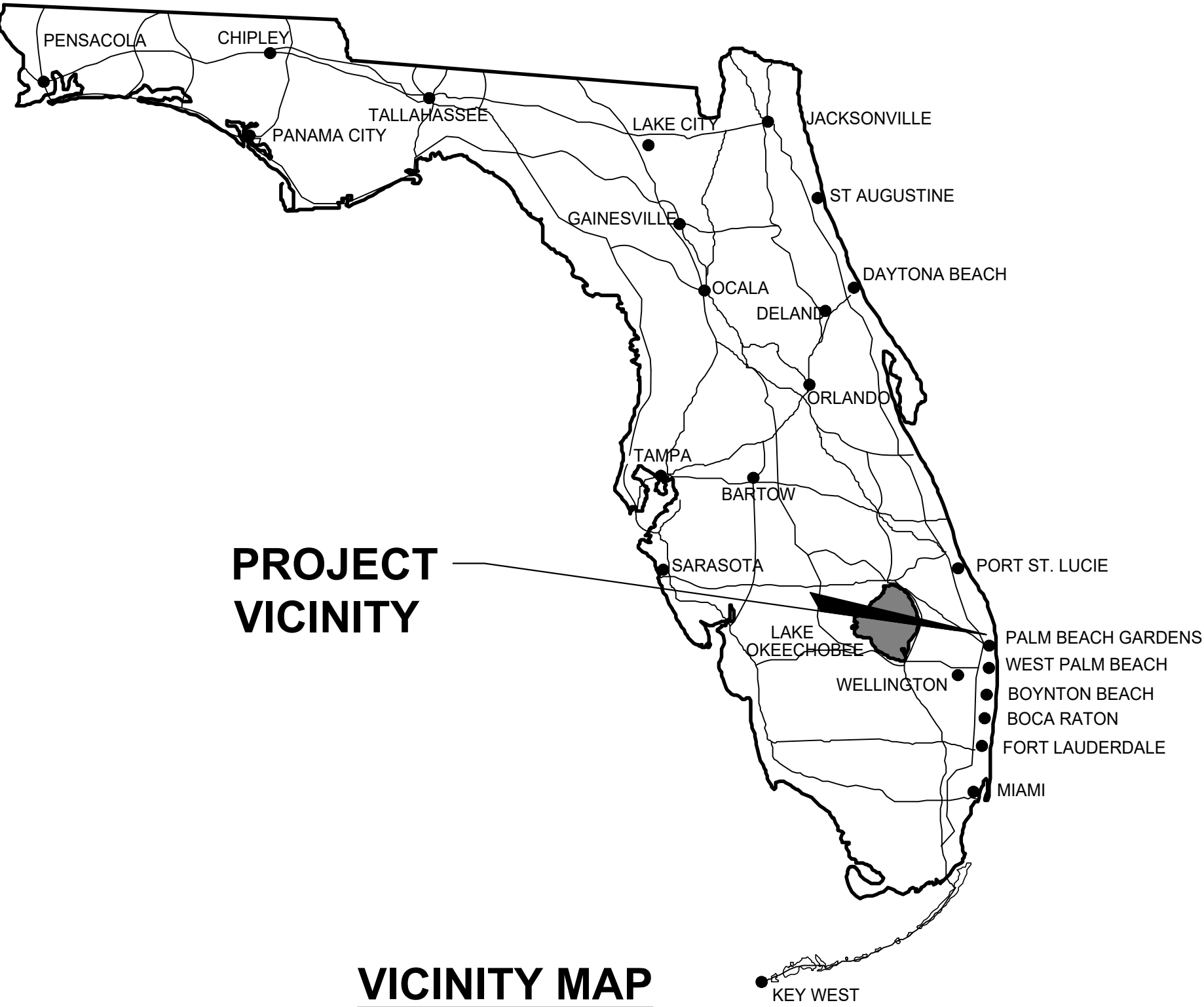


# DRAINAGE IMPROVEMENT PLANS FOR UNIVERSE BOULEVARD

**SECTION 33, TOWNSHIP 41S., RANGE 43E.  
TOWN OF JUNO BEACH, FLORIDA**

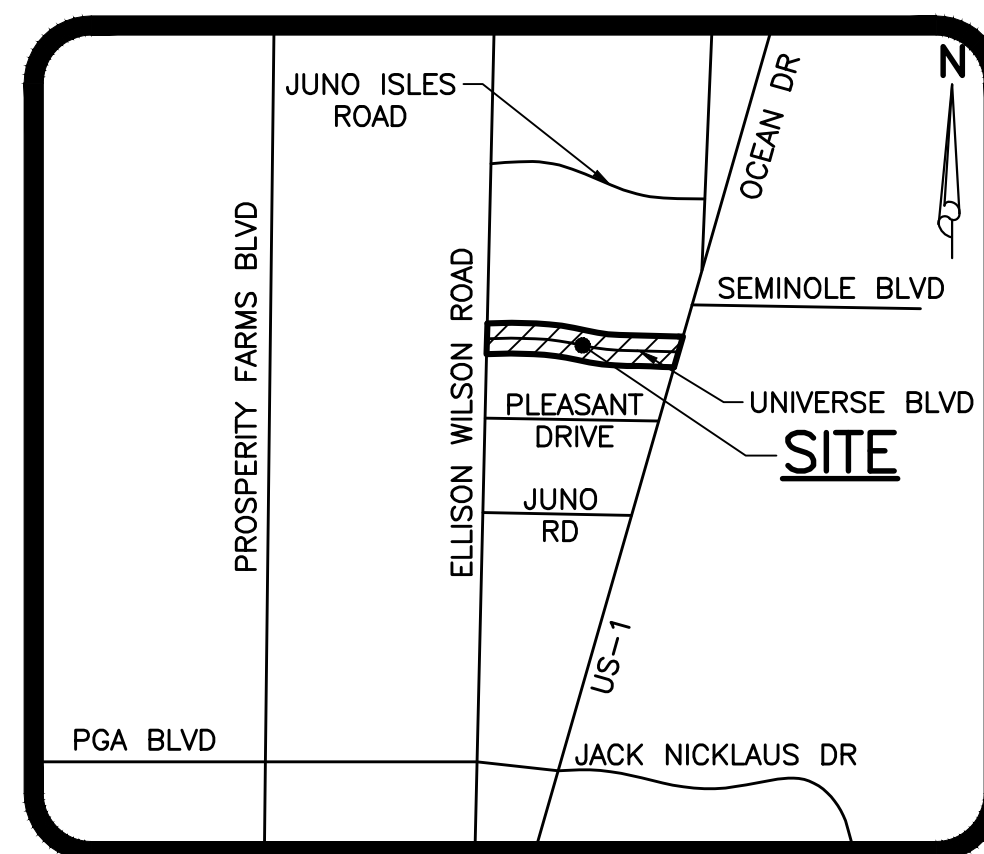


**INDEX OF SHEETS**

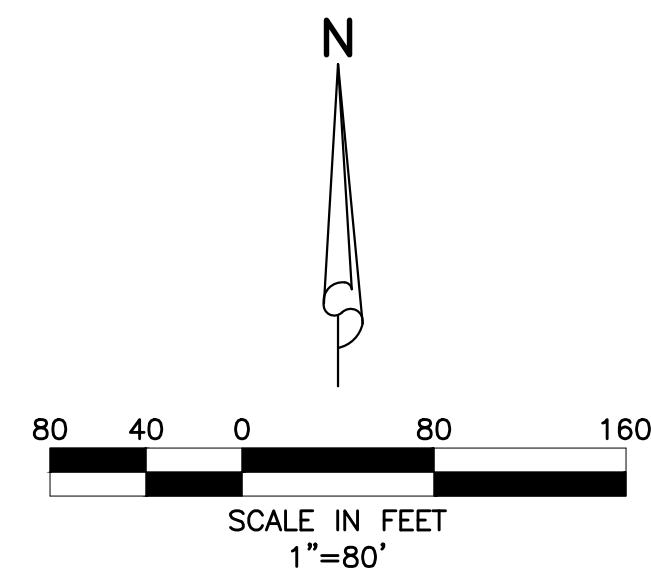
SHEET NO.:	DESCRIPTION:
1	TITLE SHEET
2	MASTER PLAN
3-4	DRAINAGE IMPROVEMENT PLANS
5	DRAINAGE IMPROVEMENT DETAILS
6	POLLUTION PREVENTION PLAN

4/7/2023  
BID SET

<p>ENGINEERING   PLANNING   CONSULTING   SINCE 1982 2581 Metrocentre Blvd West • Suite 3 • West Palm Beach, Florida 33407 • (561) 478-7848</p>		UNIVERSE BOULEVARD DRAINAGE IMPROVEMENT PLANS SECTION 33, TOWNSHIP 41S., RANGE 43E. TOWN OF JUNO BEACH, FLORIDA TITLE SHEET	
		DESIGN P.B. DRAWN C.O. CHECKED APPROVED DATE	JOB NO. 16-004.8 DRAWING NO. 16004.8S01 SHEET 1 OF 6



**LOCATION MAP**  
NOT TO SCALE



4/7/2023  
**BID SET**

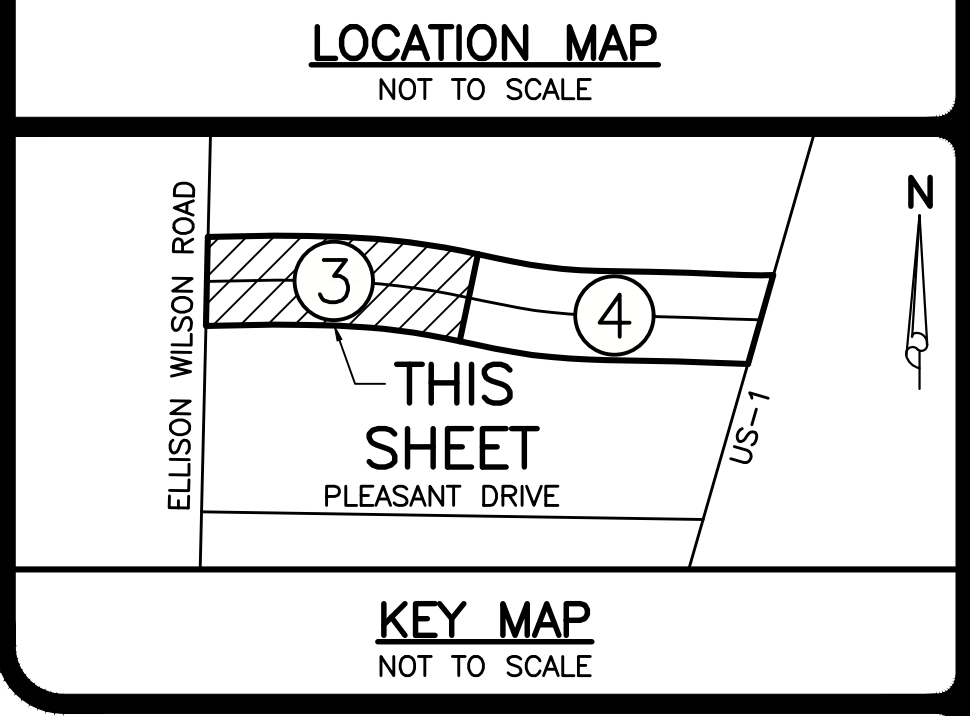
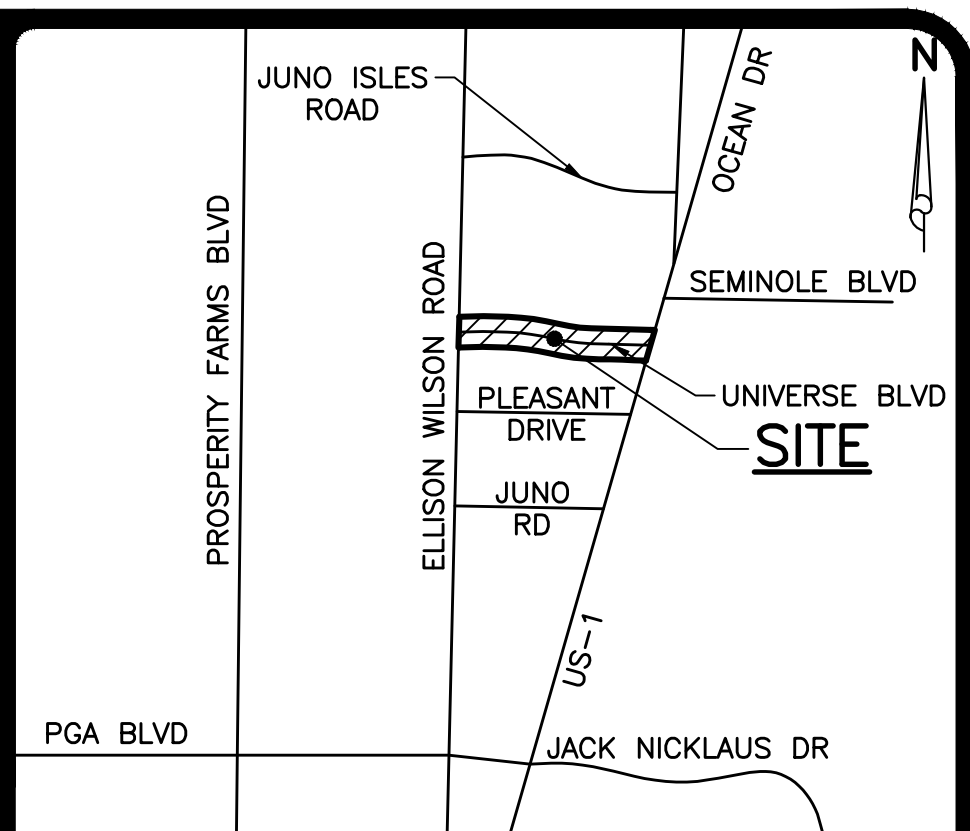
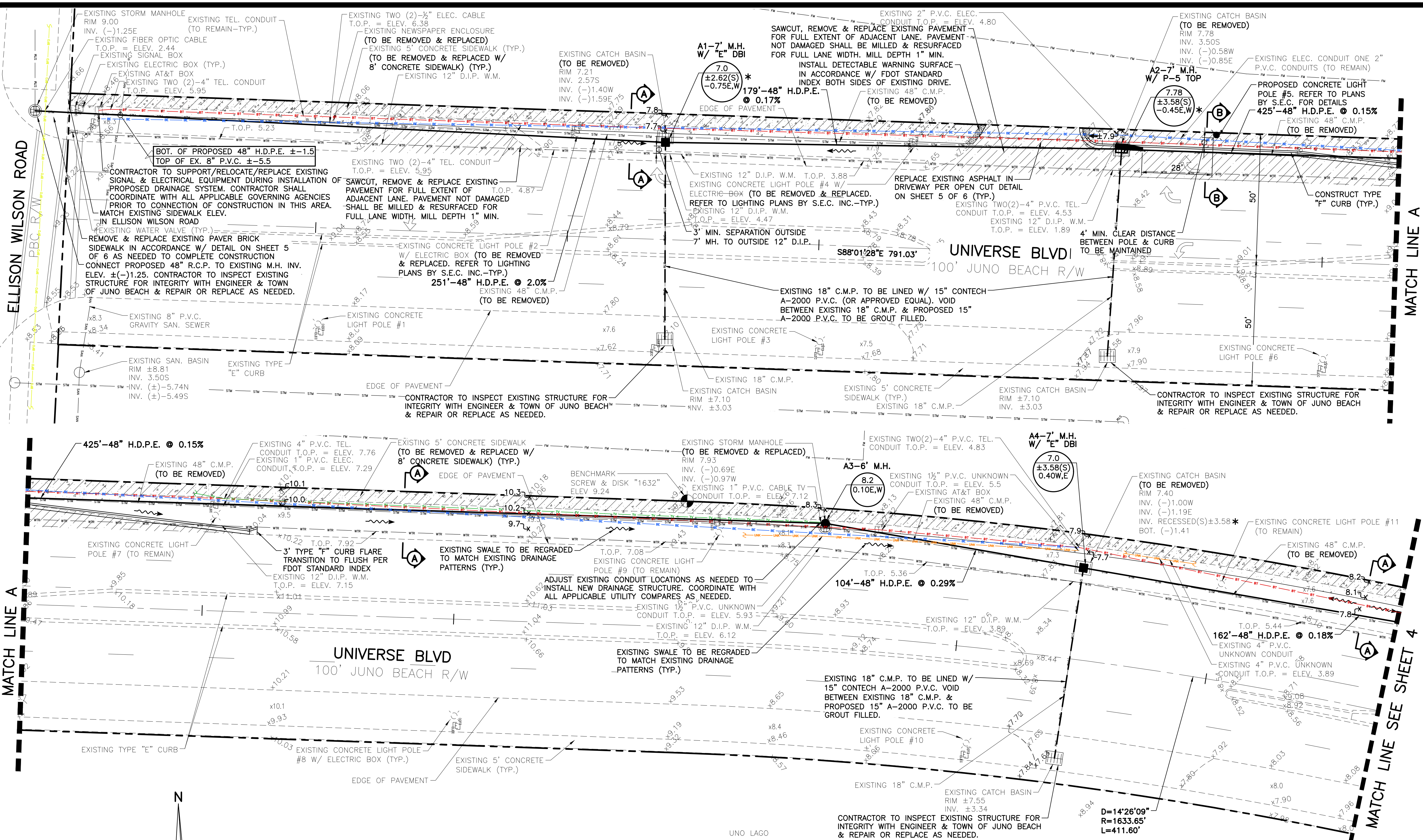
**48 HOURS BEFORE DIGGING**  
BROWARD • PALM BEACH • INDIAN RIVER  
ST. LUCIE • MARTIN COUNTIES  
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**1-800-432-4770**  
SUNSHINE STATE 1 CALL  
UNDERGROUND UTILITIES  
NOTIFICATION CENTER



DESIGN	DRAWN	CHECKED	APPROVED	DATE
P.B.	C.O.			

**UNIVERSE BOULEVARD DRAINAGE  
IMPROVEMENT PLANS**  
SECTION 33, TOWNSHIP 41S., RANGE 43E.  
TOWN OF JUNO BEACH, FLORIDA  
**MASTER PLAN**

JOB NO.	DRAWING NO.	SHEET	OF
16-004.8	16-004.8S02	2	6



**LEGEND**

- A1-7" M.H. W/ "E" DBI
- 7.21
- 2.57
- INLET NUMBER AND TYPE
- INLET TOP ELEVATION
- INVERT ELEVATION
- PROPOSED STORM SEWER AND CATCH BASIN
- PROPOSED STORM SEWER AND MANHOLE
- PROPOSED LINING OF EXISTING STORMDRAIN PIPE
- DIRECTION OF FLOW
- DIRECTION OF SWALE
- PROPOSED GRADE ELEVATION
- EXISTING GRADE ELEVATION
- CONCRETE
- DETECTABLE WARNING SURFACE
- SAWCUT, REMOVE, & REPLACE EXISTING PAVEMENT, CONCRETE, CURB, ETC.
- EXISTING CONCRETE SIDEWALK TO BE REMOVED & REPLACED AS NEEDED
- PROPOSED LIGHT POLE (REFER TO PLANS BY S.E.C. FOR DETAILS)
- EXISTING OVERHEAD POWER LINE & POWER POLE
- EXISTING STORM DRAINAGE PIPE
- EXISTING WATER MAIN
- EXISTING SEWER MAIN
- EXISTING FORCE MAIN
- EXISTING ELECTRIC
- EXISTING TELEPHONE
- EXISTING TELEVISION
- EXISTING UNKNOWN
- EXISTING FIBER OPTICS
- EXISTING LIGHT POLE

**NOTES:**

- 1.) CONTRACTOR SHALL COORDINATE RELOCATION/ REMOVAL SUPPORT OF ALL EXISTING UNDERGROUND AND OVERHEAD UTILITY LINES, POWER/UTILITY/LIGHT POLES AND GUY WIRES, SERVICES AND TRANSFORMERS IN CONFLICT WITH THE PROPOSED IMPROVEMENTS WITH APPLICABLE UTILITY COMPANIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS.
- 2.) CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES IN AND ADJACENT TO THE ROAD RIGHT OF WAY PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS.
- 3.) CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE REMOVAL OF ALL EXISTING DRAINAGE IMPROVEMENTS AND THE DISPOSAL THEREOF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL CODES AND ORDINANCES AT THE CONTRACTORS EXPENSE. JOB SITE SHALL BE LEFT IN A CLEAN AND PRESENTABLE CONDITION AT THE END OF EVERY DAY.
- 4.) CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL FEES FOR ENVIRONMENTAL SURVEYS AND/OR ASSESSMENTS, AS MAY BE REQUIRED FOR DEMOLITION AND OBTAINING ANY AND ALL PERMITS REQUIRED FROM THE ISSUING GOVERNING AGENCIES.
- 5.) CONTRACTOR SHALL TURN OFF OR HAVE CAPPED OFF ALL UTILITIES IN ALL AREAS TO BE DEMOLISHED WHETHER SHOWN OR NOT.
- 6.) ANY DAMAGE TO EXISTING PROPERTY OF ANY KIND ATTRIBUTED TO THIS CONTRACTOR'S WORK SHALL BE QUICKLY AND PROPERLY REPAIRED TO THE SATISFACTION OF THE OWNER AND ENGINEER AND TOWN OF JUNO BEACH.
- 7.) CONTRACTOR SHALL FIELD VERIFY ADDITIONAL SITE RELATED DEMOLITION AND NOTIFY ENGINEER OF ANY CONFLICTS OR CHANGES IN SCOPE.
- 8.) CONTRACTOR TO FIELD VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE ALL EXISTING UTILITY LOCATES, SUPPORT, RELOCATIONS AND NOTIFICATIONS REQUIRED WITH ALL APPLICABLE UTILITY SERVICE PROVIDERS.
- 9.) CONSTRUCTION/DEMOLITION WITHIN P.B.C. RIGHT OF WAY SHALL NOT COMMENCE WITHOUT PERMITS BEING ISSUED, CONSTRUCTION COMMENCEMENT NOTICES AND PRE-CONSTRUCTION MEETING HELD.
- 10.) CONTRACTOR SHALL PROVIDE MEANS TO ADEQUATELY STORE AND PROPERLY TREAT AND DISPOSE OF STORMWATER RUNOFF FROM THE CONSTRUCTION SITE DURING DEMOLITION OF EXISTING FACILITIES.
- 11.) ALL ELEVATIONS SHOWN REFERENCE N.G.V.D. 1929.
- 12.) PAVEMENT MARKINGS & SIGNAGE SHALL BE IN ACCORDANCE WITH THE M.U.T.C.D. FOR STREETS & HIGHWAYS, LATEST EDITION AND TOWN OF JUNO BEACH STANDARDS.
- 13.) CROSS SLOPE ON ALL SIDEWALKS & A.D.A. ACCESSIBLE ROUTES SHALL NOT EXCEED 2.0% AND THE LONGITUDINAL SLOPE SHALL NOT EXCEED 5.0%. RAMPS AS INDICATED SHALL NOT EXCEED 6' IN LENGTH & 12:1 SLOPE. ALL REPLACED SIDEWALK SHALL BE INSTALLED AT PREVIOUS EXISTING GRADE AND SHALL BE IN ACCORDANCE WITH ALL APPLICABLE A.D.A. REQUIREMENTS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS.
- 14.) CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS DISTURBED DURING CONSTRUCTION TO EXISTING OR BETTER CONDITION.
- 15.) CONTRACTOR SHALL BE RESPONSIBLE FOR ALL N.P.D.E.S. REQUIREMENTS AND OBTAINING ALL PERMITS INCLUDING FILING OF N.O.I., N.O.T., WEEKLY & MONTHLY MONITORING REPORTS, ETC.
- 16.) EXISTING DRAINAGE SYSTEM TO BE COMPLETELY REMOVED AND REPLACED UNLESS OTHERWISE NOTED.
- 17.) CONTRACTOR SHALL ADJUST ALL AFFECTED WATER MAIN & FORCE MAIN VALVE BOX HEIGHTS & INSTALL NEW CONCRETE COLLARS IN ACCORDANCE WITH S.U.A. STANDARDS AS NECESSARY.
- 18.) ALL SWALE & RIGHT OF WAY AREAS SHALL BE REGRADED TOWARD PROPOSED CATCH BASINS. EXISTING DRAINAGE PATTERNS SHALL BE MAINTAINED. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS.
- 19.) CONTRACTOR SHALL ADJUST THE LOCATION OF EXISTING "DRY" UTILITIES & CONDUIT AS NEEDED TO COMPLETE WORK AS SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING RELOCATIONS & REDESIGN WITH APPLICABLE UTILITY COMPANIES.
- 20.) ALL DRAINAGE STRUCTURES COLLECTING SURFACE RUNOFF SHALL HAVE 3" DIAMETER BLEEDER HOLES WITH INVERTS 6" BELOW GRATE ELEVATIONS ON EAST & WEST SIDES OF STRUCTURES, INLINE WITH SWALE FLOW DIRECTION.

**NOTE: ALL ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NATIONAL GEODETIC VERTICAL DATUM (N.G.V.D.) OF 1929 BASED ON A SURVEY PREPARED BY LIDBERG LAND SURVEYING, INC. (561) 746-8454**

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 ST. LUCIE • MARTIN COUNTIES  
 1-800-432-4770  
 SUNSHINE STATE 1 CALL  
 UNDERGROUND UTILITIES  
 NOTIFICATION CENTER

1.) REVISED PER LIGHTING PLANS & TOWN OF JUNO BEACH COORDINATION, 02/14/23 C.O.

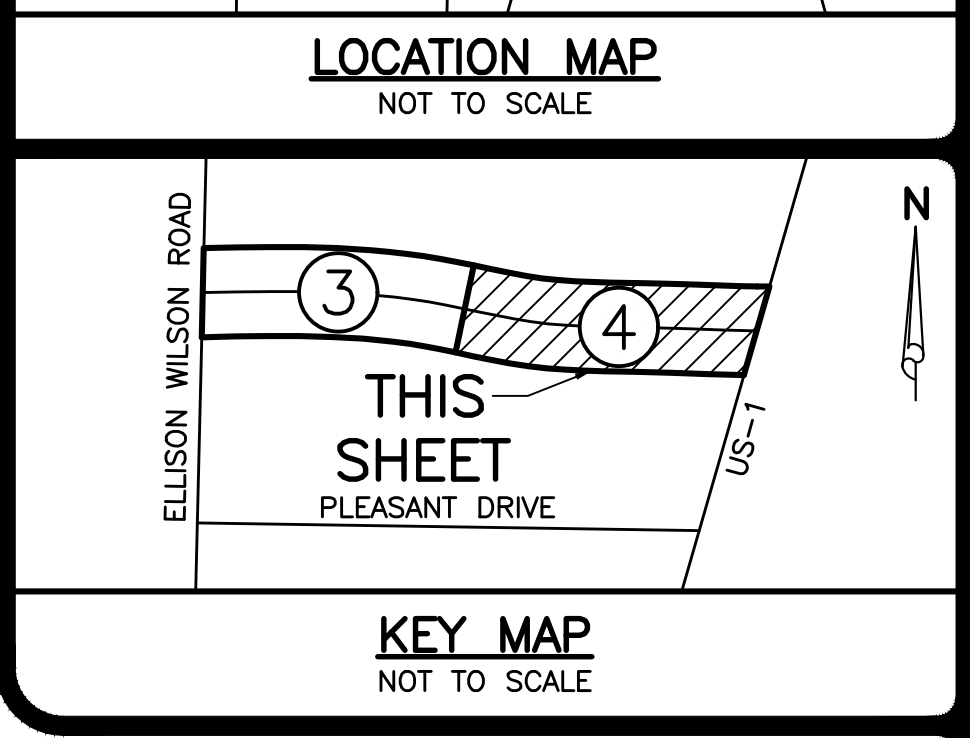
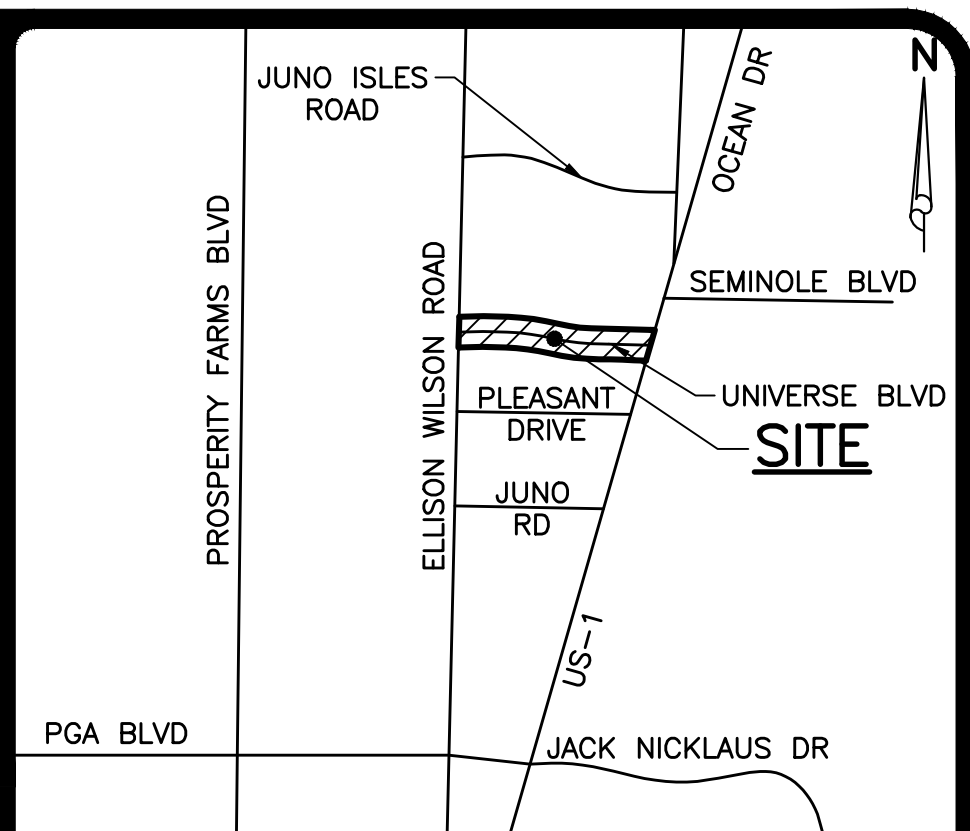
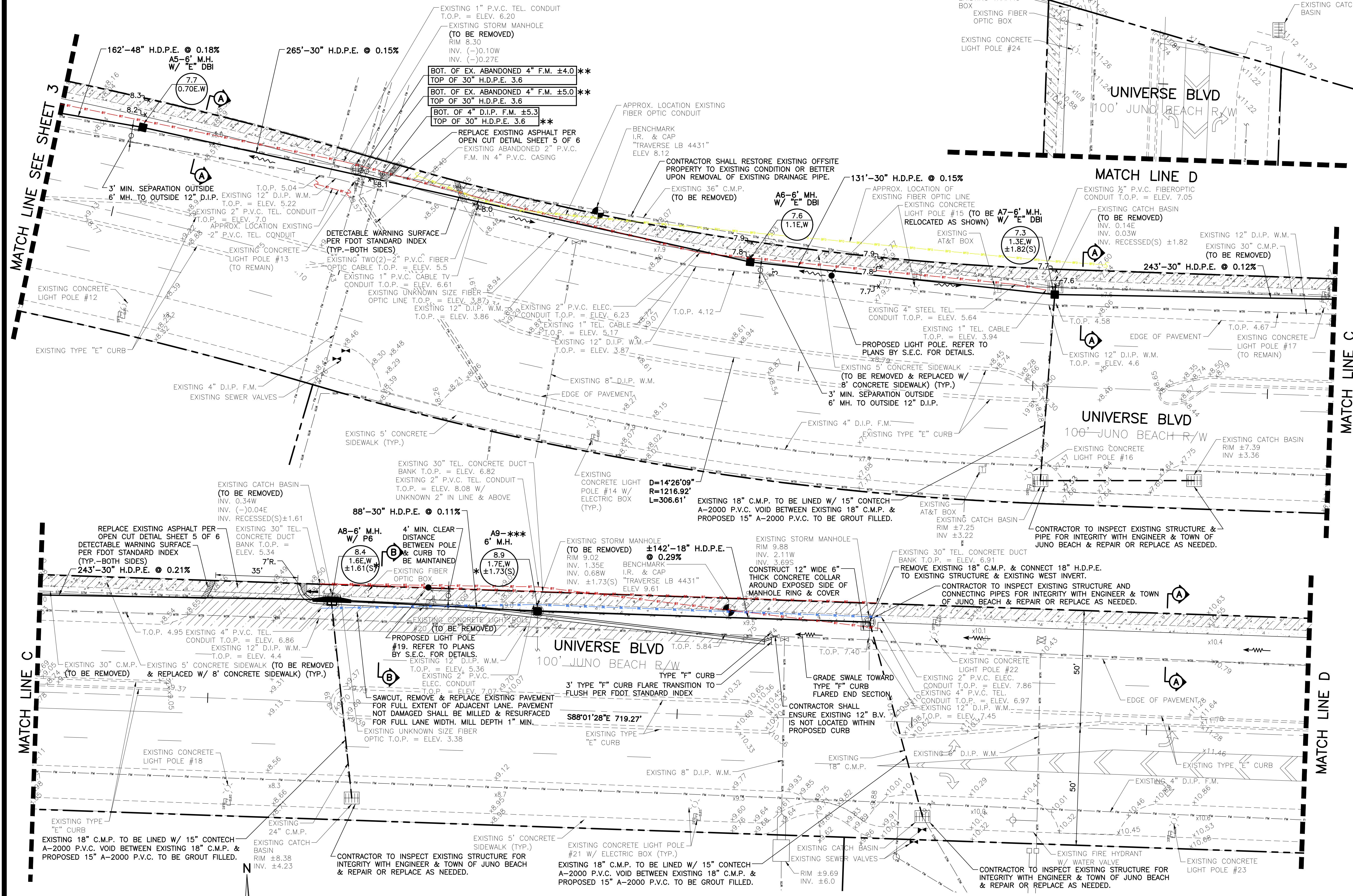


**UNIVERSE BOULEVARD DRAINAGE IMPROVEMENT PLANS**  
 SECTION 33, TOWNSHIP 41S., RANGE 43E.  
 TOWN OF JUNO BEACH, FLORIDA  
**DRAINAGE IMPROVEMENT PLAN**

DESIGN P.B.	DRAWN C.O.	CHECKED	APPROVED	DATE
JOB NO. 16-004.8	DRAWING NO. 16004.8S03	SHEET 3	OF 6	

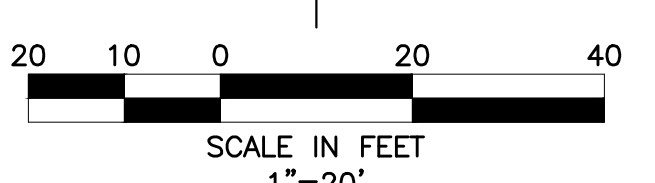
**NOTE: ALL ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NATIONAL GEODETIC VERTICAL DATUM (N.G.V.D.) OF 1929 BASED ON A SURVEY PREPARED BY LIDBERG LAND SURVEYING, INC. (561) 746-8454**

\*\*\* MANHOLE LID SHALL NOT BE LOCATED WITHIN CURB  
 \*\* CONTRACTOR SHALL FIELD VERIFY LOCATION ELEVATION OF EXISTING  
 \* CONTRACTOR SHALL FIELD VERIFY INVERT & CONFIRM ELEVATION WITH ENGINEER PRIOR TO SHOP DRAWING APPROVAL



- LEGEND**
- A1-E INLET NUMBER AND TYPE
  - 7.21 INLET TOP ELEVATION
  - 2.57 INVERT ELEVATION
  - PROPOSED STORM SEWER AND CATCH BASIN
  - PROPOSED STORM SEWER AND MANHOLE
  - PROPOSED LINING OF EXISTING STORM DRAIN PIPE
  - DIRECTION OF FLOW
  - DIRECTION OF SWALE
  - PROPOSED GRADE ELEVATION
  - EXISTING GRADE ELEVATION
  - CONCRETE
  - DETECTABLE WARNING SURFACE
  - SAWCUT, REMOVE, & REPLACE EXISTING PAVEMENT, CONCRETE, CURB, ETC.
  - EXISTING CONCRETE SIDEWALK TO BE REMOVE & REPLACED AS NEEDED
  - PROPOSED LIGHT POLE (REFER TO PLANS BY S.E.C. FOR DETAILS)
  - EXISTING OVERHEAD POWER LINE & POWER POLE
  - EXISTING STORM DRAINAGE PIPE
  - EXISTING WATER MAIN
  - EXISTING SEWER MAIN
  - EXISTING FORCE MAIN
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  - EXISTING LIGHT POLE

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 CALL FOR PERMITS  
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 SUNSHINE STATE 1 CALL  
 UNDERGROUND UTILITIES  
 NOTIFICATION CENTER



- 2.) REVISED LIGHT POLE #15 NOTE PER TOWN & LIGHTING CONSULTANT, 04/07/23 C.O.  
 1.) REVISED PER LIGHTING PLANS & TOWN OF JUNO BEACH COORDINATION, 02/14/23 C.O.

**SIMMONS & WHITE**  
 ENGINEERING | PLANNING | CONSULTING | SINCE 1982  
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**UNIVERSE BOULEVARD DRAINAGE IMPROVEMENT PLANS**  
 SECTION 33, TOWNSHIP 41S., RANGE 43E.  
 TOWN OF JUNO BEACH, FLORIDA  
 DRAINAGE IMPROVEMENT PLAN

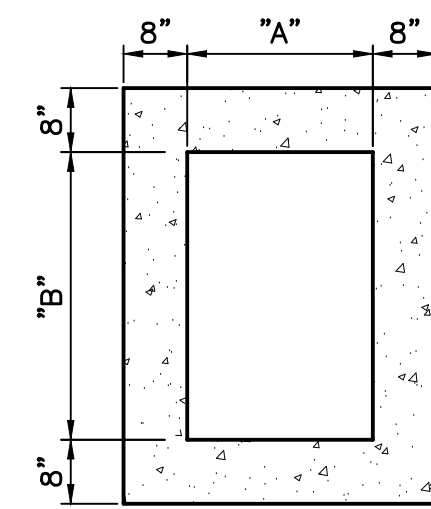
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P.B.	C.O.			

JOB NO.	DRAWING NO.	SHEET	OF
16-004.8	16004.8504	4	6

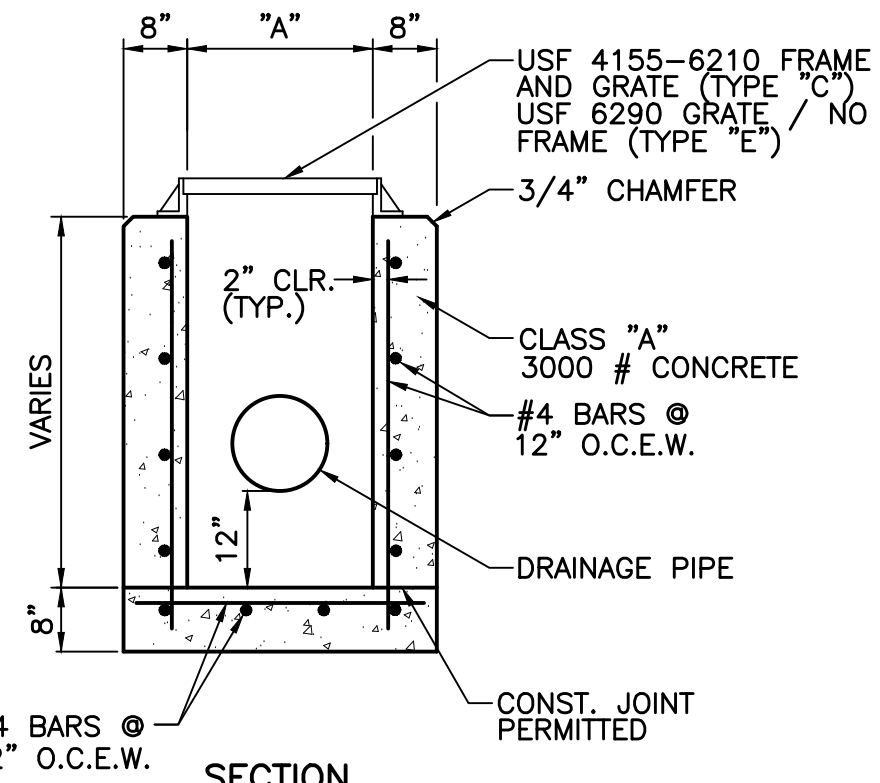
4/7/2023  
**BID SET**

**GENERAL NOTES:**

- NOTIFY ENGINEER OF IN-FIELD CONFLICTS OR DESIGN DISCREPANCIES PRIOR TO COMMENCEMENT OF WORK.
  - EXISTING WATER, SEWER AND DRAINAGE SYSTEMS ARE REPRESENTED AS DASHED LINES AND SHALL BE VERIFIED BY CONTRACTOR.
  - CONTRACTOR SHALL PROTECT ALL UTILITIES AND PUBLIC IMPROVEMENTS AND SHALL BE RESPONSIBLE FOR ALL DAMAGES CAUSED DURING CONSTRUCTION AND SHALL REPAIR SAID DAMAGES AT HIS EXPENSE. CONTRACTOR TO RESTORE ALL AREAS DISTURBED DURING CONSTRUCTION TO ORIGINAL OR BETTER CONDITION.
  - SUPPORT OR THE RELOCATION OF EXISTING STREET LIGHT POLES, POWER OR TELEPHONE POLES, EXISTING UTILITIES, IRRIGATION SYSTEMS, SIDEWALKS, WALLS, ETC. NECESSARY FOR COMPLETION OF THIS WORK ARE THE RESPONSIBILITY OF THE CONTRACTOR AT HIS EXPENSE.
  - INFORMATION SHOWN ON THESE DRAWINGS AS TO THE LOCATION OF EXISTING UTILITIES HAS BEEN PREPARED FROM THE MOST RELIABLE DATA AVAILABLE TO THE ENGINEER. THIS INFORMATION IS NOT BE GUARANTEED, HOWEVER, AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION, CHARACTER AND DEPTH OF ANY EXISTING UTILITIES. ALL "AS-BUILT" INFORMATION INCLUDING LOCATION AND ELEVATION OF UTILITY STUB-OUTS TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION OR ORDERING OF STRUCTURES. NOTIFY ENGINEER OF DISCREPANCIES/CONFLICTS.
  - SIDEWALKS TO BE FLUSH WITH YARD AREAS UNLESS OTHERWISE NOTED.
  - ALL DRAINAGE CONSTRUCTION SHALL CONFORM TO FLORIDA DEPT. OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) AND TOWN OF JUNO BEACH REQUIREMENTS.
  - GRADE ALL SWALE AREAS TO CATCH BASINS. CONTRACTOR TO NOTIFY ENGINEER IF IN-FIELD CONDITIONS CHANGE, OR WILL CREATE CONFLICTS WITH DRAINAGE DESIGN SHOWN, POTENTIAL EROSION PROBLEMS ARISE OR STANDING WATER OCCURS.
  - ALL ELEVATIONS SHOWN HEREON REFER TO N.G.V.D. TOPOGRAPHIC AND BOUNDARY SURVEY PROVIDED BY LIBBERG LAND SURVEYING, INC. (561) 746-8454.
  - ALL DRAINAGE PIPE SHOWN AS H.D.P.E. SHALL MEET REINFORCED CONCRETE PIPE CLASS III, WALL "B" AND CONFORMING TO FLORIDA DEPT. OF TRANSPORTATION SPECIFICATIONS.
  - CONTRACTOR SHALL PROVIDE ADEQUATE EQUIPMENT FOR THE REMOVAL OF STORM, SURFACE AND/OR SUBSURFACE WATER WHICH MAY ACCUMULATE IN THE EXCAVATION AREAS SO THAT IT WILL BE SUITABLY DRY FOR WORK REQUIRED.
  - NO OFF-SITE DISCHARGE FROM DEWATERING OPERATIONS SHALL BE PERMITTED UNLESS THE CONTRACTOR SECURES WRITTEN PERMISSION FROM THE GOVERNING AUTHORITIES.
  - ALL SUB-BASE UNDER ROADWAYS, PARKING LOTS, CURBS, ETC. SHALL BE COMPACTED TO NOT LESS THAN 98% OF MAXIMUM DENSITY AS DETERMINED BY A.A.S.H.T.O. T-180 PROCTOR.
  - WHERE ENCOUNTERED (OR SPECIFIED IN THE GEOTECHNICAL REPORT), MUCK/UNSUITABLE MATERIALS SHALL BE COMPLETELY REMOVED FROM PROPOSED PAVING AND BUILDING AREAS 10 FEET BEYOND THE EDGE OF PAVEMENT PAD EACH SIDE.
  - CONTRACTOR TO PROVIDE TEST REPORTS FROM AN INDEPENDENT LABORATORY FOR PROCTORS AND DENSITIES ON BASE, SUBGRADE AND PIPE BACKFILL.
  - CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPLETE DRAINAGE, CONSTRUCTION RECORD INFORMATION TO THE ENGINEER.
  - CONTRACTOR SHALL ARRANGE FOR THE ENGINEER TO OBSERVE:
    - STORM SEWER AFTER GROUTING AND WHEN BACKFILL IS COMPLETED TO THE MIDPOINT OF THE PIPE.
    - STRINGLINING OF SUBGRADE.
    - STRINGLINING/BOARDING OF BASE.
  - THE CONTRACTOR SHALL FILL AND FINE GRADE ALL PERVIOUS AREAS, LEAVING THE FINISHED GRADE SMOOTH AND READY TO RECEIVE SOD OR OTHER PLANTING MATERIAL. WHERE SOD IS DESIRED, THE FINISHED GRADES SHALL BE TWO (2) INCHES LOWER TO ALLOW FOR THICKNESS OF THE GRASS. SPECIAL ATTENTION SHALL BE GIVEN ALONG EDGE OF PAVEMENT AND SIDEWALKS SO AS NOT TO TRAP WATER.
  - ANY SHELLROCK OR LIMEROCK PAVING BASE INSTALLED WITHIN PERVIOUS AREAS SHALL BE REMOVED IN ITS ENTIRETY PRIOR TO PLACING FILL.
  - ALL SWALE, RIGHT OF WAY AREAS AND YARD AREAS SHALL BE GRADED AND SODDED IN ACCORDANCE WITH GOVERNING AGENCY STANDARDS. NO AREAS SHALL BE LEFT BARREN OR SUBJECT TO EROSION.
  - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ADHERE TO ALL O.S.H.A. RULES AND FLORIDA LAWS RELATED TO TRENCH SAFETY.
  - CONTRACTOR SHALL ENSURE NO SEDIMENT OR DEBRIS LEAVES THE SITE DURING CONSTRUCTION IN ACCORDANCE WITH N.P.D.E.S. REQUIREMENTS, TO INCLUDE DUST CONTROL (SILT FENCE, HAY BALES OR SOD APRONS AT INLETS, WASH ROCK EXIT, ETC. MAY BE REQUIRED TO MEET SAID REQUIREMENTS). CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION, IMPLEMENTATION AND CERTIFICATION OF ALL N.P.D.E.S. POLLUTION PREVENTION RELATED MEASURES (I.E. FILING OF AN N.O.I. POLLUTION PREVENTION PLAN MONITORING REPORTS, ETC.) EXISTING ROADWAY OPEN TO TRAFFIC MUST BE KEPT FREE OF SEDIMENT & DEBRIS AT ALL TIMES.
  - CONTRACTOR SHALL CONTACT PALM BEACH COUNTY TRAFFIC OPERATIONS AT (561) 233-3900 48 HOURS PRIOR TO CONSTRUCTION, IF ANY WORK IS BEING DONE WITHIN 10 FEET OF A SIGNALIZED INTERSECTION.
  - ANY DAMAGE TO PBC-TRAFFIC I.T.S. FACILITIES CAUSED BY CONSTRUCTION OF THIS PROJECT MUST BE REPAIRED OR REPLACED TO ORIGINAL OR BETTER CONDITION BY THE PERMITEE AT NO COST TO PALM BEACH COUNTY.
  - PALM BEACH COUNTY (PBC) RESERVES THE RIGHT TO DETERMINE IF DAMAGED PBC FACILITIES WILL BE REPAIRED OR REPLACED.
- DENSITY TESTING REQUIREMENTS:**
- PIPE TRENCHES SHALL BE TESTED AT RANDOMLY SELECTED LOCATIONS ALONG THE LENGTH OF EACH PIPE RUN WITHIN EACH 300' INTERVAL (MAXIMUM) AND BETWEEN EACH SET OF TWO STRUCTURES IF A PIPE RUN SEPARATING THE TWO IS LESS THAN 300' IN LENGTH.
  - ALL PIPE AND STRUCTURE TRENCHES SHALL BE BACKFILLED USING A MAX. OF 12" LIFTS. ALL BACKFILL MATERIAL SHALL BE CLEAN, DRY STRUCTURAL FILL, WITH NO DELETERIOUS OR ORGANIC MATERIAL PRESENT.
  - AT LEAST ONE TEST SHALL BE PERFORMED FOR EVERY 12" OF DEPTH, STARTING AT THE SPRINGLINE OF THE PIPE, COVERING THE 12" LAYER BELOW THE SPRINGLINE OF THE PIPE.
  - TESTS SHALL BE PERFORMED AT EVERY STRUCTURE BEGINNING AT THE BASE OF THE STRUCTURE (COVERING THE 12" BELOW THE BASE OF THE STRUCTURE) WITH ONE TEST FOR EVERY 12" LIFT. TESTS SHALL ALTERNATE FROM CORNER TO CORNER OR FROM SIDE TO SIDE ALONG THE STRUCTURE WITH EACH 12" LIFT.
  - ALL DENSITY TESTS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL GEOTECHNICAL ENGINEER, LICENSED IN THE STATE OF FLORIDA.
- NOTE: ALL TESTS AND LOCATIONS ARE SUBJECT TO REVIEW BY REPRESENTATIVES OF OUR OFFICE AND ADDITIONAL TESTS MAY BE REQUIRED BASED ON FIELD OBSERVATIONS OF CONSTRUCTION TECHNIQUES OR MATERIALS USED ON SITE.
- CONTRACTOR SHALL NOTIFY THE TOWN IN WRITING AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
  - PROPOSED AND EXISTING DRAINAGE SYSTEM SHALL BE CLEANED AND DESILTED PRIOR TO FINAL INSPECTION APPROVAL.
  - PRIOR TO THE COMMENCEMENT OF THE CONSTRUCTION AND THE RECEIPT OF THE "NOTICE TO PROCEED", THE CONTRACTOR SHALL CONTACT THE TOWN'S PROJECT COORDINATOR AND ARRANGE A PRE-CONSTRUCTION MEETING TO INCLUDE THE ENGINEER OF RECORD AND ADDITIONAL AGENCIES AS APPLICABLE. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SCHEDULE AND BE PREPARED TO DISCUSS ANY CONCERNS OR COORDINATION EFFORTS AND REQUIREMENTS WITH THE PARTIES INVOLVED.
  - UPON COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL PAYMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER ONE COMPLETE SET OF "AS-BUILT" CONSTRUCTION CHANGES AND DIMENSIONS, LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS.



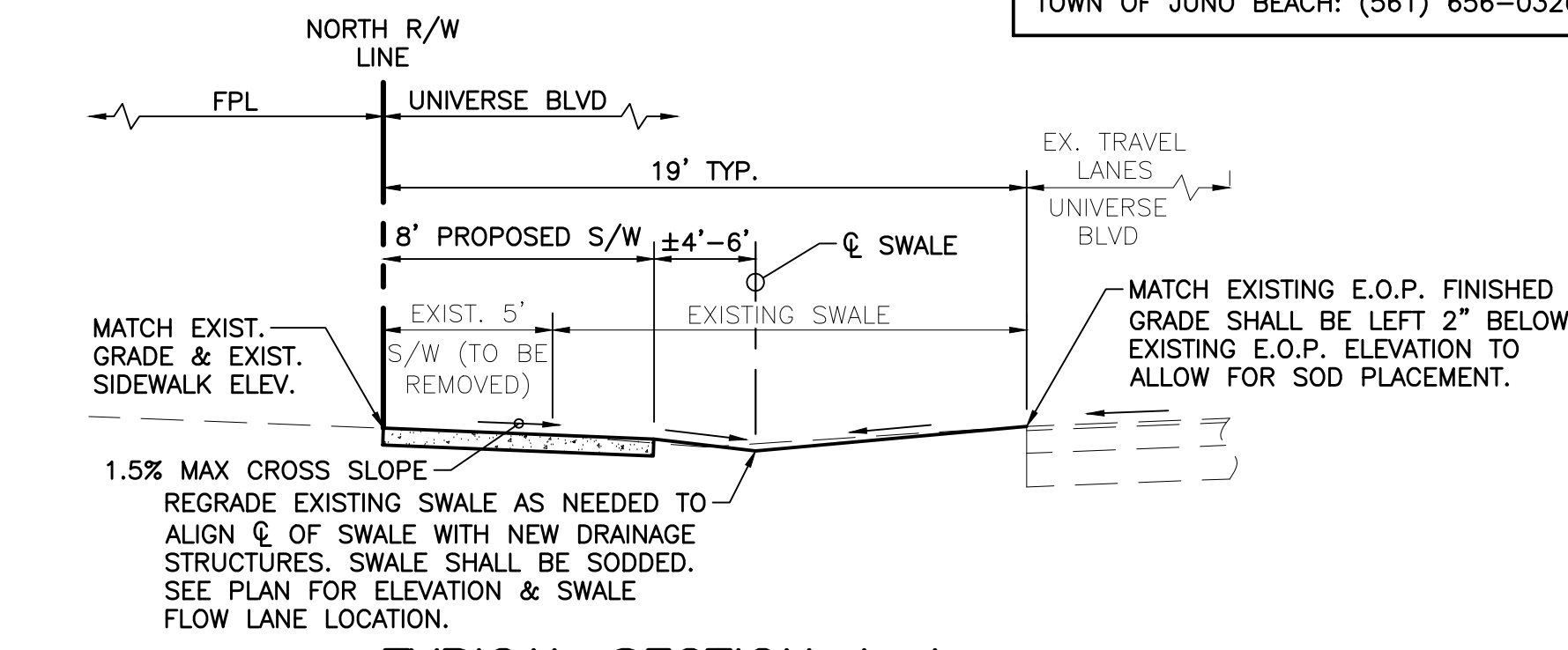
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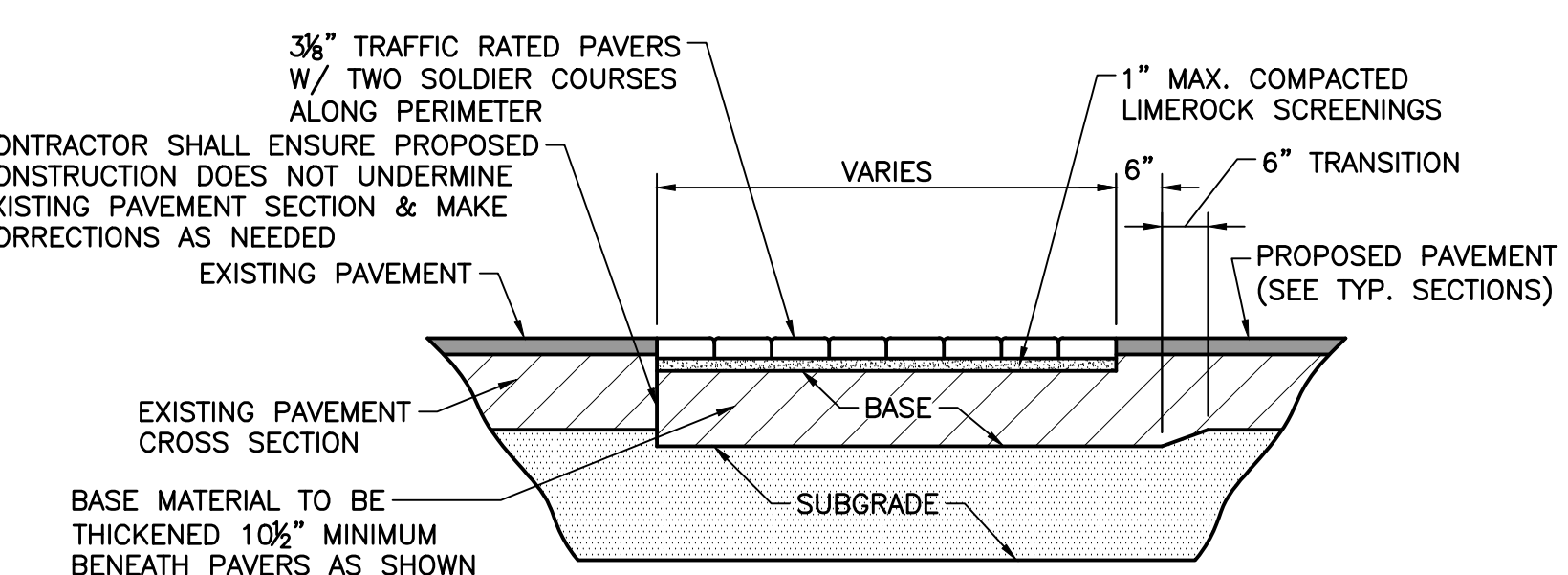
SECTION

TYPE	DIMENSIONS	
INLET	"A"	"B"
C	2'-0"	3'-1"
E	3'-0"	4'-6"

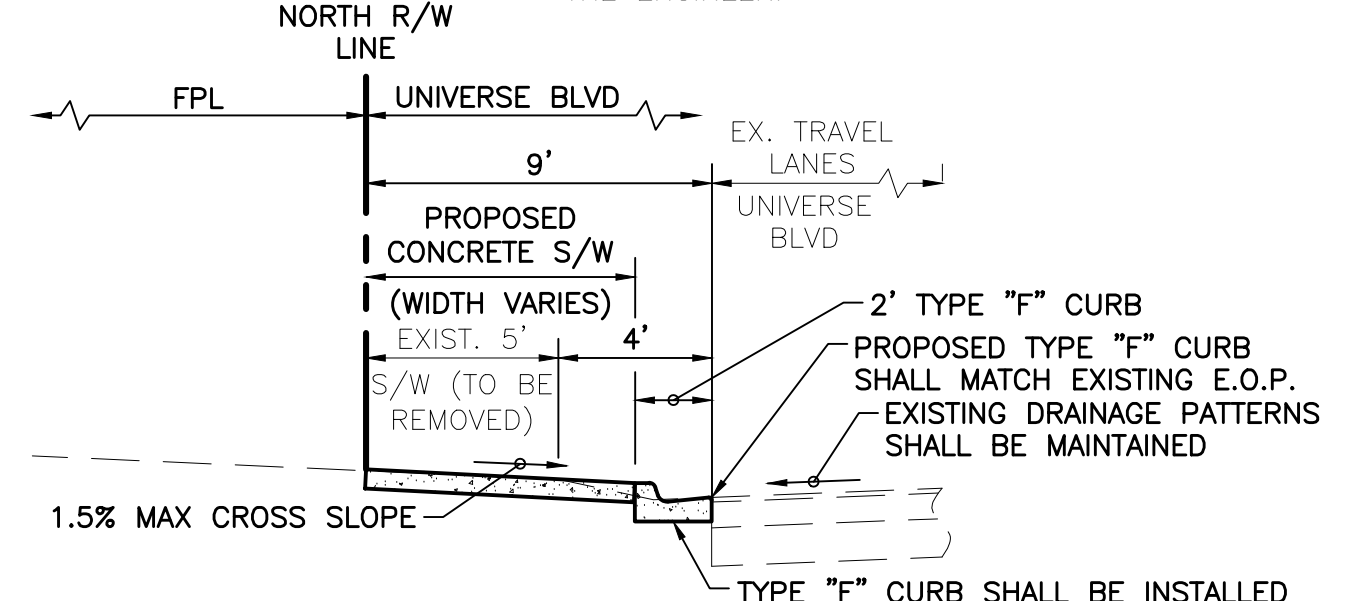
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NOT TO SCALE



TYPICAL SECTION A-A  
NOT TO SCALE

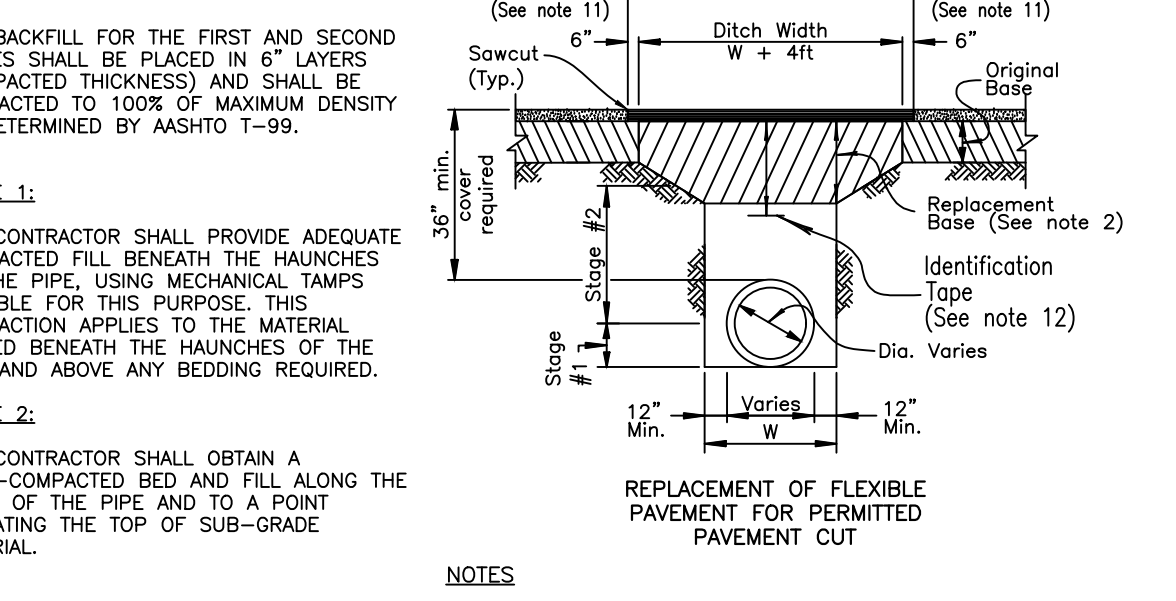


BRICK PAVER SIDEWALK DETAIL  
NOT TO SCALE



TYPICAL SECTION B-B  
NOT TO SCALE

**CONSTRUCTION PROCEDURES**



- NOTES**
- BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8" - 7/8" SIZING WITH EQUAL OR GREATER STRUCTURAL ADEQUACY AS EXISTING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
  - REPLACED BASE MATERIAL OVER DITCH SHALL BE 16" LIMEROCK (LB100) MINIMUM FOR THOROUGHFARE PLAN ROADS. ANY ALTERNATE BASE MATERIAL REQUESTED BY THE ENGINEER OF RECORD REQUIRES APPROVAL BY THE ROADWAY PRODUCTION DIVISION.
  - ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED AND BUTT-JOINTED.
  - BASE MATERIAL (PER ROADWAY PRODUCTION DESIGN STANDARDS) SHALL BE PLACED IN TWO OR THREE LAYERS (6" MAX. PER LAYER) AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO THE SPECIFIED DENSITY. (MINIMUM 98% AASHTO T-180).
  - 1" FRICTION COURSE FC-9.5 OVER 1-1/2" TYPE SP STRUCTURAL COURSE (TRAFFIC LEVEL C) WITH TACK COAT AT 0.05 GAL/SY AND RC-70 PRIME COAT AT 0.10 GAL/SY FOR LIMEROCK BASE. FOLLOW THE LATEST FDOT SPECIFICATIONS FOR APPLICATION RATES OF PRIME AND TACK COATS. CONTRACTOR TO SUBMIT MATERIALS AND RATES TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK.
  - PIPE SHALL BE PLACED IN A DRY TRENCH.
  - ALL ROADWAY REPAIR WORK SHALL BE PERFORMED IN CONFORMANCE WITH APPLICABLE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND COUNTY PPM# EL-0-3605.
  - DENSITY TESTS SHALL BE TAKEN IN 1 FT LIFTS ABOVE THE PIPE AT INTERVALS OF 400 FT MAXIMUM (1 SET MINIMUM) OR AS DIRECTED BY THE CONSTRUCTION COORDINATION DIVISION. RESULTS SHALL BE SUBMITTED TO CONSTRUCTION COORDINATION DIVISION AS PART OF THEIR FIELD REVIEW.
  - ENGINEER-OF-RECORD SHALL PROVIDE FULL-TIME INSPECTION DURING THE ENTIRETY OF THE OPEN-CUT OPERATION, BEGINNING WITH THE EXCAVATION AND CONTINUING THROUGH THE COMPLETION OF THE PAVING.
  - IF THE PAVEMENT IS NOT COMPLETELY RESTORED IMMEDIATELY FOLLOWING THE OPEN CUT, A SMOOTH TEMPORARY PATCH (MINIMUM 1.5" SP 12.5 STRUCTURAL COURSE ASPHALT) SHALL BE INSTALLED. PROPERLY MATCHING THE EXISTING GRADING OF THE ROADWAY THE TEMPORARY PATCH SHALL BE ALLOWED TO REMAIN IN PLACE AND BE MAINTAINED FOR A PERIOD NO LONGER THAN 45 DAYS. THE COUNTY RETAINS THE RIGHT TO USE POSTED SURVEY TO COMPLETE ANY RESTORATION WORK THAT HAS NOT BEEN COMPLETED IN THE 45 DAY PERIOD. ALTERNATIVE TEMPORARY TRENCH PROTECTION (STEEL PLATES OR OTHERS) MAY BE APPROVED BY THE CONSTRUCTION COORDINATION DIVISION.
  - THE FINAL RESTORATION (INCLUDES THE PATCHED/SURFACE REPLACEMENT AREA OVER THE TRENCH). THE ROAD SHALL BE MILLED/RESURFACED PER NOTE 5 ABOVE FOR A FULL LANE WIDTH OF THE TRAVEL LANES ENCRONCHED BY THE TRENCH AREA, INCLUDING A TRANSITION AREA OF 50 FT ON EACH SIDE MEASURED FROM TOP OF TRENCH.
  - APPROVED MAGNETIC TAPE IS REQUIRED FOR ALL MAIN PRESSURE PIPES AND CONDUIT IN THE COUNTY'S RIGHT-OF-WAY. INSTALL TAPE 24" BELOW FINISHED GRADE.
  - CONTINUOUS 4" WIDE PAINT STRIPING IS REQUIRED FOR DIP/PCCP WATER MAINS (BLUE), SANITARY MAINS (GREEN), DIP RECLAIMED WATER MAINS (PURPLE), GAS MAINS (YELLOW), OR AS REQUIRED BY THE APWA.

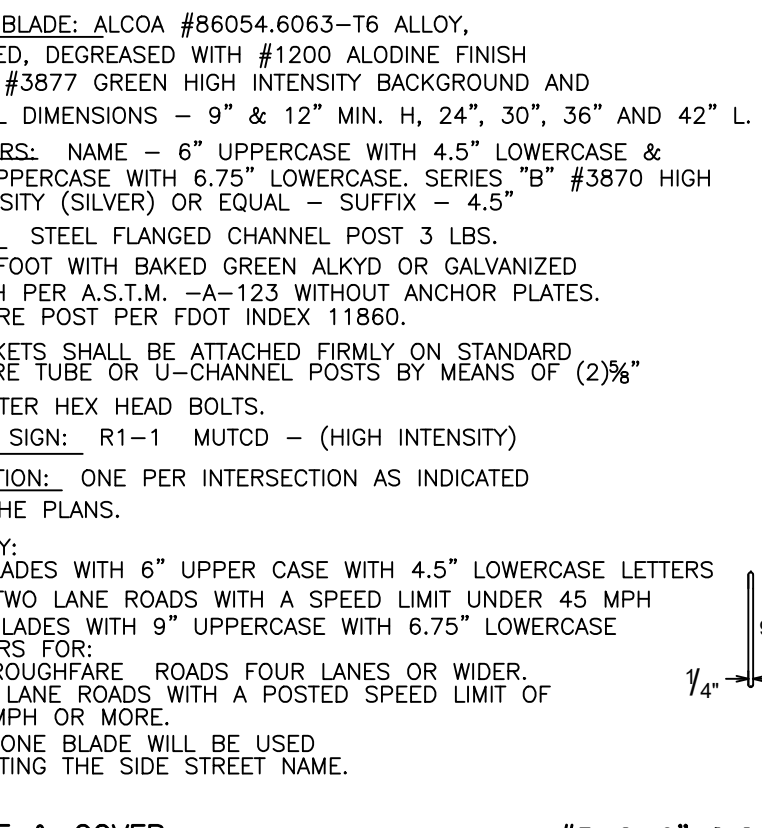
**OPEN CUT FOR THOROUGHFARE ROADS (PAVED AREAS)**

**UTILITY OWNER CONTACT INFORMATION:**

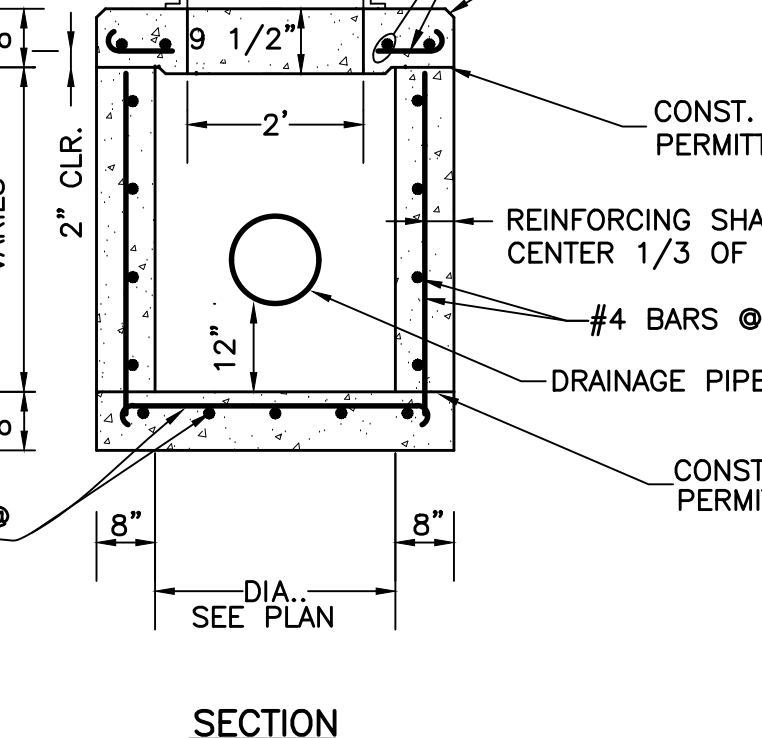
SEACOAST UTILITY AUTHORITY: (561) 627-2900  
 PBC TRAFFIC OPERATIONS: (561) 233-3900  
 TOWN OF JUNO BEACH: (561) 656-0326



ISOMETRIC VIEW

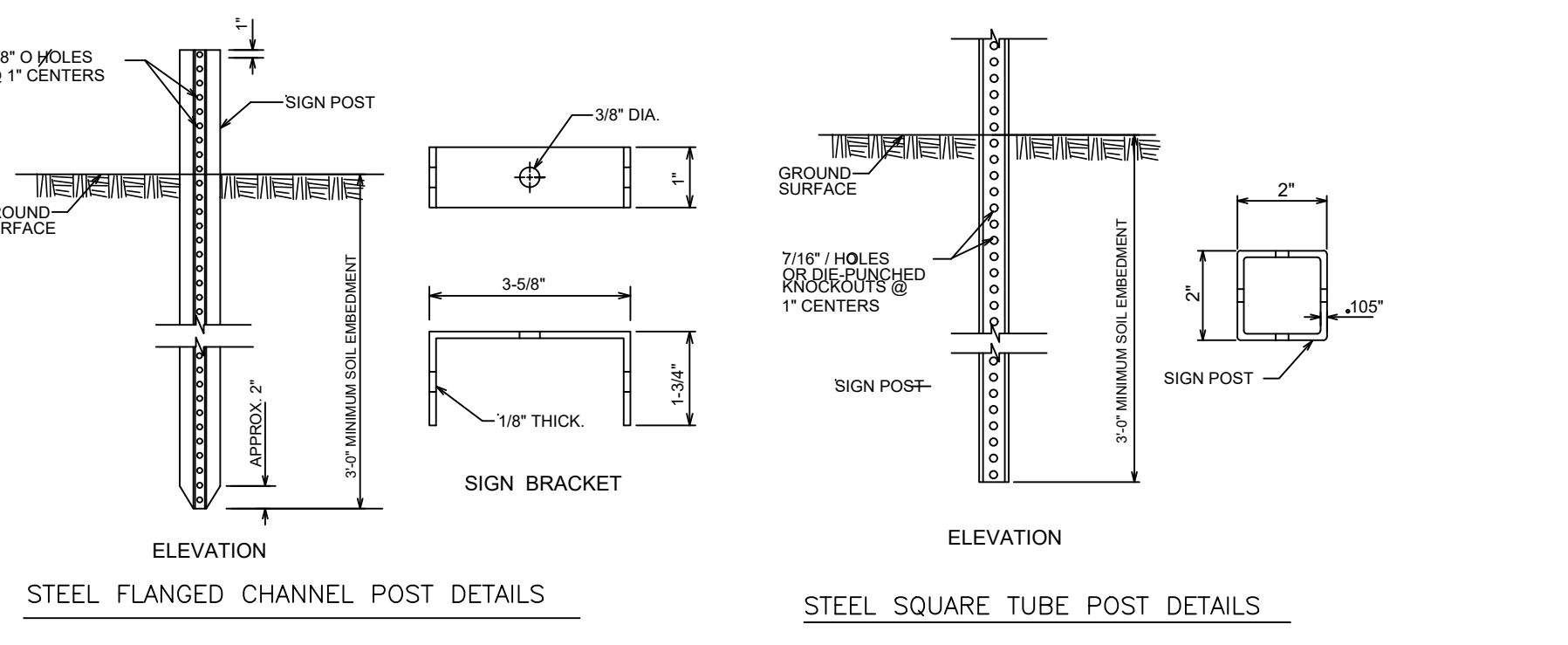


GENERAL SPECIFICATIONS:

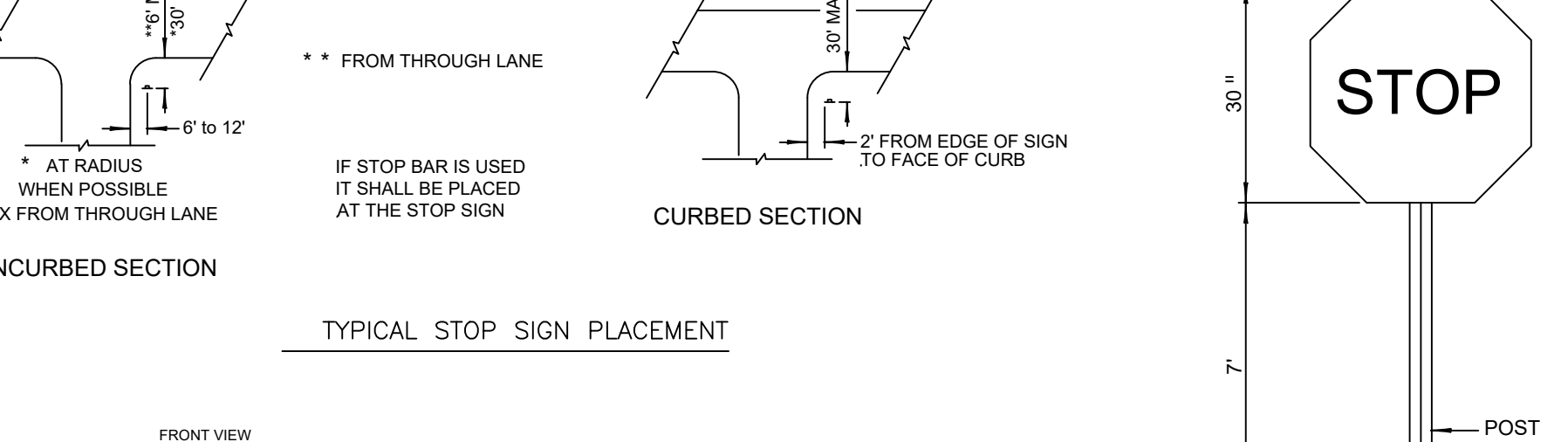


SECTION  
STANDARD MANHOLE  
NOT TO SCALE

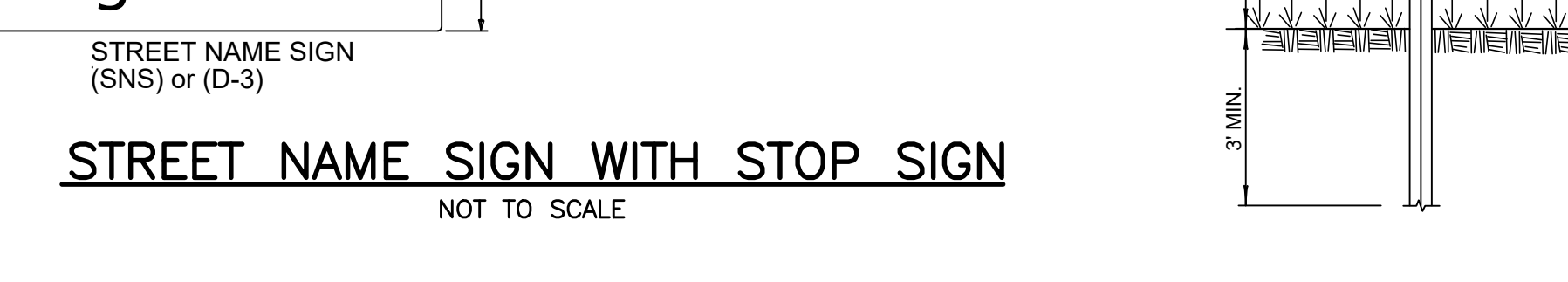
- INLET AND MANHOLE NOTES**
- ALL EXPOSED CORNERS AND EDGES SHALL BE UNRUFFERED 3/4".
  - INLETS AND MANHOLES SHALL BE PRECAST CLASS "A" 3000 P.S.I. CONCRETE.
  - FRAMES AND GRATES SHALL BE CAST IRON AND IN ACCORDANCE WITH F.D.O.T. SPECIFICATIONS.
  - REINFORCING STEEL SHALL CONFORM TO A.S.T.M. 615 GRADE 40.
  - INLET GRATES SHALL BE U.S. FOUNDRY DWG. OR EQUAL (USF 4155-6210 TYPE "C", USF 6290 TYPE "E") TYPE "E" GRATE CAST IN TWO SECTIONS.
  - SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER.



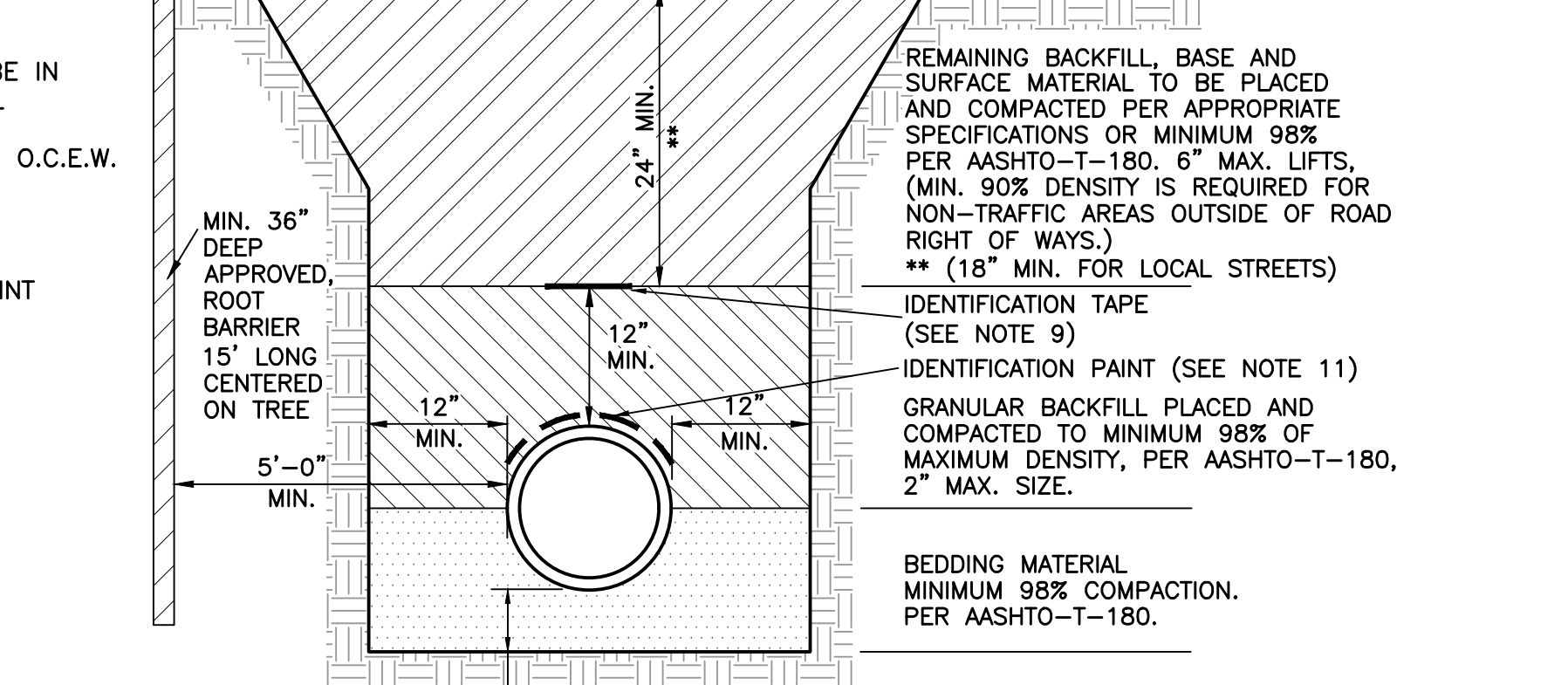
STEEL FLANGED CHANNEL POST DETAILS  
STEEL SQUARE TUBE POST DETAILS



TYPICAL STOP SIGN PLACEMENT



STREET NAME SIGN WITH STOP SIGN  
NOT TO SCALE



TYPICAL TRENCH DETAIL WITH ROOT BARRIER  
INSTALLATION DETAIL (NON-PAVED AREAS)  
NOT TO SCALE

- NOTES:**
- BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8" - 7/8" SIZING WITH EQUAL OR GREATER STRUCTURAL ADEQUACY AS EXISTING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCKS SHALL BE REMOVED.
  - THE PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
  - THE PIPE SHALL BE PLACED IN A DRY TRENCH.
  - BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, MUCK AND DEBRIS.
  - DENSITY TESTS ARE TAKEN IN 1 FOOT LIFTS ABOVE THE PIPE AT INTERVALS OF 400' MAXIMUM, (MINIMUM 1 SET) OR AS DIRECTED BY THE CONSTRUCTION COORDINATION DIVISION. RESULTS SHALL BE SUBMITTED TO CONSTRUCTION COORDINATION AS PART OF THEIR FIELD REVIEW.
  - THE PERMITEE/DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH ALL TRENCH SAFETY LAWS AND REGULATIONS.
  - SEE SEPARATE DETAIL FOR PAVED AREAS (OPEN CUT FOR THOROUGHFARE AND NON-THOROUGHFARE ROADS).
  - THE AFFECTED AREA SHALL BE RESTORED TO EQUAL OR BETTER CONDITION OR AS SPECIFIED IN PERMIT/CONTRACT DOCUMENTS.
  - APPROVED MAGNETIC TAPE IS REQUIRED FOR ALL MAIN PRESSURE PIPES AND CONDUIT IN THE COUNTY'S RIGHT-OF-WAY. INSTALL TAPE 24" BELOW FINISHED GRADE.
  - ROOT BARRIER IS REQUIRED FOR APPROVED PIPE INSTALLATION CLOSER THAN 10 FEET FROM AN EXISTING TREE.
  - CONTINUOUS 4" WIDE PAINT STRIPING IS REQUIRED FOR DIP/PCCP WATER MAINS (BLUE), DIP SANITARY FORCE MAINS (GREEN), DIP RECLAIMED WATER MAINS (PURPLE), GAS MAINS (YELLOW), OR AS REQUIRED BY THE APWA.
  - PERMANENT ABOVE GROUND UTILITY MARKER SHALL BE INSTALLED IF REQUIRED BY PROPERTY OWNER GRANTING THE PIPE INSTALLATION PERMIT.

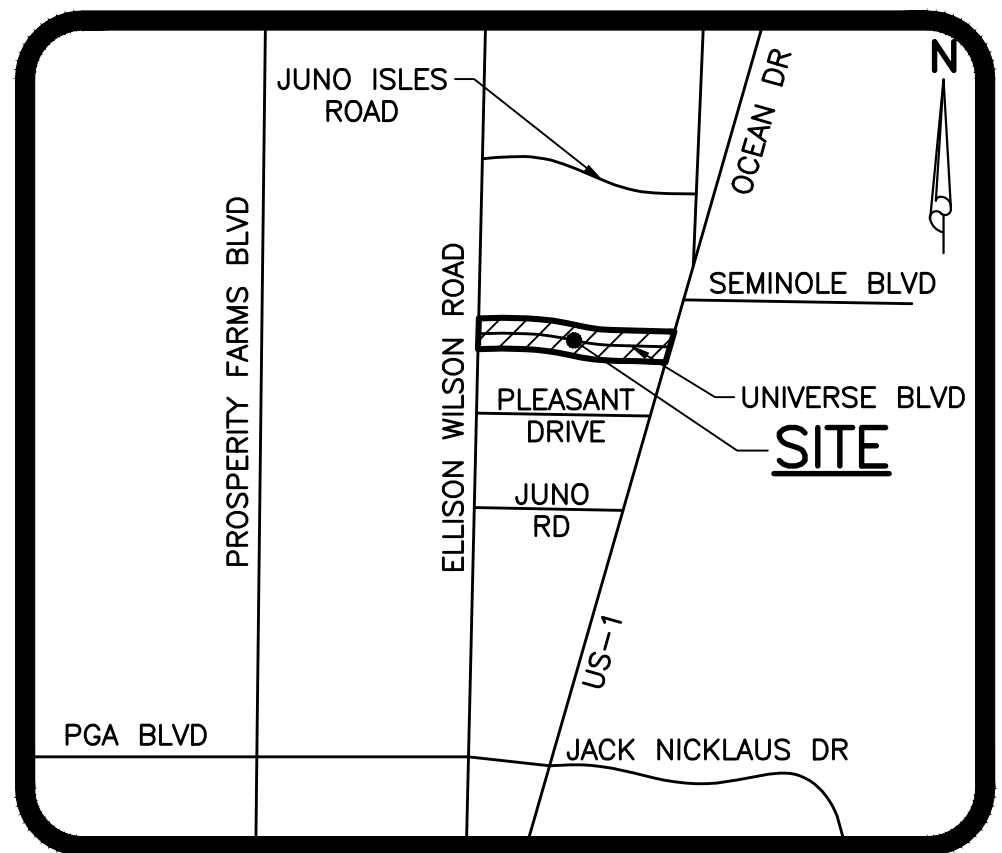
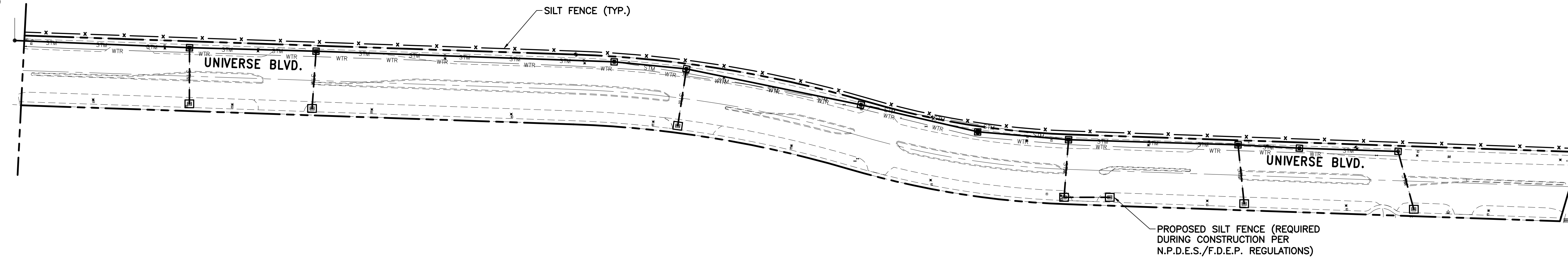
TYPICAL TRENCH DETAIL WITH ROOT BARRIER  
INSTALLATION DETAIL (NON-PAVED AREAS)  
NOT TO SCALE

BID SET

<p>1.) ADDED NOTES 27-30 PER TOWN OF JUNO BEACH, 02/14/23 C.O.</p>				<p>ENGINEERING   PLANNING   CONSULTING   SINCE 1982                  2581 Metrocentre Blvd. • Suite 3 • West Palm Beach, Florida 33407 • (561) 478-7848</p>				<p><b>UNIVERSE BOULEVARD DRAINAGE IMPROVEMENT PLANS</b>                  SECTION 33, TOWNSHIP 41S., RANGE 43E.                  TOWN OF JUNO BEACH, FLORIDA                  DRAINAGE IMPROVEMENT DETAILS</p>			
DESIGN	DRAWN	CHECKED	APPROVED	DATE	JOB NO.	DRAWING NO.	SHEET	OF			
P.B.	C.O.				16-004.8	16004.8S05	5	6			

ELLISON WILSON ROAD

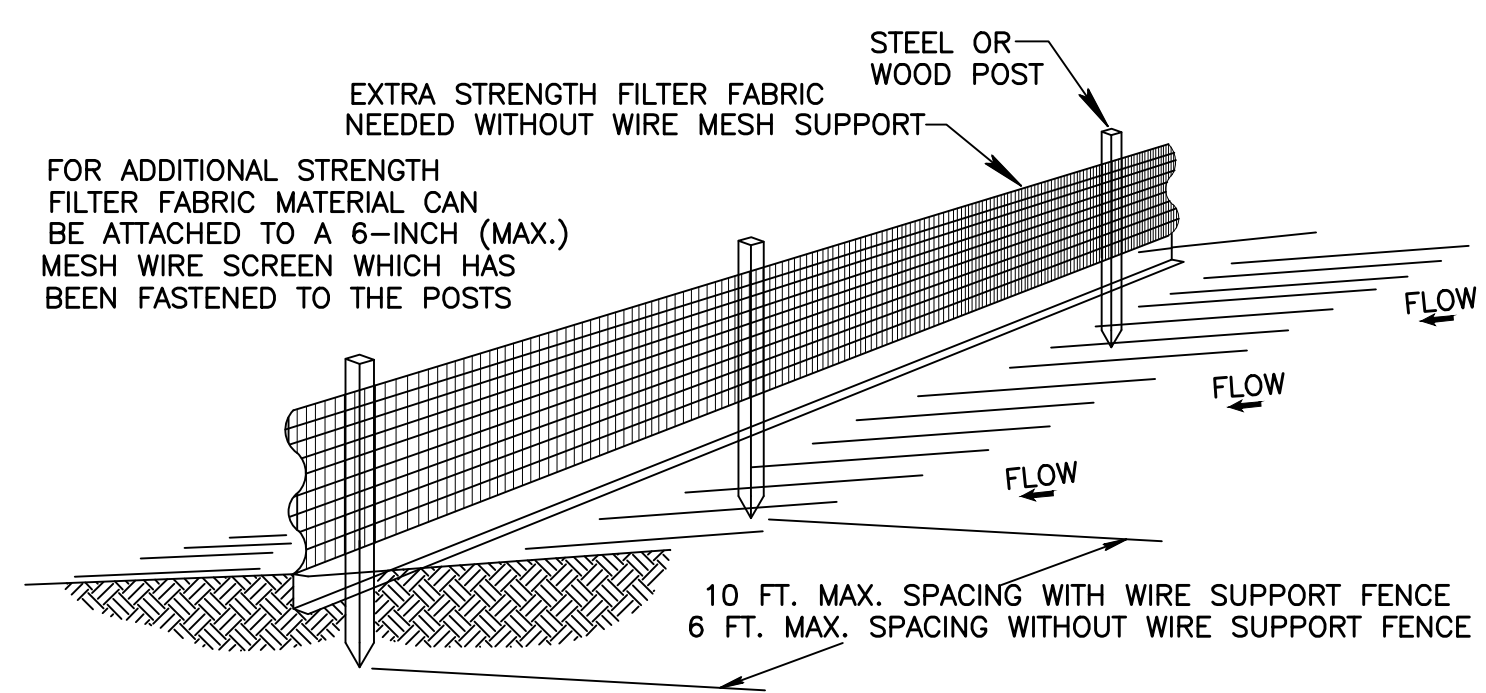
U.S. HIGHWAY NO. 1



**LOCATION MAP**  
NOT TO SCALE

**NOTES:**

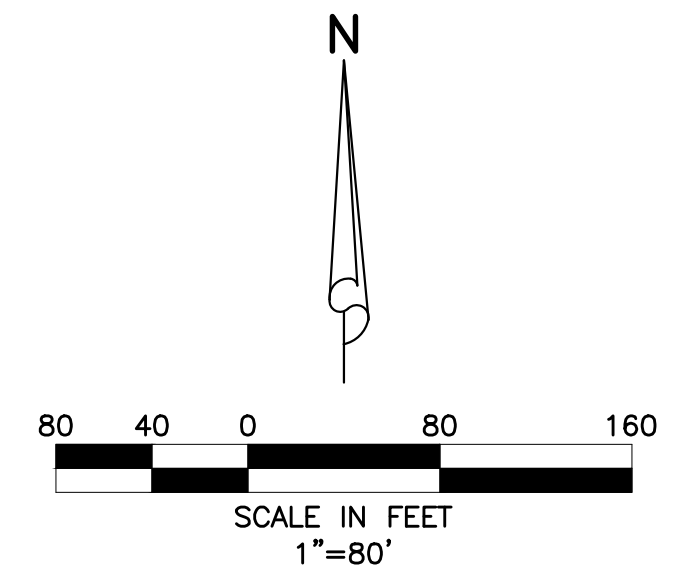
- 1.) THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (90 CM).
- 2.) THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.
- 3.) POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET (3 M) APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES (30 CM). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET (1.8 M).
- 4.) A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES (10 CM) WIDE AND 4 INCHES (10 CM) DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
- 5.) WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH (25 MM) LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES (5 CM) AND SHALL NOT EXTEND MORE THAN 36 INCHES (90 CM) ABOVE THE ORIGINAL GROUND SURFACE.
- 6.) THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES (20 CM) OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES (90 CM) ABOVE THE ORIGINAL GROUND SURFACE.
- 7.) THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.



**SILT FENCE INSTALLATION DETAIL**  
NOT TO SCALE

**POLLUTION PREVENTION NOTES:**

- 1.) THIS PLAN SHOULD BE USED AS A GUIDE. A COMPLETE STORMWATER POLLUTION PLAN SHOULD BE DEVELOPED TO MEET OR EXCEED F.D.E.P. REQUIREMENTS.
- 2.) CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO DIRT BE TRACKED OFF-SITE OR LEAVES THE SITE BY WIND, RUNOFF, OR OTHER MEANS.
- 3.) CONTRACTOR SHALL BE RESPONSIBLE FOR ALL N.P.D.E.S. REQUIREMENTS INCLUDING FILING OF N.O.I., MONITORING REPORTS AND N.O.T.
- 4.) POLLUTION PREVENTION MEASURES SHALL CONSIST OF, BUT NOT LIMITED TO, THE FOLLOWING:
  - A. CONSTRUCT WASHROCK PAD AT ALL POINTS EGRESS FOR WASHDOWN OF TRUCK TIRES.
  - B. CONSTRUCT EROSION CONTROL FENCE AND/OR TURBIDITY SCREENS ALONG PROPERTY LINES AS NEEDED.
  - C. NO AREA SHALL BE LEFT BARREN OR SUBJECT TO EROSION DURING CONSTRUCTION. SEEDING AND MULCHING IS REQUIRED FOR ANY AREAS ANTICIPATED TO BE BARREN DURING CONSTRUCTION FOR MORE THAN 15 DAYS.
  - D. TURBIDITY BARRIERS TO BE UTILIZED AT PROJECT OUTFALL.
  - E. OTHER MEASURES AS DIRECTED BY THE ENGINEER OR TOWN OF JUNO BEACH.
- 5.) IT IS THE CONTRACTORS RESPONSIBILITY TO COMPLY WITH ALL LOCAL, STATE AND FEDERAL POLLUTION PREVENTION REQUIREMENTS. FOR AFFECTED AREAS GREATER THAN 1 ACRE, COMPLIANCE SHALL INCLUDE (BUT IS NOT LIMITED TO) THE FOLLOWING:
  - A. PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN (S.W.P.P.P.) IN ACCORDANCE WITH THE D.E.P. "GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES" (D.E.P. DOCUMENT NO. 62-621.300(4)(A))
  - B. SUBMITTAL OF THE NOTICE OF INTENT (N.O.I.) TO THE D.E.P.
  - C. MAINTENANCE AND INSPECTION OF THE ELEMENTS OF THE S.W.P.P.P.
  - D. MAINTENANCE OF RECORDS (INSPECTION REPORTS, N.O.I, S.W.P.P.P., ETC.)
  - E. SUBMITTAL OF THE NOTICE OF TERMINATION TO THE D.E.P. AT THE CONCLUSION OF THE PROJECT



4/7/2023  
**BID SET**

48 HOURS BEFORE DIGGING  
BROWARD • PALM BEACH • INDIAN RIVER  
ST. LUCIE • MARTIN COUNTIES  
1-800-432-4770  
SUNSHINE STATE 1 CALL  
UNDERGROUND UTILITIES  
NOTIFICATION CENTER



**UNIVERSE BOULEVARD DRAINAGE IMPROVEMENT PLANS**  
SECTION 33, TOWNSHIP 41S., RANGE 43E.  
TOWN OF JUNO BEACH, FLORIDA

DESIGN	DRAWN	CHECKED	APPROVED	DATE	JOB NO.	DRAWING NO.	SHEET	OF
P.B.	C.O.				16-004.8	16-004.8S06	6	6