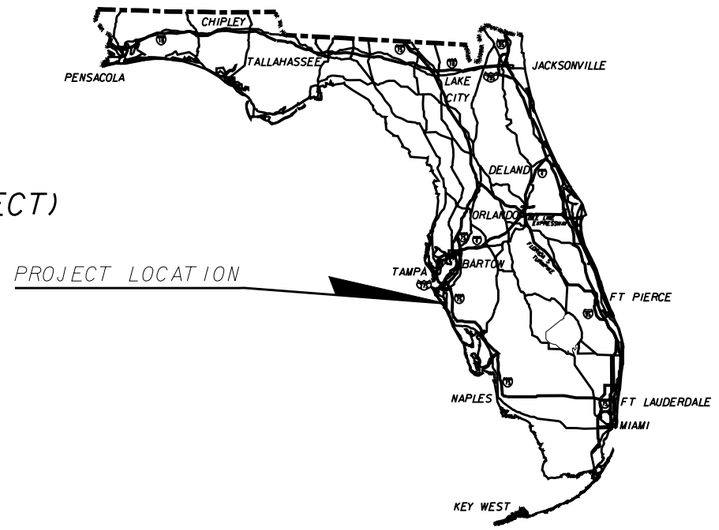
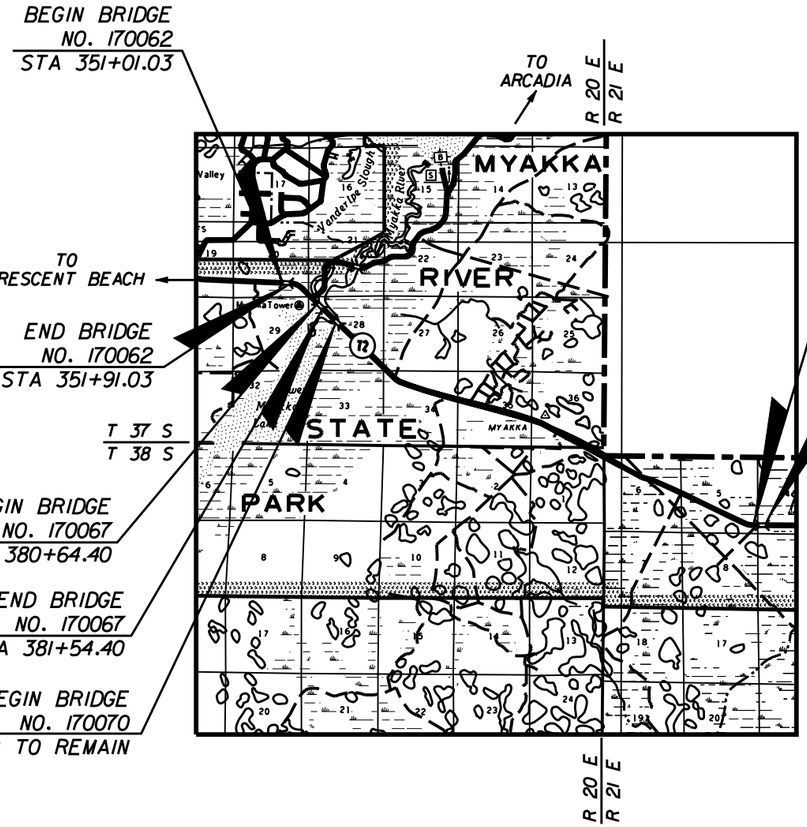
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

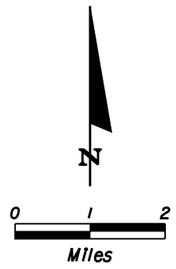
CONTRACT PLANS

FINANCIAL PROJECT ID 415569-1-52-01 (LEAD PROJECT)
FINANCIAL PROJECT ID
FINANCIAL PROJECT ID 413887-2-52-01
SARASOTA COUNTY (17070)

STATE ROAD NO. 72







GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
DESIGN STANDARDS DATED JANUARY 2004,
AND STANDARD SPECIFICATIONS FOR ROAD AND
BRIDGE CONSTRUCTION DATED 2004,
AS AMENDED BY CONTRACT DOCUMENTS.

APPLICABLE DESIGN STANDARDS MODIFICATIONS: 1-1-06
For Design Standards Modifications click on
"Design Standards" at the following web site:
http://www.dot.state.fl.us/rddesign/

NOTE: THE SCALE OF THESE PLANS MAY
HAVE CHANGED DUE TO REPRODUCTION.

ENGINEER OF RECORD: _____

P.E. NO.: _____

FISCAL YEAR	SHEET NO.
06	S-1

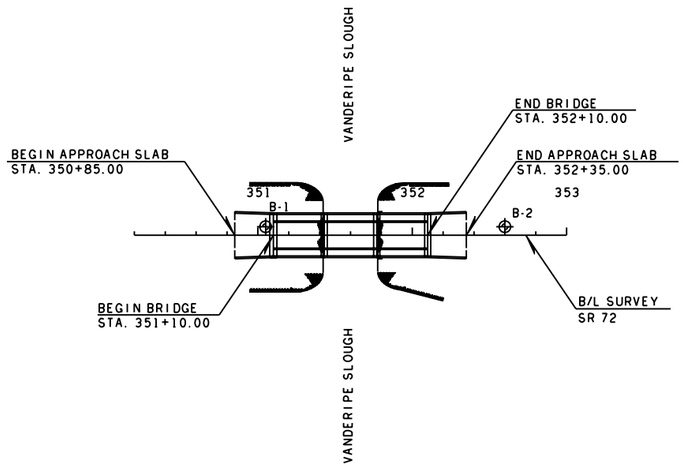
FDOT PROJECT MANAGER:

$USER$ $DATE$ $TIME$ $FILE$

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

1. BORING LOCATIONS (INCLUDING STATIONS AND OFFSETS) PRESENTED HEREIN WERE ESTIMATED MEASURING DISTANCES FROM STATION REFERENCES AS INDICATED ON THE DRAWINGS PROVIDED BY FDOT, ALONG WITH THE USE OF THE EXISTING FDOT BENCHMARKS. BORING ELEVATIONS WERE ALSO ESTIMATED USING THE EXISTING BENCHMARKS AND INFORMATION PROVIDED BY FDOT. THESE BORING LOCATIONS AND ELEVATIONS SHOULD BE CONSIDERED APPROXIMATE SINCE THEY WERE NOT PRECISELY SURVEYED BY PSI.

2. CORROSION TEST RESULTS WERE PROVIDED BY FDOT.

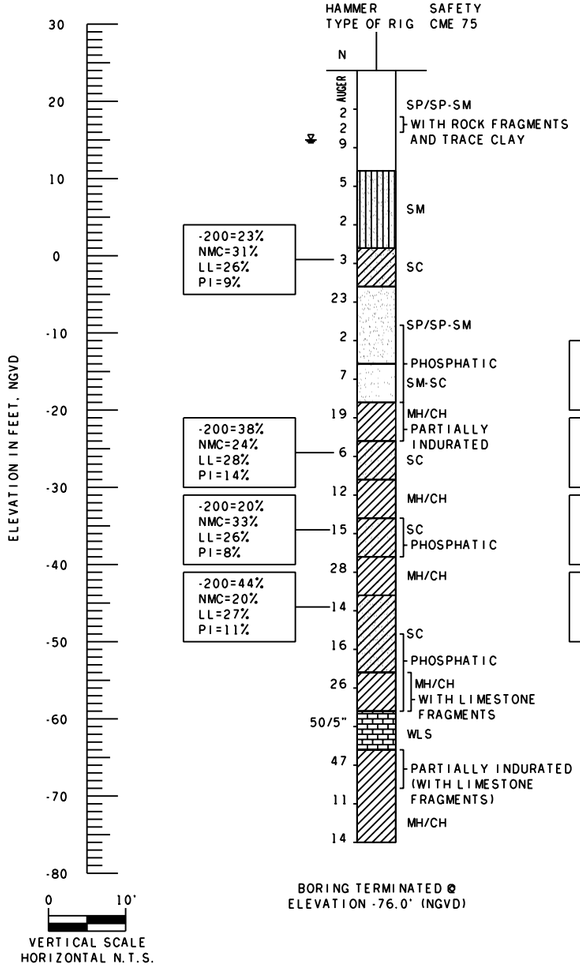


BORING LOCATION PLAN

0 50'
PLAN SCALE

LOCATION	
TOWNSHIP:	37 S
RANGE:	20 E
SECTION:	20

Latitude: 27.24230597 North
Longitude: -82.32229307 West



BORING NO. B-1
STATION NO. 351+05
OFFSET 5.5' LT.
ELEVATION 24.0'
DATE 6/21/04
HAMMER SAFETY
TYPE OF RIG CME 75

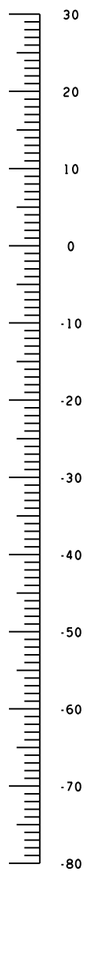
N		
WH AUGER		SP/SP-SM
2		WITH ROCK FRAGMENTS AND TRACE CLAY
2		
9		
5		SM
2	-200=23% NMC=31% LL=26% PI=9%	
3		SC
23		SP/SP-SM
2		PHOSPHATIC
7		SM-SC
19		MH/CH
6	-200=38% NMC=24% LL=28% PI=14%	PARTIALLY INDURATED SC
12		MH/CH
15	-200=20% NMC=33% LL=26% PI=8%	SC
28		PHOSPHATIC
14	-200=44% NMC=20% LL=27% PI=11%	MH/CH
16		SC
26		PHOSPHATIC
50/5"		MH/CH WITH LIMESTONE FRAGMENTS
47		WLS
11		PARTIALLY INDURATED (WITH LIMESTONE FRAGMENTS)
14		MH/CH

BORING TERMINATED @
ELEVATION -76.0' (NGVD)

BORING NO. B-2
STATION NO. 352+60
OFFSET 5.5' LT.
ELEVATION 24.0'
DATE 6/24/04
HAMMER SAFETY
TYPE OF RIG CME 45

N		
		ASPHALT/PAVING MATERIALS
31		WITH TRACE CLAY
26		
12		
8		
6		WITH TRACE CLAY
5		SM
2		
3	-200=9% NMC=42% LL=NP PI=NP	
50/6"		WITH TRACE CLAY
3		SP/SP-SM
7		PHOSPHATIC
26	-200=61% NMC=38% LL=52% PI=30%	
11		MH/CH
11	-200=50% NMC=54% LL=55% PI=35%	
8		SC
29		MH/CH WITH LIMESTONE FRAGMENTS
25	-200=46% NMC=21% LL=26% PI=11%	
50/4"		
50/4"		
50/2"		WLS
50/5"		
50/6"		
50/3"		

BORING TERMINATED @
ELEVATION -76.0' (NGVD)



LEGEND

(SP/SP-SM), LIGHT BROWN/BROWN/GRAY/DARK GRAY/ GREEN FINE SAND TO SLIGHTLY SILTY FINE SAND

(SM), BROWN/DARK BROWN/GRAY/GREEN SILTY FINE SAND

(SM-SC), GRAY/GREEN SILTY TO CLAYEY FINE SAND

(SC), BROWN/DARK BROWN/GRAY/GREEN CLAYEY FINE SAND

(OL), BROWN ORGANIC SILT WITH WOOD FRAGMENTS

(ML), BROWN CLAYEY SILT

(CL), BROWN SILTY CLAY

(MH/CH), GRAY/GREEN CLAYEY SILT TO SILTY CLAY

(WLS), LIGHT BROWN/GRAY HIGHLY WEATHERED LIMESTONE, FREQUENTLY WITH CALCAREOUS CLAY

GRAY/GREEN CEMENTED CALCAREOUS SANDS AND SHELLS

NOTES:

WATER TABLE

N — NUMBERS TO THE LEFT OF BORINGS INDICATE SPT VALUE FOR 12" PENETRATION. (UNLESS OTHERWISE NOTED.)

50/6" — FIFTY BLOWS FOR SIX INCHES

WH — FELL UNDER WEIGHT OF ROD AND HAMMER

LOSS OF CIRCULATION (%)

CASING USED

-200 — FINES PASSING NO. 200 SIEVE (%)

NMC — NATURAL MOISTURE CONTENT (%)

OC — ORGANIC CONTENT (%)

LL — LIQUID LIMIT (%)

PI — PLASTICITY INDEX (%)

NP — NON PLASTIC

APPROXIMATE SPT BORING LOCATION

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE: SLIGHTLY AGGRESSIVE
SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE

WATER

RESISTIVITY: 4000 OHMS-CM
CHLORIDES: 40 PPM
SULFATES: 2 PPM
pH: 7.6

GRANULAR MATERIALS - RELATIVE DENSITY	SPT (BLOWS/FT.)
VERY LOOSE	LESS THAN 4
LOOSE	5-10
MEDIUM	11-30
DENSE	31-50
VERY DENSE	GREATER THAN 50

SILTS AND CLAYS CONSISTENCY	SPT (BLOWS/FT.)
VERY SOFT	LESS THAN 2
SOFT	3-4
FIRM	5-8
STIFF	9-15
VERY STIFF	16-30
HARD	GREATER THAN 30

VANDERIPE SLOUGH (BRIDGE NO. 170042)

REVISIONS					
Date	By	Description	Date	By	Description

	Name	Date
Drawn by	DJG	7/04
Checked by	KL	7/04
Designed by		
Checked by		
Approved by	KEVIN W-K LO. P.E.	

KEVIN W-K LO, P.E.
FLORIDA LICENSE No.56959

PROFESSIONAL SERVICE INDUSTRIES, INC.
5801 BENJAMIN CENTER DR., SUITE 112
TAMPA, FL. 33634
(813)-886-1075
FLORIDA ENGINEERING CERTIFICATE OF AUTHORIZATION No. 3684

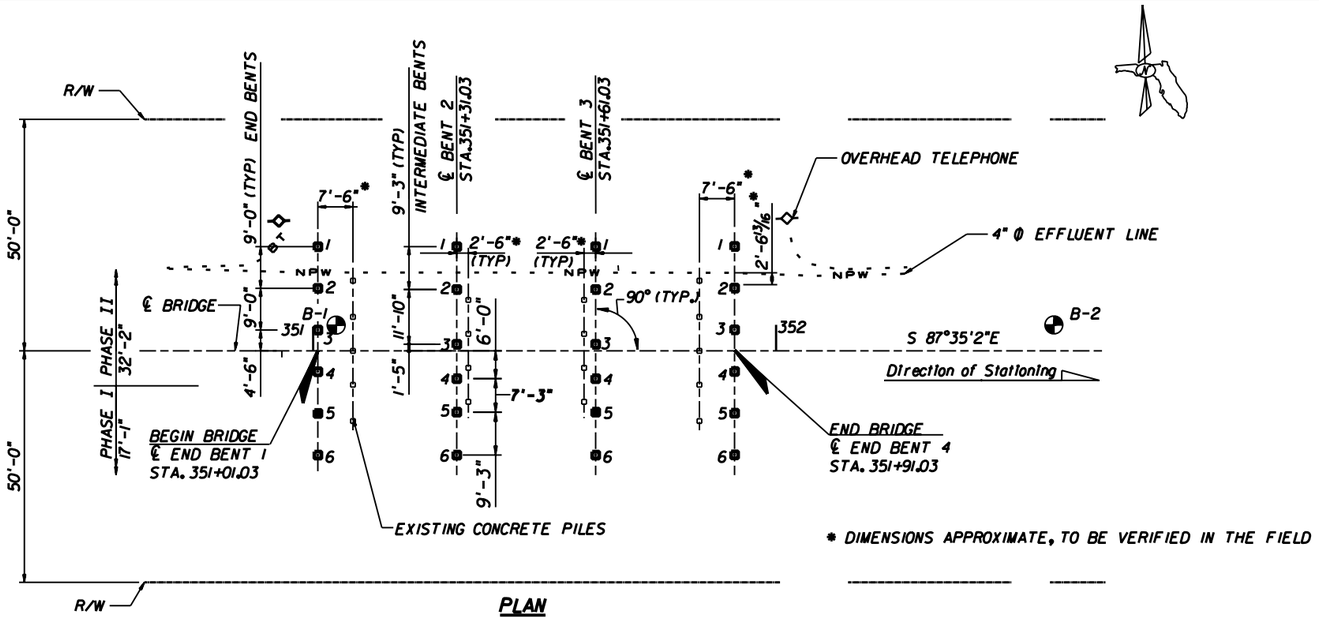
FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 72	SARASOTA	413887-2-52-01

SHEET TITLE: REPORT OF CORE BORINGS

PROJECT NAME: SR 72 BRIDGE REPLACEMENT

SHEET NO.



LEGEND

- 18" SQ. PRESTRESSED PILE
- EXISTING PILE
- TEST PILE
- APPROXIMATE LOCATION OF SPT BORING

* DIMENSIONS APPROXIMATE, TO BE VERIFIED IN THE FIELD

PILE INSTALLATION TABLE

	INSTALLATION CRITERIA							DESIGN CRITERIA					
BENT	PILE SIZE (IN.)	ULTIMATE BEARING CAPACITY (TONS)	TENSION CAPACITY (TONS)	MIN. TIP ELEV. (FT, NGVD)	TEST PILE LENGTH (FT)	REQ'D. JET ELEV. (FT., NGVD)	REQ'D PREFORM ELEV. (FT., NGVD)	FACTORED DESIGN LOAD (TONS)	TOTAL DOWN-DRAG (TONS)	TOTAL SCOUR RESIST. (TONS)	NET SCOUR RESIST. (TONS)	100 YEAR SCOUR ELEV. (FT., NGVD)	RESISTANCE FACTOR Ø
END BENT 1	18	200	N/A	N.A.	90	N.A.	N.A.	130	---	N.A.	N.A.	N.A.	0.65
INT BENT 2	18	220	N/A	-25		N.A.	N.A.	143	N.A.	---	---	7.7	0.65
INT BENT 3	18	220	N/A	-25	90	N.A.	N.A.	143	N.A.	---	---	7.7	0.65
END BENT 4	18	200	N/A	N.A.		N.A.	N.A.	130	---	N.A	N.A	N.A.	0.65

NOTES:

1. ALL PILES SHALL BE DRIVEN PLUMB.
2. TEST PILES SHALL BE DRIVEN IN THE POSITION OF A PERMANENT PILE AS SHOWN ON THE FOUNDATION LAYOUT SHEET OR AS SPECIFIED BY THE ENGINEER.
3. ALL TEST PILES ARE TO BE DYNAMICALLY MONITORED USING THE PILE DRIVING ANALYZER, OR EQUIVALENT, IN ACCORDANCE WITH SPECIFICATION 455-5.3.
4. ALL PILES ARE TO BE DRIVEN TO A NOMINAL BEARING CAPACITY EQUAL TO (FACTORED DESIGN LOAD + NET SCOUR + DOWN DRAG)/ Ø.
5. MINIMUM TIP ELEVATION IS REQUIRED TO PROVIDE LATERAL STABILITY. UNDER NO CIRCUMSTANCES SHALL THE PILE BE INSTALLED ABOVE THE MINIMUM TIP ELEVATION. IF N.A., THE MINIMUM TIP SHALL BE IN ACCORDANCE WITH SPECIFICATION 455-5.8.
6. IF JETTING OR PREFORMING DIFFER FROM THOSE ON THE TABLE, THE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE REQUIRED NOMINAL BEARING RESISTANCE. NO JETTING, EXCEPT SHOWN IN THE TABLE, SHALL BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.
7. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO ANY PILE DRIVING.
8. SCOUR HAS BEEN CONSIDERED IN THE DESIGN, WITH SCOUR ELEVATIONS SHOWN IN THE TABLE.
9. IN ORDER TO ACHIEVE THE REQUIRED MINIMUM TIP ELEVATION, IT IS ESTIMATED THAT A DRIVING RESISTANCE HIGHER THAN THAT REQUIRED FOR LOAD CAPACITY MAY BE ENCOUNTERED IN SOME LOCATIONS.

BRIDGE 170062

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	ADR	07-04
CHECKED BY	ASA	07-04
DESIGNED BY	ADR/ASA	07-04
CHECKED BY	MGG	07-04
APPROVED BY	G. MOLIERE	

ENGINEER OF RECORD:
STRUCTURES DESIGN OFFICE
DISTRICT 1
801 N. Broadway
Bartow, Florida 33830-3809
Gerard Moliere, P.E., No. 46735

FLORIDA DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-72	SARASOTA	415569-1-52-01

SHEET TITLE: FOUNDATION LAYOUT

PROJECT NAME: SR 72 OVER VANDERIPE SLOUGH

SHEET NO. B1-7

$$$$$$$SYTIME$$$$$$$ $$$$$$$DGNSPECIFICATION$$$$$$$

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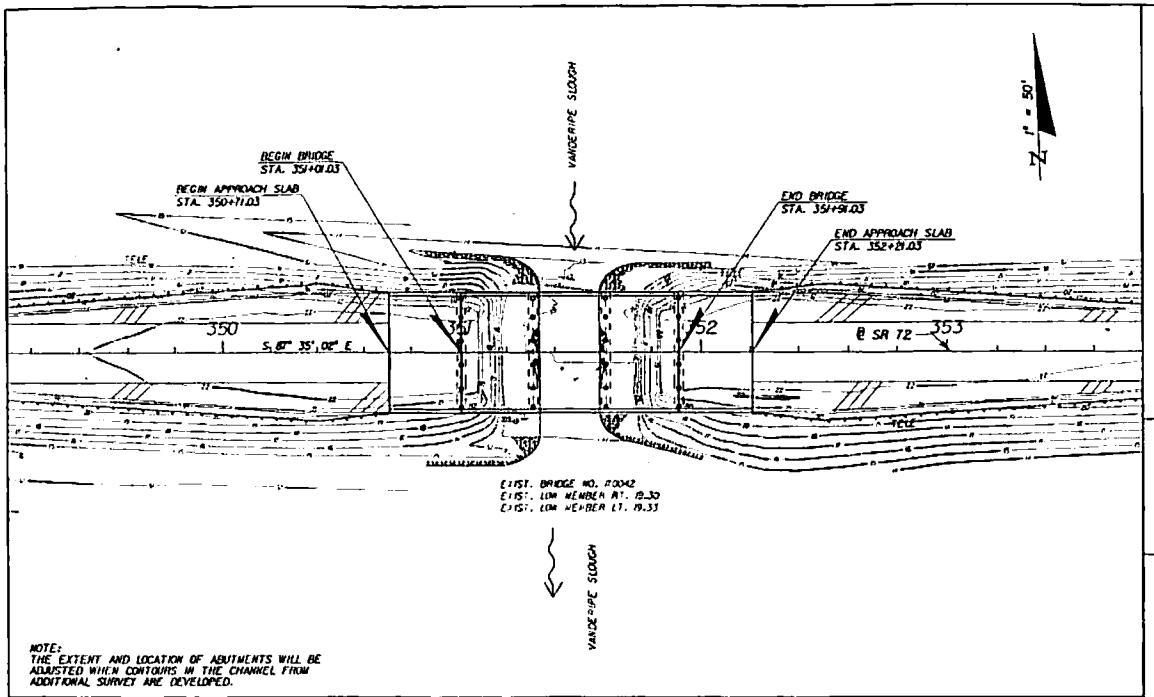
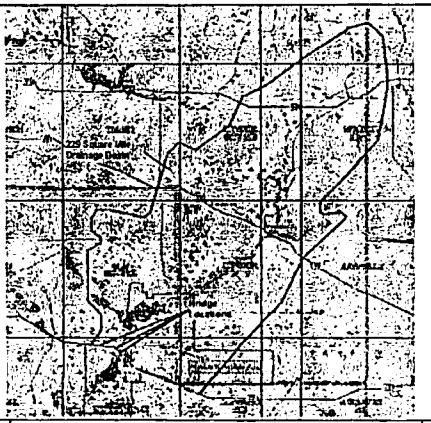
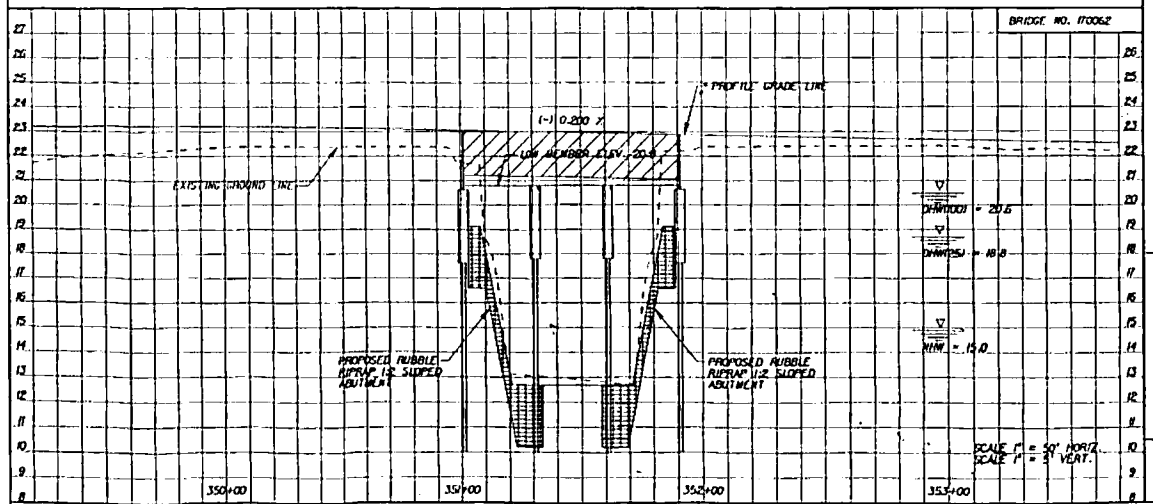


NOTE:
THE EXTENT AND LOCATION OF ABUTMENTS WILL BE ADJUSTED WHEN CONTOURS IN THE CHANNEL FROM ADDITIONAL SURVEY ARE DEVELOPED.



BRIDGE NO. 170062



(REFERENCE)	EXISTING STRUCTURES (1)	(2)	(3)	(4)	PROPOSED STRUCTURE
FOUNDATION	PILES				PILES
OVERALL LENGTH	75 FT.				90
SPAN LENGTH	25 FT.				30
TYPE CONSTRUCTION	CONCRETE				CONC. SLAB
AREA OF OPENING @ 100 yr	343 SF.				472 SF.
BRIDGE WIDTH	29 FT.				49 FT.
ELEV. LOW MEMBER	19.3				20.8

HYDRAULIC DESIGN DATA

NOTE:
The hydraulic data is shown for informational purposes only to indicate the flood discharges and water surface elevations which may be anticipated in any given year. This data was generated using highly variable factors determined by a study of the watershed. many judgements and assumptions are required to establish these factors. The resultant hydraulic data is sensitive to changes, particularly antecedent conditions, urbanization, channelization and land use. Users of this data are cautioned against the assumption of precision which cannot be obtained.

TERMS:
Design Floods: Utilized to assure a desired level of hydraulic performance.
Base Flood: Has a 1% chance of being exceeded in any given year (100 year frequency)
Overtopping Flood: Causes flow over the highway, over a watershed divide, or thru emergency relief structures.
Greatest Flood: The most severe that can be predicted where overtopping is not practicable.

WATER SURFACE ELEVATIONS: H.H.W. (Non-Tidal) 15.0 M.H.W. (Tidal) ____
CONTROL (Non-Tidal) ____ M.L.W. (Tidal) ____

FLOOD DATA:	MAX. EVENT OF RECORD	DESIGN FLOOD	BASE FLOOD	☐ OVERTOPPING or ☐ GREATEST FLOOD
STAGE ELEV. NGVD (ft)	20.4 (2003)	18.8	20.6	23.0
DISCHARGE (cfs)	11,100	7,500 (10)	12,000 (16)	19,500 (26)
AVERAGE VELOCITY (ft/s)		0.31	0.34	0.42
EXCEEDANCE PROB. (%)		4	1	0.2
FREQUENCY (yrs)		25	100	500

SCOUR PREDICTIONS FOR PROPOSED STRUCTURE DESCRIBED ABOVE:

PIER INFORMATION NUMBERS	SIZE AND TYPE	LONG TERM SCOUR ELEV.	TOTAL SCOUR ELEVATION WORST CASE < 100 yr. FREQ. (yrs) 100 YR.	WORST CASE < 500 yr. FREQ. (yrs) 500 YR.
2	1.5 FT. SQUARE		8.2	8.2

HYDRAULIC RECOMMENDATIONS

BEGIN BRIDGE STATION 351+91.03 END BRIDGE STATION 351+91.03 SKEW ANGLE 0.0
2. CLEARANCE PROVIDED: H.W.: HORIZ. ___ VERT. ___ ABOVE EL. ___ DRAFT: HORIZ. 25 VERT. 2.0 ABOVE EL. 18.8
3. MINIMUM CLEARANCE: H.W.: HORIZ. ___ VERT. ___ ABOVE EL. ___ DRAFT: HORIZ. ___ VERT. ___ ABOVE EL. ___
4. ABUTMENTS:

	BEGIN BRIDGE	END BRIDGE
RUBBLE GRADE:	BANK AND SHORE	BANK AND SHORE
SLOPE:	1:2	1:2
BURIED OR NON-BURIED HORIZ. TOE:	BURIED HORIZ. TOE	BURIED HORIZ. TOE
TOE HORIZ. DISTANCE:	10 FT.	10 FT.
LIMIT OF PROTECTION:		

5. DECK DRAINAGE: TO BRIDGE ENDS

REMARKS: FLOWS SHOWN ARE FOR ALL THREE BRIDGES AT MYAKKA RIVER.
PARENTHESIS INDICATE FLOW THROUGH BRIDGE

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PBSJ
5300 West Cypress Street
Suite 200
Tampa, Florida 33607-1768
FBPR Certificate of
Authorization No. 24
Shayne Poynter, P.E. #58136

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FPID NO.
S.R. 72	SARASOTA	413887-2

VANDERIPE SLOUGH BRIDGE HYDRAULIC RECOMMENDATIONS

SHEET NO. B1-2

USE No. 48303 10/19/2005