



DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
4400 PGA BOULEVARD, SUITE 500  
PALM BEACH GARDENS, FLORIDA 33410

August 18, 2017

REPLY TO  
ATTENTION OF

Regulatory Division  
South Permits Branch  
Palm Beach Gardens Permits Section  
SAJ-2007-00822 (NW-CGK)

Industrial Divers Corporation  
c/o Alex Delgado  
2901 Southwest 3rd Street, STE #5  
Ft. Lauderdale, Florida 33315

Dear Mr. Delgado:

The U.S. Army Corps of Engineers (Corps) assigned your application for a Department of the Army permit, which the Corps received on April 5, 2017, the file number SAJ-2007-00822. A review of the information and drawings provided indicates that the proposed work would result in removal of tires that were deployed in the 1970's as part of an artificial reef program designed to enhance fisheries. Tires will be removed by divers lifted to a barge with a bag or cargo net, then disposed of onshore in tire recycling containers. Temporary anchors and buoys will be installed to mark the tire locations. The project is located in the Atlantic Ocean, 1.3 miles offshore of Ft. Lauderdale Beach and outside of the Osborne Reef, Broward County, Florida.

Your project is authorized by Nationwide Permit (NWP) Number 27. In addition, project specific conditions have been enclosed. This verification is valid until **March 18, 2022**. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this nationwide permit. Please access the U.S. Army Corps of Engineers' (Corps) Jacksonville District's Regulatory Internet page to access Internet links to view the Final Nationwide Permits, Federal Register Vol. 82, dated January 6, 2017, specifically pages 1983 to 2008, and the table of Regional Conditions. The Internet page address is:

<http://www.saj.usace.army.mil/Missions/Regulatory.aspx>

Please be aware this Internet address is case sensitive and should be entered as it appears above. Once there you will need to click on "Source Book"; and, then click on "Nationwide Permits." These files contain the description of the Nationwide Permit authorization, the Nationwide Permit general conditions, and the regional conditions, which apply specifically to this verification for NWP 27. Enclosed is a list of the six General Conditions, which apply to all Department of the Army authorizations. You

must comply with all of the special and general conditions and any project specific condition of this authorization or you may be subject to enforcement action. In the event you have not completed construction of your project within the specified time limit, a separate application or re-verification may be required.

The following special conditions are included with this verification:

- 1. As-Built Certification (Attachment B):** Within 60 days of completion of the work authorized by this permit, the Permittee shall submit as-built drawings of the authorized work and a completed "As-Built Certification By Professional Engineer" form (Attachment B) to the Corps. The as-built drawings shall be signed and sealed by a registered professional engineer and include the following:
  - a. A plan view drawing of the location of the authorized work footprint, as shown on the permit drawings, with transparent overlay of the work as constructed in the same scale as the permit drawings on 8½-inch by 11-inch sheets. The plan view drawing should show all "earth disturbance," including wetland impacts and water management structures.
  - b. A list of any deviations between the work authorized by this permit and the work as constructed. In the event that the completed work deviates, in any manner, from the authorized work, describe on the attached "As-Built Certification By Professional Engineer" form the deviations between the work authorized by this permit and the work as constructed. Clearly indicate on the as-built drawings any deviations that have been listed. Please note that the depiction and/or description of any deviations on the drawings and/or "As-Built Certification By Professional Engineer" form does not constitute approval of any deviations by the Corps.
  - c. Include the Department of the Army permit number on all sheets submitted.
  
- 2. Assurance of Navigation and Maintenance:** The Permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structures or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the Permittee will be required, upon due notice from the U.S. Army Corps of Engineers, to remove, relocate, or alter

the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

- 3. Commencement and Completion Notification:** The Permittee shall provide to the U.S. Army Corps of Engineers written notification of the date(s) of commencement of work authorized by this permit at least 15 days before initiation of each tire removal event, and a completion notification no less than 15 days after the completion of each tire removal event.
- 4. Post Survey:** No less than 30 days after the completion of each tire removal activity, the Permittee shall transmit a report to the Corps that documents the activities conducted during the tire removal including the number of tires removed, an estimate of the number of tires that remain, the species and size of any corals found growing on the tires that remain, and approximate coordinates for tires that remain. This report can be limited to the area where the tire removal event occurred.
- 5. Endangered Species:** The permittee agrees to comply with all of the activity specific Project Design Criteria (PDCs) listed in the National Marine Fisheries Service's (NMFS) Statewide Programmatic Biological Opinion (SWPBO), dated December 4, 2015. Failure to comply with these conditions could result in enforcement action by the Corps and/or NMFS.
- 6. Manatee Conditions:** The Permittee shall comply with the enclosed (Attachment C) "Standard Manatee Conditions for In-Water Work – 2011."
- 7. Sea Turtle and Smalltooth Sawfish Conditions:** The Permittee shall comply with National Marine Fisheries Service's (Attachment D) "Sea Turtle and Smalltooth Sawfish Construction Conditions" dated March 23, 2006.
- 8. Right Whale Protection:** It is illegal to approach within 500 yards of a right whale by vessel, aircraft, or any other means (50 CFR 224.103 (c)). Any vessel finding itself within 500 yards of a right whale must depart immediately at a slow speed.
- 9. Species reporting:** Any collision(s) with and/or injuries to any sea turtle, sawfish, whale, or sturgeon occurring during the construction of a project, shall be reported immediately to NMFS's Protected Resources Division (PRD) at (727-824-5312) or by email to [takereport.nmfs@noaa.gov](mailto:takereport.nmfs@noaa.gov) and [CESAJ-ComplyDocs@usace.army.mil](mailto:CESAJ-ComplyDocs@usace.army.mil). Sea turtle and marine mammal stranding/rescue organizations' contact information is available by region at

<http://www.nmfs.noaa.gov/pr/health/networks.htm>. Smalltooth sawfish encounters shall be reported to <http://www.flmnh.ufl.edu/fish/sharks/sawfish/sawfishencounters.html>.

\*Failure to report take of a federally listed threatened or endangered species may lead to suspension, revocation, or modification of this authorization. (From Section 3(18) of the Federal Endangered Species Act: The term 'take' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.)

- 10. Marine Life Entrapment:** Neither structure nor material or the method of construction shall pose more than minimal risk of entrapping fish, marine turtles, or marine mammals. In-water lines must be industrial grade metal or heavy cables that do not readily loop and tangle. All in-water lines (rope and cable) must be rigid and cannot have excess line in the water. Lines may be enclosed in a plastic or rubber sleeve/tube to add rigidity.
- 11. Disposal of debris:** Debris shall be properly disposed of in appropriate upland facilities in accordance with all applicable federal and state requirements.
- 12. Protection of adjacent resources:**
  - a. If an item cannot be removed without causing harm to surrounding coral or seagrass beds, the item will be disassembled as much as practicable to minimize future damage to the species.
  - b. Monofilament debris will be carefully cut loose from coral so as not to cause further harm. Under no circumstance will line be pulled through coral since this could cause breakage of coral.
  - c. Marine debris shall be lifted straight up and not be dragged through seagrass beds, coral, or hard bottom habitats.
- 13. Cultural Resources/Historic Properties:**
  - a. No structure or work shall adversely affect impact or disturb properties listed in the National Register of Historic Places (NRHP) or those eligible for inclusion in the NRHP.
  - b. If during the ground disturbing activities and construction work within the permit area, there are archaeological/cultural materials encountered which were not the subject of a previous cultural resources assessment survey (and which shall include, but not be limited to: pottery, modified

shell, flora, fauna, human remains, ceramics, stone tools or metal implements, dugout canoes, evidence of structures or any other physical remains that could be associated with Native American cultures or early colonial or American settlement), the Permittee shall immediately stop all work and ground-disturbing activities within a 100-meter diameter of the discovery and notify the Corps within the same business day (8 hours). The Corps shall then notify the Florida State Historic Preservation Officer (SHPO) and the appropriate Tribal Historic Preservation Officer(s) (THPO(s)) to assess the significance of the discovery and devise appropriate actions.

c. Additional cultural resources assessments may be required of the permit area in the case of unanticipated discoveries as referenced in accordance with the above Special Condition ; and if deemed necessary by the SHPO, THPO(s), or Corps, in accordance with 36 CFR 800 or 33 CFR 325, Appendix C (5). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume on non-federal lands without written authorization from the SHPO for finds under his or her jurisdiction, and from the Corps.

d. In the unlikely event that unmarked human remains are identified on non-federal lands, they will be treated in accordance with Section 872.05 Florida Statutes. All work and ground disturbing activities within a 100-meter diameter of the unmarked human remains shall immediately cease and the Permittee shall immediately notify the medical examiner, Corps, and State Archeologist within the same business day (8-hours). The Corps shall then notify the appropriate SHPO and THPO(s). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume without written authorization from the State Archeologist and from the Corps.

**14 .** Tires will be removed as described in the “Osborne Reef Tire Removal Project Scope of Work”, dated 11 June 2014 (Attachment E).

**15.** No impacts to existing hardbottom or corals are authorized.

This letter of authorization does not obviate the necessity to obtain any other Federal, State, or local permits, which may be required. Prior to the initiation of any construction, projects qualifying for this Nationwide permit must qualify for an exemption under section 403.813(1), Florida Statutes or 373.406, Florida Statutes, or otherwise be authorized by the applicable permit required under Part IV of Chapter 373, Florida Statutes, by the Department of Environmental Protection, a water management district under section 373.069, Florida Statutes, or a local government with delegated authority under section 373.441, Florida Statutes, and receive Water Quality Certification and applicable Coastal Zone Consistency Concurrence or waiver thereto, as well as any authorizations required for the use of state-owned submerged lands under Chapter 253, Florida Statutes, and, as applicable, Chapter 258, Florida Statutes. You should check State-permitting requirements with the Florida Department of Environmental Protection or the appropriate water management district.

This letter of authorization does not include conditions that would prevent the 'take' of a state-listed fish or wildlife species. These species are protected under sec. 379.411, Florida Statutes, and listed under Rule 68A-27, Florida Administrative Code. With regard to fish and wildlife species designated as species of special concern or threatened by the State of Florida, you are responsible for coordinating directly with the Florida Fish and Wildlife Conservation Commission (FWC). You can visit the FWC license and permitting webpage (<http://www.myfwc.com/license/wildlife/>) for more information, including a list of those fish and wildlife species designated as species of special concern or threatened. The Florida Natural Areas Inventory (<http://www.fnai.org/>) also maintains updated lists, by county, of documented occurrences of those species.

This letter of authorization does not give absolute Federal authority to perform the work as specified on your application. The proposed work may be subject to local building restrictions mandated by the National Flood Insurance Program. You should contact your local office that issues building permits to determine if your site is located in a flood-prone area, and if you must comply with the local building requirements mandated by the National Flood Insurance Program.

If you are unable to access the internet or require a hardcopy of any of the conditions, limitations, or expiration date for the above referenced NWP, please contact Christian Karvounis electronically at [Christian.Karvounis@usace.army.mil](mailto:Christian.Karvounis@usace.army.mil) or by telephone at 561-472-3516.

Thank you for your cooperation with our permit program. The Corps Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our

environment. We invite you to complete our automated Customer Service Survey at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=regulatory\\_survey](http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey). Please be aware this Internet address is case sensitive; and, you will need to enter it exactly as it appears above. Your input is appreciated – favorable or otherwise.

Sincerely,

Christian Karvounis  
Project Manager

Enclosures:

Attachment A: Drawings

Attachment B: As-Builts

Attachment C: Manatee Conditions

Attachment D: Sea turtle and Smalltooth Sawfish Conditions

Attachment E: Osborne Reef Tire Removal Project Scope of Work

bcc:

CESAJ-RD-PE

GENERAL CONDITIONS  
33 CFR PART 320-330

1. The time limit for completing the work authorized ends on **March 18, 2022**.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow a representative from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.



**DEPARTMENT OF THE ARMY PERMIT TRANSFER REQUEST**

**PERMIT NUMBER: SAJ-2007-00822 (NW-CGK)**

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. Although the construction period for works authorized by Department of the Army permits is finite, the permit itself, with its limitations, does not expire.

To validate the transfer of this permit and the associated responsibilities associated with compliance with its terms and conditions, have the transferee sign and date below and mail to the U.S. Army Corps of Engineers, Enforcement Section, Post Office Box 4970, Jacksonville, FL 32232-0019.

\_\_\_\_\_  
**(TRANSFEREE-SIGNATURE)**

\_\_\_\_\_  
**(SUBDIVISION)**

\_\_\_\_\_  
**(DATE)**

\_\_\_\_\_  
**(LOT)**

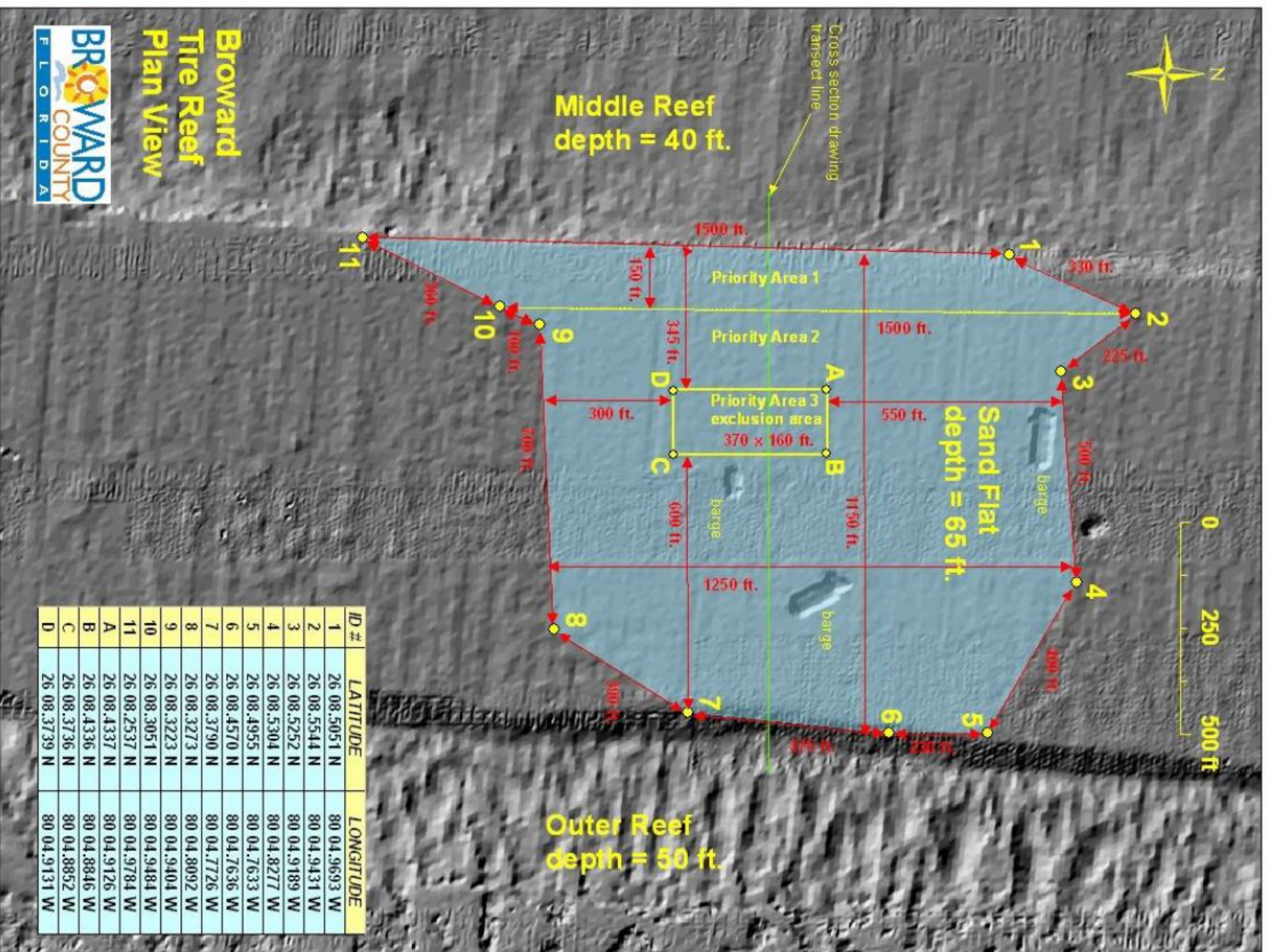
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**(NAME-PRINTED)**

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**(STREET ADDRESS)**

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**(MAILING ADDRESS)**

\_\_\_\_\_  
**(CITY, STATE, ZIP CODE)**



**AS-BUILT CERTIFICATION BY PROFESSIONAL ENGINEER**

Submit this form and one set of as-built engineering drawings to the U.S. Army Corps of Engineers, Enforcement Section, 4400 PGA Boulevard, Suite 500, Palm Beach Gardens, Florida, 33410. If you have questions regarding this requirement, please contact the Enforcement Branch at 904-232-3131.

1. Department of the Army Permit Number: SAJ-2007-00822 (NWP-CGK)

2. Permittee Information:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

3. Project Site Identification (physical location/address):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. As-Built Certification: I hereby certify that the authorized work, including any mitigation required by Special Conditions to the permit, has been accomplished in accordance with the Department of the Army permit with any deviations noted below. This determination is based upon on-site observation, scheduled, and conducted by me or by a project representative under my direct supervision. I have enclosed one set of as-built engineering drawings.

\_\_\_\_\_  
Signature of Engineer

\_\_\_\_\_  
Name (*Please type*)

\_\_\_\_\_  
(FL, PR, or VI) Reg. Number

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
City

\_\_\_\_\_  
State

\_\_\_\_\_  
ZIP

(Affix Seal)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Telephone Number



## STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

2011

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at [ImperiledSpecies@myFWC.com](mailto:ImperiledSpecies@myFWC.com)
- f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at [MyFWC.com/manatee](http://MyFWC.com/manatee). Questions concerning these signs can be sent to the email address listed above.

# CAUTION: MANATEE HABITAT

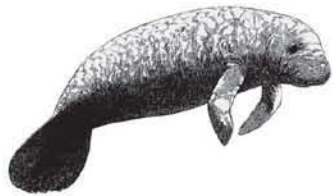
All project vessels

**IDLE SPEED / NO WAKE**

When a manatee is within 50 feet of work  
all in-water activities must

**SHUT DOWN**

Report any collision with or injury to a manatee:



**Wildlife Alert:**

**1-888-404-FWCC(3922)**

cell \*FWC or #FWC



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL MARINE FISHERIES SERVICE**  
Southeast Regional Office  
263 13th Avenue South  
St. Petersburg, FL 33701

## **SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS**

The permittee shall comply with the following protected species construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006

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Osborne Tire Reef Removal Project

*Industrial Divers Corporation*

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# Osborne Tire Reef Removal Project

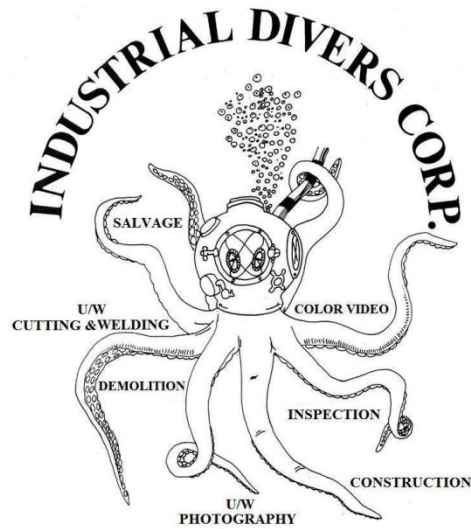
## Scope of Work

*Florida Department of Environmental Protection*

&

*Broward County*

In Association with



June 11, 2014



Osborne Tire Reef Removal Project

Industrial Divers Corporation

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## EMERGENCY MANAGEMENT PLAN

### Emergency Contact Information:

- 1. First Aid qualified personnel at the dive station:** All IDC dive team members are first AID/CPR with oxygen certified.
- 2. Name, location, contact information, and distance of the nearest medical facility (as well as, evacuation route from the dive station):** Broward General Medical Center 1600 South Andrews Avenue Fort Lauderdale, FL 33316 Phone: (954) 355-4400
- 3. Name, location, etc. of the nearest recompression facility:** Mercy Hospital 3663 S Miami Ave, Miami, FL 33133 (305) 854-4400 Contact Dr. Ivan Montoya 786-210-7123 for Emergency treatment
- 4. Nearest Coast Guard Station and contact information for MEDIVAC:** United States Coast Guard Base Miami, MEDEVAC contact info: 305-535-4472
- 5. DAN Emergency Medical Information:** Duke University Medical Center 1-919-684-4326

### Emergency Procedures:

1. The Diving Supervisor will immediately contact 911 if medical treatment is necessary.
2. The standby diver will immediately lend assistance to the distressed diver(s) as necessary.
3. The Diving Supervisor will lend assistance as available.
4. The patient will be transported at the earliest time possible to the nearest medical support facilities available by the most direct route.

Osborne Tire Reef Removal Project

Industrial Divers Corporation

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5.

### Operation Area

**Date, Hours, & Location:**

Dates: May 1, 2014 – September 30, 2015 (with 2 year extension September 30, 2017)

Hours of Operation: 06:00 – 18:00 or Sunrise to sunset whichever is greater (no nighttime operations will take place)

Location: Osborne Tire Reef – Fort Lauderdale, FL

**Tire Hauler & Recycler:**

Wheelabrator South Broward Inc. 4400 South State Road 7 Ft.  
Lauderdale, FL 33314

**Purpose:**

Tire Abatement

### AREA CONDITIONS

**Water Depth:** Approximately 65 fsw

**Maximum Water Depth:** 75 fsw

**Visibility: (average-anticipated)** 20 - 50 feet

**Water Temperature Range:** 70° to 80° Fahrenheit

**Vessel:** IDC 36' Barges or IDC 50' Barge

### DIVING TECHNIQUES

**Standards:** Industrial Divers Corporation, (IDC) and Florida Department of Environmental Protection (FDEP) will perform all diving operations in compliance with the following applicable standards: 29 CFR 1910 Subpart T (OSHA), and ADC Consensus Standards. In addition, where differences in standards exist, the most stringent shall apply.

Osborne Tire Reef Removal Project

Industrial Divers Corporation

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**SCUBA Diving:** All work to be done on SCUBA will comprise of a minimum of 4 man teams. The team will include 1 supervisor, 2 divers (to remain in visual contact at all times while in the water), and 1 stand-by diver ready to dive whenever divers are in the water, and assist divers in and out of the water. All dives will be no decompression dives.

**Surface Supplied Diving:** All work done with surface supplied diving techniques will require a 4 man team. The team will include 1 supervisor, 1 diver, 1 stand-by diver, and 1 tender. Diver will be equipped with 12 volt hard wired 2 way communications. All dives will be no decompression dives.

## EQUIPMENT

**Protective Clothing:** Wet suits and/ or dry suits will be utilized by team members for thermal protection. In addition, coveralls may be employed over the thermal suits to minimize abrasions/ lacerations.

**Vessels:** 50' twin engine pontoon dive support vessel (DSV) with crane, 36' twin engine box barge with A-Frame, IDC 36' twin engine pontoon barge with electric davit, 15' Nautica RHIB, 23' twin engine Suncoater survey vessel, & 26' BayCat aluminum hull work boat

**Specialty Tools:** HD video and still photography equipment, lift bags, cargo net, tire slings, barge mounted crane, land based crane, and a diver recall radio

**First Aid Kit:** A trauma kit and emergency oxygen supply will be available on site. Floating backboard will be available for removing injured diver from the water environment.

### Designation of Diving Teams, and Duties of Divers:

Only one dive team at a time will be employed during this operation, team members will be rotated through the positions of standby diver, and off-duty to minimize the effects of bottom times, fatigue and thermal exposure. The dive team will be organized as follows:

**SCUBA:**

(Minimum 4 diver configuration, large dive teams may be used to increase bottom time and production)

1. Diving Supervisor (1)
2. Divers (2)

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Industrial Divers Corporation

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3. Tender/ Stand by Diver Topside (1)
4. Vessel Captain (1) – Not included as part of the dive team

**Surface Supplied Diving:**

(Minimum 4 diver configuration, large dive teams may be used to increase bottom time and production)

1. Diving Supervisor (1)
2. Diver (1)
3. Stand by Diver (1)
4. Tender (1)
5. Vessel Captain (1) – Not included as part of the dive team

**List of Divers & Dive Supervisors:**

Name	Dive Coordinator	Dive Supervisor	Diver	Tender
R. Galletta	X	X	X	X
D. Beezley	X	X	X	X
A. Delgado	X	X	X	X
R. Feliu			X	X
D. Gillis		X	X	X
A. Eardley			X	X
M. King	X	X	X	X
T. Pennypacker		X	X	X
R. Price			X	X
B. Carr			X	X
T. Hargrove			X	X
J. Beezley			X	X
C. Wallace			X	X
T. Belveal			X	X

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## PRE-DIVE CONFERENCE

### Operations Briefing:

Prior to each dive, and at the scene of the dive, a Pre-Dive Conference shall be held with all members of the dive team and a representative of the contractor with sufficient authority to implement any requirements made by the diving coordinator.

Prior to any diving mission, the entire dive team will be briefed in detail on the following (as a minimum):

1. Description of tasks and location, including drawings and/or photographs pertinent to the tasks and equipment and materials that are to be installed as part of the job.
2. Description of diving apparatus/ equipment and craft to be used.
3. Maximum working depth with estimated bottom times and water temperatures; Names and duties of personnel on the team (when possible incorporate at least one person on the dive that has previously performed the same or similar mission).
4. Discussion of activity hazard analysis.
5. Emergency procedures.

**Pre-dive Check:** Pre-dive check will be completed for each diver by the Diving Supervisor.

## DIVING OPERATIONS

### Tire Offload Locations:

Primary Location: Sails Marina 2150 SE 17th St, Fort Lauderdale, FL 33316

Secondary Location: SFOMF / US Navy Dock 8010 North Ocean Drive  
Dania Beach, FL 33004-3033

Third Location: Port Everglades 1850 Eller Drive in Fort Lauderdale, FL 33316

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**Tire Abatement:****Phase 1 – Priority Area 1 Survey and Anchor Installation (1 – 3 Days)**

1. IDC barge will transit to the Osborne Tire Reef Priority Area 1 GPS coordinates provided by the FDEP and drop four marker buoys at the outer edges of the box in 36' barge.
2. IDC will deploy 2 divers on SCUBA to remain in visual contact at all times to survey and video Priority Area 1.
3. Divers will then locate suitable sand areas void of any coral and away from the coral reef for installation of temporary moorings. (i.e Helix anchors, Manta anchors, etc.)
4. Divers will mark these areas with buoys and document them with HD video and digital photography.
5. Divers will exit the water.
6. The barge crew will then mark each possible anchor location with GPS.
7. The dive coordinator will then make a determination on what anchor locations will place the barge in the optimum position for tire recovery and to adhere to the project requirements that tires be brought to the surface in an easterly direction to minimize sediment drifting onto the adjacent reef.
8. After suitable locations for anchors have been establish IDC will deploy 2 divers on SCUBA to remain in visual contact at all times to each location to probe the sand bottom to determine how much sand cover is present and if there is rubble or solid limestone beneath. This information will determine the type of temporary mooring installed.
9. Divers will exit the water.
10. When the appropriate anchor type has been selected IDC will deploy 2 divers on SCUBA to remain in visual contact at all times to site the placement of Danforth anchors to station the barge over the first temporary anchor location. When the barge is moored in place over the first anchor locations divers will exit the water.
11. IDC will deploy 1 diver on surface supplied nitrox in a Kirby Morgan dive helmet with hard wire communications to install the first temporary anchor.
12. Diver will attach a mooring up-line to the anchor that will either go to a mooring ball on the surface or to a subsurface mooring ball 10 - 15 fsw below the surface. Actual mooring configuration TBD and possibly modified depending on recreational boater's interference with moorings.
13. After anchor installation is complete the diver will exit the water and the barge crew will recover the anchors.
14. Steps 10 – 13 will be repeated until all temporary anchors are place.



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**Phase 2: Tire Recovery Option #1****Vessel Configuration: 50' twin engine DSV with Crane**

1. IDC barge will transit to Osborne Tire reef and moor into a 3 or 4 point mooring with the established up-lines in IDC's 50' dive support vessel (DSV).
2. IDC will deploy 2 divers on SCUBA to remain in visual contact at all times to the bottom.
3. Divers will establish a travel line between the barge and the work area using a hand turned trailer anchor.
4. IDC barge team will send supplies down the travel line so that each diver has enough materials to recover 3 sets of 10 tires or more each.
5. Divers will each place 10 tires or more on a premade nylon rope sling.
6. Divers will attach each rope sling to a lift bag and connect each lift bag to the travel line.
7. Divers will then inflate the lift bags from an independent air source. This air source may be additional scuba tanks on bottom with the divers, not used for breathing or a fill line from the DSV attached to an independent air compressor not used for breathing.
8. Divers will assist and escort the bags up the travel line until they are confident that the bags will reach the surface. Divers will return to the bottom and begin placing the second set of 10 tires or more on the nylon sling.
9. Divers will repeat steps 5 – 8 until they have used up all the tire slings on bottom.
10. When the lift bags break the surface the IDC dive team will splash a surface swimmer connect the crane line to the nylon tire sling.
11. When the sling is secure to the crane line it will be removed from the travel line. The surface swimmer will clear the area and the crane will bring the tires on board.
12. Steps 9 & 10 will be repeated with the second tire sling and each time a lift bag comes to the surface.
13. After the initial 6 tire slings that and associated lift bags that were sent to the divers have been all been sent to the surface. The Barge team will send down another 6 sets to the divers down the travel line.
14. This process of tire recovery will continue until the first dive team reaches their bottom time limit.
15. Divers will surface and exit the water.
16. IDC will deploy the second dive team and the process will continue to repeat itself until the barge has reached its maximum capacity for tires 200 – 400 (actual number TBD during first couple of tire recovery evolutions) or all 2 man dive teams have reached their maximum allowable bottom times for 1 dive plus 1 repeat dive.
17. Divers will remove the trailer anchor established for the travel line, surface, and exit the water.
18. IDC barge will then unmoor and transit to the tire off load location.

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19. At the tire off load location IDC will remove the tires from the barge and place them into tire recycling containers provided by the FDEP.
20. Tires will be counted and documented according to a method that will be agreed upon by IDC, FDEP, and Broward County representative that will insure an accurate accountability of all tires recovered by IDC from the Osborne Tire Reef.
21. When all tires have been offloaded, documented, and placed in the recycling container the IDC supervisor will determine if there is enough remaining day light operation time and if the divers have had a sufficient surface interval to go back and continue work on the reef.
22. Exchanging divers for fresh divers from the shop if available is also an option.
23. Tire recovery will continue as long as bottom time and daylight is available for safe operations.
24. Operations will be discontinued for the day once maximum bottom time is achieved for all divers or there is only sufficient daylight remaining to bring tires in and place in recycling containers.

**Option #1 Modification #1**

1. During tire recovery if a travel line between the work site and the barge cannot be established because of current or other unforeseen factors. Diver will place the hand turned trailer anchor slightly east of their work area.
2. Divers will attach an up line to a surface buoy on the anchor.
3. Divers will send 10 tire bundles on lift bags up the line according to previous procedures.
4. When the lift bag reaches the surface. IDC barge team will deploy a 15' RHIB.
5. The RHIB will go to the lift bag and secure a line to the tire sling.
6. Once the line is secure the RHIB team will disconnect the sling from the up-line and tow the tires to the DSV.
7. At the DSV the RHIB team will connect the tire sling to the crane line. When the tire sling is secure to the crane line the RHIB team will disconnect the tow line and return to the up line for the next 10 tires or more bundle.
8. When the RHIB has cleared the area the DSV team will pick the tires out of the water with the crane and place them on the DSV.
9. This process will be repeated with each lift bag that surfaces.
10. When the dive teams have used up all recovery supplies on bottom the RHIB team will send more supplies down the up-line.

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**Phase 3: Option #2**

**This option will be used as back-up to Option #1 in the event that IDC's 50 DSV is inoperable for mechanical or other reason. Additionally, this option can be used to supplement Option #1 on good weather days that IDC has additional dive personnel available to maximize tire recovery within the work period.**

**Vessel Configurations: 1) 50' DSV & 36' Box Barge; 2) 50' DSV & 36' Pontoon Barge; 3) 36' Box Barge; 4) 36' Pontoon Barge; 5) 36' Box Barge & 36' Pontoon Barge; 6) 50' DSV, 36' Box Barge, & 36' Pontoon Barge**

1. IDC will transit to Osborne Tire Reef and moor into a 3 or 4 point mooring with the established up-lines in IDC's 36' barge.
2. If this option is being used to supplement IDC's 50' DSV. The 50' DSV will moor first and the 36' will moor second using some shared moorings with the DSV and some unused temporary moorings.
3. If this is not a viable option for mooring IDC will deploy 2 divers on SCUBA to remain in visual contact at all times to site the placement of Danforth anchors to station the barge over Priority Area 1.
4. IDC's 36' barge team will use the same procedures as the 50' DSV procedures established in Option #1 & Option #1 Modification #1 for tire recovery.
5. Both teams will work in tandem to increase efficiency and production.
6. Tire slings will be brought on board IDC's 36' barge using an A-Frame or Electric Davit depending on the 36' Barge being employed.
7. Once the deck of the barge is full of tires, the barge team will deploy a purpose built cargo net and spreader bar with either a 5,000lbs lift bag or 10,000lbs salvage pontoon.
8. Divers will lay the cargo net and spreader bar on bottom and load it with 100 – 200 tires. (Actual number of tires that the cargo net can hold by volume will be determined by divers on the first couple of tire recoveries).
9. Divers will then close up and secure the cargo net. Divers will attach a tag/tow line to the spreader bar and a fill line to the lift bag/pontoon.
10. Divers will surface and exit the water.
11. Barge team will begin inflation of the lift bag/ pontoon. When the tires reach the surface the barge team will un-moor while the lift bag/ pontoon finishes inflating to optimal capacity.
12. Barge team will shorten the tow line a manageable length and the barge will begin to transit to the tire offload location.

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13. One barge team member will be responsible for maintaining a constant visual observation on the lift bag and spreader bar to insure the bag remains inflated and the tow is under constant control.
14. When the Barge reaches the Port Everglades Channel the tow line will be shortened as much as possible to maintain maximum control over the towed tires.
15. Once at the dock a landside crane will attach to the spreader bar and the cargo net and tires will be removed from the water.
16. Tires will be documented and counted and placed in the tire recycling containers according to established procedures.
17. The lift bag/Pontoon will be deflated and placed back on the barge with the spreader bar and cargo net.
18. The remaining tires will be offloaded from the barge, counted, and documented according to established procedures.
19. Once all tires have been offloaded the dive supervisor will use the same criteria established in Option #1 to determine if the dive team can return to the Osborne Tire Reef and recover more tires for that work day.

**Option #2 Modification #1**

1. As a possibility to increase efficiency, production, and do to the slow nature of towing. The option to tow the cargo net loaded with tires, spreader bar and lift bag/pontoon can be done by IDC's 23' twin engine Suncoaster survey vessel.
2. This option would change the order in which divers operating from the 36' barges would bring up tires.
3. The cargo net would be loaded first and brought to the surface then transferred to the survey boat for tow to the dock.
4. This method allows for the divers to continue working while tires are towed to the offloading location and documented and accounted for according to established procedures.
5. If this can be accomplished in an efficient an timely manner the cargo net can be taken out to the tire reef and load again prior to the dive barge bringing in its deck load.
6. This would add approximately 2 or more cargo net loads of tires extra to be brought it on a work day increasing productivity and filling the recycling containers faster.

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**CONTACT INFORMATION****Industrial Divers Corp.**

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