
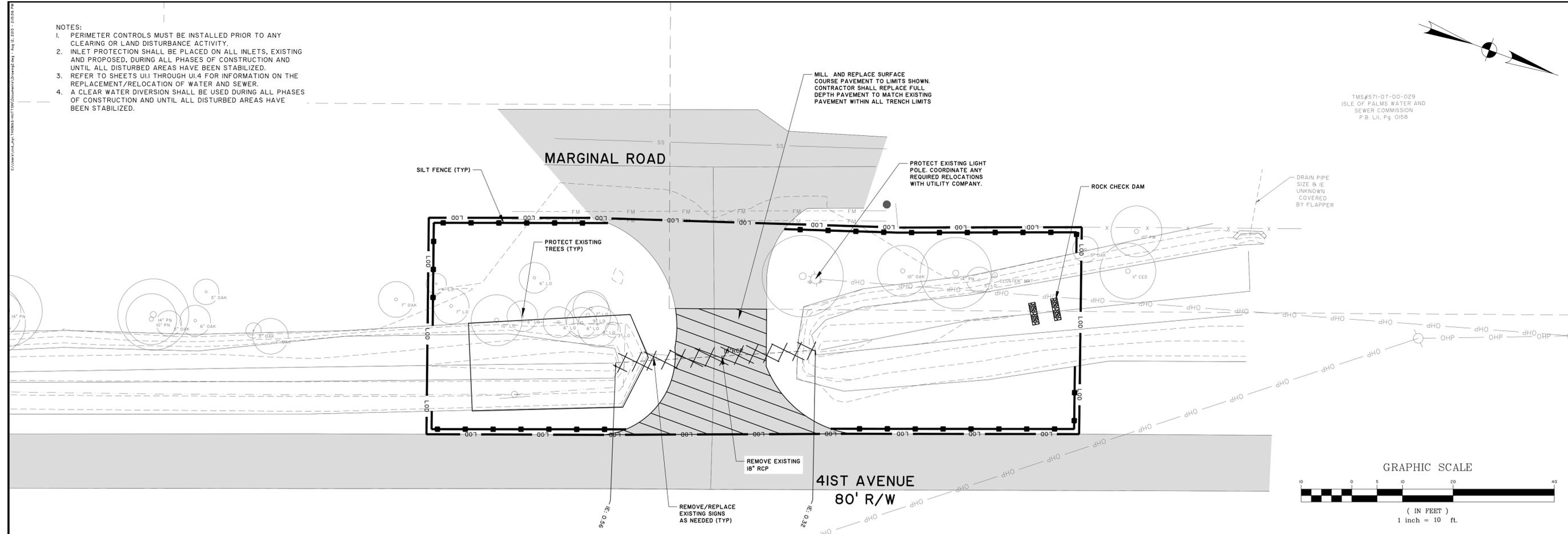
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  - REFER TO SHEETS U1 THROUGH U1.4 FOR INFORMATION ON THE REPLACEMENT/RELOCATION OF WATER AND SEWER.
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TMS#571-07-00-029  
ISLE OF PALMS WATER AND SEWER COMMISSION  
P.B. LII, Pg. 0158



BID SET - NOT FOR CONSTRUCTION



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JOB NO: J-27670.0003  
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 DRAWN: HEA  
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 APPROVED: RPK  
 SCALE: AS NOTED

**D1.4**

City of Palms, Charleston County, South Carolina  
SWPPP No. 2020-0003  
Date: 1/3/20

### I. SITE DESCRIPTION

<b>A. PROJECT DESCRIPTION</b>	
A.1. PROJECT AREA	0.9 ACRES
A.2. AREA DISTURBED	0.9 ACRES
A.3. PERCENT IMPERVIOUS AREA BEFORE CONSTRUCTION	38 %
A.4. RUNOFF COEFFICIENT BEFORE CONSTRUCTION	61 CN
A.5. PERCENT IMPERVIOUS AREA AFTER CONSTRUCTION	38 %
A.6. RUNOFF COEFFICIENT AFTER CONSTRUCTION	61 CN
<b>B. DESCRIPTION OF CONSTRUCTION ACTIVITY</b>	
WORK CONSISTS OF LINEAR DRAINAGE IMPROVEMENTS	
<b>C. RUNOFF DATA</b>	
C.1. SOIL CLASSIFICATIONS:	(HSG) A
C.2. LAND USE(S):	RESIDENTIAL
<b>D. RECEIVING WATERS</b>	
D.1. CLOSEST RECEIVING WATERS:	INTRACOASTAL WATERWAY
D.2. ULTIMATE RECEIVING WATERS:	ATLANTIC OCEAN
<b>E. FLOOD</b>	
E.1. FEMA FLOOD ZONE(S):	ZONE AE, ELEV. 13, 14, 15
E.2. FEMA FLOOD INSURANCE MAP(S):	45019C0542J EFF. 11/17/2004

### II. CONTROL MEASURES

- EROSION AND SEDIMENT CONTROLS**

PRIOR TO START OF CONSTRUCTION, ALL EXTERIOR SILT FENCE WILL BE INSTALLED AS SHOWN ON THE PLANS.

  - CLEARING**
    - AS CLEARING IS COMPLETED, ADDITIONAL SILT FENCE WILL BE INSTALLED WHERE NECESSARY, SUCH AS POINTS WHERE FLOWS BECOME CHANNELIZED, AND OTHER POINTS WHERE EXCESSIVE RUNOFF VELOCITIES MAY OCCUR.
    - INSTALL CONSTRUCTION ENTRANCES / EXITS BEFORE BEGINNING CLEARING
    - CONSTRUCTION DELAYS IN ANY ONE AREA GREATER THAN 14 DAYS PRIOR TO START OF ROUGH GRADING WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.
    - MAINTAIN EXISTING VEGETATION WHENEVER POSSIBLE AND MINIMIZE THE AREA OF DISTURBANCE. RETAIN AND PROTECT TREES TO ENHANCE FUTURE LANDSCAPING EFFORTS AND REDUCE RAINFALL IMPACT.
    - INSTALL ALL SEDIMENT CONTROL PRACTICES PRIOR TO ANY UP-SLOPE SOIL DISTURBING ACTIVITIES.
    - PHASE CONSTRUCTION ACTIVITIES TO MINIMIZE THE AREAS DISTURBED AT ONE TIME. THIS WILL ALSO ALLOW COMPLETED AREAS TO BE STABILIZED AND RE-VEGETATED BEFORE DISTURBING ADJACENT SITES. THE NEED FOR TEMPORARY EROSION CONTROL MEASURES MAY BE AVOIDED BY COMPLETING A PHASE AND INSTALLING PERMANENT EROSION CONTROL MEASURES WHEN THE FINAL GRADE IS ATTAINED.
    - MAINTAIN AND PROTECT ALL NATURAL WATERWAYS. RETAIN AT LEAST A 35-FOOT UNDISTURBED BUFFER OF NATURAL VEGETATION ALONG ALL WATERWAYS TO FILTER OUT SEDIMENT AND OTHER POLLUTANTS. MAINTAIN A 45-FOOT UNDISTURBED BUFFER AROUND SENSITIVE WATERS.
    - INSTALL SILT FENCE (OR BIO ROLLS/ROCK SOCK PRODUCTS) ON THE DOWN-SLOPE PERIMETER OF ALL DISTURBED AREAS PRIOR TO ANY SOIL DISTURBING ACTIVITIES (INCLUDING CLEARING AND GRUBBING). SILT FENCE CAN TREAT A MAXIMUM OF 100 SQUARE FEET PER LINEAL FOOT OF FENCE. INSTALL SILT FENCE IN SHORTER REACHES ON THE CONTOUR WITH EACH END TURNED UP-SLOPE. SWALES AND SHORELAND AREAS SHOULD ALSO BE PROTECTED WITH SILT FENCE, BIO ROLLS, OR ROCK SOCKS.
    - IN AREAS OF CONCENTRATED FLOW INSTALL STRAW BALE CHECKS, ROCK CHECK DAMS, TRIANGULAR DIKES, BIO ROLL BANKETS, OR ROCK SOCKS TO SLOW RUNOFF AND TRAP SEDIMENT.
  - USE TEMPORARY SLOPE DRAINS OR ROCK CHUTES TO MOVE WATER DOWN STEEP SLOPES.
  - CONSTRUCT SEDIMENT BASINS FOR DRAINAGE AREAS GREATER THAN 10 ACRES
- ROUGH GRADING**
  - ALL EXISTING CONTROLS WILL BE MAINTAINED DURING ROUGH GRADING. DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF NEXT ACTIVITY WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.
  - ALL AREAS NOT SUBJECT TO FURTHER CONSTRUCTION (DRAINAGE, SANITARY SEWER, ROADS, WATER DISTRIBUTION SYSTEMS, OR STORM WATER FACILITIES) SHALL BE GRASSSED WITH A PERMANENT COVER
  - COVER ANY STOCK PILED TOPSOIL WITH PLASTIC (OR OTHER IMPERVIOUS COVERING) OR USE A TEMPORARY SEED MIX. USE STOCKPILED TOPSOIL AS EARTHEN BERMS TO SERVE AS TEMPORARY SEDIMENT BASINS.
- DRAINAGE**
  - ALL EXISTING CONTROLS WILL BE MAINTAINED DURING DRAINAGE INSTALLATION.
  - CONSTRUCTION DRAINAGE WILL BE ROUTED THROUGH SWALES, WHICH WILL ACT AS SEDIMENT BASINS OR OTHER ACCEPTABLE SEDIMENT BASINS/TRAPS
  - STORM DRAIN INLET PROTECTION AS SHOWN ON DETAIL SHEET SHALL BE INSTALLED ON ALL CURB INLETS, STORM DRAIN MANHOLES, JUNCTION BOXES, AND GRATE INLETS.
  - DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF THE NEXT CONSTRUCTION SEQUENCE WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.
  - ALL STORM LINES NOT IN STREETS OR OTHER PAVED AREAS ARE TO BE MULCHED AND SEEDDED WITHIN 5 DAYS AFTER BACKFILL.
- WASTE DISTRIBUTION SYSTEM INSTALLATION**
  - ALL EXISTING CONTROLS WILL BE MAINTAINED DURING INSTALLATION OF THE WATER DISTRIBUTION SYSTEM.
  - DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF NEXT ACTIVITY WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.
- WASTEWATER COLLECTION SYSTEM INSTALLATION**
  - ALL EXISTING CONTROLS WILL BE MAINTAINED DURING INSTALLATION OF THE WASTEWATER SYSTEM.
  - DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF NEXT ACTIVITY WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.
- CONSTRUCTION OF ROADS**
  - ALL EXISTING CONTROLS WILL BE MAINTAINED DURING ROAD CONSTRUCTION.
  - DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF NEXT ACTIVITY WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.
- GRASSING**
  - ALL EXISTING CONTROLS WILL BE MAINTAINED UNTIL GRASSING IS ESTABLISHED
  - ANY AREAS THAT ERODE OR WHERE GRASSES DOES NOT ESTABLISH ITSELF SHALL BE RE-GRADED AND RE-GRASSED.
- STORM WATER MANAGEMENT**

RUNOFF FROM THIS PROJECT WILL DISCHARGE INTO A STORM WATER MANAGEMENT SYSTEM. TREATMENT WILL OCCUR IN STORM WATER DETENTION PONDS.
- OTHER CONTROLS**

### III. MAINTENANCE

- MAINTENANCE PROGRAM**
  - THE SITE SUPERINTENDENT, OR HIS/HER REPRESENTATIVE, SHALL MAKE VISUAL INSPECTIONS OF ALL MECHANICAL CONTROLS AND NEWLY STABILIZED AREAS (I.E. SEEDED AND MULCHED AND/OR SODDED AREAS) ON A DAILY BASIS, ESPECIALLY AFTER HEAVY RAINFALL EVENT TO INSURE THAT ALL CONTROLS ARE MAINTAINED AND PROPERLY FUNCTIONING. ANY DAMAGED CONTROLS SHALL BE REPAIRED PRIOR TO THE END OF THE WORK DAY INCLUDING RE-SEEDING AND MULCHING OR RE-SODDING IF NECESSARY.
  - EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE. ALL DRAINAGE SWALES, POCKETS, DEPRESSION, LOW LINES, AND OUTLET DITCHES SHALL DRAIN EFFECTIVELY AT ALL TIMES. SETTLEMENT OR WASHING THAT MAY OCCUR SHALL BE REPAIRED BY THE CONTRACTOR. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT REACHES 1/3 THE HEIGHT OF THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN AN EFFECTIVE BARRIER. MAINTAIN THE CONSTRUCTION EXIT IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TACKED ONTO PUBLIC ROADWAYS. RESEED AND MULCH AREA WHERE SEEDING EMERGENCE IS POOR, OR WHERE EROSION OCCURS. PROTECT FROM TRAFFIC AS MUCH AS POSSIBLE. INSPECT ALL MULCHES PERIODICALLY, AND AFTER RAINFALL TO CHECK FOR EROSION, DISLOCATION OR FAILURE. IF WASHOUT OCCURS, REPAIR THE SLOPE GRADE, RESEED AND REINSTALL MULCH. FOLLOW THE CONSTRUCTION SEQUENCE THROUGHOUT THE PROJECT DEVELOPMENT. WHEN CHANGES IN CONSTRUCTION ACTIVITIES ARE NEEDED, AMEND THE SEQUENCE SCHEDULE IN ADVANCE TO MAINTAIN MANAGEMENT CONTROL. IF MAJOR CHANGES ARE NECESSARY, SEND A COPY OF THE MODIFIED SCHEDULE TO THE ENGINEER. SEDIMENT AND EROSION CONTROL MEASURES WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE DISTURBED AREAS ARE STABILIZED.
  - SILT FENCE**

SILT FENCES WILL BE MONITORED DURING CONSTRUCTION. ANY SILT FENCE WHICH IS NOT FUNCTIONING PROPERLY WILL BE PROMPTLY REPAIRED. CLEAN OUT THE SILT FENCE WHEN IT REACHES 1/3 THE HEIGHT OF THE FENCE OR REPLACE WITH NEW SILT FENCE WITHIN 24 HOURS. USE OF HOSES AND WATER TO FLUSH THE SEDIMENT INTO THE STORM INLETS IS UNACCEPTABLE.
  - SEDIMENTATION BASINS**

SEDIMENTATION BASINS WHICH ARE AT 50% USED CAPACITY OR APPROACHING SUCH CAPACITY SHALL BE RE-EXCAVATED TO ORIGINAL DIMENSIONS AND THE SILT PROPERLY DISPOSED OF.
  - SEDIMENT LOGS/ROLLS**

SEDIMENT LOGS/ROLLS OR OTHER CONTROL MEASURES WHICH BEGIN TO DISINTEGRATE OR FUNCTION INEFFECTIVELY SHALL BE PROMPTLY REPLACED.
  - VEGETATION COVER**

ANY VEGETATION COVER SERVING TO STABILIZE DISTURBED SOILS WHICH IS ITSELF DISTURBED SHALL IMMEDIATELY BE REPLACED.
- CONSTRUCTION ENTRANCE**

MAINTAIN ROCK CONSTRUCTION ENTRANCE AND CLEAN ADJACENT ROADS OF ANY MUD TRACKED ONTO THEM.

### IV. INSPECTIONS

- QUALIFIED PERSONNEL WILL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE, AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS. WHERE SITES HAVE BEEN FINALLY STABILIZED SUCH INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH DURING THE WARRANTY PERIOD.
- DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.
- A WRITTEN REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION OR SINCE COMMENCEMENT OF CONSTRUCTION ACTIVITY INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT, DURATION OF EACH STORM EVENT, APPROXIMATE AMOUNT OF RAINFALL, FOR EACH STORM EVENT (IN INCHES) AND WHETHER ANY DISCHARGES OCCURRED, LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE, LOCATION(S) OF BMP'S THAT NEED MAINTENANCE, LOCATION(S) OF BMP'S THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTicular LOCATION, LOCATION(S) WHERE ADDITIONAL BMP'S ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION AND ANY CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO SWPPP NECESSARY AND IMPLEMENTATION DATES.
- THE REPORT SHALL BE MAINTAINED AT LEAST THREE YEARS FROM THE DATE THE SITE IS FINALLY STABILIZED. THE REPORT MUST BE SIGNED AND SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN AND THE NPDES PERMIT REFERENCED ABOVE. THE CONTRACTOR SHALL MAINTAIN THIS REPORT. THE REPORT SHALL BE SUBMITTED TO THE ENGINEER AND OWNER.

### V. LONG TERM MAINTENANCE OF DRAINAGE AND STORM WATER MANAGEMENT SYSTEM

THE ROADS WILL BE OWNED AND MAINTAINED BY THE SCDOT/COUNTY AND THE DRAINAGE SYSTEM WILL BE OWNED AND MAINTAINED BY THE CITY AFTER CONSTRUCTION IS COMPLETE.

### VI. SC DHEC STANDARD NOTES

- IF NECESSARY, STOPS WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS. IN ADDITION TO THE MATS, AN APPROVED EROSION CONTROL MEASURE MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.
- STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW.
  - WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
  - WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF SITE INSPECTIONS IDENTIFY BMP'S THAT ARE DAMAGED OR ARE NOT OPERATING EFFECTIVELY, MAINTENANCE MUST BE PERFORMED AS SOON AS PRACTICAL OR AS REASONABLY POSSIBLE BEFORE THE NEXT STORM EVENT WHENEVER PRACTICAL.
- PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED INTO ANY WATERS OF THE STATE.

## STORMWATER POLLUTION PREVENTION PLAN

- WASTE DISPOSAL**
  - NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED TO ANY RECEIVING WATERS.
  - OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED.
  - THIS PLAN SHALL COMPLY WITH STATE AND/OR LOCAL WASTE DISPOSAL, SANITARY SEWER OR SEPTIC SYSTEM REGULATIONS.
  - DUST CONTROL ON DISTURBED AREAS - CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITE AND HAUL ROUTES. THE PURPOSE OF THE MEASURE IS TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES, WHICH MAY BE HARMFUL OR INJURIOUS TO HUMAN HEALTH, WELFARE OR SAFETY, OR TO ANIMALS OR PLANT LIFE.
- ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.**
- THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO THE PAVED ROADWAY FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SILT FROM PAVEMENT AS MAY BE REQUIRED.
- RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C. REG. 72-300 AND SCR100000.
- TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UNDESIRABLE RUNOFF AND TO DIVERT SEDIMENT LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
- ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN NOT BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS
- LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT ARE BELIEVED TO BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
- A COPY OF THE SWPPP, INSPECTION RECORDS AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
- INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3:1 OR GREATER) WHERE LAND DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
- MINIMIZE SOIL COMPACTION IN AREAS NOT UNDER PAVEMENTS AND/OR STRUCTURES AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.
- MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUAL OR BETTER TREATMENT PRIOR TO DISCHARGE.
- MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMP'S (SEDIMENT BASIN, FILTER BAG, ETC.)
- THE FOLLOWING DISCHARGES ARE PROHIBITED:
  - WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL.
  - WASTEWATER FROM WASHOUT AND CLEANOUT OF OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS.
  - FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE, AND
  - SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
- AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.
- IF EXISTING BMP'S NEED TO BE MODIFIED OR IF ADDITIONAL BMP'S ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF PERMIT SCR100000 AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMP'S MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.
- A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE, THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

### VII. EROSION, SEDIMENTATION & POLLUTION CONTROL NOTES

- THE IMPLEMENTATION OF THESE EROSION SEDIMENT CONTROL (ESC) PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADES OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
  - THE ESC FACILITIES SHOWN ON THIS PLAN SHALL BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
  - THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE MODIFIED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE.
  - THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
  - WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED
  - WATER USED TO CONTROL DUST
  - POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHINGS
  - ROUTINE EXTERNAL BUILDING WASH DOWN THAT DOES NOT USE DETERGENTS
  - PAVEMENT WASH WATERS WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILLED MATERIAL HAS BEEN REMOVED) AND WHERE DETERGENTS ARE NOT USED
  - UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE
  - UNCONTAMINATED GROUND WATER OR SPRING WATER
  - FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS SUCH AS SOLVENTS
  - UNCONTAMINATED EXCAVATION DEWATERING
  - LANDSCAPE IRRIGATION
  - DECHLORINATED SWIMMING POOL DISCHARGES.
- CONSTRUCTION WASTES: DEMOLITION RUBBLE, PACKAGING MATERIALS, SCRAP BUILDING SUPPLIES, ETC.
    - SELECT A DESIGNATED WASTE COLLECTION AREA
    - PROVIDE LIDS FOR WASTE CONTAINERS
    - WHEN POSSIBLE LOCATE CONTAINERS IN COVERED AREA
    - MAINTAIN CONSISTENT REMOVAL SCHEDULE FOR WASTE
  - PESTICIDES: REDUCE THE AMOUNT OF PESTICIDES AVAILABLE FOR CONTACT WITH STORM WATER.
    - STORE IN A DRY COVERED AREA
    - INSTALL CURBS OR DIKES AROUND STORAGE AREA TO PROTECT AGAINST SPILLS
    - STRICTLY FOLLOW RECOMMENDED APPLICATION RATES
  - FERTILIZERS AND DETERGENTS: REDUCE THE AMOUNT OF FERTILIZERS AND DETERGENTS AVAILABLE FOR CONTACT WITH STORM WATER.
    - LIMIT APPLICATION OF FERTILIZERS TO THE MINIMUM NEEDED
    - APPLY MORE FREQUENTLY BUT AT LOWER APPLICATION RATES
    - LIMIT USE OF DETERGENTS ON-SITE
    - DO NOT DISCHARGE WASH WATER INTO STORM WATER SYSTEM
    - MAINTAIN STRUCTURAL AND VEGETATIVE BMP'S
    - APPLY ACCORDING TO SOIL TEST RECOMMENDATIONS PRIOR TO SEEDING.
- THE CONTRACTOR SHALL FLUSH ALL INLETS AND PIPE AT THE COMPLETION OF CONSTRUCTION TO REMOVE SILT AND DEBRIS. THE CLEANING AND FLUSHING OF INLETS AND PIPE (EXISTING AND PROPOSED) SHALL BE CONSIDERED PART OF THE COST FOR THE PROJECT.
  - EGRESS FROM THE SITE SHALL BE CONTROLLED SUCH THAT VEHICLES LEAVING THE SITE MUST TRAVERSE CONSTRUCTION EXITS TO REMOVE MUD FROM TIRES.

- SCHEDULE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXPOSED AREA AND DURATION OF EXPOSURE. IN SCHEDULING, TAKE INTO ACCOUNT THE SEASON AND THE WEATHER FORECAST.
- EROSION CONTROL MEASURES ARE THE MINIMUM REQUIRED. THE CONTRACTOR SHALL PROVIDE ADDITIONAL CONTROL MEASURES AS DICTATED BY ACTUAL FIELD CONDITIONS AT THE TIME OF CONSTRUCTION IN ORDER TO PREVENT EROSION AND CONTROL SEDIMENT. EROSION AND SEDIMENT CONTROL MEASURES WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE ENTIRE PROJECT IS TERMINATED OR SUSPENDED FOR AN INDEFINITE LENGTH OF TIME. ALL DISTURBED AREAS SHALL BE PLANTED WITH PERMANENT VEGETATION.
- THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS, OR IN ANY WAY INDICATED THEREBY, WHETHER BY DRAWINGS OR NOTES, OR IN ANY OTHER MANNER, IS BASED UPON FIELD INVESTIGATIONS AND IS BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME IS SHOWN AS INFORMATION ONLY, IS NOT GUARANTEED AND DOES NOT BIND THOMAS & HUTTON, OR THE OWNER IN ANY WAY.
- CONTRACTOR SHALL MAINTAIN SITE ON A DAILY BASIS TO PROVIDE FOR POSITIVE DRAINAGE. CONSTRUCTION TO PROTECT WORK AREAS FROM UNDESIRABLE RUNOFF AND TO DIVERT SEDIMENT LADEN WATER TO INSURE STORM WATER DOES NOT POND ON SITE.
- SITE DRAINAGE SHALL BE ESTABLISHED TO PREVENT ANY PONDED WATER CONDITIONS WITHIN THE CONSTRUCTION AREA AND TO FACILITATE STORM WATER DISCHARGE.
- THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.
- LIME RATES AND ANALYSIS:
  - AGRICULTURAL LIME SHALL BE APPLIED AT THE RATE SHOWN IN THE SEEDING SECTION UNLESS SOIL TESTS INDICATE OTHERWISE. GRADED AREAS REQUIRE LIME APPLICATION. IF LIME IS APPLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION, ADDITIONAL LIME IS NOT REQUIRED. AGRICULTURAL LIME APPLICATION SHALL BE WITHIN THE SPECIFICATIONS OF THE SOUTH CAROLINA DEPARTMENT OF AGRICULTURE.
- MULCHING:

MULCHING IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED:

  - DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF TWO TONS PER ACRE. DRY HAY SHALL BE APPLIED AT THE RATE OF 2 1/2 TONS PER ACRE.
  - WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT A RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED ABOVE) AFTER HYDRAULIC SEEDING.
  - ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 3:4:1 OR STEEPER.
  - SERICEA LESPEDEZZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF 3 TONS PER ACRE.
  - PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDED AREAS.
  - WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLACK SOD, MULCH IS NOT REQUIRED.
  - ON SLOPES GREATER THAN 10 FEET IN LENGTH AND 4:1 OR STEEPER, USE THE FOLLOWING EROSION CONTROL BLANKETS THAT HAVE BEEN PROPERLY ANCHORED TO THE SLOPE ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS:
    - 2:1 SLOPES OR STEEPER - STRAW/COCONUT BLANKET OR HIGH VELOCITY WOOD BLANKET
    - 3:1 SLOPES OR STEEPER - WOOD OR STRAW BLANKET WITH NET ON BOTH SIDES
    - 4:1 SLOPES OR FLATTER - WOOD OR STRAW MULCH BLANKET WITH NET ON ONE SIDE

### VIII. HOUSEKEEPING

- THESE PERFORMANCE STANDARDS APPLY TO ALL SITES.
- PETROLEUM PRODUCTS: INCLUDING OIL, GASOLINE, LUBRICANTS AND ASPHALTIC SUBSTANCES.
    - HAVE EQUIPMENT TO CONTAIN AND CLEAN UP PETROLEUM SPILLS IN FUEL STORAGE AREAS OR ON MAINTENANCE AND FUELING VEHICLES
    - STORE IN COVERED AREAS PROTECTED WITH DIKES
  - SPILLS: PREVENTION AND RESPONSE.
    - STORE AND HANDLE MATERIALS TO PREVENT SPILLS
    - TIGHTLY SEALED CONTAINERS, NEAT AND SECURE STACKING, ETC.
    - REDUCE STORM WATER CONTACT IF SPILL OCCURS
      - CLEANUP PROCEDURES SHOULD BE CLEARLY POSTED.
      - CLEANUP MATERIALS SHOULD BE READILY AVAILABLE
      - STOP THE SOURCE
      - CONTAIN THE SPILL
  - NON-STORM WATER DISCHARGES

- THE FOLLOWING NON-STORMWATER DISCHARGES MUST BE PROTECTED FROM CAUSING POLLUTION OR EROSION:
- DISCHARGES FROM FIRE-FIGHTING ACTIVITIES
  - FIRE HYDRANT FLUSHINGS
  - WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED
  - WATER USED TO CONTROL DUST
  - POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHINGS
  - ROUTINE EXTERNAL BUILDING WASH DOWN THAT DOES NOT USE DETERGENTS
  - PAVEMENT WASH WATERS WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILLED MATERIAL HAS BEEN REMOVED) AND WHERE DETERGENTS ARE NOT USED
  - UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE
  - UNCONTAMINATED GROUND WATER OR SPRING WATER
  - FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS SUCH AS SOLVENTS
  - UNCONTAMINATED EXCAVATION DEWATERING
  - LANDSCAPE IRRIGATION
  - DECHLORINATED SWIMMING POOL DISCHARGES.

### XII. SUPPORT ACTIVITIES

- IF THERE ARE TO BE ANY OFF-SITE SUPPORT ACTIVITIES, SUCH AS CONSTRUCTION STAGING OR STOCKPILING, LOCATED OUTSIDE OF THE CONSTRUCTION SITE AREA AS SHOWN ON THE PLANS, THE CONTRACTOR SHALL PROVIDE A PLAN SHOWING ALL REQUIRED POLLUTION PREVENTION MEASURES IN ACCORDANCE WITH SECTION 3.2.10.0 OF THE NPDES COP. ANY NEW NPDES PERMITTING OR MODIFICATION OF THE EXISTING PERMIT ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- SELECT A DESIGNATED WASTE COLLECTION AREA
  - PROVIDE LIDS FOR WASTE CONTAINERS
  - WHEN POSSIBLE LOCATE CONTAINERS IN COVERED AREA
  - MAINTAIN CONSISTENT REMOVAL SCHEDULE FOR WASTE
- PESTICIDES: REDUCE THE AMOUNT OF PESTICIDES AVAILABLE FOR CONTACT WITH STORM WATER.
- STORE IN A DRY COVERED AREA
  - INSTALL CURBS OR DIKES AROUND STORAGE AREA TO PROTECT AGAINST SPILLS
  - STRICTLY FOLLOW RECOMMENDED APPLICATION RATES
- FERTILIZERS AND DETERGENTS: REDUCE THE AMOUNT OF FERTILIZERS AND DETERGENTS AVAILABLE FOR CONTACT WITH STORM WATER.
- LIMIT APPLICATION OF FERTILIZERS TO THE MINIMUM NEEDED
  - APPLY MORE FREQUENTLY BUT AT LOWER APPLICATION RATES
  - LIMIT USE OF DETERGENTS ON-SITE
  - DO NOT DISCHARGE WASH WATER INTO STORM WATER SYSTEM
  - MAINTAIN STRUCTURAL AND VEGETATIVE BMP'S
  - APPLY ACCORDING TO SOIL TEST RECOMMENDATIONS PRIOR TO SEEDING.

### IX. GRASSING NOTES

- SOD:

ALL SOD SHALL BE NURSERY GROWN AS CLASSIFIED IN THE ASPS GSS. MACHINE CUT SOD AT A UNIFORM THICKENS OF 3/4" WITHIN A TOLERANCE OF 1/4". EXCLUDING TOP GROWTH AND THATCH. EACH INDIVIDUAL SOD PIECE SHALL BE STRONG ENOUGH TO SUPPORT ITS OWN WEIGHT WHEN LIFTED BY THE ENDS. BROKEN PODS, IRREGULARLY SHAPED PIECES, AND TORN OR UNEVEN ENDS WILL BE REJECTED. WOOD PEGS AND /OR WIRE STAPLES SHALL REPLACE SOD WITH AN EQUAL SOD COMPOSITION AS THAT WHICH IS EXISTING. IF NO SOD TYPE EXIST, THEN THE FOLLOWING SOD COMPOSITION SHALL BE USED.
- SODDING SCHEDULE:

LAY SOD FROM MAY 1 TO SEPTEMBER 15 FOR SPRING PLANTING AND FROM SEPTEMBER 15 TO NOVEMBER 1 FOR FALL PLANTING.
- SEED:

ALL SEED SHALL CONFORM TO ALL STATE LAWS AND TO ALL REQUIREMENTS AND REGULATIONS OF THE SOUTH CAROLINA DEPARTMENT OF AGRICULTURE. THE SEVERAL VARIETIES OF SEED SHALL BE INDIVIDUALLY PACKAGED OR BAGGED, AND TAGGED TO SHOW NAME OF SEED, NET WEIGHT, ORIGIN, GERMINATION, LOT NUMBER, AND OTHER INFORMATION REQUIRED BY THE DEPARTMENT OF AGRICULTURE.

  - PENNISETUM GLAUCIUM (BROWNTOP MILLET); TESTING 98 PERCENT PURITY AND 85 PERCENT GERMINATION
  - SERIMUDA COMMON; TESTING 98 PERCENT PURITY AND 85 PERCENT GERMINATION.
  - DOMESTIC ITALIAN RYE; TESTING 98 PERCENT PURITY AND 90 PERCENT GERMINATION.
- MISCELLANEOUS:
  - PERMANENT SEEDING SHALL COVER ALL DISTURBED AREA NOT TO BE COVERED BY LANDSCAPE PLANTING BEDS, STRUCTURE, OR PAVEMENT
  - SEED ALL DISTURBED AREAS WITHIN SEVEN DAYS OF FINAL GRADING AND TEMPORARY SEEDMULCH ALL AREAS THAT WILL BE LEFT INACTIVE FOR MORE THAN FOURTEEN (14) DAYS.
  - ALL PERMANENT GRASS PLANTINGS SHALL BE MULCHED
  - CENTRIPEDE SOD CAN BE USED AS PERMANENT COVER ANYTIME EXCEPT JUNE THRU OCTOBER. IF GRASSING OCCURS DURING A MONTH REQUIRING TEMPORARY COVER, THE CONTRACTOR SHALL APPLY PERMANENT COVER (IN ADDITION TO THE TEMPORARY COVER) AT THE APPROPRIATE TIME AT NO ADDITIONAL COST. THE CONTRACTOR MUST ACHIEVE A STRAND OF PERMANENT GRASS WITH AT LEAST 95% COVER. BARE SPOTS CAN NOT BE MORE THAN 1 INCH SQUARE IN ANY 10 SF.

### X. PERMANENT STABILIZATION

- NEWLY SEEDDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL ESTABLISHED. IF NECESSARY, AREAS MUST BE RE-WORKED AND RE-STABILIZED. IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT, ONE OR MORE OF THE FOLLOWING MAY APPLY TO THE SITE.
- SEEDDED AREAS
  - SEEDDED AREAS
  - SODDED AREAS
  - SODDED AREAS
  - PERMANENT MULCH
  - PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL.
  - RIPRAP
  - PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF AN APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIPRAP.
  - DITCHES, CHANNELS, AND SWALES
- FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIPRAP LINING, OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE LINING, UNDERCUTTING OF THE BANKS, OR DOWN CUTTING OF THE CHANNEL.

### XI. FERTILIZER REQUIREMENTS

- TEMPORARY SEEDING FERTILIZER
  - PERMANENT SEEDING FERTILIZER
- APPLY A MINIMUM OF 500 LBS PER ACRE OF A COMPLETE, 10-10-10 FERTILIZER (11.5 POUNDS PER 1000 SQUARE FEET) OR EQUIVALENT DURING TEMPORARY SEEDING OF GRASSES UNLESS A SOIL TEST INDICATES A DIFFERENT REQUIREMENT. INCORPORATE FERTILIZER AND LIME (IF USED) INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR OTHER MEANS WHERE CONDITIONS ALLOW. LIME IS NOT REQUIRED FOR TEMPORARY SEEDING UNLESS A SOIL TEST SHOWS THAT THE SOIL PH IS BELOW 5.0. IT IS DESIRABLE TO APPLY LIME DURING THE TEMPORARY SEEDING OPERATION TO BENEFIT THE LONG-TERM PERMANENT SEEDING. APPLY A MINIMUM OF 1.5 TONS OF LIME / ACRE (70 LBS / 1000 SQ. FT.).
- APPLY A MINIMUM OF 1000 LBS PER ACRE OF A COMPLETE 10-10-10 FERTILIZER (23 POUNDS PER 1000 SQUARE FEET) OR EQUIVALENT DURING PERMANENT SEEDING OF GRASSES UNLESS A SOIL TEST INDICATES A DIFFERENT REQUIREMENT. INCORPORATE FERTILIZER AND LIME (IF USED) INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR OTHER MEANS WHERE CONDITIONS ALLOW. DO NOT MIX THE LIME AND THE FERTILIZER PRIOR TO THE FIELD APPLICATION. UNLESS A SPECIFIC SOIL TEST INDICATES OTHERWISE, APPLY 1 & 1/2 TONS OF GROUND COARSE TEXTURED AGRICULTURAL LIMESTONE PER ACRE (70 LBS. / 1000 SQ. FT.).

### XII. SUPPORT ACTIVITIES

IF THERE ARE TO BE ANY OFF-SITE SUPPORT ACTIVITIES, SUCH AS CONSTRUCTION STAGING OR STOCKPILING, LOCATED OUTSIDE OF THE CONSTRUCTION SITE AREA AS SHOWN ON THE PLANS, THE CONTRACTOR SHALL PROVIDE A PLAN SHOWING ALL REQUIRED POLLUTION PREVENTION MEASURES IN ACCORDANCE WITH SECTION 3.2.10.0 OF THE NPDES COP. ANY NEW NPDES PERMITTING OR MODIFICATION OF THE EXISTING PERMIT ARE THE RESPONSIBILITY OF THE CONTRACTOR.

### XIII. SWPP PREPARER CERTIFICATION

I HAVE PLACED MY SIGNATURE AND SEAL ON THE DESIGN DOCUMENTS SUBMITTED SIGNIFYING THAT I ACCEPT RESPONSIBILITY FOR THE DESIGN OF THE SYSTEM. FURTHER, I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 14 OF THE CODE OF LAWS OF SC, 1976 AS AMENDED, PURSUANT TO REGULATION 72-300 ET SEQ. (IF APPLICABLE), AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SCR100000.



NO.	REVISIONS	BY	DATE

**THOMAS & HUTTON**  
682 Johnnie Dodds Blvd. • Suite 100  
Mt. Pleasant, SC 29464 • 843.849.0200  
www.thomasonconstruction.com

**CITY OF ISLE OF PALMS**  
ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA

**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**

**SWPPP NOTES**

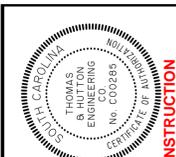
JOB NO: J-27670.0003  
DATE: 1/3/20  
DRAWN: HKA  
DESIGNED: HKA  
REVIEWED: RPK  
SCALE: N/A

**EC0.1**









BID SET - NOT FOR CONSTRUCTION

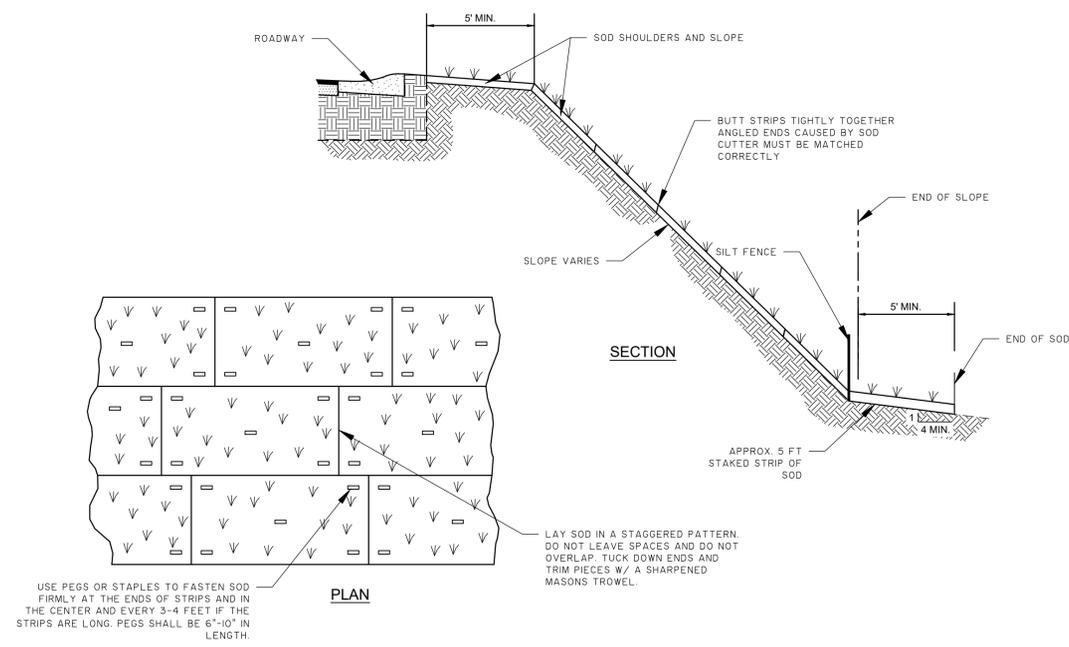
NO.	REVISIONS	BY	DATE

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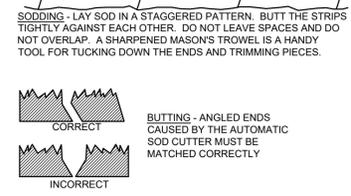
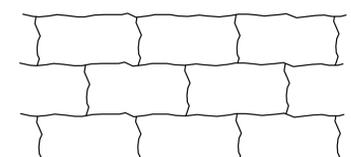
**CITY OF ISLE OF PALMS**  
 ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA  
 PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS  
 SWPPP DETAILS

JOB NO:	J-27670.0003
DATE:	1/3/20
DRAWN:	HEA
DESIGNED:	HEA
REVIEWED:	RPK
APPROVED:	RPK
SCALE:	N/A

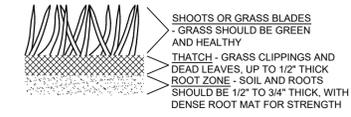
**ECO.4**



**SLOPED SODDING DETAIL**  
 NOT TO SCALE



ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID. MOW WHEN THE SOD IS ESTABLISHED - IN 2 - 3 WEEKS. SET THE MOWER HIGH (2"-3").



**SODDING**  
 NOT TO SCALE

TABLE 815-605A				
HEIGHT OF FILL (A) IN FEET	FILL SLOPE	MINIMUM SILT FENCE OFFSET FROM TOE OF SLOPE (IN FEET)	MINIMUM HEIGHT OF ANY OTHER FENCE (IN FEET)	CHECK LENGTH IN FEET**
<6	2:1	2	3	2
	4:1	2	3	2
6-10	2:1	12*	13*	5
	4:1	3	4	3
	8:1	3	4	3
>10	2:1	12*	13*	5
	4:1	4	5	4

\*THESE MINIMUM OFFSETS MAY BE REDUCED WHEN CURB AND CUTTER OR SOME OTHER FEATURE REDUCES THE FLOW OF WATER DOWN THE SLOPE. THE SMALL OFFSETS OF EACH GROUP OF HEIGHT OF FILL CANNOT BE REDUCED.

\*\*SILT FENCE CHECKS WILL HAVE A MAXIMUM LENGTH OF FIVE (5) FEET OR UNTIL THEY HE BACK INTO THE SLOPE.

NOTES:  
 1. SILT FENCE CHECKS MUST BE LOCATED EVERY 100 FEET MAXIMUM AND AT LOW POINTS. FILTER FABRIC SHALL CONFORM TO SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION).  
 2. USE POSTS CONFORMING TO SCDOT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS. POSTS SHALL BE A MINIMUM OF 5 FEET LONG AND INSTALLED TO A MINIMUM DEPTH OF 24 INCHES WITH NO MORE THAN 3 FEET OF THE POST ABOVE GROUND. AT LEAST 1 TO 2 INCHES OF THE POSTS SHALL EXTEND ABOVE THE TOP OF THE FABRIC. POST SPACING WILL BE A MAXIMUM OF 6 FEET ON CENTER.  
 3. POSTS SHALL HAVE PROJECTIONS FOR FASTENING THE FABRIC TO THE POST. POSTS SHALL ALSO HAVE A SOIL PLATE NEAR THE BOTTOM OF THE POST, EXCEPT WHEN HEAVY CLAY SOILS ARE PRESENT ON-SITE.  
 4. ATTACH FABRIC TO POSTS USING HEAVY-DUTY PLASTIC TIES THAT ARE EVENLY SPACED AND PLACED IN A MANNER TO PREVENT SAGGING OR TEARING OF THE FABRIC. IN ALL CASES TIES SHOULD BE AFFIXED IN NO LESS THAN 4 PLACES.  
 5. SILT SHALL BE REMOVED AND DISPOSED OF WHEN SILT ACCUMULATES TO 3/8 THE HEIGHT OF THE FENCE. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON-SITE. MAINTENANCE OF SILT FENCE WILL BE MEASURED AND PAID FOR BY THE ITEM OF REMOVAL OF SILT RETAINED BY SILT FENCE.  
 6. TYPICAL SILT FENCE APPLICATIONS REQUIRE 24 INCHES OF THE FABRIC TO BE ABOVE GROUND. WHEN NEEDED, THE HEIGHT OF SILT FENCE ABOVE THE GROUND MAY BE GREATER THAN 24". SEE PLANS FOR APPLICATION OF HIGHER SILT FENCE, PAY ITEMS, AND INSTALLATION METHODS.  
 7. IN TIDAL AREAS, EXTRA SILT FENCE MAY BE REQUIRED. THE LENGTH OF POST WILL BE TWICE THE EXPOSED POST HEIGHT. POST SPACING WILL REMAIN AS SHOWN HEREON. EXTRA HEIGHT FABRIC WILL BE 4, 5, OR 6 FEET TOTAL WIDTH.  
 8. PAY ITEMS:  
 B153000 SILT FENCE LF  
 B153005 SILT FENCE EXTRA HEIGHT LF  
 B153006 REPLACE/REPAIR SILT FENCE LF  
 B154000 REMOVAL OF SILT RETAINED BY SILT FENCE LF

REFERENCES:  
 NATIONAL DOCUMENTS  
 SCDOT DOCUMENTS  
 SC-M-810-2, QPL 34

RELATED DRAWINGS & KEYWORDS

THIS DRAWING IS ONLY VALID FOR CONSTRUCTION WHEN SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF SOUTH CAROLINA. CHECK WWW.SCDOT.ORG FOR LATEST UPDATE.

NO. 21242  
 James W. Kendall, P.E.  
 11/10/2016  
 DATE

REVISIONS

SCDOT  
 SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION  
 DESIGN STANDARDS OFFICE  
 505 PARK STREET  
 COLUMBIA, SC 29201

STANDARD DRAWING  
 TEMPORARY SILT FENCE  
 815-605-00  
 EFFECTIVE LETTING DATE: JULY, 2017

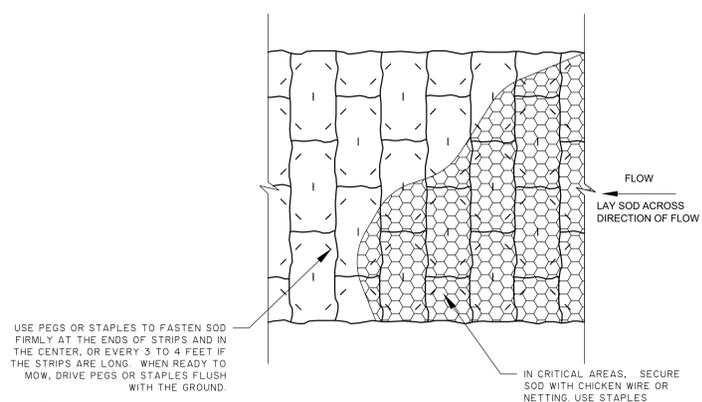
DETAIL 1: TYPICAL POST SPACING. 8'-0" MAX. POST SPACING OR AS DIRECTED BY ENGINEER. 1'-0" MIN. OFFSET. 2'-0" MIN. WIDENMENT.

DETAIL 2: SILT FENCE CHECKS. 100' (MAXIMUM).

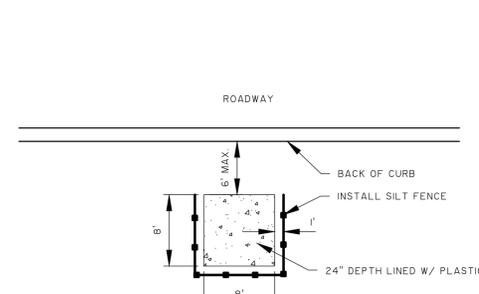
DETAIL 3: ACCESS AREA. ACCESS AREA TABLE 815-605A.

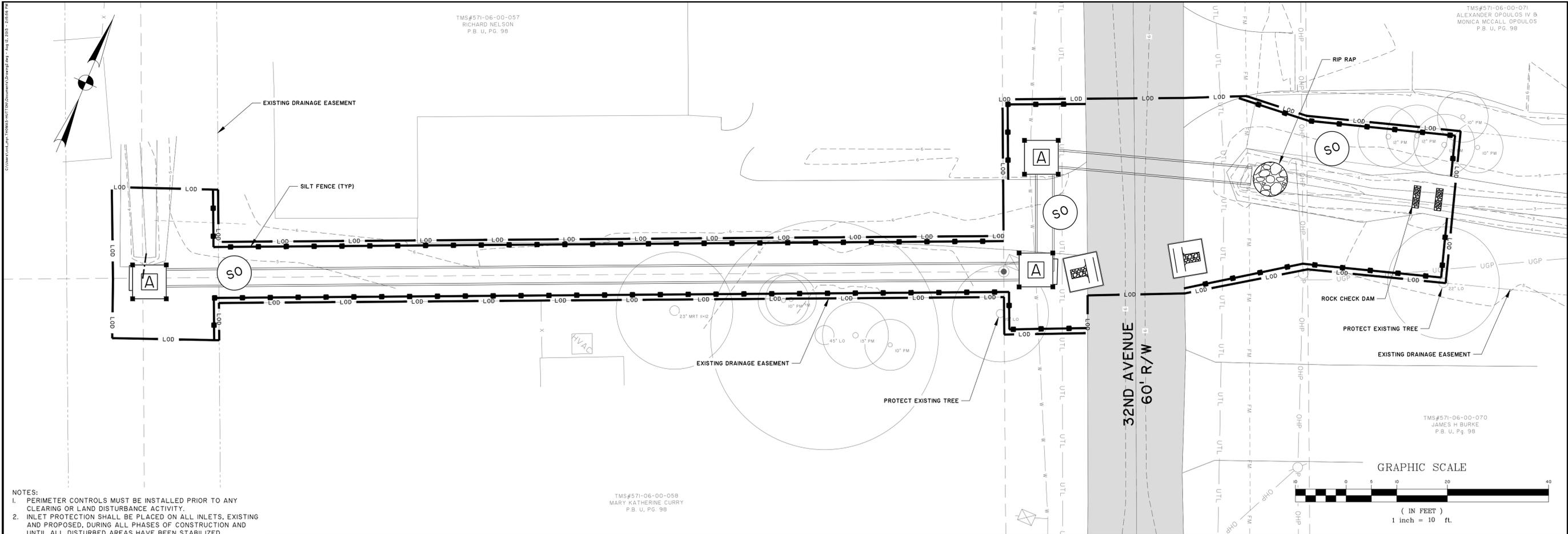
DETAIL 4: TRENCH METHOD. 12 INCHES OF THE FABRIC SHALL BE BURIED REGARDLESS, IF PLACED PNEUMATICALLY OR WITH A TRENCHER. BOTH METHODS SHOWN BELOW.

DETAIL 5: PNEUMATIC METHOD. 12 INCHES OF THE FABRIC SHALL BE BURIED REGARDLESS, IF PLACED PNEUMATICALLY OR WITH A TRENCHER. BOTH METHODS SHOWN BELOW.

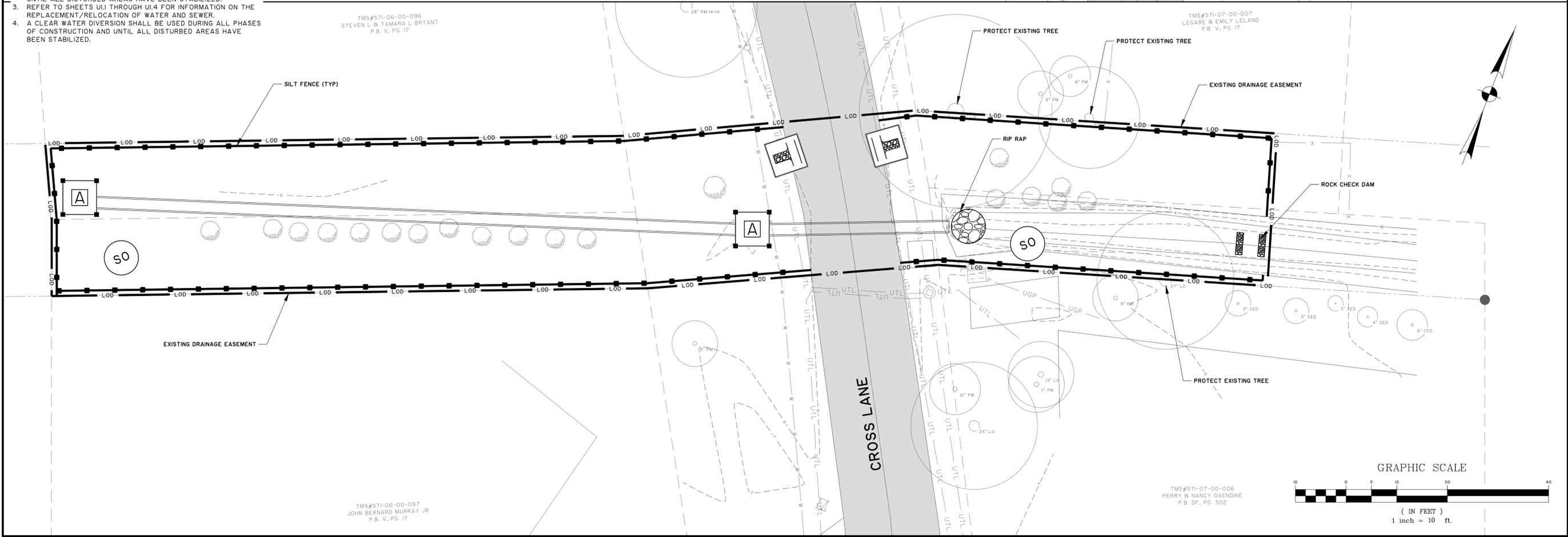


**CONCRETE WASHOUT DETAIL**  
 NOT TO SCALE





- NOTES:
1. PERIMETER CONTROLS MUST BE INSTALLED PRIOR TO ANY CLEARING OR LAND DISTURBANCE ACTIVITY.
  2. INLET PROTECTION SHALL BE PLACED ON ALL INLETS, EXISTING AND PROPOSED, DURING ALL PHASES OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.
  3. REFER TO SHEETS U11 THROUGH U14 FOR INFORMATION ON THE REPLACEMENT/RELOCATION OF WATER AND SEWER.
  4. A CLEAR WATER DIVERSION SHALL BE USED DURING ALL PHASES OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.



TMS#571-06-00-071  
ALEXANDER OPOULOS IV &  
MONICA MCCALL OPOULOS  
P.B. U, PG. 98



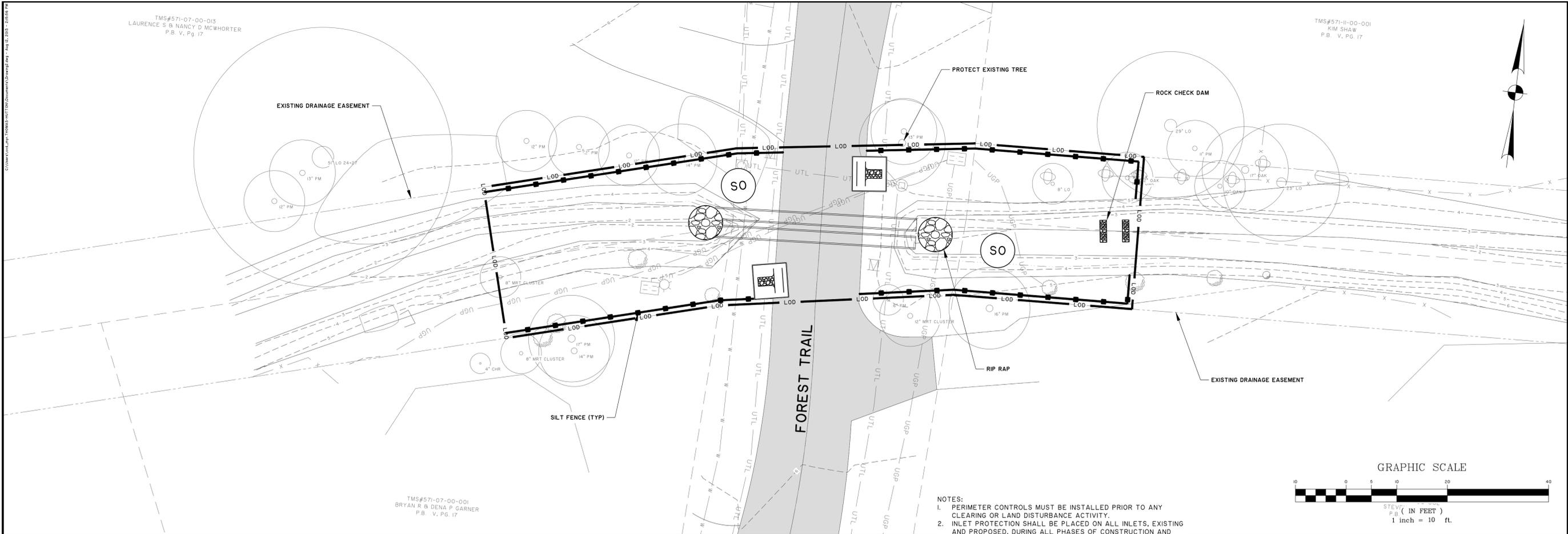
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**CITY OF ISLE OF PALMS**  
 ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA  
**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**  
**EROSION CONTROL PLAN**

JOB NO: J- 27670.0003  
 DATE: 1/3/20  
 DRAWN: HEA  
 DESIGNED: HEA  
 REVIEWED: RPK  
 APPROVED: RPK  
 SCALE: AS NOTED

**EC1.1**



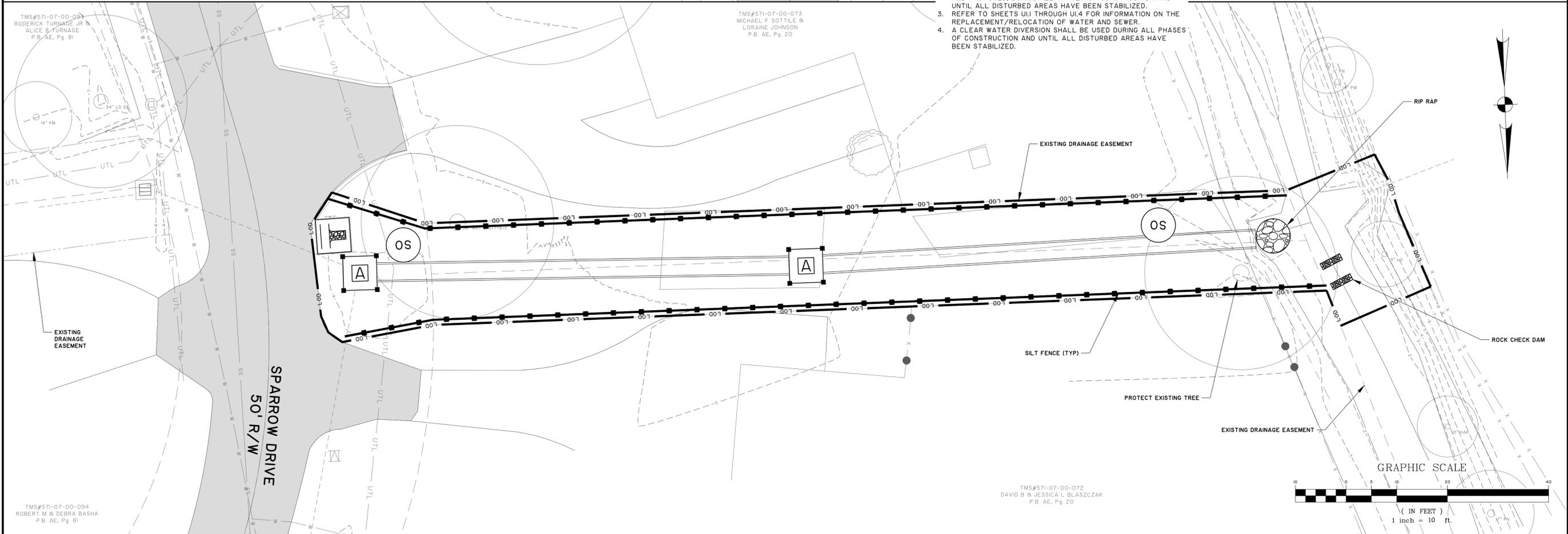
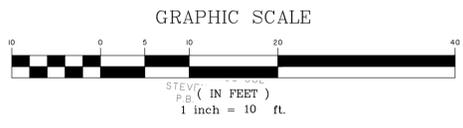
TMS#571-07-00-013  
LAURENCE S & NANCY D MCWHORTER  
P.B. V. PG. 17

TMS#571-11-00-001  
KIM SHAW  
P.B. V. PG. 17

TMS#571-07-00-001  
BRYAN R & DENA P GARNER  
P.B. V. PG. 17

TMS#571-07-00-073  
MICHAEL F SOTTILE &  
LORRAINE JOHNSON  
P.B. AE, PG. 20

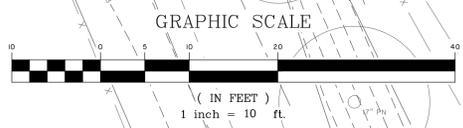
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  3. REFER TO SHEETS UI1 THROUGH UI4 FOR INFORMATION ON THE REPLACEMENT/RELOCATION OF WATER AND SEWER.
  4. A CLEAR WATER DIVERSION SHALL BE USED DURING ALL PHASES OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.



TMS#571-07-00-093  
RODERICK TURMAGE JR &  
ALICE S TURMAGE  
P.B. AE, PG. 81

TMS#571-07-00-094  
ROBERT M & DEBRA BASHA  
P.B. AE, PG. 81

TMS#571-07-00-072  
DAVID B & JESSICA L BLASZCZAK  
P.B. AE, PG. 20



NO.	REVISIONS	BY	DATE
A	REVISED PER SCDDOT COMMENTS	HEA	4/21/20

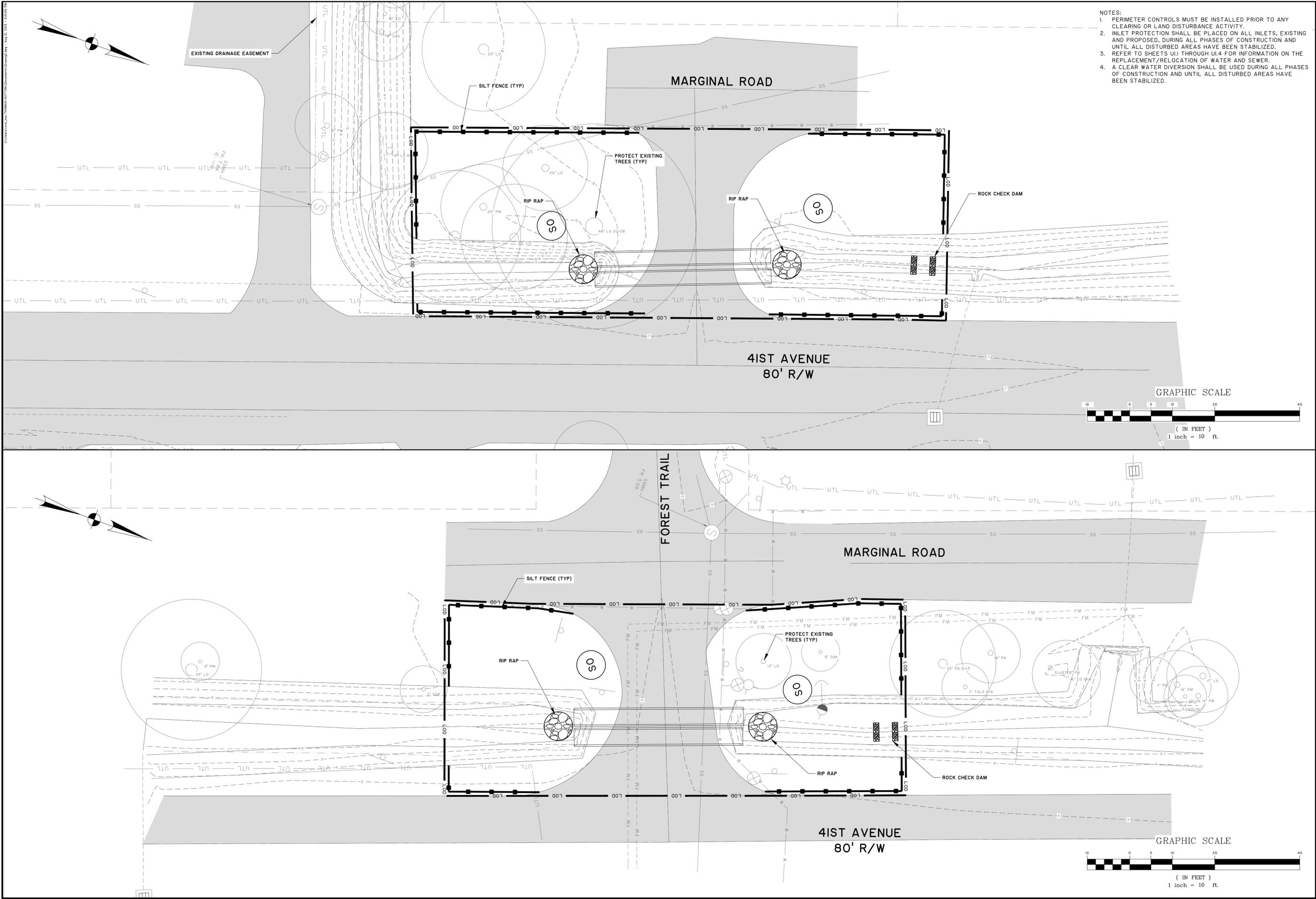
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**CITY OF ISLE OF PALMS**  
 ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA  
**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**  
**EROSION CONTROL PLAN**

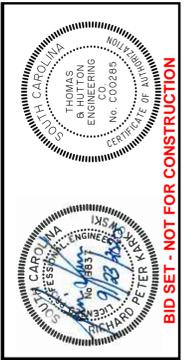
JOB NO:	J-27670.0003
DATE:	1/3/20
DRAWN:	HEA
DESIGNED:	HEA
REVIEWED:	RPK
APPROVED:	RPK
SCALE:	AS NOTED

**EC1.2**

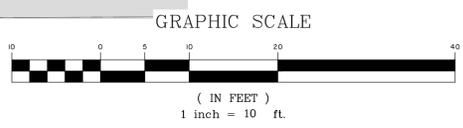
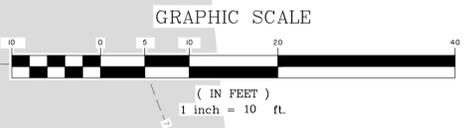
**BID SET - NOT FOR CONSTRUCTION**



- NOTES:
1. PERIMETER CONTROLS MUST BE INSTALLED PRIOR TO ANY CLEARING OR LAND DISTURBANCE ACTIVITY.
  2. INLET PROTECTION SHALL BE PLACED ON ALL INLETS, EXISTING AND PROPOSED, DURING ALL PHASES OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.
  3. REFER TO SHEETS UIJ THROUGH UI.4 FOR INFORMATION ON THE REPLACEMENT/RELOCATION OF WATER AND SEWER.
  4. A CLEAR WATER DIVERSION SHALL BE USED DURING ALL PHASES OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.



NO.	REVISIONS	BY	DATE



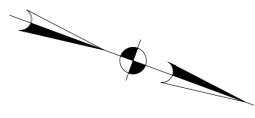
**THOMAS & HUTTON**  
 682 Johnnie Dodds Blvd. • Suite 100  
 Mt. Pleasant, SC 29464 • 843.849.0200  
 www.thomasandhutton.com

**CITY OF ISLE OF PALMS**  
 ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA  
**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**  
**EROSION CONTROL PLAN**

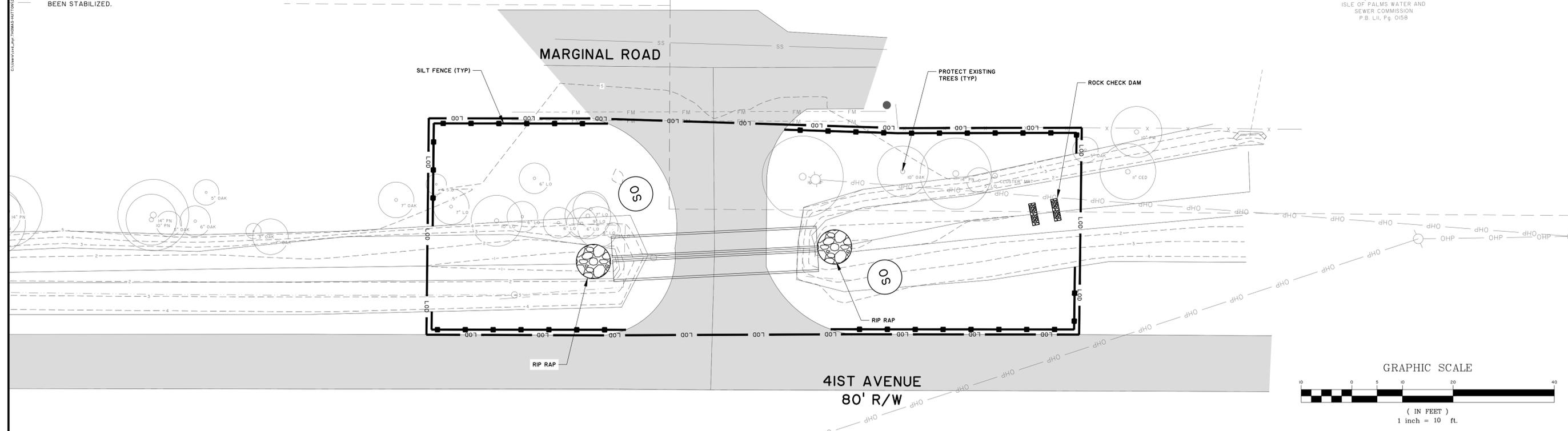
JOB NO:	J-27670.0003
DATE:	1/3/20
DRAWN:	HEA
DESIGNED:	HEA
REVIEWED:	RPK
APPROVED:	RPK
SCALE:	AS NOTED

**EC1.3**

- NOTES:
- PERIMETER CONTROLS MUST BE INSTALLED PRIOR TO ANY CLEARING OR LAND DISTURBANCE ACTIVITY.
  - INLET PROTECTION SHALL BE PLACED ON ALL INLETS, EXISTING AND PROPOSED, DURING ALL PHASES OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.
  - REFER TO SHEETS U11 THROUGH U14 FOR INFORMATION ON THE REPLACEMENT/RELOCATION OF WATER AND SEWER.
  - A CLEAR WATER DIVERSION SHALL BE USED DURING ALL PHASES OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.



TMS#571-07-00-029  
 ISLE OF PALMS WATER AND  
 SEWER COMMISSION  
 P.B. LII, Pg. 0158



**BID SET - NOT FOR CONSTRUCTION**

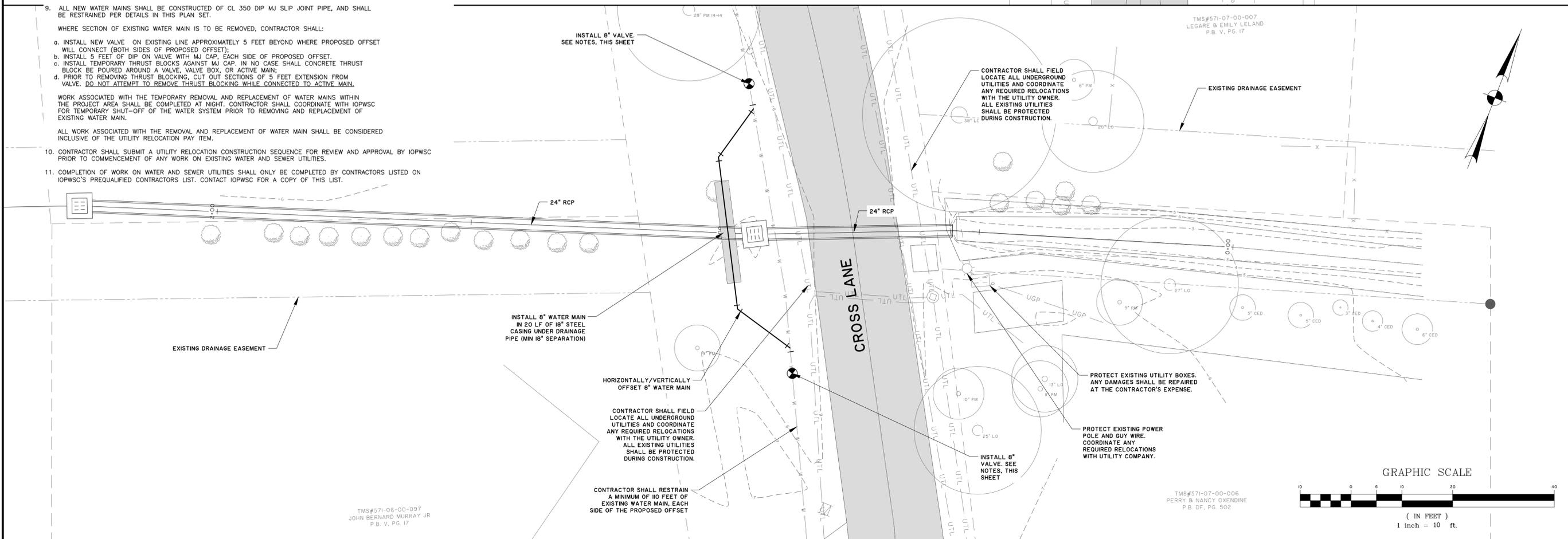
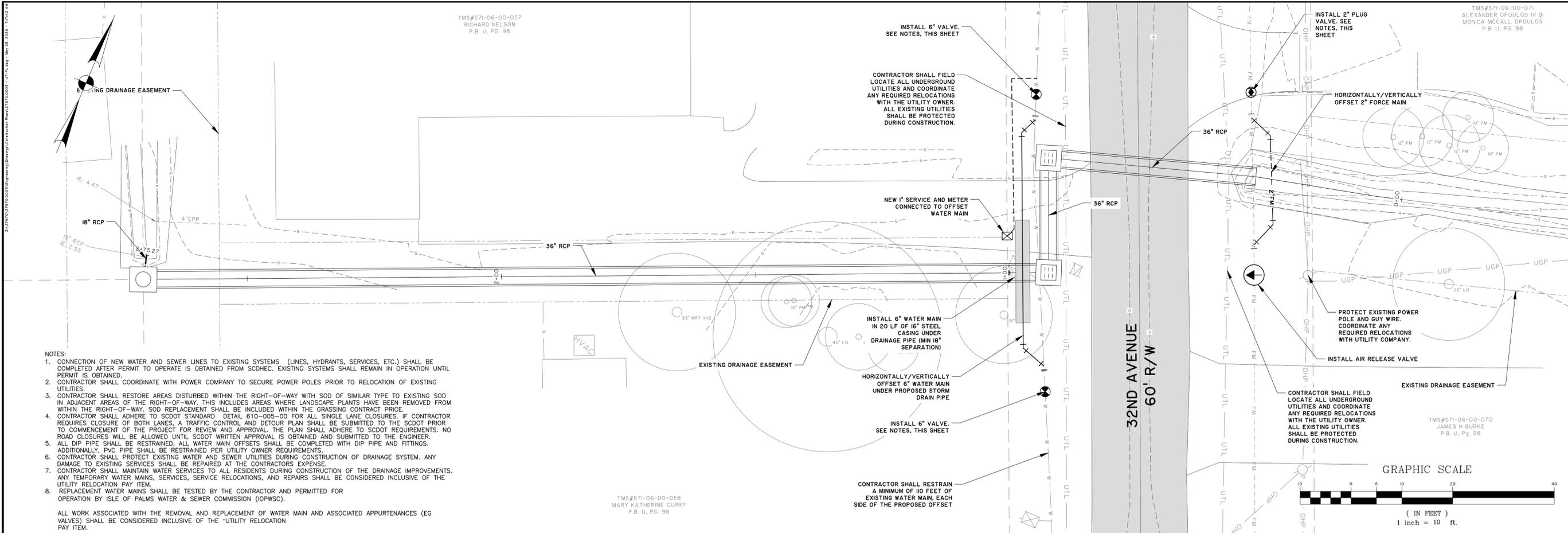
NO.	REVISIONS	BY	DATE

**THOMAS & HUTTON**  
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**CITY OF ISLE OF PALMS**  
 ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA  
**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**  
**EROSION CONTROL PLAN**

JOB NO: J-27670.0003  
 DATE: 1/3/20  
 DRAWN: HEA  
 DESIGNED: HEA  
 REVIEWED: RPK  
 APPROVED: RPK  
 SCALE: AS NOTED

**EC1.4**



- NOTES:**
- CONNECTION OF NEW WATER AND SEWER LINES TO EXISTING SYSTEMS (LINES, HYDRANTS, SERVICES, ETC.) SHALL BE COMPLETED AFTER PERMIT TO OPERATE IS OBTAINED FROM SCDHEC. EXISTING SYSTEMS SHALL REMAIN IN OPERATION UNTIL PERMIT IS OBTAINED.
  - CONTRACTOR SHALL COORDINATE WITH POWER COMPANY TO SECURE POWER POLES PRIOR TO RELOCATION OF EXISTING UTILITIES.
  - CONTRACTOR SHALL RESTORE AREAS DISTURBED WITHIN THE RIGHT-OF-WAY WITH SOD OF SIMILAR TYPE TO EXISTING SOD IN ADJACENT AREAS OF THE RIGHT-OF-WAY. THIS INCLUDES AREAS WHERE LANDSCAPE PLANTS HAVE BEEN REMOVED FROM WITHIN THE RIGHT-OF-WAY. SOD REPLACEMENT SHALL BE INCLUDED WITHIN THE GRASSING CONTRACT PRICE.
  - CONTRACTOR SHALL ADHERE TO SCDOT STANDARD DETAIL 610-005-00 FOR ALL SINGLE LANE CLOSURES. IF CONTRACTOR REQUIRES CLOSURE OF BOTH LANES, A TRAFFIC CONTROL AND DETOUR PLAN SHALL BE SUBMITTED TO THE SCDOT PRIOR TO COMMENCEMENT OF THE PROJECT FOR REVIEW AND APPROVAL. THE PLAN SHALL ADHERE TO SCDOT REQUIREMENTS. NO ROAD CLOSURES WILL BE ALLOWED UNTIL SCDOT WRITTEN APPROVAL IS OBTAINED AND SUBMITTED TO THE ENGINEER.
  - ALL DIP PIPE SHALL BE RESTRAINED. ALL WATER MAIN OFFSETS SHALL BE COMPLETED WITH DIP PIPE AND FITTINGS. ADDITIONALLY, PVC PIPE SHALL BE RESTRAINED PER UTILITY OWNER REQUIREMENTS.
  - CONTRACTOR SHALL PROTECT EXISTING WATER AND SEWER UTILITIES DURING CONSTRUCTION OF DRAINAGE SYSTEM. ANY DAMAGE TO EXISTING SERVICES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
  - CONTRACTOR SHALL MAINTAIN WATER SERVICES TO ALL RESIDENTS DURING CONSTRUCTION OF THE DRAINAGE IMPROVEMENTS. ANY TEMPORARY WATER MAINS, SERVICES, SERVICE RELOCATIONS, AND REPAIRS SHALL BE CONSIDERED INCLUSIVE OF THE UTILITY RELOCATION PAY ITEM.
  - REPLACEMENT WATER MAINS SHALL BE TESTED BY THE CONTRACTOR AND PERMITTED FOR OPERATION BY ISLE OF PALMS WATER & SEWER COMMISSION (IOPWSC).
- ALL WORK ASSOCIATED WITH THE REMOVAL AND REPLACEMENT OF WATER MAIN AND ASSOCIATED APPURTENANCES (EG VALVES) SHALL BE CONSIDERED INCLUSIVE OF THE UTILITY RELOCATION PAY ITEM.

- ALL NEW WATER MAINS SHALL BE CONSTRUCTED OF CL 350 DIP MJ SLIP JOINT PIPE, AND SHALL BE RESTRAINED PER DETAILS IN THIS PLAN SET.
- WHERE SECTION OF EXISTING WATER MAIN IS TO BE REMOVED, CONTRACTOR SHALL:
- INSTALL NEW VALVE ON EXISTING LINE APPROXIMATELY 5 FEET BEYOND WHERE PROPOSED OFFSET WILL CONNECT (BOTH SIDES OF PROPOSED OFFSET);
  - INSTALL 5 FEET OF DIP ON VALVE WITH MJ CAP, EACH SIDE OF PROPOSED OFFSET.
  - INSTALL TEMPORARY THRUST BLOCKS AGAINST MJ CAP. IN NO CASE SHALL CONCRETE THRUST BLOCK BE POURED AROUND A VALVE, VALVE BOX, OR ACTIVE MAIN;
  - PRIOR TO REMOVING THRUST BLOCKING, CUT OUT SECTIONS OF 5 FEET EXTENSION FROM VALVE. DO NOT ATTEMPT TO REMOVE THRUST BLOCKING WHILE CONNECTED TO ACTIVE MAIN.
- WORK ASSOCIATED WITH THE TEMPORARY REMOVAL AND REPLACEMENT OF WATER MAINS WITHIN THE PROJECT AREA SHALL BE COMPLETED AT NIGHT. CONTRACTOR SHALL COORDINATE WITH IOPWSC FOR TEMPORARY SHUT-OFF OF THE WATER SYSTEM PRIOR TO REMOVING AND REPLACEMENT OF EXISTING WATER MAIN.
- ALL WORK ASSOCIATED WITH THE REMOVAL AND REPLACEMENT OF WATER MAIN SHALL BE CONSIDERED INCLUSIVE OF THE UTILITY RELOCATION PAY ITEM.
- CONTRACTOR SHALL SUBMIT A UTILITY RELOCATION CONSTRUCTION SEQUENCE FOR REVIEW AND APPROVAL BY IOPWSC PRIOR TO COMMENCEMENT OF ANY WORK ON EXISTING WATER AND SEWER UTILITIES.
  - COMPLETION OF WORK ON WATER AND SEWER UTILITIES SHALL ONLY BE COMPLETED BY CONTRACTORS LISTED ON IOPWSC'S PREQUALIFIED CONTRACTORS LIST. CONTACT IOPWSC FOR A COPY OF THIS LIST.

TMS#571-06-00-057  
RICHARD NELSON  
P.B. U, PG. 98

TMS#571-06-00-058  
MARY KATHERINE CURRY  
P.B. U, PG. 98

TMS#571-06-00-070  
JAMES H BURKE  
P.B. U, PG. 98

TMS#571-07-00-007  
LEGARE & EMILY LELAND  
P.B. V, PG. 17

TMS#571-07-00-006  
PERRY & NANCY OXENDINE  
P.B. DF, PG. 502

THOMAS & HUTTON  
ENGINEERS  
ARCHITECTS  
PLANNERS

STATE OF SOUTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
NO. 000298  
RICHARD NELSON

STATE OF SOUTH CAROLINA  
REGISTERED PROFESSIONAL ARCHITECT  
NO. 10133  
RICHARD NELSON

STATE OF SOUTH CAROLINA  
REGISTERED PROFESSIONAL PLANNER  
NO. 10133  
RICHARD NELSON

NO.	REVISIONS	BY	DATE

**THOMAS & HUTTON**

ENGINEERS  
ARCHITECTS  
PLANNERS

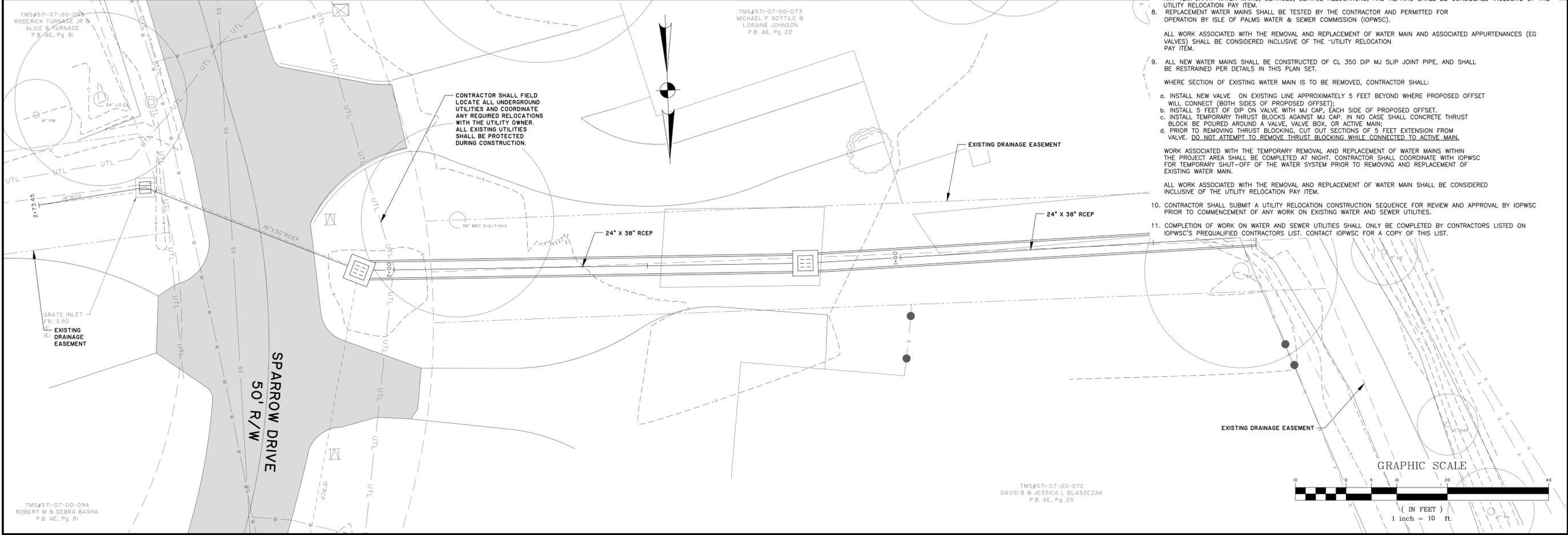
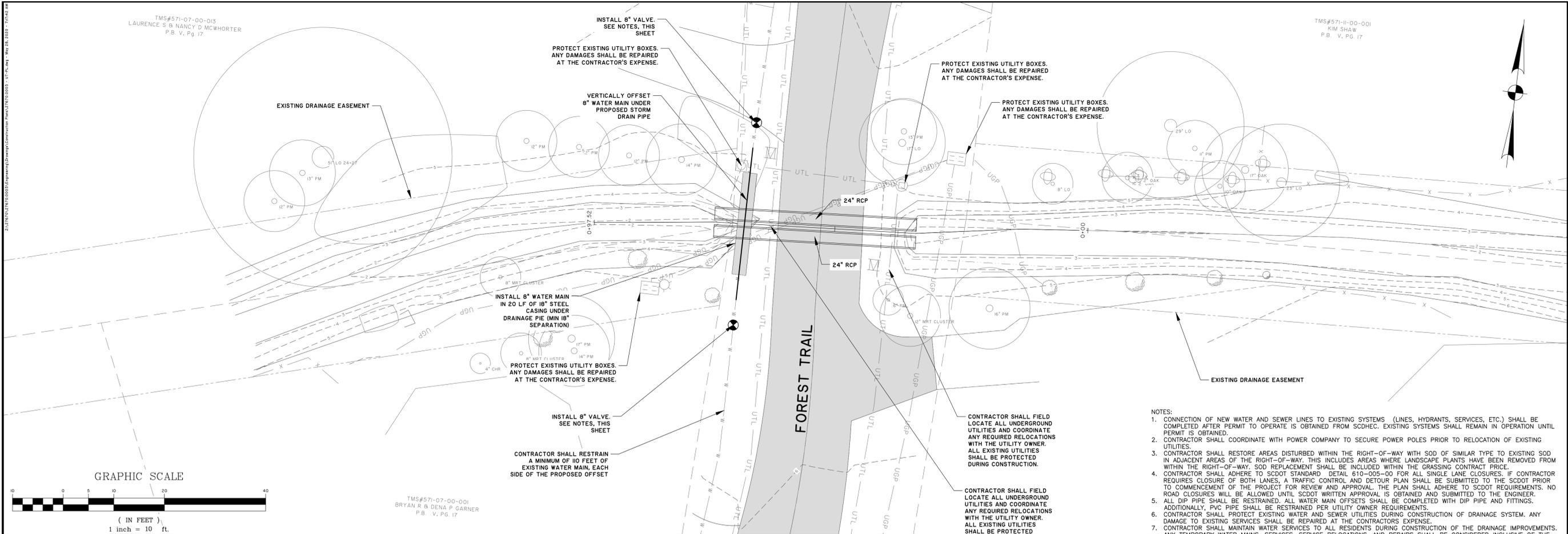
**CITY OF ISLE OF PALMS**  
ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA

**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**

**UTILITY RELOCATION PLAN**

JOB NO: J-27670.0003  
DATE: 1/3/20  
DRAWN: HEA  
DESIGNED: HEA  
REVIEWED: RPK  
APPROVED: RPK  
SCALE: AS NOTED

**U1.1**



- NOTES:
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NO.	REVISED PER SCDOT COMMENTS	BY	DATE
A		HEA	4/21/20



CITY OF ISLE OF PALMS  
ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA

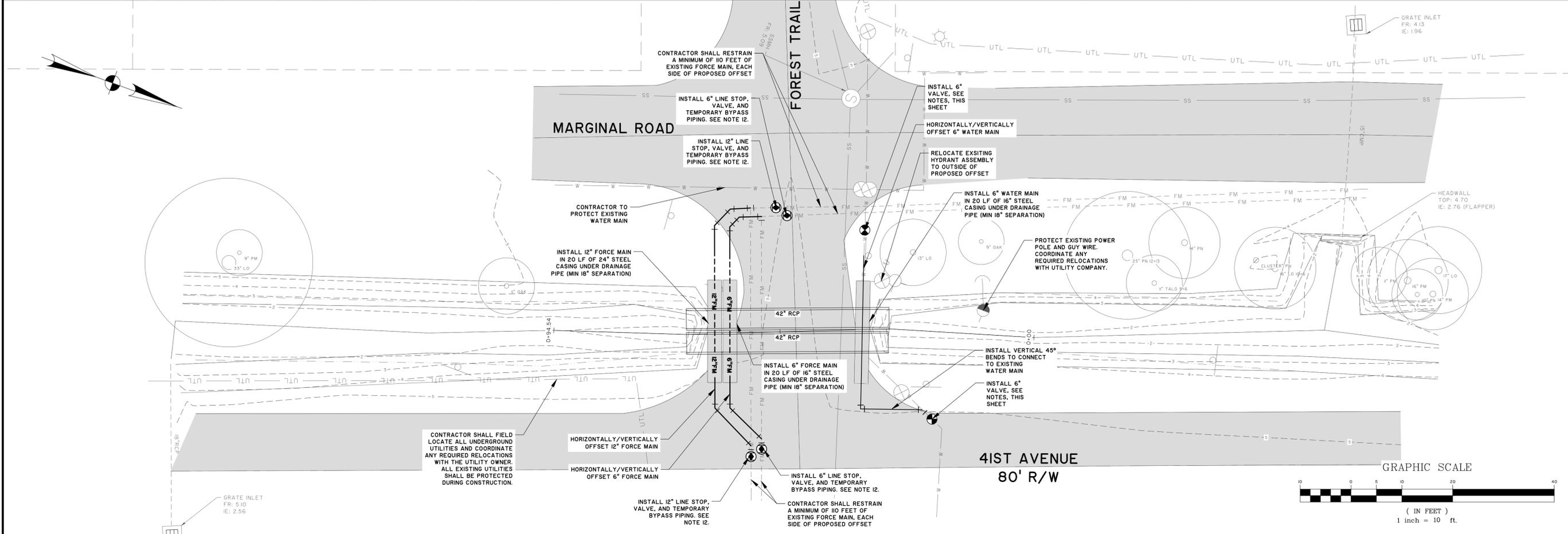
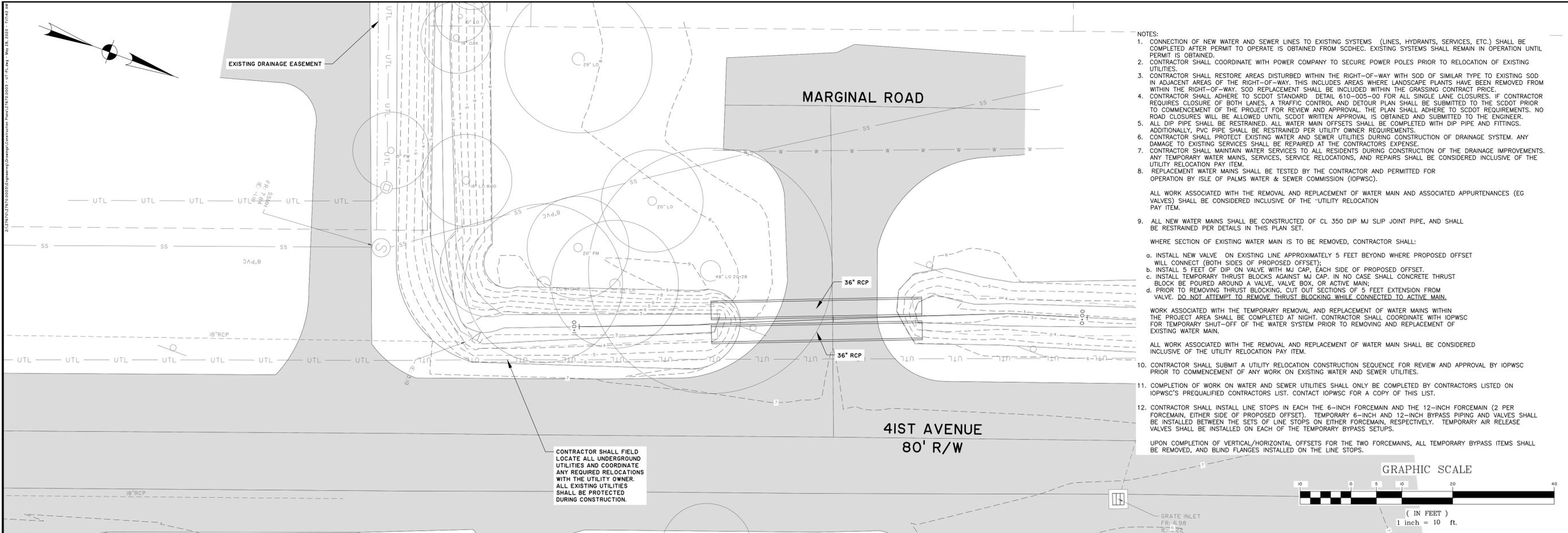
PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS  
UTILITY RELOCATION PLAN

JOB NO: J-27670.0003  
DATE: 1/3/20  
DRAWN: HEA  
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REVIEWED: RPK  
APPROVED: RPK  
SCALE: AS NOTED

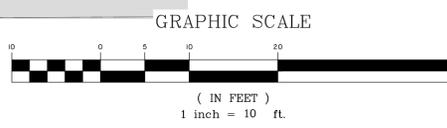
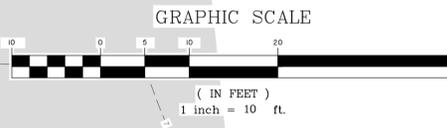
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BID SET - NOT FOR CONSTRUCTION

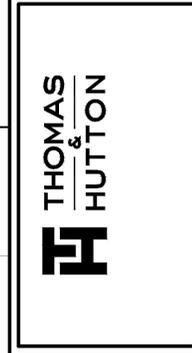




- NOTES:
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  6. CONTRACTOR SHALL MAINTAIN WATER SERVICES TO ALL RESIDENTS DURING CONSTRUCTION OF THE DRAINAGE IMPROVEMENTS. ANY TEMPORARY WATER MAINS, SERVICES, SERVICE RELOCATIONS, AND REPAIRS SHALL BE CONSIDERED INCLUSIVE OF THE UTILITY RELOCATION PAY ITEM.
  7. REPLACEMENT WATER MAINS SHALL BE TESTED BY THE CONTRACTOR AND PERMITTED FOR OPERATION BY ISLE OF PALMS WATER & SEWER COMMISSION (IOPWSC).
- ALL WORK ASSOCIATED WITH THE REMOVAL AND REPLACEMENT OF WATER MAIN AND ASSOCIATED APPURTENANCES (EG VALVES) SHALL BE CONSIDERED INCLUSIVE OF THE "UTILITY RELOCATION PAY ITEM.
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10. CONTRACTOR SHALL SUBMIT A UTILITY RELOCATION CONSTRUCTION SEQUENCE FOR REVIEW AND APPROVAL BY IOPWSC PRIOR TO COMMENCEMENT OF ANY WORK ON EXISTING WATER AND SEWER UTILITIES.
  11. COMPLETION OF WORK ON WATER AND SEWER UTILITIES SHALL ONLY BE COMPLETED BY CONTRACTORS LISTED ON IOPWSC'S PREQUALIFIED CONTRACTORS LIST. CONTACT IOPWSC FOR A COPY OF THIS LIST.
  12. CONTRACTOR SHALL INSTALL LINE STOPS IN EACH THE 6-INCH FORCEMAIN AND THE 12-INCH FORCEMAIN (2 PER FORCEMAIN, EITHER SIDE OF PROPOSED OFFSET). TEMPORARY 6-INCH AND 12-INCH BYPASS PIPING AND VALVES SHALL BE INSTALLED BETWEEN THE SETS OF LINE STOPS ON EITHER FORCEMAIN, RESPECTIVELY. TEMPORARY AIR RELEASE VALVES SHALL BE INSTALLED ON EACH OF THE TEMPORARY BYPASS SETUPS.
- UPON COMPLETION OF VERTICAL/HORIZONTAL OFFSETS FOR THE TWO FORCEMAINS, ALL TEMPORARY BYPASS ITEMS SHALL BE REMOVED, AND BLIND FLANGES INSTALLED ON THE LINE STOPS.



NO.	REVISIONS	BY	DATE



**CITY OF ISLE OF PALMS**  
 ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA

**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**

**UTILITY RELOCATION PLAN**

JOB NO:	J-27670.0003
DATE:	1/3/20
DESIGNED:	HEA
REVIEWED:	RPK
APPROVED:	RPK
SCALE:	AS NOTED

**U1.3**

BID SET - NOT FOR CONSTRUCTION

**NOTES:**

1. CONNECTION OF NEW WATER AND SEWER LINES TO EXISTING SYSTEMS (LINES, HYDRANTS, SERVICES, ETC.) SHALL BE COMPLETED AFTER PERMIT TO OPERATE IS OBTAINED FROM SCDHEC. EXISTING SYSTEMS SHALL REMAIN IN OPERATION UNTIL PERMIT IS OBTAINED.
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8. REPLACEMENT WATER MAINS SHALL BE TESTED BY THE CONTRACTOR AND PERMITTED FOR OPERATION BY ISLE OF PALMS WATER & SEWER COMMISSION (IOPWSC).

ALL WORK ASSOCIATED WITH THE REMOVAL AND REPLACEMENT OF WATER MAIN AND ASSOCIATED APPURTENANCES (EG VALVES) SHALL BE CONSIDERED INCLUSIVE OF THE "UTILITY RELOCATION PAY ITEM.

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WHERE SECTION OF EXISTING WATER MAIN IS TO BE REMOVED, CONTRACTOR SHALL:

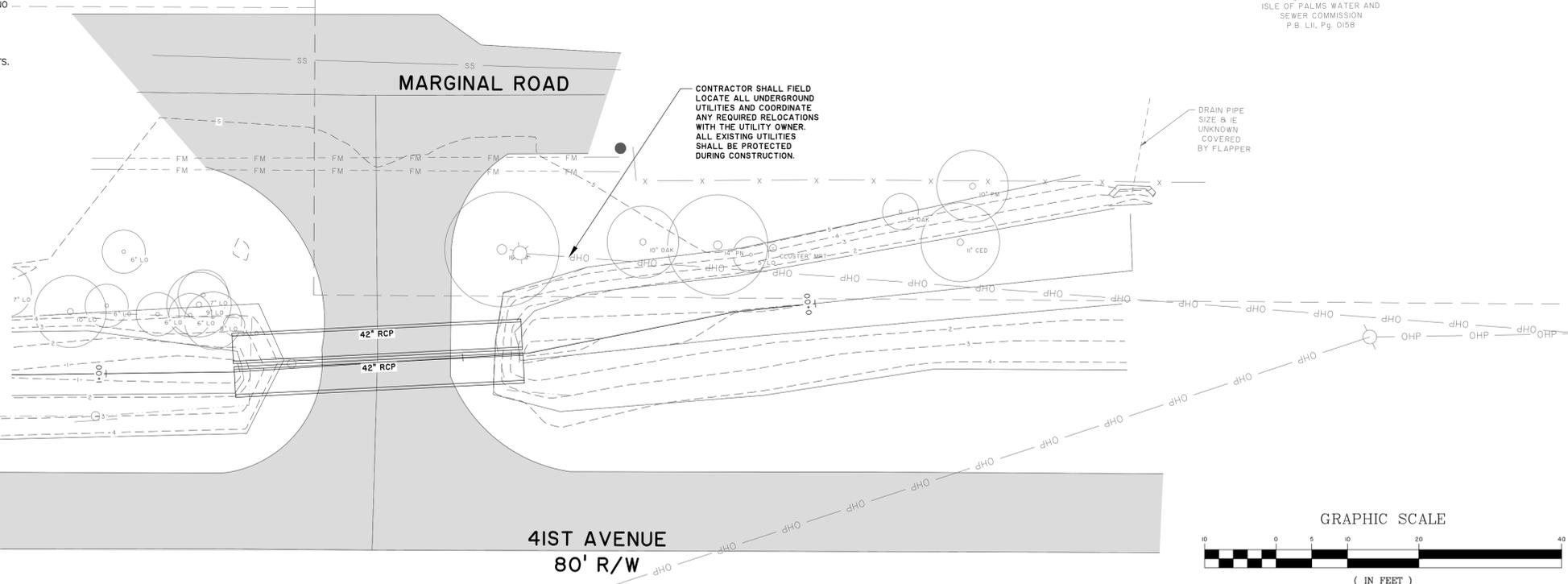
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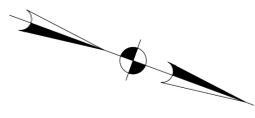
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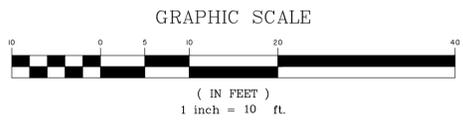
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TMS#571-07-00-029  
ISLE OF PALMS WATER AND SEWER COMMISSION  
P.B. LII, Pg. 0158



NO.	REVISIONS	BY	DATE



**THOMAS & HUTTON**

**CITY OF ISLE OF PALMS**  
ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA

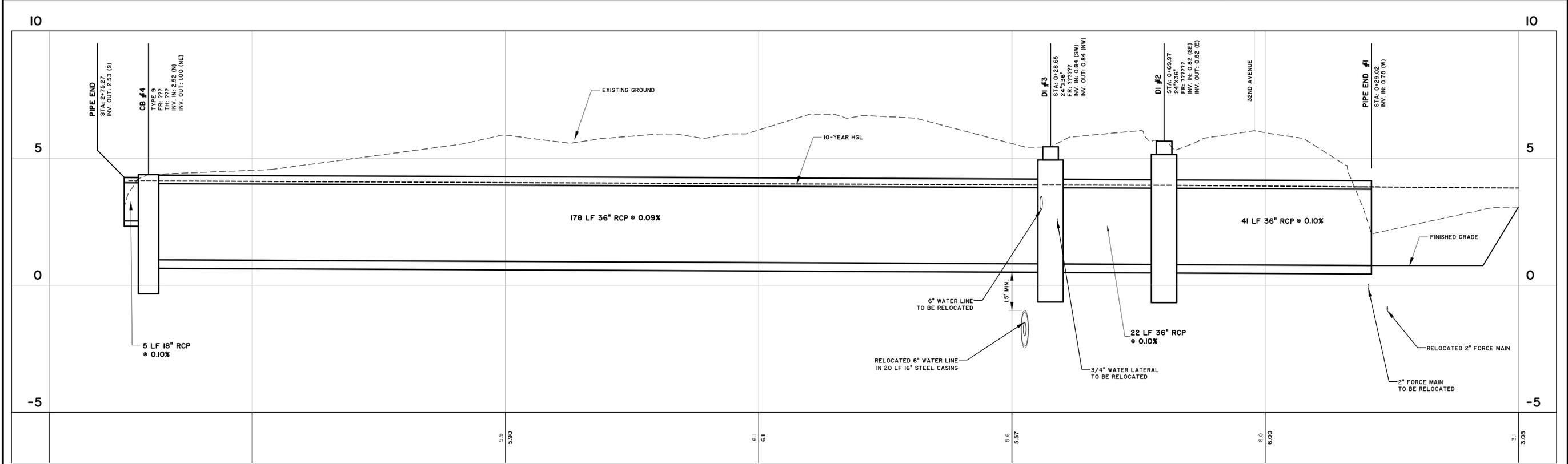
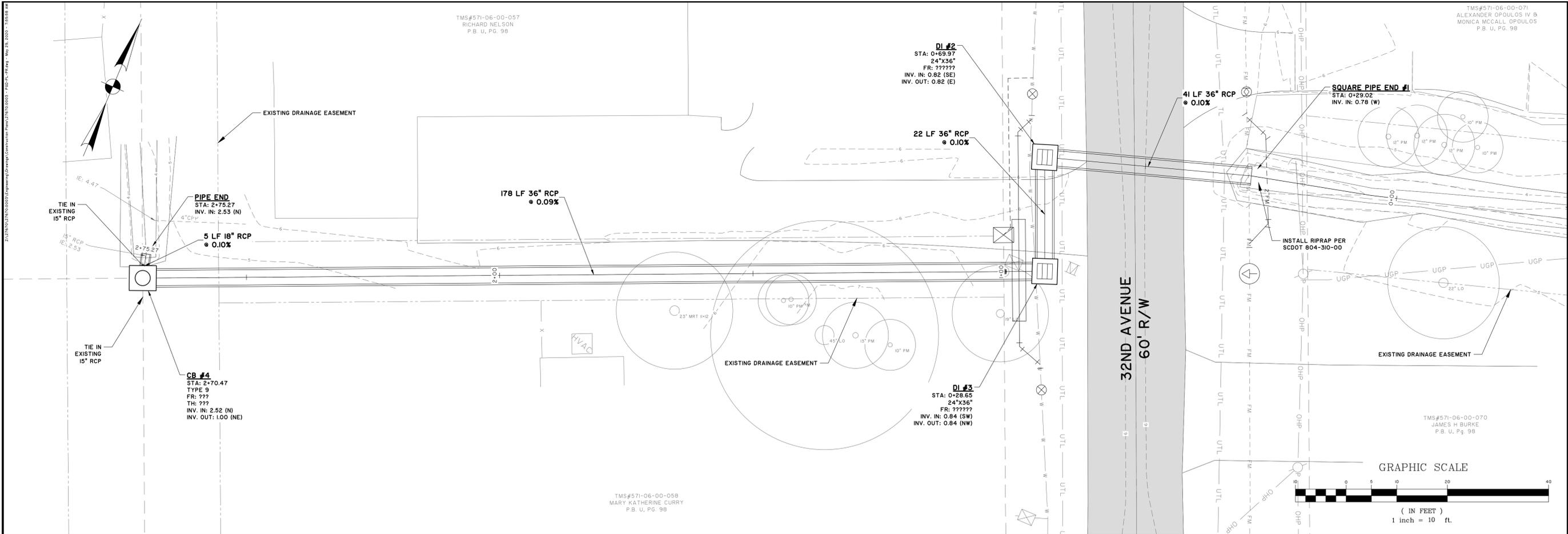
**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**

**UTILITY RELOCATION PLAN**

JOB NO: J- 27670.0003  
DATE: 1/3/20  
DRAWN: HEA  
DESIGNED: HEA  
REVIEWED: RPK  
APPROVED: RPK  
SCALE: AS NOTED

**U1.4**

**BID SET - NOT FOR CONSTRUCTION**



**32ND AVENUE**  
 STATIONS: 0+00 - 2+90  
 SCALE: HORZ.: 1" = 10'  
 VERT.: 1" = 2'



NO.	REVISIONS	BY	DATE

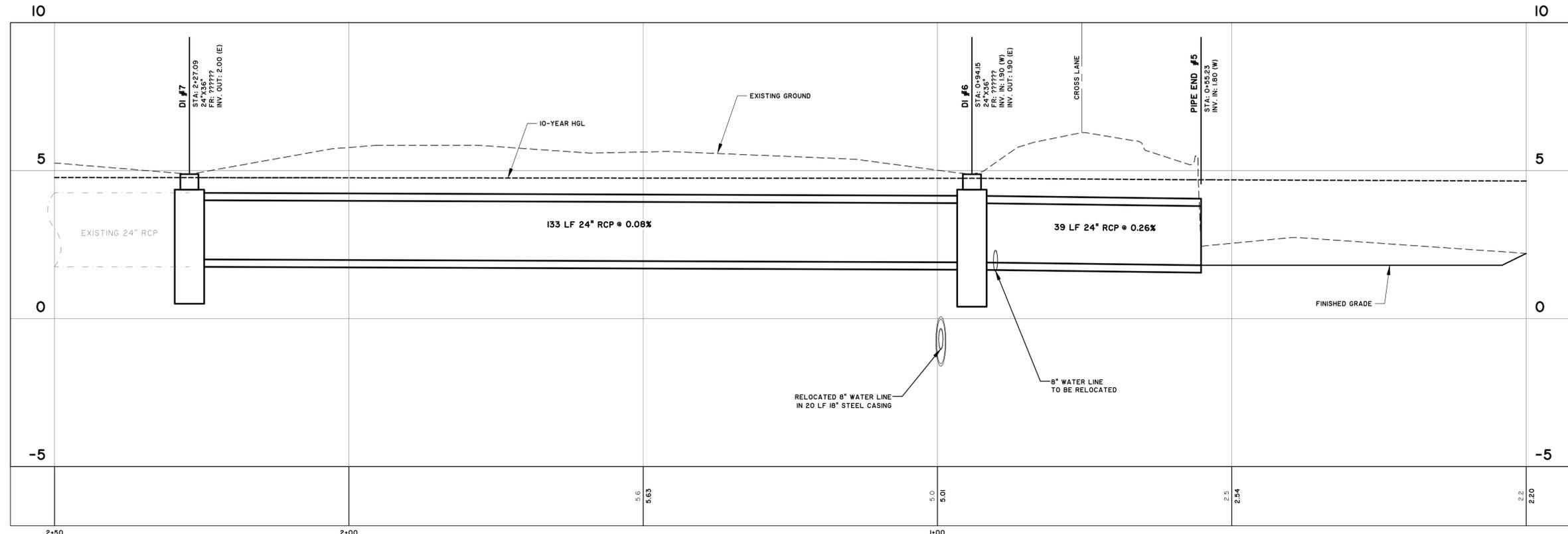
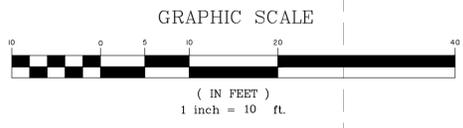
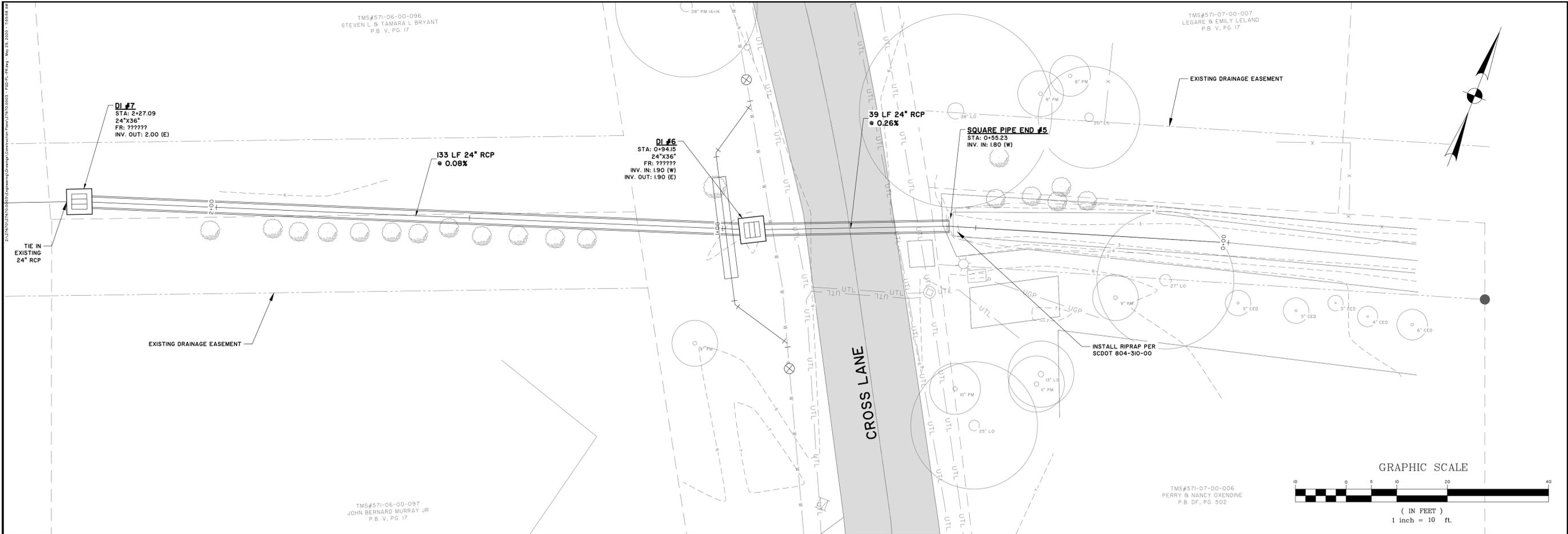
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**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**  
**PLAN & PROFILE**

JOB NO:	J-27670.0003
DATE:	1/3/20
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DESIGNED:	HEA
REVIEWED:	RPK
APPROVED:	RPK
SCALE:	AS NOTED

**C1.1**

**BID SET - NOT FOR CONSTRUCTION**



**CROSS LANE**  
 STATIONS: 0+00 - 2+50  
 SCALE: HORZ.: 1" = 10'  
 VERT.: 1" = 2'



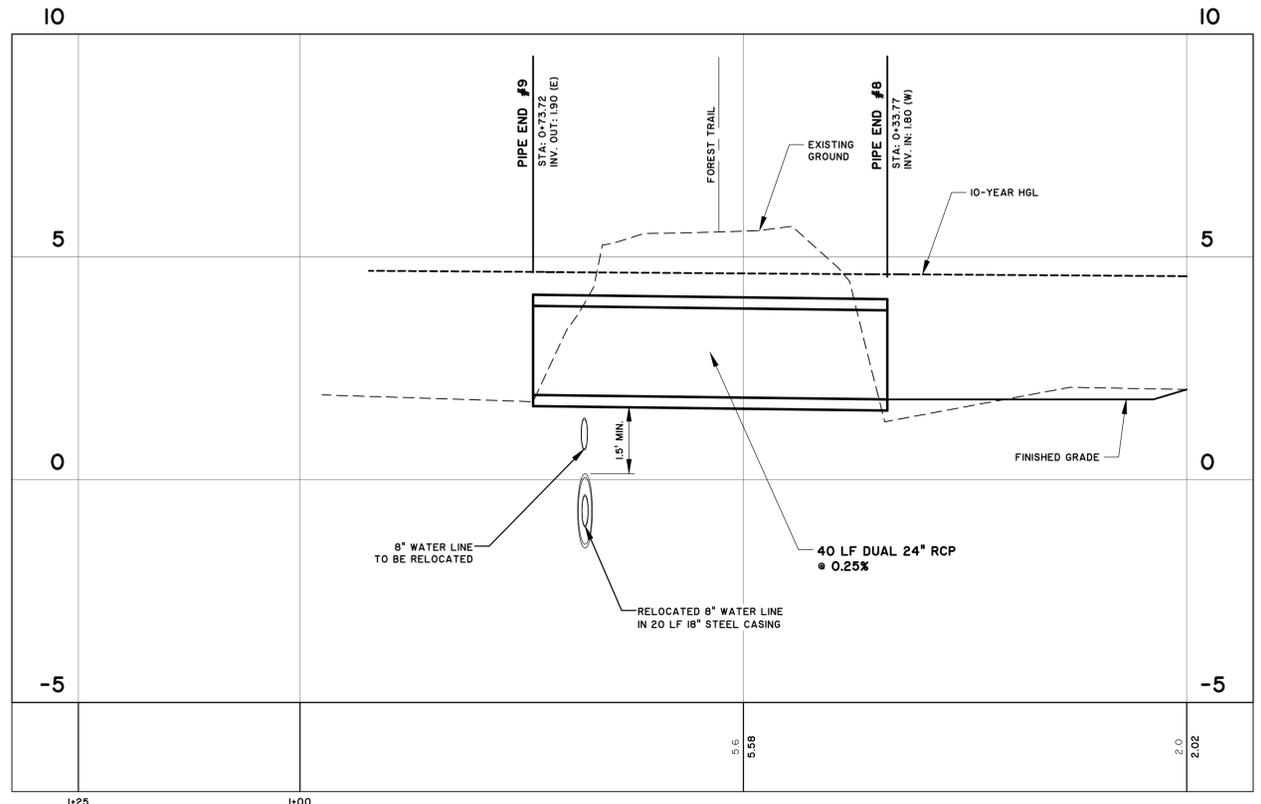
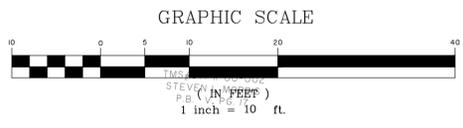
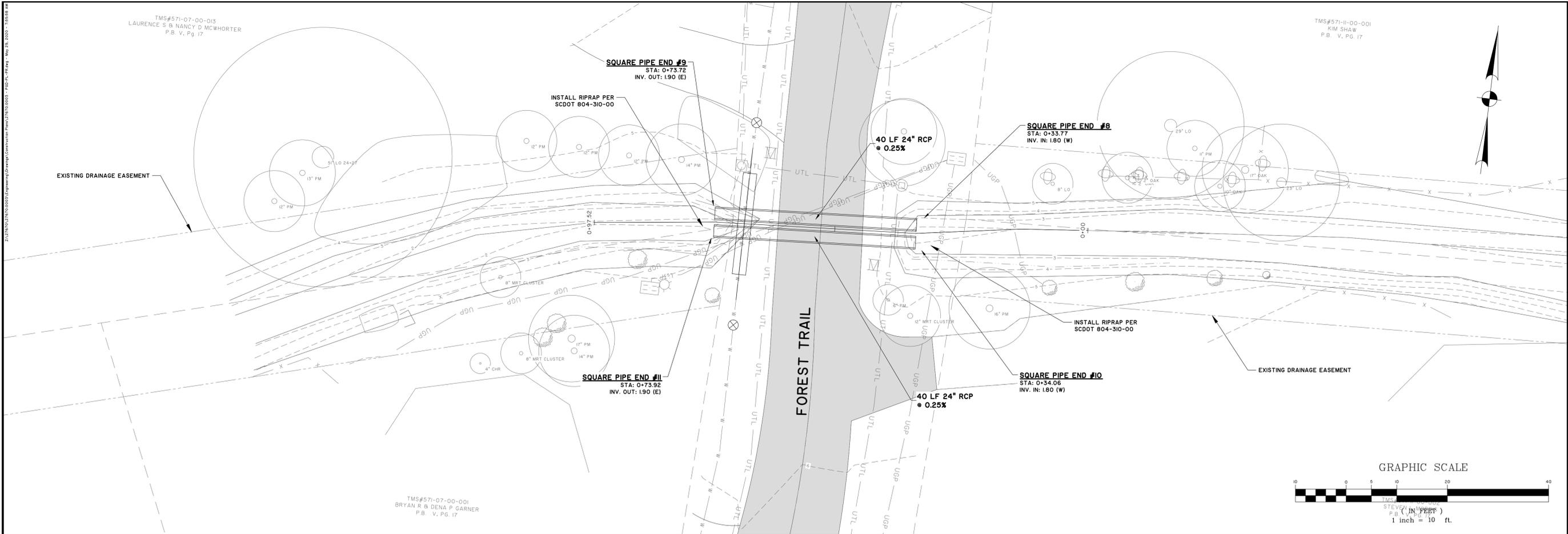
NO.	REVISIONS	BY	DATE

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**C1.2**



**FOREST TRAIL**  
 STATIONS: 0+00 - 1+25  
 SCALE: HORZ.: 1" = 10'  
 VERT.: 1" = 2'

TMS#571-07-00-013  
 LAURENCE S & NANCY D MCWHORTER  
 P.B. V. PG. 17

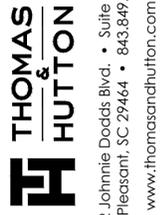
TMS#571-11-00-001  
 KIM SHAW  
 P.B. V. PG. 17

TMS#571-07-00-001  
 BRYAN R & DENA P GARNER  
 P.B. V. PG. 17



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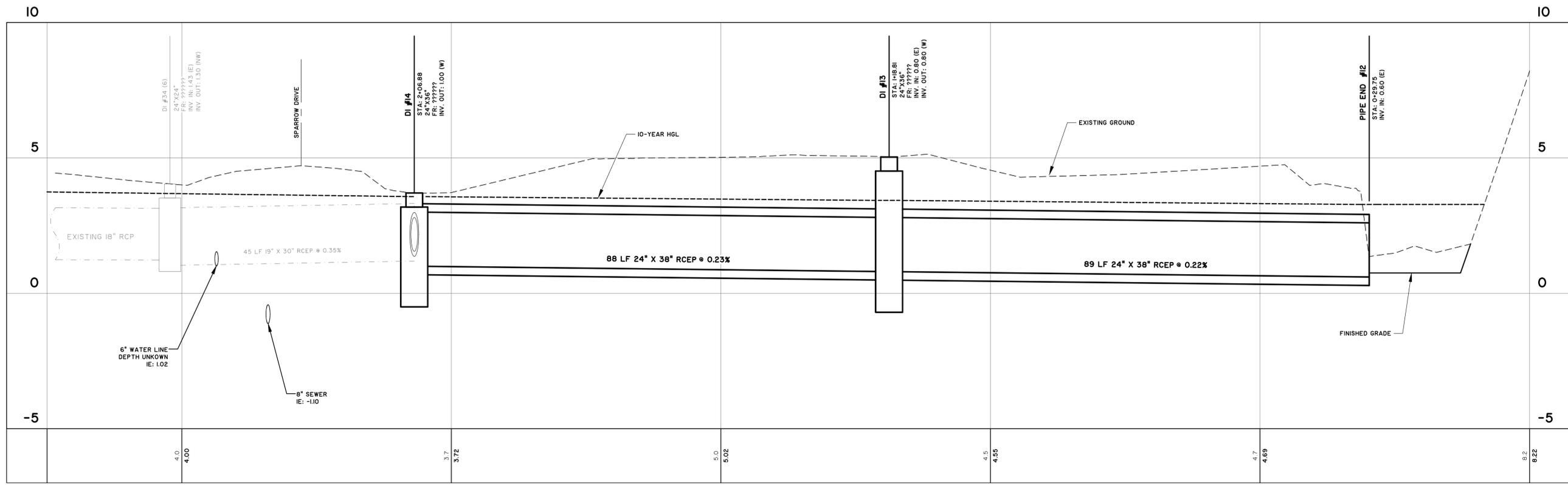
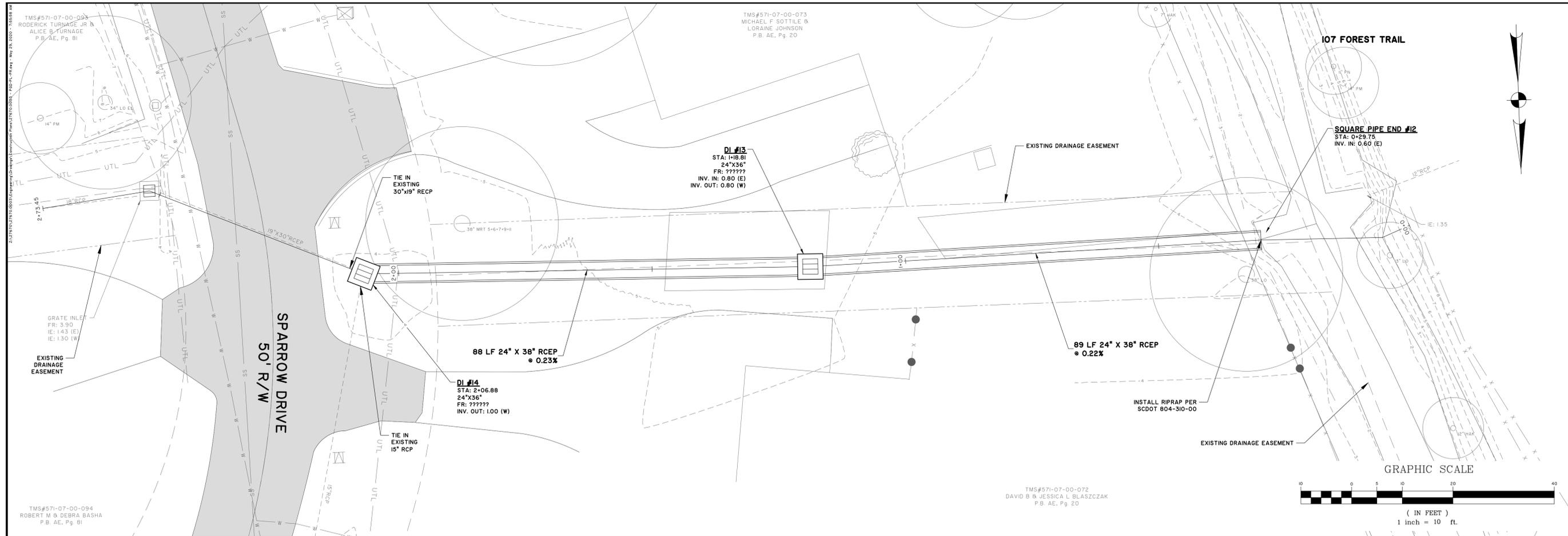


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**C1.3**



**SPARROW DRIVE**  
STATIONS: 0+00 - 2+75  
SCALE: HORZ.: 1" = 10'  
VERT.: 1" = 2'



NO.	REVISIONS	BY	DATE
A	REVISED PER SCDOT COMMENTS	HEA	4/21/20

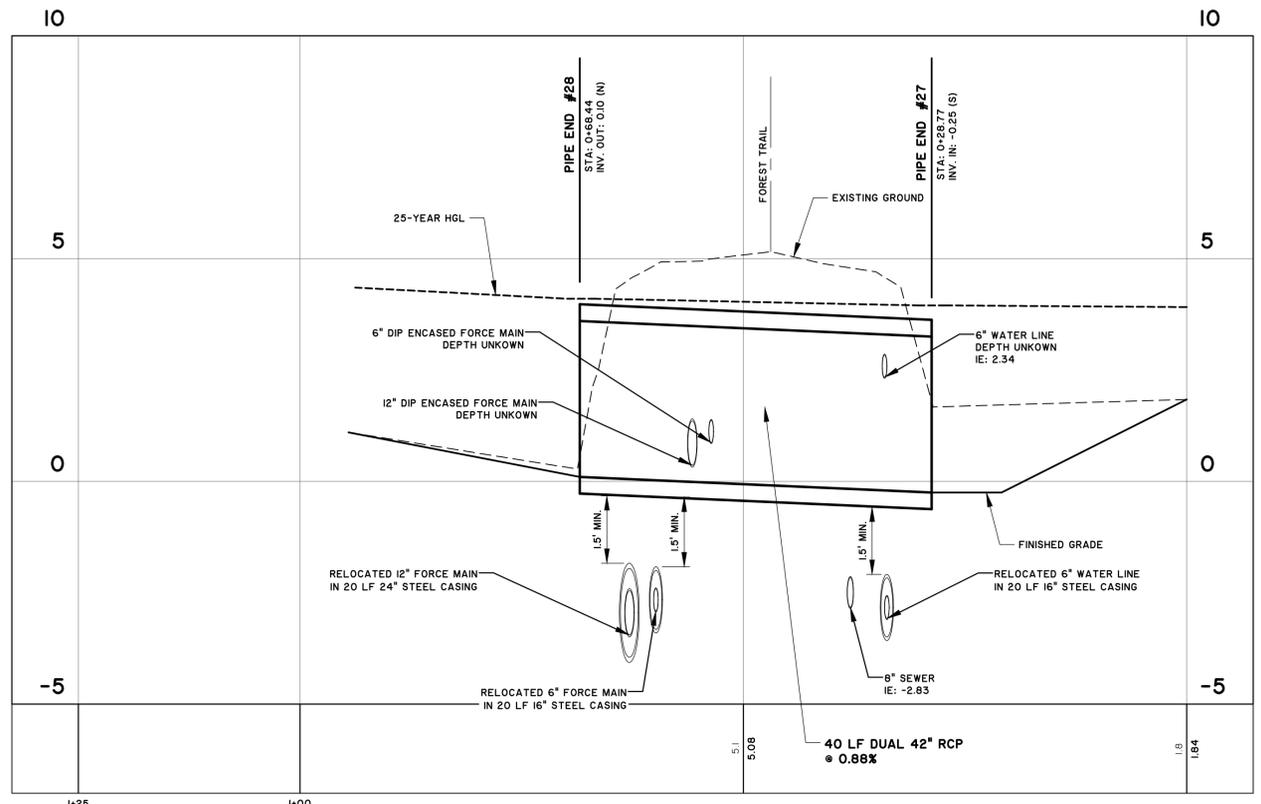
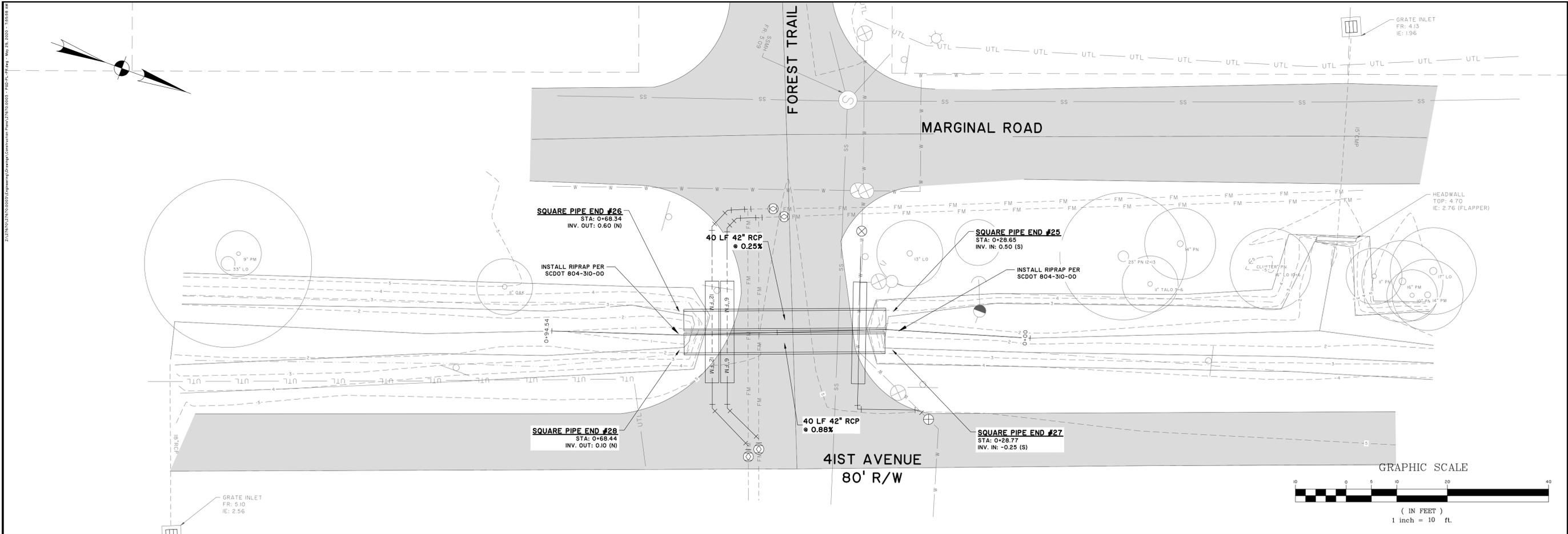
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**C1.4**





**41ST AVENUE B**  
 STATIONS: 0+00 - 1+25  
 SCALE: HORIZ.: 1" = 10'  
 VERT.: 1" = 2'



NO.	REVISION PER SCDOT COMMENTS	BY	DATE
A		HEA	4/21/20

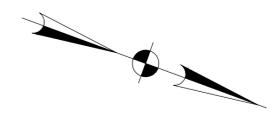
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SCALE:	AS NOTED

**C1.6**

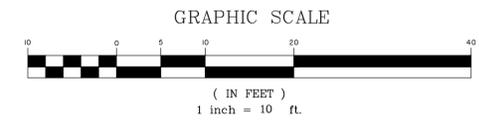
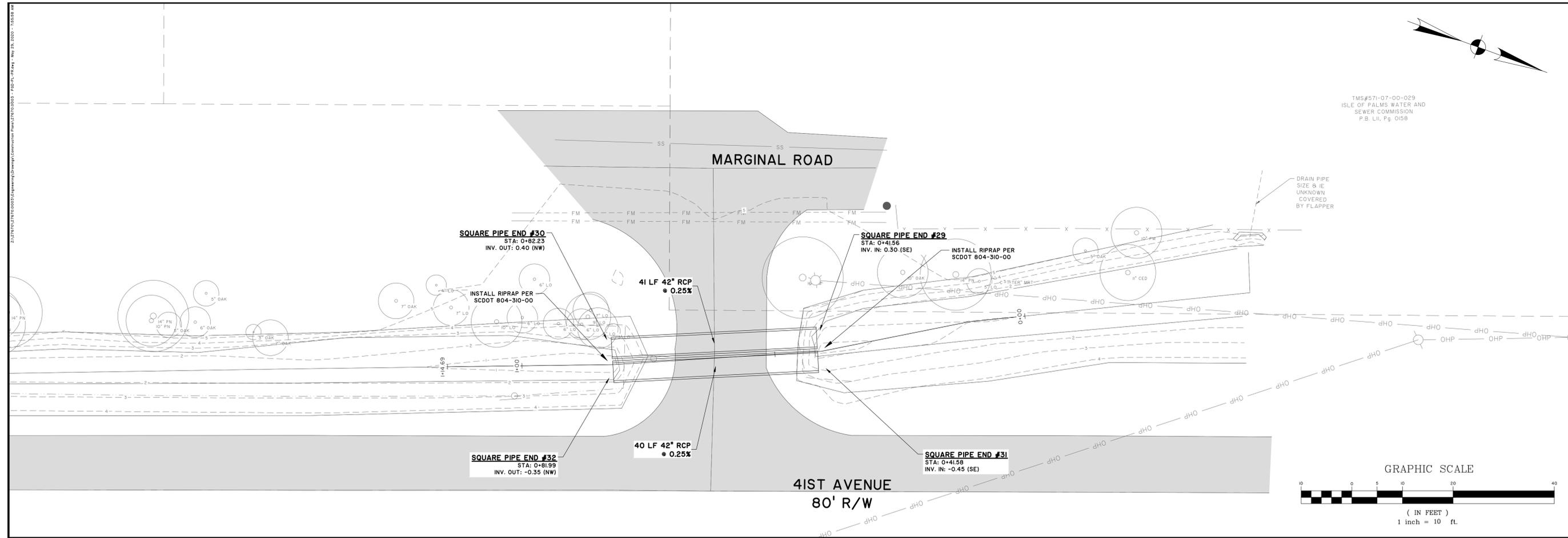




TMS#571-07-00-029  
ISLE OF PALMS WATER AND  
SEWER COMMISSION  
P.B. LII, Pg. 0158

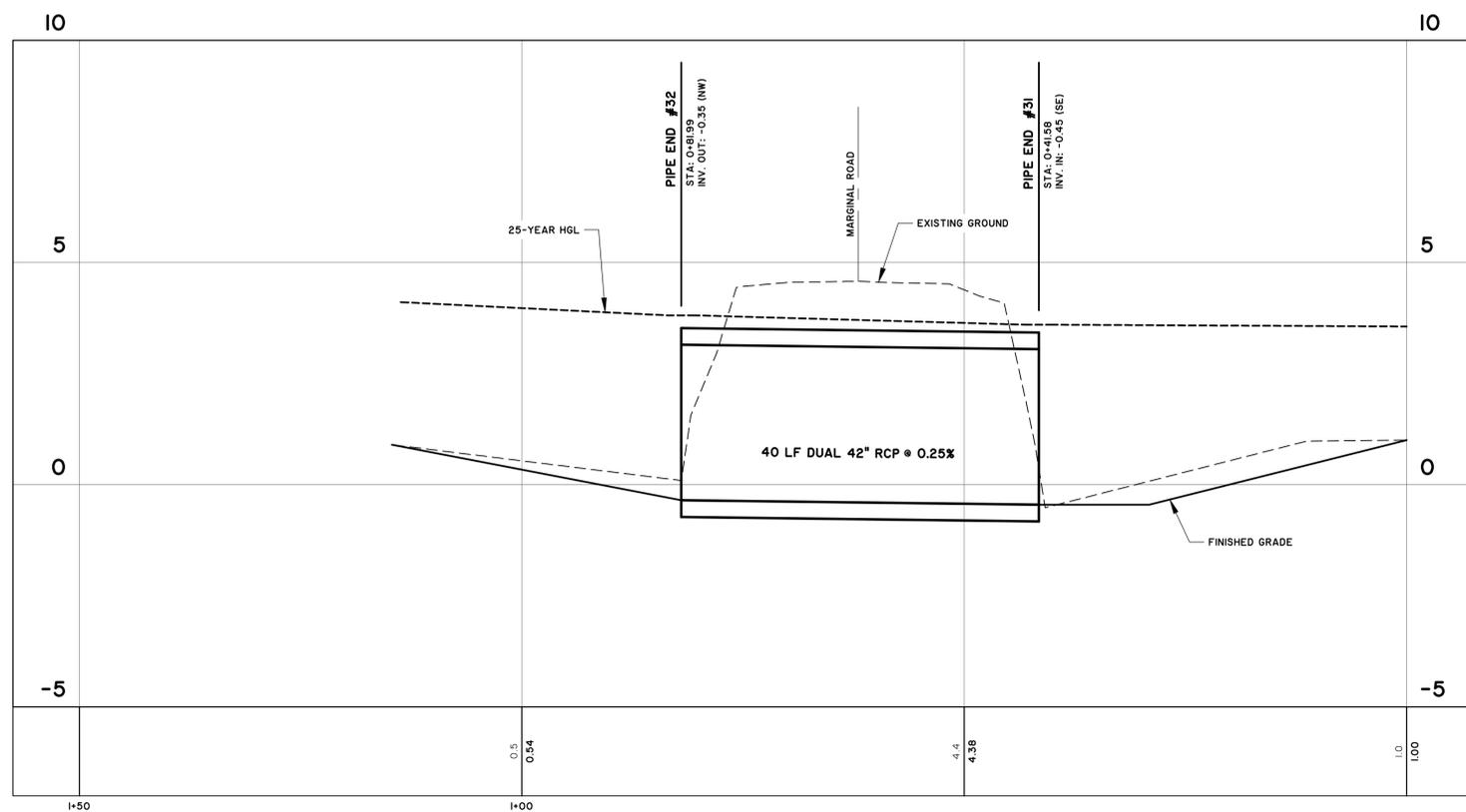


**BID SET - NOT FOR CONSTRUCTION**



NO.	REVISIONS	BY	DATE
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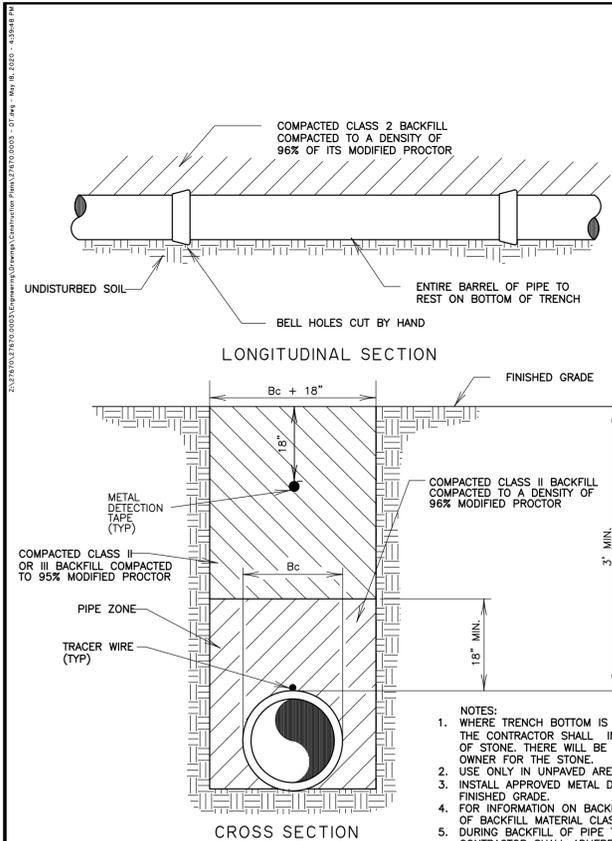


**41ST AVENUE C**  
 STATIONS: 0+00 - 1+50  
 SCALE: HORZ.: 1" = 10'  
 VERT.: 1" = 2'

**CITY OF ISLE OF PALMS**  
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**PLAN & PROFILE**

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APPROVED:	RPK
SCALE:	AS NOTED

**C1.7**



**DESCRIPTION OF BACKFILL MATERIAL CLASSIFICATION UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)**

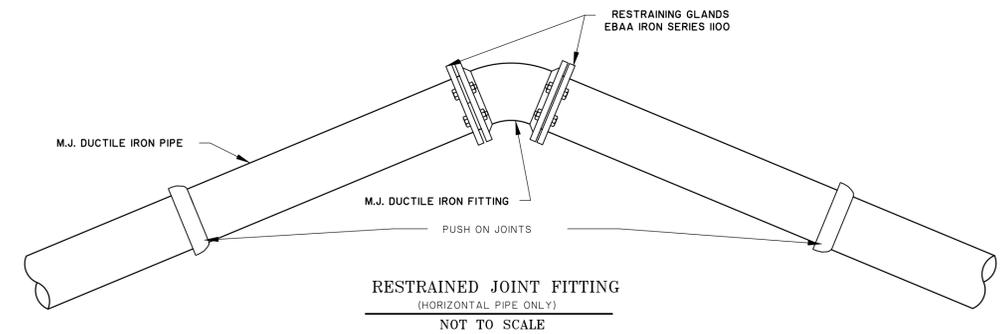
SOIL CLASS	SOIL TYPE (USCS)	DESCRIPTION OF MATERIAL CLASSIFICATION
CLASS I SOILS	GM	MANUFACTURED ANGLULAR GRANULAR MATERIAL, 1/4 TO 1-1/2 INCHES (6 TO 40 mm) SIZE, INCLUDING MATERIALS HAVING REGIONAL SIGNIFICANCE SUCH AS CRUSHED STONE OR ROCK, BROKEN CORAL, CRUSHED SLAG, CINDERS, OR CRUSHED SHELLS.
CLASS II SOILS	GW	WELL-GRADED GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES, 50% OR MORE RETAINED ON NO. 4 SIEVE, MORE THAN 95% RETAINED ON NO. 200 SIEVE, CLEAN.
	GP	POORLY GRADED GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES, 50% OR MORE RETAINED ON NO. 4 SIEVE, MORE THAN 95% RETAINED ON NO. 200 SIEVE, CLEAN.
	SW	WELL-GRADED SANDS AND GRAVELY SANDS, LITTLE OR NO FINES, MORE THAN 50% PASSES NO. 4 SIEVE, MORE THAN 95% RETAINED ON NO. 200 SIEVE, CLEAN.
	SP	POORLY GRADED SANDS AND GRAVELY SANDS, LITTLE OR NO FINES, MORE THAN 50% PASSES NO. 4 SIEVE, MORE THAN 95% RETAINED ON NO. 200 SIEVE, CLEAN.
CLASS III SOILS	GM	SILTY GRAVELS, GRAVEL-SAND MIXTURES, 50% OR MORE RETAINED ON NO. 4 SIEVE, MORE THAN 50% RETAINED ON NO. 200 SIEVE.
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, 50% OR MORE RETAINED ON NO. 4 SIEVE, MORE THAN 50% RETAINED ON NO. 200 SIEVE.
	SM	SILTY SANDS, SAND-SILT MIXTURES, MORE THAN 50% PASSES NO. 4 SIEVE, MORE THAN 50% RETAINED ON NO. 200 SIEVE.
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES, MORE THAN 50% PASSES NO. 4 SIEVE, MORE THAN 50% RETAINED ON NO. 200 SIEVE.
CLASS IV SOILS	ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, LIQUID LIMIT 50% OR LESS, 50% OR MORE PASSES NO. 200 SIEVE.
	CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS, LIQUID LIMIT 50% OR LESS, 50% OR MORE PASSES NO. 200 SIEVE.
	CH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDS OR SILTS, ELASTIC SILTS, LIQUID LIMIT GREATER THAN 50%, 50% OR MORE PASSES NO. 200 SIEVE.
	OH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS, LIQUID LIMIT GREATER THAN 50%, 50% OR MORE PASSES NO. 200 SIEVE.
CLASS V SOILS	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY, LIQUID LIMIT 50% OR LESS, 50% OR MORE PASSES NO. 200 SIEVE.
	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, LIQUID LIMIT GREATER THAN 50%, 50% OR MORE PASSES NO. 200 SIEVE.
	PT	PEAT, MUCK AND OTHER HIGHLY ORGANIC SOILS.

\*SOILS DEFINED AS CLASS I MATERIALS ARE NOT DEFINED IN ASTM D2487.  
 \*\*IN ACCORDANCE WITH ASTM D2487, LESS THAN 5% PASS NO. 200 SIEVE.  
 \*\*\*IN ACCORDANCE WITH ASTM D2487, MORE THAN 12% PASS NO. 200 SIEVE. SOILS WITH 5% TO 12% NO. 200 SIEVE FALL IN BORDERLINE CLASSIFICATION, E.G., GP-GC.

MAXIMUM TRENCH WIDTHS		MAXIMUM TRENCH WIDTHS	
Bc - PIPE SIZE	WIDTH	Bc - PIPE SIZE	WIDTH
2"	20"	8"	30"
2 1/2"	22"	10"	32"
3"	24"	12"	34"
4"	28"	14"	34"
6"	30"	16"	36"

- NOTES:
- WHERE TRENCH BOTTOM IS UNSUITABLE TO SUPPORT PIPE, THE CONTRACTOR SHALL INSTALL PIPE ON A MIN. 4" BED OF STONE. THERE WILL BE NO ADDITIONAL COST TO THE OWNER FOR THE STONE.
  - USE ONLY IN UNPAVED AREAS.
  - INSTALL APPROVED METAL DETECTION TAPE 18" FROM FINISHED GRADE.
  - FOR INFORMATION ON BACKFILL MATERIAL SEE DESCRIPTION OF BACKFILL MATERIAL CLASSIFICATION THIS SHEET.
  - DURING BACKFILL OF PIPE TRENCHES IN PAVED AREAS, CONTRACTOR SHALL ADHERE TO ALL SCDOT REQUIREMENTS FOR LIFT THICKNESS AND COMPACTION STANDARDS PER THE SCDOT 2007 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
  - TRACER WIRE AND METAL DETECTION TAPE SHALL CONFORM TO IOWASC SPECIFICATIONS AND REQUIREMENTS.

**1 TYPICAL WATER LINE BEDDING DETAIL**  
 C2.1 NOT TO SCALE



- NOTES:
- THE FOLLOWING CONDITIONS WERE USED TO CALCULATE THE RESTRAINED LENGTHS:  
 LAYING CONDITION IS TYPE 3;  
 SOIL DESIGNATED AS SAND-SILT;  
 DEPTH IS 3 FT.;  
 DESIGN PRESSURE (TEST) IS 150 PSI;  
 SAFETY FACTOR IS 1.5.
  - FOR THE TEE (EACH LEG) AND REDUCER, LENGTHS ARE BASED ON BRANCHING AND REDUCING FROM THE NEXT LARGER SIZE IN THE TABLE. DEVIATIONS FROM THESE CONDITIONS MUST BE BASED ON THE ABOVE PARAMETERS.
  - FOR DUCTILE IRON PIPE PUSH ON JOINTS, GRIP RING TYPE PIPE MAY BE USED. FOR PVC PUSH ON JOINT HARNES RESTRRAINT (EBAA SERIES 1500 OR APPROVED EQUAL) SHALL BE INSTALLED WITHIN THE MINIMUM DISTANCES (BOTH SIDES OF FITTING) SPECIFIED IN THE TABLE BELOW. THE SUPPLY AND INSTALLATION OF THE HARNES RESTRRAINTS SHALL BE CONSIDERED INCIDENTAL TO THE PIPE INSTALLATION AND NO SEPARATE PAYMENT WILL BE MADE FOR THE HARNES RESTRRAINTS.
  - CONTRACTOR SHALL RESTRAIN ALL EXISTING JOINTS UPSTREAM AND DOWNSTREAM OF PROPOSED VERTICAL OFFSETS TO THE EXTENT OF THE RESTRAINED LENGTHS NOTED IN THIS TABLE, BASED ON THE SIZE OF THE EXISTING WATER MAIN AND BASED ON THE "DEAD END" COLUMN. RESTRAINT OF EXISTING PIPE JOINTS IS CONSIDERED ANCILLARY OF THE UTILITY RELOCATION WORK, AND NO SEPARATE PAYMENT WILL BE MADE FOR RESTRAINT OF THE EXISTING PIPE JOINTS.

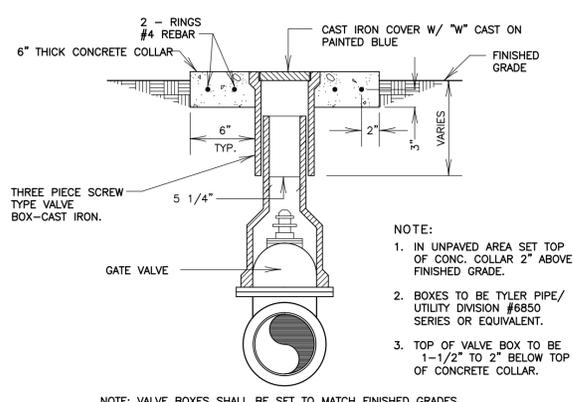
RESTRAINED JOINT TABLE

LENGTH OF RESTRAINED JOINT REQUIRED (IN L.F. EACH SIDE OF THE BEND OR FITTING)

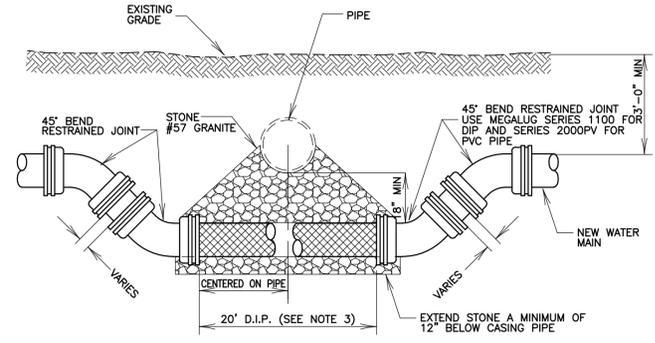
SIZE	11	1/4"	22	1/2"	45'	90'	TEE (EACH LEG)	DEAD END	REDUCER	VALVE
4"	2	5	10	24	37	60	44	60		
6"	3	7	14	33	64	85	46	85		
8"	4	9	18	43	90	110	46	110		
10"	5	10	21	51	113	133	50	133		
12"	10	20	30	60	140	160	60	160		

**2 RESTRAINED JOINT FITTING**  
 C2.1 NOT TO SCALE

**ALL SECTIONS OF THE VERTICAL OFFSET SHALL BE CONSTRUCTED OF CL 350 DUCTILE IRON PIPE, AND ALL JOINTS AND FITTINGS SHALL BE MECHANICALLY RESTRAINED.**

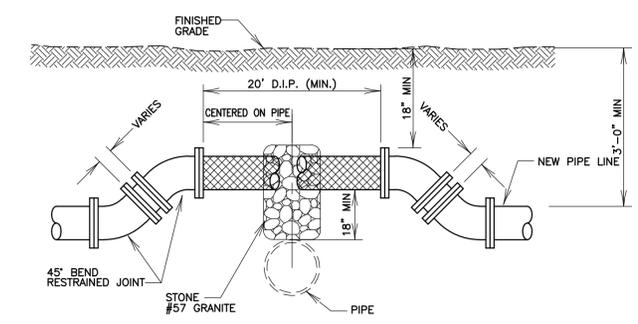


**3 VALVE BOX DETAIL**  
 C2.1 NOT TO SCALE



- NOTES:
- ALL SECTIONS OF THE VERTICAL OFFSET SHALL BE CONSTRUCTED OF CL 350 DUCTILE IRON PIPE, AND ALL JOINTS AND FITTINGS SHALL BE MECHANICALLY RESTRAINED. IN ADDITION TO RESTRAINED JOINTS, USE TIE-RODS OR REACTION BLOCKS FOR SUPPORT.
  - WHERE VERTICAL OFFSETS OF WATER LINES ARE REQUIRED TO BE LOCATED UNDER EXISTING OR PROPOSED DRAINAGE PIPES, CONTRACTOR SHALL INSTALL WATER MAIN WITHIN A MINIMUM 20'-FOOT LENGTH OF STEEL CASING (MINIMUM 0.375" THICKNESS) WITH A DIAMETER THAT IS A MINIMUM OF 6" LARGER THAN THE WATER MAIN DIAMETER. SPACERS SHALL BE INSTALLED TO CENTER THE PIPE WITH THE CASING. MAXIMUM DISTANCE BETWEEN SPACERS IS 4'-0" ON CENTER. STEEL CASING MUST BE GROUTED AT BOTH ENDS AROUND THE NEW WATER MAIN.
  - FOR CONNECTIONS TO EXISTING WATER MAINS WHERE HORIZONTAL SEPARATION BETWEEN THE EXISTING MAIN AND DRAINAGE PIPE IS LESS THAN 10 FEET, CONTRACTOR MAY REDUCE THE LENGTH SHOWN TO ACCOMMODATE THE VERTICAL OFFSET OF THE WATER MAIN. MINIMUM VERTICAL SEPARATION OF 18" SHALL BE MAINTAINED DIRECTLY UNDER THE DRAIN PIPE. MINIMUM SEPARATION FOR OTHER SECTIONS OF THE VERTICAL OFFSET IS 12".

**4 WATER MAIN CROSSING UNDER PIPE**  
 C2.1 NOT TO SCALE



**5 WATER MAIN CROSSING OVER PIPE**  
 C2.1 NOT TO SCALE

- NOTES:
- WIDTH OF STONE SHALL EXTEND A MINIMUM OF 2 FEET EACH SIDE OF THE PIPE BEING CROSSED.
  - ALL SECTIONS OF THE VERTICAL OFFSET SHALL BE CONSTRUCTED OF CL 350 DUCTILE IRON PIPE, AND ALL JOINTS SHALL BE MECHANICALLY RESTRAINED.



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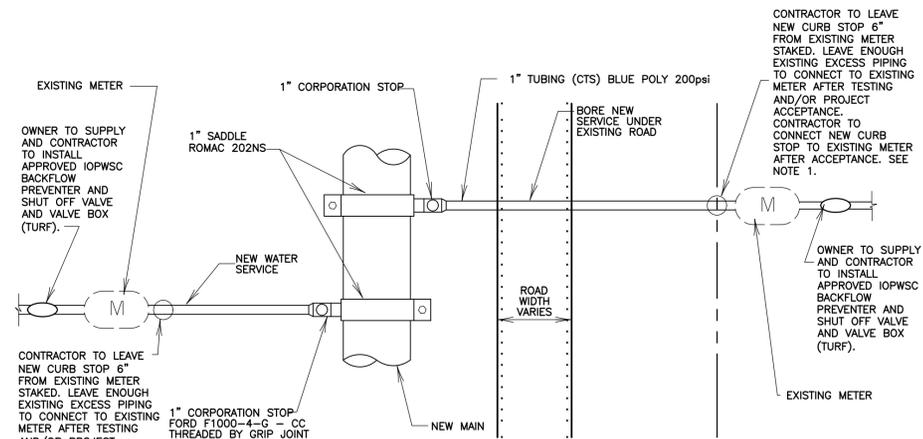
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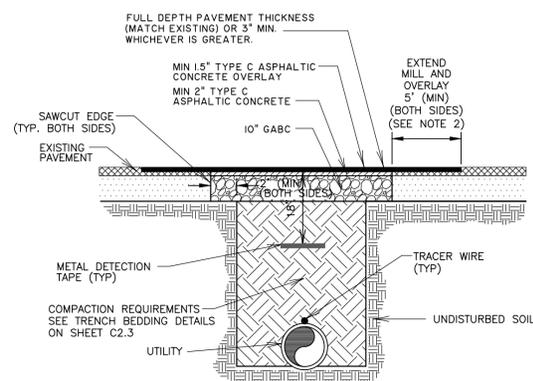
**C2.1**

DATE PLOTTED: 1/3/20 10:03:00 AM PROJECT: C:\Users\jsherman\OneDrive\Documents\Phase3\27670\0003 - 01.dwg - NEW - 2/20/20 - 433748.DWG



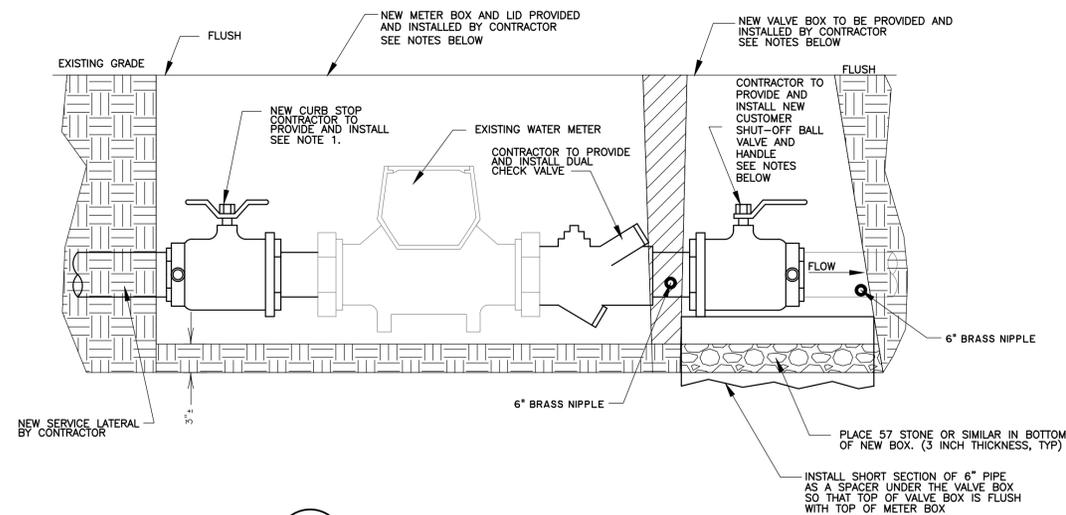
- NOTES:**
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SIZE OF THE EXISTING METER AND INSTALLING A CURB STOP SIZED FOR THE METER CONNECTION. NO ADDITIONAL FITTINGS (E.G. REDUCERS) WILL BE ALLOWED.
  - WATER SERVICE LINE SHALL BE A CONTINUOUS RUN FROM THE MAIN TO THE CURB STOP. NO COUPLINGS ARE ALLOWED.
  - FOR SERVICES LARGER THAN 1", REFER TO THE SPECIFICATIONS FOR APPROVED CORPORATION STOPS, CURB STOPS AND SERVICE SADDLE MATERIALS.

**1**  
C2.2 NOT TO SCALE  
**SINGLE WATER SERVICE CONNECTION DETAIL**



- NOTE:**
- REPAIRS TO INCLUDE A MINIMUM OF 10" OF GABC. COST OF STONE SHALL BE INCLUDED IN PAVEMENT REPAIR UNIT COST.
  - MILL AND REPLACEMENT SHALL EXTEND TO THE LIMITS SHOWN IN THE PLANS OR THAT PROVIDED ABOVE, WHICHEVER IS GREATER.

**3**  
C2.2 NOT TO SCALE  
**PAVEMENT REPAIR (SCDOT ROADWAYS)**



**2**  
C2.2 NOT TO SCALE  
**WATER SERVICE DETAIL**

- NOTES:**
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SIZE OF THE EXISTING METER AND INSTALLING A CURB STOP, CORP STOP, AND SERVICE LINE SIZED FOR THE METER CONNECTION. NO ADDITIONAL FITTINGS (E.G. REDUCERS) WILL BE ALLOWED.
  - CONTRACTOR IS RESPONSIBLE FOR ALL FITTINGS REQUIRED TO MAKE CONNECTIONS (EG 3/4" BRASS NIPPLE BETWEEN DUAL CHECK VALVE AND SHUT-OFF VALVE AND SHUT-OFF VALVE AND CUSTOMER CONNECTION).
  - ADJUST DEPTH OF SERVICE LINE AS NECESSARY TO MATCH BOX DEPTH. DEPTH SHALL NOT BE GREATER THAN ONE METER BOX HEIGHT.
  - CONTRACTOR TO SUPPLY METER BOX, DUAL CHECK VALVE, CUSTOMER SHUT-OFF VALVE AND VALVE BOX FOR SHUT-OFF VALVE.

THE FOLLOWING SHALL BE USED FOR THE ABOVE REFERENCED ITEMS:

**DUAL CHECK VALVE**  
FORD 3/4" METER X FIP STRAIGHT DUAL CHECK VALVE  
MODEL # HHS31-323-NL

**CUSTOMER SHUT-OFF BALL VALVE**  
FORD 3/4" FULL PORT BALL VALVE WITH A 3" HANDLE  
MODEL # B11-333-HB-34S-NL

**CUSTOMER SERVICE SHUT-OFF VALVE BOX AND COVER**  
FOR GRASSED AREAS:  
CARSON INDUSTRIES 6" ECONOMY PLASTIC ICV VALVE BOX  
MODEL # C07081002

FOR PAVED AREAS, VALVE BOX SHALL BE RATED FOR TRAFFIC LOADING, AND SHALL CONFORM TO IOPWSC SPECIFICATIONS. CONTACT IOPWSC FOR APPROVED VALVE BOX.

**METER BOX AND LID**  
METER BOX AND LID SHALL CONFORM TO IOPWSC SPECIFICATIONS. CONTACT IOPWSC FOR APPROVED METER BOX.

METER BOXES LOCATED IN PAVED AREAS SHALL BE REPLACED WITH METER BOX AND LID RATED FOR TRAFFIC LOADING.

LID TO INCLUDE 2" HOLE FOR AMR TOUCH PAD.



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DRAWN:	HEA
DESIGNED:	HEA
REVIEWED:	RPK
APPROVED:	RPK
SCALE:	1" = 1'

**C2.2**



719-000-01  
EFFECTIVE LETTING DATE: JAN. 2014

7/29/2015  
DATE

James W. Kendall  
SIGNATURE

NO. 21242

SCDOT  
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DESIGN STANDARDS OFFICE  
955 PARK STREET  
ROOM 405  
COLUMBIA, SC 29201

STANDARD DRAWING  
DRAINAGE STRUCTURE  
GENERAL NOTES

REFERENCES	
NATIONAL DOCUMENTS	
SCDOT DOCUMENTS	
RELATED DRAWINGS & KEYWORDS	
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1.00	GENERAL NOTES
1.01	WORK ALL APPROPRIATE SHEETS TOGETHER
1.02	WHEN LOCATING DRAINAGE STRUCTURES THAT ARE IN CONFLICT WITH UTILITIES, FOUNDATIONS, RETAINING WALL COMPONENTS, GUARDRAIL POSTS, OR OTHER SUBSURFACE STRUCTURES, NOTIFY THE ENGINEER BEFORE RELOCATING EITHER CONFLICTING PART.
1.03	THIS GENERAL NOTES SECTION WILL BE IMPLEMENTED BEFORE SECTION 719 IS UPDATED, SO NOTES HERE MAY BE DUPLICATED OR IN CONFLICT WITH NOTES ON THE INDIVIDUAL DRAWING PAGES. WHEN THIS GENERAL NOTE SECTION CONFLICTS WITH EITHER THE STANDARD SPECIFICATION OR THE NOTES ON A STANDARD DRAWING WITHIN THE 719 SECTION, NOTES IN THIS SECTION SHOULD BE USED. ENGINEER MAY OVERRULE THIS METHOD IF SUFFICIENT JUSTIFICATION IS PROVIDED THAT THE OTHER NOTE IS APPROPRIATE FOR THE SITE.
1.04	FOLLOW ALL OSHA REGULATIONS INCLUDING LIFTING AND TRENCH REQUIREMENTS.
5.00	MATERIALS
5.01	USE CLASS 4000P OR HIGHER PRECAST CONCRETE COMPONENTS AS INDICATED ON THE STANDARD DRAWING FROM A SINGLE SOURCE FOR EACH DRAINAGE STRUCTURE LOCATION.
5.02	USE CLASS 4000 OR HIGHER CAST-IN-PLACE CONCRETE AS INDICATED ON THE STANDARD DRAWING.
5.03	USE ASTM A706 GRADE 60 DEFORMED BARS OR AASHTO M 55 OR M 221 WIRE MESH FOR REINFORCEMENT STEEL.
5.04	USE 2500 PSI OR HIGHER MASONRY UNITS CONFORMING TO ASTM C 55 GRADE S-II FOR CONCRETE BRICK, ASTM C 139 FOR SOLID CONCRETE BLOCK (NO LARGER THAN 4X8X16), OR AASHTO M 114 GRADE SW FOR CLAY BRICK.
5.05	USE TYPE S OR M MORTAR FOR MASONRY CONSTRUCTION
5.06	USE ONLY NON-SHRINK GROUT.
5.07	USE EITHER GRAY IRON (AASHTO M 105 CLASS 35B) OR DUCTILE IRON (ASTM A 536) CASTINGS TESTED IN ACCORDANCE WITH AASHTO M 306 FOR 40 KIP PROOF LOAD (HEAVY DUTY) OR 25 KIP PROOF LOAD (LIGHT DUTY MANHOLE COVER ONLY).
5.08	CORROSION PROTECTED STEEL RISERS, FRAMES, AND GRATES MAY BE USED WHERE REQUIRED AS LONG AS THEY MEET AASHTO M 306 PROOF LOAD OF 40 KIP (HEAVY DUTY), AND ARE PROTECTED FROM CORROSION WITH GALVANIZING, SUPER DURABLE POWDER COATING, OR AT LEAST 3 COATS OF EPOXY PAINT OR COLD GALVANIZING COMPOUND ON ALL SURFACES. STEEL GRATES MUST BE THICK-DOWN FOR ALL LOCATIONS SUBJECT TO TRAFFIC.
5.09	USE A NONWOVEN GEOTEXTILE FOR DRAINAGE FILTRATION TO WRAP RISER JOINTS.
5.10	USE AT LEAST 6" THICK PRECAST WALLS, OR 8" THICK BRICK MASONRY WALLS. USE THICKER WALLS WHEN REQUIRED BY THE STANDARD DRAWING, INDUSTRY STANDARDS, OR CUSTOM DESIGN REQUIREMENTS.
5.11	PROVIDE FOUNDATION MATERIALS, BEDDING MATERIALS, GEOTEXTILE WRAP, AND GEOGRID IMPROVED FOUNDATION MATERIAL IN CONFORMANCE WITH SC-M-714 OR SECTION 714 OF THE STANDARD DRAWINGS.

REFERENCES	
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10.00	LIMITATIONS
10.01	DO NOT CONSTRUCT PRECAST KNOCKOUT BOXES DEEPER THAN THE BOX HEIGHT PLUS 30". DO NOT USE RISERS OR TRANSITION SLABS WITH KNOCKOUT BOXES. INLET ADAPTER SLABS MAY ONLY BE USED IF INLET STRUCTURE AND INLET ADAPTER SLAB FIT WITHIN THE 30" LIMITATION.
10.02	DO NOT USE BRICK MASONRY WALLS WHEN THE FLOW LINE OF ANY INLET PIPE IS HIGHER THAN 4 FEET ABOVE THE BOTTOM SLAB OR TRANSITION SLAB AT THE BASE OF THE MASONRY WITHOUT WRITTEN APPROVAL FROM THE DEPARTMENT (SCOUR ON MORTAR).
10.03	DO NOT CONSTRUCT BRICK MASONRY DRAINAGE STRUCTURES DEEPER THAN 12". BRICK MASONRY EXTENSIONS MAY BE BUILT ON TOP OF INLET ADAPTER SLABS WHEN THE EXTENDED PORTION IS NO DEEPER THAN 12" AND THE STRUCTURE BELOW IS PRECAST. GROUT FILLER WITH BRICK SHIMS MAY BE USED DEEPER THAN 12" TO PATCH PREFORMED HOLES IN PRECAST STRUCTURES ONLY AROUND PIPE CONNECTIONS. OVERALL THICKNESS OF GROUT FILLER AT THESE LOCATIONS SHOULD BE AT LEAST 1/12 THE BURY DEPTH OF THE FILLER (IE. AT LEAST 20" THICK FOR 20" OF COVER). DO NOT USE GROUT OR BRICK MASONRY FILLER AS A REPLACEMENT FOR TRENCH REQUIREMENTS AT THESE DEPTHS.
10.04	DO NOT CONSTRUCT STANDARD SOLID WALL PRECAST DRAINAGE STRUCTURES (CIRCULAR OR RECTANGULAR) DEEPER THAN 35" (ASSUMES 30" MAX PIPE COVER + 48" PIPE + BOTTOM SLAB & PIPE WALL).
10.05	FOR DRAINAGE STRUCTURES (AS WITH PIPE CULVERTS), WHEN THE OVERALL DEPTH EXCEEDS 30", USE A CUSTOM DESIGNED STRUCTURE AS SHOWN IN THE PROJECT PLANS OR PROVIDE A CUSTOM DESIGNED STRUCTURE WHEN NOT PROVIDED IN THE PROJECT PLANS.
10.06	SEE DRAINAGE STRUCTURE PARTS SHEETS FOR MISCELLANEOUS PARTS TO CREATE MORE SITE-SPECIFIC ASSEMBLIES.
10.07	SEE PROJECT PLANS FOR NON-STANDARD CATCH BASIN DETAILS.
10.08	CONSTRUCT BRICK MASONRY STRUCTURES ONLY AS SQUARE, CIRCULAR, OR RECTANGULAR WITH VERTICAL WALLS. DO NOT TAPER, CORREL, OR VARY THE RUNNING BOND BRICK LAY PATTERN. MINIMUM DIAMETER OF CIRCULAR BRICK STRUCTURES IS 4 FEET. FOR ALL BRICK STRUCTURE TYPES, USE EITHER PRECAST TOP SLAB, TRANSITION SLAB, OR A CAST IRON FRAME DESIGNED TO SIT DIRECTLY ON BRICK WALLS.
10.09	USE NO MORE THAN ONE TRANSITION SLAB AND ONE INLET ADAPTER SLAB IN A SINGLE STRUCTURE. WHEN A LARGER BOX IS REQUIRED TO ACCOMMODATE LARGE OR MULTIPLE PIPE, ONE TRANSITION SLAB MAY BE USED TO ADJUST THE LARGER LOWER BOX TO THE STANDARD UPPER BOX CONSTRUCTED FOR THE DRAINAGE STRUCTURE. AN ADDITIONAL INLET ADAPTER SLAB MAY BE USED WHEN THE CASTING OR THROAT REQUIRES THE USE OF THIS PIECE. LOCATE TRANSITION AND INLET ADAPTER SLABS AT LEAST 8 INCHES AWAY FROM HOLES FOR PIPE.

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45.00	PIPE CONNECTIONS AND GROUTING
45.01	PROJECT PIPE THROUGH THE INSIDE FACE OF THE BOX (AND FIELD CUT IF NECESSARY) 1" (+/- 1/4") BEYOND THE INSIDE FACE WHEN MEASURED AT THE SPRINGLINE OF THE PIPE. THIS FINISHED PROJECTION IS REFERRED TO AS "FLUSH" IN THIS AND OTHER SPECIFICATIONS, AND IS PREFERRED TO GET A PROPER SEAL AROUND THE PIPE. NOTE THAT PIPE ENTERING THROUGH THE CORNER OF A BOX OR THROUGH CIRCULAR DRAINAGE BASES WILL PROJECT FURTHER IF MEASURED AT THE TOP AND BOTTOM OF THE PIPE, AND THAT THIS ADDITIONAL PROJECTION SHOULD BE FULLY GROUTED TO MINIMIZE DEBRIS SNAG POINTS.
45.02	SKWEVED PIPE MAY BE REQUIRED TO EXTEND FURTHER INTO PIPE TO FACILITATE THE FLUSH CUT. FLUSH CUT EACH SKWEVED PIPE TO FACILITATE THE PROJECTION AND FLUSH CUTTING OF ANY OTHER SKWEVED PIPE INSIDE THE BOX.
45.03	FULLY GROUT THE PERIMETER OF THE PIPE TO FILL THE BOX WALL OPENING. PERFORM THIS GROUTING AS SOON AS ALL PIPE ARE INSTALLED WITHIN THE BOX OR WHEN DIRECTED BY THE ENGINEER (TYPICALLY PRIOR TO A PREDICTED RAIN EVENT TO PREVENT TRENCH MATERIAL FROM CLOGGING THE BOX WALL OPENING). IN THE EVENT THAT DEBRIS HAS ENTERED THE BOX WALL OPENING, PRESSURE WASH THIS AREA FROM THE INSIDE OF THE BOX TO REMOVE FOREIGN MATTER PRIOR TO GROUTING.
45.04	ON THE INSIDE FACE OF THE BOX, BEVEL THE GROUT THE FULL AMOUNT OF EACH PIPE PROJECTION AND TO FULLY COVER THE BOX WALL OPENING WITH 1" OVERLAP. ON THE OUTSIDE FACE OF THE BOX, PACK GROUT UNDER THE PIPE TO FILL ANY GAPS IN THE PIPE BEDDING/FOUNDATION DIRECTLY AT THE BOX AND BEVEL GROUT AROUND THE PERIMETER OF THE PIPE TO FULLY COVER THE BOX WALL OPENING WITH 1" OVERLAP.
45.05	WHEN TWO PIPES INSIDE THE BOX ARE WITHIN 3" OF EACH OTHER, GROUT THE FULL AREA BETWEEN THE PIPES TO CREATE A NEW INSIDE BOX WALL OR CORNER TO MINIMIZE DEBRIS SNAG POINTS.
45.06	GROUT OR MORTAR THE ENTIRE FLOOR OF THE BOX UP TO THE INVERT ELEVATION OF THE LOWEST OUTLET PIPE. SLOPE THE FLOOR GROUT IN ALL DIRECTIONS TOWARDS THE OUTLET PIPE BETWEEN 2% AND 8%, BUT DO NOT COVER THE INVERT OF ANY OTHER PIPE WITHIN THE BOX. IN A BOX WHERE INLET AND OUTLET FLOW LINES ARE EQUAL, CONSTRUCT A SLIGHT TROUGH IN THE FLOOR GROUT WITH THE LOW POINT IN THE GROUT MATCHING THE FLOW LINE. PLACE FLOOR GROUTING PRIOR TO SETTING TRANSITION SLABS, INLET ADAPTERS, OR INLET STRUCTURES.
50.00	BOX, RISER, TRANSITIONS, INLET ADAPTERS AND INLET JOINTS
50.01	CONSTRUCT KEVED OR LAPPED JOINTS FOR ALL PRECAST SOLID WALL BOX AND RISER SECTIONS EXCEPT WHEN JOINT ATTACHES TO A FLAT ADAPTER SLAB OR BRICK CONSTRUCTION.
50.02	CONSTRUCT TRANSITION OR INLET ADAPTER SLABS WITH JOINT DETAIL TO MATCH RISER OR BOX ABOVE AND BELOW, OR CONSTRUCT THE SLAB FLAT AND GROUT THE INTERFACE BETWEEN THE BOX/RISERS AND THE SLAB WITH A 1/2" LIFT OF NON-SHRINK GROUT.
50.03	DO NOT USE JOINT SEALANT IN KEVED OR LAPPED BOX/RISER JOINTS UNLESS SPECIFIED BY THE PRECAST MANUFACTURER.

50.04	FOR BOXES DEEPER THAN 12" WRAP THE EXTERIOR OF THE BOX (FULL HEIGHT OF STRUCTURE) WITH NONWOVEN GEOTEXTILE FOR DRAINAGE FILTRATION TO PREVENT THE MOVEMENT OF SOIL THROUGH THE JOINTS. TAPE THE GEOTEXTILE TO THE BOX WALL/ITSELF USING WEATHERPROOF TAPE AND A 1 FOOT OVERLAP PRIOR TO BACKFILLING AROUND THE BOX. ALTERNATELY, TAPE 1 FOOT WIDE STRIPS OF NONWOVEN GEOTEXTILE AROUND THE ENTIRE PERIMETER OF THE BOX AT EACH RISER JOINT (FULL HEIGHT OF STRUCTURE). IF THE PLANS INDICATE THAT GROUNDWATER WILL NOT BE PRESENT AT THE 12" OR DEEPER DRAINAGE STRUCTURE, SEAL THE EXTERIOR JOINTS WITH COLD APPLIED WATERPROOFING OR JOINT TAPE PRIOR TO BACKFILLING. [FILTERED WEEPING THROUGH THE RISER JOINTS IS PREFERRED WHEN THE STRUCTURE IS DEEP AND GROUNDWATER IS PRESENT TO MINIMIZE BUOYANCY EFFECTS.]
50.05	FOR CAST OR STEEL FRAMES PLACED DIRECTLY ON BRICK OR CONCRETE, USE EITHER A NON-SHRINK GROUT LIFT OR A PREFABRICATED RISER/GASKET SPECIFICALLY MADE FOR THIS INTERFACE. FOLLOW THE MANUFACTURER'S INSTALLATION INSTRUCTIONS WHEN USING PREFABRICATED RISER/GASKET SECTIONS BELOW THE FRAME. ALIGN FRAME PARALLEL TO THE PAVEMENT SURFACE (IF APPLICABLE) SO THAT FINISHED GRATE ELEVATION SITS FLUSH WITH (UP TO 1/2" BELOW) SURFACE COURSE.
50.06	COMPLETELY REMOVE LIFTING DEVICES FROM TOP SLABS, AND ALL SLABS WHERE A WORKER WILL STAND. CLOSE ANY RECESSES OR LIFT HOLE IN SLABS THAT FORM THE SIDEWALK SURFACE WITH GROUT. FOR BELOW GRADE HOLES LESS THAN 3.05" DIAMETER, GROUT, PLUG, OR COVER WITH TAPED GEOTEXTILE PRIOR TO BACKFILLING.
55.00	BACKFILLING
55.01	USE PIPE SELECT BACKFILL AND COMPACTION METHODS DESCRIBED IN SC-M-714 FOR SOIL AROUND THE ENTIRE PERIMETER OF THE BOX WITHIN EACH PIPE EMBEDMENT ZONE AND THE TRENCH EXCAVATION CREATED TO INSTALL THE BOX AND PIPE(S). WHEN WRAPPING THE PIPE STRUCTURAL BACKFILL, CONTINUE THE WRAPPING DETAIL UNDER AND AROUND THE DRAINAGE STRUCTURE.
55.02	BETWEEN PIPE EMBEDMENT ZONES, USE SOIL MEETING THE EMBANKMENT SPECIFICATION AROUND THE BOX. IF THE ENTIRE DRAINAGE SYSTEM (BOXES, PIPE, ETC.) IS INSTALLED IN A TRENCH, USE PIPE SELECT BACKFILL AROUND THE DRAINAGE STRUCTURE TO FACILITATE PROPER COMPACTION WITHIN THE TRENCH.
55.03	USE COMPACTION EQUIPMENT LESS THAN 3 TONS FOR COMPACTING PIPE SELECT BACKFILL AND EMBANKMENT SOILS WHEN WITHIN 3 FEET OF DRAINAGE STRUCTURE WALLS. USE SYMMETRICAL LIFTS AND COMPACTION METHODS THAT DO NOT PUSH THE DRAINAGE STRUCTURE OUT OF PLUMB TOLERANCE.
55.04	USE ONLY FLOWABLE FILL BACKFILL AROUND PIPE CULVERT AND DRAINAGE BOXES WHEN THE PIPE TRENCH IS WITHIN 2 PIPE DIAMETERS OF THE LOWER SIDE OF A RETAINING WALL STEM OR WHEN DIRECTED BY THE ENGINEER.
55.05	USE ONLY COARSE AGGREGATE BACKFILL AROUND PIPE CULVERT AND DRAINAGE BOXES WHEN THE PIPE TRENCH IS WITHIN 2 PIPE DIAMETERS OF THE HIGHER SIDE OF A RETAINING WALL STEM. TIE THE PIPE STRUCTURAL BACKFILL INTO THE WEEP SYSTEM FOR THE WALL WHERE APPLICABLE.
55.06	DO NOT EXCEED A 4' LIFT OF FLOWABLE FILL IN A SINGLE POUR AROUND A DRAINAGE STRUCTURE.

60.00	THROATS, APRONS, SURFACE TREATMENTS, AND FINISH WORK
60.01	WHERE REQUIRED, HAND FORM THROATED INLETS AND CONCRETE APRONS.
60.02	USE COMPACTION EQUIPMENT LESS THAN 3 TONS FOR COMPACTING ASPHALT WITHIN 3 FEET OF DRAINAGE STRUCTURE WALLS OR PROVIDE A WRITTEN PROCEDURE TO THE ENGINEER OF ALTERNATE COMPACTION METHODS THAT WILL NOT DAMAGE THE DRAINAGE STRUCTURE WALLS.
60.03	BEFORE INSTALLING CAST IRON FRAME, CONFIRM FULL AND EVEN SEATING OF RISERS, GRATE AND/OR COVER INTO FRAME. IF NECESSARY, MATCH MARK PIECES FOR LATER IDENTIFICATION.
60.04	BEFORE FINAL PLACEMENT OF METAL RISER, GRATE OR OTHER COVER, THOROUGHLY CLEAN/SCRAPE THE SEAT AND EDGE OF THE FRAME TO REMOVE EXCESS ASPHALT OR DEBRIS. CONFIRM FULL SEATING OF TOP PIECE AND TIGHTEN BOLTS IF APPLICABLE.
60.05	WHERE PRECAST COMPONENTS SERVE AS SIDEWALK SURFACE, SET ELEVATION TO MATCH SIDEWALK CROSS SLOPE AND PROFILE WITH NO MORE THAN 1/8" GRADE DIFFERENCE.
60.06	WHERE PRECAST COMPONENTS INTERFACE ROADWAY PAVEMENTS, SET ELEVATION OF SLAB TO WITHIN 1/4" OF FINISHED GRADE ELEVATION.
95.00	PAYMENT
95.01	REPAIR ANY DAMAGE TO THE DRAINAGE STRUCTURE PRIOR TO SUBMITTING PAYMENT REQUEST.
95.02	PAYMENT FOR EACH ITEM INCLUDES ALL MATERIALS AND LABOR TO COMPLETE THE FINISHED INSTALLATION SHOWN.
95.03	SEE DRAINAGE STRUCTURE PARTS SHEETS FOR MISCELLANEOUS PARTS TO CREATE MORE SITE-SPECIFIC ASSEMBLIES.

719-000-04  
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30.00	PEDESTRIAN, BICYCLE, CONTROLLED ACCESS, AND TRAFFIC
30.01	WITHIN THE PEDESTRIAN ACCESS ROUTE (SIDEWALKS, CROSSWALKS, ACCESSIBLE PARKING, ETC.) USE ONLY DRAINAGE STRUCTURES DESIGNATED AS ADA COMPLIANT.
30.02	LOCATE PRECAST SLABS AND CAST IRON PIECES OUTSIDE OF SLOPED PORTIONS OF PEDESTRIAN RAMPS.
30.03	LOCATE BICYCLE RATED GRATES OUTSIDE OF THE PEDESTRIAN ACCESS ROUTE. SET BICYCLE RATED GRATES FLUSH TO WITHIN +0" TO -1/4" OF ADJACENT PAVEMENT GRADE OR FLUSH TO WITHIN +0" TO -1" OF ADJACENT SOIL FOR NON-PAVED LOCATIONS.
30.04	INSTALL CONTROLLED ACCESS STRUCTURES ONLY IN LOCATIONS WHERE PEDESTRIANS AND BICYCLES ARE PROHIBITED (TYPICALLY INTERSTATE). DO NOT INSTALL THESE STRUCTURES WITHIN 200 FEET OF RAMP CONNECTIONS TO NON-INTERSTATE ROUTES.
30.05	WHERE PRACTICAL, LIMIT THE PLACEMENT OF DRAINAGE STRUCTURES WITHIN TRAVEL LANES. WHEN DRAINAGE STRUCTURE IS REQUIRED, USE ONLY A HEAVY DUTY RATED SYSTEM WITHIN PAVEMENT, GUTTER OR DRIVEWAYS.
25.00	ACCESS
25.01	PROVIDE STEPS (719-5XX-XX) IN ALL DRAINAGE STRUCTURES DEEPER THAN 54". LOCATE STEPS WITHIN REASONABLE PROXIMITY TO ACCESS POINT (MANHOLE OR GRATE OPENING) WITHOUT INTERFERING WITH PIPE ORIENTATIONS.
25.02	WHERE PRACTICAL, ALIGN BOX WALL WITH STEPS WITHIN 6" OF HOLES IN INLET ADAPTER AND TRANSITION SLAB. WHERE PRACTICAL, ALIGN ALL ACCESS HOLES VERTICALLY AND OF THE SAME SIZE AND SHAPE AS THE UPPER ACCESS POINT. IF STANDARD INLET ADAPTER OR TRANSITION SLAB RESTRICTS OPENING GEOMETRY, ALIGN THE STANDARD OPENING TO MAXIMIZE WORKER ACCESS.
25.03	WHEN OPENINGS ARE NOT ALIGNED, PROVIDE ENOUGH VERTICAL SEPARATION BETWEEN SLABS TO FACILITATE MANEUVERING TO OTHER ACCESS HOLE AND FEEDING CLEANOUT EQUIPMENT THROUGH LOWER HOLE (TYPICALLY 7" VERTICAL). IN THIS CASE, PROVIDE A SECOND LADDER RUN THAT EXTENDS FROM THE BOTTOM SLAB TO AT LEAST 3 FEET ABOVE THE TRANSITION SLAB AND IS LOCATED ON THE CLOSEST WALL TO THE TRANSITION SLAB OPENING.
30.00	PRECAST FABRICATION
30.01	PROVIDE STEPS INDICATED IN THE ACCESS SECTION.
30.02	WHERE LIFTING DEVICES ARE REQUIRED, PROVIDE LIFT HOLES NO LARGER THAN 3.05" DIAMETER OR STEEL LUGS OR HOOPS THAT ARE FULLY RECESSED BELOW THE SURFACE, OR CAN BE CUT OFF BELOW THE SURFACE BEFORE GROUTING CLOSED.
30.03	FABRICATE SLAB WITH A BROOMED TOP SURFACE FINISH AND FABRICATE FLAT UNLESS KEVED OR LAP JOINTED DETAIL IS ORDERED BY THE CONTRACTOR.
30.04	FABRICATE PRECAST SLABS WITH SYMMETRICAL REINFORCEMENT OR PROVIDE LIFTING LUGS AND MARKINGS INDICATING TOP SIDE OF SLAB.
30.05	WHERE STANDARD REQUIRES EMBEDMENT OF A CAST IRON OR STEEL FRAME, USE ONLY FRAMES FROM A QUALIFIED SOURCE, AND EMBED INTO PRECAST PART IN ACCORDANCE WITH INDUSTRY STANDARDS. WHEN FRAME IS EMBEDDED, SUPPLY CORRESPONDING CAST IRON OR STEEL RISERS, GRATES, OR COVERS FROM THE SAME FOUNDRY AS THE FRAME EMBEDDED IN THE PRECAST PIECE. CONFIRM FULL CONTACT BETWEEN THE GRATE, RISERS, AND FRAME BEFORE POURING THE PIECE. AFTER FABRICATION, THOROUGHLY CLEAN THE SEAT AND EDGE TO REMOVE ANY CONCRETE FROM THE PRECAST OPERATION. CONFIRM PROPER SEATING OF CAST IRON PARTS BEFORE SHIPPING ASSEMBLY.
30.06	INCLUDE FABRICATION MARKINGS ON EACH PIECE THAT IDENTIFY MANUFACTURER NAME AND DATE, APPLICABLE SCDOT OR ASTM SPECIFICATION, SIZE, AND MAXIMUM BURY DEPTH. LOCATE MARKINGS ON EXTERIOR WALLS OR ON TOP OF SLABS FOR ALL PARTS EXCEPT SURFACE SLABS USED IN SIDEWALK.
30.07	FABRICATE KNOCKOUT BOXES WITH FLAT JOINTS AT THE TOP OR WITH A FULLY GROUTED KEY JOINT. RISERS (719-310-00 DETAIL 1) ARE NOT ALLOWED ABOVE KNOCKOUT BOXES. IF A GROUTED KEY JOINT IS PROVIDED, MANUFACTURER MUST DETAIL THE FULL HEIGHT OF THE KEY TO EXTEND ABOVE THE 6" MINIMUM TOP BEAM HEIGHT ON THE BOX AND FULLY GROUT THE KEY EITHER IN THE PLANT OR IN THE FIELD PRIOR TO INSTALLATION OF THE UPPER STRUCTURE. DO NOT LEAVE AIR ROCKETS IN GROUTED PORTIONS OF TOP KEY TO ENSURE FULL CONTACT BETWEEN THE KNOCKOUT BOX TOP BEAM AND THE UPPER STRUCTURE.
30.08	DO NOT EXTEND REINFORCING STEEL THROUGH KNOCKOUT PORTION OF THE BOX WALLS.
30.09	MAXIMUM KNOCKOUT PANEL HEIGHT IS 5 FEET. MAXIMUM KNOCKOUT BOX BURY DEPTH (D) FROM TOP OF SIDEWALK EQUALS H + 2.5 FEET COVER FROM FINISHED GRADE TO TOP OF BOTTOM SLAB, NO EXCEPTIONS. H2=> D4.5', H2.5=> D5.5', H3=> D5.5', H4=> D6.5', H5=> D7.5', H6=> D8.5' (MAX).
30.10	WHEN EXTENDING KNOCKOUT BOX HEIGHT (719-310-00 NOTE 14) FOR INLET WALLS, USE ONLY THE FULL 6" WALL THICKNESS AND REINFORCE THE EXTENDED PORTION CONSISTENT WITH A SOLID WALL RISER SECTION (719-315-00) OF EQUAL SIZE.
30.11	REQUESTS FOR ALTERATIONS TO DESIGN LIMITS SHOW IN THE STANDARD DRAWING MUST INCLUDE SHOP DRAWINGS AND STRUCTURAL DESIGN CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN SOUTH CAROLINA FOR REVIEW PRIOR TO FABRICATION FOR EACH VARIATION.
35.00	CAST IRON & STEEL FABRICATION
35.01	FABRICATE ALL STEEL AND IRON COMPONENTS IN ACCORDANCE WITH SECTION 106.11 OF THE STANDARD SPECIFICATIONS.
35.02	ENSURE FULL CONTACT BETWEEN GRATE, RISER, AND FRAME SEATS. MACHINE SURFACES WHEN NECESSARY TO ACHIEVE EVEN CONTACT.
35.03	IN ADDITION TO STANDARD FOUNDRY MARKINGS, MARK ALL PIECES WITH "DUMP NO WASTE" AND "DRAINS TO WATERWAY". WHERE SPACE PERMITS, ALSO INCLUDE SCDOT LOGO AND ANY OTHER PATTERN INDICATED ON THE INDIVIDUAL CASTING SHEET.
35.04	WHERE SHOWN, PROVIDE A CAGED NUT BOLT DOWN DETAIL USING A STANDARD HEX-HEAD BOLT.
40.00	FOUNDATION, BASE & BOTTOM SLABS
40.01	WHEN THE PROJECT PLANS SPECIFY IMPROVED FOUNDATION FOR PIPE, EXTEND THIS UNDERCUT AND IMPROVED PROCEDURE THROUGH AND UNDER THE FOOTPRINT OF THE BASE SLAB OF THE DRAINAGE STRUCTURE.
40.02	USE THE SAME FOUNDATION AND BEDDING DETAIL ESTABLISHED FOR THE PIPE CULVERTS (SEE STANDARD DRAWING SECTION 714).
40.03	WHEN CONSTRUCTING THE ENTIRE WALL SYSTEM OF THE DRAINAGE STRUCTURE FROM BRICK MASONRY, CONSTRUCT A REINFORCED CONCRETE BASE SLAB MEETING THE THICKNESS AND REINFORCEMENT SHOWN FOR THE SAME SIZE PRECAST RECTANGULAR BOX (719-3XX-XX). A PRECAST BASE SLAB MAY ALSO BE USED FOR THE BOTTOM OF MASONRY BOXES. THE LENGTH AND WIDTH OF THE SLAB MAY BE INCREASED AS REQUIRED TO FACILITATE THE MASONRY CONSTRUCTION. LEVEL THE BASE SLAB BEFORE CONSTRUCTING BOX WALLS.
40.04	FOR SITES WHERE A CUSTOM PIPE FOUNDATION IS REQUIRED, CONSTRUCT A CUSTOM DRAINAGE STRUCTURE FOUNDATION AS SPECIFIED IN THE PLANS OR SPECIAL PROVISIONS.
40.05	SET AND LEVEL BASE SECTION OR BOTTOM SLAB SO THAT WALLS ARE CONSTRUCTED WITHIN 1 DEGREE OF PLUMB PRIOR TO BACKFILLING (NO MORE THAN 6" HORIZONTAL OVER 30" VERTICAL). ALL ADJUSTMENTS REQUIRED TO MEET SURFACE SLOPES SHOULD OCCUR WITHIN 2 FEET OF THE FINISHED GRADE.

719-000-02  
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THOMAS & HUTTON

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CITY OF ISLE OF PALMS  
ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA

PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS  
DETAILS

JOB NO: J-27670.0003  
DATE: 1/3/20  
DRAWN: HEA  
DESIGNED: HEA  
REVIEWED: RPK  
APPROVED: RPK  
SCALE: 1" = 1'00.83'

C2.4

BID SET - NOT FOR CONSTRUCTION



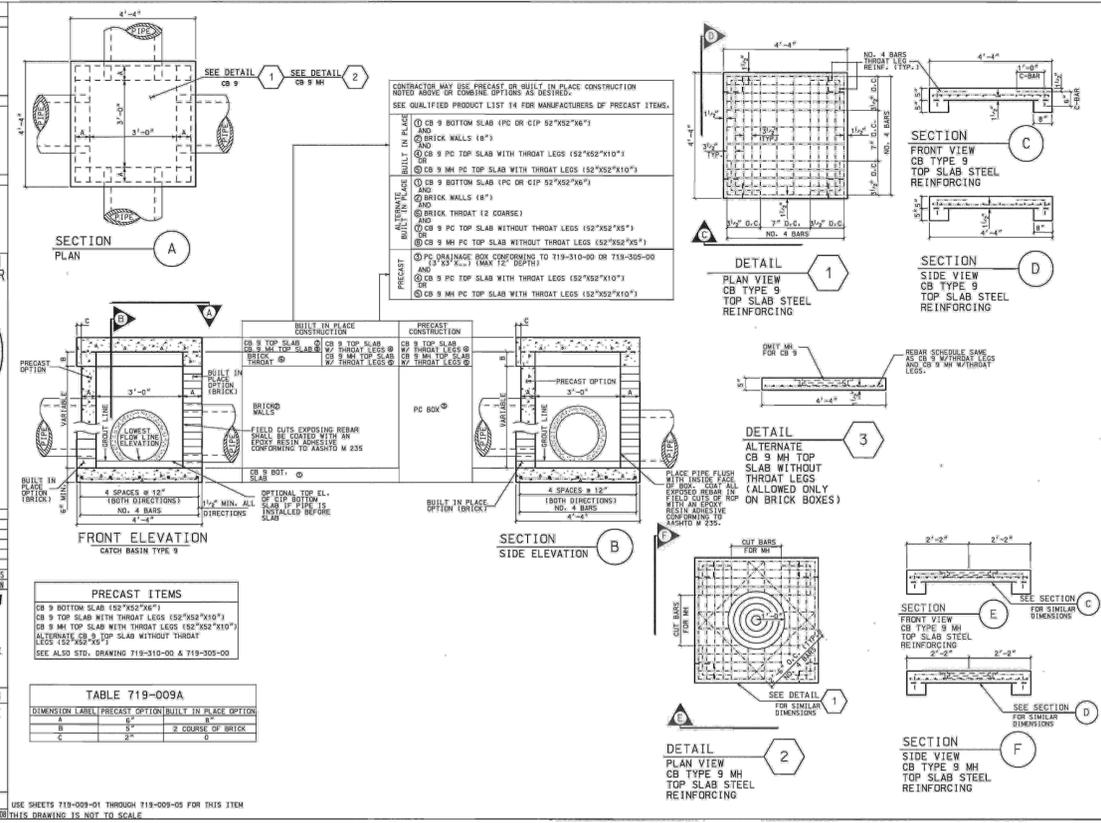
**REFERENCES**  
NATIONAL DOCUMENTS  
SCDOT DOCUMENTS

**PRECONSTRUCTION SUPPORT ENGINEER**  
SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER  
EDWIN SYLVESTER EARLE, II  
NO. 8858  
MARCH 3, 2008

**SCDOT**  
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DESIGN STANDARDS OFFICE  
955 PARK STREET  
ROOM 405  
COLUMBIA, SC 29201

**STANDARD DRAWING**  
CATCH BASIN TYPE 9 & 9MH DETAILS

719-009-01  
EFFECTIVE LETTING DATE: MAY, 2008



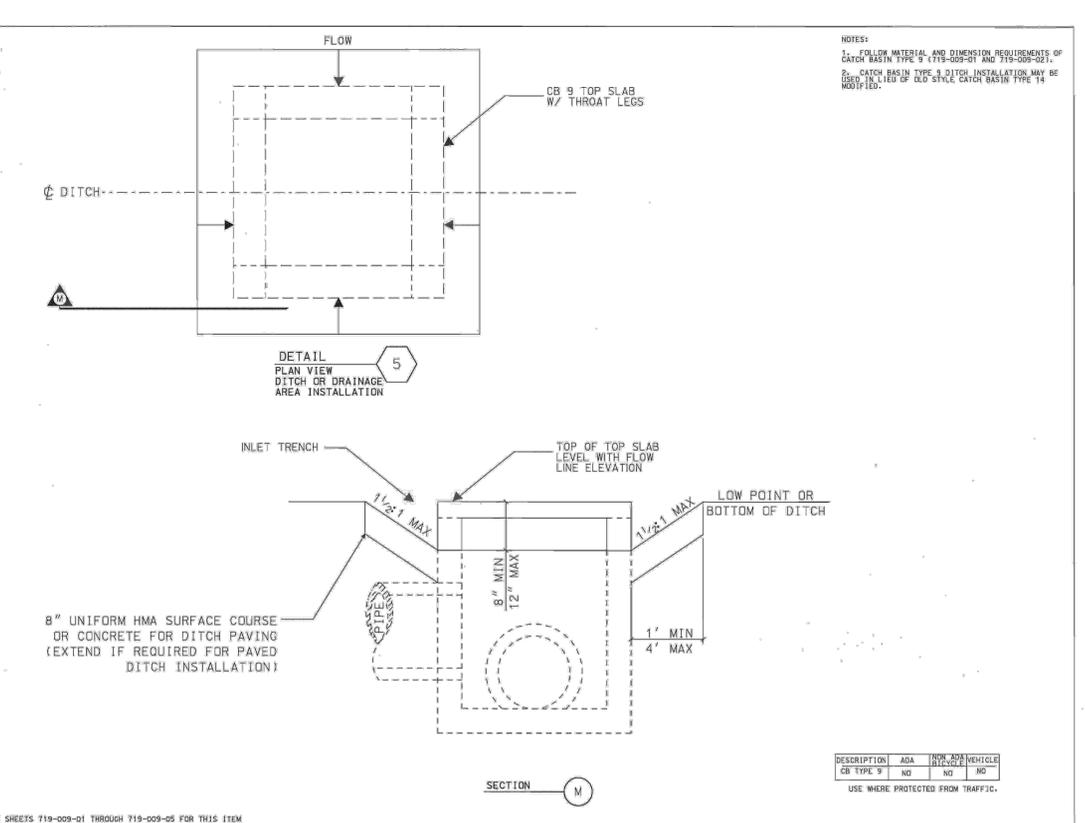
**REFERENCES**  
NATIONAL DOCUMENTS  
SCDOT DOCUMENTS

**PRECONSTRUCTION SUPPORT ENGINEER**  
SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER  
EDWIN SYLVESTER EARLE, II  
NO. 8858  
MARCH 3, 2008

**SCDOT**  
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DESIGN STANDARDS OFFICE  
955 PARK STREET  
ROOM 405  
COLUMBIA, SC 29201

**STANDARD DRAWING**  
CATCH BASIN TYPE 9 & 9 MH DITCH INSTALLATION

719-009-03  
EFFECTIVE LETTING DATE: MAY, 2008



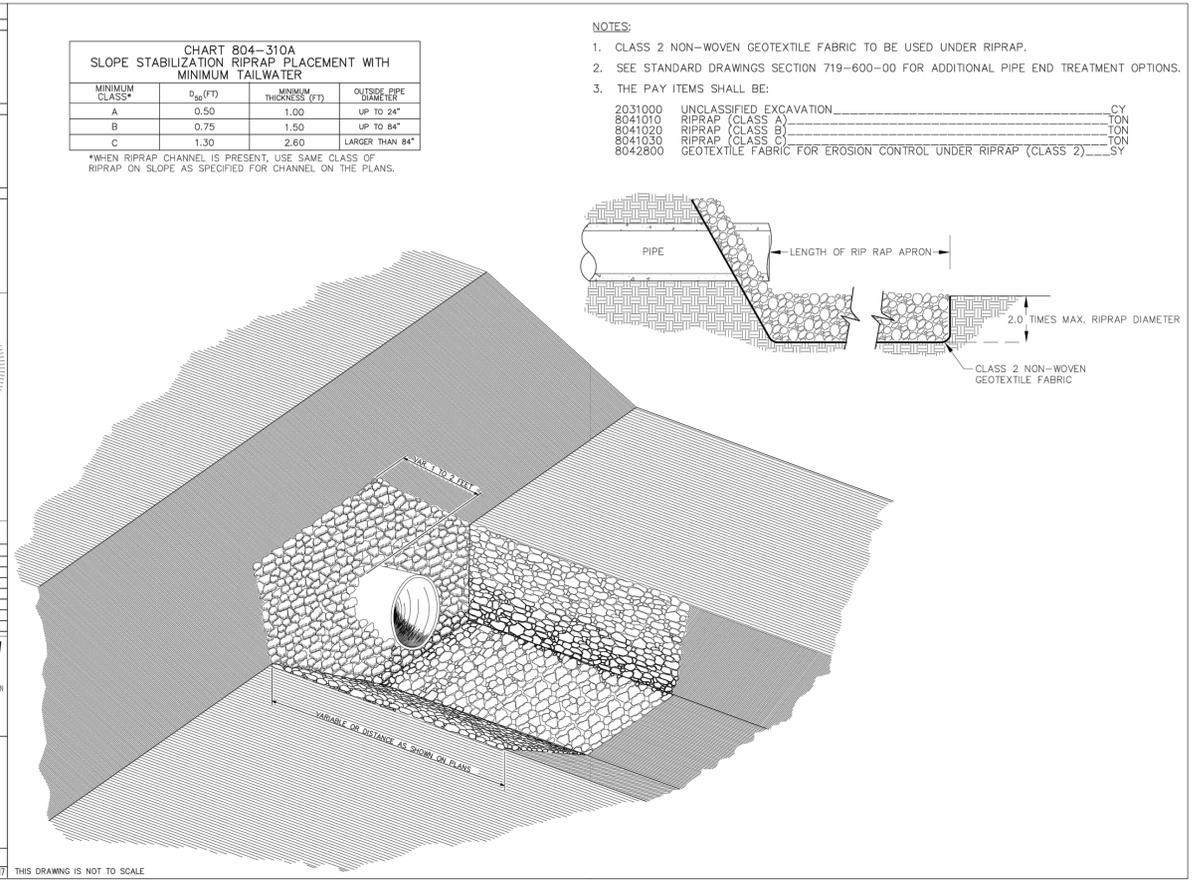
**REFERENCES**  
NATIONAL DOCUMENTS  
SCDOT DOCUMENTS

**PRECONSTRUCTION SUPPORT ENGINEER**  
SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER  
JAMES W. KENDALL, III  
NO. 21242  
SIGNATURE: James W. Kendall, III  
DATE: 11/18/2016

**SCDOT**  
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DESIGN STANDARDS OFFICE  
955 PARK STREET  
ROOM 405  
COLUMBIA, SC 29201

**STANDARD DRAWING**  
OUTLET PROTECTION WITH DEFINED CHANNEL

804-310-00  
EFFECTIVE LETTING DATE: JULY 2017



**THOMAS & HUTTON**  
682 Johnnie Dodds Blvd. • Suite 100  
Mt. Pleasant, SC 29464 • 843.849.0200  
www.thomasandhutton.com

**CITY OF ISLE OF PALMS**  
ISLE OF PALMS, CHARLESTON COUNTY, SOUTH CAROLINA

**PHASE 3 INTERNAL DRAINAGE IMPROVEMENTS**

**DETAILS**

JOB NO: J-27670.0003  
DATE: 1/3/20  
DRAWN: HEA  
DESIGNED: HEA  
REVIEWED: RPK  
APPROVED: RPK  
SCALE: 1" = 26.8084'

**C2.6**

**BID SET - NOT FOR CONSTRUCTION**