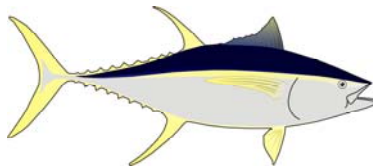


**CITY OF NAPLES**  
**JAY AND PATTY BAKER PARK**  
**AND**  
**GORDON RIVER GREENWAY CONNECTOR BRIDGE**

**SUBMERGED RESOURCE SURVEY**

**JULY 2014**



**PREPARED BY:**  
**TURRELL, HALL & ASSOCIATES, INC.**  
**3584 EXCHANGE AVENUE**  
**NAPLES, FL 34104**  
**(239) 643-0166**

## **1.0 INTRODUCTION & OBJECTIVE**

Baker Park is located at 50 Riverside Circle, FL 34102, (folio 20767004002, 20762000001, & 20760840001) on the City of Naples' land located at the corner of Goodlette-Frank Road and Central Ave/Riverside Circle. The northern, eastern and southern shorelines lie along the Gordon River, while the western portion of the property lies along Central Avenue. There is a combination of mangroves with scattered medium sized riprap along the shoreline that currently has one unimproved boat slide where the rowing club launches its shells located along the northern shoreline. The entire site lies within Section 03, Township 50 South, Range 25 East, in Collier County Florida.

In addition to the Park site, the Gordon River Greenway connector bridge is proposed to connect the Naples Greenway path from the east side of the river to the Park site on the west side of the river. Parcel 20760680009, lying on the west side of North Road and immediately south of Naples Harbor Yacht Club, will be the connector site for the east end of the bridge. This site is dominated by mangrove and marsh with an existing pathway on the east half of the site which will be used to access the bridge. It also lies within Section 03, Township 50 South, Range 25 East, in Collier County Florida.

Turrell, Hall & Associates was contracted to provide marine permitting and design services for proposed docking facility and improved boat ramp at Baker Park, as well as the pedestrian bridge and connection areas. The purpose of the submerged resource survey was to identify and locate any existing marine resources within the limits of the proposed project footprint. Specific resource locations would also help reconfigure designs to reduce impact footprints as much as possible, while maintaining the needed structural integrity.

The following report documents the Submerged Resource Survey findings associated with this project.

## 2.0 METHODOLOGY

Prior to onsite examination of benthic habitats aerial maps of the current (Appendix 1) and historical site conditions from 2008 (Appendix 2) were examined to determine what kind of marine work has taken place onsite prior to this visit (i.e. dredging, bulkhead construction, riprap installation, dock construction, etc.).

A system of 2 meter wide transects was laid out on a waterproof aerial map for field use with GPS locations noted. Site access is also established before the survey on the aerial map.

A GPS was taken to the dive site, along with dive slates, camera equipment and a 1 meter square quadrat which was further broken down into sections for better coverage identification. Depending on current, depth and visibility, the site will either be evaluated by snorkeling or with scuba tanks.

All findings were reported to a staff member tending the diver(s) from the surface and if resources were located their location limits were recorded on the GPS, while the species present and their percent coverage were documented on the dive slate and with photographs (and/ or video).

Upon completion of the survey, all data was immediately downloaded and unknown species were identified using office reference material (5.0).

Each report contains the following information:

1. Date and time of day (start and finish)
2. Water depth at substrate for shallowest and deepest edges of bed(s)
3. General sediment type (e.g., silt, mud, sand, shell, etc)
4. Estimate of the percent cover of submerged aquatic vegetation (SAV) within the project vicinity (for each species, if applicable) and approximate square footage/ acreage. [e.g, barren, sparse (1-10% cover), low (11-25%), moderate (26-50%), and high (> 50%).
5. Estimate species density, if applicable (Braun Blanquet Method).
6. Shoot density, if applicable (random or systematic shoot counts within quadrates distributed within the project area).
7. Notable biological observations (e.g., shellfish or algal beds, crabs or lobsters, and fish fauna).

Submerged aquatic vegetation (SAV) includes: seagrasses, oligohaline grasses, attached macroalgae and drift macroalgae that covers a substrate.

### 3.0 RESULTS

DATE	TIME	CURRENT	TIDE	WEATHER	VISIBILITY
7/3/14	9:30 – 11:00	<1.5 Kn	Outgoing-Low	Sunny, 94°F Wind <3 Kn	8-12 inches

Surface water conditions at the time of the submerged resource surveys were calm, with fair (8-12 inches) visibility throughout the entire surveyed area. Boat traffic was encountered but a very limited amount considering the location of the property on the Gordon River. During the survey a slow outgoing tide was encountered, with low tide being registered at 11:08 (1.2 MLLW) and high tide registered at 16:52 (2.3 MHW) on this date.

The substrate found at the site consisted of a silt/sand and silt muck material with scattered oyster debris, rocks, and shells throughout the nearly entire surveyed area and stretching out past the distances of this survey. It is estimated that 98% of the surveyed area was covered with 1.5'– 2.5' of the silt /sand and silt muck mixed debris material. The remaining 2% of the substrate was covered with various types of filamentous and macro algae.

Numerous barnacles and some sporadic oysters were observed growing on the rocks along the shoreline and mangrove prop roots (see Submerged Resource Map- Appendix 1). All observed fish species were located within the mangrove shoreline, which provides the only natural cover on the property.

#### 3.1 OBSERVED SPECIES

##### FISH

###### Common Name

snook  
sheepshead  
mangrove snapper  
jack crevalle  
glass minnow  
striped mullet

###### Scientific Name

*Centropomus undecimalis*  
*Archosargus probatocephalus*  
*Lutjanus griseus*  
*Caranx hippos*  
*Anchoa mitchilli*  
*Mugil cephalus*

##### CRUSTACEAN

###### Common Name

eastern oyster  
stone crab  
barnacle

###### Scientific Name

*Crassostrea virginica*  
*Menippe mercenaria*  
unknown

### 3.2 PHOTOGRAPHS



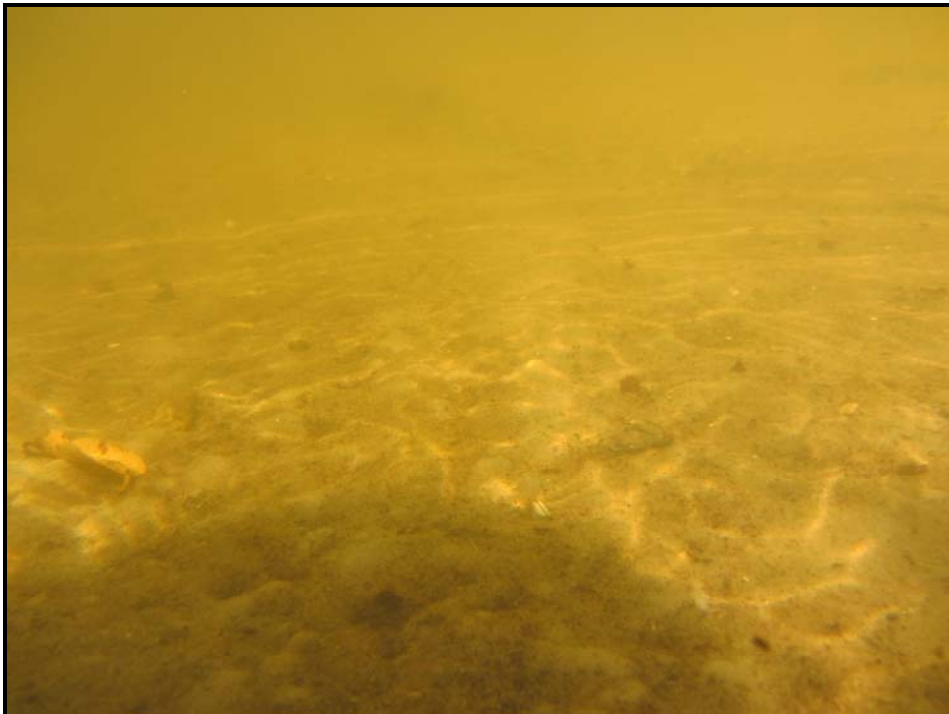
Southern mangrove shoreline on Baker Park site (facing west)



South end of Baker Park Shoreline looking north along river towards peninsula (on right)



Looking south along Baker Park Shoreline



Typical silt/sand substrate habitat onsite (on peninsula)



View of eastern shoreline connector site (north end facing east from river)



View of eastern shoreline connector site (south end facing east from river)



Typical silt/sand muck sediment observed onsite



Typical oyster debris found onsite



#### **4.0 CONCLUSIONS**

The submerged resource survey yielded few findings. Barnacles were the most abundant fauna found, which were all observed growing on shoreline mangrove prop roots and existing riprap. Oyster growth was also noted on mangrove prop roots and riprap. All observed fish species were found within the mangrove shoreline as well.

Various filamentous algae and macro algae were observed and documented growing along the bottom sediments in approximately 2% of the surveyed areas, while 98% of the surveyed transects were comprised of a silty-sand and shell debris/ rock mix.

In September 2008 Turrell, Hall & Associates performed a similar submerged resource survey for a proposed footpath bridge associated with the Gordon River Greenway. No resources were located during the 2008 survey and the substrate was primarily silty mud mixed with oyster debris.

Based on past and current survey findings it does not appear the proposed project footprint would result in marine resource impacts on either the park site or the bridge connector site that might cause permitting issues or require a change in the planned footprint.

## 5.0 REFERENCES

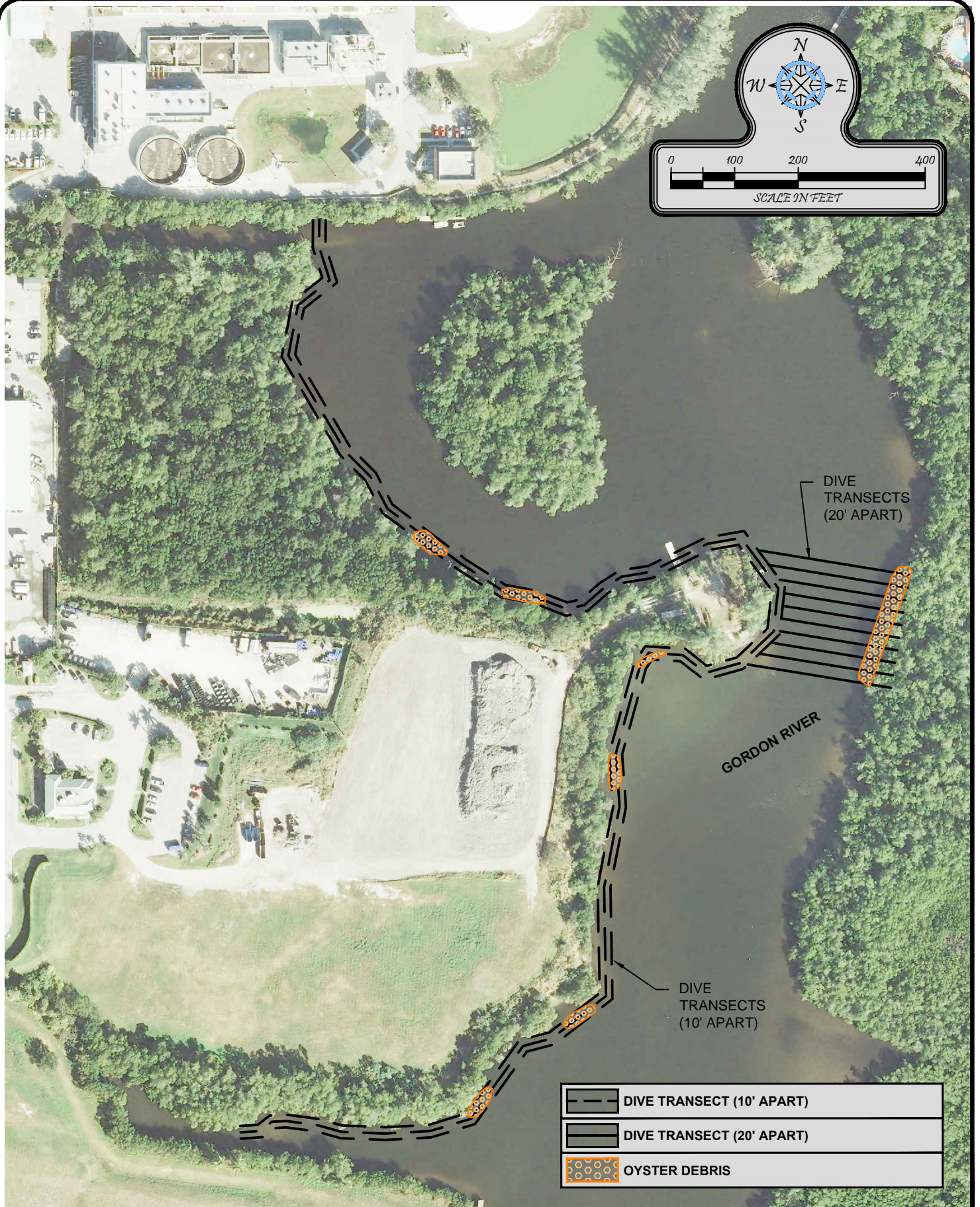
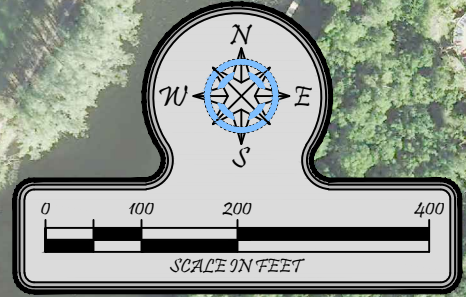
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# **APPENDIX 1**

## **SUBMERGED RESOURCE MAP**

**(July 2014)**

P:\1425-Naples Baker Park\CAD\SHEETS\SRS\1425-SRS.dwg 8/18/2014



	DIVE TRANSECT (10' APART)
	DIVE TRANSECT (20' APART)
	OYSTER DEBRIS



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**NAPLES BAKER PARK**  
**SUBMERGED RESOURCE SURVEY**

DESIGNED	MK	REVISION	TAB NAME	SUBMERGED
DRAWN	RMJ	N/A	SHEET	01
DATE	08-18-14	N/A	SCALE	1" = 200'
JOB NO.	1425	N/A		
SECTION-03		TOWNSHIP- 50S	RANGE- 25E	

# **APPENDIX 2**



## **SUBMERGED RESOURCE MAP**

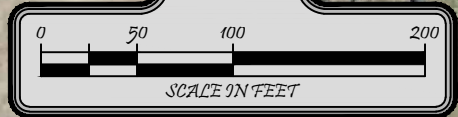
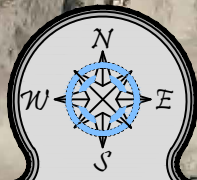
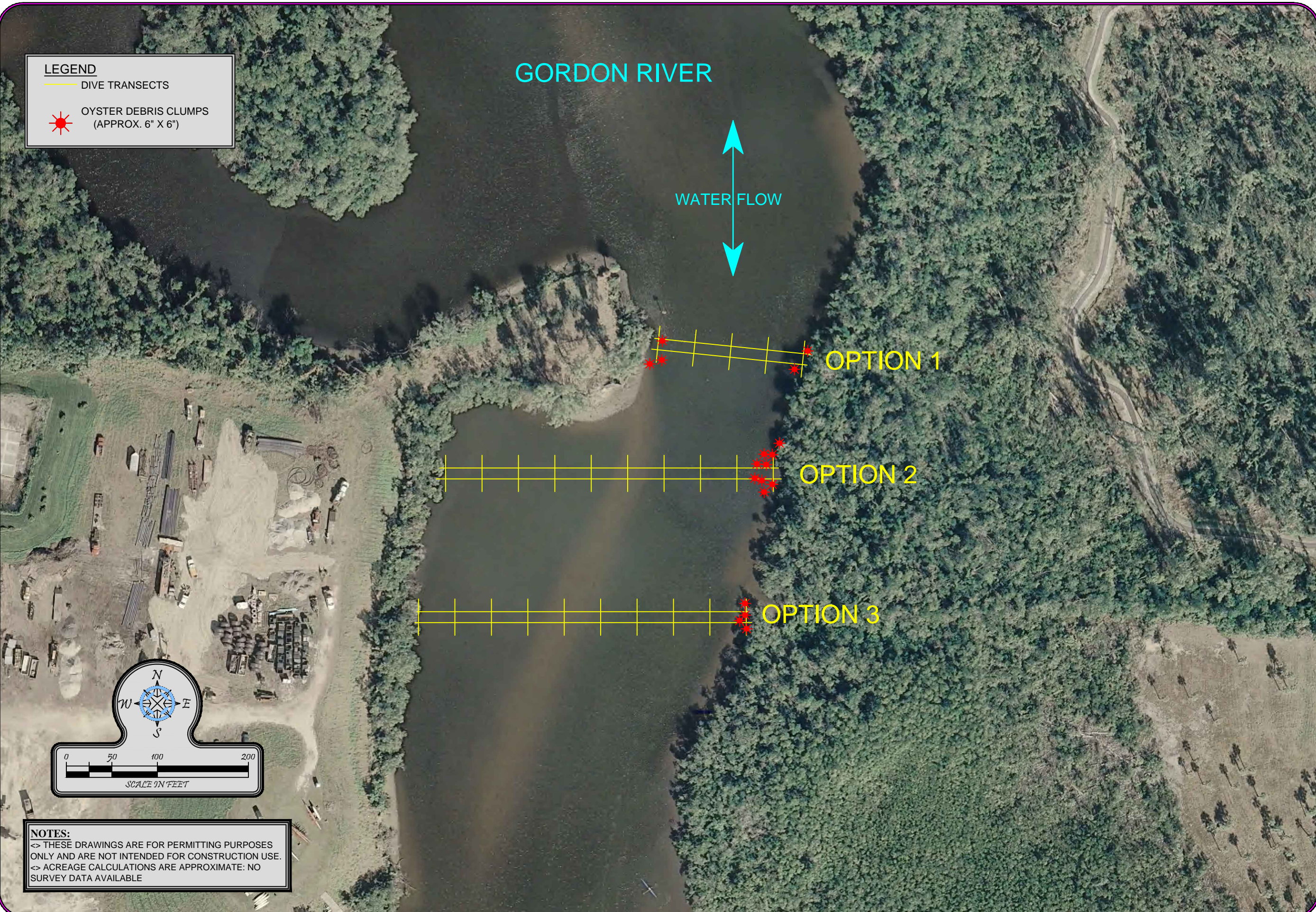
**(September 2008)**

# GORDON RIVER

WATER FLOW


**LEGEND**

-  DIVE TRANSECTS
-  OYSTER DEBRIS CLUMPS (APPROX. 6" X 6")



**NOTES:**  
 <> THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.  
 <> ACREAGE CALCULATIONS ARE APPROXIMATE: NO SURVEY DATA AVAILABLE

## GORDON RIVER GREEN WAY DIVE TRANSECTS MAP

  
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TAB NAME: 11x17 (3)	REVISIONS: 10-03-08 JWM N/A
FILE NAME: O:\CLOSED FILES\090303.1 Gordon River Greenway Bridge\Drawings	

DRAWN BY: SS	REVIEWED BY: TTT
PROJECT #: 0503.1	SHEET: 1 OF 1
DATE: 09-25-08	
SCALE: AS SHOWN	