

Resilient Environment Department

ENVIRONMENTAL PERMITTING DIVISION

1 North University Drive, Mailbox 201, Plantation, Florida 33324 • 954-519-1483 • FAX 954-519-1412

Via E-mail (kkalbertson@drhorton.com)

DR Horton
c/o Karl K. Albertson
6123 Lyons Road
Coconut Creek, FL 33073

Dear Mr. Albertson:

This is to notify you of the Resilient Environment Department's action concerning your application received February 29, 2020, for authorization to create a wetland mitigation area adjacent to your property at 201 SW 172nd Ave. in the City of Pembroke Pines, Florida. The application has been reviewed for an Environmental Resource License.

Broward County - Environmental Resource License (ERL) Review – Granted

The Department has reviewed the project for compliance with Aquatic and Wetland Resource Protection Ordinance Sec. 27-331 through 27-341 of the Broward County Code. Based on the information submitted, Environmental Resource License No. **DF20-1062** is hereby issued. The above-named licensee is hereby authorized to perform the work per the approved drawings(s), plans, documents and specifications as submitted by the licensee, and made a part hereof. The above referenced approvals will remain in effect subject to the attached Broward County General Conditions, Broward County Specific Conditions, and stamped exhibits.

The issuance of this license is a **final agency determination**. A person with a substantial interest may file a petition to request review of, or to intervene in a review of, a final administrative determination, subject to the provisions of Section 27-14, Broward County Code of Ordinances (excerpt attached).

Sincerely,

Linda Sunderland

Linda Sunderland
Environmental Program Supervisor

August 2, 2022

Date

ENC:

1. Environmental Resource License
2. Sec. 27-14 Administrative Review Procedures (4 pages)
3. One copy of stamped drawings (18 pages)

cc:

1. Jim Goldasich of JJ Goldasich and Associates, Inc. (via e-mail)
2. Susan Roeder Martin, Nason Yeager (e-mail)
3. USACOE-PBG (via e-mail)



Resilient Environment Department

ENVIRONMENTAL PERMITTING DIVISION

1 North University Drive, Mailbox 201, Plantation, Florida 33324 • 954-519-1483 • FAX 954-519-1412

ENVIRONMENTAL RESOURCE LICENSE

LICENSEE: D. R. Horton, Inc.

ADDRESS:

**1341 Horton Circle
Arlington, Texas 76011**

LICENSE NO: DF20-1062

PROJECT:

**Residential Development –
Wetland Fill**

This license is issued under the provision of Chapter 27 of the Broward County Code of Ordinances also cited as Broward County Natural Resource Protection Code hereinafter called the Code. The above-named applicant, hereinafter called licensee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications as submitted by applicant, and made a part hereof and specifically described as follows:

Description of Work: This project involves the construction of a 23.50-acre residential development. Historically, the site contained 18.5 acres of uplands, 5 acres of jurisdictional wetlands, and no existing surface waters. The wetland impacts and mitigation area were licensed under DF02-1112 and continued in license DF07-1091 to fill 3.64 acres of melaleuca wetlands and development of a 1.02-acre onsite mitigation area. A conservation easement for a 1.35-acre mitigation area (including 1.02-acre wetland area) was recorded under instrument number 108371252 on January 28, 2009; mitigation has not yet been provided. This project allows for the development of the project area, providing 1.53 acres of wetland mitigation (using previous calculations in accordance with 62-345 F.A.C.), within a 1.7291-acre area, to be encumbered by a new conservation easement. Additional wetland mitigation of 0.51 acre addresses the time lag post facto.

Location of Work: This project is located at 201 SW 172nd Ave., Section 17, Township 51 South, Range 40 East, in the City of Pembroke Pines, Florida. Folio Number 514017020050.

Construction shall be in accordance with submitted ERL Application Form received on 02/29/2020, and all additional information submitted; plans stamped by the Department on 08/02/2022 (attached); and with all General and Specific Conditions of this license.

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations and restrictions set forth herein are accepted by the licensee and enforceable by Environmental Protection and Growth Management Department (EPGMD) pursuant to Chapter 27 of the Broward County Code of Ordinances. EPGMD will review this license periodically and may revoke the license, initiate administrative and/or judicial action for any violation of the conditions by the licensee, its agents, employees, servants or representatives or principals.
2. This license is valid only for the specific uses set forth in the license application, and any deviation from the approved uses may constitute grounds for revocation and enforcement action by EPGMD.
3. In the event the licensee is temporarily unable to comply with any of the conditions of the license, the licensee shall notify EPGMD within twelve (12) hours. Within five (5) working days of the event, the licensee shall submit a written report to EPGMD that describes the incident, its cause, the measures being taken to correct the problem and prevent its reoccurrence, the owner's intention toward repair, replacement, and reconstruction of destroyed facilities, and a schedule of action leading toward operation within the license conditions.
4. The issuance of this license does not convey any vested rights or exclusive privileges, nor does it authorize any injury to public or private property or any invasion of personal rights, or any violations of federal, state or local laws or regulations.
5. This license must be available for inspection on the licensee's premises during the entire life of the license.
6. By accepting this license, the licensee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, that are submitted to EPGMD, may be used by EPGMD as evidence in any enforcement proceeding arising under Chapter 27 of the Broward County Code of Ordinances, except where such use is prohibited by § 403.111, F.S.
7. The licensee agrees to comply with Chapter 27 of the Broward County Code of Ordinances, as amended.
8. Any new owner of a licensed facility shall apply by letter for a transfer of license within thirty (30) days after sale or legal transfer. The transferor shall remain liable for performance in accordance with the license until the transferee applies for, and is granted the transfer of license. The transferee shall also be liable for performance in accordance with the license.
9. The licensee, by acceptance of this license, specifically agrees to allow access to the licensed source at reasonable times by EPGMD personnel for the purposes of inspection and testing to determine compliance with this license and Chapter 27 of the Broward County Code of Ordinances.
10. This license does not constitute a waiver or approval of any other license that may be required for other aspects of the total project.
11. If the licensee wishes to renew a license or extend its term, the licensee shall make application sixty (60) days prior to its expiration. Expired licenses are not renewable.
12. In addition to the general conditions set forth above, each license issued by EPGMD shall contain specific conditions determined by site conditions and requirements pursuant to the regulations as determined by the director of EPGMD. The licensee agrees that specific conditions are enforceable by EPGMD for any violation thereof.
13. Enforcement of the terms and provisions of this license shall be at the reasonable discretion of EPGMD, and any forbearance on behalf of EPGMD to exercise its rights hereunder in the event of any breach by the licensee, shall not be deemed or construed to be a waiver of EPGMD's rights hereunder.

SPECIFIC CONDITIONS:

A. STANDARD CONDITIONS

1. **Notify the Department in writing a minimum of 48 hours prior to project commencement and a maximum of 48 hours after project completion.** Commencement notification should include such information as the intended start date, estimated duration of construction, and the name and contact information of the firm contracted to do the work. Failure to comply with this condition may result in enforcement action.
2. Any project causing environmental problem(s) shall be reported immediately to the Department's Environmental Response Line at 954-519-1499.
3. All project generated solid waste and/or spoil material must be disposed of in a suitable approved manner in accordance with current regulations at an upland location (not including surface waters and wetlands).
4. Turbidity screens, silt fences, or equivalent shall be properly employed and maintained as necessary to effectively contain suspended sediments and/or runoff during construction activities. **Dredging, filling, excavation, seawall removal, seawall construction, and other projects which result in similar degrees of disturbance to wet sediments shall in all cases employ turbidity control measures designed to effectively enclose the entire work area.**
5. Turbidity levels shall be monitored and recorded if a visible turbidity plume is observed leaving the site during construction activities. If monitoring reveals that turbidity levels exceed 29 NTU's above natural background 50 feet downstream of the point of discharge, project activities shall immediately cease, and work shall not resume until turbidity levels drop to within these limits [62-302.530(69) FAC].
6. Only clean fill shall be placed in the surface waters being filled. Any fill material used shall be free of garbage, rubbish, refuse, asphalt, hazardous materials, organic matter such [as] wood, lumber, tree or tree trimmings, or other contaminants. The disposal of any putrescible or deleterious debris in any water body is prohibited.

B. CONSTRUCTION CONDITIONS

1. If the approved license drawings and/or license attachments/plans conflict with the specific conditions, then the specific conditions shall prevail.
2. Demolition and construction related debris must be disposed of at an approved upland location and may not be left in any surface waters.
3. This license does not eliminate the necessity to obtain any required federal, state, local or special district authorizations prior to the start of any activity approved by this license.
4. Please be advised that applicants with projects 1 acre or greater in size are required to submit a Storm Water Notice of Intent application 48 hours prior to the commencement of construction to the Florida Department of Environmental Protection, NPDES Stormwater Notices Center, MS #2510, Florida Department of Environmental Protection, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. In addition, please submit a Stormwater Pollution Prevention Plan to the appropriate local jurisdiction (EPGMD, Drainage District, or municipality) showing all Best Management Practices to be implemented during the construction of the project. The plan must be on a 24" X 36" drawing.

C. COMPENSATORY MITIGATION CONDITIONS (ON-SITE)

1. Construction and installation of the Areas shall be in accordance with plans by the Department (attached) and associated information.
2. **Construction of the mitigation area shall be concurrent with impacts to the jurisdictional wetland areas.**

3. The following steps must be taken prior to submittal of the Time-Zero monitoring report, all relevant correspondence may be uploaded to ePermits or e-mailed to AWRlicense@broward.org:
 - (a) Upon completion of the mitigation earthwork, the Licensee shall submit an as-built survey providing a Florida registered surveyor's certification of elevations in relation to design and surveyor verification of actual acreage for all licensed mitigation habitats. **Plant installation shall not begin until after the Department has approved the as-built survey.**
 - (b) The source for the plants and muck (a minimum of 12-inches of muck required) for the wetland area shall be conveyed prior to plant installation. Plant substitutions or planting plan alterations must be approved by the Department prior to installation.

If there are conflicts with any other agency regarding the mitigation area, notify the Aquatic and Wetland group immediately.
4. Once condition C.3. has been approved a Time-Zero monitoring report may be submitted. The Time Zero report is required within 30 days earthwork approval and prior to any Certificate of Occupancy being issued for any structure on the site.
5. The Area(s) shall be monitored, and reports submitted quarterly for five (5) years describing in detail the condition of the Areas relative to the reference wetland and the criteria listed above (C. 3.).
6. A viable wetland system shall be established that replicates a natural reference wetland in basic structure and function. To assure that the Area(s) become self-sustaining, the following criteria shall be met:
 - (a) A minimum of 80% coverage by desirable wetland species after a two (2) year period and demonstration of persistence for three (3) additional years.
 - (b) Less than 2% coverage by invasive exotic and undesirable species is allowable if plants are dispersed and not concentrated in any area. Exotic and undesirable species include, but are not limited to, *Melaleuca*, Australian pine, Brazilian pepper, *Bischofia*, torpedo grass, primrose willow, cattail, air potato, and *Syngonium*. Treatment efforts should be tailored to prevent these species from becoming reproductively mature.
 - (c) A minimum of 80% survival of each planted species shall be maintained each quarter. An exception to this condition may be allowed where species composition, density of planted and recruitment species, the overall wetland condition, as characterized by the growth rates and viability of the Areas are of higher quality, as determined by the Department.
 - (d) Hydrologic conditions and soil characteristics are in general conformity to those specified in plans. Data from the permanent surveyed staff gauges must be collected every two weeks and submitted with the quarterly monitoring reports.
7. Should the Department determine that the Areas are not achieving the listed criteria during some portion of the monitoring period, the licensee shall determine the reasons for failure and prepare plans that demonstrate clearly how the problem(s) will be corrected and submit such plans immediately to the Department for approval. Those plans shall be implemented within 30 days from the Departments written approval.
8. Introduction (direct or indirect) of Grass Carp (*Ctenopharyngodon idella*) is strictly prohibited. The Licensee shall properly employ and maintain Grass Carp exclusion devices as necessary to prevent entry into the area.
9. Permanent physical markers designating the preserve status of the wetland conservation area and buffer zones shall be placed around the entire perimeter of the mitigation area a maximum 100 feet apart. The markers shall be maintained in perpetuity.
10. The licensee shall be responsible for the successful completion of the mitigation work, including the monitoring and maintenance of the mitigation areas for the duration of the plan. The mitigation area shall not be turned over to another entity until the mitigation work is accomplished as licensed and staff has approved the Time Zero mitigation report.

License No. DF20-1062
LICENSEE: D. R. Horton, Inc.

11. Spoil generated from the excavation authorized by this license must be used on-site or placed in off-site uplands and contained in such a manner as to prevent erosion into wetlands or other surface waters.
12. The licensee shall provide any future purchaser(s) of this site with a copy of this license.
13. Required water quality treatment (including ½" dry pretreatment and/or 1" wet detention as required by the appropriate jurisdictional agencies) must be provided **prior to** discharge into any part of the licensed wetland mitigation area. The mitigation areas cannot be considered in, or used for, meeting stormwater treatment requirements. Stormwater from development that abuts the mitigation areas shall be routed away from the mitigation areas through swales or other conveyances and treated or discharged into treatment lakes at a distance adequate to maximize treatment prior to mixing with waters in the mitigation areas.
14. The Department must be notified of any change of consultant/contractor during the construction and mitigation monitoring phases of this project.
15. The conservation area shall be the perpetual responsibility of the licensee and may in no way be altered from its natural or licensed state as documented herein, apart from its normal maintenance.

D. CONSERVATION EASEMENT/FINANCIAL ASSURANCE

1. A draft Joint Conservation Easement has been submitted by the applicant and has been approved to form by the County Attorney's office. Once approved by the County Commissioners, the Conservation Easement and a copy of this license will be recorded in the public records of the County. It is the Licensee's responsibility to pay the recording costs. A check made payable to the "Board of County Commissioners" shall be submitted to the Department within fifteen (15) days of receipt of the notice of recording costs.
2. A fully executed Conservation Easement and a copy of the issued license must be recorded within six months of license issuance or prior to any COs being issued for the project whichever comes first.
3. If the property ownership changes prior to the Conservation Easement being recorded, a new Conservation Easement draft and updated Opinion of Title must be provided within 30 days of the ownership transfer.
4. The licensee has provided a Joint Letter of Credit to Broward County RED and SFWMD as financial assurance for this project. The Financial Assurance(s) include(s) construction, monitoring, and maintenance costs with a 10% contingency for the total sum of \$219,230.00. After the time zero event and upon RED review and approval of all information required in Specific Condition C.3, the licensee may request release of 35% of the total financial assurance. After two years of monitoring and maintenance and upon RED review and approval, the licensee may request an additional 15% of the financial assurance. At the end of the five-year maintenance and monitoring period and upon demonstration that the licensee has met the intent and all information requested in Specific Condition C.4 and C.5., and if necessary, C.6., the licensee may request the release of the remaining financial assurance. All requests shall be made in writing to the Natural Resources Section of the RED. The Licensee is advised that the financial assurance document must remain active until it is released by the Department and SFWMD and that no portion of the Financial Assurance will be released until the Conservation Easement has been recorded.

This area left blank intentionally.

E. A COPY OF THIS LICENSE SHALL BE KEPT ON SITE DURING ALL PHASES OF LICENSED CONSTRUCTION.

Recommended for approval by:

Michelle Decker
License Processor

Issued this 2nd day of August 2022

Expiration Date: August 2nd, 2027

BROWARD COUNTY RESILIENT ENVIRONMENT DEPARTMENT

Linda Sunderland

LINDA SUNDERLAND
ENVIRONMENTAL PROGRAM SUPERVISOR
ENVIRONMENTAL PERMITTING DIVISION

Sec. 27-14. Administrative review of EPGMD determinations.

- (a) A person with a substantial interest may file a petition to request review of or to intervene in a review of a final administrative determination made pursuant to this chapter concerning:
- (1) The requirement that a facility or activity obtain a license or environmental review approval.
 - (2) Interpretations of license or environmental review approval conditions.
 - (3) Interpretations of variance conditions.
 - (4) The decision to suspend or revoke a license or environmental review approval.
 - (5) The requirement of certain license conditions.
 - (6) The issuance of a license or environmental review approval.
 - (7) The denial of a license or environmental review approval.
 - (8) The scope of a license or environmental review approval, geographic or otherwise.
 - (9) The scope of a variance, geographic or otherwise.
 - (10) The issuance of a stop work order.
 - (11) Similar final administrative determinations.

This administrative review procedure shall be the only means of review available for the above final administrative determinations by either the petitioner or the intervenor (the parties).

- (b) person may not obtain review by this procedure of:
- (1) The issuance or adjudication of or other matters involving a notice of violation or a citation.
 - (2) Internal policy decisions
- (c) A person desiring a review of a staff determination made pursuant to this Chapter shall first bring the determination to the attention of the appropriate section supervisor to attempt to resolve the matter. If a resolution cannot be reached, then the decision shall be reviewed by successive supervisory levels until the issue is resolved or reaches the level of the director or his or her designee for the final determination.
- (d) A person desiring administrative review of a final determination made by the director or the designee shall file a petition with the director for review by the hearing examiner. The petition shall be filed within ten (10) days from the rendition of the action taken or of the decision made by the director. An entity whose license or approval is being challenged shall be a party to the action.
- (e) The review shall not be heard until the provisions of subsection (f) are met. Upon motion to the hearing examiner, an insufficient petition shall be dismissed with or without leave to refile. If a petition is determined to be insufficient by the hearing examiner and the petitioner has been given leave to refile by the hearing examiner, unless otherwise ordered by the hearing examiner, the petitioner must refile within ten (10) days of the rendition of the order of dismissal or the petition will be dismissed with prejudice.

- (f) A sufficient petition for review or petition for intervention in the review shall, at a minimum, contain the following information:
- (1) The nature of the determination sought to be reviewed.
 - (2) A short, plain statement of the facts which form the subject matter upon which the determination was made as asserted by all parties of record at the time that the petition is filed; a statement of the material facts in dispute, if any. If any party is unable to state the matters in sufficient detail at the time initial petition is filed, the petition may be limited to a statement of the issues involved; and thereafter, upon timely written motion, a more definite and detailed statement shall be furnished not less than seven (7) days prior to the date set for the hearing.
 - (3) The specific determination for which the review is sought.
 - (4) The specific legal grounds upon which the parties seek review of the determination.
 - (5) A short statement of the petitioner's or the intervenor's substantial interest in the matter to be reviewed.
 - (6) The specific section of this chapter on which the decision is based, if known, and the specific section that the parties allege should control the decision, if known.
 - (7) A copy of the director's or the designee's written final determination.
 - (8) A statement of the relief requested stating precisely the action that the petitioner wants EPGMD to take with respect to the final determination.
- (g) All pleadings or other documents filed in the proceeding must be signed by a party, the party's attorney, or the party's qualified representative. The signature of a party, the party's attorney or a party's qualified representative constitutes a certificate that he or she has read the pleading or other document and that to the best of his or her knowledge, information, and belief formed after reasonable inquiry, it is not brought for any improper purposes, such as to harass or to cause unnecessary delay or for frivolous purpose or needless increase in the cost of litigation. If a pleading or other document is signed in violation of these requirements, the hearing examiner, upon motion or his or her own initiative, shall dismiss the matter.
- (h) A petitioner or intervenor may request an emergency hearing to stay all activities or work conducted pursuant to the challenged license or approval. Such petitioner or intervenor has the burden of proof to show by a preponderance of the evidence that the continued activities would cause substantial pollution or degradation to the environment. An emergency hearing shall be scheduled by EPGMD and be held within five (5) days of said request or as soon thereafter as possible subject to the availability of the hearing examiner. The petitioner or intervenor shall comply with the notice provisions of section 27-14(j)(2)a. and c. and section 27-14(j)(3) and (4) of this chapter.
- (i) The petition for review will not stay environmental protection activities required for the remediation or mitigation of a site or facility, the protection of the environment or the health, safety and welfare of the citizens of Broward County, or the prevention of further environmental degradation. The person responsible for these activities must take all necessary steps to prevent environmental degradation and must conduct the remediation or mitigation activities required by this chapter. The director may allow these activities to be delayed until after the hearing examiner's decision by certifying to

the hearing examiner that, by reason of facts stated in the certificate, a delay in the initiation or completion of these activities would not cause substantial environmental degradation or peril to life or property. The delay for conducting these activities may be subject to appropriate terms to ensure protection of the environment. The person responsible for these activities shall be responsible for any environmental damage or any violation of this chapter caused by the delay.

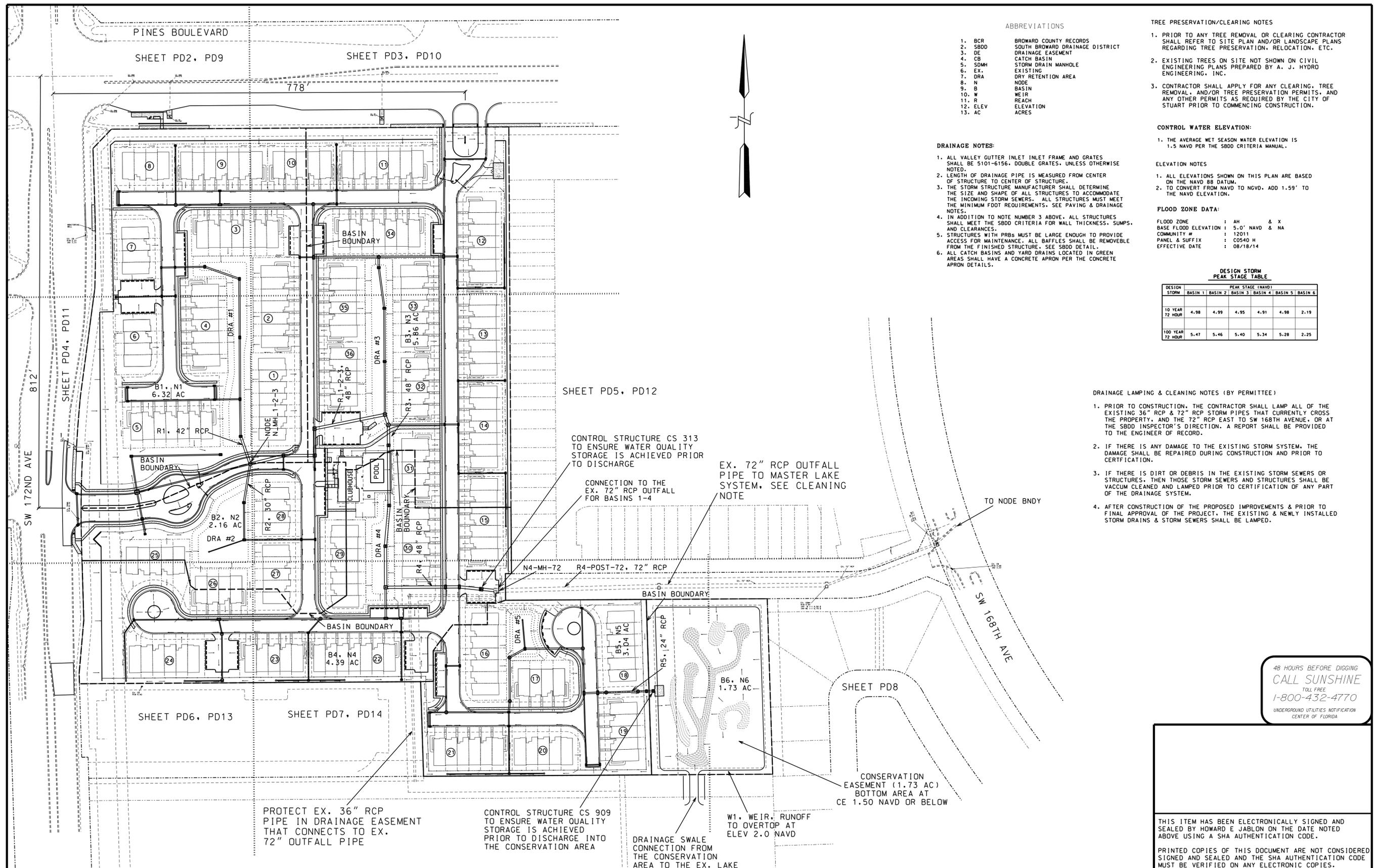
(j) Notice and Scheduling Requirements:

- (1) The hearing on the review shall be scheduled within a reasonable time. It shall be the responsibility of the petitioner to request through EPGMD that the hearing date be scheduled. It shall also be the responsibility of the petitioner to give notice in accordance with this section at least ten (10) days prior to the hearing.
 - (2) The petitioner shall give notice of the hearing by:
 - a. Giving personal notice to all proper parties; and
 - b. Publishing notice on two (2) days in a newspaper of general circulation in the county; and
 - c. Posting notice at a location determined by the Broward County Administrator's Office.
 - (3) The petitioner shall bear the cost of giving notice.
 - (4) The notice shall contain, at a minimum:
 - a. A description and location of the facility or the activity to be conducted by the petitioner; and
 - b. The time and place of the hearing.
- (k) The petitioner shall bear the cost of accurately and completely preserving all testimony and providing full or partial transcripts to all parties.
- (l) The hearing shall be a quasi-judicial hearing.
- (1) The applicant/petitioner requesting the administrative review, any intervenor/petitioner and EPGMD shall have an opportunity to respond to and to present witnesses, other evidence and argument on all issues involved, to conduct cross-examination and submit rebuttal evidence, to submit proposed findings of facts and orders, and to be represented by counsel. Members of the general public who are not intervenors as set forth in Section 27-14 of this chapter are not parties to the proceeding.
 - (2) When appropriate, the general public may be given an opportunity to present oral or written communications. If the hearing examiner proposes to consider such material, then all parties shall be given an opportunity to cross-examine, challenge or rebut it.
- (m) Denial, protest of, revocation, or suspension of a license, environmental review approval, or any other approval:
- (1) In regard to denial or protest of approval of a license and any other review of an administrative decision, notwithstanding (2) below, the petitioner shall have the burden of showing, by a preponderance of the evidence, that the determination of the director was an arbitrary and/or capricious abuse of discretion, not supported by competent, substantial evidence or not in conformance with the

essential requirements of this chapter. The hearing examiner shall not substitute his or her judgment for that of EPGMD on an issue of discretion even though the hearing examiner may have reached a different conclusion based on the same facts.

- (2) In an action to revoke or suspend a valid license or approval, the burden shall be upon EPGMD to prove, by a preponderance of the evidence in an administrative hearing, the grounds for revocation or suspension. The license holder or approval recipient shall be provided notice of the hearing and a copy of the petition stating the grounds for revocation or suspension as provided in section 27-63 of this chapter. The petition shall state with specificity the acts complained of in order to allow the license holder or approval recipient an opportunity to prepare a defense. The hearing shall be conducted in accordance with the provisions of Section 27-37 of this chapter.
- (n) Findings of fact shall be based exclusively on the evidence of record and on matters officially recognized.
- (o) If the hearing examiner finds that the director or his or her designee has erroneously interpreted a provision and that a correct interpretation compels a particular action, he or she shall remand the case to the director or his or her designee for further action under a correct interpretation of the provision.
- (p) The hearing examiner shall complete and submit to the director and all parties a final order consisting of his or her findings of fact and conclusions of law.
- (q) A party to the hearing may obtain appellate review of the final order as provided by section 27-42 of this chapter.
- (r) A petitioner or intervenor shall pay a filing fee at the time the application for review is filed. The amount of the filing fee shall be set by resolution of the Board.

(Ord. No. 2003-34, § 1, 9-23-03; Ord. No. 2005-08, § 2.03, 4-26-05)
Secs. 27-15--27-19. Reserved.



ABBREVIATIONS

- 1. BCR BROWARD COUNTY RECORDS
- 2. SBDD SOUTH BROWARD DRAINAGE DISTRICT
- 3. DE DRAINAGE EASEMENT
- 4. CB CATCH BASIN
- 5. SDMH STORM DRAIN MANHOLE
- 6. EX. EXISTING
- 7. DRA DRY RETENTION AREA
- 8. N NODE
- 9. B BASIN
- 10. W WEIR
- 11. R REACH
- 12. ELEV ELEVATION
- 13. AC ACRES

TREE PRESERVATION/CLEARING NOTES

1. PRIOR TO ANY TREE REMOVAL OR CLEARING CONTRACTOR SHALL REFER TO SITE PLAN AND/OR LANDSCAPE PLANS REGARDING TREE PRESERVATION, RELOCATION, ETC.
2. EXISTING TREES ON SITE NOT SHOWN ON CIVIL ENGINEERING PLANS PREPARED BY A. J. HYDRO ENGINEERING, INC.
3. CONTRACTOR SHALL APPLY FOR ANY CLEARING, TREE REMOVAL, AND/OR TREE PRESERVATION PERMITS, AND ANY OTHER PERMITS AS REQUIRED BY THE CITY OF STUART PRIOR TO COMMENCING CONSTRUCTION.

CONTROL WATER ELEVATION:

1. THE AVERAGE WET SEASON WATER ELEVATION IS 1.5 NAVD PER THE SBDD CRITERIA MANUAL.

ELEVATION NOTES

1. ALL ELEVATIONS SHOWN ON THIS PLAN ARE BASED ON THE NAVD 88 DATUM.
2. TO CONVERT FROM NAVD TO NGVD, ADD 1.59' TO THE NAVD ELEVATION.

FLOOD ZONE DATA:

FLOOD ZONE : AM & X
 BASE FLOOD ELEVATION : 5.0' NAVD & NA
 COMMUNITY # : 12011
 PANEL & SUFFIX : C0540 H
 EFFECTIVE DATE : 08/18/14

DRAINAGE NOTES:

1. ALL VALLEY GUTTER INLET FRAME AND GRATES SHALL BE 5101-6156, DOUBLE GRATES, UNLESS OTHERWISE NOTED.
2. LENGTH OF DRAINAGE PIPE IS MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
3. THE STORM STRUCTURE MANUFACTURER SHALL DETERMINE THE SIZE AND SHAPE OF ALL STRUCTURES TO ACCOMMODATE THE INCOMING STORM SEWERS. ALL STRUCTURES MUST MEET THE MINIMUM FOOT REQUIREMENTS. SEE PAVING & DRAINAGE NOTES.
4. IN ADDITION TO NOTE NUMBER 3 ABOVE, ALL STRUCTURES SHALL MEET THE SBDD CRITERIA FOR WALL THICKNESS, SUMPS, AND CLEARANCES.
5. STRUCTURES WITH PRBS MUST BE LARGE ENOUGH TO PROVIDE ACCESS FOR MAINTENANCE. ALL BAFFLES SHALL BE REMOVABLE FROM THE FINISHED STRUCTURE. SEE SBDD DETAIL.
6. ALL CATCH BASINS AND YARD DRAINS LOCATED IN GREEN AREAS SHALL HAVE A CONCRETE APRON PER THE CONCRETE APRON DETAILS.

DESIGN STORM PEAK STAGE TABLE

DESIGN STORM	PEAK STAGE (NAVD)					
	BASIN 1	BASIN 2	BASIN 3	BASIN 4	BASIN 5	BASIN 6
10 YEAR 72 HOUR	4.98	4.99	4.95	4.91	4.98	2.19
100 YEAR 72 HOUR	5.47	5.46	5.40	5.34	5.28	2.25

DRAINAGE LAMPING & CLEANING NOTES (BY PERMITTEE)

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL LAMP ALL OF THE EXISTING 36" RCP & 72" RCP STORM PIPES THAT CURRENTLY CROSS THE PROPERTY, AND THE 72" RCP EAST TO SW 168TH AVENUE, OR AT THE SBDD INSPECTOR'S DIRECTION. A REPORT SHALL BE PROVIDED TO THE ENGINEER OF RECORD.
2. IF THERE IS ANY DAMAGE TO THE EXISTING STORM SYSTEM, THE DAMAGE SHALL BE REPAIRED DURING CONSTRUCTION AND PRIOR TO CERTIFICATION.
3. IF THERE IS DIRT OR DEBRIS IN THE EXISTING STORM SEWERS OR STRUCTURES, THEN THOSE STORM SEWERS AND STRUCTURES SHALL BE VACUUM CLEANED AND LAMPED PRIOR TO CERTIFICATION OF ANY PART OF THE DRAINAGE SYSTEM.
4. AFTER CONSTRUCTION OF THE PROPOSED IMPROVEMENTS & PRIOR TO FINAL APPROVAL OF THE PROJECT, THE EXISTING & NEWLY INSTALLED STORM DRAINS & STORM SEWERS SHALL BE LAMPED.

48 HOURS BEFORE DIGGING
CALL SUNSHINE
 TOLL FREE
 1-800-432-4770
 UNDERGROUND UTILITIES NOTIFICATION
 CENTER OF FLORIDA

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY HOWARD E. JABLON ON THE DATE NOTED ABOVE USING A SHA AUTHENTICATION CODE.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SHA AUTHENTICATION CODE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SCALE:	DATE	REVISIONS	DATE	REVISIONS
1" = 80'				
DRAWN BY: HEJ	05/01/20	GENERAL UPDATE PER SP RAI #1		
CHECKED BY: JJJ	06/01/20	UPDATE PER FINAL SW & STORM SEWER CALCULATIONS		
APPROVED BY: HEJ	07/01/20	UPDATE PER CITY ENG FOR SP RAI #2		
	08/15/20	ADJUST DRAINAGE PER SFVMD WD, IMPAIRED BASIN		
	09-01-20	ADD MITIGATION AREA GRADING		

AJ HYDRO
 ENGINEERING, INC.
 5932 NW 73RD COURT
 PARKLAND, FL 33067
 TEL (954) 347-3397
 AJHYDRO@BELLSOUTH.NET

PROJECT:
MERRICK SQUARE

TITLE:
KEYMAP & MASTER DRAINAGE PLAN

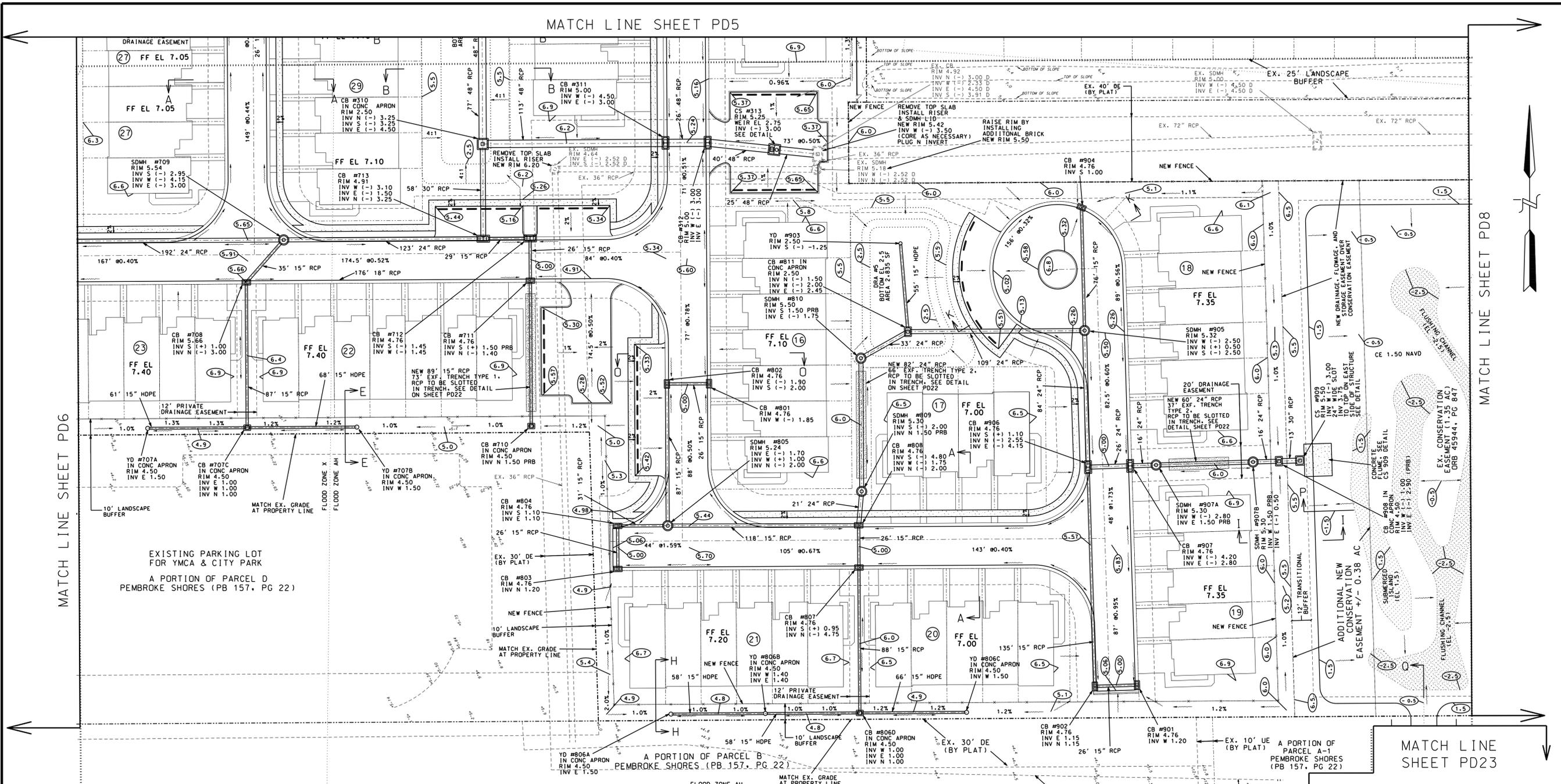
SEAL:
 HOWARD JABLON, PE
 #47514

DATE:
 01/15/20

DRAWING NO.
 18-0150

SHEET NO.
 PD1 OF 24

MATCH LINE SHEET PD5



EXISTING PARKING LOT FOR YMCA & CITY PARK
A PORTION OF PARCEL D PEMBROKE SHORES (PB 157, PG 22)

A PORTION OF PARCEL B PEMBROKE SHORES (PB 157, PG 22)

A PORTION OF PARCEL A-1 PEMBROKE SHORES (PB 157, PG 22)

ABBREVIATIONS

- 1. BCR BROWARD COUNTY RECORDS
- 2. SBDD SOUTH BROWARD DRAINAGE DISTRICT
- 3. DE DRAINAGE EASEMENT
- 4. UE UTILITY EASEMENT
- 5. PB, PG PLAT BOOK & PAGE
- 6. PL PROPERTY LINE
- 7. ROW RIGHT OF WAY
- 8. TYP. TYPICAL
- 9. WM WATER MAIN
- 10. WGV WATER GATE VALVE
- 11. SGV SEWER GATE VALVE
- 12. CPP CONCRETE POWER POLE
- 13. HH HAND HOLE
- 14. OH OVERHEAD WIRES
- 15. BP BACKFLOW PREVENTOR
- 16. CB CATCH BASIN
- 17. SDMH STORM DRAIN MANHOLE
- 18. EX. EXISTING

DRAINAGE NOTES:

1. ALL VALLEY GUTTER INLET FRAME AND GRATES SHALL BE 5101-6156, DOUBLE GRATES, UNLESS OTHERWISE NOTED.
2. LENGTH OF DRAINAGE PIPE IS MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
3. THE STORM STRUCTURE MANUFACTURER SHALL DETERMINE THE SIZE AND SHAPE OF ALL STRUCTURES TO ACCOMMODATE THE INCOMING STORM SEWERS. ALL STRUCTURES MUST MEET THE MINIMUM FOOT REQUIREMENTS. SEE PAVING & DRAINAGE NOTES.
4. IN ADDITION TO NOTE NUMBER 3 ABOVE, ALL STRUCTURES SHALL MEET THE SBDD CRITERIA FOR WALL THICKNESS, Sumps, AND CLEARANCES.
5. STRUCTURES WITH PRBS MUST BE LARGE ENOUGH TO PROVIDE ACCESS FOR MAINTENANCE. ALL Baffles SHALL BE REMOVABLE FROM THE FINISHED STRUCTURE. SEE SBDD DETAIL.
6. ALL CATCH BASINS AND YARD DRAINS LOCATED IN GREEN AREAS SHALL HAVE A CONCRETE APRON PER THE CONCRETE APRON DETAILS.

FLOOD ZONE DATA:

FLOOD ZONE : AH & X
BASE FLOOD ELEVATION : 5.0' NAVD & NA
COMMUNITY # : 12011
PANEL & SUFFIX : C0540 H
EFFECTIVE DATE : 08/18/14

ELEVATION NOTES

1. ALL ELEVATIONS SHOWN ON THIS PLAN ARE BASED ON THE NAVD 88 DATUM.
2. TO CONVERT FROM NAVD TO NGVD, ADD 1.59' TO THE NAVD ELEVATION.

STORM SEWER SCHEDULE NOTE:

ALL INLET TYPES ARE PER FOOT INDEX 452-052. STRUCTURES MAY BE LARGER THAN THE FOOT STANDARD TO FIT PIPES FOR ACCESS, ANGLES, ETC., BUT THEY CANNOT BE SMALLER.

1. FOOT TYPE "C" EXTENDED INLET TO ACCOMMODATE A DOUBLE GRATE. INCREASE SIZE WHEN PRBS PRESENT.
2. FOOT TYPE "H" INLET.
3. FOOT TYPE "H" INLET (DOUBLE GRATE). WIDEN LARGER THEN 3' AS NECESSARY TO ACCOMMODATE LARGER PIPES.
4. BUBBLE UP STRUCTURES SHALL BE A FOOT TYPE "E" INLET W/USF 6616 STEEL GRATE.
5. MANHOLES PER FOOT INDEX 452-001 & 452-010.

IN ADDITION TO THE FOOT STANDARDS, ALL STRUCTURES SHALL MEET THE SBDD CRITERIA FOR WALL THICKNESS (8"), AND CLEARANCES. SEE SHEET PD22, THE SBDD DETAIL SHEET FOR ADDITIONAL INFORMATION.

EXISTING PARK STORM SEWER STRUCTURE SCHEDULE

BASIN #	INLET SIZE	FRAME #	RIM	INVERT			
				NORTH	SOUTH	EAST	WEST
310	0.893	5101	2.50	(-) 3.25	(-) 3.25	(-) 4.50	
AS-BUILT NOTE 4E	6616	5101	5.00	(-) 3.00	(-) 1.50	(-) 1.50	
AS-BUILT NOTE 3	6156	5101	5.00	(-) 3.00	(-) 3.00		
AS-BUILT NOTE 3	6156	5101	5.00	(-) 3.00	(-) 3.00		
AS-BUILT NOTE 3	6156	5101	5.00	(-) 3.00	(-) 3.00		
AS-BUILT NOTE 3	6156	5101	5.00	(-) 3.00	(-) 3.00		
AS-BUILT NOTE 3	6156	5101	5.00	(-) 3.00	(-) 3.00		
AS-BUILT NOTE 3	6156	5101	5.00	(-) 3.00	(-) 3.00		
AS-BUILT NOTE 3	6156	5101	5.00	(-) 3.00	(-) 3.00		
AS-BUILT NOTE 3	6156	5101	5.00	(-) 3.00	(-) 3.00		

STORM SEWER STRUCTURE SCHEDULE

BASIN #	INLET SIZE	FRAME #	RIM	INVERT			
				NORTH	SOUTH	EAST	WEST
801	0.222	5101	4.76			(-) 1.85	
AS-BUILT NOTE 1	6156	5101	4.76	(-) 2.00	(-) 1.90		
AS-BUILT NOTE 1	6156	5101	4.76	(-) 2.00	(-) 1.90		
AS-BUILT NOTE 1	6156	5101	4.76	(-) 2.00	(-) 1.90		
AS-BUILT NOTE 1	6156	5101	4.76	(-) 2.00	(-) 1.90		
AS-BUILT NOTE 1	6156	5101	4.76	(-) 2.00	(-) 1.90		
AS-BUILT NOTE 1	6156	5101	4.76	(-) 2.00	(-) 1.90		
AS-BUILT NOTE 1	6156	5101	4.76	(-) 2.00	(-) 1.90		
AS-BUILT NOTE 1	6156	5101	4.76	(-) 2.00	(-) 1.90		
AS-BUILT NOTE 1	6156	5101	4.76	(-) 2.00	(-) 1.90		

STORM SEWER STRUCTURE SCHEDULE

BASIN #	INLET SIZE	FRAME #	RIM	INVERT			
				NORTH	SOUTH	EAST	WEST
901	0.186	5101	4.76				1.20
AS-BUILT NOTE 1	6156	5101	4.76	1.15			
AS-BUILT NOTE 1	6156	5101	4.76	1.15			
AS-BUILT NOTE 1	6156	5101	4.76	1.15			
AS-BUILT NOTE 1	6156	5101	4.76	1.15			
AS-BUILT NOTE 1	6156	5101	4.76	1.15			
AS-BUILT NOTE 1	6156	5101	4.76	1.15			
AS-BUILT NOTE 1	6156	5101	4.76	1.15			
AS-BUILT NOTE 1	6156	5101	4.76	1.15			
AS-BUILT NOTE 1	6156	5101	4.76	1.15			

CONTROL WATER ELEVATION:

1. THE AVERAGE WET SEASON WATER ELEVATION IS 1.5 NAVD PER THE SBDD CRITERIA MANUAL.

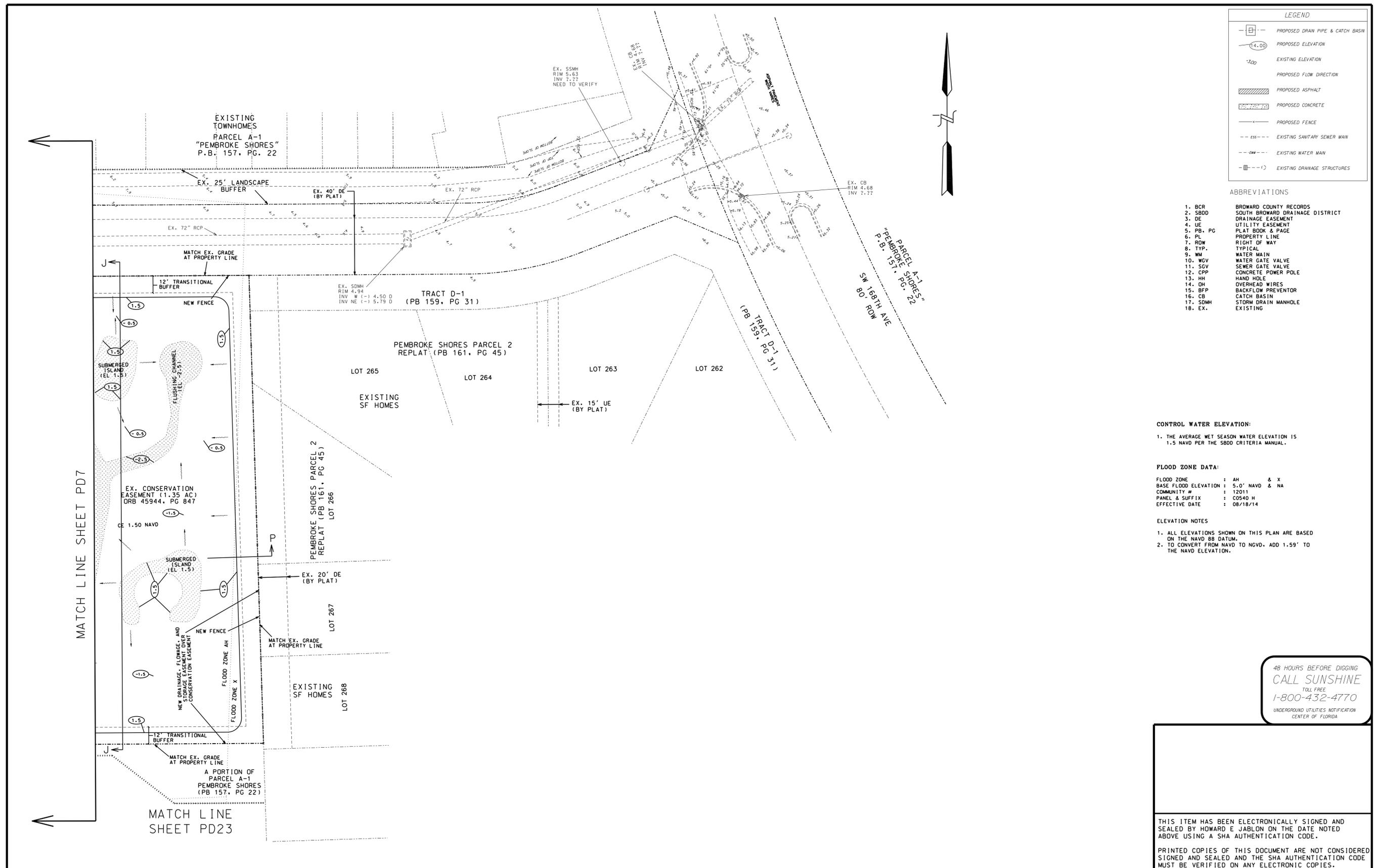
SCALE:	DATE	REVISIONS	DATE	REVISIONS
1" = 30'	02/20/20	ADD D, F, & S EASEMENT PER SBDD		
	05-01-20	UPDATE GRADING, ADD YDS PER DRC ENG. RAI #1		
	06-01-20	UPDATE EXF, TRENCH & OUTFALL PIPE PER SFMD RAI #1		
	07-01-20	UPDATE GRADING PER DRC ENG. SP RAI #2		
	07-17-20	ADD EXF, TRENCH IN BASIN 5 PER SFMD RE. IMPAIRED BASIN		
	08/15/20	ADJUST DRAINAGE, ADD CS #313 PER SFMD WD. IMPAIRED BASIN		
	09-01-20	ADD MITIGATION AREA GRADING		

AJ HYDRO ENGINEERING, INC.
5932 NW 73RD COURT
PARKLAND, FL 33067
TEL (954) 347-3397
AJHYDRO@BELLSOUTH.NET

PROJECT:
MERRICK SQUARE

TITLE:
PAVING, GRADING, & DRAINAGE PLAN (SOUTHEAST)

SEAL: HOWARD JABLON, PE #47514
DATE: 01/15/20
DRAWING NO. 18-0150
SHEET NO. PD7 OF 24



LEGEND

- PROPOSED DRAIN PIPE & CATCH BASIN
- PROPOSED ELEVATION
- EXISTING ELEVATION
- PROPOSED FLOW DIRECTION
- PROPOSED ASPHALT
- PROPOSED CONCRETE
- PROPOSED FENCE
- EXISTING SANITARY SEWER MAIN
- EXISTING WATER MAIN
- EXISTING DRAINAGE STRUCTURES

ABBREVIATIONS

1. BCR	BROWARD COUNTY RECORDS
2. SBDD	SOUTH BROWARD DRAINAGE DISTRICT
3. DE	DRAINAGE EASEMENT
4. UE	UTILITY EASEMENT
5. PB, PG	PLAT BOOK & PAGE
6. PL	PROPERTY LINE
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11. SGV	SEWER GATE VALVE
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14. OH	OVERHEAD WIRES
15. BFP	BACKFLOW PREVENTOR
16. CB	CATCH BASIN
17. SDMH	STORM DRAIN MANHOLE
18. EX.	EXISTING

CONTROL WATER ELEVATION:

1. THE AVERAGE WET SEASON WATER ELEVATION IS 1.5 NAVD PER THE SBDD CRITERIA MANUAL.

FLOOD ZONE DATA:

FLOOD ZONE : AH & X
 BASE FLOOD ELEVATION : 5.0' NAVD & NA
 COMMUNITY # : 12011
 PANEL & SUFFIX : C0540 H
 EFFECTIVE DATE : 08/18/14

ELEVATION NOTES

1. ALL ELEVATIONS SHOWN ON THIS PLAN ARE BASED ON THE NAVD 88 DATUM.
 2. TO CONVERT FROM NAVD TO NGVD, ADD 1.59' TO THE NAVD ELEVATION.

48 HOURS BEFORE DIGGING
CALL SUNSHINE
 TOLL FREE
 1-800-432-4770
 UNDERGROUND UTILITIES NOTIFICATION
 CENTER OF FLORIDA

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY HOWARD E JABLON ON THE DATE NOTED ABOVE USING A SHA AUTHENTICATION CODE.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SHA AUTHENTICATION CODE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SCALE: 1" = 30'	DATE: 02/20/20	COMMENTS: ADD D. F. & S EASEMENT PER SBDD	DATE: 06/01/20	COMMENTS: MINOR REVISIONS	PROJECT: MERRICK SQUARE	TITLE: PAVING, GRADING, & DRAINAGE PLAN (EAST TO SW 168TH AVE)	SEAL:	DATE:	
DRAWN BY: HEJ	02/20/20	ADD D. F. & S EASEMENT PER SBDD							01/15/20
CHECKED BY: JJJ	06/01/20	MINOR REVISIONS							DRAWING NO. 18-0150
APPROVED BY: HEJ	09-01-20	ADD MITIGATION AREA GRADING							SHEET NO. PD8 OF 24
AJ HYDRO ENGINEERING, INC. 5932 NW 73RD COURT PARKLAND, FL 33067 TEL (954) 347-3397 AJHYDRO@BELLSOUTH.NET					HOWARD JABLON, PE #47514				

Merrick Square Compensatory Mitigation Plan Checklist

Objectives

The existing wetland area was filled sometime in 2003 (see Figure 1-January 24, 2004 Aerial) as part of the original ACOE permit (SAJ-2001-06354) for the development of this site, however the mitigation was never completed. The current Applicant purchased the project site from the entity that impacted the wetlands but did not undertake the mitigation. The objective of the onsite wetland mitigation and restoration plan is to create the mitigation that was originally required by the 2001 ACOE permit as well as provide additional mitigation in order to provide temporal losses between the filling in 2003 and the currently proposed project. The goal of the mitigation plan is to create, restore and preserve the new wetland mitigation area in perpetuity. As such the project will include the removal of stockpiled debris, exotic vegetation, selective scraping where invasive and exotic vegetation is most dense and improve the hydrology by lowering of the ground elevations from the current upland condition to appropriate surface elevations by scraping and grading. All debris and spoil will be removed from the restored and enhanced wetland area and disposed of in an approved location. A Uniform Mitigation Assessment Method (UMAM) value of 0.28 was the original score and the proposed UMAM value of 0.77 is estimated to be established following enhancement. The current UMAM of the mitigation area is 0 since it is an upland at the current time. The 0.77 UMAM is targeted for the restoration area by the end of year 3 following enhancement and restoration. A UMAM of 0.77 or higher will be considered a successful enhancement and restoration project.

Site Selection

The onsite enhancement and restoration work will be within the limits of the originally proposed wetland mitigation area and the additional mitigation for the temporal loss will be incorporated into the updated plan for a total wetland mitigation area of 1.73 acres. This area is located in an area that is now uplands and was considered uplands to the ACOE during the original permitting process. This area was considered a jurisdictional wetland the SFWMD and Broward County at the time of the original permit. The use of an offsite mitigation area or mitigation bank credit purchase for replacement of impacts to such a historically important natural feature in this area of Pembroke Pines and Broward County would fall short of providing the regional and nearfield benefits and wetland values and functions when compared to the restoration and enhancement of this area. This onsite enhancement will also ensure the perpetual protection of this wetland resource by a Conservation Easement (CE). The mitigation area also is being established adjacent to another wetland mitigation site for synergistic benefits to both systems.

Site Protection Instrument

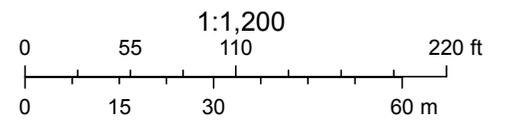
The created, restored and enhanced mitigation area will be protected from unauthorized impacts by a fence, planted buffers, signage and site access control. The CE will be placed over the entire 1.73 acre wetland area, the CE will be given in favor of the ACOE (if desired) as well as SFWMD and Broward County. Following the initial five years of monitoring and maintenance, the site will be dedicated to a regulatory resource management agency if desired or remain in the ownership



Merrick Square Mitigation / Filled Wetland Area January 23, 2004



April 18, 2020



of Merrick Square for perpetual management as a high-quality natural wetland community. The CE will act as the site protection instrument and remain in place in perpetuity.

Baseline Information

A wetland functional assessment was conducted pursuant to the original permit on the project however, updated current information regarding the impacted wetland is not available since the wetland was previously destroyed in 2004. The functional assessment score for the ACOE of 0.28 was generated during the original permitting process. However, the area of the proposed mitigation is not now, or was not at the time of the original permit decision, a jurisdictional wetland to the ACOE. Therefore, a baseline score of 0 will be applied to the UMAM assessment. This will result in a slightly higher risk (creation) of 2.0 which will be applied in the UMAM assessment.

Determination of Credits

The proposed enhancement and restoration project will establish high quality mixed FW wetland areas that will replace the wetland loss by filling in 2004. The work will include the removal of non-native and invasive vegetation, improvements to hydrology by both scraping and grading, re-direction of site and adjacent area treated storm water to and through the wetland and perpetual maintenance and protection of the area by a CE. According to the original permit analysis, the total required mitigation area today is approximately 1.17 acres including the temporal losses for 17 years. However, the proposed Merrick Square project will establish 1.73 acres of wetland mitigation with buffers, marsh, refugia and hydric islands. This will result in 0.56 acres in excess of the required mitigation.

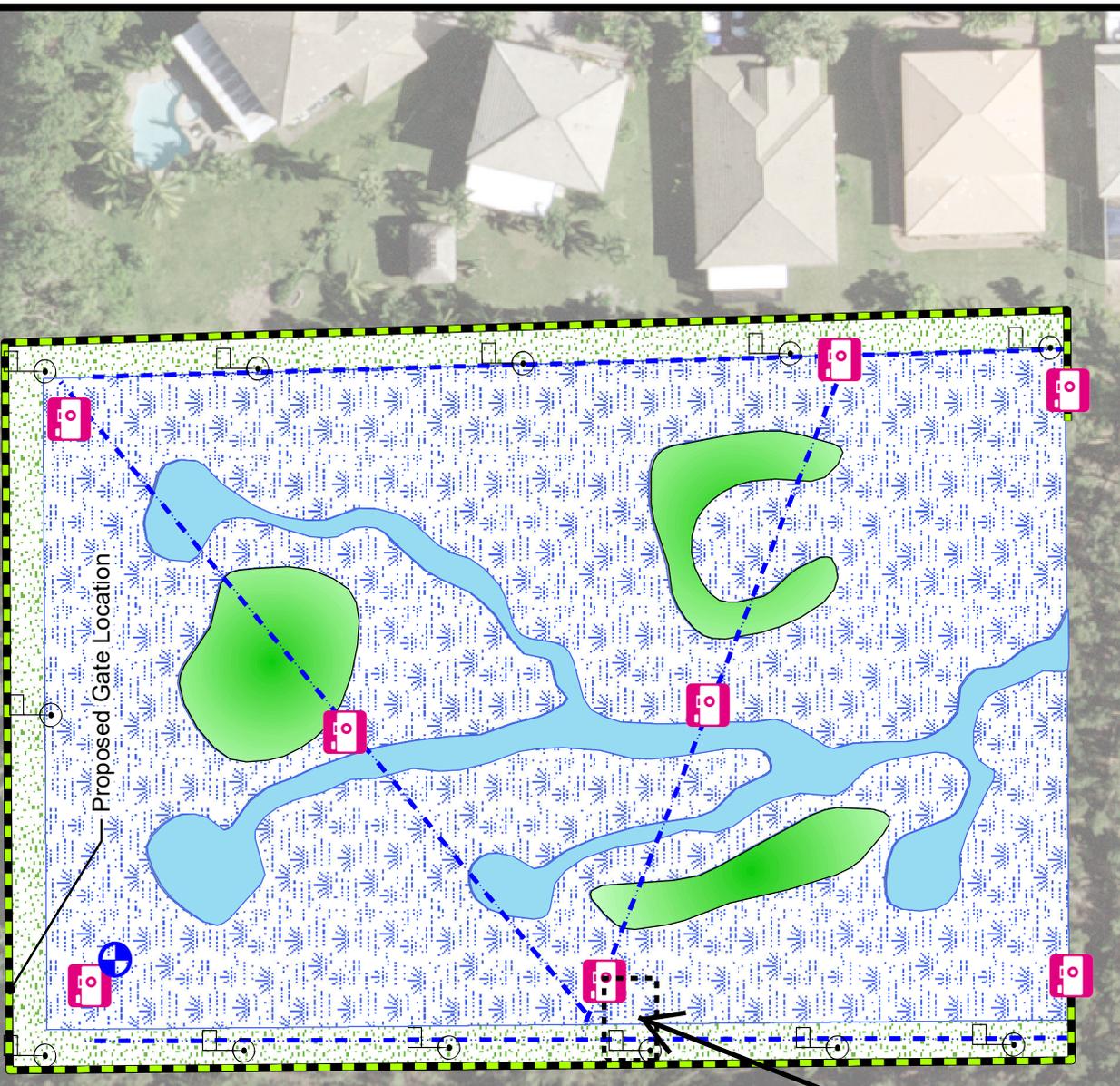
Restoration Work Plan

The proposed restoration actions will include the following work elements:

1. Work Site Selection and Assessment
 - a. Classify habitat areas
2. Field Description and Survey for final Baseline Report
 - a. ID work areas
3. Identify Proposed refugia sites, hydric islands, marsh and buffer areas
4. Removal of berm and debris
 - a. Wetland perimeter scraping
 - b. Wetland channel, hydric island grading
 - c. Grade shallow marsh to wetland elevations
5. Removal or treatment of Undesirable Vegetation
6. Conduct As-built Survey to confirm final base elevations in each created community type
 - a. 1.5 to -0.5 NAVD
 - b. -0.5 to -2.5 NAVD
 - c. 2.5 to -1.5 NAVD
7. Install Native Wetland Vegetation
 - a. Herbaceous plants in marsh, deep marsh,
 - b. Mixture of trees, shrubs and herbaceous plants on submerged islands and transitional areas
8. Conduct Time Zero Assessment
9. Time Zero UMAM Assessment
10. Maintenance and Monitoring



DR Horton; 1.73 Acre Wetland Mitigation Monitoring Plan



Legend

- Photo Station (6 Ground or Drone)
- CE Signs (12-Approximate Location)
- Staff Gauge (1 Approximate Location)
- Mitigation Area Fence
- Monitoring Transect
- PPSB Channel (~0.15 acres)
- PPSB Low Islands (~0.14 acres)
- PPSB Marsh (~1.24 acres)
- PPSB Planted Buffer (~0.2 acres)

NOTES:
 All monitoring locations are approximate and may be adjusted by biologists in the field during the initial TZ monitoring event.
 Mitigation area south end will be graded to meet the adjacent offsite mitigation area. Existing native wetland vegetation in this area to remain.
 All photographs may be taken from the ground level or by drone. Final photo stations may be adjusted by biologists during Time Zero monitoring event.

SBDD Drainage Structure

Initial Date: 02/22/2019 Revised: 09/03/2020

0 20 40 80 120 160
Feet

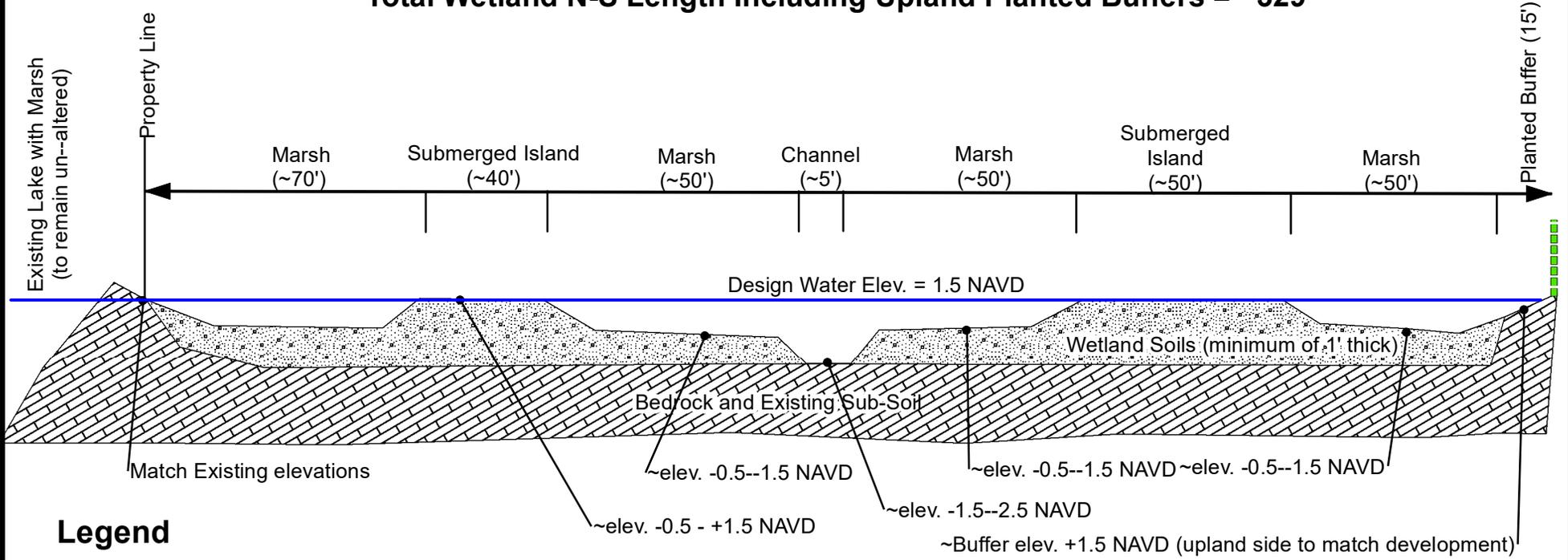
J. J. Goldasich and Associates, Incorporated
 Ecological Services (561) 883-9555
 Natural System Analysis jlg@jgoldasich.com

Merrick Square-DR Horton
 Proposed Mitigation Monitoring Plan
 City of Pembroke Pines
 Broward County, Florida

Mitigation Monitoring Plan

DR Horton - Proposed 1.73 Acre Wetland Mitigation and Buffer

Total Wetland N-S Length Including Upland Planted Buffers = ~329'



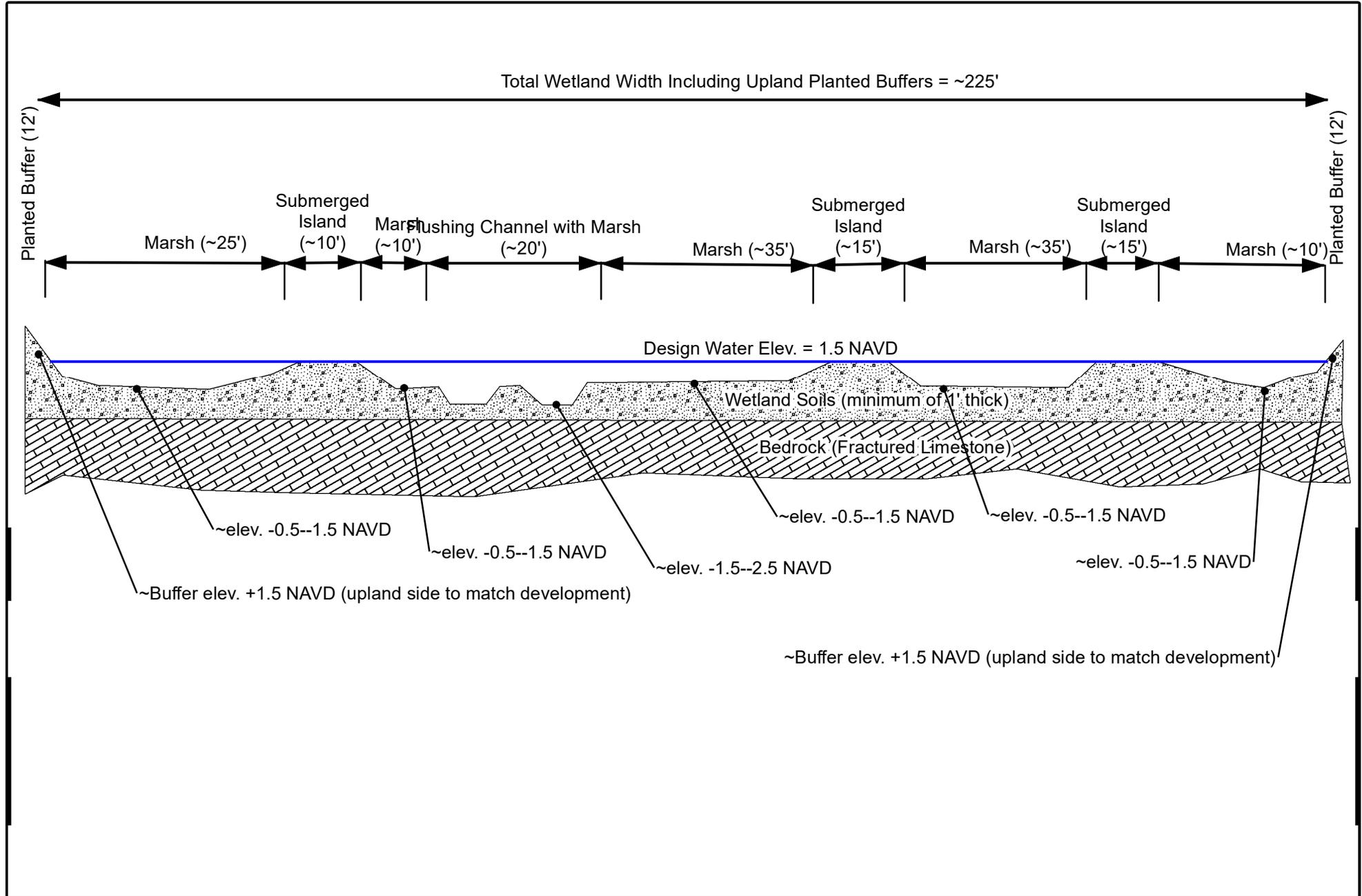
Legend

-  Wetland Soil (minimum 1' thick)
-  Fence
-  Bedrock / Existing Sub-Soil

Document Path: F:\My Documents\DR Horton\School Board PP Site Mitigation Cross Section_N-S.mxd

Initial Date: 02/22/2019	Revised: 08/29/2020	J. J. Goldasich and Associates, Incorporated	<p>DR Horton Typical Wetland Cross Section City of Pembroke Pines Broward County, Florida</p>	<p>Mitigation Cross Section</p>
<p>NOT TO SCALE (see dimensions)</p> <p>Broward County Page 8 of 18 08/02/2022</p>		<p>Ecological Services Natural System Analysis</p>  <p>(561) 883-9555 jjg@jjgoldasich.com</p>		

DR Horton - Proposed 1.73 Acre Wetland Mitigation and Buffer



Document Path: F:\My Documents\DR Horton\School Board PP Site\Mitigation Cross Section.mxd

Initial Date: 02/22/2019	Revised: 05/07/2020	J. J. Goldasich and Associates, Incorporated  Ecological Services Natural System Analysis (561) 883-9555 jjg@jjgoldasich.com	DR Horton Typical Wetland Cross Section City of Pembroke Pines Broward County, Florida	Mitigation Cross Section
NOT TO SCALE (See dimensions) Broward County Page 9 of 18 08/02/2022				

- a. Monthly (year 1-2), Quarterly (year 3-4) and Bi-annually (year 5) as needed
- b. May be adjusted according to Adaptive Management Plan Assessments
- 11. Yearly UMAM Assessment until success criteria are met or exceeded
- 12. Adaptive Management Assessment and Evaluation
 - a. Maintenance as required to maintain high quality in perpetuity

Maintenance Plan

Site maintenance will be conducted monthly for the first two years, quarterly for the subsequent two years and bi-annually during the fifth year. However, if site success criteria are met earlier, maintenance may be reduced and adjusted accordingly. If at any time the conditions defined in the “**Adaptive Management Plan**” are not being met by the mitigation area, additional maintenance will be employed until the conditions of the Plan are again met.

Specifically, the restoration area will meet the following criteria and achieve the stated performance standards **by the end of the 3rd year** of the monitoring period. If the performance standards are not met, a remediation program described in the “Adaptive Management Plan” will be implemented.

- a) The area will maintain a minimum of **80 percent cover** by appropriate native wetland species (i.e., FAC or wetter). This may include installed vegetation and naturally recruited vegetation.
- b) The area will have **less than 5 percent cover by Category I and II invasive exotic** plant species, pursuant to the most current list established by the Florida Exotic Pest Plant Council at <http://www.fleppc.org>.
- c) The restoration and enhancement areas will have **less than 20 percent mortality** of the planted wetland species and be maintained with less than 20 percent mortality except that natural ecological succession of native wetland vegetation may replace installed plants as long as the 80 percent cover is maintained. Natural recruitment of suitable native wetland vegetation will be encouraged and be included as beneficial vegetation for the wetland assessments.
- d) The restoration and enhancement areas will include hydrologic enhancement by both scraping, exotic vegetation removal including root masses and improved water storage in adjacent areas to encourage soil hydration. As a result, the **upper 12 inches** of the soil profile will be **saturated a minimum of 25 percent** of the growing season. Hydrology will be improved by the following specific actions:
 - a. Grading of the mitigation area to FW marsh elevations (1.5 to -0.5 NAVD),
 - b. Grading of transitional areas to buffer / high marsh elevations (1.5 to 2.5 NAVD),
 - c. Grading to create hydric submerged island elevations (1.5 to 2.5 NAVD),
 - d. Grading of channels for deep marsh and refugia elevations (-0.5 to -2.5 NAVD),



Performance Standards

The performance standards are included in the maintenance plan (above) and in the “Adaptive Management Plan” attached to and made a part of this restoration plan and are specifically defined as:

1. Removal of a minimum of 95% of non-native and invasive exotic vegetation from 1.73 acres of the onsite wetland area,
2. Replanting with a mixture of native wetland trees, shrubs and herbaceous plants according to the attached Planting Plan,
3. Survival of at least 80% of installed wetland vegetation,
4. Hydrological improvements resulting in ponding of water at least 6 inches over the wetland soil and soil saturation in the upper 12 inches for at least 25% of the growing season,
5. A minimum of 80% coverage by native wetland and mesic vegetation (including naturally recruited plants) in the scraped, shallowed and replanted wetland mitigation areas,

Monitoring Requirements

Monitoring will be conducted during each maintenance event as follows:

1. Year 1-2 = Monthly
2. Year 3-4 = Quarterly
3. Year 5 = Bi-annually
4. Monitoring may be increased accordingly if the Adaptive Management Plan is implemented and additional maintenance or remediation of the mitigation area is required.

Monitoring reports will be provided yearly (within 60 days of end of cycle) until the five-year monitoring period is completed. Anytime that the conditions outlined in the “**Adaptive Management Plan**” are not met, a more aggressive monitoring and maintenance schedule will be initiated until the conditions of the Plan are again met. In the event of the need for such actions, a supplemental letter report will be prepared and submitted to the agencies. The supplemental letter report will include the reason for the increased monitoring and maintenance, any excursion(s) from the mitigation plan and the remediation efforts being conducted to bring the site back into compliance with the Plan.

REPORTING REQUIREMENTS:

- a. Perform a final **Baseline Monitoring Report** prior to initiating remedial actions,
- b. Perform a **Time-Zero** monitoring event of the wetland restoration area and submit to the agencies within 60 days of completion of the restoration objectives.
 - a. The Time-Zero report will include at least one paragraph re-stating the baseline conditions of the area prior to initiation of the work and a detailed plan view drawing of all created, enhanced and/or restored wetland areas.
- c. Subsequent to completion of the restoration actions, perform monthly, quarterly and bi-annual monitoring of the area as outlined above for the 5 years of monitoring.
- d. Submit monitoring reports as outlined above within 60 days of the end of each monitoring year.



REPORT FORMAT:

a. Project Overview:

- (1) Applicable Project Number(s): **SAJ-2001-06354, 200319-3060 and DF20-1062.**
- (2) Name and contact information: **Merrick Square – DR Horton.**
- (3) Name of party responsible for conducting the monitoring and the date(s) the inspections were conducted: **JJ Goldasich and Associates, Incorporated.**
- (4) A brief paragraph describing the purpose of the approved project, acreage and type of remediation actions conducted. **Project Purpose is to create, restore and enhance a freshwater lacustrine emergent wetland community of ±1.73 acres with grading, scraping and replanting to a UMAM value of 0.77 or higher.**
- (5) Written description of the location, any identifiable landmarks of the restoration project including information to locate the site perimeter(s), and coordinates of the restoration site (in latitude, longitude). **A copy of the creation, restoration and enhancement area site survey with the ±1.73-acre restoration area are shown overlaid on an aerial photograph of the site and attached to the report submittal.**
- (6) Dates restoration commenced and was completed.
- (7) Short statement on whether the performance standards are being met.
- (8) Dates of any recent corrective or maintenance activities conducted since the previous report submission.
- (9) Specific recommendations for any additional corrective or remedial actions or revisions to the **“Adaptive Management Plan”** that may be needed.

- a. **Requirements:** List the monitoring requirements and performance standards, as specified in the approved restoration plan and permit/license special conditions and evaluate whether the restoration and enhancement project site is successfully achieving the approved performance standards or trending towards success. A table will be used for comparing the performance standards to the conditions and status of the developing restoration site. A copy of the proposed Table is shown below:

Element	Pre-Restoration Condition	Post Restoration Condition	Remedial Actions <i>(Include a description of any remedial actions and why they are needed)</i>
Remove undesirable vegetation	4	1	
Scrape mitigation area	4	1	
Plant according to planting plan	4	1	
Maintain according to Permits			
• Plants	4	1	
• Hydrology	4	1	
• Soils	4	1	

1=good-meeting Plan criteria, 2=fair-partial achievement of plan criteria one factor, 3=poor-limited achievement of Plan criteria in more than one factor, 4=remediation needed (see discussion)

- b. **Summary Data:** A summary will be provided to substantiate the success and/or potential challenges associated with the restoration project. Photo documentation will be provided to support the findings and recommendations referenced in the monitoring report and to assist in evaluating whether the restoration project is meeting applicable performance standards for that monitoring period. Submitted photos will be on a standard 8 ½” x 11”



piece of paper, dated, and clearly labeled. The photo location points will be identified on the appropriate maps of the wetland area.

- c. **Maps and Plans:** Maps will be provided to show the location of the restoration site relative to other landscape features, habitat types, locations of photographic reference points, transects, sampling data points, and/or other features pertinent to the restoration plan. In addition, the submitted maps and plans will clearly delineate the restoration site perimeter. Each map or diagram will be formatted to print on a standard 8 ½” x 11” piece of paper and include a legend and the location of any photos submitted for review.
- d. **Conclusions:** A general statement will be included that describes the conditions of the restoration and enhancement project. If performance standards are not being met, a brief explanation of the difficulties and potential remedial actions proposed, including a timetable, will be provided. The Table above will be used in the summary and conclusions section to specifically identify which performance standards are being met, those that may not be met at the current time (if any) and specific remedial actions that may be needed (if any) to bring the area back into compliance.

Remediation

If the restoration fails to meet the performance standards 3 years after completion of the restoration and enhancement objectives, the restoration and enhancement project will be deemed unsuccessful. Within 60 days of notification by the agencies that the restoration and enhancement is unsuccessful, an alternate proposal sufficient to meet the original goals of the plan will be submitted. Within 120 days of agency approval, the remediation plan will be implemented and completed.

Long-term Management Plan

Long term maintenance of the mitigation area will be conducted on an as needed basis to maintain the area within the target conditions of the plan as defined by the “**Adaptive Management Plan**”. Following the initial 5-year monitoring and maintenance period, the area will be dedicated to a governmental entity if desired by both parties, for perpetual management as a high-quality wetland mitigation area. If a governmental agency does not accept dedication, the area will be maintained by the project Applicant (Merrick Square- DR Horton).

Adaptive Management Plan

The “**Adaptive Management Plan**” will be used as a guide to maintain the area as a wetland area as defined by the permits. Long term maintenance of the area should require minimal effort once the newly installed vegetation becomes established due to improved hydrological and soil conditions. Threats to long term maintenance of a natural wetland community located in such an area are limited to natural disasters such as fire and major storm events or regional changes to the hydrology. Restoration of the area will be conducted if any such event results in the area falling out of compliance.



Financial Assurances

Financial assurance will take the form of a Bond or Letter of Credit that will cover 110% of the projected restoration and enhancement costs, as well as the maintenance and monitoring for the first 5 years following Time-Zero reporting. The long-term management of the area following the initial 5-year period will be the responsibility of DR Horton or a local government entity. The cost estimate for this wetland mitigation plan including 10% contingency will be protected by financial assurances filed with the resource agencies.

Other Information

Additional information that may be generated during the permitting of the project and as a result of the Baseline, Time-Zero or restoration and enhancement work will be incorporated into the Plan and reported herein.

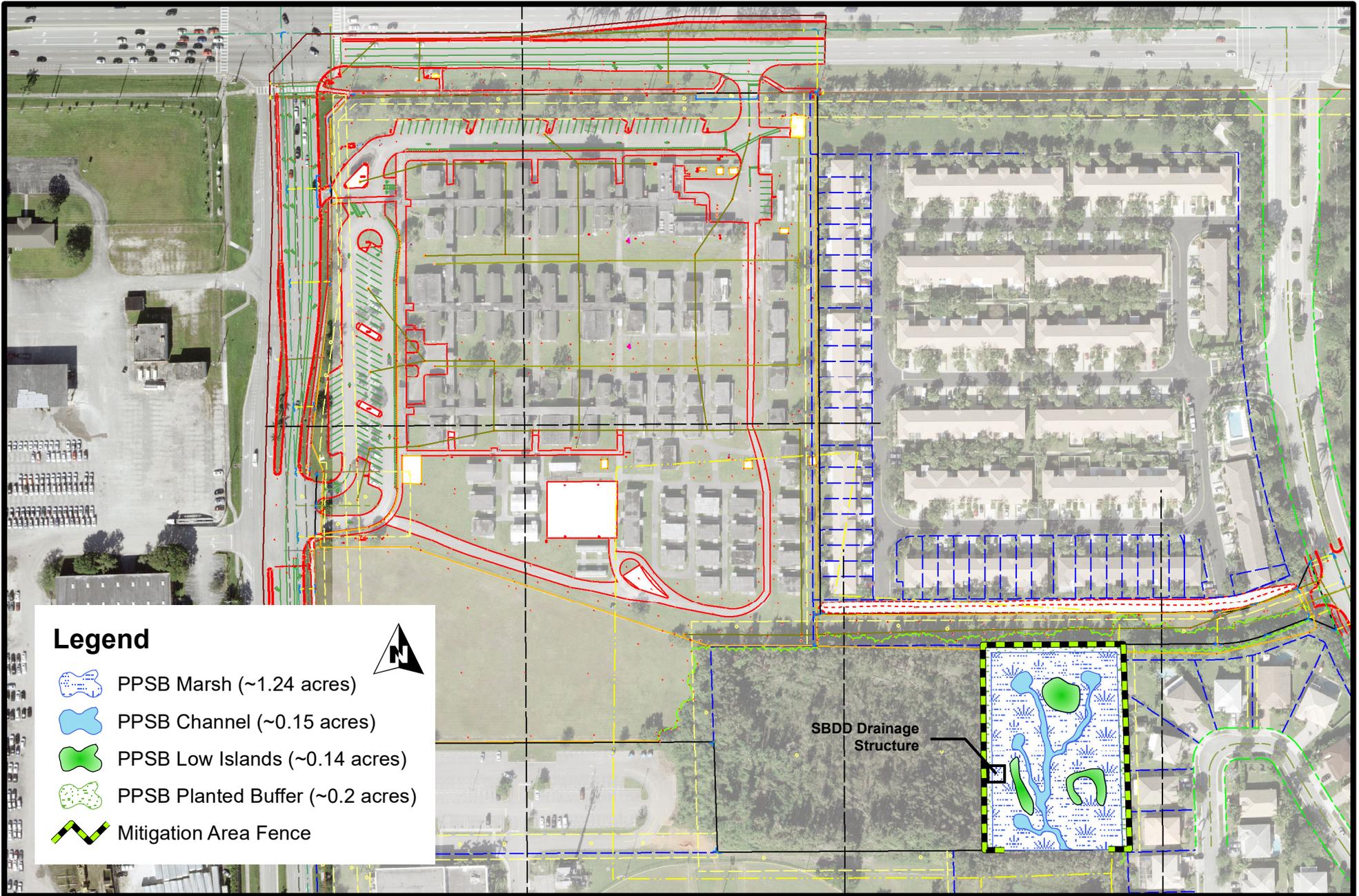
Perpetual Conservation

A conservation easement (CE) will be prepared, submitted and approved by the agencies that requires the perpetual protection of this entire restored and enhanced forested wetland area. In addition, the CE will be supplemented by dedication of this area to a governmental entity, if acceptable to both parties, after the initial 5-year monitoring and maintenance period. The CE will specifically include the following criteria and prohibited actions:

- a) Construction or placing buildings, roads, signs, billboards or other advertising, utilities or other structures on or above the ground are prohibited.
- b) Dumping or placing soil or other substance or material as landfill or dumping or placing of trash, waste or unsightly or offensive material.
- c) Removal or destruction of native and desirable trees, shrubs, or other vegetation.
- d) Excavation, dredging or removal of loam, peat, gravel, soil, rock, or other material substance in such a manner as to affect the surface of the wetland area.
- e) Surface use, except for purposes that permit the land or water area to remain predominantly in its natural condition.
- f) Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation.
- g) Acts or uses detrimental to such retention of land or water areas.
- h) Acts or uses that may be detrimental to native wildlife utilization of the restored and enhanced wetland area.
- i) Acts or uses detrimental to the preservation of the structural integrity or the physical appearance of sites or properties of historical, architectural, or cultural significance.



DR Horton - Proposed 1.73 Acre Wetland Mitigation and Buffer



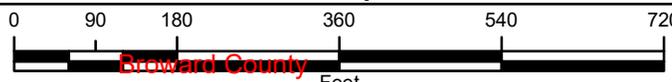
Legend

-  PPSB Marsh (~1.24 acres)
-  PPSB Channel (~0.15 acres)
-  PPSB Low Islands (~0.14 acres)
-  PPSB Planted Buffer (~0.2 acres)
-  Mitigation Area Fence



SBDD Drainage Structure

Initial Date: 02/22/2019 Revised: 08/19/2019



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J. J. Goldasich and Associates, Incorporated



Ecological Services
Natural System Analysis

(561) 883-9555
jjg@jjgoldasich.com

DR Horton
Proposed Mitigation over Aerial
City of Pembroke Pines
Broward County, Florida

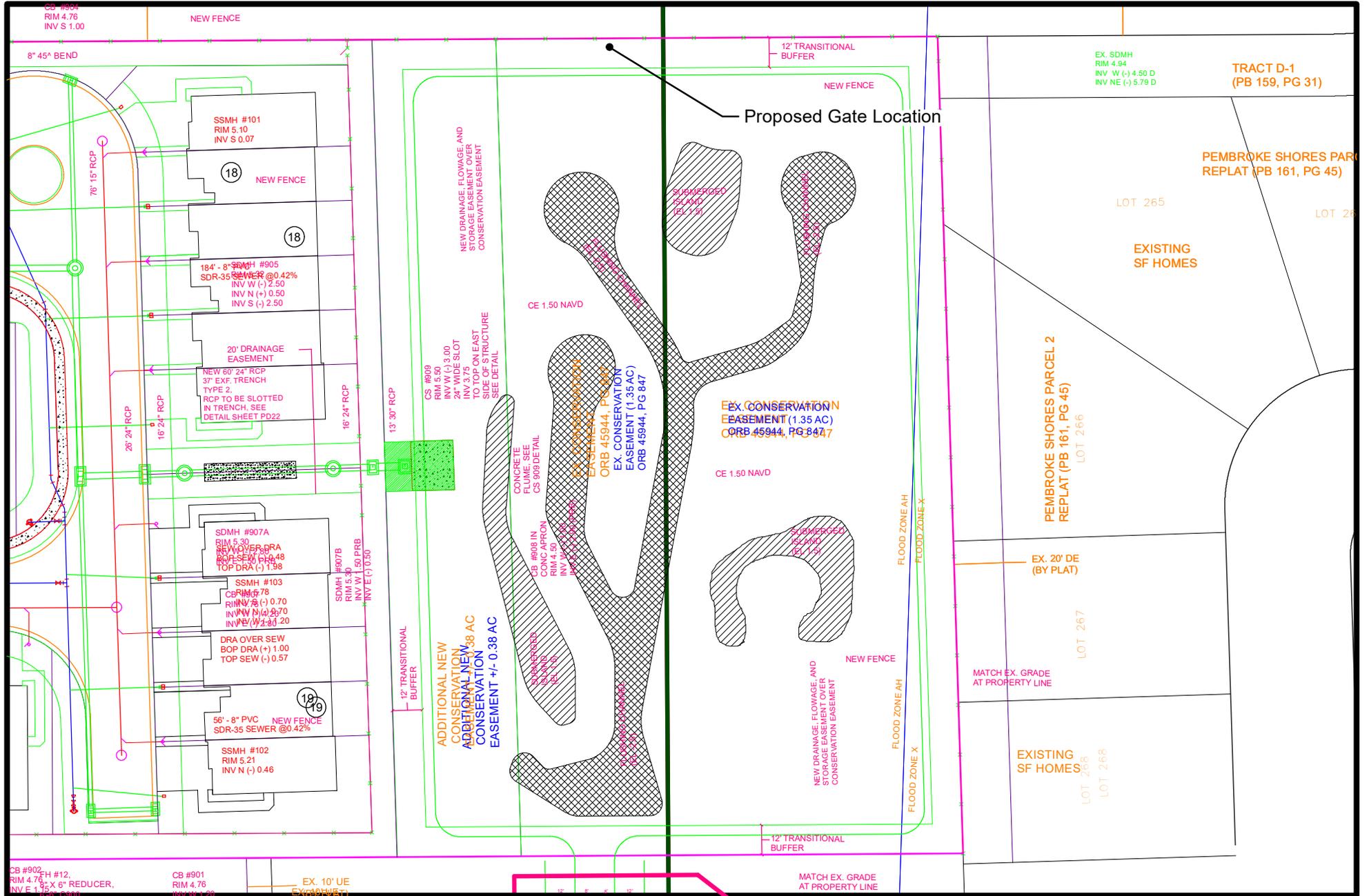
**Proposed
Onsite
Mitigation**

DR Horton Pembroke Pines
Proposed Planting Plan
Wetland Mitigation Area

Marsh					
Common Name	Scientific Name	Plant Spacing (On Center)	Size	~Area Planted (acres)	Total Quantity
Freshwater Marsh Plantings					
duck potato	<i>Sagittaria latifolia</i>	2	bare root	0.40	5,012
pickerel weed	<i>Pontederia cordata</i>	2	bare root	0.40	5,012
gator flag	<i>Thalia geniculata</i>	2	bare root	0.10	1,253
spike rush	<i>Eleocharis cellulosa</i>	2	bare root	0.10	1,253
canna lily	<i>Canna x generalis</i>	2	bare root	0.05	627
cord grass	<i>Spartina bakerii</i>	2	1 gallon	0.10	1,253
muhly grass	<i>Muhlenbergia capillaris</i>	5	1 gallon	0.10	1,253
Total Emergent Plants					15,663
Submerged Island Plantings					
red maple	<i>Acer rubrum</i>	15	10 gallon	0.05	15
red maple	<i>Acer rubrum</i>	15	7 gallon	0.10	29
cypress	<i>Taxodium distichum</i>	15	7 gallon	0.10	29
cypress	<i>Taxodium distichum</i>	15	10 gallon	0.05	15
dahoon holly	<i>Ilex cassine</i>	15	7 gallon	0.03	9
dahoon holly	<i>Ilex cassine</i>	15	10 gallon	0.01	3
Pond apple	<i>Annona glabra</i>	15	7 gallon	0.10	29
Total Island Plants					128
Upland Buffer Plantings					
laurel oak	<i>Quercus laurifolia</i>	15	7 gallon	0.10	29
slash pine	<i>Pinus elliotii</i>	15	10 gallon	0.05	15
dahoon holly	<i>Ilex cassine</i>	15	7 gallon	0.07	20
dahoon holly	<i>Ilex cassine</i>	15	10 gallon	0.05	15
red maple	<i>Acer rubrum</i>	15	10 gallon	0.05	15
cord grass	<i>Spartina bakerii</i>	2	1 gallon	0.20	2,506
muhly grass	<i>Muhlenbergia capillaris</i>	5	1 gallon	0.20	2,506
Total Buffer Plants					5,105
12,530 = 2' OC	<u>MINIMUM PLANTS PER ACRE</u>				
5,585 = 3' OC					
2,012 = 5' OC					
<p>All plants will be installed at 2' OC or closer. The wetland areas will contain a minimum of 6 inches of suitable wetland soils and be constructed no deeper than 3 feet below DWE. Plantings will be installed immediately following wetland construction and concurrent with development. Monitoring Reports will be provided to all agencies at: TIME ZERO, 90 DAYS, 180 DAYS and 360 DAYS after TIME ZERO report for year one and yearly thereafter. Maintenance of the area will maintain a minimum of 80% coverage of native wetland plants and 80% survivorship of the installed plants from the 180 day monitoring period through all subsequent monitoring events. If the areas fall below any criterion, the remedial actions contained in the ADAPTIVE MANAGEMENT PLAN will be implimented.</p>					

DR Horton; 1.73 Acre Wetland Mitigation Area, Adjacent Lots and Drainage Structure

Document Path: F:\My Documents\DR Horton\School Board PP Site\Aerial_with_Mitigation-Monitoring-Plan19-1447_v2-09-03-2020.mxd



Initial Date: 02/22/2019	Revised: 12/07/2020
Broward County	
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J. J. Goldasich and Associates, Incorporated

Ecological Services
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(561) 883-9555
jig@jigoldasich.com

Merrick Square-DR Horton

Wetland Mitigation Area
with Drainage Structure
Broward County, Florida

Mitigation Area with Drainage Structure

Mitigation Action	Unit	Quantity	Cost / Unit	Estimated Cost
Earthwork	CY	8,000	\$6.50	\$52,000.00
Planting (per Planting Plan)	AC	1.73	\$10,000.00	\$17,300.00
Maintenance	EA	20	\$3,500.00	\$70,000.00
Monitoring	EA	20	\$3,000.00	\$60,000.00
SFWMD Contingency	EA	1	10% of Total	\$19,930.00
Sub-Total				\$199,300.00
Total with Contingency				\$219,230.00