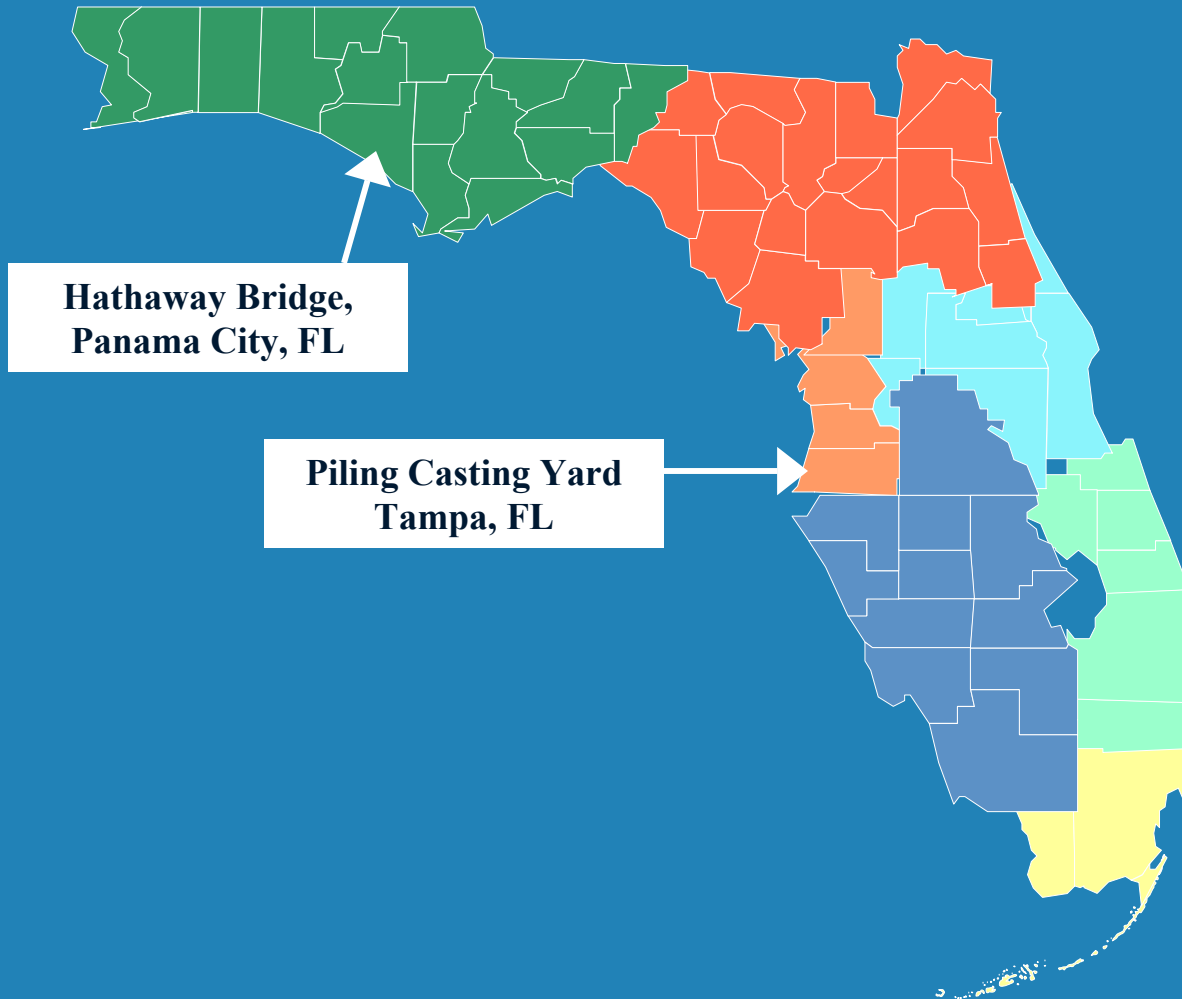


HATHAWAY BRIDGE PROJECT



HATHAWAY BRIDGE LOCATION



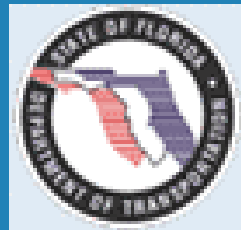
**Hathaway Bridge,
Panama City, FL**

**Piling Casting Yard
Tampa, FL**



HATHAWAY BRIDGE PROJECT

Piling Team Members:



HATHAWAY BRIDGE DESIGN-BUILD PROJECT

PROJECT INFORMATION AS OF FEBRUARY, 2003

STANDARD CONCRETE PRODUCTS
PO BOX 19449
TAMPA, fl 33686-9449
813-831-9520
813-831-3165, fax

QORE PROPERTY SCIENCES
1712 AIRPORT ROAD
PANAMA CITY, FL 32405
850-215-7673
850-215-7675. Fax

APPLIED FOUNDATION TESTING, INC.
1060 ROLAND AVE.
GREEN COVE SPRINGS, FL 32043
904-284-1337, 904-284-1339 Fax

PRIME CONTRACTOR:

GRANITE CONSTRUCTION CO.
6089B W. HIGHWAY 98
PANAMA CITY, FL 32401
850-873-7773, 850-873-6443 Fax

DESIGNER OF RECORD
HNTB
5850 T.G. LEE BLVD., SUITE 600
ORLANDO, FL 32822
407-859-8380, 407-855-9641 FAX

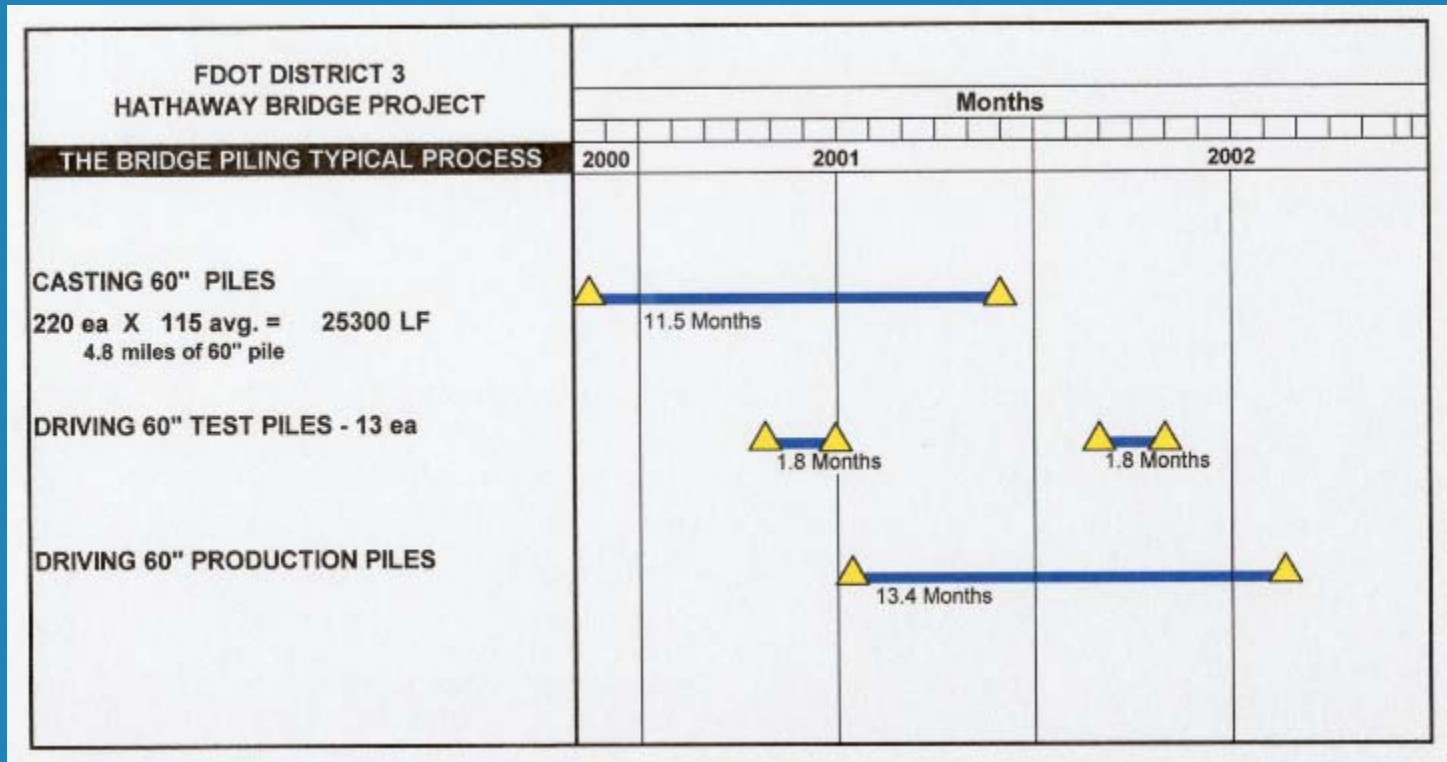
CONSTRUCTION ENG. AND INSPECTION:
REYNOLDS, SMITH AND HILLS CS, INC.
6089 W. HIGHWAY 98
PANAMA CITY, FL 32401
850-872-3591, FAX 872-3594

FLORIDA DEPARTMENT OF TRANSPORTATION:
3633 HIGHWAY 390
PANAMA CITY, FL 32405
850-872-4136, FAX 850-872-7713

WEBSITE: www.hathawaybridge.com

HATHAWAY BRIDGE DESIGN-BUILD PROJECT

PILING TIMELINE



HATHAWAY BRIDGE DESIGN-BUILD PROJECT

FACTS AND FIGURES FOR NEW BRIDGES

OVERALL BRIDGE DIMENSION FACTS

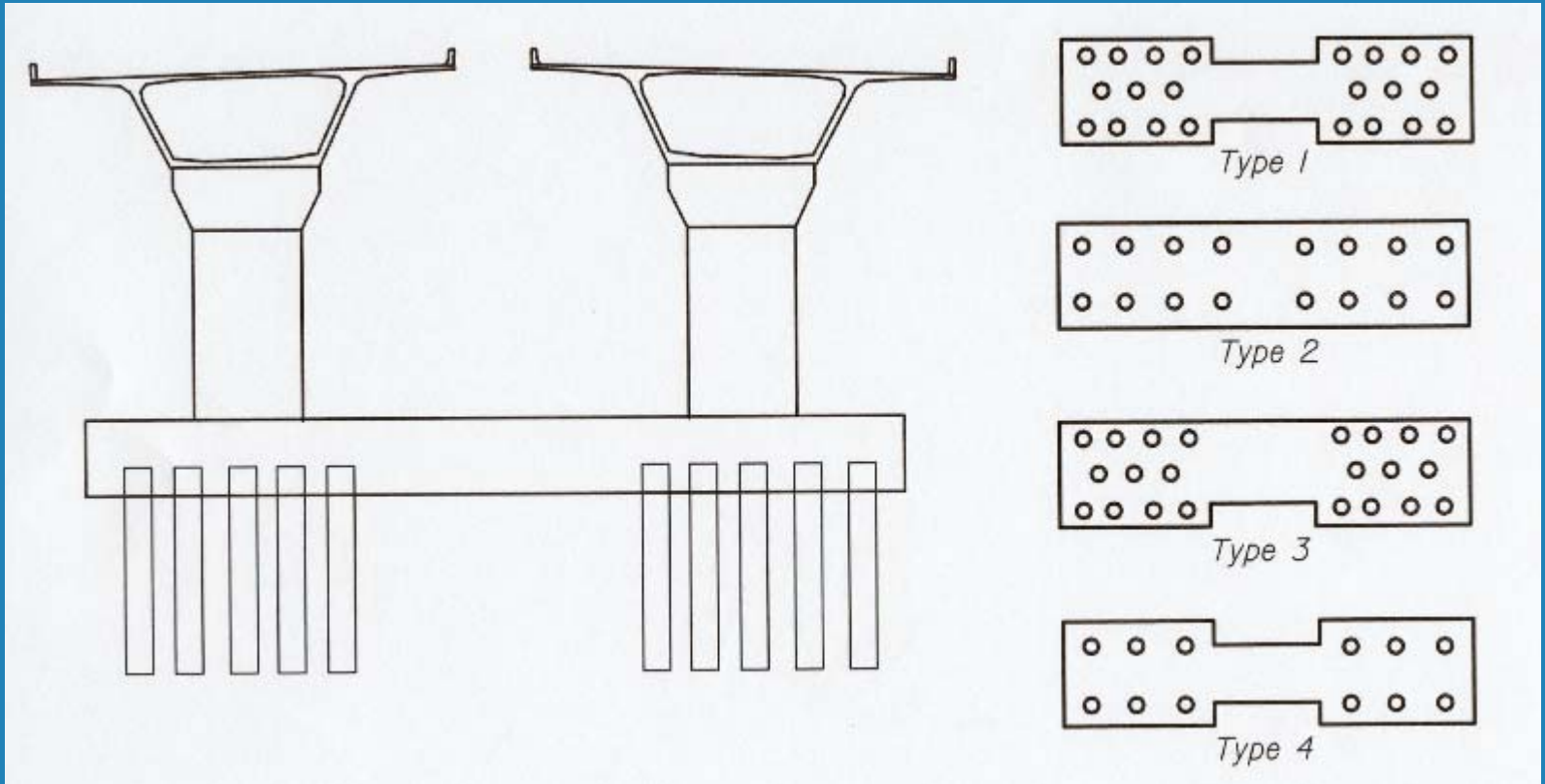
- | | | | |
|----------------------|------------|------------------------|------------|
| • Westbound Length – | 3814 feet. | Eastbound Length – | 3383 feet. |
| • Maximum height – | 85 feet. | Horizontal clearance - | 287 feet |
| • Maximum span - | 330 feet. | Vertical clearance - | 65 feet |

Concrete piles – 60-inch diameter, hollow piles

- | | |
|-----------------------------|------------|
| • Average weight per foot – | 1300 lbs.. |
| • Average length per each – | 115 feet. |
| • Quantity required – | 220 each. |
| • Max. Capacity - | 1550 tons. |

Foundation footing Piles	Transverse Footing Capacity (K)	Max. Ultimate Bearing Capacity / Pile
• Type 1 - 22 piles	3000 (K)	2900 (K)
• Type 2 - 16 piles	2500 (K)	2600 (K)
• Type 3 - 22 piles	3500 (K)	3100 (K)
• Type 4 - 12 piles	2000 (K)	2800 (K)

HATHAWAY BRIDGE - *Footing Details*



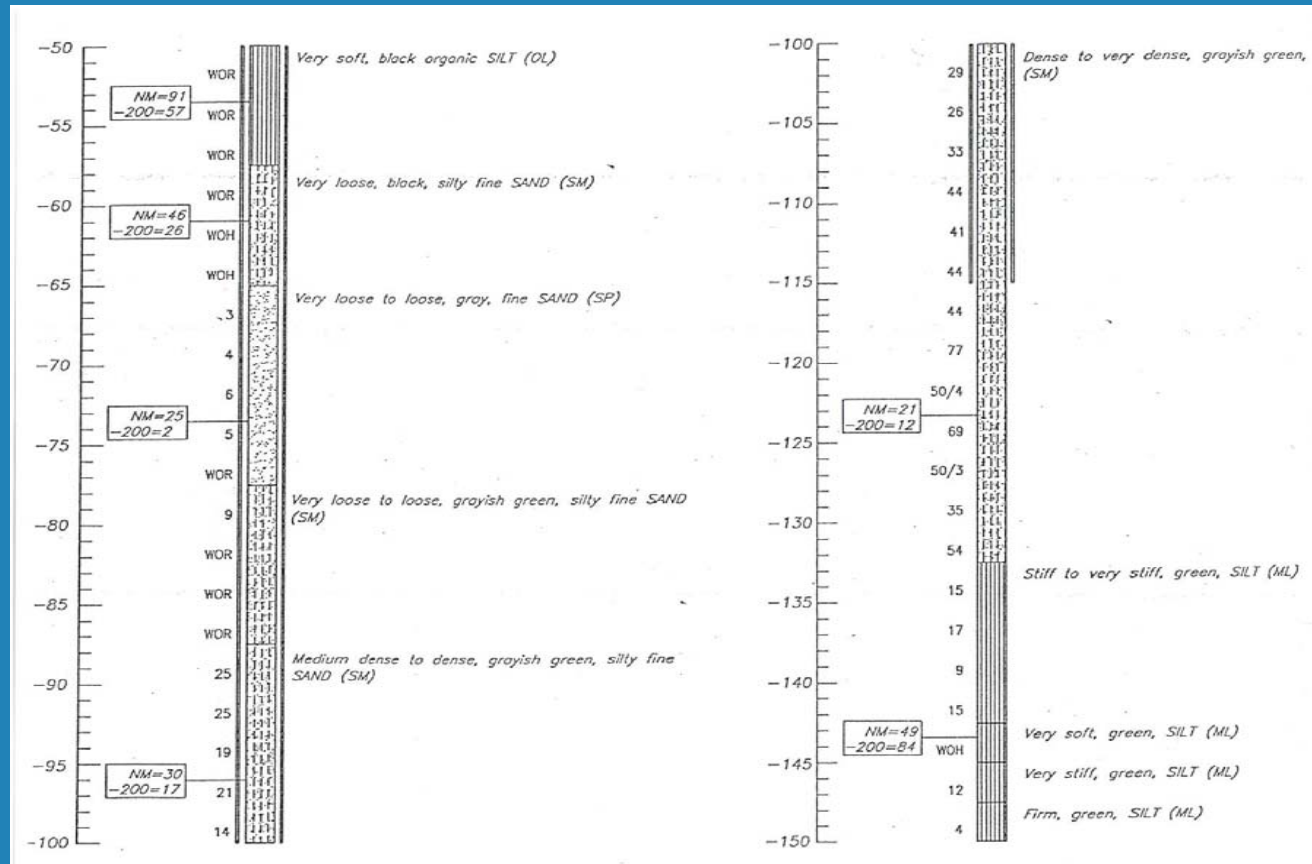
PRESTRESS YARD - *60" Pile Form*



PRESTRESS YARD - Production Piles



Report of Soil Boring



STATNAMIC PILE TESTING

AFT

- 30 Meganewton Statnamic Axial load test
- Accelerometers and full bridge strain gauges embedded in pile
- Calculated max. Static load of 5376 KIP (SUP)
- Maximum mobilized unit strength of 4.9 ksf for outer surface only



FOUNDATION - *Pile Driving*

Hammer Model

Bruce SGH 3013
Hydraulic Hammer

Ram: 66,000 lbs.
Stroke: 0 - 4 ft.

Rated Energy:
282,100 ft-pounds

Weight : 80 tons
Height 32 feet
Width 7 feet

Box Leads 140',
14"x83"

Pile Cushion
9 in. to 15 in.
Plywood and
Alum./Micarta



FOUNDATION-*Jetting battered piles*

GCCo Equipment

Manitowoc 4100W
with a 240 ft. boom

Ringer mounted on a
72 x 250 ft., 5400 tn.
Barge - (The Island)

Rated at 400 tons.

Crane was equipped
with an additional
140 ft. mast.



SUBSTRUCTURE - *Forming footer*

Mass Concrete

Largest footing
1400 CY

Bottom of
Footing / Top of
suspended
concrete seal
slab 1.0 ft.
below mean low
water sea level.



SUBSTRUCTURE- *Pile plugs & footer*



Hathaway Bridge Cantilever 7



Standard Prestressed 60" Cylinder Pile

