



**A G E N D A**  
**ORMOND BEACH PLANNING BOARD**  
**Regular Meeting**

**May 12, 2016**

**7:00 PM**

**City Commission Chambers**  
22 South Beach Street  
Ormond Beach, FL

PURSUANT TO SECTION 286.0105, FLORIDA STATUTES, IF ANY PERSON DECIDES TO APPEAL ANY DECISION MADE BY THE PLANNING BOARD WITH RESPECT TO ANY MATTER CONSIDERED AT THIS PUBLIC MEETING, THAT PERSON WILL NEED A RECORD OF THE PROCEEDINGS AND FOR SUCH PURPOSE, SAID PERSON MAY NEED TO ENSURE THAT A VERBATIM RECORD OF THE PROCEEDING IS MADE, INCLUDING THE TESTIMONY AND EVIDENCE UPON WHICH THE APPEAL IS TO BE BASED.

PERSONS WITH A DISABILITY, SUCH AS A VISION, HEARING OR SPEECH IMPAIRMENT, OR PERSONS NEEDING OTHER TYPES OF ASSISTANCE, AND WHO WISH TO ATTEND CITY COMMISSION MEETINGS OR ANY OTHER BOARD OR COMMITTEE MEETING MAY CONTACT THE CITY CLERK IN WRITING, OR MAY CALL 677-0311 FOR INFORMATION REGARDING AVAILABLE AIDS AND SERVICES.

- I. ROLL CALL**
- II. INVOCATION**
- III. PLEDGE OF ALLEGIANCE**
- IV. NOTICE REGARDING ADJOURNMENT**

THE PLANNING BOARD WILL NOT HEAR NEW ITEMS AFTER 10:00 PM UNLESS AUTHORIZED BY A MAJORITY VOTE OF THE BOARD MEMBERS PRESENT. ITEMS WHICH HAVE NOT BEEN HEARD BEFORE 10:00 PM MAY BE CONTINUED TO THE FOLLOWING THURSDAY OR TO THE NEXT REGULAR MEETING, AS DETERMINED BY AFFIRMATIVE VOTE OF THE MAJORITY OF THE BOARD MEMBERS PRESENT (PER PLANNING BOARD RULES OF PROCEDURE, SECTION 2.7).

- V. APPROVAL OF THE MINUTES:** April 14, 2016
- VI. PLANNING DIRECTOR'S REPORT**
- VII. PUBLIC HEARINGS**

**A. S 2016-073: River Oaks, Phase II, Preliminary Plat**

This is a request by Scott Vanacore, River Oaks of Ormond Beach, LLC, for preliminary plat approval of 54 lots within the River Oaks subdivision, Phase II.

- VIII. OTHER BUSINESS**
- IX. MEMBER COMMENTS**
- X. ADJOURNMENT**

**M I N U T E S**  
**ORMOND BEACH PLANNING BOARD**  
**Regular Meeting**

April 14, 2016

7:00 PM

**City Commission Chambers**  
22 South Beach Street  
Ormond Beach, FL 32174

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**I. ROLL CALL**

Members Present

Patricia Behnke  
Harold Briley, Vice Chair  
Lewis Heaster  
Al Jorczak  
Rita Press  
Lori Tolland (arrived 7:05 PM)  
Doug Thomas, Chair

Staff Present

Ric Goss, Planning Director  
Steven Spraker, Senior Planner  
Melanie Nagel, Recording Technician

**II. INVOCATION**

Mr. Heaster led the invocation.

**III. PLEDGE OF ALLEGIANCE**

**IV. NOTICE REGARDING ADJOURNMENT**

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**V. MINUTES**

**March 10, 2016**

Mr. Jorczak moved to approve the March 10, 2016 Minutes as presented. Mr. Briley seconded the motion. Hearing no objections, the minutes were unanimously approved.

## **VI. PLANNING DIRECTOR'S REPORT**

No report.

## **VII. PUBLIC HEARINGS**

### **A. SE 2016-062: Perrine's Produce & Deli, 120 South Nova Road: Special Exception for Outdoor Activity**

Mr. Steven Spraker, Senior Planner, stated that this is a request for a Special Exception for Perrine's Produce & Deli, within the Rivergate Shopping Center. Mr. Spraker showed the overall outline of the shopping center where the store is located, and explained where the outdoor display would be. The display will be 42" wide, and there will be 58" between the display and the column, and the exhibit has been reviewed by the Site Plan Review Committee and it is consistent with all applicable codes.

Mr. Spraker continued that an Outdoor Activity is a Special Exception in our Land Development Code, and needs to get a review/recommendation from the Planning Board and then approval/denial or "approval with conditions" by the City Commission. Staff is recommending approval.

Mr. Briley asked if it was 10' out to the edge of the sidewalk. Mr. Spraker stated that it is 14.5' from the building to the edge of the sidewalk, and 10' from the display. The display is 58" to the column, so it meets handicap accessibility, and was reviewed by our Chief Building Official and Fire Inspectors review it.

Ms. Behnke stated that she believes that 5' is required for handicap accessibility and the 58" clearing would be just shy of that. Mr. Spraker stated that 4' is required for ADA access. Ms. Behnke stated that she is thrilled that Perrine's is opening.

Mr. Jorczak asked what kind of signage will be permitted. Mr. Spraker stated that specific standards for signs have not been included.

Mr. Heaster asked how this outdoor display is different from the outdoor seating at Einstein and the pizza place. Mr. Spraker explained that outdoor seating at a restaurant is allowed within the Land Development Code as a conditional use, and the SPRC can approve it, if it has no impact on pedestrian safety. Outdoor seating at a restaurant does not require a Special Exception.

Mr. Heaster asked about Lowe's Special Exception, and how they are stacking chairs 10-20' high by overstepping their bounds with what was being granted to them. Chairman Thomas stated that he sees a huge difference between a mom and pop business and a big box store.

Ms. Press asked if the display that the produce will be on, as shown in the pictures provided, has hinges, and she was wondering if the display will be taken inside each night. Mr. Spraker stated that he will allow the applicant to comment on this.

Ms. Press wanted to know that if the shopping center thinks this is a great idea, and it wants to allow other stores to have outside displays, is it possible for the shopping center itself to get a Special Exception that allows other stores to do the outside displays. Mr. Spraker stated that the shopping center could do a Master Special Exception, with details showing the areas that would allow displays. The process is the same, whether it is a tenant or the shopping center.

Ms. Press stated that on Page 5 of the Staff Report it states that if the Special Exception is approved, the property would still be eligible for Outdoor Activities, as the City allows four times per year. Ms. Press asked why this would be necessary, when the applicant can have produce out all year. Mr. Spraker stated that the Special Exception is for the 42" x 20' area, but if the applicant wants to do a sidewalk sale or some other event and use more of the sidewalk area, they can apply for an Outdoor Activity.

Ms. Tolland stated that this is an interesting idea, since there are already tables outside at Einstein, and this will help create a nice atmosphere for the shopping center. Ms. Tolland thinks it is a great idea.

Applicant, Junior Perrine, 2515 S. Atlantic Ave, Daytona Beach Shores, stated that he and his wife have lived in Volusia County for 8 years, and they have had their business since 1998. Ms. Behnke asked if the display racks are at ground level or if they will be raised up. Mr. Perrine explained that they will be a display to the ground level, but the produce will be up on top of the display. Ms. Behnke then asked what the plan is for advertising. Mr. Perrine explained that there will be signs on the displays, but none along the road.

Mr. Jorczak also asked about the layout for advertising purposes, and what would be the most effective way to set up the display. Mr. Perrine explained that the glass windows do not run to the ground, and there is a ledge below the windows, and all signs will be kept below that ledge. Mr. Jorczak also thinks this is a welcome addition to the City of Ormond Beach.

**Mr. Briley moved to approve SE 2016-062: Perrine's Produce & Deli Special Exception for Outdoor Activity. Mr. Jorczak seconded the motion. Vote was called, and the motion unanimously approved (7-0).**

**B. RZ 2016-024: 500 North Tymber Creek Road, Amendment to Official Zoning Map**

Mr. Steven Spraker, Senior Planner, stated that this is a request for a rezoning. Originally this came before the Planning Board in January, and as it was moving forward to City Commission, Planning staff realized that it should have done a better job of identifying the area that is currently an Environmental Systems Corridor, and the land use will be Open Space Conservation. Open Space Conservation is consistent with every zoning district, so going to REA would be perfectly acceptable. The zoning map will actually highlight the area to show that it is a special environmental area.

Ms. Tolland asked Mr. Spraker to explain the difference between a Resource Corridor and Special Environmental, and what can be done in each one. Mr. Spraker explained that a Resource Corridor is a County land use designation that states it is environmentally sensitive land. The Special Environmental is a similar

type of land use and zoning to the County for the Environmental Systems Corridor. It is more compatible than just putting the zoning for the entire area as REA. It is a way to show on the Zoning Map what the land use is.

Ms. Tolland asked if in the future there would be differences in what could be built on this land. Mr. Spraker explained that you wouldn't be able to build in that area. This land is an environmentally sensitive area, and if someone wants to make an argument that it has changed over time, they would have to apply for a Land Use and Zoning change, and show what has changed.

Mr. Heaster asked if there were wetlands there, since he is curious as to how this designation came about in the first place, and why it still exists. Mr. Spraker explained that Land Use and Zoning are being done for annexation. The City doesn't have the data analysis to say that the land has changed or why it has changed. If the applicant would like to do that, they can go through that process.

Ms. Press stated that she also was thinking that if she were the applicant, she would wonder why the property wasn't all REA, allowing the applicant to have the garden center. Mr. Spraker stated that there are certain things, such as storm water retention, to further aid in the use of the land.

Mr. Ric Goss, Planning Director, explained that there is a Comp Plan policy that when the City annexes, they give the same Land Use and Zoning that was designated in the County. If the applicant wants something more, they have to pay for it. Also, when people look at just the zoning map, they think they can use the entire parcel based on the map, and then after purchasing the property, wonder why no one told them about not being able to use part of their land.

**Mr. Jorczak moved to approve RZ 2016-024: 500 North Tymber Creek Road, Amendment to Official Zoning Map. Mr. Heaster seconded the motion. Vote was called, and the motion unanimously approved (7-0).**

## **VIII. OTHER BUSINESS**

Mr. Jorczak stated that recently the City put out a survey for Transportation Planning, which he took time to complete. Mr. Jorczak asked Mr. Goss to explain what prompted the action, what kind of a response have they received to date to the inquiry, and how the information will be used in the plan. Mr. Goss explained that the survey was designed to ascertain what the people expect from the transportation system, whether it be roads, multi-modal transit, or do they want more non-motorized transportation. The concentration is always on roads and not much is done with other types of transportation. Part of the survey is to find out what the people really want.

Mr. Goss continued that it was designed to get more input from the average resident and business person, with regard to transportation needs. This input will be prioritized for figuring out how to designate where the money will be spent for transportation in the future. Mr. Jorczak asked if this survey could help with respect to extending Hand Avenue and solving some of the St. Rt. 40 congestion problems. Mr. Goss explained that it will only help if people in this area, affected by the problems on our roads, respond. If responses come from other parts of the

county, but very few from our area, then it will be assumed that everything is o.k. in our area. It is designed to find out the transportation needs county-wide.

Mr. Goss continued that we are trying to get the information out to people via web sites. Mr. Jorczak asked if the other cities also have access to the survey. Mr. Goss stated that they do, and that is why it is important for people to get it out on their web sites and encourage people to complete it.

## **IX. MEMBER COMMENTS**

Ms. Press wanted to know about the RV parking area that is going in on Orchard Street. Mr. Goss explained that they have the area paved, but they are trying to find funding to build the wall. If they don't build the wall, they can't get a CO from the City.

Ms. Press also commented that the new Neighborhood Improvement Manager, Chris Mason, made a presentation at the library that was so informative, and he spoke about all of the new codes and what they are doing about the vacant homes that are deteriorating. Ms. Press thinks the Planning Board would be well advised to learn and know these things, and if there is ever a light schedule for a Planning Board meeting, would like to see this presentation be made before the Board. She stated that it may be a good idea to do it in conjunction with the Quality of Life Board.

Chairman Thomas thought this would be a great idea for the Board to see the presentation, but not to schedule it on a night when there are items where many people are showing up to speak on an issue. He thinks the meeting will be very informative.

Mr. Jorczak wondered if there was anything that can be done about the amount of trash along the side of the road on US1, especially along the east side in the estuary areas. It is the gateway entrance to our City and looks like a garbage dump. It is believed that garbage trucks lose a lot of stuff out of their trucks. Both Ms. Tolland and Ms. Press wondered if the Adopt a Highway program could get some people to step forward and help keep it clean. Mr. Jorczak stated that so much of the area is under water, and would be difficult to get people in to clean everything up.

Chairman Thomas has heard that a lot of it is blowing out of the garbage trucks, so the City should send someone to talk to Waste Pro and tell them to figure out how to keep the trash covered, and the company who is hauling the trash out of the City needs to keep it covered. Mr. Goss stated that he would talk to someone about this.

Chairman Thomas stated that the new plantings on US1 look great, and it is a wonderful beautification as people come into the City. Mr. Jorczak stated that the new signage at SR40 & I95 also looks really nice. Mr. Briley had heard that the lights shining on the signage had been vandalized. Mr. Goss stated that the lights are being re-designed with cages on them.

Ms. Tolland asked what the ruling was for homeless sitting along the road. Chairman Thomas stated that the homeless are not allowed to set along the side of the road and solicit money, both at SR40 & I95, and at I95 & US1. Mr. Goss stated

that there is a Panhandling Law, and at the Commission meeting there was an update to it. They can loiter, but can't panhandle.

Chairman Thomas stated that he has had so many people talk about how special Ormond Beach is. When he was on the committee that helped evaluate for the new Police Chief, and when people from Tallahassee came to facilitate the meeting, they were overwhelmed by what a great community Ormond Beach is.

**X. ADJOURNMENT**

The meeting was adjourned at 7:44 p.m.

Respectfully submitted,

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Steven Spraker, AICP, Senior Planner

ATTEST:

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Doug Thomas, Chair

*Minutes transcribed by Melanie Nagel.*

# STAFF REPORT

## City of Ormond Beach

### Department of Planning

**DATE:** May 4, 2016

**SUBJECT:** River Oaks, Phase II, Preliminary Plat

**APPLICANT:** Scott Vanacore, River Oaks of Ormond Beach, LLC

**NUMBER:** 2016-073

**PROJECT PLANNER:** Steven Spraker, AICP, Senior Planner

**INTRODUCTION:** This is a request by Scott Vanacore, River Oaks of Ormond Beach, LLC, for preliminary plat approval of 54 lots within the River Oaks subdivision, Phase II.

**BACKGROUND:** On December 4, 2003 the Volusia County Council approved Resolution 2003-212, a Planned Unit Development agreement for a 101 single-family-lot subdivision titled "River Oaks" on 58.28 acres, with a gross density of 1.73 units per acre. Through the Volusia County review process, the City of Ormond Beach was granted opportunities to review and provide comment on the subject project. The project developer offered, in 2003, to defer construction of the project for four years to allow area road projects in the Tymber Creek and Airport Road areas to occur. The following City approvals have occurred:

- August 2, 2005: Ordinance 2005-014, the City annexed the River Oaks subdivision.
- December 1, 2005: Ordinance 2005-016, a City land use designation of "Suburban Low Density Residential" was approved.
- January 17, 2006: Ordinance 2005-062, a zoning designation of Planned Residential Development (PRD) was approved, utilizing the Volusia County development agreement.
- December 18, 2007: Resolution 2007-226, a Preliminary Plat for the 101 unit subdivision was approved.
- June 2, 2014: Ordinance 2014-023, the Final Plat for River Oaks that platted 47 lots was approved by the zoning designation and preliminary plat.

The subdivision improvements started in 2010 and have been ongoing. With the phase 1 plat improvements, all water and sewer improvements were installed for the entire subdivision. Construction of single-family houses has utilized a majority of the 47 lots within the first phase of subdivision and the applicant is seeking to plat the remaining 54 subdivision lots.

**ANALYSIS:** The site is designated “Suburban Low Density Residential” (SLDR) on the City’s Future Land Use Map and is zoned PRD (Planned Residential development). The following table shows the surrounding land uses and zoning:

**Adjacent land uses and zoning:**

	<b>Uses</b>	<b>Land Use designation</b>	<b>Zoning designation</b>
<b>North</b>	Across Airport Road: Ormond Green & Proposed “Pineland”	“Suburban Low Density Residential” (SLDR)	SR (Suburban Residential)
<b>South</b>	Across Tomoka River: Bermuda Estates	“Medium Density Residential” (MDR) “High Density Residential” (HDR) Special Environmental (SE)	R-5 (Multi-Family Medium Density) R-6(Multi-Family High Density) SE (Special Environmental) PRD Overlay
<b>East</b>	Single Family: Broadwater	“Urban Low Density Rural Residential”	County A-2 (Rural Agricultural) RR (Rural residential)
<b>West</b>	Across I-95: Calvary Church	“High Density Residential” (HDR) “Tourist Commercial”	R-6(Multi-Family High Density) B-7 (Tourist Commercial)

Below is an aerial picture of the site:



The preliminary plat is required to be approved by the City Commission after review and recommendation of the Planning Board. The preliminary plat includes the construction drawings utilized for the subdivision improvements and a preliminary plat document. The subdivision construction is consistent with Volusia County Council Resolution 2003-212 that approved the subdivision layout and buffers and was adopted by the City as the property was annexed into Ormond Beach.

### **CONCLUSION:**

There are certain criteria that must be evaluated before a Preliminary Plat can be approved. According to Article I of the Land Development Code, The Planning Board shall consider the following in making its recommendation:

- (1) The proposed development conforms to the standards and requirements of this Code and will not create undue crowding beyond the conditions normally permitted in the zoning district, or adversely affect the public health, safety, welfare or quality of life.**

The Site Plan Review Committee has reviewed the proposed Preliminary Plat and it is consistent with the Land Development Code and the development agreement (Volusia County Council Resolution 2003-212) that became the property's zoning designation when annexed into the City.

- (2) The proposed development is consistent with the Comprehensive Plan.**

The property is designated "Suburban Low Density Residential" on the City's Future Land Use Map. The City's Comprehensive Plan identifies that the SLDR land use category be located in the outlying suburban areas of the City where the intensity of development is approximately 20% to 30% less than in the urban core, maximum potential densities to be determined on a case-by-case basis, based on site-specific

conditions, ranging from 0.2 to 6.0 units per acre. The gross density of the subdivision is 1.73 units per acre. The proposed Preliminary Plat is consistent with the land use designation and the City’s Comprehensive Plan. The development is specifically consistent with the following:

Future land Use Element

OBJECTIVE 1.1.	Ensure the availability of adequate lands to meet the residential land use needs of the community.
POLICY 1.1.2.	Continue to promote sound planning for the location and design of new residential developments including on-site common open space and recreation facilities.
POLICY 1.1.6.	Provide the opportunity, through zoning and other land use controls, for the development of a variety of housing types (i.e., single-family, duplex, townhouse, multi-family) in both conventional, planned unit and cluster type developments, that will meet the varied needs of the citizens of Ormond Beach.
POLICY 1.1.8.	Maintain the holding capacity requirement of the SLDR land use designation in the Land Development Code.

Housing Element

<b>OBJECTIVE 1.1.</b>	The City shall continue to facilitate the private production of a housing supply, including adequate sites for mobile homes or manufactured housing and low and moderate income housing, which will meet future community needs and offset housing deficiencies as noted in this Element.
POLICY 1.2.1.	The general residential development pattern in the City should be in accord with the community’s growth strategy for residential densities, as stipulated within the Future Land Use Element.
POLICY 1.2.2.	Large scale residential development shall be required to provide a wide range of services and facilities in accordance with their relative size of development, in order to meet the needs of their residents and eliminate or reduce direct or indirect cost in providing such facilities by the general public.

**(3) The proposed development will not adversely impact environmentally sensitive lands or natural resources, including but not limited to waterbodies, wetlands, xeric communities, wildlife habitats, endangered or threatened plants and animal species or species of special concern, wellfields, and individual wells.**

The site has a Class I wetland that is connected with the Tomoka River. This wetland has been protected with a 50' upland buffer. The remainder of the site is not in the flood zone and no other wetlands exist on-site.

- (4) The proposed use will not substantially or permanently depreciate the value of surrounding property; create a nuisance; or deprive adjoining properties of adequate light and air; create excessive noise, odor, glare, or visual impacts on the neighborhood and adjoining properties.**

The proposed preliminary plat is consistent with the approved Planned Residential Development. The proposed density is comparable to existing and proposed subdivisions within the Airport Road and Tymber Creek Road corridors. The applicant has provided natural buffers along the interface with existing residential uses and larger lots where the property abuts the Broadwater subdivision.

- (5) There are adequate public facilities to serve the development, including but not limited to roads, sidewalks, bike paths, potable water, wastewater treatment, drainage, fire and police safety, parks and recreation facilities, schools, and playgrounds.**

The project's roadways impacts are within adopted City Level of Service standards as determined by an approved Traffic Impact Analysis. There is adequate capacity in the public infrastructure to serve this project. Sidewalks are provided internally for safe pedestrian movement. The applicant is providing outdoor recreation facilities per the Planned Residential Development approval for the subdivision.

- (6) Ingress and egress to the property and traffic patterns are designed to protect and promote motorized vehicle and pedestrian/bicycle safety and convenience, allow for desirable traffic flow and control, and provide adequate access in case of fire or catastrophe. This finding shall be based on a traffic report where available, prepared by a qualified traffic consultant, engineer or planner which details the anticipated or projected effect of the project on adjacent roads and the impact on public safety.**

The approval with Volusia County Council Resolution 2003-212 contained a detailed traffic study that identified issues around the project area. The applicant agreed as part of the subdivision approval to defer construction until the Volusia County projects (intersection improvements at Airport Road and Tymber Creek Road and widening of Tymber Creek Road occurred). There is adequate traffic capacity, as determined with the 2003 approval, for the construction of the subdivision. Concurrency management reviews have incorporated the River Oaks subdivision as vested trips since its approval.

- (7) The proposed development is functional in the use of space and aesthetically acceptable.**

The subdivision was approved in 2003 as a Planned Residential Development and the preliminary plat implements the Planned Residential Development approval. The use of space, subdivision amenities, and aesthetics are consistent with the Planned Residential Development.

**(8) The proposed development provides for the safety of occupants and visitors.**

The Volusia County Council Resolution 2003-212 approved the subdivision layout and the preliminary plat is consistent with the approved plan. The plan provides safety for occupants and visitors.

**(9) The proposed use of materials and architectural features will not adversely impact the neighborhood and aesthetics of the area.**

The project is required to have a Homeowners Association (HOA) that will use a Design Review Committee to maintain architectural controls within the development. The HOA documents will outline rules governing the construction of buildings and structures on individual lots, in order to encourage aesthetics and harmony within the development.

**(10) The testimony provided at public hearings.**

This project has not been reviewed by any advisory Board, so no public testimony has been provided. Any comments at the Planning Board shall be provided to the City Commission.

**RECOMMENDATION:** It is recommended that the Planning Board **APPROVE** the preliminary plat for 54 lots for Phase 2 of the River Oaks subdivision. The preliminary plat is consistent with the approved Planned Residential Development zoning.

Attachments:

- 1: Location Map
- 2: Construction site plans
- 3: Draft plat document

# **ATTACHMENT 1**

Location maps



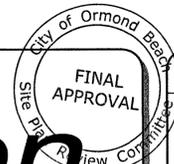
River Oaks Subdivision aerial map



# **ATTACHMENT 2**

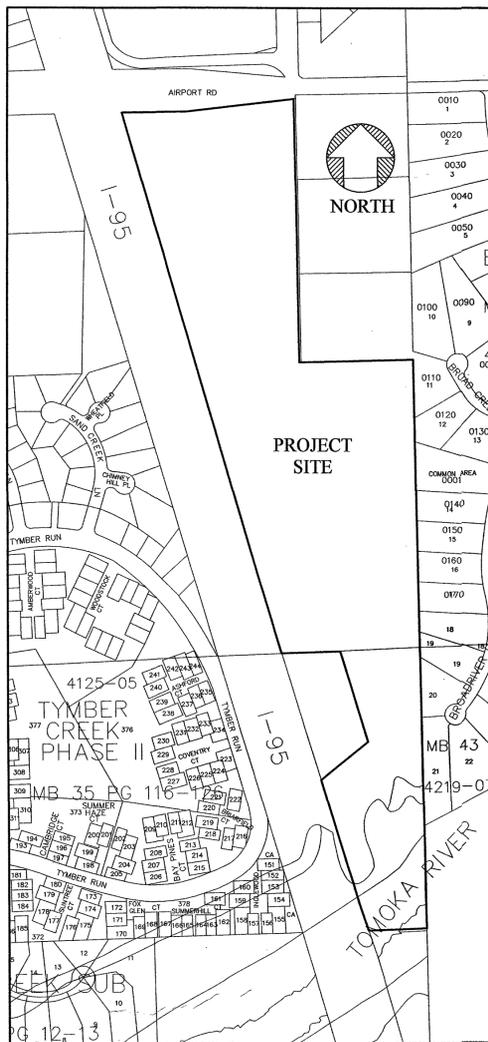
Construction drawings

# River Oaks of Ormond Beach Subdivision

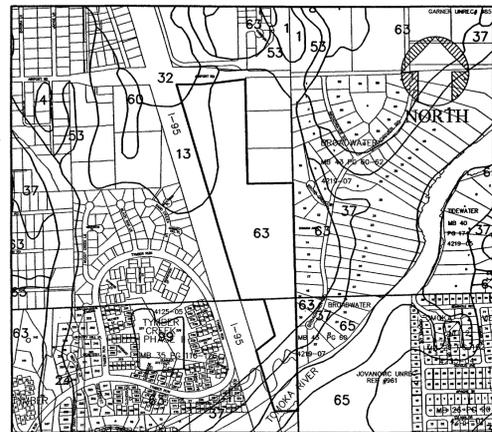


## Phase I Final Plat

ORMOND BEACH VOLUSIA COUNTY FLORIDA

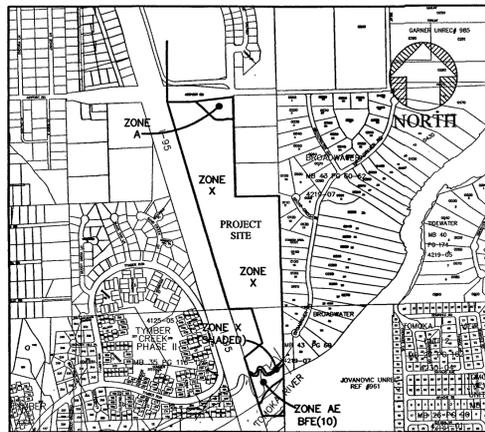


VICINITY MAP  
SCALE: 1" = 400'



SOILS MAP  
SCALE: 1" = 1000'  
SOIL SURVEY OF VOLUSIA COUNTY, FLORIDA - SHEET #17

SOIL NUMBER	SOIL TYPE
13	CASSIA FINE SAND
32	MYAKKA FINE SAND
37	ORNSINO FINE SAND, 0 TO 5 PERCENT SLOPES
63	TAVARES FINE SAND, 0 TO 5 PERCENT SLOPES
65	TERRA CEIA MUCK



FLOOD ZONE MAP  
SCALE: 1" = 1000'

FLOOD ZONE A - NO BASE FLOOD ELEVATION DETERMINED  
FLOOD ZONE AE - BASE FLOOD ELEVATION DETERMINED  
FLOOD ZONE X - AREAS DETERMINED TO BE OUTSIDE 500 YEAR FLOOD PLAIN.  
FLOOD ZONE X (SHADED) - AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 100-YEAR FLOOD.

FLOOD INSURANCE RATE MAP - FEMA - VOLUSIA COUNTY, FLORIDA  
PANEL 213 OF 930, MAP #12127C0213H, EFFECTIVE DATE: FEB 19, 2003



### GENERAL SITE DATA:

- TOTAL ACREAGE: 58.292 AC. (100%)  
R.O.W. DEDICATION TO VOLUSIA CO.: 0.077 AC. (0.13%)  
RIGHT-OF-WAYS: 6.246 AC. (10.72%)  
LOTS: 23.752 AC. (40.75%)  
RETENTION PONDS @ NWL: 6.168 AC. (10.58%)  
LIFT STATION PARCEL: 0.026 AC. (0.04%)  
POCKET PARK: 0.530 AC. (0.91%)  
OPEN AREAS: 3.808 AC. (6.53%)  
LOT AREA IN CONSERVATION AREA: 3.214 AC. (5.52%)  
NATURAL PRESERVATION BUFFER: 6.401 AC. (10.98%)  
NAT. PRES. BUFFER IN CONSERV. AREA: 0.559 AC. (0.96%)  
TOMOKA RIVER: 2.517 AC. (4.32%)  
OPEN SPACE IN CONSERVATION AREA: 0.271 AC. (0.46%)  
CONSERVATION AREA: 4.723 AC. (8.10%)
- TOTAL UNITS = 101
- DENSITY: 1.733 UNITS PER ACRE
- PARCEL # 4124-00-00-0040

### COMMON OPEN SPACE:

TOTAL COMMON OPEN SPACE REQUIRED: 11.66 ACRES  
TOTAL COMMON OPEN SPACE PROVIDED: 13.26 ACRES

### CHARACTER AND INTENDED USE OF THE DEVELOPMENT:

Single Family Subdivision consisting of 101 lots, 1 pocket park and 4 retention ponds.

### LOCATION:

SOUTH OF AIRPORT ROAD, EAST OF AND ADJACENT TO INTERSTATE 95.

### SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	OVERALL DEVELOPMENT PLAN
3	COMPOSITE DEVELOPMENT PLAN - NORTH
4	COMPOSITE DEVELOPMENT PLAN - SOUTH
5	CLEARING, EROSION CONTROL AND CONSTRUCTION SEQUENCING PLAN
6	LOT GRADING PLAN - NORTH
7	LOT GRADING PLAN - SOUTH
8-13	PLAN AND PROFILE SHEETS
14	OFF-SITE ROAD CONSTRUCTION - AIRPORT ROAD
15	FLOODPLAIN DELINEATION AND IMPACT PLAN
16	SANITARY SEWER DETAILS AND NOTES
17	POTABLE WATER DETAILS
17A	POTABLE WATER NOTES
18	STORMWATER DETAILS & NOTES
19	ROADWAY DETAILS AND NOTES
20	LIFT STATION DETAILS AND NOTES
21	MISCELLANEOUS DETAILS AND NOTES
22,24	PHASE-I SUBDIVISION PLATS (SHEET 23 DELETED)
25A-D	PHASE-II SUBDIVISION PLATS
26	EXISTING TREE PLAN - NORTH
27	EXISTING TREE PLAN - SOUTH
28	TOPOGRAPHY SURVEY - NORTH
29	TOPOGRAPHY SURVEY - SOUTH
30	BOUNDARY SURVEY
L1-L7	LANDSCAPE AND IRRIGATION PLANS
D1	LANDSCAPE DETAILS

### LEGAL DESCRIPTION:

A PORTION OF SECTION 24 AND SECTION 25, AS LIES EAST OF INTERSTATE 95, TOWNSHIP 14 SOUTH, RANGE 31 EAST, BEING FURTHER DESCRIBED AS FOLLOWS: AS A POINT OF REFERENCE AND THE POINT OF BEGINNING, COMMENCE AT THE NORTHEAST CORNER OF SECTION 25, TOWNSHIP 14 SOUTH, RANGE 31 EAST, RUN THENCE S00°53'36"E ALONG THE EAST LINE OF SAID SECTION 25, A DISTANCE OF 1316.70 FEET TO THE SOUTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 25; THENCE S88°03'10"W ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 25, A DISTANCE OF 309.21 FEET TO THE EAST RIGHT OF WAY LINE OF INTERSTATE 95, A DISTANCE OF 748.72 FEET; THENCE N50°57'41"E A DISTANCE OF 269.79 FEET; THENCE N16°57'20"W A DISTANCE OF 445.80 FEET; THENCE S88°03'10"W A DISTANCE OF 258.82 FEET TO THE EAST RIGHT OF WAY LINE OF INTERSTATE 95 (A 300 FOOT RIGHT OF WAY); THENCE CONTINUE ALONG THE RIGHT OF WAY OF INTERSTATE 95, N16°57'20"W A DISTANCE OF 2640.14 FEET; THENCE CONTINUE ALONG THE RIGHT OF WAY LINE OF INTERSTATE 95, N88°54'40"E, A DISTANCE OF 315.64 FEET; THENCE CONTINUE ALONG THE RIGHT OF WAY LINE OF INTERSTATE 95, N83°12'02"E, A DISTANCE OF 502.50 FEET; THENCE CONTINUE ALONG THE RIGHT OF WAY LINE OF INTERSTATE 95, N01°05'20"W, A DISTANCE OF 26.02 FEET TO THE SOUTH LINE OF AIRPORT ROAD (FORMERLY HULL ROAD); THENCE ALONG SAID SOUTH LINE, N88°54'40"E, A DISTANCE OF 54.57 FEET; THENCE S01°16'21"E A DISTANCE OF 1293.93 FEET; THENCE N88°28'37"E A DISTANCE OF 527.97 FEET TO THE EAST LINE OF SECTION 24, TOWNSHIP 14 SOUTH, RANGE 31 EAST; THENCE S01°18'29"E ALONG THE EAST LINE OF SAID SECTION 24, A DISTANCE OF 1315.36 FEET TO THE POINT OF BEGINNING.

CONTAINING 2,539,215 SQUARE FEET = 58.29 ACRES MORE OR LESS

### LANDSCAPE ARCHITECT:

RICHARD L. POORE, R.L.A.  
300 GATEWOOD COURT  
ORMOND BEACH, FL. 32174  
Phone: (386) 677-7510  
Mobile: (386) 212-8491  
e-mail: thepoores@hotmail.com

### SURVEYOR:

HARPSTER ENGINEERING & SURVEYING, INC.  
SUSAN H. MCCOY, P.S.M.  
1906 S PENINSULA DR.  
DAYTONA BEACH, FL 32118  
PHONE: (386) 677-9336  
FAX: (386) 677-9334  
smccoy@harpstereng.com

### OWNER:

RIVER OAKS OF  
ORMOND BEACH, LLC  
SCOTT VANACORE  
1293 N. U.S. HWY 1 SUITE 3  
ORMOND BEACH, FL 32174  
PHONE: (386) 672-8285  
FAX: (386) 677-8074

### GEOTECHNICAL ENGINEER:

FLORIDA TESTING OF DAYTONA  
JOHN E. TUGGLE  
P.O. BOX 633  
DELAND, FL 32721-0633  
PHONE: (386) 734-4038  
FAX: (386) 738-7933  
jetuggle@floridatesting.net

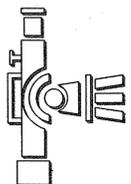
### PROJECT ENGINEER:

HARPSTER ENGINEERING & SURVEYING, INC.  
SUE HARPSTER-MCCOY, P.S.M., PROJECT MANAGER  
JOSEPH H. HOPKINS, P.E. PROJECT ENGINEER  
1906 S PENINSULA DR.  
DAYTONA BEACH, FL 32118  
PHONE: (386) 677-9336  
FAX: (386) 677-9334  
smccoy@harpstereng.com

### GENERAL NOTES:

- ALL DISTURBED AREAS SHALL BE SODED OR SEEDED AND MULCHED.
- THE LOCATION OF EXISTING UTILITIES HAS BEEN OBTAINED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. THIS INFORMATION IS NOT GUARANTEED AND IT SHALL BE EACH CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT NATURE OF ALL UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION AND TO NOTIFY HARPSTER ENGINEERING & SURVEYING, INC. AS TO DISCREPANCIES, IF ANY EXIST.
- ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS.
- THE LENGTH OF ALL DRAINAGE PIPES AND LOCATION OF ALL DRAINAGE STRUCTURES ARE APPROXIMATE. THE LOCATION OF THE DRAINAGE STRUCTURES SHALL DETERMINE THE LENGTH OF PIPE.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AN "AS-BUILT" SURVEY OF THE COMPLETED CONSTRUCTION. THE "AS-BUILT" SURVEY SHALL BE PREPARED IN ACCORDANCE WITH APPROPRIATE GOVERNMENTAL REGULATIONS AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL LAND SURVEYOR.
- THE CONTRACTOR SHALL MAINTAIN, AT THE JOB SITE, A RECORD COPY OF ALL CONSTRUCTION DRAWINGS AND SPECIFICATIONS ON WHICH ALL FIELD CHANGES ARE TO BE SHOWN. THESE CHANGES ARE TO BE INCORPORATED IN THE "AS-BUILT" SURVEY FURNISHED TO THE ENGINEER.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL REQUIRED PERMITS. THE CONTRACTOR SHALL MAINTAIN COPIES OF ALL RELEVANT PERMITS AVAILABLE ON THE JOB SITE AT ALL TIMES.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE ELECTRIC, TELEPHONE, GAS AND CABLE TELEVISION COMPANIES TO DETERMINE THE TYPE AND LOCATION OF ALL UNDERGROUND FACILITIES IN THE AREA OF CONSTRUCTION.
- OPERATION AND MAINTENANCE OF THE STORMWATER SYSTEM WILL BE BY THE HOMEOWNER'S ASSOCIATION. IT IS TO INCLUDE BIWEEKLY MOWING OF THE SIDE SLOPES FOR VEGETATION CONTROL AND QUARTERLY INSPECTION/CLEANING OF CULVERTS AND CATCH BASINS.
- UTILITY CONSTRUCTION SHALL COMPLY WITH THE STANDARDS OF THE CITY OF ORMOND BEACH, THE DEPT. OF HEALTH AND REHABILITATIVE SERVICES AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND ROADWAY TRAFFIC DESIGN STANDARDS, CURRENT EDITIONS AND COUNTY OF VOLUSIA.
- CONTRACTOR TO COORDINATE CONSTRUCTION WITH BELL SOUTH, 900 N. NOVA RD., DAYTONA BEACH, FL 32117 (386) 252-0775 AND (386) 252-7045.
- CONTRACTOR TO COORDINATE CONSTRUCTION WITH JOHN BIERWORTH, FLORIDA POWER & LIGHT COMPANY, 3000 SPRUCE CREEK RD., PORT ORANGE, FL 32119, (386) 322-3442.
- SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOLLOWING APPROVAL BY THE CONTRACTOR OF ALL PRE-CAST STRUCTURES AND MANUFACTURER'S PRODUCT DATA FOR STORM SEWER SYSTEM, SANITARY SEWER SYSTEM, LIFT STATION PUMP DATA AND POTABLE WATER SYSTEM.
- STORMWATER RETENTION/DETENTION FACILITIES MUST BE CONSTRUCTED TO A MINIMUM OF ROUGH GRADE PRIOR TO THE PLACEMENT OF ANY IMPERVIOUS SURFACES.
- THE CONTRACTOR MUST CONSTRUCT AND MAINTAIN A PERMANENT PROTECTIVE COVER FOR EROSION AND SEDIMENT CONTROL ON ALL LAND SURFACES EXPOSED OR DISTURBED BY CONSTRUCTION OF THE PERMITTED PROJECT. SAID COVER MUST BE INSTALLED WITHIN 14 DAYS AFTER FINAL GRADING OF THE AFFECTED LAND SURFACE. A PERMANENT VEGETATIVE COVER MUST BE ESTABLISHED WITHIN 60 DAYS OF ITS INSTALLATION.
- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH VOLUSIA COUNTY AND CITY'S UTILITIES SPECIFICATIONS.
- FOR ANY MODIFICATIONS TO STORMWATER DESIGN OR IMPROVEMENTS LOCATION, CONTRACTOR SHALL CONSULT DESIGN ENGINEER AND OBTAIN PRIOR APPROVAL FROM ORMOND BEACH CITY ENGINEER.
- SANITARY SEWER TO BE SUPPLIED BY CITY.
- POTABLE WATER TO BE SUPPLIED BY CITY.
- IRRIGATION FOR ANY COMMON AREAS WILL BE PROVIDED USING ON SITE WELL WATER.
- THERE ARE NO KNOWN HISTORICAL OR ARCHAEOLOGICAL RESOURCES ON THIS SITE.
- NO ENDANGERED OR THREATENED SPECIES OF PLANTS OR ANIMALS ARE KNOWN TO INHABIT THIS SITE.
- ALL PRESSURE PIPES SHALL BE DEFLECTED WHERE POSSIBLE, NOT TO EXCEED MANUFACTURER'S SPECIFICATIONS. ACTUAL FITTINGS USED SHALL BE SHOWN ON THE AS-BUILTS.

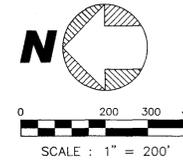
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HARPSTER ENGINEERING & SURVEYING, INC.  
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CIVIL ENGINEERS  
LICENSED BUSINESS #6351  
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DAYTONA BEACH, FL 32118  
E-MAIL: mail@harpstereng.com  
PHONE: (386) 677-9336  
FAX: (386) 677-9334

RIVER OAKS OF ORMOND BEACH PHASE-I  
PHASE I FINAL PLAT - COVER SHEET

DESIGN BY: FHM  
CHECKED BY: SHM  
DATE: 10/24/06  
SCALE: AS SHOWN  
JOB No.: 05-150  
Dwg.: 05150-COV.DWG  
XREF: NONE  
MAR 27 2014  
JOSEPH H. HOPKINS  
P.E.  
ENGINEER OF RECORD  
NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED  
SHEET 1  
OF 30 SHEETS

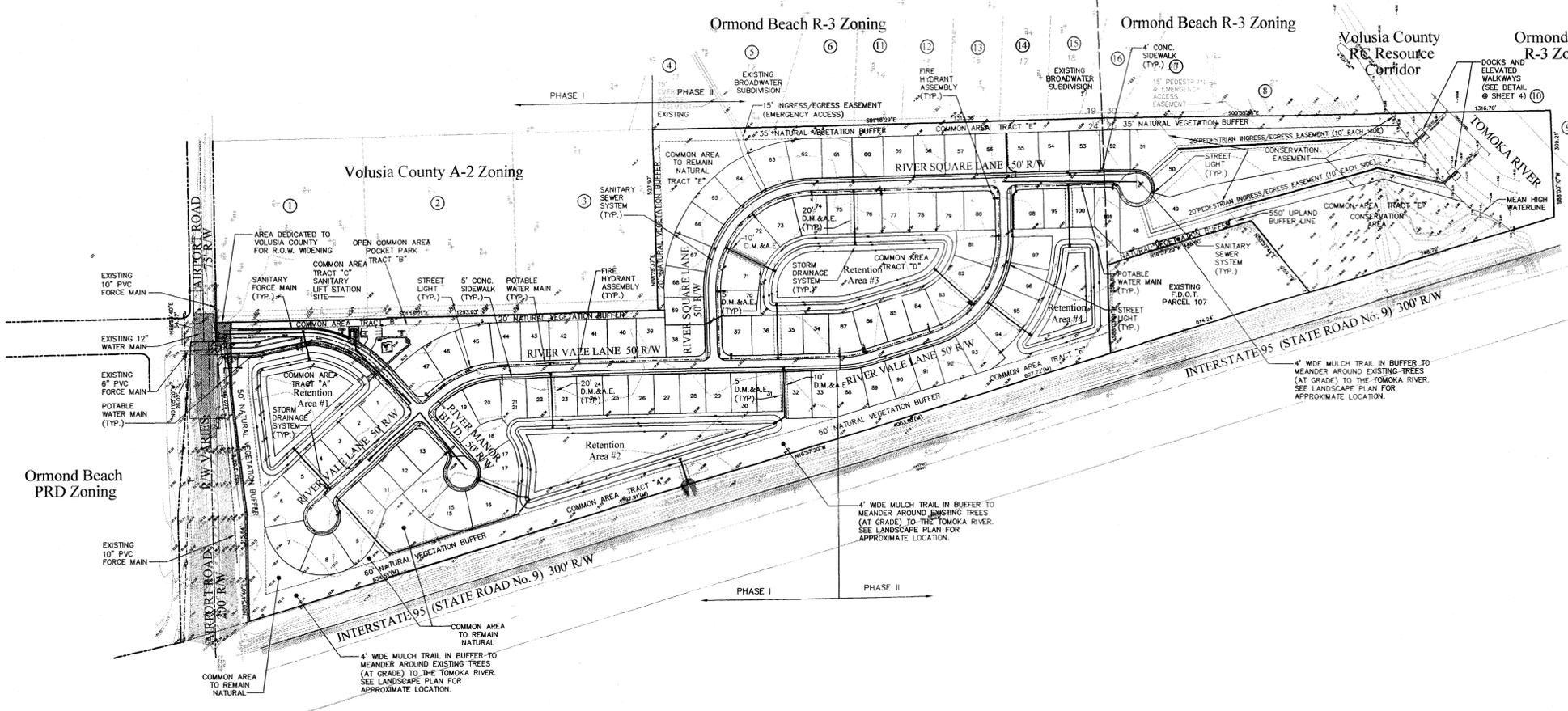


**LEGEND**

- EXISTING GRADE
- PROPOSED GRADE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- LP PROPOSED LOW POINT
- HP PROPOSED HIGH POINT
- PROPOSED CONTOUR
- 0.33% PROPOSED ROADWAY SLOPE
- D.M.&A.E. DRAINAGE, MAINTENANCE & ACCESS EASEMENT

- 18. 02.13.14 PH I & PH II PLANS
- 16. 09.12.13 REVISED PER CITY COMMENTS
- 15. 07.08.13 REVISED WATER/SEWER/DETAILS

NO.	DATE	REVISIONS
1.	8.29.07	REVISED PER CITY COMMENTS DATED 1.24.07
2.	8.14.07	REVISED PER CITY COMMENTS DATED 8.1.07
3.	9.28.07	REVISED PER CITY COMMENTS DATED 9.12.07
4.	10.3.07	REVISED PER VOLUSIA COUNTY TRAFFIC ENGINEER COMMENTS DATED 9.27.07
5.	1.8.08	REVISED PER VOLUSIA COUNTY TRAFFIC ENGINEER COMMENTS DATED 12.2.07
6.	9.26.08	REVISED PER SJ COMMENTS DATED 8.22.07
7.	1.27.09	REVISED PER SJ COMMENTS & FOOT SUBMITTAL
8.	3.26.09	REVISED PER SJ COMMENTS OF 3.24.09



**ADJACENT PROPERTY OWNERS**

Ⓢ - DENOTED ADJACENT PROPERTY OWNER (TYP.)

- |  |   |   |  |
|--|---|---|--|
| 1. 4124-00-00-0030<br>GAREY & JUDITH D. HALL<br>1565 AIRPORT ROAD<br>ORMOND BEACH, FL 32174    | 5. 4219-07-00-0120<br>RICHARD & DINA MAUCERI<br>4 BROAD CREEK CIRCLE<br>ORMOND BEACH, FL 32174                                  | 9. 4125-00-00-0060<br>BERMUDA ESTATES<br>ORMOND BEACH, LLC<br>753 EAST GLEN AVENUE<br>AUBURN, AL 36831  | 13. 4219-07-00-0160<br>LEWIS M. HEASTER, TRUSTEE<br>11 BROAD RIVER ROAD<br>ORMOND BEACH, FL 32174      |
| 2. 4124-00-00-0031<br>MAHLON ALAN & JUNE M BEER<br>1569 AIRPORT ROAD<br>ORMOND BEACH, FL 32174 | 6. 4219-07-00-0002<br>HOMEOWNERS ASSOCIATION<br>2 BROADWATER, INC.<br>770 W. GRANADA BLVD., SUITE 215<br>ORMOND BEACH, FL 32174 | 10. 4230-00-00-0410<br>BERMUDA ESTATES<br>ORMOND BEACH, LLC<br>753 EAST GLEN AVENUE<br>AUBURN, AL 36831 | 14. 4219-07-00-0170<br>PATRICK LOMBARDO<br>9 BROAD RIVER ROAD<br>ORMOND BEACH, FL 32174                |
| 3. 4124-00-00-0032<br>KARL & BRIGITTE METZGER<br>1573 AIRPORT ROAD<br>ORMOND BEACH, FL 32174   | 7. 4219-07-00-0200<br>PATRICIA T. CULLER<br>3 BROAD RIVER<br>ORMOND BEACH, FL 32174   | 11. 4219-07-00-0140<br>GILBERT L. DANNEHOWER IV<br>17 BROAD RIVER ROAD<br>ORMOND BEACH, FL 32174        | 15. 4219-07-00-0180<br>PAUL N. & ROSARIA C. UPCHURCH<br>P.O. BOX 731389<br>ORMOND BEACH, FL 32173      |
| 4. 4219-07-00-0110<br>FOUAD & ELAINE MINA<br>6 BROAD CREEK CIRCLE<br>ORMOND BEACH, FL 32174    | 8. 4219-07-00-0210<br>J. MICHAEL & NANCY E. EDDY<br>35 SETON TRAIL<br>ORMOND BEACH, FL 32174                                    | 12. 4219-07-00-0150<br>VINAYAK V & VIDYA PURANDARE<br>15 BROAD RIVER ROAD<br>ORMOND BEACH, FL 32174     | 16. 4219-07-00-0190<br>J. TIMOTHY & LORETTA R. TOLLAND<br>5 BROAD RIVER ROAD<br>ORMOND BEACH, FL 32174 |

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 CONSULTANTS LICENSED BUSINESS #6351  
 1906 S. PENINSULA DR.  
 DAYTONA BEACH, FL 32118  
 E-MAIL: mail@harpstereng.com

PHONE: (386) 677-9336  
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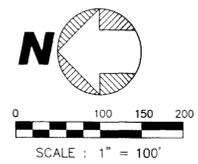
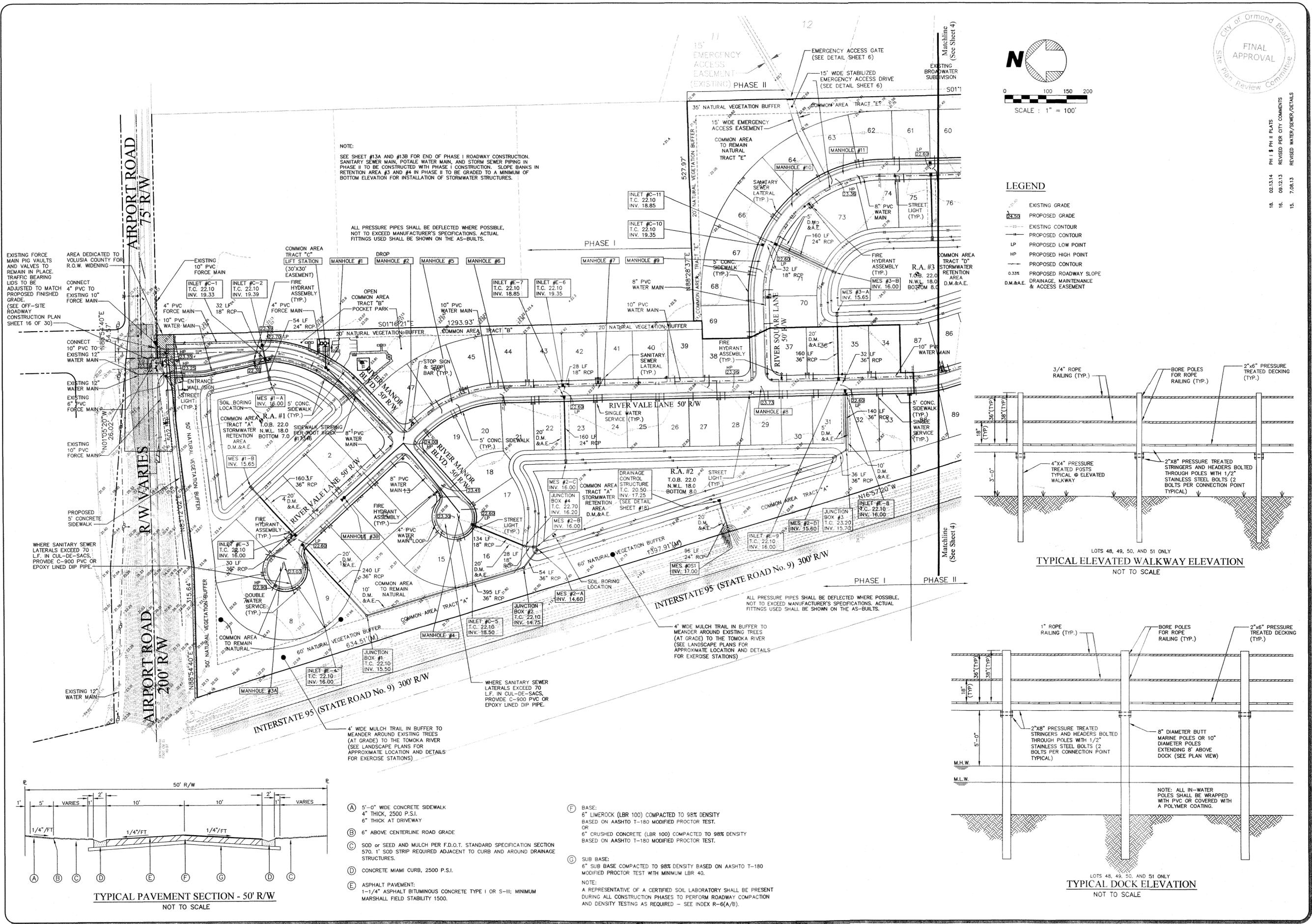
**RIVER OAKS OF ORMOND BEACH SUBDIVISION**  
 FINAL PLAT - OVERALL DEVELOPMENT PLAN

DESIGN BY: SHM  
 CHECKED BY: JHH  
 DATE: 10/24/06  
 SCALE: 1"=200'  
 JOB No.: 05-150  
 Dwg.: 05150-ODP.DWG  
 XREF: 05150-BAS.DWG  
 XREF: 05150-SURVEY-BAS.DWG

**MAR 27 2014**

JOSEPH H. HOPKINS  
 P.E. #48059  
 ENGINEER OF RECORD  
 NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED

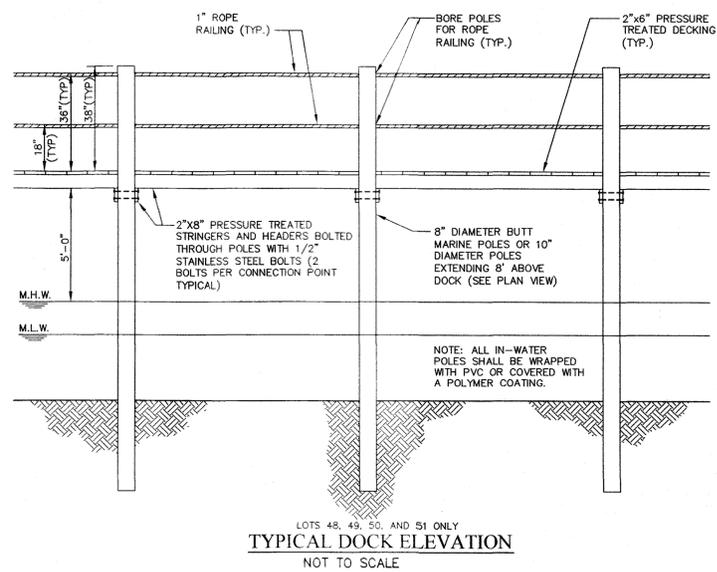
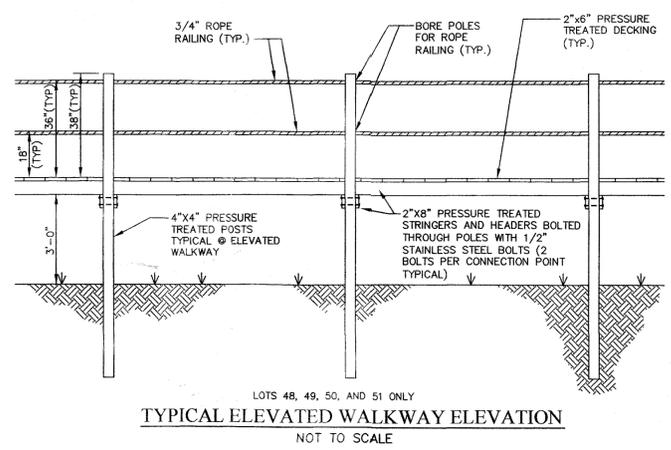
SHEET **2**  
 OF 30 SHEETS



02.13.14 PH I & PH II PLATS  
 08.12.13 REVISED PER CITY COMMENTS  
 7.08.13 REVISED WATER/SEWER/DETAILS

**LEGEND**

- EXISTING GRADE
- PROPOSED GRADE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- LP PROPOSED LOW POINT
- HP PROPOSED HIGH POINT
- PROPOSED CONTOUR
- PROPOSED ROADWAY SLOPE
- D.M.&A.E. DRAINAGE, MAINTENANCE & ACCESS EASEMENT



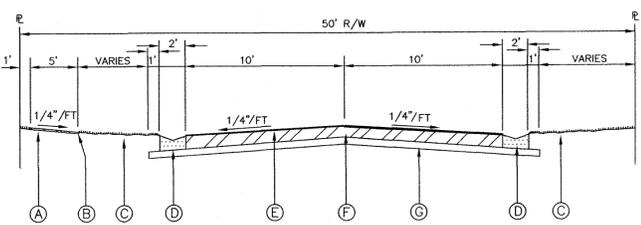
NOTE:  
 SEE SHEET #13A AND #13B FOR END OF PHASE I ROADWAY CONSTRUCTION. SANITARY SEWER MAIN, POTABLE WATER MAIN, AND STORM SEWER PIPING IN PHASE II TO BE CONSTRUCTED WITH PHASE I CONSTRUCTION. SLOPE BANKS IN RETENTION AREA #3 AND #4 IN PHASE II TO BE GRADED TO A MINIMUM OF BOTTOM ELEVATION FOR INSTALLATION OF STORMWATER STRUCTURES.

ALL PRESSURE PIPES SHALL BE DEFLECTED WHERE POSSIBLE. NOT TO EXCEED MANUFACTURER'S SPECIFICATIONS. ACTUAL FITTINGS USED SHALL BE SHOWN ON THE AS-BUILTS.

ALL PRESSURE PIPES SHALL BE DEFLECTED WHERE POSSIBLE. NOT TO EXCEED MANUFACTURER'S SPECIFICATIONS. ACTUAL FITTINGS USED SHALL BE SHOWN ON THE AS-BUILTS.

4' WIDE MULCH TRAIL IN BUFFER TO MEANDER AROUND EXISTING TREES (AT GRADE) TO THE TOMOKA RIVER (SEE LANDSCAPE PLANS FOR APPROXIMATE LOCATION AND DETAILS FOR EXERCISE STATIONS)

WHERE SANITARY SEWER LATERALS EXCEED 70' L.F. IN CUL-DE-SACS, PROVIDE C-900 PVC OR EPOXY LINED DIP PIPE.



- (A) 5'-0" WIDE CONCRETE SIDEWALK 4" THICK, 2500 P.S.I. 6" THICK AT DRIVEWAY
  - (B) 6" ABOVE CENTERLINE ROAD GRADE
  - (C) SOD or SEED and MULCH PER F.D.O.T. STANDARD SPECIFICATION SECTION 570. 1" SOD STRIP REQUIRED ADJACENT TO CURB AND AROUND DRAINAGE STRUCTURES.
  - (D) CONCRETE MIAMI CURB, 2500 P.S.I.
  - (E) ASPHALT PAVEMENT: 1-1/4" ASPHALT BITUMINOUS CONCRETE TYPE I OR S-III; MINIMUM MARSHALL FIELD STABILITY 1500.
  - (F) BASE: 6" LIMEROCK (LBR 100) COMPACTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST. OR 6" CRUSHED CONCRETE (LBR 100) COMPACTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST.
  - (G) SUB-BASE: 6" SUB-BASE COMPACTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST WITH MINIMUM LBR 40.
- NOTE:  
 A REPRESENTATIVE OF A CERTIFIED SOIL LABORATORY SHALL BE PRESENT DURING ALL CONSTRUCTION PHASES TO PERFORM ROADWAY COMPACTION AND DENSITY TESTING AS REQUIRED - SEE INDEX R-6(A/B).

NO.	DATE	REVISIONS
1.	6.29.07	REVISED PER CITY COMMENTS DATED 1.24.07
2.	8.14.07	REVISED PER CITY COMMENTS DATED 8.1.07
3.	9.28.07	REVISED PER VOLUSIA COUNTY TRAFFIC ENGINEER COMMENTS DATED 9.12.07
4.	10.3.07	REVISED PER VOLUSIA COUNTY TRAFFIC ENGINEER COMMENTS DATED 10.3.07
5.	1.8.08	REVISED PER VOLUSIA COUNTY TRAFFIC ENGINEER COMMENTS DATED 1.22.07
6.	1.27.09	REVISED PER SJ COMMENTS & FDOT SUBMITTAL
7.	4.8.09	REVISED PER FDOT
8.	4.28.09	REVISED PER FDOT

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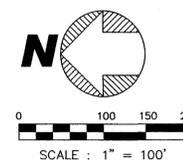
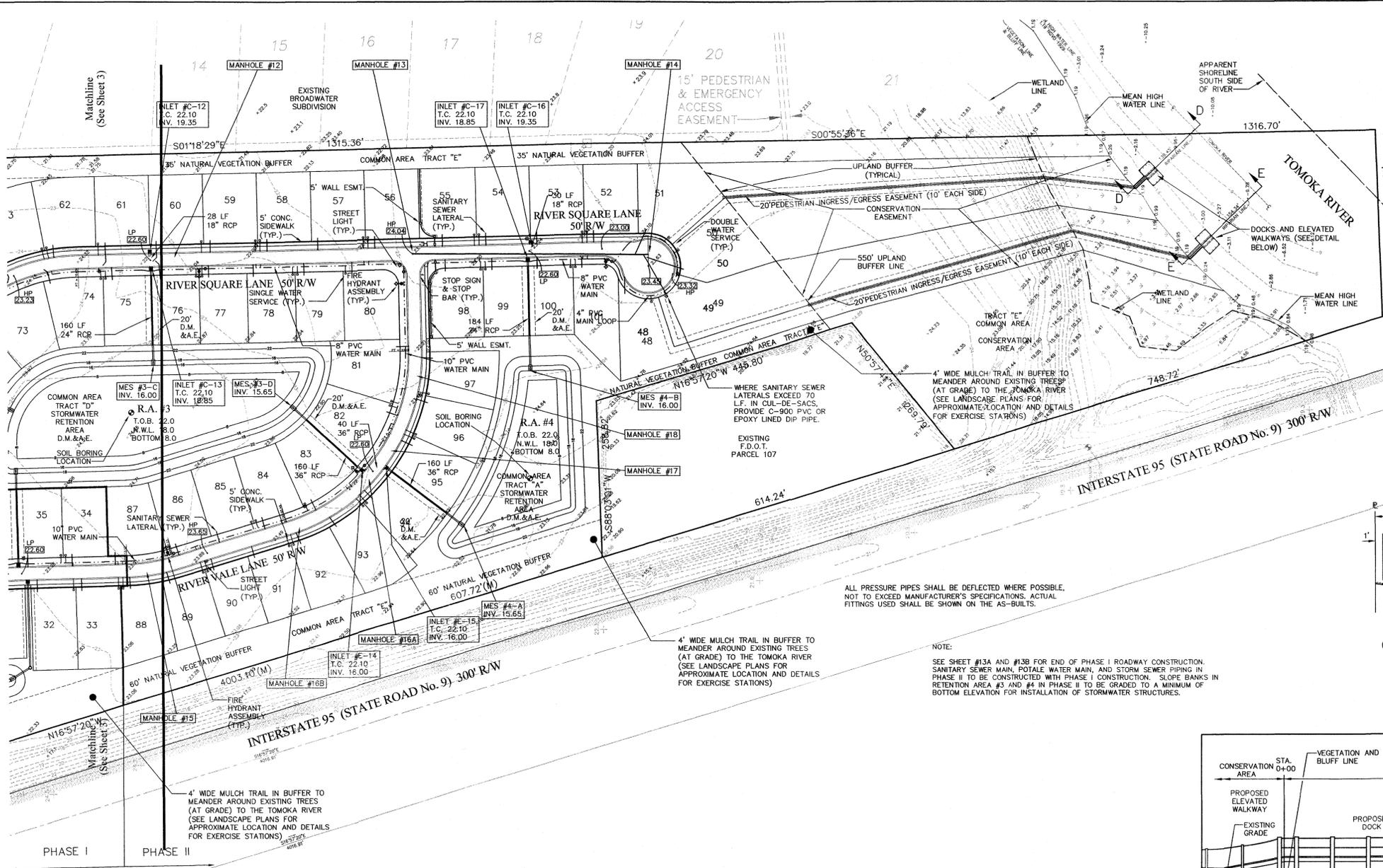
**HARPSTER ENGINEERING & SURVEYING, INC.**  
 SURVEYORS  
 CIVIL ENGINEERS  
 CONSULTANTS  
 1905 S. PENINSULA CIR.  
 DAYTONA BEACH, FL 32118  
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 PHONE: (386) 677-9336  
 FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH SUBDIVISION**  
 FINAL PLAT - COMPOSITE DEVELOPMENT PLAN - NORTH

DESIGN BY: SHM  
 CHECKED BY: JHH  
 DATE: 10/24/06  
 SCALE: 1"=100'  
 JOB No.: 05-150  
 Dwg.: 05150-CUP-DWG  
 XREF: 05150-BAS-DWG  
 XREF: 05150-SURVEY-BAS-DWG

MAR 27 2014  
 JOSEPH H. HOPKINS  
 P.E. #48059  
 ENGINEER OF RECORD  
 NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED

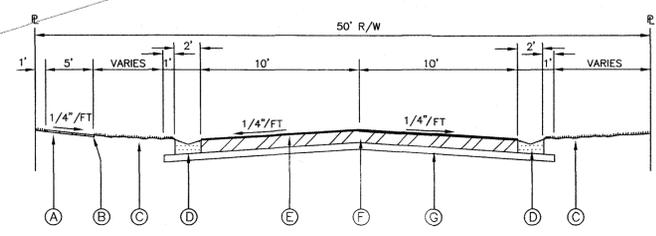
SHEET 3  
 OF 30 SHEETS



**LEGEND**

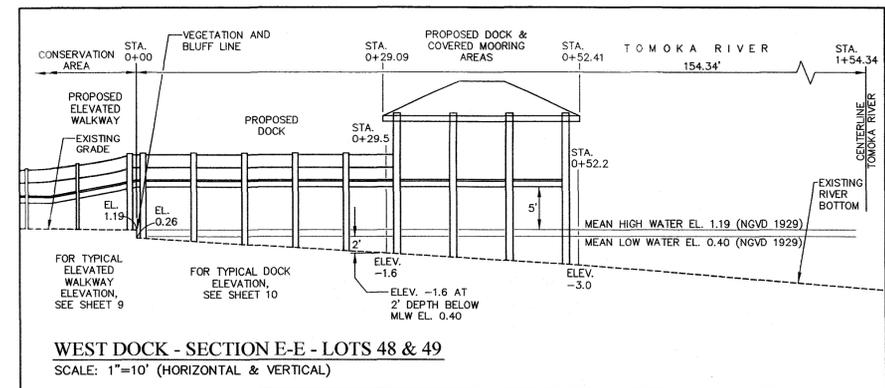
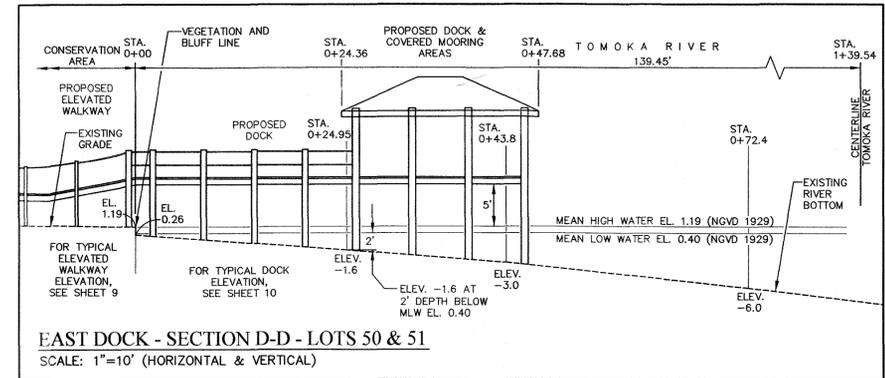
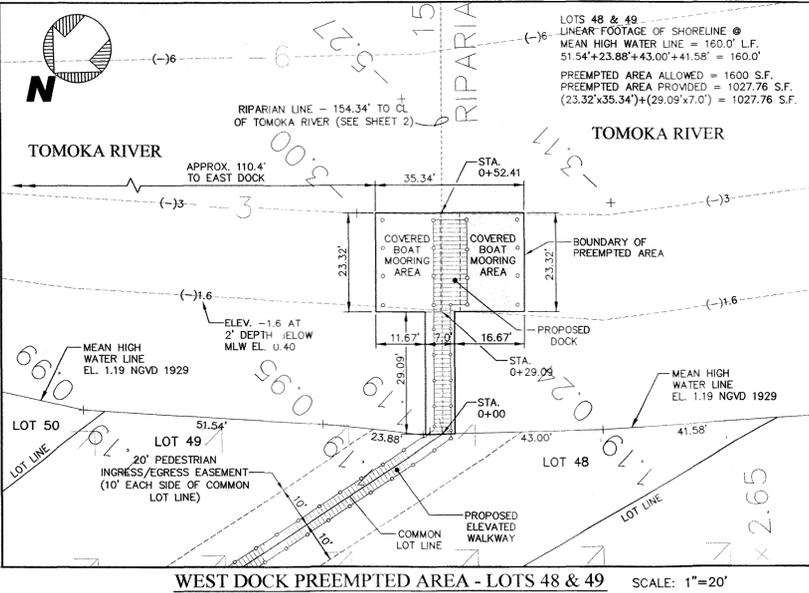
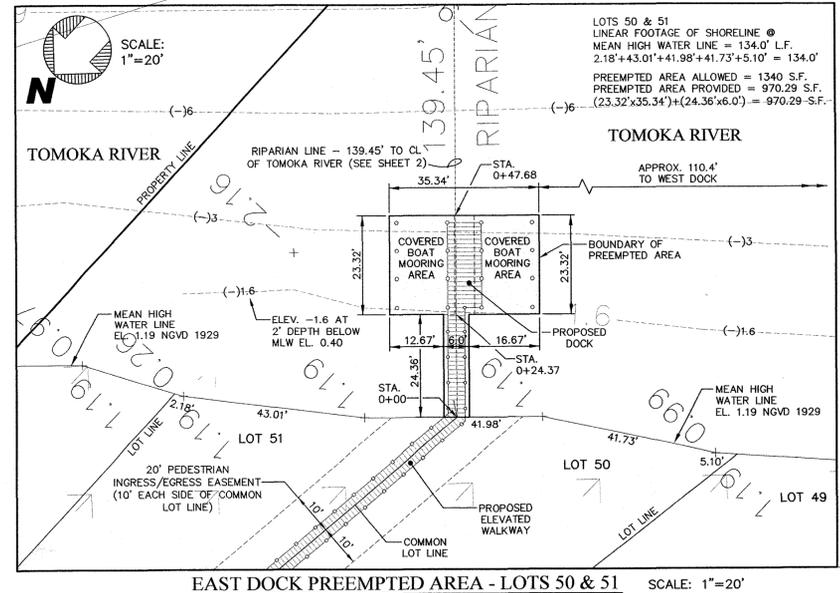
---	EXISTING GRADE
---	PROPOSED GRADE
---	EXISTING CONTOUR
---	PROPOSED CONTOUR
---	PROPOSED LOW POINT
---	PROPOSED HIGH POINT
---	PROPOSED CONTOUR
---	PROPOSED ROADWAY SLOPE
---	DRAINAGE, MAINTENANCE & ACCESS EASEMENT

- (A) 5'-0" WIDE CONCRETE SIDEWALK  
4" THICK, 2500 P.S.I.  
6" THICK AT DRIVEWAY
  - (B) 6" ABOVE CENTERLINE ROAD GRADE
  - (C) 50D OR SEED AND MULCH PER F.D.O.T. STANDARD SPECIFICATION SECTION 570. 1" SOD STRIP REQUIRED ADJACENT TO CURB AND AROUND DRAINAGE STRUCTURES.
  - (D) CONCRETE MIAMI CURB, 2500 P.S.I.
  - (E) ASPHALT PAVEMENT:  
1-1/4" ASPHALT BITUMINOUS CONCRETE TYPE I OR S-III; MINIMUM MARSHALL STABILITY 1500.
  - (F) BASE:  
4" LIMEROCK (LBR 100) COMPACTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST.  
OR  
6" CRUSHED CONCRETE (LBR 100) COMPACTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST.
  - (G) SUB BASE:  
6" SUB BASE COMPACTED TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST WITH MINIMUM LBR 40.
- NOTE:  
A REPRESENTATIVE OF A CERTIFIED SOIL LABORATORY SHALL BE PRESENT DURING ALL CONSTRUCTION PHASES TO PERFORM ROADWAY COMPACTION AND DENSITY TESTING AS REQUIRED - SEE INDEX R-6(A/B).



ALL PRESSURE PIPES SHALL BE DEFLECTED WHERE POSSIBLE, NOT TO EXCEED MANUFACTURER'S SPECIFICATIONS. ACTUAL FITTINGS USED SHALL BE SHOWN ON THE AS-BUILTS.

NOTE:  
SEE SHEET #13A AND #13B FOR END OF PHASE I ROADWAY CONSTRUCTION. SANITARY SEWER MAIN, POTABLE WATER MAIN, AND STORM SEWER PIPING IN PHASE II TO BE CONSTRUCTED WITH PHASE I CONSTRUCTION. SLOPE BANKS IN RETENTION AREA #3 AND #4 IN PHASE II TO BE GRADED TO A MINIMUM OF BOTTOM ELEVATION FOR INSTALLATION OF STORMWATER STRUCTURES.



NO.	DATE	REVISIONS
1.	6.29.07	REVISED PER CITY COMMENTS DATED 1.24.07
2.	8.14.07	REVISED PER CITY COMMENTS DATED 8.1.07
3.	9.26.07	REVISED PER CITY COMMENTS DATED 9.22.07
4.	9.26.08	REVISED PER SJ COMMENTS DATED 8.22.07
5.	1.27.09	REVISED PER SJ COMMENTS & FOOT SUBMITTAL
6.	3.26.09	REVISED PER SJ COMMENTS OF 3.24.09
7.	4.8.09	REVISED PER SJ MEETING OF 4.1.09

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**HARPSTER ENGINEERING & SURVEYING, INC.**  
SURVEYORS  
CONSULTANTS CIVIL ENGINEERS  
LICENSED BUSINESS #6351  
1906 S PENINSULA DR  
DAYTONA BEACH, FL 32118  
E-MAIL: mail@harpstereng.com

PHONE: (386) 677-9336  
FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH SUBDIVISION**  
FINAL PLAT - COMPOSITE DEVELOPMENT PLAN - SOUTH

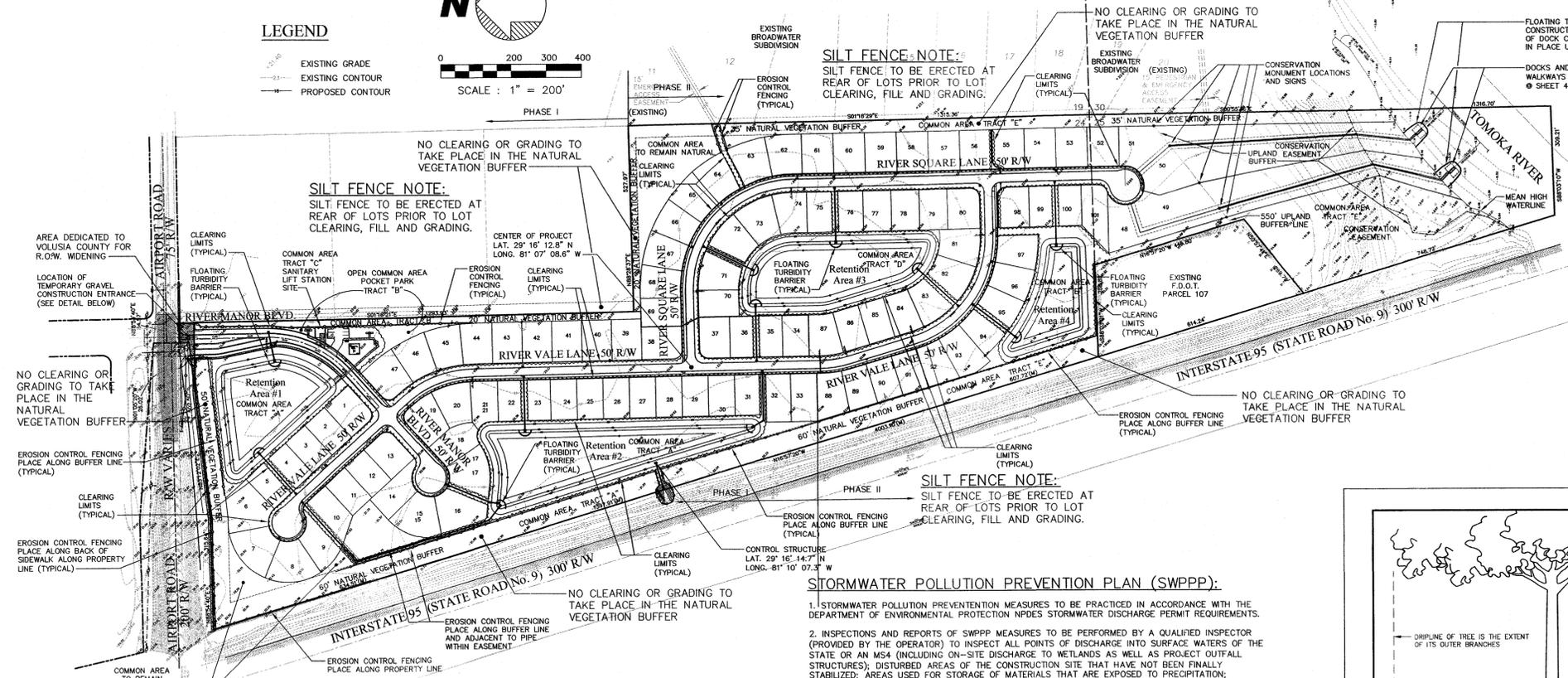
DESIGN BY: SHM  
CHECKED BY: JHH  
DATE: 10/24/06  
SCALE: 1"=100'  
JOB No.: 05-150  
Dwg.: 05150-CUP.DWG  
XREF.: 05150-SURVEY-BAS.DWG

MAR 27 2014  
JOSEPH H HOPKINS  
P.E. #48059  
ENGINEER OF RECORD  
NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED

SHEET 4  
OF 30 SHEETS

**LEGEND**

- EXISTING GRADE
- - - EXISTING CONTOUR
- PROPOSED CONTOUR



**SILT FENCE NOTE:**

SILT FENCE TO BE ERECTED AT REAR OF LOTS PRIOR TO LOT CLEARING, FILL AND GRADING.

**SILT FENCE NOTE:**

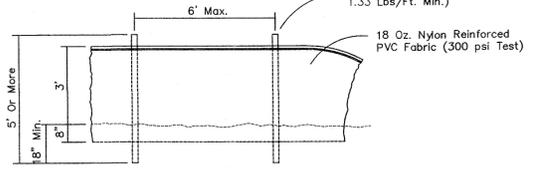
SILT FENCE TO BE ERECTED AT REAR OF LOTS PRIOR TO LOT CLEARING, FILL AND GRADING.

**SILT FENCE NOTE:**

SILT FENCE TO BE ERECTED AT REAR OF LOTS PRIOR TO LOT CLEARING, FILL AND GRADING.

**STORMWATER POLLUTION PREVENTION PLAN (SWPPP):**

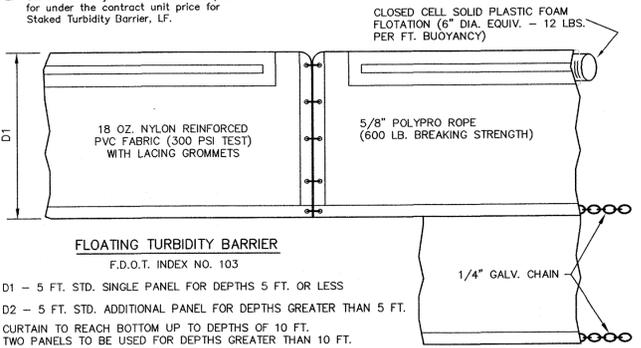
1. STORMWATER POLLUTION PREVENTION MEASURES TO BE PRACTICED IN ACCORDANCE WITH THE DEPARTMENT OF ENVIRONMENTAL PROTECTION NPDES STORMWATER DISCHARGE PERMIT REQUIREMENTS.
2. INSPECTIONS AND REPORTS OF SWPPP MEASURES TO BE PERFORMED BY A QUALIFIED INSPECTOR (PROVIDED BY THE OPERATOR) TO INSPECT ALL POINTS OF DISCHARGE INTO SURFACE WATERS OF THE STATE OR AN MSA (INCLUDING ON-SITE DISCHARGE TO WETLANDS AS WELL AS PROJECT OUTFALL STRUCTURES); DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED; AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION; STRUCTURAL CONTROLS; AND, LOCATIONS WHERE VEHICLES ENTER OR EXIT THE PROJECT SITE, AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.50 INCHES OR GREATER AS DESCRIBED IN SECTION V.D.4a,b&c OF THE NPDES PERMIT REQUIREMENTS.
3. THE FOLLOWING NON-STORMWATER DISCHARGES MAY BE AUTHORIZED UNDER THE NPDES PERMIT PROVIDED THE NON-STORMWATER COMPONENT OF THE DISCHARGE IS IN COMPLIANCE WITH PARAGRAPH V.D.5: DISCHARGES FROM FIRE HYDRANT FLUSHINGS; CONTROL DUST IN ACCORDANCE WITH PART V.D.2.c(2); POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS, IRRIGATION DRAINAGE; EXTERNAL BUILDING WASHDOWN, PAVEMENT WASHWATERS AND FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS.



**STAKED TURBIDITY BARRIER**  
DETAIL NOT FROM ORMOND BEACH STANDARD DETAIL, 2007 EDITION

**TURBIDITY BARRIER APPLICATIONS**

- GENERAL NOTES**
1. Floating turbidity barriers are to be paid for under the contract unit price for Floating Turbidity Barrier, LF.
  2. Staked turbidity barriers are to be paid for under the contract unit price for Staked Turbidity Barrier, LF.
- LEGEND**
- Dredge Or Fill Area
  - Barrier Movement Due To Current Action



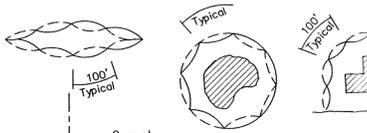
**FLOATING TURBIDITY BARRIER**  
F.D.O.T. INDEX NO. 103

- D1 - 5 FT. STD. SINGLE PANEL FOR DEPTHS 5 FT. OR LESS
- D2 - 5 FT. STD. ADDITIONAL PANEL FOR DEPTHS GREATER THAN 5 FT. CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FT. TWO PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FT.

DETAIL NOT FROM ORMOND BEACH STANDARD DETAIL, 2007 EDITION

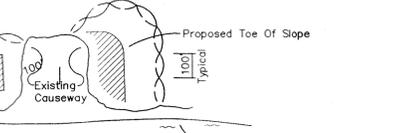
**FLOATING TURBIDITY BARRIER**

DETAIL NOT FROM ORMOND BEACH STANDARD DETAIL, 2007 EDITION



**CONSERVATION EASEMENT MONUMENT**

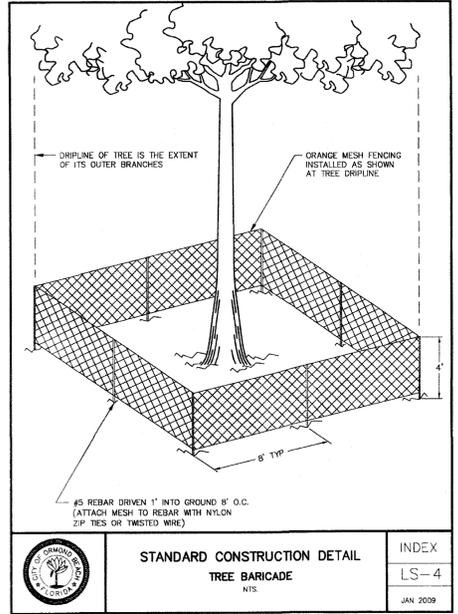
DETAIL NOT FROM ORMOND BEACH STANDARD DETAIL, 2007 EDITION



- NOTES:**
1. Turbidity barriers are to be used in all permanent bodies of water regardless of water depth.
  2. Number and spacing of anchors dependent on current velocities.
  3. Deployment of barrier around pile locations may vary to accommodate construction operations.
  4. Navigation may require segmenting barrier during construction operations.
  5. For additional information see Section 104 of the Standard Specifications.

**FLOATING TURBIDITY BARRIER**

DETAIL NOT FROM ORMOND BEACH STANDARD DETAIL, 2007 EDITION



**STANDARD CONSTRUCTION DETAIL**  
**TREE BARRICADE**  
N.T.S.

INDEX	M-15
DATE	JAN 2009

**WILDLIFE AND WETLAND PRESERVED**

NO DUMPING, LAND CLEARING OR OTHER DISTURBANCE TO NATIVE SOILS OR VEGETATION IS PERMITTED BEYOND THIS POINT

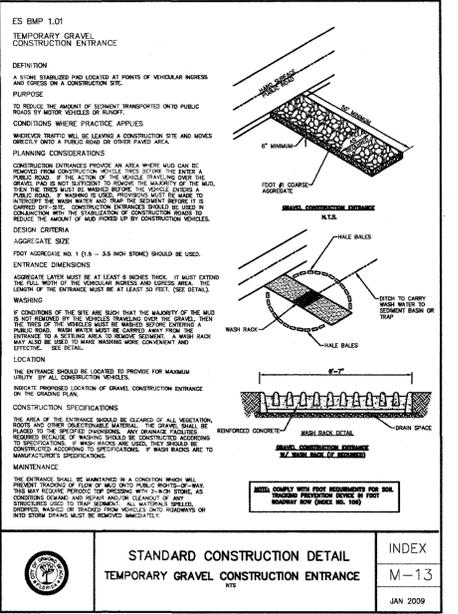
CONTACT THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT FOR FURTHER INFORMATION REGARDING THIS HABITAT

**POSTED CONSERVATION EASEMENT DETAIL**

N.T.S.

NOTE: SIGNS TO BE PLACED AT A MAXIMUM OF 100' SPACING ADJACENT TO ALL CONSERVATION EASEMENTS.

DETAIL NOT FROM ORMOND BEACH STANDARD DETAIL, 2007 EDITION



**STANDARD CONSTRUCTION DETAIL**  
**TEMPORARY GRAVEL CONSTRUCTION ENTRANCE**  
N.T.S.

INDEX	M-13
DATE	JAN 2009

ES BMP 1-01  
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

**DEFINITION**  
A 3-5% STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE.

**PURPOSE**  
TO REDUCE THE AMOUNT OF SEDIMENT TRANSPORTED ONTO PUBLIC ROADS BY MOTOR VEHICLES OF INGRESS.

**CONDITIONS WHERE PRACTICE APPLIES**  
WHEREVER TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE AND MOVING DIRECTLY ONTO A PUBLIC ROAD OR OTHER FINISHED AREA.

**PLANNING CONSIDERATIONS**  
CONSTRUCTION ENTRANCES SHOULD BE LOCATED IN AREAS WHERE SOILS ARE NOT SUSCEPTIBLE TO EROSION. THE ENTRANCE SHOULD BE LOCATED AT THE POINT OF INGRESS TO THE CONSTRUCTION SITE. THE ENTRANCE SHOULD BE LOCATED AT THE POINT OF INGRESS TO THE CONSTRUCTION SITE. THE ENTRANCE SHOULD BE LOCATED AT THE POINT OF INGRESS TO THE CONSTRUCTION SITE.

**DESIGN CRITERIA**  
AGGREGATE SIZE  
FOOT ASSOCIATE NO. 1 (1.9 - 3.5 INCH STONE) SHOULD BE USED.

**CONSTRUCTION SPECIFICATIONS**  
THE AREA OF THE ENTRANCE SHOULD BE CLEARLY MARKED WITH ALL NECESSARY SIGNS AND OTHER CONSTRUCTION MATERIALS. THE GRADE SHOULD BE FINISHED TO THE SPECIFIED CONDITIONS AND FINISHED FLOORING SHOULD BE INSTALLED. THE ENTRANCE SHOULD BE LOCATED AT THE POINT OF INGRESS TO THE CONSTRUCTION SITE. THE ENTRANCE SHOULD BE LOCATED AT THE POINT OF INGRESS TO THE CONSTRUCTION SITE.

**FINAL APPROVAL**

**TYPE III SILT FENCE**

**SILT FENCE APPLICATIONS**

**STANDARD CONSTRUCTION DETAIL**  
**EROSION CONTROL - SILT FENCE**  
N.T.S.

**INDEX**  
M-15  
JAN 2009

NO.	DATE	REVISIONS
1.	6.29.07	REVISED PER CITY COMMENTS DATED 12.4.07
2.	8.14.07	REVISED PER CITY COMMENTS DATED 8.1.07
3.	9.28.07	REVISED PER VOLUSIA COUNTY TRAFFIC ENGINEER COMMENTS DATED 9.12.07
4.	10.3.07	REVISED PER VOLUSIA COUNTY TRAFFIC ENGINEER COMMENTS DATED 12.27.07
5.	1.8.08	REVISED PER SJ COMMENTS DATED 8.22.07
6.	9.26.08	REVISED PER SJ COMMENTS & FOOT SUBMITTAL
7.	1.27.09	REVISED PER SJ COMMENTS OF 1.24.09
8.	3.26.09	REVISED PER SJ COMMENTS OF 3.24.09

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REVISED PER SJ MEETING OF 4.1.09

REVISED PER SJ MEETING OF 4.1.09

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CIVIL ENGINEERS  
SURVEYORS

CONSULTANTS  
LICENSED BUSINESS #6351  
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DAYTONA BEACH, FL 32118  
E-MAIL: mail@harpstereng.com

PHONE: (386) 677-9336  
FAX: (386) 677-9334

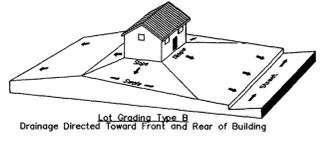
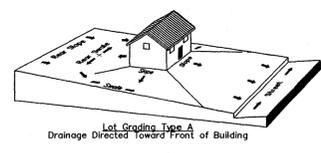
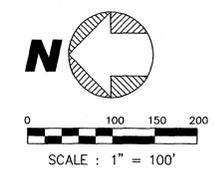
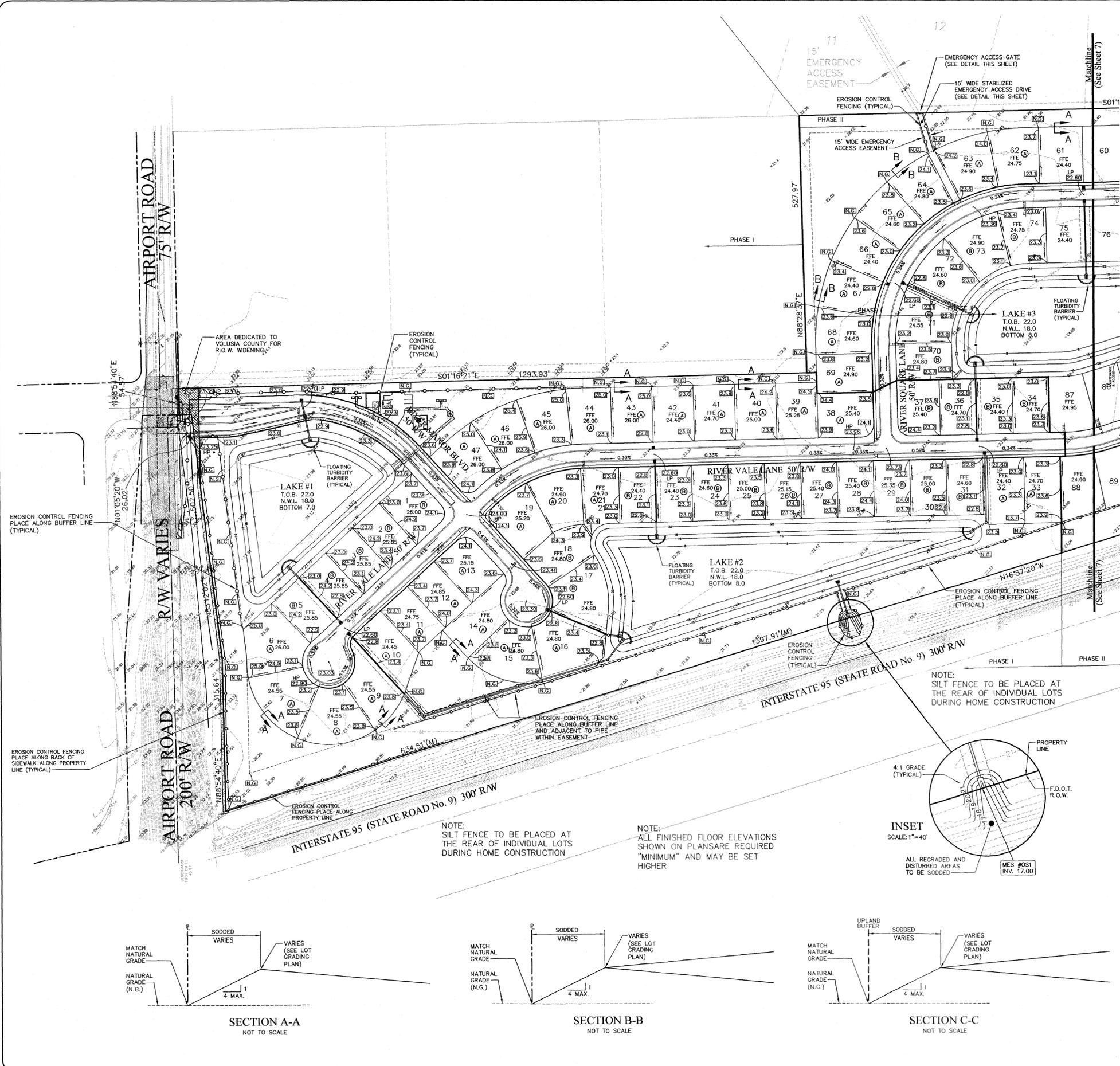
**RIVER OAKS OF ORMOND BEACH SUBDIVISION**  
**FINAL PLAN - CLEARING, EROSION CONTROL & CONSTRUCTION SEQUENCING PLAN**

DESIGN BY: SHM  
CHECKED BY: JHH  
DATE: 10/24/06  
SCALE: 1"=200'  
JOB No.: 05-150  
Dwg.: 05150-ECP.DWG  
XREF: 05150-BAS.DWG  
05150-SURVEY-BAS.DWG

MAR 27 2014

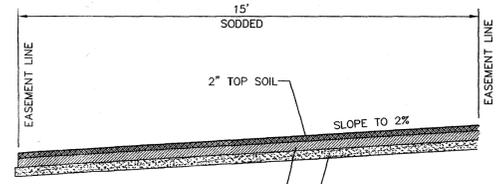
JOSEPH H HOPKINS  
E. #48059  
ENGINEER OF RECORD  
NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED

SHEET 5  
OF 30 SHEETS



**LOT GRADING PLAN**  
NTS

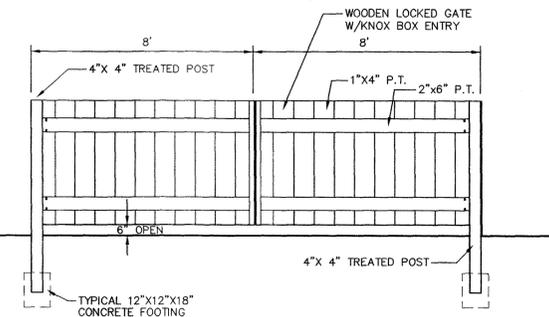
- LEGEND**
- EXISTING GRADE
  - PROPOSED GRADE
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - LP PROPOSED LOW POINT
  - HP PROPOSED HIGH POINT
  - PROPOSED CONTOUR
  - 0.33% PROPOSED ROADWAY SLOPE
  - D.M.&A.E.
  - PROPOSED LOT GRADING TYPE



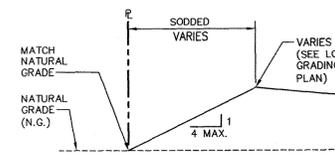
6" SHELL BASE COURSE TO 100 LBR  
COMPACTED TO 98% AASHTO T-190 MIN.

6" SUBBASE STABILIZED TO 40 LBR  
COMPACTED TO 98% AASHTO T-190

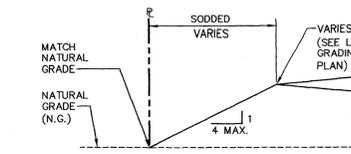
**SECTION THRU STABILIZED EMERGENCY ACCESS DRIVE**  
NOT TO SCALE



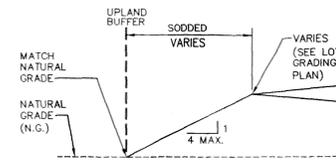
**EMERGENCY ACCESS GATE**  
NOT TO SCALE



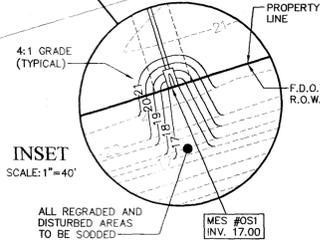
**SECTION A-A**  
NOT TO SCALE



**SECTION B-B**  
NOT TO SCALE



**SECTION C-C**  
NOT TO SCALE



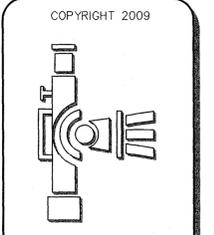
**INSET**  
SCALE: 1"=40'

NOTE:  
SILT FENCE TO BE PLACED AT  
THE REAR OF INDIVIDUAL LOTS  
DURING HOME CONSTRUCTION

NOTE:  
ALL FINISHED FLOOR ELEVATIONS  
SHOWN ON PLANS ARE REQUIRED  
"MINIMUM" AND MAY BE SET  
HIGHER

NOTE:  
SILT FENCE TO BE PLACED AT  
THE REAR OF INDIVIDUAL LOTS  
DURING HOME CONSTRUCTION

NO.	DATE	REVISIONS
1.	8.28.07	REVISED PER CITY COMMENTS DATED 1.24.07
2.	8.14.07	REVISED PER CITY COMMENTS DATED 8.1.07
3.	9.28.07	REVISED PER CITY COMMENTS DATED 9.12.07
4.	10.3.07	REVISED PER VOLUSIA COUNTY TRAFFIC ENGINEER COMMENTS DATED 9.27.07
5.	10.3.07	REVISED PER VOLUSIA COUNTY TRAFFIC ENGINEER COMMENTS DATED 12.27.07
6.	1.8.08	REVISED PER S.I. COMMENTS & FOOT SUBMITTAL
7.	1.27.09	REVISED PER FOOT
8.	4.29.09	REVISED PER S.I. MEETING OF 4.1.09
9.	02.13.14	REVISED PER S.I. MEETING OF 4.1.09



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E-MAIL: mail@harpstereng.com

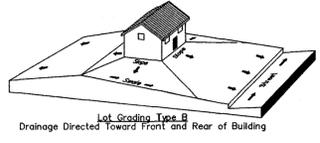
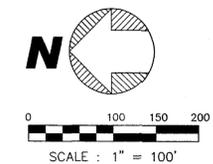
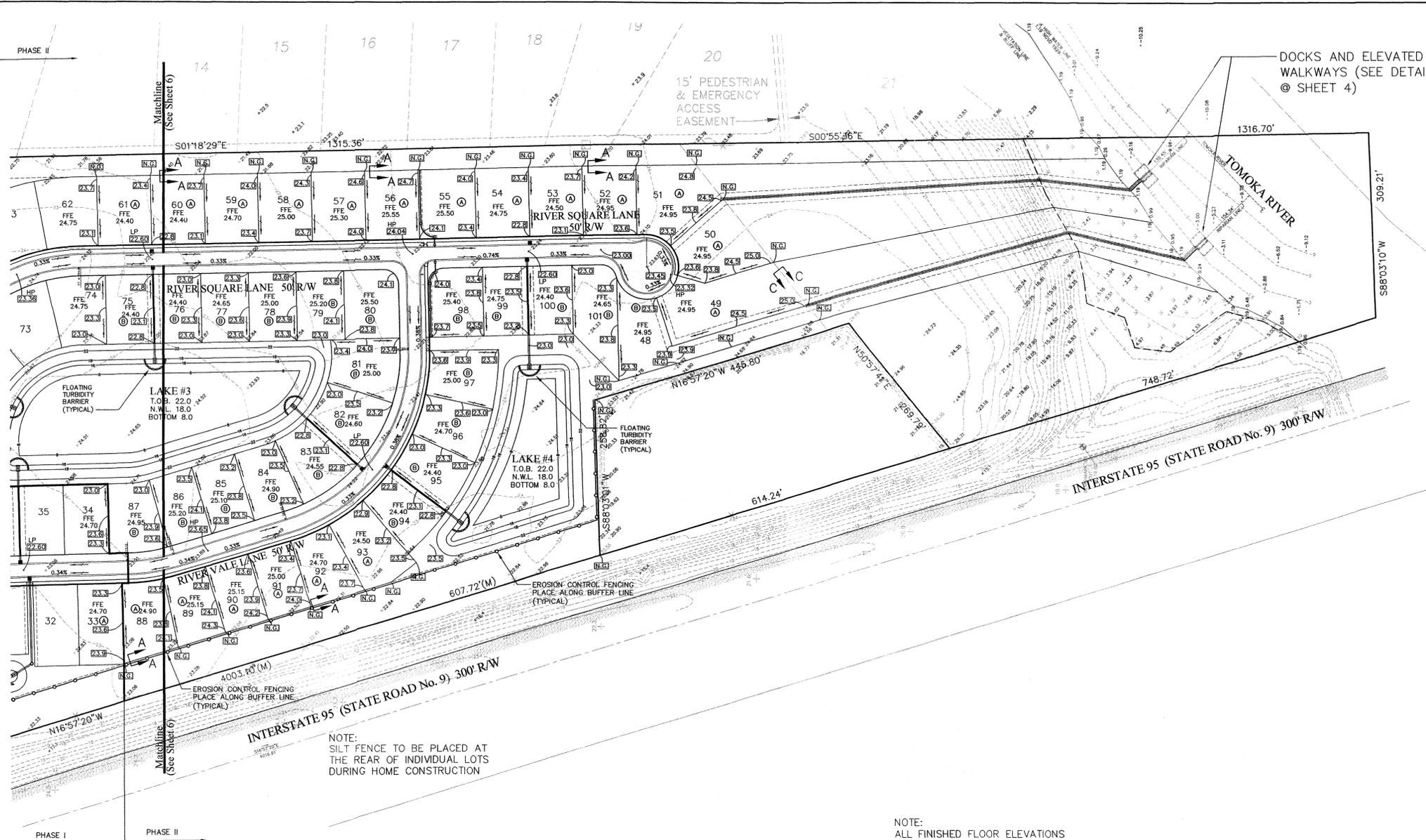
PHONE: (386) 677-9356  
FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH SUBDIVISION**  
FINAL PLAN - LOT GRADING PLAN - NORTH

DESIGN BY: SHM  
CHECKED BY: JHH  
DATE: 10/24/06  
SCALE: 1"=100'  
JOB No.: 05-150  
Dwg.: 05150-PGD.DWG  
XREF: 05150-BAS.DWG  
XREF: 05150-SURVEY-BAS.DWG

MAY 27 2014  
JOSEPH H. HOPKINS  
P.E. #8059  
ENGINEER OF RECORD  
NOT VALID UNLESS EMPLOYED SEAL IS AFFIXED

SHEET 6  
OF 30 SHEETS

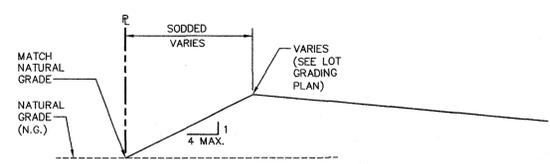


LOT GRADING PLAN  
NTS

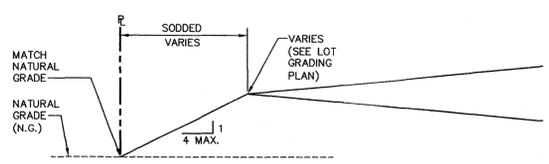
- LEGEND**
- EXISTING GRADE
  - PROPOSED GRADE
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - LP PROPOSED LOW POINT
  - HP PROPOSED HIGH POINT
  - PROPOSED CONTOUR
  - 0.33% PROPOSED ROADWAY SLOPE
  - D.M.&A.E. DRAINAGE, MAINTENANCE & ACCESS EASEMENT
  - (G) PROPOSED LOT GRADING TYPE

NOTE:  
SILT FENCE TO BE PLACED AT THE REAR OF INDIVIDUAL LOTS DURING HOME CONSTRUCTION

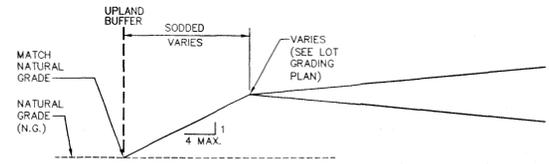
NOTE:  
ALL FINISHED FLOOR ELEVATIONS SHOWN ON PLANS ARE REQUIRED "MINIMUM" AND MAY BE SET HIGHER



SECTION A-A  
NOT TO SCALE



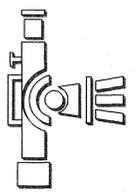
SECTION B-B  
NOT TO SCALE



SECTION C-C  
NOT TO SCALE

NO.	DATE	REVISIONS
1.	6.28.07	REVISED PER CITY COMMENTS DATED 1.24.07
3.	8.14.07	REVISED PER CITY COMMENTS DATED 8.1.07
4.	9.28.07	REVISED PER CITY COMMENTS DATED 9.12.07
6.	9.28.08	REVISED PER SJ COMMENTS DATED 9.22.07
8.	9.28.08	REVISED PER SJ COMMENTS & FOOT SUBMITTAL
9.	1.27.09	REVISED PER SJ COMMENTS OF 3.24.09
10.	3.26.09	REVISED PER SJ MEETING OF 4.1.09
11.	4.8.09	REVISED PER SJ MEETING OF 4.1.09
18.	02.13.14	REVISED PER SJ MEETING OF 4.1.09

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E-MAIL: mail@harpstereng.com  
PHONE: (386) 677-9336  
FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH SUBDIVISION**  
FINAL PLAN - LOT GRADING PLAN - SOUTH

DESIGN BY: SHM  
CHECKED BY: JHH  
DATE: 10/24/06  
SCALE: 1"=100'  
JOB No.: 05-150  
Dwg.: 05150-PGD.DWG  
XREF: 05150-BAS.DWG  
XREF: 05150-SURVEY-BAS.DWG  
MAR 27 2014  
JOSEPH J. HOPKINS  
P.E. #48059  
ENGINEER OF RECORD  
NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED

SHEET 7  
OF 30 SHEETS



**D.E.P. SEPARATION REQUIREMENTS:**

NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

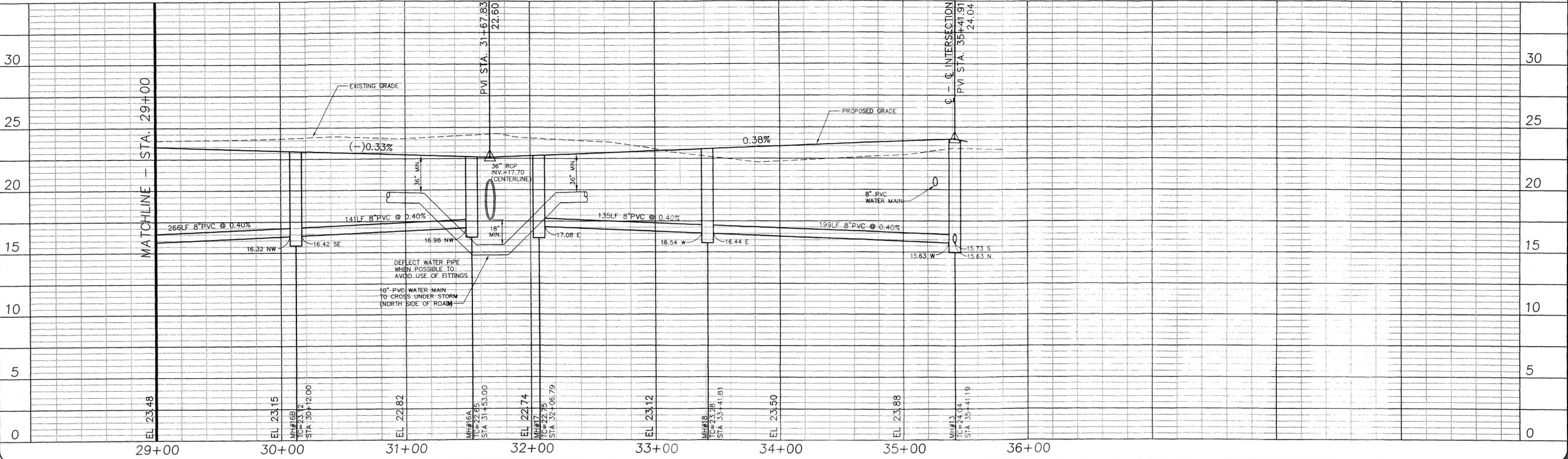
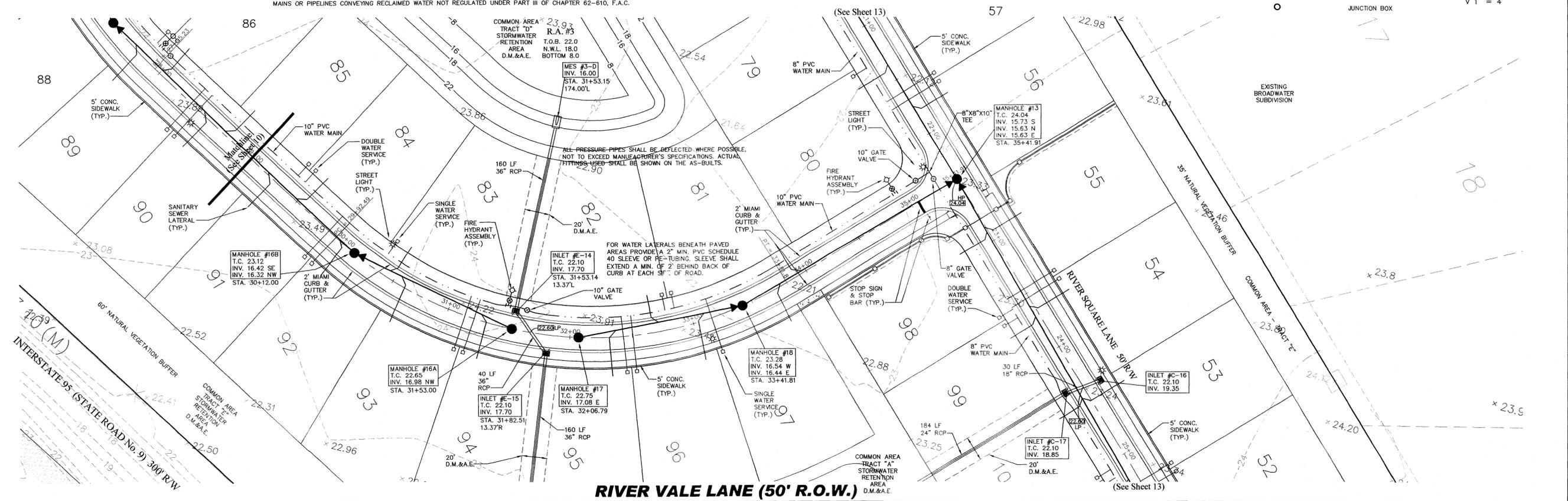
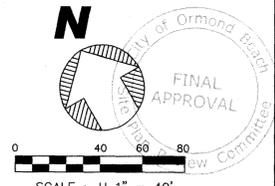
AT THE UTILITY CROSSING DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

**GENERAL NOTES:**

- FOR PROPER UTILITY SEPARATION DISTANCES AND CIRCUMSTANCES, SEE NOTES THIS SHEET FOR DEP REQUIREMENTS.
- DRAWINGS ARE INTENDED TO COMPLY WITH CURRENT CITY STANDARD DETAILS; CITY STANDARDS SHALL APPLY SHOULD THERE BE A CONFLICT.
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- GATE VALVES TO BE BOLTED TO TEES WHEREVER POSSIBLE.
- STATIONS AND OFFSETS FOR STORM STRUCTURES REFER TO FRONT OF GRATES ON INLETS AND END OF PIPES ON MITERED END SECTIONS.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY STANDARD CONSTRUCTION DETAILS, LATEST VERSION, UNLESS OTHERWISE SPECIFICALLY APPROVED.

**LEGEND**

- PROPOSED GRADE
- EXISTING GRADE
- EXISTING CONTOUR
- FIRE HYDRANT ASSEMBLY NTS(SEE DETAIL SHEET)
- DOUBLE WATER SERVICE NTS(SEE DETAIL SHEET)
- SANITARY SEWER SERVICE NTS(SEE DETAIL SHEET)
- STREET LIGHT
- CONCRETE SIDEWALK OR BIKEPATH TO BE CONSTRUCTED WITH SUBDIVISION IMPROVEMENTS
- CONCRETE SIDEWALK OR BIKEPATH TO BE CONSTRUCTED WITH DEV. OF EACH LOT
- D.M.&A.E.
- FM
- GV
- PVC
- WM
- 
- DRAINAGE, MAINTENANCE AND ACCESS EASEMENT
- FORCE MAIN
- GATE VALVE
- POLYVINYL CHLORIDE
- WATER MAIN
- SANITARY SEWER MANHOLE
- JUNCTION BOX



NO.	DATE	REVISIONS
1.	6.28.07	REVISED PER CITY COMMENTS DATED 1.24.07
2.	8.14.07	REVISED PER CITY COMMENTS DATED 8.10.07
3.	9.28.07	REVISED PER CITY COMMENTS DATED 9.12.07
4.	9.28.07	REVISED PER CITY COMMENTS DATED 9.23.07
5.	02.14.11	PHASE I AND PHASE II PLANS

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 CIVIL ENGINEERS SURVEYORS  
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 DAYTONA BEACH, FL 32118  
 E-MAIL: mail@harpstereng.com  
 PHONE: (386) 677-9336  
 FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH-PHASE II**  
 FINAL PLAN - PLAN AND PROFILE  
 RIVER VALE LANE - STA. 29+00 - STA. 35+41.91

DESIGN BY: SHM  
 CHECKED BY: JHH  
 DATE: 10/24/06  
 SCALE: 1" = 40'  
 JOB No.: 05-150  
 Dwg.: 05150-PP4.DWG  
 XREF: 05150-BAS.DWG  
 XREF: 05150-SURVEY-BAS.DWG  
 MAR 27 2014  
 JOSEPH H. HOPKINS  
 P.E. #6809  
 NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED

SHEET 11  
 OF 30 SHEETS

**D.E.P. SEPARATION REQUIREMENTS:**

NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

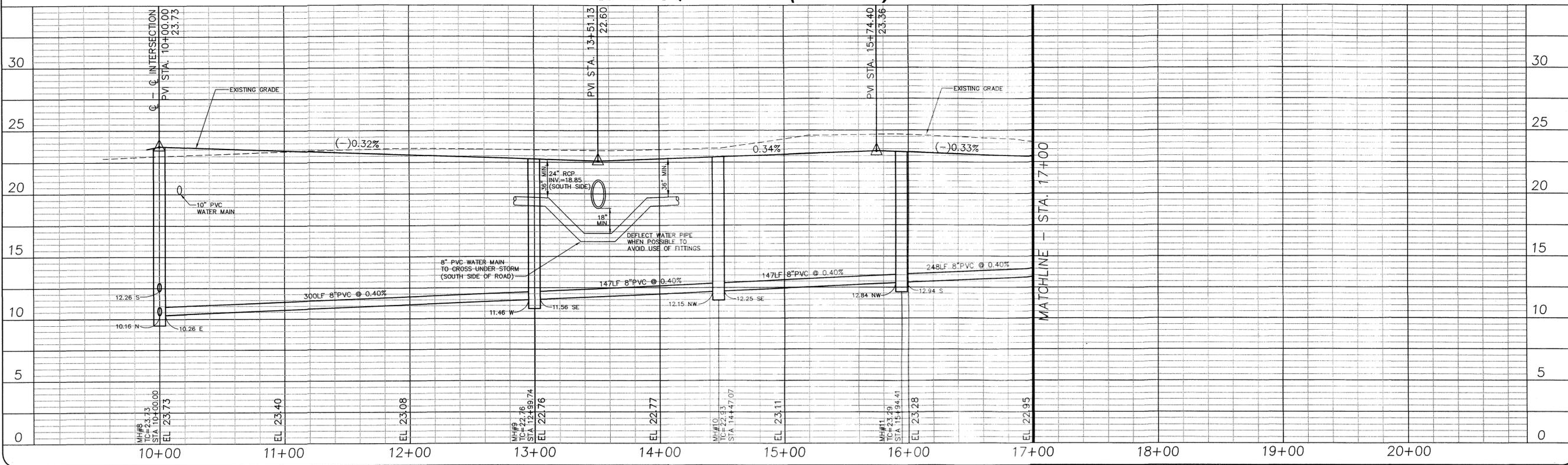
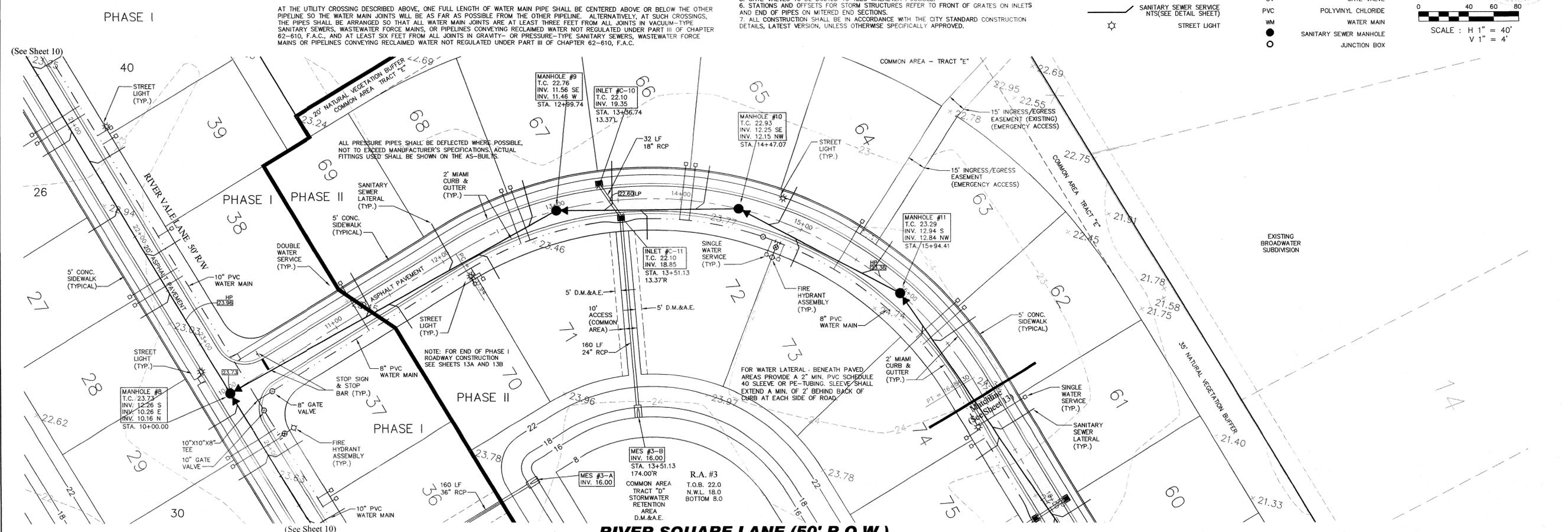
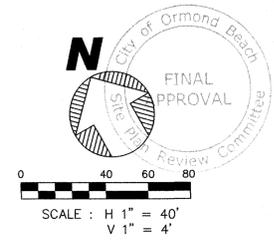
AT THE UTILITY CROSSING DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

**GENERAL NOTES:**

- FOR PROPER UTILITY SEPARATION DISTANCES AND CIRCUMSTANCES, SEE NOTES THIS SHEET FOR DEP REQUIREMENTS.
- DRAWINGS ARE INTENDED TO COMPLY WITH CURRENT CITY STANDARD DETAILS; CITY STANDARDS SHALL APPLY SHOULD THERE BE A CONFLICT.
- WHEN UTILITY CO. PEDESTALS ARE PLACED NEXT TO FIRE HYDRANTS OR PFL TRANSFORMER PADS, TCI CABLEVISION PEDESTALS ARE TO BE A MIN. OF 3' TO THE LEFT AND BELL SOUTH PEDESTALS ARE TO BE A MIN. OF 3' TO THE RIGHT LOOKING FROM THE STREET.
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- GATE VALVES TO BE BOLTED TO TEES WHEREVER POSSIBLE.
- STATIONS AND OFFSETS FOR STORM STRUCTURES REFER TO FRONT OF GRATES ON INLETS AND END OF PIPES ON MITERED END SECTIONS.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY STANDARD CONSTRUCTION DETAILS, LATEST VERSION, UNLESS OTHERWISE SPECIFICALLY APPROVED.

**LEGEND**

- PROPOSED GRADE
- EXISTING GRADE
- EXISTING CONTOUR
- FIRE HYDRANT ASSEMBLY NTS(SEE DETAIL SHEET)
- DOUBLE WATER SERVICE NTS(SEE DETAIL SHEET)
- SANITARY SEWER SERVICE NTS(SEE DETAIL SHEET)
- STREET LIGHT
- CONCRETE SIDEWALK OR BIKEPATH TO BE CONSTRUCTED WITH SUBDIVISION IMPROVEMENTS
- CONCRETE SIDEWALK OR BIKEPATH TO BE CONSTRUCTED WITH DEV. OF EACH LOT
- DRAINAGE, MAINTENANCE AND ACCESS EASEMENT
- FORCE MAIN
- GATE VALVE
- POLYVINYL CHLORIDE
- WATER MAIN
- SANITARY SEWER MANHOLE JUNCTION BOX



NO.	DATE	REVISIONS
1.	8.28.07	REVISED PER CITY COMMENTS DATED 12.4.07
2.	8.14.07	REVISED PER CITY COMMENTS DATED 8.1.07
3.	9.28.07	REVISED PER CITY COMMENTS DATED 9.12.07
4.	8.24.08	REVISED PER DEP COMMENTS DATED 8.23.08
5.	02.14.14	PHASE I AND PHASE II PLATS

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 PHONE: (386) 677-9336  
 FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH-PHASE-II**  
 FINAL PLAT - PLAN AND PROFILE  
 RIVER SQUARE LANE - STA. 10+00 - STA. 17+00

DESIGN BY: SHM  
 CHECKED BY: JHH  
 DATE: 10/24/06  
 SCALE: 1"=40'  
 JOB No.: 05-150  
 Dwg.: 05150-PPS.DWG  
 XREF.: 05150-BAS.DWG  
 XREF.: 05150-SURVEY-BAS.DWG

**MAR 27 2014**

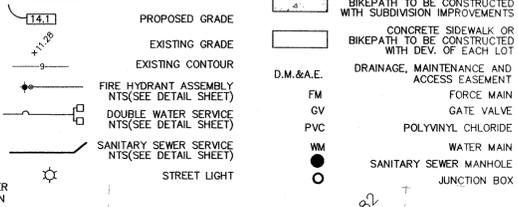
JOSEPH H. HOPKINS  
 P.E. #48059  
 ENGINEER OF RECORD  
 NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED

SHEET 12  
 OF 30 SHEETS

**GENERAL NOTES:**

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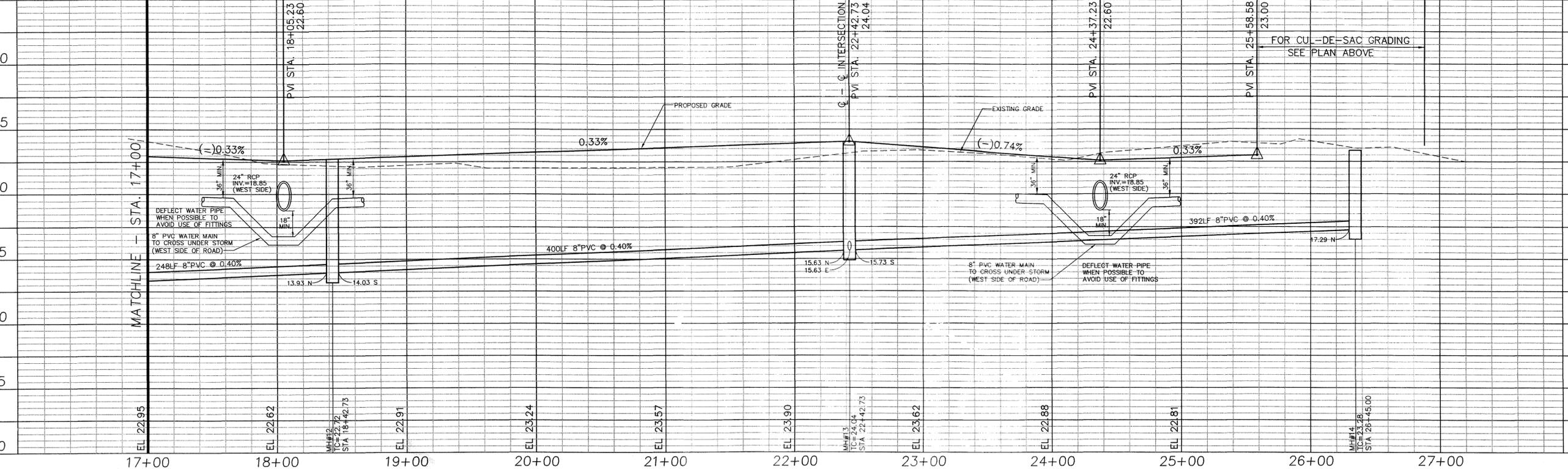
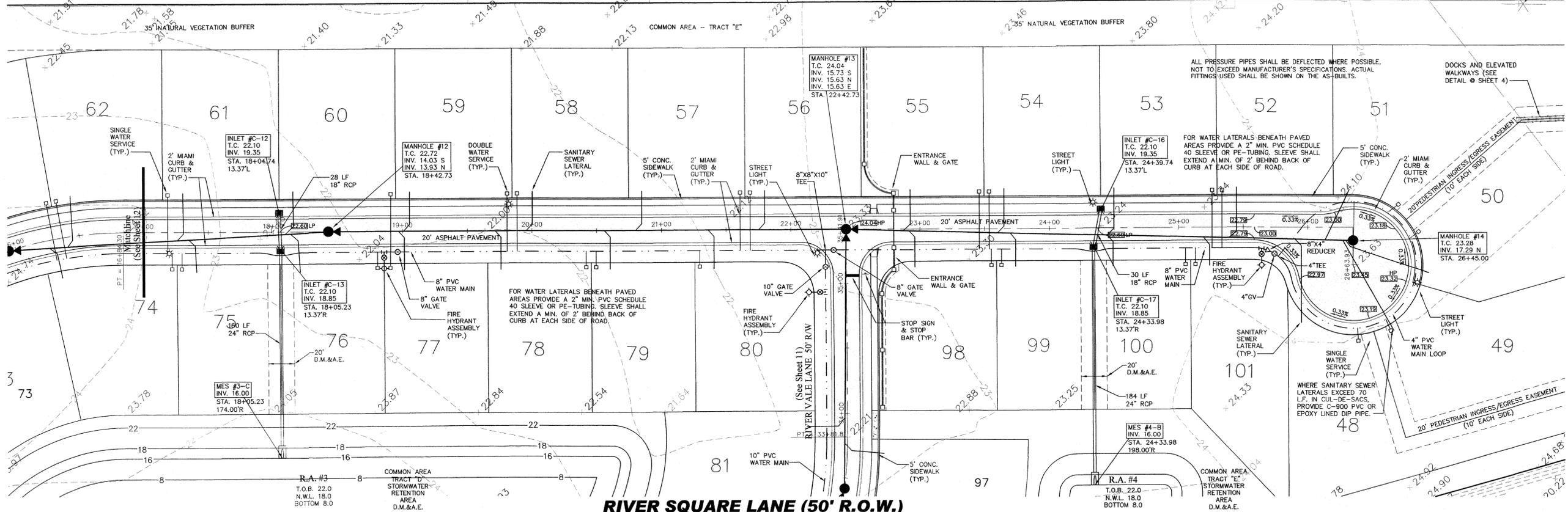
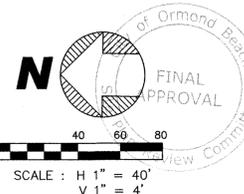
**LEGEND**



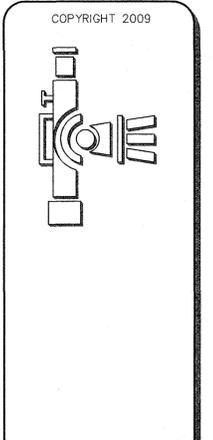
**D.E.P. SEPARATION REQUIREMENTS:**

NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY - OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

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NO.	DATE	REVISIONS
1.	6.26.07	REVISED PER CITY COMMENTS DATED 1.24.07
2.	8.14.07	REVISED PER CITY COMMENTS DATED 8.1.07
3.	9.28.07	REVISED PER CITY COMMENTS DATED 9.12.07
4.	6.24.08	REVISED PER PREP COMMENTS DATED 6.22.08
5.	9.26.08	REVISED PER SJ COMMENTS DATED 9.22.07
6.	3.26.09	REVISED PER SJ COMMENTS OF 3.24.09
7.	02.14.14	PHASE I AND PHASE II PLANS



**HARPSTER ENGINEERING & SURVEYING, INC.**  
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 E-MAIL: mail@harpstereng.com  
 PHONE: (386) 677-9336  
 FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH-PHASE II**  
**RIVER SQUARE LANE - STA. 17+00 - STA. 26+63.93**

DESIGN BY: SHM  
 CHECKED BY: JHH  
 DATE: 10/24/06  
 SCALE: 1"=40'  
 JOB No.: 05-150  
 Dwg.: 05150-PP6.DWG  
 XREF: 05150-BAS.DWG  
 XREF: 05150-SURV-BAS.DWG

**MAR 27 2014**  
 JOSEPH H. HOPKINS  
 P.E. #9099  
 ENGINEER OF RECORD  
 NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED

SHEET **13**  
 OF 30 SHEETS

\\harpster\server\CD\Shared\Projects\05150-River Oaks\Phase II\05150-PP6.dwg, 2/27/2014 1:35:51 PM, JHH

**D.E.P. SEPARATION REQUIREMENTS:**

NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

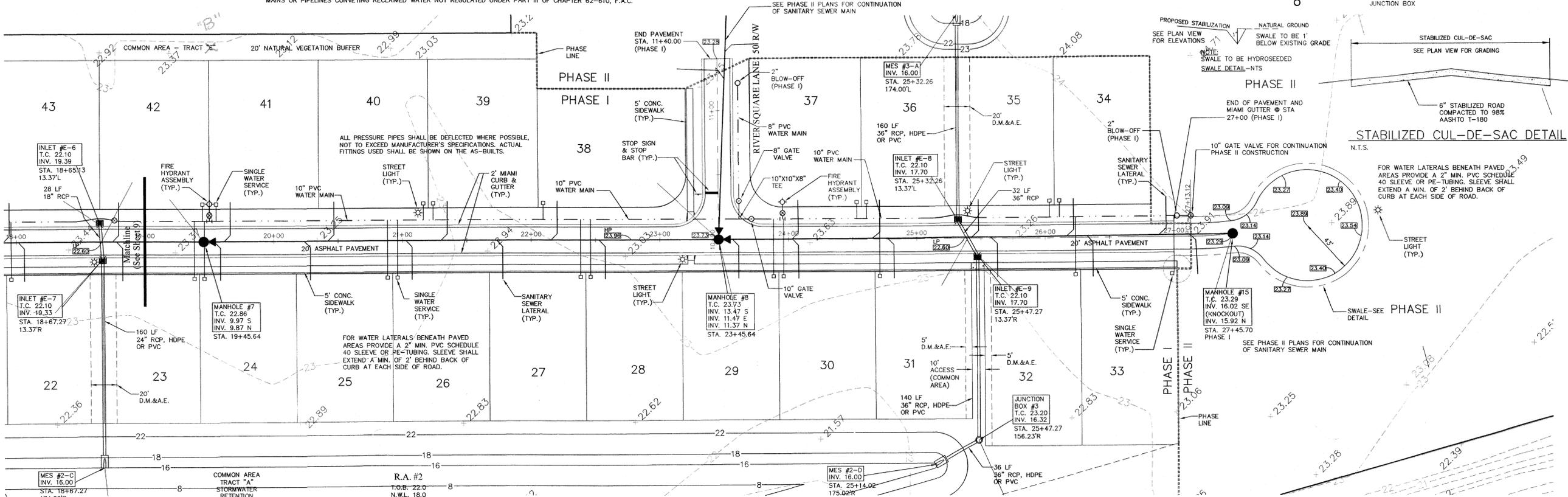
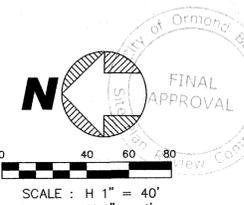
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**GENERAL NOTES:**

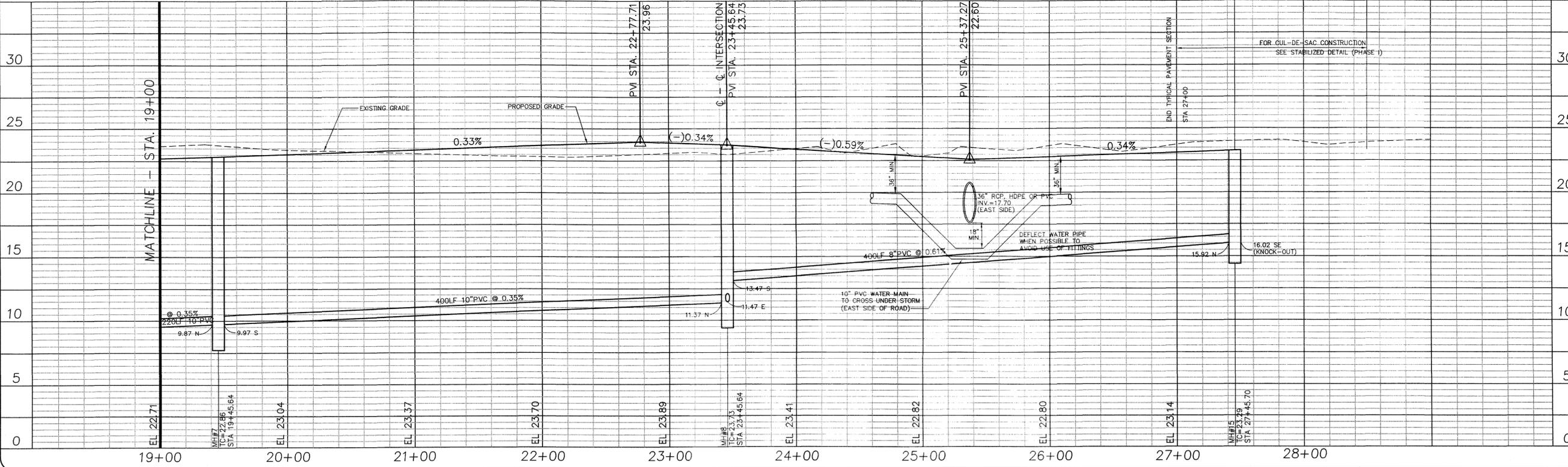
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**LEGEND**

- PROPOSED GRADE
- EXISTING GRADE
- EXISTING CONTOUR
- FIRE HYDRANT ASSEMBLY NTS(SEE DETAIL SHEET)
- SINGLE WATER SERVICE NTS(SEE DETAIL SHEET)
- SANITARY SEWER SERVICE NTS(SEE DETAIL SHEET)
- STREET LIGHT
- CONCRETE SIDEWALK OR BIKEPATH TO BE CONSTRUCTED WITH SUBDIVISION IMPROVEMENTS
- CONCRETE SIDEWALK OR BIKEPATH TO BE CONSTRUCTED WITH DEV. OF EACH LOT
- DRAINAGE, MAINTENANCE AND ACCESS EASEMENT
- FORCE MAIN
- GATE VALVE
- POLYVINYL CHLORIDE
- WATER MAIN
- SANITARY SEWER MANHOLE
- JUNCTION BOX



**RIVER VALE LANE (50' R.O.W.)**



NO.	DATE	REVISIONS
1.	8.29.07	REVISED PER CITY COMMENTS DATED 1.24.07
2.	8.14.07	REVISED PER CITY COMMENTS DATED 8.10.07
3.	8.28.07	REVISED PER CITY COMMENTS DATED 9.12.07
4.	8.24.08	REVISED PER FPL COMMENTS DATED 6.23.08
5.	7.08.13	REVISED WATER/SEWER/DETAILS
6.	9.12.13	REVISED PER CITY COMMENTS
7.	9.17.13	FINAL CONSTRUCTION REVISIONS
8.	02.14.14	PHASE I AND PHASE II PLANS

**HARPSTER ENGINEERING & SURVEYING, INC.**  
 SURVEYORS  
 CIVIL ENGINEERS  
 CONSULTANTS  
 LICENSED BUSINESS #6351  
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 DAYTONA BEACH, FL 32118  
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 PHONE: (386) 677-9336  
 FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH PHASE I**  
**FINAL PLAN - PLAN AND PROFILE - PHASE I CONSTRUCTION**  
 RIVER VALE LANE - STA. 19+00-STA. 28+50

DESIGN BY: SHM  
 CHECKED BY: FMH  
 DATE: 10/24/06  
 SCALE: 1"=40'  
 JOB No.: 05-150  
 Dwg.: 05150-PP13A.DWG  
 XREF: 05150-BAS.DWG  
 XREF: 05150-SURVEY-BAS.DWG  
 MAR 27 2014  
 JOSHUA L. HOPKINS  
 ENGINEER OF RECORD  
 NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED  
 SHEET 13A  
 OF 30 SHEETS

\\pserver\new\cd\land\proj\05150 RIVER OAKS\Phase I Plan & Profile\2-23-13\05150-PP13A.dwg, 3/1/2014 8:52:18 AM, LVS

**D.E.P. SEPARATION REQUIREMENTS:**

NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY- OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

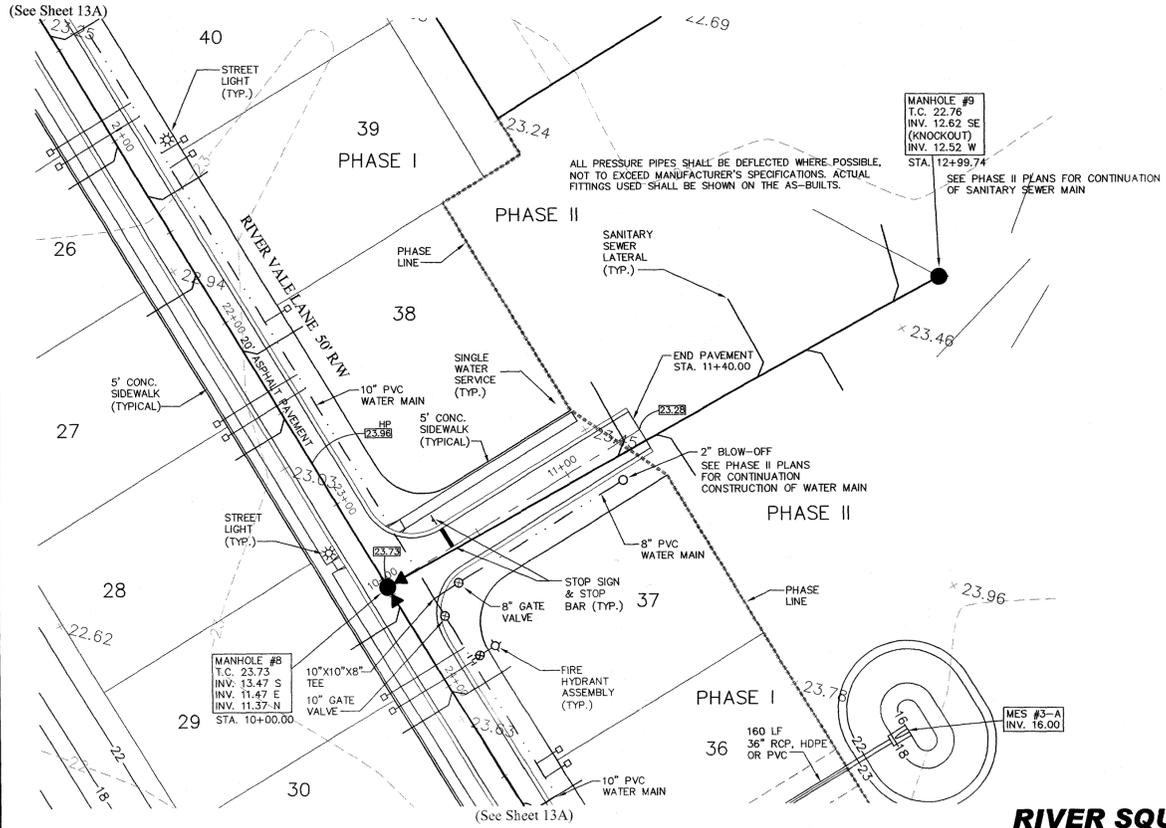
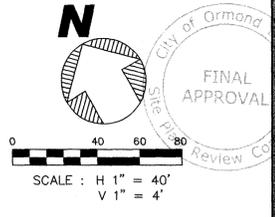
AT THE UTILITY CROSSING DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

**GENERAL NOTES:**

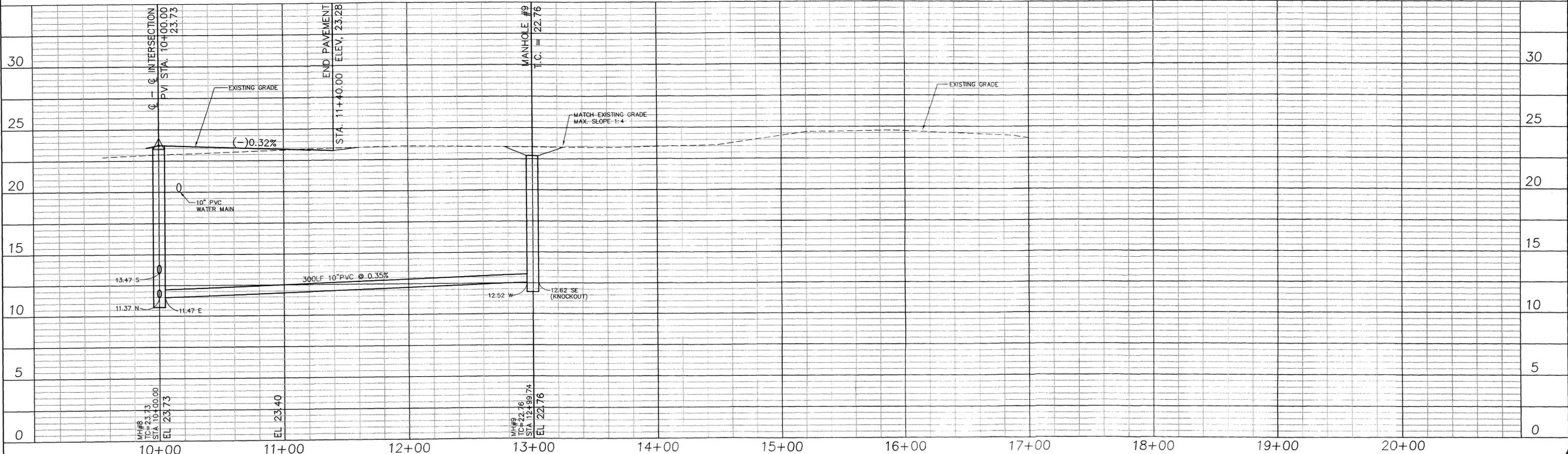
- FOR PROPER UTILITY SEPARATION DISTANCES AND CIRCUMSTANCES, SEE NOTES THIS SHEET FOR DEP REQUIREMENTS.
- DRAWINGS ARE INTENDED TO COMPLY WITH CURRENT CITY STANDARD DETAILS; CITY STANDARDS SHALL APPLY SHOULD THERE BE A CONFLICT.
- WHEN UTILITY CO. PEDESTALS ARE PLACED NEXT TO FIRE HYDRANTS OR FPL TRANSFORMER PADS, (V) CABLEVISION PEDESTALS ARE TO BE A MIN. OF 3' TO THE LEFT AND BELLSOUTH PEDESTALS ARE TO BE A MIN. OF 3' TO THE RIGHT LOOKING FROM THE STREET.
- MINIMUM 3' COVER OVER WATERMAIN, FORCE MAIN AND RECLAIMED WATER MAIN, EXCEPT AT PIPE CROSSINGS. AT PIPE CROSSINGS, MINIMUM 2' COVER WITH RESTRAINED JOINTS UNDER SPECIAL CONDITIONS. INSTALLED PER DIPRA STANDARDS.
- GATE VALVES TO BE BOLTED TO TEES WHEREVER POSSIBLE.
- STATIONS AND OFFSETS FOR STORM STRUCTURES REFER TO FRONT OF GRATES ON INLETS AND END OF PIPES ON MITERED END SECTIONS.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY STANDARD CONSTRUCTION DETAILS, LATEST VERSION, UNLESS OTHERWISE SPECIFICALLY APPROVED.

**LEGEND**

- PROPOSED GRADE
- EXISTING GRADE
- EXISTING CONTOUR
- FIRE HYDRANT ASSEMBLY NTS(SEE DETAIL SHEET)
- SINGLE WATER SERVICE NTS(SEE DETAIL SHEET)
- SANITARY SEWER SERVICE NTS(SEE DETAIL SHEET)
- STREET LIGHT
- CONCRETE SIDEWALK OR BIKEPATH TO BE CONSTRUCTED WITH SUBDIVISION IMPROVEMENTS
- CONCRETE SIDEWALK OR BIKEPATH TO BE CONSTRUCTED WITH DEV. OF EACH LOT
- DRAINAGE, MAINTENANCE AND ACCESS EASEMENT
- FORCE MAIN
- GATE VALVE
- POLYVINYL CHLORIDE
- WATER MAIN
- SANITARY SEWER MANHOLE
- JUNCTION BOX



**RIVER SQUARE LANE (50' R.O.W.)**



NO.	DATE	REVISIONS
1.	6.29.07	REVISED PER CITY COMMENTS DATED 1.24.07
3.	8.14.07	REVISED PER CITY COMMENTS DATED 8.1.07
4.	9.28.07	REVISED PER CITY COMMENTS DATED 9.12.07
7.	6.24.08	REVISED PER FDP COMMENTS DATED 6.23.08
15.	7.08.13	REVISED WATER/SEWER/DETAILS
16.	9.12.13	REVISED PER CITY COMMENTS
17.	9.17.13	FINAL CONSTRUCTION REVISIONS
18.	02.14.14	PHASE I AND PHASE II PLATS

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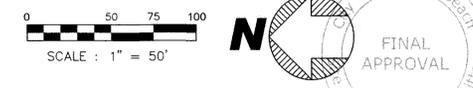
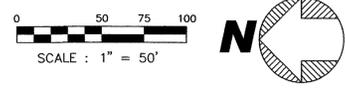
**HARPSTER ENGINEERING & SURVEYING, INC.**  
 CIVIL ENGINEERS SURVEYORS  
 CONSULTANTS  
 1906 S. PENNSULA BLVD.  
 DAYTONA BEACH, FL 32118  
 E-MAIL: mail@harpstereng.com  
 PHONE: (386) 677-9336  
 FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH PHASE I**  
 FINAL PLAT - PLAN AND PROFILE - PHASE I CONSTRUCTION  
 RIVER SQUARE LANE - STA. 10+00 - STA. 13+00

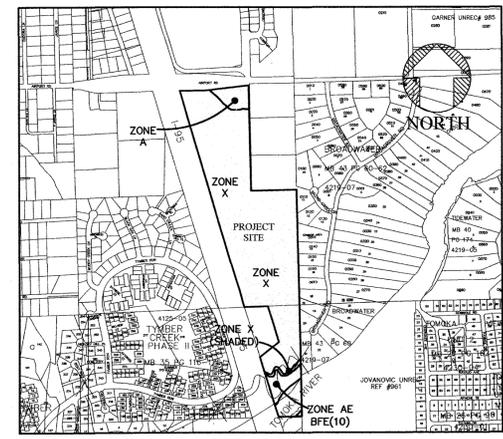
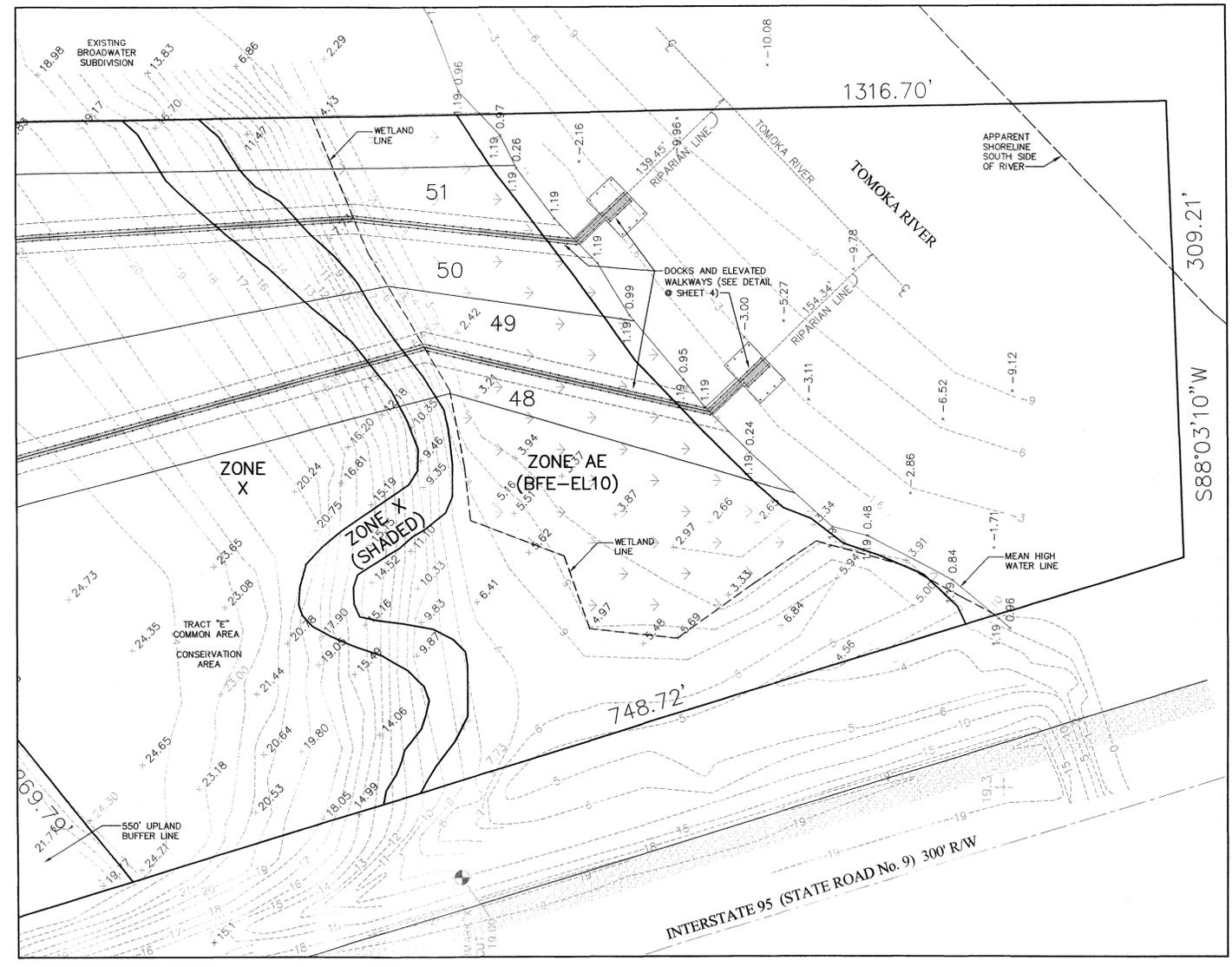
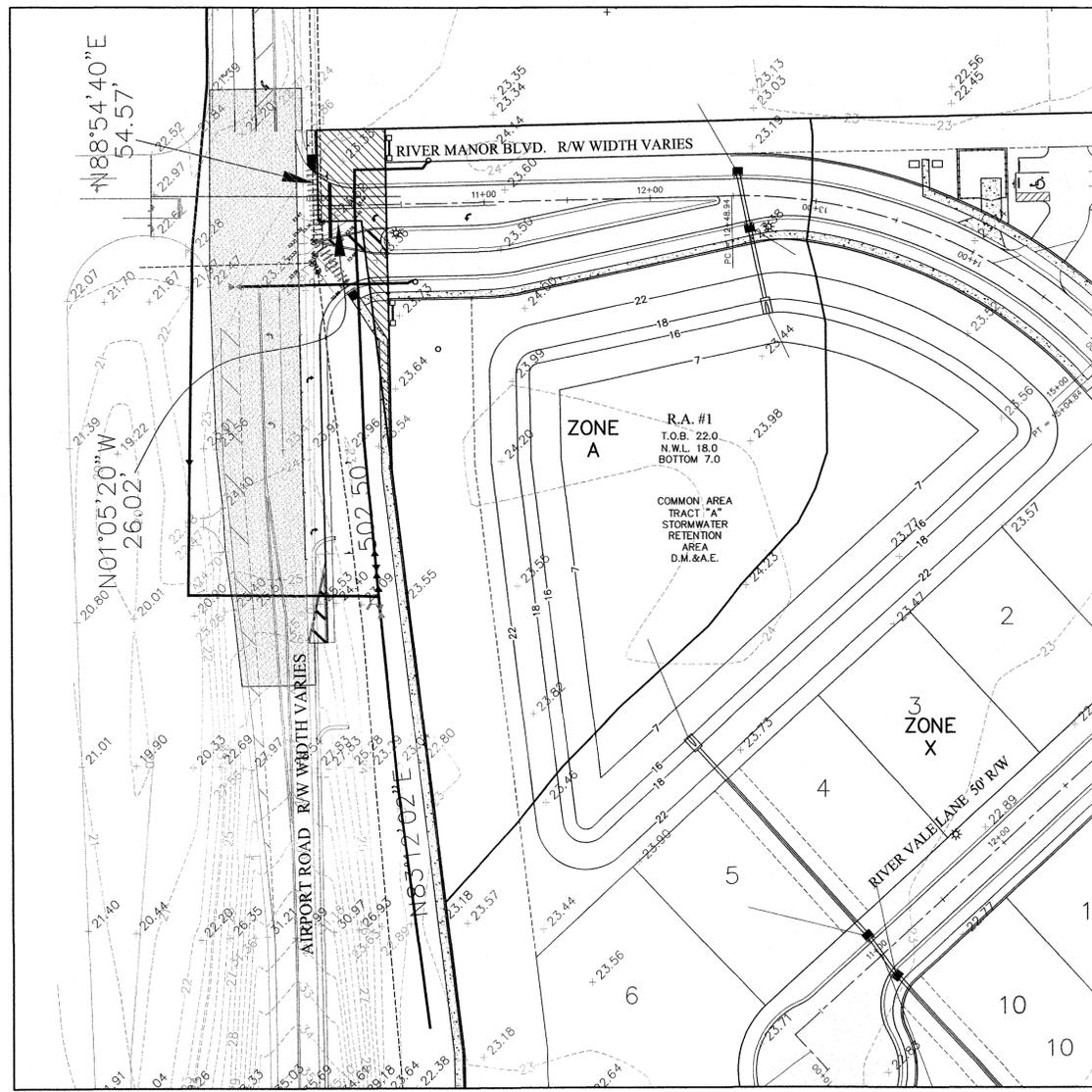
DESIGN BY: SHM  
 CHECKED BY: FMH  
 DATE: 10/24/06  
 SCALE: 1"=40'  
 JOB No.: 05-150  
 Dwg.: 05150-PP13B.DWG  
 XREF: 05150-BAS.DWG  
 XREF: 05150-SURVEY-BAS.DWG

**MAR 27 2014**  
 JOSEPH H. HOPKINS  
 ENGINEER OF RECORD  
 NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED

SHEET **13B**  
 OF 30 SHEETS



City of Ormond Beach  
 Final Approval  
 Plan Review Committee



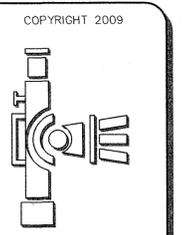
FLOOD ZONE MAP  
 SCALE: 1" = 1000'

FLOOD ZONE A - NO BASE FLOOD ELEVATION DETERMINED  
 FLOOD ZONE AE - BASE FLOOD ELEVATION DETERMINED  
 FLOOD ZONE X - AREAS DETERMINED TO BE OUTSIDE 500 YEAR FLOOD PLAIN.  
 FLOOD ZONE X (SHADED) - AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 100-YEAR FLOOD.  
 FLOOD INSURANCE RATE MAP - FEMA - VOLUSIA COUNTY, FLORIDA  
 PANEL 213 OF 930, MAP #12127C0213H, EFFECTIVE DATE: FEB 19, 2003

LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- LP PROPOSED LOW POINT
- HP PROPOSED HIGH POINT
- PROPOSED CONTOUR
- PROPOSED ROADWAY SLOPE
- DRAINAGE, MAINTENANCE & ACCESS EASEMENT

NO.	DATE	REVISIONS
1.	6.26.07	REVISED PER CITY COMMENTS DATED 1.24.07
2.	8.14.07	REVISED PER CITY COMMENTS DATED 8.1.07
3.	9.26.08	REVISED PER SJ COMMENTS DATED 8.22.07
4.	1.27.09	REVISED PER SJ COMMENTS & FOOT SUBMITTAL
5.	3.26.09	REVISED PER SJ COMMENTS OF 3.24.09
6.	4.8.09	REVISED PER SJ MEETING OF 4.1.09
7.	7.06.13	REVISED WATER/SEWER/DETAILS
8.	02.22.14	PHASE I AND PHASE II PLATS

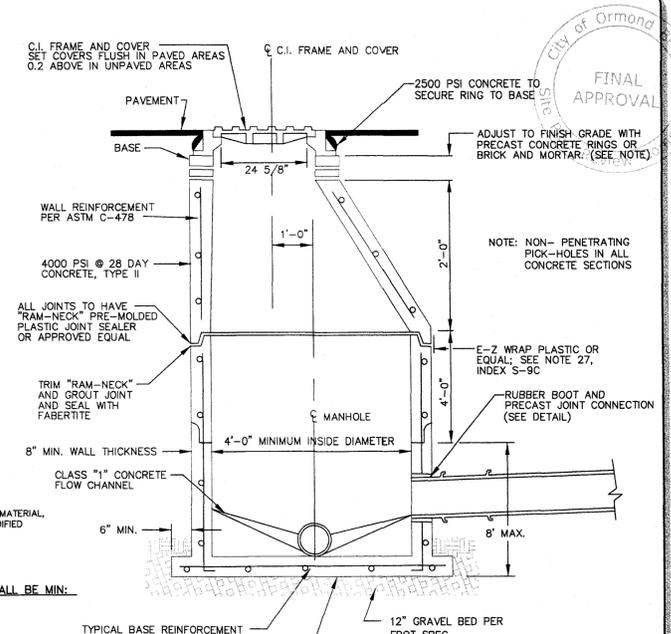
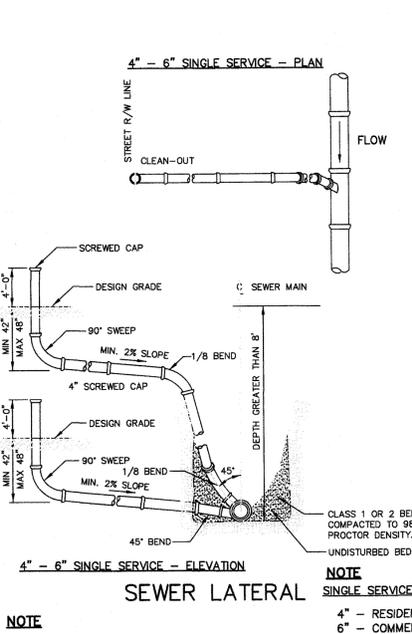
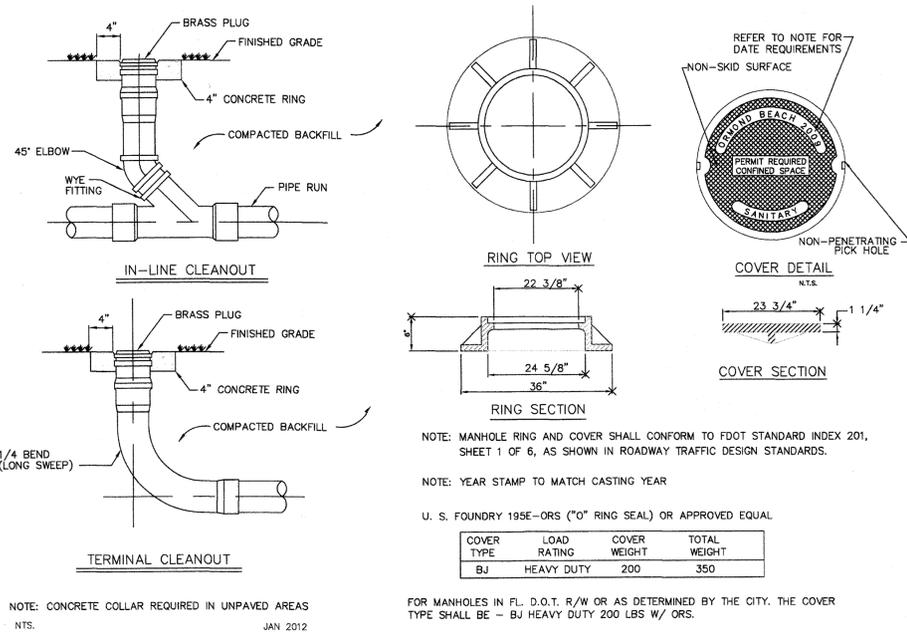


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 PHONE: (386) 677-9336  
 FAX: (386) 677-9334  
**RIVER OAKS OF ORMOND BEACH**  
 FINAL PLAT - FLOODPLAIN DELINEATION AND IMPACT PLAN

DESIGN BY: SHM  
 CHECKED BY: JHH  
 DATE: 10/24/06  
 SCALE: 1" = 50'  
 JOB No.: 05-150  
 Dwg.: 05150-FPDIP.DWG  
 XREF: 05150-BAS.DWG  
 XREF: 05150-SURVEY-BAS.DWG  
 MAR 27 2014  
 JOSEPH L. HOPKINS  
 ENGINEER OF RECORD  
 NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED  
 SHEET 15  
 OF 30 SHEETS

SANITARY SEWER CONSTRUCTION GENERAL NOTES JAN 2012

- THE CITY'S PUBLIC UTILITY DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY SEWER CONSTRUCTION.
- ALL SANITARY SEWER MAIN LINES SHALL BE A MINIMUM OF 8" IN DIAMETER. SERVICE LATERALS SHALL BE A MINIMUM OF 4" DIAMETER (RESIDENTIAL) OR A MINIMUM OF 6" DIAMETER (COMMERCIAL).
- ALL SANITARY SEWER LINES SHALL BE PVC SDR 26. IN PLACES WHERE A MINIMUM COVER OF 4.0' CANNOT BE MAINTAINED, C-900 GREEN PVC DR-25, CLASS 100 OR CONCRETE ENCASEMENT SHALL BE USED.
- MINIMUM ALLOWABLE SANITARY SEWER SLOPES ALLOWED ARE:  
8" PIPE 0.40%  
10" PIPE 0.30%  
12" PIPE 0.22%
- SEWER LINE CONSTRUCTION SHALL BE ACCOMPLISHED BY THE USE OF A LASER INSTRUMENT UNLESS ANOTHER METHOD IS PREVIOUSLY APPROVED BY THE CITY.
- THE CONTRACTOR SHALL AT ALL TIMES, DURING PIPE LAYING, DEWATER THE GROUND SUFFICIENTLY TO KEEP THE GROUNDWATER ELEVATION A MINIMUM OF 6" BELOW THE PIPE BEING LAID WITHIN THE AREA OF THE TRENCH.
- ALL PIPES SHALL BE LAID ON A FIRM FOUNDATION. SOFT OR SPONGY BEDDING FOR PIPES WILL NOT BE ACCEPTED. ANY UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH A DRY, COMPACTED, GRANULAR MATERIAL SATISFACTORY TO THE CITY.
- EXCAVATION AND BACKFILL: THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND BRACING OF EXCAVATION WORK OR USE OF TRENCH BOX IN ORDER TO PROVIDE FOR THE SAFETY OF WORKMEN, AS WELL AS REPRESENTATIVES OF THE CITY, THE DESIGN ENGINEER, AND THE DEVELOPER.
- THE CONTRACTOR SHALL INSTALL A METALLIZED FOIL LOCATOR TAPE, OR SIMILAR DEVICE AS MAY BE APPROVED BY THE CITY FOR THE FULL LENGTH OF ALL PVC WATER, RECLAIMED WATER AND SEWAGE FORCE MAINS. THIS PIPE LOCATOR TAPE SHALL BE INSTALLED (15) INCHES BELOW FINISHED GRADE OR AS DIRECTED BY THE MANUFACTURER AND IS IN ADDITION TO THE LOCATOR WIRE REQUIRED IN THE UTILITY PIPE LOCATION MATERIALS DETAIL (MISCELLANEOUS DETAILS SECTION - M10).
- MANHOLES SHALL BE LOCATED AT INTERVALS NOT EXCEEDING 400 FEET.
- MANHOLE RIMS SHALL MATCH FLUSH WITH THE FINISH GRADE ELEVATION IN PAVED AREAS AND A MINIMUM OF 0.2 FEET ABOVE GRADE IN UNPAVED AREAS.
- THE CONTRACTOR SHALL CONSTRUCT SANITARY SEWER MANHOLES IN SUCH A WAY THAT SEWER LINES DO NOT INTERSECT SEALED JOINTS BETWEEN SECTIONS OF THE MANHOLE.
- RUBBER BOOTS AND STAINLESS STEEL BANDS SHALL BE UTILIZED IN THE CONNECTION OF THE SEWER MAIN TO THE MANHOLES (SEE RUBBER BOOT AND PRECAST JOINT CONNECTION DETAIL).
- NO DOGHOUSE TYPE MANHOLES ARE PERMITTED WITHIN THE CITY OF ORMOND BEACH.
- INDIVIDUAL SANITARY SERVICE CONNECTORS ON NEW CONSTRUCTION SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES, BUT TO SEWER MAIN LINES BY USE OF WYE CONNECTIONS.
- FOR SINGLE FAMILY HOMES, SINGLE FOUR INCH SEWER SERVICES SHALL BE CONSTRUCTED AT EACH LOT OR UNIT AND LOCATED ON THE DOWNSTREAM SIDE OF THE LOT CENTER LINE. THESE SERVICES SHALL BE EXTENDED 4 FEET ABOVE GROUND AT THE PROPERTY LINE WITH A PVC RISER AND PLUG BEING EASILY VISIBLE FROM THE ROAD. RUBBER SEAL FITTINGS TO BE USED ON ALL LINES, NO GLUED JOINTS.
- FOR MULTI-FAMILY AND COMMERCIAL SITES, SIX INCH MINIMUM SEWER SERVICES AND CLEANOUTS SHALL BE PROVIDED AS APPROVED BY THE CITY.
- SANITARY SEWER LATERALS LONGER THAN 70 FEET, MEASURED FROM THE SEWER MAIN TO THE RIGHT-OF-WAY LINE MAY BE APPROVED ON A CASE BY CASE BASIS. SUCH LATERALS SHALL BE D.I.P. EPOXY LINED OR C-900 PVC.
- SANITARY SEWER MANHOLES WHICH HAVE SEWER FORCE MAINS DISCHARGING DIRECTLY INTO THEM, OR ANY MANHOLE WITHIN 200 FEET OF A LIFT STATION, SHALL BE FIBERGLASS OR PVC LINED. RETRO-FITTING OF MANHOLES WITH LINERS SHALL BE REQUIRED WHEN NEW CONNECTIONS SUCH AS THIS ARE MADE. FIBERGLASS SHALL BE A MINIMUM 1/2" THICKNESS UNLESS APPROVED OTHERWISE BY THE CITY. LINING SHALL BE AGRI-SURE-GRIP OR PRE-APPROVED EQUAL.
- SEE CHART ON DETAIL INDEX S-1C FOR FORCEMAIN AND REUSE PIPE SIZE AND MATERIALS.
- THE CITY OF ORMOND BEACH REQUIRES THE DEVELOPER TO TELEVIEW ANY AND ALL SANITARY SEWER MAIN LINES AND LATERALS PRIOR TO ANY FINAL ACCEPTANCE, AND RESERVES THE RIGHT TO REQUEST WATER AND AIR TESTING.
- ALL SEWER MAINS PRIOR TO ACCEPTANCE BY THE CITY SHALL BE TELEVIEWED BY A REPUTABLE COMPANY THAT ENGAGES IN THIS TYPE OF WORK. THE VIDEO SHALL BE NON-STOP WITH AUDIO DESCRIBING WHAT IS BEING REVIEWED. WRITTEN VIDEO LOGS DESCRIBING THE CONDITION OF THE LINES SHALL ACCOMPANY THE TAPE SUBMISSION TO THE CITY.
- CONTRACTORS SHALL BE REQUIRED TO TELEVIEW ALL SEWER LINES IN THE PRESENCE OF CITY PERSONNEL AND PROVIDE COPIES OF THE VIDEO TAPE TO THE PUBLIC UTILITY DEPT. ANY DEFECTS NOTED SHALL BE CORRECTED PRIOR TO ACCEPTANCE BY THE CITY.
- ALL MANHOLES CONSTRUCTED IN SIDE YARDS, BACKYARDS, AND EASEMENTS OFF THE RIGHT-OF-WAY SHALL BE OUTFITTED WITH FIBERGLASS LINERS OR OTHER TYPES OF LINERS OR COATINGS APPROVED BY THE CITY. IN ADDITION THE CITY MAY REQUIRE LINERS OR COATINGS TO BE INSTALLED IN OTHER AREAS WHERE THE PUBLIC UTILITY DEPARTMENTS BELIEVE THE NEED IS JUSTIFIED.
- ALL SEWER LINES WHICH ARE CONSTRUCTED OFF PUBLIC RIGHTS-OF-WAY WITHIN SIDEYARDS, BACKYARDS, AND OTHER POORLY ACCESSIBLE AREAS SHALL BE CONSTRUCTED OF C-900 PVC, OR EPOXY LINED DUCTILE IRON PIPE. ABSOLUTELY NO USE OF PLASTIC STYRENE FITTINGS SHALL BE ALLOWED.
- SEWER LATERAL LOCATIONS SHALL BE MARKED ALONG THE OUTSIDE OF THE CURB WITH A SAWCUT V, OR BY A METAL TAB SET INTO THE PAVEMENT.
- EZ-WRAP PLASTIC, AS MANUFACTURED BY PRESS-SEAL GASKET CORPORATION OR APPROVED EQUAL, SHALL BE USED ON THE OUTSIDE OF ALL MANHOLE AND WETWELL JOINTS. APPLY ONE LAYER OF 9" WRAP CENTERED ON EACH JOINT. A CITY INSPECTOR SHALL PERSONALLY INSPECT ALL JOINT SEALS PRIOR TO BACKFILLING OPERATIONS.
- ALL PROPOSED SEWER MAINS, 4" OR GREATER, SHALL BE FLUSHED AND CLEANED WITH A POLY PIG IN ACCORDANCE WITH LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.
- ALL SEWER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER, DUCTILE IRON CLASS 350 OR CONCRETE ENCASEMENT MAY BE USED AS APPROVED BY THE CITY.
- SEWER SYSTEMS SHALL BE PRESSURE TESTED AT 100 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA STANDARDS. TESTS SHALL BE CONDUCTED BEFORE FINAL PAVING AND IN THE PRESENCE OF THE CITY'S INSPECTOR.

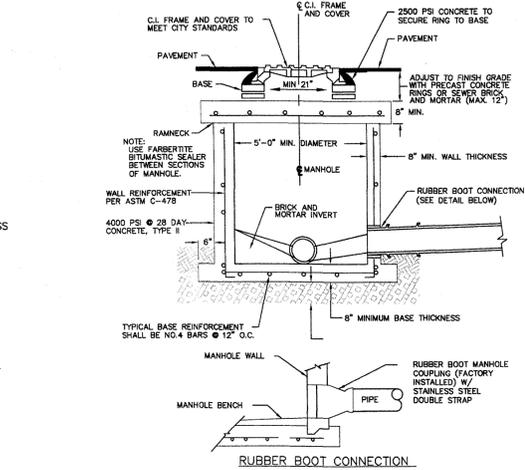


NOTE: CONCRETE COLLAR REQUIRED IN UNPAVED AREAS  
NTS. JAN 2012

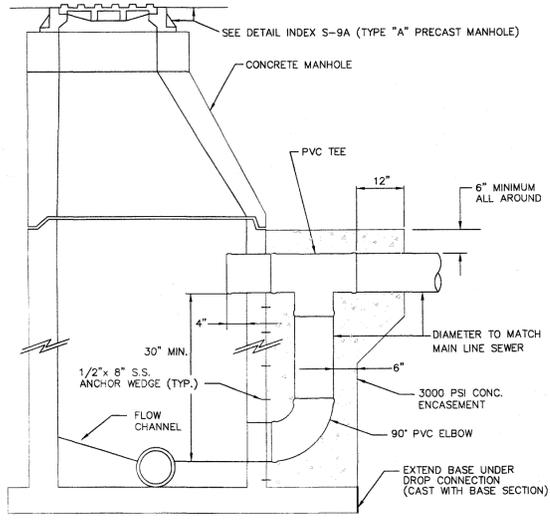
FOR MANHOLES IN FL. D.O.T. R/W OR AS DETERMINED BY THE CITY. THE COVER TYPE SHALL BE - BJ HEAVY DUTY 200 LBS W/ ORS.  
NTS. RING AND COVER JAN 2012

NOTE: USE OF STYRENE MARELIAL WILL NOT BE PERMITTED  
SINGLE SERVICES SHALL BE MIN:  
4\"/>

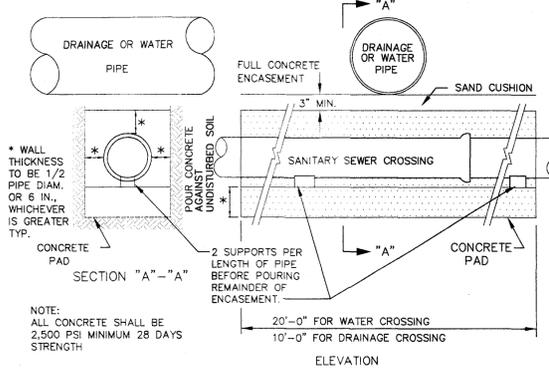
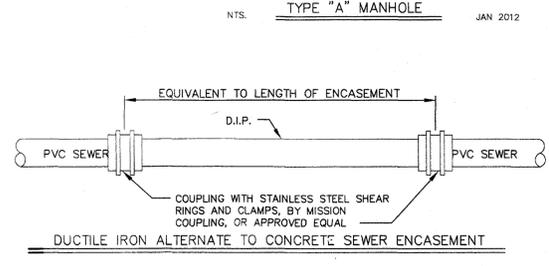
- NOTES:
- THE TOP OF THE CONE SHOULD BE SET 2 1/2" MIN. - 12" MAX. BELOW THE BOTTOM OF THE MANHOLE COVER FRAME TO ACCOMMODATE FUTURE GRADE CHANGES (USE BRICK AND MORTAR OR PRECAST CONCRETE RINGS).
  - THE INSIDE OR OUTSIDE OF MANHOLES SHALL NOT BE COATED, EXCEPT MANHOLES WHICH RECEIVE DISCHARGE FROM A FORCE MAIN AND ANY MANHOLES LOCATED WITHIN 200' OF A LIFT STATION OR ANY MANHOLES OUTSIDE OF THE RIGHT-OF-WAY. A SULFIDE CORROSION-RESISTANT MATERIAL SHALL BE USED AS LINER FOR THOSE MANHOLES THAT MEET THE CONDITIONS STATED ABOVE. THE LINER SHALL BE EITHER FIBERGLASS OR PVC OR AS APPROVED BY THE CITY ENGINEER.
  - NO DOGHOUSE TYPE MANHOLES SHALL BE PERMITTED WITHIN THE CITY OF ORMOND BEACH.



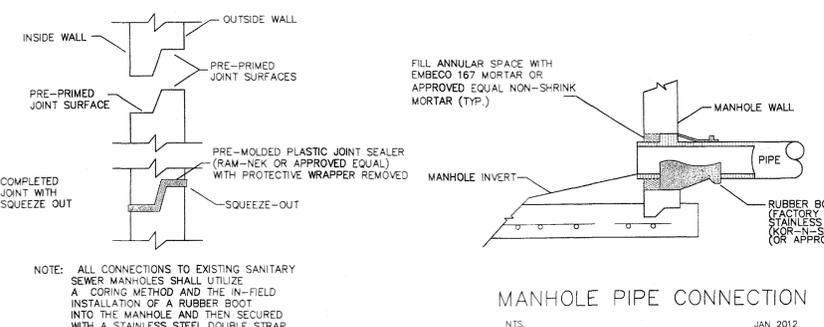
NOTE: USE FOR MANHOLES OF 6\"/>



NOTE: FOR USE WHERE FREE DROP IS GREATER THAN 30\"/>



NOTE: ALL CONCRETE SHALL BE 2,500 PSI MINIMUM 28 DAYS STRENGTH  
WATER MAIN SHALL BE LOCATED ABOVE ENCASEMENT AS SHOWN ON PLANS OR DETERMINED IN THE FIELD. USE ENCASEMENT WHERE VERTICAL CLEARANCE BETWEEN WATER MAIN AND SEWER IS LESS THAN 18 INCHES.  
NTS. JAN 2012

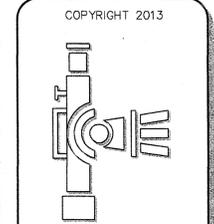


NOTE: ALL CONNECTIONS TO EXISTING SANITARY SEWER MANHOLES SHALL UTILIZE A CORING METHOD AND THE IN-FIELD INSTALLATION OF A RUBBER BOOT INTO THE MANHOLE AND THEN SECURED WITH A STAINLESS STEEL DOUBLE STRAP.  
NTS. JAN 2012

FORCE MAIN & REUSE MAIN STANDARDS		
DIAMETER	MATERIAL	STANDARD
2" - 4"	PVC 1120 / SDR 21	ASTM D 2241
> 4" - 12"	PVC 1120 / CLASS 100	AWWA C 900
14" - 36" (16" - 24" DR - 18) (30" - 36" DR - 21)	PVC 1120	AWWA C 905
ALL SIZES	HDPE (DIPS) DR 13.5	ASTM F 714

NOTE: PVC PIPE COLOR SHALL BE GREEN OR WHITE FOR SEWER FORCE MAIN, AND PURPLE FOR REUSE MAIN.

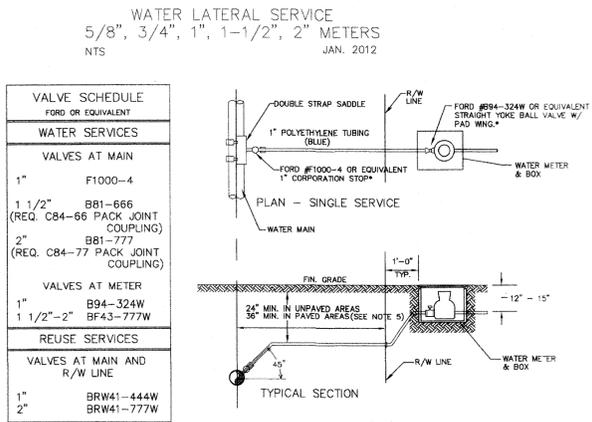
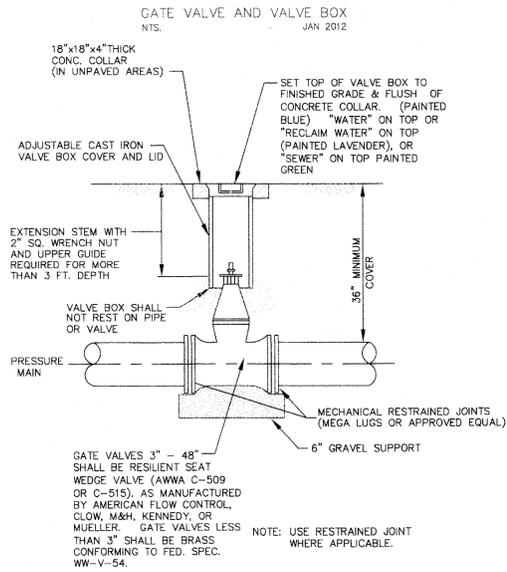
NO.	DATE	REVISIONS
1.	6/28/07	REVISED PER CITY COMMENTS DATED 1/24/07
2.	9/28/07	REVISED PER CITY COMMENTS DATED 9/12/07
3.	7/08/13	REVISED WATER/SEWER DETAILS
4.	9/17/13	FINAL CONSTRUCTION DETAILS



**HARPSTER ENGINEERING & SURVEYING, INC.**  
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CONSULTANTS BUSINESS #6351  
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DESIGN BY: SHM  
CHECKED BY: FMH  
DATE: 06/04/13  
SCALE: NONE  
JOB No.: 05-150  
Dwg.: 05150-DT.DWG  
XREF: NONE  
MAR 27 2014  
JOSEPH H. HOPKINS  
PE # 12086  
ENGINEER OF RECORD  
NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED  
SHEET 16  
OF 30 SHEETS

UNLESS OTHERWISE NOTED, DETAILS WERE OBTAINED FROM "STANDARD CONSTRUCTION DETAILS, 2012 EDITION" AS PUBLISHED BY THE CITY OF ORMOND BEACH ENGINEERING DIVISION.



- NOTES:**
- PE TUBING SHALL BE 200 PSI, NSF APPROVED, SDR 9 MEETING ASTM D1248. TUBING SHALL BE ENDOT ENDURE OR APPROVED EQUAL.
  - REDUCED PRESSURE BACKFLOW PREVENTERS ARE REQUIRED FOR ALL COMMERCIAL SERVICES. TO BE INSTALLED BY A CERTIFIED TECHNICIAN AT OWNERS EXPENSE.
  - ALL SERVICE TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVAL OR WITHIN 2'-0" OF BELL OR SPIGOT ENDS.
  - METERS 3" AND LARGER SHALL BE PLACED IN A VAULT TO BE CONSTRUCTED BY DEVELOPER IN ACCORDANCE WITH ARTICLE 4.04B4 LDC.
  - IN AREAS TO BE PAVED PROVIDE A 2" MIN. PVC SCHEDULE 40 SLEEVE FOR PE-TUBING. SLEEVE SHALL EXTEND A MIN. OF 2' BEHIND BACK OF CURB AT EACH SIDE OF ROAD.
  - ALL IRRIGATION SERVICES (WATER) MUST HAVE AN APPROVED BACKFLOW PREVENTION DEVICE INSTALLED ON CUSTOMERS SIDE OF WATER METER. THE CUSTOMER IS RESPONSIBLE FOR INSTALLATION AND CERTIFICATION COST. A COPY OF THE CERTIFICATION MUST BE SENT TO THE CITY OF ORMOND BEACH ENGINEERING DEPARTMENT, PRIOR TO FINAL INSPECTION.
  - WATER METERS INSTALLED IN AREAS SERVED BY RECLAIMED WATER OR AN ALTERNATE IRRIGATION SUPPLY SHALL BE EQUIP WITH DUAL CHECK BACKFLOW PREVENTERS.
  - WATER METERS SHALL BE RADIO READ.

**THRUST BLOCK DETAILS**  
NTS. JAN. 2012

PIPE SIZE (IN.)	90° BEND		45° BEND		22.5° BEND		11.25° BEND		DEAD END		TEE/WYE	
	B	D	B	D	B	D	B	D	B	D	B	D
4	1.5	0.5	1.0	0.5	1.0	0.5	0.5	0.5	1.0	0.5	1.0	0.5
6	2.0	0.5	1.5	0.5	1.0	0.5	1.0	0.5	2.0	0.5	2.0	0.5
8	2.5	0.5	2.0	0.5	1.5	0.5	1.0	0.5	2.0	1.0	2.0	0.5
10	3.0	0.5	2.5	1.0	2.0	0.5	1.0	0.5	3.0	1.0	3.0	0.5
12	4.0	1.0	3.0	1.0	2.0	0.5	1.5	0.5	3.0	1.0	3.0	0.5
14	4.5	1.0	3.0	1.0	2.5	0.5	2.0	0.5	4.0	1.5	4.0	1.0
16	5.0	1.5	4.0	1.0	3.0	1.0	2.0	0.5	4.5	1.5	4.5	1.0
18	5.7	1.7	4.2	1.4	3.1	1.4					6.9	1.7
24	7.7	1.7	5.6	1.4	4.1	1.4					9.1	2.1
30	9.5	2.1	7.0	1.7	5.1	1.4					11.3	2.4
36	11.5	2.4	8.4	1.8	6.0	1.7					13.6	2.5

**REINFORCEMENT STEEL**

SEE CHART

FOR 10" REINFORCEMENT: 1/2" TO 1 1/2" 43 BAR @ 6" EACH WAY; 1 1/2" TO 2 1/2" 43 BAR @ 6" EACH WAY

**NOTES:**

- THRUST BLOCKS TO BE SET AGAINST FIRM UNDISTURBED SOIL.
- FITTINGS TO BE WRAPPED IN VISQUEEN OR POLYETHYLENE ENCASUREMENT PRIOR TO POURING CONCRETE.
- CONCRETE STRENGTH f = 3000 P.S.I.

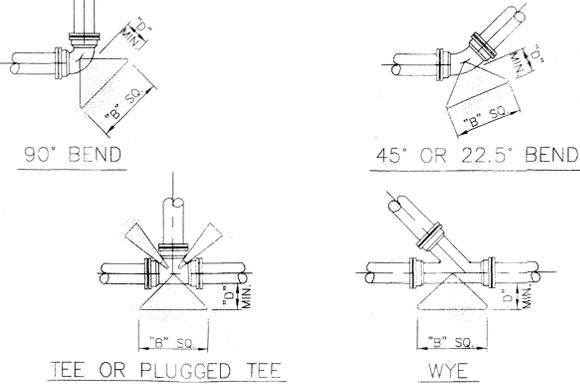


TABLE APPLIES TO PVC PIPE FOR THE FOLLOWING CONDITIONS:  
TEST PRESSURE: 150 PSIG  
SOIL TYPE: SP  
COVER DEPTH: 2.5 FEET  
SAFETY FACTOR: 1.5  
TRENCH TYPE: 3

**PVC AND D.I.P. RESTRAINED JOINT TABLE**  
JAN. 2012

**SCHEDULE OF LENGTHS OF RESTRAINED PVC PIPE (FT.)**

FITTING	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
4"	20	18	18	18	45
6"	28	18	18	18	63
8"	36	18	18	18	82
10"	44	28	18	18	98
12"	51	21	18	18	116
14"	57	24	18	18	132
16"	63	26	18	18	148
18"	69	29	18	18	163
20"	75	31	18	18	179
24"	87	36	18	18	208
30"	102	42	20	18	248

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18" MIN.) OF PIPE TO BE RESTRAINED.

TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.

**SCHEDULE OF LENGTHS OF RESTRAINED DIP (FT.)**

FITTING	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
4"	21 (26)	18 (18)	18 (18)	18 (18)	37 (55)
6"	30 (36)	18 (18)	18 (18)	18 (18)	52 (78)
8"	38 (45)	18 (18)	18 (18)	18 (18)	67 (100)
10"	45 (54)	18 (22)	18 (18)	18 (18)	81 (122)
12"	52 (63)	22 (26)	18 (18)	18 (18)	94 (141)
14"	60 (72)	25 (30)	18 (18)	18 (18)	107 (160)
16"	66 (80)	27 (33)	18 (18)	18 (18)	120 (180)
18"	74 (87)	31 (36)	18 (18)	18 (18)	132 (198)
20"	80 (94)	33 (39)	18 (18)	18 (18)	144 (216)
24"	92 (108)	39 (45)	18 (22)	18 (18)	167 (250)
30"	106 (126)	44 (53)	21 (25)	18 (18)	199 (298)
36"	124 (148)	51 (61)	24 (29)	18 (18)	234 (351)
42"	144 (174)	59 (71)	27 (33)	18 (18)	273 (409)
48"	168 (202)	69 (83)	31 (37)	18 (18)	318 (477)

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18" MIN.) OF PIPE TO BE RESTRAINED.

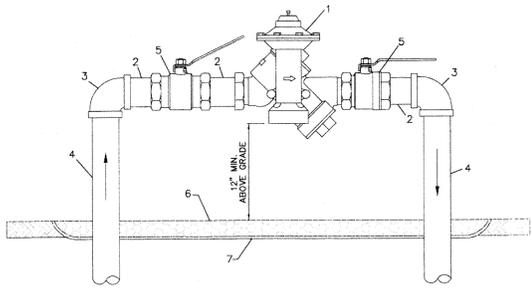
TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.

VALUES IN PARENTHESIS ARE FOR PIPE ENCASED IN POLYETHYLENE.

TABLE APPLIES TO D.I.P. FOR THE FOLLOWING CONDITIONS:  
TEST PRESSURE: 150 PSIG  
SOIL TYPE: SP  
COVER DEPTH: 2.5 FEET  
SAFETY FACTOR: 1.5  
TRENCH TYPE: 2

**REDUCED PRESSURE BACKFLOW PREVENTER (POTABLE WATER & IRRIGATION)**  
3/4", 1", 1 1/2", OR 2"  
NTS. JAN. 2012

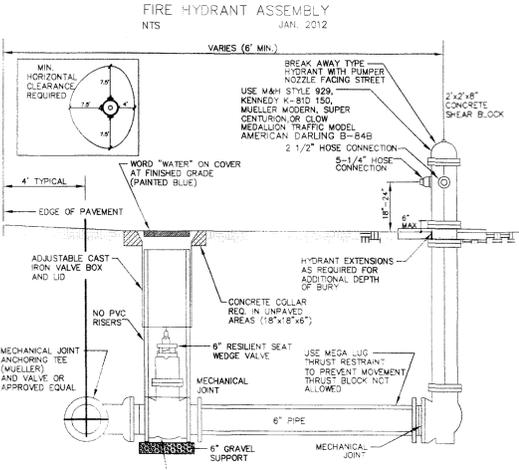
ACCEPTABLE MANUFACTURERS: HERSEY MODEL FRP II, WILKINS MODEL 975XL, WATTS MODEL 009 QTS



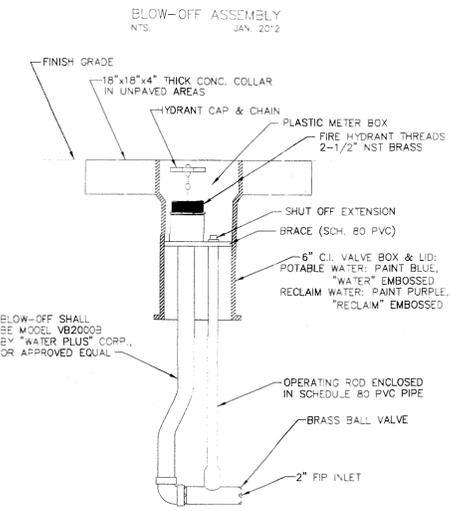
**MATERIALS**

ITEM	QUANT.	DESCRIPTION
1	1	3/4", 1", 1-1/2" OR 2" BACKFLOW PREVENTER ASSEMBLY
2	3	3/4", 1", 1-1/2" OR 2" x NOM. NIPPLES - BRASS
3	2	3/4", 1", 1-1/2" OR 2" x 90° ELBOWS - PVC, BRASS, OR COPPER
4	2	3/4", 1", 1-1/2" OR 2" x VARIES RISER - PVC, BRASS, OR COPPER
5	2	3/4", 1", 1-1/2" OR 2" BALL VALVE
6	*	PEA GRAVEL
7	*	PLASTIC LINER

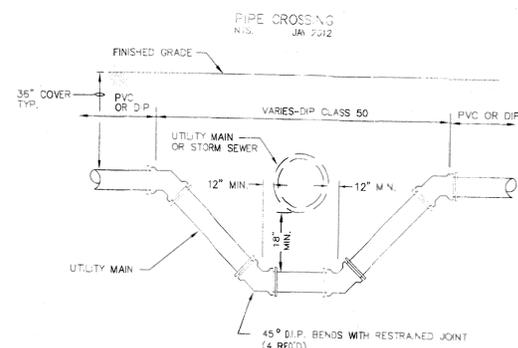
NOTE: -FIELD ADJUST AND CUT ITEM 4 TO THE PROPER LENGTH.  
-NO GALVANIZED FITTINGS OR PIPE ALLOWED.  
-A COPY OF THE ASSEMBLY CERTIFICATION SHALL BE SUBMITTED TO THE CITY'S ENGINEERING DEPARTMENT BEFORE FINAL INSPECTION.  
-ASSEMBLY SHOULD HAVE ADEQUATE LANDSCAPING AROUND IT TO OBSCURE VIEW.  
-ASSEMBLY SHALL BE PAINTED FOREST GREEN



- NOTES:**
- ALL JOINTS SHALL BE RESTRAINED.
  - HYDRANTS TO BE PAINTED SAFETY YELLOW (PUBLIC) OR RED (PRIVATE) BONNET COLOR.
  - HYDRANT BONNET AND CAP TO BE PAINTED ACCORDING TO THE FOLLOWING SCHEME:  
CLASS AA - 1500 GPM AND GREATER - LIGHT BLUE  
CLASS A - 1000 GPM TO 1499 GPM - GREEN  
CLASS B - 500 GPM TO 999 GPM - ORANGE  
CLASS C - LESS THAN 500 GPM - RED
  - HYDRANTS INSTALLED ON THE PENINSULA SHALL BE PAINTED WITH A CATALYZED TWO PART PRIMER (DUPONALATE #230) OR EPOXY BATH SOLUTION, ELECTRICAL CHARGED AND A CATALYZED URETHANE TOP COAT (ACROLOX 218), OR TWO COMPONENT POLYURETHANE PAINT.
  - HOSE CONNECTIONS TO BE AMERICAN STANDARD THREADS.
  - THE HYDRANT SHADE WILL BE COATED INSIDE WITH FUSION BONDED EPOXY. 8 ML MINIMUM.
  - ADJUSTMENTS OR REPAIRS TO THE HYDRANT AFTER INSTALLATION SHALL BE DONE BY AN UNDERGROUND UTILITY CONTRACTOR ON THE CITY AND ALL COST SHALL BE CHARGED TO THE DEVELOPER. PAYMENT SHALL BE MADE PRIOR TO CERTIFICATE OF OCCUPANCY OF PROPERTY.
  - RESTRAINED JOINTS REQUIRED. THRUST BLOCKS NOT PERMITTED.
  - BOLTS SHALL BE 316 STAINLESS STEEL.
  - INSTALL BLUE REFLECTIVE MARKER IN SUCH A MANNER THAT THE REFLECTIVE FACE OF THE MARKER IS PERPENDICULAR TO A LINE PARALLEL TO THE ROADWAY CENTERLINE. THE BLUE REFLECTIVE MARKERS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE, DIRECTLY ACROSS FROM AND ADJACENT TO EACH FIRE HYDRANT.



1. WRENCH AND DISCHARGE SPOUT AS SUPPLIED BY MANUFACTURER SHALL BE TURNED OVER TO THE CITY DURING FINAL INSPECTION.

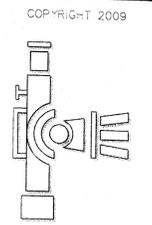


NOTE: ABOVE DETAIL TO BE UTILIZED IF CONTRACTOR CANNOT MAINTAIN 18" CLEAR BETWEEN MAINS BY DEFLECTING PIPE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

City of Ormond Beach  
FINAL APPROVAL  
Review Committee

**REVISIONS**

NO.	DATE	BY	REVISIONS
1	6.29.07	SHM	REVISED PER CITY COMMENTS DATED 1.24.07
2	8.14.07	SHM	REVISED PER CITY COMMENTS DATED 8.1.07
4	9.26.07	SHM	REVISED PER CITY COMMENTS DATED 8.1.07
5	5.28.12	SHM	ADDED 2012 DETAILS
15	7.08.13	SHM	REVISED WATER/SEWER DETAILS



**HARPSTER ENGINEERING & SURVEYING, INC.**  
SURVEYORS  
CIVIL ENGINEERS

CONSULTANTS:  
LICENSED BUSINESS #8351  
1906 S. PENNSULA DR.  
DAYTONA BEACH, FL 32118  
E-MAIL: mail@harpstereng.com  
PHONE: (386) 677-9336  
FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH SUBDIVISION**  
FINAL PLAT - POTABLE WATER DETAILS

DESIGN BY: SHM  
CHECKED BY: JHH  
DATE: 10/24/06  
SCALE: NONE  
JOB NO.: 05-150  
Dwg.: 05150-DT.DWG  
XREF: NONE  
MAR 27 2014  
JOSEPH H. HOPKINS  
P.E. #48059  
ENGINEER OF RECORD  
NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED  
SHEET 17  
OF 30 SHEETS

UNLESS OTHERWISE NOTED, DETAILS WERE OBTAINED FROM "STANDARD CONSTRUCTION DETAILS, 2012 EDITION" AS PUBLISHED BY THE CITY OF ORMOND BEACH ENGINEERING DIVISION.

GENERAL NOTES  
WATER SYSTEM CONSTRUCTION JAN 2012

- THE CITY'S PUBLIC UTILITIES DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY WATER SYSTEM CONSTRUCTION.
- DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW WATER MAIN BEING LAID.
- ALL WATER MAINS SHALL BE LAID ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
- TRENCHES SHALL BE BACKFILLED WITH CLEAN GRANULAR MATERIAL IN MAX. 1' LIFTS WITH A MINIMUM COMPACTION OF 98 PERCENT (AASHTO-T180) IN PAVED AREAS AND 90 PERCENT IN UNPAVED AREAS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 1 FOOT ABOVE THE PIPE AND AT 1 FOOT VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET, AND TO FURNISH COPIES OF TEST REPORTS PROMPTLY TO THE CITY ENGINEERING DEPARTMENT.
- METALLIZED PIPE LOCATION TAPE SHALL BE LOCATED 15 INCHES BELOW FINISHED GRADE OR AS SPECIFIED BY MANUFACTURER FOR ALL PVC LINES. MARKER TAPE SHALL BE USED ON ALL DUCTILE IRON PIPE.
- WATER SERVICES (SINGLE 1") SHALL BE POLYETHYLENE TUBING (BLUE IN COLOR) ; POLYBUTYLENE SHALL NOT BE ALLOWED.
- ALL WATER SERVICE ENDINGS SHALL BE MARKED WITH 4" X 4" LUMBER (PRESSURE TREATED) EXTENDING 4 FEET ABOVE GRADE, WITH WATER SERVICES SECURED 24" ABOVE THE GROUND. WIRE TIES SHALL BE USED TO SECURE THE CURB STOPS TO SUPPORT POSTS.
- WATER VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACINGS OF 500 FEET.
- AT ALL WATER MAIN TEES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL LEGS EXCEPT ONE.
- APPROVED WATER VALVE TYPES ARE THE FOLLOWING:
  - STANDARD GATE VALVES LESS THAN 48" DIAMETER RESILIENT SEAT GATE VALVES (AWWA C-509 OR C-515).
  - TAPPING VALVES AND MECHANICAL TAPPING SLEEVE SHALL BE STAINLESS STEEL. (AWWA C - 509)
- ALL WATER VALVE BOXES SHALL BE ADJUSTED TO FINISH GRADE AND THE LIDS PAINTED BLUE TO MAKE THEM PLAINLY VISIBLE.
- WATER VALVES SHALL BE COMPLETELY OPENED BY THE CONTRACTOR UPON FINAL ACCEPTANCE OF NEW WATER SYSTEMS IN THE PRESENCE OF UTILITY DEPARTMENT PERSONNEL.
- HYDRANTS SHALL BE PLACED AT 500 FEET MAXIMUM SPACINGS IN RESIDENTIAL DEVELOPMENTS AND AT 300 FEET MAXIMUM SPACINGS IN BUSINESS AND INDUSTRIAL DEVELOPMENTS. ALL WATER MAIN TO WHICH HYDRANTS ARE CONNECTED SHALL BE 8 INCHES MINIMUM.
- ALL FIRE HYDRANTS SHALL BE CONSTRUCTED TO MAKE THEM EASILY ACCESSIBLE TO FIRE PERSONNEL IN CASE OF FIRE. THE MAIN NOZZLE CONNECTION SHOULD ALWAYS FACE THE STREET AND BE 18-24" ABOVE GRADE.
- AS STANDARD PRACTICE, WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF CURB OR AS APPROVED BY THE CITY.
- ALL WATER MAINS SHALL BE NSF-APPROVED FOR POTABLE WATER USE, AND SHALL HAVE A MINIMUM COVER OF 36 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER, DUCTILE IRON CLASS 350 OR CONCRETE ENCASUREMENT MAY BE USED AS APPROVED BY THE CITY.
- ALL PROPOSED WATER MAINS SHALL BE FLUSHED, CLEANED WITH A POLY PIG, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.
- WATER MAINS SHALL BE AWWA C-900 CL 150, OR D.I.P. CLASS 350 STANDARD CEMENT LINED.
- UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE HEALTH DEPARTMENT, AND THAT CERTIFIED AS-BUILT DRAWINGS ARE PROVIDED TO THE CITY PRIOR TO PAVING AND ANY USE OF THE SYSTEM. PROVIDE THREE (3) BLUELINE COPIES AND ONE (1) MYLAR OF AS-BUILT DRAWINGS.
- MEGALUG OR EQUIVALENT, RESTRAINED JOINT SYSTEM MAY BE USED ON ALL RESTRAINED FITTINGS, VALVES, ETC. MINIMUM DEPTH OF BURY ON PIPES NOT MEETING REQUIRED COVER REQUIREMENTS SHALL FOLLOW THE MOST RECENT DIPRA THRUST RESTRAINT DESIGN GUIDELINES.

GENERAL NOTES (CONT.)  
WATER SYSTEM CONSTRUCTION

- WATER SYSTEMS SHALL BE PRESSURE TESTED AT 150 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA STANDARDS. TESTS SHALL BE CONDUCTED BEFORE FINAL PAVING AND IN THE PRESENCE OF THE CITY'S INSPECTOR.
- ALL WATER SERVICES SHALL BE MARKED WITH A "A" SAWCUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT.
- ALL WATER VALVES AND BLOW-OFFS SHALL BE MARKED WITH AN "X" SAWCUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT. LOCATION OF METAL TABS IN INCHES FROM EDGE OF PAVEMENT SHALL EQUAL DISTANCE IN FEET FROM EDGE OF PAVEMENT TO VALVE.
- UNIFLANGE 1300 SERIES PIPE RESTRAINTS AS MANUFACTURED BY FORD OR APPROVED EQUAL MAY BE USED AS APPROPRIATE FOR RESTRAINING IN-LINE PRESSURE PIPE EACH SIDE OF PIPE JOINT. AS REQUIRED BY RESTRAINT TABLE.
- TRACING WIRE SHALL BE INSTALLED IN ACCORDANCE WITH UTILITY PIPE LOCATION MATERIALS DETAIL.
- NO GALVANIZED PIPE, FITTINGS, ETC. ARE ACCEPTED.
- ALL WATER METERS SHALL BE INSTALLED AT THE RIGHT OF WAY LINE ONLY REGARDLESS OF SIZE.
- SUBMIT ASSEMBLY CERTIFICATION FOR ALL BACKFLOW PREVENTERS TO THE CITY'S ENGINEERING DEPARTMENT BEFORE FINAL INSPECTION.
- PIPING FOR RAW WATER SHALL BE OLIVE GREEN FOR ABOVE GROUND PIPING, BURIED PVC PIPING SHALL BE BLUE WITH WHITE COLOR BACKGROUND LOCATOR TAPE PLACED DIRECTLY ON TOP OF THE PIPE AND AT 12" TO 18" ABOVE THE PIPE. THE TAPE SHALL CONTINUOUSLY READ "CAUTION - RAW WATER MAIN BURIED BELOW" OR WHITE WITH LOCATOR TAPE PLACED 12" TO 18" ABOVE THE TOP OF THE PIPE.
- SEE CHART BELOW FOR WATERMAIN SIZE AND MATERIALS.

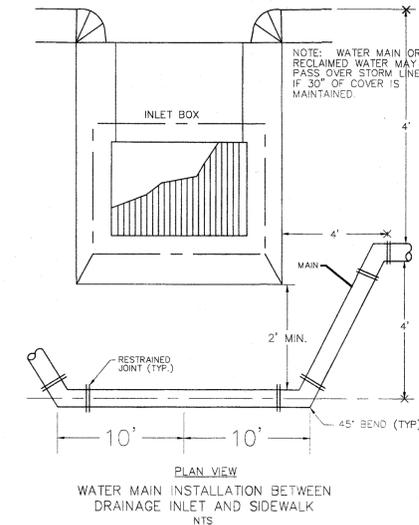
M A T E R I A L S		
DIAMETER	MATERIAL	STANDARD
2" - 4"	PVC 1120 / SDR 21	ASTM D 2241
> 4" - 12"	PVC 1120 / CLASS 150	AWWA C 900
> 4" - 12" DEDICATED FIRE LINE	PVC 1120 / CLASS 150	AWWA C 900
14" - 36"	PVC 1120	AWWA C 900
(18" - 24" OR - 27")		
ALL SIZES	DIPRA DIPS OR 11	ASTM F 714

NOTE: PVC PIPE COLOR SHALL BE BLUE FOR POTABLE WATER MAINS, BLUE WITH WHITE LOCATOR TAPE OR WHITE WITH LOCATOR TAPE FOR RAW WATER MAIN.

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORM WATER FORCEMAIN, RECLAIMED WATER (2)	3 FT. MINIMUM	12 INCHES IN THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IN THE MINIMUM AND 12 INCHES PREFERRED	ALTERNATE 3 FT. MINIMUM
VACUUM SANITARY SEWER	10 FT. PREFERRED 3 FT. MINIMUM	12 INCHES PREFERRED 6 INCHES MINIMUM	ALTERNATE 3 FT. MINIMUM
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY FORCEMAIN, RECLAIMED WATER (4)	10 FT. PREFERRED 6 FT. MINIMUM (3)	12 INCHES IN THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IN THE MINIMUM AND 12 INCHES PREFERRED	ALTERNATE 6 FT. MINIMUM
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM		

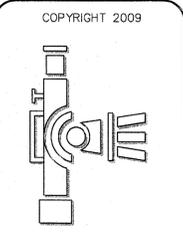
(1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 18 INCHES.  
(2) RECLAIMED WATER REGULATED UNDER PART B OF CHAPTER 62-610, F.A.C.  
(3) 3 FT. FOR GRAVITY SEWER WHILE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.  
(4) RECLAIMED WATER NOT REGULATED UNDER PART B OF CHAPTER 62-610, F.A.C.

DECLARATION - THIS DOCUMENT WAS PROVIDED FOR YOUR CONVENIENCE ONLY. PLEASE REFER TO F.A.C. RULE 62-606.314 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS



FINAL APPROVAL  
City of Ormond Beach  
Plan Review

NO.	DATE	REVISIONS
1.	8/28/07	REVISED PER CITY COMMENTS DATED 12/4/07
2.	4/9/13	REVISED ADDRESS/P.E. UPDATED DETAILS
15.	7/08/13	REVISED WATER/SEWER/DETAILS

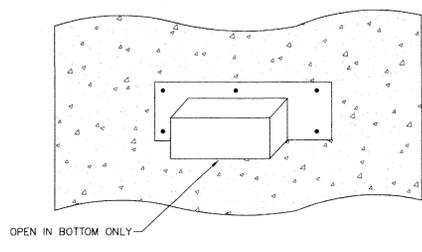


**HARPSTER ENGINEERING & SURVEYING, INC.**  
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FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH SUBDIVISION**  
FINAL PLAN - POTABLE WATER NOTES

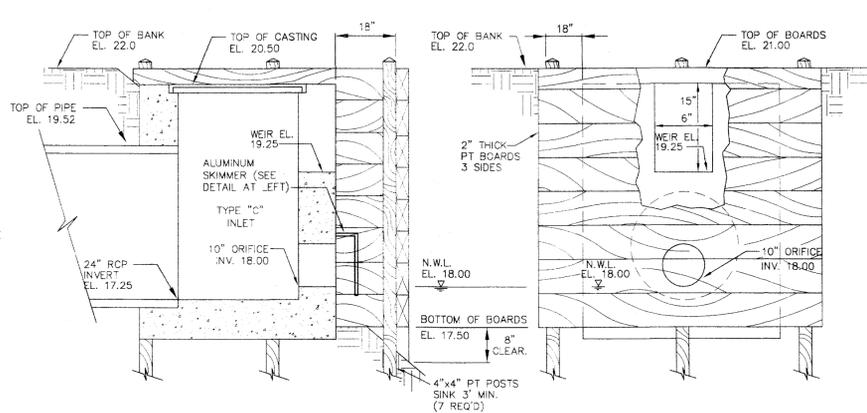
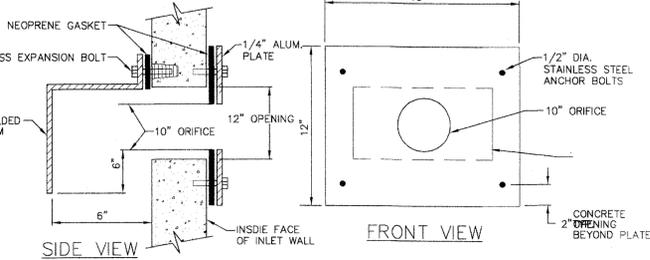
DESIGN BY: SHM
CHECKED BY: JHH
DATE: 10/24/06
SCALE: NONE
JOB No.: 05-150
Dwg. : 05150-DET.DWG
XREF: NONE
MAR 27 2014
JOSEPH A. HOPKINS P.E. #8059
ENGINEER OF RECORD
NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED
SHEET 17A
OF 30 SHEETS

UNLESS OTHERWISE NOTED, DETAILS WERE OBTAINED FROM "STANDARD CONSTRUCTION DETAILS, 2012 EDITION" AS PUBLISHED BY THE CITY OF ORMOND BEACH ENGINEERING DIVISION.



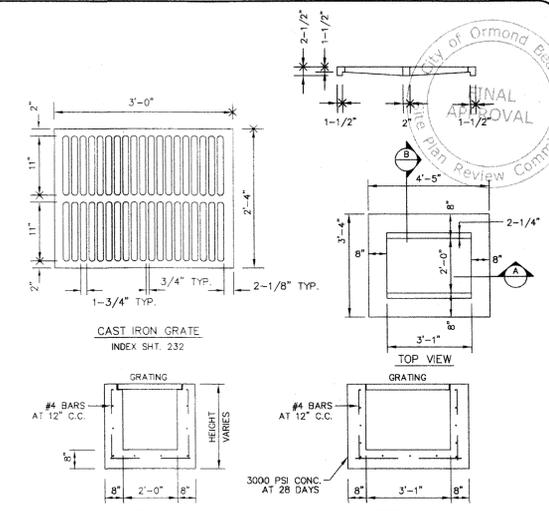
**ORIFICE-ALUMINUM SKIMMER AND PLATE DETAILS**  
N.T.S.

DETAIL BY HARPSTER ENGINEERING AND SURVEYING, INC.



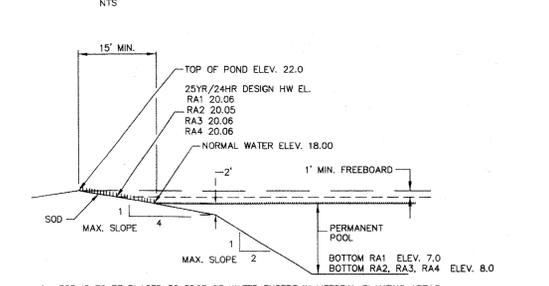
**DRAINAGE CONTROL STRUCTURE NO. 1**  
N.T.S.

DETAIL BY HARPSTER ENGINEERING AND SURVEYING, INC.



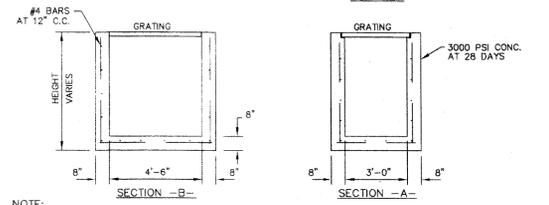
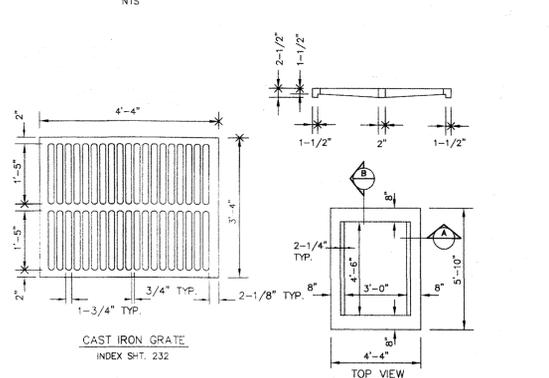
NOTE: \* 6\"/>

**F.D.O.T. TYPE \"C\" STORM INLET**  
INDEX SHT. 232



1. SOD IS TO BE PLACED TO EDGE OF WATER EXCEPT IN LITTORAL PLANTING AREAS.  
2. A MINIMUM OF ONE FOOT OF FREEBOARD IS REQUIRED BETWEEN DESIGN HIGH WATER ELEVATION AND TOP OF BANK.  
3. LITTORAL PLANTINGS EQUIVALENT TO 30% OF THE POND WATER SURFACE AREA AT THE CONTROL ELEVATION (DESIGN NORMAL WATER ELEVATION) IS REQUIRED.

**WET RETENTION PONDS**  
N.T.S.



NOTE: \* 6\"/>

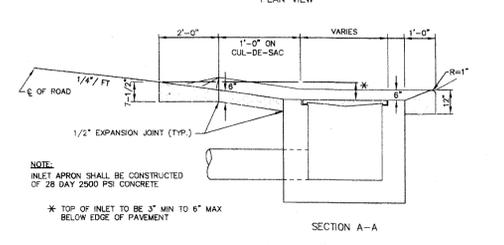
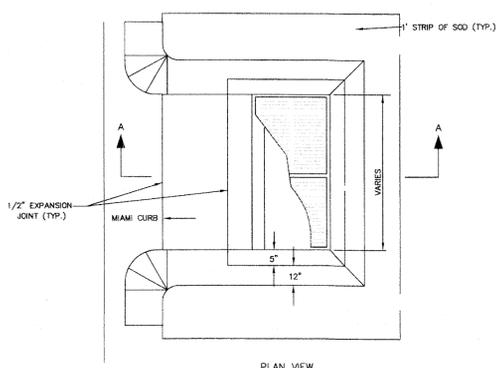
**F.D.O.T. TYPE \"E\" STORM INLET**  
INDEX SHT. 232

UNLESS OTHERWISE NOTED, DETAILS WERE OBTAINED FROM \"STANDARD CONSTRUCTION DETAILS, 2012 EDITION\" AS PUBLISHED BY THE CITY OF ORMOND BEACH ENGINEERING DIVISION.

**STORM DRAINAGE CONSTRUCTION NOTES**  
JAN 2012

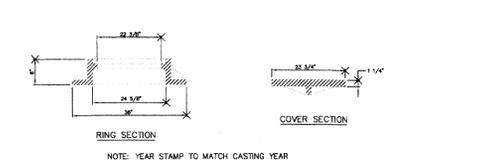
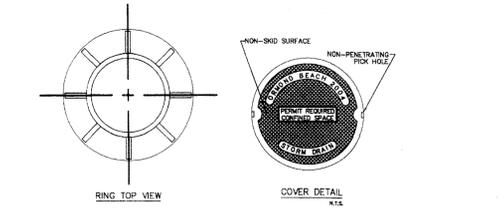
- CONSTRUCTION STANDARDS FOR ALL DRAINAGE SYSTEM COMPONENTS SHALL CONFORM TO THE LATEST EDITION OF THE \"FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION\" AND AS SPECIFIED HEREIN.
- ALL STORMWATER PIPES AND STRUCTURES SHALL BE INSTALLED ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUD, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
- DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 8 INCHES BELOW THE COMPONENT BEING INSTALLED.
- ALL PIPES AND STRUCTURES SHALL BE PLACED TRUE TO LINES AND GRADES AS DEPICTED ON THE APPROVED PLANS.
- ALL PIPE JOINTS SHALL BE PROPERLY HONED AND FILTER FABRIC LINED USING A METHOD TO HOLD THE FABRIC IN PLACE DURING BACKFILL.
- BACKFILL AND COMPACT TO THE SPRING-LINE (CENTER OF PIPE) ELEVATION AND REQUEST CITY INSPECTION AND APPROVAL BEFORE CONTINUING.
- ALL WORK COVERED WITHOUT CITY INSPECTION WILL BE REQUIRED TO BE EXCAVATED AND INSPECTED AT THE CONTRACTOR'S EXPENSE.
- TRENCHES SHALL BE BACKFILLED AND COMPACTED WITH CLEAN GRANULAR MATERIAL IN MAX 6\"/>
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS AT POINTS 1' ABOVE THE PIPE AND AT A MAX. 1' VERTICAL INTERVALS TO FINISH GRADE, AT A MAXIMUM SPACING OF 100 FEET, AND TO FURNISH COPIES OF TEST REPORTS PROMPTLY TO THE CITY'S INSPECTOR.
- ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE (RCP), HIGH DENSITY POLYETHYLENE (HDPE), POLYVINYL CHLORIDE (PVC) OR ALUMINUM CORRUGATED METAL PIPE (ACMP), AS SHOWN ON THE PLANS.
- STORM DRAINAGE PIPES WITHIN PUBLIC RIGHT-OF-WAY SHALL BE A MINIMUM OF FIFTEEN (15) INCH RCP DIAMETER OR EQUIVALENT.
- STORM INLETS, MANHOLES, AND CATCH BASINS SHALL BE EITHER POURED IN PLACE OR PRECAST REINFORCED CONCRETE. STRUCTURES SHALL BE REQUIRED AT EACH CHANGE OF PIPE SIZE OR CHANGE IN PIPE DIRECTION.
- STORM INLETS SHALL BE SPACED IN SUCH A MANNER AS TO ACCEPT ONE HUNDRED (100) PERCENT OF THE DESIGN STORM RUNOFF.
- WET DETENTION PONDS SHALL BE EIGHT (8) FEET MINIMUM TO TWELVE (12) FEET MAXIMUM DEPTH BELOW THE DESIGN LOW OR NORMAL WATER STAGE.
- MAXIMUM DISTANCES BETWEEN INLETS AND/OR JUNCTION BOXES:  
PIPE SIZE (INCHES)      LENGTH OF RUN (FEET)  
15                              150  
18                              300  
24 OR GREATER              400
- ALL SWALES, DITCHES, AND DRY RETENTION POND SIDE SLOPES SHALL BE NO STEEPER THAN 4:1 (H:V) AND SHALL BE SOODED.
- ALL RETENTION POND BACKSLOPES SHALL BE NO STEEPER THAN 3:1 (H:V) AND SHALL BE SOODED.
- NORMAL ROADSIDE SWALES SHALL BE CONSTRUCTED TO A MAXIMUM DEPTH OF 18\"/>
- CONCRETE EROSION CONTROL MUST BE PROVIDED WHERE SWALES OR CULVERTS INTERCEPT DRAINAGE DITCHES.
- A MINIMUM ONE FOOT (1') FREEBOARD ABOVE THE DESIGN HIGH WATER ELEVATION IS REQUIRED AT ALL POINTS AROUND WET RETENTION PONDS.
- A MINIMUM SIX INCH (6\") FREEBOARD ABOVE THE DESIGN HIGH WATER ELEVATION IS REQUIRED AT ALL POINTS AROUND DRY RETENTION PONDS.
- POND INFLOW SHALL GENERALLY BE CONSTRUCTED WITH REINFORCED CONCRETE AND SHALL BE SUBJECT TO THE APPROVAL OF THE CITY.
- OUTLET STRUCTURES ARE REQUIRED ON ALL PONDS. ALL OUTLET STRUCTURES SHALL BE PERMANENT CONCRETE OVERFLOW WEIRS OR CONCRETE OUTLET CONTROL STRUCTURES. NO SOODED WEIRS OR OTHER NON-PERMANENT OVERFLOW STRUCTURES SHALL BE ALLOWED.
- SOIL EROSION CONTROL MEASURES SATISFACTORY TO THE CITY, SHALL BE EMPLOYED DURING CONSTRUCTION AND UPON COMPLETION OF THE POND.
- THE CITY MAY REQUEST THAT THE DEVELOPER SUBMIT A REPORT BY A QUALIFIED HYDROLOGIST ON THE IMPACT THE POND WILL HAVE ON NEIGHBORING WATER TABLE ELEVATIONS BOTH DURING CONSTRUCTION AND AFTER POND COMPLETION. THE CITY MAY REQUIRE GROUNDWATER MONITORING DURING THE POND EXCAVATION.
- ADEQUATE MAINTENANCE ACCESS AS APPROVED BY THE CITY SHALL BE PROVIDED AROUND THE ENTIRE PERIMETER OF ALL PONDS AND ASSOCIATED OUTFALLS DISCHARGING INTO AND OUT OF PONDS.
- IN GENERAL, ALL RETENTION/DETENTION PONDS MUST BE CONSTRUCTED PRIOR TO ANY ROAD, PARKING LOT, OR BUILDING CONSTRUCTION COMMENCING OR AS CURRENT PERMIT CONDITIONS DICTATE.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ANY DEWATERING PERMITS THAT MAY BE REQUIRED.
- CULVERTS CROSSING RIGHT-OF-WAYS SHALL EXTEND FROM RIGHT-OF-WAY LINE TO RIGHT-OF-WAY LINE UNDER THE ROADWAY.
- ALL STORMWATER DISCHARGE FROM RETENTION/DETENTION PONDS ARE REQUIRED TO BE CHANNELLED INTO DEFINED DRAINAGE PATHS TO EXISTING WATER BODIES, WETLANDS, DITCHES, ETC.
- THE CITY OF ORMOND BEACH REQUIRES THE DEVELOPER TO TELETYPE ANY AND ALL STORM SEWER PIPE SYSTEMS IN THE PRESENCE OF THE CITY INSPECTOR BY A REPUTABLE COMPANY THAT ENGAGES IN THIS TYPE OF WORK. THE VIDEO SHALL BE IN HIGH QUALITY STANDARD RESOLUTION USING A CAMERA WITH SUITABLE LIGHTING TO ALLOW A CLEAR FOCUSED PICTURE OF THE ENTIRE INSIDE PIPE CIRCUMFERENCE. THE VIDEO SHALL BE NON-STOP WITH AUDIO DESCRIBING WHAT IS BEING VIEWED. COPIES OF VIDEO SHALL BE SUBMITTED IN DVD FORMAT ACCOMPANIED BY WRITTEN LOGS DESCRIBING THE CONDITION OF THE LINES AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO REQUESTING FINAL INSPECTIONS. ANY DEFECTS NOTED SHALL BE CORRECTED PRIOR TO ACCEPTANCE BY THE CITY OR ISSUANCE OF CERTIFICATE OF OCCUPANCY.

**STORM INLET APRON**  
N.T.S.      JAN 2012



NOTE: INLET APRON SHALL BE CONSTRUCTED OF 28 DAY 2500 PSI CONCRETE.  
\* TOP OF INLET TO BE 3\"/>

**MANHOLE RING AND COVER DETAIL**  
N.T.S.      JAN 2012



U. S. FOUNDRY 195E OR APPROVED EQUAL

COVER TYPE	RATING	LOAD	COVER WEIGHT	TOTAL WEIGHT
E	HEAVY DUTY	130	325	

FOR MANHOLES IN FL D.O.T. R/W OR AS DETERMINED BY THE CITY. THE COVER TYPE SHALL BE - BU HEAVY DUTY 200 LBS W/ GRS.

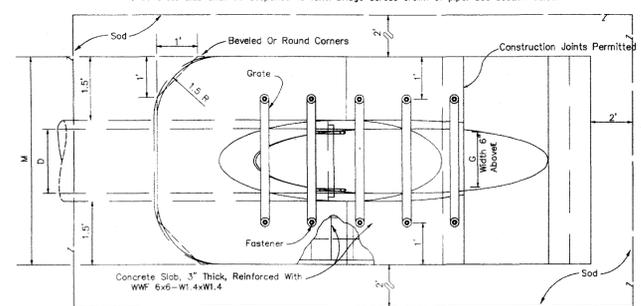
**DIMENSIONS & QUANTITIES**

D	X	A	B	C	E	F	G	M				N
								Single Pipe	Double Pipe	Triple Pipe	Quad Pipe	
15"	2'-0"	2.27'	4.09'	6.36'	4.03'	8'	1.22'	4.63'	7.21'	9.79'	12.37'	1.19'
18"	2'-10"	2.36'	3.72'	7.48'	5.03'	9'	1.41'	4.92'	7.75'	10.58'	13.42'	1.21'
24"	3'-6"	2.63'	7.18'	9.71'	7.03'	11'	1.73'	5.50'	8.92'	12.33'	15.75'	1.25'
30"	4'-3"	2.70'	9.25'	11.95'	9.03'	13'	2.00'	6.08'	10.33'	14.56'	18.83'	1.29'
36"	5'-1"	2.87'	11.30'	14.18'	11.03'	15'	2.24'	6.87'	11.75'	16.83'	21.97'	1.33'
42"	6'-0"	3.05'	13.37'	16.42'	13.03'	17'	2.45'	7.25'	13.25'	19.25'	25.25'	1.38'
48"	6'-9"	3.22'	15.43'	18.65'	15.03'	19'	2.65'	7.83'	14.88'	21.33'	28.08'	1.42'
54"	7'-8"	3.39'	17.49'	20.88'	17.03'	21'	2.83'	8.42'	16.08'	23.75'	31.42'	1.46'
60"	8'-8"	3.56'	19.55'	23.11'	19.03'	23'	3.00'	9.00'	17.50'	26.00'	34.50'	1.50'

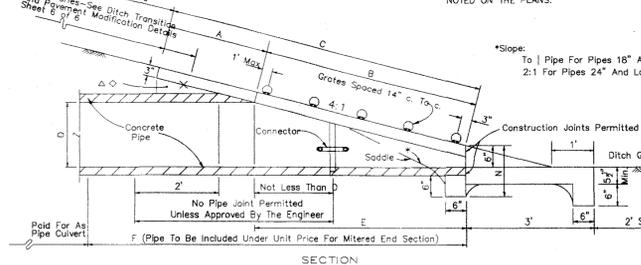
GRATE SIZES      CONCRETE (Cu. Yds.)      SODDING (Sq. Yds.)

D	Standard Weight Pipe	Extra Strong Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad Pipe
15"	0.75	1.16	1.94	3.88	5.82	7.76	8	10	11	12
18"	0.85	1.28	1.71	2.17	3.45	4.9	9	10	12	13
24"	1.02	1.58	2.15	2.75	10	12	13	15	17	19
30"	1.23	1.98	2.74	3.50	12	14	15	17	20	22
36"	1.40	2.38	3.33	4.24	13	15	17	20	23	27
42"	1.50	2.83	4.04	5.26	14	17	19	22	24	28
48"	1.81	3.26	4.70	6.14	15	18	21	24	27	31
54"	2.03	3.78	5.54	7.28	17	20	23	27	30	34
60"	2.28	4.36	6.43	8.50	18	22	25	29	32	36

Δ 6.42'      Δ 6.25'      Dimensions permitted to allow use of 8' standard pipe lengths.  
 Δ 10.40'      Δ 10.10'      Dimensions permitted to allow use of 12' standard pipe lengths.  
 Δ Concrete slab shall be deepened to form bridge across crown of pipe. See section below.



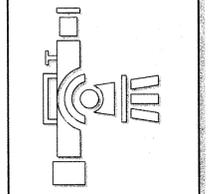
NOTES:  
1. ROUND PIPE SIZES 30\"/>



**FDOT MITERED END SECTION (SINGLE PIPE)**  
N.T.S.

NO.	DATE	REVISIONS
1.	6/28/07	REVISED PER CITY COMMENTS DATED 1.24.07
2.	7/18/07	REVISED DSS FOR SJ SUBMITTAL
3.	8/16/07	REVISED PER CITY COMMENTS DATED 8.1.07
9.	1.27.09	REVISED PER SJ COMMENTS & FOOT SUBMITTAL
15.	7.08.13	REVISED WATER/SEWER/DETAILS

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**HARPSTER ENGINEERING & SURVEYING, INC.**  
SURVEYORS  
CIVIL ENGINEERS  
CONSULTANTS BUSINESS #6351  
LICENSED BUSINESS #6351  
1906 S. PENINSULA DR.  
DAYTONA BEACH, FL 32118  
E-MAIL: mail@harpstereng.com  
PHONE: (386) 677-9336  
FAX: (386) 677-9334

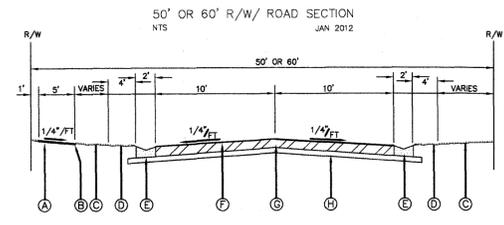
**RIVER OAKS OF ORMOND BEACH SUBDIVISION**  
FINAL PLAN - STORMWATER DETAILS AND NOTES

DESIGN BY: SHM  
CHECKED BY: JHH  
DATE: 10/24/06  
SCALE: NONE  
JOB No.: 05-150  
Dwg.: 05150-DET.DWG  
XREF: NONE

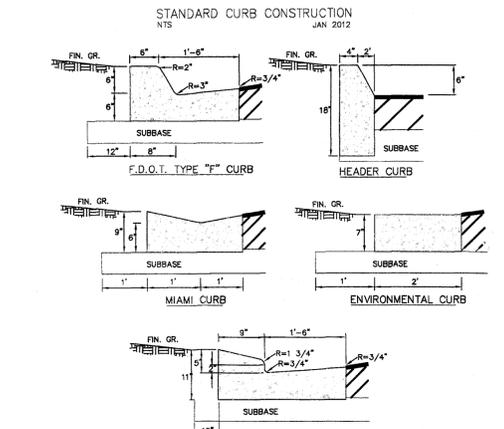
MAR 27 2014  
JOSEPH H. HOPKINS  
PE #8059  
ENGINEER OF RECORD  
NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED

SHEET 18  
OF 30 SHEETS

- ROADWAY CONSTRUCTION NOTES** JAN 2012
- ALL RIGHT OF WAY OTHER THAN ROADWAY AREAS SHALL BE SEEDED AND MULCHED OR SOILED. ALL SLOPES GREATER THAN 8% SHALL BE SOODED. THE CITY RESERVES THE RIGHT TO REQUIRE SOODING IN SPECIAL AREAS WHERE EROSION IS A CONCERN.
  - THE FOLLOWING WILL BE THE STANDARD PROTECTION FOR DITCHES UNLESS DRAINAGE CALCULATIONS INDICATE OTHERWISE. PROTECTION REQUIRED:  
SWALE PROFILE GRADES:  
0.25 - 1.0% SEEDING AND MULCHING  
1.0% - 4.0% DITCH PAVING  
4.0% AND GREATER
  - ALL FRANCHISE UTILITY CROSSINGS, INCLUDING BUT NOT LIMITED TO FPL, BELLSOUTH AND CABLE SHALL BE INSTALLED PRIOR TO INSTALLATION AND COMPACTION OF THE ROAD SUB BASE. ANY CROSSINGS AFTER INSTALLATION OF THE SUB BASE SHALL BE BY DIRECTIONAL BORE.
  - THE LIMITS OF STABILIZED SUB BASE SHALL EXTEND TO A DEPTH OF SIX INCHES (6") BELOW THE BOTTOM OF THE BASE AND OUTWARD TO TWELVE INCHES (12") BEYOND THE CURB.
  - THE STABILIZING MATERIAL, IF REQUIRED, SHOULD BE A HIGH BEARING VALUE SOIL, SAND-CLAY, LIMEROCK, RECYCLED CONCRETE, SHELL OR OTHER MATERIAL AS APPROVED BY THE CITY AND A LICENSED SOILS ENGINEER.
  - THE SUB BASE SHALL BE STABILIZED NOT LESS THAN FORTY (40) POUNDS LIMEROCK BEARING RATIO (LBR). A COMPACTION OF NO LESS THAN NINETY-EIGHT (98%) PERCENT DENSITY BASED ON AASHTO T-180 SHALL BE REQUIRED.
  - TESTS FOR SUB BASE BEARING CAPACITY AND COMPACTION SHALL BE DONE AT A MINIMUM OF EVERY 300 FEET AND SHALL BE STAGGERED TO THE LEFT, RIGHT AND AT CENTER LINE OF THE ROADWAY.
  - BASES FOR ALL STREETS SHALL HAVE A MINIMUM SIX INCH (6") DEPTH. PRIMING AND SANDING SHALL BE REQUIRED AS SOON AS BEARING CAPACITY AND COMPACTION HAS BEEN ACHIEVED.
  - MAXIMUM DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST. RECYCLED CONCRETE OR LIMEROCK BASES SHALL BE COMPACTION TO (98%) BASE.
  - MATERIAL DELIVERY TICKETS SHALL BE PROVIDED TO THE CITY AT THE TIME OF PLACEMENT.
  - TESTING OF THE IN-PLACE BASE SHALL BE DONE AT INTERVALS EQUIVALENT TO SUB BASE TESTING AND SHALL CONSIST OF, AS A MINIMUM, MOISTURE CONTENT AND COMPACTION TEST.
  - DESIGN MIXES SHALL BE SUBMITTED TO THE CITY FOR THEIR APPROVAL NO LESS THAN THREE (3) WORKING DAYS PRIOR TO ANY ROADWAY CONSTRUCTION.
  - ASPHALT SPECIFICATIONS SHALL BE SUBMITTED BY THE DESIGN ENGINEER WITH FINAL PLANS TO THE CITY. FLORIDA STATE CERTIFIED BATCH PLANTS MUST THEN CERTIFY THAT THESE APPROVED SPECIFICATIONS HAVE BEEN MET.
  - EXTRACTION AND GRADATION TESTS ON ASPHALT MIXES SHALL BE PROVIDED TO THE CITY TO INSURE THAT DESIGN MIXES MEET THE CITY STANDARD SPECIFICATIONS.
  - THE ROADWAY CROWN SHALL HAVE A STANDARD ONE QUARTER INCH (1/4") PER FOOT SLOPE.
  - ALL ROADWAYS WITH CURB AND GUTTER SECTIONS SHALL HAVE A STANDARD A MINIMUM LONGITUDINAL SLOPE OF 0.30%.
  - THE FINISHED PAYMENT EDGE SHALL BE WITHIN ONE QUARTER INCH (1/4") OF THE ADJACENT CONCRETE CURB.
  - CONCRETE CURBS SHALL BE PROVIDED ON BOTH SIDES OF ALL STREETS AND CONSTRUCTED WITH 2500 PSI CONCRETE AT 28 DAYS.
  - CONCRETE CURBS SHALL BE SAW CUT TO A DEPTH EQUAL TO 1/4 OF CURB THICKNESS AT INTERVALS OF TEN FEET (10') WITH EXPANSION JOINTS AT STREET INTERSECTIONS, STRUCTURES AND ALONG CURVES AT SIXTY FEET (60') INTERVALS. ALL EXPANSION JOINT MATERIAL IS REQUIRED TO BE INSTALLED THROUGH THE ENTIRE DEPTH OF THE CONCRETE CURB.
  - AN "X" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF WATER DISTRIBUTION SYSTEM VALVE.
  - AN "F" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL VALVES OTHER THAN WATER DISTRIBUTION VALVES.
  - A "V" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL SEWER SERVICES.
  - A "L" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL RECLAIMED WATER SERVICES.
  - A "A" SHALL BE CUT IN THE CURB TO MARK THE LOCATION OF ALL WATER SERVICES.
  - THREE (3) CONCRETE CYLINDERS SHALL BE TAKEN AND TESTED FOR EVERY THREE HUNDRED (300) FEET OF ROADWAY CONSTRUCTED. TEST RESULTS SHALL THEN BE PROVIDED TO THE CITY AS THEY BECOME AVAILABLE.
  - THE DEVELOPER SHALL PROVIDE ALL REQUIRED PAYMENT MARKINGS ON ALL ROADWAYS PER CITY COUNTY AND STATE REQUIREMENTS. CENTERLINE STRIPES SHALL BE PROVIDED ON EXTENSIONS OF CITY COLLECTOR OR ARTERIAL ROADS, COUNTY ROADS AND STATE HIGHWAYS ONLY.
  - STOP BARS SHALL BE PLACED AT ALL SUBDIVISION ENTRANCES AND INTERSECTIONS CONTAINING CITY COLLECTOR AND ARTERIAL ROADS, COUNTY ROADS AND STATE HIGHWAYS.
  - ALL TRAFFIC CONTROL DEVICES PLACED AT INTERSECTIONS, PRIVATE STREETS, PUBLIC STREETS, COUNTY ROADS AND STATE HIGHWAYS WITHIN THE CITY LIMITS SHALL BE INSTALLED ACCORDING TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
  - THE DEVELOPER IS RESPONSIBLE FOR PAYING FEES FOR ALL STREET LIGHTS PRIOR TO ACCEPTANCE OF THE PROJECT BY THE CITY.
  - STANDARD TURNING RADI FOR INTERSECTIONS:  
2-LANE ACCESS OR FEEDER 35'  
LOCAL OR COLLECTOR 35'  
LOCAL OR COLLECTOR TO ARTERIAL 40'  
ARTERIAL TO ARTERIAL 50'
  - CITY INSPECTOR SHALL BE PRESENT DURING PAVING OF ALL PUBLIC AND PRIVATE ROADS. PAVING SHALL BE PERFORMED DURING NORMAL BUSINESS HOURS, MONDAY THROUGH FRIDAY. PAVING DURING WEEKENDS IS NOT PERMITTED.
  - CONSTRUCTION METHODS AND DESIGN FOR CONCRETE PAVEMENT SHALL CONFORM TO FDOT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
  - ALL CONTRACTORS THAT ARE PERFORMING THE CONSTRUCTION OF PUBLIC IMPROVEMENTS (WATER MAIN, SANITARY SEWER MAIN, RECLAIMED WATER MAIN, STORM WATER PIPES AND INLETS AND ALSO CONSTRUCTION OF ROADWAYS) SHALL BE CERTIFIED WITH THE FLORIDA STATE DEPARTMENT OF PROFESSIONAL REGULATIONS (DPR) FOR THE TYPE OF WORK THAT THEY PERFORM. A COPY OF THE VALID LICENSE IS REQUIRED AT PRE CONSTRUCTION MEETING.
  - UTILITY DEPTH:  
- HIGH VOLTAGE UTILITIES SUCH AS POWER (FEEDER, SERVICE AND DROPS) SHALL BE BURIED A MINIMUM OF 30 INCHES IN DEPTH.  
- LOW VOLTAGE UTILITIES SUCH AS PHONE AND CABLE TV SHALL BE BURIED A MINIMUM OF 12 INCHES IN DEPTH FOR FEEDER AND SERVICES. SERVICE DROPS SHALL BE BURIED A MINIMUM OF 6 INCHES IN DEPTH.  
- HIGH VOLTAGE UTILITIES INSTALLED PARALLEL TO PRESSURE MAINS SHALL MAINTAIN A MINIMUM FIVE FOOT SEPARATION.
  - GEOTECHNICAL TESTING REPORTS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER SHALL BE SUBMITTED TO THE CITY OF ORMOND BEACH PRIOR TO FINAL SIGN OFF. REPORTS SHALL CLEARLY LABEL PROJECT NAME AND PHASE.



- 5'-0" WIDE CONCRETE SIDEWALK  
4" THICK, 2500 P.S.I.  
8" THICK AT DRIVEWAY
  - 6" ABOVE CENTERLINE ROAD GRADE
  - 500 # SEED AND MULCH PER F.D.O.T. STANDARD SPECIFICATION SECTION 570. 1" SOO STRIP REQUIRED ADJACENT TO CURB AND AROUND DRAINAGE STRUCTURES.
  - 4' WIDE AREA WITH MAX. SLOPE OF 1 1/4" FEET
  - CONCRETE MIAMI CURB, 2500 P.S.I.
  - ASPHALT PAVEMENT:  
1 1/4" ASPHALT BITUMINOUS CONCRETE SP-9.5 OR SP-12.5; MINIMUM MARSHALL FIELD STABILITY 1500.
  - BASE:  
6" CRUSHED CONCRETE (LBR 100) COMPACTION TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST.
  - SUB BASE:  
6" SUB BASE COMPACTION TO 98% DENSITY BASED ON AASHTO T-180 MODIFIED PROCTOR TEST WITH MINIMUM LBR 40.
- NOTE:  
A REPRESENTATIVE OF A CERTIFIED SOIL LABORATORY SHALL BE PRESENT DURING ALL CONSTRUCTION PHASES TO PERFORM ROADWAY COMPACTION AND DENSITY TESTING AS REQUIRED - SEE INDEX R-6(A), (B).

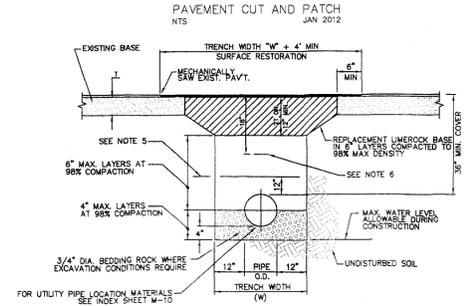


- NOTES:
- ALL CURBS TO BE CONSTRUCTED OF 28 DAY, 2500 P.S.I. CONCRETE
  - 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED EVERY 500'. CONSTRUCTION JOINT REQUIRED EVERY 10' MAXIMUM (4' MINIMUM).
  - 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED AT EACH SIDE OF ALL STORM INLET STRUCTURES AND AT ALL RADIUS POINTS.
  - 6" SUBBASE TO BE COMPACTION AND TESTED TO 98% DENSITY WITH MINIMUM LBR: 40 BASED ON AASHTO T-180 MODIFIED PROCTOR TEST.
  - EXPANSION JOINT MATERIAL MUST COVER THE ENTIRE CROSS SECTION OF CURB.
  - ALL EXPOSED CORNERS TO BE ROUNDED AT 3/4" MIN. RADIUS.
  - ALL CURB ENDS THAT DO NOT FIT INTO OTHER FACILITIES SHALL TRANSITION DOWN TO PAYMENT GRADE IN 24 INCHES.

TECHNICAL SPECIFICATIONS FOR TESTING REQUIREMENTS  
JAN 2012

ROADWAY COMPACTION AND DENSITY TESTING REQUIREMENTS

ITEM	TEST	FREQUENCY	STANDARD	TEST METHOD
ROADWAY SUBBASE (BOTTOM OF SUBBASE DOWN 1 FOOT)	N-PLACE DENSITY	ONE (1) TEST/300 LF	98% MODIFIED PROCTOR (ASTM D-1557 OR AASHTO T-180)	ASTM D-2937 D-2922 D-1556
STABILIZED SUBBASE	N-PLACE DENSITY	ONE (1) TEST/300 LF	98% MODIFIED PROCTOR (ASTM D-1557 OR AASHTO T-180)	ASTM D-2937 D-2922 D-1556
STABILIZED SUBBASE	FLORIDA BEARING VALUE (FBV)	ONE (1) TEST/300 LF	FBV = 75	
STABILIZED SUBBASE	LIMEROCK BEARING RATIO (LBR)	ONE (1) TEST/SOL TYPE	LBR = 40	
LIMEROCK BASE	N-PLACE DENSITY	ONE (1) TEST/300 LF	98% MODIFIED PROCTOR (ASTM D-1557 OR AASHTO T-180)	ASTM D-2937 D-2922 D-1556
LIMEROCK BASE	LIMEROCK BEARING RATIO (LBR)	PROVIDE CERTIFICATE FROM PLANT	LBR 100	FM-515
CRUSHED CONCRETE BASE	N-PLACE DENSITY	ONE (1) TEST/300 LF	98% MODIFIED PROCTOR (ASTM D-1557 OR AASHTO T-180)	ASTM D-2937 D-2922 D-1556
CRUSHED CONCRETE BASE	LIMEROCK BEARING RATIO (LBR)	(1) PER VISIBLE CHANGE IN MATERIAL BLEND	LBR 100	
ASPHALT	EXTRACTION AND GRADATION	(1) PER DAY PER MIX	PER MIX DESIGN	D-2922
ASPHALT	THICKNESS AND DENSITY	(1) PER 300 LF ROADWAY	PER MIX DESIGN AND JOB SPECS	CORING OR NUCLEAR (DENSITY ONLY)
SOIL OPTIMUM MOISTURE/DENSITY	PROCTOR TEST	(1) PER SOL OR BASE TYPE		ASTM D-1557 (MODIFIED) ASTM D-558 (STANDARD) AASHTO T-180 (MODIFIED) AASHTO T-99 (STANDARD)
CURB SUBBASE	N-PLACE DENSITY	ONE (1) TEST/300 LF	98% MODIFIED PROCTOR (ASTM D-1557 OR AASHTO T-180)	
CURB SUBBASE (LBR)	LIMEROCK BEARING RATIO (LBR)	(1) TEST/SOL CHANGE	LBR 40	



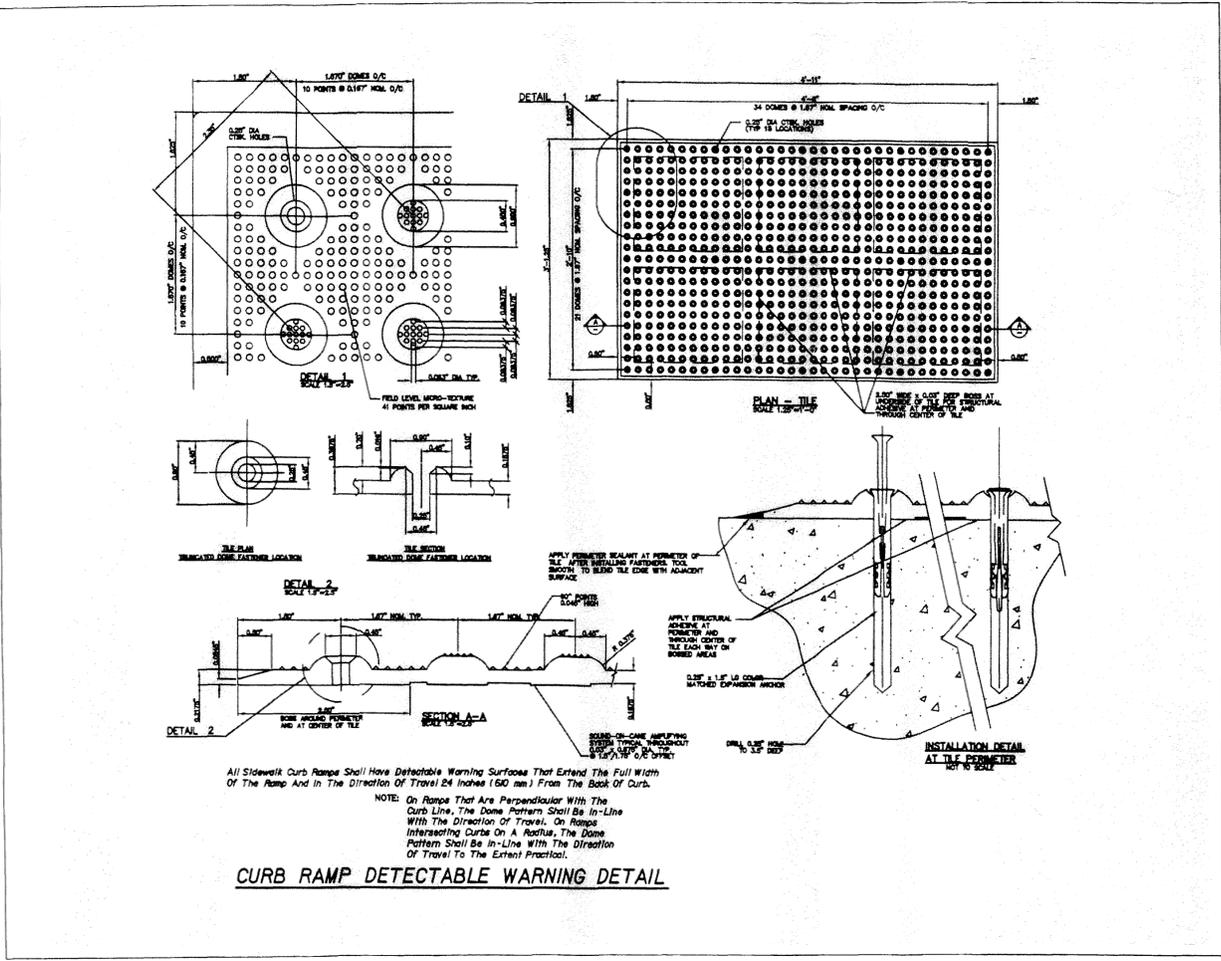
- NOTES:
- WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
  - SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
  - NEW SURFACING MATERIALS SHALL BE CONSISTENT WITH EXISTING AND SHALL HAVE LAPPED & FEATHERED JOINTS (1 1/2" MIN. THK.)
  - COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180. PROVIDE COMPACTION TEST REPORTS TO CITY INSPECTOR.
  - MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
  - INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE.
  - EIGHT INCHES (8") OF HIGH EARLY-STRENGTH CONCRETE MAY BE SUBSTITUTED FOR LIMEROCK UPON APPROVAL BY CITY ENGINEER.

PIPED UTILITY INSTALLATION REQUIREMENTS  
JAN 2012

ITEM	TEST	FREQUENCY	STANDARD	TEST METHOD
PIPE TRENCH SUBBASE (IF SPECIFIED)	N-PLACE DENSITY	ONE (1) TEST/300 LF	98% MODIFIED PROCTOR	ASTM D-2937 D-2922 D-1556
PIPED BACKFILL IN PAVED AREAS	N-PLACE DENSITY	ONE (1) TEST/300 LF PER ONE (1) FOOT VERTICAL LIFT OF FILL	98% MODIFIED PROCTOR	ASTM D-2937 D-2922 D-1556
PIPED BACKFILL IN GREEN AREAS	N-PLACE DENSITY	ONE (1) TEST/300 LF PER ONE (1) FOOT VERTICAL LIFT OF FILL	90% MODIFIED PROCTOR	ASTM D-2937 D-2922 D-1556
SOIL OPTIMUM MOISTURE/DENSITY	PROCTOR TEST	ONE (1) PER SOL OR BASE TYPE		ASTM D-2937 (MODIFIED) ASTM D-558 (STANDARD) AASHTO T-180 (MODIFIED) AASHTO T-99 (STD.)

SEEDING AND MULCHING  
JAN 2012

- SCOPE OF WORK - THE WORK IN THIS SECTION CONSISTS OF FURNISHING AND COMPLETELY INSTALLING SEED AND MULCH OVER THE LIMITS CALLED FOR ON THE CONSTRUCTION DRAWINGS.
- MATERIALS - GRASS SEED SHALL BE A MIXTURE OF:  
PENNSYLVANIA BAHIA (50% SCARIFIED SEED) 60 LBS/ACRE  
HULLED BERMOUDA 20 LBS/ACRE  
BROWN TOP MILLET 20 LBS/ACRE
- METHODS - GRASSING SHALL BE DONE IMMEDIATELY UPON COMPLETION OF THE FINE GRADING OPERATION. HOWEVER, NO SEEDING SHALL BE DONE WHEN THE GROUND IS FROZEN OR UNDELIY WET. THE RATE OF SPREAD FOR THE SEED MATERIAL SHALL BE ONE HUNDRED AND THIRTY (130) POUNDS PER ACRE APPROXIMATELY TWO INCHES (2") LOOSE THICKNESS OF MULCH MATERIAL SHALL BE APPLIED UNIFORMALLY OVER THE GRASSING AREAS APPROXIMATELY 1 1/2 BALES PER 1000 SQUARE FEET. THE MULCH MATERIAL SHALL BE CUT INTO THE SOIL WITH A DISC HARROW OR OTHERWISE ANCHORED DOWN.
- FERTILIZER - ANALYSES OF SOILS SHALL BE OBTAINED BY SUBMITTAL OF SAMPLES TO VOLusia COUNTY AGRICULTURAL DEPARTMENT (PHONE: 258-7000). ALL APPLICATION RATES WILL BE BASED ON THIS REPORT. SUBMIT A COPY OF THIS REPORT TO THE CITY PRIOR TO COMMENCING ANY SOIL MODIFICATION.
  - THE FERTILIZER SHALL BE A COMMERCIAL GRANULAR TYPE WITH A CHEMICAL DESIGNATION AS RECOMMENDED IN THE SOIL ANALYSIS REPORT.
  - THE NUMERICAL DESIGNATIONS FOR FERTILIZER INDICATE THE MINIMUM PERCENTAGES (RESPECTIVELY) OF (1) TOTAL NITROGEN, (2) AVAILABLE PHOSPHORIC ACID AND (3) WATER SOLUBLE POTASH CONTAINED IN THE FERTILIZER.
    - AT LEAST 80 PERCENT (80%) OF THE PHOSPHORIC ACID SHALL BE FROM A NORMAL SUPER PHOSPHATE OR AN EQUIVALENT SOURCE WHICH WILL PROVIDE A MINIMUM OF TWO UNITS OF SULFUR.
    - THE AMOUNT OF SULFUR SHALL BE INDICATED ON THE QUANTITATIVE ANALYSIS CARD ATTACHED TO EACH BAG OR CONTAINER.
  - COMMERCIAL FERTILIZERS SHALL COMPLY WITH THE STATE FERTILIZER LAWS.
  - FERTILIZER MAY, AT THE DISCRETION OF THE ENGINEER/ARCHITECT, UPON THE PRESENTATION BY THE MANUFACTURER OF SATISFACTORY FACTORY EVIDENCE OF ITS FEASIBILITY, BE APPLIED IN LIQUID FORM.

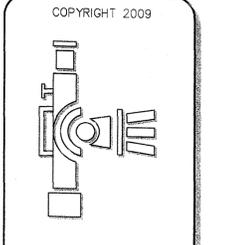


All Stilewalk Curb Ramps Shall Have Detectable Warning Surfaces That Extend The Full Width Of The Ramp And In The Direction Of Travel 24 Inches (60 mm) From The Back Of Curb.

NOTE: On Ramps That Are Perpendicular With The Curb Line, The Dome Pattern Shall Be In-Line With The Direction Of Travel. On Ramps Intersecting Curbs On A Radius, The Dome Pattern Shall Be In-Line With The Direction Of Travel To The Extent Practical.



NO.	DATE	REVISIONS
1.	6.28.07	REVISED PER CITY COMMENTS DATED 12.4.07
2.	8.14.07	REVISED PER CITY COMMENTS DATED 6.1.07
3.	7.08.13	REVISED WATER/SEWER/DETAILS
17.	9.17.13	FINAL CONSTRUCTION DETAILS



**HARPSTER ENGINEERING & SURVEYING, INC.**  
SURVEYORS  
CONSULTANTS  
LICENSED BUSINESS #6351  
ORLANDO BEACH, FL 32717  
E-MAIL: mail@harpstereng.com

PHONE: (386) 677-9336  
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**RIVER OAKS OF ORMOND BEACH SUBDIVISION**  
FINAL PLAN - ROADWAY DETAILS AND NOTES

DESIGN BY: SHM  
CHECKED BY: JHH  
DATE: 10/24/06  
SCALE: NONE  
JOB No.: 05-150  
Dwg.: 05150-DET.DWG  
XREF: NONE

MAR 27 2014  
JOSEPH H. HOPKINS  
P.E. #48099  
ENGINEER OF RECORD  
NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED

SHEET 19  
OF 30 SHEETS

UNLESS OTHERWISE NOTED, DETAILS WERE OBTAINED FROM "STANDARD CONSTRUCTION DETAILS, 2012 EDITION" AS PUBLISHED BY THE CITY OF ORMOND BEACH ENGINEERING DIVISION.

STANDARD CONSTRUCTION DETAIL  
REQUIREMENTS FOR "AS-BUILT" DRAWINGS

JAN. 2012  
IN ORDER TO ENSURE THAT NEW DEVELOPMENTS WITHIN THE CITY ARE CONSTRUCTED SUBSTANTIALLY IN ACCORDANCE WITH CITY REGULATIONS AND THE APPROVED DRAWINGS "AS-BUILT" DRAWINGS ARE REQUIRED:

THE FOLLOWING INFORMATION IS REQUIRED ON ALL PAVING AND DRAINAGE "AS-BUILT" DRAWINGS:

- PAVEMENT AND CURB WIDTHS SHALL BE VERIFIED AND DIMENSIONED FOR EACH STREET AT EACH BLOCK. ALL RAISE AT INTERSECTIONS SHALL BE VERIFIED AND DIMENSIONED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
- ROADWAY ELEVATIONS SHALL BE RECORDED AT ALL GRADE CHANGES OR OTHER INTERVALS AS NEEDED ALONG ALL STREETS. STREET CENTERLINE AND CURB INVERT ELEVATIONS SHALL BE RECORDED AS NOTED. THE "AS-BUILT" CENTERLINE PROFILE OF ALL STREETS SHALL ALSO BE SHOWN ON THE PLAN AND PROFILE SO IT MAY BE COMPARED TO THE EXISTING AND DESIGNED PROFILE GRADE LINES. ALL STREET CENTERLINES ON "AS-BUILT" SHALL BE LABELED WITH STREET NAME AND RIGHT-OF-WAY WIDTH ON EVERY PAGE.
- STORM DRAINAGE STRUCTURES SHALL BE LOCATED AND/OR DIMENSIONED FROM CENTERLINES OR LOT LINES AS APPROPRIATE.
- STORM DRAINAGE PIPE INVERT AND STRUCTURE TOP AND BOTTOM ELEVATIONS SHALL BE RECORDED AND CLEARLY DENOTED AS "AS-BUILT" INFORMATION. DESIGN ELEVATIONS SHALL BE QUOTED AND "AS-BUILT" INFORMATION WRITTEN NEXT TO IT.
- STORM DRAINAGE PIPE MATERIAL, LENGTH, AND SIZE SHALL BE MEASURED AND/OR VERIFIED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
- ALL APPLICABLE TOPOGRAPHIC INFORMATION PERTINENT TO THE ON SITE DRAINAGE SYSTEM SUCH AS DITCHES, LAKES, CANALS, ETC. THAT ARE DEEMED APPROPRIATE BY THE CITY SHALL BE NOTED. NORMALLY RECORDING ELEVATIONS EVERY 100 FEET AT THE TOP OF BANK AND TOE OF SLOPE WILL BE REQUIRED. MEASUREMENTS SHALL BE TAKEN AND RECORDED IN ORDER TO ACCURATELY SET DOWN THESE FEATURES TO THE ROADWAY CENTERLINES AND TO PLAT LINES. WHENEVER POSSIBLE, CONTOUR LINES SHALL BE UTILIZED TO GRAPHICALLY DESCRIBE THESE TOPOGRAPHIC FEATURES.
- RETENTION AREAS SHALL HAVE THEIR TOP-OF-BANK AND BOTTOM ELEVATIONS RECORDED. ACTUAL MEASUREMENTS SHALL BE TAKEN AND DIMENSIONS RECORDED. THE SIZE OF ALL RETENTION AREAS. MEASUREMENTS SHALL BE DONE FROM TOP-OF-BANK TO TOP-OF-BANK WITH SIDE SLOPES INDICATED. SEPARATE CALCULATIONS SHALL BE SUBMITTED TO INDICATE REQUIRED AND PROVIDED RETENTION VOLUMES.
- STORM DRAINAGE SWALE CENTERLINES SHALL BE LOCATED AND ELEVATIONS OF FLOW LINE SHALL BE RECORDED EVERY 100 FEET.
- ANY SPECIAL FEATURES SUCH AS CONCRETE FLUMES, LAKE BANKS, WALLS, FENCING, ETC., WHICH WERE A PART OF THE APPROVED CONSTRUCTION DRAWINGS SHOULD ALSO BE LOCATED AND DIMENSIONED.
- ACTUAL MATERIALS USED AND ELEVATIONS AND DIMENSIONS OF OVERFLOW WEIR STRUCTURES AND SWIMMERS SHALL BE NOTED ON THE "AS-BUILT".

THE FOLLOWING INFORMATION IS REQUIRED ON ALL WATER AND SEWER "AS-BUILT" DRAWINGS:

- SANITARY SEWER MANHOLES SHALL BE VERIFIED AND DIMENSIONED FROM STREET CENTERLINES OR LOT LINES AS APPROPRIATE. ALL RIM AND INVERT ELEVATIONS SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
- SANITARY SEWER LINE LENGTHS, SIZES, MATERIAL, SLOPE, ETC., SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
- SEWER LATERALS SHALL BE VERIFIED AND RECORDED AT THEIR CLEAN-OUT LOCATIONS. STATIONING AND OFFSET DISTANCES SHALL BE MEASURED FROM DOWNSTREAM MANHOLES TOWARDS UPSTREAM MANHOLES.
- LIFT STATIONS AND FORCE MAINS SHALL BE VERIFIED AND DIMENSIONED FROM STREET CENTERLINES OR LOT LINES AS APPROPRIATE. FORCE MAIN DEPTH AND LOCATION INCLUDING VALVES WILL BE PROVIDED AND TIED TO PERMANENT ABOVE GRADE FEATURES EVERY 500 FEET. DIMENSIONAL AND ELEVATION INFORMATION INDICATED ON THE APPROVED PLAN SHALL BE VERIFIED AND RECORDED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION. BURIED ELECTRICAL SERVICE LINE SHALL BE CLEARLY DIMENSIONED, LOCATED AND LABELED.
- CURB CUTS OR METAL TABS, USED TO MARK SEWER LATERALS, WATER SERVICES AND WATER VALVES, SHALL BE VERIFIED FOR PRESENCE AND ACCURACY OF LOCATION.
- WATER MAIN LINES SHALL BE DIMENSIONED OFF THE BACK OF CURB OR EDGE OF PAVEMENT IF NO CURB IS PRESENT. WATER MAIN LINE MATERIAL, SIZE, LENGTH AND DEPTH PLACED SHALL ALSO BE NOTED. THIS INFORMATION TO CLEARLY INDICATE IT AS BEING "AS-BUILT" INFORMATION.
- WATER VALVES, TEES, BLOW-OFFS AND FIRE HYDRANTS SHALL BE LOCATED BY TYING THEM TO SANITARY SEWER MANHOLES. STATIONING AND OFFSET DISTANCES SHALL BE MEASURED FROM DOWNSTREAM MANHOLES TO UPSTREAM MANHOLES.
- FOR PERPENDICULAR CROSSINGS OF STORMWATER, SANITARY SEWER, POTABLE WATER, OR RECLAIMED WATER, THE "AS-BUILT" PLANS SHALL CLEARLY INDICATE WHICH UTILITIES ARE LOCATED OVER OR UNDER OTHER UTILITIES, AS NECESSARY.
- WHEN STORMWATER, POTABLE WATER, RECLAIMED WATER, OR SANITARY SEWER IMPROVEMENTS ARE LOCATED WITHIN AN EASEMENT, THE "AS-BUILT" SHALL ACCURATELY DEPICT THE LOCATION OF THE EASEMENT ITSELF AS WELL AS THE EXACT LOCATION OF THE IMPROVEMENTS WITHIN THE EASEMENT. THIS IS REQUIRED IN ORDER TO VERIFY THAT THE IMPROVEMENTS HAVE BEEN PROPERLY LOCATED AND TO ENSURE THAT FUTURE SUBSURFACE EXCAVATION TO PERFORM REMEDIAL REPAIR CAN BE ACCOMPLISHED WITHOUT DISTURBANCE BEYOND THE EASEMENT. SUCH DOCUMENTATION AND THE ASSOCIATED PROPOSED EASEMENT DOCUMENT WITH LEGAL DESCRIPTION SHALL BE SUBMITTED FOR CITY REVIEW AND APPROVAL PRIOR TO RECORDING OF SAID EASEMENT. UPON CITY APPROVAL, THE EASEMENT SHALL BE RECORDED VIA A SEPARATE LEGAL INSTRUMENT AND SHALL NOT BE INCLUDED AS PART OF HOMEOWNER COVENANTS AND RESTRICTIONS.
- SUBMIT CERTIFIED PAPER PRELIMINARY "AS-BUILT" WITH REQUEST FOR FINAL INSPECTION. SUBMIT 3 SETS SHOWING WATER FACILITIES, 3 SETS WITH SEWER FACILITIES, AND 3 SETS WITH PAVING AND DRAINAGE FACILITIES. FOLLOWING FINAL INSPECTION AND COMMENTS, THE CONTRACTOR SHALL REVISE AS-BUILTS TO ADDRESS CITY COMMENTS AND SUBMIT 3 SETS CERTIFIED FINAL "AS-BUILTS" ALONG WITH 1 SET CERTIFIED MYLARS AND 1 CD-ROM CONTAINING AUTO-CAD FILES AND PDF VERSIONS SHOWING ALL "AS-BUILT" SHEETS. ALL "AS-BUILT" DRAWINGS SHALL BE CERTIFIED BY A REGISTERED LAND SURVEYOR AND ENGINEER OF RECORD.
- INDICATE VERTICAL DATUM REFERENCE ON ALL SHEETS.
- CAD FILE OF "AS-BUILTS" SHALL BE IN STATE PLANE COORDINATES; FILE SHOULD INCLUDE REFERENCE TO PROJECTION. (FLORIDA EAST, NAD83)
- ALL "AS-BUILT" DRAWINGS SHALL BE PREPARED BY A FLORIDA REGISTERED LAND SURVEYOR USING THE FINAL APPROVED SITE DESIGN PREPARED BY THE ENGINEER OF RECORD. LINE WEIGHTS, LINE TYPES, AND ANNOTATION SHALL BE MANAGED IN A MANNER THAT CLEARLY DISTINGUISHES DESIGN INFORMATION FROM "AS-BUILT" INFORMATION.
- ALL "AS-BUILT" SHEETS SHALL INCLUDE A TITLE BLOCK AND CLEARLY STATE PROJECT NAME, PROJECT SURVEYOR, DATE OF FIELD WORK, AS WELL AS PROJECT CERTIFICATION BLOCK FROM THE ENGINEER OF RECORD.

NOTE: REFERENCES TO WATER SHALL MEAN BOTH POTABLE AND RECLAIMED WATER.

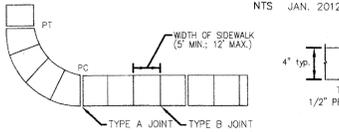
STANDARD CONSTRUCTION DETAIL  
GENERAL CONSTRUCTION NOTES

JAN. 2012

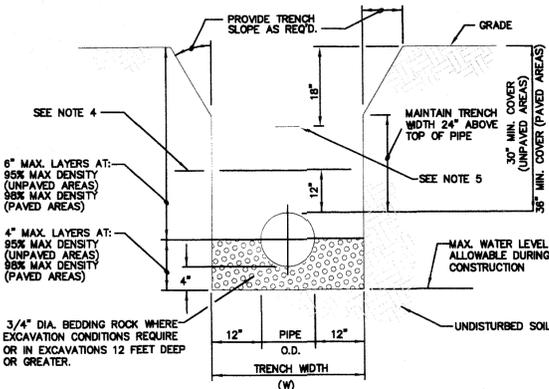
GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ORMOND BEACH'S LAND DEVELOPMENT CODE REQUIREMENTS, AND THE STANDARD CONSTRUCTION DETAILS AND CONSTRUCTION SPECIFICATIONS (SCDS). AN ENGINEERING PERMIT AND TREE REMOVAL PERMIT IS REQUIRED PRIOR TO STARTING CONSTRUCTION.
- NO LAND SHALL BE CLEARED, EXCAVATED OR FILLED AND NO STRUCTURE SHALL BE ERRECTED, REPAIRED OR DEMOLISHED WITHOUT PROPER PERMIT(S) AS REQUIRED BY THE CITY OF ORMOND BEACH.
- NOTIFY THE CITY OF ORMOND BEACH'S ENGINEERING DIVISION AT 676-3269 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- ANY CONSTRUCTION CHANGES TO APPROVED PLANS SHALL BE SUBMITTED TO THE CITY OF ORMOND BEACH FOR APPROVAL PRIOR TO PERFORMING THE WORK.
- ROAD CONSTRUCTION AND PIPE INSTALLATION COMPACTION AND DENSITY TESTING SHALL CONFORM TO THE CITY OF ORMOND BEACH'S MINIMUM REQUIREMENTS. CERTIFIED COPIES OF TEST REPORTS SHALL BE SUBMITTED TO THE CITY INSPECTOR AND THE CITY'S ENGINEERING DIVISION.
- A PRE-PAVING UTILITY INSPECTION MUST BE REQUESTED AND COMPLETED PRIOR TO THE PAVING OF ALL ROADS, STREETS, AND PARKING AREAS.
- A FINAL INSPECTION, TO BE CONDUCTED BY THE CITY OF ORMOND BEACH, SHALL BE PERFORMED ON ALL CONSTRUCTION. THE DESIGN ENGINEER SHALL NOTIFY THE CITY OF ORMOND BEACH'S ENGINEERING DIVISION 676-3269 WHEN REQUESTING A FINAL INSPECTION.
- THREE COMPLETE SETS OF AS-BUILT DRAWINGS (5 FOR SUBDIVISIONS) ARE REQUIRED TO BE SUBMITTED TO THE CITY OF ORMOND BEACH PRIOR TO REQUESTING A FINAL INSPECTION.
- THE CITY HAS A CONTRACTOR FOR ROLL OFF SERVICE. NO OTHER CONTRACTOR SHALL BE PERMITTED TO PROVIDE THIS SERVICE. VERIFY COMPANY UNDER CONTRACT WITH THE CITY.
- CONSTRUCTION SITES THAT DISTURB ONE ACRE OR MORE WILL BE REQUIRED TO SEEK COVERAGE UNDER THE GENERAL PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES. IN ACCORDANCE WITH THIS REQUIREMENT, A STORMWATER POLLUTION PREVENTION PLAN (SWPP) MUST BE SUBMITTED TO THE CITY'S ENGINEERING DIVISION PRIOR TO CONSTRUCTION TO BE IN COMPLIANCE WITH THE PERMIT.
- CONTRACTOR WILL FOLLOW REQUIRED WASTE MANAGEMENT PRACTICES.
- SEEDING OR SODDING SHALL BE INITIATED FOR EROSION AND SEDIMENT CONTROL ON DISTURBED AREAS AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.
- ANY FIELD MODIFICATIONS OR DEVIATIONS TO THIS CONSTRUCTION PLAN REQUIRES WRITTEN APPROVAL BY BOTH THE ENGINEER OF RECORD AND THE CITY OF ORMOND BEACH ENGINEERING DIVISION.

STANDARD CONSTRUCTION DETAIL  
SIDEWALK, RAMP, AND DRIVEWAY APRON  
CONSTRUCTION REQUIREMENTS



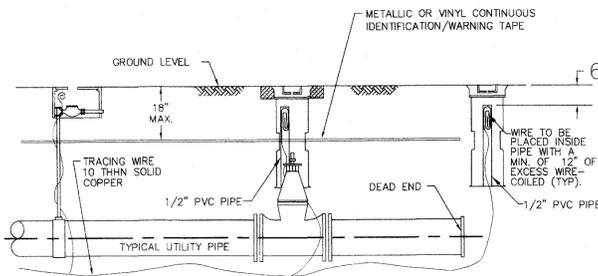
- SIDEWALKS, BIKEPATHS, RAMPS, AND DRIVEWAY APRONS SHALL BE CONSTRUCTED OF PLAIN PORTLAND CEMENT CONCRETE WITH A MAXIMUM SLUMP OF 3 INCHES, A MINIMUM DEVELOPED COMPRESSIVE STRENGTH OF 2500 P.S.I. IN 28 DAYS, AND A MINIMUM UNIFORM THICKNESS OF 4 INCHES WHERE INTENDED SOLELY FOR PEDESTRIAN TRAFFIC, AND 6 INCHES THICK WHERE MOTOR VEHICLES ARE LIKELY TO CROSS. SIDEWALKS SHALL BE 5 FOOT WIDE UNLESS OTHERWISE SHOWN ON PLANS.
- SIDEWALKS AND BIKE PATHS SHALL BE PLACED PARALLEL TO, AND ONE FOOT WITHIN THE RIGHT-OF-WAY LINE EXCEPT THAT THE CITY MAY APPROVE DEVIATIONS TO SAVE SPECIMEN TREES PROVIDED THAT THE PAVEMENT REMAINS WITHIN THE RIGHT-OF-WAY, IS NOT DIMINISHED IN WIDTH, AND REMAINS AT LEAST 4 FEET FROM THE EDGE OF THE STREET PAVEMENT, UNLESS OTHERWISE APPROVED BY THE CITY.
- THE TOP OF THE CONCRETE SHALL BE AT AN ELEVATION NO LOWER THAN THE CROWN OF THE ADJACENT ROADWAY, AND NO HIGHER THAN 6 INCHES ABOVE THE CROWN UNLESS APPROVED BY THE CITY TO MAKE A MORE NATURAL TRANSITION WITH THE ADJACENT LAND.
- ALL WALKS SHALL HAVE A CROSS SLOPE OF 1/4 INCH PER FOOT AND SHALL NOT EXCEED A LONGITUDINAL SLOPE OF 1:20, EXCEPT AT DESIGNATED RAMPS THAT SHALL NOT EXCEED 1:12. PROVIDE A TACTILE WARNING SURFACE AT ALL RAMPS PER A.D.A. THE CONTRACTOR SHALL INSURE THAT ALL PROVISIONS OF A.D.A. AND FLORIDA ACCESSIBILITY CODE ARE MET.
- ISOLATION JOINTS (TYPE A JOINTS) SHALL BE PROVIDED BETWEEN EXISTING SLABS OR STRUCTURES AND FRESH CONCRETE, TO SEPARATE PEDESTRIAN SECTIONS FROM SECTIONS WHICH WILL ENCOUNTER VEHICLE TRAFFIC, TO SEPARATE FRESH PLACEMENT FROM CONCRETE WHICH HAS SET FOR MORE THAN 60 MINUTES, AND NO FARTHER APART THAN 100 FEET IN SIDEWALKS AND BIKEPATHS. JOINT MATERIAL SHALL BE SPECIFIED IN FOOT STANDARDS AND SPECIFICATIONS AND SHALL BE RUBBER, PLASTIC OR OTHER APPROVED NON-BIODEGRADABLE ELASTOMERIC MATERIAL. WOOD IS PROHIBITED.
- CONTROL JOINTS (TYPE B JOINTS) SHALL BE TOOLED INTO THE FRESH CONCRETE TO A DEPTH EQUAL TO 1/4 THE SLAB THICKNESS AND SPACED APART A DISTANCE EQUAL TO THE WIDTH OF THE SLAB, AT MINIMUM SPACING OF 5'; MAX SPACING OF 12'.
- THE SLAB SURFACE SHALL BE BROOM FINISHED TO BE SLIP RESISTANT, AND SHALL MATCH AS CLOSELY AS POSSIBLE THE FINISH OF THE EXISTING ADJACENT SLABS AND ALL EDGES SHALL BE TOOLED TO ELIMINATE SHARP CORNERS.
- THE BEARING SUBSURFACE SHALL HAVE ALL ORGANIC, LOOSE, AND DELETERIOUS MATTER REMOVED, AND THE REMAINING CLEAN SOIL SHALL BE SMOOTH, SOUND, AND SOLID. ANY FILL MATERIAL SHALL BE COMPACTED WITH A VIBRATORY OR IMPACT COMPACTION MACHINE IN MAXIMUM 12 INCH LIFTS OR COMPACTED WITH A HAND TAMPER IN MAXIMUM 4 INCH LIFTS. THE CITY SHALL REQUIRE A COMPACTION TEST FOR EACH LIFT IF THE TOTAL FILLED SECTION IS MORE THAN 12 INCHES DEEP OR IF THE SUBSURFACE HAS BEEN DISTURBED MORE THAN 12 INCHES DEEP. WHERE SUCH TEST IS REQUIRED, THE RESULTS SHALL SHOW A MINIMUM PROCTOR FIELD DENSITY OF 95 PERCENT.
- ALL CONCRETE WORK IN THE RIGHT-OF-WAY SHALL BE INSPECTED BY THE CITY AFTER THE SUBSOIL IS PREPARED AND THE FORMS ARE SET, BUT BEFORE THE CONCRETE PLACEMENT BEGINS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE FINISHED SLAB FROM ALL DAMAGE AND VANDALISM UNTIL THE CITY ACCEPTS OR APPROVES THE SLAB, AFTER WHICH TIME THE OWNER OF THE ADJUTING LAND SHALL BE RESPONSIBLE FOR THE SLAB IN ACCORDANCE WITH THE CITY CODE. ANY SLAB SECTION DAMAGED OR VANDALIZED PRIOR TO ACCEPTANCE OR APPROVAL SHALL BE CUT OUT BETWEEN JOINTS AND REPLACED. REPAIRS ARE NOT ACCEPTABLE.
- SIDEWALKS LOCATED WITHIN THE RIGHT-OF-WAY SHALL NOT BE TINTED, STAINED, COLORED, OR COATED.
- ALL FORMS SHALL BE REMOVED PRIOR TO ACCEPTANCE OR APPROVAL AND THE DISTURBED GROUND SHALL BE BACKFILLED, REGRADED, AND SODDED SO THAT THE WEAR SURFACE OF THE CONCRETE IS REASONABLY FLUSH WITH THE ADJACENT GRADE.



PIPE INSTALLATION DETAIL NTS

NOTES:

- WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
- SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
- COMPACTION PERCENTAGES SHOWN REFER TO A.A.S.H.T.O. T-180. PROVIDE COPIES OF CERTIFIED TEST REPORTS TO CITY INSPECTOR.
- MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
- INSTALL METALLIC TAPE OVER FULL LENGTH OF PIPE.



ALL PVC PIPE, OR OTHER CITY APPROVED NONMETALLIC PIPE INSTALLED WITHIN THE CITY'S WATER, SANITARY SEWER, OR RECLAIMED WATER SYSTEMS, SHALL BE INSTALLED WITH 10 THIN SOLID COPPER TRACING WIRE. IF PIPE IS INSTALLED BY DIRECTIONAL BORE, USE (2) 10 THIN SOLID COPPER TRACING WIRE.

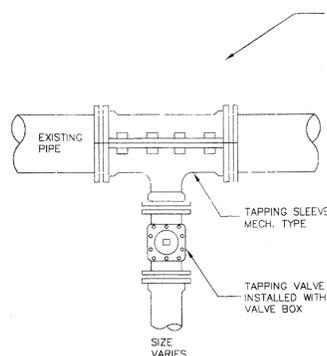
THE TRACING WIRE MUST BE INSTALLED DIRECTLY BELOW THE PIPE AND BROUGHT TO THE SURFACE AT 500' MINIMUM INTERVALS. WIRE SHALL EXTEND A MINIMUM OF 12" ABOVE GRADE AT EACH INTERVAL AND BE COILED AND PLACED IN A VALVE BOX, METER BOX, MANHOLE, CLEANOUT OR OTHER APPLICABLE STRUCTURE.

TRACING WIRE BETWEEN INTERVALS SHALL BE INSTALLED SO AS TO PROVIDE CONTINUOUS CURRENT WHEN LINE LOCATION EQUIPMENT IS CONNECTED TO THE TRACING WIRE. WIRE BRANCHING FROM MAIN LINES SHALL BE LINKED BY A CITY APPROVED CONNECTOR SUCH AS KING # 2011 SAFETY SEALED CONNECTORS OR APPROVED EQUAL.

POTABLE WATER SYSTEM: BLUE  
RECLAIMED WATER SYSTEM: LAVENDER  
SANITARY SEWER FORCE MAIN SYSTEM: GREEN

- POTABLE WATER AND RECLAIMED WATER SYSTEMS: WIRE SHALL BE INSTALLED BELOW ALL MAINS AND SERVICE LINES AND ATTACHED TO VALVES, HYDRANTS AND FITTINGS; WIRE INSTALLED WITH SERVICE LINES SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE CURB STOP.
- FIRE SPRINKLER LINES: WIRE SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE RISER CONNECTION.
- SANITARY SEWER FORCE MAINS: WIRE SHALL BE INSTALLED BELOW THE FORCE MAIN AND ATTACHED TO ALL VALVES AND FITTINGS AND BROUGHT TO THE SURFACE AND PLACED IN A METAL, CITY APPROVED, VALVE BOX.
- DEAD END MAINS: WIRE SHALL BE PLACED IN A PROPERLY IDENTIFIED METAL VALVE BOX AT THE END OF THE RUN.
- WIRE SHALL NOT BE FASTENED OR COILED TO VALVE OPERATING NUT.

UTILITY PIPE LOCATION MATERIALS  
NTS



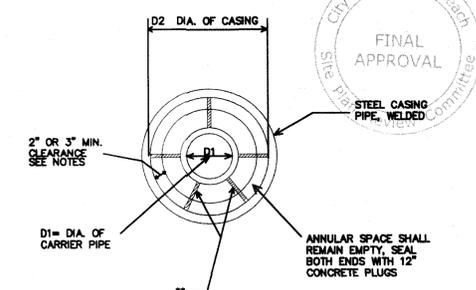
NOTES:

- EPOXY COATED STEEL, STAINLESS STEEL SLEEVES WITH STAINLESS STEEL BOLTS ARE PERMITTED FOR ALL TYPES OF PIPE MATERIALS.
- INSTALL REQUIRED RESTRAINED JOINTS. IN NO INSTANCE SHALL THRUST BLOCK BE PERMITTED.
- ALL VALVES 2" OR GREATER SHALL BE GATE VALVES. CORPORATION STOPS ARE NOT ALLOWED ON VALVES 2" OR GREATER EXCEPT ON BLOW-OFFS.

STANDARD CONSTRUCTION DETAIL  
TAPPING VALVE AND SLEEVE

DETAIL NOT FROM ORMOND BEACH  
STANDARD DETAIL, 2007 EDITION

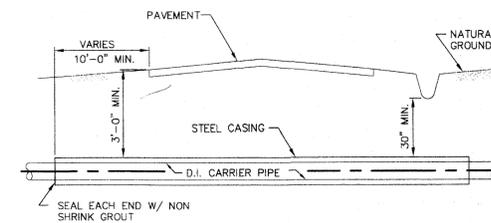
STANDARD CONSTRUCTION DETAIL  
BORE AND JACK  
NTS  
JAN 2012



- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF CASING INSTALLATION TO ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
- SEAL BOTH ENDS OF CASING W/ 12" GROUT (MINIMUM)
- ROTATION OF CARRIER PIPE INSIDE THE CASING WILL NOT BE PERMITTED.
- THE CARRIER PIPE MUST BE IN THE CENTERED AND RESTRAINED POSITION WITHIN THE CASING.

CARRIER PIPE AND CASING PIPE SIZES (MIN.)	
CARRIER PIPE NOM. DIA. (D1)	4 6 8 10 12 14 16 18 20 24 30 36 42 48
CASING PIPE NOM. DIA. (D2)	14 16 18 22 24 30 30 30 36 36 48 54 60 66
WALL THICKNESS-INCHES *	PER AUTHORITY HAVING JURISDICTION

- WITHIN CITY OF ORMOND BEACH RIGHT OF WAY, USE CURRENT FOOT STANDARDS.
- SPECIALLY DESIGNED SPACERS SHALL BE USED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. USE CASCADE CASING SPACERS OR PRE-APPROVED EQUAL.



NOTE: BORING & JACKING TO BE IN ACCORDANCE W/ FLA. D.O.T. SPECS.

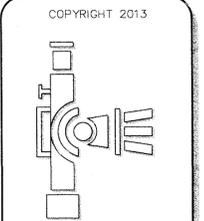
NOTES:

- MINIMUM COVER FOR TOP OF CASING ON ALL CITY STREETS SHALL BE 3.0'
- ROTATION OF CARRIER PIPE INSIDE THE CASING PIPE WILL NOT BE PERMITTED. RESTRAINED MECHANICAL OR FLANGED JOINT PIPE SHALL BE USED TO HELP PREVENT SUCH ROTATION.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF CASING AND CARRIER PIPE INSTALLATION FOR APPROVAL PRIOR TO FABRICATION OF PIPING, CASING, AND APPURTENANCES. CERTIFICATION OF CASING PIPE IS REQUIRED.
- GROUTING OF SPACE BETWEEN CASING AND CARRIER PIPE NOT REQUIRED UNLESS NEGATIVE FLOTATION EXISTS.
- WELDING OF CASING PIPE TO BE DONE BY CERTIFIED WELDER. ALL ENDS OF CASING PIPE SHALL BE CHAMFERED PRIOR TO ANY WELDING.
- SEAL END OF CASING PIPE WITH CONCRETE.
- CITY INSPECTOR SHALL BE PRESENT THROUGHOUT ALL BORE AND JACK ACTIVITIES.

NOTE TO ENGINEER:

CROSSING DETAIL SHALL BE TO SIZE AND SCALE. SHOW ALL EXISTING UTILITIES, CLEARANCES, CARRIER AND CASING SIZE AND LENGTH, LOCATION OF PAVED ROAD, LIMITS OF RIGHT OF WAY, EXISTING AND PROPOSED SPOT ELEVATIONS AND PROPOSED PIPE INVERT ELEVATIONS.

NO.	DATE	REVISIONS
1.	6.28.07	REVISED PER CITY COMMENTS DATED 124.07
2.	4/9/13	REVISED ADDRESS/PIPE UPDATED DETAILS
15.	07/28/13	REVISED WATER/SEWER/ DETAILS



HARPSTER ENGINEERING & SURVEYING, INC.  
SURVEYORS

CONSULTANTS CIVIL ENGINEERS  
LICENSED BUSINESS #6351  
1906 S. PENNSULA DR.  
DAYTONA BEACH, FL 32118  
E-MAIL: mail@harpstereng.com

PHONE: (386) 677-9336  
FAX: (386) 677-9334

RIVER OAKS OF ORMOND BEACH SUBDIVISION  
FINAL PLAT - PH-I - MISCELLANEOUS DETAILS AND NOTES

DESIGN BY: LAM
CHECKED BY: JHH
DATE: 05/24/13
SCALE: NONE
JOB No.: 05-150
Dwg. #: 05150-DET.DWG
XREF: NONE
MAR 27 2014
JOSEPH H. HOPKINS #48059 ENGINEER OF RECORD NOT VALID UNLESS EMBOSSED SEAL IS AFFIXED
SHEET 21
OF 30 SHEETS

UNLESS OTHERWISE NOTED, DETAILS WERE OBTAINED FROM "STANDARD CONSTRUCTION DETAILS, 2012 EDITION" AS PUBLISHED BY THE CITY OF ORMOND BEACH ENGINEERING DIVISION.

# **ATTACHMENT 3**

Plat document

# RIVER OAKS OF ORMOND BEACH-PHASE II

BEING A PORTION OF SECTIONS 24, AND 25, TOWNSHIP 14 SOUTH, RANGE 31 EAST  
CITY OF ORMOND BEACH, VOLUSIA COUNTY, FLORIDA

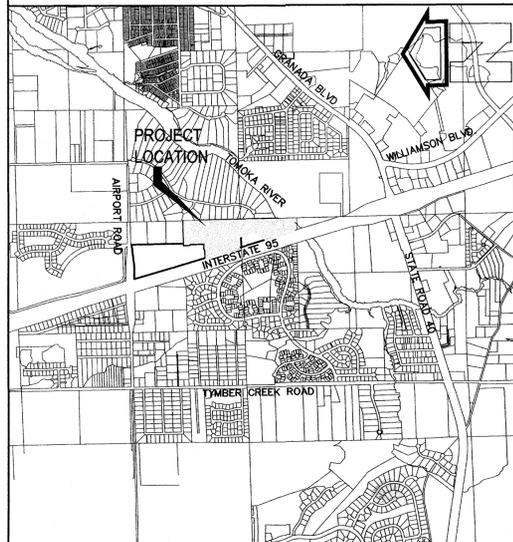
## LEGAL DESCRIPTION:

A PORTION OF SECTION 24 AND SECTION 25, AS LIES EAST OF INTERSTATE 95, TOWNSHIP 14 SOUTH, RANGE 31 EAST, MORE PARTICULARLY DESCRIBED AS FOLLOWS: AS A POINT OF REFERENCE AND THE POINT OF BEGINNING, COMMENCE AT THE NORTHEAST CORNER OF SECTION 25, TOWNSHIP 14 SOUTH, RANGE 31 EAST; RUN THENCE S00°55'30"E ALONG THE EAST LINE OF SAID SECTION 25, FOR A DISTANCE OF 1316.70 FEET TO THE SOUTH LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 25; THENCE S88°03'10"W ALONG THE SAID LINE FOR A DISTANCE OF 309.21 FEET TO THE EAST RIGHT OF WAY LINE OF INTERSTATE 95 (A 300 FOOT RIGHT OF WAY); THENCE N16°57'20"W ALONG THE EAST RIGHT OF WAY LINE OF INTERSTATE 95, FOR A DISTANCE OF 748.72 FEET; THENCE N50°57'41"E FOR A DISTANCE OF 269.79 FEET; THENCE N16°57'20"W FOR A DISTANCE OF 445.80 FEET; THENCE S88°03'10"W FOR A DISTANCE OF 258.82 FEET TO THE EAST RIGHT OF WAY LINE OF INTERSTATE 95 (A 300 FOOT RIGHT OF WAY); THENCE CONTINUE ALONG THE RIGHT OF WAY OF INTERSTATE 95, N16°57'20"W FOR A DISTANCE OF 834.90 FEET; THENCE N88°43'39"E FOR A DISTANCE OF 197.47 FEET; THENCE S01°16'21"E FOR A DISTANCE OF 10.85 FEET; THENCE N88°43'39"E FOR A DISTANCE OF 50.00 FEET; THENCE N01°16'21"W FOR A DISTANCE OF 30.86 FEET; THENCE N88°43'39"E FOR A DISTANCE OF 115.00 FEET; THENCE N01°16'21"W FOR A DISTANCE OF 312.10 FEET; THENCE N25°57'37"W FOR A DISTANCE OF 55.07 FEET; THENCE N01°16'21"W FOR A DISTANCE OF 115.00 FEET; THENCE N88°28'37"E FOR A DISTANCE OF 43.00 FEET; THENCE N01°16'21"W FOR A DISTANCE OF 20.00 FEET; THENCE N88°28'37"E FOR A DISTANCE OF 527.97 FEET TO THE EAST LINE OF SECTION 24, TOWNSHIP 14 SOUTH, RANGE 31 EAST; THENCE S01°18'29"E ALONG THE EAST LINE OF SAID SECTION 24, FOR A DISTANCE OF 1315.36 FEET TO THE POINT OF BEGINNING.

CONTAINING 1,458,593.71 SQUARE FEET = 33.48 ACRES MORE OR LESS

## ABBREVIATIONS

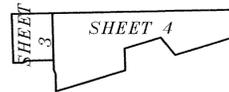
D	DELTA / CENTRAL ANGLE
R	RADIUS
L	ARC LENGTH
CB	CHORD BEARING
C	CHORD
LS	LICENSED LAND SURVEYOR
R/W	RIGHT OF WAY
R	RADIAL
NR	NON RADIAL
O.R.	OFFICIAL RECORDS
PG.	PAGE
D.E.	DRAINAGE, MAINTENANCE AND ACCESS EASEMENT
R/W	RIGHT OF WAY
ESMT.	EASEMENT
SEC	SECTION
TWN	TOWNSHIP
RGE	RANGE



LOCATION MAP 1" = 2000'

## GENERAL NOTES:

- DENOTES PERMANENT REFERENCE MONUMENT (PRM) SET 4"x4" CONCRETE MONUMENT W/ DISK LB#6351 UNLESS OTHERWISE NOTED
  - DENOTES PERMANENT REFERENCE MONUMENT (PRM) FOUND 4"x4" CONCRETE MONUMENT UNLESS OTHERWISE NOTED
  - DENOTES PERMANENT CONTROL POINT (PCP) NAIL AND DISK W/ LB#6351 UNLESS OTHERWISE NOTED
- NOTICE: THIS PLAT, AS RECORDED IN ITS GRAPHIC FORM, IS THE OFFICIAL DEPICTION OF THE SUBDIVIDED LANDS DESCRIBED HEREIN AND WILL IN NO CIRCUMSTANCES BE SUPPLANTED IN AUTHORITY BY ANY OTHER GRAPHIC OR DIGITAL FORM OF THE PLAT. THERE MAY BE ADDITIONAL RESTRICTIONS THAT ARE NOT RECORDED ON THIS PLAT THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.
- DIMENSIONS ARE SHOWN IN FEET AND DECIMALS THEREOF.
- NOTE: ALL MEASUREMENTS REFER TO HORIZONTAL PLANE IN ACCORDANCE WITH THE DEFINITION OF THE U.S. SURVEY FOOT OR METER ADOPTED BY THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY. ALL MEASUREMENTS SHALL USE THE 39.37/12-3.2808333333 EQUATION FOR CONVERSION FROM A U.S. FOOT TO METERS.
- ACCURACY: THE BOUNDARY LINEAR ERROR OF CLOSURE DOES NOT EXCEED 1:10,000. THE BOUNDARY ANGULAR ERROR OF CLOSURE DOES NOT EXCEED 15 SECONDS MULTIPLIED BY THE SQUARE ROOT OF THE NUMBER OF ANGLES TURNED.
- ALL CURVILINEAR LOT LINES ARE RADIAL UNLESS SHOWN OTHERWISE. (NR) DENOTES NON-RADIAL LINE RELATIVE TO CURVES.
- BEARING STRUCTURE BASED ON F.D.O.T. R/W MAP, SECTION 79002-2403, SHEET 1, WITH THE BEARING ON THE MONUMENTED EASTERLY RIGHT OF WAY LINE OF INTERSTATE 95 BEING N16°57'20"W.
- THIS PLAT IS SUBJECTED TO ALL EASEMENTS OF RECORD AND RESERVATIONS OF EASEMENTS, INCLUDING BUT NOT LIMITED TO DRAINAGE AND UTILITY EASEMENTS DEDICATED OR GRANTED HEREON WHICH SHALL BE LOCATED AS FOLLOWS EXCEPT AS OTHERWISE NOTED ON THIS PLAT:
  - FRONT LOT LINES (STREET FRONTAGE) 12.00 FEET WIDE.
  - COMMON AREAS (STREET FRONTAGE) 12.00 FEET WIDE.
- THE 12 FOOT UTILITY EASEMENTS SHOWN HEREON ARE GRANTED AND CONVEYED TO ANY PUBLIC OR PRIVATE UTILITY, AND ARE SEVERABLE, NON-EXCLUSIVE EASEMENTS GRANTING THE RIGHT TO CONSTRUCT, OPERATE, MAINTAIN AND REPAIR UNDERGROUND PUBLIC UTILITY SYSTEMS (INCLUDING WIRES, CABLES, CONDUITS, AND ABOVE GROUND APPURTENANT EQUIPMENT) UNLESS OTHERWISE NOTED.
- UTILITIES INCLUDE BUT ARE NOT LIMITED TO SANITARY SEWER, POTABLE WATER, RECLAIMED WATER, STORM DRAINAGE, ELECTRIC, TELEPHONE, CABLE TELEVISION, SECURITY, TELECOMMUNICATIONS AND NATURAL GAS. FRANCHISE UTILITIES WILL ONLY BE PERMITTED IN THE 12 FOOT DRAINAGE AND UTILITY EASEMENTS ADJACENT COMMON AREAS AND FRONT OF LOTS, UNLESS SPECIFICALLY NOTED.
- UTILTY EASEMENTS PROVIDED ON THIS PLAT INCLUDE EASEMENTS FOR THE CONSTRUCTION, INSTALLATION, MAINTENANCE AND OPERATION OF CABLE TELEVISION SERVICES; PROVIDED, HOWEVER, NO SUCH CONSTRUCTION, INSTALLATION, MAINTENANCE AND OPERATION OF CABLE TELEVISION SERVICES SHALL INTERFERE WITH THE FACILITIES AND SERVICES OF AN ELECTRIC, TELEPHONE, GAS OR OTHER PUBLIC UTILITY.
- THE COMMON AREAS GRANTED TO THE RIVER OAKS OF ORMOND BEACH HOMEOWNERS ASSOCIATION, INC. BY THIS PLAT SHALL BE SUBJECT TO EASEMENTS AS SHOWN OR DESCRIBED HEREON OR GRANTED IN ACCORDANCE WITH THE RIVER OAKS OF ORMOND BEACH HOMEOWNERS ASSOCIATION, INC. COVENANTS AND RESTRICTIONS. THE GRANTING OF SUCH COMMON AREAS IS NOT INTENDED TO GRANT ANY RIGHT TO THE GENERAL PUBLIC.
- THE RIVER OAKS OF ORMOND BEACH HOMEOWNERS ASSOCIATION, INC. SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE DRAINAGE SYSTEM SERVING THE AREA WITHIN THE BOUNDARIES OF THE PLAT, AS DEPICTED ON THE STORM WATER MANAGEMENT PLAN APPROVED FOR THIS DEVELOPMENT BY THE CITY OF ORMOND BEACH, FLORIDA. IN THE EVENT THE ASSOCIATION, ITS EMPLOYEES OR ASSIGNS, FAILS TO PERFORM THE MAINTENANCE, REPAIR OR REPLACEMENT, AS NECESSARY, OF THE STORMWATER RETENTION AND DRAINAGE FACILITIES LOCATED WITHIN THE BOUNDARY OF THIS PLAT (PROPERTY), THE CITY OF ORMOND BEACH SHALL HAVE THE RIGHT TO ENTER UPON THE COMMON AREAS OF THE PROPERTY AND PROVIDE MAINTENANCE, REPAIR OR REPLACEMENT OF THE STORMWATER DRAINAGE FACILITY AND SHALL HAVE THE RIGHT TO LIEN ALL OWNERS OF RECORD IN THE PROPERTY FOR THE COST OF SUCH MAINTENANCE, REPAIR AND REPLACEMENT AS THE CITY MAY DEEM NECESSARY.
- THE ARTICLES OF INCORPORATION FOR THE RIVER OAKS OF ORMOND BEACH HOMEOWNERS ASSOCIATION, INC. ARE RECORDED IN OFFICIAL RECORDS BOOK \_\_\_\_\_ PAGES \_\_\_\_\_ THROUGH \_\_\_\_\_ OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA. THE DECLARATION OF COVENANTS AND RESTRICTIONS FOR THE RIVER OAKS OF ORMOND BEACH HOMEOWNERS ASSOCIATION, INC. ARE RECORDED IN OFFICIAL RECORD BOOK \_\_\_\_\_ PAGES \_\_\_\_\_ THROUGH \_\_\_\_\_ OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA.
- BUILDING SETBACK REQUIREMENTS:
  - FRONT = 25 FEET
  - SIDE = 20 FEET COMBINED (8' MINIMUM)
  - REAR = 20 FEET
  - MAXIMUM BUILDING COVERAGE = 35%
  - MAXIMUM BUILDING HEIGHT = 30 FEET
  - MINIMUM AREA = 1600 SQUARE FEET
- CONSTRUCTION OF ANY STRUCTURES WITHIN DRAINAGE AND MAINTENANCE EASEMENTS IS PROHIBITED.
- THE RIVER OAKS OF ORMOND BEACH HOMEOWNERS ASSOCIATION, INC. SHALL BE RESPONSIBLE FOR MAINTAINING ALL LANDSCAPING AND IRRIGATION IN COMMON AREAS.
- OPERATION AND MAINTENANCE OF THE 50 FOOT PRIVATE ROADWAY PORTION OF RIVER SQUARE LANE SHALL BE THE RESPONSIBILITY OF THE RIVER OAKS OF ORMOND BEACH HOMEOWNERS ASSOCIATION, INC.
- ALL OTHER EASEMENTS ARE SUBORDINATE TO ANY CONSERVATION EASEMENT GRANTED HEREON. THERE SHALL BE NO REMOVAL OR DISTURBANCE OF VEGETATION WITHIN SUCH CONSERVATION EASEMENTS WITH THE EXCEPTION OF A 4' WIDE MULCH TRAIL CONSTRUCTED AT GRADE WITHIN THE EASTERLY 20' OF TRACT "E" CONSERVATION EASEMENT; 4' WIDE ELEVATED WOODEN WALKWAYS ON LOTS 48, 49, 50 AND 51; AND 2 SHARED COMMON DOCKS FOR LOTS 48, 49, 50 AND 51. PROPOSED CONSTRUCTION WITHIN THE CONSERVATION EASEMENTS MUST BE REVIEWED AND APPROVED BY THE CITY OF ORMOND BEACH AND ANY OTHER AUTHORITY HAVING JURISDICTION OVER THE CONSERVATION EASEMENTS.
- NATURAL VEGETATION BUFFER AS DEFINED ON THIS PLAT IS FOR THE EXPRESS PURPOSE OF THE PRESERVATION AND LONGEVITY OF THE NATURAL VEGETATION THEREIN. ACTIONS DETRIMENTAL TO THE NATURAL VEGETATION SURVIVAL WITHIN THE BOUNDARIES OF THE BUFFER ARE PROHIBITED WITHOUT THE EXPRESS PERMISSION OF THE CITY OF ORMOND BEACH AND ANY OTHER AUTHORITY HAVING JURISDICTION OVER THE VEGETATION BUFFER. NOTHING HEREIN SHALL, HOWEVER, BE CONSTRUED TO PREVENT THE NATURAL VEGETATION WITHIN THE BUFFER FROM BEING CLEARED BY HAND TO PROVIDE A NEAT, MANICURED APPEARANCE. IN ADDITION, NOTHING HEREIN SHALL BE CONSTRUED TO PREVENT THE PLACEMENT OF SOIL, IRRIGATION AND LANDSCAPE PLANTS OR TO PREVENT NORMAL LAWN MAINTENANCE SUCH AS MOWING, EDGING AND WEEDING NOT HARMFUL TO THE OBJECTIVE OF THE NATURAL VEGETATION WITHIN THE BUFFER. ANY PROPOSED CONSTRUCTION OR OTHER USE WITHIN THE VEGETATION BUFFER MUST BE REVIEWED AND APPROVED BY THE CITY OF ORMOND BEACH AND ANY OTHER AUTHORITY HAVING JURISDICTION OVER THE BUFFER.
- THE 20 FOOT PEDESTRIAN INGRESS/EGRESS EASEMENT FOR LOTS 48 AND 49 (10 FOOT EACH SIDE OF LOT LINE) IS EXCLUSIVELY FOR LOTS 48 AND 49 RECIPROCALLY. THE 20 FOOT PEDESTRIAN INGRESS/EGRESS EASEMENT FOR LOTS 50 AND 51 (10 FOOT EACH SIDE OF LOT LINE) IS EXCLUSIVELY FOR LOTS 50 AND 51 RECIPROCALLY.



KEY MAP SCALE: 1"=1000'

PREPARED BY:  
**HARPSTER ENGINEERING & SURVEYING, INC.**  
PROFESSIONAL LAND SURVEYORS  
LICENSED BUSINESS #6351  
1906 S. PENINSULA DRIVE  
DAYTONA BEACH, FL 32118  
(386) 677-9336  
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REVIEW BY SURVEYOR AND MAPPER FOR THE CITY  
I HEREBY CERTIFY TO THE CITY, THAT I HAVE REVIEWED THE FOREGOING PLAT ENTITLED "RIVER OAKS OF ORMOND BEACH PHASE II" FOR COMPLIANCE WITH THE REQUIREMENTS OF CHAPTER 177, FLORIDA STATUTES, AND THAT I HAVE PROVIDED BOTH THE CITY AND THE SURVEYOR MAPPER OF RECORD A LIST OF DEVIATIONS, IF ANY, FROM SUCH REQUIREMENTS.

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_  
PRINTED NAME: \_\_\_\_\_ P.L.S./P.S.M. NO. \_\_\_\_\_

PLAT BOOK \_\_\_\_\_ PAGE \_\_\_\_\_

DEDICATION  
KNOW ALL MEN BY THESE PRESENTS, THAT RIVER OAKS OF ORMOND BEACH, LLC, A FLORIDA CORPORATION, AUTHORIZED TO DO BUSINESS IN THE STATE OF FLORIDA, BEING THE OWNER IN FEE SIMPLE OF THE LANDS SHOWN AND DESCRIBED HEREON AS THE PLAT ENTITLED "RIVER OAKS OF ORMOND BEACH PHASE II", LOCATED IN THE CITY OF ORMOND BEACH, VOLUSIA COUNTY, FLORIDA, HEREBY DEDICATES THE SAID LANDS AND PLAT FOR THE USES AND PURPOSES HEREON EXPRESSED. ALL STREETS, ROADS, ALLEYS, SIDEWALKS, BIKEPATHS AND OTHER RIGHTS-OF-WAY SHOWN OR DESCRIBED ON THE PLAT ARE, UNLESS OTHERWISE INDICATED, DEDICATED TO THE CITY OF ORMOND BEACH. ALL POTABLE WATER, RECLAIMED WATER, AND SANITARY SEWER MAINS CONSTRUCTED WITHIN THE AREA ENCOMPASSED WITHIN THE PLAT ARE DEDICATED TO THE CITY OF ORMOND BEACH. ALL DRAINAGE, MAINTENANCE, ACCESS, UTILITY, CONSERVATION AND SIDEWALK EASEMENTS SHOWN OR DESCRIBED ON THE PLAT ARE, UNLESS OTHERWISE INDICATED, GRANTED TO THE CITY OF ORMOND BEACH. ALL DRAINAGE, MAINTENANCE, ACCESS, AND UTILITY EASEMENTS SHOWN OR DESCRIBED ON THE PLAT ARE ALSO, UNLESS OTHERWISE INDICATED, GRANTED TO THE RIVER OAKS OF ORMOND BEACH HOMEOWNERS ASSOCIATION, INC. RIVER OAKS OF ORMOND BEACH, LLC HEREBY GRANTS AND CONVEYS TRACTS "D" AND "E" AS DEPICTED HEREON TO THE RIVER OAKS OF ORMOND BEACH HOMEOWNERS ASSOCIATION, INC. TO HAVE AND TO HOLD FOREVER IN FEE SIMPLE INTEREST.

IN WITNESS WHEREOF, \_\_\_\_\_ HAS CAUSED THESE PRESENTS TO BE SIGNED, SEALED AND ATTESTED TO, BY THE PERSONS NAMED BELOW, AND IT'S CORPORATE SEAL TO BE AFFIXED HERETO ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 2014  
SIGNED AND SEALED IN THE PRESENCE OF: \_\_\_\_\_ RIVER OAKS OF ORMOND BEACH, LLC

PRINTED NAME: \_\_\_\_\_ BY: SCOTT VANACORE  
MANAGING MEMBER

PRINTED NAME: \_\_\_\_\_ (CORPORATE SEAL)

STATE OF FLORIDA, COUNTY OF VOLUSIA  
THIS IS TO CERTIFY THAT, ON \_\_\_\_\_ 2014, BEFORE ME, AN OFFICER DULY AUTHORIZED TO TAKE ACKNOWLEDGMENTS IN THE STATE AND COUNTY AFORESAID, PERSONALLY APPEARED SCOTT VANACORE, MANAGING MEMBER, TO ME KNOWN TO BE THE PERSON WHO FOR AND ON BEHALF OF RIVER OAKS OF ORMOND BEACH, LLC, A FLORIDA CORPORATION, AUTHORIZED TO DO BUSINESS IN THE STATE OF FLORIDA EXECUTED THE FOREGOING DEDICATION FOR AND ON BEHALF OF SAID CORPORATION.

HE (S) \_\_\_\_\_ (IS NOT) \_\_\_\_\_ AS IDENTIFICATION AND HE (HAS) \_\_\_\_\_ (HAS NOT) \_\_\_\_\_ TAKEN OATH.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND SEAL ON THE ABOVE DATE. \_\_\_\_\_ SEAL

NOTARY PUBLIC  
STATE OF FLORIDA AT LARGE  
MY COMMISSION EXPIRES: \_\_\_\_\_  
TITLE/RANK: \_\_\_\_\_  
COMMISSION NUMBER: \_\_\_\_\_

CERTIFICATE OF CLERK  
I HEREBY CERTIFY, THAT I HAVE EXAMINED THE FOREGOING PLAT AND FOUND THAT IT COMPLIES IN FORM WITH ALL THE REQUIREMENTS IN CHAPTER 177, FLORIDA STATUTES, AND THAT IT WAS FILED FOR RECORD ON \_\_\_\_\_ AT \_\_\_\_\_ AM/PM, FILE NO. \_\_\_\_\_

CLERK OF THE CIRCUIT COURT IN AND FOR VOLUSIA COUNTY, FLORIDA

CITY COMMISSION CERTIFICATE OF APPROVAL  
THIS STATEMENT HEREBY CERTIFIES THAT THE PLAT ENTITLED "RIVER OAKS OF ORMOND BEACH PHASE II" WAS APPROVED BY THE ORMOND BEACH CITY COMMISSION ON \_\_\_\_\_

BY: \_\_\_\_\_ MAYOR OF THE CITY OF ORMOND BEACH  
ED KELLY, MAYOR  
ATTEST: \_\_\_\_\_ CITY CLERK OF THE CITY OF ORMOND BEACH  
SCOTT MCKEE, CITY CLERK

CERTIFICATE OF APPROVAL  
THIS IS TO CERTIFY THAT ON \_\_\_\_\_ THIS PLAT WAS APPROVED.

BY: \_\_\_\_\_ CITY ENGINEER, CITY OF ORMOND BEACH  
JOHN NOBLE, P.E.

THIS IS TO CERTIFY THAT ON \_\_\_\_\_ THIS PLAT WAS APPROVED.

BY: \_\_\_\_\_ CITY ATTORNEY, CITY OF ORMOND BEACH  
RANDY HAYES

CERTIFICATE OF SURVEYOR AND MAPPER  
KNOW ALL MEN BY THESE PRESENTS, THAT THE UNDERSIGNED BEING A LICENSED AND REGISTERED SURVEYOR AND MAPPER, DOES HEREBY CERTIFY THAT THE PLAT SHOWN AND DESCRIBED HEREON, ENTITLED "RIVER OAKS OF ORMOND BEACH PHASE II" WAS PREPARED UNDER MY DIRECTION AND SUPERVISION, THAT THE PLAT COMPLIES WITH ALL OF THE SURVEY REQUIREMENTS OF CHAPTER 177, FLORIDA STATUTES, AND THAT ALL MONUMENTATION SHOWN HEREON OR REQUIRED PER CHAPTER 177, FLORIDA STATUTES, HAS BEEN PROPERLY PLACED.

DATE \_\_\_\_\_  
SUSAN H. MOODY  
P.S.M. NO. 6373  
HARPSTER ENGINEERING AND SURVEYING, INC.  
1906 S. PENINSULA DRIVE  
DAYTONA BEACH, FL 32118

HARPSTER ENGINEERING AND SURVEYING, INC.  
CERTIFICATE OF AUTHORIZATION NO. 6351

SHEET 1 OF 4



NO.	DATE	REVISIONS
1.	6.28.07	REVISED PER CITY COMMENTS DATED 1.24.07
2.	8.14.07	REVISED PER CITY COMMENTS DATED 8.1.07
3.	10.3.07	REVISED PER CITY COMMENTS DATED 9.27.07
4.	9.26.08	REVISED PER SJ COMMENTS DATED 8.22.07
5.	7.08.13	REVISED WATER/SEWER DETAILS
6.	02.13.14	PHASE I AND PHASE II PLATS

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**HARPSTER ENGINEERING & SURVEYING, INC.**  
SURVEYORS  
CONSULTANTS  
1906 S. PENINSULA DRIVE  
DAYTONA BEACH, FL 32118  
E-MAIL: mail@harpstereng.com  
PHONE: (386) 677-9336  
FAX: (386) 677-9334

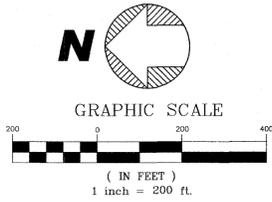
**RIVER OAKS OF ORMOND BEACH-PHASE II**  
FINAL PLAT-PHASE II

DRAWN BY: LAM  
CHECKED BY: SHM  
DATE: 12/25/13  
SCALE: AS SHOWN  
JOB No.: 05-150  
Dwg.: 05150PL1-PH-II.DWG  
XREF: NONE

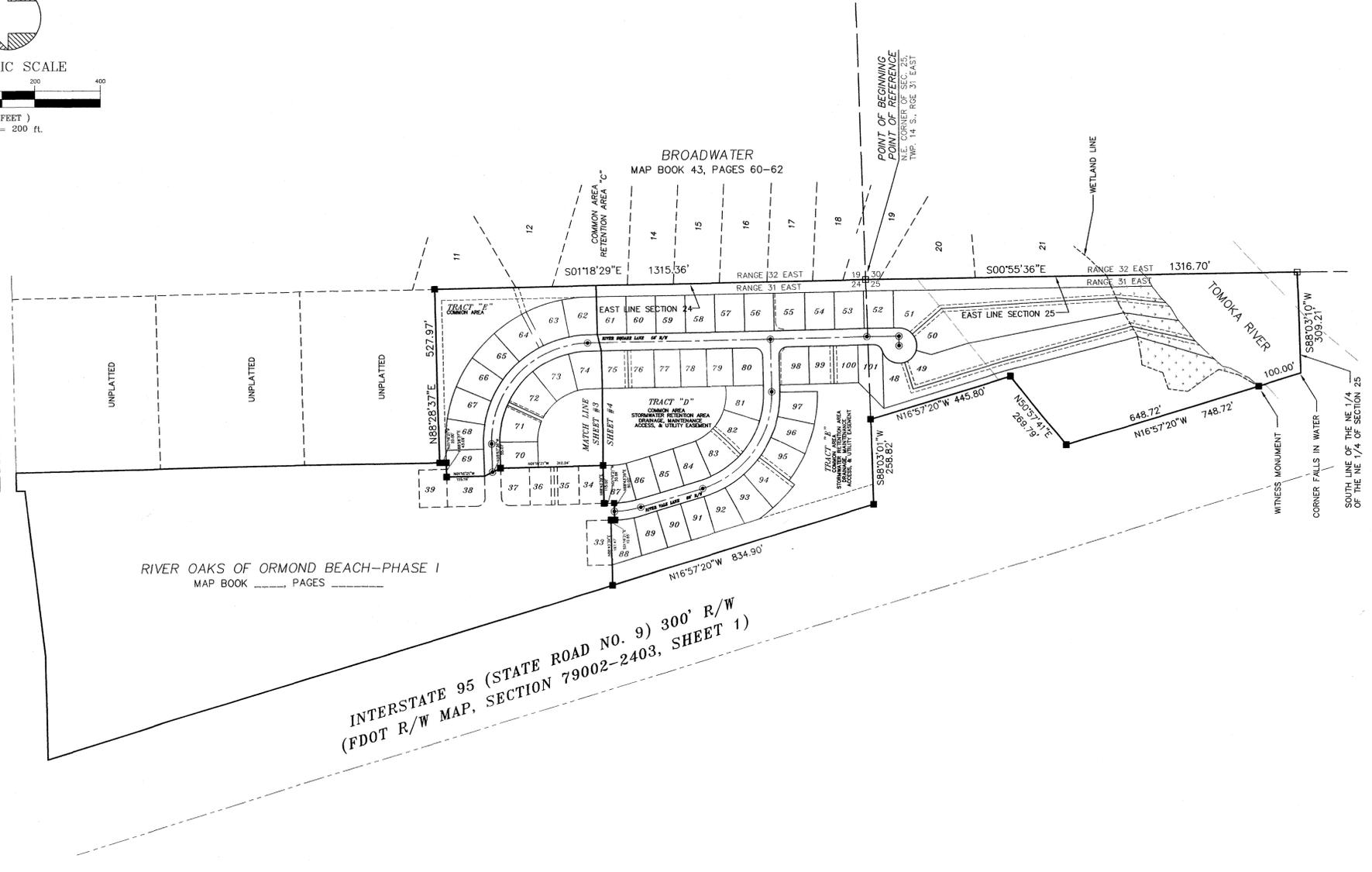
# RIVER OAKS OF ORMOND BEACH-PHASE II

BEING A PORTION OF SECTIONS 24 AND 25, TOWNSHIP 14 SOUTH, RANGE 31 EAST  
CITY OF ORMOND BEACH, VOLUSIA COUNTY, FLORIDA

PLAT BOOK PAGE



AIRPORT ROAD (HULL ROAD) R/W VARIES



RIVER OAKS OF ORMOND BEACH-PHASE I  
MAP BOOK \_\_\_\_\_ PAGES \_\_\_\_\_

INTERSTATE 95 (STATE ROAD NO. 9) 300' R/W  
(FDOT R/W MAP, SECTION 79002-2403, SHEET 1)

- ABBREVIATIONS**
- D DELTA / CENTRAL ANGLE
  - R RADIUS
  - L ARC LENGTH
  - CB CHORD BEARING
  - C CHORD
  - LS LICENSED LAND SURVEYOR
  - R/W RIGHT OF WAY
  - R RADIAL
  - NR NON RADIAL
  - O.R. OFFICIAL RECORDS
  - P.C. PAGE
  - D.E. DRAINAGE, MAINTENANCE UTILITY, AND ACCESS EASEMENT
  - R/W RIGHT OF WAY
  - ESMT. EASEMENT
  - SEC SECTION
  - TWN TOWNSHIP
  - RGE RANGE

- DENOTES PERMANENT REFERENCE MONUMENT (PRM) SET 4"x4" CONCRETE MONUMENT W/ DISK LB#6351 UNLESS OTHERWISE NOTED
- DENOTES PERMANENT REFERENCE MONUMENT (PRM) FOUND 4"x4" CONCRETE MONUMENT UNLESS OTHERWISE NOTED
- DENOTES PERMANENT CONTROL POINT (PCP) NAIL AND DISK W/ LB#6351 UNLESS OTHERWISE NOTED

SHEET 2 OF 4

PREPARED BY:  
**HARPSTER ENGINEERING & SURVEYING, INC.**  
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NO.	DATE	REVISIONS
1.	8.29.07	REVISED PER CITY COMMENTS DATED 1.24.07
2.	10.13.07	REVISED PER VOLUSIA COUNTY TRAFFIC ENGINEER COMMENTS DATED 8.27.07
3.	9.26.08	REVISED PER SJ COMMENTS DATED 8.22.07
4.	3.26.09	REVISED PER SJ COMMENTS OF 3.24.09
5.	4.6.09	REVISED PER SJ MEETING OF 4.1.09
6.	12.25.13	SPLIT INTO PHASES PER OWNER'S REQUEST
7.	02.13.14	PHASE I AND PHASE II PLATS



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**HARPSTER ENGINEERING & SURVEYING, INC.**  
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PHONE: (386) 677-9336  
FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH - PHASE-II**  
FINAL PLAT

DRAWN BY: LAM  
CHECKED BY: SHM  
DATE: 12/25/13  
SCALE: 1"=200'  
JOB No.: 05-150  
Dwg. : 05150PL2-PH II.DWG  
XREF: NONE

SHEET 25B  
OF 30 SHEETS

\\harpster\server\GIS\Projects\05150-150 River OaksPhase II\05150PL2-PH II.DWG, 3/25/14 10:24:42 AM LAM

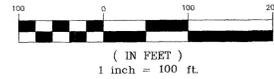
# RIVER OAKS OF ORMOND BEACH-PHASE II

BEING A PORTION OF SECTIONS 24, AND 25, TOWNSHIP 14 SOUTH, RANGE 31 EAST  
CITY OF ORMOND BEACH, VOLUSIA COUNTY, FLORIDA

PLAT BOOK PAGE



GRAPHIC SCALE

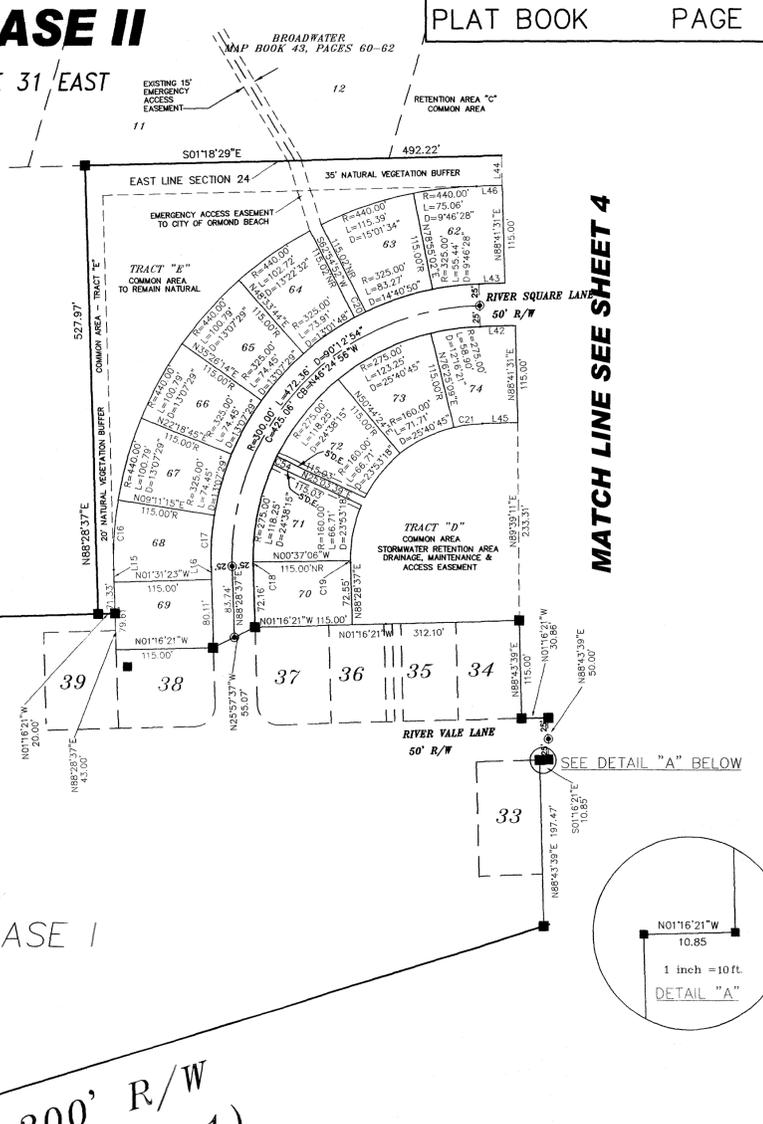


AIRPORT ROAD (BULL ROAD) R/W TIEBACKS

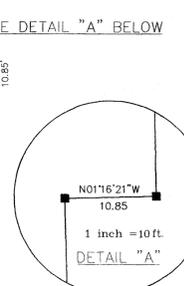
- ABBREVIATIONS**
- D DELTA / CENTRAL ANGLE
  - L ARC LENGTH
  - CB CHORD BEARING
  - C CHORD
  - LS LICENSED LAND SURVEYOR
  - R/W RIGHT OF WAY
  - R RADIAL
  - NR NON RADIAL
  - O.R. OFFICIAL RECORDS
  - PG. PAGE
  - D.E. DRAINAGE, MAINTENANCE AND ACCESS EASEMENT
  - R/W RIGHT OF WAY
  - ESMT. EASEMENT
  - SEC SECTION
  - TWN TOWNSHIP
  - RGE RANGE
- DENOTES PERMANENT REFERENCE MONUMENT (PRM) SET 4"x4" CONCRETE MONUMENT W/ DISK LB#6351 UNLESS OTHERWISE NOTED
  - DENOTES PERMANENT REFERENCE MONUMENT (PRM) FOUND 4"x4" CONCRETE MONUMENT UNLESS OTHERWISE NOTED
  - DENOTES PERMANENT CONTROL POINT (PCP) NAIL AND DISK W/ LB#6351 UNLESS OTHERWISE NOTED

RIVER OAKS OF ORMOND BEACH-PHASE I  
MAP BOOK \_\_\_\_\_, PAGES \_\_\_\_\_

INTERSTATE 95 (STATE ROAD NO. 9) 300' R/W  
(FDOT R/W MAP, SECTION 79002-2403, SHEET 1)



MATCH LINE SEE SHEET 4



CURVE TABLE				LINE TABLE			
CURVE	RADIUS	ARC	DELTA	CHORD	BEARING	LINE	LENGTH
C16	440.00	82.25	107°42'38"	82.13	N86°10'04"W	L15	14.72
C17	325.00	60.75	107°42'38"	60.67	N86°10'04"W	L16	14.72
C18	275.00	4.34	0°54'17"	4.34	S88°58'46"W	L20	8.03
C19	160.00	2.53	0°54'17"	2.53	S88°58'46"W	L21	7.64
C20	325.00	15.00	2°38'41"	15.00	N27°05'08"W	L22	15.52
C21	160.00	34.27	12°16'21"	34.21	N07°26'40"W	L23	15.34
C22	34.00	4.65	4°56'08"	4.65	N71°11'23"E	L24	28.24
C23	25.00	32.54	74°59'03"	30.29	N38°21'56"E	L25	47.25
C24	25.00	39.27	90°00'00"	35.36	N46°18'29"W	L26	32.29
C25	25.00	39.27	90°00'00"	35.36	N43°41'31"E	L27	29.00
C26	325.00	1.91	0°20'11"	1.91	N88°51'36"E	L28	21.38
C27	160.00	20.37	71°7'37"	20.35	S20°36'00"E	L29	17.76
C28	275.00	35.01	71°7'37"	34.98	S20°36'00"E	L30	20.10
C29	325.00	23.26	05°09'28"	23.25	N14°22'27"W	L31	20.10
C30	325.00	59.69	10°31'23"	59.61	N06°32'02"W	L32	3.74
C31	300.00	82.10	15°40'51"	81.85	S09°06'46"E	L33	29.00
C32	275.00	67.82	14°07'46"	67.65	S08°20'14"E	L34	1.31
C33	275.00	7.45	1°33'05"	7.45	S16°10'39"E	L35	29.00
C34	160.00	4.33	1°33'05"	4.33	S16°10'39"E	L36	17.66
C35	160.00	39.46	14°07'46"	39.36	S08°20'14"E	L37	90.32
C34	275.00	10.00	2°05'01"	10.00	N64°56'21"W	L38	30.20
C59	160.00	25.55	9°09'00"	25.52	S77°11'09"E	L42	41.42
C63	461.00	53.34	6°37'46"	53.31	S37°37'42"E	L43	30.44
						L44	35.00
						L45	41.42
						L46	30.44
						L48	30.86
						L49	45.57
						L50	57.53

SHEET 3 OF 4

PREPARED BY:  
**HARPSTER ENGINEERING & SURVEYING, INC.**  
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LICENSED BUSINESS #6351  
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(386) 677-9336  
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NO.	DATE	REVISIONS
1.	6.28.07	REVISED PER CITY COMMENTS DATED 1.24.07
5.	10.3.07	REVISED PER VOLUSIA COUNTY TRAFFIC ENGINEER COMMENTS DATED 9.27.07
10.	3.26.09	REVISED PER SJ COMMENTS OF 3.24.09
11.	4.8.09	REVISED PER SJ MEETING OF 4.1.09
15.	7.8.13	REVISED WATER/SEWER/DETAILS
16.	02.13.14	PHASE I AND PHASE II PLATS

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FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH - PHASE-II**  
FINAL PLAT

DRAWN BY: LAM  
CHECKED BY: SHM  
DATE: 12/25/13  
SCALE: 1"=100'  
JOB No.: 05-150  
Dwg.: 05150PL3-PHII.DWG  
XREF: NONE

RIVER OAKS OF ORMOND BEACH PHASE-I

MB PG

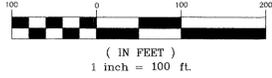
# RIVER OAKS OF ORMOND BEACH-PHASE II

BEING A PORTION OF SECTIONS 24, AND 25, TOWNSHIP 14 SOUTH, RANGE 31 EAST  
CITY OF ORMOND BEACH, VOLUSIA COUNTY, FLORIDA

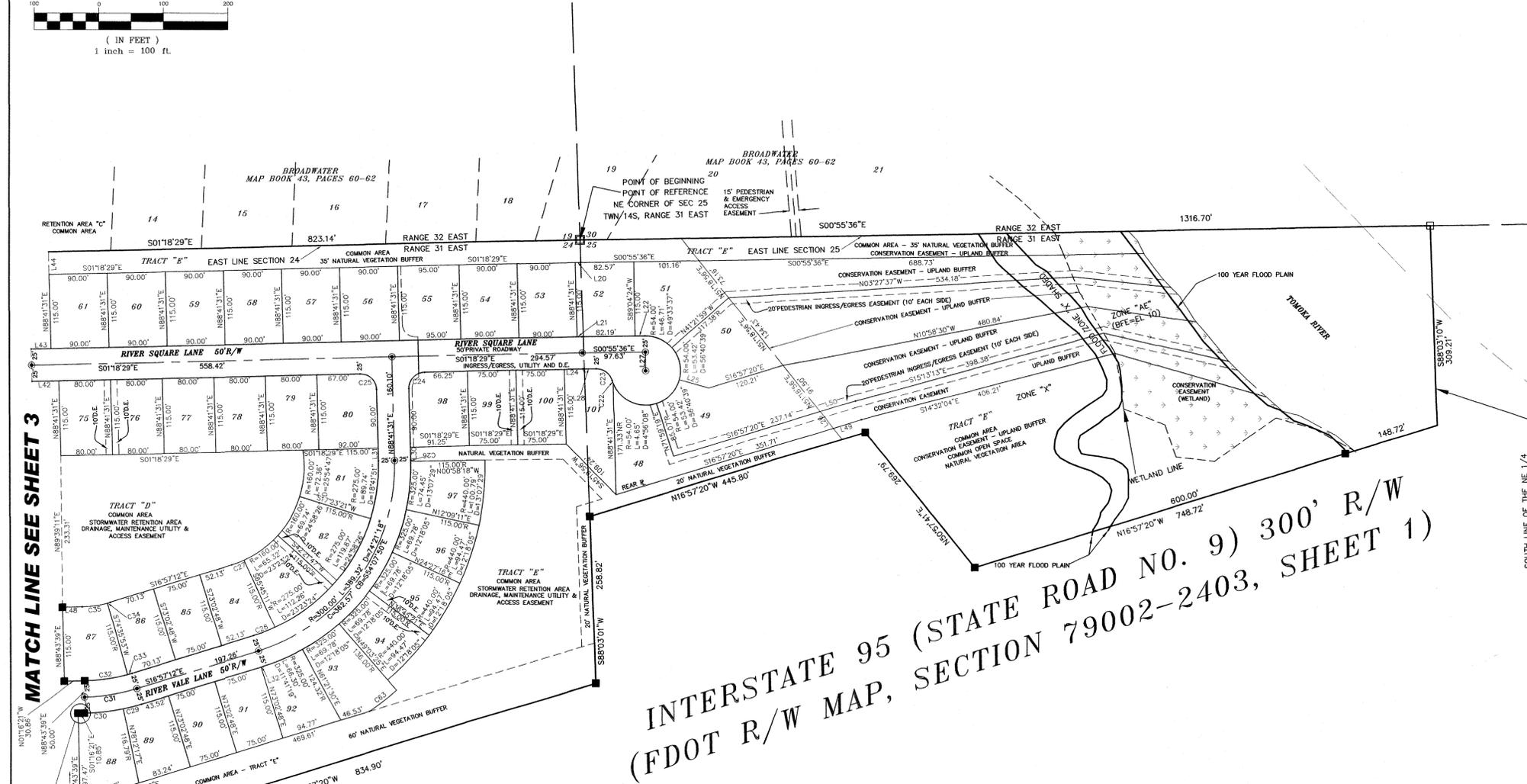
PLAT BOOK PAGE



GRAPHIC SCALE



( IN FEET )  
1 inch = 100 ft.

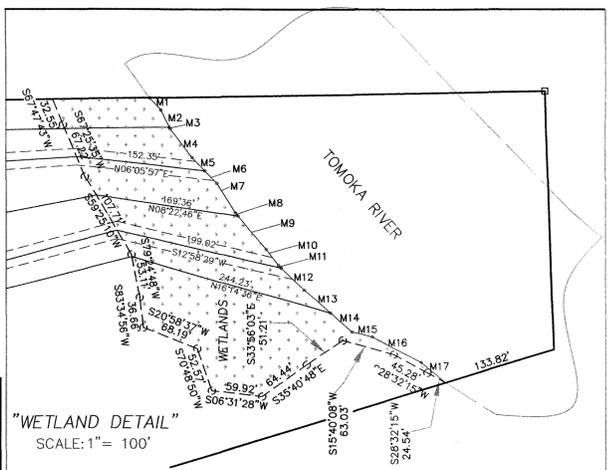


INTERSTATE 95 (STATE ROAD NO. 9) 300' R/W  
(FDOT R/W MAP, SECTION 79002-2403, SHEET 1)

MATCH LINE SEE SHEET 3

SEE DETAIL "A" BELOW

LINE	LENGTH	BEARING
M1	19.61	N46°28'46"E
M2	22.77	N63°39'17"E
M3	2.18	N63°39'17"E
M4	43.01	N53°11'49"E
M5	21.81	S44°49'30"W
M6	20.17	S46°24'11"W
M7	41.73	S58°36'26"W
M8	5.10	S49°52'39"W
M9	51.54	S49°52'39"W
M10	23.88	S92°35'38"W
M11	4.58	S44°49'30"W
M12	38.42	S44°49'30"W
M13	41.58	S42°07'36"W
M14	33.80	S42°07'36"W
M15	24.89	S14°34'48"W
M16	65.35	N27°19'41"E
M17	37.70	N39°37'11"E



"WETLAND DETAIL"  
SCALE: 1" = 100'

CURVE TABLE				LINE TABLE			
CURVE	RADIUS	ARC	DELTA	CHORD	BEARING	LINE	LENGTH
C16	440.00	82.25	10°42'38"	82.13	N86°10'04"W	L15	14.72
C17	325.00	60.75	10°42'38"	60.67	N86°10'04"W	L16	14.72
C18	275.00	4.34	0°54'17"	4.34	S88°55'46"W	L20	8.03
C19	160.00	2.53	0°54'17"	2.53	S88°55'46"W	L21	7.64
C20	325.00	15.00	2°38'41"	15.00	N27°05'08"W	L22	15.52
C21	160.00	34.27	12°16'21"	34.21	N07°26'40"W	L23	15.34
C22	54.00	4.65	4°56'08"	4.65	N71°11'23"E	L24	28.24
C23	25.00	32.54	74°35'03"	30.29	N36°21'56"E	L25	47.25
C24	25.00	39.27	90°00'00"	35.36	N46°18'29"W	L26	32.29
C25	25.00	39.27	90°00'00"	35.36	N43°41'31"E	L27	29.00
C26	325.00	1.91	0°20'11"	1.91	N88°51'36"E	L28	21.38
C27	160.00	20.37	7°17'37"	20.35	S20°36'00"E	L29	17.76
C28	275.00	35.01	7°17'37"	34.98	S20°36'00"E	L30	20.10
C29	325.00	29.26	06°09'28"	29.25	N14°22'27"W	L31	20.10
C30	325.00	59.89	10°31'23"	59.61	N06°32'02"W	L32	3.74
C31	300.00	82.10	13°40'51"	81.85	S09°08'46"E	L33	29.00
C32	275.00	67.82	14°07'46"	67.65	S08°20'14"E	L34	1.31
C33	275.00	7.45	1°33'06"	7.45	S16°10'39"E	L35	29.00
C34	160.00	4.33	1°33'06"	4.33	S16°10'39"E	L36	17.66
C35	160.00	39.46	14°07'46"	39.36	S08°20'14"E	L37	90.32
C36	275.00	10.00	2°05'01"	10.00	N64°56'21"W	L38	30.20
C37	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C38	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C39	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C40	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C41	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C42	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C43	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C44	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C45	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C46	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C47	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C48	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C49	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C50	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C51	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C52	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C53	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C54	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C55	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C56	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C57	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C58	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C59	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C60	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C61	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C62	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C63	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C64	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C65	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C66	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C67	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C68	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C69	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C70	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C71	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C72	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C73	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C74	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C75	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C76	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C77	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C78	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C79	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C80	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C81	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C82	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C83	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C84	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C85	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C86	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C87	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C88	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C89	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C90	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C91	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C92	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C93	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C94	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C95	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C96	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C97	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C98	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C99	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42
C100	160.00	25.55	0°09'00"	25.52	S72°11'09"E	L42	41.42

- ABBREVIATIONS
- D DELTA / CENTRAL ANGLE
  - R RADIUS
  - L ARC LENGTH
  - CB CHORD BEARING
  - C CHORD
  - LS LICENSED LAND SURVEYOR
  - R/W RIGHT OF WAY
  - R RADIAL
  - NR NON RADIAL
  - O.R. OFFICIAL RECORDS
  - PG. PAGE
  - D.E. DRAINAGE, MAINTENANCE, UTILITY, AND ACCESS EASEMENT
  - R/W RIGHT OF WAY
  - ESMT. EASEMENT
  - SEC. SECTION
  - TWN TOWNSHIP
  - RGE. RANGE
- DENOTES PERMANENT REFERENCE MONUMENT (PRM) SET 4"x4" CONCRETE MONUMENT W/ DISK LB#6351 UNLESS OTHERWISE NOTED
  - DENOTES PERMANENT REFERENCE MONUMENT (PRM) FOUND 4"x4" CONCRETE MONUMENT UNLESS OTHERWISE NOTED
  - DENOTES PERMANENT CONTROL POINT (PCP) NAIL AND DISK W/ LB#6351 UNLESS OTHERWISE NOTED

PREPARED BY:  
**HARPSTER ENGINEERING & SURVEYING, INC.**  
PROFESSIONAL LAND SURVEYORS  
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1906 S. PENINSULA DR.  
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SHEET 4 OF 4

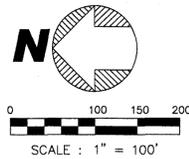
NO.	DATE	REVISIONS
1.	6.29.07	REVISED PER CITY COMMENTS DATED 1.24.07
8.	9.28.08	REVISED PER SJ COMMENTS DATED 8.22.07
10.	3.26.09	REVISED PER SJ COMMENTS OF 3.24.09
11.	4.8.09	REVISED PER SJ MEETING OF 4.1.09
15.	7.8.13	REVISED WATER/SURVEY DETAILS
18.	02.13.14	PHASE I AND PHASE II PLATS

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**RIVER OAKS OF ORMOND BEACH - PHASE-II**  
FINAL PLAT

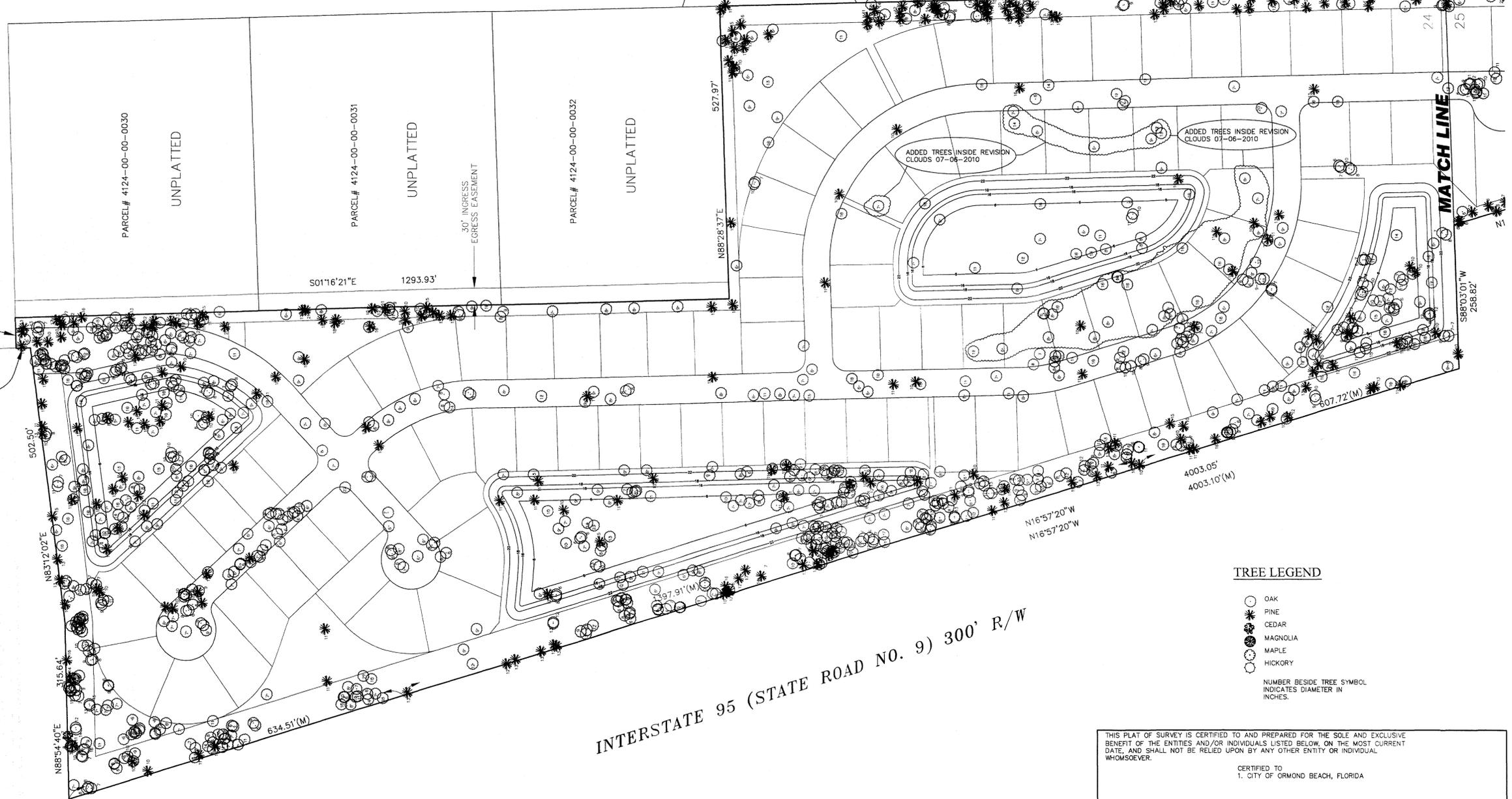
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CHECKED BY: SHM  
DATE: 12/25/13  
SCALE: 1"=100'  
JOB No.: 05-150  
Dwg.: 105150PL4-PH-II.DWG  
XREF: NONE



AIRPORT ROAD (HULL ROAD) R/W VARIES

INTERSTATE 95 (STATE ROAD NO. 9) 300' R/W

BROADWATER  
MAP BOOK 43, PAGES 60-62



**TREE LEGEND**

- OAK
  - \* PINE
  - CEDAR
  - ⊗ MAGNOLIA
  - ⊕ MAPLE
  - ⊙ HICKORY
- NUMBER BESIDE TREE SYMBOL INDICATES DIAMETER IN INCHES.

THIS PLAT OF SURVEY IS CERTIFIED TO AND PREPARED FOR THE SOLE AND EXCLUSIVE BENEFIT OF THE ENTITIES AND/OR INDIVIDUALS LISTED BELOW, ON THE MOST CURRENT DATE, AND SHALL NOT BE RELIED UPON BY ANY OTHER ENTITY OR INDIVIDUAL WHOMSOEVER.

CERTIFIED TO  
1. CITY OF ORMOND BEACH, FLORIDA

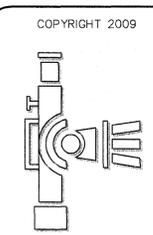
NOT CERTIFIED TO ANY ENTITIES AND/OR INDIVIDUALS OTHER THAN THOSE LISTED ABOVE.

I HEREBY CERTIFY THAT THIS SURVEY OF THE SUBJECT PROPERTY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, AS SURVEYED IN THE FIELD UNDER MY SUPERVISION THE DATES SHOWN HEREON. I FURTHER CERTIFY THAT THIS SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH IN FLORIDA ADMINISTRATIVE CODE CHAPTER 61G17, ADOPTED BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS, PURSUANT TO FLORIDA STATUTES SECTIONS 472.027. SUBJECT TO THE QUALIFICATIONS NOTED HEREON.

*Susan H. McCoy*

SUSAN H. MCCOY, P.S.M. 6373  
UNLESS EMBOSSED WITH THE ORIGINAL RAISED SEAL OF A LICENSED SURVEYOR AND MAPPER, THIS SKETCH, PLAT OR MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID.

NO.	DATE	REVISIONS	BY
1.	07/06/10	ADDED TREES ON LOTS AROUND RET AREA	LAM



**HARPSTER ENGINEERING & SURVEYING, INC.**  
CIVIL ENGINEERS  
SURVEYORS

CONSULTANTS  
LICENSED BUSINESS #6351  
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PHONE: (386) 677-9336  
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**RIVER OAKS OF ORMOND BEACH SUBDIVISION**  
EXISTING TREE PLAN - NORTH

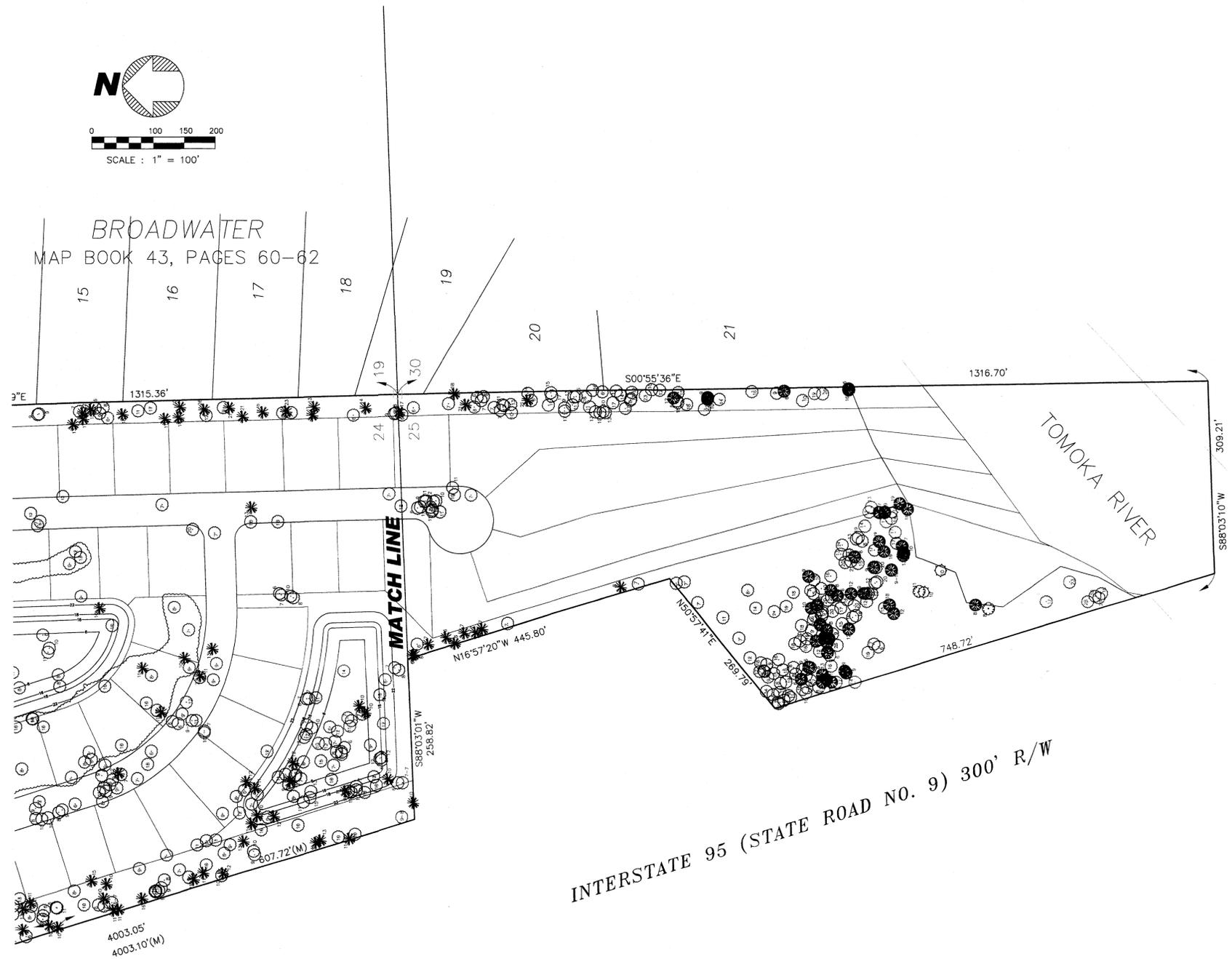
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CHECKED BY: LAM  
DATE: 10/24/06  
SCALE: 1"=100'  
JOB No.: 05-150  
Dwg.: 05150-TT.DWG  
XREF: NONE

\\harpster\server\cadd\land\p\proj\05150\05150-10.dwg 10/23/06 12:41:11 PM LAM



0 100 150 200  
SCALE: 1" = 100'

BROADWATER  
MAP BOOK 43, PAGES 60-62



INTERSTATE 95 (STATE ROAD NO. 9) 300' R/W

TREE LEGEND

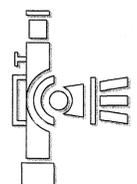
- OAK
- PINE
- CEDAR
- MAGNOLIA
- MAPLE
- HICKORY

NUMBER BESIDE TREE SYMBOL  
INDICATES DIAMETER IN  
INCHES.



NO.	DATE	REVISIONS	BY
10.	3.28.09	REVISED PER SJ COMMENTS OF 3.24.09	SHM
11.	4.8.09	REVISED PER SJ MEETING OF 4.1.09	SHM

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 E-MAIL: mch@harpstereng.com  
 PHONE: (386) 677-9336  
 FAX: (386) 677-9334

**RIVER OAKS OF ORMOND BEACH SUBDIVISION**  
 EXISTING TREE PLAN - SOUTH

THIS PLAT OF SURVEY IS CERTIFIED TO AND PREPARED FOR THE SOLE AND EXCLUSIVE BENEFIT OF THE ENTITIES AND/OR INDIVIDUALS LISTED BELOW, ON THE MOST CURRENT DATE, AND SHALL NOT BE RELIED UPON BY ANY OTHER ENTITY OR INDIVIDUAL WHOMSOEVER.

CERTIFIED TO  
1. CITY OF ORMOND BEACH, FLORIDA

NOT CERTIFIED TO ANY ENTITIES AND/OR INDIVIDUALS OTHER THAN THOSE LISTED ABOVE.

I HEREBY CERTIFY THAT THIS SURVEY OF THE SUBJECT PROPERTY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, AS SURVEYED IN THE FIELD UNDER MY SUPERVISION THE DATES SHOWN HEREON. I FURTHER CERTIFY THAT THIS SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH IN FLORIDA ADMINISTRATIVE CODE CHAPTER 81G17, ADOPTED BY THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS, PURSUANT TO FLORIDA STATUTES SECTIONS 472.027. SUBJECT TO THE QUALIFICATIONS NOTED HEREON.

*Susan H. McCoy*  
SUSAN H. MCCOY, P.S.M. 6373  
UNLESS EMBOSSED WITH THE ORIGINAL RAISED SEAL OF A LICENSED SURVEYOR AND MAPPER, THIS SKETCH, PLAT OR MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID.

DESIGN BY: SHM  
 CHECKED BY: LAM  
 DATE: 10/24/06  
 SCALE: 1"=100'  
 JOB No.: 05-150  
 Dwg.: 05150-TT.DWG  
 XREF: NONE

SHEET 27  
OF 30 SHEETS







# CITY OF ORMOND BEACH

FLORIDA

PLANNING

MEMORANDUM

**TO:** Planning Board members

**FROM:** Steven Spraker, AICP, Senior Planner

**DATE:** May 4, 2016

**SUBJECT:** Development projects

Please find attached the monthly development report. The significant events include:

**SPRC Review:**

1. **Antares of Ormond Beach, 720 West Granada Boulevard.** The Site Plan Review Committee (SPRC) approved the final site plans for this project on April 12, 2016. The project proposes a 123 unit assisted living facility and associated site improvements. The project has not provided City staff a timeline for site and building construction.
2. **McDonald's.** McDonald's is updating their existing facilities to include a dual drive thru and handicapped site access improvements. The McDonald's at 1530 North US1 was approved on April 22, 2016. The McDonald's at 105 Interchange Boulevard has submitted for site plan review. The site plan submission for 100 South Nova Road is pending.
3. **1545 North US1, Dollar General.** The site plan application to demolish existing structure and construct a 9,100 square foot store with associated site improvements is nearing final approval. The project has submitted for an early building permit review.
4. **30 Lincoln Avenue, City parking lot.** The site plan to construct a City parking lot from land purchase from the church at 56 North Beach Street is nearing final approval with one comment remaining.
5. **1368 Ocean Shore Boulevard, utility connection.** The SPRC conducted a pre-construction meeting for a utility connection for an existing building at 1368 Ocean Shore Boulevard.
6. **Chelsea Place, Phase 3.** The SPRC conducted a pre-construction meeting for Chelsea Place, Phase 3 for the infrastructure improvements for 65 single-family lots.
7. **Ormond Central, 1 South Old Kings Road.** The SPRC provided the first site plan review comments for a project located at West Granada Boulevard and Old Kings Road. The project consists of 8.72 acres and proposes four pad ready sites. The project proposes to construct the site work including grading and creation of a stormwater pond.

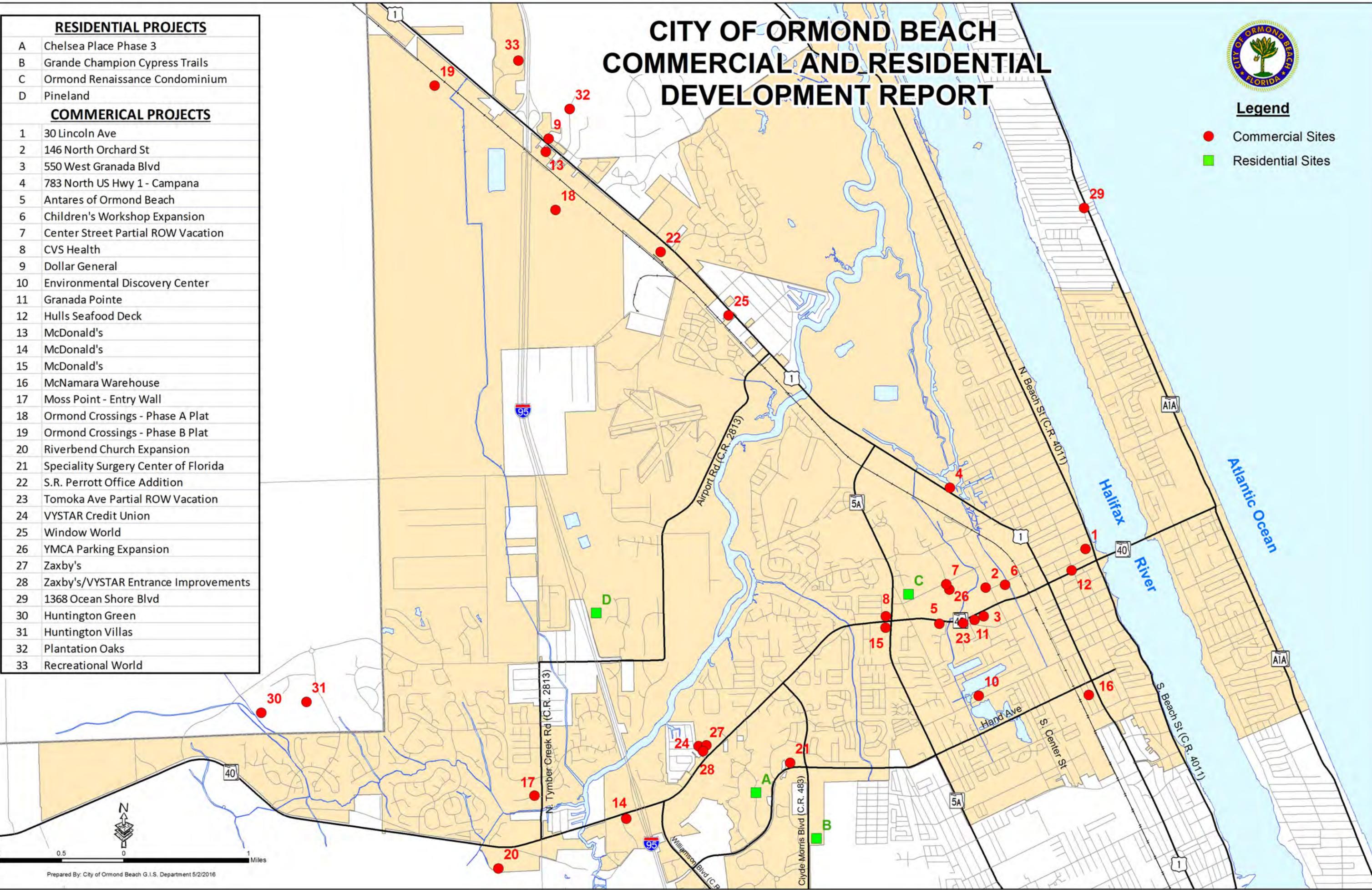
# CITY OF ORMOND BEACH COMMERCIAL AND RESIDENTIAL DEVELOPMENT REPORT



## Legend

- Commercial Sites
- Residential Sites

RESIDENTIAL PROJECTS	
A	Chelsea Place Phase 3
B	Grande Champion Cypress Trails
C	Ormond Renaissance Condominium
D	Pineland
COMMERICAL PROJECTS	
1	30 Lincoln Ave
2	146 North Orchard St
3	550 West Granada Blvd
4	783 North US Hwy 1 - Campana
5	Antares of Ormond Beach
6	Children's Workshop Expansion
7	Center Street Partial ROW Vacation
8	CVS Health
9	Dollar General
10	Environmental Discovery Center
11	Granada Pointe
12	Hulls Seafood Deck
13	McDonald's
14	McDonald's
15	McDonald's
16	McNamara Warehouse
17	Moss Point - Entry Wall
18	Ormond Crossings - Phase A Plat
19	Ormond Crossings - Phase B Plat
20	Riverbend Church Expansion
21	Speciality Surgery Center of Florida
22	S.R. Perrott Office Addition
23	Tomoka Ave Partial ROW Vacation
24	VYSTAR Credit Union
25	Window World
26	YMCA Parking Expansion
27	Zaxby's
28	Zaxby's/VYSTAR Entrance Improvements
29	1368 Ocean Shore Blvd
30	Huntington Green
31	Huntington Villas
32	Plantation Oaks
33	Recreational World



**City of Ormond Beach Commercial Development Report May 2, 2016**

Applications, site plans, and public hearing documents may be viewed at the Planning Department website:

<http://fl-ormondbeach.civicplus.com/index.aspx?NID=247>

Change in project status

Project nearing completion

#	Project	Description	Application Date	1st Review	2nd Review	3rd Review	4th Review	5th Review	Advisory Board	City Commission	Final Approval	DO Expiration	LDC Extension Expiration	Building Permit Info	Building Permit Value	Eng. Permit Info	Eng. Permit	Under Construction	CO Issued	E or Arc = Project Engineer or Architect O = Owner A = Applicant
1	<b>30 LINCOLN AVENUE</b> 30 Lincoln Avenue SPRC # 2016-061	Construct a public parking lot of 36 parking spaces	04.01.16	04.15.16	05.03.16															E = City of Ormond Beach O = City of Ormond Beach
2	<b>146 NORTH ORCHARD STREET</b> 146 North Orchard Street SPRC #14-015	56 space RV & Boat self storage facility with associated parking and infrastructure	11.07.13	11.26.13	01.14.13	06.09.15			NA	NA	07.01.15	07.01.17				Issued 07.06.15	\$194,733	92%		E = Alann Engineering Group O = Pat Baylor/Clinton Baylor
3	<b>550 WEST GRANADA BOULEVARD (BELLA MARIE)</b> 550 West Granada Boulevard SPRC# 2015-028	Modification of approved plan set to construct a retail/office building and 30 residential units.	11.18.14	12.02.14	01.13.15	02.10.15			Neighborhood meeting (2.18.15)	NA	04.13.15	04.13.17		Early review submitted						E = Daniel Johns, P.E.  O = Granada Management, LLC ARC = Ben Butera
4	<b>783 N US HWY 1, CAMPANA</b> 783 N US HWY 1 SPRC 2016-010	Construction of a 1,216 SF building for kayak rental & repair and associated site improvements	11.06.15	11.20.15	02.03.16	03.11.16	05.20.16													E = Alann Engineering Group  O = Steven Campana
5	<b>ANTARES OF ORMOND BEACH</b> 720 West Granada Boulevard SPRC# 2016-012	123 unit Assisted Living Facility and associated site improvements	11.11.15	11.25.15	02.24.16	03.18.16	04.19.16		Neighborhood meeting (12.09.15)		04.12.16									E = Alann Engineering Group ARC = Lawson Group Architects, Inc. O = Antares of Ormond Beach, LLC
6	<b>CHILDREN'S WORKSHOP EXPANSION</b> 506 Lincoln Avenue SPRC#15-109	New building for classroom(s) and an office.	07.14.15	07.28.15	09.17.15						10.15.15	Under Constr.		Submitted 12.04.15	\$316,457	Site Work = \$48,000	Issued 12.21.15	25%		O = Brian Adair E = MetaWorld Civil Consulting, LLC ARC = Richard Brookfield
7	<b>CENTER STREET PARTIAL ROW VACATION</b> SPRC# 2016-014 Center Street, south of Sterhaus Drive	Partial ROW vacation associated with the YMCA parking project	11.25.15	12.10.15	05.15.16				Required											A = YMCA E = Zev Cohen & Associates
8	<b>CVS HEALTH</b> 795 W Granada Boulevard SPRC#2015-071	Demolition of the existing gas station and Burger King and construction of a 13,013 SF CVS and associated site improvements.	03.10.15	03.24.15	06.03.15	08.05.15					08.13.15	Under Constr.		Issued 02.01.16	\$2,641,707	Site Work = \$404,549	Issued 01.20.16	60%		E = England-Thims & Miller, Inc. ARC = Stefano DeLuca & Associates O = City of Ormond Beach
9	<b>DOLLAR GENERAL</b> 1545 North US 1 SPRC#2016-043	Demolish existing structure and construct a 9,100 SF store with associated site improvements	02.23.16	03.09.16	04.18.16	05.10.16														E = Jade Consulting LLC O = HSC Ormond Beach, LLC ARC = Jared Ducote, Architect
10	<b>ENVIRONMENTAL DISCOVERY CENTER</b> 601 Division Avenue SPRC#2015-077	Construct a 1,980 square foot environmental learning center and associated site improvements within Central Park.	03.31.15	04.14.15							08.03.15	Under Constr.		Issued 09.22.15	\$398,079		Issued 08.17.15	98%		E = Mark Dowst & Associates ARC = BPF Design Incorporated O = City of Ormond Beach
11	<b>GRANADA POINTE</b> 600 West Granada Boulevard SPRC#2016-017	Proposed 4 unit, 19.5 acre commercial development on south side of Granada Blvd with associated improvements and 3 acre parcel on north side of Granada Blvd and 10 acre preservation area.	12.08.15	12.23.15	04.05.16															O = Granada Pointe, LLC Eng = Newkirk Engineering, Inc.
12	<b>HULLS SEAFOOD DECK</b> 111 West Granada Boulevard SPRC#2016-15	Construct 2,557 SF covered wood deck for dining and 700 SF bathroom	12.08.15	12.23.15	02.08.16	02.29.16	03.28.16				03.30.16									O = Hull's Seafood Eng = Mark Dowst & Associates ARC = Richard Brookfield
13	<b>MCDONALD'S</b> 1530 North US 1 SPRC#2016-040	Update existing drive thru and site ADA upgrades	02.10.16	02.29.16	04.20.16						04.22.16									E = CPH Inc. O = McDonald's USA LLC ARC = CPH Inc.
14	<b>MCDONALD'S</b> 105 Interchange Boulevard SPRC# 2016-066	Update existing drive thru and site ADA upgrades	04.19.16	05.03.16																E = CPH Inc. O = McDonald's USA LLC ARC = CPH Inc.
15	<b>MCDONALD'S</b> 100 South Nova Road SPRC# 2016-065	Update existing drive thru and site ADA upgrades	Pending																	E = CPH Inc. O = McDonald's USA LLC ARC = CPH Inc.

\* Highlighted projects indicate change in status (such as SPRC approval, CC approval, building permits issued, or CO issued).

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Change in project status

Project nearing completion

#	Project	Description	Application Date	1st Review	2nd Review	3rd Review	4th Review	5th Review	Advisory Board	City Commission	Final Approval	DO Expiration	LDC Extension Expiration	Building Permit Info	Building Permit Value	Eng. Permit Info	Eng. Permit	Under Construction	CO Issued	E or Arc = Project Engineer or Architect O = Owner A = Applicant
16	<b>McNAMARA WAREHOUSE</b> 480 Andalusia Drive SPRC# 2011-13	4,580 square foot warehouse and associated site improvements	12.22.10	01.05.11					NA	NA	03.06.14	03.06.16		Approved 02.24.16	\$256,938	Approved		10%		E = Parker Mynchenberg & Assoc O = McNamara Construction, LLC ARC = Stan Hoelle
17	<b>MOSS POINT, ENTRY WALL</b> Moss Point subdivision SPRC#2015-072	Install subdivision entry wall, add brick façade to existing wall, and landscaping	03.10.15	03.24.15							04.21.15	Under Constr.		Issued 10.07.15	\$104,000			0%		E = Parker Mynchenberg & Assoc O = Moss Point HOA
18	<b>ORMOND CROSSINGS, PHASE A PLAT</b> East of I-95, west of US1 SPRC#2014-114	Subdivision and infrastructure improvements of approximately 220 acres for commercial/industrial uses.		01.09.09	10.08.14				NA											E - Singhofen & Associates, Inc. O = Tomoka Holdings, LLC
19	<b>ORMOND CROSSINGS, PHASE B PLAT</b> East of I-95, west of US1 SPRC#2015-042	Subdivision and infrastructure improvements of approximately 103.7 acres for a four lot plat.	12.19.14	01.21.15																E - Singhofen & Associates, Inc. O = Tomoka Holdings, LLC
20	<b>RIVERBEND CHURCH EXPANSION</b> 2080 West Granada Boulevard SPRC# 09-25000008	Site improvements and utility connect in association with expansion in Daytona Beach	09.08.09	09.22.09	01.18.11				NA	NA	07.13.11	Under Constr.			\$515,034	Issued 11.09.11	X	35%		E = Mark Dowst & Associates O = Riverbend Church
21	<b>SPECIALITY SURGERY CENTER OF FL</b> 1545 Hand Avenue SPRC# 2016-026	Conversion of building to a Surgery Center with clinic including certain site improvements.	01.15.16	02.02.16	02.18.16															E = Jerry Finley, P.E. O = PRC Associates, LLC ARC = Gordon & Associates Architect, LLC
22	<b>S.R PERROTT OFFICE ADDITION</b> 1280 N. US Highway 1 SPRC#2016-041	Construct a 22,000 SF office building and associated site improvements	02.10.16	02.24.16	03.16.16						03.22.16			Issued 03.30.16	\$3,545,293	Issued 03.30.16	\$160,000	2%		E = Parker Mynchenberg & Assoc O = S.R. Perrott, Inc.
23	<b>TOMOKA AVE, PARTIAL ROW VACATION</b> SPRC#2016-18 Tomoka Avenue & W. Granada Boulevard	Partial ROW vacation associated with the Granada Pointe project	12.08.15	12.23.15	03.31.16					Required										A = Granada Pointe, LLC Eng = Newkirk Engineering, Inc.
24	<b>VYSTAR CREDIT UNION</b> 1301 West Granada Boulevard SPRC#2015-067	Construction of a single story 4,500 SF credit union with drive thru and associated site improvements	02.24.15	03.10.15	05.05.15	09.30.15			Neighborhood meeting (3.25.15)		11.02.15	Under Constr.		Approved 01.04.16	\$2,220,762	Approved	\$550,000	60%		E = Parker Mynchenberg & Assoc O = 1301 W Granada Investors LLC ARC = RS&H, Inc.
25	<b>WINDOW WORLD</b> 1142 North US Highway 1 SPRC#15-092	Construction of 2,975 SF office, showroom, and warehouse and associated site improvements.	05.19.15	06.02.15	08.31.15						01.04.16	01.04.18		Under review	\$500,000					E = Kirby Engineering, LLC O = Tillman Volusia Holdings, LLC ARC: A.L. Designs
26	<b>YMCA PARKING EXPANSION</b> 500 Sterthaus Drive SPRC#2015-011	Parking Lot Expansion	11.04.14	11.18.14	02.24.15															E = Zev Cohen & Associates O = Volusia/Flagler YMCA
27	<b>ZAXBY'S</b> 1287 West Granada Boulevard SPRC# 2014-102	Development of vacant land into a 3,847 square foot, 90 seat drive thru restaurant.	06.24.14	07.08.14	08.27.14				NA	NA	09.16.14	09.16.16								E = Newkirk Engineering APP = Demerburn, LLC ARC = HFR
28	<b>ZAXBY'S/VYSTAR ENTRANCE IMPROVEMENTS</b> SPRC#16-008 1287 & 1301 W. Granada Blvd.	Driveway entrance and lift station improvements	10.26.15	11.23.15							12.01.16	Under Constr.		Included in the Vystar project						E = Newkirk Engineering

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Change in project status

Project nearing completion

#	Project	Description	Application Date	1st Review	2nd Review	3rd Review	4th Review	5th Review	Advisory Board	City Commission	Final Approval	DO Expiration	LDC Extension Expiration	Building Permit Info	Building Permit Value	Eng. Permit Info	Eng. Permit	Under Construction	CO Issued	E or Arc = Project Engineer or Architect O = Owner A = Applicant
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**Ormond Beach is Utility Provider Only**

29	<b>1368 OCEAN SHORE BLVD</b> 1368 Ocean Shore Blvd. SPRC# 2015-121	Sewer connection for existing building	08.28.15	09.08.15							02.12.16					Issued 04.13.16	\$29,770	0%		E = Finley Engineering Group O = 1368 Oceanshore Blvd. LLC
30	<b>HUNTINGTON GREEN</b> SPRC #2015-117 Flagler County	Provision of utilities to a Flagler County subdivision	07.03.15	07.17.15	09.03.15	12.09.15	02.08.16				02.12.16									E = Zev Cohen & Associates O = BADC Huntington Communities, LLC
31	<b>HUNTINGTON VILLAS</b> SPRC# 2015-070 Flagler County	Provision of utilities to a Flagler County subdivision	03.10.15	03.24.15	05.05.15	06.01.15	08.06.15				08.26.15	Under Constr.				Issued	\$537,833	80%		E = Zev Cohen & Associates O = BADC Huntington Communities, LLC
32	<b>PLANTATION OAKS</b> SPRC# 2016-001 I-95 and North US1	Water connection for phase of subdivision development	10.22.15	11.12.15																E = Parker Mynchenberg & Associates O = Plantation Oaks of Ormond Beach, L.C.
33	<b>RECREATION WORLD</b> SPRC#2015-099 280 Destination Daytona Lane	Provision of utilities for RV sales and service facility	06.17.15	6.30.15							08.19.15	Under Constr.				Issued 08.18.15		98%		E = Mark Dowst O = Giant Recreation World

\* Highlighted projects indicate change in status (such as SPRC approval, CC approval, building permits issued, or CO issued).

**City of Ormond Beach Residential Development Report - May 2, 2016**

#	Project	Description	Applica-tion Date	1st Review	2nd Review	3rd Review	4th Review	5th Review	Advisory Board	City Commis-sion	Final Approval	DO Expiration	LDC Extension Expiration	2009 SB Expiration	SB 2156 Expiration	HB 7207 Expiration	Improvement Value	Eng. Permit	Under Construc-tion	CO Issued	E or Arc = Project Engineer or Architect O = Owner A = Applicant
A	<b>CHELSEA PLACE, PHASE 3</b> Chelsea place subdivision SPRC #2016-034	65 single family lots	02.02.16	02.16.16	04.05.16	04.20.16											\$1,097,100	04.21.16	0%		E = Parker Mynchenberg & Associates O = CP & SP Residnetial Land, LLC
B	<b>GRANDE CHAMPION CYPRESS TRAILS</b> Clyde Morris Boulevard SPRC# 2016-048	50 single family lots on 28.65 acres	02.29.16	03.14.16														04.21.16			E = Matthews Deign Group O = Indigo Development, LLC Purchaser = Grande Champion Partners, LLC
C	<b>ORMOND RENAISSANCE CONDOMINIUM</b> 875 Sterthaus Drive 2014-061	286 multi-family unit	06.17.14	07.01.14	11.05.14	02.04.15			03.12.15	04.21.15 & 05.05.15	04.01.16							04.21.16			E = Parker Mynchenberg & Associates O = Ormond King Center, LLC ARC = David Howard
D	<b>PINELAND</b> East of I-95, north of Airport Road 08-23000002	Preliminary Plat of 192 Single-Family Lots	11.04.08	11.18.08	02.17.09	02.20.16	04.08.16		PB Approved (4-2)	Approved Ord 08-44		10.21.13 PRD Rezoning	10.21.16 PRD Rezoning	NA	NA	10.21.15 PRD Rezoning		04.21.16			E = Zahn Engineering O = Funcoast Developers

\* Highlighted projects indicate change in status (such as SPRC approval, CC approval, building permits issued, or CO issued).