



FEB 16 2011

Florida Department of Environmental Protection

Southeast District Office
400 No. Congress Avenue, Suite 200
West Palm Beach, FL 33401
(561) 681-6600

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard, Jr.
Secretary

City of Miami
c/o Carlos A. Migoya, City Manager
3500 Pan American Drive
Miami, FL 33133-5595

Dear Mr. Migoya:

Enclosed is Environmental Resource Permit No. 13-0186694-006 issued pursuant to Part IV of Chapter 373, Florida Statutes (F.S.), and Title 62, Florida Administrative Code (F.A.C.).

Please review this document carefully to ensure compliance with both the general and specific conditions contained herein. As the permittee, you are responsible for compliance with these conditions. **Please ensure all construction personnel associated with your activity review and understand the attached drawings and conditions.** Failure to comply with this permit may result in liability for damages and restoration, and the imposition of civil penalties up to \$10,000.00 per violation per day pursuant to Sections 403.141 and 403.161, F.S.

In addition, please ensure the construction commencement notice and all other reporting conditions are forwarded to the appropriate office as indicated in the specific conditions.

If you have any questions about this document, please contact me at 561/681-6646 or by email at Benny.Luedike@dep.state.fl.us.

Sincerely,

Benny Luedike
Environmental Specialist III
Submerged Lands & Environmental
Resources Program



Permit Review Checklist

(A summary of the required monitoring and reporting activities for your project)

Pre-Construction Requirements

Activity	Date Due	Date Completed
<input type="checkbox"/> Contact DEP to Schedule Pre-construction Meeting	Prior to construction	_____
<input type="checkbox"/> Submit Pre-Construction Notice Form to DEP	48 Hrs. Before Construction	_____
<input type="checkbox"/> Temporary Erosion & Turbidity Control Structures in Place	Prior to construction	_____

Construction Requirements

Activity	Date Due	Date Completed
<input type="checkbox"/> Permit with All Attachments Kept at the Work Site	Permit shall be available on-site for DEP inspector at all times	_____
<input type="checkbox"/> Permanent Erosion Control Structures in Place	Structures should be inspected daily	_____
<input type="checkbox"/> Manatee Observer(s) On-site	Duration of in-water activities	_____
<input type="checkbox"/> Turbidity Monitoring Reports Submitted	Due Weekly during all dredging activities	_____
<input type="checkbox"/> Annual Status Report Submitted	Following June of each year until complete	_____
<input type="checkbox"/> Report Changes to Permitted Drawings / Plans / Activities	Contact DEP before any changes	_____

Post-Construction Requirements

Activity	Date Due	Date Completed
<input type="checkbox"/> Completion and Certification (As-Built) Form signed & sealed by P.E. and sent to DEP	30 Days after dredging each Operational Section	_____
<input type="checkbox"/> Submit Disposal Logs and Landfill receipts	30 Days after dredging each Operational Section	_____

For the above criteria that require you to contact DEP – you should contact the Department of Environmental Protection, Southeast District Office, Environmental Resources Permitting Section, Compliance and Enforcement, 400 N. Congress Avenue, Suite 200, West Palm Beach, FL 33401, Attention: Don Keirn. Phone: 561-681-6644, Fax: 561-681-6780

PLEASE NOTE:

As the property owner/permittee, you are ultimately responsible for ensuring that the required conditions of your permit are complied with and timely reported to the Department. Please ensure that any designated contractors or agents acting on your behalf are familiar with these requirements.



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Permittee/Authorized Entity:

City of Miami
c/o Carlos A. Migoya, City Manager
3500 Pan American Drive
Miami, FL 33133-5595

Project Name:

City of Miami- Wagner Creek & Seybold Canal Dredge

Authorized Agent:

CH2M Hill, Inc.
c/o David J. Cole, Senior Project Manager
201 Alhambra Circle, Suite 600
Coral Gables, FL 33134
Email: David.cole2@ch2m.com

ERP Processor:

Benny Luedike, 561-681-6646

Environmental Resource Permit

State-owned Submerged Lands Authorization – Granted

**U.S. Army Corps of Engineers Authorization – Separate Corps Authorization
Required**

Permit No.: 13-0186694-006

Permit Issuance Date: 2-16-11

Permit Construction Phase Expiration Date: 2-15-16

Consolidated Environmental Resource Permit and State-owned Submerged Lands Authorization

Permittee: City of Miami

Permit No: 13-0186694-006

Project Name: City of Miami-Wagner Creek & Seybold Canal Dredge

AUTHORIZATIONS

Project Description

The permittee is authorized to remove approximately 46,041 yd³ of sediments by dredging 7.6 acres of submerged lands to the specified depths in the attached permit sketches (min. depth of -3.1 feet NGVD and max. depth of -13.9 feet NGVD) in order to remove contaminated sediments and re-establish historic water depths within the landward extent of Wagner Creek, a Class III Waterbody and within the landward extent of Seybold Canal, which is within Biscayne Bay Aquatic Preserve, Outstanding Florida Waters, a Class III Waterbody. All severed material, including 23,799 yd³ of sovereignty submerged lands within the Seybold Canal (south of 11th Street bridge) shall be disposed of at an approved landfill. Authorized activities are depicted on the attached exhibits.

The shorelines along the project area are primarily bulkheaded, however portions are also natural and contain emergent wetland vegetation. The submerged bottom within the project boundaries consists of barren muck or unconsolidated sediments and submerged resources were not documented within the project area, therefore this permit does not authorize any impacts to submerged resources. Additionally, dredging or filling of emergent vegetation or wetlands are not authorized by this permit.

The material shall be mechanically and/or hydraulically dredged from a shallow draft barge and temporarily stored and hauled in fully-sealed containers. In order to prevent effluent and sediments from discharging onto the property and/or into adjacent wetlands, surface waters, or storm drains, impermeable liners shall be installed at all approved upland temporary storage and load relay sites. Pursuant to Section 18-21.011(3)(c), F.A.C., severance fees shall not be required since it has been demonstrated that the dredge material has no economic value and will be disposed at approved landfills.

Staked and/or weighted floating turbidity curtains, extending to within one-foot from the bottom shall be utilized around the dredging activities to ensure that any turbidity resulting from construction activities will be contained within the project boundaries. Dredging within the Wagner Creek shall occur within 50-foot segments, where turbidity curtains shall be installed across the waterbody and where during mechanical dredging, the contractor shall install and maintain a pump and cartridge filter system in order to reduce the suspended solids prior to removing the turbidity control devices. Due to the flocculent nature of the sediment within the Seybold Canal and the need to maintain navigability, a temporary mixing zone shall be allowed under this permit to occur up to 150 meters down current of the construction activity (barge location). The mixing zone shall not extend into the Miami River, where an air bubble curtain shall be installed and maintained during all dredging activities in the Seybold Canal. A mixing zone is not authorized within the Wagner Creek (north of SW 11th Street bridge) since dredging will occur within 50-foot segments.

Permittee: City of Miami

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Turbidity shall be monitored and recorded immediately outside of the turbidity curtains and within 50-feet down current or at the edge of the mixing zones to ensure that turbidity levels do not exceed 29 NTUs above background within Wagner Creek and 0 NTUs above ambient background levels within Seybold Canal (Biscayne Bay Aquatic Preserve).

All waterbodies and wetlands outside the specific limits of construction, authorized by this permit shall be protected from erosion, siltation, sedimentation, and/or scouring. All staging areas and temporary workspaces shall be wholly located within uplands and all upland staging areas where sediments will be temporarily stored shall have an impermeable liner installed. Staked turbidity or siltation screens and/or staked hay bales shall be installed and maintained around all staging areas and in all areas where construction related activities are adjacent to wetlands, surface waters and storm drains. During all phases of the project, the permittee shall comply with the final Manatee Protection Plan, dated December 10, 2010 (copy attached) and other permit conditions included herein.

The project described above may be conducted only in accordance with the terms, conditions and attachments contained in this permit. The issuance of this permit does not infer, nor guarantee, nor imply that future permits or modifications will be granted by the Department.

State-owned Submerged Lands Authorization

As staff to the Board of Trustees, the Department has reviewed the activity described above and has determined the portion of the activity north of the NW 11th Street bridge is not on submerged lands owned by the State of Florida. Therefore, this portion of the project is not subject to the requirements of Chapter 253, Florida Statutes.

The portion of the activity located south of the NW 11th Street bridge is located on submerged lands owned by the State of Florida. It therefore also requires authorization, from the Board of Trustees of the Internal Improvement Trust Fund, pursuant to Article X, Section 11 of the Florida Constitution, and Section 253.77, Florida Statutes (F.S.) and Chapter 258, F.S.

As staff to the Board of Trustees, the Department has determined that the activity south of the NW 11th Street bridge qualifies for a Letter of Consent, as long as the work performed is located within the boundaries as described herein and is consistent with the terms and conditions herein.

Federal Authorization

A copy of this permit has been sent to the U.S. Army Corps of Engineers (USACE). The USACE may require a separate permit. Failure to obtain any required federal permits prior to construction could subject you to enforcement action by that agency.

Coastal Zone Management

This permit also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Management Act.

Water Quality Certification

This permit constitutes certification of compliance with state water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341.

Other Authorizations

You are advised that authorizations or permits for this project may be required by other federal, state or local entities including but not limited to local governments and homeowner's associations. This permit does not relieve you from the requirements to obtain all other required permits or authorizations.

In addition, you are advised that your project may require additional authorizations or permits from the municipality/county in which the project is located. Please be sure to contact the local county building and environmental department to obtain these required authorizations.

PROJECT LOCATION

The activities authorized by this Permit and state-owned submerged lands authorization are located within Wagner Creek and Seybold Canal, between NW 20th Street and NW 5th Street, where the portion that lies south of the NW 11th Street bridge is within the Biscayne Bay Aquatic Preserve, Outstanding Florida Waters, Class III Waters, City of Miami (Sections 2 and 35, Townships 53 South and 54 South, Range 41 East), in Miami-Dade County, commencing at Latitude N 25° 47' 39.83", Longitude W 80° 13' 18.21" and terminating at Latitude N 25° 46' 43.97", Longitude W 80° 12' 26.02".

PERMIT / STATE-OWNED SUBMERGED LANDS CONDITIONS

The activities described herein must be conducted in accordance with:

- **The Specific Conditions**
- **The General Conditions**
- **The General Consent Conditions**
- **The limits, conditions and locations of work shown in the attached drawings**
- **The term limits of this authorization**

You are advised to read and understand these conditions and drawings prior to commencing the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor also should read and understand these conditions and drawings prior to commencing the authorized activities. Failure to comply with these conditions, including any mitigation requirements, shall constitute grounds for revocation of the Permit and appropriate enforcement action by the Department.

Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and this permit/certification/authorization and state-owned submerged lands authorization, as specifically described above.

SPECIFIC CONDITIONS - PRIOR TO CONSTRUCTION

(1) The attached project drawings (sheets 1 through 82); the attached 1-page permit checklist; the attached 14-page Final Manatee Protection Plan, dated December 10, 2010 (Exhibit A); and DEP forms 62-343.900(3), (4), (5), and (7) F.A.C., which may be downloaded at <http://www.dep.state.fl.us/water/wetlands/erp/forms.htm> become part of this permit. If the

Permittee: City of Miami

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applicant does not have access to the Internet, please contact the Department at (561) 681-6646 to request the aforementioned forms and/or document(s).

(2) If the attached permit drawings and plans conflict with the specific conditions, then the specific conditions shall prevail. All construction activities and dredge spoil management shall be consistent with the final Corrective Action Plan on file with the Department (dated August 12, 2009), however if the plan conflicts with the specific conditions provided herein, then the specific conditions shall prevail.

(3) After selection of the contractor to perform the authorized activities and prior to the initiation of any work authorized by this permit, the permittee (or authorized agent) and the contractor shall attend a pre-construction conference with a representative of the Department. The permittee shall contact the Department in writing to schedule the conference at: Department of Environmental Protection, Southeast District, Submerged Lands & Environmental Resources Program, Compliance/Enforcement Section, Attention: Don Keirn, 400 N. Congress Ave., Suite 200, West Palm Beach, Florida 33401 (phone: 561/681-6644).

(4) Prior to any dredging activities, the permittee shall provide written approval to the Department from a permitted waste water treatment plant, indicating that their facility will accept the residual water (i.e. free dredge water, dredge run-off, collected water) associated with dredging the Wagner Creek and Seybold Canal.

(5) The permittee shall be responsible for ensuring that the permit conditions are explained to all construction personnel working on the project, and for providing each contractor and subcontractor with a copy of this permit before construction begins.

(6) The work authorized by this permit shall not be conducted on any property, other than that owned by the permittee, without the prior written approval of that property owner.

SPECIFIC CONDITIONS – CONSTRUCTION ACTIVITIES

(7) Impacts to submerged, emergent aquatic vegetation, and/or wetlands are **not** authorized by this permit.

(8) All areas to be dredged shall be in accordance with the attached permit drawings and shall not exceed the areas and depths indicated on those drawings.

(9) The material shall be mechanically and/or hydraulically dredged from the uplands or from a shallow draft barge and temporarily stored and hauled in fully-sealed containers. In conformance with Section 3.5 of the final Corrective Action Plan, and in order to prevent effluent and sediments from discharging onto the property and/or into adjacent wetlands, surface waters, or storm drains, impermeable liners shall be installed at all approved upland temporary storage and load relay sites. Prior to removing the liners from the staging sites, each liner shall be free of residual water and sediments and disposed of at approved locations.

(10) All watercraft associated with the construction of the permitted structure shall only operate within waters of sufficient depth (one-foot clearance from the deepest draft of the vessel to the submerged bottom) so as to preclude bottom scouring and prop dredging.

(11) Prior to the initiation of any work authorized by this permit, floating turbidity curtains with weighted skirts that extend to within 1-foot of the bottom shall be placed around the dredge area. All turbidity devices shall be maintained and remain in place for the duration of the project construction to ensure that turbidity levels directly outside the turbidity curtains do not exceed 29 NTUs above background levels within Wagner Creek and turbid discharges do not occur directly outside the mixing zone within the Seybold Canal (Biscayne Bay Aquatic Preserve). The permittee shall be responsible for ensuring that turbidity control devices are inspected daily and maintained in good working order during all phases of construction authorized by this permit until all areas that were disturbed during construction are sufficiently stabilized to prevent turbid discharges.

Turbidity levels directly outside the temporary mixing zones shall not exceed 29 NTUs above ambient levels within Wagner Creek (north of SW 11th Street) and 0 NTUs above ambient levels with the Seybold Canal (south of NW 11th Street bridge and within Biscayne Bay Aquatic Preserve).

The following measures shall be taken by the permittee whenever turbidity levels within waters of the State directly outside of the turbidity curtains or at the edge of the 150 meter temporary mixing zones surrounding the project site exceed 29 NTUs above the ambient turbidity levels within Wagner Creek and 0 NTUs above ambient turbidity levels within the surrounding waters of the Seybold Canal (Biscayne Bay Aquatic Preserve):

- a. Notify the DEP-Southeast District Office ERP Compliance/Enforcement Section at 561-681-6644 at the time the violation is first detected.
- b. Immediately cease all work contributing to the water quality violation. Operations may not resume until the Department gives authorization to do so.
- c. Modify the work procedures that were responsible for the violation, install more turbidity containment devices, and repair any non-functioning turbidity containment devices. **Do not continue any in or over water work until approval has been given by DEP staff.**

(12) There shall be no storage or stockpiling of tools and materials (i.e., lumber, pilings, debris), along the shoreline adjacent to waters of the state.

(13) Within 14 days of dredging each segment, the permittee and/or contractor shall fully restore all staging areas to their original condition in accordance with Section 3.9 of the Corrective Action Plan. If any dredge material is stored directly on lands without a liner, then the permittee shall be required to conduct sediment testing, and as necessary, shall provide a contamination clean-up plan for that particular site.

(14) For the proposed dredging and staging activities, the permittee and /or contractor shall maintain the necessary setbacks from jurisdictional wetlands and existing structures so that

impacts to these resources and structures do not occur. If impacts to wetlands and/or structures (i.e. docks, seawalls, bridges and pilings) occur, the permittee and/or contractor shall contact the Department immediately to report all damages.

(15) All dredged material shall be disposed of at approved landfills. Approximately 2,445 yd³ of dredge material from Operational Section 1 shall be disposed at Emelle, Alabama and transported in accordance with Chapter 62-703, F.A.C. Approximately 43,596 yd³ of dredge material from Operational Sections 1 through 5 shall be disposed at Medley Landfill in accordance with Chapter 62-701, F.A.C., FDEP Waste Permit No. 0056401-015-SC, and/or any subsequent permits for that facility. Any hazardous waste anomaly material shall be documented and disposed of in accordance with Chapter 62-703, F.A.C. Shipping manifest logs and Landfill disposal receipts shall be provided within 30 days in accordance with the reporting requirements in Specific Condition No. 20.

(16) All residual water (i.e. free dredge water, dredge run-off, collected water) in the watertight containers shall be subsequently stored in approved storage tanks and/or approved vacuum trucks and disposed at permitted waste water treatment plants. All storage tanks for the residual water shall be placed on an impermeable liner. Specific volumes (gallons) of separately stored residual water shall be documented in the reporting requirements as part of Specific Condition No. 20.

SPECIFIC CONDITIONS – MANATEE CONDITIONS

(17) During all phases of the project, the permittee shall comply with the 14-page final Manatee Protection Plan, dated December 10, 2010 (copy attached).

SPECIFIC CONDITIONS – HISTORICAL RESOURCES

(18) If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333, as well as the appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes.

SPECIFIC CONDITIONS – MONITORING/REPORTING REQUIREMENTS

(19) Turbidity Monitoring. Water turbidity levels shall be monitored and recorded at least every 4 hours during dredging operations or upon the occurrence of other circumstances that might create water quality violations on site. Samples shall be taken one-foot below the surface at monitoring stations located as follows:

- a. Approximately 100 feet up-current of the work sites and clearly outside the influence of construction activities. (This shall serve as the natural background sample against which other turbidity readings shall be compared.)
- b. Approximately 50 feet down-current of the work sites, and within the densest portion of any visible turbidity plume. (This sample shall serve as the compliance sample.)

If at any time during construction, the turbidity level directly outside turbidity curtains surrounding the work sites exceeds 29 NTUs within Wagner Creek (north of the NW 11th Street bridge) and/or natural background levels within the aquatic preserve (south of NW 11th Street bridge within Seybold Canal), the permittee or permittee's contractor shall take the following actions: (1) immediately cease the operations that cause the water quality violations; (2) notify the Department's Division of Environmental Resource Permitting at the time the violation is first detected; and (3) modify the work procedures that were responsible for the violation.

(20) Turbidity Monitoring Reports. During construction, the permittee or permittee's contractor shall submit daily monitoring reports on a weekly basis containing the turbidity data gathered to the Department of Environmental Protection, Southeast District Branch Office, Submerged Lands & Environmental Resources Program, Compliance/Enforcement Section, Attention: Don Keirn, 400 North Congress Avenue, Suite 200, West Palm Beach, FL 33401 (phone: 561-681-6644). The reports shall contain the following information:

- a. Turbidity Monitoring Report ID No.
- b. Permit number
- c. Project name
- d. Dates of sampling and analysis
- e. Turbidity sampling results
- f. Description of data collection methods
- g. A map indicating the sampling locations and temporary mixing zones
- h. Time of day profile was taken
- i. Depth of water body
- j. Weather conditions at times of sampling
- k. Tidal stage and direction of flow
- l. Wind direction and velocity
- m. Water temperature

Furthermore, each monitoring report shall include a statement by the individual responsible for implementation of the sampling program attesting to the authenticity, precision, limits of detection, and accuracy of the data.

(21) For each Operational Section, the permittee and/or contractor shall maintain disposal logs detailing the following information:

- a. Disposal Load or Haul ID No.
- b. Project name
- c. Permit number
- d. Operational Section being dredged

- e. Date of dredging activities
- f. Date that log is completed
- g. Volume of dredge material removed/stored
- h. Temporary storage location (i.e. address/folio number)
- i. Anticipated temporary storage time
- j. Actual temporary storage time
- k. Final disposal location with disposal receipts
- l. Corresponding Turbidity Monitoring Report ID
- m. Corresponding Residual Water Storage Tank ID No. and volume removed
- n. Special notes regarding any anomaly debris, indicating whether it is hazardous

Within 30 days of final disposal of any material, the permittee and/or contractor shall provide the disposal logs to the Department at the address in Specific Condition No. 3. All dredge material shall be disposed of at an approved landfill, otherwise additional sediment testing and severance fees shall be required.

(22) Within 6 months of completing the dredging activities in Operational Section 1, the permittee shall prepare and submit to the Department at the address listed in Specific Condition No. 3 a Post-Dredging Sediment Analyses Plan for approval. The plan shall include at a minimum: (1) a summary of the initial findings for each segment of Operational Section 1; (2) location of proposed post-dredging sediment analyses points; (3) constituents being tested for; and (4) detailed discussion of any remedial actions proposed. Following submittal, the plan shall be reviewed by the Waste Section for final approval.

(23) Within 30 days after completing the dredging activities in each Operational Section, the permittee shall submit record drawings (as-builts) to the office listed in Specific Condition No. 3. The drawings shall be in a format that will facilitate a direct comparison of the permitted activities and the work actually constructed.

GENERAL CONDITIONS

(24) All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.

(25) This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by the Department staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

(26) Activities approved by this permit shall be conducted in a manner which does not cause violations of state water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of state water quality standards. Temporary erosion control shall be implemented prior to and during construction and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers

shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

(27) The permittee shall notify the Department of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the Department an "**Environmental Resource Permit Construction Commencement**" notice (Form No. 62-343.900(3), F.A.C.) indicating the actual start date and the expected completion date.

(28) When the duration of construction will exceed one year, the permittee shall submit construction status reports to the Department on an annual basis utilizing an "**Annual Status Report Form**" (Form No. 62-343.900(4), F.A.C.). Status Report Forms shall be submitted the following June of each year.

(29) Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the supplied "**Environmental Resource Permit As-Built Certification by a Registered Professional**" (Form No. 62-343.900(5), F.A.C.). The statement of completion and certification shall be based on on-site observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the Department that the system is ready for inspection. Additionally, if deviation from the attached drawings is discovered during the certification process, the certification must be accompanied by a copy of the attached permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor.

(30) The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition # 29 above, has submitted a "**Request for Transfer of Environmental Resource Permit Construction Phase to Operation Phase**" (Form No. 62-343.900(7), F.A.C.); the Department determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the Department in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the Department, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit

is transferred pursuant to Section 62-343.110(1)(d), F.A.C., the permittee shall be liable for compliance with the terms of the permit.

(31) Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.

(32) For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the Department along with any other final operation and maintenance documents required by sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District - August 1995, prior to lot or unit sales or prior to the completion of the system, whichever occurs first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State where appropriate. For those systems which are proposed to be maintained by the county or municipal entities, final operation and maintenance documents must be received by the Department when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.

(33) Should any other regulatory agency require changes to the permitted system, the permittee shall notify the Department in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.

(34) This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C.

(35) The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the state, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.

(36) The permittee is advised that the rules of the South Florida Water Management District require the permittee to obtain a water use permit from the South Florida Water

Management District prior to construction dewatering, unless the work qualifies for a general permit pursuant to subsection 40E-20.302(4), F.A.C., also known as the "No Notice" rule.

(37) The permittee shall hold and save the Department harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.

(38) Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under section 373.421(2), F.S., provides otherwise.

(39) The permittee shall notify the Department in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of section 62-343.130, F.A.C. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.

(40) Upon reasonable notice to the permittee, Department authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

(41) If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate Department office.

(42) The permittee shall immediately notify the Department in writing of any previously submitted information that is later discovered to be inaccurate.

GENERAL CONSENT CONDITIONS

Chapter 18-21.004(7), F.A.C., General Conditions for Authorizations:

(43) Authorizations are valid only for the specified activity or use. Any unauthorized deviation from the specified activity or use and the conditions for undertaking that activity or use shall constitute a violation. Violation of the authorization shall result in suspension or revocation of the grantee's use of the sovereignty submerged land unless cured to the satisfaction of the Board.

(44) Authorizations convey no title to sovereignty submerged land or water column, nor do they constitute recognition or acknowledgment of any other person's title to such land or water.

(45) Authorizations may be modified, suspended or revoked in accordance with their terms or the remedies provided in Sections 253.04 and 258.46, F.S., or Chapter 18-14, F.A.C.

(46) Structures or activities shall be constructed and used to avoid or minimize adverse impacts to sovereignty submerged lands and resources.

(47) Construction, use, or operation of the structure or activity shall not adversely affect any species which is endangered, threatened or of special concern, as listed in Rules 68A-27.003, 68A-27.004, and 68A-27.005, F.A.C.

(48) Structures or activities shall not unreasonably interfere with riparian rights. When a court of competent jurisdiction determines that riparian rights have been unlawfully affected, the structure or activity shall be modified in accordance with the court's decision.

(49) Structures or activities shall not create a navigational hazard.

(50) Structures shall be maintained in a functional condition and shall be repaired or removed if they become dilapidated to such an extent that they are no longer functional. This shall not be construed to prohibit the repair or replacement subject to the provisions of Rule 18-21.005, F.A.C., within one year, of a structure damaged in a discrete event such as a storm, flood, accident, or fire.

(51) Structures or activities shall be constructed, operated, and maintained solely for water dependent purposes, or for non-water dependent activities authorized under paragraph 18-21.004(1)(g), F.A.C., or any other applicable law.

Executed in Palm Beach County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Kevin Claridge
Assistant District Director
Southeast District

Attachments:

Permit Checklist (1 page)
Project Drawings (82 pages)
Manatee Protection Plan (13 pages)

Attached By Reference:

Commencement notice /62-343.900(3)
Annual status report/62-343.900(4)
As-built certification/62-343.900(5)
Transfer construction to operation phase/ 62-343.900(7)

Copies furnished to:

Don Keirn, FDEP- Compliance & Enforcement Section, Don.Keirn@dep.state.fl.us
Pamela Sweeny, FDEP- Coastal & Aquatic Managed Areas, Pamela.Sweeny@dep.state.fl.us
Kellie Youmans, FFWCC- Bureau of Protected Species, Kellie.Youmans@fwc.com
Joe Lurix, FDEP- Waste Section Program Administrator, Joe.Lurix@dep.state.fl.us

Permittee: City of Miami
Permit No: 13-0186694-006
Page 12 of 13

Paul Wierzbicki, FDEP- Hazardous Waste Section, Paul.Wierzbicki@dep.state.fl.us
Hubert Philoctete, FDEP- Waste Clean-Up, Hubert.Philoctete@dep.state.fl.us
Amy Tracy, FDEP- Watershed Planning Section, Amy.Tracy@dep.state.fl.us
Keith A. Ng, City of Miami Department of Capital Improvements Program, kng@miamigov.com
Laura A. Kammerer, State Bureau of Historic Preservation, LKammerer@dos.state.fl.us
Chrissy Hopps, Miami Dade DERM, HoppsC@miamidade.gov
Rosalinda Rodriguez, USACOE- Miami Office, Rosalinda.Rodriguez@usace.army.mil
David J. Cole, CH2M Hill, Inc., David.cole2@ch2m.com

CERTIFICATE OF SERVICE

The undersigned hereby certifies that this permit and authorization to use sovereignty submerged lands, including all copies, were mailed before the close of business on FEB 16 2011, to the above listed persons.

FILING AND ACKNOWLEDGMENT

FILED, on this date, under 120.52(7) of the Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Rachel Osborne 2/16/11
Clerk Date

MAP SHOWING A HYDROGRAPHIC & TOPOGRAPHIC SURVEY OF: WAGNER CREEK & SEYBOLD CANAL DADE COUNTY, FLORIDA FOR: CH2MHILL



VICINITY MAP
NOT TO SCALE

LEGEND/ABBREVIATIONS			
—	TRAFFIC CONTROL BOX	D-10	DEBRIS LOCATION
—	CABLE BOX	S-10	STRUCTURE LOCATION
—	TELEPHONE BOX	CH-10	CORE SAMPLE LOCATION
—	ELECTRIC BOX	—	GAS UTILITY LINE
—	ELECTRIC MANHOLE	—	ELECTRIC UTILITY LINE
—	ELECTRIC HAND HOLE	—	TELEPHONE UTILITY LINE
—	DRAINAGE MANHOLE	—	OVERHEAD UTILITY LINE
—	SANITARY HANDHOLD	—	UNDERGROUND STREET LIGHT LINE
—	SPRINKLER	—	IRON PIPE
—	SECURITY CAMERA	—	IDENTIFICATION
—	CONTROL VALVE	—	IRON ROD
—	WATER VALVE	—	SEWER PIPE
—	WATER METER	—	TOP OF BANK
—	ELECTRIC METER	—	CHAIN LINK FENCE
—	FIRE HYDRANT	—	REINFORCED CONCRETE PIPE
—	3" PVC PIPE	—	CORRUGATED METAL PIPE
—	SOIL	—	POLY VINYL CHLORIDE
—	LIGHT POLE	—	MAN HOLE
—	WOOD UTILITY POLE	—	HEAD WALL
—	CONCRETE UTILITY POLE	—	RIGHT OF WAY
—	GUY ANCHOR	—	INVERT
—	BIOLOGICAL LOCATION	—	M.I.E.S.
—	CRACK LOCATION	—	MITERED END SECTION
—		—	CONCRETE MONUMENT

SURVEY NOTES:

- ALL DIMENSIONS SHOWN HEREON ARE IN FEET AND IN TENTHS AND ARE BASED ON THE U.S. SURVEY FOOT.
- ABOVE GROUND EVIDENCE OF UNDERGROUND FEATURES (IE UTILITIES, TANKS, RAILROAD TRACKS, ETC.) ARE SHOWN HEREON. UNDERGROUND UTILITIES ARE SHOWN AS MARKED BY SUNSHINE STAB ONE CALL UTILITY LOCATING SERVICE.
- PARCEL BOUNDARY LOCATIONS AND SOME PLANNING INFORMATION WAS OBTAINED FROM A PREVIOUS SURVEY BY LESDNER SURVEYING AND MAPPING, DATED: JUNE 12, 2002.
- SURVEYS FIELD DATA WAS OBTAINED FROM JUNE 23, 2008 THRU JULY 17, 2008.
- BACKGROUND IMAGERY WAS OBTAINED FROM GOOGLE EARTH AND IS FOR REFERENCE PURPOSES ONLY.
- BATHYMETRIC DATA WAS OBTAINED WITH A RESON 210 BERT SOUNDER. POSITIONAL DATA WAS OBTAINED WITH A TRIMBLE 5800 REAL TIME KINEMATIC GPS SURVEYING SYSTEM.
- COORDINATES SHOWN HEREON ARE BASED ON A CITY OF MIAMI BENCHMARK LOCATED AT THE SOUTHWEST CORNER OF NW 13th AVE., AND ARE REFERENCED TO THE STATE PLANE COORDINATE SYSTEM, FLORIDA EAST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
- ELEVATIONS SHOWN HEREON ARE BASED ON A CITY OF MIAMI BENCHMARK LOCATED AT THE SOUTHWEST CORNER OF NW 13th AVE., HAVING AN ELEVATION OF 5.37 FEET, AND IS REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).
- THE BIOLOGICAL LOCATIONS, CRACK LOCATIONS, DEBRIS LOCATIONS, AND STRUCTURE LOCATIONS SHOWN ON THIS SURVEY WERE IDENTIFIED BY THE ENVIRONMENTAL CONSULTING FIRM OF MILMAN, SWAIN & ASSOCIATES, 2257 ASTA PARKWAY, SUITE #10, WEST PALM BEACH, FLORIDA, 33411. INFORMATION REQUESTS IN REGARD TO THESE LOCATIONS SHOULD BE DIRECTED TO MILMAN, SWAIN & ASSOCIATES.
- THE PROPOSED DREDGE CUT LINES AND GRADES SHOWN ON THESE CROSS-SECTIONS ARE TO BE FIELD VERIFIED IN ORDER TO REMOVE THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE WITHOUT COMPROMISING STRUCTURES LOCATED ADJACENT TO OR WITHIN THE DESIGNATED WORK AREA.
- WAGNER CREEK AND SEYBOLD CANAL ARE TIDAL WATERS AND THEREFORE TITLE TO THE LANDS BELOW THE MEAN HIGH WATER LINE, ELEVATION 1.88 NGVD29, IS VESTED IN THE BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA.

- OPERATIONAL SECTION 1
SHEETS 2-5
- OPERATIONAL SECTION 2
SHEETS 5-7
- OPERATIONAL SECTION 3
SHEETS 7-11
- OPERATIONAL SECTION 4
SHEETS 11-13
- OPERATIONAL SECTION 5
SHEETS 13-17
- OPERATIONAL SECTION 6
SHEETS 17-23



DADE COUNTY, FLORIDA
WAGNER CREEK &
SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-5 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

RICHARD J. SAWYER
FLORIDA REGISTERED CERTIFICATE NO. 6131

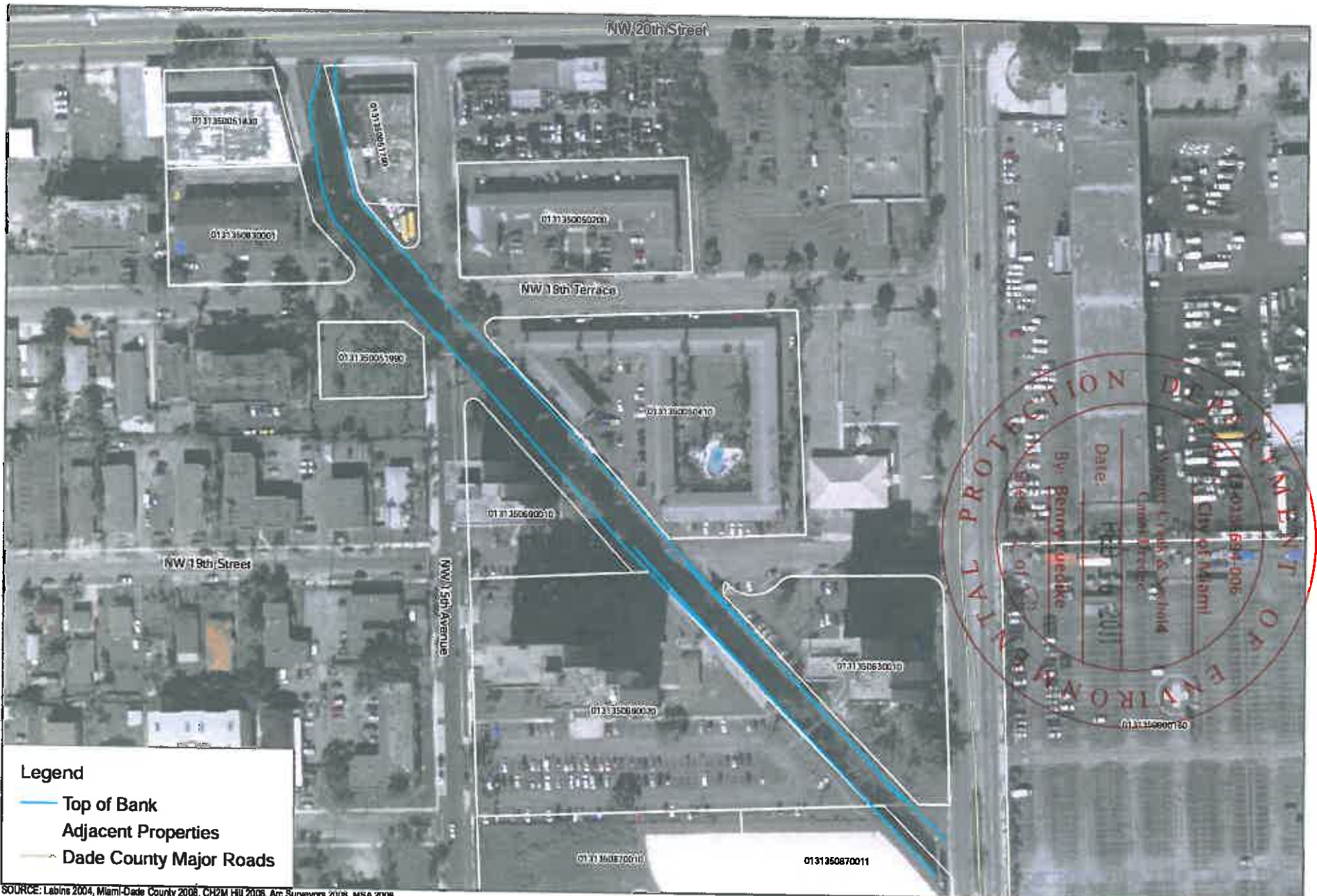
ARC SURVEYING & MAPPING, INC.



5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY: JKM DATE: 11-14-08 FIELD BOOK & PAGE: 08-08/08-09 JOB NO.: 07-10-07

SHEET 1 OF 23

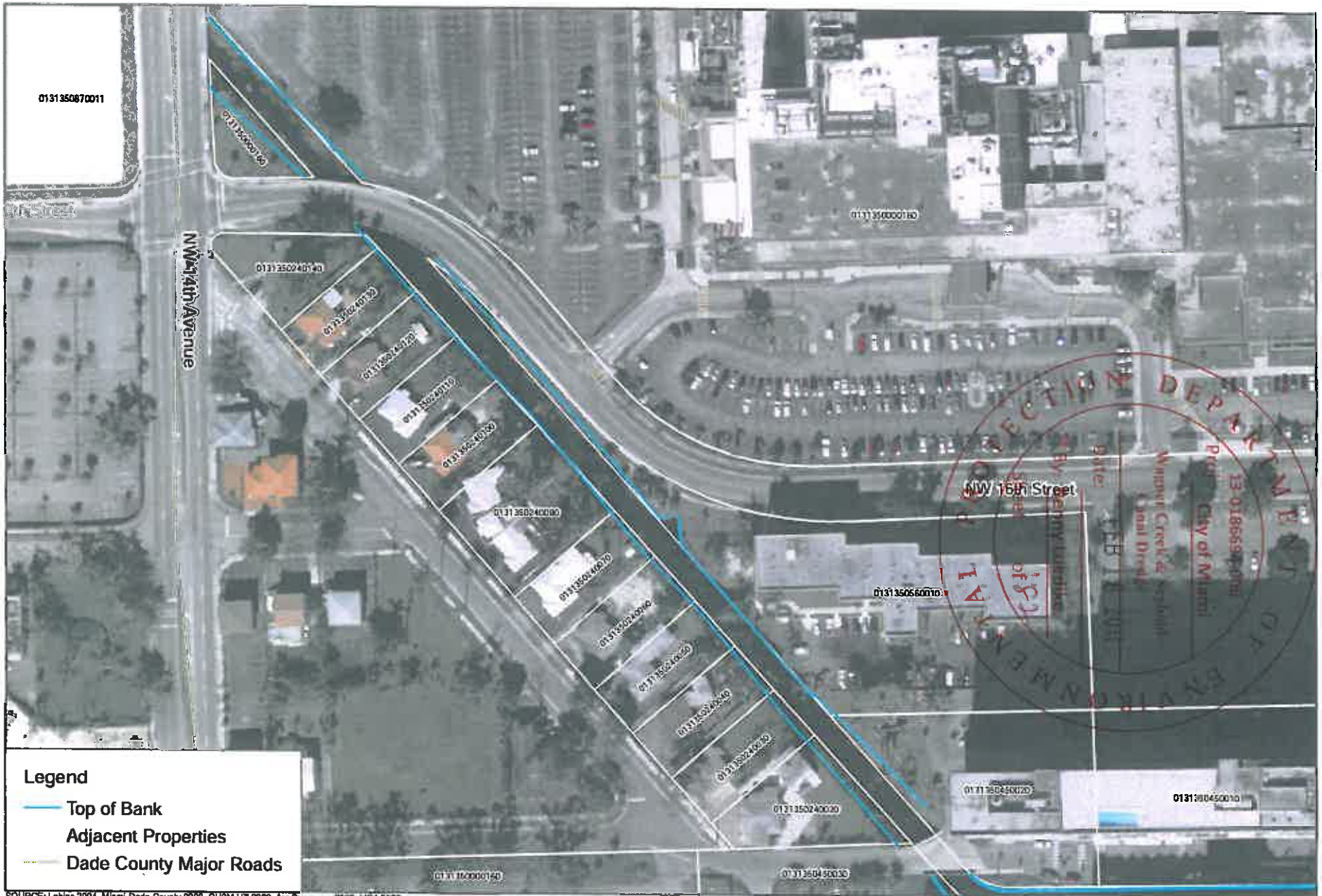


SOURCE: Labins 2004, Miami-Dade County 2008, CH2M Hill 2008, Arc Surveyors 2008, MSA 2008

2008 Milan, Swain & Associates, Inc.



Figure 3-7
Aerial View Section 1
Corrective Action Plan



Legend

- Top of Bank
- Adjacent Properties
- Dade County Major Roads

SOURCE: Labina 2004, Miami-Dade County 2008, CH2M Hill 2008, Arc Surveyors 2006, MSA 2006

2006 Millan, Swain & Associates, Inc.



I2MHILL

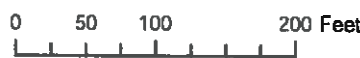
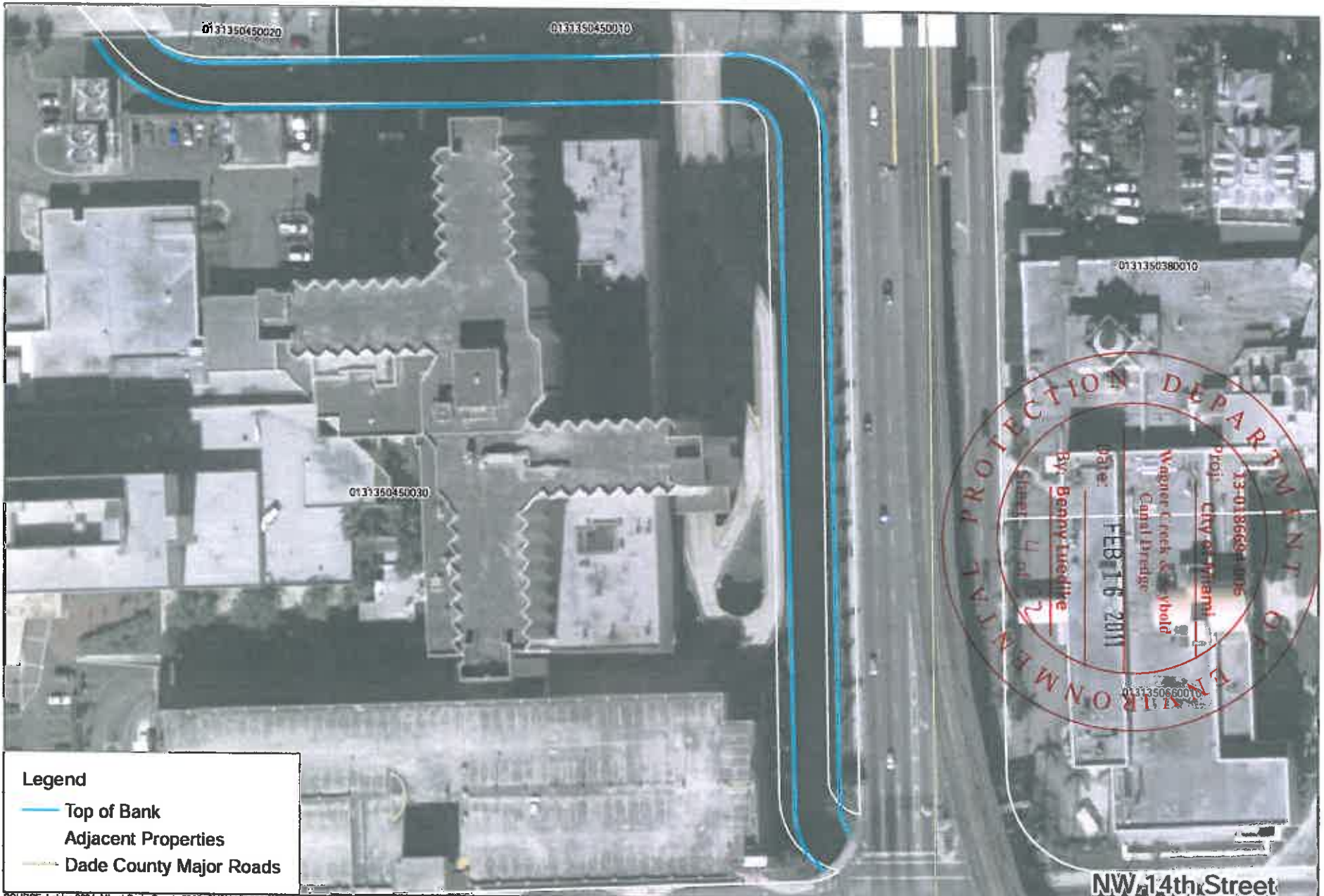


Figure 3-8
 Aerial View of Section 2
 Corrective Action Plan



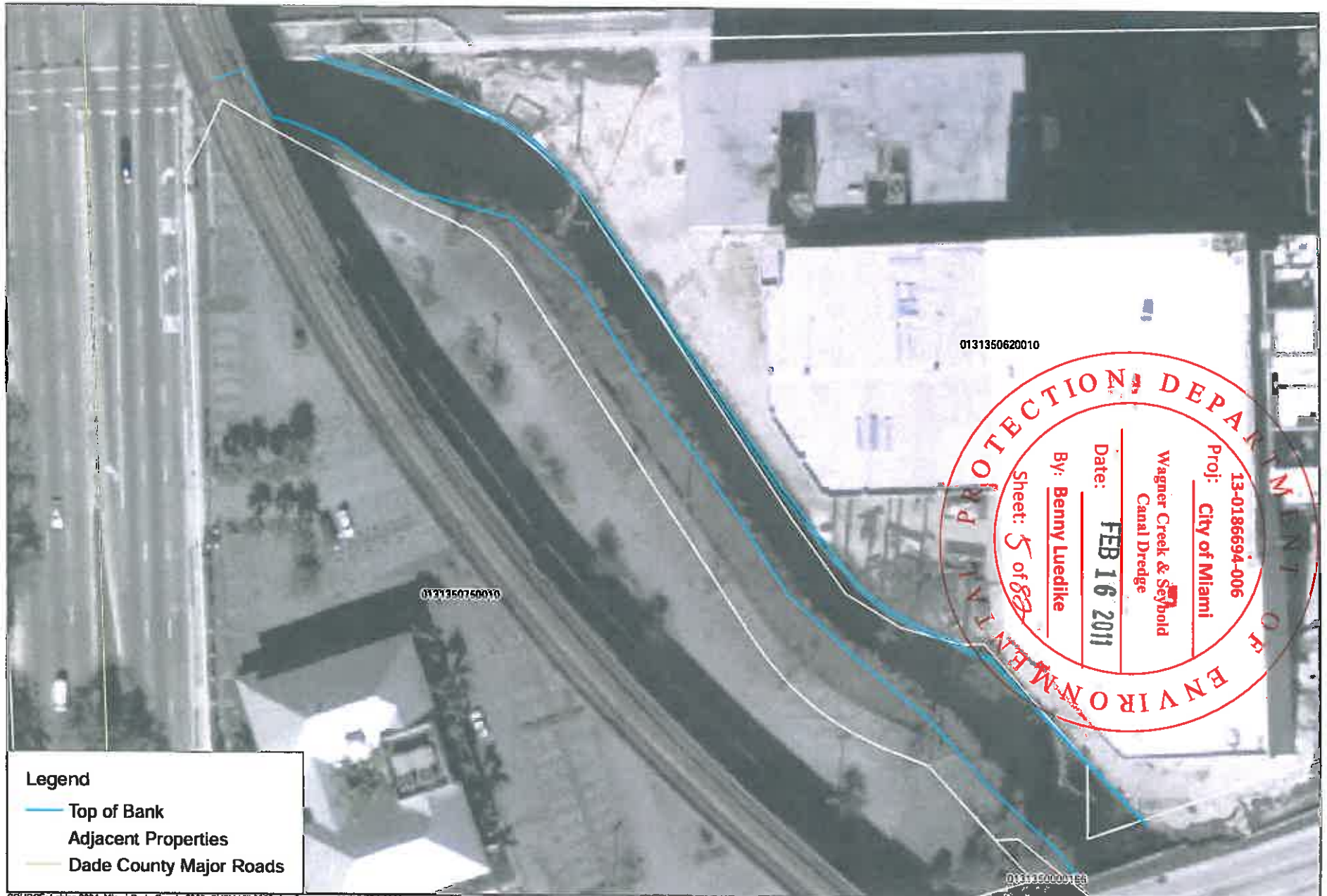
Legend

- Top of Bank
- Adjacent Properties
- Dade County Major Roads

SOURCE: Labins 2004, Miami-Dade County 2008, CH2M Hill 2008, Arc Surveyors 2008, MSA 2008

2008 Milian, Swain & Associates, Inc.

Figure 3-9
Aerial View Section 3
Corrective Action Plan



Legend

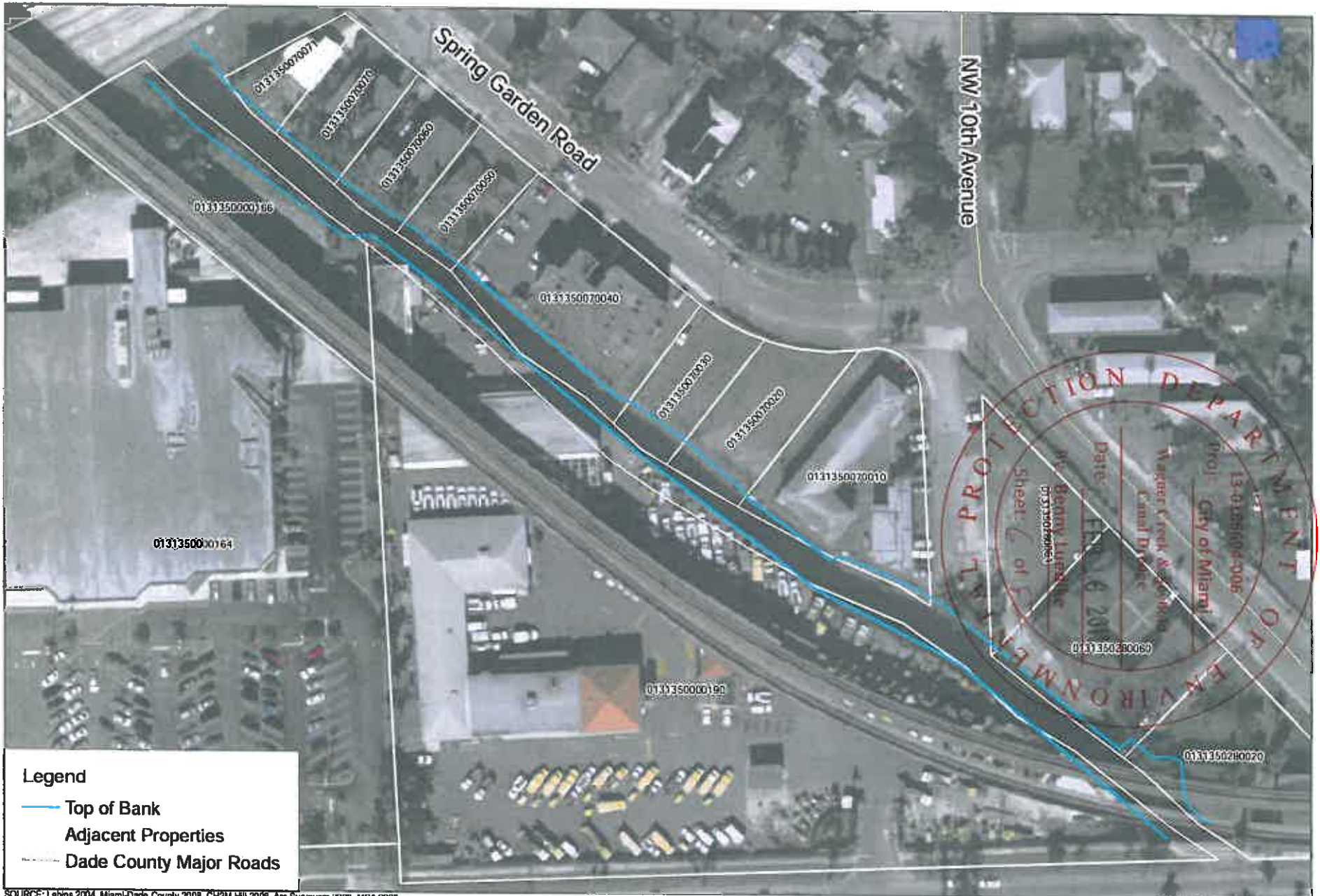
- Top of Bank
- Adjacent Properties
- Dade County Major Roads

SOURCE: Labins 2004, Miami-Dade County 2008, CH2M Hill 2008, Arc Surveyors 2008, MSA 2008

2008 Millen, Swain & Associates, Inc.



Figure 3-10
 Aerial View Section 4
 Correl. Action Plan

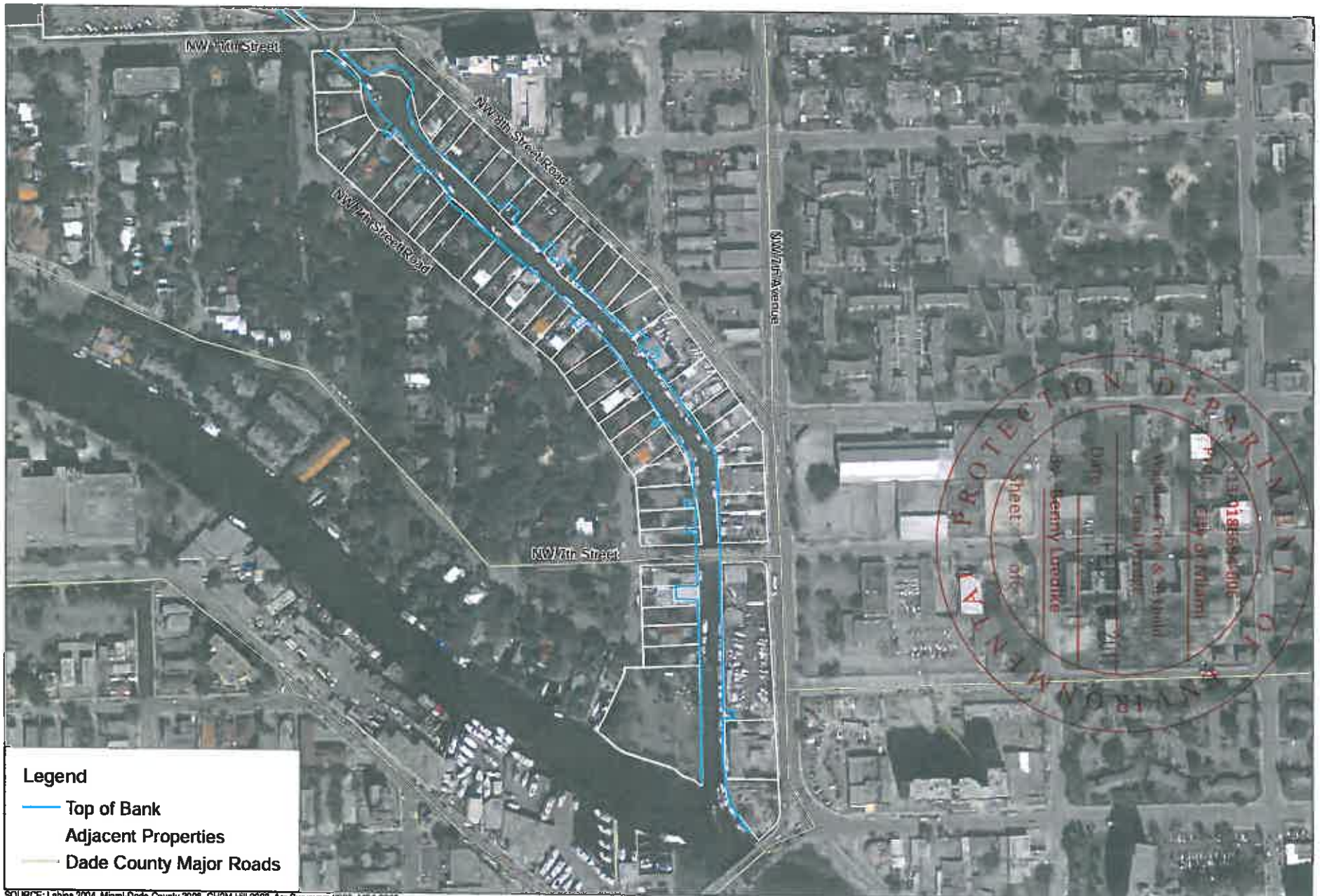


SOURCE: Labins 2004, Miami-Dade County 2008, CH2M Hill 2008, Arc Surveyors 2008, MSA 2008

2008 Miami, Swain & Associates, Inc.



Figure 3-11
Aerial View Section 5
Corrective Action Plan



Legend

- Top of Bank
- Adjacent Properties
- Dade County Major Roads

SOURCE: Labns 2004, Miami-Dade County 2008, CH2M Hill 2008, Arc Surveyors 2006, MSA 2006

2008 Milian, Swain & Associates, Inc.



12MHILL



Figure 3-12
 Aerial View Section 6
 Correlation Action Plan

N.W. 20th STREET

SET K-CUT
 THE
 31834.3880
 87295.6780
 ELEVATION 8.1

CONC. BRIDGE

POB0+00.00

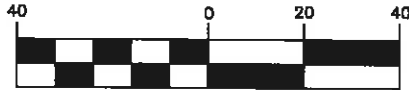
PI0+47.24

N.W. 15th AVENUE

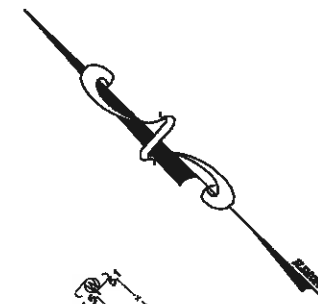
PI1+68.91

1+50

GRAPHIC SCALE



(IN FEET)
 1 inch = 40 ft.



ENVIRONMENTAL PROTECTION DEPARTMENT
 DATE: FEB 16 2011
 BY: JENNY LUEBKE
 PROJECT: WAGNER CREEK & SEYBOLD CANAL
 13371 5666 4-006
 MIAMI

MATCHLINE SEE SHEET 3

OPERATIONAL SECTION 1 SHEET 2 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
 WAGNER CREEK &
 SEYBOLD CANAL
 MIAMI, FLORIDA

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-6 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
 FLORIDA REGISTERED CERTIFICATE. NO. 6438

ARC SURVEYING & MAPPING, INC.

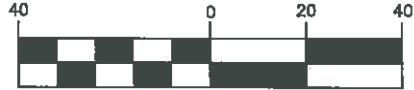


5202 SAN JUAN AVENUE,
 JACKSONVILLE, FLORIDA 32210
 PHONE: 904/384-8377
 LICENSED BUSINESS NO. 6487

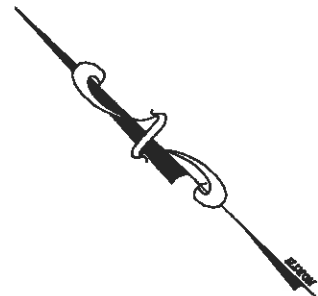
DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-08/08-09	07-10-07

N.W. 19th TERRACE

GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.



SEE SHEET 2

SEE SHEET 4

MATCHLINE

MATCHLINE

3.0
3.0
3.0



12" RCP
INV=-0.94

FOUND
12" IP
NO ID

12" RCP
INV=-0.52

12" CMP
INV=-1.57

TOB

E'LY R/W LINE

TOB

12" CMP
INV=-1.57

WAGNER CREEK
OPERATIONAL SECTION 1

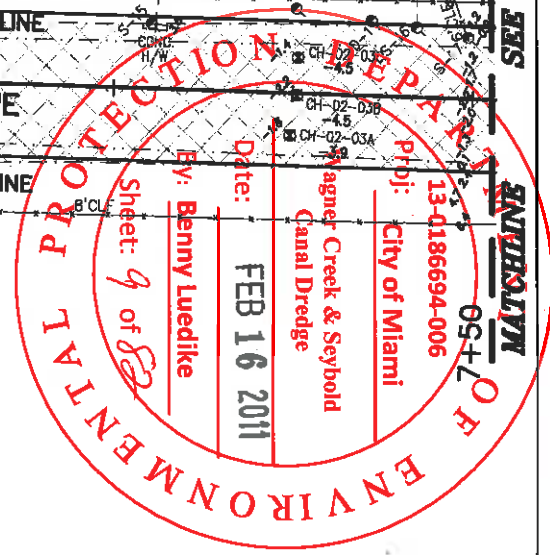
BASELINE

W'LY R/W LINE



4+50

00+9



OPERATIONAL SECTION 1 SHEET 3 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
WAGNER CREEK &
SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:
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MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

ARC SURVEYING & MAPPING, INC.



5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

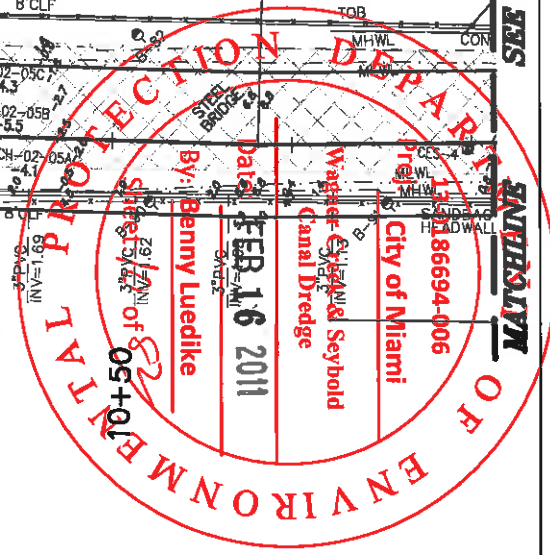
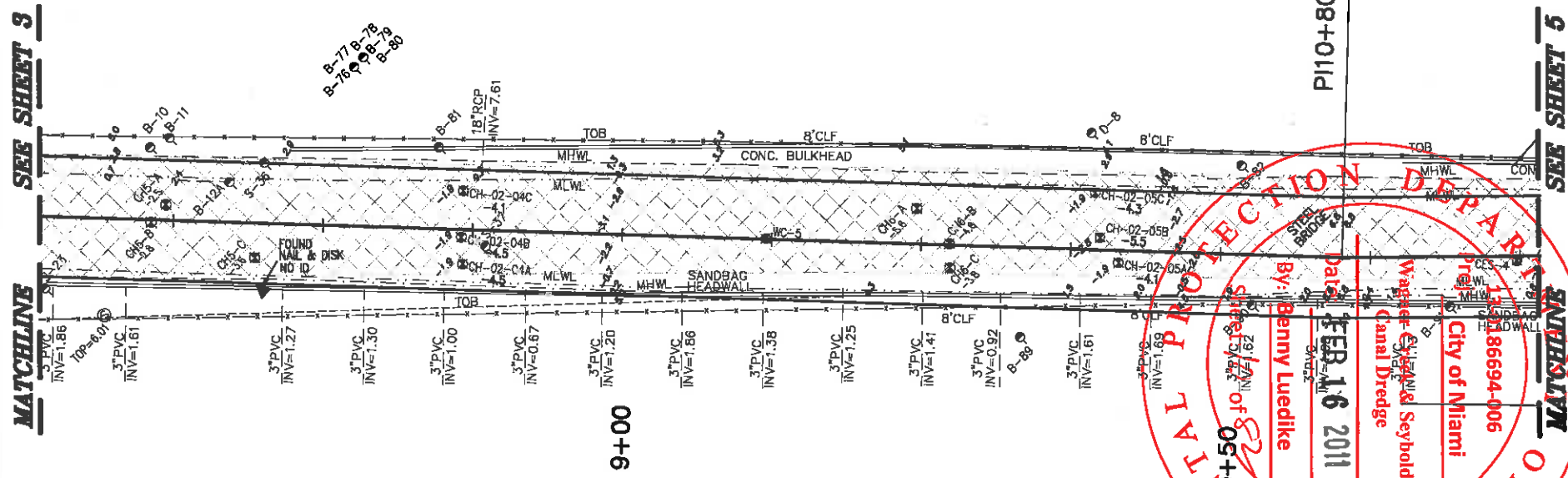
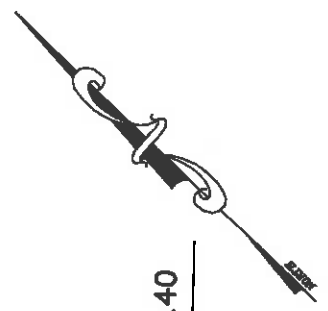
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N.W. 19th STREET

GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.



OPERATIONAL SECTION 1 SHEET 4 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA

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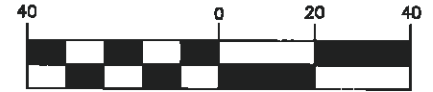
MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

ARC SURVEYING & MAPPING, INC.

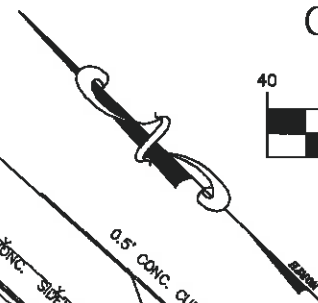
5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

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JKM	11-14-08	08-08/08-09	07-10-07

GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.

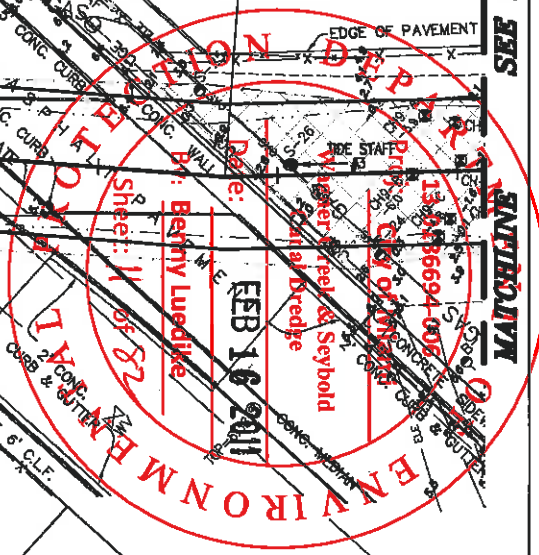
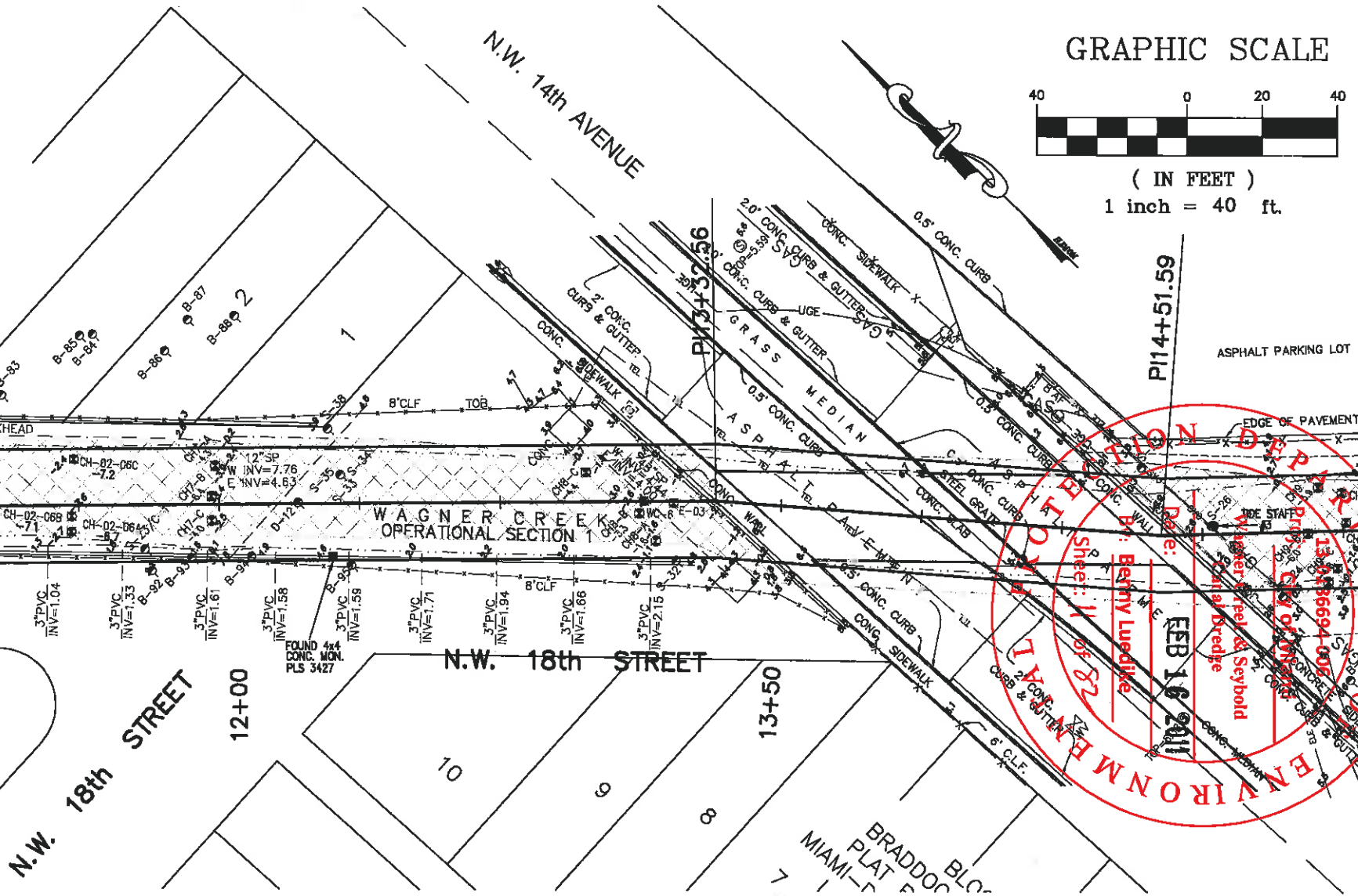


SEE SHEET 4

MATCHLINE

SEE SHEET 6

MATCHLINE



OPERATIONAL SECTION 1 & 2 SHEET 5 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-6 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

ARC SURVEYING & MAPPING, INC.

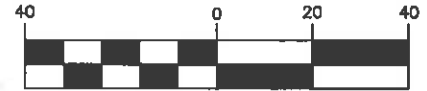


5202 SAN JUAN AVENUE,
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LICENSED BUSINESS NO. 6487

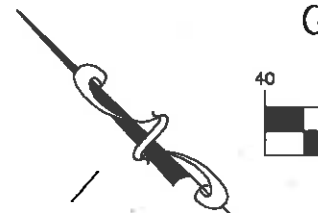
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JKM	11-14-08	08-08/08-09	07-10-07

DADE COUNTY TO US GOVERNMENT
 OFFICIAL RECORDS BOOK 2612, PAGES 455 & 456
 MIAMI-DADE COUNTY RECORDS

GRAPHIC SCALE

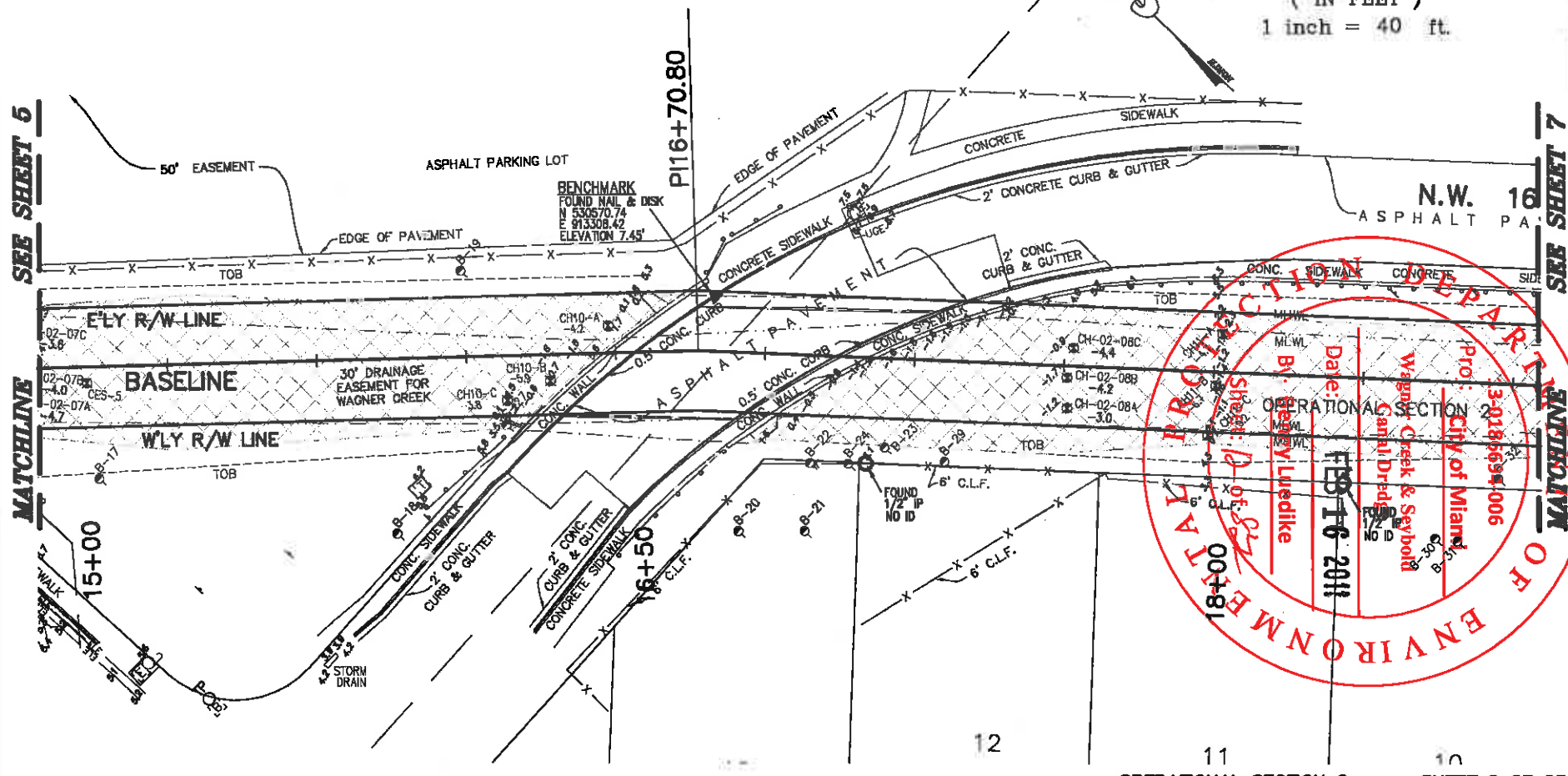


(IN FEET)
 1 inch = 40 ft.



SEE SHEET 5

SEE SHEET 7



OPERATIONAL SECTION

Date: FEB 16 2011
 Sheet 12 of 23
 Pro: City of Miami
 3-0186694-006
 Wagner Creek & Seybold Canal Dredging
 B. Beverly Lindike

ENVIRONMENTAL PROTECTION DEPARTMENT

OPERATIONAL SECTION 2 SHEET 6 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
 WAGNER CREEK & SEYBOLD CANAL
 MIAMI, FLORIDA

CERTIFICATION:
 I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61017-8 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
 FLORIDA REGISTERED CERTIFICATE. NO. 6438

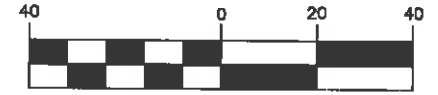
ARC SURVEYING & MAPPING, INC.



5202 SAN JUAN AVENUE,
 JACKSONVILLE, FLORIDA 32210
 PHONE: 904/384-8377
 LICENSED BUSINESS NO. 6487

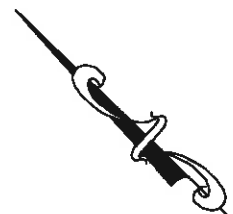
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JKM	11-14-08	08-08/08-09	07-10-07

GRAPHIC SCALE



(IN FEET)

1 inch = 40 ft.



BENCHMARK
FOUND NAIL & DISK
N 530271.52
E 13627.75
ELEVATION 7.23'

N.W. 16th STREET
ASPHALT PAVEMENT

2' CONC.
CURB & GUTTER

CONCRETE SIDEWALK

ONE STORY
CBS BLDG

SEE SHEET 6

MATCHLINE

SEE SHEET 8

th STREET
VEMENT

EWALK

CONCRETE SIDEWALK



BLOCK 1
GOLF VIEW PARK
PLAT BOOK 11, PAGE 71
MIAMI-DADE COUNTY RECORDS

OPERATIONAL SECTION 2

SHEET 7 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
WAGNER CREEK &
SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-6 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

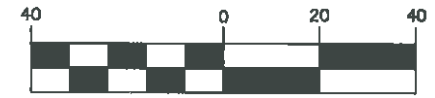
ARC SURVEYING & MAPPING, INC.



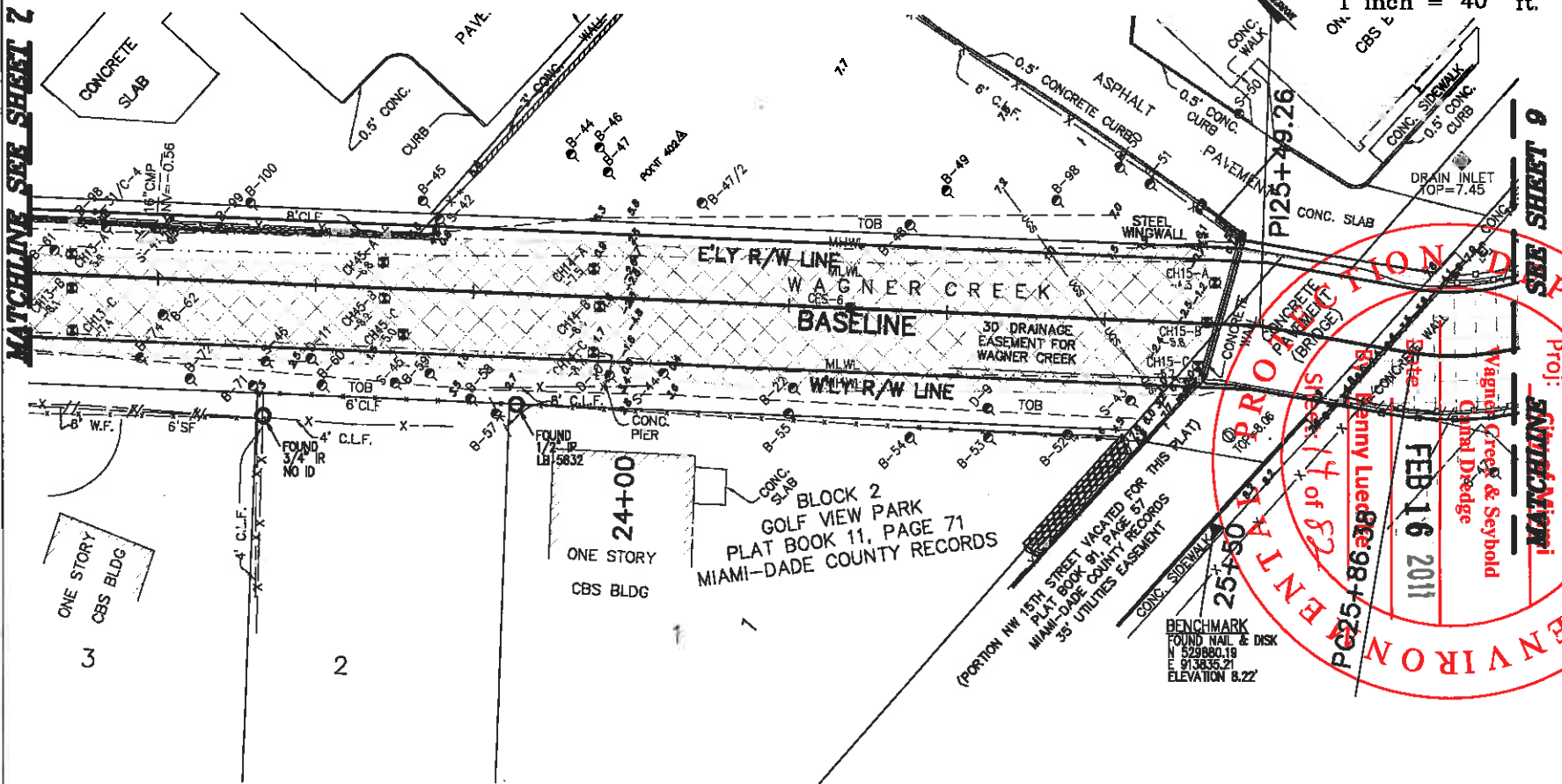
5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

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JKM	11-14-08	08-08/08-09	07-10-07

GRAPHIC SCALE

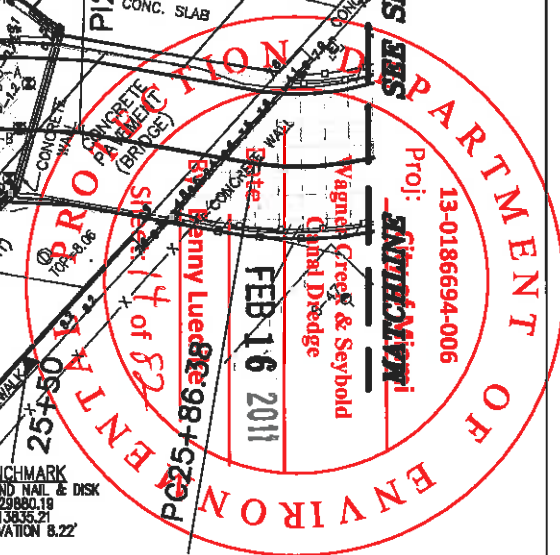


(IN FEET)
1 inch = 40 ft.



MATCHLINE SEE SHEET 2

SEE SHEET 9



OPERATIONAL SECTION 2 & 3 SHEET 8 OF 23

ARC SURVEYING & MAPPING, INC.



5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-08/08-09	07-10-07

DADE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA

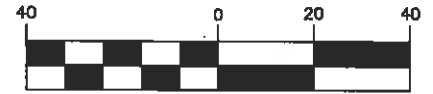
CERTIFICATION:
I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-8 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

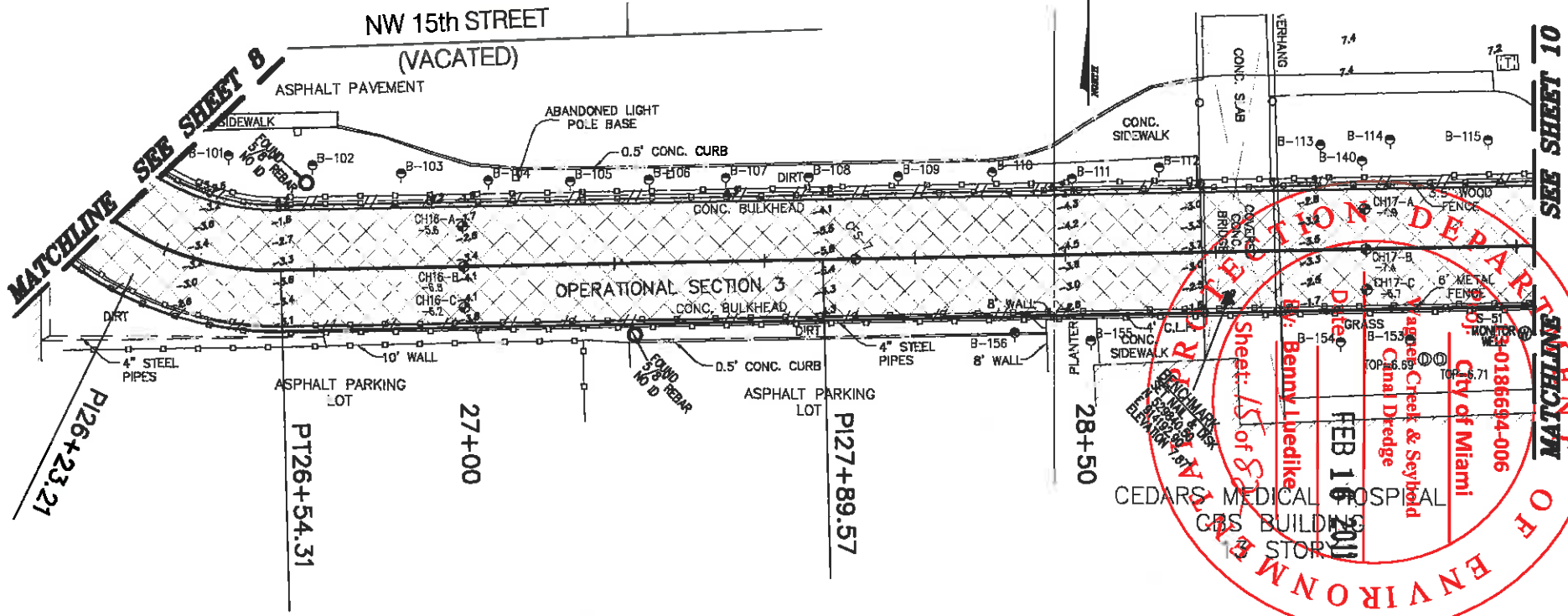



DENOTES DREDGE LIMITS

GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.



CEDARS MEDICAL HOSPITAL
CBS BUILDING
STORY

OFFICE OF ENVIRONMENTAL PROTECTION

Date: FEB 16 2011

Sheet: 9 of 23

By: Benny Luedike

Wagner Creek & Seybold Canal Dredge

City of Miami

0186694-006

MONITOR

TOR 16.71

OPERATIONAL SECTION 3 SHEET 9 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:
I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-8 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

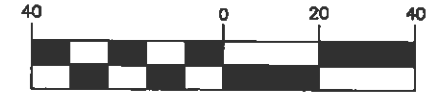
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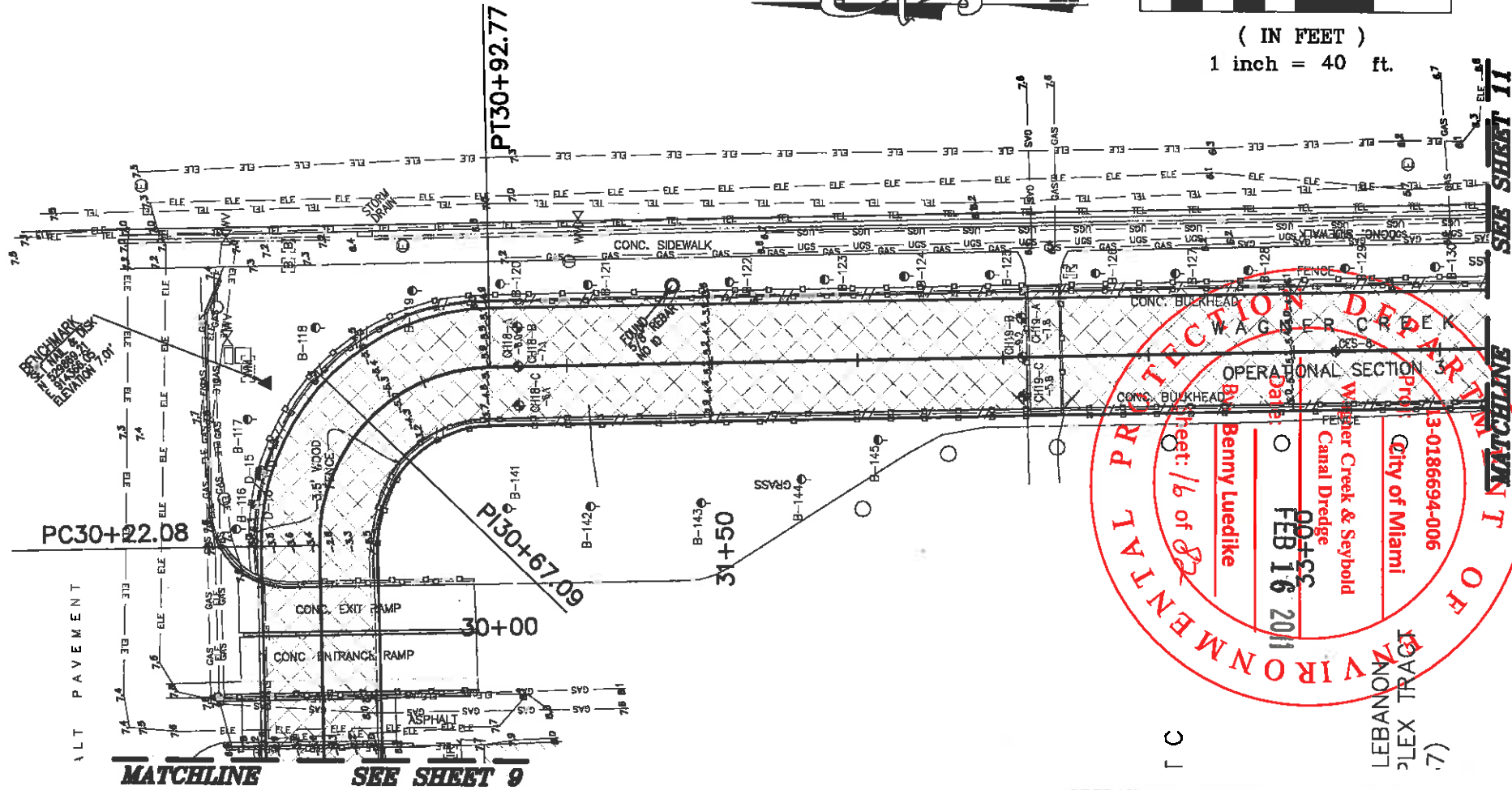
5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-08/08-09	07-10-07

GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.



ENVIRONMENTAL PROTECTION DISTRICT OF FLORIDA

Date: FEB 16 2011

Sheet: 16 of 82

Project: Wagner Creek & Seybold Canal Dredge

City of Miami

Phone: 3-0186694-006

Benny Luedike

PPJ/SC

LEBANON TRACT (7)

OPERATIONAL SECTION 3 SHEET 10 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 81617-8 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

ARC SURVEYING & MAPPING, INC.



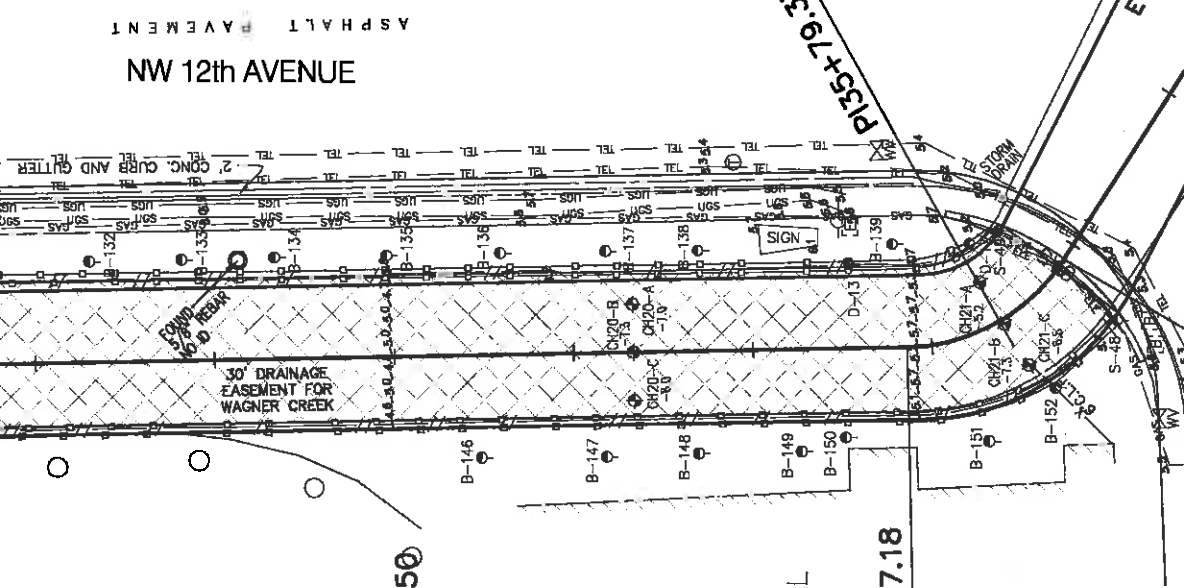
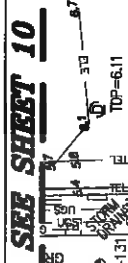
5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-08/08-09	07-10-07

SEE SHEET 10

MATCHLINE

ASPHALT PAVEMENT
NW 12th AVENUE



30' DRAINAGE EASEMENT FOR WAGNER CREEK

FOUND 10% REBAR

CEDARS MEDICAL HOSPITAL

MATCHLINE SEE SHEET 12

N.W. 12'
PI36+96.06

36+00
PT35+96.36

PROFESSIONAL SURVEYING DEPARTMENT

Proj: City of Miami
13-0186694-006

Wagner Creek & Seybold Canal Dredge

Date: FEB 16 2011

By: Benny Luedike

Sheet: 11 of 23

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

OPERATIONAL SECTION 3 SHEET 11 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:
I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-6 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

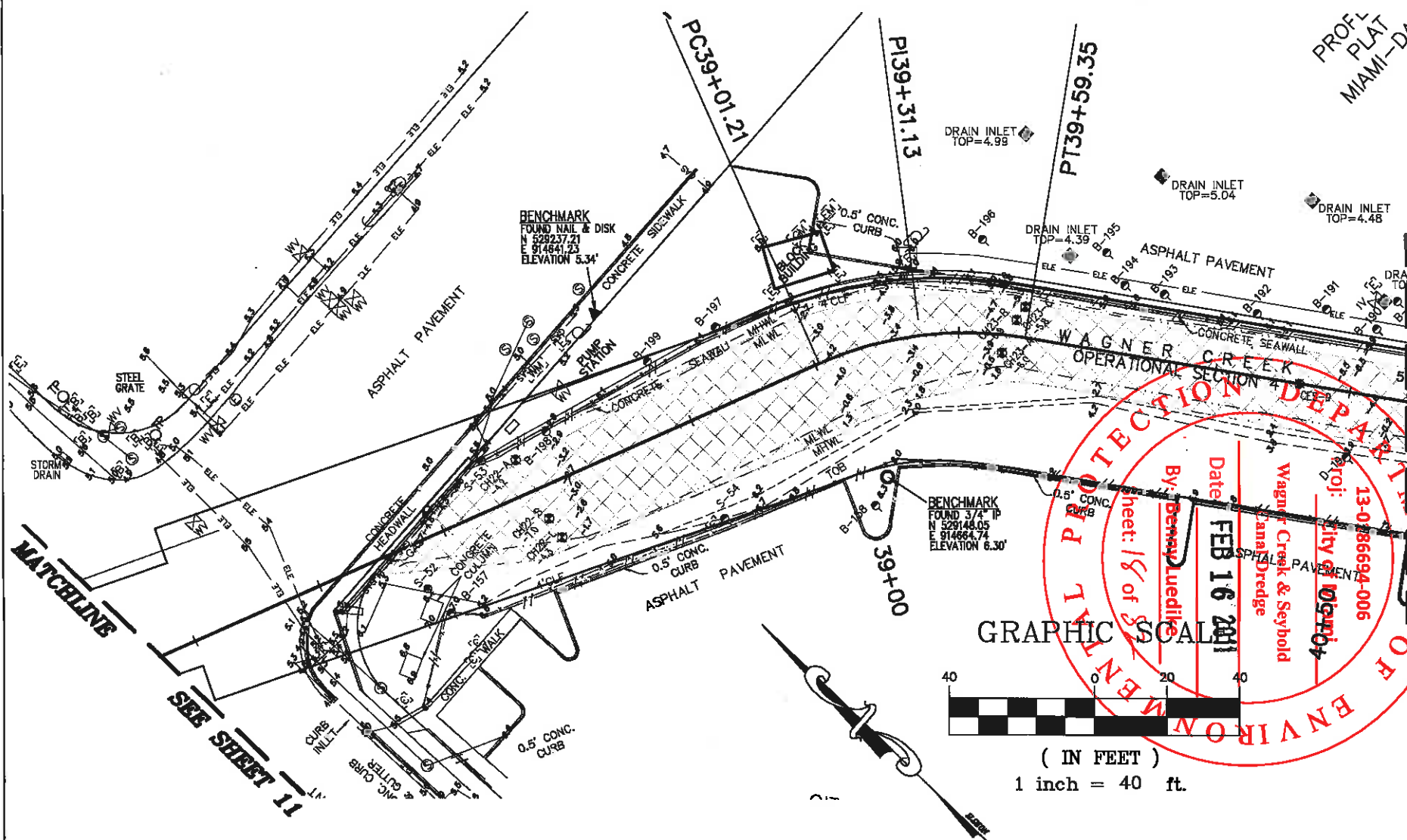
MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

ARC SURVEYING & MAPPING, INC.



5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-08/08-09	07-10-07



ENVIRONMENTAL PROTECTION DEPARTMENT
 Date: **FEB 16 2011**
 By: **Bernard Queidine**
 Project: **Wagner Creek & Seybold Canal dredge**
 City of **Miami**
 13-0786694-006

GRAPHIC SCALE



(IN FEET)
 1 inch = 40 ft.

OPERATIONAL SECTION 4 SHEET 12 OF 23



DADE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:
 I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-8 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
 FLORIDA REGISTERED CERTIFICATE. NO. 6438

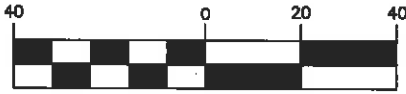
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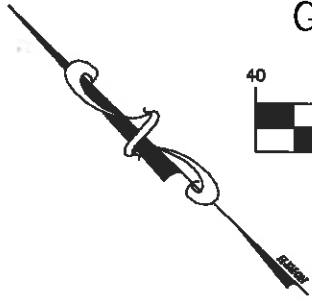
5202 SAN JUAN AVENUE,
 JACKSONVILLE, FLORIDA 32210
 PHONE: 904/384-8377
 LICENSED BUSINESS NO. 6487

DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE: 08-08/08-09	JOB NO.: 07-10-07
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GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.

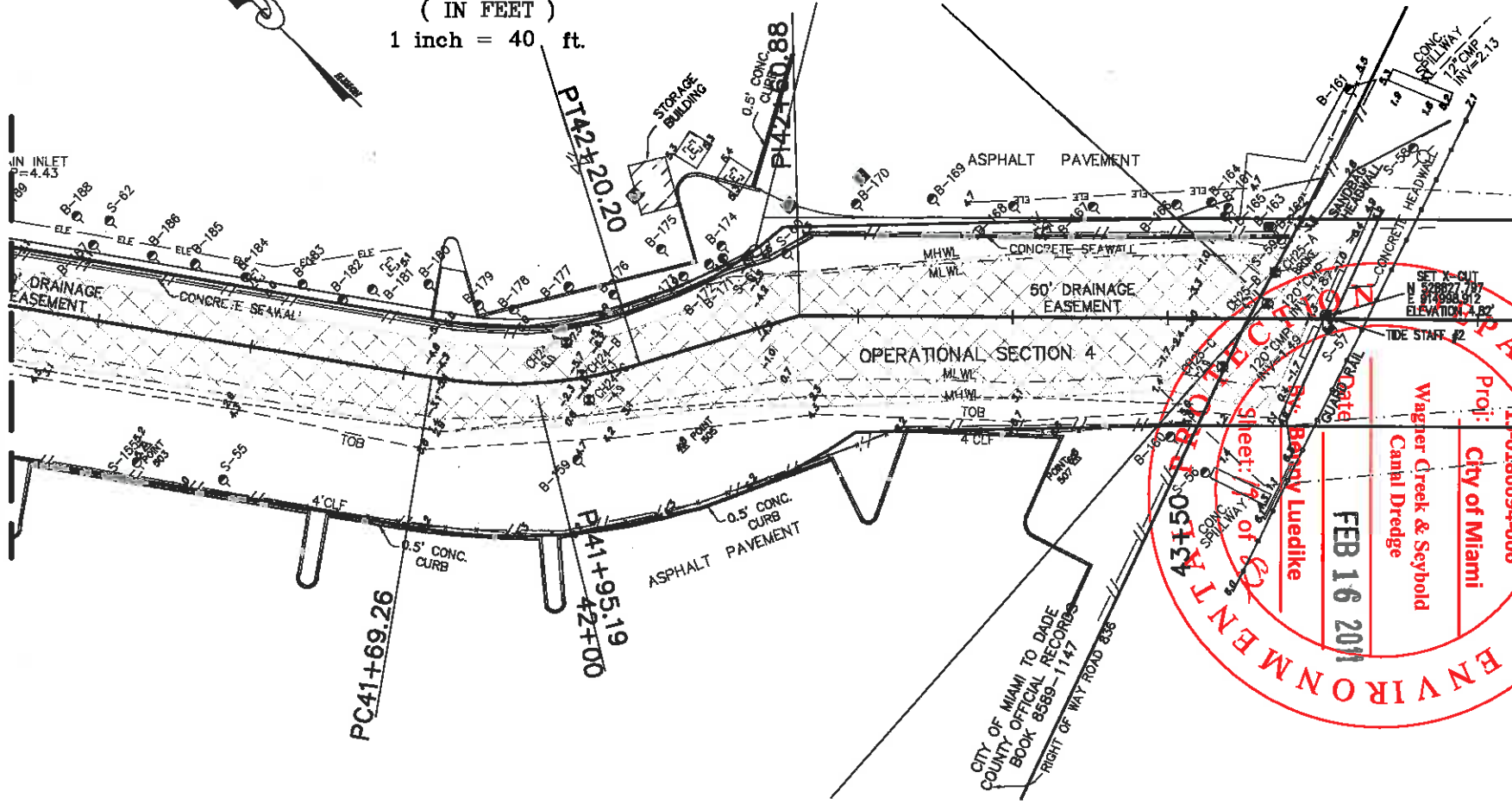


SEE SHEET 12

MATCHLINE

SEE SHEET 14

MATCHLINE



OFFICIAL RECORD

ENVIRONMENTAL PART 1

SHEET 13 OF 23

FEB 16 2011

Project: City of Miami
13-0186694-006
Wagner Creek & Seybold
Canal Dredge

Sheet: 13 of 23
By: Barry Luedike

TIDE STAFF #2
M 528827.717
M 528828.912
ELEVATION 1.87

OPERATIONAL SECTION 4 SHEET 13 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:
I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 01G17-8 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

ARC SURVEYING & MAPPING, INC.



5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-08/08-09	07-10-07

SEE SHEET 13

MATCHLINE

SEE SHEET 15

MATCHLINE

STATE ROAD

EXPRESSWAY

45+00

PI46+51.76

46+50

10

PI47+28.22

PI48+19.85

ONE STORY BUILDING

8' EASEMENT

E'LY R/W LINE

BASELINE

W'LY R/W LINE

SET X-CUT
P.C. 915157.676
ELEVATION 5.12'

CONCRETE HEADWALL

CONCRETE SEAWALL

WAGNER CREEK

ENVIRONMENTAL PROTECTION DEPARTMENT
DADE COUNTY TO CITY OF MIAMI
OFFICIAL RECORDS BOOK 2557-694
Prof: +09-0186694-006
City of Miami
Wagner Creek & Seybold Canal Dredge
Date: FEB 16 2011
By: Betty Luedike
Sheet 20 of 82

GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 81G17-9 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

ARC SURVEYING & MAPPING, INC.



5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

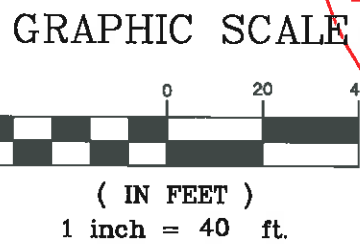
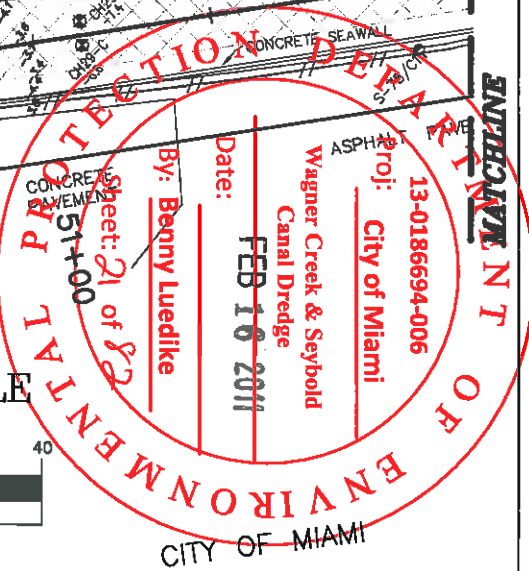
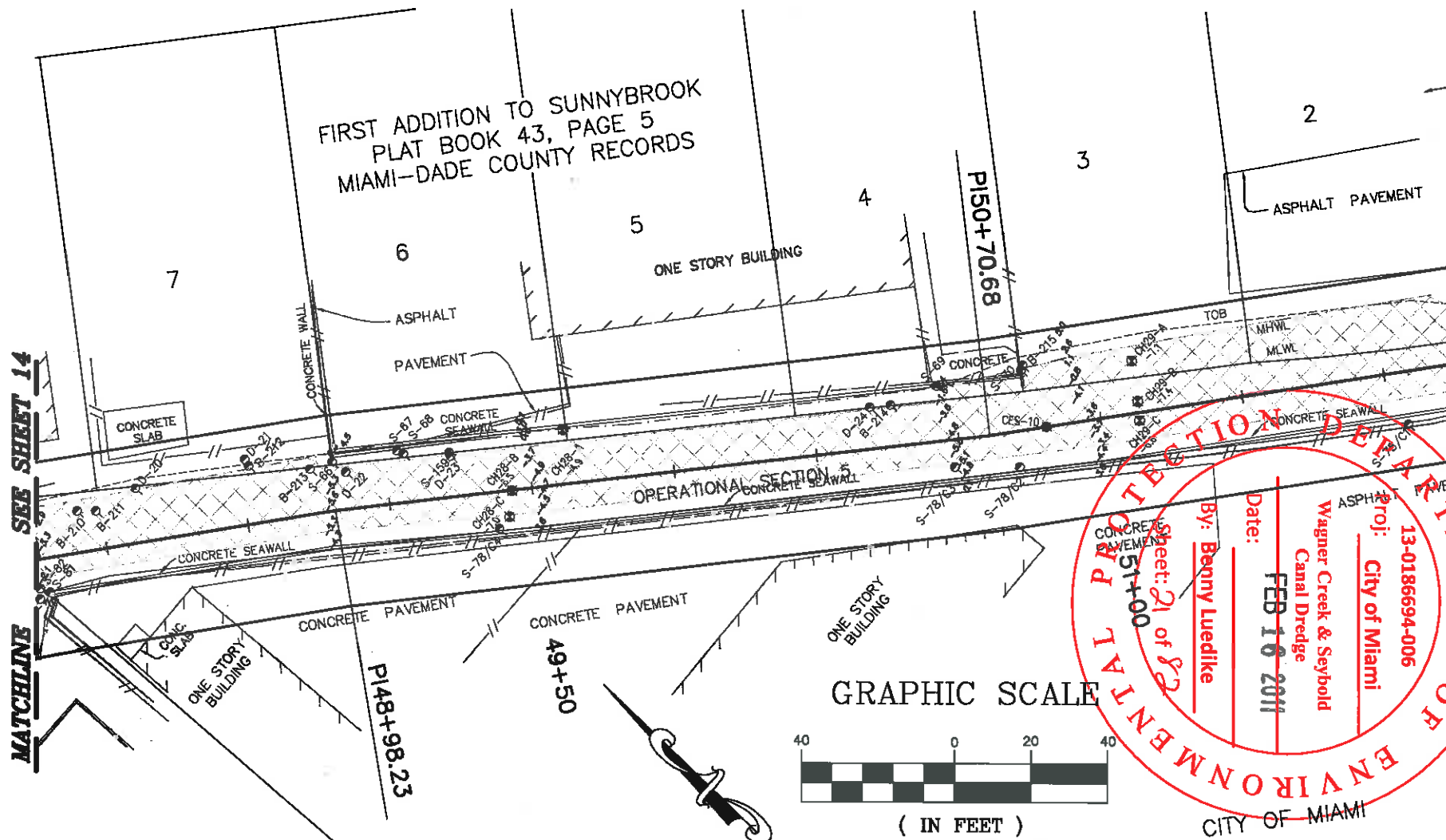
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OPERATIONAL SECTION 5 SHEET 14 OF 23

FIRST ADDITION TO SUNNYBROOK
 PLAT BOOK 43, PAGE 5
 MIAMI-DADE COUNTY RECORDS

SEE SHEET 14
 MATCHLINE

SEE SHEET 16
 MATCHLINE



OPERATIONAL SECTION 5 SHEET 15 OF 23



 DENOTES DREDGE LIMITS



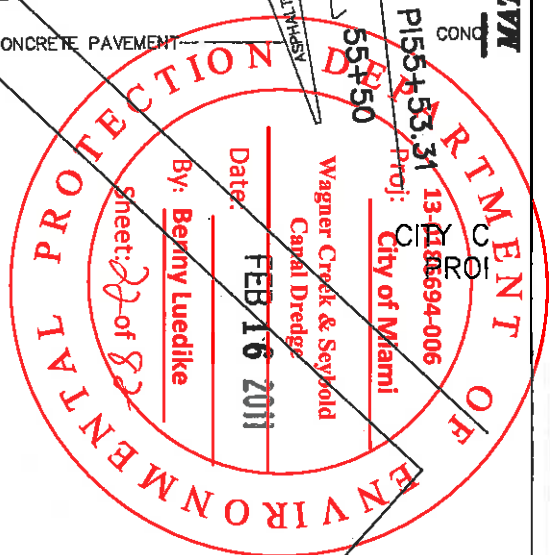
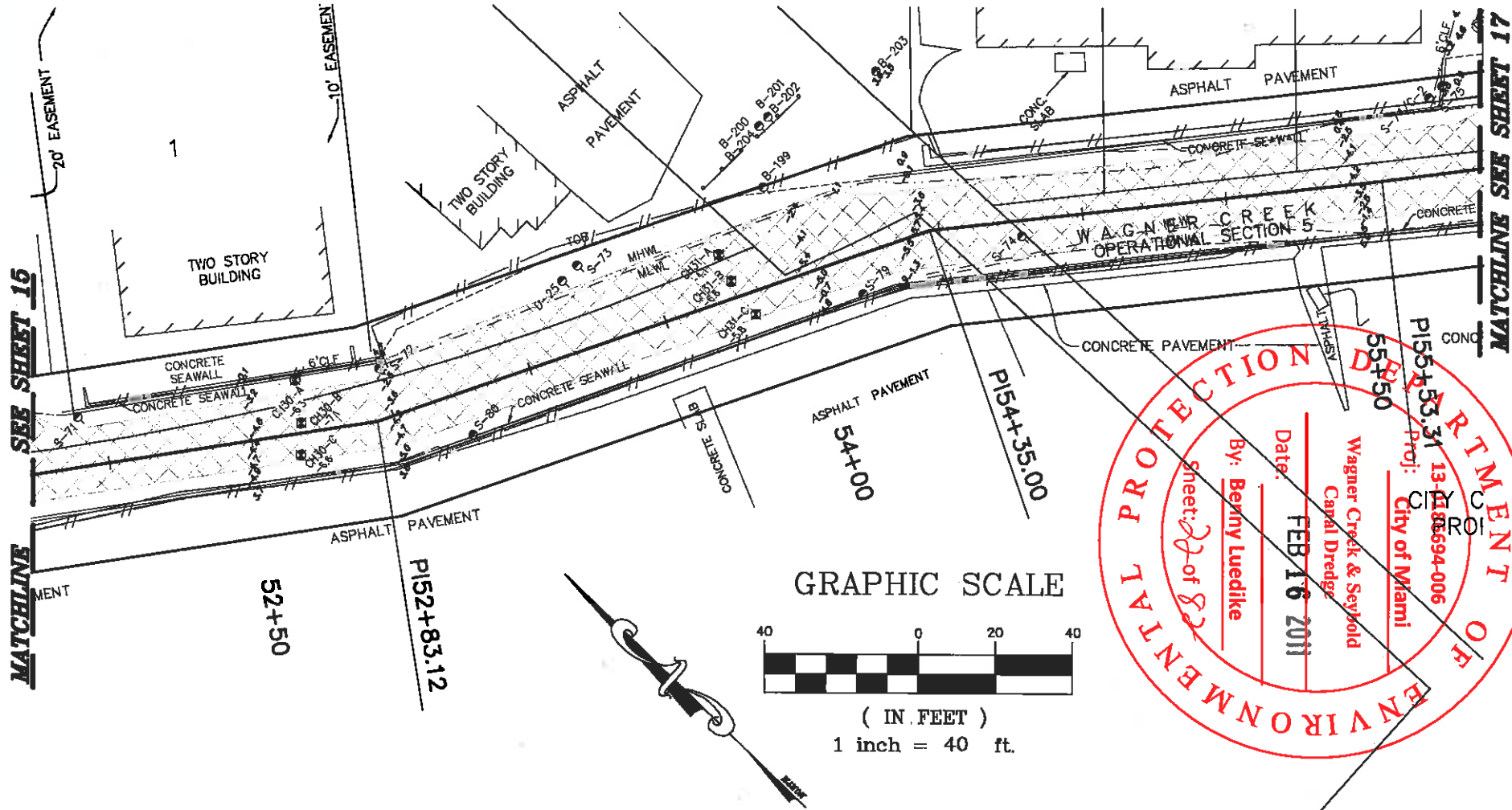
DADE COUNTY, FLORIDA
 WAGNER CREEK &
 SEYBOLD CANAL
 MIAMI, FLORIDA

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MITCHELL R. JARRELLS
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ARC SURVEYING & MAPPING, INC.

 5202 SAN JUAN AVENUE,
 JACKSONVILLE, FLORIDA 32210
 PHONE: 904/384-8377
 LICENSED BUSINESS NO. 6487

DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-08/08-09	07-10-07



OPERATIONAL SECTION 5 SHEET 16 OF 23



Denotes Dredge Limits



DADE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
 MIAMI, FLORIDA

CERTIFICATION:
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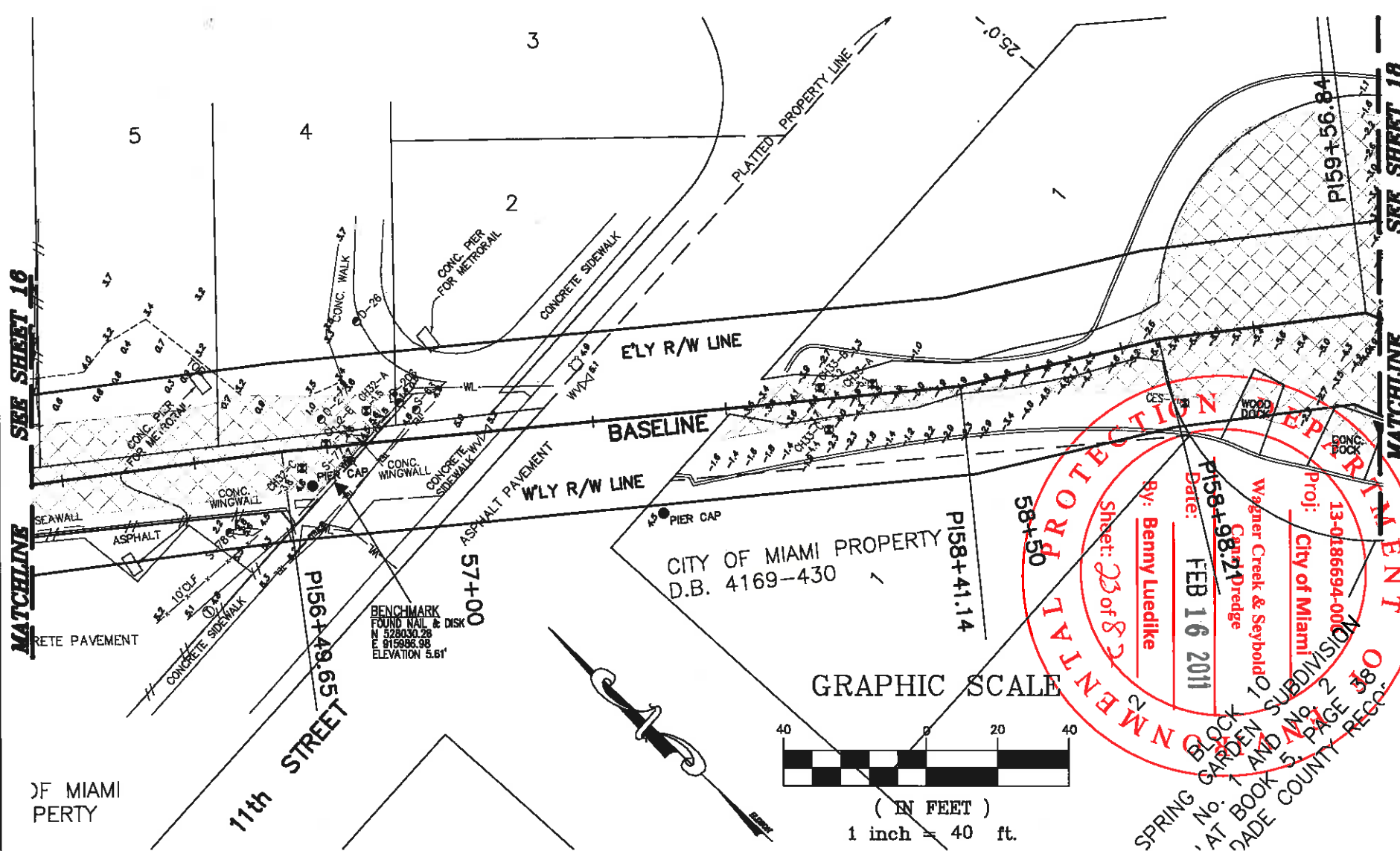
MITCHELL R. JARRELLS
 FLORIDA REGISTERED CERTIFICATE. NO. 6438

ARC SURVEYING & MAPPING, INC.

5202 SAN JUAN AVENUE,
 JACKSONVILLE, FLORIDA 32210
 PHONE: 904/384-8377
 LICENSED BUSINESS NO. 6487

ARC

DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE: 08-08/08-09	JOB NO.: 07-10-07
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PROTECTION

Sheet: 23 of 87

By: Benny Luedike

Date: FEB 16 2011




Wagner Creek & Seybold Canal

Proj: City of Miami
13-0186694-000

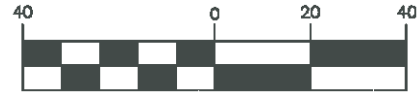
SPRING GARDEN SUBDIVISION

No. 1 AND No. 2
AT BOOK 5, PAGE 38
DADE COUNTY REC'D

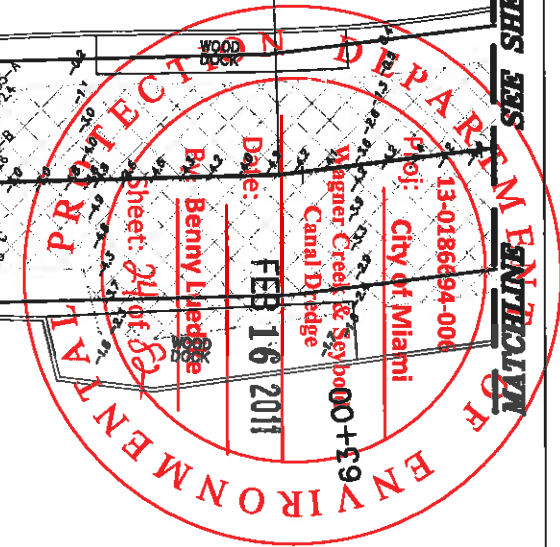
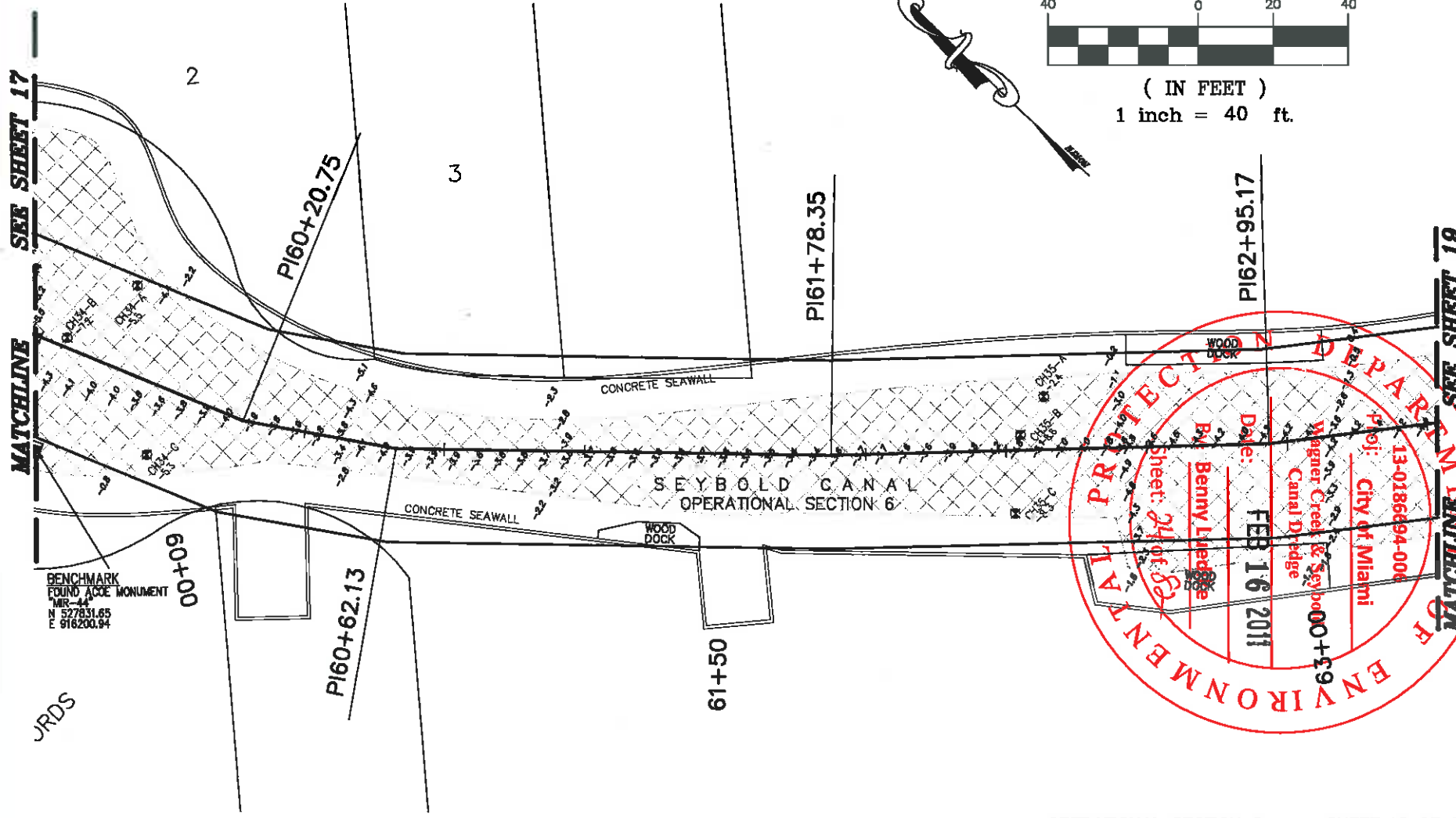
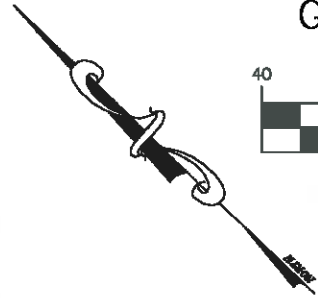
OPERATIONAL SECTION 5 SHEET 17 OF 23

 DENOTES DREDGE LIMITS	 CH2MHILL	DADE COUNTY, FLORIDA WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA	CERTIFICATION: <small>I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-8 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.</small>	ARC SURVEYING & MAPPING, INC.  5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487								
			MITCHELL R. JARRELLS FLORIDA REGISTERED CERTIFICATE NO. 6438	<table border="0" style="width: 100%;"> <tr> <td>DRAWN BY:</td> <td>DATE:</td> <td>FIELD BOOK & PAGE</td> <td>JOB NO.</td> </tr> <tr> <td>JKM</td> <td>11-14-08</td> <td>08-08/08-09</td> <td>07-10-07</td> </tr> </table>	DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.	JKM	11-14-08	08-08/08-09	07-10-07
DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.									
JKM	11-14-08	08-08/08-09	07-10-07									

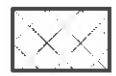
GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.



OPERATIONAL SECTION 6 SHEET 18 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
WAGNER CREEK &
SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:
I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61017-8 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

ARC SURVEYING & MAPPING, INC.



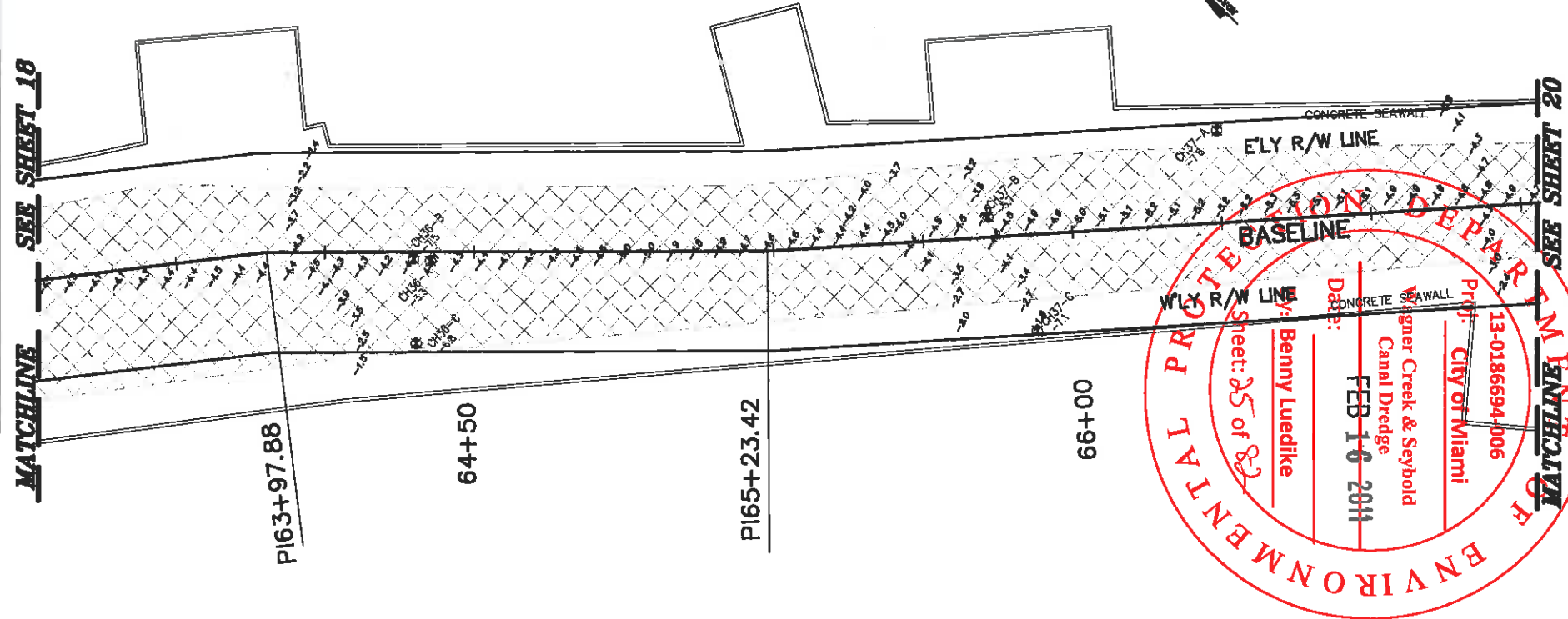
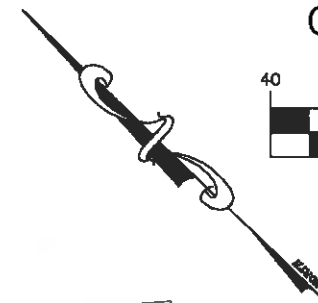
5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-08/08-09	07-10-07

GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.



ENVIRONMENTAL PROTECTION DEPARTMENT

Sheet: 25 of 83

Prof: Benny Luedike
13-0186694-006

Prof: Wagner Creek & Seybold
Canal Dredge
City of Miami
13-0186694-006

Date: FEB 10 2011

OPERATIONAL SECTION 6 SHEET 19 OF 23



DENOTES DREDGE LIMITS




DADE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:
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MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

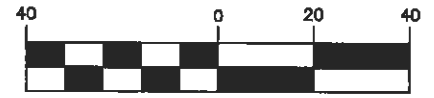
ARC SURVEYING & MAPPING, INC.



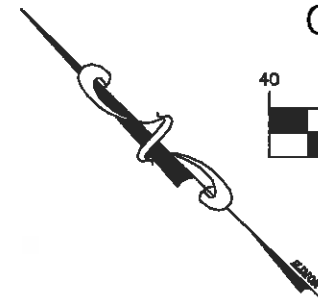
5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-08/08-09	07-10-07

GRAPHIC SCALE

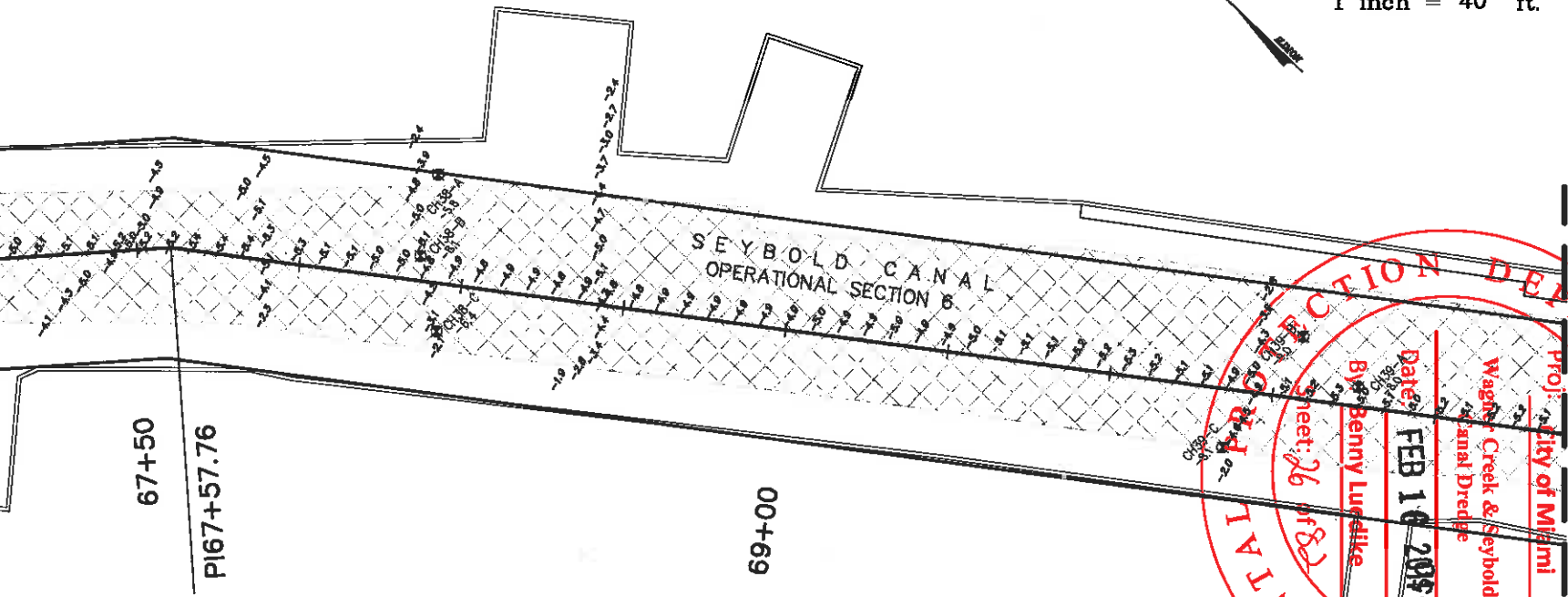


(IN FEET)
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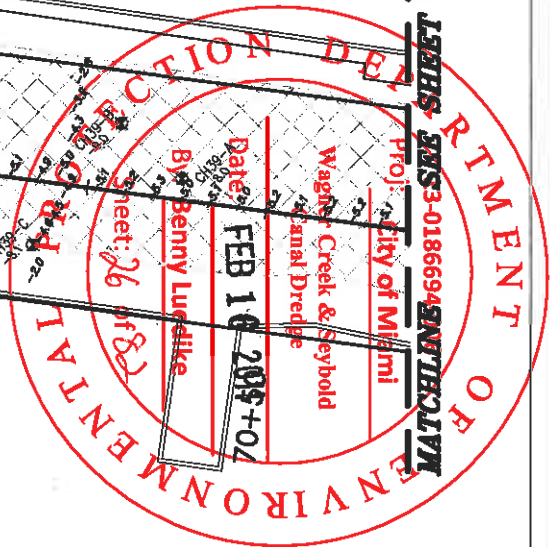
SEE SHEET 19

MATCHLINE



SEE SHEET 21

MATCHLINE



OPERATIONAL SECTION 6 SHEET 20 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
WAGNER CREEK &
SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:
I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-6 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

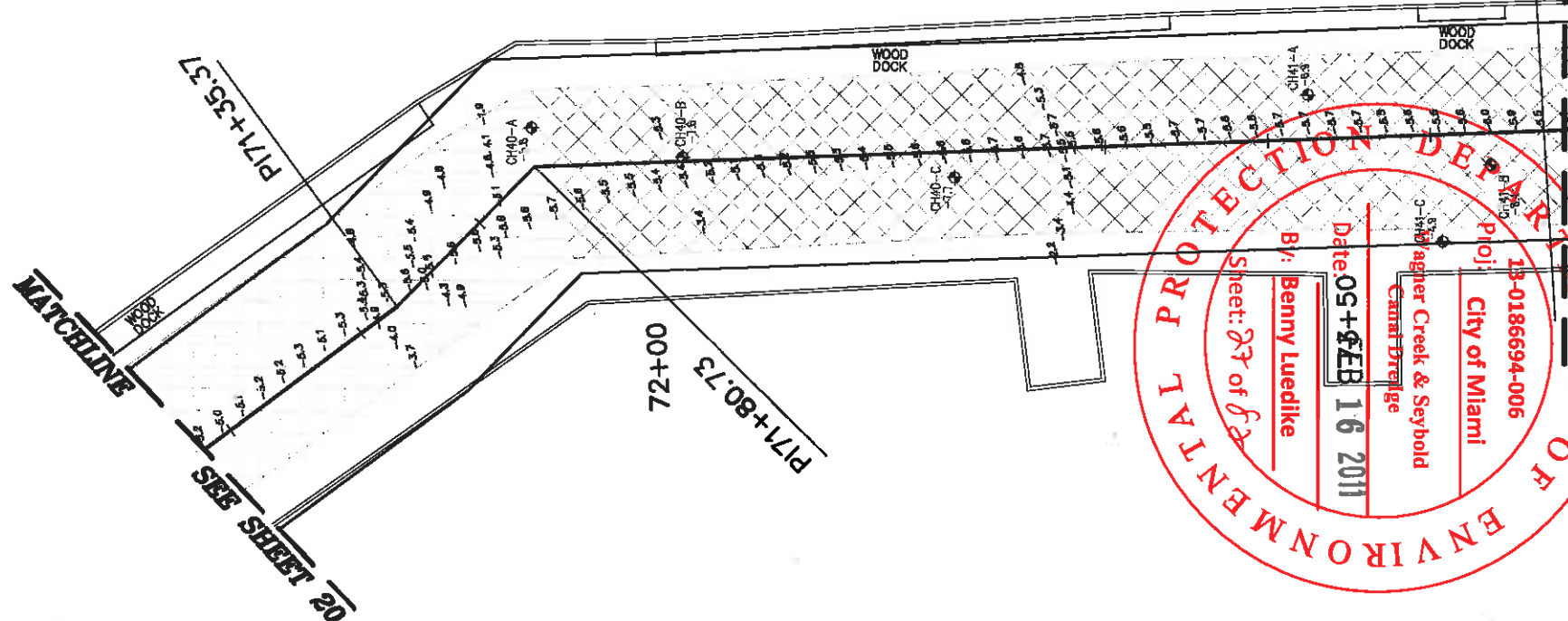
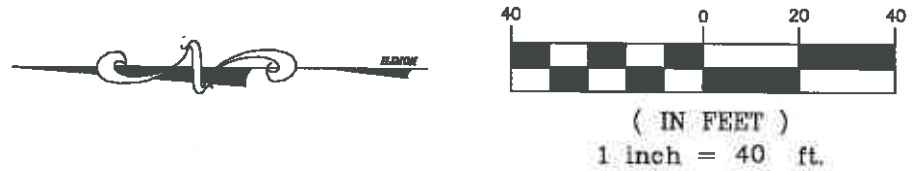
ARC SURVEYING & MAPPING, INC.



5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-08/08-09	07-10-07

GRAPHIC SCALE



SEE SHEET 22
MATCHLINE T

OPERATIONAL SECTION 6 SHEET 21 OF 23




DENOTES DREDGE LIMITS

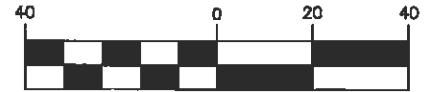


DADE COUNTY, FLORIDA
WAGNER CREEK &
SEYBOLD CANAL
MIAMI, FLORIDA

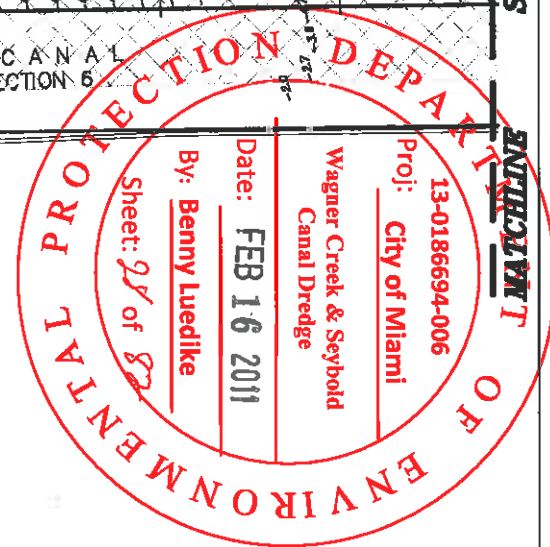
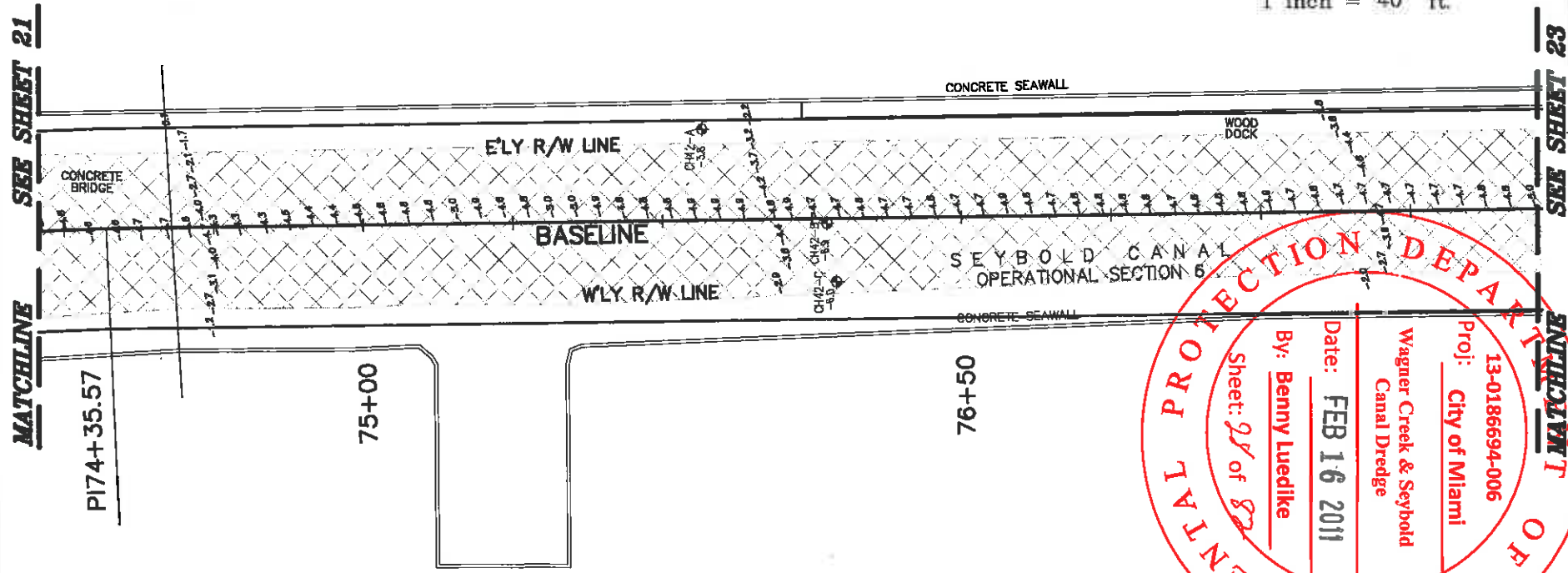
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MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

ARC SURVEYING & MAPPING, INC.

5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487
DRAWN BY: JKM DATE: 11-14-08 FIELD BOOK & PAGE: 08-08/08-09 JOB NO.: 07-10-07

GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.



OPERATIONAL SECTION 6 SHEET 22 OF 23




DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA
WAGNER CREEK &
SEYBOLD CANAL
MIAMI, FLORIDA

CERTIFICATION:
I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-6 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
FLORIDA REGISTERED CERTIFICATE. NO. 6438

ARC SURVEYING & MAPPING, INC.

5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE 08-08/08-09	JOB NO. 07-10-07
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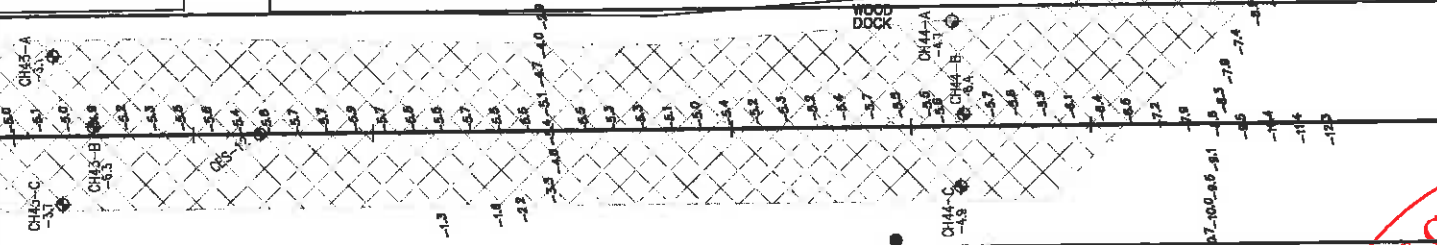
SEE SHEET 22

MATCHLINE

78+00

79+50

POE81+00.00



ENVIRONMENTAL PROTECTION DEPARTMENT

GRAPHIC SCALE

Proj: **13-0186694-008**
City of Miami

Wagner Creek & Seybold
 Canal Dredge

Date: **FEB 15 2011**

By: **Benny Luedtke**
 00+18

Sheet: **24 of 23**

IN FEET
 1 inch = 40 ft.



OPERATIONAL SECTION 6 SHEET 23 OF 23



DENOTES DREDGE LIMITS



DADE COUNTY, FLORIDA

WAGNER CREEK & SEYBOLD CANAL
 MIAMI, FLORIDA

CERTIFICATION:

I HEREBY CERTIFY THAT THE INFORMATION DEPICTED HEREON IS TRUE AND COMPLETE AND MEETS THE MINIMUM TECHNICAL STANDARDS AS ESTABLISHED BY THE BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-8 OF THE FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 472 OF THE FLORIDA STATUTES.

MITCHELL R. JARRELLS
 FLORIDA REGISTERED CERTIFICATE. NO. 8438

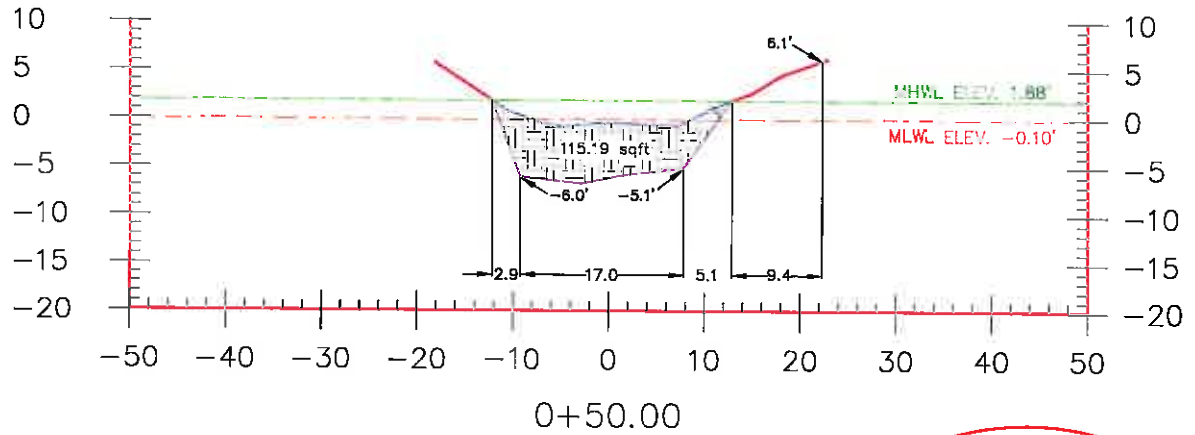
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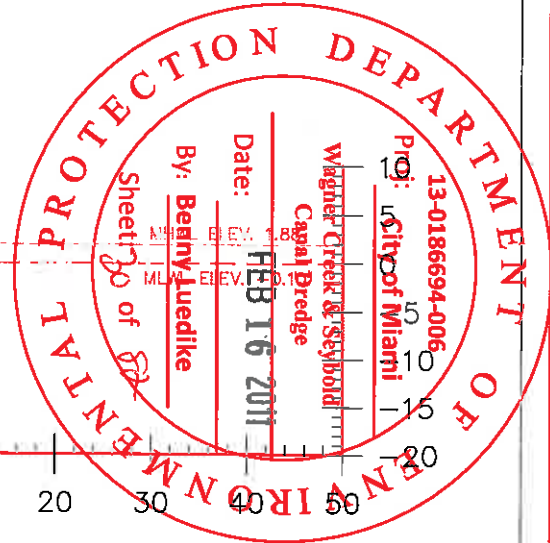
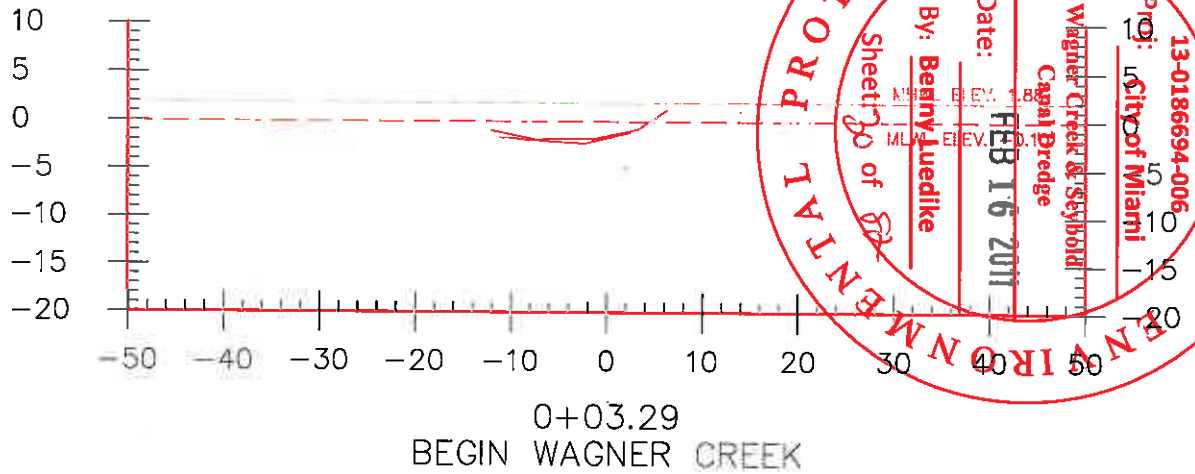
5202 SAN JUAN AVENUE,
 JACKSONVILLE, FLORIDA 32210
 PHONE: 904/384-8377
 LICENSED BUSINESS NO. 6487

DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-08/08-09	07-10-07

ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29











GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

LEGEND

-  = SEDIMENT TO BE REMOVED
-  = SLOUGHING VOLUME
-  = NATURAL SOIL/NON SEDIMENT
-  = NATURAL SOIL/SEDIMENT INTERFACE
-  = TOP OF SEDIMENT
-  = 1.88' MEAN HIGH WATER LINE
-  = -0.10' MEAN LOW WATER LINE
- NGVD29 = NATIONAL GEODETIC VERTICAL ELEVATION OF 1929
-  1:3 = 1:3 SLOPE SLOUGHING LINE

NOTE: THE PROPOSED DREDGE CUT LINES AND GRADES SHOWN ON THESE CROSS-SECTIONS ARE TO BE FIELD VERIFIED IN ORDER TO REMOVE THE MAXIMUM EXTENT OF SEDIMENT POSSIBLE WITHOUT COMPROMISING STRUCTURES LOCATED ADJACENT TO OR WITHIN THE DESIGNATED WORK AREA.

OPERATIONAL SECTION 1

SHEET 30 OF 37

DADE COUNTY, FLORIDA

WAGNER CREEK &
SEYBOLD CANAL
MIAMI, FLORIDA



ARC SURVEYING & MAPPING, INC.



5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

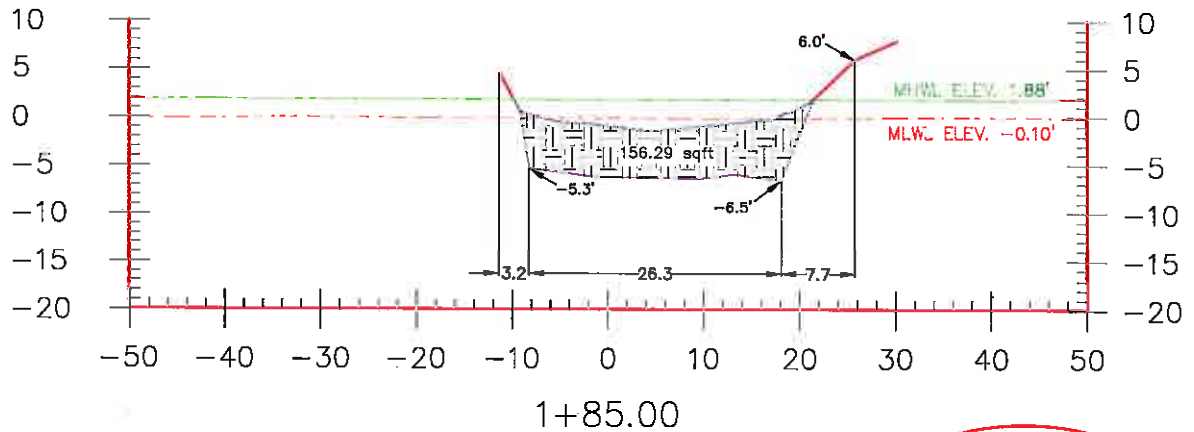
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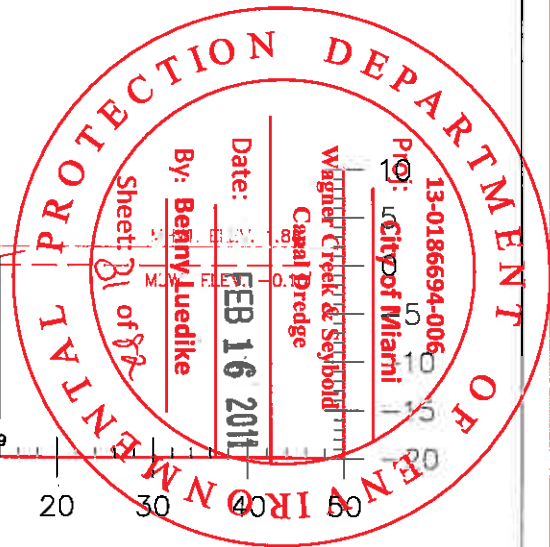
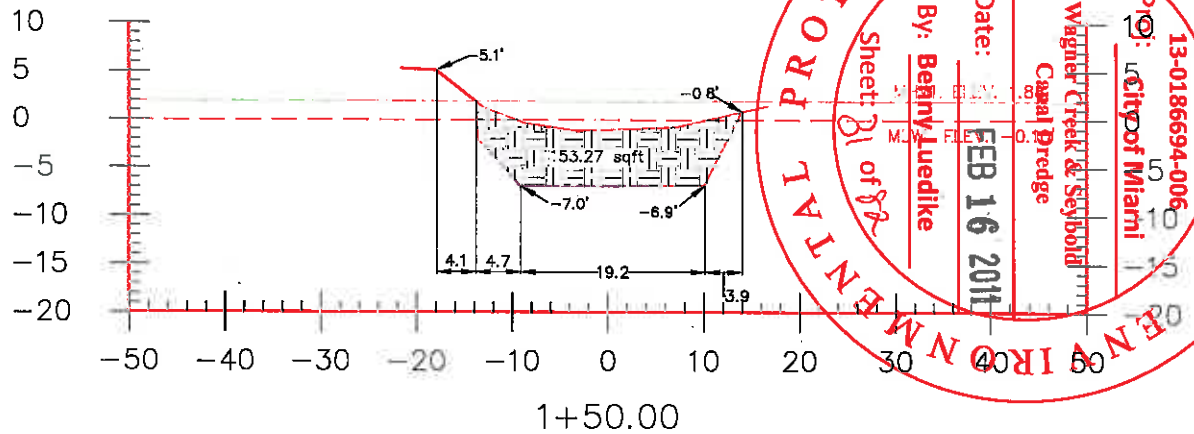
08-08/08-09

07-10-07

ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29



GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

LEGEND

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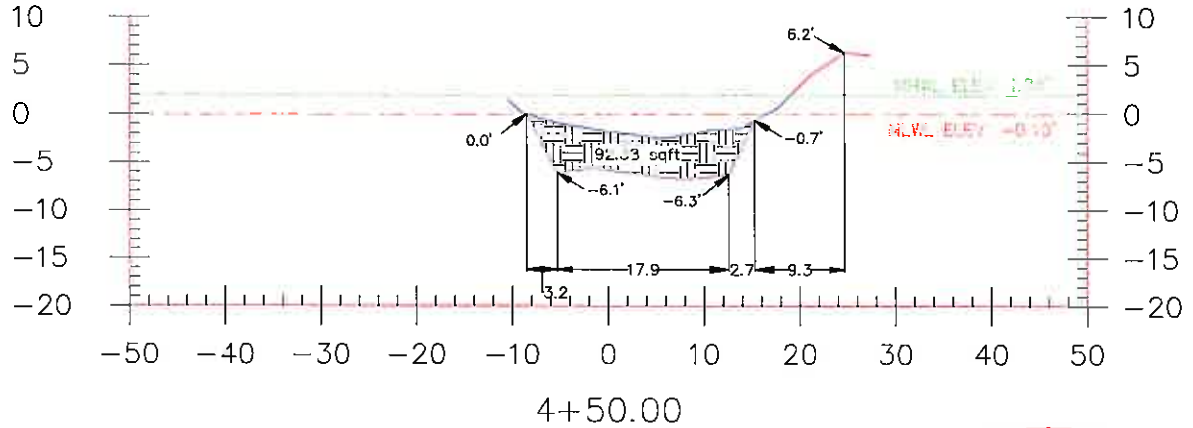
NOTE: THE PROPOSED DREDGE CUT LINES AND GRADES SHOWN ON THESE CROSS-SECTIONS ARE TO BE FIELD VERIFIED IN ORDER TO REMOVE THE MAXIMUM EXTENT OF SEDIMENT POSSIBLE WITHOUT COMPROMISING STRUCTURES LOCATED ADJACENT TO OR WITHIN THE DESIGNATED WORK AREA.

OPERATIONAL SECTION 1

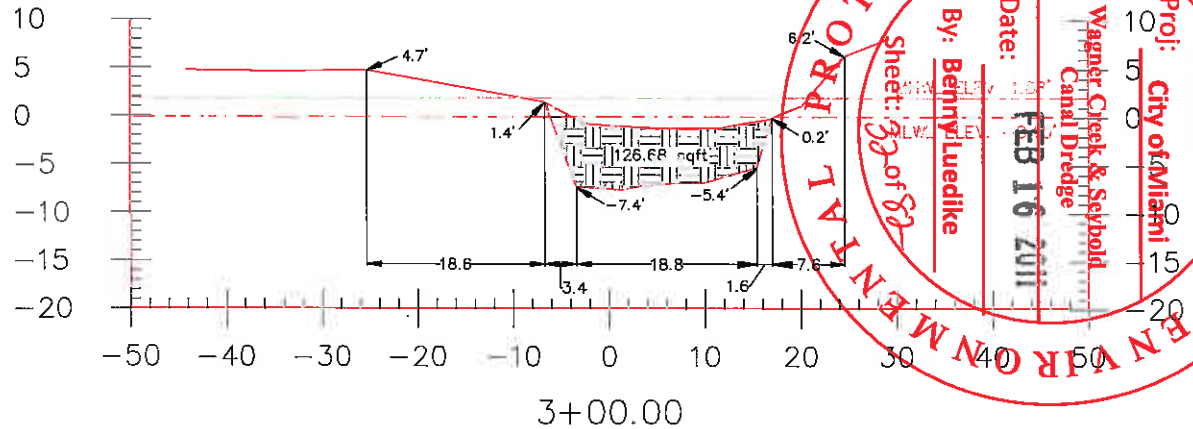
SHEET 2 OF 3

<p>DADE COUNTY, FLORIDA WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC. 5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p> <p>JKM 11-14-08 08-08/08-09 07-10-07</p>
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ELEVATION IN FEET NGVD29



4+50.00












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GRAPHIC SCALE

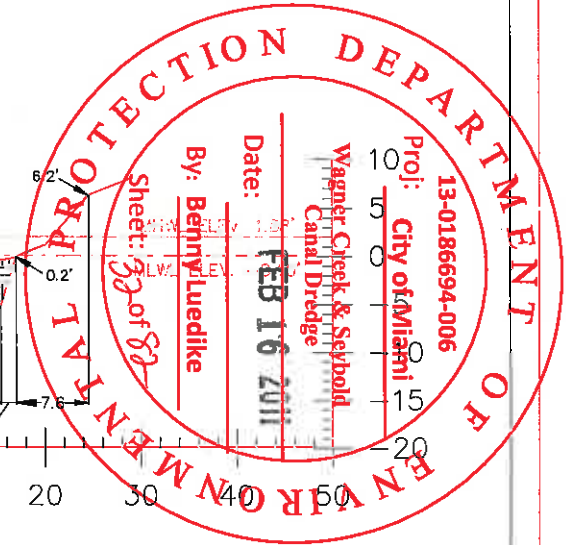


(IN FEET)
1 inch = 20 ft.

LEGEND

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-  = SLOUGHING VOLUME
-  = NATURAL SOIL/NDN SEDIMENT
-  = NATURAL SOIL/SEDIMENT INTERFACE
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DUKE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA



OPERATIONAL SECTION 1

SHEET 32 OF 80

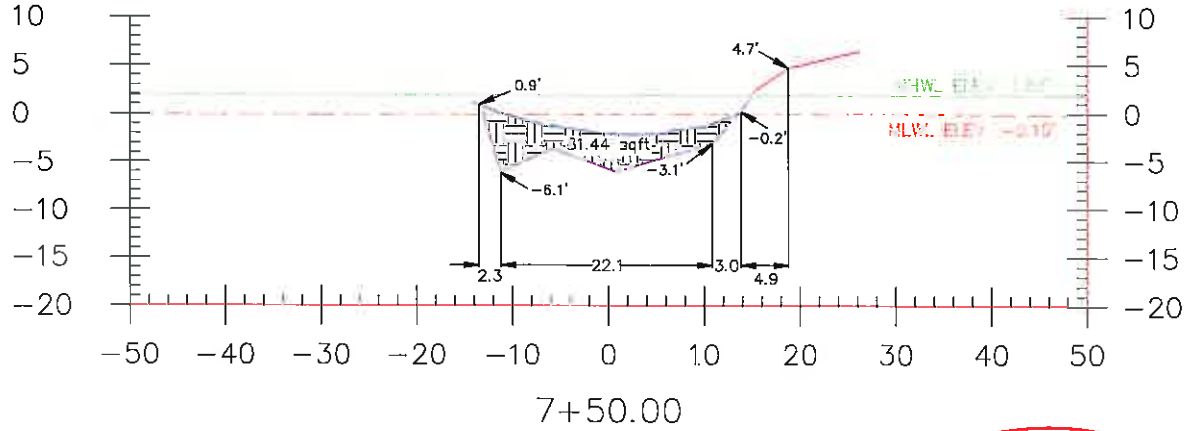
ARC SURVEYING & MAPPING, INC.



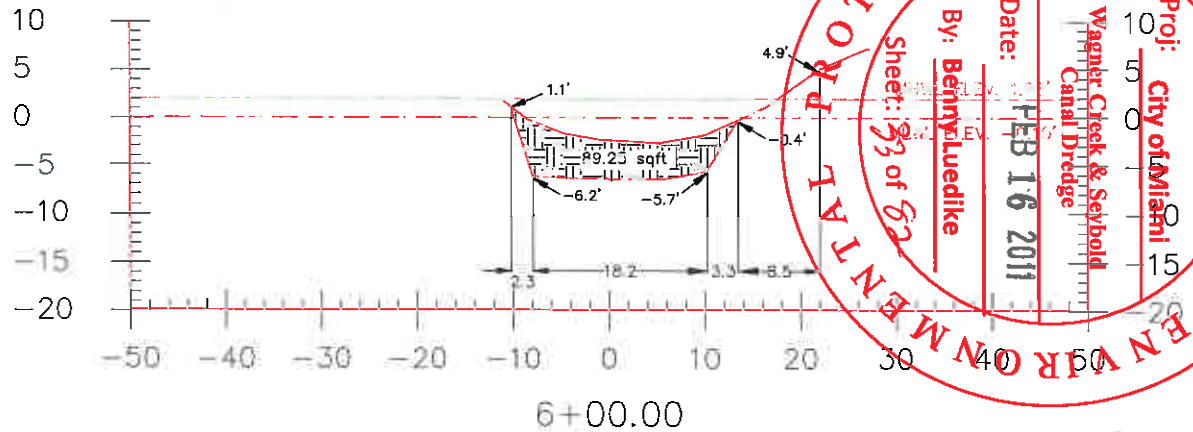
5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-08/08-09	07-10-07

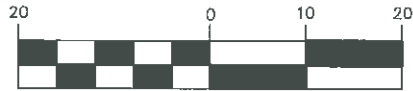
ELEVATION IN FEET NGVD29











ELEVATION IN FEET NGVD29



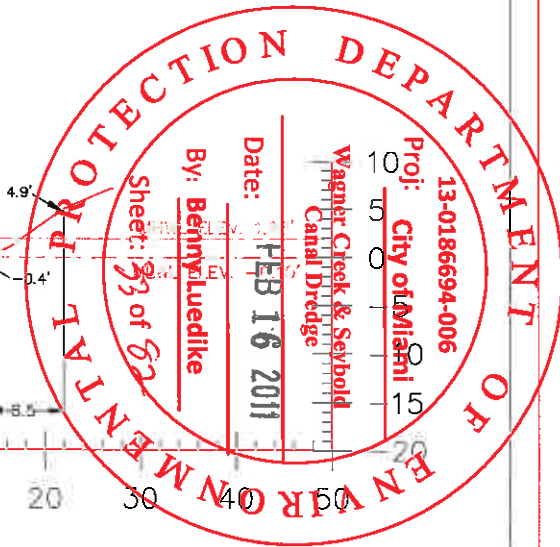
GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

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-  = SLOUGHING VOLUME
-  = NATURAL SOIL/NON SEDIMENT
-  = NATURAL SOIL/SEDIMENT INTERFACE
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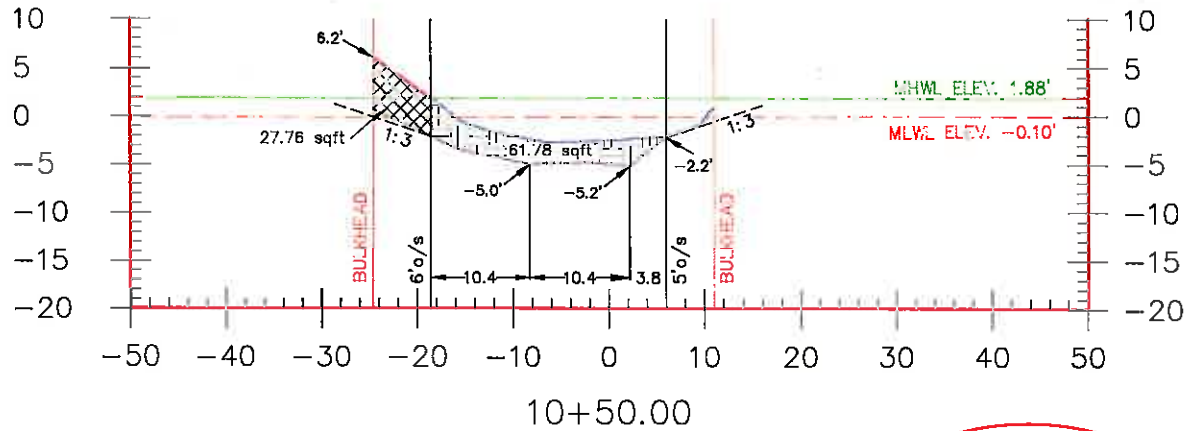


MIAMI COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA

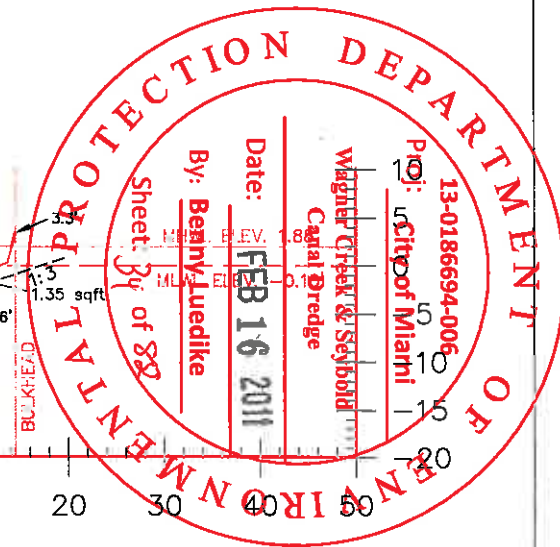
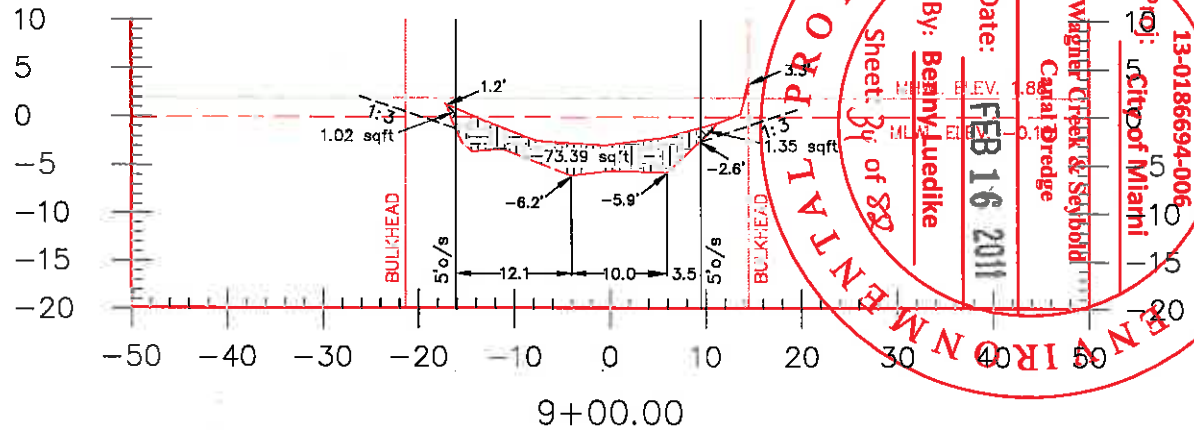


OPERATIONAL SECTION L SHEET 4 OF 37
ARC SURVEYING & MAPPING, INC.
5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487
DRAWN BY: JKM DATE: 11-14-08 FIELD BOOK & PAGE: 08-08/08-09 JOB NO.: 07-10-07

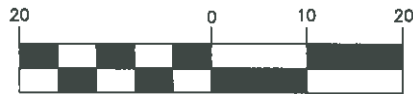
ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29



GRAPHIC SCALE



(IN FEET)
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LEGEND

- = SEDIMENT TO BE REMOVED
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OPERATIONAL SECTION 1

SHEET 5 OF 37

DADE COUNTY, FLORIDA

WAGNER CREEK &
SEYBOLD CANAL
MIAMI, FLORIDA



ARC SURVEYING & MAPPING, INC.



5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

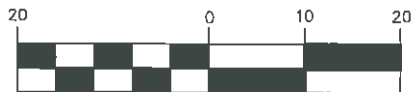
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07-10-07

GRAPHIC SCALE



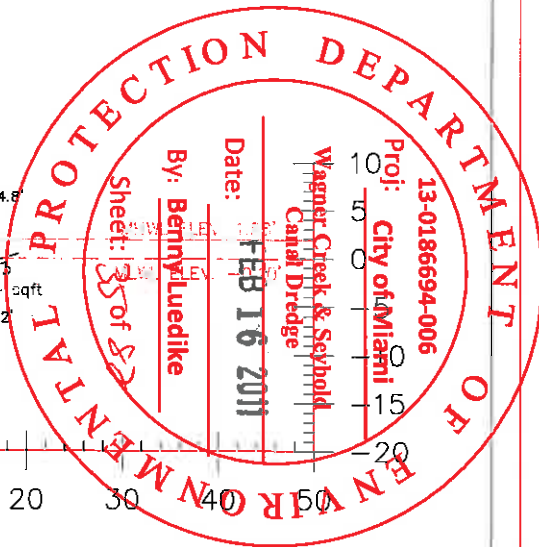
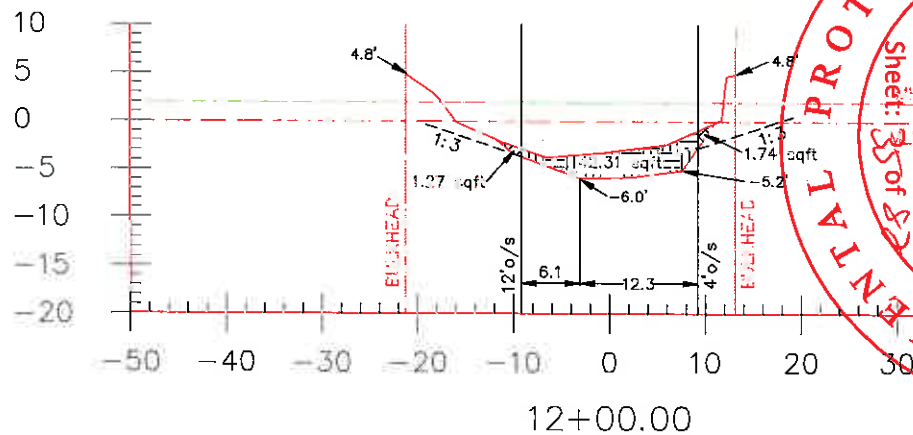
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ELEVATION IN FEET NGVD29



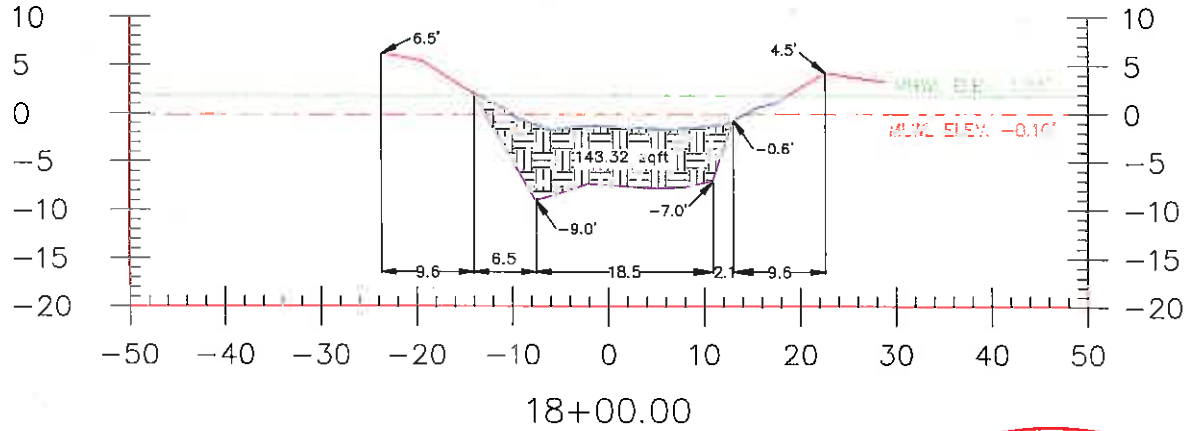
DADE COUNTY, FLORIDA
WAGNER CREEK &
SEIBOLD CANAL
MIAMI, FLORIDA



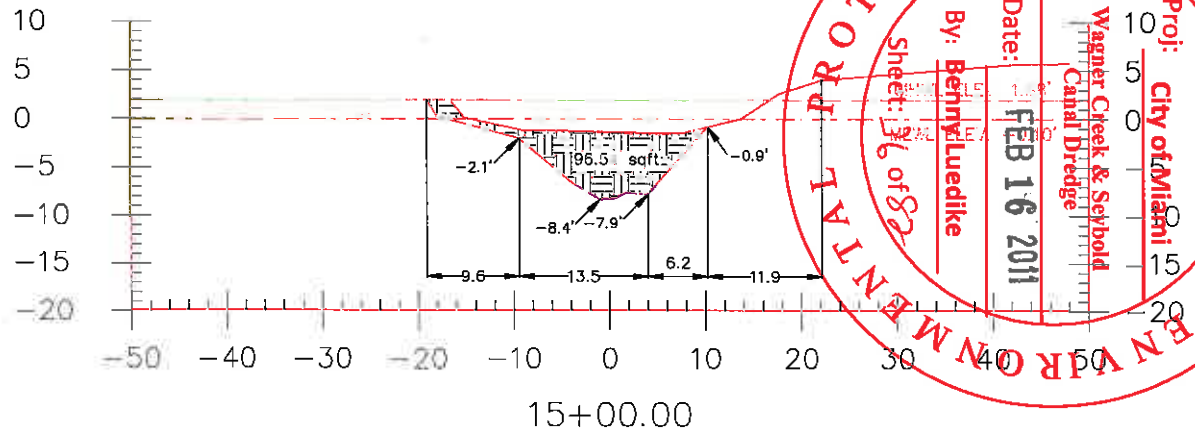
ARC SURVEYING & MAPPING, INC.
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JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
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DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE: 08-08/08-09	JOB NO. 07-10-07
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ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29












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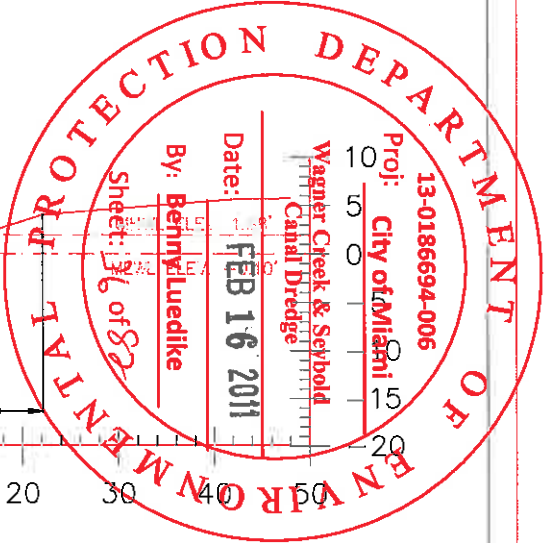



(IN FEET)
1 inch = 20 ft.

LEGEND

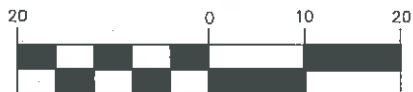
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<p>DADE COUNTY, FLORIDA WAGNER CREEK & SEIBOLD CANAL MIAMI, FLORIDA</p>		<p>OPERATIONAL SECTION SHEET 26 OF 82</p> <p>ARC SURVEYING & MAPPING, INC.</p> <p>5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/354-8377 LICENSED BUSINESS NO. 6457</p> <table border="1"> <tr> <td>DRAWN BY: JKM</td> <td>DATE: 11-14-08</td> <td>FIELD BOOK & PAGE 08-08/08-09</td> <td>JOB NO. 07-10-07</td> </tr> </table>	DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE 08-08/08-09	JOB NO. 07-10-07
DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE 08-08/08-09	JOB NO. 07-10-07			

GRAPHIC SCALE

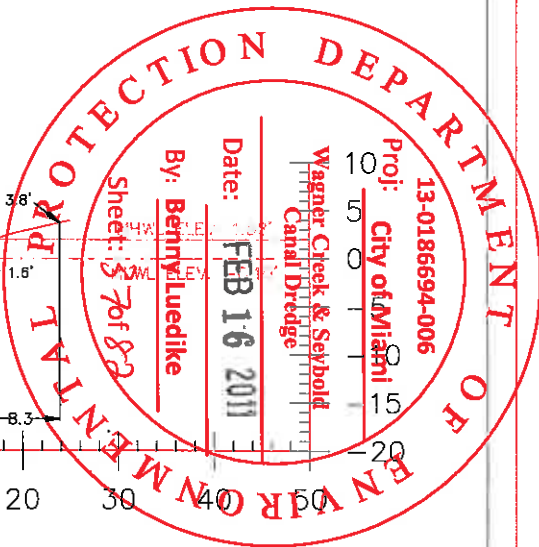
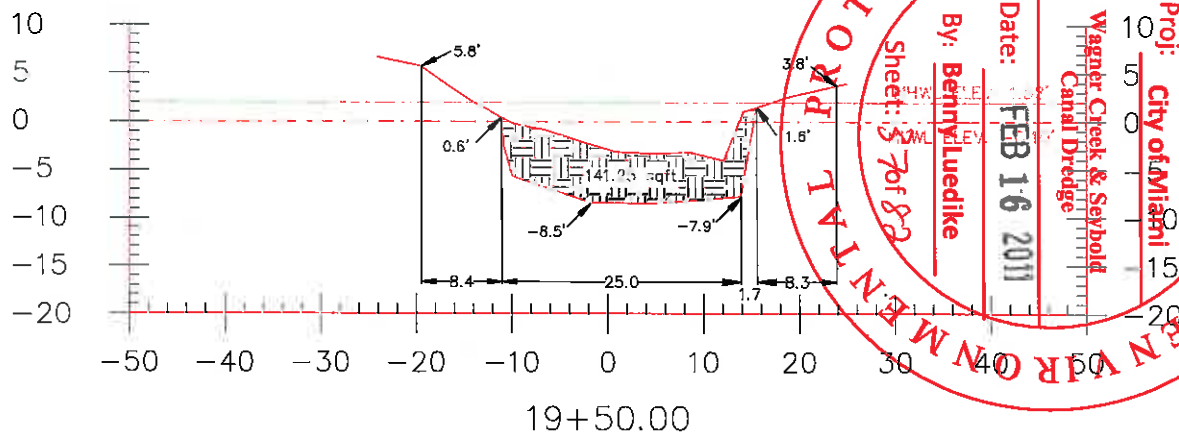
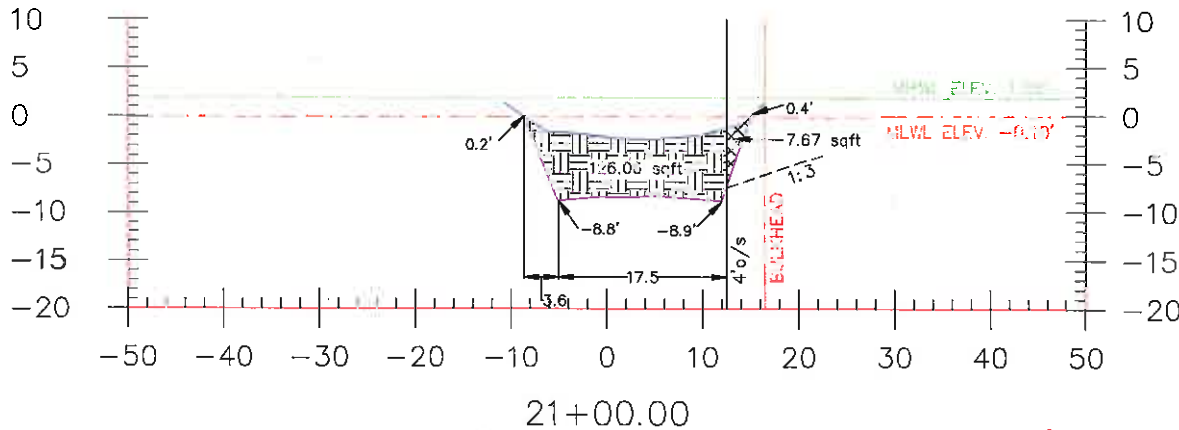


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ELEVATION IN FEET NGVD29



DADE COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA

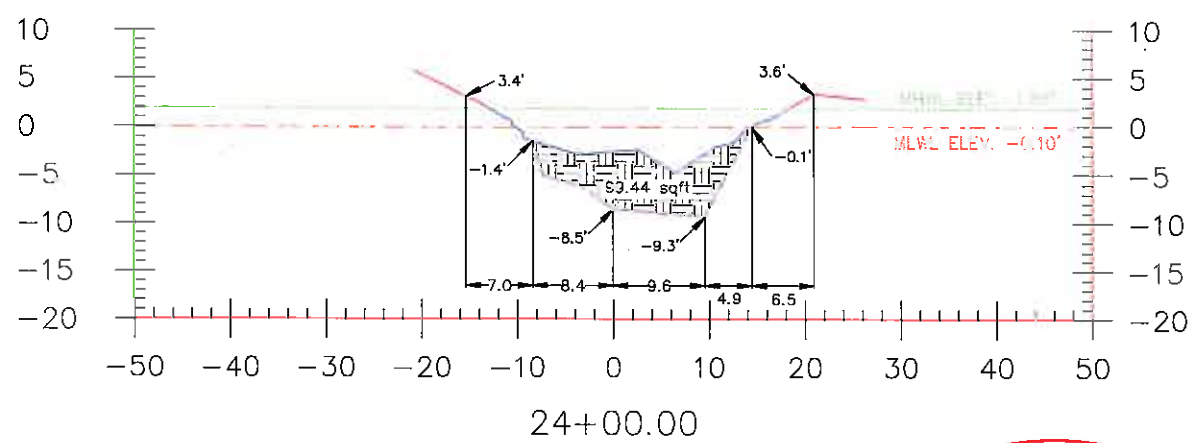


OPERATIONAL SECTION 2 SHEET 2 OF 82

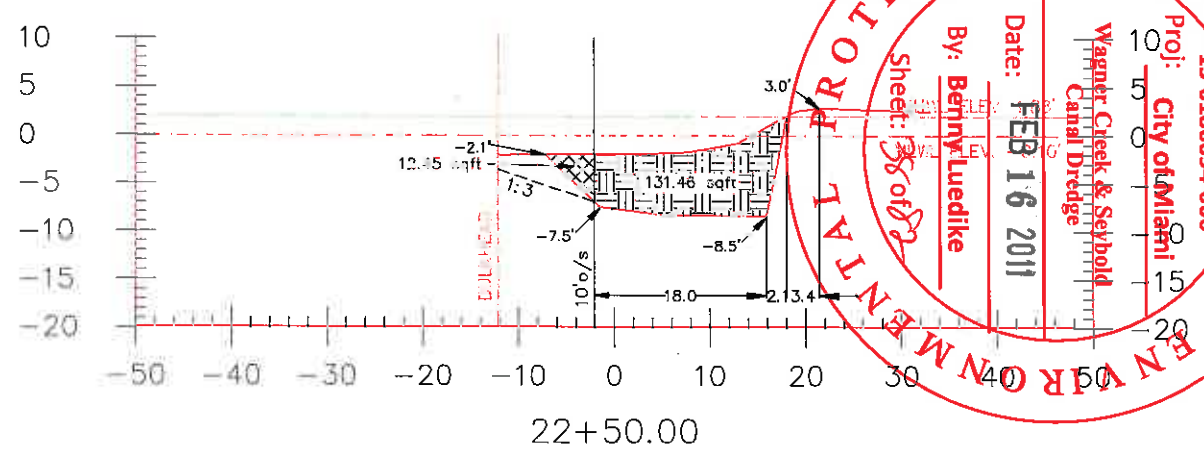
ARC SURVEYING & MAPPING, INC.
5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.
JKM	11-14-08	08-03/08-09	07-10-07

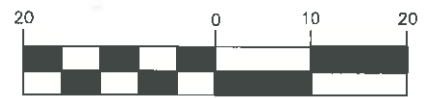
ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29



GRAPHIC SCALE

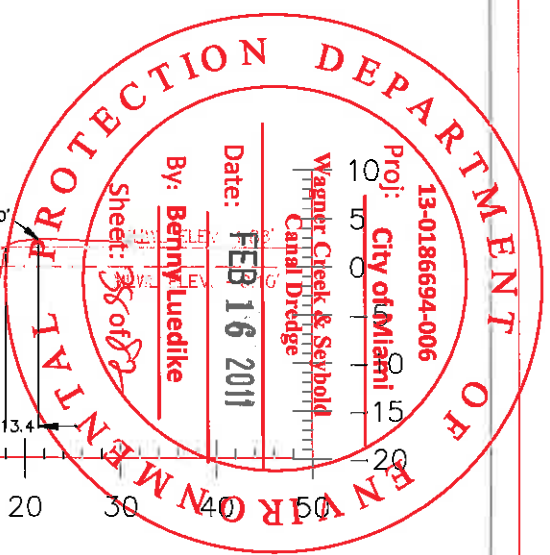


(IN FEET)
1 inch = 20 ft.

LEGEND

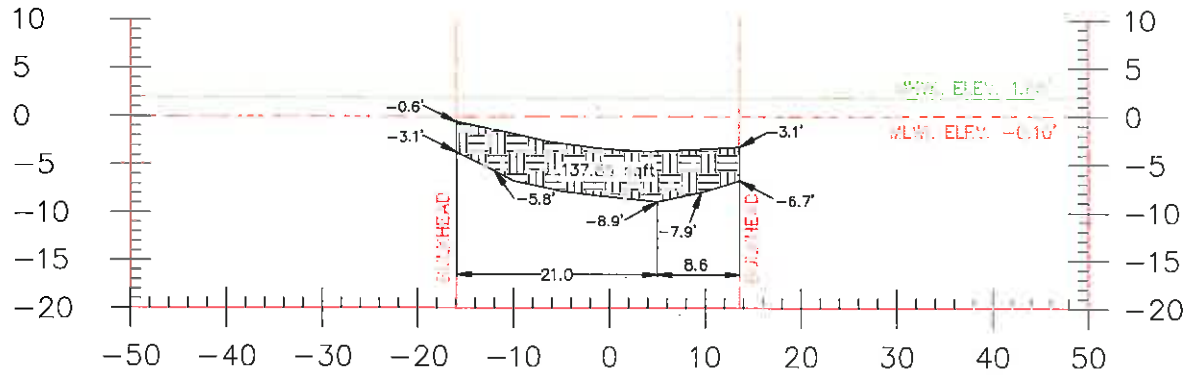
- = SEDIMENT TO BE REMOVED
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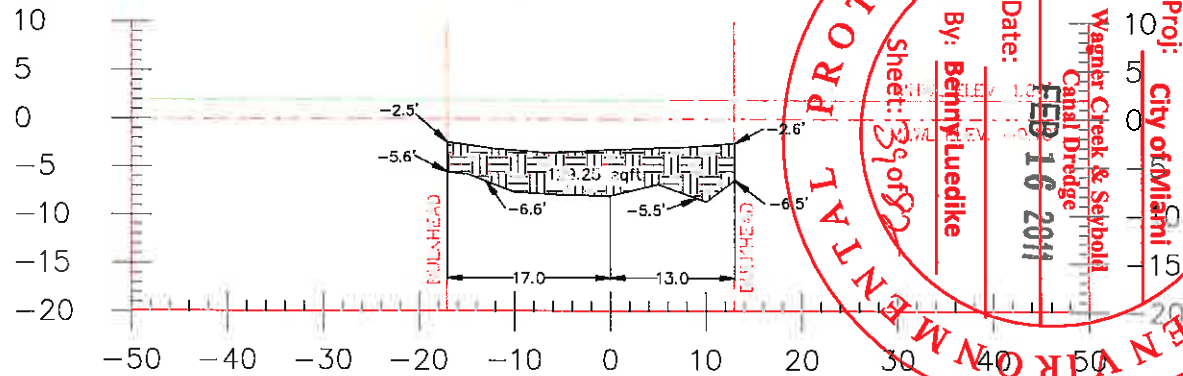
<p>MIAMI COUNTY, FLORIDA</p> <p>WAGNER CREEK & SEYBOLD CANAL, MIAMI, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC.</p> <p>5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p>	
<p>DRAWN BY: JKM</p>	<p>DATE: 11-14-08</p>	<p>FIELD BOOK & PAGE: 08-08/08-09</p>	<p>JOB NO.: 07-10-07</p>

ELEVATION IN FEET NGVD29



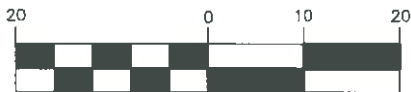
26+55.00

ELEVATION IN FEET NGVD29



26+30.00

GRAPHIC SCALE

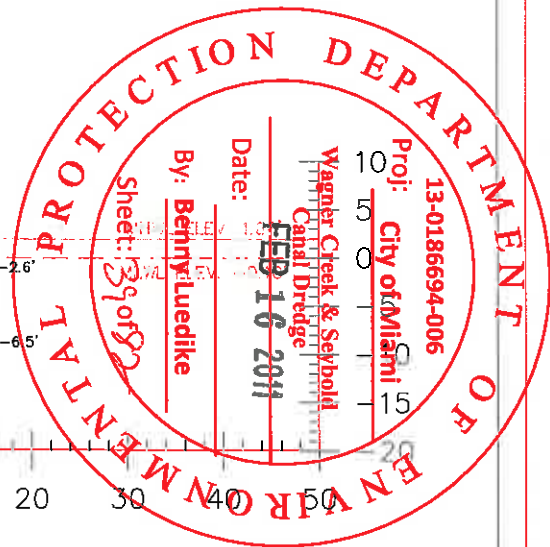


(IN FEET)
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DADE COUNTY, FLORIDA
WAGNER CREEK &
SEBOLD CANAL,
MIAMI, FLORIDA



OPERATIONAL SECTION 3 SHEET 10 OF 37

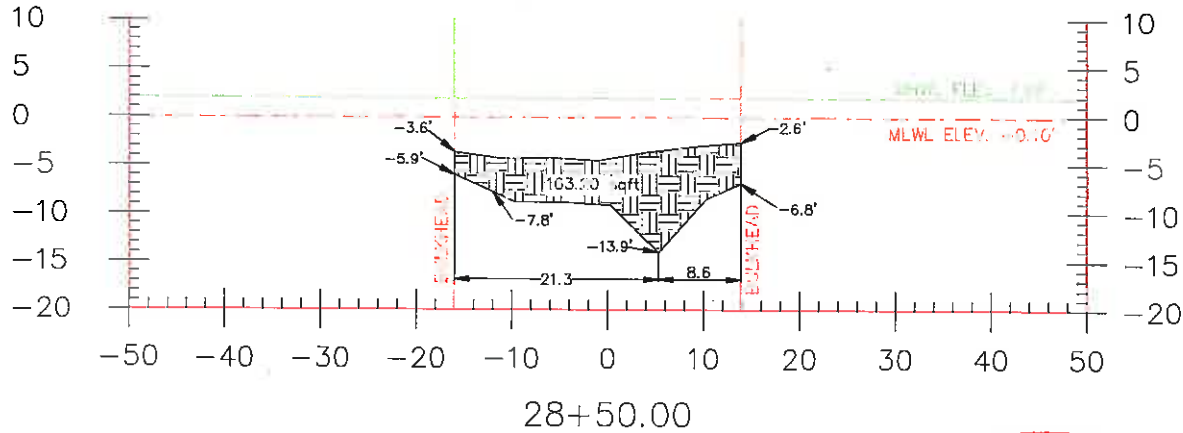
ARC SURVEYING & MAPPING, INC.



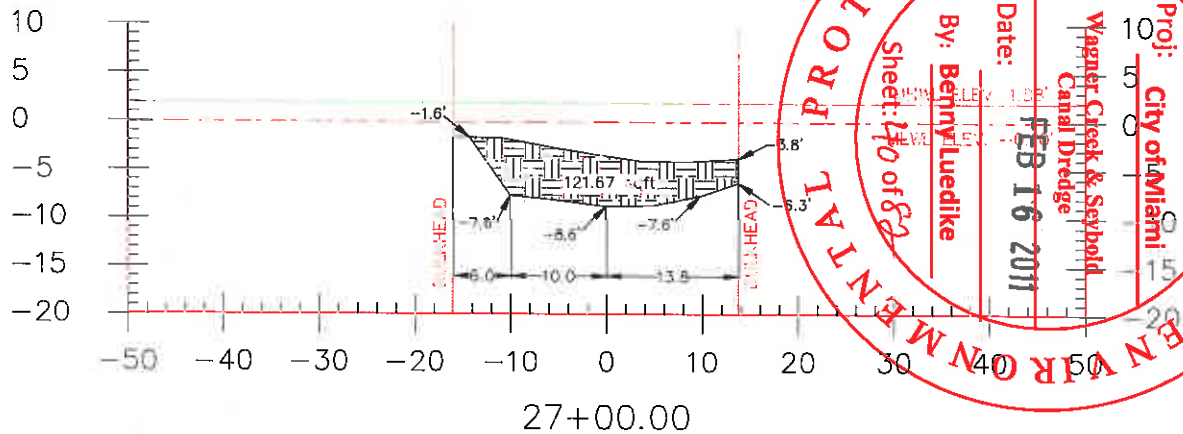
5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE 08-08/08-09	JOB NO. 07-10-07
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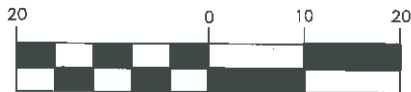
ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29











GRAPHIC SCALE

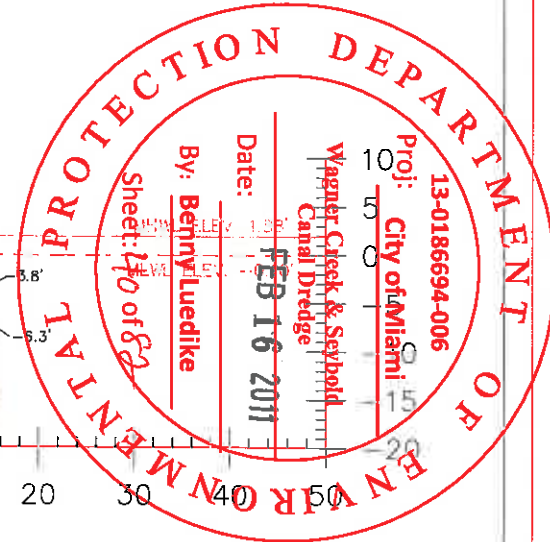



(IN FEET)
1 inch = 20 ft.

LEGEND

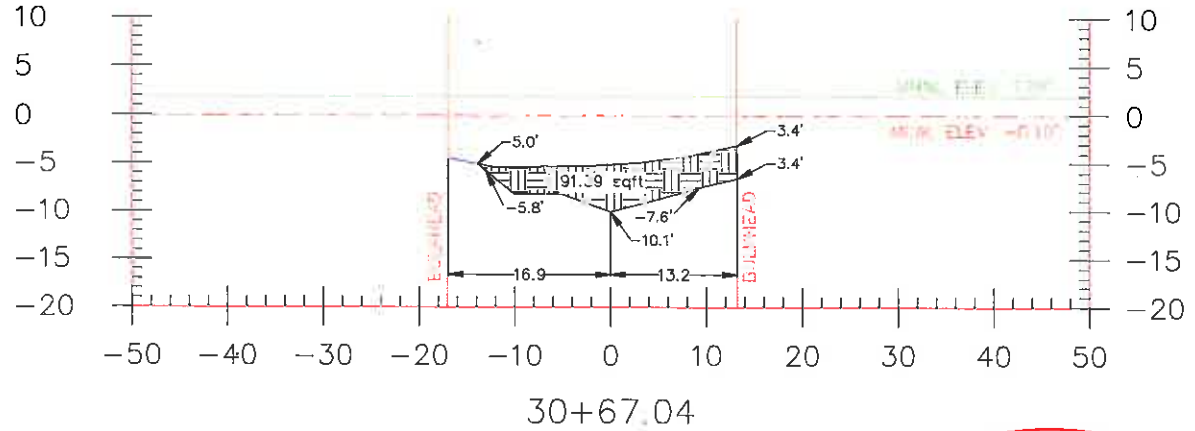
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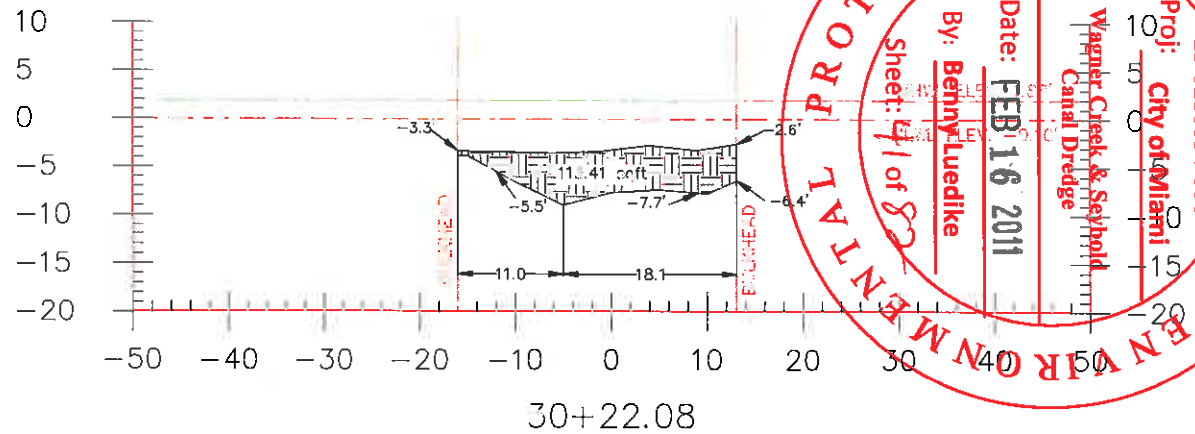


<p>STATE OF FLORIDA WAGNER CREEK & SEYBOLD CANAL COUNTY, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC. 5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO: 6487</p> <table border="1"> <tr> <td>DRAWN BY: JKM</td> <td>DATE: 11-14-08</td> <td>FIELD BOOK & PAGE 08-08/08-09</td> <td>JOB NO. 07-10-07</td> </tr> </table>	DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE 08-08/08-09	JOB NO. 07-10-07
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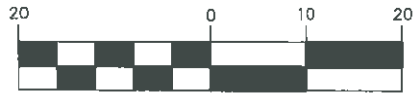
ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29



GRAPHIC SCALE

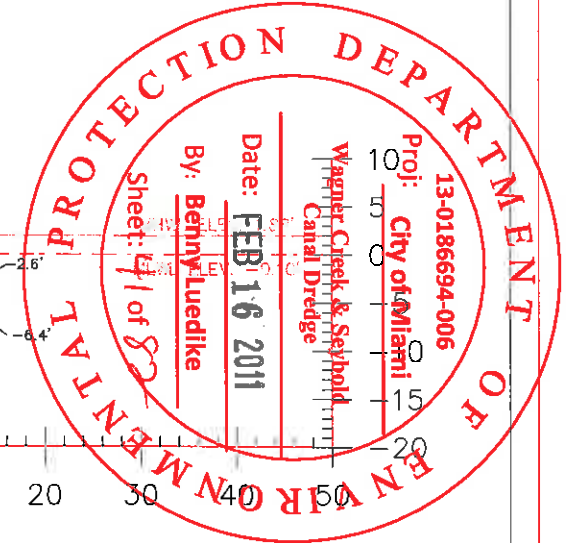


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LEGEND

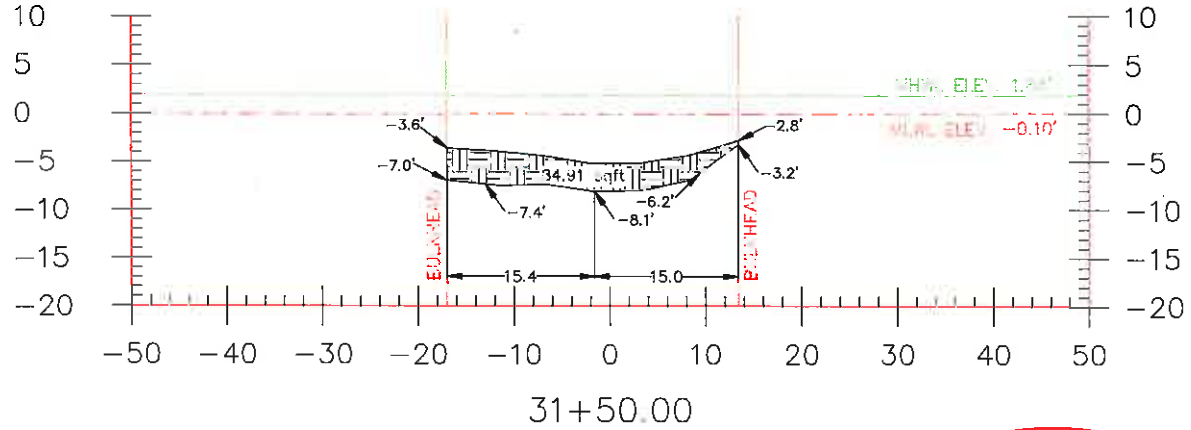
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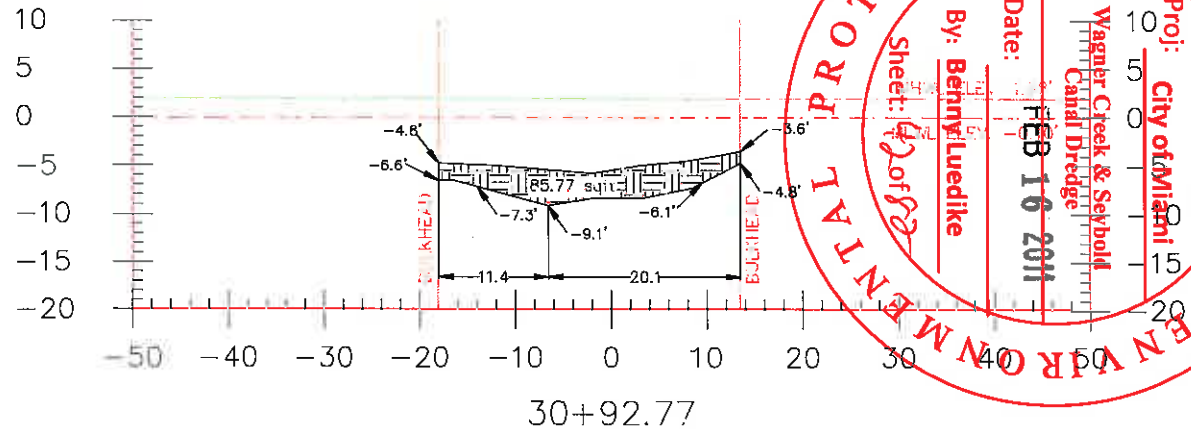


<p>JACKSONVILLE, FLORIDA</p> <p>WAGNER CREEK & SEYBOLD CANAL DREDGE</p> <p>JACKSONVILLE, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC.</p> <p>5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p>	
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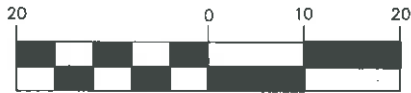
ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29



GRAPHIC SCALE

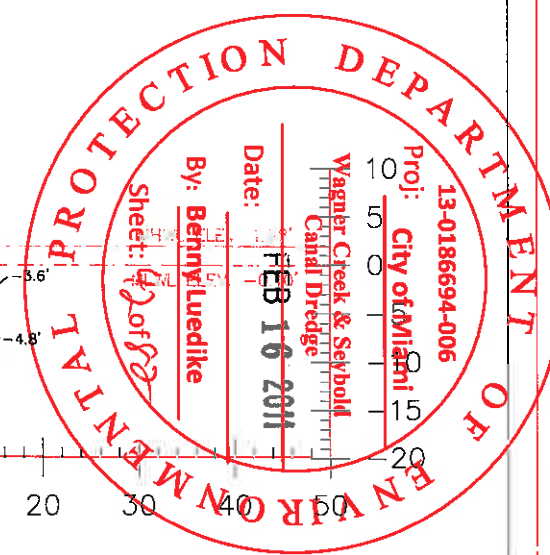


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LEGEND

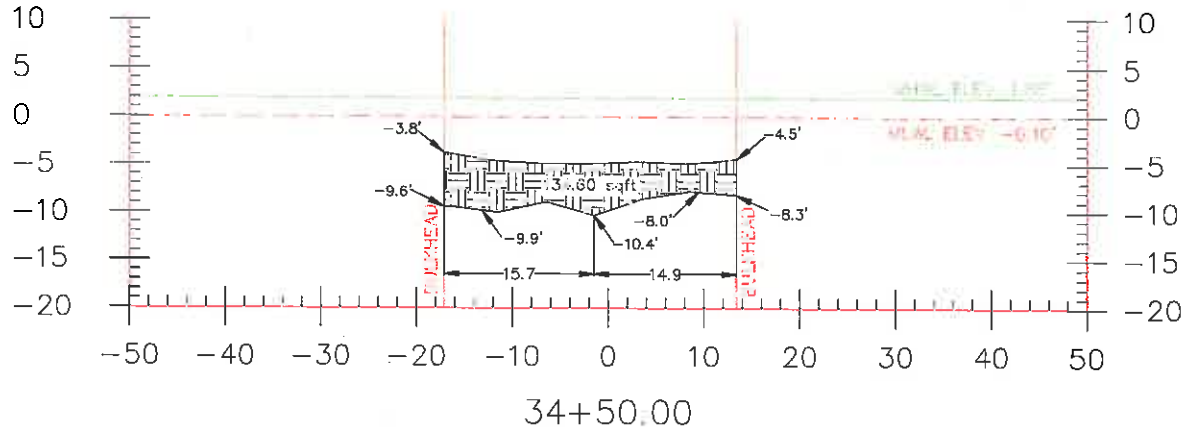
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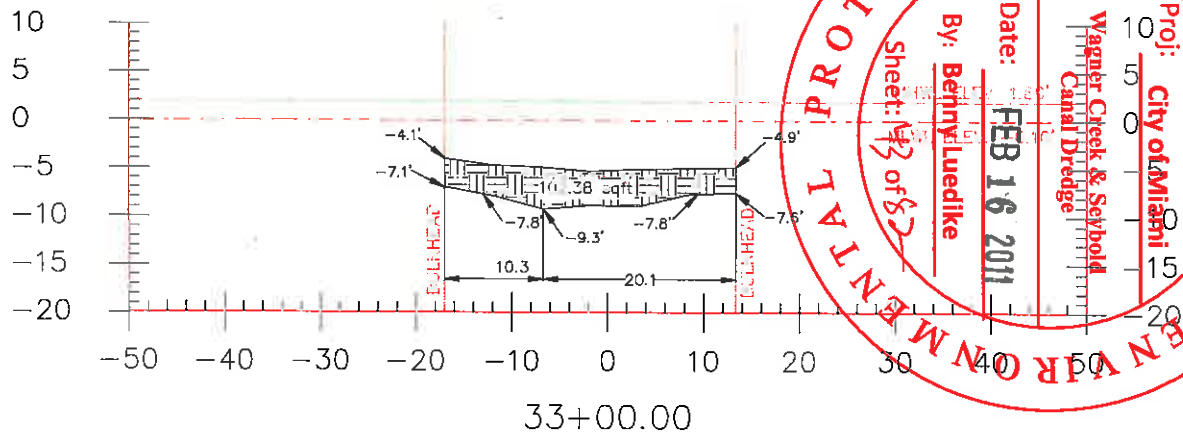


<p>DADE COUNTY, FLORIDA</p> <p>WAGNER CREEK & SEYBOLD CANAL</p> <p>MIAAMI, FLORIDA</p>				<p>OPERATIONAL SECTION 3 SHEET 10 OF 17</p> <p>ARC SURVEYING & MAPPING, INC.</p> <p>5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p>	
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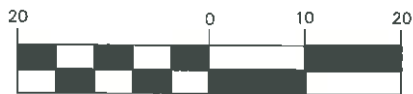
ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29



GRAPHIC SCALE



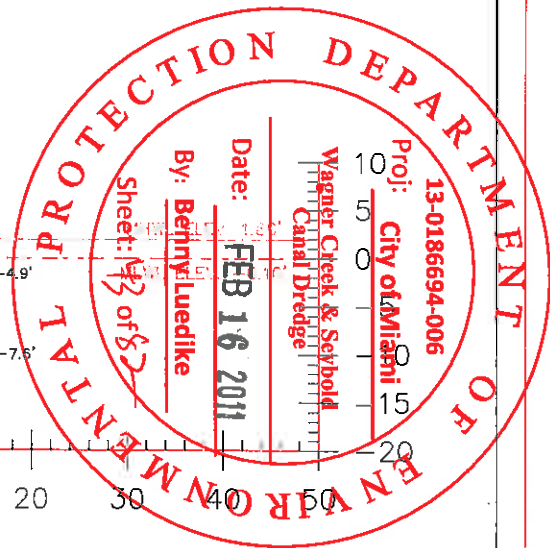
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DUVAL COUNTY, FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA



OPERATIONS SECTION 3 SHEET 12 OF 82

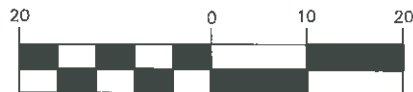
ARC SURVEYING & MAPPING, INC.



5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE 08-08/08-09	JOB NO. 07-10-07
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GRAPHIC SCALE

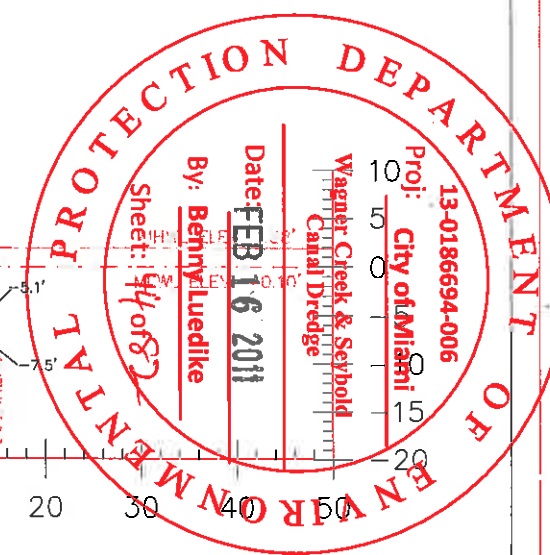
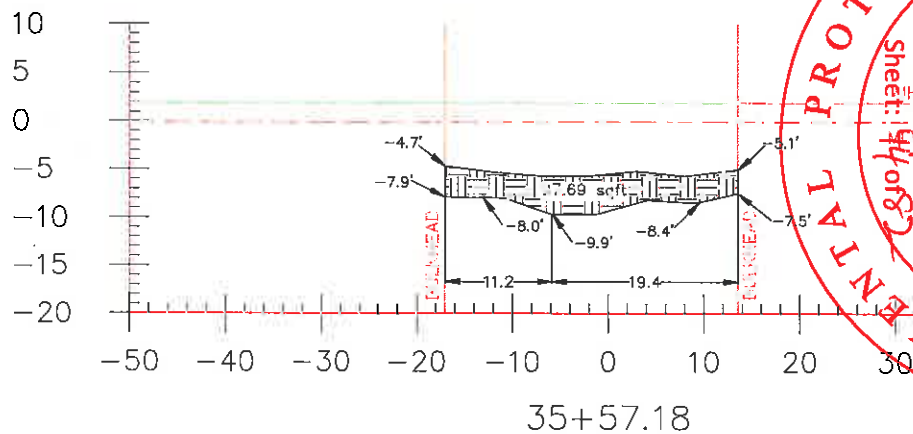


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ELEVATION IN FEET NGVD29



WAGNER CREEK & SEBOLD CANAL
MIAMI, FLORIDA

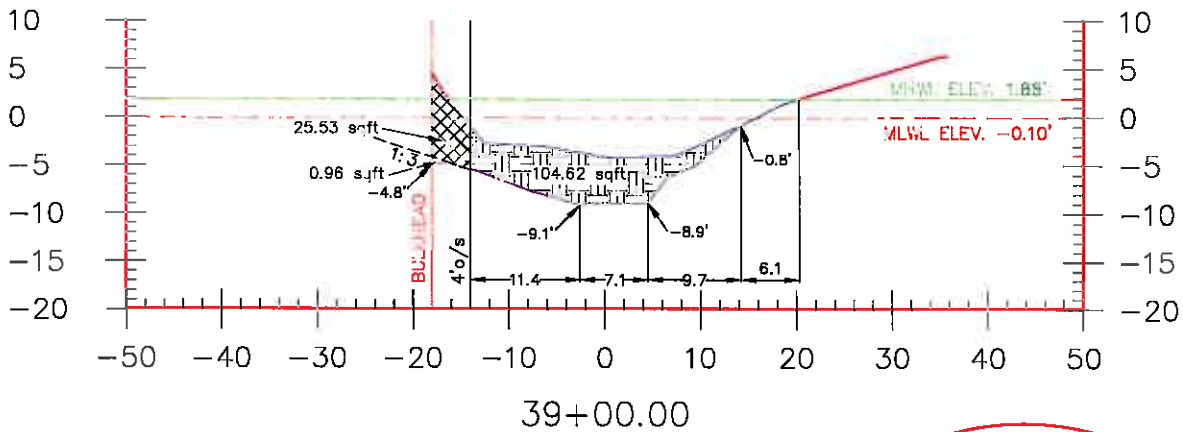


OPERATIONAL SECTION SHEET 1 OF 12

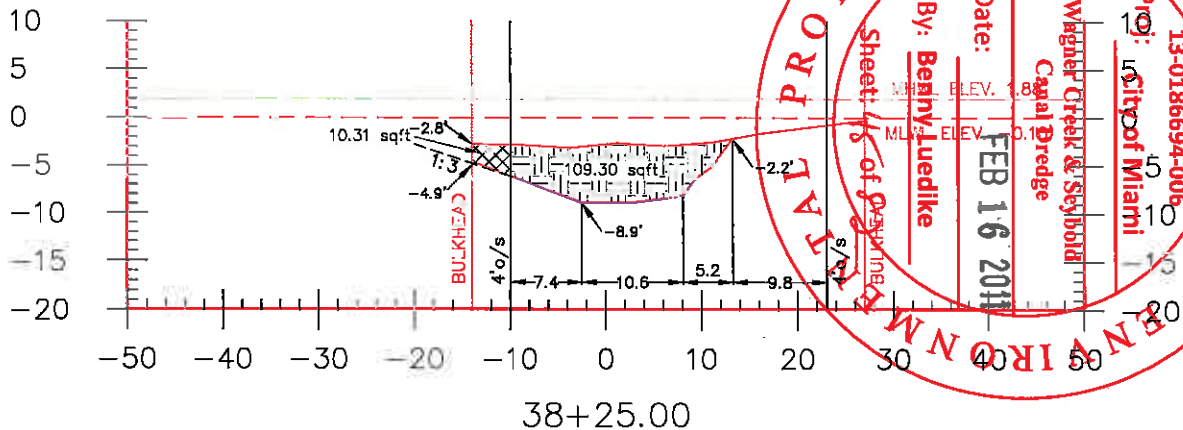
ARC SURVEYING & MAPPING, INC.
5202 SAN JUAN AVENUE,
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ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29



GRAPHIC SCALE

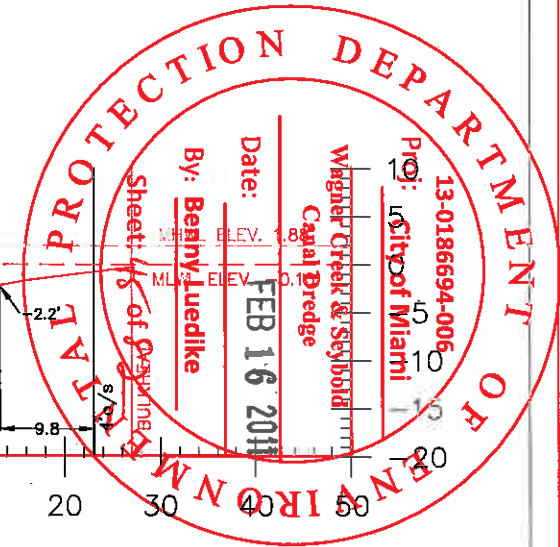


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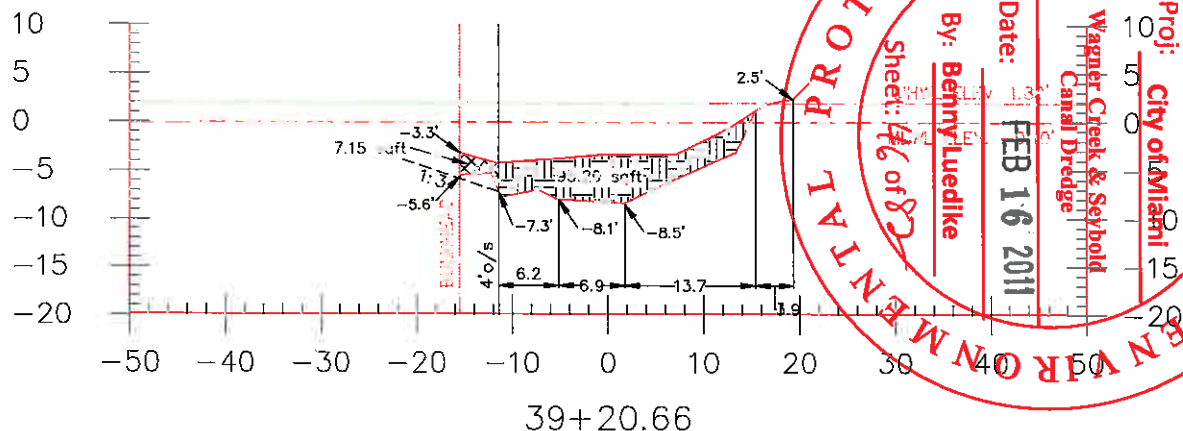
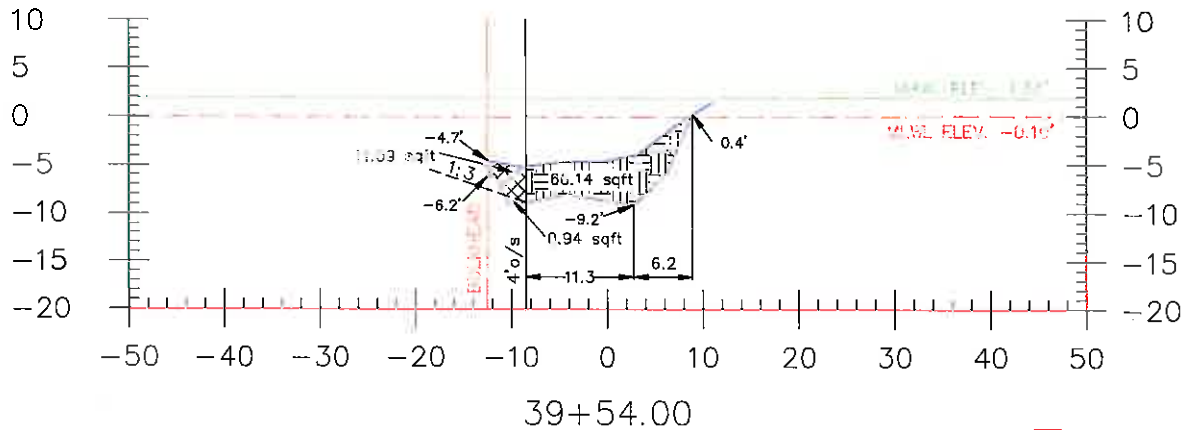
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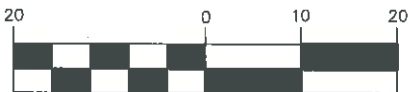
OPERATIONAL SECTION 1 SHEET 16 OF 37

DADE COUNTY, FLORIDA WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA		ARC SURVEYING & MAPPING, INC. 5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO: 6487 <hr/> JKM 11-14-08 08-08/08-09 07-10-07
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ELEVATION IN FEET NGVD29



GRAPHIC SCALE



(IN FEET)
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LEGEND

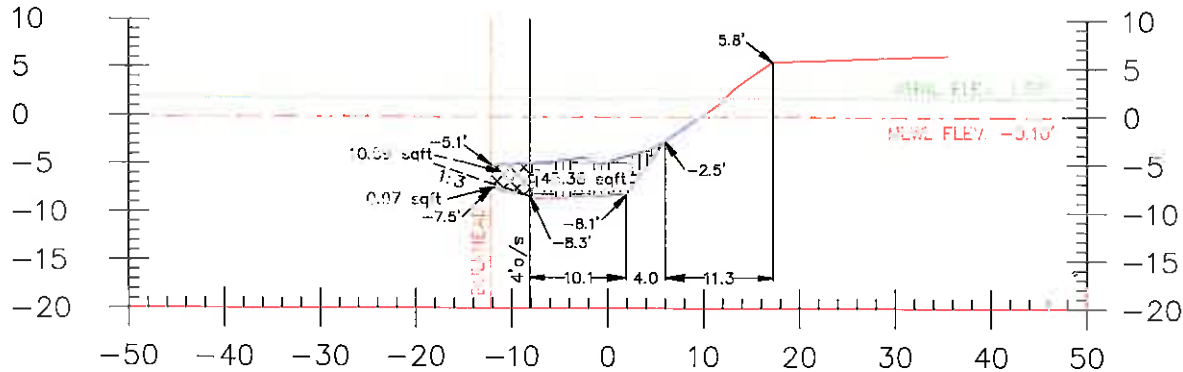
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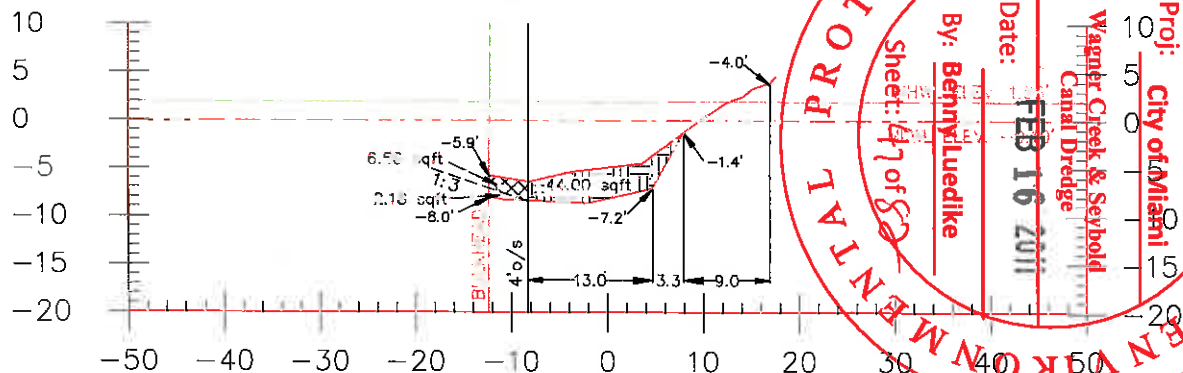
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DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.							
JKM	11-14-08	08-08/08-09	07-10-07							

ELEVATION IN FEET NGVD29



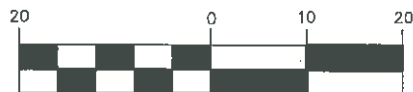
41+69.26

ELEVATION IN FEET NGVD29



40+55.00

GRAPHIC SCALE

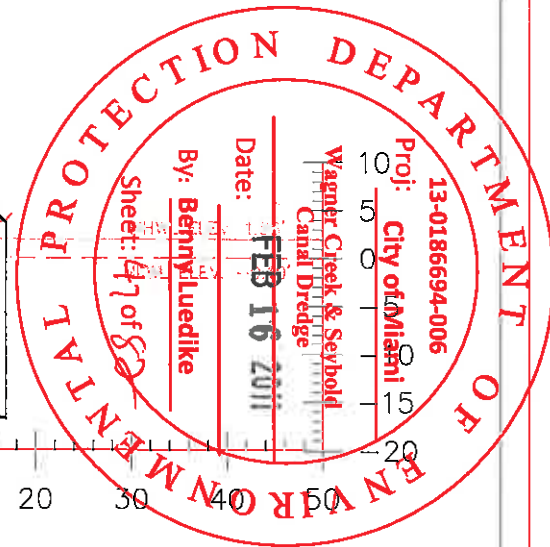


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STATE OF FLORIDA
WARNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA



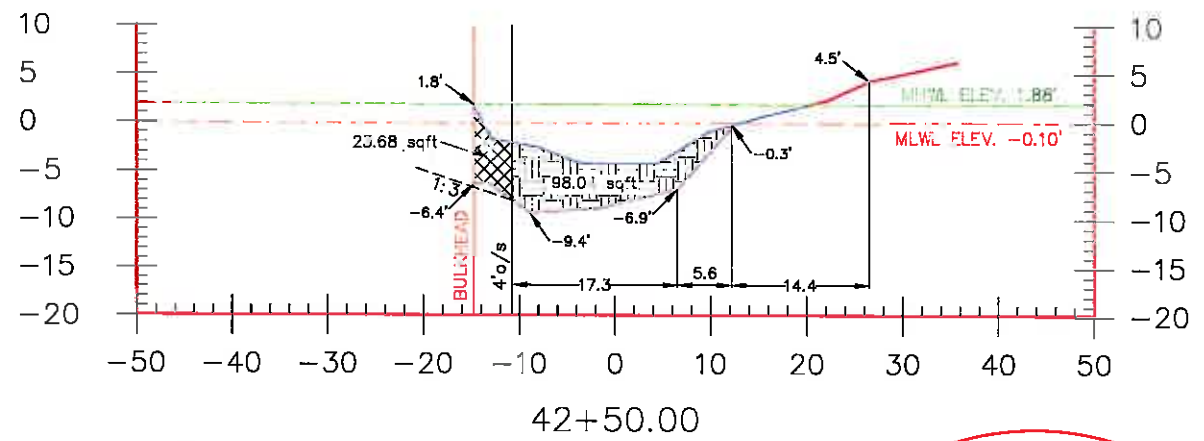
OPERATIONAL SECTION # 18 of 37

ARC SURVEYING & MAPPING, INC.

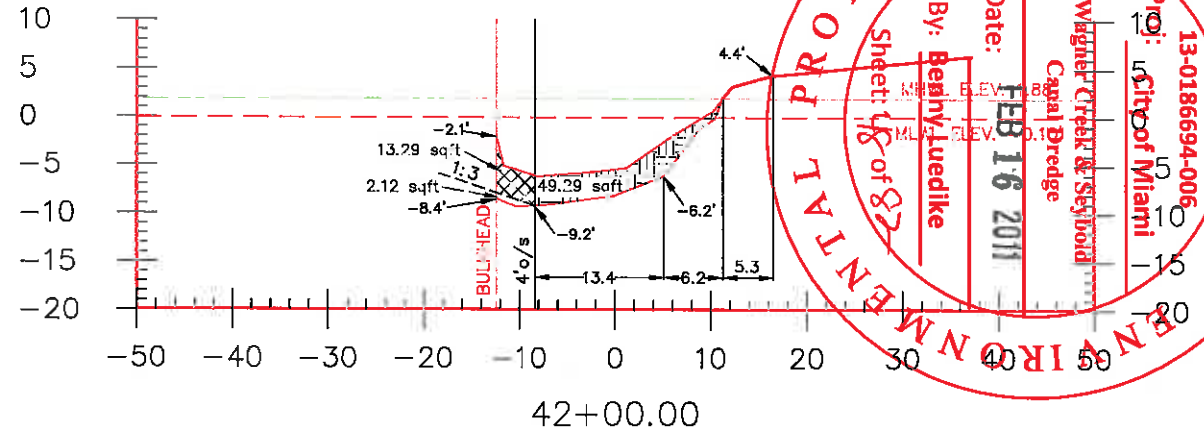
5202 SAN JUAN AVENUE,
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PHONE: 904/384-8377
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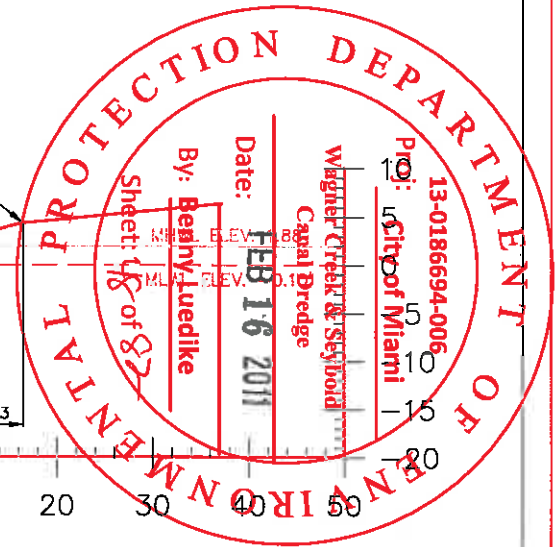
ELEVATION IN FEET NGVD29



42+50.00



42+00.00



GRAPHIC SCALE



(IN FEET)
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LEGEND

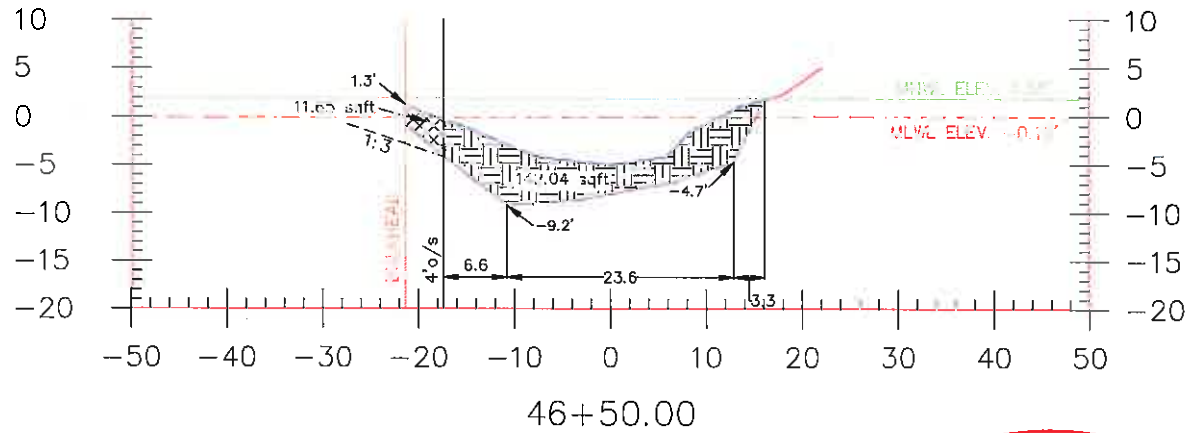
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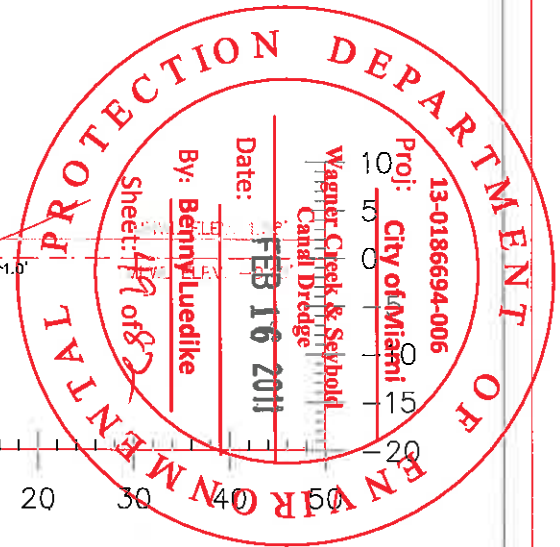
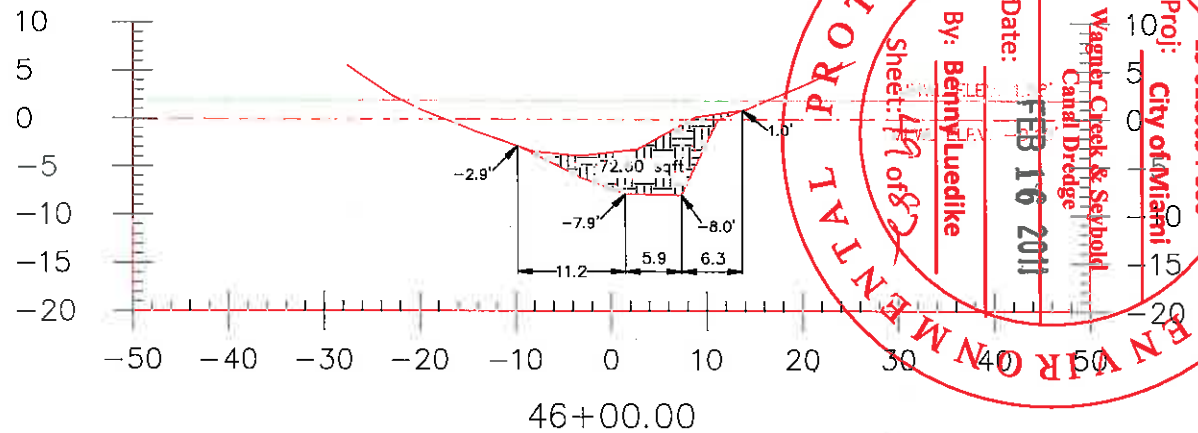
OPERATIONAL SECTION 1 SHEET 19 OF 31

<p>DADE COUNTY, FLORIDA WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC. 5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p>	
JKM	11-14-08	08-08/08-09	07-10-07

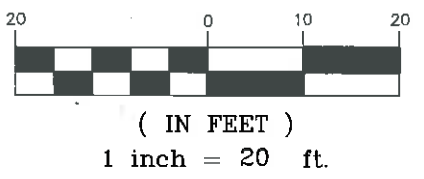
ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29



GRAPHIC SCALE



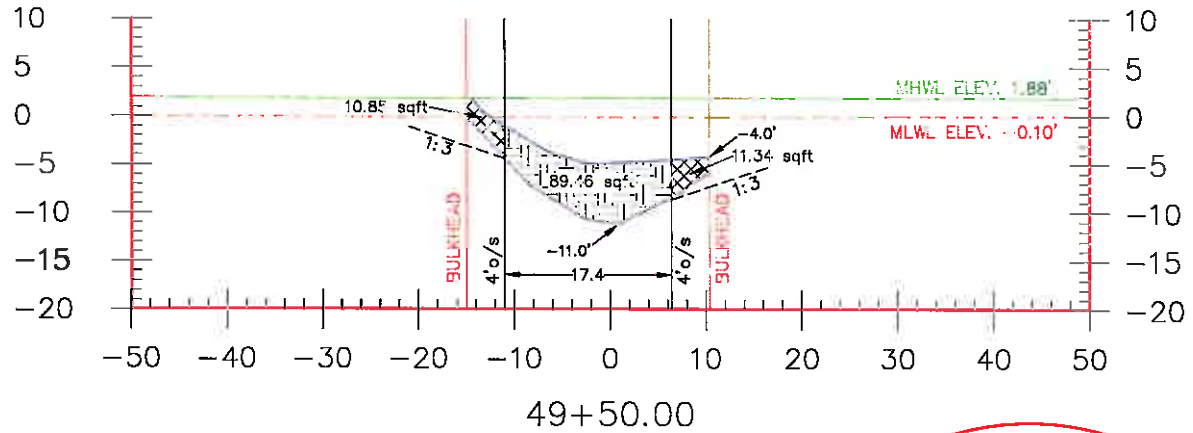
LEGEND

- = SEDIMENT TO BE REMOVED
- = SLOUGHING VOLUME
- = NATURAL SOIL/NON SEDIMENT
- = NATURAL SOIL/SEDIMENT INTERFACE
- = TOP OF SEDIMENT
- = 1.88' MEAN HIGH WATER LINE
- = -0.10' MEAN LOW WATER LINE
- = NGVD29
- = NATIONAL GEODETIC VERTICAL ELEVATION OF 1929
- = 1:3 SLOPE SLOUGHING LINE

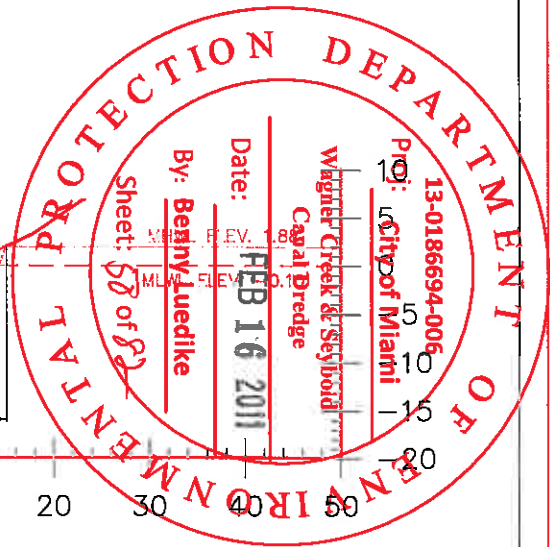
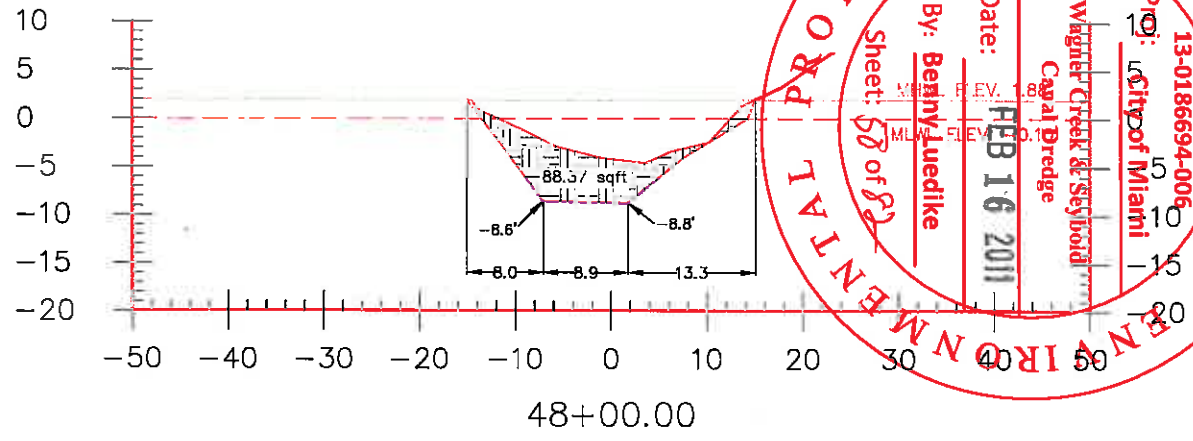
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<p>DADE COUNTY, FLORIDA WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC. 5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p> <table border="1"> <tr> <td>DRAWN BY: JKM</td> <td>DATE: 11-14-08</td> <td>FIELD BOOK & PAGE 08-08/08-09</td> <td>JOB NO. 07-10-07</td> </tr> </table>	DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE 08-08/08-09	JOB NO. 07-10-07
DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE 08-08/08-09	JOB NO. 07-10-07			

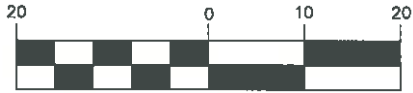
ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29



GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

LEGEND

- = SEDIMENT TO BE REMOVED
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- = 1:3
- = 1:3 SLOPE SLOUGHING LINE

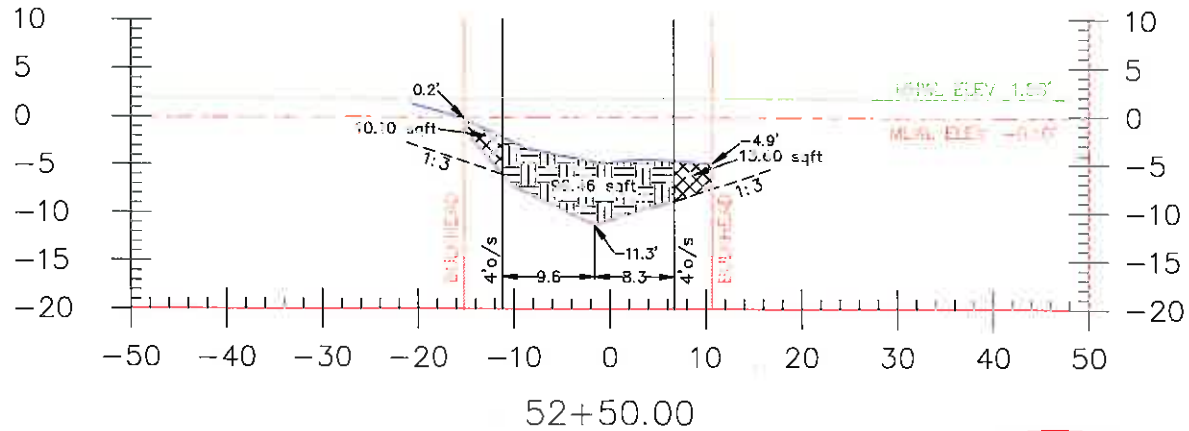
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OPERATIONAL SECTION 5

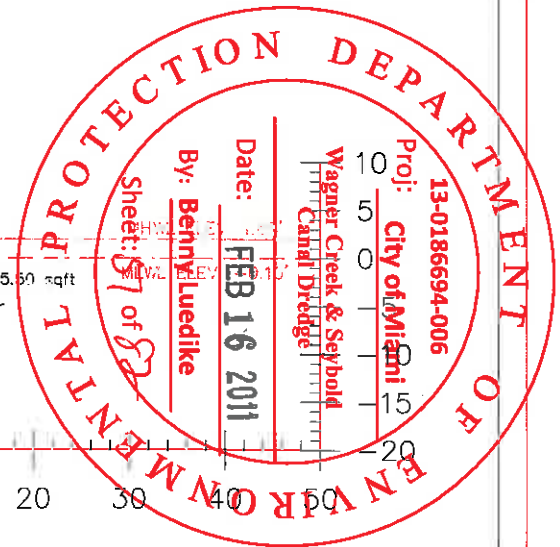
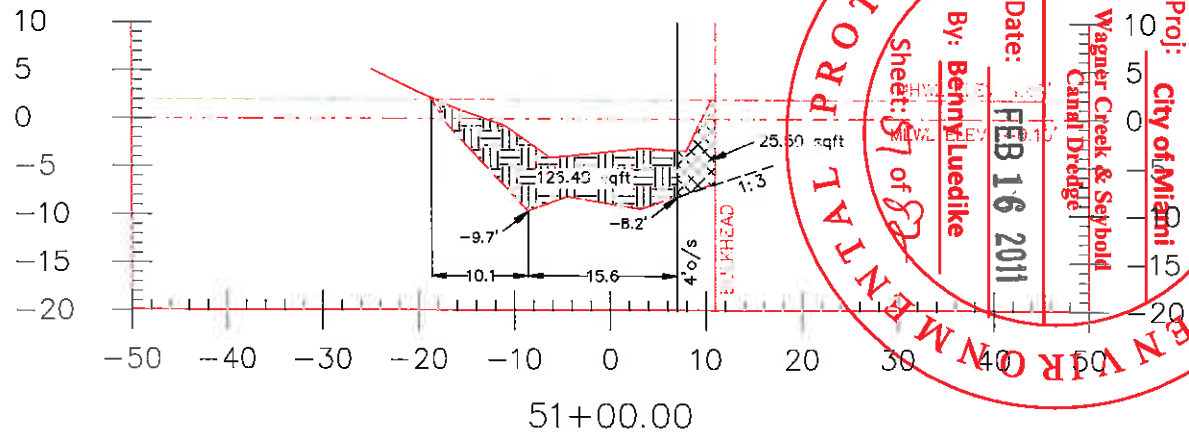
SHEET 21 OF 37

<p>DADIC COUNTY, FLORIDA WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC. 5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p>
	<p>JKM</p>	<p>11-14-08 08-08/08-09 07-10-07</p>

ELEVATION IN FEET NGVD29










ELEVATION IN FEET NGVD29





GRAPHIC SCALE



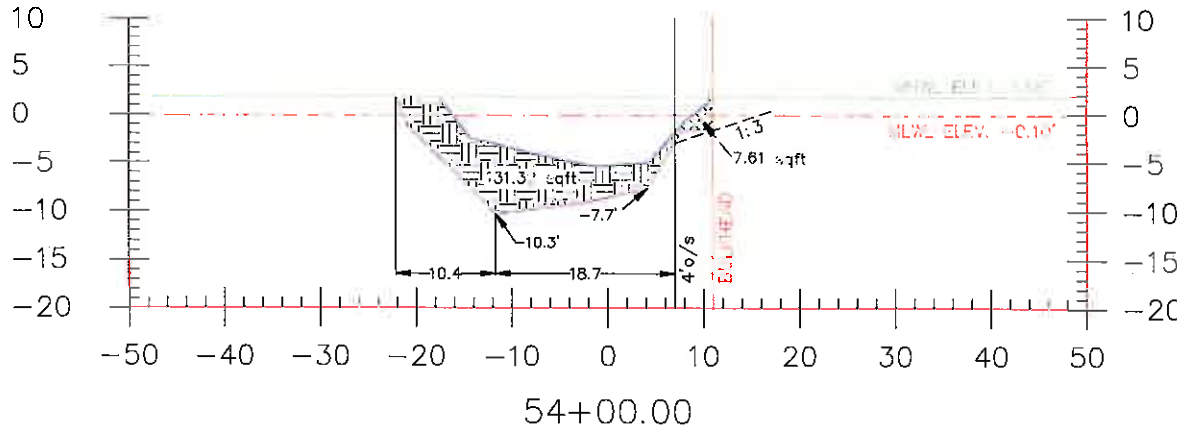
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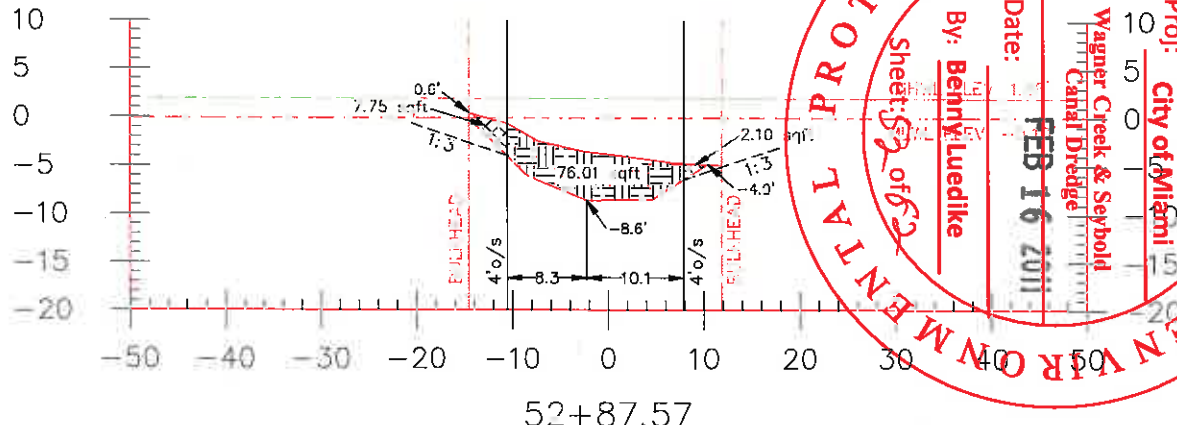
<p>DADE COUNTY, FLORIDA</p> <p>WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC.</p>	
<p>5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p>			<p>5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p>
<p>DRAWN BY: JKM</p>	<p>DATE: 11-14-08</p>	<p>FIELD BOOK & PAGE 08-08/08-09</p>	<p>JOB NO. 07-10-07</p>

ELEVATION IN FEET NGVD29

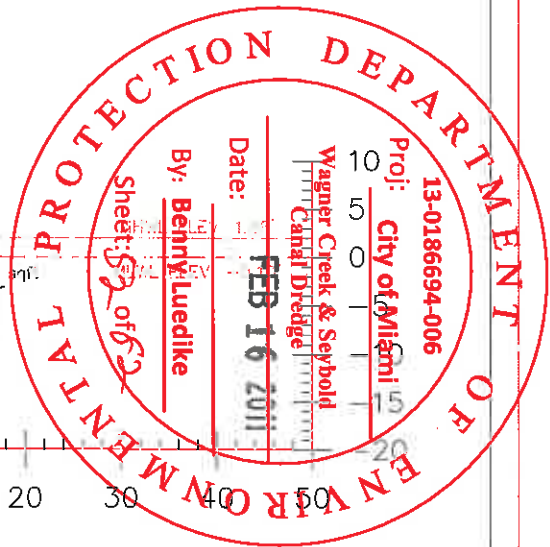


54+00.00

ELEVATION IN FEET NGVD29



52+87.57



GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

LEGEND

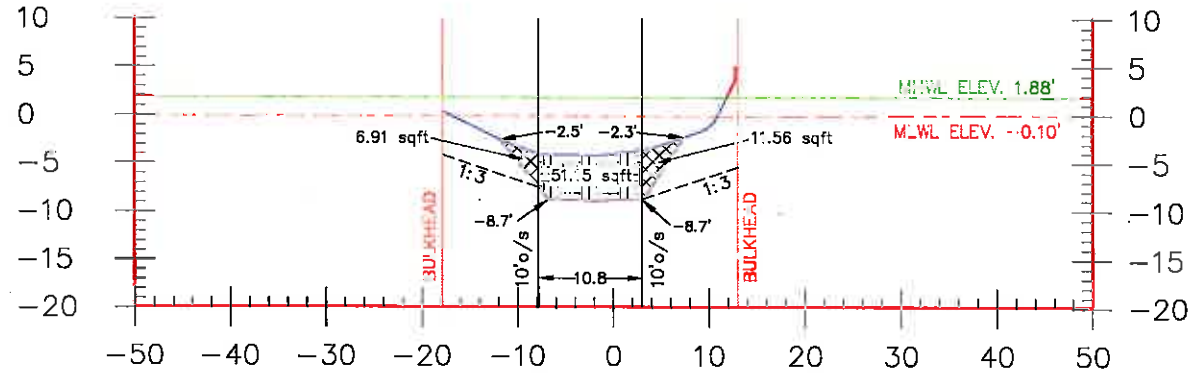
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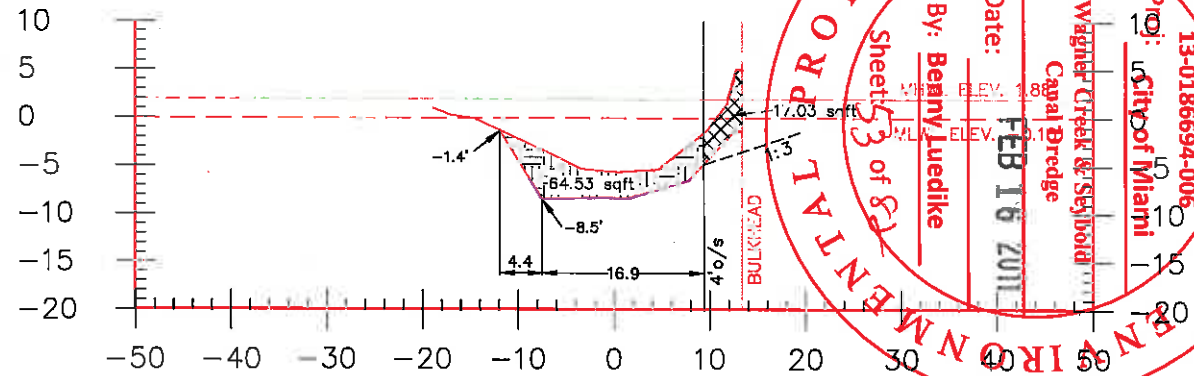
OPERATIONAL SECTION 5 SHEET 52 OF 57

DADE COUNTY, FLORIDA WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA		ARC SURVEYING & MAPPING, INC.
DRAWN BY: JKM		DATE: 11-14-08
FIELD BOOK & PAGE: 08-08/08-09		JOB NO.: 07-10-07
5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487		

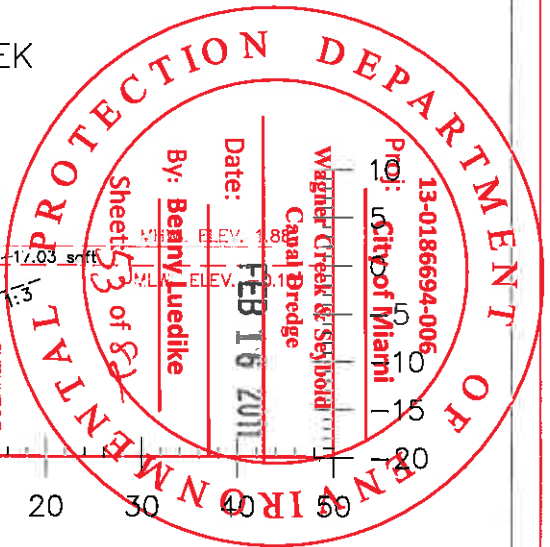
ELEVATION IN FEET NGVD29



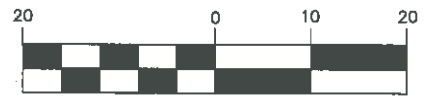
55+50.00
END WAGNER CREEK



54+30.00



GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

LEGEND

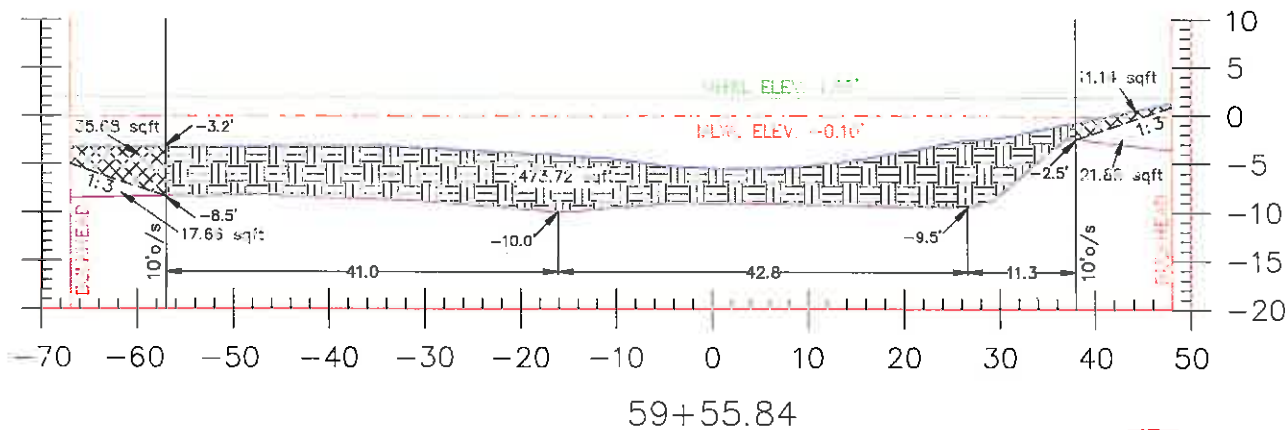
- = SEDIMENT TO BE REMOVED
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OPERATIONAL SECTION 5 SHEET 21 OF 27

<p>DADE COUNTY, FLORIDA WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC. 5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p>
<p>JKM 11-14-08 08-08/08-09 07-10-07</p>		<p>A-08-29</p>

ELEVATION IN FEET NGVD29



59+55.84

GRAPHIC SCALE



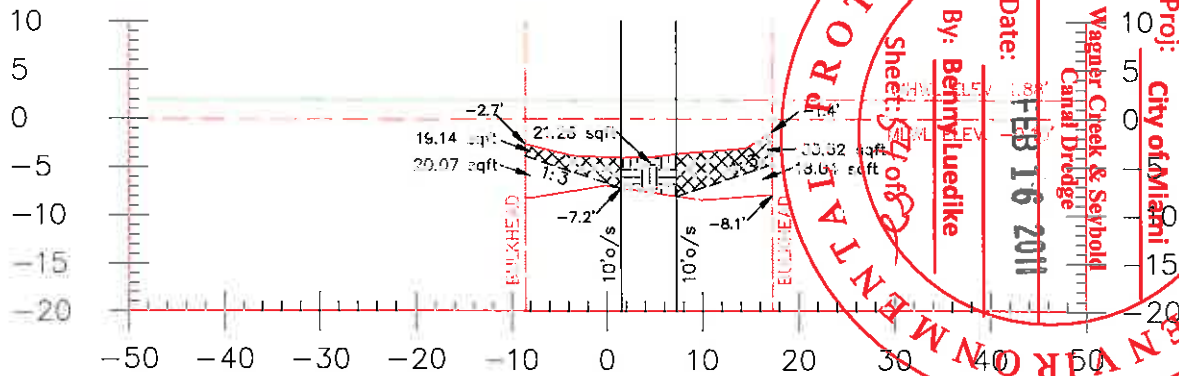
(IN FEET)
1 inch = 20 ft.

LEGEND

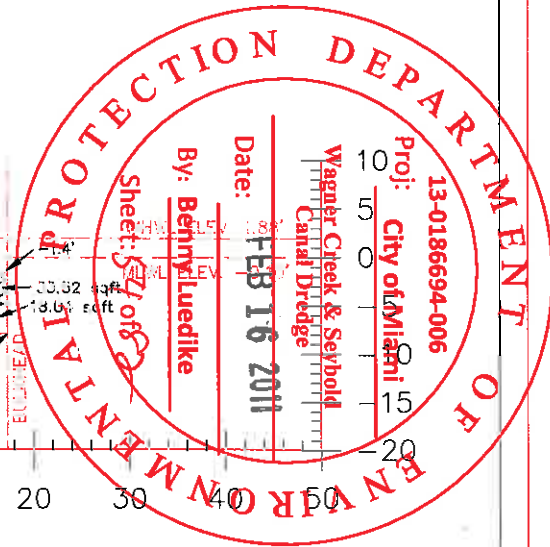
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ELEVATION IN FEET NGVD29



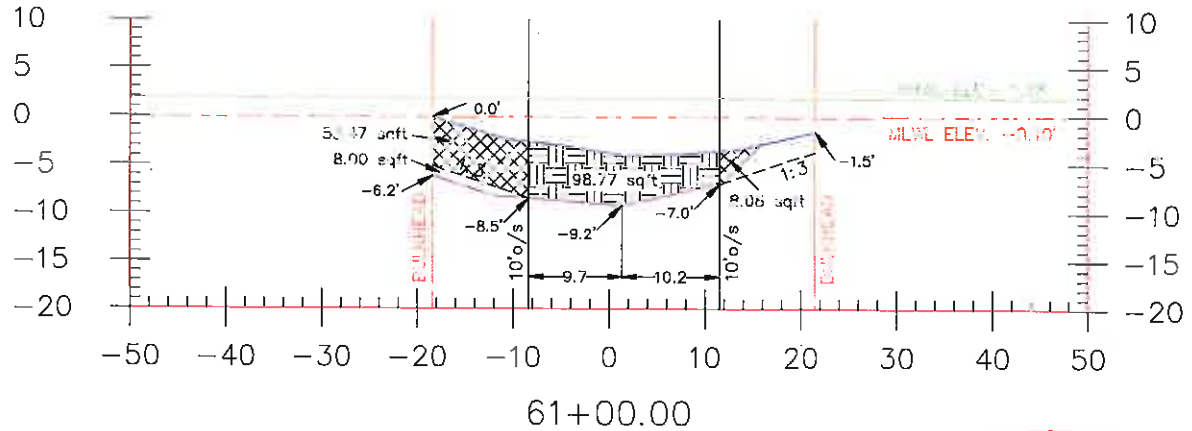
57+93.39
BEGIN SEYBOLD CANAL



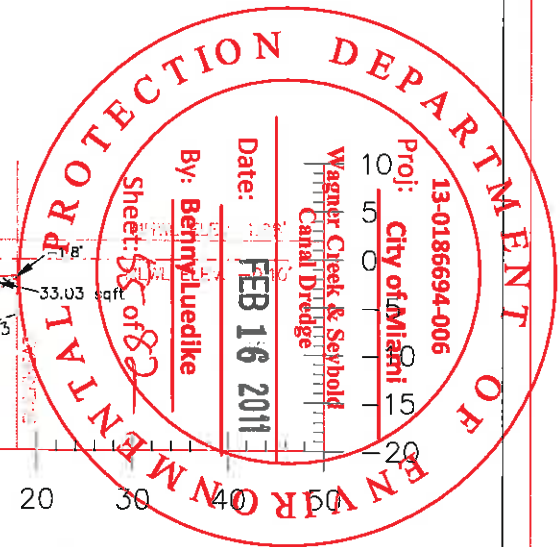
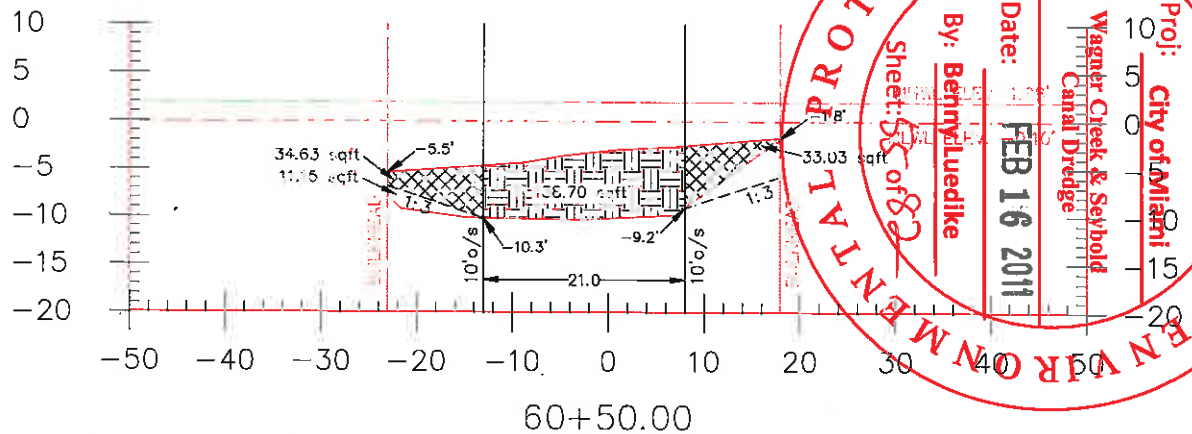
OPERATIONAL SECTION SHEET 24 OF 37

Dade County, Florida Wagner Creek & Seybold Canal Miami, Florida		ARC SURVEYING & MAPPING, INC. 	
		5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487	
DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE 08-08/08-09	JOB NO. 07-10-07

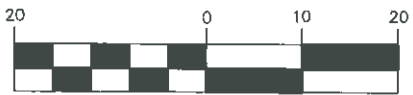
ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29



GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

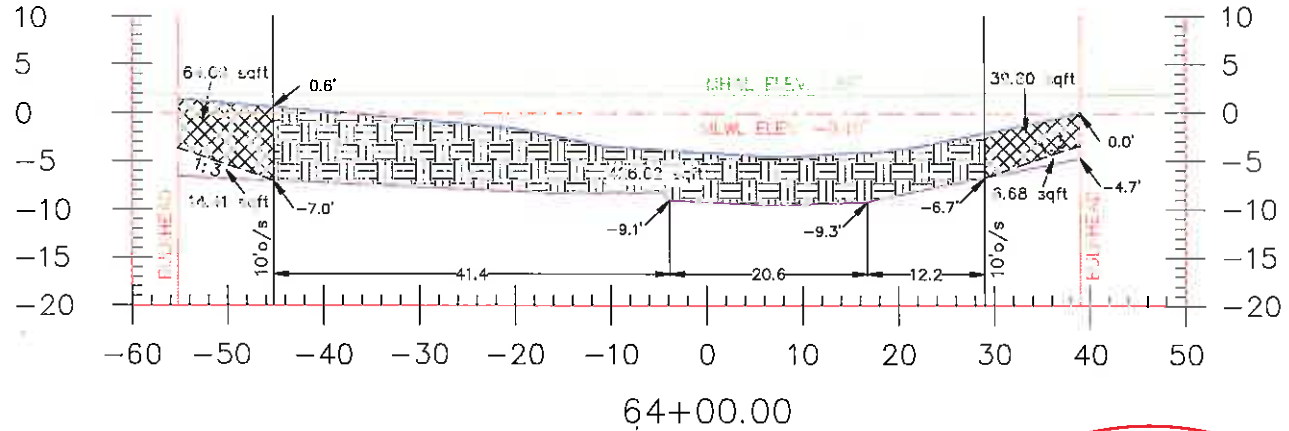
LEGEND

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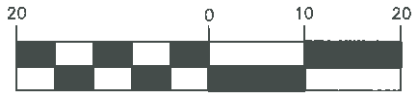
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ELEVATION IN FEET NGVD29












GRAPHIC SCALE



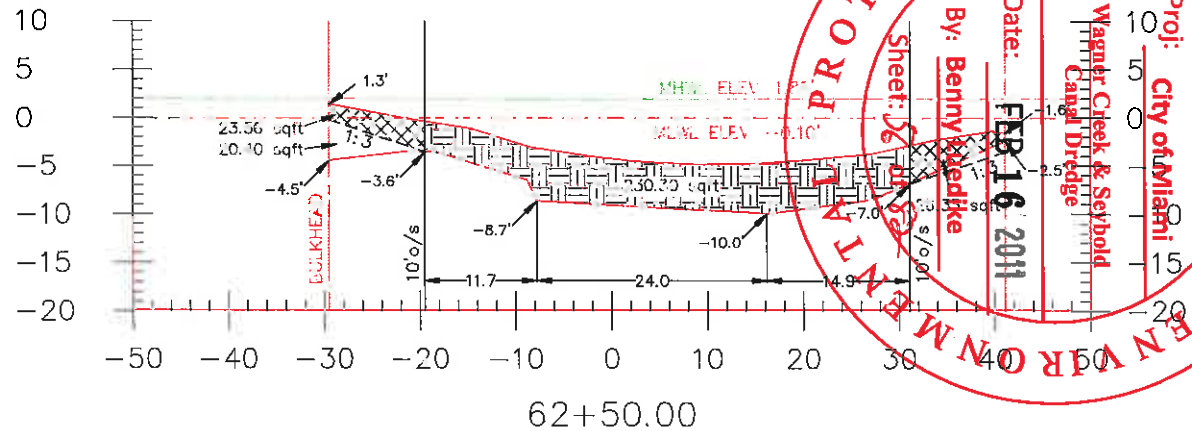
(IN FEET)
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LEGEND

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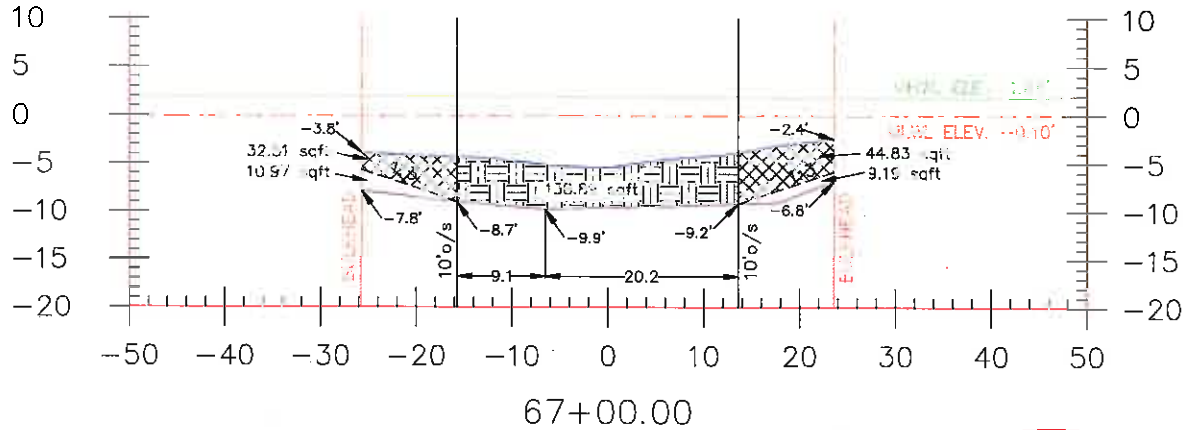
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ELEVATION IN FEET NGVD29

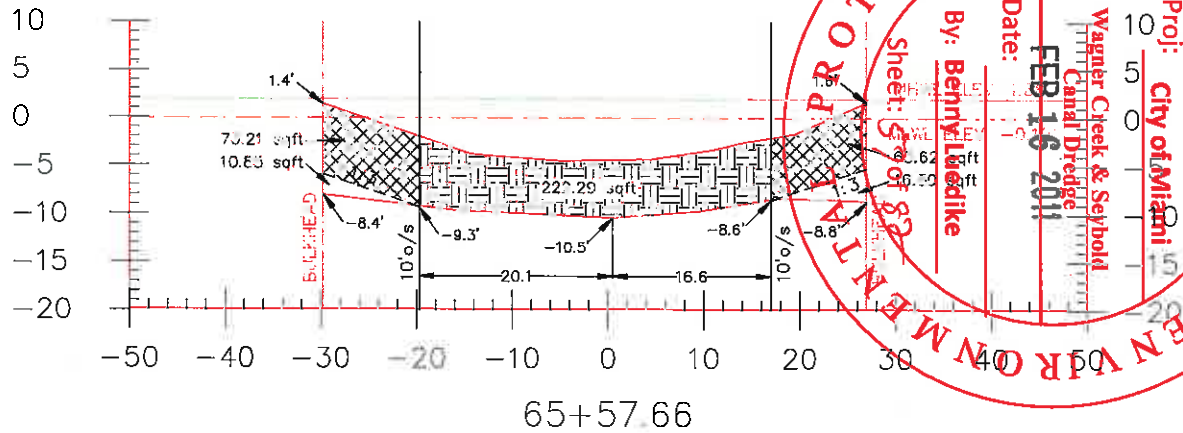


<p>LINE IN GPS PLANNED</p> <p>WAGNER CREEK & SEIBOLD CANAL MIAMI, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC.</p> <p>5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p> <table border="1"> <tr> <td>DRAWN BY:</td> <td>DATE:</td> <td>FIELD BOOK & PAGE</td> <td>JOB NO.</td> </tr> <tr> <td>JKM</td> <td>11-14-08</td> <td>08-08/08-09</td> <td>07-10-07</td> </tr> </table>	DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.	JKM	11-14-08	08-08/08-09	07-10-07
DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.							
JKM	11-14-08	08-08/08-09	07-10-07							

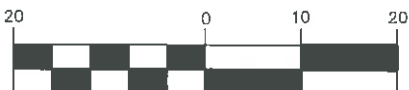
ELEVATION IN FEET NGVD29



ELEVATION IN FEET NGVD29



GRAPHIC SCALE



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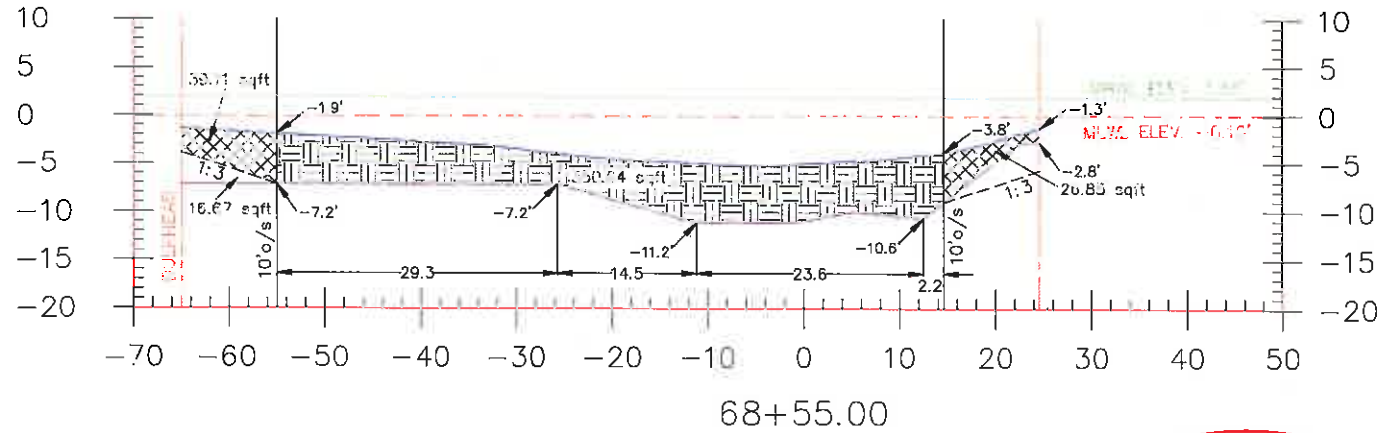
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<p>OPERATIONAL SECTION</p>	<p>SHEET 22 OF 37</p>	<p>DRAWN BY: JKM</p>	<p>DATE: 11-14-08</p>	<p>FIELD BOOK & PAGE 08-08/08-09</p>	<p>JOB NO. 07-10-07</p>

ELEVATION IN FEET NGVD29












GRAPHIC SCALE



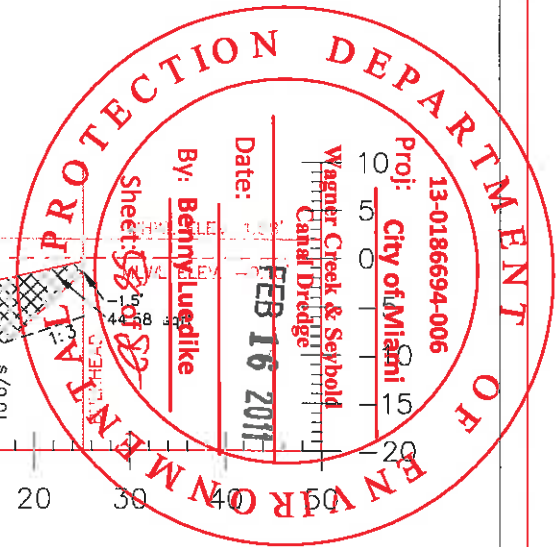
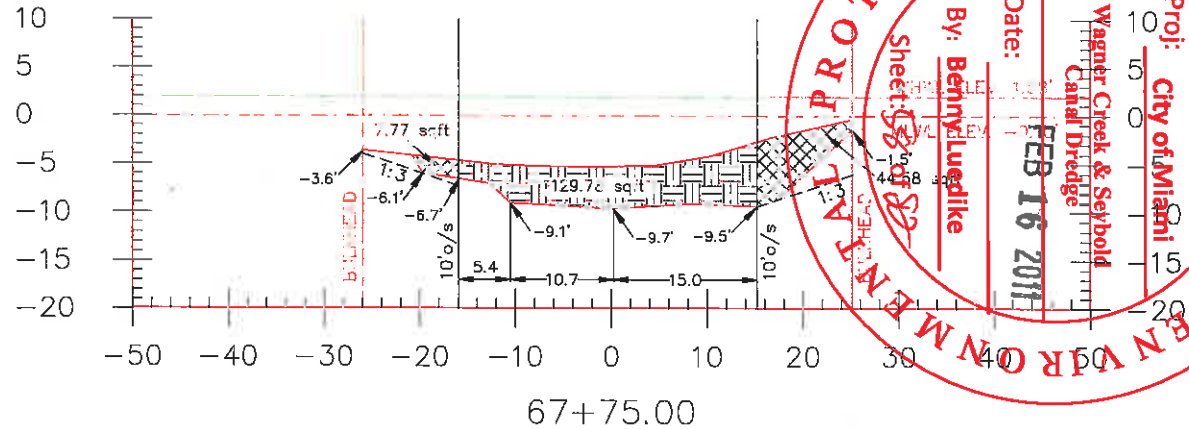
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ELEVATION IN FEET NGVD29



DATE PRINTED: FEBRUARY 16, 2011
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA



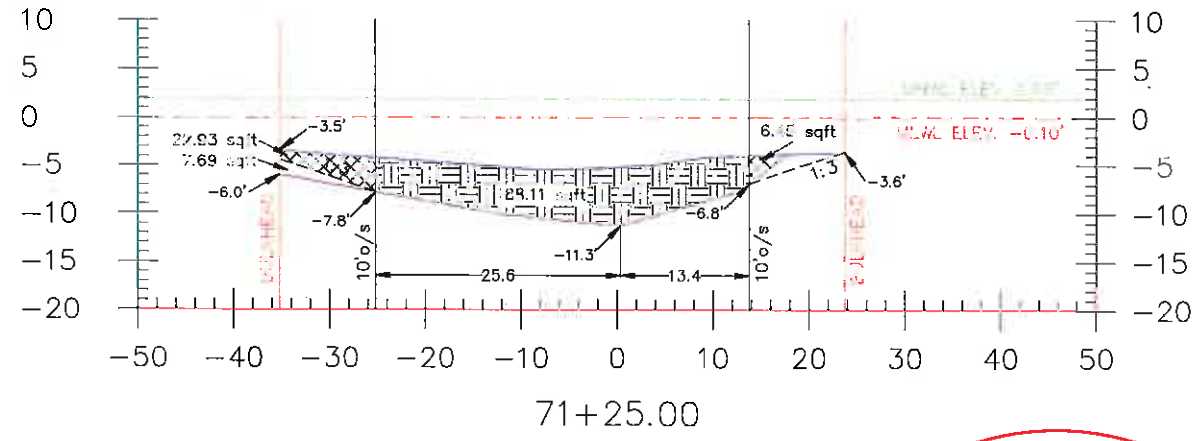
ARC SURVEYING & MAPPING, INC.



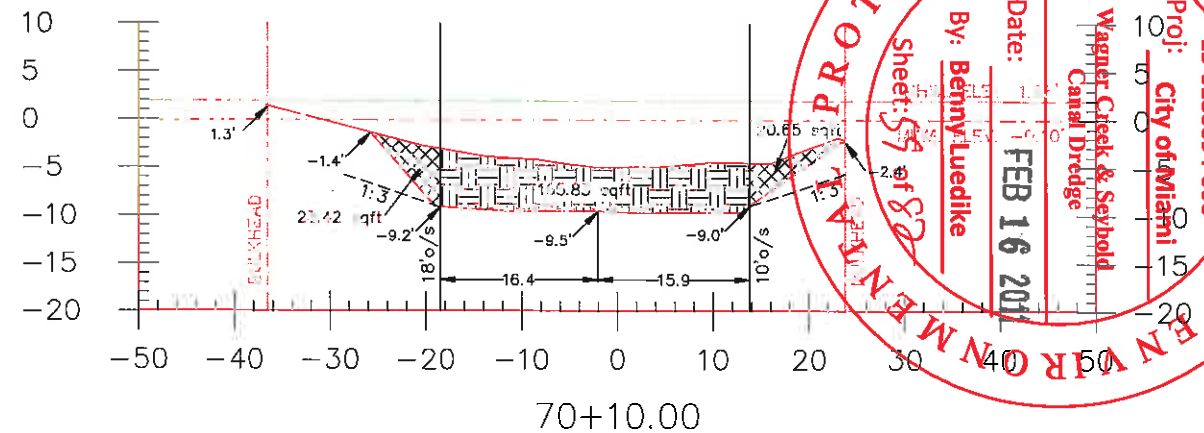
5202 SAN JUAN AVENUE,
JACKSONVILLE, FLORIDA 32210
PHONE: 904/384-8377
LICENSED BUSINESS NO. 6487

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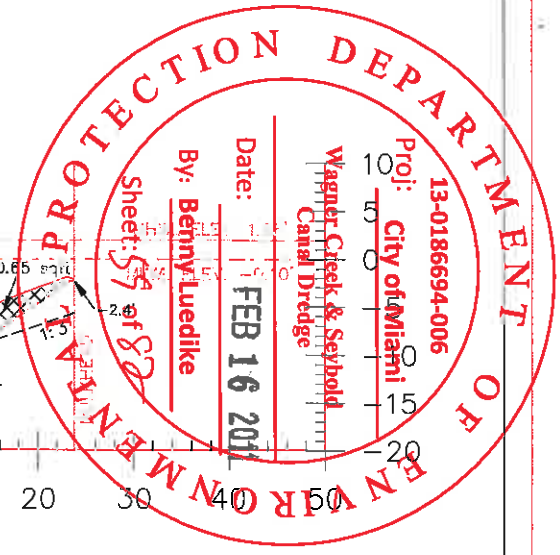
ELEVATION IN FEET NGVD29



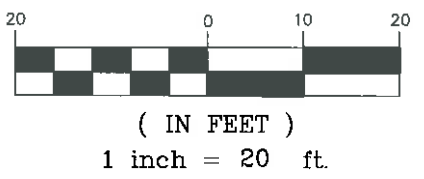
71+25.00



70+10.00



GRAPHIC SCALE



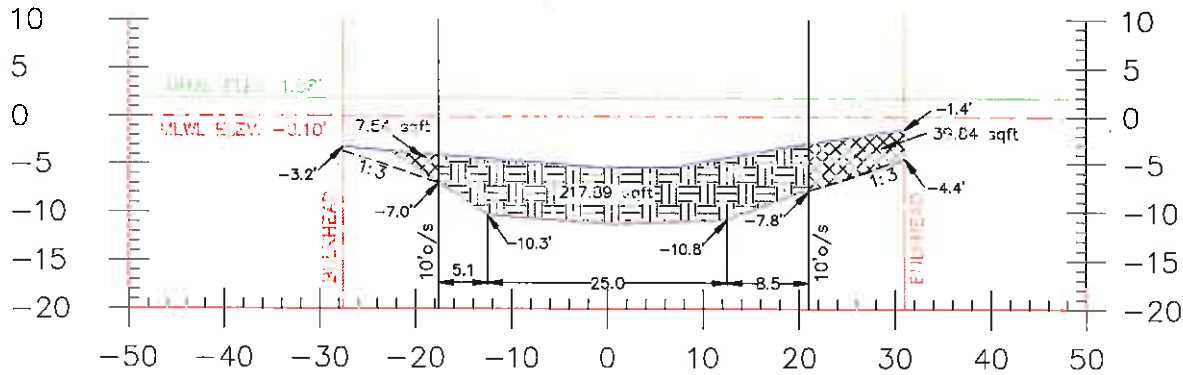
LEGEND

- = SEDIMENT TO BE REMOVED
- = SLOUGHING VOLUME
- = NATURAL SOIL/NON SEDIMENT
- = NATURAL SOIL/SEDIMENT INTERFACE
- = TOP OF SEDIMENT
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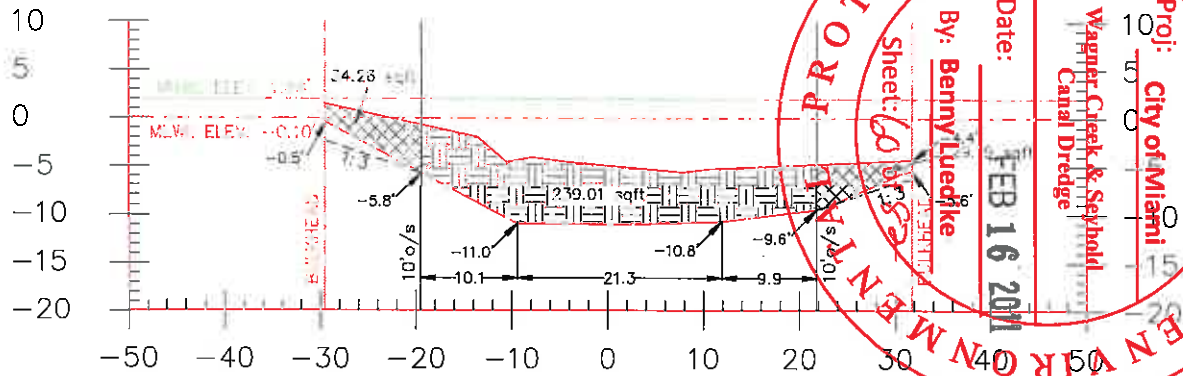
NOTE: THE PROPOSED DREDGE CUT LINES AND GRADES SHOWN ON THESE CROSS-SECTIONS ARE TO BE FIELD VERIFIED IN ORDER TO REMOVE THE MAXIMUM EXTENT OF SEDIMENT POSSIBLE WITHOUT COMPROMISING STRUCTURES LOCATED ADJACENT TO OR WITHIN THE DESIGNATED WORK AREA.

<p>MIAMI COUNTY, FLORIDA WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC. 5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p> <table border="1"> <tr> <td>DRAWN BY:</td> <td>DATE:</td> <td>FIELD BOOK & PAGE</td> <td>JOB NO.</td> </tr> <tr> <td>JKM</td> <td>11-14-08</td> <td>08-08/08-09</td> <td>07-10-07</td> </tr> </table>	DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.	JKM	11-14-08	08-08/08-09	07-10-07
DRAWN BY:	DATE:	FIELD BOOK & PAGE	JOB NO.							
JKM	11-14-08	08-08/08-09	07-10-07							

ELEVATION IN FEET NGVD29

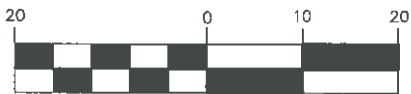


72+16.17











71+68.89

GRAPHIC SCALE

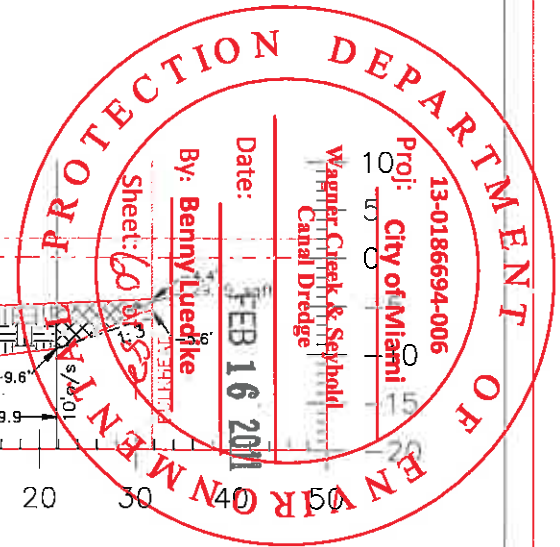



(IN FEET)
1 inch = 20 ft.

LEGEND

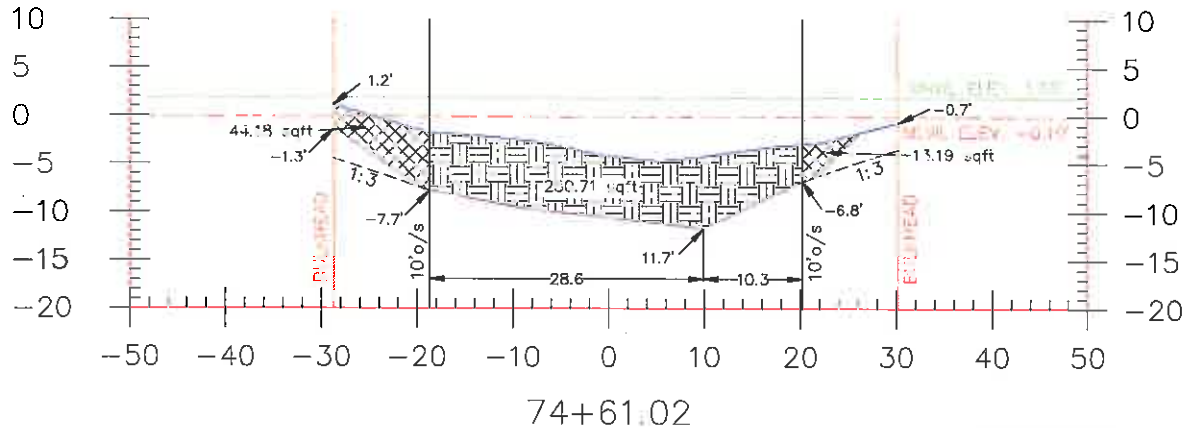
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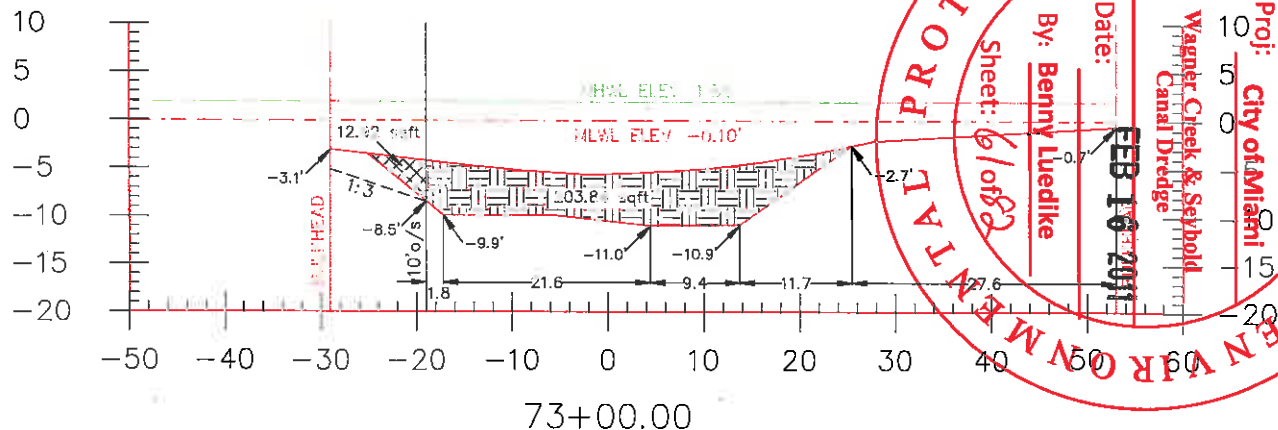
<p>STATE OF FLORIDA WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC. 5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-8377 LICENSED BUSINESS NO. 6487</p> <table border="1"> <tr> <td>DRAWN BY: JKM</td> <td>DATE: 11-14-08</td> <td>FIELD BOOK & PAGE 08-08/08-09</td> <td>JOB NO. 07-10-07</td> </tr> </table>	DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE 08-08/08-09	JOB NO. 07-10-07
DRAWN BY: JKM	DATE: 11-14-08	FIELD BOOK & PAGE 08-08/08-09	JOB NO. 07-10-07			

ELEVATION IN FEET NGVD29



74+61.02

ELEVATION IN FEET NGVD29



73+00.00

GRAPHIC SCALE

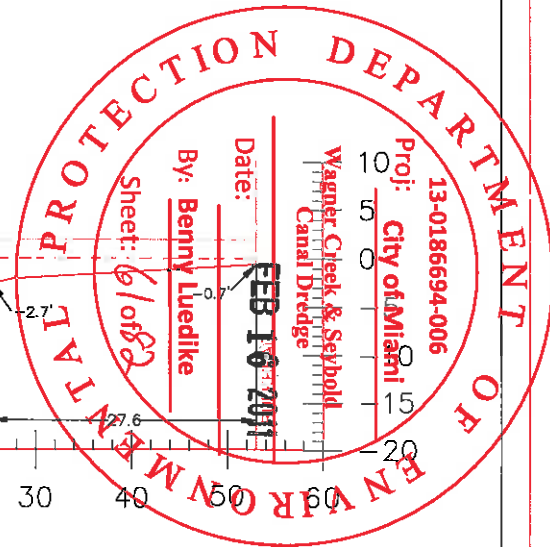


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DADE COUNTY FLORIDA
WAGNER CREEK &
SEYBOLD CANAL
MIAMI, FLORIDA



ARC SURVEYING & MAPPING, INC.



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JACKSONVILLE, FLORIDA 32210
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






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GRAPHIC SCALE



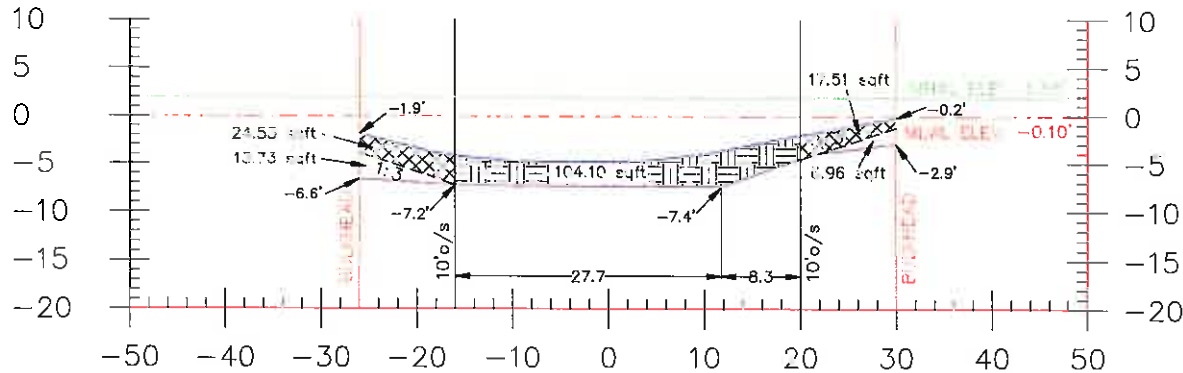
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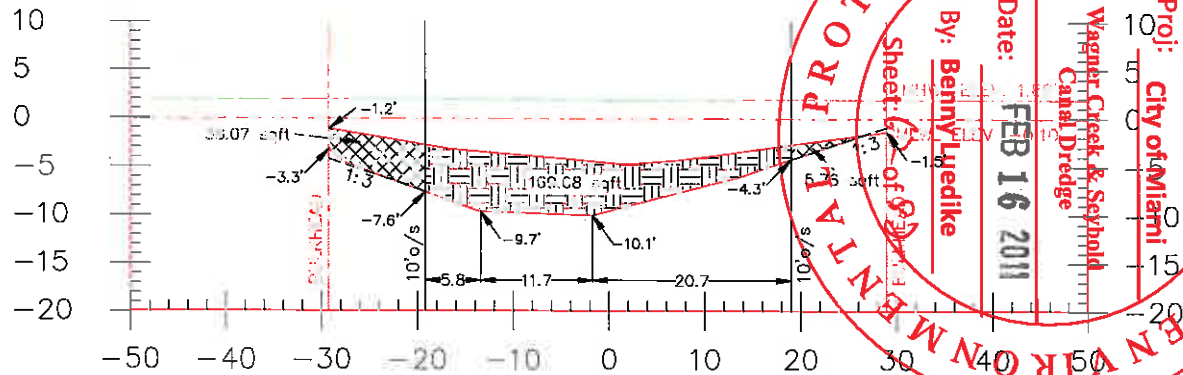
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ELEVATION IN FEET NGVD29



77+50.10

ELEVATION IN FEET NGVD29



76+00.05



STATE OF FLORIDA
WAGNER CREEK & SEYBOLD CANAL
MIAMI, FLORIDA



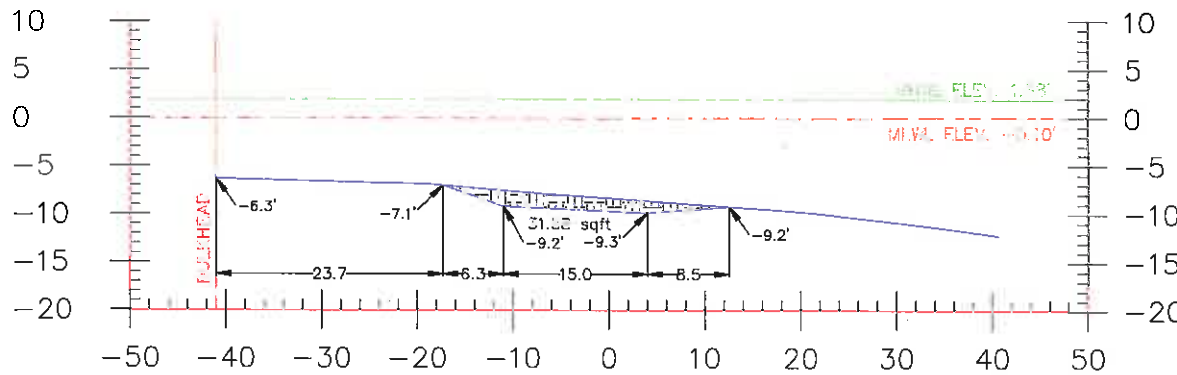
ARC SURVEYING & MAPPING, INC.



5202 SAN JUAN AVENUE,
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PHONE: 904/384-8377
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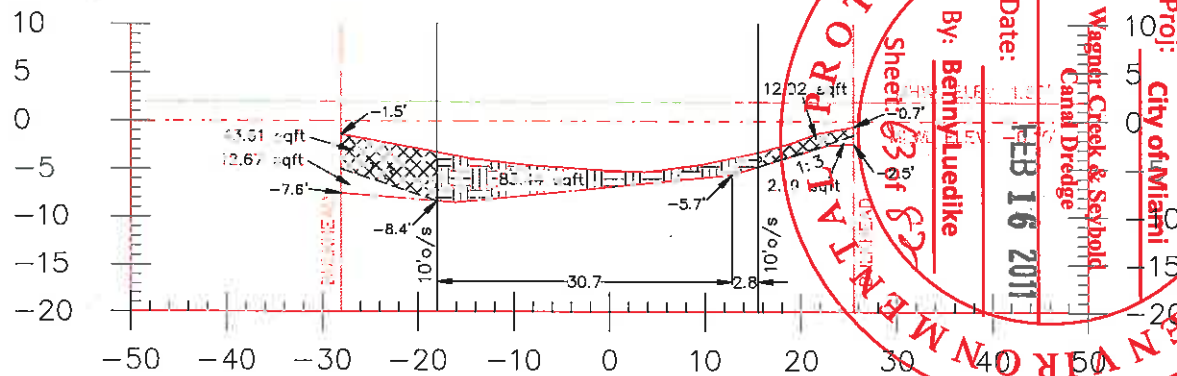
ELEVATION IN FEET NGVD29



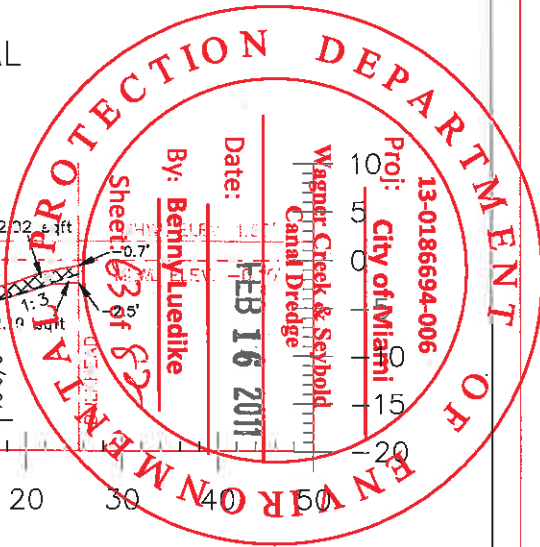
80+50.19

END SEYBOLD CANAL

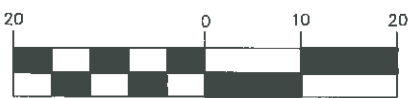
ELEVATION IN FEET NGVD29



79+12.56



GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

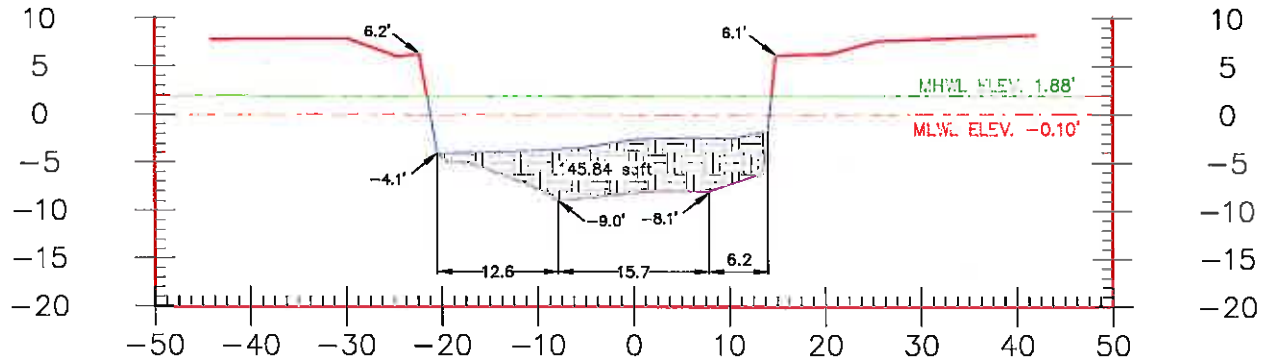
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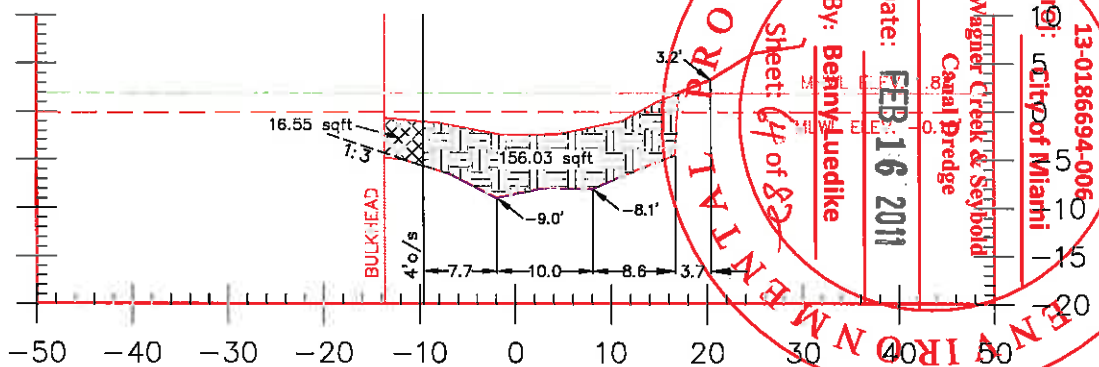
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<p>DRAWN BY: JKM</p>	<p>DATE: 11-14-08</p>	<p>FIELD BOOK & PAGE: 08-08/08-09</p>	<p>JOB NO.: 07-10-07</p>

ELEVATION IN FEET NGVD 29

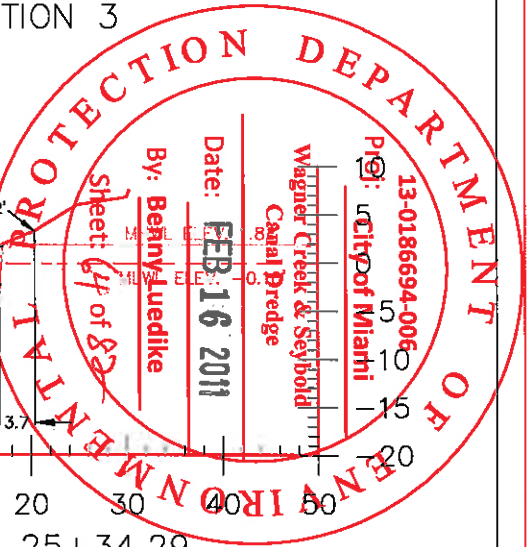


BRIDGE PROFILE AT STATION 25+80
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NW 15TH STREET

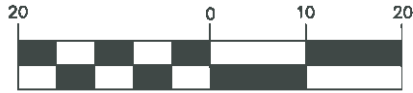
ELEVATION IN FEET NGVD29



BRIDGE PROFILE AT STATION 25+34.29
END OPERATIONAL SECTION 2
NW 15TH STREET











GRAPHIC SCALE





(IN FEET)
1 inch = 20 ft.

LEGEND

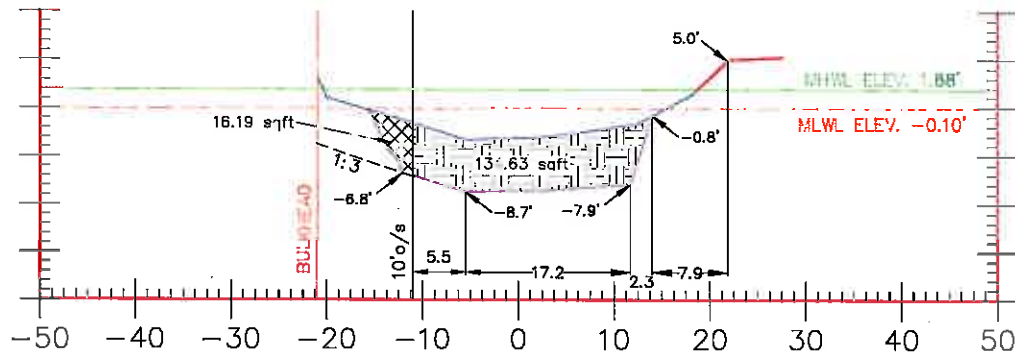
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		<p>JKM 11-14-08 08-08/08-09 07-10-07</p>

ELEVATION IN FEET NGVD 29

10
5
0
-5
-10
-15
-20



BRIDGE PROFILE AT STATION 43+55
END OPERATIONAL SECTION 4

10
5
0
-5
-10
-15
-20

GRAPHIC SCALE



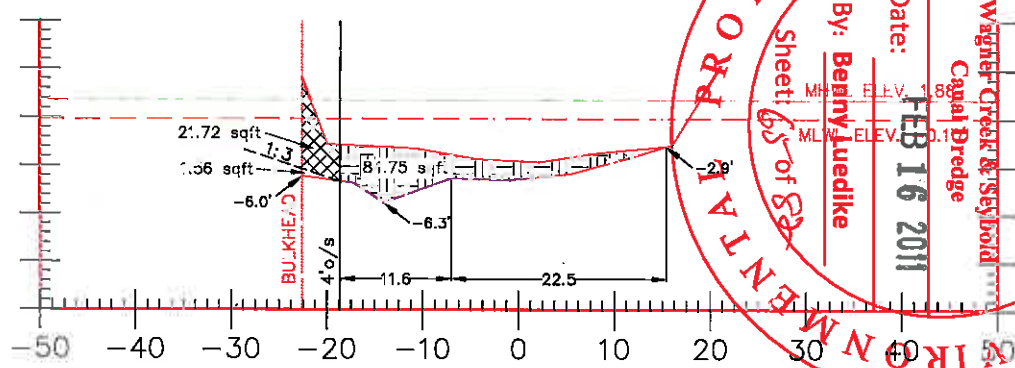
(IN FEET)
1 inch = 20 ft.

LEGEND

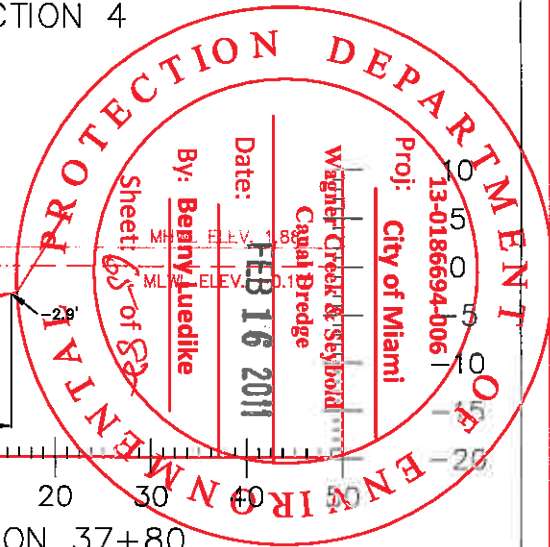
- = SEDIMENT TO BE REMOVED
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- = NATIONAL GEODETIC VERTICAL ELEVATION OF 1929
- = 1:3
- = 1:3 SLOPE SLOUGHING LINE

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10
5
0
-5
-10
-15
-20



BRIDGE PROFILE AT STATION 37+80
BEGIN OPERATIONAL SECTION 4
NW 14TH STREET

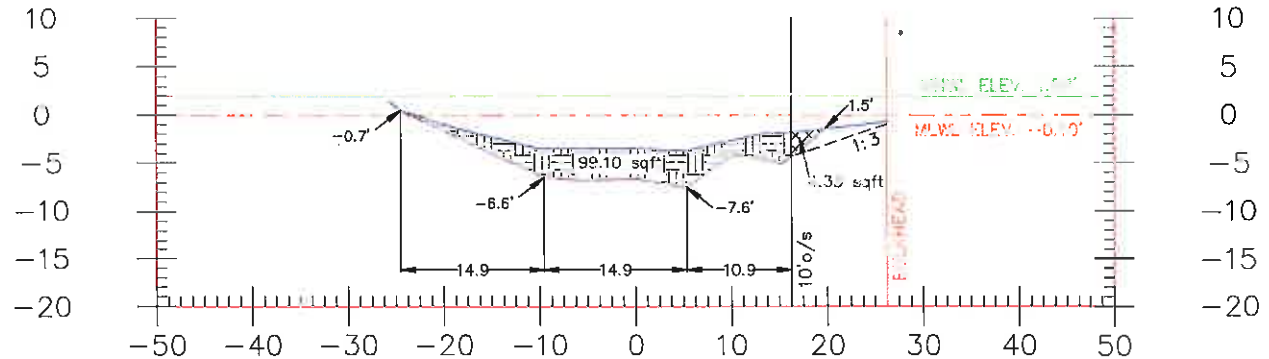


BRIDGE PROFILES

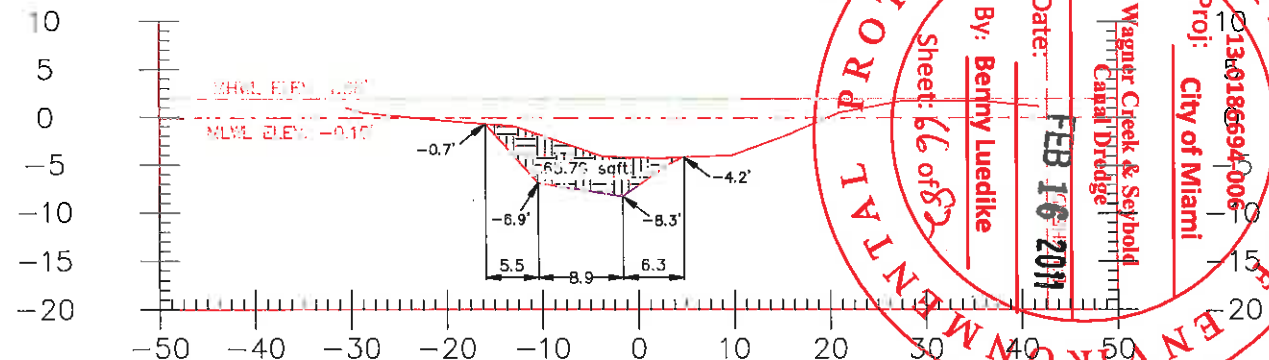
SHEET 36 OF 37

<p>DADE COUNTY, FLORIDA WAGNER CREEK & SEYBOLD CANAL MIAMI, FLORIDA</p>		<p>ARC SURVEYING & MAPPING, INC.</p> <p>5202 SAN JUAN AVENUE, JACKSONVILLE, FLORIDA 32210 PHONE: 904/384-6377 LICENSED BUSINESS NO. 6487</p>
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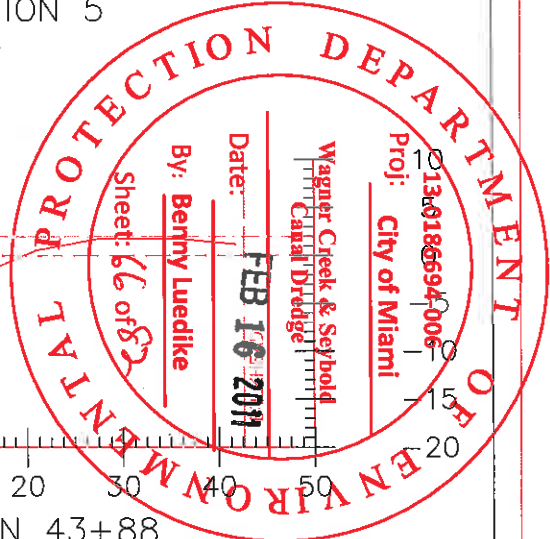
ELEVATION IN FEET NGVD 29



BRIDGE PROFILE AT STATION 56+70
END OPERATIONAL SECTION 5
NW 11TH STREET



BRIDGE PROFILE AT STATION 43+88
BEGIN OPERATIONAL SECTION 5
STATE ROAD 836



GRAPHIC SCALE



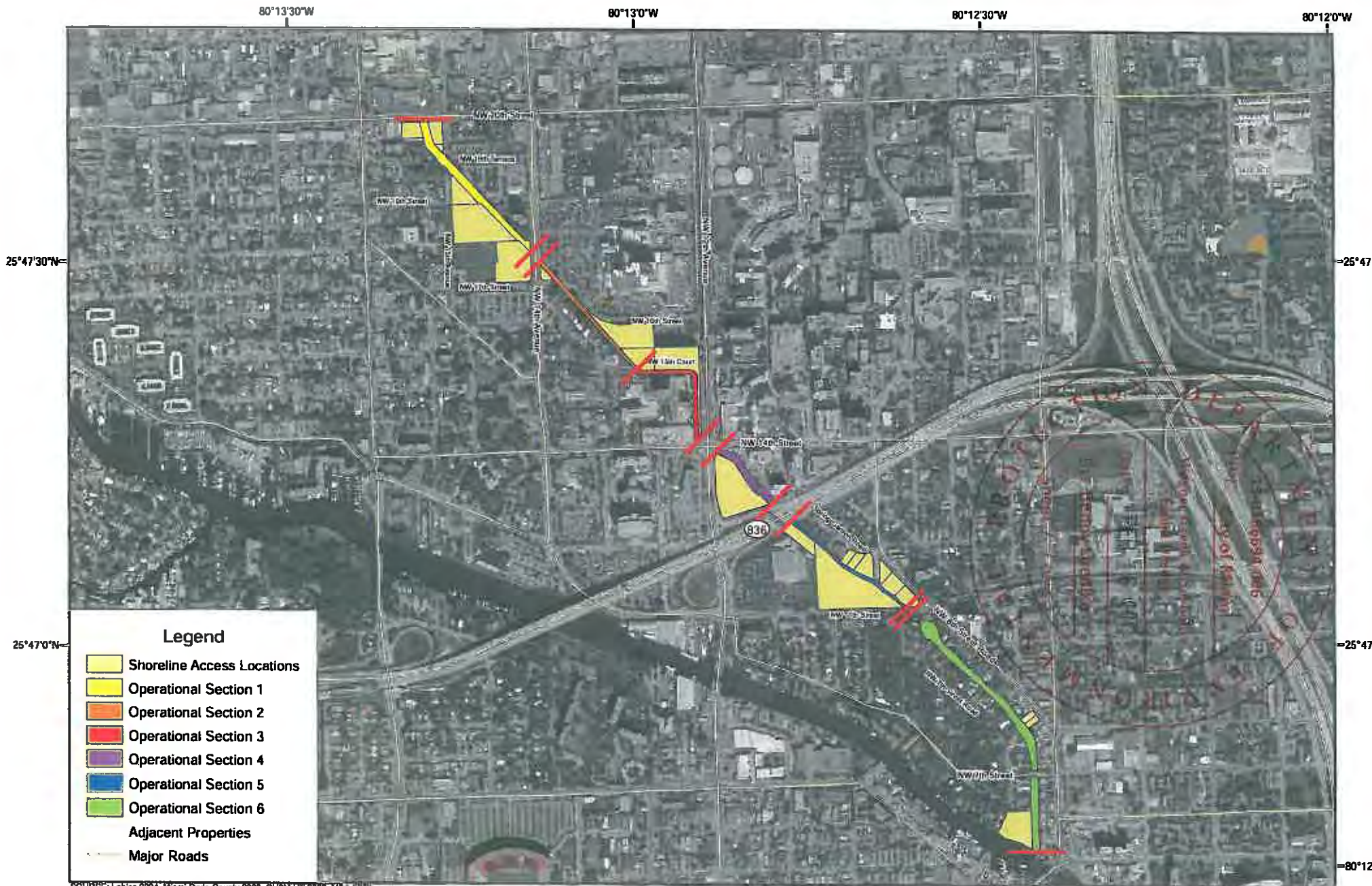
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<p>DRAWN BY: JKM</p>	<p>DATE: 11-14-08</p>	<p>FIELD BOOK & PAGE 08-08/08-09</p>	<p>JOB NO. 07-10-07</p>



SOURCE: Labins 2004, Miami-Dade County 2006, CH2M Hill 2008, MSA 2008

2008 MSA, Swain & Associates, Inc.



2MHILL

MSA Milian, Swain & Associates, Inc.

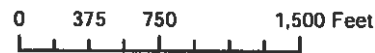
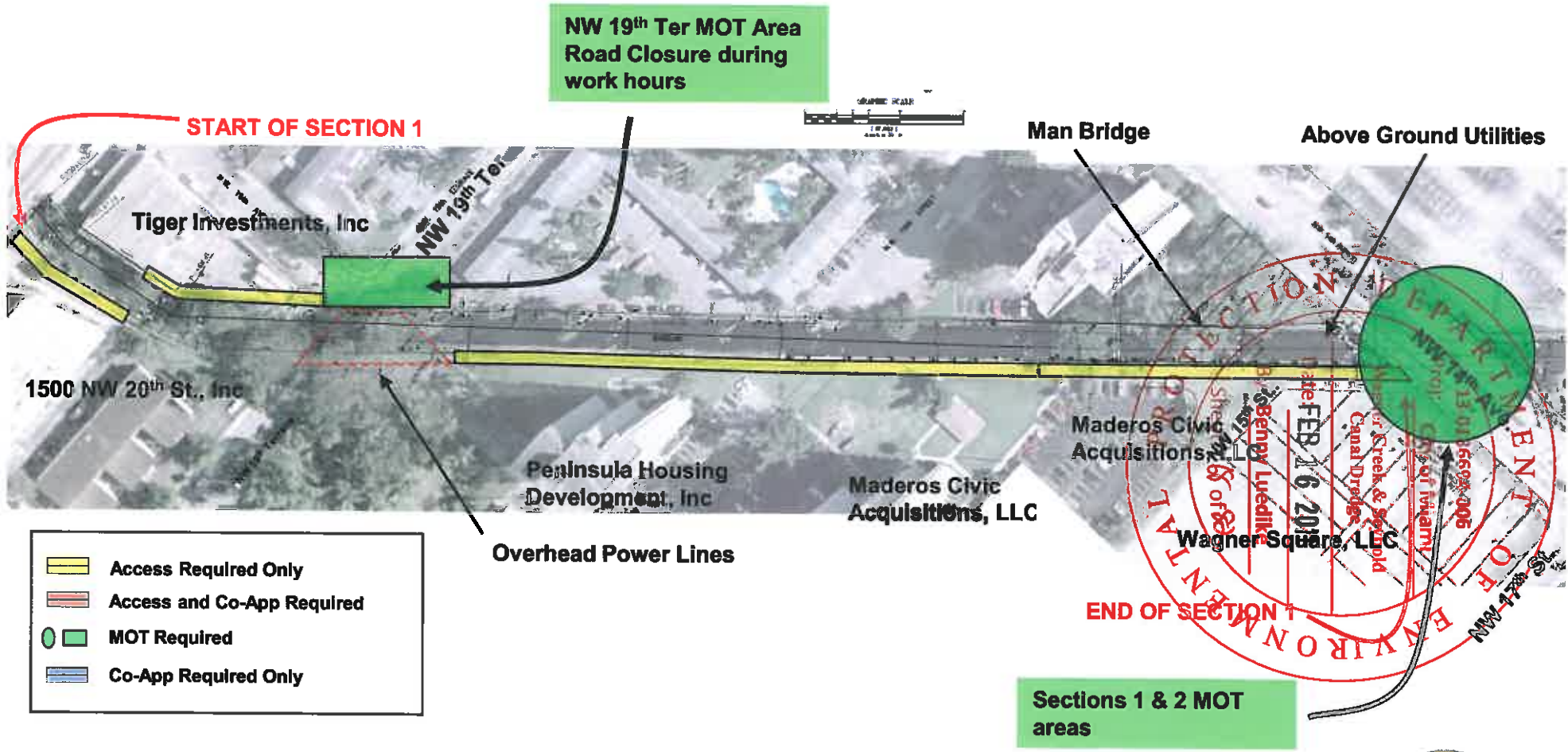


Figure 3-6
Potential Shoreline Access Locations
Corrective Action Plan

Wagner Creek Sediment Removal

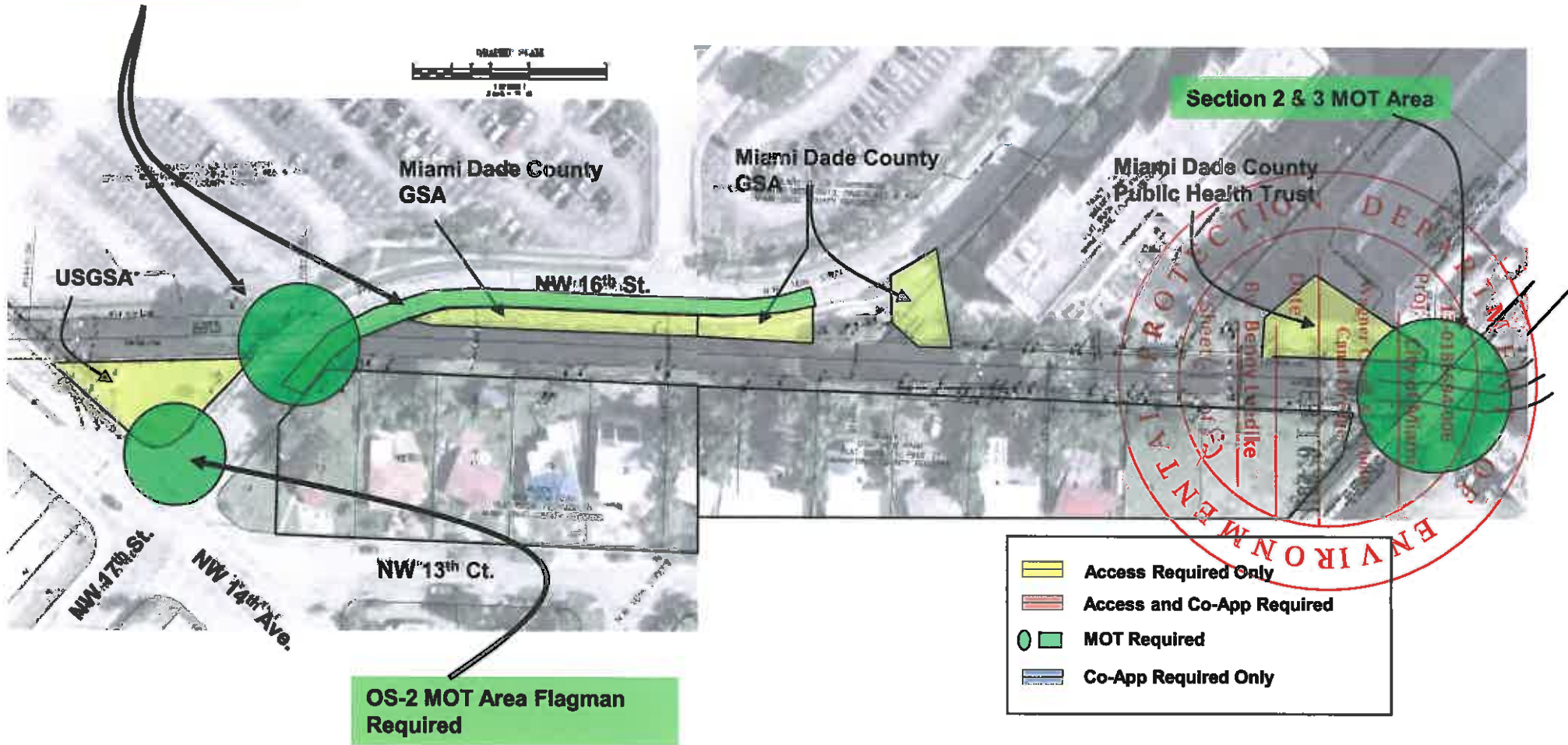
OS-1 Access Areas/Co-Applicants/MOT



Wagner Creek Sediment Removal

OS-2 Access Areas/Co-Applicants/MOT

OS-2 MOT Areas



Wagner Creek Sediment Removal

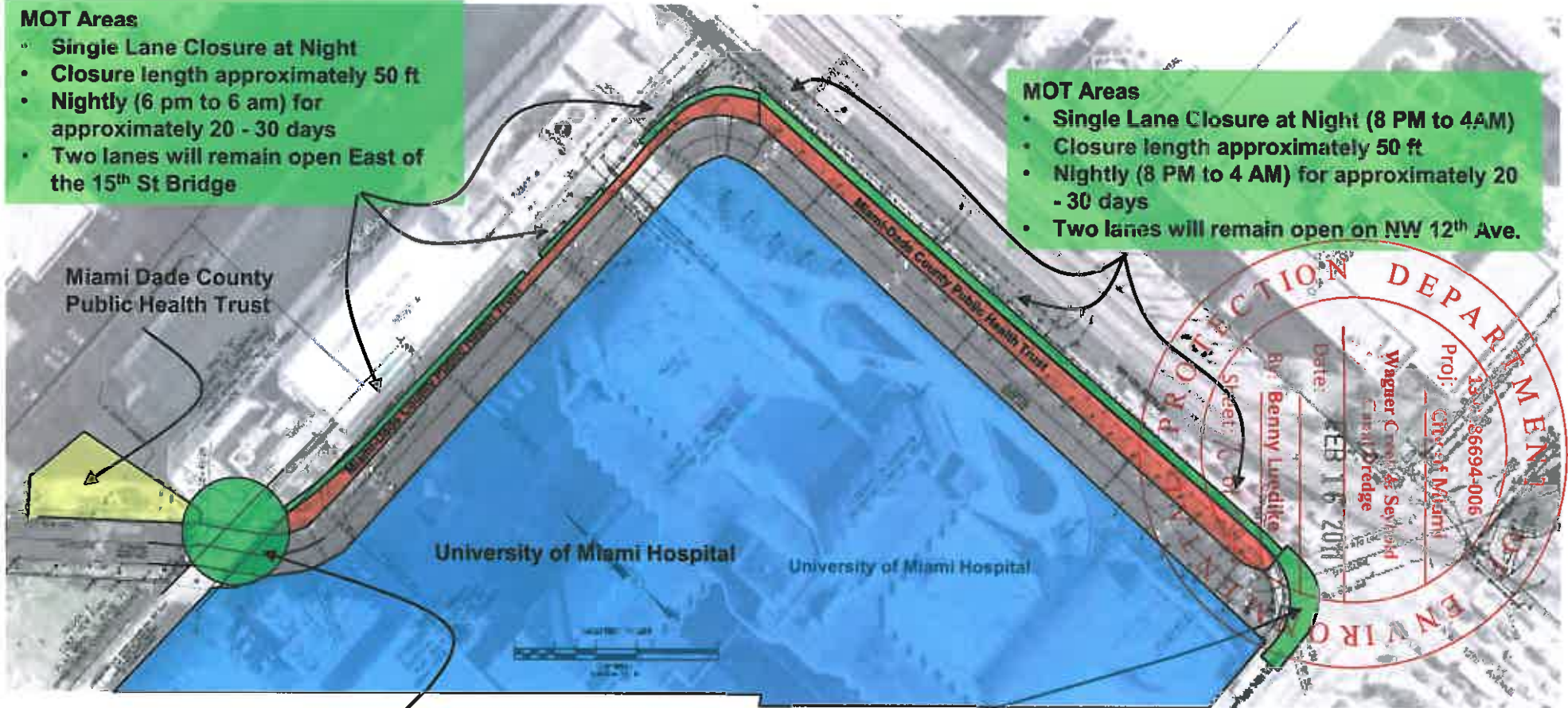
Section 3 Access Areas/Co-Applicants/MOT

MOT Areas

- Single Lane Closure at Night
- Closure length approximately 50 ft
- Nightly (6 pm to 6 am) for approximately 20 - 30 days
- Two lanes will remain open East of the 15th St Bridge

MOT Areas

- Single Lane Closure at Night (8 PM to 4AM)
- Closure length approximately 50 ft
- Nightly (8 PM to 4 AM) for approximately 20 - 30 days
- Two lanes will remain open on NW 12th Ave.



MOT Area

- NW 15th St Closure at the NW 15th St Bridge
- Nightly (6 pm to 6 am) for approximately 20 - 30 days
- No thru traffic at the bridge during this period

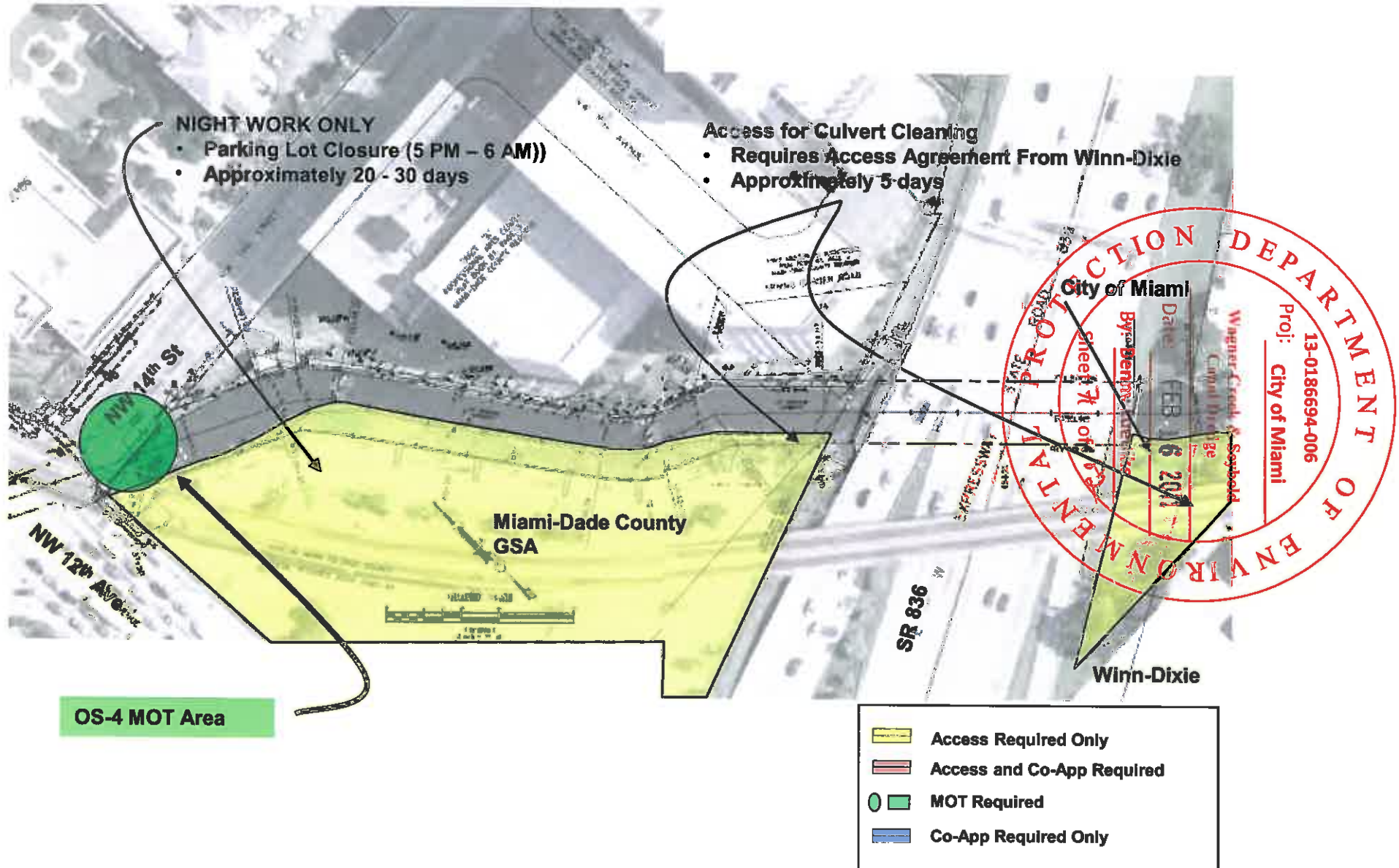
MOT Area

- Two Lane Closure at Night
- NW 12th Ave Right Turn Lanes onto NW 14th St
- Nightly (8 PM to 4 AM) for approximately 20 - 30 days
- Flagman to direct traffic

	Access Required Only
	Access and Co-App Required
	MOT Required
	Co-App Required Only

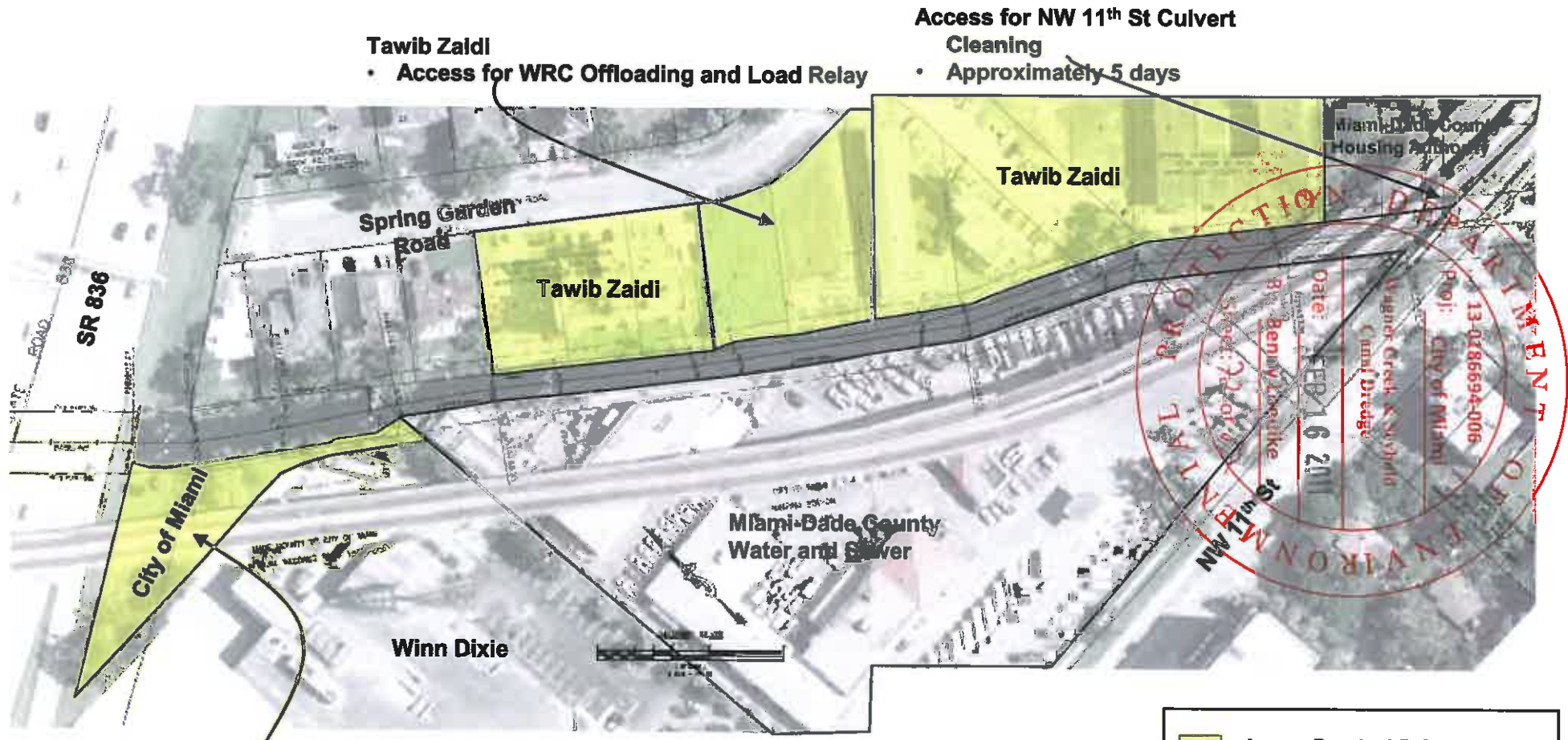
Wagner Creek Sediment Removal

Section 4 Access Areas/Co-Applicants/MOT



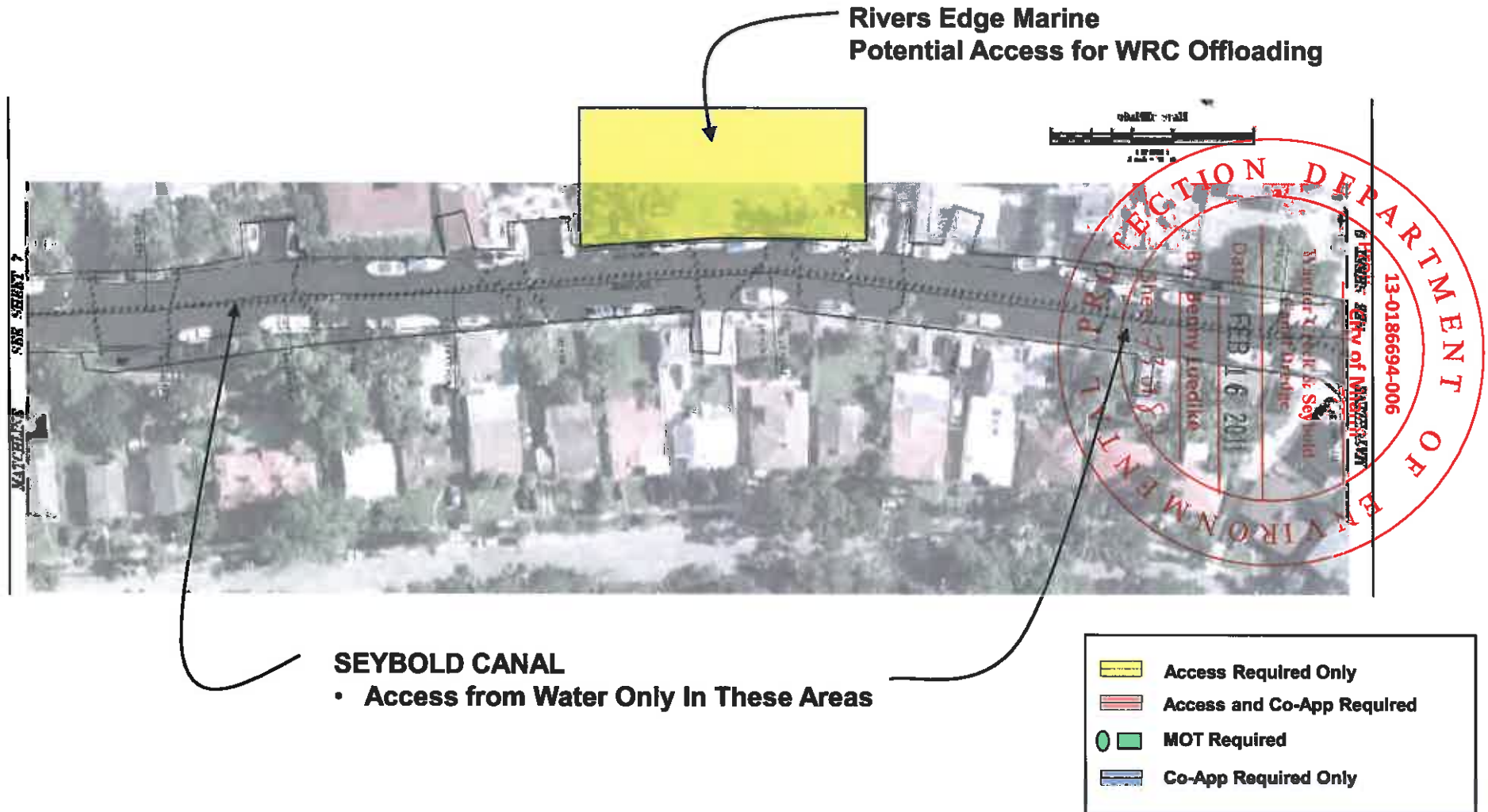
Wagner Creek Sediment Removal

Section 5 Access Areas/Co-Applicants/MOT



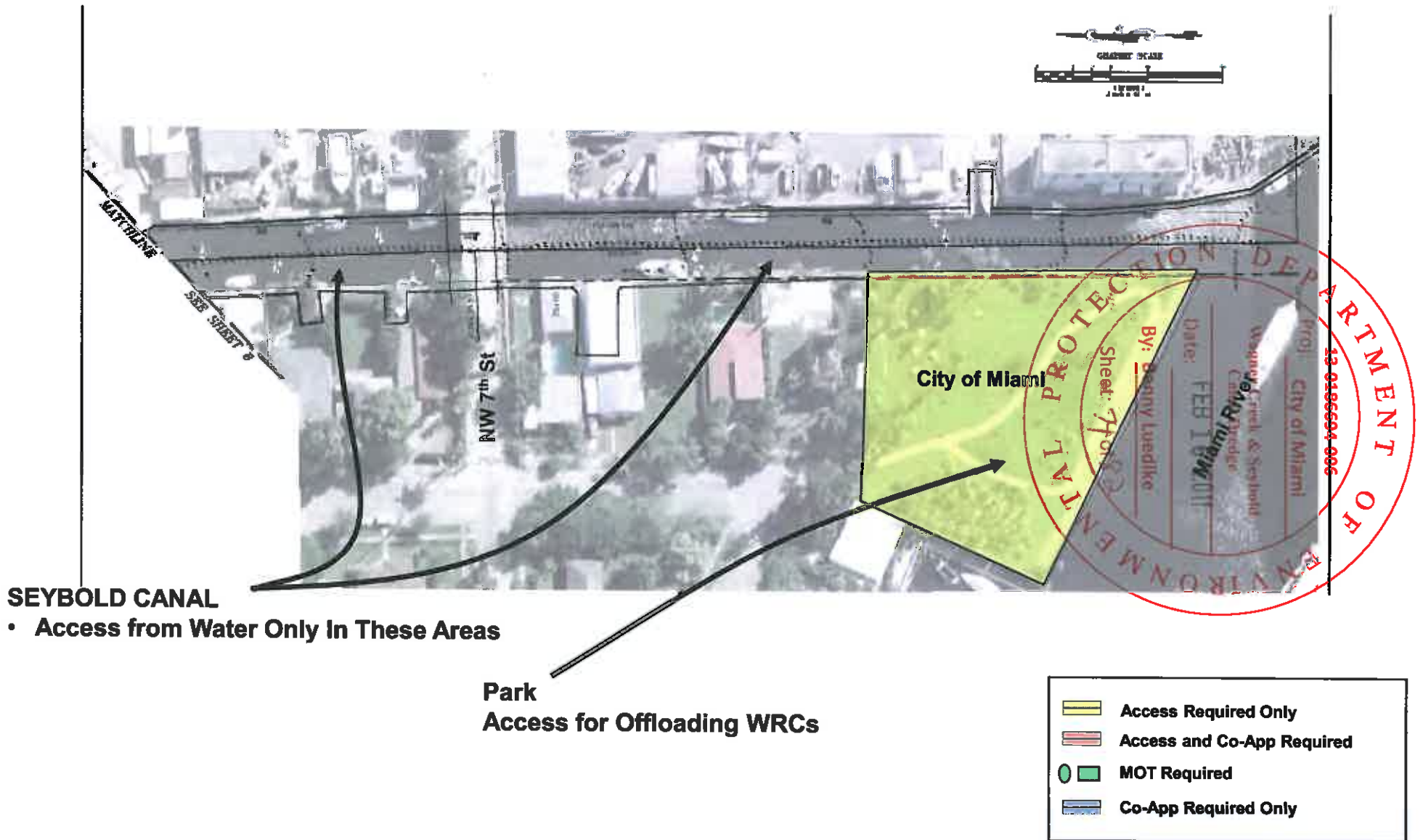
	Access Required Only
	Access and Co-App Required
	MOT Required
	Co-App Required Only

Wagner Creek Sediment Removal Access Areas/Co-Applicants/MOT



Wagner Creek Sediment Removal

Access Areas/Co-Applicants/MOT



Wagner Creek Sediment Removal

Figure 3-5

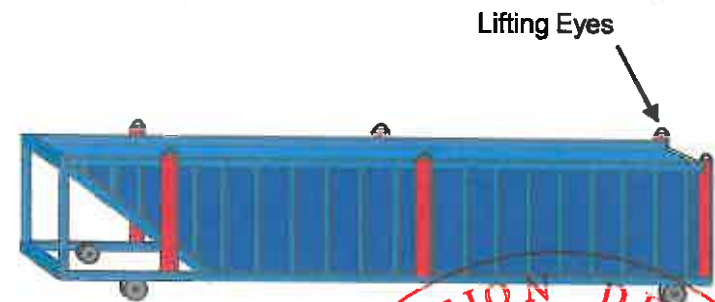
WATERTIGHT ROLL-OFF CONTAINERS (WRCs)

Potential Configurations

1. Constructed containers with no back door and 50° angle back end
2. Standard Watertight Roll-off Container

Benefits

- ❖ No Staging Areas Required
- ❖ No airborne releases (wet materials)
- ❖ Allows sediment to dump when in dump mode
- ❖ WRCs will be approximately ½ full
- ❖ Approximately 10 needed for Wagner Creek local loads
- ❖ Free water removed and disposed off-site before addition of absorbent
- ❖ Absorbent added before leaving dredging site in Load Relay Area
- ❖ Emelle loads transferred to standard roll-offs in temp areas after addition of absorbent
- ❖ WRCs can be lined with poly liners
- ❖ WRCs will be tarpaulin covered before leaving the work site



Constructed Roll-off Container with No Back Door and Angled Rear End



Standard 25 cy Sealed Door Roll-off (closed top or tarp top)



Wagner Creek Sediment Removal

Figure 3-13

LOAD RELAY AREA

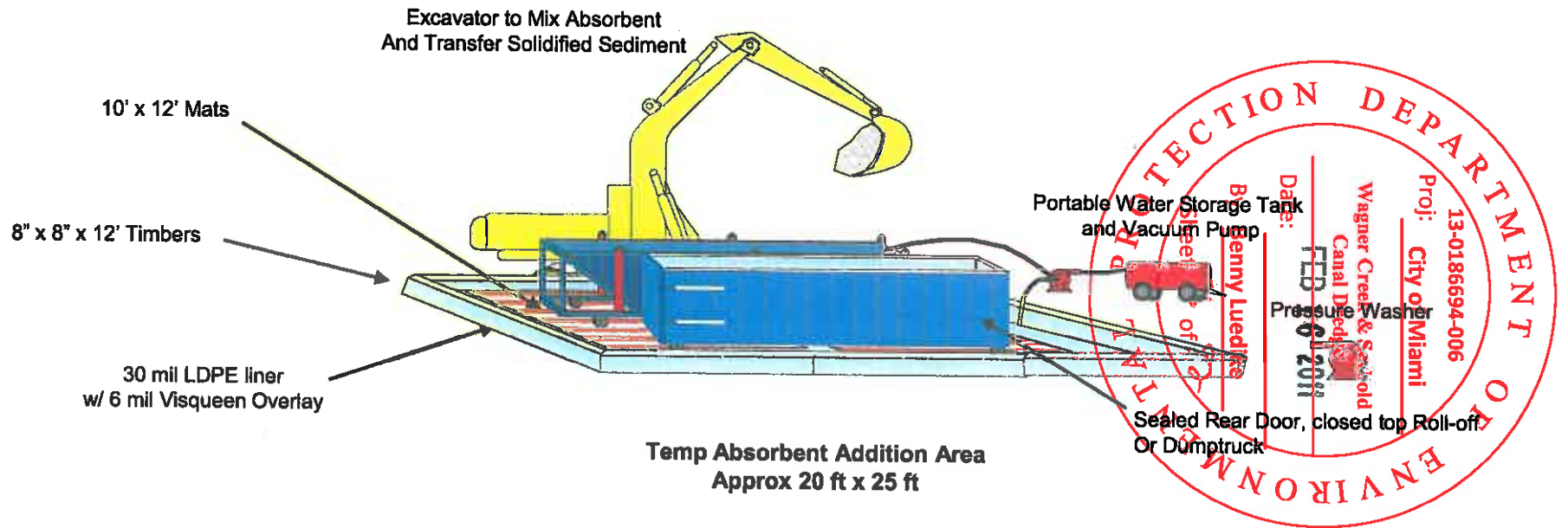
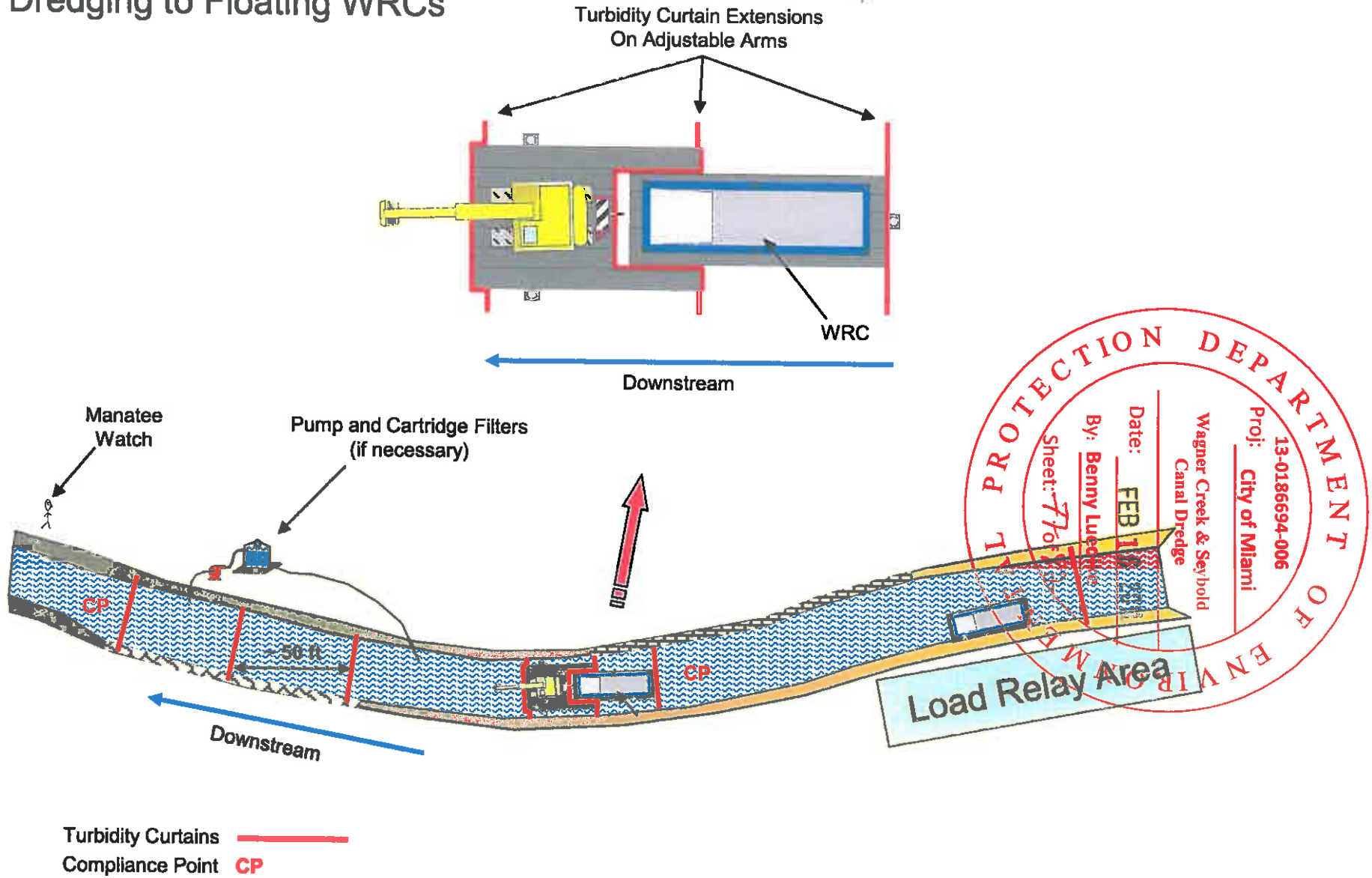
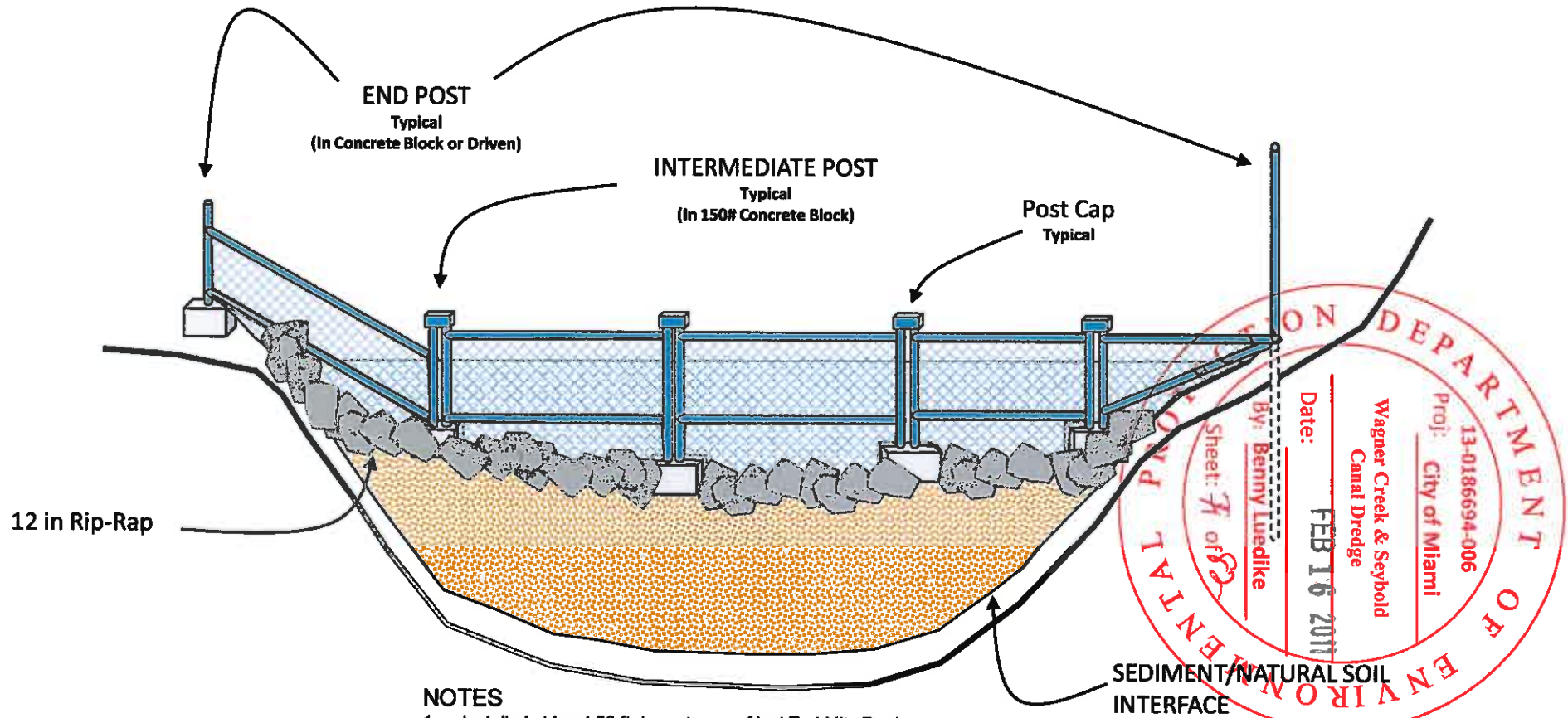


FIGURE 3-15
Dredging to Floating WRCs



TYPICAL MANATEE BARRIER

FIGURE D-1



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Date: FEB 16 2011

By: Benny Luedike

Sheet: 7 of 8

Wagner Creek & Seybold Canal Dredge

Proj: City of Miami 13-0186694-006

NOTES

1. Installed at least 50 ft downstream of last Turbidity Barrier
2. Must be inspected, cleaned of all trash and repaired daily
3. Standard Chain Link Fencing with bottom sections that match the contour at the sediment water interface as well as shoreline contours up to at least 1 ft above the High/High water line. Bottom sections shall be secured with rip-rap boulders, or similar materials, to prevent manatee entanglement or entrapment.
4. The manatee barrier shall be monitored at least once in the morning for manatee entanglement or entrapment, and to insure there are no access points for manatees into the work area along the bottom, sides or over the top of the barrier. If a manatee becomes entangled in the Manatee Barrier, the Florida Fish and Wildlife Conservation Commission should be notified immediately at 1-888-404-FWCC.
5. Area north of Manatee Barrier to be inspected each day and prior to installation to ensure no manatees are trapped north of the barrier. If a manatee becomes entrapped north of the manatee barrier in the construction area the barrier shall be opened so the manatee is able to leave the construction area on its own volition.
6. Regulators to be notified if Manatee is sighted north of Manatee Barrier




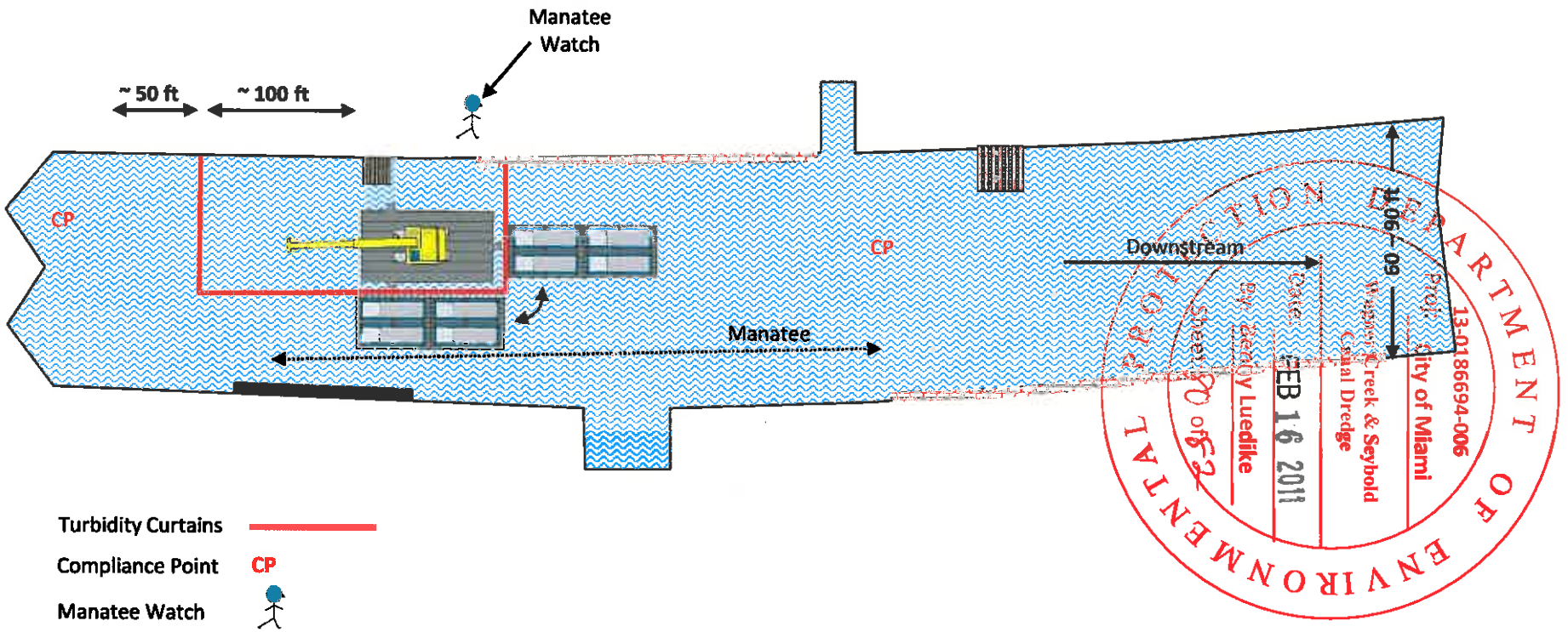
-  Sediment
-  High/High Water Line
-  Concrete Block

FIGURE 3-17

Seybold Canal Water Quality Control/Manatee Watch



Dredging Near Mouth of Seybold Canal Water Quality Control/Manatee Watch

Figure 3-19

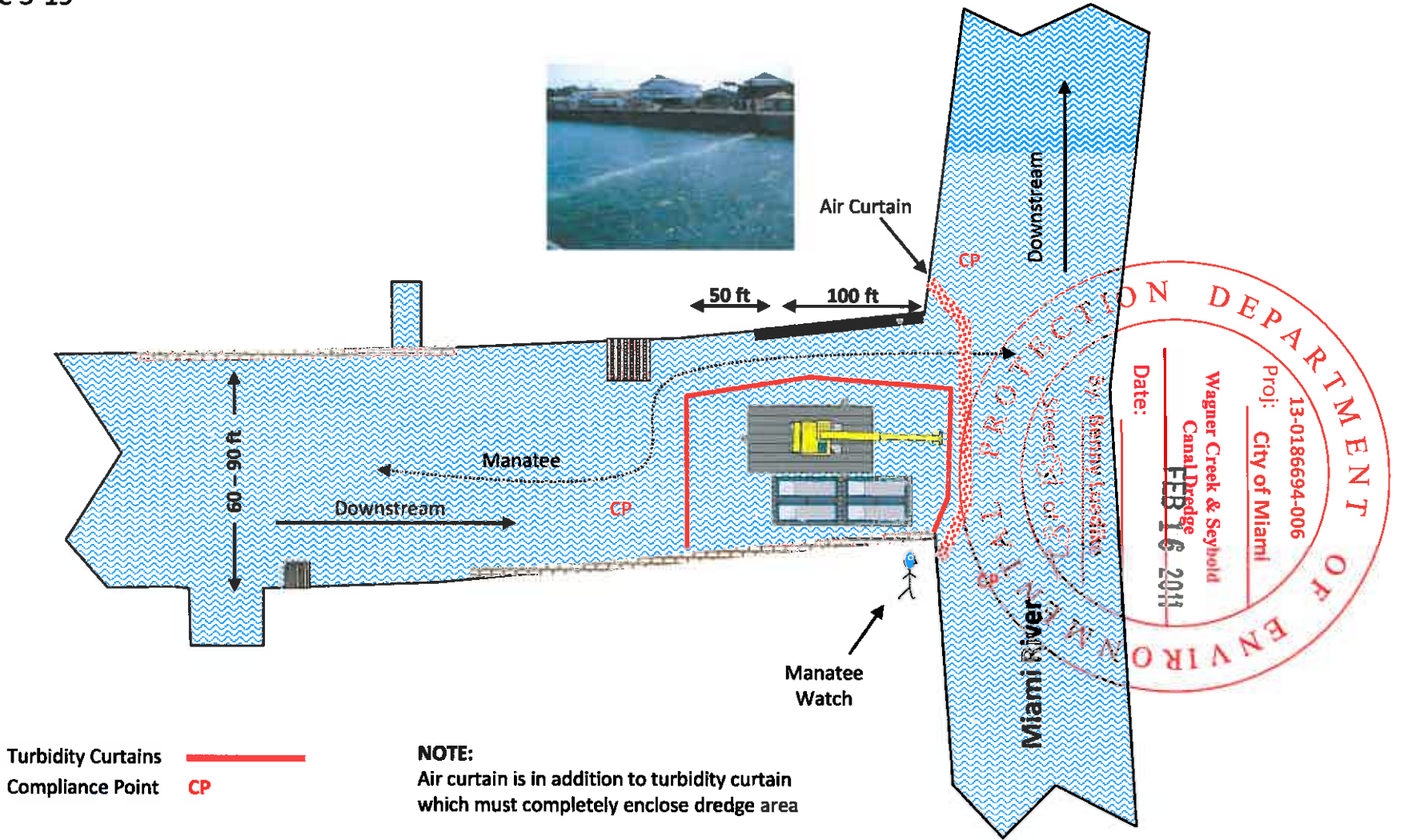
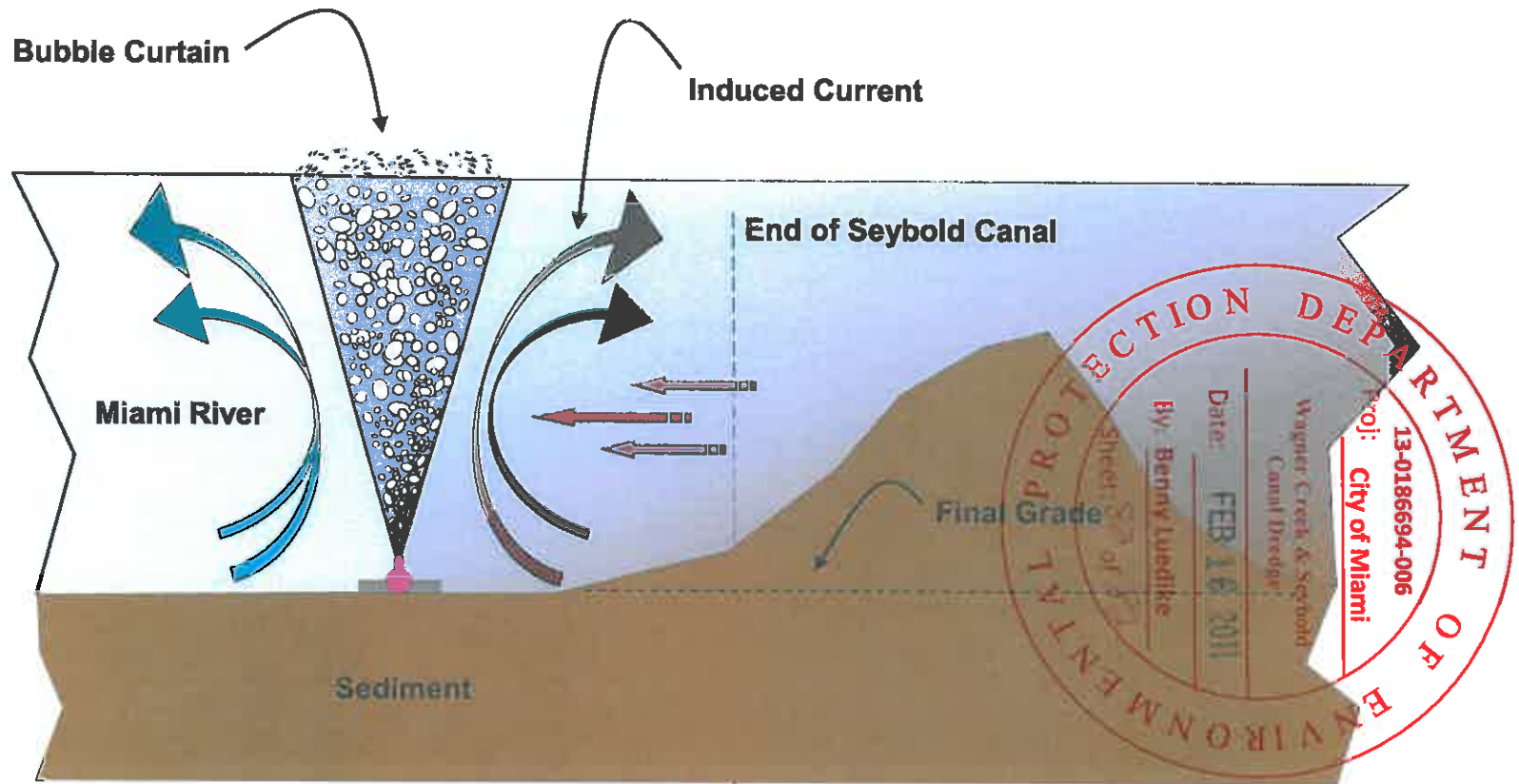


FIGURE 3-18
Typical Air Curtain



FINAL MANATEE PROTECTION PLAN

1.0 INTRODUCTION

The West Indian manatee was listed as an endangered species by the Florida Fish and Wildlife Service (FFWS) on June 2, 1970. This species habitat range is rivers, estuaries, and coastal areas of subtropical and tropical areas. The West Indian manatee is a herbivore that migrates to warmer waters during the colder months. In Florida, most migrate south during the winter and congregate mainly in estuaries and canals. They prefer brackish over marine environments. The present distribution of the West Indian manatee includes the coasts and rivers of Florida, the Greater Antilles, eastern Mexico and Central America and northern and eastern South America. A critical habitat was established for the West Indian manatee in 1976. It includes Biscayne Bay, and all adjoining and connected lakes, rivers, canals, and waterways from the southern tip of Key Biscayne (FFWS, 1999).

During sampling events for Wagner Creek and Seybold Canal it was noted that Manatees frequent both the creek and canal. During the June/July 2008 sampling event, Manatees were sighted up to the NW 15th St. Bridge (adjacent to University of Miami Hospital). During the May 2009 sampling event, Manatees were sighted between the NW 14th Ave./NW 17th St. bridges (adjacent to VA Hospital). There is anecdotal evidence that Manatees have been sighted as far northwest as the NW 20th St. Culvert.

Because of the above, Manatee protection will be a daily concern during the dredging of Wagner Creek and Seybold Canal. The following are key issues to Manatee Protection during the work.

- Mechanical dredging will be utilized to remove the sediments. A manatee watch will be required to minimize the possibility that manatees will be adversely impacted by dredge operations.
- Control of water quality (turbidity) may require the use of multiple turbidity curtains during dredging. Protective actions will be required so the turbidity control measures do not adversely impact manatees.

The following manatee protection measures will be implemented to avoid potential impacts to manatees during the Wagner Creek and Seybold Canal project construction.

2.0 MANATEE PROTECTION MEASURES

1. All personnel associated with the project activities shall be instructed about the presence of manatees and manatee speed zones in the project area and the need to avoid collisions with, and injury to, manatees.

2. The dredge construction will begin at the North end of Wagner Creek. For Manatee protection during dredging activities in Wagner Creek, chain link fence barriers (Manatee Barriers) will be installed across the channel south of the construction area to prevent manatee access into the dredge area. Sketches showing typical design features and locations of manatee Barriers can be found in Attachment D-1 and Attachment D-2 to this plan.

Manatee Barriers will be located south of the dredging activities and be designed to;

- a. Extend to the sediment/water interface
- b. Match the contour at the sediment/water interface as well as shoreline contours up to at least one (1) foot above the High/High Waterline.
- c. Prevent Manatee movement north of the barrier and avoid manatee entanglement in the barrier.

Before installation of a manatee barrier, inspection of all areas north of the barrier location will be performed to confirm that Manatees are not present north of the proposed barrier location. If Manatees are sighted north of the proposed barrier location they will be allowed to leave on their own volition before the barrier is installed. Manatee Barriers will be installed by the dredging contractor at least two days prior to commencement of dredging activities north of the barrier and during the two days the area will be monitored to ensure no manatees are trapped north of the barrier.

Once installed, Manatee Barriers will remain in place until dredging north of the barrier is complete. Each day before dredging begins areas north of the barrier will be inspected by Manatee Watch personnel to determine if Manatees have moved north of the barrier. If Manatees are sighted north of the barrier, the barrier shall be opened so the manatee is able to leave the construction area on its own volition. The barrier will then be reinstalled as described above as well as modified to prevent manatee movement north of the barrier. Each morning the manatee barrier will be inspected to insure that no manatees are entangled in the barrier and there are no access points for manatees into the work area along the bottom, sides or over the top of the barrier. If a manatee becomes entangled in a manatee barrier the Florida Fish and Wildlife conservation Commission should be notified immediately at 1-888-404-FWCC.

3. 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.
4. 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.
5. 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. Except as described in number 2 above, siltation or turbidity barriers must not impede manatee movement.

6. 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.
7. At least one person shall be designated as a manatee observer when in-water work is being performed. That person shall have experience in manatee observation and be equipped with polarized sunglasses to aid in observation. The manatee observer must be on site during all in-water construction activities and will advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction activity.
8. Movement of a work barge, other associated vessels, or any in-water work shall not be performed after sunset, when the possibility of spotting manatees is negligible, or at other times when observation becomes ineffective (e.g., in cases of rain, fog or limited visibility).
9. Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. 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.
10. 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. Awareness signs that have already been approved for this use by the Florida Fish and Wildlife Conservation Commission (FWC) must be used (see MyFWC.com). One sign which reads Caution: Boaters must be posted. A second sign measuring at least 8 1/2" 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.
11. The permittee shall ensure that the contractor maintains a log detailing sightings, collisions, or injuries to manatees should they occur during the contract period. Within 30 days following each event, the logs and a report summarizing incidents and sightings shall be submitted to the Florida Fish and Wildlife Conservation Commission, Imperiled Species Management Section at: ImperiledSpecies@myfwc.com.
12. Air Curtain technology as a turbidity control methodology will be tested at the confluence of the Seybold Canal and the Miami River. It is not known how manatees may react to air bubble emissions. Manatees may be attracted to bubbles associated with the aeration activity possibly increasing the number of manatees near the dredge operations and at a location in the Miami River where the risk of boat/manatee collisions is already high. Because the manatee attractant characteristics of the proposed are curtain are unknown, manatee protection measures in association with this technology are required.

Monitoring of manatee use and behavior at the air curtain site and the site vicinity shall be conducted by an independent third party approved by Miami-Dade DERM, the Florida DEP and the FWC Imperiled Species Management section (ISM). Approval for the observers shall be obtained prior to installation of the device. Prior to installation, observation for manatees in the

area must occur on at least seven (7) days. After installation, observation must occur at least twice a day, once in the a.m. and again in the p.m., for no less than thirty minutes per observation when the air curtain is in operation. Manatee monitoring reports describing manatee presence, absence, behavior and location in relation to the device shall be submitted by email to FWC ISM on a weekly basis to ImperiledSpecies@myfwc.com.

If any aberrant or unusual manatee behavior in the vicinity of the device is noted, or if the device appears to serve as an attractant to manatees, or produces a situation in which there is an increased risk of manatee impact from the Seybold Canal dredge operation or boat/manatee collisions in the vicinity of the air curtain location, the device will be removed and other turbidity control measures will be implemented.

If the Miami-Dade DERM and the DEP determine that the device does not achieve the turbidity control results expected from the device, it will be removed and other turbidity control measures will be implemented.

Attachment A

Final References to "Manatee" in CAP 2 body

FINAL- REFERENCES TO "MANATEE" in CAP2 body

Please also see Manatee Protection Plan Update (12-15-10)

REFERENCES in CAP2

This Work Plan addresses the need to minimize water volume generated during dredging operations, the management of water collected during dredging, and water quality controls to be implemented during the dredging activities. Finally, it describes the procedures to be implemented for endangered species protection (manatees) and structure protection during the dredging activities. [p. 2-1, Sec. 2.1]

Most areas of Wagner Creek and Seybold Canal are frequented by manatees (Section 3.5.8). A Manatee Watch will therefore be onsite at all times during the work. As discussed in the following sections, turbidity barrier design will account for turbidity control while generally allowing access for manatee movement. During Wagner Creek dredging, Manatee Barriers will be utilized to limit Manatee movement into the dredging area. Design and use of Manatee Barriers will be as described in Appendix D, Manatee Protection Plan. [p. 3-17, Sec. 3.5.2]

The primary water quality controls to be implemented during Wagner Creek dredging will be turbidity barriers and monitoring. Turbidity barriers will be installed and maintained both upstream and downstream of the active dredging area. Turbidity barriers for Wagner Creek will be solid construction and will be designed to minimize the potential for manatee entanglement. Figure 3-14 shows a typical barrier design.

Wagner Creek is narrow (20 ft to 35 ft) and shallow (2 ft to 4 ft deep in un-dredged areas). Turbidity barriers used in Wagner Creek will be designed to extend side to side and to the surface of underlying material. It is envisioned that a typical downstream barrier will be 25 ft wide x 4 ft deep. A typical upstream barrier will be 25 ft wide x 8 ft deep.

Turbidity barrier configuration for Wagner Creek dredging will depend on the following factors:

1. **Dredging Configuration** – Turbidity barrier configurations will be different when dredging to land based containers (WRCs) than when dredging to floating containers. An example of each configuration is shown in Figures 3-15 and 3-16.
2. **COPC Concentrations** – Portions of OS-1 exhibit elevated concentrations of TEQ (> 1 ppb). Monitoring, dredging production, and turbidity barriers will be configured to maintain turbidity levels at the compliance point stipulated by the permits.
3. **Manatee Movement** – Areas north of the active dredging area will be checked for manatees and monitored in accordance with the requirements outlined in Appendix D, Manatee Protection Plan.
4. **Turbidity Monitoring Results** – A Hach® 2100P (or equivalent) Portable Turbidity Meter will be utilized onsite to constantly check turbidity levels. These measurements will be used in the field to aid in selecting the number and proper placement of turbidity barriers.

Dredging in Wagner Creek will progress slowly (30 to 50 ft/day). Wagner Creek is tidal, so both upstream and downstream barriers will be required. [p. 3-18, Sec. 3.5.2.1]

All barriers will be removed at the end of each work day once turbidity levels are at or below the compliance point stipulated by the permits. [p. 3-19, Sec. 3.5.2.1]

Turbidity barrier configurations for Seybold Canal dredging will depend on the following factors:

1. **Dredging configuration** – Turbidity barrier configurations for Seybold Canal will be installed to control turbidity while dredging to floating containers.
2. **COPC Concentrations** – There are no elevated TEQ areas in Seybold Canal. Monitoring, dredging production, and turbidity barriers will be configured to maintain turbidity levels at the compliance point stipulated by the permits.
3. **Manatee Movement** – Areas north of the active dredging area will be checked for manatees before barriers are deployed and monitored ~~before barriers are deployed~~ in accordance with the requirements outlined in Appendix D, Manatee Protection Plan.
4. **Boat Access** – Seybold Canal connects to the Miami River and therefore allows water access for small craft. There are many pleasure craft and small fishing vessels that use Seybold Canal for mooring. Boats will be moved to allow access to the immediate dredging areas. Access to areas north of the dredging will be allowed during non-work hours.
5. **Turbidity Monitoring Results** – A Hach® 2100P (or equivalent) Portable Turbidity Meter will be utilized onsite to constantly check turbidity levels. These measurements will be used in the field to aid in selecting the number and proper placement of turbidity barriers/~~bubble~~ Air Curtains. [p. 3-19, Sec. 3.5.2.1]

Dredging in Seybold Canal will progress at approximately 20 - 30 ft/day. As the dredging progresses toward the mouth of Seybold Canal, turbidity controls will become critical. For this reason, turbidity barriers will be installed and maintained both upstream and downstream of the active dredging area and an Air Curtain will be installed at the mouth of Seybold Canal. Turbidity barriers for Seybold Canal will be solid construction and will be designed to minimize the potential for manatee entanglement. [p. 3.20, Sec. 3.5.2.2]

Manatee protection will be a daily concern during the dredging of Wagner Creek and Seybold Canal and will be monitored in accordance with the requirements outlined in Appendix D, Manatee Protection Plan. A Manatee Protection Plan is presented in Appendix D. [p. 3.23 , Sec. 3.5.8]

The following summarizes the biological assessment findings:

- 238 instances of flora and fauna were observed along Wagner Creek and Seybold Canal.
- 39 species of trees, plants, and vines were observed, none of which are federally Listed as Threatened or Endangered Species.
- 15 wildlife species were observed. Two are considered Species of Special Concern by the Florida Fish and Wildlife Conservation Commission (FFWCC) and one is listed as Endangered by the USFWS.

Species of Special Concern:

- Tricolored Heron (*Egretta tricolor*)

- White Ibis (*Eudocimus albus*)

Endangered Species:

- West Indian Manatee (*Trichechus manatus*)

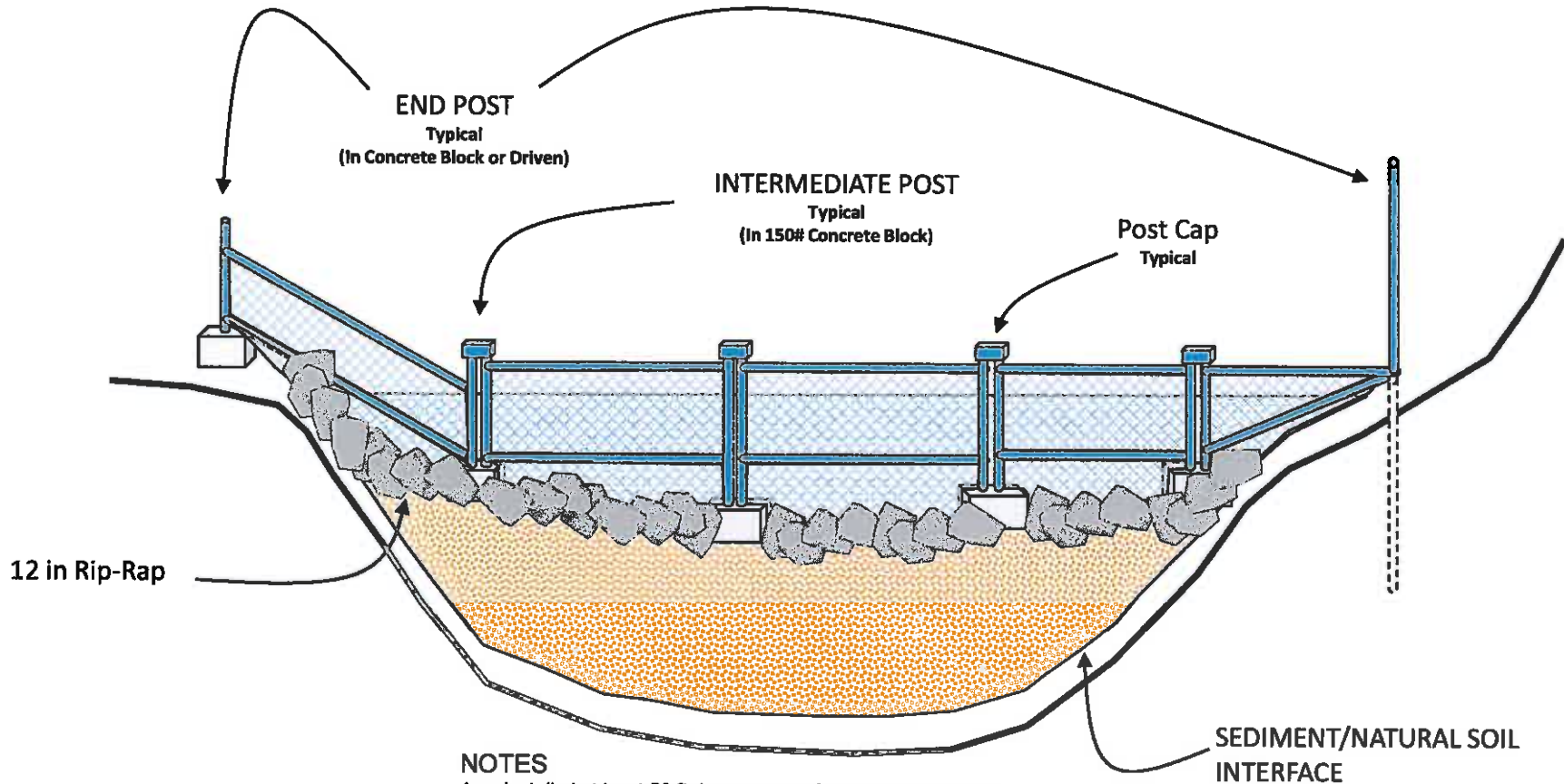
This investigation revealed that the project area consists only of disturbed lands and urban areas. It does not offer a high quality habitat to floral or faunal species. Standard precautionary measures will be employed during the construction phase of the project to protect the tricolored heron, white ibis, and West Indian manatee (Manatee Watch). Therefore, no significant impacts to federal, state, or locally listed species are anticipated as a result of this project. [p. 4.1 , Sec. 4]




Attachment B

Final Figure D-1 Typical Manatee Barrier

TYPICAL MANATEE BARRIER

FIGURE D-1



-  Sediment
-  High/High Water Line
-  Concrete Block

NOTES

1. Installed at least 50 ft downstream of last Turbidity Barrier
2. Must be inspected, cleaned of all trash and repaired daily
3. Standard Chain Link Fencing with bottom sections that match the contour at the sediment water interface as well as shoreline contours up to at least 1 ft above the High/High water line. Bottom sections shall be secured with rip-rap boulders, or similar materials, to prevent manatee entanglement or entrapment.
4. The manatee barrier shall be monitored at least once in the morning for manatee entanglement or entrapment, and to insure there are no access points for manatees into the work area along the bottom, sides or over the top of the barrier. If a manatee becomes entangled in the Manatee Barrier, the Florida Fish and Wildlife Conservation Commission should be notified immediately at 1-888-404-FWCC.
5. Area north of Manatee Barrier to be inspected each day and prior to installation to ensure no manatees are trapped north of the barrier. If a manatee becomes entrapped north of the manatee barrier in the construction area the barrier shall be opened so the manatee is able to leave the construction area on its own volition.
6. Regulators to be notified if Manatee is sighted north of Manatee Barrier

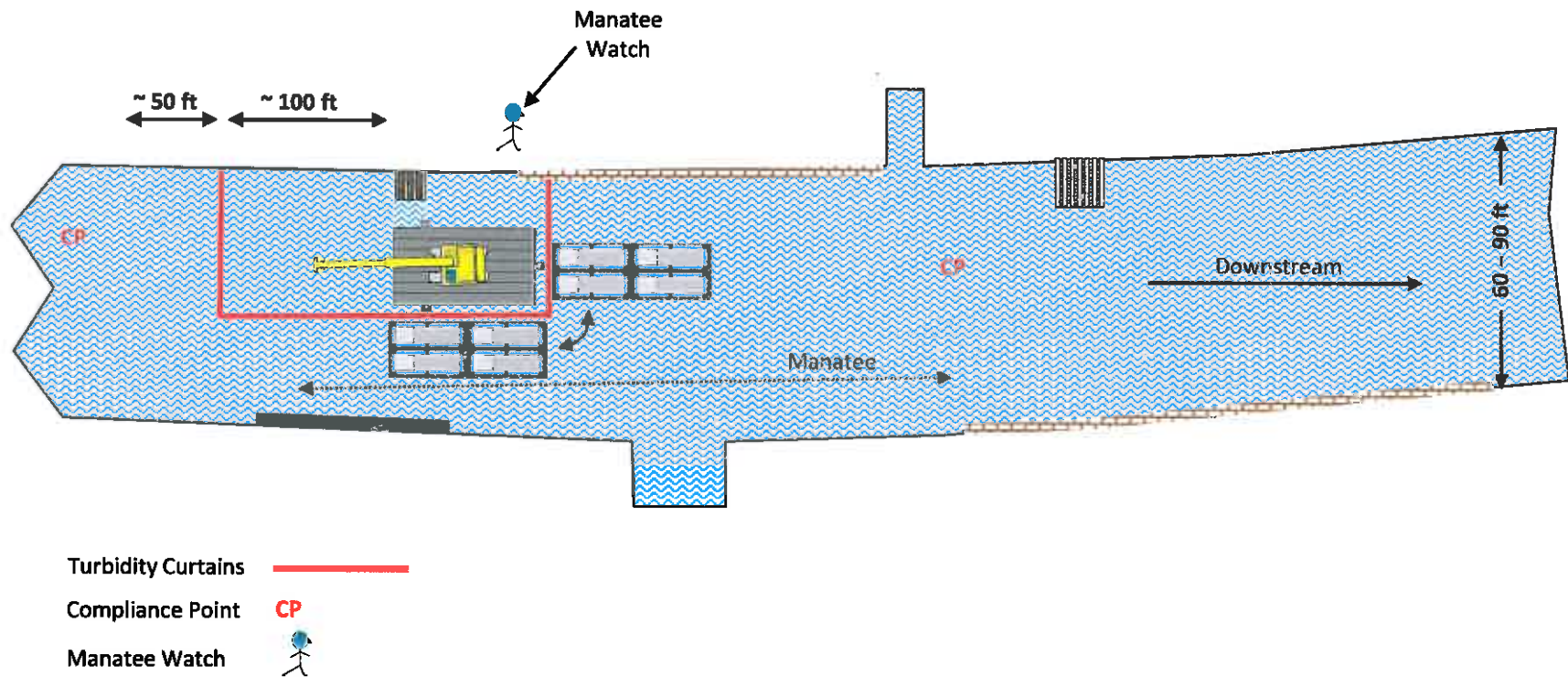
Attachment C

Final Figure 3-17

Seybold Canal Water Quality Control/Manatee Watch

FIGURE 3-17

Seybold Canal Water Quality Control/Manatee Watch



Attachment D

Final Figure 3-19

Dredging Near Mouth of Seybold Canal Water Quality
Control/Manatee Watch

Dredging Near Mouth of Seybold Canal Water Quality Control/Manatee Watch

Figure 3-19

