Planning & Zoning Board Meeting

January 27, 2022 at 6:00 PM

In Person and via Zoom

Join Zoom
Meeting: https://us06web.zoom.us/j/86556958570?pwd=aDBQWnZHelZ3dzBNdWw5QldPWFFsUT09
Meeting ID: 865 5695 8570 | **Passcode:** 141656

Due to COVID-19, the Town of Howey-in-the-Hills is limiting the number of public attendees at meetings to 10 individuals. The Town of Howey-in-the-Hills is also requesting all audience members to wear masks when attending the meeting. The Town encourages everyone who is interested in participating in the meeting to join virtually via ZOOM.

CALL TO ORDER
ROLL CALL

CONSENT AGENDA
Routine items are placed on the Consent Agenda to expedite the meeting. If Town Council/Staff wish to discuss any item, the procedure is as follows: (1) Pull the item(s) from the Consent Agenda; (2) Vote on the remaining item(s); and (3) Discuss each pulled item and vote.

1. Consideration and Approval of the November 18, 2021, Planning and Zoning Board Meeting minutes.

PUBLIC HEARING

OLD BUSINESS

NEW BUSINESS

2. Consideration and Recommendation: **Venezia Townhomes Final Subdivision Plan Review**

CITIZEN COMMENTS
Any person wishing to address the Planning and Zoning Board and who is not on the agenda is asked to speak their name and address. Three (3) minutes is allocated per speaker.

ADJOURNMENT

To Comply with Title II of the Americans with Disabilities Act (ADA):

Qualified individuals may get assistance through the Florida Relay Service by dialing 7-1-1. Florida Relay is a service provided to residents in the State of Florida who are Deaf, Hard of Hearing, Deaf/Blind, or Speech Disabled that connects them to standard (voice) telephone users. They utilize a wide array of technologies, such as Text Telephone (TTYs) and ASCII, Voice Carry-Over (VCO), Speech to Speech (STS), Relay Conference

Captioning (RCC), CapTel, Voice, Hearing Carry-Over (HCO), Video Assisted Speech to Speech (VA-STS) and Enhanced Speech to Speech.

NOTICE: ONE OR MORE COUNCILORS MAY BE PRESENT TO HEAR OR PARTICIPATE IN DISCUSSION REGARDING MATTERS WHICH MAY COME BEFORE TOWN COUNCIL FOR ACTION.

Howey Town Hall is inviting you to a scheduled Zoom meeting.
Topic: **Planning & Zoning Board Meeting**
Time: **Jan 27, 2022 06:00 PM Eastern Time** (US and Canada)
Join Zoom Meeting
https://us06web.zoom.us/j/86556958570?pwd=aDBQWnZHelZ3dzBNdWw5QldPWFFsUT09
Meeting ID: 865 5695 8570
Passcode: 141656

Dial by your location
+1 646 558 8656 US (New York)
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+1 346 248 7799 US (Houston)
Meeting ID: 865 5695 8570
Passcode: 141656
Find your local number: https://us06web.zoom.us/u/kbSbAAEPkf

Please Note: In accordance with F.S. 286.0105: Any person who desires to appeal any decision or recommendation at this meeting will need a record of the proceedings, and that for such purposes may need to ensure that a verbatim record of the proceedings is made, which includes the testimony and evidence upon which the appeal is based. The Town of Howey-in-the-Hills does not prepare or provide this verbatim record. Note: In accordance with the F.S. 286.26: Persons with disabilities needing assistance to participate in any of these proceedings should contact Town Hall, 101 N. Palm Avenue, Howey-in-the-Hills, FL 34737, (352) 324-2290 at least 48 business hours in advance of the meeting.

MINUTES OF THE HOWEY-IN-THE-HILLS
PLANNING & ZONING BOARD MEETING
HELD NOVEMBER 18th, 2021

Chairperson, Tina St. Clair called the Planning & Zoning Board Meeting to order at 6:00 p.m. Roll Call was performed, and it was determined that a quorum was present.

Board Members Present:
Ron Francis III, Vice-Chairperson
Berniece Hower, Board Member
Frances O'Keefe Wagler, Board Member
Richard Mulvany, Board Member
Tina St. Clair, Chairperson
John Manning, Board Member

Staff Present:
Thomas Harowski, Town Planner (via Zoom)
Sean O'Keefe, Town Administrator
Victoria Elfers, Building Services Clerk
John Brock, Town Clerk

CONSENT AGENDA

1. Consideration and Approval of the October 28th, 2021, Planning and Zoning Board Meeting minutes.

Motion made by Board Member Frances O'Keefe Wagler to approve the minutes; Board Member Berniece Hower seconded the motion. Motion was approved unanimously by voice vote.

PUBLIC HEARING

None.

OLD BUSINESS

None.

NEW BUSINESS

2. Consideration and Recommendation: **Single-Family Residence, Eagle Homes Bellissimo Place – New Home Lot 12**

Chairperson Tina St. Clair introduced the agenda item and asked Town Planner, Tom Harowski, to present to the Planning and Zoning Board.

Mr. Harowski explained all the nonconforming MDR-2 requirements were met and made a staff recommendation for approval of the plans for Lot 12.

Public Comment:

Renee Lannaman, 710 Calabria Way (via Zoom) – Dr. Lannaman asked if the buyers for the Bellissimo lots (12, 13, and 15) will be informed they are in proximity to the Venezia South Homeowners Association (HOA) and if they will be held to their covenants.

Mr. Harowski explained that, according to the Town Attorney, the buyers have access to the road (Bellissimo Place) and will not be held to the HOA covenants.

Dr. Lannaman remarked about the price point of the new homes and that the Venezia community is hopeful they will uphold their standards.

Mr. Harowski suggested the Venezia community might ask the buyers to join the HOA; and to negotiate being held to the covenants but not be required to pay the association assessment.

Town Administrator, Sean O'Keefe, interjected he would provide excerpts of the email correspondence of the Town Attorney's review. The Town Attorney outlined that the four Bellissimo lots are not within the boundaries of the HOA of Venezia South, meaning they are not held under the rules and restrictions. The buyers also have access to Bellissimo Place because it is a public road on public right-of-way.

Doug Hower, 444 Bellissimo Pl – Mr. Hower asked Town Administrator, Sean O'Keefe, whether the new homes would drain into the Venezia South's stormwater system and whether something would be placed into the reserve since the community has to financially maintain the stormwater system.

Sean O'Keefe responded that he would examine the stormwater matter and referred to the Final Plat which generally outlines dedications of roads and utility easements. He then asked Tom Harowski to elaborate on stormwater dedication.

Mr. Harowski confirmed that maintaining stormwater retention areas are the HOA's responsibility. He proposed the developer, Eagle Homes, provide a grading plan when submitting a Building Permit. He proposed asking the developer to grade the lots and insert a swale toward the back of the lot. However, he doubted the four homes would greatly affect the stormwater system.

Chairperson Tina St. Clair made a motion to approve the plans as they were presented; Board Member Frances O'Keefe Wagler seconded the motion. The motion was approved by roll call vote.

Berniece Hower	**NO**	**Chair Tina St. Clair**	**YES**
Fran O'Keefe Wagler	**YES**	**Richard Mulvany**	**YES**
Ron Francis, III	**YES**	**John Manning**	**YES**

3. Consideration and Recommendation: **Single Family Residence, Croton Way - New Home Lot 7**

Chairperson Tina St. Clair introduced the agenda item and asked Town Planner, Tom Harowski, to present to the Planning and Zoning Board.

Mr. Harowski explained all MDR-1 requirements were met and made a staff recommendation for approval of the plans for Lot 7.

Board Member, John Manning, expressed his concern for the swale being too small and the drainage may slope into the neighboring property. He suggested the swale be moved.

Harvey Newsome, the builder of the single-family home, admitted he could not answer extensively because a civil engineer designed the plans. However, the grading plan demonstrates the drainage flows around the house toward Croton Way. Mr. Newsome stated that he was not opposed to moving the swale.

There was no public comment for this item.

Vice Chairperson Ron Francis, III made a motion to approval the plans as they were presented; Board Member John Manning seconded the motion. The motion was approved by unanimous roll call vote.

Berniece Hower	**YES**	**Chair Tina St. Clair**	**YES**
Frances O'Keefe Wagler	**YES**	**Richard Mulvany**	**YES**
Ron Francis, III	**YES**	**John Manning**	**YES**

4. Presentation/Training**: Annual Sunshine Law/Public Records/ Ethics Training**

Town Clerk, John Brock, and Town Administrator, Sean O'Keefe, presented Sunshine Law, Public Records and Ethics training via PowerPoint.

The board members asked questions throughout the presentation training.

Public Comment:

Doug Hower, 444 Bellissimo Pl – Mr. Hower implored the board members not to discuss Town business with Town Council councilors because he stated that it was prohibited by federal Florida law. He also thanked the Town Clerk and Town Administrator for the presentation.

ADJOURNMENT

There being no further business to discuss, a motion was made by Vice Chairperson Ron Francis, III to adjourn the meeting; Board Member Berniece Hower seconded the motion. Motion was approved unanimously.

The meeting adjourned at 7:24 p.m. **| Attendees: 17**

_____
Tina St. Clair, Chairperson

ATTEST:

_____
John Brock, Town Clerk

TMH CONSULTING, INC.
Community Planning Services

TMHConsulting@cfl.rr.com
97 N. Saint Andrews Dr.
Ormond Beach, FL 32174
PH: 386.316.8426

MEMORANDUM

TO: Howey-in-the-Hills Planning Board
CC: J. Brock, Town Clerk, S. O'Keefe, Town Administrator
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: Venezia Townhomes Final Subdivision Plat
DATE: January 20, 2022

The last residential component of the original Venezia South development has been presented for final subdivision approval. The project consists of 113 townhouse units distributed in five (seven buildings) and six-unit buildings (13 buildings.). The project is located on an 11.83-acre tract accessed from Venezia Boulevard and located between Calabria Way and one of the two proposed commercial development parcels. The applicant is seeking final subdivision approval to allow development of the 113 townhouse lots, common area and supporting infrastructure including roads and utilities.

The proposed subdivision has gone through three reviews at the staff level including a Development Committee pre-application meeting and two rounds of full plans review by the Town's Development Review Committee. The package of plans being presented to the Planning Board includes the engineering plans, landscape plans, and proposed unit designs. The unit designs include two models; the Glen model which is the interior unit in the proposed building and the Vale model which is the end unit. The buildings will have the same exterior design and finish with the only variation being the length of the building depending on whether the building includes five or six units. All units are three bedroom, 2.5 bath units with a one-car garage and driveway space for two cars parked off-street. The project includes an additional 30 designated on-street parking spaces at three locations, with one location being adjacent to lots 75 through 90 near the mail kiosk (12 parking spaces). Two on-street spaces are located near lot 24, and the balance of the spaces are located near lots 62 and 63 at the north end of the project.

Roads will be public as is done in the rest of Venezia, and the Town will own and maintain the sewer system and potable water system. The re-use/irrigation system will be owned by the homeowners' association as will the landscaping and common areas. Stormwater retention will be accommodated in the existing adjacent retention area that was designed to accommodate stormwater from the multi-family and commercial parcels and was constructed with the original subdivision improvements. The stormwater retention area will be maintained by the master association for Venezia, while the other maintenance responsibilities for the proposed project will fall to a sub-association

comprised of the 113 lot owners. The applicants are in the process of amending the stormwater permit to include the new drainage as was anticipated in the original design. This is a routine permit review when modifications are made to an approved drainage system.

The landscape plans provide for a buffer along Venezia Boulevard which includes trees and understory plantings. The buffer runs along Venezia Boulevard for a depth of 10-feet and then some portions of the frontage include a retaining wall with development side of the wall being lower than the Venezia Boulevard side. Street trees are provided throughout the subdivision along the street frontage and additional landscaping is provided in common areas and along the rear of the units. The project edge abutting the single-family lots on Calabria Way consists of the vinyl fence constructed with the single-family portion of the project and a row of street trees planted along the project side of the fence. This section of the project includes a sidewalk along the length of the fence. No proposed townhouse units back up to the lots on Calabria Way, so in addition to the fence and trees the proposed units will be 80 to 90 feet into the project from the edge of property in this area.

The plan includes an irrigation system that covers the common area landscaping and landscape on the individual lots. The Public Services staff is still reviewing the proposed system to verify some technical operating conditions. The review should be completed and any final adjustments made prior to consideration of the subdivision plan package by the Town Council.

Recommendation

The Development Review Committee has found that the subdivision design meets the Town's code requirements for technical review. The building layout is typical for a multi-family building project, and the landscaping and fencing provides some level of buffering from adjacent properties. The project does provide two means of access from Venezia Boulevard.

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97 N. Saint Andrews Dr.
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PH: 386.316.8426

MEMORANDUM

TO: Howey-in-the-Hills Development Review Committee
CC: J. Brock, Town Clerk; S. O'Keefe, Town Administrator
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: Venezia Townhomes Final Subdivision Plan
DATE: January 4, 2022

Based on the application received for the Venezia Townhomes, this project is being reviewed as a subdivision under the provisions for subdivision design and procedures as set forth in the Town's land development regulations. The applicant has elected to combine the preliminary subdivision plan phase and the final subdivision plan, and the standards for both plans will be considered in the review. Typically, a final subdivision plan is presented to the Town Council when a preliminary subdivision plan has been reviewed by the Town's Planning Board and approved by Town Council. In this case it is the intent of the Development Review Committee to present the final subdivision plan to the Planning Board before it is considered by the Town Council.

The Town maintains a checklist of final subdivision plan requirements that is drawn from the code requirements in Section 4.05. The following are based on the plan resubmittal dated November 30, 2021

SITE DEVELOPMENT COMMENTS

1. Sidewalk is required on both sides of all roads. The sidewalk as proposed is not continuous throughout the subdivision. Sidewalks are to be a minimum of 5-feet wide with concrete meeting a minimum of 3,000 PSI. The new notes and new details show 5-foot sidewalk, but a detail 907 on page C901 was overlooked.

2. Pedestrian crossing and sidewalk ramps need to be provided as an extension of the sidewalks on the entrance road across the intersection, so the pedestrian linkage is in a u-shape. One intersection was modified, but the second intersection was not.

3. If provided, the retaining wall needs to provide a decorative finish visible from Venezia Boulevard. The response note states the wall will only be visible from the townhouse property. This is no reason to provide a substandard finish. Our

code (Section 7.02.01 B2 calls for columns to be placed no more than very 40-feet along the wall as well.

4. The common area at the end of the interior block deserves more effort as a project amenity. A pedestrian seating area with a hard surface base or a small piece of play equipment if children are expected would be appropriate as a project amenity.

5. What street names are proposed? These need to be included in the plan submittal. Street signage needs to follow the Town's approved detail. (Copy provided.)

UTILITY SYSTEM COMMENTS

1. The code requires streetlights serving the property. We still need to see the streetlight locations to avoid conflicts with plantings an other subdivision elements.

2. The applicant needs to provide a copy of the stormwater permit serving the subject property. The permit will be required prior to or at the pre-construction meeting.

3. The applicant needs to document reserved capacity with the Central Florida Community Development District for sewer service. The response seems to indicate that the sewer capacity from the CDD is not reserved at this time. Is this correct?

4. The plan shows a valley gutter on the off-site street connection. Where does this gutter drain?

LANDSCAPE COMMENTS

1. (Hold for comment on irrigations system review.)

2. The landscape plan requires a tree protection detail for the trees to remain.

3. Table 710.00 identifies live oak and southern magnolia as the approved street trees. The proposed design includes other tree types applied as street trees.

4. Table 710.00 also lists approved understory trees, shrubs, and ground covers. The planting plan includes plant material not on this list. We are willing to consider other plant materials, and these should be called out on the listing of plant material.

5. The Town code (Section 7.04.01) calls for Waterwise Florida Landscapes and compliance with the Florida Water Star Program. The landscape architect needs to certify the design meets these standards.

6. It would be helpful for the review if the table of plant materials includes the common name and the quantities of the plant materials proposed.

7. What does the addition of a numeral to plant identification code mean? (Example: What is QV versus QV2?)

8. Why are two canopy trees proposed in some locations between buildings and one tree proposed in other similar locations.

9. There is an opportunity to place some additional trees in the spaces between buildings and in the area behind the buildings fronting on the retention pond and the wetland. The proposed trees behind the units as shown on the unit detail could be beefed up as well.

10. The required tree total based on three trees per lot is 339 trees for the project overall. The buffer (40 trees including the trees to remain), street trees and other common area plantings (93 trees by count), and the building landscape detail (57 trees) totals 190 trees all together.

OTHER COMMENTS

1. The notes stated that a group mail station was provided, but it was not clear on the plans where it is located. Some parking and pedestrian access needs to be provided where the station is located. Will the post office permit more than one location within the project?

2. A subdivision entrance sign should be provided at the main entrance from Venezia Boulevard including location and appropriate landscaping. A secondary subdivision identification sign should be provide at the north entrance. It does not seem that an identification on SR 19 is sufficient.

ENGINEERING COMMENTS

1. Add crosswalks to all legs of the intersection at lots 96-97 & 94-95.

2. At water connections, add temporary jumpers for testing.

3. Per the LDC, the minimum water main size is 6". Change the size of the WM along lots 1-10.

4. On the profiles for Streets "B" & "C" (C601 & C602) correct the depiction of the sewer tie-in for the outside drop connections.

5. Provide a detail for an outside drop connection. Be sure that it includes directions to rework the paved inverts inside the manholes.

6. Call out 3' valley gutters on the internal intersections.

7. The ribbon curb needs to be 12" wide.

8. Add a detail for the driveway aprons. Note that sidewalks need to be 6" thick where they cross driveways.

9. Add a note to the curb ramp detail that it shall include detectable warning pads.

10. Change the detail for the sidewalk to be 5'.

11. Change the Street sign detail to the standard for the town.

MADDEN
MOORHEAD & STOKES, LLC
CIVIL ENGINEERS

January 19, 2021

Town Clerk for the Town of Howey-in-the-Hills
Attn: John Brock
P.O. Box 128
101 N. Palm Avenue
Howey-in-the-Hills, FL 34737

Re: Venezia Townhomes

Dear John:

Below please find responses to comments:

Site Development Comments

Comment 1: Sidewalk is required on both sides of all roads. The sidewalk as proposed is not continuous throughout the subdivision. Sidewalks are to be a minimum of 5-feet wide with concrete meeting a minimum of 3,000 PSI. The new notes and new details show 5-foot sidewalk, but a detail 907 on page C901 was overlooked.
Response: Sidewalk is currently proposed on both sides of all roads. Please see revised sidewalk detail on Sheet C901.

Comment 2: Pedestrian crossing and sidewalk ramps need to be provided as an extension of the sidewalks on the entrance road across the intersection, so the pedestrian linkage is in a u-shape. One intersection was modified, but the second intersection was not.
Response: Please see added crosswalks in front of lots 94 & 97 on Sheet C101, completing the u-shape linkage.

Comment 3: If provided, the retaining wall needs to provide a decorative finish visible from Venezia Boulevard. The response note states the wall will only be visible from the townhouse property. This is no reason to provide a substandard finish. Our code (Section 7.02.01 B2 calls for columns to be placed no more than very 40-feet along the wall as well.
Response: Please see added retaining wall design example on Sheet C903. The image provided is a design intent only. All retaining walls will be permitted separately by others prior to construction.

Comment 4: The common area at the end of the interior block deserves more effort as a project amenity. A pedestrian seating area with a hard surface base or a small piece of play equipment if children are expected would be appropriate as a project amenity.
Response: Benches are added in tracts adjacent to Lot 80 and Lot 113. Please see enclosed Landscape Plans.

Comment 5: What street names are proposed? These need to be included in the plan submittal. Street signage needs to follow the Town's approved detail. (Copy provided.)
Response: Please see proposed street names on Sheet C101. The street suffixes given are assumed. As of the date of this letter, the Town has not assigned street suffixes or approved the names provided.

Utility System Comments

Comment 1: The code requires streetlights serving the property. We still need to see the streetlight locations to avoid conflicts with plantings another subdivision elements.
Response: Streetlight locations are shown on in the landscape package, sheets L200 and L400 series.

Comment 2: The applicant needs to provide a copy of the stormwater permit serving the subject property. The permit will be required prior to or at the pre-construction meeting.
Response: Upon retrieval of the stormwater permit it will be provided.

Comment 3: The applicant needs to document reserved capacity with the Central Florida Community Development District for sewer service. The response seems to indicate that the sewer capacity from the CDD is not reserved at this time. Is this correct?
Response: A meeting with the CDD is being organized. A wholesale wastewater agreement was executed on 07/09/07 and ERUs will be allocated at closing.

Comment 4: The plan shows a valley gutter on the off-site street connection. Where does this gutter drain?
Response: The valley gutter continues the Miami curb flow line to the stormwater inlets along Venezia Blvd.

Landscape

Comment 1: (Hold for comment on irrigations system review.)
Response: Noted. Irrigation was discussed at the DRC meeting.

Comment 2: The landscape plan requires a tree protection detail for the trees to remain.
Response: Tree protection detail has been provided on sheet L403. Tree protection fence note is added to existing trees on sheet L402.

Comment 3: Table 710.00 identifies live oak and southern magnolia as the approved street trees. The proposed design includes other tree types applied as street trees.
Response: We have updated our street trees to include the approved live oaks and magnolia. In addition, we propose to use Slash Pine and Sweet Bay Magnolia.

Comment 4: Table 710.00 also lists approved understory trees, shrubs, and ground covers. The planting plan includes plant material not on this list. We are willing to consider other plant materials, and these should be called out on the listing of plant material.
Response: The plant list is revised to include other shrubs as listed in the Florida Friendly Plant List.

Comment 5: The Town code (Section 7.04.01) calls for Waterwise Florida Landscapes and compliance with the Florida Water Star Program. The landscape architect needs to certify the design meets these standards.
Response: A note has been added to sheet L400, certifying that we are meeting these standards.

Comment 6: It would be helpful for the review if the table of plant materials includes the common name and the quantities of the plant materials proposed.
Response: The plant material table has been removed from sheet L401 and a note has been added to refer to L402 for complete plant schedule.

Comment 7: What does the addition of a numeral to plant identification code mean? (Example: What is QV versus QV2?)
Response: There are categories within the plant schedule. The "2" after the key indicates trees in the category "STREET TREES: LOTS" which indicates these street trees will be installed by the home builder at the time of home construction.

Comment 8: Why are two canopy trees proposed in some locations between buildings and one tree proposed in other similar locations.
Response: Tree numbers have been determined in certain locations based on utilities, townhomes, and type of tree.

Comment 9: There is an opportunity to place some additional trees in the spaces between buildings and in the area behind the buildings fronting on the retention pond and the wetland. The proposed trees behind the units as shown on the unit detail could be beefed up as well.
Response: Trees are added to every lot in the home typical and schematic locations provided on site plan.

Comment 10: The required tree total based on three trees per lot is 339 trees for the project overall. The buffer (40 trees including the trees to remain), street trees and other common area plantings (93 trees by count), and the building landscape detail (57 trees) totals 190 trees all together.
Response: Every lot shall provide a tree or palm from the Town's approved list of understory trees, see revised notes on typical home plan.

Other Comments

Comment 1: The notes stated that a group mail station was provided, but it was not clear on the plans where it is located. Some parking and pedestrian access needs to be provided where the station is located. Will the post office permit more than one location within the project?
Response: Please see group mailbox location on Sheet C101.

Comment 2: A subdivision entrance sign should be provided at the main entrance from Venezia Boulevard including location and appropriate landscaping. A secondary subdivision identification sign should be provided at the north entrance. It does not seem that an identification on SR 19 is sufficient.
Response: Please see subdivision entrance sign on Sheet C101.

Engineering Comments

Comment 1: Add crosswalks to all legs of the intersection at lots 96-97 & 94-95.
Response: Please see added crosswalks on Sheet C101.

Comment 2: At water connections, add temporary jumpers for testing.
Response: Please see added temporary jumper connection callouts on Sheet C201.

Comment 3: Per the LDC, the minimum water main size is 6". Change the size of the WM along lots 1-10.
Response: Please see revised WM size on Sheet C201.

Comment 4: On the profiles for Streets "B" & "C" (C601 & C602) correct the depiction of the sewer tie-in for the outside drop connections.
Response: Per discussion at DRC the added drop manhole detail on Sheet C912 is sufficient.

Comment 5: Provide a detail for an outside drop connection. Be sure that it includes directions to rework the paved inverts inside the manholes.
Response: Please see added drop manhole connection detail on Sheet C912.

Comment 6: Call out 3' valley gutters on the internal intersections.
Response: Please see added 3' Valley Gutter callouts on Sheet C101.

Comment 7: The ribbon curb needs to be 12" wide.
Response: Please see revised ribbon curb detail on Sheet C901.

Comment 8: Add a detail for the driveway aprons. Note that sidewalks need to be 6" thick where they cross driveways.
Response: Please see added detail on Sheet C903.

Comment 9: Add a note to the curb ramp detail that it shall include detectable warning pads.
Response: Please see revised curb ramp detail on Sheet C901.

Comment 10: Change the detail for the sidewalk to be 5'.
Response: Please see revised sidewalk detail on Sheet C901.

Comment 11: Change the Street sign detail to the standard for the town.
Response: Please see Town standard street sign detail on Sheet C914.

If you have any questions, please don't hesitate to contact our office.

Sincerely,

Benjamin Beckham, P.E., CFM
Senior Project Manager

Bb:lfm
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MADDEN
MOORHEAD & STOKES, LLC
CIVIL ENGINEERS

November 30, 2021

Town Clerk for the Town of Howey-in-the-Hills
Attn: John Brock
P.O. Box 128
101 N. Palm Avenue
Howey-in-the-Hills, FL 34737

Re: Venezia Townhomes

Dear John:

Below please find responses to comments:

Site Development Comments

Comment 1: The plan calls for off-site improvements including a street access along the north side of the parcel. The applicant needs to provide documentation from the property owner approving the off-site work.

Response: Please see enclosed offsite improvement approval letter.

Comment 2: The supplemental parking area is located remotely to the bulk of the residential units, and the proposed parking backs directly into a public street which is not allowed. Supplemental parking needs to be distributed throughout the subdivision.

Response: Please see revised on-street parking on Sheet C101.

Comment 3: Sheet C-100 shows residences 1 through 40 located in an area where soil types are described as "Felda and Manatee Fine Sands and Depressional". Is this soil suitable for residential, road and utility construction? Are soil amendments or fill required?

Response: Please see revised soils legend on Sheet C100.

Comment 4: Sidewalk is required on both sides of all roads. The sidewalk as proposed is not continuous throughout the subdivision. Sidewalks are to be a minimum of 5-feet wide with concrete meeting a minimum of 3,000 PSI. The plans show 4-foot-wide sidewalks. The plans and details need to be reviewed and corrected.

Response: Please see revised sidewalk widths and additional sidewalk on Sheet C101.

Comment 5: Pedestrian crossing and sidewalk ramps need to be provided as an extension of the sidewalks on the entrance road across the intersection, so the pedestrian linkage is in a u-shape.

Response: Please see revised crossing and sidewalk ramps on Sheet C101.

Comment 6: What is the purpose of the retaining wall along Venezia Boulevard? The survey indicates that the site elevations are not showing a major grade change from Venezia Boulevard extending east into the property.

431 E. Horatio Avenue ■ Suite 260 ■ Maitland, FL 32751 ■ 407-629-8330 ■ FAX 407-629-8336

Response: The retaining wall along Venezia Boulevard is required to have an appropriate grading east to the retention pond.

Comment 7: According to the detail, the proposed retaining wall is to be located on the property line with a portion of footer extending under the sidewalk on Venezia Boulevard. If the retention wall is need it needs to be located fully on private property.

Response: Please see revised retaining wall location on Sheet C401. The wall is now fully on private property.

Comment 8: If provided, the retaining wall needs to provide a decorative finish visible from Venezia Boulevard. If needed the retaining wall could be combined with the landscape buffer wall.

Response: As proposed the face of the retaining wall will only be visible from the Venezia Townhomes property, not from Venezia Boulevard.

Comment 9: The applicant needs to provide an exhibit with the proposed unit designs demonstrating compliance with Section 4.06.04, 4.06.01 and 4.06.02 2.

Response: Please see enclosed building elevations.

Utility System Comments

Comment 1: The code requires streetlights serving the property. Street light locations need to be identified and a photometric layout provided. The Town has a standard light fixture, Sanibel, which is available from Duke Energy.

Response: Photometric Plans will be provided to the Town prior to construction. The plans will follow Town of Howey-In-The-Hills standards.

Comment 2: The code requires a re-use water for each subdivision.

Response: Please see added re-use irrigation service at the main entrance on Sheet C201. The internal irrigation design will be shown on the irrigation plans.

Comment 3: A second potable water connection is required to fully loop the system. The water line should be extended south from the blow off via the off-site road connection to link back into the water main on Venezia Boulevard.

Response: Please see added potable water connection at the off-site road entrance on Sheet C201, to make a fully looped system.

Comment 4: The applicant needs to provide a copy of the stormwater permit serving the subject property.

Response: A letter modification is currently in permitting under application number 18971-18. Upon permit attainment, a copy will be provided to the Town.

Comment 5: The stormwater system as designed fails to meet the Town standards. Drainage needs to flow to the side of the road and be collected via the curb system for conveyance to the retention area. The design and details need to be revised. (Detail F on page C901.)

Response: Please see revised cross sections on Sheet C901.

Comment 6: The details show residential swales, but these are not included in stormwater plan for the project. Some of these swales appear to be in common area and others on private property.

431 E. Horatio Avenue ■ Suite 260 ■ Maitland, FL 32751 ■ 407-629-8330 ■ FAX 407-629-8336

Response: Please see added yard drains within the swales on Sheet C301.

Comment 7: The applicant needs to document reserved capacity with the Central Florida Community Development District for sewer service.

Response: The Central Florida Community Development District has been contacted regarding sewer service and they informed us they would reach out to all parties involved at a later date.

Landscape

Comment 1: The code requires an irrigation plan based on the reuse system. The Town has adopted new irrigation design standards that need to be consulted.

Response: Irrigation design is provided.

Comment 2: The plan notes existing trees to remain or be replaced along Venezia Boulevard. Where are these trees located, and what is the rationale for removal?

Response: Existing trees shown on sheets L401 and L402 are based on aerial. Shall be field verified.

Comment 3: Section 7.02.01 B 2 identifies the type of subdivision buffer to be provided along Venezia Boulevard. The drawing needs to be upgraded to include the 15-foot buffer. If a retaining wall is needed it might be incorporated into the landscape requirement.

Response: As discussed at DRC, the lot lines are 10' off the property line. Any larger of a landscape buffer is not possible, as it will impede into the lot lines.

Comment 4: The main entrance from Venezia Boulevard really demands more landscaping than a couple of trees and sod. This area needs to be upgraded along with the inclusion of a subdivision identification sign.

Response: The main entrance landscape enhancements are added on sheet L401. An existing sign is located on Venezia Blvd at South Palm Avenue .

Comment 5: There are two locations at the perimeter of the project where a grouping of shade trees could add significantly to quality of the project.

Response: Please refer to sheets L401 and L402 for additional shade trees.

Comment 6: Tract 1 also needs improved landscaping beyond a couple of trees and sod.

Response: Please refer to sheet L401 for additional landscape improvements.

Comment 7: A typical landscape plan needs to be provided for residential lots other than the shade trees.

Response: A typical landscape plan is provided, refer to sheet L403.

Other Comments

Comment 1: Proposed street names will need to be approved by the County 911 service.

Response: Street names have been submitted to the Town for review. Upon approval they will be sent to County 911 for review.

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Comment 2: A detail is needed for the street signs to be used and the plan needs to identify the proposed locations.

Response: Please see added detail on Sheet C903.

Comment 3: The applicant needs to contact the post office to determine how mail delivery will be done. Typically, the Town is served by group mailboxes and not individual home delivery. If group mailboxes are required, the plan will need to be amended to include mail delivery locations.

Response: Please see added group mailboxes on

Comment 4: A subdivision entrance sign should be provided at the main entrance from Venezia Boulevard including location and appropriate landscaping. A secondary subdivision identification sign should be provided at the north entrance.

Response: Per discussion at DRC, the Venezia signage at the intersection of Venezia Boulevard and South Palm Avenue is sufficient.

Comment 5: The applicant needs to provide a letter from the Lake County School Board verifying compliance with the school concurrency standards.

Response: Please see enclosed letter from the Lake County School Board verifying compliance with the school concurrency standards.

Comment 6: The survey shows a concrete slab opposite Messina Place. Is this to be removed prior to construction? It was not shown as an element of any of the plan pages.

Response: Please see callout for existing driveway and slab to be removed on Sheet C101.

Engineering Comments

Comment 1: The roads need to be designed to Town standards (12' lanes, curb & gutter, 5' sidewalks). The roads need to be crowned with a curb & gutter collection system.

Response: Please see revised typical road section A on Sheet C901.

Comment 2: Provide sidewalks on both sides of the road throughout the development.

Response: Please see added sidewalks on each side of the ROW throughout the project on Sheet C101.

Comment 3: Provide curb ramps & crosswalks on all legs of intersections, including T-intersections.

Response: Please see all ADA curb ramps and crosswalks called out on Sheet C101.

Comment 4: Crosswalks are to be Standard Crosswalks (FDOT Index 17346, latest edition), not Special Emphasis.

Response: Please see revised crosswalks on Sheet C101.

Comment 5: Disperse guest parking throughout the development to reduce walking distances.

Response: Please see guest parking dispersed throughout the site on Sheet C101.

Comment 6: Include flares on the driveway aprons. Provide a detail for the proposed driveways.

Response: Please see added driveway aprons on Sheet C101.

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Comment 7: Remove the existing driveway behind Lot 88 within the right--of-way of Venezia Blvd.

Response: Please see callout for existing driveway and slab to be removed on Sheet C101.

Comment 8: Put a header/ribbon curb on the end of the northern access road to protect the asphalt edge.

Response: Please see added ribbon curb on Sheet C101.

Comment 9: For the new road connections to Venezia Blvd., remove the existing drop curb and replace with a 3' valley gutter (FDOT Index 300).

Response: Please see added valley gutter callouts on Sheet C101.

Comment 10: The as-built drawings for Venezia (clip attached) shows 8" water mains extended under Venezia Blvd. at the project entrance and at the northern access road. The proposed water system needs to connect to both of these to provide a looped source to the project. There is no need for a directional drill under Venezia Blvd.

Response: Please see revised connection callouts to existing 8" WM gate-valves on Sheet C201.

Comment 11: The proposed irrigation system needs to tap into the existing irrigation water mains on the east side of Venezia Blvd. It should have 2 connection points for a looped system.

Response: The irrigation system will have a single master meter, with a single service at the main entrance along Venezia Blvd.

Comment 12: Show the proposed irrigation mains on the utility plan.

Response: The RWM service for the master meter will be depicted on the Utility Plan, however the irrigation mains will be shown on the irrigation plans.

Comment 13: Use an outside drop connection for the tie-in to the existing sewer manholes.

Response: Please see added callouts calling for outside drop connections to existing manholes on Sheet C201.

Comment 14: Identify on the plans and the survey the length and extent and material type of the existing storm pipes connecting to the existing retention pond.

Response 14:

Comment 15: Provide greater detail how the swales behind the units will flow to the drainage collection system.

Response: Please see added swale grading on Sheet C401.

Comment 16: Remove all trees & invasive species from the retention pond.

Response: Please see added note on Sheet C101.

Comment 17: The retaining walls should be a decorative stack-wall. Provide safety railing along the top if the wall height exceeds 30".

Response: Please see wall callouts on Sheet C401.

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Comment 18: Identify the proposed elevations for the top and bottom of the retaining walls. Walls should not exceed 6' in height.

Response: Please see added wall grading on Sheet C401.

If you have any questions, please don't hesitate to contact our office.

Sincerely,

Benjamin Beckham, P.E.
Senior Project Manager

Bb:lfm
H:\Data\21052\Cor\Town Response -1.doc

LEGAL DESCRIPTION:

TRACT MM OF VENEZIA SOUTH, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 65, PAGE(S) 92 THROUGH 97, INCLUSIVE, OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA.

FINAL ENGINEERING PLANS FOR VENEZIA TOWNHOMES

PARCEL ID: 35-20-25-0200-0MM-00000
SECTION 36, TOWNSHIP 20 SOUTH, RANGE 25 EAST
HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA

FOR

D. R. HORTON

10192 DOWDEN ROAD
ORLANDO, FL 32832
(407) 850-5245

PROJECT TEAM MEMBERS:

OWNER:
VENEZIA PARTNERS, LLC
1190 BUSINESS CENTER DR., SUITE 2000
LAKE MARY, FL 32746

DEVELOPER:
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10192 DOWDEN ROAD
ORLANDO, FL 32832
PHONE: (407) 850-5245

ENGINEER:
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431 E HORATIO AVE, STE 260
MAITLAND, FL 32751
PHONE: (407) 629-8330

ENVIRONMENTAL:
MODICA & ASSOCIATES, INC.
302 MOHAWK ROAD
CLERMONT, FL 34711
PHONE: (352) 394-2000

SURVEYOR:
AMERICAN SURVEYING & MAPPING, INC.
3191 MAGUIRE BLVD., SUITE 200
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3532 MAGGIE BLVD.
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PHONE: (407) 423-0504

UTILITY PROVIDERS:

WATER & WASTE WATER:
HOWEY IN THE HILLS
316 W. CENTRAL AVENUE
HOWEY-IN-THE-HILLS, FL 34737
PHONE: (352) 324-2290

CABLE:
COMCAST
8130 CR 44 LEG A
LEESBURG, FL 34788
(352) 315-8527

PHONE
LUMEN TECHNOLOGIES
33 N. MAIN ST.
WINTER GARDEN, FL 34778
PHONE: (407) 553-7111

GAS:
TECO ENERGY
600 W. ROBINSON ST.
ORLANDO, FL 32801
PHONE: (407) 420-6663

POWER:
DUKE ENERGY
3250 BONNETT CREEK RD.
P.O. BOX 10000
LAKE BUENA VISTA, FL 32830
PHONE: (407) 938-6611

INDEX OF SHEETS

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	INFORMATION PROVIDED BY OTHERS:	
		BOUNDARY AND TOPOGRAPHIC SURVEY
		LANDSCAPE PLANS

MADDEN
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Digitally signed by Benjamin A. Beckham
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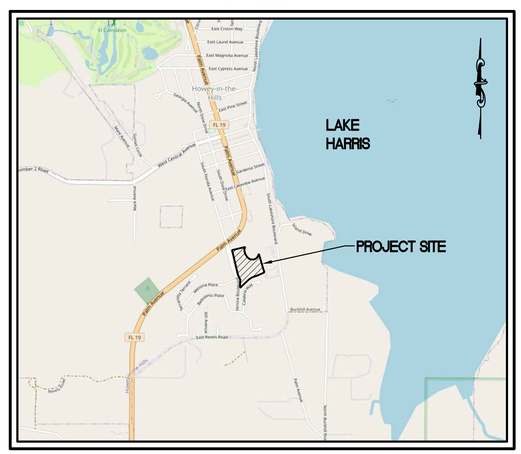
DN: c=US, o=Unaffiliated, cn=Benjamin A. Beckham:A01410C000001771CA2F2D200-01248C
Date: 2022.01.19 13:45:58 -05'00'

BENJAMIN A. BECKHAM, P.E. #79452
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

VICINITY MAP
1" = 2,000'



ABBREVIATIONS

A

A	AREA
AB	ANCHOR BOLT
ABD	ABANDON(ED)
AC	ACRE(S)
AC-FT	ACRE FOOT/FEET
ACP	ASBESTOS CEMENT PIPE
ADDL	ADDITIONAL
ADT	AVERAGE DAILY TRAFFIC
AL	ALUMINUM
ALT	ALTERNATE
AM	BEFORE NOON
AMP	AMPERE(S)
APPROX	APPROXIMATE
ARV	AIR RELEASE VALVE
ARVV	AIR RELEASE VACUUM VALVE
ASPH	ASPHALT
ASSY	ASSEMBLY
AVE	AVENUE
AVG	AVERAGE
AZ	AZIMUTH

B

BFP	BACKFLOW PREVENTER
BL	BASELINE
BLDG	BUILDING
BLVD	BOULEVARD
BM	BENCH MARK
BND	BOUNDARY
BO	BLOWOFF
BOC	BACK OF CURB
BOT	BOTTOM
BRG	BEARING
BS	BOTTOM OF SLOPE
BV	BUTTERFLY VALVE

C

CAP	CAPACITY
CB	CATCH BASIN
CC	CENTER TO CENTER
CEM	CEMENT
CF	CUBIC FEET
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
C&G	CURB AND GUTTER
CI	CAST IRON
CIP	CAST IRON PIPE
CJ	CONSTRUCTION JOINT
C/L	CENTER LINE
CLP	CONCRETE LIGHT POLE
CLR	CLEAR/CLEARANCE
CLS	CLASS
CM	CONCRETE MONUMENT
CMP	CORRUGATED METAL PIPE
CMPA	CORRUGATED METAL PIPE ARCH
CND	CONDUIT
CO.	COUNTY
CO	CLEANOUT
COL	COLUMN
COMP	COMPLETE
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCT(ION)
CONT	CONTINUOUS
COORD	COORDINATE(S)
COR	CORNER
CPLG	COUPLING
CPP	CONCRETE POWER POLE
CS	CONTROL STRUCTURE
CTG	COATING
CTR	CENTER
CTV	CABLE TELEVISION
CULV	CULVERT
CY	CUBIC YARD
CYL	CYLINDER

D

DBL	DOUBLE
DEG OR °	DEGREE
DEFL	DEFLECT(ION)
DEPT	DEPARTMENT
DET	DETAIL
DHWL	DESIGN HIGH WATER LEVEL
DI	DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DISCH	DISCHARGE
DIST	DISTANCE
DMH	DROP MANHOLE
DN	DOWN
DRN	DRAIN
DWG	DRAWING
DWY	DRIVEWAY

E

E	EAST
EA	EACH
EC	EDGE OF CONCRETE
ED	ENERGY DISSIPATOR
EF	EACH FACE
EFF	EFFLUENT
EG	EXISTING GRADE
E/L	EASEMENT LINE
ELB	ELBOW
ELEC	ELECTRIC
ELEV	ELEVATION
ELLIP	ELLIPSE/ELLIPTICAL
ENC	ENCASEMENT
ENG	ENGINEER(ING)
EOP	EDGE OF PAVEMENT
EQ	EQUAL/EQUATION
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ESMT	EASEMENT
EST	ESTIMATE
EW	EACH WAY
EWL	ENDWALL
EXC	EXCAVATE/EXCAVATION
EXIST	EXISTING
EXP	EXPAND/EXPANSION
EXT	EXTEND/EXTENSION

F

F&C	FRAME AND COVER
FD	FLOOR DRAIN
FDN	FOUNDATION
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
F&I	FURNISH AND INSTALL
FIG	FIGURE
FIN	FINISHED
FIT	FITTING
FL	FENCE LINE
FLR	FLOOR
FLEX	FLEXIBLE
FLG	FLANGE
FM	FORCE MAIN
FND	FOUND
FPH	FEET PER HOUR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET/FOOT
FTG	FOOTING

G

GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GM	GAS MAIN
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPS	GALLONS PER SECOND
GR	GUARD RAIL
GRD	GROUND/GRADE
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
GV&B	GATE VALVE AND BOX
GW	GUY WIRE
GWT	GROUND WATER TABLE

H

HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HDW	HARDWARE
HOA	HOME OWNERS ASSOCIATION
HORIZ	HORIZONTAL
HP	HORSEPOWER
HR	HOUR
HT	HEIGHT
HW	HEADWALL
HWL	HIGH WATER LEVEL
HWY	HIGHWAY
HYD	HYDRAULIC

I

I-4	INTERSTATE HIGHWAY
IA	INTERSECTION ANGLE
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCHES
INL	INLET
INS	INSERT
INST	INSTALL
IP	IRON PIPE
IR	IRON ROD
INT	INTERSECT/INTERSECTION
INV	INVERT

J

JB	JUNCTION BOX
JCT	JUNCTION
JST	JOIST
JT	JOINT

L

L	LENGTH
LAT	LATITUDE
LATL	LATERAL
LB	POUND
LF	LINEAR FEET/FOOT
LG	LONG
LIM	LIMIT(S)
LP	LIGHT POLE
LONG	LONG
LT	LEFT
LWL	LOW WATER LEVEL

M

MAINT	MAINTENANCE
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
ME	MITERED END
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MHC	MANHOLE COVER
MHWL	MEAN HIGH WATER LEVEL
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MLP	METAL LIGHT POLE
MLWL	MEAN LOW WATER LEVEL
MON	MONUMENT
MPH	MILES PER HOUR
MSL	MEAN SEA LEVEL
MTG	MOUNTING

N

NAWTH	NORTH
N	NORTH
NA	NOT APPLICABLE
N&C	NAIL AND CAP
NE	NORTHEAST
NG	NATURAL GROUND
NIC	NOT IN CONTRACT
NO OR #	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
NW	NORTHWEST
NWL	NORMAL WATER LEVEL

O

OC	ON CENTER
OD	OUTSIDE DIAMETER
OE	OR EQUAL
OPNG	OPENING
OPP	OPPOSITE
ORCP	OVAL REINFORCED CONCRETE PIPE
OS	OUTFALL STRUCTURE
OVFL	OVERFLOW
OVHD	OVERHEAD

P

PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PEP	POLYETHYLENE PIPE
PFGP	PROFILE GRADE POINT
PI	POINT OF INTERSECTION
P/L	PROPERTY LINE
POB	POINT OF BEGINNING
POJ	PUSH ON JOINT
PP	POWER POLE
PR	PHONE RISER
PRC	POINT OF REVERSE CURVATURE
PRESS	PRESSURE
PROJ	PROJECT
PROP	PROPOSED
PRVC	POINT OF REVERSE VERTICAL CURVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWR	POWER

Q

Q	FLOW RATE

R

R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RCPA	REINFORCED CONCRETE PIPE ARCH
RD	ROAD
RDY	ROADWAY
RED	REDUCER
REF	REFERENCE
REINF	REINFORCE(D)
REQD	REQUIRED
REV	REVISE/REVISION
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
RT	RIGHT
RV	RELIEF VALVE
R/W	RIGHT-OF-WAY
RWM	REUSE WATER MAIN

S

S	SOUTH
SAN	SANITARY SEWER
SB	SPLASH BLOCK
SCH	SCHEDULE
SD	SIDE DRAIN
SDN	SHELF DRAIN
SE	SOUTHEAST
SEC	SECONDS
SECT	SECTION
SH	SHEET
SHGWT	SEASONAL HIGH GROUND WATER TABLE
SIM	SIMILAR
S/L	SETBACK LINE
SL	SLOPE
SM	SHEET METAL
SPEC	SPECIFICATION(S)
SQ	SQUARE
SQ IN	SQUARE INCH(ES)
SQ FT	SQUARE FOOT/FEET
SQ YD	SQUARE YARD(S)
SR	STATE ROAD
SS	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STR	STRUCTURE
STS	STORM SEWER
SUP	SUPPORT
SUSP	SUSPEND/SUSPENSION
SVC	SERVICE
SW	SOUTHWEST
SWK	SIDEWALK
SYM	SYMBOL(S)
SYMM	SYMMETRICAL
SYS	SYSTEM

T

T	TANGENT
TB	TURFBLOCK
T&B	TOP AND BOTTOM
TBM	TEMPORARY BENCH MARK
TC	TIME OF CONCENTRATION
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TECH	TECHNICIAN/TECHNICAL
TEMP	TEMPORARY
TL	TERMINAL LAMPHOLE
TOB	TOP OF BANK
TOC	TOP OF CURB
TOS	TOE OF SLOPE
TOT	TOTAL
TS	TOP OF SLOPE
TWP	TOWNSHIP
TYP	TYPICAL

U

UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UTC	UNDERGROUND TELEPHONE CABLE

V

VB	VALVE BOX
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VPC	VERTICAL POINT OF CURVE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY

W

W	WEST
W/	WITH
WM	WATER MAIN
W/O	WITHOUT
WP	WATER/WEATHER PROOF
WPP	WOOD POWER POLE
WS	WATER SURFACE
WSWT	WET SEASON WATER TABLE
WT	WEIGHT
WV	WATER VALVE
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH

Y

YD	YARD
YR	YEAR

MISC

&	AND
@	AT
△	DELTA

EXISTING SYMBOLS

LINES

- CENTER LINE
- WIRE FENCE
- CHAIN LINK FENCE
- WOOD FENCE
- GUARDRAIL
- EXISTING PLATS
- RETAINING WALL
- RIGHT-OF-WAY LINE (R/W)
- SHORELINE
- SWALE
- BUILDING LINE
- CONTOURS (81 / 80)
- RAILROAD TRACKS
- GAS MAIN (GAS)
- UNDERGROUND ELECTRIC (UE)
- UNDERGROUND TELEPHONE (UGT)
- OVERHEAD ELECTRIC
- OVERHEAD TELEPHONE
- UNDERGROUND CABLE TELEVISION (CTV)
- EASEMENT

SANITARY

- SANITARY SEWER LINE (S)
- CLEANOUT
- FORCE MAIN (EX. FM)
- MANHOLE (S)

WATER & REUSE WATER

- WATER MAIN DIP PIPE (EX. WM)
- REUSE WATER MAIN (EX. RM)
- BACKFLOW PREVENTOR (BFP)
- WATER VALVE (WV)
- FIRE HYDRANT
- WATER METER

STORM DRAIN

- STORM SEWER
- MANHOLE
- MITERED END
- STORM INLET
- FDOT TYPE 6 INLET
- FDOT TYPE 1 INLET
- FDOT TYPE 2 INLET
- FDOT TYPE 3 INLET
- FDOT TYPE 4 INLET
- FDOT TYPE 5 INLET

HIGHWAY & UTILITIES

- BENCHMARK
- RECOVERED 4x4 CM
- SET 4x4 CM
- SET IRON ROD
- RECOVERED IRON ROD
- CONCRETE
- COUNTY ROADS (520)
- INTERSTATE ROADS (95)
- STATE ROADS (50)
- WOOD AND/OR METAL LIGHT POLE
- CONCRETE LIGHT POLE
- YARD LIGHT
- MISCELLANEOUS SIGN
- SECTION CORNER (16 / 15 / 21 / 22)
- EDGE OF PAVEMENT W/O CURB
- EDGE OF PAVEMENT W/CURB
- GUY POLE
- WOOD UTILITY POLE
- CONCRETE UTILITY POLE
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- TELEPHONE RISER
- ELECTRIC BOX / TRANSFORMER
- WELL
- MONITORING WELL
- DUMPSTER
- RR CROSSING SIGN
- RR CROSSING GATE
- TRAFFIC SIGNAL POLE
- SATELLITE DISH
- GUY WIRE
- HANDICAP PARKING
- SPOT ELEVATION (99.50)
- BRICK PAVERS
- DIRT ROAD
- 8" MAPLE TREE
- 8" OAK TREE
- 8" PINE TREE
- 8" PALM TREE
- 8" MISC. TREE

PROPOSED SYMBOLS

LINES

- BOUNDARY
- CONSERVATION SETBACK
- CENTER LINE
- CHAIN LINK FENCE
- CONTOUR (81 / 80)
- EASEMENT
- FENCE
- GUARDRAIL
- LOT LINE
- PROPERTY LINE (P/L)
- RETAINING WALL
- RIGHT-OF-WAY LINE (R/W)
- SETBACK LINE
- SHORELINE
- SWALE
- TREE LINE

SANITARY

- 100 LF SAN 8 PVC 0.40% — 100 LINEAR FEET SANITARY 8" PVC PIPE @ 0.40% SLOPE
- CLEANOUT
- DOUBLE SANITARY SERVICE
- FORCE MAIN PVC PIPE
- MANHOLE

WATER & REUSE WATER

- WATER MAIN DIP PIPE
- 11 1/2° BEND
- 22 1/2° BEND
- 45° BEND
- 90° BEND
- TEE
- CROSS
- CHECK VALVE
- DOUBLE DETECTOR CHECK VALVE
- DOUBLE WATER SERVICE
- GATE VALVE
- FIRE HYDRANT
- METER (M)
- REDUCER
- BLOWOFF
- BACKFLOW PREVENTER (BFP)
- SAMPLE POINT (SP 2)
- UNDERDRAIN CEANOUT
- RECLAIM WATER MAIN
- DOUBLE REUSE WATER SERVICE

STORM DRAIN

- 100 LF STS 24 HP @ 0.20% — 100 LINEAR FEET STORM PIPE 24" HIGH DENSITY POLYPROPYLENE PIPE @ 0.20%
- UNDERDRAIN 6" HDPE PIPE
- DRAINAGE FLOW DIRECTION
- FDOT INLET TYPE 1
- FDOT INLET TYPE 2
- FDOT INLET TYPE 3
- FDOT INLET TYPE 4
- FDOT INLET TYPE 5
- FDOT INLET TYPE 6
- MANHOLE
- MITERED END SECTION
- SLOPE DIRECTION ARROW FOR POND SIDE SLOPE
- 000.00 — SPOT ELEVATION
- STORM INLET

HIGHWAY & UTILITIES

- BOUND CORNER
- CONCRETE
- 520 — COUNTY ROADS
- 901 / 24 — DETAIL REFERENCE
- DUMPSTER PAD
- FF=98.76 / TYPE A — FINISHED FLOOR ELEVATION W/ FHA LOT TYPE
- GUY POLE
- HANDICAP PARKING
- 95 — INTERSTATE ROADS
- LIGHT POLE
- SIGNS
- 16 / 15 / 21 / 22 — SECTION CORNER
- 50 — STATE ROADS
- SILT FENCE
- TRAFFIC FLOW PAVEMENT MARKING
- UTILITY POLE
- BLDG OR STRUCTURE
- TYPE F CURB & GUTTER
- MIAMI CURB
- 901 / 24 — CROSS SECTION DETAIL

MADDEN
MOORHEAD & STOKES, LLC
CIVIL ENGINEERS
431 E. Horatio Avenue
Suite 260
Maitland, Florida 32751
(407) 629-8330

SYMBOLS + ABBREVIATIONS
FOR
VENEZIA TOWNHOMES
HOWEY-IN-THE-HILLS, FLORIDA
LAKE COUNTY

D. R. HORTON
10192 DOWDEN RD., SUITE 150
ORLANDO, FL 32832
(407) 850-5245

ENGINEER: BENJAMIN S. WHITBECKHAM (LICENSE)
No. 79452
STATE OF FLORIDA
PROFESSIONAL ENGINEER
BENJAMIN S. WHITBECKHAM, P.E. No. 79452
DATE: 10/22/2021
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

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JOB # 21052
DATE: 10/22/2021
SCALE: N.T.S.
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C002

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GENERAL NOTES

1. ALL CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH THE LATEST LOCAL AGENCY DETAILS, THE FDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED IN 1991 BY THE STATE OF FLORIDA, AND ALL SUPPLEMENTS THERETO, AND THE FDOT "DESIGN STANDARDS", WHICHEVER IS MORE STRINGENT.

2. ALL FDOT DESIGN INDICES ARE HEREBY INCORPORATED AS PLAN REFERENCES HEREIN. CONTRACTOR IS RESPONSIBLE FOR OBTAINING COMPLETE COPIES OF ALL APPLICABLE INDEX DRAWINGS AND CONSTRUCTING ALL WORKS IN CONFORMANCE WITH THE FDOT DESIGN STANDARDS, LATEST EDITION.

3. THE LOCATIONS OF EXISTING UTILITIES SUCH AS WATER MAINS, SEWER MAINS, GAS LINES, ETC., AS SHOWN ON THE PLANS, WITH THE EXCEPTION OF THE LOCATIONS OF EXISTING UTILITIES AT ALL POINTS OF CONNECTION TO AND AT ALL AREAS OF CONFLICT WITH UTILITY PROVIDER MAINS, WHICH HAVE BEEN FIELD VERIFIED, HAVE BEEN DETERMINED FROM THE BEST AVAILABLE INFORMATION AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. HOWEVER, THE ENGINEER AND OWNER DO NOT ASSUME RESPONSIBILITY FOR THE SIZES AND LOCATIONS SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF THE SIZE AND LOCATION OF ALL EXISTING UTILITIES SHOWN AND NOT SHOWN ON THESE PLANS.

3. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR(S) TO ENSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND ARE IN HAND AT THE JOB SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL ABIDE BY ALL CONDITIONS CONTAINED THEREIN. PERMITS INCLUDED (BUT NOT NECESSARILY LIMITED TO) ARE:
   - ACOE NATIONWIDE OR INDIVIDUAL DREDGE AND FILL
   - FDEP WATER DISTRIBUTION
   - FDEP SANITARY SEWER COLLECTION AND TRANSMISSION
   - FDEP REUSE
   - FDEP DREDGE AND FILL
   - FDEP NPDES GENERIC PERMIT FOR STORMWATERDISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES
   - FDOT DRIVEWAY CONNECTION
   - FDOT UTILITY
   - FDOT STORMWATER DISCHARGE CONNECTION
   - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION PERMIT FOR IMPACTS TO PROTECTED SPECIES
   - LOCAL RIGHT OF WAY USE
   - LOCAL UNDERGROUND UTILITIES
   - WATER MANAGEMENT DISTRICT CONSUMPTIVE USE FOR CONSTRUCTION DEWATERING (CUP)
   - WATER MANAGEMENT DISTRICT ENVIRONMENTAL RESOURCE PERMIT (ERP)

4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL SETBACKS AND EASEMENTS BEFORE BEGINNING CONSTRUCTION.

5. BENCHMARKS AND OTHER REFERENCE POINTS SHALL BE CAREFULLY MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. IF DISTURBED OR DESTROYED, THESE POINTS SHALL BE REPLACED BY A LICENSED FLORIDA PROFESSIONAL LAND SURVEYOR (P.L.S.) AT CONTRACTOR'S EXPENSE.

6. DIFFERING SITE CONDITIONS FROM THAT WHICH IS REPRESENTED HEREON, WHETHER ABOVE, ON, OR BELOW THE SURFACE OF THE GROUND, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND OWNER IN WRITING. NO CLAIM FOR EXPENSES INCURRED BY THE CONTRACTOR DUE TO DIFFERING SITE CONDITIONS WILL BE ALLOWED IF CONTRACTOR FAILS TO PROVIDE THE REQUIRED WRITTEN NOTIFICATION OF SUCH CONDITIONS TO THE ENGINEER AND OWNER.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND REMOVAL OF ALL EXISTING STRUCTURES, ETC., UNLESS OTHERWISE NOTED. ALL SOIL STRIPPINGS AND ANY UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR UNLESS OTHERWISE DIRECTED BY THE OWNER.

8. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES AND UTILITIES NOTED TO REMAIN FROM DAMAGE OR DISPLACEMENT DURING CONSTRUCTION. IN THE EVENT OBSTRUCTIONS ARE ENCOUNTERED, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER AND THE UTILITY COMPANY. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS INCURRED TO REPAIR DAMAGE OR CORRECT DISPLACEMENT.

9. CONTRACTOR SHALL BE EXTREMELY CAUTIOUS WHEN WORKING NEAR TREES WHICH ARE TO BE SAVED, WHETHER SHOWN IN THE PLANS OR DESIGNATED IN THE FIELD. CONTRACTOR SHALL BECOME FAMILIAR WITH AND CONFORM WITH ALL TREE PROTECTION/PRESERVATION PROVISIONS OF THE PRELIMINARY SUBDIVISION PLAN / DEVELOPMENT PLAN AND LOCAL GOVERNMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT AND MITIGATION COSTS FOR ANY TREES REMOVED THAT WERE DESIGNATED TO BE PRESERVED.

10. WHEN DETAILS ARE PROVIDED, CONTRACTOR SHALL CONSTRUCT JOB PER SPECIFIC DETAILS, AND NOT BY SCALING FROM THESE PLANS.

11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ANY REQUIRED TRAFFIC CONTROL PLANS. ALL WORK SHALL BE EXECUTED UNDER THE ESTABLISHED PLAN AND FDOT, AND LOCAL AGENCY APPROVED PROCEDURES.

12. THE CONTRACTOR SHALL RESTORE OFF SITE CONSTRUCTION AREAS TO EQUAL OR BETTER CONDITION THAN EXISTED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

13. AS-BUILT DRAWINGS SHALL BE KEPT BY THE CONTRACTOR AND SUBMITTED TO THE PROJECT ENGINEER UPON PROJECT COMPLETION.

14. CONTRACTOR SHALL COMPLY WITH ALL LOCAL AGENCY REQUIREMENTS FOR INSPECTION AND TESTING.

15. ALL NEW UTILITIES AND UPGRADED UTILITIES PROVIDED TO OR ON THE SITE MUST BE INSTALLED UNDERGROUND.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF ANY TRAFFIC SIGNAL EQUIPMENT INCLUDING BUT NOT LIMITED TO FIBER LOOP SENSORS PULL BOXES, CONDUIT TRAFFIC SIGNALS, AND CABINETS. ANY ITEMS DAMAGED BY THE CONTRACTOR WILL BE RESTORED TO THEIR ORIGINAL CONDITIONS UNLESS OTHERWISE AGREED UPON BY THE COUNTY TRAFFIC ENGINEER.

17. ALL CONSTRUCTION MUST BE IN ACCORDANCE WITH UTILITY PROVIDER'S STANDARDS AND CONSTRUCTION SPECIFICATIONS, LATEST EDITION.

18. CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITY COMPANIES OF PROPOSED START OF WORK IN ACCORDANCE WITH THEIR STANDARD REQUIREMENTS; INCLUDING BUT NOT LIMITED TO, WATER, RECLAIMED WATER, SEWER, POWER, TELEPHONE, GAS AND CABLE TV COMPANIES.

19. PRIOR TO COMMENCEMENT, CONTRACTOR SHALL PROVIDE ENGINEER WITH CONSTRUCTION SCHEDULE FOR VARIOUS SITE WORK ELEMENTS SO THAT PERIODIC SITE VISITS MAY BE COORDINATED TO ENSURE TIMELY CERTIFICATION OF COMPLETION TO AGENCIES AND AVOID DELAYS IN ISSUANCE OF CERTIFICATES OF OCCUPANCY/COMPLETION.

20. ALL RECOMMENDATIONS AND REQUIREMENTS OF INSPECTION PERSONNEL OTHER THAN OWNER/OWNER'S REPRESENTATIVE SHALL BE REPORTED TO ENGINEER/OWNER/OWNER'S REPRESENTATIVE PRIOR TO IMPLEMENTATION. COMPENSATION WILL NOT BE ALLOWED FOR WORK THAT IS NOT AUTHORIZED BY ENGINEER/OWNER/OWNER'S REPRESENTATIVE.

21. CONTRACTOR SHALL CONFIRM COMPATIBILITY OF PIPE SLOPES AND INVERTS DURING SHOP DRAWING AND MATERIALS ORDERING PHASE OF PROJECT AND ADVISE ENGINEER OF ANY DISCREPANCIES.

22. NO EXISTING MATERIAL SHALL BE USED IN NEW CONSTRUCTION UNLESS APPROVED DURING THE SHOP DRAWING APPROVAL PROCESS BY ENGINEER/OWNER/OWNER'S REPRESENTATIVE IN WRITING.

23. CONTRACTOR SHALL STAKE ALL IMPROVEMENTS USING THE PLAT(S), ROAD CENTERLINE GEOMETRY, AND BUILDING COORDINATES PROVIDED IN THESE PLANS. CONTRACTOR SHALL CONFIRM WITH THE ENGINEER THAT THE PLAT IS CURRENT PRIOR TO CONSTRUCTION.

24. CONTRACTOR SHALL CONFIRM THE BUILDING DIMENSIONS SHOWN HEREIN WITH THOSE IN THE FINAL ARCHITECTURAL DRAWINGS PRIOR TO STAKEOUT. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO COMPLETELY STAKE AND CHECK ALL IMPROVEMENTS TO ENSURE ADEQUATE POSITIONING, BOTH HORIZONTAL AND VERTICAL, INCLUDING MINIMUM BUILDING SETBACKS PRIOR TO THE INSTALLATION OF ANY IMPROVEMENT.

PAVING AND DRAINAGE

1. THE CONTRACTOR SHALL CONSTRUCT PAVEMENT IN ACCORDANCE WITH TYPICAL PAVEMENT SECTIONS AND LOCAL AGENCY SPECIFICATIONS. THE FINISHED PAVEMENT GRADES SHALL CONFORM TO THOSE SPECIFIED ON THE GRADING PLAN.

2. FLORIDA LAW (F.S. 553.851) PROTECTION OF UNDERGROUND PIPELINES MANDATES THAT "NO EXCAVATOR SHALL COMMENCE OR PERFORM ANY EXCAVATION IN ANY PUBLIC OR PRIVATE STREET, ALLEY, RIGHT-OF-WAY DEDICATED TO THE PUBLIC USE, OR GAS UTILITY EASEMENT WITHOUT FIRST OBTAINING INFORMATION CONCERNING THE POSSIBLE LOCATION OF GAS PIPELINES IN THE AREA OF THE PROPOSED EXCAVATION." THIS INCLUDES ANY OPERATION UTILIZING HAND TOOLS OR POWER TOOLS WHICH MOVES OR REMOVES ANY STRUCTURE, EARTH, ROCK, OR OTHER MASS OF MATERIAL BY SUCH METHODS AS DIGGING, BACKFILLING, DEMOLITION, GRADING, DITCHING, DRILLING, BORING AND CABLE PLOWING. THE EXCAVATOR MUST NOTIFY THE GAS UTILITY A MINIMUM OF 48 HOURS AND A MAXIMUM OF 5 DAYS PRIOR TO EXCAVATING (EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS).

3. EXCAVATION, PAVING, AND STORM SEWER WORK SHALL BE DONE IN ACCORDANCE WITH FDOT "STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION, AND LOCAL AGENCY SPECIFICATIONS.

4. UNLESS OTHERWISE NOTED, GRADE TO MEET EXISTING ELEVATIONS AT PROPERTY LINES. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE OF THE SITE TO THE RETENTION PONDS AS SHOWN BY PROPOSED GRADES AND FLOW ARROWS.

5. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE AND PROPER SOIL EROSION CONTROL MEASURES FOR PROTECTION OF ALL DRAINAGE AND SEWER STRUCTURES AND AT ALL ADJACENT LANDS AND ROADS.

6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY AND ALL GEOTECHNICAL REPORTS PREPARED FOR THE SITE. GEOTECHNICAL RECOMMENDATIONS ARE NOT THE RESPONSIBILITY OF ENGINEER. ENGINEER HAS RELIED ON THE GEOTECHNICAL REPORT(S) IN PREPARATION OF THE DRAWINGS. ANY CONFLICT BETWEEN INFORMATION WITHIN THE REPORT AND THESE DRAWINGS SHALL BE REPORTED TO ENGINEER/OWNER /OWNER'S REPRESENTATIVE. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE CORRECTNESS, COMPLETENESS, OR ACCURACY OF GEOTECHNICAL INFORMATION.

7. THE SITE SHALL BE CLEARED OF ALL TREES EXCEPT THOSE WHICH ARE DESIGNATED TO BE SAVED OR RELOCATED. BEFORE CONSTRUCTION, THE CONTRACTOR SHALL MEET AT THE SITE WITH THE OWNER. AT THIS TIME, ANY TREES TO BE SAVED SHALL BE POINTED OUT AND TAGGED. THESE TREES SHALL BE PROTECTED FROM DAMAGE.

8. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE SUPERVISING ENGINEER IF A PAVEMENT OR FOUNDATION STAKE IS DISTURBED.

9. THE CONTRACTOR SHALL INSTALL DROP CURBS AND HANDICAP RAMPS AT ALL INTERSECTIONS OF THE SIDEWALK WITH THE PROPOSED PAVEMENT, UNLESS OTHERWISE SPECIFIED.

10. FOR HORIZONTAL AND VERTICAL CLEARANCES BETWEEN STORM PIPES AND WATER MAINS/SERVICES, SEE WATER NOTES ON THIS SHEET AND FDEP SEPARATION TABLE ON UTILITY PLAN.

11. ALL PUBLIC STORM PIPE MATERIALS SHALL BE REINFORCED CONCRETE PIPE (RCP) ASTM C-76 CLASS III, OR HIGH PERFORMANCE POLYPROPYLENE (HP) IF PERMITTED, UNLESS OTHERWISE SPECIFIED. LIFTING HOLES ARE PROHIBITED.

12. ALL PRIVATE STORM PIPE MATERIALS SHALL BE AS FOLLOWS:
    - 12.1. DIAMETERS LESS THAN OR EQUAL TO 12-INCH SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) PIPE FROM AN FDOT APPROVED SUPPLIES LIST.
    - 12.2. DIAMETERS GREATER THAN OR EQUAL TO 15-INCH SHALL BE HIGH PERFORMANCE POLYPROPYLENE (HP) PIPE FROM AN FDOT APPROVED SUPPLIES LIST.

13. MINIMUM COVER OVER ALL PIPE SHALL BE 36-INCHES FROM TOP OF PIPE TO FINISHED GRADE, UNLESS OTHERWISE NOTED.

14. ALL STORM SYSTEM MANHOLE AND INLET STRUCTURES SHALL BE PRECAST CONCRETE.

15. THE CONTRACTOR SHALL USE CONCRETE WITH A MINIMUM 28 DAY STRENGTH OF 3,000 P.S.I..

16. ALL SIDEWALK WIDTHS SHALL BE AS NOTED ON THE SITE PLAN AND SHALL HAVE 1-INCH DEEP CONTRACTION JOINTS EVERY 5-FEET AND AN EXPANSION JOINT EVERY 20-FEET (MINIMUM). MAXIMUM SIDEWALK CROSS SLOPES SHALL BE 2.00% AND MAXIMUM SIDEWALK RUNNING SLOPES SHALL BE 5.00% EXCEPT AT RAMP LOCATIONS. MAXIMUM RAMP SLOPES SHALL BE 8.33%.

17. PROVIDE FDOT TYPE III SILT FENCE ALONG THE PROPERTY LINES AND PHASE LINES AS WELL AS ANY CONSTRUCTION WITHIN THE OTHER PHASES THAT IS DEEMED NECESSARY.

18. ALL TEST REPORTS GENERATED BY A TESTING FIRM ARE TO HAVE COPIES SENT DIRECTLY TO THE LOCAL AGENCY AS SOON AS THEY ARE GENERATED. CLEARANCE FROM THE LOCAL AGENCY SHALL BE RECEIVED PRIOR TO PAVING.

19. THE BASE COURSE SHALL NOT BE CONSTRUCTED UNTIL AFTER SUBGRADE CONSTRUCTION HAS BEEN COMPLETED AND REQUIRED SUBGRADE TEST RESULTS HAVE BEEN SUBMITTED TO AND APPROVED BY THE LOCAL AGENCY'S ENGINEER.

20. THE FINISHED BASE COURSE SHALL BE PRIMED WITHOUT DELAY, PROTECTED FROM HEAVY TRAFFIC, AND CONTINUOUSLY MAINTAINED FREE OF DAMAGE UNTIL THE WEARING SURFACE IS APPLIED. ALL BAD AREAS SHALL BE CUT OUT AND REPLACED PRIOR TO APPLYING WEARING SURFACE.

21. ASSUMING ACCEPTABLE CURING, THE WEARING SURFACE SHALL BE APPLIED NO SOONER THAN SEVEN (7) DAYS AND NO LATER THAN THIRTY (30) DAYS AFTER BASE COMPLETION.

22. ALL CONCRETE PIPE JOINTS SHALL BE WRAPPED IN FILTER FABRIC.

23. ROADWAY MARKING, STRIPING, SIGNS, AND OTHER TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (MUTCD), INCLUDING SUBSEQUENT REVISIONS AND ADDENDUMS, AS PUBLISHED BY THE USDOT FEDERAL HIGHWAY ADMINISTRATION AS WELL AS FDOT AND LOCAL AGENCY STANDARDS AND SPECIFICATIONS.

24. REGULATORY SIGNS AND MARKINGS SHALL BE IN PLACE PRIOR TO FINAL INSPECTION OF PAVING AND DRAINAGE IMPROVEMENTS.

25. PAVEMENT RETURN RADII SHALL BE MEASURED TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

26. POND SLOPES AND BERMS SHALL BE SODDED TO TWO (2) FEET BELOW THE NORMAL WATER LINE (N.W.L.). IN THE CASE OF DRY BOTTOM PONDS, THE BOTTOM WILL BE SEEDED AND MULCHED UNLESS OTHERWISE SPECIFIED.

27. ALL PRECAST DRAINAGE STRUCTURES TO HAVE STEEL FRAME. ALL STRUCTURES IN PAVED AREAS TO HAVE STEEL RECTILINEAR GRATES WITH H-20 LOADING.

28. CONTRACTOR SHALL NOT COMPACT, STABILIZE, OR CONSTRUCT BASE COURSE WITHIN LANDSCAPE ISLANDS, TRACTS OR MEDIANS. WHERE SUCH TREATMENT DOES OCCUR, IT SHALL BE REMOVED AND REPLACED WITH SUITABLE PLANTING SOILS ACCEPTABLE TO LANDSCAPE ARCHITECT.

29. YARD DRAINS SHALL BE NYOPLAST INLINE DRAINS AND DRAIN BASINS, OR APPROVED EQUAL, WITH CAST IRON GRATES AND WATERTIGHT ADAPTER CONNECTIONS. DOMED GRATES SHALL BE PROVIDED IN NON-SODDED AREAS.

30. ALL FIRE HYDRANT LOCATIONS SHALL BE MARKED BY PLACING BLUE REFLECTIVE PAVEMENT MARKERS IN THE CENTER OF THE NEAREST TRAVEL LANE.

31. MINIMUM LONGITUDINAL SLOPE OF CURB SHALL BE 0.30% UNLESS SPECIFIED OTHERWISE.

32. FINISHED FLOOR ELEVATION IS TYPICALLY 8" INCHES ABOVE DESIGN FINISHED GRADE AT OUTSIDE PERIMETER OF BUILDINGS EXCEPT AT ENTRIES AND WHERE OTHERWISE SHOWN.

33. CONTRACTOR SHALL REMOVE ALL MUCK DEPOSITS IN CONSTRUCTION AREAS AND AREAS TO BE FILLED. SEE GEOTECHNICAL REPORT.

34. DRAINAGE MANHOLES AND INLETS (NOT INCLUDING CONTROL STRUCTURES) IN THE PLANS ARE IDENTIFIED BY TOP TYPE ONLY. CONTRACTOR SHALL PROVIDE STANDARD DITCH BOTTOM INLET TOPS AND TYPE 'J' OR 'P' STRUCTURE BOTTOMS, SIZED AS REQUIRED TO ACCOMMODATE PIPE SIZES AND ORIENTATIONS SHOWN. SHOP DRAWINGS SHALL BE SUBMITTED WHICH CLEARLY REPRESENT SUCH DATA.

35. CONTRACTOR SHALL STABILIZE AND PROTECT ALL END WALL, MITERED END SECTION, FLARED END SECTION, ETC. STRUCTURES THROUGHOUT THE PROJECT UNTIL THE BANK SLOPES OF THE RECEIVING WATER BODY ARE STABILIZED AND ACCEPTED BY OWNER.

SANITARY SEWER

1. ROOF DRAINS, FOUNDATION DRAINS OR OTHER STORM WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.

2. GRAVITY SEWER PIPE SHALL BE SDR26 PVC AND SHALL MEET ASTM D3034, UNLESS OTHERWISE SPECIFIED.

3. ALL SANITARY SERVICE LATERALS SHALL BE 6-INCH DIAMETER PVC AND SHALL END WITH A CLEAN OUT.

4. ALL SANITARY SEWER PIPE SHALL BE COLORED GREEN.

5. ALL SANITARY SEWER MANHOLES SHALL HAVE A MINIMUM DIAMETER OF 48-INCHES AND A MINIMUM ACCESS DIAMETER OF 22-INCHES.

6. MINIMUM COVER OVER ALL PIPE SHALL BE 36-INCHES FROM TOP OF PIPE TO FINISHED GRADE, UNLESS OTHERWISE NOTED.

7. FOR HORIZONTAL AND VERTICAL CLEARANCES BETWEEN SANITARY SEWER MAINS/ LATERALS AND WATER MAINS/SERVICES, SEE WATER NOTES ON THIS SHEET AND FDEP SEPARATION TABLE ON UTILITY PLAN.

8. WHERE SOIL REPORT INDICATES THE POSSIBILITY OF UNSUITABLE MATERIAL IN THE VICINITY OF SANITARY LINES, THE CONTRACTOR SHALL DETERMINE THE NATURE AND EXTENT OF THIS UNSUITABLE MATERIAL, PREPARE TRENCH, AND INSTALL THE SEWER LINE IN ACCORDANCE WITH ASTM D-2321. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER OF THIS UNSUITABLE MATERIAL.

9. THE CONTRACTOR SHALL BE REQUIRED TO PERFORM INFILTRATION OR EXFILTRATION TEST, WHICHEVER IS APPLICABLE. INFILTRATION SHALL NOT EXCEED 50 GALLONS PER DAY PER INCH OF DIAMETER PER MILE OF LENGTH, OR THE COMPUTED EQUIVALENT FOR SHORTER LENGTHS OF TIME. THE CONTRACTOR SHALL MEET ALL REQUIREMENTS, CODES, AND ORDINANCES OF THE WASTEWATER TRANSMISSION AUTHORITY INCLUDING ADVANCED NOTIFICATION PRIOR TO CONSTRUCTION AND TESTING.

10. MADDEN, MOORHEAD & STOKES, INC. SHALL BE NOTIFIED A MINIMUM OF FIVE (5) FULL WORKING DAYS PRIOR TO CONSTRUCTION AND TESTING OF THE SANITARY SEWER, PHONE (407)-629-8330.

11. THE CONTRACTOR SHALL SUPPLY COMPLETE "AS BUILT" INFORMATION RELATIVE TO INVERTS, RIM ELEVATIONS, LOCATION OF MANHOLES AND LENGTHS OF PIPE. LATERALS SHALL BE LOCATED FROM THE CENTERLINE OF THE NEAREST DOWNSTREAM MANHOLE. THE INFORMATION SHALL BE SUBMITTED ON LEGIBLY MARKED-UP PRINTS TO THE ENGINEER WITHIN TWO (2) WEEKS OF COMPLETION OF SEWER CONSTRUCTION.

12. CONTRACTOR SHALL RECEIVE SEWER CERTIFICATION PRIOR TO PLACEMENT OF BASE COURSE.

13. MINIMUM SLOPE ON ALL SANITARY SEWER GRAVITY MAINS SHALL BE IN ACCORDANCE WITH UTILITY PROVIDER'S STANDARDS AND CONSTRUCTION SPECIFICATIONS, LATEST EDITION.

14. ALL SANITARY SERVICE LOCATIONS SHALL BE MARKED BY CUTTING AN "S" INTO THE CURB.

15. MARK RESIDENTIAL LATERALS WITH 6-FOOT HIGH PIECE OF 2"x4" PLANK PAINTED GREEN WITH LOT NUMBER CLEARLY MARKED AND AN 'S' IMPRESSED IN THE CURB.

16. AIR RELEASE VALVES SHALL BE REQUIRED AT ALL HIGH POINTS ALONG THE FORCE MAIN.

17. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT AN EVEN TRANSITION IS MAINTAINED WHERE ASPHALT PAVING ABUTS MANHOLE/VALVE COVERS IN PAVED AREAS. AT EACH OF THESE LOCATIONS THE CONTRACTOR SHALL POUR AN 8-INCH THICK CONCRETE APRON AROUND THE MANHOLE/VALVE COVER A MINIMUM OF 4'x4' AT MANHOLES, AND 2'x2' AT VALVE COVERS LEVEL WITH THE FINAL LIFT OF ASPHALT.

18. PIPE LENGTHS SHOWN REPRESENT SCALED DISTANCES BETWEEN MANHOLE CENTERLINE.

19. INVERTS OF SANITARY SERVICE LATERALS AT THEIR CONNECTION TO SANITARY MANHOLES SHALL BE NO MORE THAN ONE (1) FOOT ABOVE THE MANHOLE INVERT.

20. PRIOR TO PAVING, CONTRACTOR SHALL VERIFY THE AS-BUILT SANITARY SEWER PIPE SLOPES. MINIMUM SLOPES SHALL BE IN ACCORDANCE WITH THE GREATER OF FDEP OR THE UTILITY PROVIDER'S MINIMUM CRITERIA. ANY LINE NOT MEETING MINIMUM SLOPES SHALL BE RELAYED BY CONTRACTOR TO MEET THE MINIMUM SLOPE REQUIREMENT AT NO ADDITIONAL COST.

21. MANHOLE LIFT HOLES AND GRADE ADJUSTMENT RINGS SHALL BE SEALED WITH NON-SHRINKING MORTAR OR OTHER APPROPRIATE MATERIAL.

22. INLET AND OUTLET PIPES SHALL BE JOINED TO THE MANHOLE WITH A GASKETED FLEXIBLE WATER-TIGHT CONNECTION OR ANOTHER WATER-TIGHT CONNECTION ARRANGEMENT THAT ALLOWS DIFFERENTIAL SETTLEMENT OF THE PIPE AND MANHOLE WALL.

23. WATER-TIGHT MANHOLE COVERS SHALL BE USED WHEREVER THE MANHOLE TOPS MAY BE FLOODED BY STREET RUNOFF OF HIGH WATER.

WATER

1. ALL MATERIALS AND CONSTRUCTION REQUIREMENTS FOR THE FIRE SERVICE, WATER LINES, CHECK VALVES, BACKFLOW PREVENTERS, GATE VALVES, ETC., SHALL BE IN ACCORDANCE WITH LOCAL AGENCY STANDARD DETAILS AND CONSTRUCTION SPECIFICATIONS.

2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN COMPLIANCE WITH AWWA STANDARDS AND IN ACCORDANCE WITH LOCAL AGENCY STANDARDS.

3. ALL PUBLIC WATER SYSTEM COMPONENTS, EXCLUDING FIRE HYDRANTS, THAT WILL BE INSTALLED UNDER THIS PROJECT AND THAT WILL COME INTO CONTACT WITH DRINKING WATER WILL CONFORM TO NSF INTERNATIONAL STANDARD 61 AND WILL BE MARKED WITH THE NSF SEAL OF APPROVAL.

4. CONTRACTOR SHALL VERIFY SIZE AND TYPE OF EXISTING MAIN PRIOR TO ORDERING TAPPING MATERIALS FOR TIE-INS.

5. SITE CONTRACTOR SHALL COORDINATE AND VERIFY ALL UTILITY SERVICES WITH FINAL ARCHITECTURAL DRAWINGS AND BUILDING CONTRACTOR.

6. SITE UTILITY WORK SHALL TERMINATE 5-FEET FROM BUILDINGS UNLESS OTHERWISE STATED.

7. MINIMUM COVER OVER ALL PIPE SHALL BE 36-INCHES FROM TOP OF PIPE TO FINISHED GRADE, UNLESS OTHERWISE NOTED.

8. THE WATER MAIN SHALL BE LOCATED ABOVE THE STORMWATER AND SANITARY MAINS AT CONFLICTS, WHERE POSSIBLE.

9. VERTICAL SEPARATION BETWEEN UNDERGROUND POTABLE WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER PIPELINES:
   - 9.1. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER 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.
   - 9.2. 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.

10. HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS:
    - 10.1. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
    - 10.2. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.
    - 10.3. 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.
    - 10.4. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

11. AT THE UTILITY CROSSINGS DESCRIBED IN NOTES 8 AND 9 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 CROSSING, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER 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.

12. WATER LINES 2-INCHES, OR LESS, IN DIAMETER SHALL BE POLYETHYLENE TUBING.

13. WATER LINES 4-INCH TO 12-INCH IN DIAMETER SHALL BE NSF LOGO PVC PIPE CONFORMING TO AWWA C-900 AND BE DR-18.

14. ALL FITTINGS SHALL BE DUCTILE IRON (D.I.) OR GRAY IRON MECHANICAL JOINTS WITH A MINIMUM PRESSURE RATING OF 250 P.S.I. CONFORMING TO ANSI A-21.10 / AWWA C-110, OR D.I. COMPACT FITTINGS FOR DIAMETERS 4-INCH TO 12-INCH CONFORMING TO ANSI A-21.53 / AWWA C-153.

15. FROM THE POINT OF SERVICE (P.O.S.) FORWARD AS DESIGNATED BY F.S. 633, FIRE SUPPLY PIPE SHALL BE DR-14 AND TESTED AT 200 PSI FOR TWO HOURS.

16. GATE VALVES SHALL CONFORM TO AWWA C-509-87, WITH WRENCH NUT EXTENSION STEMS AND OTHER APPURTENANCES AS REQUIRED AND SHALL BE IRON BODY, FULL BRONZE MOUNTED, DOUBLE DISK, PARALLEL SEAT, NON-RISING STEM VALVES WITH O-RING SEALS AND END CONNECTIONS AS CALLED FOR ON THE PLANS. ALL TEES, CAPS, PLUGS, BENDS, VALVES, ETC., SHALL BE PROVIDED WITH GRIP RING RESTRAINTS.

17. ALL NON-METALLIC WATER MAINS SHALL BE INSTALLED WITH A CONTINUOUS, INSULATED 10 GAUGE COPPER WIRE INSTALLED DIRECTLY ON TOP OF THE PIPE FOR LOCATION PURPOSES. IN ADDITION, ALL PVC WATER MAINS SHALL BE A SOLID BLUE COLOR. ALL LETTERING SHALL APPEAR LEGIBLY ON PIPE AND SHALL RUN THE ENTIRE LENGTH OF THE PIPE. LETTERING SHALL READ AS IS ACCEPTABLE FOR THE INTENDED USE.

18. SERVICE MAINS FOR FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 24, LATEST EDITION.

19. NEW FIRE HYDRANTS SHALL BE INSTALLED SO THAT 5-1/4" INCH PORT IS FACING THE ROADWAY BY WHICH IT IS ACCESSED. HYDRANTS SHALL BE POSITIONED NOT MORE THAN 5 FEET AWAY FROM THE CURB OR BERM OF THE ROADWAY.

20. HYDROSTATIC TESTING AND THE DISINFECTION OF THE WATER DISTRIBUTION SYSTEM SHALL BE DONE IN ACCORDANCE WITH AWWA STANDARDS. HYDROSTATIC TESTING TO BE DONE IN ACCORDANCE WITH AWWA C-600 FOR DUCTILE IRON PIPE AND C-605 FOR PVC PIPE. DISINFECTING AND BACTERIOLOGICAL EVALUATION TO BE DONE IN ACCORDANCE WITH AWWA C-651 AND RULE 62-555.340 F.A.C.

21. THE CONTRACTOR SHALL SUPPLY COMPLETE AS-BUILT INFORMATION RELATIVE TO LOCATION AND ELEVATION OF ALL WATER LINES AND SERVICES. THE INFORMATION SHALL BE SUBMITTED ON LEGIBLY MARKED-UP PRINTS TO THE ENGINEER WITHIN TWO (2) WEEKS OF THE COMPLETION OF THE WATER LINE CONSTRUCTION.

22. CONTRACTOR SHALL COORDINATE ALL UTILITIES SYSTEMS TEST SCHEDULING TO ALLOW ENGINEER'S ATTENDANCE PROVIDING MINIMUM NOTICE OF FIVE (5) WORKING DAYS. CONTRACTOR'S FAILURE TO PROPERLY NOTIFY ENGINEER MAY RESULT IN RETESTING AT ENGINEER'S OPTION AND AT CONTRACTOR'S EXPENSE.

23. NEW HYDRANTS SHALL BE TESTED AND IN PROPER WORKING ORDER WITH DUTILITY PROVIDERMENTATION SUPPLIED TO THE FIRE MARSHAL PRIOR TO ANY COMBUSTIBLE CONSTRUCTION. (I.E. FIRE FLOW TEST SHALL BE PERFORMED)

24. DEFLECTIONS AT PIPE JOINTS SHALL NOT EXCEED THE LESSOR OF THOSE RECOMMENDED BY THE PIPE MANUFACTURER OR UTILITY PROVIDER'S CONSTRUCTION SPECIFICATIONS.

25. ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT SHALL BE COLOR CODED IN ACCORDANCE WITH SUB PARAGRAPH 62-555.320(21)(B)3, F.A.C. USING BLUE AS A PREDOMINANT COLOR. ALL DUCTILE IRON WATER MAINS SHALL BE MARKED WITH A CONTINUOUS STRIPE LOCATED WITHIN THE TOP 90 DEGREES OF THE PIPE. SAID STRIPE SHALL BE A MINIMUM 2 INCHES IN WIDTH AND SHALL BE BLUE IN COLOR. BACKFILL SHALL NOT BE PLACED FOR 30 MINUTES FOLLOWING PAINT APPLICATION. FOR PIPE WITH AN INTERNAL DIAMETER OF 24" OR GREATER, TAPE OR PAINT SHALL BE APPLIED IN CONTINUOUS LINES A LONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE.

26. MARK RESIDENTIAL SERVICES WITH 6-FOOT HIGH PIECE OF 2"x4" PLANK PAINTED BLUE WITH LOT NUMBER CLEARLY MARKED AND A 'W' IMPRESSED IN THE CURB. IT IS THE INTENT THAT EVERY LOT IS PROVIDED WITH A WATER SERVICE; THEREFORE IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A WATER SERVICE TO EACH LOT.

27. PIPE MATERIALS:
    PVC - ALL PIPE, PIPE FITTINGS, PIPE JOINT PACKING AND JOINTING MATERIALS, VALVES, FIRE HYDRANTS, AND METERS INSTALLED UNDER THIS PROJECT SHALL CONFORM TO APPLICABLE AWWA STANDARDS AND SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA STANDARD C900, LATEST EDITION. PVC SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA STANDARD C900. THE PVC SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 P.S.I. AND SHALL HAVE A DIMENSION RATIO (DR) OF 18. PIPE SHALL BE THE SAME O.D. AS DUCTILE IRON PIPE.
    PVC JOINT - SHALL BE IN ACCORDANCE WITH ASTM D3139.
    DUCTILE IRON - SHALL CONFORM TO ANSI/AWWA C150/C151. A MINIMUM OF CLASS 50 PIPE SHALL BE SUPPLIED.
    DUCTILE IRON JOINT - SHALL BE IN ACCORDANCE WITH ANSI A21.11 AND AWWA C111.
    SERVICES - SHALL BE IN ACCORDANCE WITH AWWA C901/C800 STANDARDS FOR POLYETHYLENE TUBING, CLASS 160.

28. WATER MAIN CONNECTION SHALL BE MADE UNDER THE SUPERVISION OF THE UTILITY PROVIDER. ALL VALVES SHALL BE OPERATED BY UTILITY PROVIDER PERSONNEL ONLY.

29. ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT SHALL CONTAIN NO MORE THAN 8.0% LEAD, AND ANY SOLDER OR FLUX USED IN THIS PROJECT SHALL CONTAIN NO MORE THAN 0.2% LEAD.

30. NEW OR ALTERED FIRE HYDRANT LEADS SHALL HAVE A MINIMUM INSIDE DIAMETER OF 6-INCH AND SHALL INCLUDE AN AUXILIARY VALVE.

31. A CONTINUOUS AND UNIFORM BEDDING WILL BE PROVIDED IN TRENCHES FOR UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT; BACKFILL MATERIAL WILL BE TAMPED IN LAYERS AROUND UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE; AND UNSUITABLY SIZED STONES (AS DESCRIBED IN APPLICABLE AWWA STANDARDS OR MANUFACTURERS' RECOMMENDED INSTALLATION PROCEDURES) FOUND IN TRENCHES WILL BE REMOVED FOR A DEPTH OF A LEAST SIX INCHES BELOW THE BOTTOM OF UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT.

32. CONTRACTOR SHALL NOT ACTIVATE WATER SERVICE UNTIL FDEP HAS CLEARED THE SYSTEM FOR USE AND THE CLEARANCE LETTER HAS BEEN RECEIVED BY THE OWNER.

33. ENGINEER RESERVES THE RIGHT TO WITHHOLD AUTHORIZATION OF PAYMENT FOR ANY PORTION OF THE UTILITIES PIPE WORK WHICH HAS NOT BEEN TESTED, OBSERVED BY ENGINEER, AND REPORTED TO CONFORM TO PROJECT SPECIFICATIONS.

RECLAIMED WATER

1. POLYVINYL CHLORIDE PLASTIC PIPE (PVC) 4-INCH THROUGH 12-INCH SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C900 (LATEST EDITION) AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI AND HAVE A DR (DIMENSION RATIO) OF 18. PIPE SHALL BE PURPLE AND LABELED "RECLAIMED WATER" OR "NON POTABLE WATER" PROMINENTLY ON EACH PIPE JOINT. JOINTS SHALL BE OF THE PUSH-ON TYPE AND COUPLINGS SHALL CONFORM TO ASTM D3139 DR18 PIPE.

2. DUCTILE IRON PIPE (DIP) SHALL BE STANDARD PRESSURE CLASS 350 IN SIZES 4-INCH THROUGH 12-INCH AND CONFORM TO ANSI/AWWA C150/A21.50 (LATEST EDITION). ALL DUCTILE IRON PIPE SHALL HAVE CEMENT MORTAR LINING AS SPECIFIED IN ANSI/AWWA C104/A21.4 (LATEST EDITION). PIPE JOINTS SHALL BE OF THE PUSH-ON RUBBER GASKET TYPE CONFORMING TO ANSI/AWWA C111/A21.11 (LATEST EDITION).

3. PIPE SIZES GREATER THAN 12" IN BOTH PVC AND DUCTILE IRON SHALL BE SEPARATELY SPECIFIED ON THE PLANS; WITH THICKNESS CLASSES TO BE SHOWN BASED ON WORKING PRESSURES, PIPE DEPTH AND TRENCH CONDITIONS.

4. COMPACT FITTINGS FOR DUCTILE IRON PIPE AND PVC C900 PIPE SHALL BE DUCTILE IRON AND SHALL CONFORM TO ANSI/AWWA C153/A21.53 (LATEST EDITION) AND SHALL BE CEMENT LINED IN CONFORMANCE WITH ANSI/AWWA C104/A21.4 (LATEST EDITION). 350 PSI MINIMUM PRESSURE RATING.

5. GATE VALVES SHALL BE RESILIENT SEAT AND SHALL CONFORM TO ANSI/AWWA C509 (LATEST EDITION) WITH 2-INCH SQUARE WRENCH NUT, EXTENSION STEMS AND OTHER APPURTENANCES AS REQUIRED. MANUFACTURER'S CERTIFICATION OF THE VALVES' COMPLIANCE WITH AWWA C509 (LATEST EDITION) AND TESTS LISTED THEREIN WILL BE REQUIRED. VALVES SHALL BE CLOW, MUELLER, KENNEDY, M&H, AMERICAN DARLING, OR APPROVED EQUAL.

6. VALVE BOX PADS SHALL BE 18"x18"x4" THICK CONCRETE WITH FOUR (4) REINFORCING BARS. PAD IS TO BE SET AT FINISH GRADE.

7. UNDERGROUND VALVE IDENTIFICATION (UVI) MARKERS SHALL BE PROVIDED AT EACH VALVE LOCATION. MARKERS SHALL BE 3-INCH DIAMETER AND 1/8-INCH THICK SOLID HARD BRASS WITH 1/4-INCH ROD ANCHOR WITH "TAMPER-PROOF" HOOK END. SURFACE SHALL BE ENGRAVED WITH 1/4-INCH TO 3/8-INCH CAPITAL LETTERS APPROXIMATELY .015-INCH DEEP - HAND PUNCHED LETTERS NOT ACCEPTABLE. FOR MARKER TEXT, REFER TO UNDERGROUND VALVE MARKER DETAIL. SURFACE GROUND SMOOTH AND EPOXY COATED TO PREVENT TARNISHING. MARKERS ARE TO BE WAGCO MARKERS, OR APPROVED EQUAL.

8. BUTTERFLY VALVES SHALL MEET OR EXCEED THE DESIGN STRENGTH TESTING AND PERFORMANCE REQUIREMENTS OF AWWA C504 (LATEST EDITION), CLASS 150. VALVES SHALL BE DUCTILE IRON, RESILIENT SEAT, AND BE MANUFACTURED BY KENNEDY, MUELLER, M&H, AMERICAN DARLING, OR APPROVED EQUAL. BUTTERFLY VALVES TO BE USED FOR SIZES GREATER THAN 12-INCH.

9. AIR RELEASE VALVES SHALL BE PLACED AT HIGH POINTS OF THE TRANSMISSION MAIN TO PERMIT ESCAPE OF TRAPPED AIR. THE VALVE SIZE, LOCATION, AND METHOD OF INSTALLATION SHALL BE INDICATED ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER. AIR RELEASE VALVES SHALL BE VALMATIC OR APPROVED EQUAL.

10. VALVE BOXES ON BURIED RECLAIMED WATER SHALL BE ADJUSTABLE, CAST IRON CONSTRUCTION, WITH A MINIMUM INTERIOR DIAMETER OF 5-INCH WITH COVERS CAST WITH THE INSCRIPTION IN LEGIBLE LETTERING ON THE TOP: RECLAIMED WATER. BOXES SHALL BE SUITABLE FOR THE APPLICABLE SURFACE LOADING AND VALVE SIZE, AND SHALL BE MANUFACTURED BY MUELLER COMPANY, MODEL 10364, OR APPROVED EQUAL.

11. PIPE INSTALLATION OF PVC RECLAIMED WATER MAIN SHALL BE IN CONFORMANCE WITH ASTM D2774 (LATEST EDITION). INSTALLATION OF DUCTILE IRON PIPE RECLAIMED WATER MAIN SHALL BE IN CONFORMANCE WITH AWWA C600 (LATEST EDITION).

12. RECLAIMED WATER SYSTEM PIPES SHALL BE INSTALLED SO AS TO GIVE A MINIMUM HORIZONTAL SEPARATION OF 5 FEET (CENTER OF PIPE TO CENTER OF PIPE) FROM POTABLE WATER LINES AND MINIMUM 3-FOOT SEPARATION FORM OUTSIDE WALL TO OUTSIDE WALL AS WELL AS 18-INCH VERTICAL SEPARATION. IN THE CASE OF A CONFLICT WHERE THESE SEPARATIONS CANNOT BE MAINTAINED THE REUSE MAIN SHALL BE UPGRADED TO DIP.

13. COMPACTED BACKFILL SHALL BE TO 98 % MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 UNDER ALL PAVEMENTS WITH 12-INCH MAXIMUM LIFT THICKNESS. OTHER COMPACTION OF BACKFILL SHALL BE TO 95% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 WITH 12-INCH MAXIMUM LIFT THICKNESS. SEE PIPE TRENCHING DETAILS.

14. MINIMUM COVER OVER ALL PIPE SHALL BE 36-INCHES FROM TOP OF PIPE TO FINISHED GRADE, UNLESS OTHERWISE NOTED.

15. INDICATOR TAPE SHALL BE BURIED IN THE RECLAIMED WATER MAIN TRENCH 18-INCH DIRECTLY ABOVE THE MAIN. A CONTINUOUS COPPER DETECTOR WIRE SHALL BE ATTACHED AS SHOWN ON THE PIPE DETECTOR WIRE MARKER DETAIL. INDICATOR TAPE SHALL CALL OUT THAT A RECLAIMED OR NON POTABLE SYSTEM IS BELOW. PIPE SHALL BE COLOR CODED PURPLE IN ADDITION TO MARKINGS. SIGNS IN ENGLISH, SPANISH, AND INTERNATIONAL SYMBOLS SHALL BE INSTALLED NOTING THAT NO DRINKING IS ALLOWED. CONTINUITY CHECK WILL BE PERFORMED AND MUST BE ACCEPTABLE.

16. ALLOWABLE LEAKAGE FOR PVC PRESSURE MAINS WILL BE IN ACCORDANCE WITH AWWA M23.

17. THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE GAUGES, AND OTHER EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC AND LEAKAGE TESTING. CONTRACTOR SHALL CONTACT LOCAL AGENCY, UTILITY PROVIDER, AND ENGINEER IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION. NO TESTING WILL BE SCHEDULED ON A MONDAY OR FRIDAY.

18. THE RECLAIMED WATER SYSTEM SHALL BE TESTED FOR LEAKAGE AT 150 PSI FOR TWO (2) HOURS PER UTILITY PROVIDER STANDARDS.

19. ALL RECLAIMED WATER PIPES SHALL BE INSTALLED USING WATER PIPE CRITERIA. MAINS SHALL BE CLASS 52 D.I. PIPE. IF 24-INCHES TO 30-INCHES OF COVER IS PROVIDED AND CLASS 51 IF 30-NICHES TO 36-INCHES OF COVER IS PROVIDED.

20. SIGNS SHALL BE POSTED IN THE VICINITY OF PUBLIC RECLAIMED WATER RECLAIMED WATER IRRIGATION SYSTEMS, ADVISING THE PUBLIC THAT RECLAIMED WATER IS PRACTICED.

FIRE

PLANS SHALL BE IN ACCORDANCE WITH
THE 6TH EDITION OF THE FLORIDA FIRE PREVENTION
CODE;
NFPA 101, 2015 EDITION
NFPA 1, 2015 EDITION
NFPA 14, 2013 EDITION
NFPA 24, 2013 EDITION
NFPA 13, 2013 EDITION

SPECIAL PURPOSE

1. THE EXISTENCE AND LOCATION OF ANY OVERHEAD OR UNDERGROUND UTILITY LINES, PIPES, OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A RESEARCH OF THE AVAILABLE RECORDS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO SAME. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING NEAR OVERHEAD UTILITIES SO AS TO SAFELY PROTECT ALL PERSONNEL AND EQUIPMENT AND SHALL BE RESPONSIBLE FOR ALL COST AND LIABILITY IN CONNECTION THEREWITH.

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431 E. Horatio Avenue
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GENERAL NOTES
FOR
VENEZIA TOWNHOMES

LAKE COUNTY HOWEY-IN-THE-HILLS, FLORIDA

D. R. HORTON
10192 DOWDEN RD., SUITE 150
ORLANDO, FL 32832
(407) 850-5245

ENGINEER
BENJAMIN S. BECKHAM ★ LICENSE No. 79452 ★ STATE OF FLORIDA ★ PROFESSIONAL ENGINEER
BENJAMIN S. BECKHAM, P.E. 79452
DATE: January 18, 2022
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

	DATE	REVISIONS
1		
2		
3		
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5		
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11		

JOB # 21052
DATE: 10/22/2021
SCALE: N.T.S.
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C003

H:\Data\21052\Eng\Final\21052_C003 General Notes.dwg January 18, 2022 2:58 PM

PROPERTY BOUNDARY TYP.

S16°21'18"E 538.45'(C)

6' CHAIN LINK FENCE

4' CHAIN LINK FENCE

EXISTING RETAINING WALL AND FENCE TO REMAIN AND BE PROTECTED DURING CONSTRUCTION. CONTRACTOR TO EXERCISE CAUTION WHEN EXCAVATING NEAR EXISTING RETAINING WALL TIE-BACK MATERIAL.

S69°22'24"W 184.64'(C)

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

PROPERTY BOUNDARY TYP.

WETLAND

CONTRACTOR TO CLEAN AND CLEAR THE EXISTING CONCRETE WEIR

76.59
INVERT 18" R.C.P.

CONTRACTOR TO MOW AND CLEAR EXISTING POND SLOPES

CONTRACTOR TO REMOVE ALL EXISTING VEGETATION FROM POND BOTTOM. SCRAPE BOTTOM AS NEEDED TO REMOVE ORGANICS, RESTORE EXISTING POND BOTTOM ELEVATION, AND SEED/MULCH.

EXISTING RETENTION POND

EXISTING RETAINING WALL AND FENCE TO REMAIN AND BE PROTECTED DURING CONSTRUCTION. CONTRACTOR TO EXERCISE CAUTION WHEN EXCAVATING NEAR EXISTING RETAINING WALL TIE-BACK MATERIAL.

76.46
INVERT 24" R.C.P.

76.66
INVERT 24" R.C.P.

CONCRETE RETAINING WALL

4' CHAIN LINK FENCE

PROPERTY BOUNDARY TYP.

S70°02'15"W 191.93'(C)

PROPERTY BOUNDARY TYP.

CALABRIA WA...

GATE

SANITARY MANHOLE
TOP ELEVATION = 93.23'
INVERT ELEV. = (8" P.V.C.) 84.33'
S INVERT ELEV. = (8" P.V.C.) 84.28'

SEARCH SMH

N76°48'44"E 137.11'(C)

EXISTING GRAVITY SEWER TO REMAIN

8" P.V.C. STAND. PIPE

PROTECT EXISTING MANHOLE, TYP.

EXISTING STREET TREE

EXISTING WATER METER TO BE RELOCATED

N24°05'41"E 141.73'(C)

N02°31'41"E 195.76'(C)

N13°11'16"W 686.25'(C)

PROPERTY BOUNDARY TYP.

EXISTING CONCRETE DRIVEWAY AND SLAB TO BE REMOVED

S56°46'35"W 94.38'(C)

MESSINA PLACE

VENEZIA BOULEVARD

VENEZIA BOULEVARD
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY
VARIABLE WIDTH ASPHALT PAVED ROAD

MADDEN
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EXISTING CONDITIONS AND DEMOLITION PLAN
FOR
VENEZIA TOWNHOMES
HOWEY-IN-THE-HILLS, FLORIDA
LAKE COUNTY

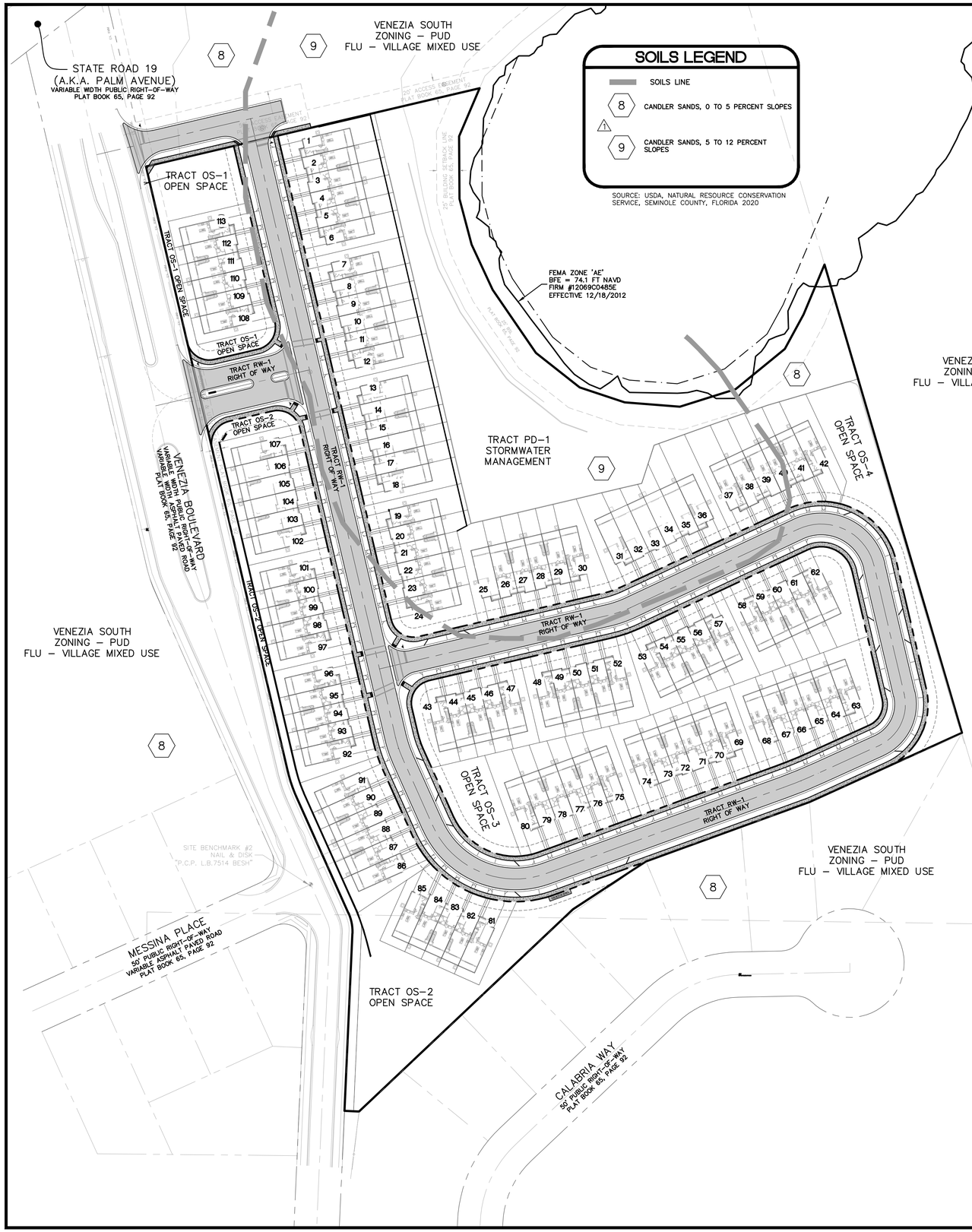
D. R. HORTON
10192 DOWDEN RD., SUITE 150
ORLANDO, FL 32832
(407) 850-5245

ENGINEER: BENJAMIN S. BECKHAM
LICENSE No. 79452
STATE OF FLORIDA
PROFESSIONAL ENGINEER
BENJAMIN S. BECKHAM
DATE: 10/22/2021
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

	DATE	REVISIONS
1	12/10/21	ADDED SHEET
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		

JOB # 21052
DATE: 10/22/2021
SCALE: 1" = 40'
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C005



GRAPHIC SCALE

60 0 30 60 120

(IN FEET)
1 inch = 60 ft.

SITE DATA:

1. PARCEL ID: 35–20–25–0200–0MM–00000
2. EXISTING ZONING: (PUD)
3. EXISTING FUTURE LAND USE: (VMU) VILLAGE MIXED USE
4. EXISTING USE: VACANT LAND (MASS–GRADED)
5. PROJECT IS LOCATED IN ZONE X PER FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NO. 12069C0485E FOR LAKE COUNTY DATED DECEMBER 18, 2012. ZONE X IS DESCRIBED AS AREAS OUTSIDE OF 0.2% ANNUAL CHANCE FLOODPLAIN AND ALSO DESCRIBED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT.
6. THE PARCEL DOES NOT CONTAIN ANY WETLANDS.
7. STORMWATER GENERATED BY THE PROJECT SITE WILL BE TREATED USING THE EXISTING ON–SITE STORMWATER MANAGEMENT SYSTEM. THE EXISTING ON–SITE SYSTEM WAS PREVIOUSLY PERMITTED BY SJRWMD BY PERMIT NO. 18971–3.
8. ALL LANDSCAPING WILL BE UNDER SINGLE MAINTENANCE ENTITY, NOT CARED FOR BY HOMEOWNERS.
9. WATER AND SEWER TO BE PROVIDED BY TOWN OF HOWEY–IN–THE–HILLS.
10. ALL PROPOSED UTILITIES (ELECTRICAL, CABLE TV, GAS, TELEPHONE, ETC.) SHALL BE INSTALLED UNDERGROUND.
11. ALL CONSTRUCTION MATERIALS AND OTHER PROPOSED IMPROVEMENTS SHALL MEET THE APPLICABLE CODES OF TOWN OF HOWEY–IN–THE–HILLS.
12. ALL SIGNAGE AND STRIPING TO BE INSTALLED IN ACCORDANCE WITH MUTCD (LATEST EDITION) STANDARDS AND SPECIFICATIONS.
13. STREET LIGHTING SHALL BE PROVIDED PER TOWN OF HOWEY–IN–THE–HILLS LAND DEVELOPMENT CODE. A SEPARATE PERMIT WILL BE REQUIRED.

PROJECT DATA:

1. GROSS PROJECT AREA: 11.83 ACRES ±
2. EXISTING USE: VACANT LAND (MASS–GRADED)
3. FUTURE USE: TOWNHOUSES
4. MAX. PROPOSED UNITS: 113 UNITS
5. MIN. LOT AREA 1,800 SF
6. MIN. LOT WIDTH 18'
7. MIN. LOT DEPTH 100'
8. MIN. LIVING AREA 1,200 SF
9. MAX. BUILDING HEIGHT 35' (TWO STORIES)
10. RESIDENTIAL USE DENSITY:
    ALLOWED: 11.83 ACRES x 20 DU/AC = 236 UNITS
    PROPOSED: 113 UNITS / 11.83 ACRES = 9.55 DU/AC
11. TOWNHOUSE BUILDING SETBACKS:
    - FRONT: 20'
    - SIDE (INTERNAL UNIT): 0'
    - SIDE (END UNIT): 10'
    - STREET SIDE: 10'
    - REAR: 10', 4' ACCESSORY STRUCTURES
    - BUILDING SEPARATION: 20' (TWO STORIES)
12. SCHOOL AGE CHILDREN:
    ELEMENTARY: (113 DU) x (0.115 CHILD/DU) = 13 CHILDREN
    (113 DU) x (0.053 CHILD/DU) = 6 CHILDREN
    (113 DU) x (0.057 CHILD/DU) = 7 CHILDREN
    26 CHILDREN
13. REQUIRED MIN. PARKING SPACES:
    (2 SPACES PER TOWNHOUSE) + (1 OVERFLOW SPACE / 4 TOWNHOUSE)
    226 + 29 = 255 PARKING SPACES REQUIRED
14. WATER CAPACITY DEMAND:
    113 DU X 350 GPD/DU = 39,350 GPD
15. WASTEWATER CAPACITY DEMAND:
    113 DU X 300 GPD/DU = 33,900 GPD
16. OPEN SPACE REQUIRED: 20% OPEN SPACE MIN
17. OPEN SPACE PROPOSED: 2.94 AC (24.8%)

TRACT TABLE:

ID	DESCRIPTION	OWNER	MAINTENANCE	AREA (AC/%)	
RW–1	RIGHT OF WAY	PUBLIC	PUBLIC	2.60	21.97%
OS–1	OPEN SPACE / LANDSCAPE BUFFER	H.O.A.	H.O.A.	0.22	1.85%
OS–2	OPEN SPACE / LANDSCAPE BUFFER	H.O.A.	H.O.A.	0.70	5.94%
OS–3	OPEN SPACE	H.O.A.	H.O.A.	0.13	1.13%
OS–4	OPEN SPACE	H.O.A.	H.O.A.	0.32	2.70%
PD–1	STORMWATER MANAGEMENT	H.O.A.	H.O.A.	1.56	13.21%
SINGLE FAMILY LOTS		PRIVATE	PRIVATE	6.29	53.20%
TOTAL				11.83	100.00%

MADDEN
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OVERALL SITE PLAN
FOR
VENEZIA TOWNHOMES
HOWEY–IN–THE–HILLS, FLORIDA
LAKE COUNTY

D. R. HORTON
10192 DOWDEN RD. SUITE 150
ORLANDO, FL. 32832
(407) 850–5245

ENGINEER: BENJAMIN S. BECKHAM ★ LICENSE No. 79452 ★ STATE OF FLORIDA
PROFESSIONAL ENGINEER
BENJAMIN S. BECKHAM, P.E. No. 79452
DATE: 12/10/2021
CERTIFICATE OF AUTHORIZATION NO. CA–0007723

	DATE	REVISIONS
1	12/10/21	REVISED PER TOWN OF HOWEY–IN–THE–HILLS COMMENTS
2		
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JOB # 21052
DATE: 10/22/2021
SCALE: 1" = 60'
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C100

Date:\21052\Eng Final\21052_C100 Overall Site Plan.dwg January 13, 2022 12:13 PM

NOTE:

1. PEDESTRIAN RAMPS SHALL HAVE CAST-IN-PLACE ADA MATS, BRICK RED IN COLOR
2. ALL COMMON AREAS AND TRACTS SHALL BE SODDED WITH SITE WORK.
3. ALL COMMON AREA SIDEWALKS TO BE INSTALLED WITH SITE WORK.

LEGEND:

- BOUNDARY / PROPERTY LINE
- WETLAND LINE
- WETLAND BUFFER LINE
- CENTER LINE
- EDGE OF PAVEMENT / MIAMI CURB
- RIGHT-OF-WAY LINE
- EASEMENT
- LOT LINE
- BUILDING SETBACK LINE
- 100 YR FLOOD LINE (FEMA)
- WETLAND
- DETAIL REFERENCE
- CROSS SECTION DETAIL

WETLAND

EXISTING RETENTION POND

PROPERTY BOUNDARY TYP.

EXISTING WALL TYP.

25' BUILDING SETBACK

PROPERTY AND CONSERVATION EASEMENT BOUNDARY TYP.

WETLAND LIMITS -PER CONSERVATION EASEMENT #3 ORB 4492, PAGE 723

25' UPLAND BUFFER

20' ACCESS EASEMENT

50' ACCESS EASEMENT PLAT BOOK 65, PAGE 92

25' BUILDING SETBACK LINE PLAT BOOK 65, PAGE 92

R60' R50' R125' R525'

LIDO LOOP

PALAZZO PLACE

MURANO WAY

VENEZIA BOULEVARD

CALABRIA WAY

MESSINA PLACE

E MAIN ST

STOP

R1-1

D3-1

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)

1 inch = 40 ft.

MIAMI CURB, TYP.

5' CONC. SIDEWALK, TYP.

LOCATION OF GROUP MAILBOXES SEE LANDSCAPE PLANS FOR DETAILS

STREET SIGNS TO BE INSTALLED WITH STOP SIGNS -PLEASE SEE HOWEY-IN-THE-HILLS DETAIL ON SHEET C914 TYP.

DRIVEWAY APRON, TYP.

10' UTILITY EASEMENT

1' RIBBON CURB

STOP SIGN STOP BAR CROSSWALK

STOP SIGN, STOP BAR, CROSSWALK

3' FDOT VALLEY GUTTER

SPILLOUT DROP CURB

DROP CURB

RETAINING WALL, TYP.

R100'

ADA CURB RAMP

STOP SIGN, STOP BAR, CROSSWALK, TYP.

COMBINED D3-1 STREET NAME SIGN AND R1-1 STOP SIGN (TYP.)

VENEZIA ENTRANCE SIGNAGE SEE LANDSCAPE PLANS FOR DETAILS

MADDEN
MOORHEAD & STOKES, LLC
CIVIL ENGINEERS
431 E. Horatio Avenue
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SITE PLAN
FOR
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	DATE	REVISIONS
1	12/10/21	REVISED PER TOWN OF HOWEY-IN-THE-HILLS COMMENTS
2	12/16/21	REVISED PER SJRWMD COMMENTS
3	01/18/22	REVISED PER TOWN OF HOWEY-IN-THE-HILLS COMMENTS
4		
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JOB # 21052
DATE: 10/22/2021
SCALE: 1" = 40'
DESIGNED BY: BSB
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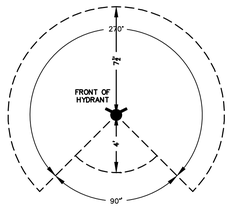
C101



FIRE HYDRANT CLEARANCE DETAIL

TYPICAL UTILITY LEGEND

	DESCRIPTION
	FIRE HYDRANT ASSEMBLY
	DOUBLE SANITARY SERVICE
	SINGLE SANITARY SERVICE
	DOUBLE WM SERVICE
	SINGLE WM SERVICE
	DOUBLE RWM SERVICE
	SINGLE RWM SERVICE
	GATE VALVE
	WM OR RWM CROSS
	WM OR RWM TEE
	BLOW-OFF AND VALVE
WM	WATER MAIN
RWM	RECLAIM WATER MAIN

FDEP SEPARATION REQUIREMENTS UNDER 62-555.314 EFFECTIVE 8-28-2003

HAZARD	HORIZONTAL SEPARATION	VERTICAL SEPARATION		JOINT SPACING
		WATER ABOVE	WATER BELOW	
STORM SEWER	3FT MIN	12IN PREF, 6IN MIN	12IN MIN	3FT MIN
STORM FORCE MAIN	3FT MIN	12IN MIN	12IN MIN	3FT MIN
RECLAIMED WATER IF REGULATED UNDER 62-610	3FT MIN	12IN MIN	12IN MIN	3FT MIN
RECLAIMED WATER IF NOT REGULATED UNDER 62-610	10FT PREF, 6FT MIN	12IN MIN	12IN MIN	6FT MIN
VACUUM SANITARY SEWER	10FT PREF, 3FT MIN	12IN PREF, 6IN MIN	12IN MIN	3FT MIN
GRAVITY SANITARY SEWER	10FT PREF, 6FT MIN, 3FT MIN IF WATER MAIN IS 6IN ABOVE GRAVITY SANITARY SEWER.	12IN PREF, 6IN MIN	12IN MIN	6FT MIN
SANITARY SEWER FORCE MAIN	10FT PREF, 6FT MIN	12IN MIN	12IN MIN	6FT MIN
SEWAGE TREATMENT & DISPOSAL SYSTEM	10FT MIN	NONE	NONE	NONE

GRAPHIC SCALE

40' 0 20' 40' 80'

(IN FEET)
1 inch = 40' ft.

UTILITY NOTES:

1. MAINTAIN A MINIMUM OF 3 FEET OF COVER OVER ALL PROPOSED WATER AND WASTEWATER LINES.
2. ALL UTILITIES LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAYS AND PUBLIC EASEMENTS SHALL BE PRIVATELY OWNED AND MAINTAINED.
3. FLOW TESTS OF ALL FIRE HYDRANTS SHALL BE CONDUCTED AND FLOW TEST RESULTS PROVIDED TO CITY OF OCOEE FIRE DEPARTMENT PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
4. WATER MAINS AND FIRE HYDRANTS SHALL BE INSTALLED, COMPLETED, AND IN SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING BROUGHT ON TO THE SITE.
5. ALL SANITARY SEWER LATERALS SHALL HAVE A MINIMUM SLOPE OF 1%.
6. ALL SANITARY SEWER PIPE SHALL HAVE A MINIMUM SLOPE OF 0.30%.
7. ALL SANITARY SEWER MANHOLES SHALL HAVE A MINIMUM DEPTH OF 4 FT.
8. ALL FIRE HYDRANT VALVES SHALL BE LOCATED ON THE DOWNSTREAM END OF THE FIRE HYDRANT SUPPLY LINE AT THE TEE.

FIRE FLOW DEMAND CALCULATIONS:

THE NEEDED FIRE FLOW IS BASED ON THE ISO GUIDE TO DETERMINING NEEDED FIRE FLOW, LATEST EDITION. PER ISO GUIDE EDITION 06-204, CHAPTER 1, NOTE 2, RESIDENTIAL OCCUPANCIES SERVED BY AN NFPA 13R COMPLIANT SPRINKLER SYSTEM SHALL HAVE A MINIMUM NFF OF 1,000 GPM AT 20 PSI FOR A DURATION OF 2 HOURS. PER NFPA 13R, SEC. 7.1.1.1, THE SYSTEM SHALL PROVIDE AT LEAST THE FLOW REQUIRED TO PRODUCE A DISCHARGE DENSITY OF 0.05 GPM/FT^2. THE 6-UNIT TOWNHOME HAS AN EFFECTIVE AREA OF 14,110 FT^2. 14,110 X 0.05 = 705 GPM, THEREFORE 1,000 GPM IS THE GOVERNING NFF.

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C201

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GRAPHIC SCALE

40' 0 20' 40' 80'

(IN FEET)
1 inch = 40' ft.

PROPERTY BOUNDARY TYP.

STS STR #-28
FDOT TYPE V-INLET
STA: 44+91.14 14.13R

STS STR #J-5
FDOT STORM MANHOLE
STA: 46+00.49 -6.00L

STS STR #J-6
FDOT STORM MANHOLE
STA: 46+39.28 -6.00L

STS STR #-29
FDOT TYPE V-INLET
STA: 44+91.14 -14.13L

DRAINAGE EASEMENT VARIES ALONG EXISTING WALL

221M C903 STS STR #-25
FDOT TYPE V-INLET
STA: 43+00.00 14.12R

STS STR #-26
FDOT TYPE V-INLET
STA: 43+00.00 -14.12L

PROPERTY BOUNDARY TYP.

#-32
FDOT TYPE C INLET
RIM: 87.37
INV IN: 78.45 P-40
INV OUT: 78.45 P-41

STS STR #-31
FDOT TYPE V-INLET
STA: 47+39.77 14.13R

STS STR #-30
FDOT TYPE V-INLET
STA: 47+39.77 -14.13L

20' D.E.

P-40 100' 18 HP @ 0.75%

P-41 46' 18 HP @ 0.75%

WETLAND

#-27
FDOT TYPE C INLET
RIM: 86.05
INV IN: 81.07 P-33
INV OUT: 81.07 P-34

P-33 87' 24 HP @ 0.20%

P-32 20' 24 HP @ 0.20%

200 C902 201 C902 STS STR #J-4
FDOT STORM MANHOLE
STA: 42+17.23 -17.50L

20' D.E.

P-34 93' 24 HP @ 0.20%

EXISTING RETENTION POND

#-17
FDOT TYPE E INLET
RIM: 86.50
INV IN: 80.88 P-18
INV IN: 80.88 P-34
INV OUT: 80.88 P-19

STS STR #-24
FDOT TYPE V-INLET
STA: 40+77.23 -14.13L

STS STR #-19
FDOT TYPE V-INLET
STA: 48+90.53 14.12R

P-20 25' 24 HP @ 0.20% 20' D.E.

P-19 80' 24 HP @ 0.20%

STS STR #-23
FDOT TYPE V-INLET
STA: 40+77.23 14.13R

YD-19
P-18 47' 18 HP @ 1.88%

#-16
FDOT TYPE C INLET
RIM: 87.00
INV IN: 79.03 P-29
INV IN: 81.76 P-17
INV OUT: 81.76 P-18

P-29 91' 18 HP @ 2.74%

P-28 24' 18 HP @ 2.74%

20' D.E.

STS STR #-18
FDOT TYPE V-INLET
STA: 48+90.53 -14.12L

#-15
FDOT TYPE C INLET
RIM: 87.50
INV IN: 81.98 P-16
INV IN: 85.00 YP-17
INV OUT: 81.98 P-17

#-7
FDOT TYPE E INLET
RIM: 89.20
INV IN: 81.05 P-07
INV OUT: 76.80 P-08

#-21
FDOT TYPE E INLET
RIM: 86.90
INV IN: 77.12 P-24
INV OUT: 77.12 P-25

232E C901

P-07 56' 24 HP @ 0.20%

#-5
FDOT TYPE C INLET
RIM: 91.20
INV IN: 82.90 P-05
INV OUT: 82.90 P-06

232C C902

#-6
FDOT TYPE E INLET
RIM: 89.70
INV IN: 81.16 P-11
INV IN: 81.16 P-06
INV OUT: 81.16 P-07

P-25 7' 24 HP @ 1.43%

STS STR #J-3
FDOT STORM MANHOLE
STA: 50+42.05 17.00R

15' D.E.

P-08 13' 24 HP @ 1.09%

P-06 140' 18 HP @ 1.24%

P-24 23' 24 HP @ 1.43%

P-23 106' 24 HP @ 1.43%

20' DRAINAGE EASEMENT

20' D.E.

20' D.E.

#-20
FDOT TYPE E INLET
RIM: 88.70
INV IN: 77.45 P-23
INV OUT: 77.45 P-24

P-16 62' 18 HP @ 0.27%

20'± D.E.

#-14
FDOT TYPE C INLET
RIM: 87.00
INV IN: 82.15 P-15
INV OUT: 82.15 P-16

P-05 108' 18 HP @ 1.28%

P-11 108' 24 HP @ 0.20%

STS STR #-4
FDOT TYPE V-INLET
STA: 31+64.99 -14.13L

STS STR #-10
FDOT TYPE V-INLET
STA: 33+05.00 -14.13L

STS STR #-9
FDOT TYPE V-INLET
STA: 34+79.61 -14.13L

STS STR #-13
FDOT TYPE V-INLET
STA: 37+13.86 -14.13L

STS STR #-2
FDOT STORM MANHOLE
STA: 37+96.61 -17.00L

P-15 71' 18 HP @ 0.27%

STS STR #J-1
FDOT STORM MANHOLE
STA: 30+37.00 17.00R

STS STR #-1
FDOT TYPE V-INLET
STA: 21+29.67 -14.13L

P-10

P-14

P-26

STS STR #-22
FDOT TYPE V-INLET
STA: 38+37.70 14.12R

P-03

P-04

P-12

P-13

P-09

STS STR #-3
FDOT TYPE V-INLET
STA: 31+64.99 14.12R

STS STR #-8
FDOT TYPE V-INLET
STA: 34+79.61 14.13R

STS STR #-12
FDOT TYPE V-INLET
STA: 37+14.36 14.13R

P-01

P-02

P-34

STS STR #-2
FDOT TYPE V-INLET
STA: 21+29.67 14.12R

211 C903 STS STR #-11
FDOT TYPE S INLET
STA: 11+37.33 26.25R

PROPERTY BOUNDARY TYP.

MESSINA PLACE

VENEZIA BOULEVARD

1 REVISED OVERALL STORM LAYOUT AND NAMES

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ENGINEER: BENJAMIN S. BLOCKHAM
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STATE OF FLORIDA
PROFESSIONAL ENGINEER
BENJAMIN S. BLOCKHAM 79452
DATE: PROFESSIONAL 2022
CERTIFICATE OF AUTHORIZATION NO. CA-0007725

	DATE	REVISIONS
1	12/10/21	REVISED PER TOWN OF HOWEY-IN-THE-HILLS COMMENTS
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C301

YARD DRAIN STRUCTURE TABLE			
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
YD-01	12" RIM = 88.12 SUMP = 85.1 INV OUT = 85.12		YP-01, 12" HP INV OUT =85.12
YD-02	12" RIM = 88.22 SUMP = 84.8 INV IN = 84.76 INV OUT = 84.76	YP-01, 12" HP INV IN =84.76	YP-02, 12" HP INV OUT =84.76
YD-03	12" RIM = 87.56 SUMP = 84.6 INV IN = 84.03 INV OUT = 83.97	YP-02, 12" HP INV IN =84.03	YP-03, 12" HP INV OUT =83.97
YD-04	12" RIM = 88.27 SUMP = 84.5 INV OUT = 84.76		YP-04, 12" HP INV OUT =84.76
YD-05	12" RIM = 88.77 SUMP = 84.0 INV IN = 83.97 INV IN = 83.97 INV OUT = 83.97	YP-04, 12" HP INV IN =83.97 YP-05, 12" HP INV IN =83.97	YP-06, 12" HP INV OUT =83.97
YD-06	12" RIM = 87.50 SUMP = 84.7 INV OUT = 84.70		YP-05, 12" HP INV OUT =84.70
YD-07	12" RIM = 89.25 SUMP = 83.3 INV IN = 83.27 INV OUT = 83.27	YP-06, 12" HP INV IN =83.27	YP-07, 12" HP INV OUT =83.27
YD-08	12" RIM = 89.75 SUMP = 82.8 INV IN = 82.77 INV IN = 82.77 INV IN = 82.04	YP-10, 12" HP INV IN =82.77 YP-07, 12" HP INV IN =82.77 YP-08, 12" HP INV IN =82.04	
YD-09	12" RIM = 89.00 SUMP = 82.0 INV OUT = 82.77 INV OUT = 82.04		YP-08, 12" HP INV OUT =82.77 YP-09, 12" HP INV OUT =82.04
YD-10	12" RIM = 90.55 SUMP = 83.7 INV OUT = 83.67		YP-10, 12" HP INV OUT =83.67
YD-11	12" RIM = 87.63 SUMP = 84.8 INV OUT = 84.83		YP-11, 12" HP INV OUT =84.83
YD-12	12" RIM = 87.63 SUMP = 84.4 INV IN = 84.43 INV OUT = 84.43	YP-11, 12" HP INV IN =84.43	YP-12, 12" HP INV OUT =84.43
YD-13	12" RIM = 87.63 SUMP = 83.9 INV IN = 83.93 INV OUT = 83.93	YP-12, 12" HP INV IN =83.93	YP-13, 12" HP INV OUT =83.93
YD-14	12" RIM = 87.23 SUMP = 83.5 INV IN = 83.53 INV IN = 83.53 INV OUT = 83.53	YP-13, 12" HP INV IN =83.53 YP-16, 12" HP INV IN =83.53	YP-14, 12" HP INV OUT =83.53
YD-15	12" RIM = 87.00 SUMP = 82.1 INV IN = 82.73 INV OUT = 82.73	YP-14, 12" HP INV IN =82.73	YP-15, 12" HP INV OUT =82.73
YD-16	12" RIM = 88.12 SUMP = 83.9 INV OUT = 83.94		YP-16, 12" HP INV OUT =83.94
YD-17	12" RIM = 2.30 SUMP = -3.7 INV OUT = 85.50		YP-17, 12" HP INV OUT =85.50
YD-18	12" RIM = 88.58 SUMP = 82.6 INV IN = 81.53 INV OUT = 81.53	P-28, 18" HP INV IN =81.53	P-29, 18" HP INV OUT =81.53

YARD DRAIN STRUCTURE TABLE			
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
YD-19	12" RIM = 88.35 SUMP = 82.4 INV IN = 80.72 INV OUT = 80.72	P-19, 24" HP INV IN =80.72	P-20, 24" HP INV OUT =80.72
YD-20	12" RIM = 87.79 SUMP = 81.8 INV IN = 81.24 INV OUT = 81.24	P-32, 24" HP INV IN =81.24	P-33, 24" HP INV OUT =81.24
YD-22	12" RIM = 89.05 SUMP = 49.0 INV OUT = 82.46 INV OUT = 82.46		YP-20, 12" HP INV OUT =82.46 YP-19, 12" HP INV OUT =82.46
YD-23	12" RIM = 86.25 SUMP = 46.3 INV IN = 83.08 INV OUT = 83.08	YP-20, 12" HP INV IN =83.08	YP-21, 12" HP INV OUT =83.08
YD-24	12" RIM = 86.35 SUMP = 46.3 INV IN = 83.55 INV OUT = 83.55	YP-21, 12" HP INV IN =83.55	YP-22, 12" HP INV OUT =83.55
YD-25	12" RIM = 86.75 SUMP = 46.8 INV IN = 83.95	YP-22, 12" HP INV IN =83.95	
YD-26	12" RIM = 86.52 SUMP = 46.5 INV OUT = 83.82		YP-23, 12" HP INV OUT =83.82
YD-27	12" RIM = 86.52 SUMP = 46.5 INV IN = 83.28 INV OUT = 83.28	YP-23, 12" HP INV IN =83.28	YP-24, 12" HP INV OUT =83.28
YD-28	12" RIM = 87.02 SUMP = 47.0 INV IN = 82.84 INV OUT = 82.84	YP-24, 12" HP INV IN =82.84	YP-25, 12" HP INV OUT =82.84
YD-29	12" RIM = 85.14 SUMP = 45.1 INV IN = 82.34 INV OUT = 82.34	YP-25, 12" HP INV IN =82.34	YP-26, 12" HP INV OUT =82.34
YD-30	12" RIM = 84.74 SUMP = 44.7 INV IN = 81.94 INV OUT = 81.94	YP-26, 12" HP INV IN =81.94	YP-27, 12" HP INV OUT =81.94
YD-31	12" RIM = 83.41 SUMP = 73.9 INV IN = 81.44 INV OUT = -0.50	YP-27, 12" HP INV IN =81.44	YP-28, 12" HP INV OUT =-0.50
YD-32	12" RIM = 1.47 SUMP = -0.5 INV IN = -0.50 INV OUT = -0.50	YP-28, 12" HP INV IN =-0.50	YP-29, 12" HP INV OUT =-0.50
YD-33	12" RIM = 93.75 SUMP = 87.8 INV OUT = 90.95		YP-30, 12" HP INV OUT =90.95
YD-34	12" RIM = 93.28 SUMP = 87.3 INV IN = 90.48 INV OUT = 90.48	YP-30, 12" HP INV IN =90.48	YP-31, 12" HP INV OUT =90.48
YD-35	12" RIM = 92.88 SUMP = 86.9 INV IN = 90.08 INV OUT = 90.08	YP-31, 12" HP INV IN =90.08	YP-32, 12" HP INV OUT =90.08
YD-36	12" RIM = 92.38 SUMP = 86.4 INV IN = 89.58 INV OUT = 89.58	YP-32, 12" HP INV IN =89.58	YP-33, 12" HP INV OUT =89.58
YD-37	12" RIM = 91.49 SUMP = 85.5 INV IN = 88.69 INV OUT = 88.69	YP-33, 12" HP INV IN =88.69	YP-34, 12" HP INV OUT =88.69

YARD DRAIN PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
YP-01	12"	35.53'	1.00%	HP
YP-02	12"	73.79'	1.00%	HP
YP-03	12"	24.87'	0.80%	HP
YP-04	12"	50.00'	1.58%	HP
YP-05	12"	73.33'	1.00%	HP
YP-06	12"	70.00'	1.00%	HP
YP-07	12"	50.00'	1.00%	HP
YP-08	12"	73.33'	1.00%	HP
YP-09	12"	24.87'	1.00%	HP
YP-10	12"	90.00'	1.00%	HP
YP-11	12"	39.66'	1.00%	HP
YP-12	12"	50.43'	1.00%	HP
YP-13	12"	39.82'	1.00%	HP
YP-14	12"	79.94'	1.00%	HP
YP-15	12"	25.57'	1.00%	HP
YP-16	12"	40.62'	1.00%	HP
YP-17	12"	80.33'	0.62%	HP
YP-20	12"	61.32'	-1.00%	HP
YP-21	12"	47.26'	-1.00%	HP
YP-22	12"	40.00'	-1.00%	HP
YP-23	12"	54.00'	1.00%	HP
YP-24	12"	61.36'	0.71%	HP
YP-25	12"	38.27'	1.31%	HP
YP-26	12"	40.21'	0.99%	HP
YP-27	12"	50.23'	1.00%	HP
YP-28	12"	32.80'	0.00%	HP
YP-29	12"	13.13'	-613.52%	HP
YP-30	12"	47.50'	1.00%	HP
YP-31	12"	40.00'	1.00%	HP
YP-32	12"	50.00'	1.00%	HP
YP-33	12"	88.82'	1.00%	HP
YP-34	12"	22.02'	1.00%	HP

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DRAINAGE PLAN
FOR
VENEZIA TOWNHOMES
HOWEY-IN-THE-HILLS, FLORIDA
LAKE COUNTY

D. R. HORTON
10192 DOWDEN RD., SUITE 150
ORLANDO, FL. 32832
(407) 850-5245

ENGINEER: BENJAMIN S. BECKHAM
LICENSE No. 79452
STATE OF FLORIDA
BENJAMIN S. BECKHAM 79452
PROFESSIONAL ENGINEER
DATE: 10/22/2021
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

	DATE	REVISIONS
1	12/10/21	ADDED SHEET PER TOWN OF HOWEY-IN-THE-HILLS COMMENTS
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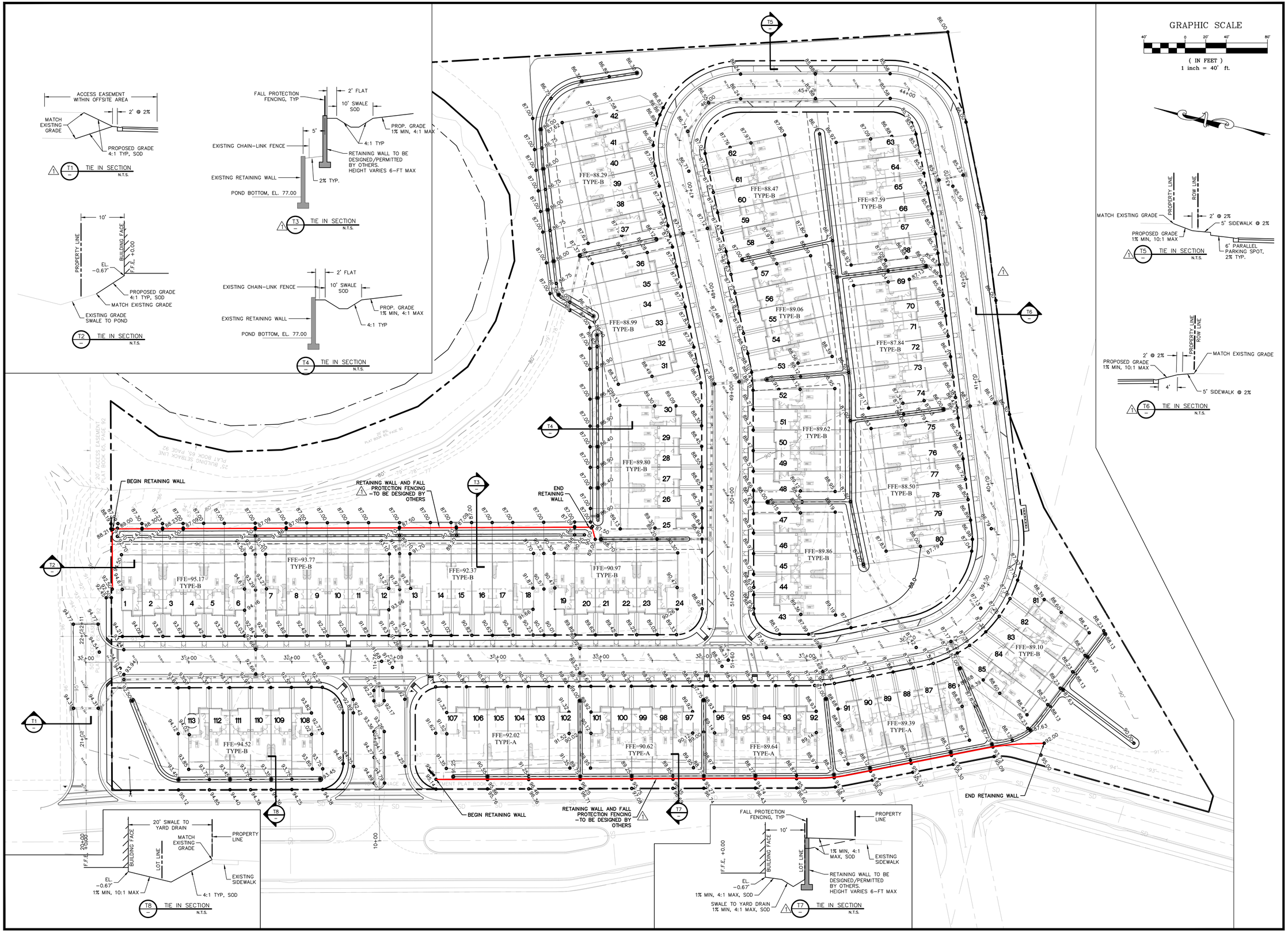
JOB # 21052
DATE: 10/22/2021
SCALE: N.T.S.
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C302



MADDEN
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(407) 629-8330

GRADING PLAN
FOR
VENEZIA TOWNHOMES

HOWEY-IN-THE-HILLS, FLORIDA
LAKE COUNTY

D. R. HORTON
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ORLANDO, FL 32832
(407) 850-5245

ENGINEER: BENJAMIN S. BECKHAM LICENSE No. 79452 STATE OF FLORIDA PROFESSIONAL ENGINEER
BENJAMIN S. BECKHAM, P.E. No. 79452
DATE: 10/22/2021
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

	DATE	REVISIONS
1	12/10/21	REVISED PER TOWN OF HOWEY-IN-THE-HILLS COMMENTS
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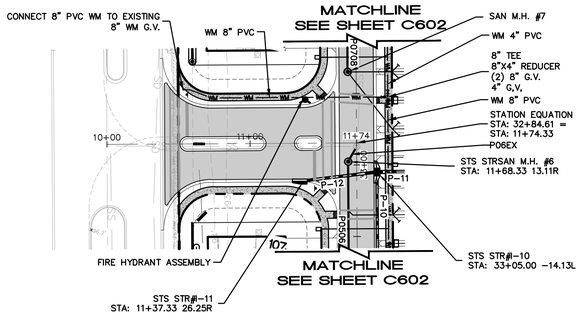
JOB #	21052
DATE:	10/22/2021
SCALE:	1" = 40'
DESIGNED BY:	BSB
DRAWN BY:	JAS
APPROVED BY:	BSB

C401

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.



STREET "A"

GRAPHIC SCALE

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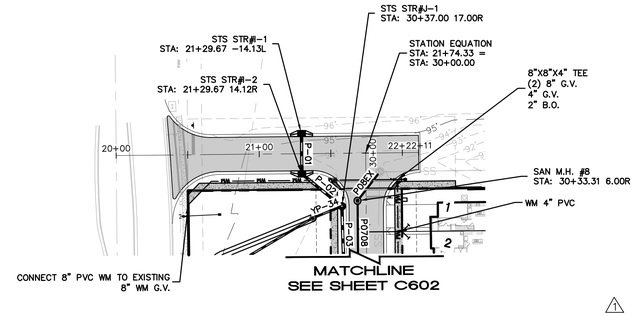
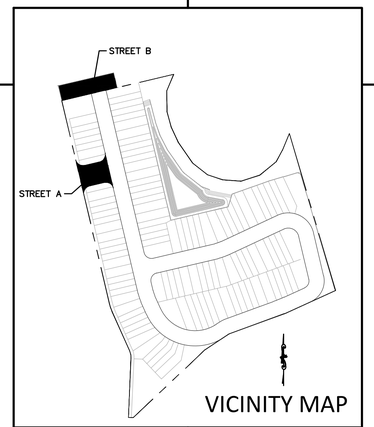
(IN FEET)
1 inch = 50 ft.

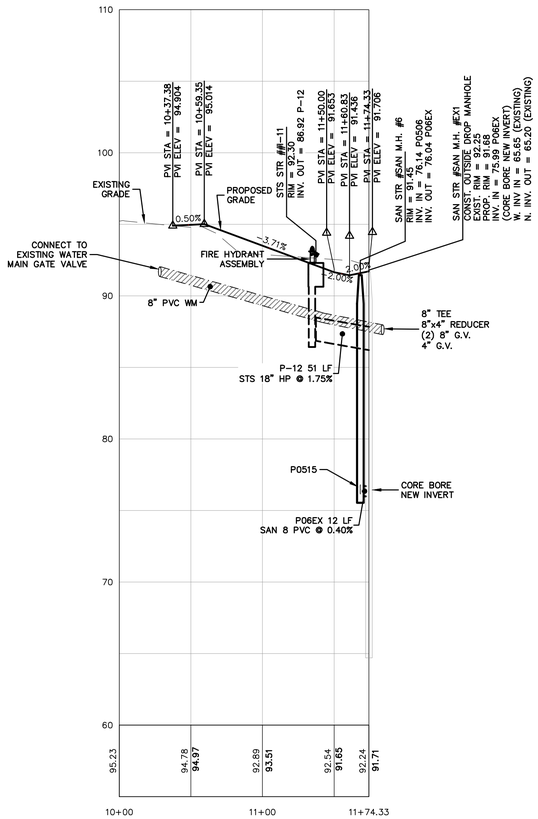


STREET "B"

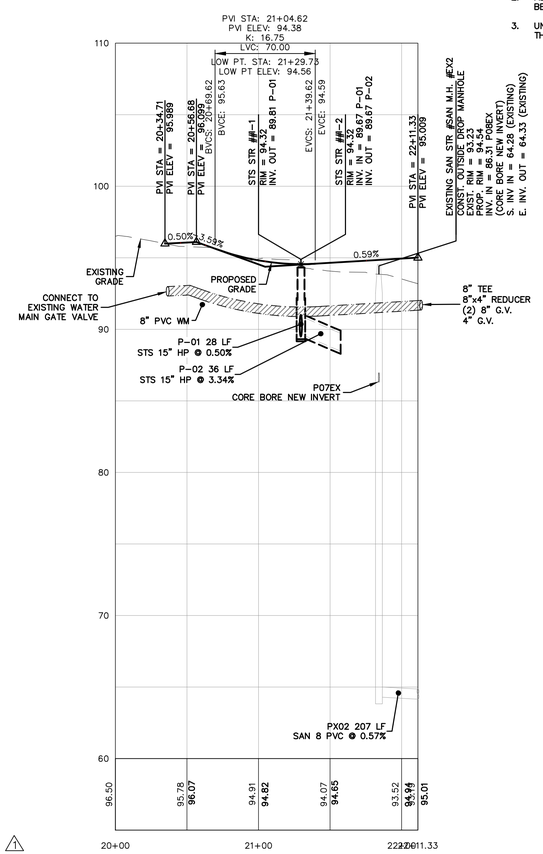
TYPICAL UTILITY LEGEND	
	DESCRIPTION
	FIRE HYDRANT ASSEMBLY
	DOUBLE SANITARY SERVICE
	SINGLE SANITARY SERVICE
	DOUBLE WM SERVICE
	SINGLE WM SERVICE
	DOUBLE RWM SERVICE
	SINGLE RWM SERVICE
	GATE VALVE
	WM OR RWM CROSS
	WM OR RWM TEE
	BLOW-OFF AND VALVE



VICINITY MAP



NOTE:
1. ELEVATONS AND GRADES ARE BASED ON THE NAVD 88 SITE DATUM
2. ALL PRESSURE MAINS ARE TO BE LOCATED 3' BELOW GRADE UNLESS OTHERWISE NOTED.
3. UNLESS NOTED OTHERWISE, THE ESHGWT IS BELOW THE LIMITS OF THE PROFILE VIEW.



MADDEN
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PLAN AND PROFILE
FOR
VENEZIA TOWNHOMES
HOWEY-IN-THE-HILLS, FLORIDA
LAKE COUNTY

D. R. HORTON
10192 DOMDEN RD., SUITE 150
ORLANDO, FL 32832
(407) 850-5245

ENGINEER: BENJAMIN S. BECKHAM * LICENSE No. 79452 * STATE OF FLORIDA * PROFESSIONAL ENGINEER
BENJAMIN S. BECKHAM, P.E. No. 79452
DATE: 12/10/2021
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

		DATE	REVISIONS
1	12/10/21		REVISED PER TOWN OF HOWEY-IN-THE-HILLS COMMENTS
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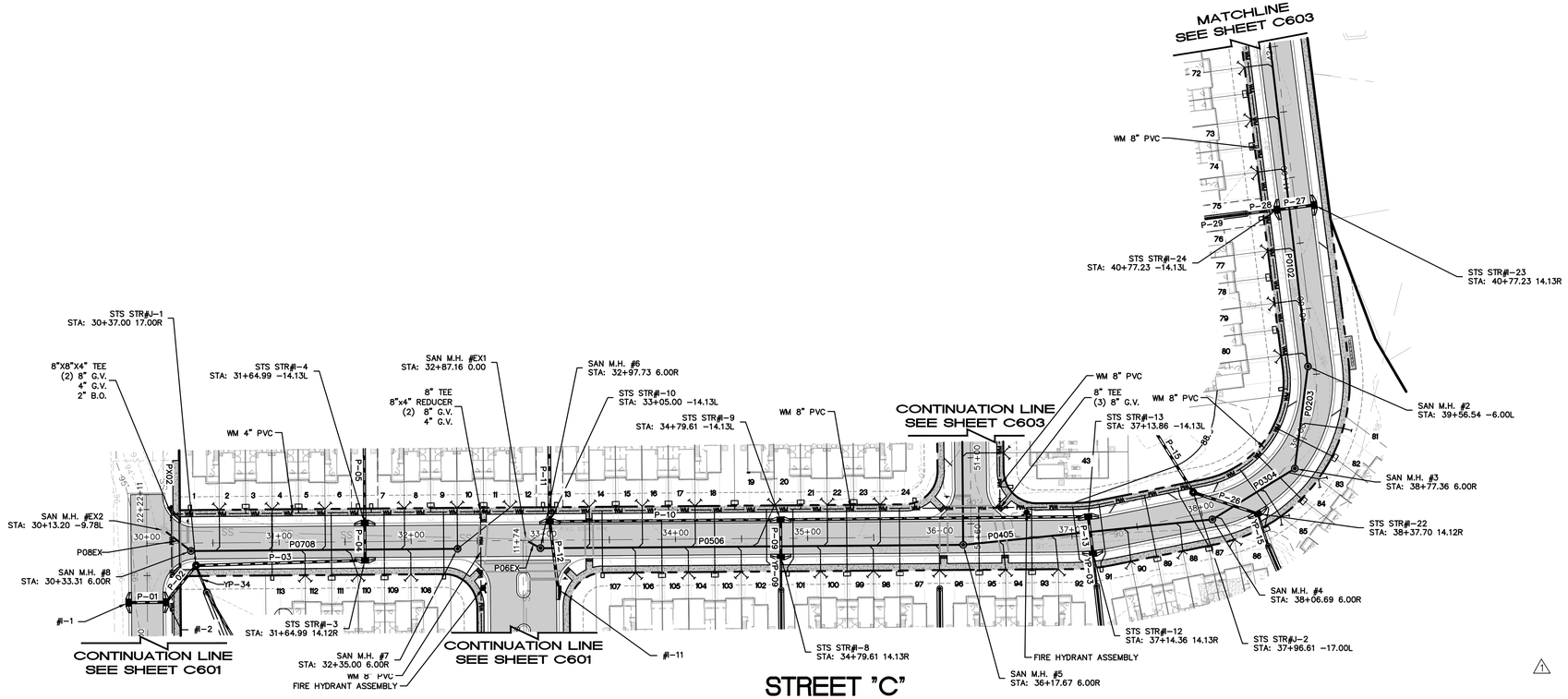
JOB # 21052
DATE: 10/22/2021
SCALE: 1" = 50'
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C601



GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

NOTE:
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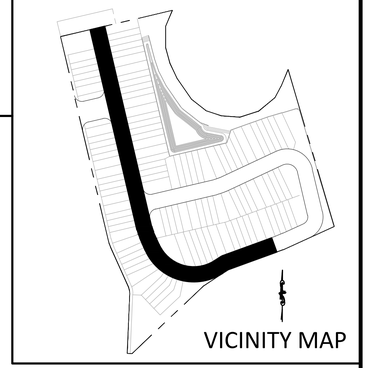
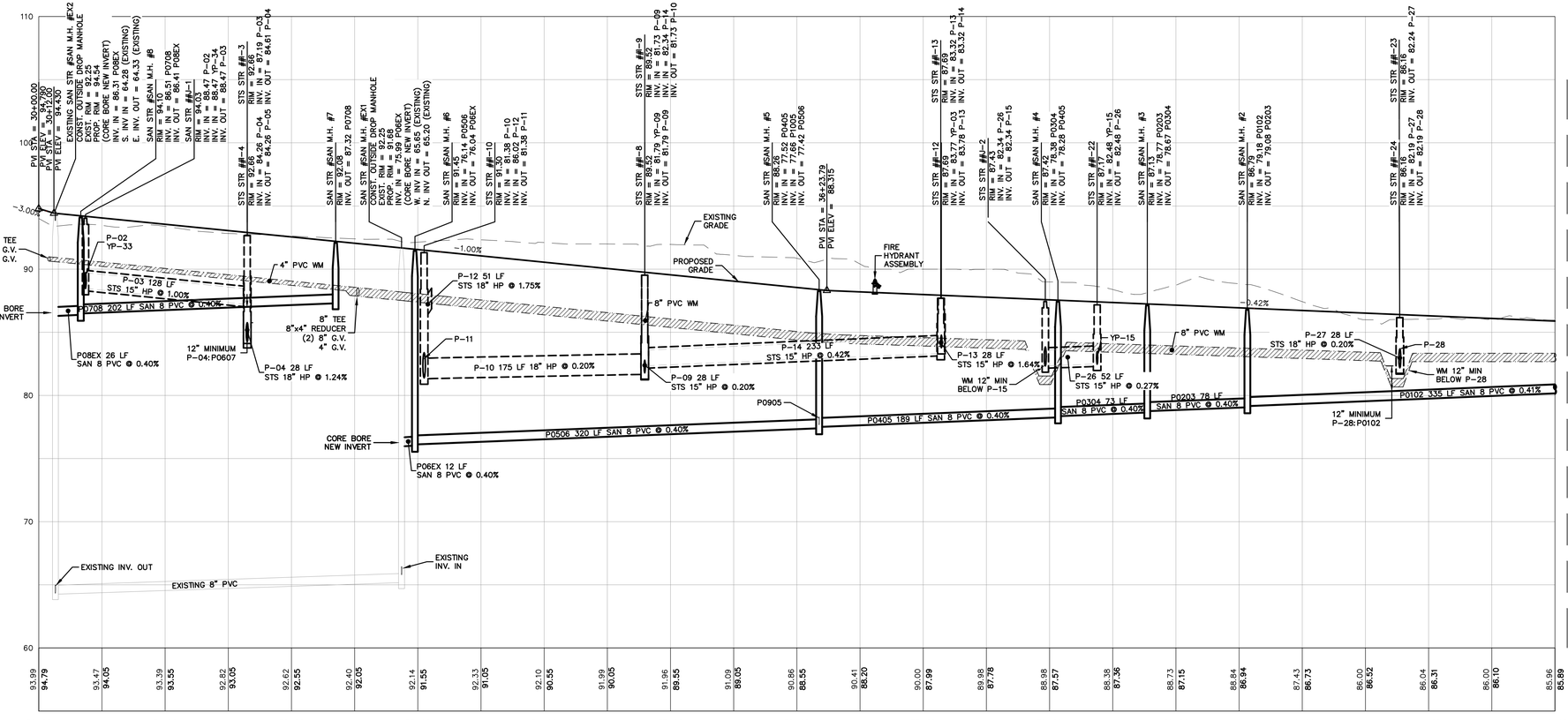
3. UNLESS NOTED OTHERWISE, THE ESHGWT IS BELOW THE LIMITS OF THE PROFILE VIEW.



VICINITY MAP



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PLAN AND PROFILE
FOR
VENEZIA TOWNHOMES
HOWEY-IN-THE-HILLS, FLORIDA
LAKE COUNTY

D. R. HORTON
10192 DOWDEN RD., SUITE 150
ORLANDO, FL. 32832
(407) 850-3245

ENGINEER BENJAMIN S. BECKHAM LICENSE No. 79452 STATE OF FLORIDA PROFESSIONAL ENGINEER
BENJAMIN S. BECKHAM
DATE: 2022.10.21 12:17:22
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

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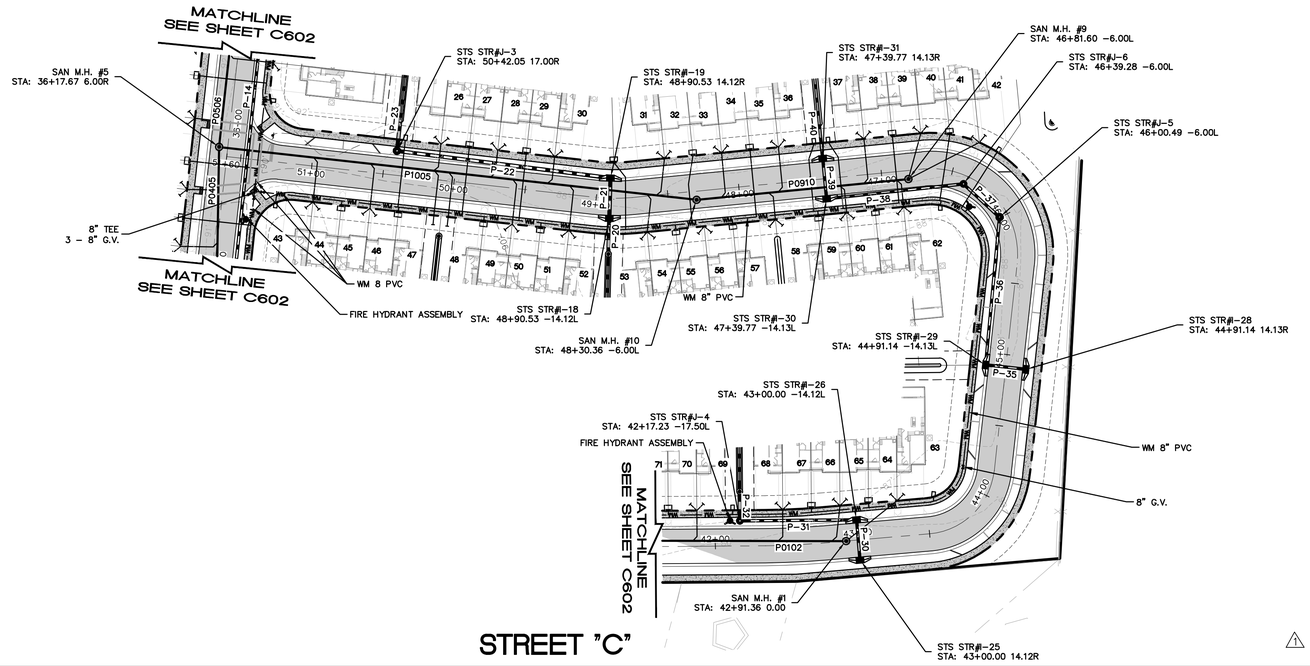
JOB # 21052
DATE: 10/22/2021
SCALE: 1" = 50'
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C602



STREET "C"

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

TYPICAL UTILITY LEGEND	
	DESCRIPTION
	FIRE HYDRANT ASSEMBLY
	DOUBLE SANITARY SERVICE
	SINGLE SANITARY SERVICE
	DOUBLE WM SERVICE
	SINGLE WM SERVICE
	DOUBLE RWM SERVICE
	SINGLE RWM SERVICE
	GATE VALVE
	WM OR RWM CROSS
	WM OR RWM TEE
	BLOW-OFF AND VALVE

NOTE:
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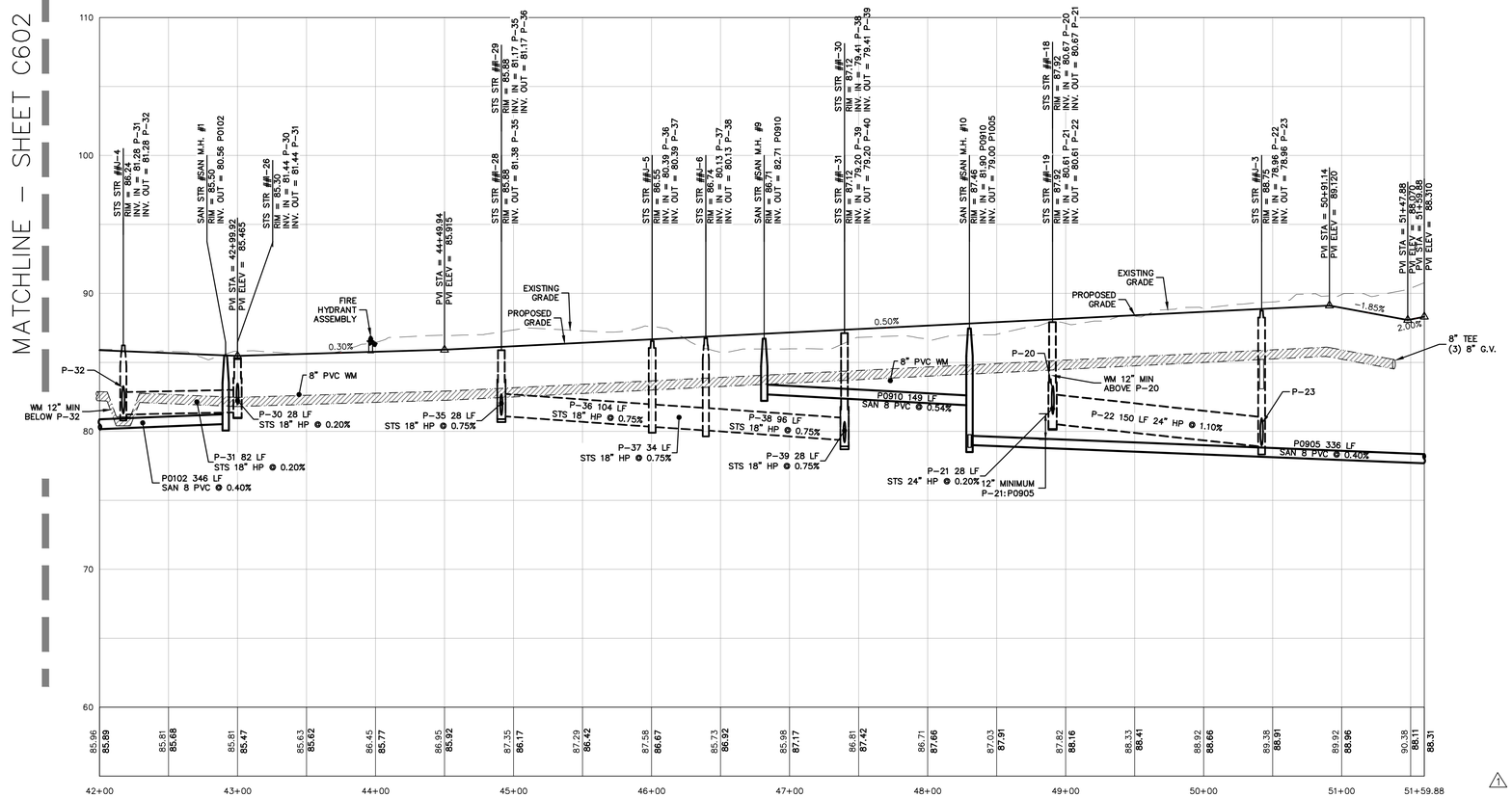

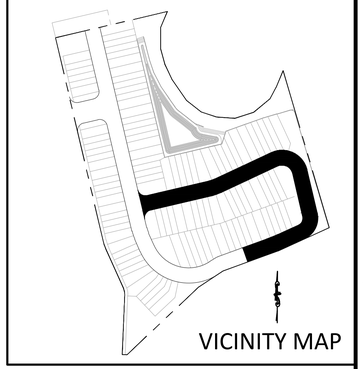

VICINITY MAP

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Suite 260
Maitland, Florida 32751
(407) 629-8330

PLAN AND PROFILE
FOR
VENEZIA TOWNHOMES
HOWEY-IN-THE-HILLS, FLORIDA
LAKE COUNTY

D. R. HORTON
10192 DOWDEN RD., SUITE 150
ORLANDO, FL. 32832
(407) 850-5245

ENGINEER: BENJAMIN S. BECKHAM
LICENSE NO. 79452
STATE OF FLORIDA
PROFESSIONAL ENGINEER
DATE: 10/22/2021
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

NO.	DATE	REVISIONS
1	12/10/21	REVISED PER TOWN OF HOWEY-IN-THE-HILLS COMMENTS
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JOB # 21052
DATE: 10/22/2021
SCALE: 1" = 50'
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C603

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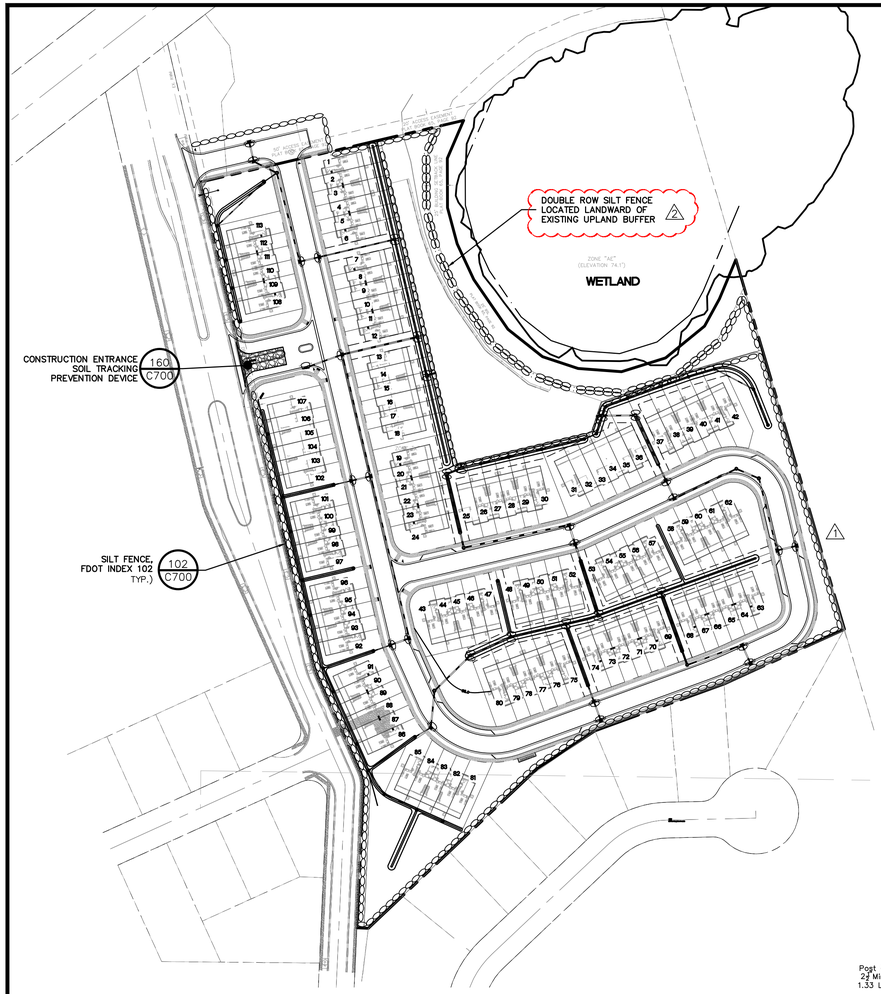

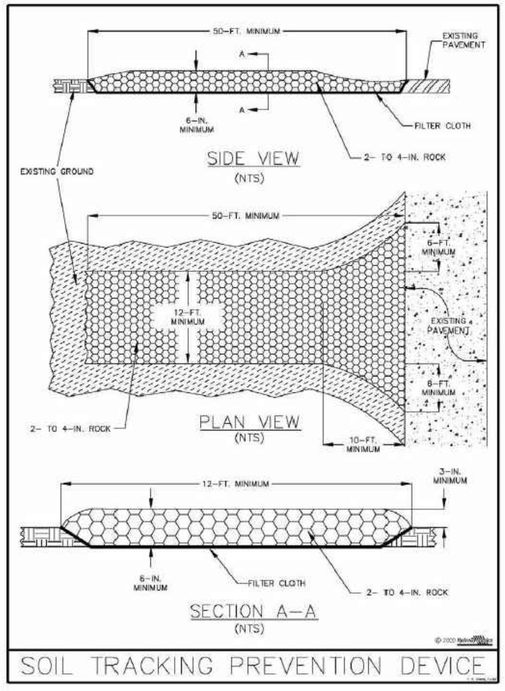

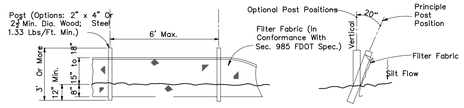

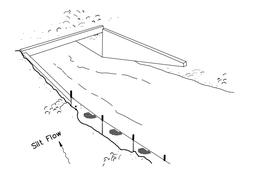

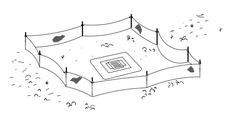

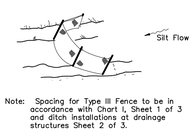

STATE OF FLORIDA E&SC DESIGNER & REVIEWER MANUAL; LATEST EDITION: JULY 2013

160
—
SOIL TRACKING PREVENTION DEVICE

STORMWATER POLLUTION PREVENTION NOTES:

1. THE CONTRACTOR SHALL EXECUTE ALL MEASURES NECESSARY TO LIMIT THE TRANSPORT OF SEDIMENTS OUTSIDE THE LIMITS OF THE PROJECT TO THE VOLUME AND AMOUNT THAT ARE EXISTING PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THIS CONDITION WILL BE SATISFIED FOR THE TOTAL ANTICIPATED CONSTRUCTION PERIOD. PROVISION MUST BE MADE TO PRESERVE THE INTEGRITY GRADING PATTERNS, ETC. REQUIRED TO MEET THIS PROVISION THROUGHOUT THE LIFE OF THE CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE SILT BARRIERS, TEMPORARY GRASSING, ETC. AS REQUIRED TO FULLY COMPLY WITH THE INTENT OF THIS SPECIFICATION.
2. NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE OR INTO ANY ADJACENT WATER BODY OR STORMWATER COLLECTION FACILITY.
3. THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL BE CONTROLLED, SO THAT THIS OPERATION WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.
4. INLETS AND CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT LADEN STORMWATER RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.
5. AREAS OPENED BY CONSTRUCTION OPERATIONS THAT ARE NOT ANTICIPATED TO BE DRESSED OR RECEIVE FINAL GRASSING TREATMENT WITH IN THIRTY DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER, DURING THE SEASON IN WHICH IT IS PLANTED. TEMPORARY SEEDING SHALL BE CONTROLLED SO AS TO NOT ALTER OR COMPETE WITH PERMANENT GRASSING. THE RATE OF SEEDING SHALL BE 30 POUNDS PER ACRE.
6. THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED AS REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER.
7. IF AFTER 14 DAYS, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75% GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED TO ESTABLISH THE DESIRED VEGETATION COVER.
8. ALL FEATURES OF THE PROJECT SHALL BE CONSTRUCTED TO PREVENT EROSION AND SEDIMENT AND SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION PROPERLY WITHOUT THE TRANSPORT OF SEDIMENTS OUTSIDE THE LIMITS OF THE PROJECT.
9. ALL DISTURBED AREAS OUTSIDE THE EXCAVATION AND FILL LIMITS WILL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THEIR CONDITION PRIOR TO CONSTRUCTION.
10. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE OF ALL NEWLY PLANTED GRASSES OR VEGETATION AND RETENTION/DETENTION FACILITIES UNTIL THE WORK HAS BEEN ACCEPTED BY THE COUNTY.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF EMBANKMENTS AND SHALL REPLACE ANY PORTION, WHICH IN THE OPINION OF THE ENGINEER, HAS BECOME DISPLACED DUE TO EROSION OR DUE TO CARELESSNESS OR NEGLIGENCE ON THE PART OF THE CONTRACTOR.
12. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS CONTROLLING POLLUTION OF THE ENVIRONMENT. MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO CONTROL EROSION AND SEDIMENT RUNOFF FROM THE SITE DURING CONSTRUCTION. SUCH METHODS SHALL BE IN ACCORDANCE WITH THE CURRENT FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.
13. ABSOLUTELY NO WORK WILL BE ALLOWED WITHIN ANY CONSERVATION AREA, BUFFER AREA, MITIGATION AREA OR DESIGNATED WETLAND AREA UNLESS SO SPECIFICALLY DESCRIBED BY THE PLANS AND GRANTED BY REASON OF PERMIT FROM THE GOVERNMENTAL ENTITY HAVING JURISDICTION OVER SAID AREA.
14. PRIOR TO CLEARING AND GRUBBING, THE LIMITS OF WETLANDS, BUFFERS WETLANDS, BUFFERS AND MITIGATION AREAS SHALL BE CLEARLY MARKED ALONG THE PROPOSED RIGHT OF WAY LINE TO PROTECT THESE AREAS FROM ENCROACHMENT FROM CONSTRUCTION ACTIVITIES.
15. ALL FILL EMBANKMENT AND GRADED AREAS SHALL BE PROTECTED AGAINST EROSION BY METHODS STATED IN SECTION 104, F.D.O.T. STANDARD SPECIFICATIONS FOR BRIDGE AND ROAD CONSTRUCTION. SIDE SLOPE MAY BE SEED AND MULCHED, PROVIDED THAT THE MULCH MATERIAL IS DISC HARROWED AND THE SIDE SLOPES ARE NEITHER GREATER THAN 3:1 NOR PART OF A DRAINAGE CONVEYANCE.
16. EROSION CONTROL AT ALL INLET DRAINAGE STRUCTURES DURING CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE CITY OF ORLANDO ENGINEERING STANDARDS MANUAL (5TH ED.) AND THE F.D.O.T. EROSION AND SEDIMENT CONTROL MANUAL (2013 ED.).
17. INSPECTIONS ON EROSION CONTROL MEASURES WILL BE PERFORMED BY THE CONTRACTOR ONCE PER WEEK AND WITHIN 24 HOURS AFTER 1/2 INCH OF RAINFALL. THE INSPECTIONS MUST BE LOGGED BY THE CONTRACTOR AND KEPT WITH THE APPROVED PLANS AND SWPPP.
18. GRAVEL CONSTRUCTION ENTRANCES SHALL BE PROVIDED TO MINIMIZE EXPORT OF ONSITE DIRT. IF GRAVEL IS NOT ALLOWED, THE CONSTRUCTION ENTRANCES SHALL BE SWEPT PERIODICALLY AND LOGGED BY THE CONTRACTOR.
19. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PREVENT DUST FROM POLLUTING ADJACENT PROPERTIES.

EROSION CONTROL:

THE CONTRACTOR SHALL PERFORM EROSION CONTROL MEASURES IN ACCORDANCE WITH TO LAKE COUNTY AND THE S.J.R.W.M.D., DETAILS CONTAINED IN THE PLANS, THE FOLLOWING NOTES AND AS DIRECTED BY THE ENGINEER.

A. TEMPORARY EROSION CONTROL

1. STOCKPILING MATERIAL. NO EXCAVATING MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE OR INTO ANY ADJACENT WATERBODY OR STORMWATER COLLECTION FACILITY.

2. INLET PROTECTION – INLETS AND CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT–LADEN STORM RUNOFF DIRECTLY OFF THE PROJECT SITE OR INTO ANY ADJACENT WATERBODY OR STORMWATER COLLECTION FACILITY.

3. TEMPORARY SEEDING / STRIP SODDING – AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN THIRTY DAYS SHALL BE STRIP–SODDED ALONG ALL DEDICATED ROW'S. THIS WILL PREVENT SEDIMENT RUNOFF FROM INDIVIDUAL LOTS INTO THE ROW AND DRAINAGE SYSTEMS, AND WILL NOT LATER COMPETE WITH THE PERMANENT LOT GRASSING.

4. TEMPORARY SEEDING AND MULCHING – SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN NOTE 3 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA TO A DEPTH OF 4 INCHES.

5. TEMPORARY GRASSING – THE SEEDED OR THE SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED AS REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER.

6. TEMPORARY REGRASSING – IF AFTER FOURTEEN DAYS, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75% GOOD GRASS COVER THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATION COVER.

7. THE CONTRACTOR SHALL PLACE HAY BALES AROUND ALL EXISTING AND NEWLY CONSTRUCTED INLETS TO CONTROL EROSION DURING CONSTRUCTION.

8. MAINTENANCE – ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED. DICTIONAL REQUIREMENTS.

B. PERMANENT EROSION CONTROL

THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON OFF–SITE FACILITIES. ALL STORMWATER DISCHARGE FROM THE PROJECT LIMITS SHALL BE ROUTED THROUGH DETENTION BASINS TO TRAP SUSPENDED SEDIMENTS AND DISCHARGE FACILITIES FROM THESE BASINS SHALL BE PROVIDED WITH A SKIMMER DEVICE TO TRAP FLOATABLE DEBRIS.

1. PERMANENT SEEDING – ALL AREAS WHICH HAVE BEEN DISTURBED BY THE CONSTRUCTION WILL, AS A MINIMUM, BE FERTILIZED AND SEEDED.

2. PERMANENT SEEDING AND MULCHING – SLOPES OF 6:1 TO 4:1 INCLUSIVE WILL BE MULCHED WITH A UNIFORM THICKNESS OF APPROXIMATELY TWO INCHES, LOOSE MEASURE, OF MULCH MATERIAL INCORPORATED INTO THE SOIL BY MIXING TO A DEPTH OF FOUR INCHES.

3. PERMANENT SODDING – ALL RETENTION/DETENTION BASINS SHALL BE SODDED WITHIN THEIR LIMITS. ALL EXPOSED AREAS WITHIN PUBLIC RIGHT–OF–WAYS WILL BE SOLID SODDED. OTHER AREAS WITH AREAS WITH SLOPES STEEPER THAN 4:1 WILL BE SODDED.

4. STRIP SODDING – STRIP SOD SHALL BE PLACED ADJACENT TO ALL CURBS, WALKS AND PAVEMENTS.

5. REGRASSING – ALL GRASSED AREAS WILL BE MAINTAINED TO ASSURE A GOOD STAND AND SUFFICIENT GROUND COVER TO MINIMIZE EROSION. IF, AFTER 60 DAYS AN ADEQUATE GROUND COVER HAS NOT BEEN ESTABLISHED, THE AREA WILL BE REGRASSED.

6. ADDITIONAL FERTILIZATION – GRASSED AREAS NOT ACCEPTED WITHIN 90 DAYS OF THEIR COMPLETION SHALL BE FERTILIZED.

7. FOR ADDITIONAL SODDING REQUIREMENTS, REFER TO THE LANDSCAPE PLANS.

8. FERTILIZATION TO COMPLY WITH LOCAL JURISDICTIONAL REQUIREMENTS.

ELEVATION

SECTION

Notes
1. Silt Fence to be paid for under the contract unit price for Staked Silt Fence (LF).
2. Double silt fence shall be installed as two rows with a 3' min. clearance between rows.

TYPE III SILT FENCE

Type ~~~ Silt Fence

NOTES:
1. HAY OR STRAW BALES ARE PROHIBITED.

Type III Silt Fence Protection
Around Ditch Bottom Inlets.

Note: Spacing for Type III Fence to be in accordance with Chart I, Sheet 1 of 3 and ditch installations at drainage structures Sheet 2 of 3.

Type III Silt Fence

Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

SILT FENCE APPLICATIONS

102
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SILT FENCE APPLICATIONS – FDOT INDEX 102
N.T.S.

CERTIFICATION FOR CONTRACTORS AND SUB–CONTRACTORS

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND TERMS AND CONDITIONS OF THE GENERIC STORMWATER PERMIT ISSUED PURSUANT TO SECTION 403.0885, F.S., THAT AUTHORIZES THE STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

NAME: SIGNATURE: DATE:

ADDRESS: TELEPHONE:

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND TERMS AND CONDITIONS OF THE GENERIC STORMWATER PERMIT ISSUED PURSUANT TO SECTION 403.0885, F.S., THAT AUTHORIZES THE STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

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NAME: SIGNATURE: DATE:

ADDRESS: TELEPHONE:

DEWATERING NOTE:

CONTRACTOR SHALL ACQUIRE A DEWATERING PERMIT THROUGH SJWRMD IF NECESSARY.

MADDEN
MOORHEAD & STOKES, LLC
CIVIL ENGINEERS
431 E. Horatio Avenue
Suite 260
Maitland, Florida 32751
(407) 629–8330

EROSION CONTROL PLAN
FOR
VENEZIA TOWNHOMES
LAKE COUNTY
HOWEY–IN–THE–HILLS, FLORIDA

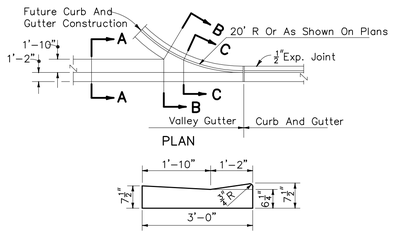
D. R. HORTON
10192 DOWDEN RD., SUITE 150
ORLANDO, FL 32832
(407) 850–5245

ENGINEER
BENJAMIN S. BECKHAM, P.E. 79452
DATE: January 18, 2022
CERTIFICATE OF AUTHORIZATION NO. CA–0007723

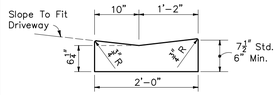
	DATE	REVISIONS
1	12/10/21	REVISED PER TOWN OF HOWEY–IN–THE–HILLS COMMENTS
2	01/11/22	REVISED PER SJRWMD COMMENT
3		
4		
5		
6		
7		
8		
9		
10		
11		

JOB # 21052
DATE: 10/22/2021
SCALE: 1" = 100'
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C700

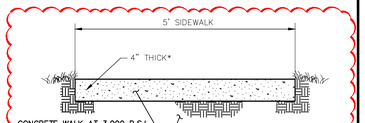


300V — VALLEY GUTTER DETAIL
N.T.S.

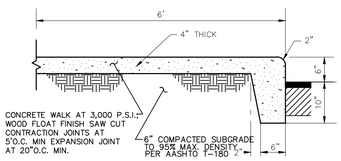


For curb, gutter, curb and gutter and traffic separators provide 1"-2" contraction joints at 10' centers (max.). Contraction joints adjacent to concrete pavement on tangents and flat curves are to match the pavement joints, with intermediate joints not to exceed 10' centers.

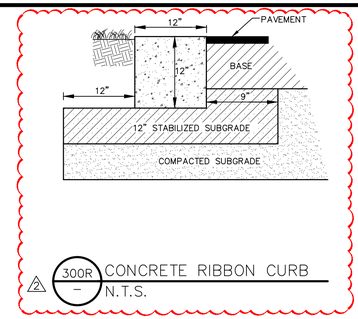
1 300M — MIAMI CURB
N.T.S.



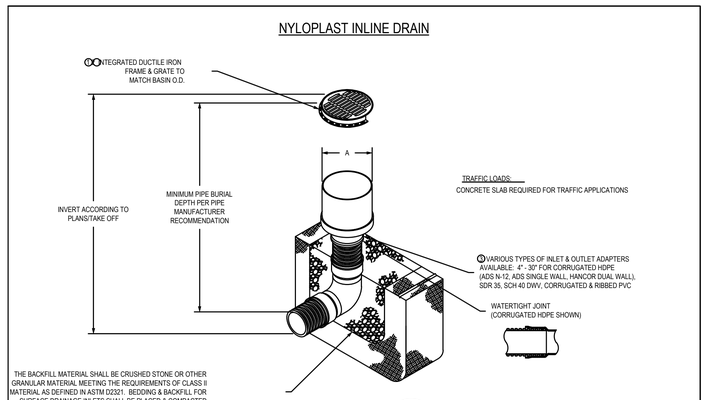
2 907 — CONCRETE WALK
N.T.S.



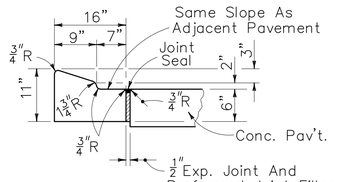
904 — CONC WALK & CURB
N.T.S.



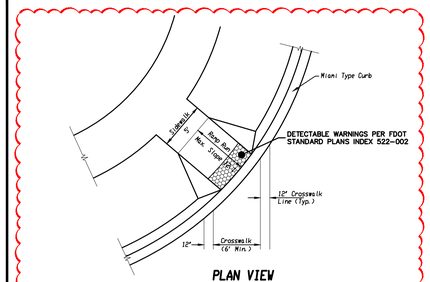
2 300R — CONCRETE RIBBON CURB
N.T.S.



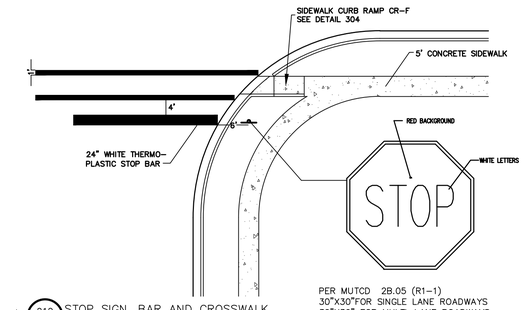
985 — YARD DRAIN DETAIL



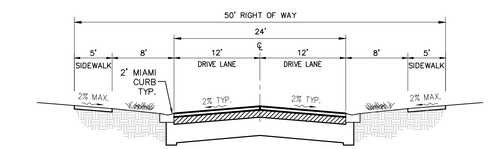
300A — TYPE A CURB
N.T.S.



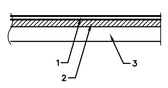
2 304 — RAMPS FOR PEDESTRIAN TRAFFIC
N.T.S.



1 212 — STOP SIGN, BAR AND CROSSWALK
N.T.S.

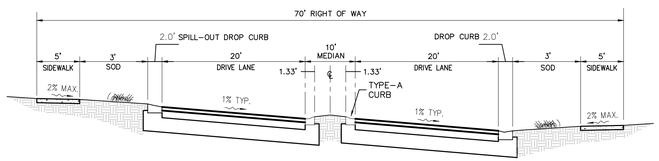


1 A — TYPICAL ROAD SECTION
N.T.S.

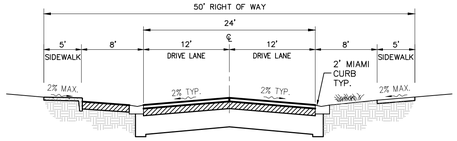


1. 1.5" TYPE ASPHALTIC CONCRETE SURFACE COURSE SP-9.5 (2 LIFTS)
2. 6" CRUSHED CONCRETE BASE COMPACTED TO 98% MODIFIED PROCTOR MAX DRY DENSITY (TYP.) LBR 100.
3. 12" STABILIZED SUBGRADE, COMPACTED TO 95% MODIFIED PROCTOR MAX DENSITY PER AASHTO T-180, ASTM D-1557 (TYP.)

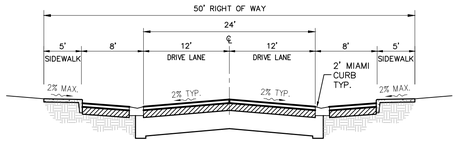
TYP. — TYPICAL PAVEMENT SECTION
N.T.S.



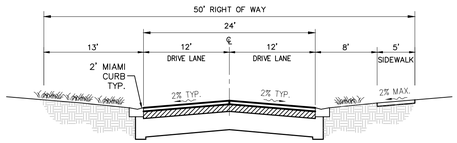
1 B — ENTRANCE SECTION
N.T.S.



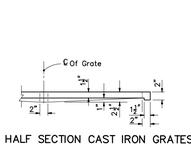
1 C — SINGLE-SIDED PARKING SECTION
N.T.S.



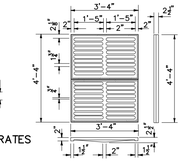
1 D — DOUBLE-SIDED PARKING SECTION
N.T.S.



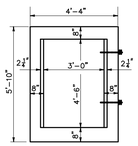
1 E — TYPICAL ROAD SECTION
N.T.S.



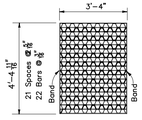
HALF SECTION CAST IRON GRATES



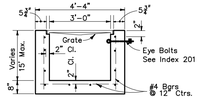
TYPE E
Approx. Weight 465 Lbs.
CAST IRON GRATE



PLAN

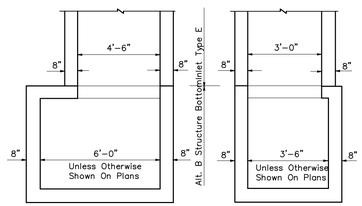


TYPE E
Straight Bars 2"x ⅜"
Reticuling Bars 1½"x ⅜"
Bands 1¼"x ⅜"
Approx. Weight 215 Lbs.
STEEL GRATE



SECTION

TYPE E
Recommended Maximum Pipe Size:
3'-0" Wall-24" Pipe
4'-6" Wall-42" Pipe



NOTE: Alt. B Structure Bottom Only. See Detail No. 200

STRUCTURE BOTTOM FOR INLET TYPE E

GENERAL NOTES

1. These inlets are suitable for bicycle and pedestrian areas and are to be used in ditches, medians and other areas subject to infrequent traffic loadings but are not to be placed in areas subject to any heavy wheel loads.
2. Inlets subject to minimal debris should be constructed without slots. Where debris is a problem inlets should be constructed with slots. Slotted inlets located within roadway clear zones and in areas accessible to pedestrians shall have traversable slots. The traversable slot modification is not adaptable to inlet Type H. Slots may be constructed at either or both ends as shown on plans.
3. Steel grates are to be used on all inlets where bicycle traffic is anticipated. Steel grates are to be used on all inlets with traversable slots. Either cast iron or steel grates may be used on inlets without slots where bicycle traffic is not anticipated. Either cast iron or steel grates may be used on all inlets with non-traversable slots. Subject to the selection described above, when Alternate G grate is specified in the plans, either the steel grate, hot dipped galvanized after fabrication, or the cast iron grate may be used, unless the plans stipulate the particular type.
4. Recommended maximum pipe sizes shown are for concrete pipe. Pipe sizes larger than those recommended must be checked for fit.
5. All exposed corners and edges of concrete are to be chamfered ¾".
6. Pavement to be used on inlets without slots and inlets with non-traversable slots only when called for in the plans; but required on all traversable slot inlets. Cost to be included in contract unit price for inlets. Quantities shown are for information only.
7. Traversable slots constructed in existing inlets shall be paid for as inlets partial, and shall include the cost for slot openings, paving and any required replacement grates.
8. Sodding to be used on all inlets not located in paved areas and paid for under contract unit price for Sodding SY.
9. For supplementary details see Detail No. 201.

232E — F.D.O.T. TYPE E INLET
N.T.S.

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MOORHEAD & STOKES, LLC
CIVIL ENGINEERS
431 E. Horatio Avenue
Suite 260
Maitland, Florida 32751
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CONSTRUCTION DETAILS
FOR
VENEZIA TOWNHOMES
HOWEY-IN-THE-HILLS, FLORIDA
LAKE COUNTY

D. R. HORTON
10192 DOWDEN RD., SUITE 150
ORLANDO, FL 32832
(407) 850-5245

ENGINEER: BENJAMIN S. BECKHAM
LICENSE No. 79452
STATE OF FLORIDA
PROFESSIONAL ENGINEER
BENJAMIN S. BECKHAM
DATE: 10/22/2022
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

	DATE	REVISIONS
1	12/10/21	REVISED PER TOWN OF HOWEY-IN-THE-HILLS COMMENTS
2	01/18/22	REVISED PER TOWN OF HOWEY-IN-THE-HILLS COMMENTS
3		
4		
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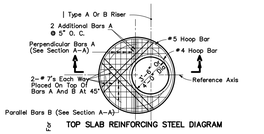
11		

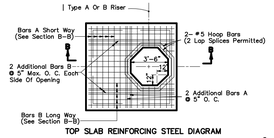
JOB # 21052
DATE: 10/22/2021
SCALE: N.T.S.
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C901

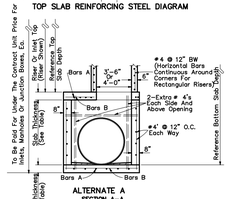
H:\Data\21052_Eng\Final\21052_C900 Construction Details.dwg January 18, 2022 3:01 PM



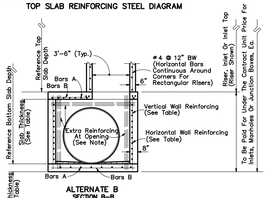
TOP SLAB REINFORCING STEEL DIAGRAM



TOP SLAB REINFORCING STEEL DIAGRAM



ALTERNATE A
SECTION A-A



ALTERNATE B
SECTION B-B

* NOTE: When the inside diameter of a round structure is not more than 1'-6" larger than the opening in the riser or top slab, the top of the structure or riser shall be constructed according to the "Special Top Slab" details on this sheet.

NOTE: Provide extra reinforcing each side of each opening at 3" maximum spacing equal to half the area of vertical reinforcement removed by the opening and provide the same area of reinforcement above each opening at 3" maximum spacing as removed by the opening.

GENERAL NOTES

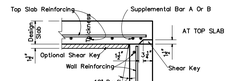
1. Standard structure bottoms 4'-0" diameter and smaller (Alt. A) and 62" square (Alt. B) are designated Type P. Larger standard structure bottoms are designated Type J. Risers are permitted for all structures.
2. Walls of circular structures (Alternate A) constructed in place may be of non-reinforced concrete or brick or reinforced concrete. Precast and rectangular structures (Alternate B) shall be constructed of reinforced concrete only.
3. Wall thickness and reinforcement are for either reinforced cast-in-place or precast concrete units except that precast circular units may be furnished with walls in accordance with either A.S.T.M. C-478 (up to 96" diameter) or A.S.T.M. C-76, Class ~~~, B Wall, modified where the elliptical steel area is placed in the center one-third of the wall.
4. Top and floor slab thickness and reinforcement are for precast and cast place construction. Top and floor slabs shall be of Class ~~~ concrete. Concrete as specified in A.S.T.M. C-478 (4000 psi) may be used in lieu of Class ~~ and Class ~~~ concrete in precast items manufactured in plants which are under the "Standard Operating Procedures" for the inspection of precast drainage products.
5. All reinforcement shall be A.S.T.M. A615, Grade 60 or 65 KSI welded wire fabric, either smooth or deformed.
6. Structure bottoms may be used in conjunction with curb inlet tops Types 1, 2, 3, 4, 5, 6, 9, and 10, and any manhole or junction box unless otherwise shown in the plans or other standard drawings. Alt. B structure bottoms may be used in conjunction with curb inlet Types 7 & 8, or any ditch bottom inlet unless otherwise shown in the plans or other standard drawings.
7. Rectangular structures may be rotated as directed by the Engineer in order to facilitate connections between the structure walls and storm sewer pipes.
8. Except when ACI hooks are specifically required, embedment hooks in the top and bottom slabs may be replaced with straight embedments or peripheral reinforcement in accordance with the reinforcement detail shown under "Rebar Straight End Embedment Or Peripheral Reinforcement In Lieu of ACI Standard Hooks For Top And Bottom Slabs", Index No. 201, Sheet 3 of 6.
9. Steel bars shall have 2" minimum cover unless otherwise shown. Horizontal steel in rectangular structures shall be lapped a minimum of 24 bar diameters at corners.
10. The corner fillets shown are necessary for rectangular structures used with circular and inlet throats and used on skew with rectangular risers, inlet and inlet throats. Fillets will be required in lieu of the bottom slab of the Alt. B riser when used with the Alt. A box. Each fillet shall be reinforced with 2- #5 bars.
11. Inlet throats, riser or manhole tops shall be secured to structures as shown on Index No. 201.
12. Structures with depths over 14' are to be checked for floatation by designer of project drainage.

Units larger than specified standard may be substituted at the contractor's option when these units will not cause or increase the severity of utility conflicts. Such larger units shall be furnished at no additional cost to the Department. Larger Alternate A units cannot replace Alternate B units without approval of the Engineer. This note applies to this Index only.

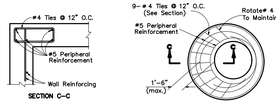
For manhole and junction box tops, for frames and covers, and, for supplementary details see Index No. 201.

NOTE ALL INLET GRATES SHALL BE CHAINED DOWN

200 — STRUCTURE BOTTOMS TYPE J AND P
N.T.S.



SLAB TO WALL DETAILS FOR PRECAST ALTERNATE



SPECIAL TOP SLAB*

SLAB DESIGNS – SQUARE AND RECTANGULAR STRUCTURES
(ALL SLABS 8" THICK – REINFORCING PARALLEL TO SHORT WAY AND LONG WAY)

SHORT-WAY SLAB DEPTH	SHORT-WAY SCHEDULE	LONG-WAY SLAB DEPTH	LONG-WAY SCHEDULE
SIZE: 3'-6"UNLIMITED			
≥0.5"< 29"	B	≥0.5"–40"	B
29"–40"	C		
SIZE: 4'-0"UNLIMITED			
≥0.5"< 19"	B	≥0.5"< 34"	B
19"< 29"	C	34"–40"	C
29"–40"	D		
SIZE: 5'6"			
≥0.5"< 3"	C	≥0.5"< 3"	C
3"< 19"	B	3"< 19"	B
19"< 28"	C	19"< 28"	C
28"< 38"	D	28"< 38"	D
38"–40"	F	38"–40"	F
SIZE: 5'11"			
≥0.5"< 3"	C	≥0.5"< 3"	C
3"< 16"	B	3"< 20"	B
16"< 24"	C	20"< 29"	C
24"< 34"	D	29"–40"	D
34"–40"	F		
SIZE: 6'11"			
≥0.5"< 3"	C	≥0.5"< 3"	C
3"< 14"	B	3"< 22"	B
14"< 21"	C	22"< 33"	C
21"< 39"	D	33"–40"	D
39"–40"	F		
SIZE: 6'16"			
≥0.5"< 3"	C	≥0.5"< 39"	B
3"< 8"	B	39"–40"	C
8"< 17"	C		
17"< 23"	D		
23"–40"	F		
SIZE: 7'5"			
≥0.5"< 3"	C	≥0.5"< 32"	B
3"< 8"	B	32"–40"	C
8"< 17"	C		
17"< 23"	D		
23"–40"	F		

SHORT-WAY SLAB DEPTH	SHORT-WAY SCHEDULE	LONG-WAY SLAB DEPTH	LONG-WAY SCHEDULE
SIZE: 6'16"			
≥0.5"< 3"	D	≥0.5"< 3"	D
3"< 4"	C	3"< 4"	C
4"< 14"	B	4"< 14"	B
14"< 21"	C	14"< 21"	C
21"< 28"	D	21"< 28"	D
28"–40"	F	28"–40"	F
SIZE: 6'17"			
≥0.5"< 3"	D	≥0.5"< 3"	D
3"< 4"	C	3"< 4"	C
4"< 12"	B	4"< 15"	B
12"< 19"	C	15"< 21"	C
19"< 26"	D	21"< 30"	D
26"–40"	F	30"–40"	F
SIZE: 6'18"			
≥0.5"< 3"	D	≥0.5"< 3"	D
3"< 4"	C	3"< 4"	C
4"< 7"	B	4"< 16"	B
7"< 16"	C	16"< 23"	C
16"< 23"	D	23"< 32"	D
23"–40"	F	32"–40"	F
SIZE: 6'19"			
≥0.5"< 3"	D	≥0.5"< 3"	D
3"< 15"	C	3"< 4"	C
15"< 21"	D	4"< 18"	B
21"< 27"	E	18"< 27"	C
27"–40"	G	27"< 37"	D
		37"–40"	F
SIZE: 7'17"			
≥0.5"< 3"	E	≥0.5"< 3"	E
3"< 4"	D	3"< 4"	D
4"< 16"	C	4"< 16"	C
16"< 22"	D	16"< 22"	D
22"< 28"	E	22"< 28"	E
28"–40"	G	28"–40"	G
SIZE: 7'18"			
≥0.5"< 3"	E	≥0.5"< 3"	E
3"< 4"	D	3"< 4"	D
4"< 15"	C	4"< 17"	C
15"< 21"	D	17"< 23"	D
21"< 27"	E	23"< 29"	E
27"–40"	G	29"–40"	G
SIZE: 7'19"			
≥0.5"< 3"	E	≥0.5"< 3"	E
3"< 4"	D	3"< 4"	D
4"< 12"	C	4"< 18"	C
12"< 18"	D	18"< 24"	D
18"< 24"	E	24"< 32"	E
24"–40"	G	32"–40"	G

SHORT-WAY SLAB DEPTH	SHORT-WAY SCHEDULE	LONG-WAY SLAB DEPTH	LONG-WAY SCHEDULE
SIZE: 8'16"			
≥0.5"< 3"	D	≥0.5"< 3"	D
3"< 4"	C	3"< 4"	C
4"< 12"	B	4"< 15"	B
12"< 19"	C	15"< 21"	C
19"< 26"	D	21"< 30"	D
26"–40"	F	30"–40"	F
SIZE: 8'17"			
≥0.5"< 3"	D	≥0.5"< 3"	D
3"< 4"	C	3"< 4"	C
4"< 7"	B	4"< 16"	B
7"< 16"	C	16"< 23"	C
16"< 23"	D	23"< 32"	D
23"–40"	F	32"–40"	F
SIZE: 8'18"			
≥0.5"< 3"	D	≥0.5"< 3"	D
3"< 4"	C	3"< 4"	C
4"< 7"	B	4"< 18"	B
7"< 16"	C	16"< 25"	D
16"< 22"	D	25"< 32"	F
22"< 29"	D	32"–40"	G
29"–40"	F		
SIZE: 8'19"			
≥0.5"< 3"	F	≥0.5"< 3"	F
3"< 14"	C	3"< 14"	C
14"< 20"	D	14"< 20"	D
20"< 26"	E	20"< 26"	E
26"–40"	G	26"–40"	G

WALL DESIGNS – RECTANGULAR STRUCTURES

VERTICAL REINFORCING WALL DEPTH	VERTICAL REINFORCING SCHEDULE	HORIZONTAL REINFORCING WALL DEPTH	HORIZONTAL REINFORCING SCHEDULE
SIZE: 3'-6"			
≥1.17"–40"	A	≥1.17"–40"	B
SIZE: 4'-0"			
≥1.17"–40"	A	≥1.17"–40"	B
SIZE: 5'-0"			
≥1.17"–40"	A	≥1.17"< .33"	B
		.33"–40"	C
SIZE: 6'-0"			
≥1.17"–40"	A	≥1.17"< .22"	B
		.22"–40"	C
SIZE: 7'-0"			
≥1.17"–40"	A	≥1.17"< .15"	B
		.15"< .25"	C
		.25"–40"	D
SIZE: 8'-0"			
≥1.17"–40"	A	≥1.17"< .11"	B
		.11"< .19"	C
		.19"< .29"	D
		.29"–40"	F
SIZE: 9'-0"			
≥1.17"–40"	A	≥1.17"< .15"	C
		.15"< .22"	D
		.22"–40"	F

SLAB DESIGNS – ROUND STRUCTURES

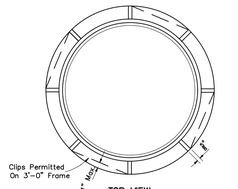
SLAB DEPTH	SLAB THICKNESS	REINFORCING (2 WAYS) SCHEDULE
SIZE: 3'-6"		
≥0.5"–40"	8"	C
SIZE: 4'-0"		
≥0.5"–40"	8"	C
SIZE: 5'-0"		
≥0.5"< 38"	8"	C
38"–40"	8"	D
SIZE: 6'-0"		
≥0.5"< 8"	8"	B
8"< 18"	8"	C
18"< 30"	8"	D
30"< 37"	8"	E
37"–40"	8"	G
SIZE: 8'-0"		
≥0.5"< 9"	10"	C
9"< 15"	10"	D
15"< 23"	10"	E
23"< 33"	12"	F
33"–40"	12"	G
SIZE: 10'-0"		
≥0.5"< 6"	10"	C
6"< 11"	10"	D
11"< 17"	10"	E
17"< 23"	12"	F
23"–40"	12"	G
SIZE: 12'-0"		
≥0.5"< 6"	12"	C
6"< 11"	12"	D
11"< 16"	12"	E
16"< 20"	14"	F
20"–40"	14"	G

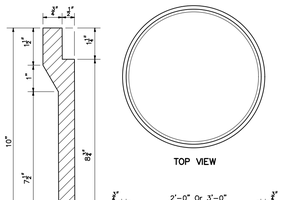
REINFORCING SCHEDULE

SCHEDULE	GRADE 60 STEEL OR 65 KSI (WWF FABRIC) In²/Ft
A	0.20
B	0.24
C	0.37
D	0.53
E	0.73
F	1.06
G	1.45

GENERAL NOTES

1. Slab reinforcement is appropriate for top, intermediate, and bottom slabs.
2. Slab depth is measured from finished grade to top of slab.
3. Wall design depth is measured to the top of the bottom slab for boxes and to the top of the intermediate slab for risers.
4. Wall height is the distance between top of lower slab to bottom of upper slab.



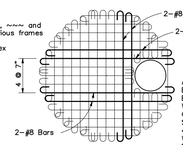


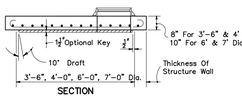
NOTES (FRAMES, AND COVER)

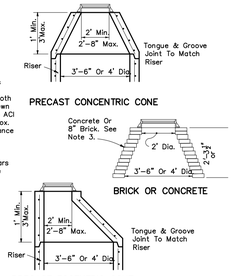
1. The 212 lb. cover is to be used for all frames Types ~, ~~, ~~~ and the 2-Piece Cover, and is the replacement cover for all previous frames with 3/4" deep seats (traffic type). The 185 lb. cover (non-traffic type), 1984 Roadway and Traffic Design Standards Index No. 201, is the replacement cover for existing frames with deep seats. Installation of frames with deep seats is not permitted. The 185 lb. covers are to be placed in existing deep seated frames only when specifically called for in the plans or as specifically directed by the Engineer.

NOTES (TOPS)

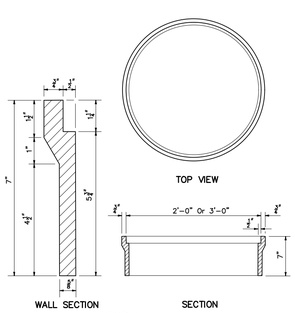
1. Manhole top Type 7 slabs shall be of Class ~~ concrete. Concrete as specified in ASTM C-478 may be used for precast units; see General Note No. 3.
2. Manhole top Type 7 slabs may be of cast-in-place or precast construction. The optional key is for precast tops and in lieu of dowels. Frame and slab openings are to be omitted when top is used over a junction box. Frames can be adjusted with from one to six courses of brick.
3. Manhole top Type 8 may be of cast-in-place or precast concrete construction or brick construction. For concrete construction, the concrete and steel reinforcement shall be the same as the supporting wall unit. An eccentric cone may be used.
4. Manhole tops shall be secured to structures by optional construction joints as shown on Sheet 3 of 6.

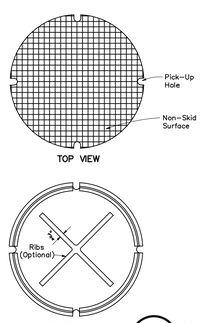




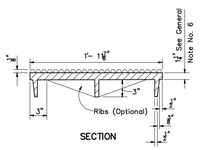


MANHOLE TOPS



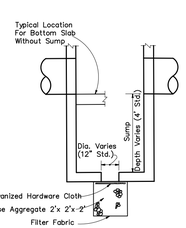


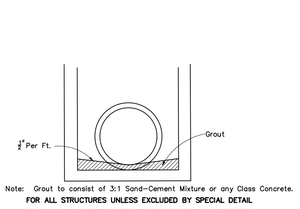
CAST IRON FRAMES



COVER FOR ALL FRAMES

WEIGHT OF CASTINGS							
Frame Type	2' OPENING Frame	2' OPENING Cover (Std.)	3' OPENING Frame	3' OPENING 2-Piece Cover		
				Cover	Ring	Total
~	126 Lbs.	212 Lbs.	220 Lbs.	212 Lbs.	250 Lbs.	462 Lbs.
~~	134 Lbs.	212 Lbs.	260 Lbs.	212 Lbs.	250 Lbs.	462 Lbs.
~~	98 Lbs.	212 Lbs.	220 Lbs.	212 Lbs.	250 Lbs.	462 Lbs.

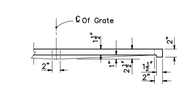




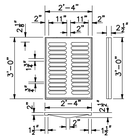
NOTE ALL INLET GRATES SHALL BE CHAINED DOWN

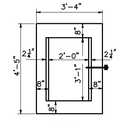
201 — SUPPLEMENTARY DETAILS FOR MANHOLES AND INLETS
N.T.S.

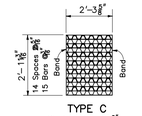
NOTE:
A 4' X 4' CONCRETE PAD 8" THICK SHALL BE INSTALLED AROUND ALL MANHOLE RIMS LOCATED JUST BELOW THE ASPHALT SURFACE

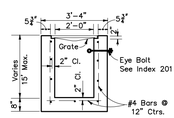


NOTE ALL INLET GRATES SHALL BE CHAINED DOWN



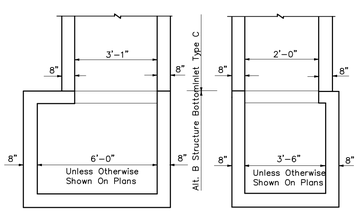






GENERAL NOTES

1. These inlets are suitable for bicycle and pedestrian areas and are to be used in ditches, medians and other areas subject to infrequent traffic loadings but are not to be placed in areas subject to any heavy wheel loads.
2. Inlets subject to minimal debris should be constructed without slots. Where debris is a problem inlets should be constructed with slots. Slotted inlets located within roadway clear zones and in areas accessible to pedestrians shall have traversable slots. The traversable slot modification is not adaptable to Inlet Type H. Slots may be constructed at either or both ends as shown on plans.
3. Steel grates are to be used on all inlets where bicycle traffic is anticipated. Steel grates are to be used on all inlets with traversable slots. Either cast iron or steel grates may be used on inlets without slots where bicycle traffic is not anticipated. Either cast iron or steel grates may be used on all inlets with non-traversable slots. Subject to the selection described above, when Alternate G grate is specified in the plans, either the steel grate, hot dipped galvanized after fabrication, or the cast iron grate may be used, unless the plans stipulate the particular type.
4. Recommended maximum pipe sizes shown are for concrete pipe. Pipe sizes larger than those recommended must be checked for fit.
5. All exposed corners and edges of concrete are to be chamfered .
6. Pavement to be used on inlets without slots and inlets with non-traversable slots only when called for in the plans; but required on all traversable slot inlets. Cost to be included in contract unit price for inlets. Quantities shown are for information only.
7. Traversable slots constructed in existing inlets shall be paid for as inlets partial, and shall include the cost for slot openings, paving and any required replacement grates.
8. Sodding to be used on all inlets not located in paved areas and paid for under contract unit price for Sodding SY.
9. For supplementary details see Detail No. 201.
10. When used in traffic areas use four sided bearing grate. U.S. Foundry#6450 or equal.



232C — F.D.O.T. TYPE C INLET
N.T.S.

MADDEN
MOORHEAD & STOKES, LLC
CIVIL ENGINEERS
431 E. Horatio Avenue
Suite 260
Maitland, Florida 32751
(407) 629-8330

CONSTRUCTION DETAILS
FOR
VENEZIA TOWNHOMES
HOWEY-IN-THE-HILLS, FLORIDA
LAKE COUNTY

D - R - HORTON
10192 DOWDEN RD., SUITE 150
ORLANDO, FL 32832
(407) 850-5245

ENGINEER: BENJAMIN S. BECKHAM
LICENSE No. 79452
STATE OF FLORIDA
PROFESSIONAL ENGINEER
DATE: 1/18/2022
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

NO.	DATE	REVISIONS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		

JOB # 21052
DATE: 10/22/2021
SCALE: N.T.S.
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C902

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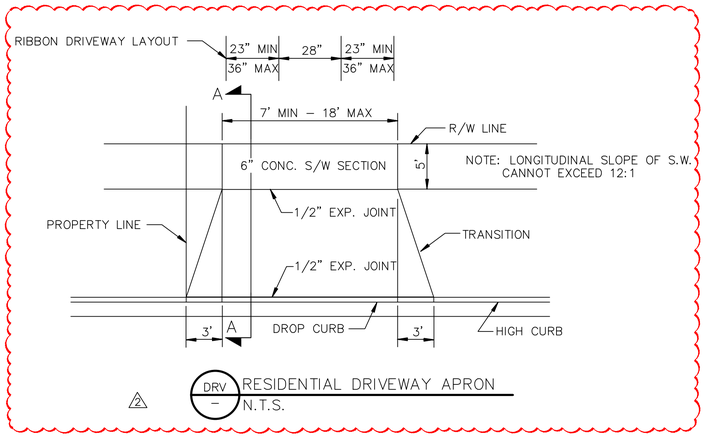
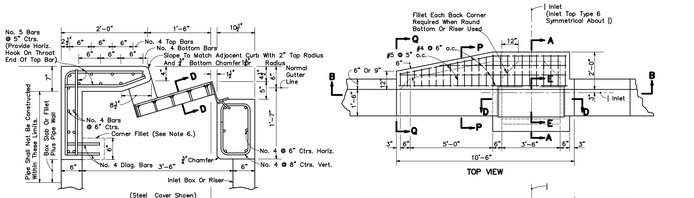
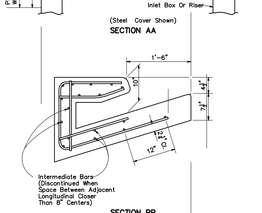
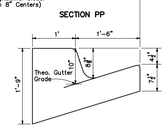
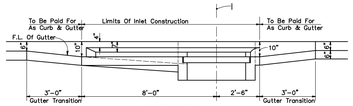


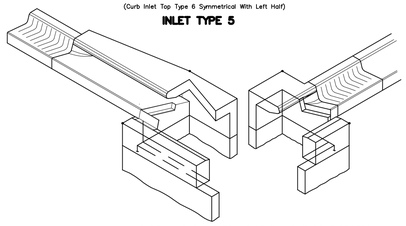
2 DRV – RESIDENTIAL DRIVEWAY APRON
N.T.S.



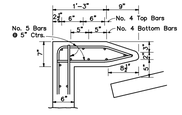








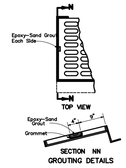
SKETCHS SHOWING FRAME SEAT AND THROAT RECESS

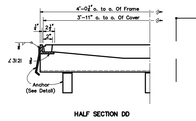


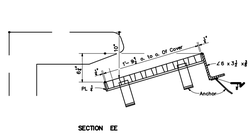
TOP MODIFICATION FOR TYPE E CURB

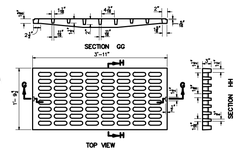
GENERAL NOTES

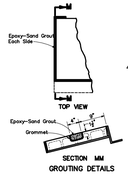
1. The finished grade and slope of the inlet tops are to conform with the finished cross slope and grade of the proposed sidewalk and/or parkway.
2. When inlets are to be constructed on a curve, refer to the plans to determine the radius and, where necessary, modify the inlet details accordingly. Bend steel where necessary.
3. All reinforcing steel shall have 2" minimum cover unless otherwise shown. Inlet tops shall be either cast-in-place or precast concrete.
4. Precasting of this inlet top will be permitted. Precast units shall conform to the dimensions shown or in accordance with approved shop drawings. Request for shop drawing approval shall be directed to the State Drainage Engineer.
5. Concrete meeting the requirements of A.S.T.M. C 478 (4,000 P.S.I.) may be used in lieu of Class — concrete for precast units, manufactured in plants which are under the Standard Operating Procedures for the inspection of precast drainage products.
6. The corner fillets shown for rectangular throats are necessary only when throats are to be used in conjunction with circular inlet bottoms or when used on skew with rectangular inlet boxes.
7. For inlet bottoms see Index No. 200.
8. These inlet tops are designed for use with standard curb and gutter Type E and Type F. Locate outside of pedestrian crosswalk where practical.
9. See Index 201 for supplemental details.
10. All steel used for frame and cover shall meet the requirements of ASTM A–36.
11. Either cast iron covers or steel covers may be used. Iron covers shall be Class No. 30 castings in accordance with ASTM A–48.
12. When Alternate "G" Cover is specified in plans either the cast iron cover and galvanized steel frame or the the galvanized steel cover and frame must be used. Covers are to be grouted in accordance with the grouting detail shown on sheet 2 of 2, in lieu of tack welding.
13. Inlet to be paid for under the contract unit price for Inlets (Curb)–(Type), Each.

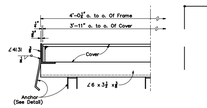


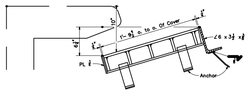


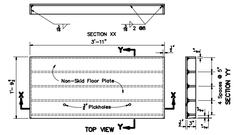




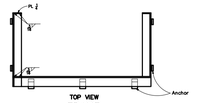


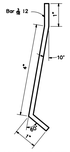






STEEL COVER

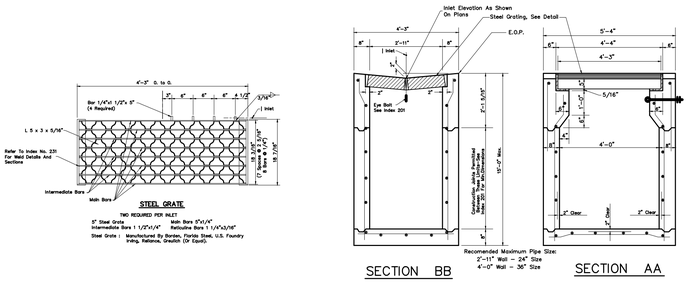


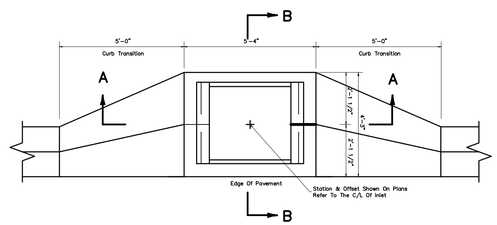


211 – CURB INLET TOPS TYPES 5 & 6
N.T.S.

NOTE: THE ABOVE IMAGE REPRESENTS THE INTENT FOR THE AESTHETIC DESIGN OF THE PROPOSED RETAINING WALLS. THE WALL SHALL HAVE A VISUALLY VARIATED SURFACE LOOK AND TEXTURE. ALL RETAINING WALL SHALL BE PERMITTED SEPARATELY BY OTHERS.

2 MSE – RETAINING WALL DESIGN INTENT
N.T.S.





1 221M – TYPE V INLET – MODIFIED
N.T.S.

MADDEN
MOORHEAD & STOKES, LLC
CIVIL ENGINEERS
431 E. Horatio Avenue
Suite 260
Maitland, Florida 32751
(407) 629–8330

CONSTRUCTION DETAILS
FOR
VENEZIA TOWNHOMES
HOWEY–IN–THE–HILLS, FLORIDA
LAKE COUNTY

D - R - HORTON
10192 DOWDEN RD., SUITE 150
ORLANDO, FL 32832
(407) 850–5245

ENGINEER: BENJAMIN S. BECKHAM
LICENSE No. 79452
STATE OF FLORIDA
PROFESSIONAL ENGINEER
BENJAMIN S. BECKHAM
DATE: 10/22/2021
CERTIFICATE OF AUTHORIZATION NO. CA–0007723

	DATE	REVISIONS
1	12/06/21	REVISED PER TOWN OF HOWEY–IN–THE–HILLS COMMENTS
2	01/18/22	REVISED PER TOWN OF HOWEY–IN–THE–HILLS COMMENTS
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JOB # 21052
DATE: 10/22/2021
SCALE: N.T.S.
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C903

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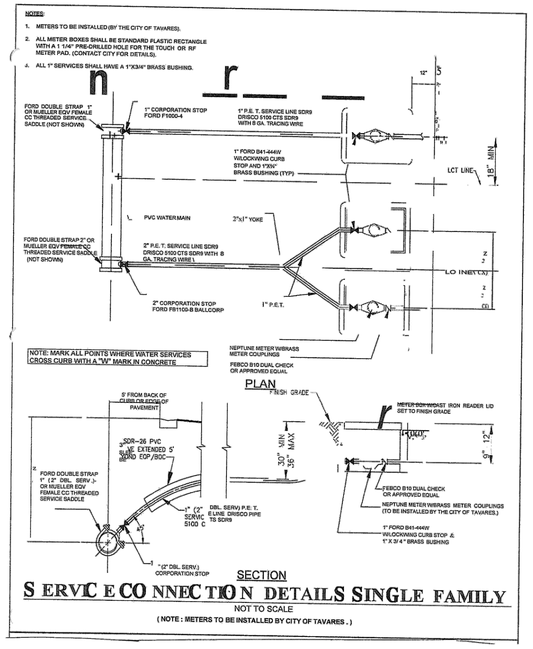
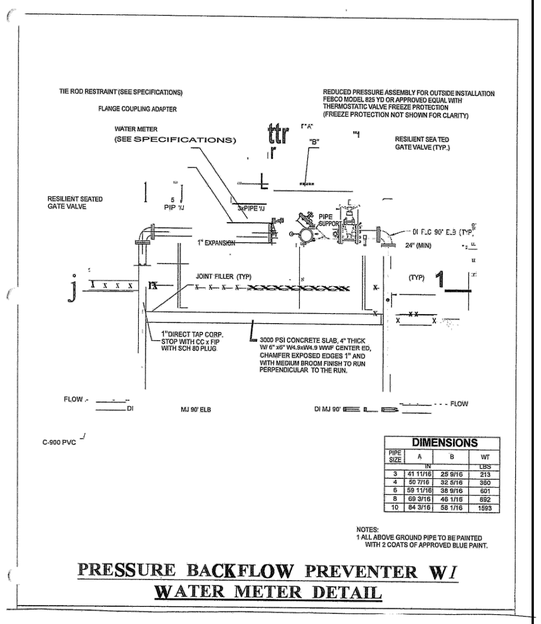
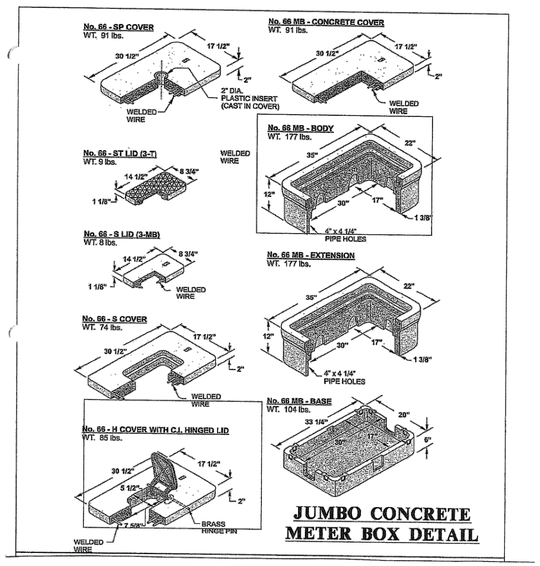
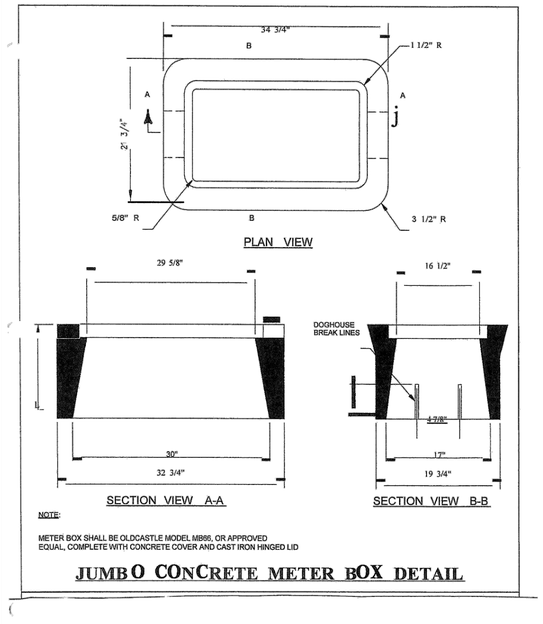




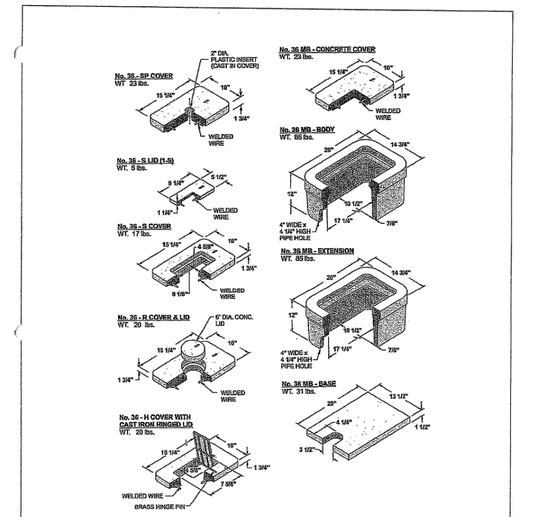
PRESSURE BACKFLOW PREVENTER W/ WATER METER DETAIL



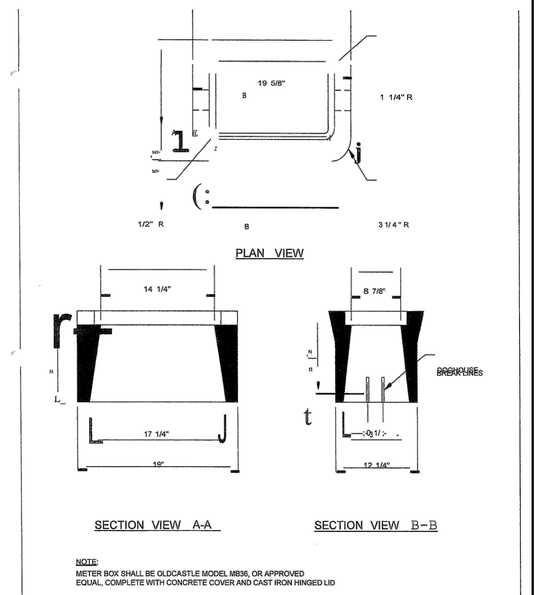
JUMBO CONCRETE METER BOX DETAIL



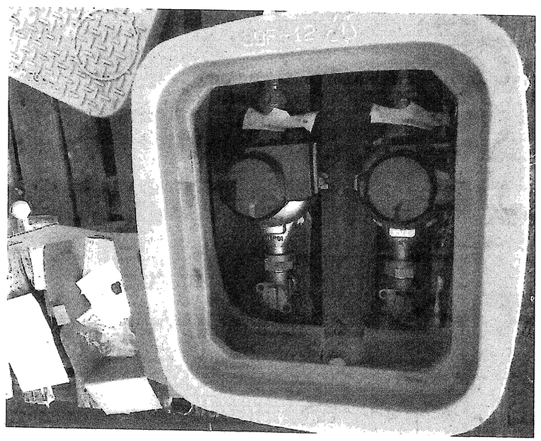
JUMBO CONCRETE METER BOX DETAIL

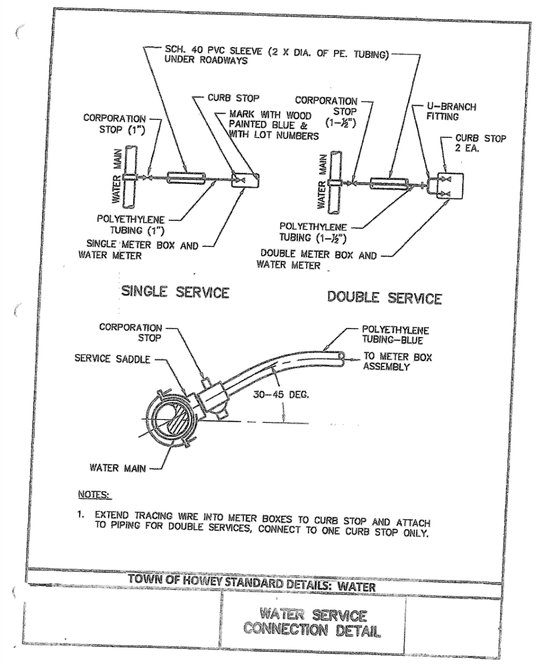


SINGLE CONCRETE METER BOX DETAIL



SINGLE CONCRETE METER BOX DETAIL





TOWN OF HOWEY STANDARD DETAILS: WATER

WATER SERVICE CONNECTION DETAIL

MADDEN
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CIVIL ENGINEERS
431 E. Horatio Avenue
Suite 260
Maitland, Florida 32751
(407) 629-8330

TOWN STANDARD DETAILS
FOR
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C911

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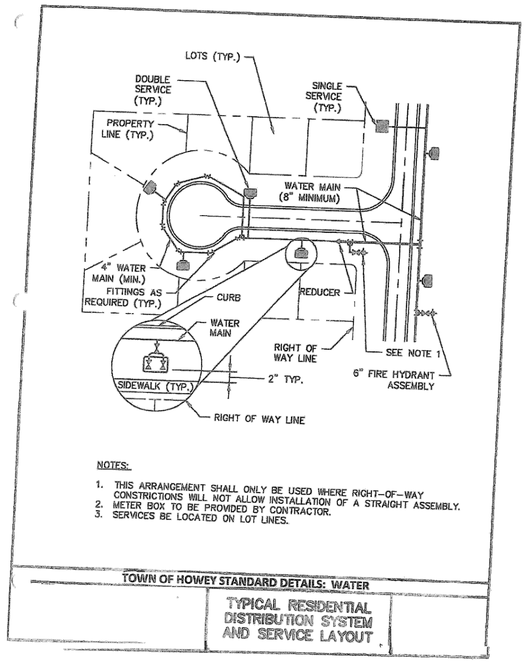


NOTES:

1. THIS ARRANGEMENT SHALL ONLY BE USED WHERE RIGHT-OF-WAY CONSTRICTIONS WILL NOT ALLOW INSTALLATION OF A STRAIGHT ASSEMBLY.
2. METER BOX TO BE PROVIDED BY CONTRACTOR.
3. SERVICES BE LOCATED ON LOT LINES.

TOWN OF HOWEY STANDARD DETAILS: WATER

TYPICAL RESIDENTIAL DISTRIBUTION SYSTEM AND SERVICE LAYOUT

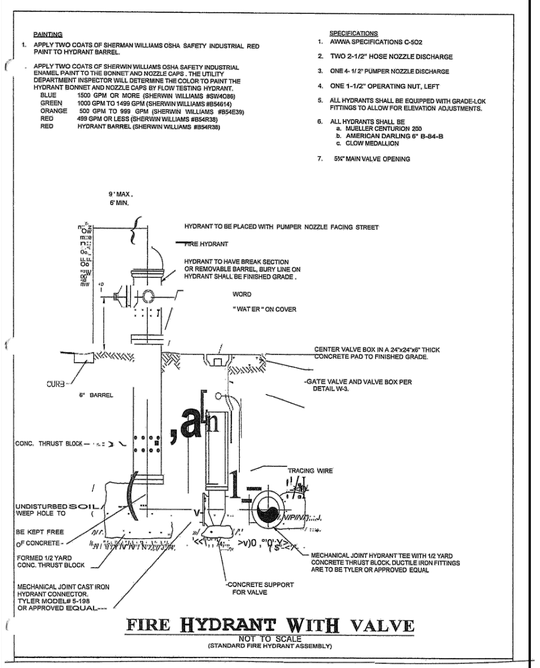
PAINTING

1. APPLY TWO COATS OF SHERWIN WILLIAMS OSHA SAFETY INDUSTRIAL RED PAINT TO HYDRANT BARREL.
2. APPLY TWO COATS OF SHERWIN WILLIAMS OSHA SAFETY INDUSTRIAL ENAMEL PAINT TO THE BONNET AND NOZZLE CAPS . THE UTILITY DEPARTMENT INSPECTOR WILL DETERMINE THE COLOR TO PAINT THE HYDRANT BONNET AND NOZZLE CAPS BY FLOW TESTING HYDRANT.

BLUE	1500 GPM OR MORE (SHERWIN WILLIAMS #B94C26)
GREEN	1000 GPM TO 1499 GPM (SHERWIN WILLIAMS #B94614)
ORANGE	500 GPM TO 999 GPM (SHERWIN WILLIAMS #B54E39)
RED	499 GPM OR LESS (SHERWIN WILLIAMS #B54R36)
RED	HYDRANT BARREL (SHERWIN WILLIAMS #B54R39)

SPECIFICATIONS

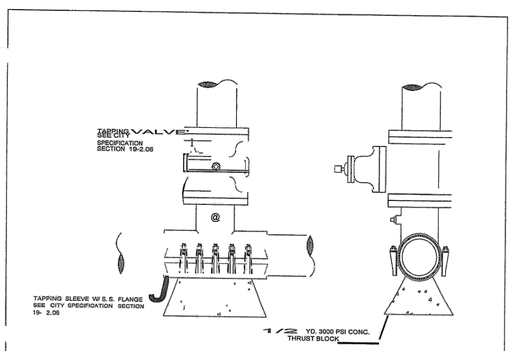
1. AWWA SPECIFICATIONS C-502
2. TWO 2-1/2" HOSE NOZZLE DISCHARGE
3. ONE 4- 1/ 2" PUMPER NOZZLE DISCHARGE
4. ONE 1-1/2" OPERATING NUT, LEFT
5. ALL HYDRANTS SHALL BE EQUIPPED WITH GRADE-LOK FITTINGS TO ALLOW FOR ELEVATION ADJUSTMENTS.
6. ALL HYDRANTS SHALL BE
   a. MUELLER CENTURION 250
   b. AMERICAN DARLING B- B-84-B
   c. CLOW MEDALLION
7. 5¼" MAIN VALVE OPENING



FIRE HYDRANT WITH VALVE

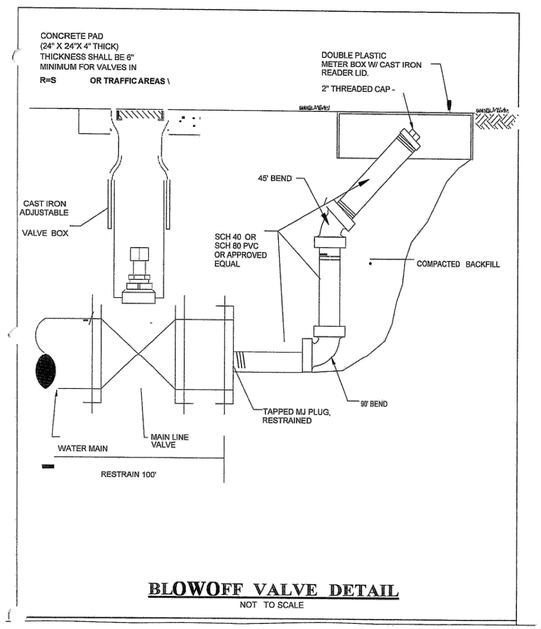
NOT TO SCALE

(STANDARD FIRE HYDRANT ASSEMBLY)



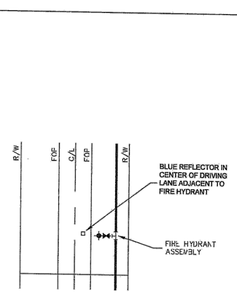
WET TAP SLEEVE & TAPPING VALVE

NOT TO SCALE



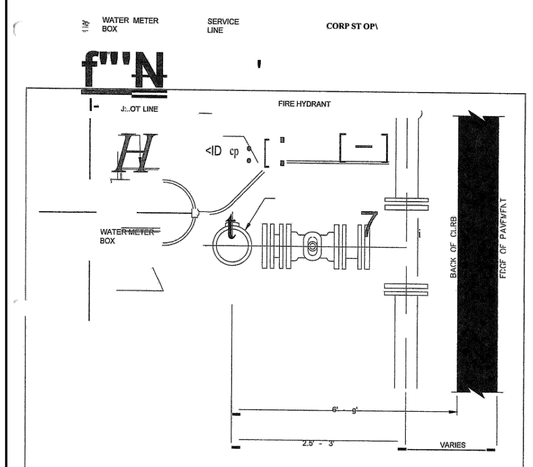
BLOWOFF VALVE DETAIL

NOT TO SCALE



FIRE HYDRANT REFLECTOR DETAIL

NOT TO SCALE

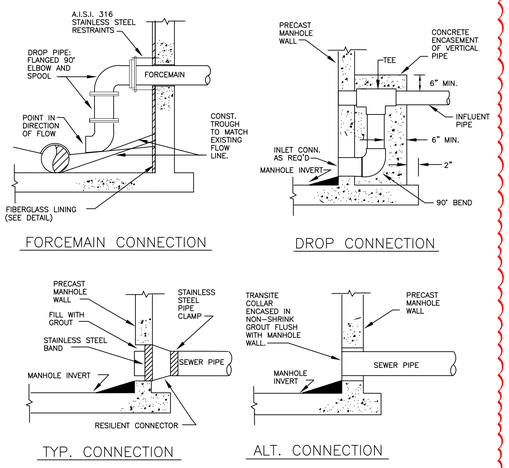


NOTES:

1. ALL METER BOXES TO BE LOCATED INSIDE ROAD R/W LINE
2. DETAIL TO BE USED WHERE FIRE HYDRANTS AND WATER SERVICES ARE LOCATED ON PLANS AND CONFLICT APPEARS APPARENT.

TYPICAL WATER SERVICE AND HYDRANT LOCATION DETAIL

NOT TO SCALE



FORCEMAIN CONNECTION

DROP CONNECTION

TYP. CONNECTION

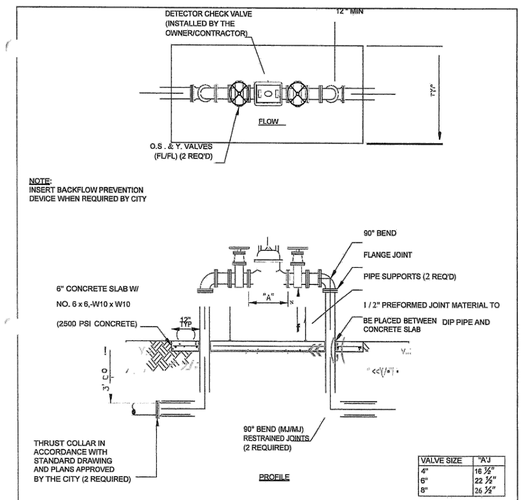
ALT. CONNECTION

NOTES:

1. PENETRATIONS TO EXISTING MANHOLES SHALL BE CORE BORED.
2. DROP CONNECTION SHALL BE REQUIRED WHENEVER THE INVERT OF AN INFLUENT SEWER IS LOCATED TWO (2) OR MORE FEET ABOVE THE MAIN CHANNEL.
3. DROP PIPE SHALL BE OF EQUAL SIZE AS THE INFLUENT SEWER. DROP PIPE SHALL BE PVC OR FIBERGLASS WITH NON CORROSIVE OR STAINLESS STEEL FITTINGS. IF A TRANSITION TO OTHER TYPE OF PIPE, THE TRANSITION SHALL BE OUTSIDE OF MANHOLE.
4. DURING PLACEMENT OF THE FIBERGLASS LINING, IF THE BENCH IS NOT REMOVED TO ALLOW THE LINING TO EXTEND TO THE BOTTOM OF THE MANHOLE, THE EXISTING BENCH SHALL BE NOTCHED AGAINST THE MANHOLE WALL FOR THE ENTIRE CIRCUMFERENCE TO A MINIMUM DEPTH OF TWO (2) INCHES AND THE FIBERGLASS LINING SHALL BE PLACED AND SEALED INTO THE NOTCH, ANY NEW CONCRETE/GROUT TO BE PLACED OVER THE EXISTING BENCH SHALL BE BONDED TO THE EXISTING BENCH USING AN APPROVED EPOXY BASE ADHESIVE TO PREVENT COLD JOINTS AND TO PROVIDE FOR PROPER BONDING.

⚠ MANHOLE CONNECTION DETAILS

NTS



VALVE SIZE	"A"
4"	16 ½"
6"	22 ½"
8"	26 ½"

NOTES:

1. ALL ABOVE GROUND PIPE JOINTS SHALL BE FLANGED.
2. DETECTOR CHECK VALVE SHALL BE INSTALLED BY THE CONTRACTOR .

DETECTOR CHECK VALVE ASSEMBLY

NOT TO SCALE

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ENGINEER: BENJAMIN S. BECKHAM (S/BECKHAM)
LICENSE: No. 79452 STATE OF FLORIDA
BENJAMIN S. BECKHAM
DATE: 10/18/2022
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

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C912

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GENERAL WATER NOTES

(5) EXCEPTIONS. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THE REQUIREMENTS IN SUBSECTION (1) OR (2) ABOVE, THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THESE REQUIREMENTS IF SUPPLIERS OF WATER OR CONSTRUCTION PERMIT APPLICANTS PROVIDE TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH EXCEPTION AND PROVIDE ALTERNATIVE CONSTRUCTION FEATURES THAT AFFORD A SIMILAR LEVEL OF RELIABILITY AND PUBLIC HEALTH PROTECTION.

(A) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE:
1. USE OF PRESSURE-RATED PIPE CONFORMING TO THE AMERICAN WATER WORKS ASSOCIATION STANDARDS INCORPORATED INTO RULE 62-555.330, F.A.C., FOR THE OTHER PIPELINE IF IT IS A GRAVITY- OR VACUUM-TYPE PIPELINE;
2. USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE; OR
3. USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.

(B) WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND IS BEING LAID LESS THAN THE REQUIRED MINIMUM VERTICAL DISTANCE FROM THE OTHER PIPELINE:
1. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN; AND
2. USE OF PIPE, OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (I.E., HAVING AN IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE) OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE OTHER PIPELINE IF IT IS NEW AND IS CONVEYING WASTEWATER OR RECLAIMED WATER.

MISCELLANEOUS WATER NOTES

1. WATER SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND REGULATIONS, CLEANED, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND CHAPTER 62-555 FLORIDA ADMINISTRATIVE CODE.
2. ALL PIPING SHALL BEAR THE "NSF" SEAL FOR POTABLE WATER.
3. WATER MAINS SHALL BE PVC CONFORMING TO AWWA C-900, DR 18 FOR PIPE SIZES 4"-12". PIPES 14" OR LARGER SHALL BE AWWA C-905, DR 18. ALL COUPLINGS COMPOUNDS, SOLVENTS, LUBRICANTS AND PIPE PREPARATION, FOR LAYING, SHALL IN ACCORDANCE WITH THE PIPE MANUFACTURERS LATEST RECOMMENDATIONS.
4.
5. DEPTH OF WATER LINES TO BE MINIMUM 36" BELOW FINISHED GRADE.
6. WATER MAINS TO BE LOCATED 5' FROM BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
7. ALL WATER MAINS UNDER PAVEMENT SHALL BE DUCTILE IRON AND SHALL EXTEND 5' BEYOND THE BACK OF CURB.
8. ALL SLEEVES UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE BACK OF CURB.

GENERAL WATER NOTES

(D) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.003, F.A.C.

(2) VERTICAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS AND RECLAIMED WATER PIPELINES.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM 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.

(3) SEPARATION BETWEEN WATER MAINS AND SANITARY OR STORM SEWER MANHOLES.

(A) NO WATER MAIN SHALL PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A SANITARY SEWER MANHOLE.

(B) EFFECTIVE AUGUST 28, 2003, WATER MAINS SHALL NOT BE CONSTRUCTED OR ALTERED TO PASS THROUGH, OR COME INTO CONTACT WITH, ANY PART OF A STORM SEWER MANHOLE OR INLET STRUCTURE. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THIS REQUIREMENT (I.E., WHERE THERE IS A CONFLICT IN THE ROUTING OF A WATER MAIN AND A STORM SEWER AND WHERE ALTERNATIVE ROUTING OF THE WATER MAIN OR THE STORM SEWER IS NOT TECHNICALLY FEASIBLE OR IS NOT ECONOMICALLY SENSIBLE), THE DEPARTMENT SHALL ALLOW EXCEPTIONS TO THIS REQUIREMENT (I.E., THE DEPARTMENT SHALL ALLOW CONSTRUCTION OF CONFLICT MANHOLES), BUT SUPPLIERS OF WATER OR PERSONS PROPOSING TO CONSTRUCT CONFLICT MANHOLES MUST FIRST OBTAIN A SPECIFIC PERMIT FROM THE DEPARTMENT IN ACCORDANCE WITH PART V OF THIS CHAPTER AND MUST PROVIDE IN THE PRELIMINARY DESIGN REPORT OR DRAWINGS, SPECIFICATIONS, AND DESIGN DATA ACCOMPANYING THEIR PERMIT APPLICATION THE FOLLOWING INFORMATION:
1. TECHNICAL OR ECONOMIC JUSTIFICATION FOR EACH CONFLICT MANHOLE.
2. A STATEMENT IDENTIFYING THE PARTY RESPONSIBLE FOR MAINTAINING EACH CONFLICT MANHOLE.
3. ASSURANCE OF COMPLIANCE WITH THE DESIGN AND CONSTRUCTION REQUIREMENTS IN SUB-SUBPARAGRAPHS A. THROUGH D. BELOW. - 351
   A. EACH WATER MAIN PASSING THROUGH A CONFLICT MANHOLE SHALL HAVE A FLEXIBLE, WATERTIGHT JOINT ON EACH SIDE OF THE MANHOLE TO ACCOMMODATE DIFFERENTIAL SETTLING BETWEEN THE MAIN AND THE MANHOLE.
   B. WITHIN EACH CONFLICT MANHOLE, THE WATER MAIN PASSING THROUGH THE MANHOLE SHALL BE INSTALLED IN A WATERTIGHT CASING PIPE HAVING HIGH IMPACT STRENGTH (I.E., HAVING IMPACT STRENGTH AT LEAST EQUAL TO THAT OF 0.25-INCH-THICK DUCTILE IRON PIPE).
   C. EACH CONFLICT MANHOLE SHALL HAVE AN ACCESS OPENING, AND SHALL BE SIZED, TO ALLOW FOR EASY CLEANING OF THE MANHOLE.
   D. GRATINGS SHALL BE INSTALLED AT ALL STORM SEWER INLETS UPSTREAM OF EACH CONFLICT MANHOLE TO PREVENT LARGE OBJECTS FROM ENTERING THE MANHOLE.

(4) SEPARATION BETWEEN FIRE HYDRANT DRAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS. NEW OR RELOCATED FIRE HYDRANTS WITH UNDERGROUND DRAINS SHALL BE LOCATED SO THAT THE DRAINS ARE AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.; AT LEAST THREE FEET, AND PREFERABLY TEN FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SIX FEET, AND PREFERABLY TEN FEET, FROM 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.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AS DEFINED IN SECTION 381.0065(2), F.S., AND RULE 64E-6.002, F.A.C.

GENERAL WATER NOTES

1. WATER SYSTEM COMPONENTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND REGULATIONS, CLEANED, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND CHAPTER 62-555 FLORIDA ADMINISTRATIVE CODE.
2. ALL PIPING SHALL BEAR THE "NSF" SEAL FOR POTABLE WATER.
3. WATER MAINS SHALL BE PVC CONFORMING TO AWWA C-900, DR 18 FOR PIPE SIZES 4"-12". PIPES 14" OR LARGER SHALL BE AWWA C-905, DR 18. ALL COUPLINGS, CLEANING COMPOUNDS, SOLVENTS, LUBRICANTS, AND PIPE PREPARATION, FOR LAYING, SHALL BE IN ACCORDANCE WITHTHE PIPE MANUFACTURER'S LATEST RECOMMENDATIONS.
4. DEPTH OF WATER LINES TO BE 36" MINIMUM COVER FROM FINISH GRADE.
5. WATER MAINS TO BE LOCATED 5' FROM BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISENOTED.
6. ALL SLEEVES UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE BACK OF CURB.
7. DISINFECTING: FOLLOWING THE PRESSURE TESTING, THE CONTRACTOR SHALL DISINFECT ALL SECTIONS OF THE WATER DISTRIBUTION SYSTEM. DISINFECTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF AWWA STANDARD C651 "DISINFECTING WATER MAINS", AND ALL APPROPRIATE AGENCY APPROVAL.
8. ALL HYDROSTATIC TESTS SHALL BE IN ACCORDANCE WITH AWWA C600 FOR DUCTILE IRON PIPE AND C605/M23 FOR PVC PIPE.
9. ALL WATER MAINS SHALL BE INSTALLED, PRESSURE AND LEAK TESTED IN ACCORDANCE WITH AWWA C600, (62-555.320(2)(B)1 AND 62-555.330, F.A.C. ALL INSTALLATION, TESTING AND FIELD PROCEDURES MUST BE PROVIDED AND MUST CONFORM TO THE APPLICABLE AWWA STANDARDS.
10. ALL PIPING MATERIALS AND SPECIFICATIONS COVERING PIPES, JOINTS AND PACKING MATERIALS, INTERNAL COATING AND LININGS, FITTINGS, SPECIALS AND APPURTENANCES SHALL ALL BE IN ACCORDANCE WITH THE CORRESPONDING AWWA STANDARDS AND BE ARE PROVIDED IN COMPLIANCE WITH PARAGRAPHS 62-555.320(2) (D), 622-555.320 (3) (B), AND 62-555.320 (21) (C), F.A.C. THE LEAD USE PROHIBITION IN RULE 62-555.322, F.A.C. SHALL ALSO APPLY. POLYETHYLENE TUBING SHALL BE PER AWWA C901. UNDERGROUND SERVICE LINES AND VALVES SHALL BE PER AWWA C800.

COLOR CODING

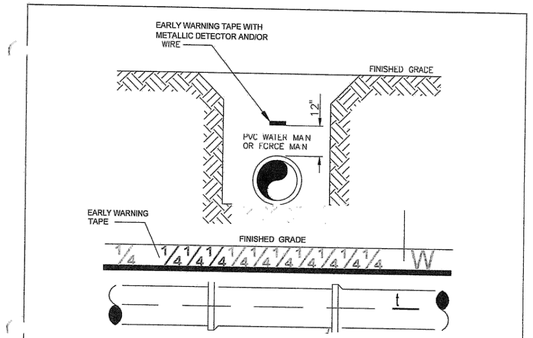
ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320(21)(B)3, F.A.C., USING BLUE AS A PREDOMINANT COLOR. (UNDERGROUND PLASTIC PIPE WILL BE SOLID-WALL BLUE PIPE, WILL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN, OR WILL BE WHITE OR BLACK PIPE WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE MANUFACTURING OF THE PIPE WILL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE PIPE WALL. PIPE STRIPED DURING GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THE TAPE OR PAINT WILL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE. FOR PIPE WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT WILL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE WILL BE PAINTED BLUE OR WILL BE COLOR CODED OR MARKED LIKE UNDERGROUND PIPE.) [FAC 62CLL 555.320(21)(B)3]

ALL WATER MAINS SHALL BE INSTALLED IN ACCORDANCE WITH **CHAPTER 62-555.314, F.A.C.,** AND ANY UPDATES TO THE F.A.C., AND IN CONFORMANCE WITH ALL SEPARATION REQUIREMENTS AS FOUND THEREIN.

62-555.314 LOCATION OF PUBLIC WATER SYSTEM MAINS.
FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT ARE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER.

(1) HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATER MAINS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

(A) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C
(B) NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.
(C) 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.



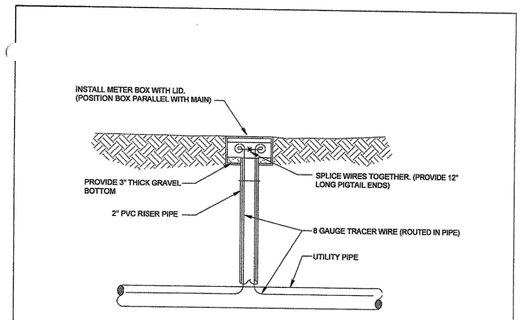
NOTES:

1. ALL MAINS INSTALLED BY OPEN CUT SHALL HAVE A "EARLY WARNING" PROTECTION TAPE AND WIRE INSTALLED CONTINUOUSLY ALONG THE ALIGNMENT. THE PROTECTION TAPE SHALL BE TERRA-TAPE OR EQUAL. TAPE SHALL BE INSTALLED DURING BACKFILLING 12" ABOVE THE PIPE AND SHALL BE CONTINUOUSLY MARKED FOR THE TYPE OF PIPE (EXAMPLE: CAUTION , WATER MAIN BURIED BELOW") . THE TAPE SHALL HAVE A METALLIC DETECTABLE STRIP INCLUDED AND COLOR CODED AS

   FOLLOWS :
   BLUE - POTABLE WATER
   GREEN - SANITARY FORCE MAIN, GRAVITY SEWER, LOW PRESSURE MAIN
   PURPLE - EFFLUENT REUSE
   RED - DEDICATED FIRE LINE

2. ALL PVC MAINS SHALL BE A SOLID COLOR AS DESCRIBED ABOVE.
   ALL DUCTILE IRON MAINS SHALL BE WRAPPED WITH COLOR CODED BAGS.
   ALL PVC POTABLE WATER PIPE SHALL BEAR THE NATIONAL SANITATION FOUNDATION (NSL) SEAL OF APPROVAL .

UTILITY PIPE L OCATI ON MATERIAL

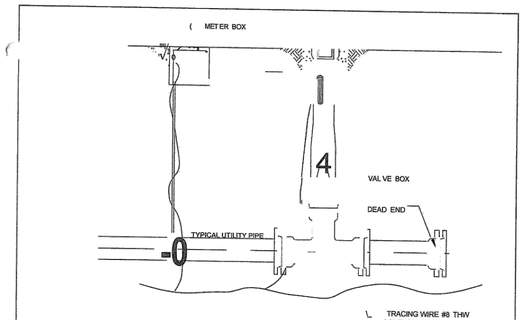


TRACER WIRE BOX UTILIZING METER BOX

NOTES:

1. TRACER WIRE STATION BOX TO BE INSTALLED WHERE THE WIRE CANNOT BE BROUGHT TO GRADE IN A VALVE BOX WITHIN THE MANDATORY 500 FOOT INTERVAL OR WHERE A SPLICE MUST MUST BE MADE ON THE TRACER WIRING. NO UNDERGROUND SPLICES.
2. BOXES SHALL NOT BE LOCATED IN ROADWAYS OR DRIVEWAYS.
3. BOX AND LID PER DETAIL W-19.
4. TRAFFIC RATED LID (STANDARD-NON BOLT DOWN)
5. LID COLOR SHALL BE PRE-MANUFACTURED OR PAINTED TO MATCH SERVICE (BLUE= WATER, GREEN=SEWER, PURPLE=RECLAIM)

TRACER WIRE BOX



ALL PIPE INSTALLED VIA OPEN CUT SHALL BE INSTALLED WITH #8 THW SOLID COPPER COATED TRACING WIRE. ALL PIPE INSTALLED VIA HDD SHALL BE INSTALLED WITH TWO #12 COPPER CLAD STEEL WIRES.

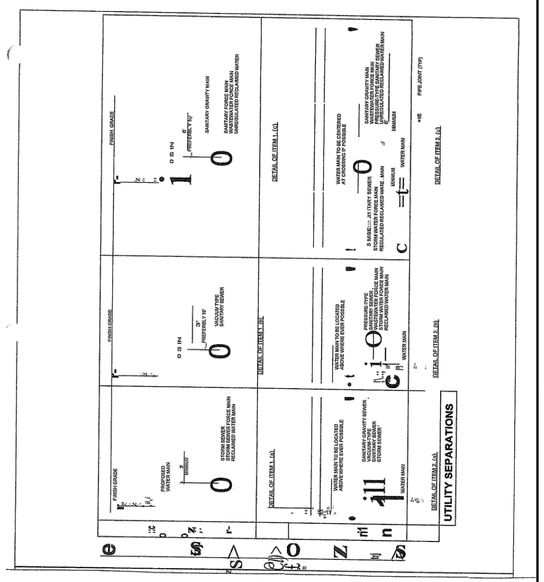
THE TRACING WIRE MUST BE INSTALLED DIRECTLY BELOW THE PIPE AND BROUGHT TO THE SURFACE AT 500' MINIMUM INTERVALS. WIRE SHALL EXTEND A MINIMUM OF 12" ABOVE GRADE AT EACH INTERVAL AND BE COILED AND PLACED IN A VALVE BOX, METER BOX, MANHOLE, CLEANOUT, LOCATE WIRE BOX, OR OTHER APPLICABLE STRUCTURE.

COLOR CODING:

POTABLE WATER SYSTEM: BLUE
REUSE WATER SYSTEM: PURPLE
SANITARY SEWER , FORCE MAINS AND LOW PRESSURE SEWER SYSTEMS: GREEN

1. FOR LOW PRESSURE SEWER, POTABLE WATER AND REUSE 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 .
2. FIRE SPRINKLER LINES: WIRE SHALL CONNECT TO THE WIRE INSTALLED BELOW THE MAIN AND EXTEND TO THE RISER CONNECTION .
3. 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 , FLORIDA WATER SERVICE APPROVED , VALVE BOX.
4. DEAD END MAINS: WIRE SHALL BE PLACED IN A PROPERLY IDENTIFIED METAL VALVE BOX AT THE END OF THE RUN .
5. WIRE SHALL NOT BE FASTENED OR COILED TO VALVE OPERATING NU T.

UTILITY PIPE LOCATION MATERIALS



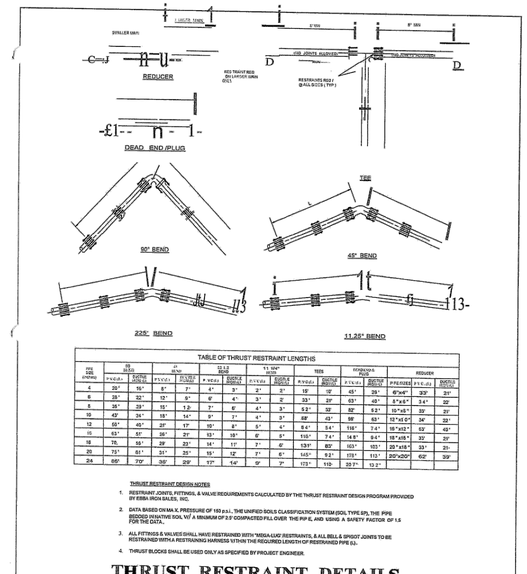


TABLE OF THRUST RESTRAINT LENGTHS

PIPE SIZE (INCHES)	90 BLOCK		45 BLOCK		22½ BLOCK		11.25° BLOCK		TEES		REDUCERS		REDUCER	
	A (L x W x D)	VOLUME (CU. YD.)	A (L x W x D)	VOLUME (CU. YD.)	A (L x W x D)	VOLUME (CU. YD.)	A (L x W x D)	VOLUME (CU. YD.)	A (L x W x D)	VOLUME (CU. YD.)	A (L x W x D)	VOLUME (CU. YD.)	PRESSURE	A (L x W x D)	REDUCED PRESSURE
4	2'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
6	3'0"	1'0"	2'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
8	4'0"	2'0"	2'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
10	5'0"	2'0"	3'0"	1'0"	2'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
12	6'0"	3'0"	4'0"	2'0"	2'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
14	7'0"	4'0"	4'0"	2'0"	2'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
16	8'0"	5'0"	5'0"	2'0"	3'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
18	9'0"	6'0"	5'0"	3'0"	3'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
20	10'0"	7'0"	6'0"	3'0"	3'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
24	12'0"	10'0"	7'0"	4'0"	4'0"	2'0"	2'0"	1'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
30	15'0"	14'0"	9'0"	5'0"	5'0"	2'0"	2'0"	1'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
36	18'0"	19'0"	11'0"	7'0"	6'0"	3'0"	3'0"	1'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
42	21'0"	25'0"	13'0"	9'0"	7'0"	4'0"	3'0"	2'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI
48	24'0"	32'0"	15'0"	11'0"	8'0"	4'0"	4'0"	2'0"	1'0"	1'0"	1'0"	1'0"	45 PSI	1'0"x1'0"x1'0"	31 PSI

THRUST RESTRAINT DESIGN NOTES

1. RESTRAINT JOINTS, FITTINGS, & VALVE REQUIREMENTS CALCULATED BY THE THRUST RESTRAINT DESIGN PROGRAM PROVIDED BY EBBA IRON SALES, INC.
2. DATA BASED ON A W. PRESSURE OF 150 p.s.i., THE UNIFIED SOILS CLASSIFICATION SYSTEM (SOIL TYPE 5/5), THE PIPE BEDDED IN NATIVE SOIL W/ A MINIMUM OF 3.0' COMPACTED FILL OVER THE PIPE E, AND USING A SAFETY FACTOR OF 1.5. FOR THE DATA.
3. ALL FITTINGS & VALVES SHALL HAVE RESTRAINED WITH "MEGA-LUG" RESTRAINTS, & ALL BELL & SPIGOT JOINTS TO BE RESTRAINED WITH A RESTRAINING HARNESS WITHIN THE REQUIRED LENGTH OF RESTRAINED PIPE (L).
4. THRUST BLOCKS SHALL BE USED ONLY AS SPECIFIED BY PROJECT ENGINEER.

THRUST RESTRAINT DETAILS

NOT TO SCALE

MADDEN
MOORHEAD & STOKES, LLC
CIVIL ENGINEERS
431 E. Horatio Avenue
Suite 260
Maitland, Florida 32751
(407) 629-8330

TOWN STANDARD DETAILS
FOR
VENEZIA TOWNHOMES
HOWEY-IN-THE-HILLS, FLORIDA
LAKE COUNTY

D - R - HORTON
10192 DOWGEN RD., SUITE 150
ORLANDO, FL 32832
(407) 850-5245

ENGINEER: BENJAMIN S. BECKHAM
LICENSE No. 79452
STATE OF FLORIDA
PROFESSIONAL ENGINEER
BENJAMIN S. BECKHAM
DATE: 10/22/2021
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

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11	DATE	REVISIONS

JOB # 21052
DATE: 10/22/2021
SCALE: N.T.S.
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C913

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TEMPORARY JUMPER CONNECTION NOTES

1. A TEMPOR AR Y JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE WATER MAINS AND PROPOSED NEW WATER MAIN IMPROVEMENTS.
2. THE DETAILS TO BE USED FOR FILLING ANY WATER MAIN OF ANY SIZE FROM EXISTING ACTIVE WATER MAINS AND FOR FLUSHING OF NEW MAINS UP TO 8 " DIAMETER (2. 5 FPS MINIMUM VELOCITY) AND FOR FILLING BACTERIOLOGICAL SAMPLES FROM ANY NEW WATER MAIN OF ANY SIZE. THE JUMPER CONNECTION SHALL BE MAINTAINED UNTIL AFTER FILLING, FLUSHING , TESTING AND DISINFECTION OF THE NEW MAIN HAS BEEN SUCCESSFULLY COMPLETED AND CLEARANCE FOR USE FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND OTHER PERTINENT AGENCIES HAS BEEN REC EIVED. THE JUMPER CONNECTION SHALL ALSO BE USED TO MAINTAIN A MINIMUM PRESSURE OF 20 psi IN THE NEW MAINS ALL THE TIME AFTER DISINFECTION AND UNTIL THE FDEP CLEARANCE LETTER IS OBTAINED. ADEQUA TE THRUST BLOCKING AND /OR RESTRAINTS SHALL BE PROVIDED TEMPORARILY , AS REQUIR ED. PIPE AND FITTINGS USED FOR CONNECTING THE NEW PIPE TO THE EXISTING PIPE SHALL BE DISINFECTED PRIOR TO INSTALLATION IN ACCORDANCE WITH AWWA C9 51 , LATEST EDITION. THIS TAPPING SLEEVE AND THE EXTERIOR OF THE MAIN TO BE TAPPED SHALL BE DISINFECTED BY SPRAYING OR SWABBING PER SECTION H OF AWWA C09 1, LATEST EDITION .
3. FLUSHING OF 10" DIAMETER AND LARGE WATER MAINS MAY BE DONE THROUGH THE TIE-IN VALVE , IN THE PRESENCE OF THE UTILITY DIRECTOR OR HIS DESIGNEE. THE UTILITY DEPARTMENT WILL NOTIFIED IN WRITING 48 HOURS PRIOR TO THE FLUSHING OF SAID MAINS .

   THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:

   A. THE TIE-IN VALVES SHALL BE OPERATED AND PRESSURE TESTED IN THE PRESENCE OF THE UTILITY COMPANY AND ENGINEER TO VERIFY WATER TIGHTNESS PRIOR TO THE TIE- IN. VALVES WHICH ARE NOT WATERTIGHT SHALL BE REPLACED OR A NEW VALVE INSTALLED IMMEDIATELY ADJACENT TO THE LEAKING VALVE .

   B. THE TEMPORARY JUMPER CONNECTION SHALL BE CONSTRUCTED AS DETAIL ED. THE JUMPER CONNECTION SHALL BE USED TO FILL THE NEW WATER MAIN AND FOR PROVIDING WATER FOR BACTERIOLOGICAL SAMPLING OF THE NEW MAIN AS REQUIRED BY THE FDEP PERMIT .

      FLUSHING SHALL NOT BE ATTEMPTED DURING PEAK DEMAND HOURS OF THE EXISTING WATER MAIN .

      ALL DOWNSTREAM VALVES IN THE NEW SYSTEM MUST BE OPEN PRIOR TO OPENING THE TIE-IN VALVE .

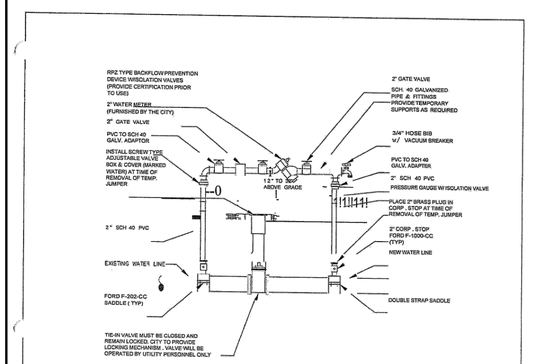
      PROVIDE FOR AND MONITOR THE PRESSURE AT THE TIE-IN POINT, THE PRESSURE IN THE EXISTING MAIN MUST NOT DROP BELOW 35 psi.

      TIE-IN VALVE SHALL BE OPENED A FEW TURNS ONLY , ENSURING A PRESSURE DROP ACROSS THE VALE IS ALWAYS GRATER THAN 10 psi.

   C. THE TIE-IN VALVE SHALL BE LOCKED CLOSED BY THE CITY UNTIL FLUSHING BEGINS.

   D. THE TIE-IN VALVE SHALL BE OPENED ONLY A FEW TURNS FOR FLUSHING OF THE NEW MAIN , THE PROCEDURE SHALL BE DIRECTED BY THE CITY AND OBSERVED BY THE ENGINEER.

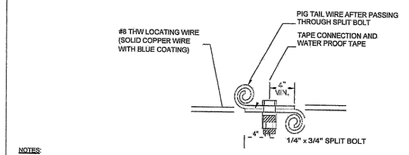
   E. AFTER FLUSHING, THE TIE-IN VALVE SHALL BE CLOSED AND LOCKED IN THE CLOSED POSITION BY THE CITY .
4. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE RPZ BACKFLOW PREVENTION DEVICE HAS BEEN TESTED WITHIN ONE YEAR AT THE TIME OF INSTALLATION AND IS IN GOOD WOR K ING ORDER AT THE TIME OF INSTALLATION . THE TEST SHALL BE PERFORMED BY A QUALIFIED BACKFLOW PREVENTION TECHNICIAN .
5. EXCEPT AS REQUIRED TO FLUSH LINES OF GREATER THAN 8 " IN DIAMET ER, THE TIE-IN VALVE SHALL REMAIN CLOSED AND SHALL BE LOCKED IN THE CLOSED POSITION BY THE CITY , THE TIE-IN VALVE SHALL REMAIN LOCKED CLOSED UNTIL THE NEW SYSTEM HAS BEEN CLEARED FOR USE BY FDEP AND ALL OTHER PERTINENT AGENCIES .
6. UPON RECEIPT OF CLEARANCE FOR USE FROM FDEP AND ALL OTHER PERTINENT AGENCIES , THE CONTRACTOR SHALL REMOVE THE JUMPER CONNECTION. THE CORPORATION STOPS ARE TO BE CLOSED AND PLUGGED WITH 2" BRASS PLUGS.
7. ALL INSTALLATION AND MAINTENANCE OF THE TEMPORARY JUMPER CONNECTION AND ASSOCIATED BACKFLOW PREVENTION DEVICE FITTINGS, VALVE , ETC., SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.



TEMPORARY JUMPER CONNECTION DETAIL

NOT TO SCALE

NOTE: LOCATION TO BE DETERMINED AT TIME OF PRECONSTRUCTION CONFERENCE W CITY.

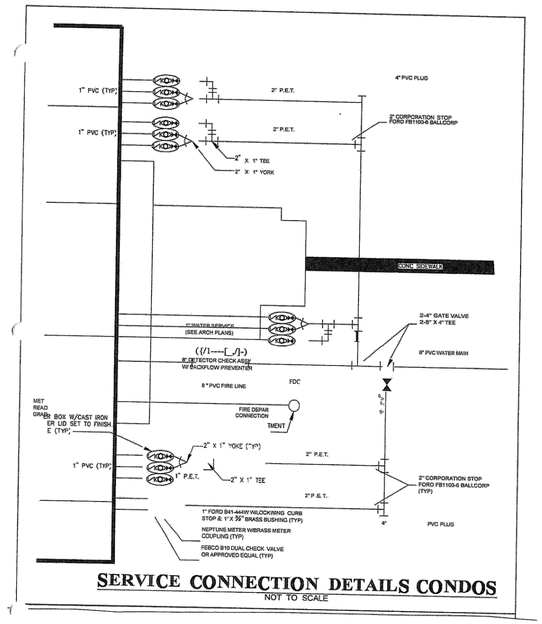


NOTES:

1. THE ENDS OF ALL LOCATING WIRES, WHETHER THEY ARE SPLICED, CONNECTED, OR TERMINATED, SHALL HAVE THE LAST THREE INCHES PIG TAILED AS DETAILED HEREON.
2. AFTER INSTALLATION OF THE LOCATING WIRE THE SYSTEM SHALL BE SUBJECTED TO TESTING, IN THE PRESENCE OF CITY UTILITY DIRECTOR OR HIS DESIGNEE PRIOR TO BACKFILL, IN ORDER TO CONFIRM THAT THE SYSTEM IS FUNCTIONAL.

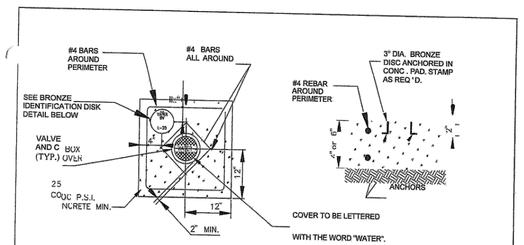
LOCATING WIRE SPLICING

NOT TO SCALE



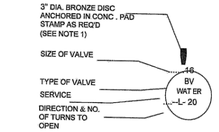
SERVICE CONNECTION DETAILS CONDOS

NOT TO SCALE



NOTE:

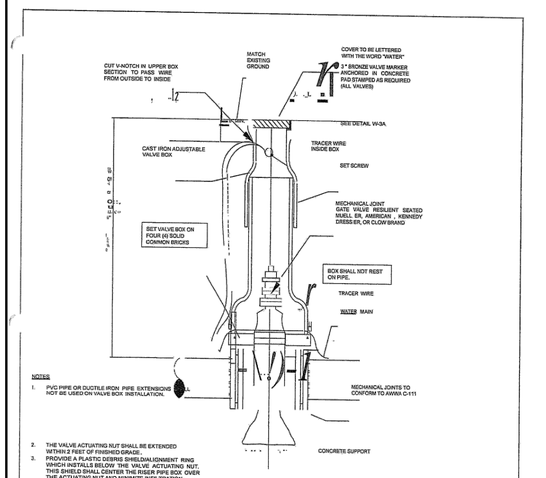
1. . BRONZE IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES .
2. . 6" THICK CONCRETE PAD IN ROADWAY OR PAVED AREAS .



BRONZE IDENTIFICATION DISC DETAIL

VALVE COLLAR DETAIL

NOT TO SCALE

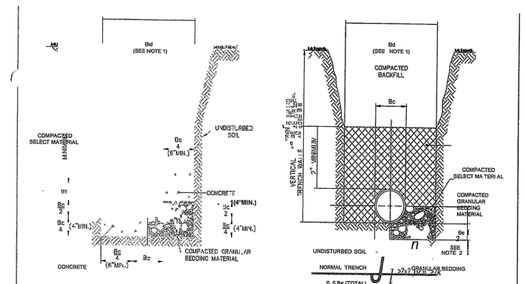


NOTES

1. PVC PIPE OR DUCTILE IRON PIPE EXTENSIONS MAY NOT BE USED ON VALVE BOX INSTALLATION.
2. THE VALVE ACTUATING NUT SHALL RE EXTENDED WITHIN 2 FEET OF FINISHED GRADE .
3. PROVIDE A PLASTIC DEBRIS SHIELD/ALIGNMENT RING WHICH INSTALLS BELOW THE VALVE ACTUATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE ACTUATING NUT AND MINIMIZE INFILTRATION . FOR NEW CONS TRUCTION , THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS .
4. VALVE BOX IS TYLER UNION NO. 6850, OR APPROVED EQUAL, TWO PIECE SCREW TYPE.
5. VALVE BOX IS TYLER UNION NO. 6850, OR APPROVED EQUAL, TWO PIECE SCREW TYPE.

GATE VALVE & BOX DETAIL

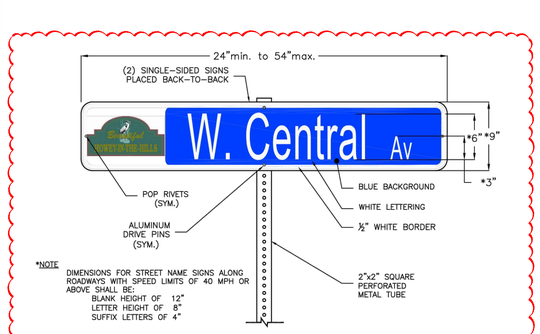
NOT TO SCALE



NOTES: FOR BEDDING AND TRENCHING

1. DIMENSION Be = OUTSIDE PIPE DIAMETER
   DIMENSION Bc = TRENCH WIDTH AT TOP OF PIPE
   MAXIMUM Bd = Be + 35"
   MINIMUM Bd = MAXIMUM DIMENSION OF BELL + 8" (UNSHEETED TRENCH)
2. DEPTH FOR REMOVAL FOR UNSUITABLE MATERIAL SHALL BE AS REQUIRED TO REACH SUITABLE FOUNDATION. FOR ROCK OR OTHER NON-USHOORING MATERIAL, DEPTH SHALL BE 6" BELOW BOTTOM OF UTILITY.
3. . ALL BACKFILL AND SELECT MA TERI AL UNDER ALL ROADWAYS, DRIVES ENCLOSING DIRT DRIVES , AND PARKING AREAS SHALL BE COMPACTED TO 98% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY, (AASHTO T-180). BACKFILL AND SELECT MATERIAL UNDER ALL OTHERS AREAS SHALL BE COMPACTED AS FOLLOWS: FROM BOTTOM OF TRENCH TO 12" ABOVE TOP OF PIPE - 85% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180), FROM 12 " ABOVE TOP OF PIPE TO TOP OF BACKFILL - 90% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180)

TRENCHING AND BEDDING DETAILS



*NOTE

DIMENSIONS FOR STREET NAME SIGNS ALONG ROADWAYS WITH SPEED LIMITS OF 40 MPH OR ABOVE SHALL BE:
BLANK HEIGHT OF 12"
LETTER HEIGHT OF 8"
SUFFIX LETTERS OF 4"

SIGN BLANKS:
- .063" ALUMINUM
- ALUMINUM CHEMICALLY TREATED TO MEET ATSM B449 STANDARD (PRE-TREATMENT FOR PAINT OR REFLECTIVE SHEETING)
- DIMENSIONS ARE TO BE 9" or 12" HEIGHT X 24" MINIMUM TO 54" MAXIMUM LENGTH. BLANK LENGTH TO BE DETERMINED BY ROAD NAME LENGTH AND BE ESTABLISHED IN 6" INCREMENTS, I.E. (24",30",36",42",48" OR 54")

COLOR:
- THE BACKGROUND SHALL BE HIGH INTENSITY PRISMATIC GREATER WHITE SHEETING WITH BLUE TRANSPARENT FILM OVERLAY.

LEGEND/LETTERING:
- ONE-HALF INCH (1/2") WHITE BORDER, 1/2" FROM THE EDGE.
- STREET NAMES SHALL BE 6" or 8" SERIES B LETTERS.
- THE ABBREVIATED SUFFIX "Rd", "Ave", "Dr", ETC., SHALL BE 3" or 4" SERIES B.

MOUNTING:
- MOUNTING SHALL BE TWO SINGLE-SIDED SIGNS WITH ATTRIBUTES ABOVE, MOUNTED BACK TO BACK, WITH ENDS POP RIVETED TOGETHER ON 2"x2" METAL POST, ATTACHED WITH ALUMINUM DRIVE PINS. NO EDGE-CLAMPING STYLE MOUNTING BLOCKS ARE TO BE USED.

MADDEN
MOORHEAD & STOKES, LLC
CIVIL ENGINEERS
431 E. Horatio Avenue
Suite 260
Maitland, Florida 32751
(407) 629-8330

TOWN STANDARD DETAILS
FOR
VENEZIA TOWNHOMES
HOWEY-IN-THE-HILLS, FLORIDA
LAKE COUNTY

D. R. HORTON
10192 DOWGEN RD., SUITE 150
ORLANDO, FL 32832
(407) 850-5245

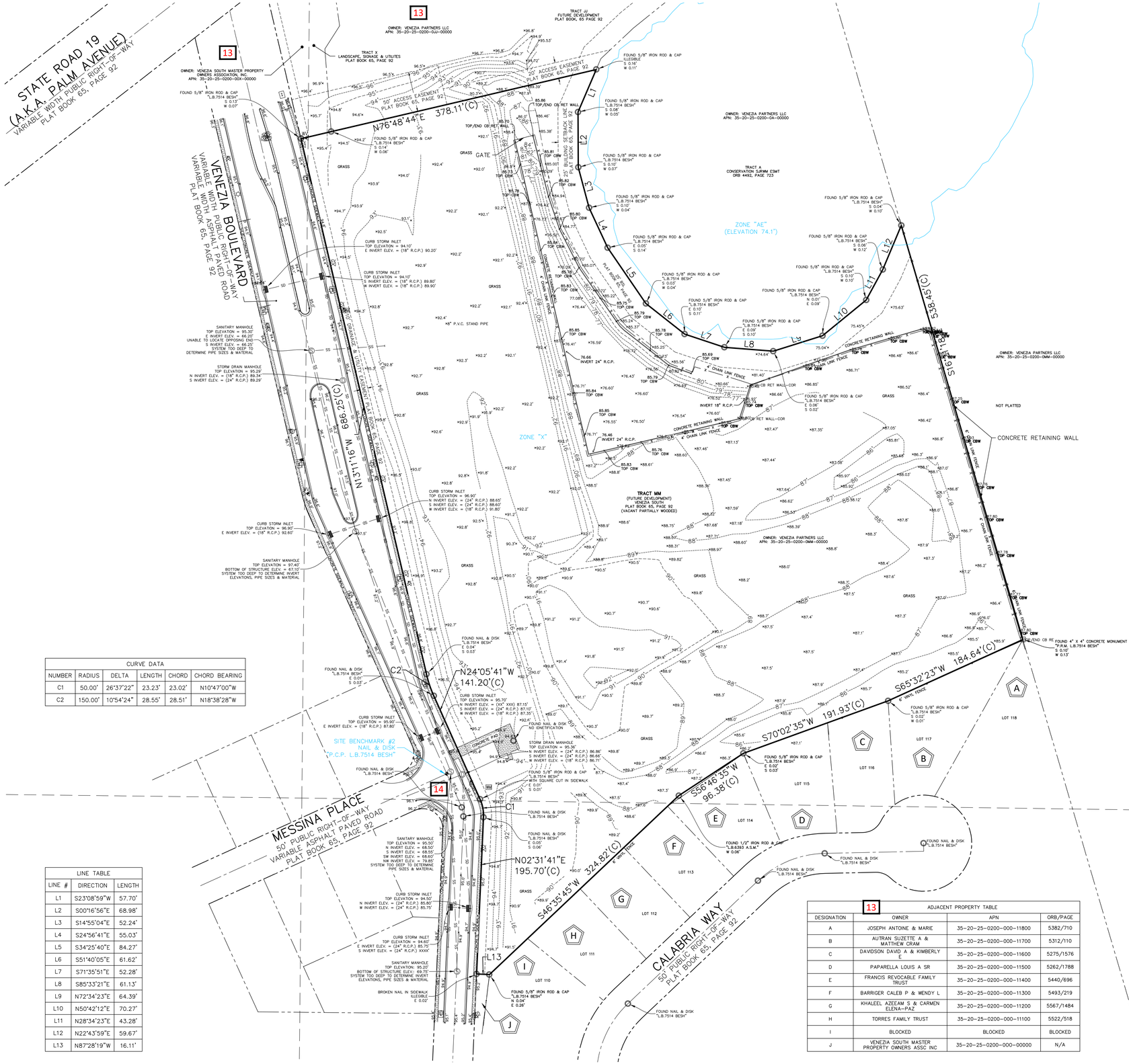
ENGINEER'S SEAL
BENJAMIN S. BECKHAM
LICENSE No. 79452
STATE OF FLORIDA
PROFESSIONAL ENGINEER
DATE ISSUED: 10/22/2022
CERTIFICATE OF AUTHORIZATION NO. CA-0007723

	DATE	REVISIONS
1	01/18/22	REVISED PER TOWN OF HOWEY-IN-THE-HILLS COMMENTS
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		

JOB # 21052
DATE: 10/22/2021
SCALE: N.T.S.
DESIGNED BY: BSB
DRAWN BY: JAS
APPROVED BY: BSB

C914

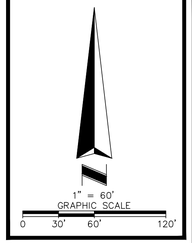
H:\Data\21052\Eng\Final\21052_C910 County Details.dwg January 18, 2022 - 3:02 PM



CURVE DATA					
NUMBER	RADIUS	DELTA	LENGTH	CHORD	CHORD BEARING
C1	50.00'	26°37'22"	23.23'	23.02'	N10°47'00"W
C2	150.00'	10°54'24"	28.55'	28.51'	N18°38'28"W

LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	S23°08'59"W	57.70'
L2	S00°16'56"E	68.98'
L3	S14°55'04"E	52.24'
L4	S24°56'41"E	55.03'
L5	S34°25'40"E	84.27'
L6	S51°40'05"E	61.62'
L7	S71°35'51"E	52.28'
L8	S85°33'21"E	61.13'
L9	N72°34'23"E	64.39'
L10	N50°42'12"E	70.27'
L11	N28°34'23"E	43.28'
L12	N22°43'59"E	59.67'
L13	N87°28'19"W	16.11'

13 ADJACENT PROPERTY TABLE			
DESIGNATION	OWNER	APN	ORB/PAGE
A	JOSEPH ANTOINE & MARIE	35-20-25-0200-000-11800	5382/710
B	AUTRAN SUZETTE A & MATTHEW CRAM	35-20-25-0200-000-11700	5312/110
C	DAVIDSON DAVID A & KIMBERLY E	35-20-25-0200-000-11600	5275/1576
D	PAPARELLA LOUIS A SR	35-20-25-0200-000-11500	5262/1788
E	FRANCIS REVOCABLE FAMILY TRUST	35-20-25-0200-000-11400	5440/696
F	BARRIGER CALEB P & WENDY L	35-20-25-0200-000-11300	5493/219
G	KHALEEL AZEEAM S & CARMEN ELENA-PAZ	35-20-25-0200-000-11200	5567/1484
H	TORRES FAMILY TRUST	35-20-25-0200-000-11100	5522/518
I	BLOCKED	BLOCKED	BLOCKED
J	VENEZIA SOUTH MASTER PROPERTY OWNERS ASSC INC	35-20-25-0200-000-00000	N/A



LEGAL DESCRIPTION

TRACT MM OF VENEZIA SOUTH, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 65, PAGE(S) 92 THROUGH 97, INCLUSIVE, OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA.

SURVEYOR'S NOTES

1. BEARINGS SHOWN HEREON ARE BASED ON EAST RIGHT-OF-WAY LINE OF VENEZIA BOULEVARD, WHICH BEARS NORTH 13 DEGREES 11 MINUTES 16 SECONDS WEST, PER PLAT BOOK 65 PAGE 92.

2. ALL STATEMENTS WITHIN THE CERTIFICATION, AND OTHER REFERENCES LOCATED ELSEWHERE HEREON, RELATED TO: UTILITIES, IMPROVEMENTS, STRUCTURES, BUILDINGS, PARTY WALLS, PARKING, EASEMENTS, SERVITUDES, AND ENCROACHMENTS ARE BASED SOLELY ON ABOVE GROUND, VISIBLE EVIDENCE, UNLESS ANOTHER SOURCE OF INFORMATION IS SPECIFICALLY REFERENCED HEREON.

3. THE SURVEYOR HAS NOT ABSTRACTED THE LAND SHOWN HEREON FOR EASEMENTS, RIGHT-OF-WAY OR RESTRICTIONS OF RECORD WHICH MAY AFFECT THE TITLE OR USE OF LAND, NOR WAS ANY TITLE WORK PROVIDED TO THIS SURVEYOR BY THE CLIENT.

4. NOT VALID WITHOUT THE ELECTRONIC SEAL OF A FLORIDA LICENSED PROFESSIONAL SURVEYOR & MAPPER.

5. ALL RECORDING INFORMATION CITED HEREON REFERS TO THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA.

6. VERTICAL INFORMATION BASED ON: BENCHMARK A-431 HAVING A PUBLISHED ELEVATION OF 99.32 (NAVD 88).
DESCRIBED AS: A STAINLESS STEEL ROD WITHOUT SLEEVE

7. THIS IS NOT A BOUNDARY SURVEY, IT IS INTENDED TO BE USED FOR TOPOGRAPHY PURPOSES ONLY.

UNDERGROUND UTILITIES

UNDERGROUND UTILITIES ARE NOT SHOWN. NO SUB-SURFACE EXCAVATION OR EXPLORATION WAS PERFORMED FOR THE PURPOSE OF PREPARING THIS SURVEY, ONLY VISIBLE SURFACE EVIDENCE OF UTILITIES IS SHOWN.

FLOOD INFORMATION

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN ZONE "X" AND ZONE "AE", AS SHOWN ON THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 120585 0485 E (MAP NO. 12069C0485E), WHICH BEARS AN EFFECTIVE DATE OF 12/18/2012, AND NOT IN A SPECIAL FLOOD HAZARD AREA. NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE. ZONE "X" DENOTES AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. ZONE "AE" DENOTES AREAS DETERMINED TO BE SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT, BASE FLOOD ELEVATIONS DETERMINED.

LEGEND AND ABBREVIATIONS

BENCHMARK	L.B. LICENSED BUSINESS
CONCRETE MONUMENT AS NOTED	R.C.P. REINFORCED CONCRETE PIPE
CURB STORM INLET	P.C.P. PERMANENT CONTROL POINT
FIRE HYDRANT	P.R.M. PERMANENT REFERENCE MONUMENT
IRRIGATION CONTROL VALVE	P.V.C. POLYVINYL CHLORIDE PIPE
LIGHT POLE	(R) RECORD DATA
RECOVERED MONUMENT AS NOTED	(C) CALCULATED DATA
SANITARY SEWER MANHOLE	(M) FIELD MEASURED DATA
SIGN	CONCRETE SURFACE
STORM MANHOLE	x CHAIN LINK FENCE
UTILITY PULL BOX	VINYL FENCE
WATER METER	SS SANITARY SEWER LINE
WATER VALVE	SD STORM DRAIN LINE

SHEET 1
OF 1

I HEREBY CERTIFY THAT THIS SURVEY, SUBJECT TO THE SURVEYOR'S NOTES CONTAINED HEREON, MEETS THE APPLICABLE "STANDARDS OF PRACTICE" AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

E. GLENN TURNER PSM #5643 — DATE

FOR FIRM

DATE	REVISIONS	TECH

TOPOGRAPHIC SURVEY OF
VENEZIA
HOWEY IN THE HILLS, FLORIDA
SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST
LAKE COUNTY

AMERICAN SURVEYING & MAPPING, INC.
NDDS NATIONAL DUE DILIGENCE SERVICES
A Nationwide Land Surveying & Mapping Network
3191 Maguire Blvd. Suite 257 Orlando, FL 32803
407-426-7979
americansurveyingandmapping.com

JOB NO.: 210570
SCALE: 1"= 60'
FIELD DATE: 06/30/21
FIELD BY: JW
DRAWN BY: KLKL
APPROVED BY: GT
DRAWING FILE #: 21570 - VENEZIA ALTA.DWG

Town of Howey-in-the-Hills
Attn: John Brock
P.O. Box 128
101 N. Palm Avenue
Howey-in-the-Hills, FL 34737

RE: Venezia Townhomes

In regards to Venezia Townhomes being developed by DR Horton, we have been provided a copy of the site plan prepared by Madden, Moorhead & Stokes LLC showing the off-site improvements, including a street access along the southern portion of parcel number 35-20-25-0200-0JJ-00000/Alt Key 3891721, and hereby authorize the off-site work.

Sincerely,

Ronald Roberts
Venezia Partners, LLC
1190 Business Center Dr., Suite 2000
Lake Mary, FL 32746
813-335-5929
rroberts@flagshipcg.com

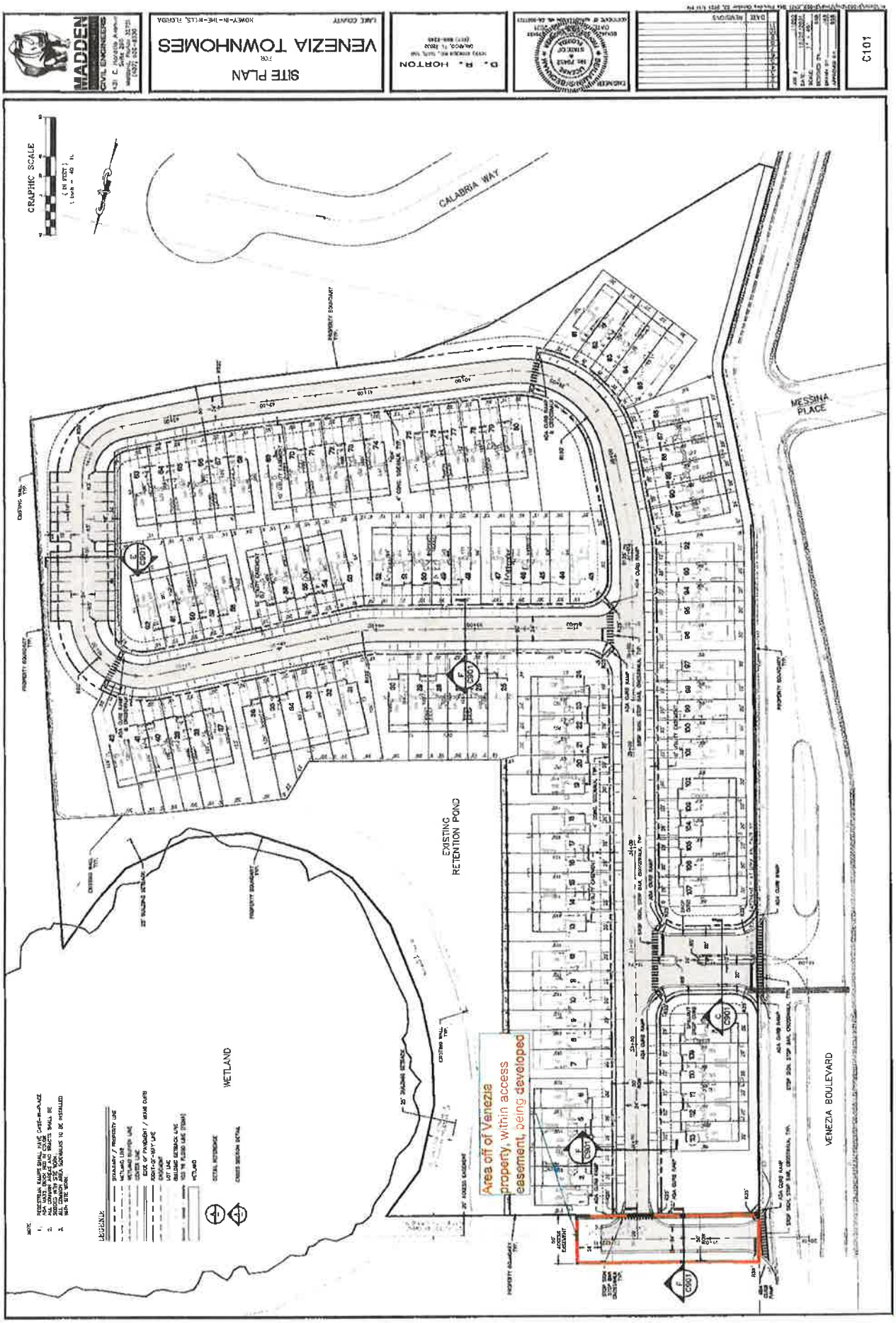
11/22/21
Date

Sworn to and subscribed before me this 22 day of November, 2021, by Ronald Roberts. He/She is personally known to me or has produced identification.
Type of identification _____.

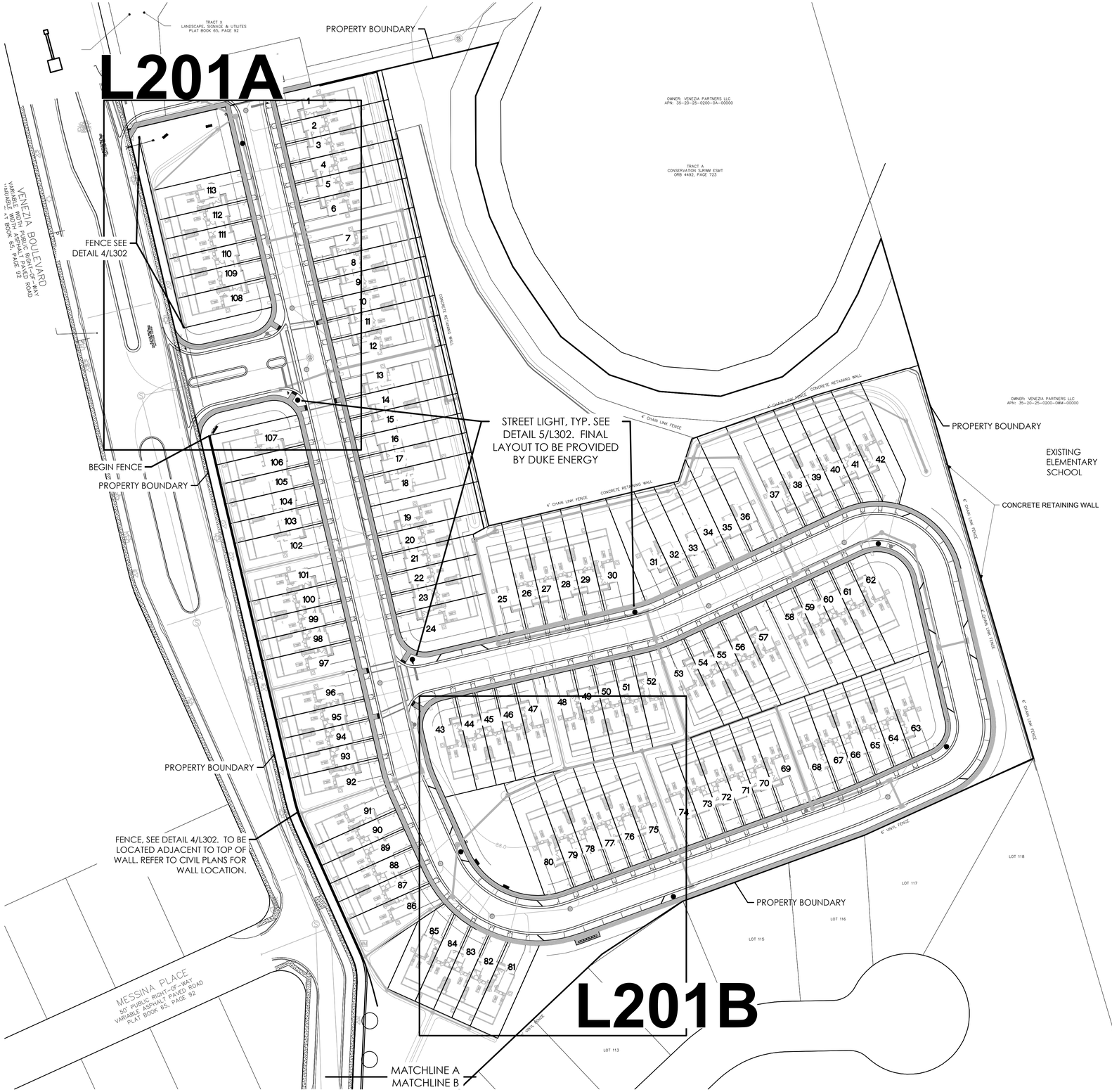
Notary Public Signature

JACQUELINE MURRAY
MY COMMISSION # GG 934232
EXPIRES: March 22, 2024
Bonded Thru Notary Public Underwriters

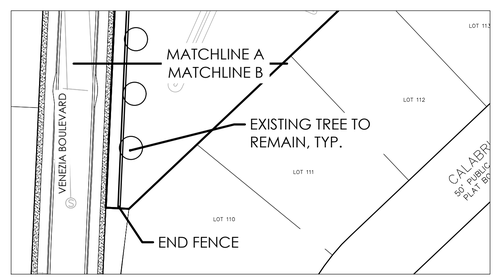
Name:
Commission No:
Commission Expires:


MADDEN
CIVIL ENGINEERS
SITE PLAN
VENEZIA TOWNHOMES
LAKE COUNTY
HOMEY-IN-THE-HILLS, FLORIDA
D. R. HORTON
C101
GRAPHIC SCALE
CALABRIA WAY
MESSINA PLACE
VENEZIA BOULEVARD
EXISTING RETENTION POND
WETLAND
Area off of Venezia property, within access easement, being developed

L201A



L201B



SCALE: 1" = 50'

0' 25' 50' 100'

Bdg

BONNETT design group, llc
landscape architecture
community planning
FL LC 26000341

400 South Orlando Ave. Suite 201
Maitland, FL. 32751
407.622.1588 voice

Venezia
Landscape Architecture
D.R. Horton
Howey-in-the-Hills, Florida
OVERALL LAYOUT PLAN

DATE: JANUARY 19, 2022
DRAWN BY: JFB/LAE
CHECKED BY: TWB
JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_LSBASE

REVISIONS:
1 Town Comments 01-19-2022

REGISTERED LANDSCAPE ARCHITECT TODD W. BONNETT LA1718 STATE OF FLORIDA

Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:50:49 -05'00'
Todd W. Bonnett, RLA # FL0001718

L200

2

DRAWING PLOTTED: 1/19/2022 10:56:26 AM
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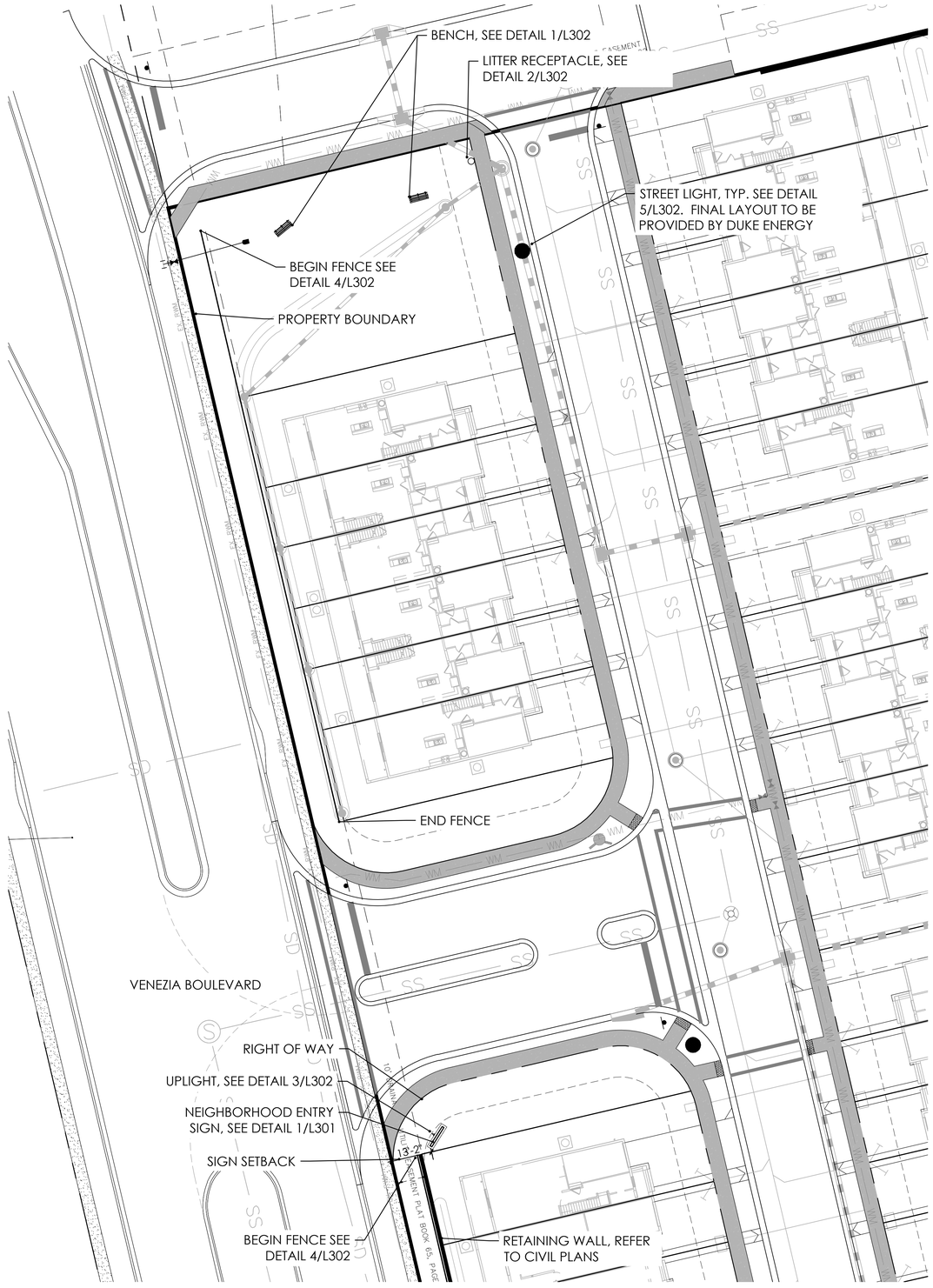
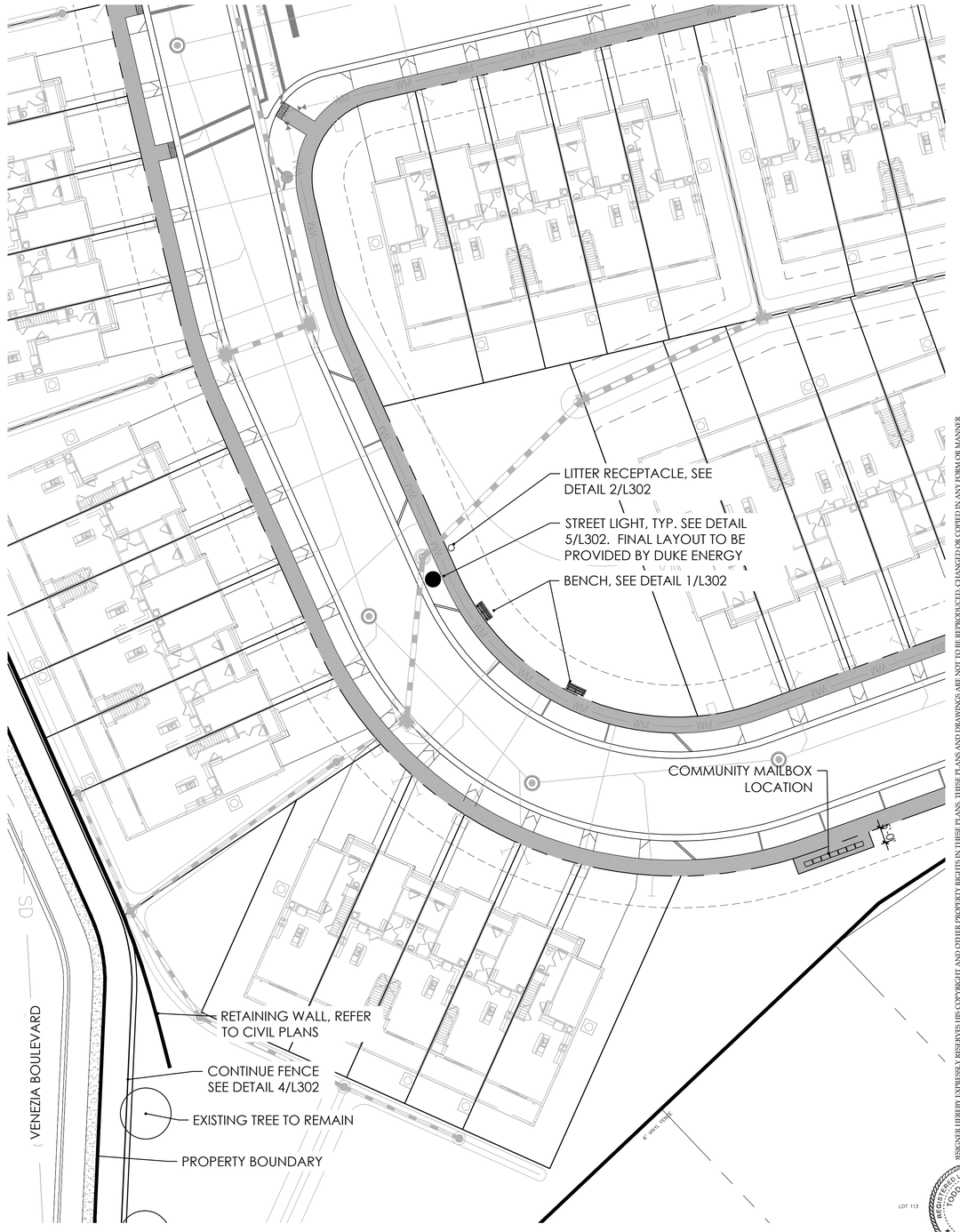


A
L201



B
L201

SCALE: 1" = 20'

0' 10' 20' 40'

BONNETT design group, llc
landscape architecture
community planning
FL LC 26000341

400 South Orlando Ave. Suite 201
Maitland, FL. 32751
407.622.1588 voice

Venezia
Landscape Architecture
D.R. Horton
Howey-in-the-Hills, Florida
LAYOUT PLAN

DATE: JANUARY 19, 2022
DRAWN BY: JFB/LAE
CHECKED BY: TWB
JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_LSBASE

REVISIONS:
1 Town Comments 01-19-2022

REGISTERED LANDSCAPE ARCHITECT TODD W. BONNETT LA1718 STATE OF FLORIDA

Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:51:14 -05'00'

Todd W. Bonnett, FLA # FLA001718

L201

2

DRAWING PLOTTED: 1/19/2022 10:36:04 AM
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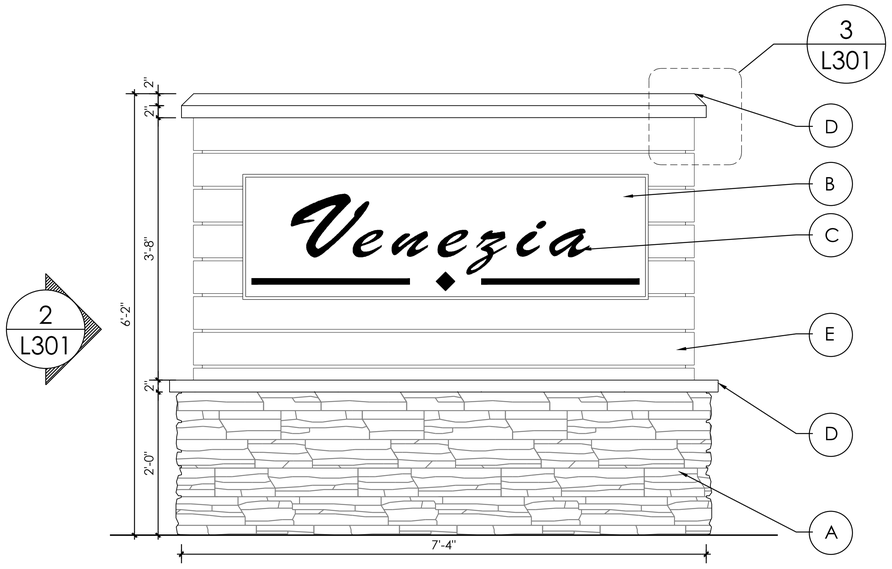
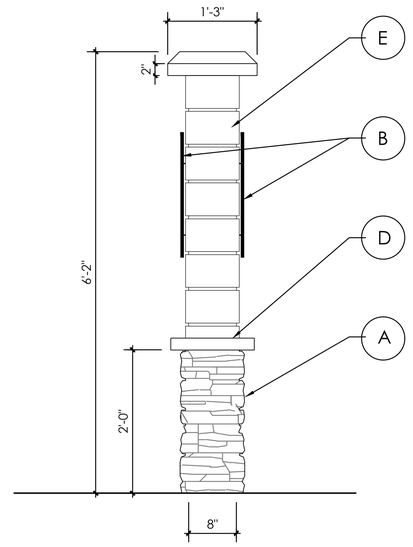
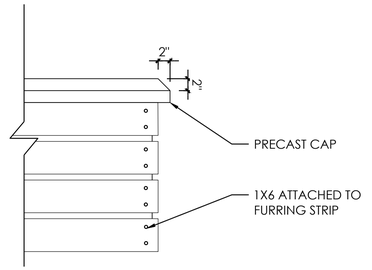


1 L301 COMMUNITY SIGN FRONT ELEVATION
SCALE: 1" = 1'-0"



2 L301 COMMUNITY SIGN SIDE ELEVATION
SCALE: 1" = 1'-0"



3 L301 COMMUNITY COLUMN FRONT ELEVATION
SCALE: 1" = 1'-0"

MATERIAL SCHEDULE

A STONE VENEER
J&N STONE: LAYTITE
COLOR: IRON
SOURCE: WWW.JNSTONEVENEER.COM

B SIGN FACE
1/4" THICK ALUMINUM PANEL POWDER COATED
COLOR: RAL 7010

C COMMUNITY NAME IN SIGN
8"-10" HT., 1/4" THICK ALUMINUM LETTERS
PINNED 1/8" OFF SIGN PANEL
COLOR: RAL 9010

D PRECAST CAP
COLOR: SW 7003 TOQUE WHITE

E 1X6 WOOD SLATS:
COLOR: SW 9090 CARAIBE

NOTES:
1. FINAL NAME TO BE PROVIDE AT TIME OF PERMIT APPLICATION.
2. FINAL COLORS TO BE APPROVED BY OWNER AND SUBMITTED WITH CONSTRUCTION PERMIT PLANS.

NOTE: HARDSCAPE DESIGN PLANS PROVIDED TO DEMONSTRATE DESIGN INTENT ONLY AND ARE NOT VALID FOR CONSTRUCTION WITHOUT FINAL STRUCTURAL & REINFORCEMENT DESIGN.

BONNETT design group, llc
landscape architecture
community planning
FL LC 26000341

400 South Orlando Ave. Suite 201
Maitland, FL 32751
407.622.1588 voice

Venezia
Landscape Architecture
D.R. Horton
Howey-in-the-Hills, Florida
HARDSCAPE DESIGN PLAN

DATE: JANUARY 19, 2022
DRAWN BY: JFB/LAE
CHECKED BY: TWB
JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_HSBASE

REVISIONS:
1 Town Comments 01-19-2022

REGISTERED LANDSCAPE ARCHITECT TODD W. BONNETT LA1718 STATE OF FLORIDA

Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:51:55 -05'00'

T.W. Bonnett, FLA # FLA1718

L301

https://www.byoplayground.com/products/commercial-park-bench-with-curved-back

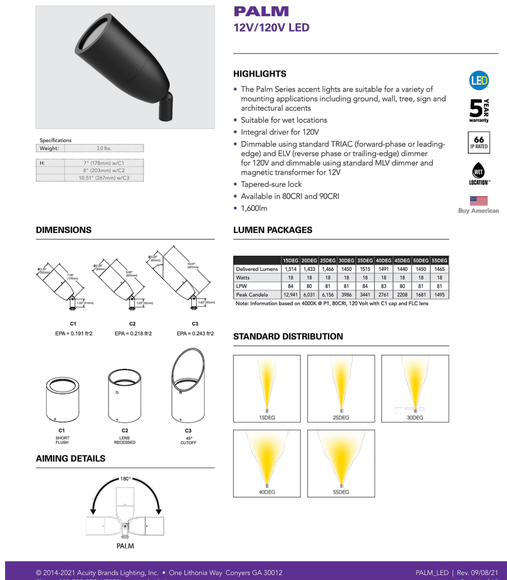
*OR OWNER APPROVED EQUAL

1 L302 BENCH N.T.S.

https://www.byoplayground.com/products/trash-receptacle-ribbed-steel-22-gallon.html

*OR OWNER APPROVED EQUAL

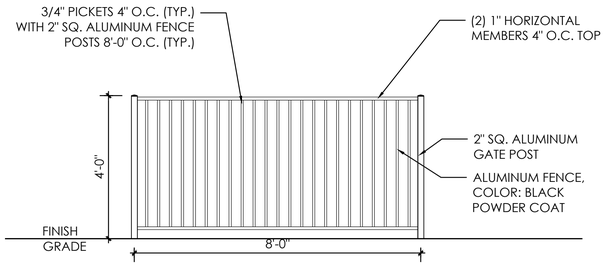
2 L302 TRASH RECEPTACLE N.T.S.



https://hydrel.acuitybrands.com/products/detail/346431/hydrel/palm/accent-and-landscape-family

*OR OWNER APPROVED EQUAL

3 L302 UPLIGHT N.T.S.



*OR OWNER APPROVED EQUAL

4 L302 ALUMINUM RAIL FENCE SCALE ½" =1'-0"

*LIGHT FIXTURE SHALL MEET TOWN OF HOWEY IN THE HILL'S REQUIRMENTS OR TOWN/OWNER APPROVED EQUAL

5 L302 STREET LIGHT N.T.S.

BONNETT design group, llc
landscape architecture
community planning
FL LC 26000341

400 South Orlando Ave. Suite 201
Maitland, FL 32751
407.622.1588 voice

Venezia
Landscape Architecture
D.R. Horton
Howey-in-the-Hills, Florida
HARDSCAPE DESIGN PLAN

DATE: JANUARY 19, 2022
DRAWN BY: JFB/LAE
CHECKED BY: TWB
JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_HSBASE

REVISIONS:
1 Town Comments 01-19-2022

REGISTERED LANDSCAPE ARCHITECT TODD W. BONNETT LA1718 STATE OF FLORIDA
Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:52:15 -05'00'

L302
2

DRAWING PLOTTED: 1/17/2022 4:06:09 PM
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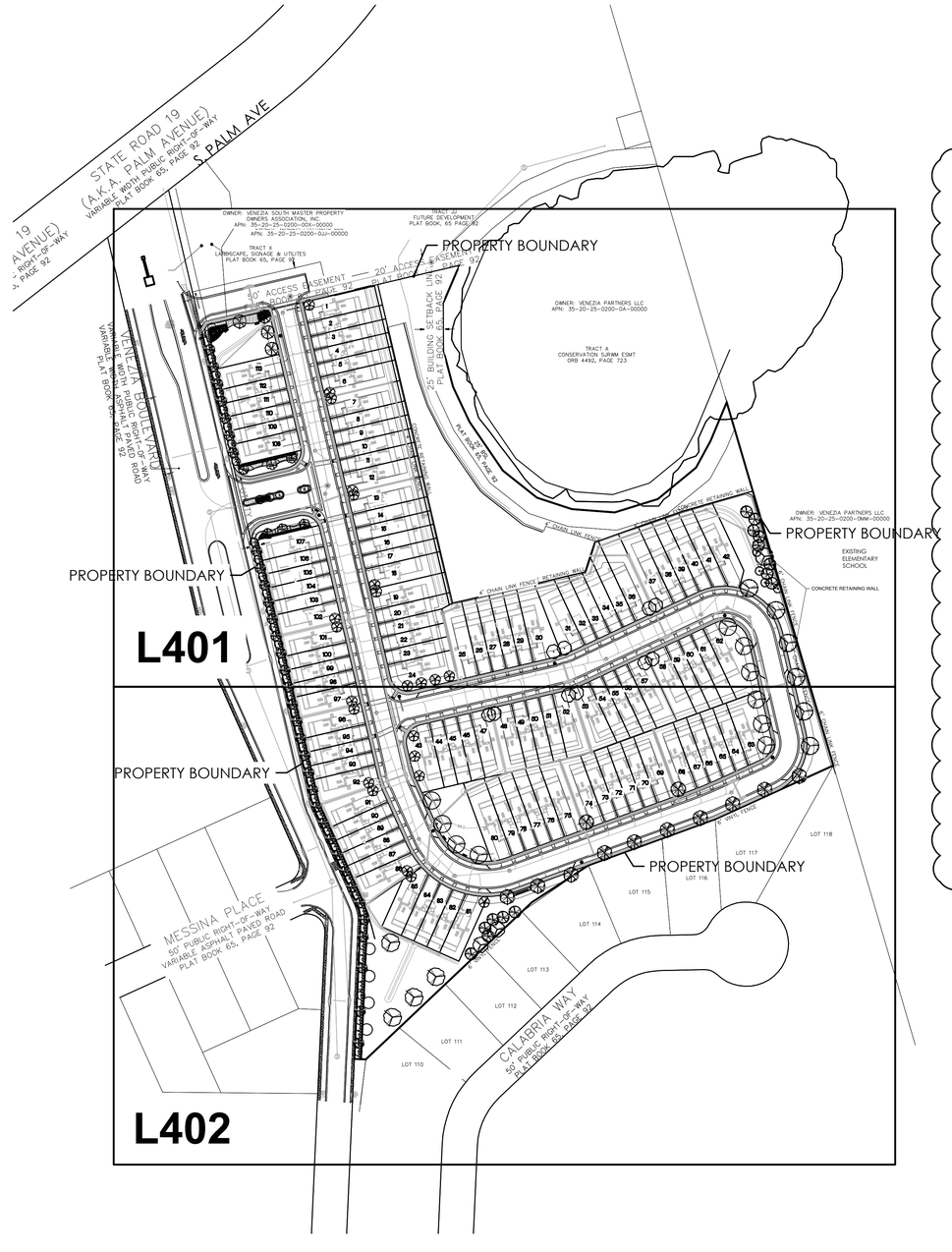

NOTE:

THE LANDSCAPE PROVIDED FOLLOWS THE WATERWISE FLORIDA LANDSCAPES AND IS COMPLIANT WITH THE FLORIDA WATER STAR PROGRAM PER SEC. 7.04.01 STANDARDS.

2

Sec. 7.02.01 Residential buffers

Total Linear Feet		Hundreds of Linear Feet	Quantity	Plant Type	Total Plants Required	Total Plants Provided
North of entrance						
226.58	Divide by 50 =	4.5	2	Canopy Tree =	9	9
			2	Ornamental=	9	9
			10	Shrubs =	45	45
South of entrance						
784.70	Divide by 50 =	15.7	2	Canopy Tree =	31	28
				Existing Trees		3
			2	Ornamental=	31	31
			10	Shrubs =	157	190

The shrubs shall be at least 30" in height at time of planting

1

SCALE: 1" = 100'

0' 50' 100' 200'

Bdg

BONNETT design group, llc
landscape architecture
community planning
FL LC 26000341

400 South Orlando Ave. Suite 201
Maitland, FL. 32751
407.622.1588 voice

Venezia
Landscape Architecture
D.R. Horton
Howey-in-the-Hills, Florida
OVERALL LANDSCAPE PLAN

DATE: OCTOBER 22, 2021
DRAWN BY: JFB/LAE
CHECKED BY: TWB
JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_LSBASE

REVISIONS:
1 Base update 12-10-2021
2 Town Comments 01-19-2022

REGISTERED LANDSCAPE ARCHITECT TODD W. BONNETT LA1718 STATE OF FLORIDA

Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:52:42 -05'00'

Todd W. Bonnett, FLA # FLA001718

L400

DRAWING PLOTTED: 1/19/2022 10:56:55 AM
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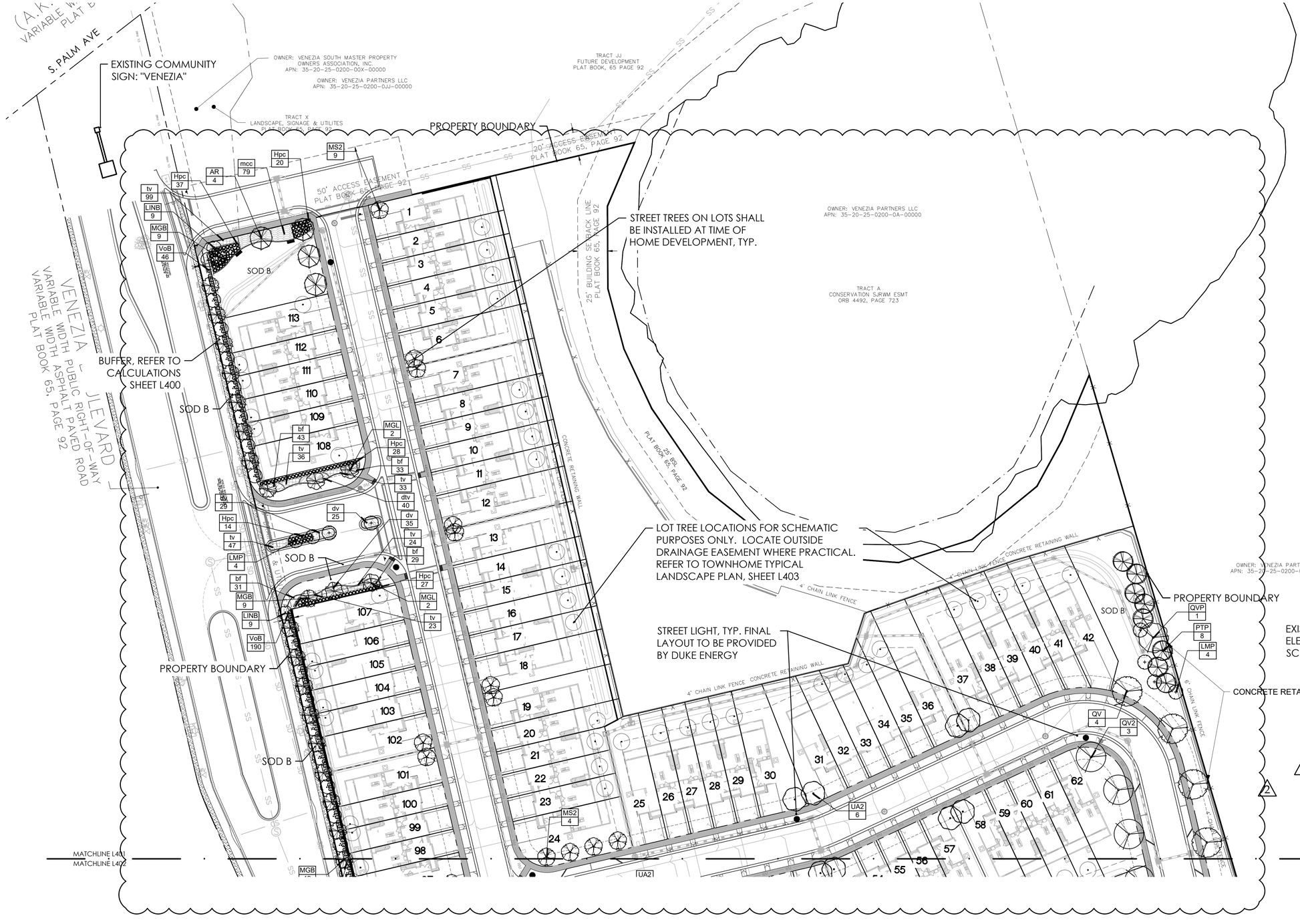


* REFER TO SHEET L402 FOR PLANT SCHEDULE

SCALE: 1" = 40'

0' 20' 40' 80'

BONNETT design group, llc
landscape architecture
community planning
FL LC 26000341

400 South Orlando Ave. Suite 201
Maitland, FL. 32751
407.622.1588 voice

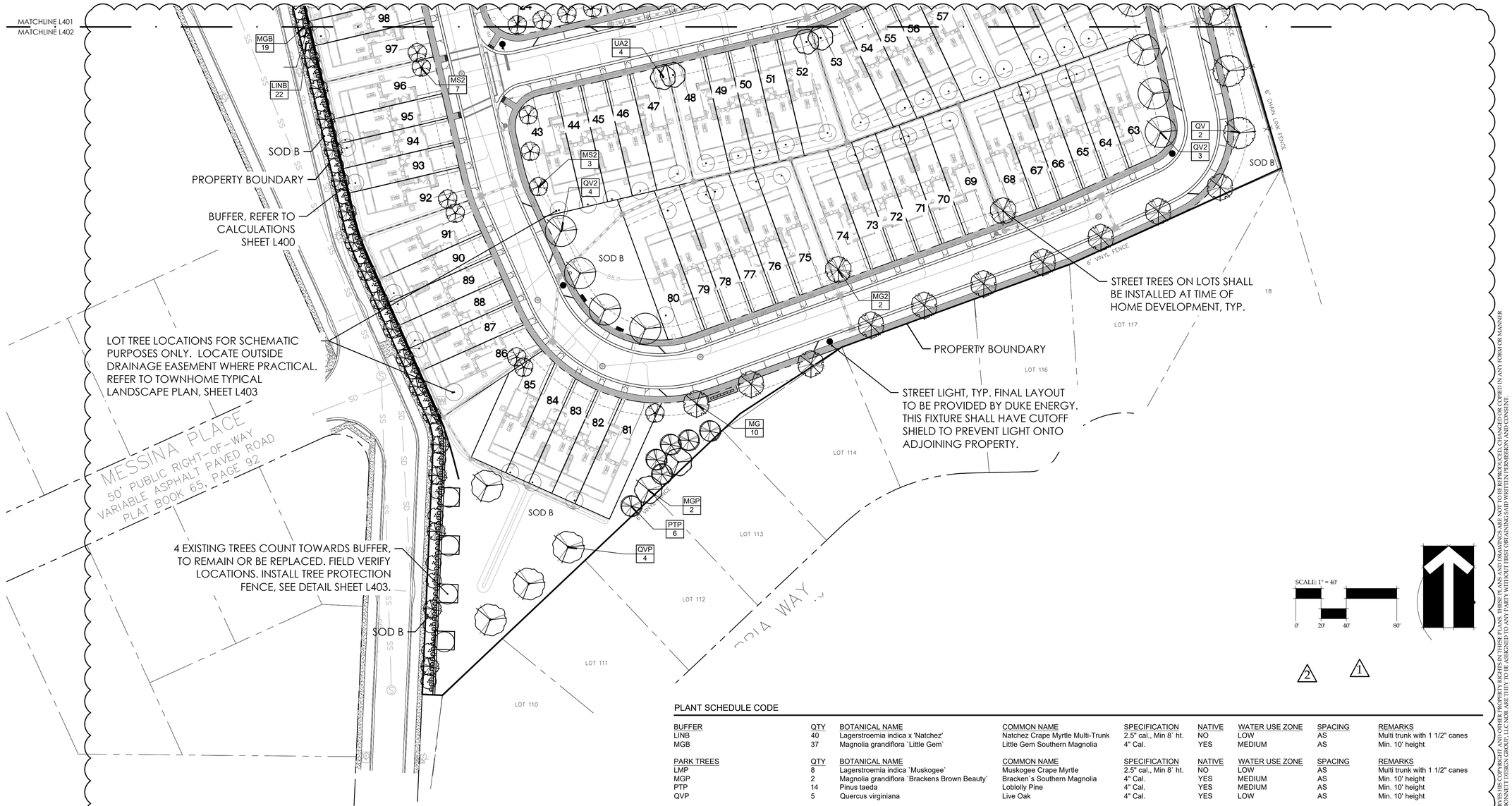
Venezia
Landscape Architecture
D.R. Horton
Howey-in-the-Hills, Florida
LANDSCAPE PLAN

DATE: OCTOBER 22, 2021
DRAWN BY: JFB/LAE
CHECKED BY: TWB
JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_LSBASE

REVISIONS:
1 Base update 12-10-2021
2 Town Comments 01-19-2022

Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:53:35 -05'00'
Todd W. Bonnett, FLA #0003718

L401



PLANT SCHEDULE CODE

BUFFER	QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	NATIVE	WATER USE ZONE	SPACING	REMARKS
LINB	40	Lagerstroemia indica x 'Natchez'	Natchez Crape Myrtle Multi-Trunk	2.5" cal., Min 8` ht.	NO	LOW	AS	Multi trunk with 1 1/2" canes
MGB	37	Magnolia grandiflora `Little Gem`	Little Gem Southern Magnolia	4" Cal.	YES	MEDIUM	AS	Min. 10' height

PARK TREES	QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	NATIVE	WATER USE ZONE	SPACING	REMARKS
LMP	8	Lagerstroemia indica `Muskogee`	Muskogee Crape Myrtle	2.5" cal., Min 8` ht.	NO	LOW	AS	Multi trunk with 1 1/2" canes
MGP	2	Magnolia grandiflora `Brackens Brown Beauty`	Bracken`s Southern Magnolia	4" Cal.	YES	MEDIUM	AS	Min. 10' height
PTP	14	Pinus taeda	Loblolly Pine	4" Cal.	YES	MEDIUM	AS	Min. 10' height
QVP	5	Quercus virginiana	Live Oak	4" Cal.	YES	LOW	AS	Min. 10' height

STREET TREES: COMMON TRACTS	QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	NATIVE	WATER USE ZONE	SPACING	REMARKS
AR	4	Acer rubrum	Red Maple	4" Cal.	YES	HIGH	AS	Min. 10' height
MG	10	Magnolia grandiflora `Brackens Brown Beauty`	Bracken`s Southern Magnolia	4" Cal.	YES	MEDIUM	AS	Min. 10' height
MGL	4	Magnolia grandiflora `Little Gem`	Little Gem Southern Magnolia	4" Cal.	YES	MEDIUM	AS	Min. 10' height
QV	6	Quercus virginiana	Live Oak	4" Cal.	YES	LOW	AS	Min. 10' height

STREET TREES: LOTS	QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	NATIVE	WATER USE ZONE	SPACING	REMARKS
MG2	2	Magnolia grandiflora `Brackens Brown Beauty`	Bracken`s Southern Magnolia	4" Cal.	YES	MEDIUM	AS	Min. 10' height
MS2	23	Magnolia virginiana	Sweetbay Magnolia	4" Cal.	YES	MEDIUM	AS	Min. 10' height
QV2	10	Quercus virginiana	Live Oak	4" Cal.	YES	LOW	AS	Min. 10' height
UA2	10	Ulmus alata	Winged Elm	4" Cal.	YES	LOW	AS	Min. 10' height

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	NATIVE	WATER USE ZONE	SPACING	REMARKS
Hpc	126	Hamelia patens `Compacta`	Dwarf Firebush	3 gal., full	YES	LOW	36" o.c.	

BUFFERYARD SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	NATIVE	WATER USE ZONE	SPACING	REMARKS
VoB	236	Viburnum odoratissumum	Sweet Viburnum	7 gal., full	YES	LOW	48" o.c.	30" Height

GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	NATIVE	WATER USE ZONE	SPACING	REMARKS
bf	136	Bulbine frutescens	Bulbine	1 gal., full	NO	LOW	18" o.c.	
dtv	40	Dianella tasmanica `Variegata`	Varigated Flax Lily	3 gal.	NO	LOW	24" o.c.	
dv	89	Dietes vegeta	African Iris	3 gal.	NO	LOW	24" o.c.	
mcc	79	Muhlenbergia capillaris	Muhly Grass	3 gal., full	YES	LOW	30" o.c.	
tv	262	Tulbaghia violacea	Society Garlic	1 gal., full	NO	LOW	18" o.c.	

SOD/SEED	BOTANICAL NAME	COMMON NAME	SPECIFICATION	NATIVE	WATER USE ZONE
sodb	Paspalum notatum `Argentine`	Argentine Bahia Grass	sod	NO	LOW

*STREET TREES ADJACENT TO INDIVIDUAL LOTS TO BE INSTALLED, BY HOME DEVELOPER, SUBSEQUENT TO HOME CONSTRUCTION, TYP

No street trees within sight triangles per FDOT 212.

Bdg
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FL LC 26000341
400 South Orlando Ave. Suite 201
Maitland, FL. 32751
407.622.1588 voice

Venezia
Landscape Architecture
D.R. Horton
Howey-in-the-Hills, Florida
LANDSCAPE PLAN

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REGISTERED LANDSCAPE ARCHITECT TODD W. BONNETT LA1718 STATE OF FLORIDA

Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:54:00 -05'00'
Todd W. Bonnett, RLA # 1718

L402

GENERAL REQUIREMENTS

The Landscape Contractor shall be responsible for all materials and all work as called for on the landscape plans. The list of plant quantities accompanying the plans shall be used as guide only. If a discrepancy occurs between the plans and the plant list, the plans shall control.

The Landscape Contractor shall warranty all trees for a period of one (1) year and shrubs and ground covers for a period of six (6) months from the time of final acceptance by Owner and Landscape Architect.

The Landscape Contractor shall be wholly responsible for the stability and plumb condition of all trees and shall be legally liable for any damage caused by the instability of any plant material. Staking of trees and palms, if required, shall be done utilizing a method agreed upon by the Landscape Architect.

The Landscape Contractor shall research plans and contact appropriate agencies to determine the location of any utilities and obstructions prior to commencing work. Any utilities or unanticipated obstructions shall be reported to Landscape Architect or Owner immediately.

All plant material and sodded areas shall have an automatic underground irrigation system providing 100% coverage.

Positive drainage shall be maintained away from all structures on the site.

PLANT SPECIFICATIONS

All nursery stock plant material shall be Florida #1 or better in accordance with Grades and Standards for Nursery Plants Parts I & II, latest edition as published by the Florida Department of Agriculture and Consumer Services- Division of Plant Industry.

All plant material shall be planted, fertilized and mulched as per the plant details and planting specifications noted on the plans.

All container grown material shall be healthy, vigorous, well rooted plants, and established in the container in which they are delivered to the site. The plants shall have tops which are good quality and in a healthy growing condition. Established container grown plant material shall be grown in that container sufficiently long enough for the new fibrous roots to have developed enabling the root mass to retain it's shape when removed the container. Plants which have become root bound in the container are unacceptable.

All plant material that is not container grown shall be freshly dug, sound, healthy, vigorous, well branched, and free of disease and insect eggs and larvae, and shall have adequate root systems. Where any requirements are omitted from the plant list, the plants furnished shall be normal for the variety. Plants may be pruned prior to delivery only upon the approval of the Landscape Architect.

FERTILIZER

Two fertilizers shall be used on all types of plantings, except palms. Granular fertilizer shall be uniform in composition, dry and free flowing. This fertilizer shall be delivered to the site in the original unopened bags bearing the manufacturer's statement of analysis. Granular fertilizer shall be a controlled release variety meeting the following requirements; sixteen percent (16%) nitrogen, four percent (4%) phosphorus, eight percent (8%) potassium, plus iron. tablet fertilizer ("Agriform" or approved equal) in 21 gram size shall meet the following requirements: twenty percent (20%) nitrogen, ten percent (10%) phosphorus, five percent (5%) potassium.

Application Rates:

Plant size	16-4-8	"Agriform" tablet (21 grams)
1 gallon	1/4 lb.	1 tablet
3 gallon	1/3 lb.	2 tablets
7-15 gallon	1/2 lb.	4 tablets
1" - 6" caliper	2 lbs. per 1" caliper	2 tablets per 1" caliper
6" + caliper	3 lbs. per 1" caliper	2 tablets per 1" caliper

Sodded areas shall receive an application of the granular fertilizer (16-4-8) at a rate of 1/2 lb. of Nitrogen per 1,000 square feet of sod area.

"Palm Special" fertilizer shall be applied to all palms at installation at a rate of 1 1/2 lbs. per 100 square feet of canopy area. Palm fertilizer shall be a controlled release variety containing chelated micro nutrients and a ratio of N-P-K-Mg of 2:1:3:1.

SOIL

Planting soil for use in preparing the backfill material for planting pits shall be added a rate of fifty percent (50%) planting soil to fifty percent (50%) existing soil. This soil mix shall be used in all plant pits except Sabal Palms which shall be backfilled with clean sand. Planting soil shall be a fertile, friable natural topsoil of loamy character. It shall contain forty (40) to fifty (50) percent decomposed organic matter and be free of heavy clay, stones larger than 1" in diameter, noxious weeds and plants, sod, partially disintegrated debris, insects or any other undesirable material, plants or seeds that would be toxic or harmful to plant growth.

MULCH

All plant beds and tree watering basins shall be top dressed with three inches (3") of pine bark mini-nuggets mulch.

SOD

Refer to Landscape Plan for limits of sod.

All areas disturbed by construction (including material staging, equipment storage, temporary facilities, site access, construction staff parking, etc.) beyond the minimum limits of sod as shown on the Landscape Plan shall be sodded as needed.

All lawn areas to receive sod shall be disked four (4) to six (6) inches and graded to establish a level finished grade ensuring positive drainage from all structures. All debris shall be removed from the site.

Sod shall be free of weeds and pests. It shall be laid evenly with tight fitting joints and rolled. The sod shall contain moist soil which does not fall apart or tear when lifted.

See plant list for specific sod species and locations.

See 'Fertilizer' for requirements of all sodded areas.

2

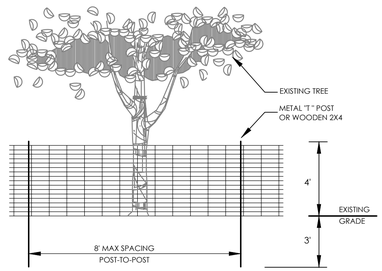
PLANT SCHEDULE TOWNHOME

TREES
TO BE SELECTED FROM TABLE 7.10 APPROVED TREE AND PLANT LIST: UNDERSTORY TREES CATEGORY

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	NATIVE	WATER USE ZONE	SPACING	REMARKS
Vow	17	Viburnum obovatum	Walter`s Viburnum	3 gal., 18" o.a.	YES	LOW	36" o.c.	
Vo	26	Viburnum odoratissumum	Sweet Viburnum	3 gal., 18" o.a.	YES	LOW	36" o.c.	

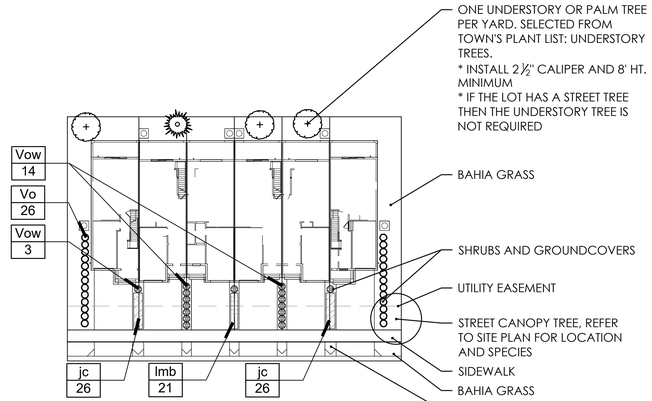
GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SPECIFICATION	NATIVE	WATER USE ZONE	SPACING	REMARKS
jc	52	Juniperus conferta	Shore Juniper	1 gal., full	NO	LOW		
lmb	21	Liriope muscari `Big Blue`	Big Blue Lilyturf	1 gal., 12"-15" spd., full pot	NO	LOW	18" o.c.	18" o.c.

SOD/SEED	BOTANICAL NAME	COMMON NAME	SPECIFICATION	NATIVE	WATER USE ZONE
sodb	Paspalum notatum `Argentine`	Argentine Bahia Grass	sod	NO	LOW



1. PLACE CONTINUOUS RUN OF FENCE MATERIAL ON BOTH SIDES OF IMMEDIATE WORK ZONE AS SHOWN ON THE PLANS. DO NOT ATTACH FENCE MATERIAL TO TREES.
2. TREE PROTECTION FENCING FABRIC TO BE PLACED AT THE DRIP LINE OF THE TREES THAT ARE TO BE PROTECTED.
3. TREE PROTECTION FENCE: HIGH DENSITY POLYETHYLENE FENCING WITH 3.5" X 1.5" OPENINGS; COLOR: ORANGE.

TREE PROTECTION DETAIL
N.T.S.



ONE UNDERSTORY OR PALM TREE PER YARD, SELECTED FROM TOWN'S PLANT LIST: UNDERSTORY TREES.
* INSTALL 2½" CALIPER AND 8' HT. MINIMUM
* IF THE LOT HAS A STREET TREE THEN THE UNDERSTORY TREE IS NOT REQUIRED

BAHIA GRASS

SHRUBS AND GROUNDCOVERS

UTILITY EASEMENT

STREET CANOPY TREE, REFER TO SITE PLAN FOR LOCATION AND SPECIES

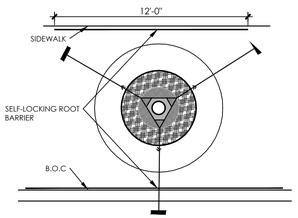
SIDEWALK

BAHIA GRASS

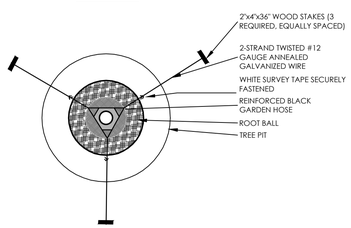
DECORATIVE GRAVEL OR PAVERS, TYP.

TOWNHOME TYPICAL LANDSCAPE PLAN

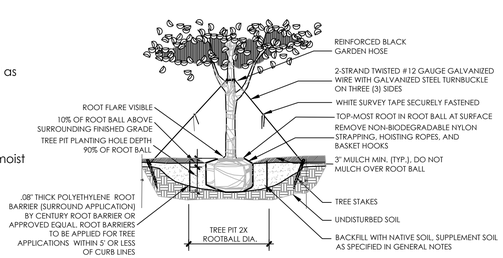
SCALE: 1" = 30'
0' 15' 30' 60'
1



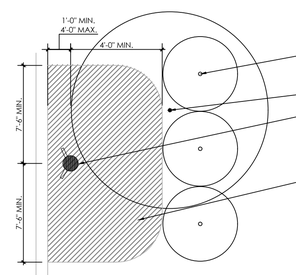
ROOT BARRIER



LARGE CANOPY TREE STAKING PLAN

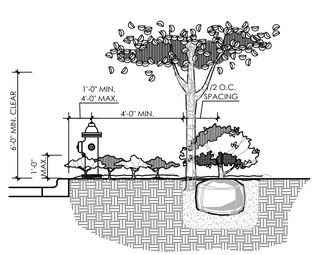


LARGE CANOPY TREE PLANTING DETAIL
N.T.S.



PLAN

NOTE: TREE SUPPORT MATERIALS SHALL BE REMOVED FROM EACH TREE ONCE IT IS ESTABLISHED. THIS IS USUALLY DONE AFTER 6 MONTHS FOR SHADE TREES AND 1 YEAR FOR PALM TREES.



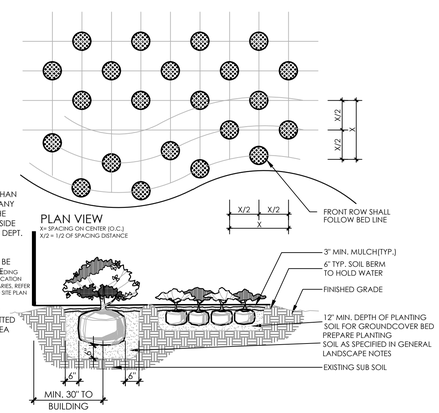
TREES AND SHRUBS TALLER THAN 12" SHALL NOT BE PLANTED ANY CLOSER THAN 4'-0" FROM THE BACK OR 7'-6" FROM EACH SIDE OF A FIRE HYDRANT OR FIRE DEPT. CONNECTION

NO TREES OR SHRUBS SHALL BE PLANTED IN FRONT OF A FIRE HYDRANT OR FIRE DEPT. CONNECTION.

TURF AND GROUNDCOVER SHORTER THAN 12" IS PERMITTED WITHIN THE CLEARANCE AREA

SECTION

TYPICAL PLANTING AT FIRE HYDRANT
N.T.S.



PLAN VIEW
X= SPACING ON CENTER (O.C.)
X/2 = 1/2 OF SPACING DISTANCE

SHRUB AND GROUNDCOVER PLANTING DETAIL
N.T.S.

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Venezia
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LANDSCAPE DETAILS & NOTES

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TODD W. BONNETT LA1718 STATE OF FLORIDA LANDSCAPE ARCHITECT

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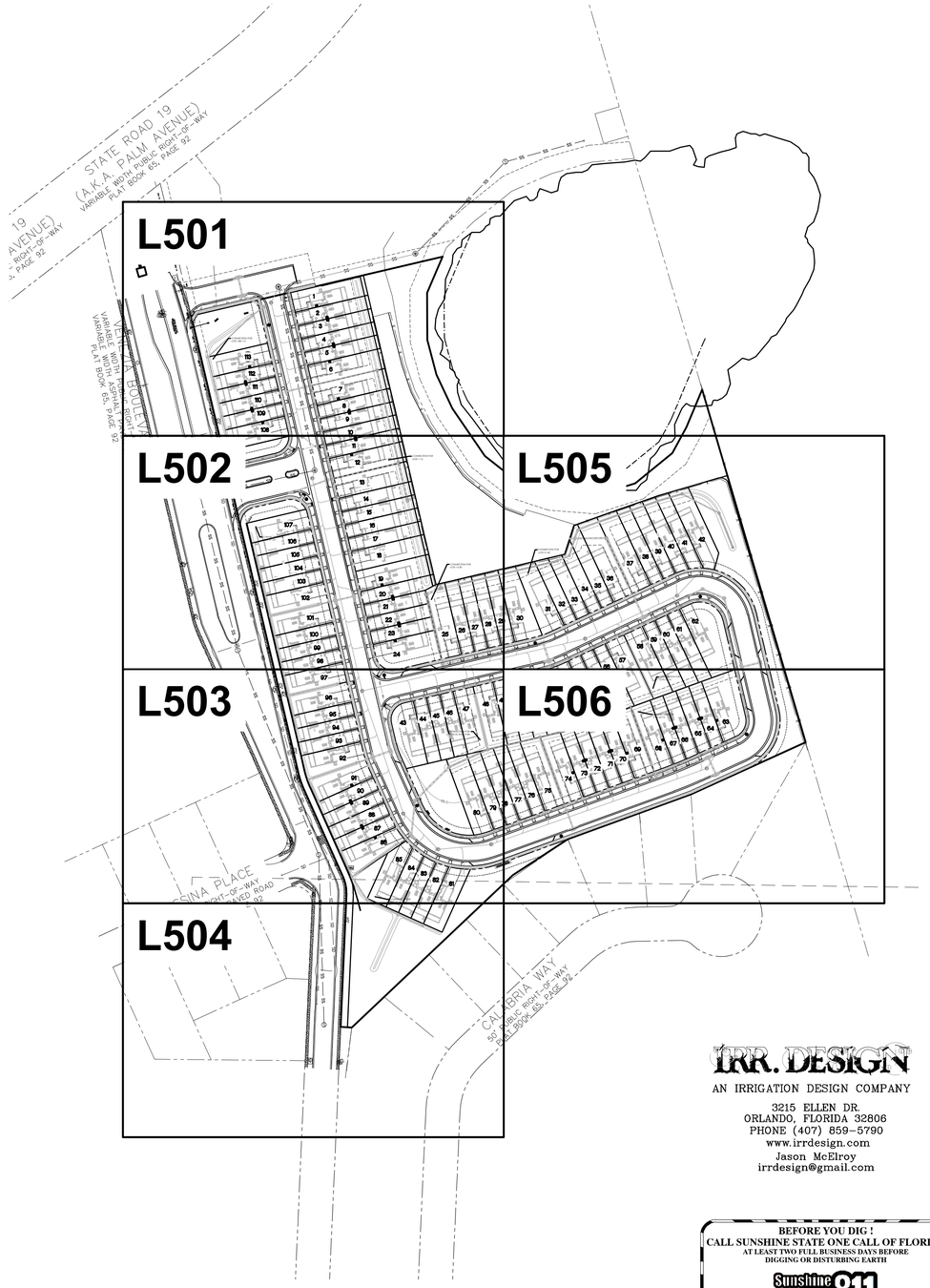

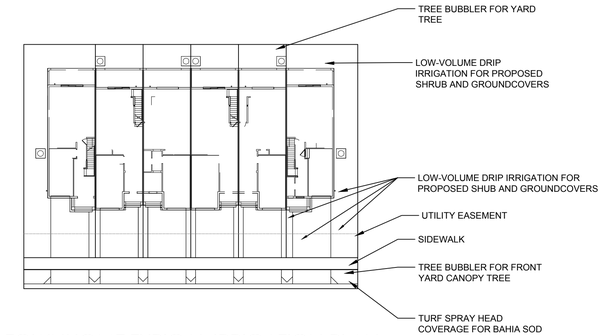

TOWNHOME TYPICAL IRRIGATION PLAN

NOTES

1. THIS SPRINKLER SYSTEM USES RECLAIMED WATER, THE IRRIGATION CONTRACTOR WILL INSTALL ALL SPRINKLER EQUIPMENT WITH PURPLE CAPS, TAGS,VALVE BOX LIDS, ETC. THE CONTRACTOR WILL POST "RECLAIMED WATER" SIGNAGE PER LOCAL CODES
2. CONTRACTOR TO INSTALL RECLAIM IRRIGATION WATER NOTICE POC SIGNAGE, PER LAKE COUNTY SPECIFICATIONS.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird PESBR 1", 1-1/2", and 2" Durable Chlorine-Resistant Valves for Reclaimed Water Applications. With Scrubber Mechanism Technology, and Purple Flow Control Handle.	9
	Nibco T-113-K Class 125 bronze gate shut off valve with cross handle, same size as mainline pipe diameter at valve location. Size Range - 1/4" - 3"	14
MV	Hunter ICV-G-FS-R 3" 1", 1-1/2", 2", and 3" Plastic Electric Master Valve, Globe Configuration, with NPT Threaded Inlet/Outlet, for Commercial/Municipal Use. With Filter Sentry Factory Installed Option, and Reclaimed Water ID, Purple Handle.	1
C	Hunter A2C-75D-PP 75-Station Decoder controller on a Plastic Pedestal.	1
XX	Hunter ICD-100 Single Station Decoder w/Surge Suppression and Ground Wire. To be installed on Universal Decoder Stake Kit (DECSTAKE10).	9
XX	Hunter ICD-200 2-Station Decoder with Surge Suppression and Ground Wire. To be installed on Universal Decoder Stake Kit (DECSTAKE10).	2
S	Hunter ICD-SEN 2-input sensor decoder with surge suppression and ground wire. To be installed on Universal Decoder Stake Kit (DECSTAKE10).	1
RS	Hunter Solar-Sync-Sen Solar, rain freeze sensor with outdoor interface, connects to Hunter X-Core and ACC Controllers, install as noted. Includes gutter mount bracket. Wired. Module not included.	1
FS	Hunter HFS-300 Flow Sensor for use with ACC controller, 3" Schedule 40 Sensor Body, 24 VAC, 2 amp.	1
XX	Cap for future use Cap at the mainline or lateral line for future use. The pressure and flow provided to that location are indicated next to the cap symbol.	10
M	Water Meter 2" Reclaimed water meter requires 72 GPM @ 65 PSI. Irrigation contractor shall be responsible to verify the sources ability to service the systems requirements at site before starting construction.	1
	Irrigation Lateral Line: PVC Class 200 SDR 21-NP Only lateral transition pipe sizes 1" and above are indicated on the plan, with all others being 3/4" in size.Install 12" below final grade.	5,990 l.f.
	Irrigation Mainline: PVC Class 200 SDR 21-NP Pipe sizes 3" inch or smaller shall have bell and socket joints. Pipe sizes larger then than 3" inch shall have snap connections w/ rubber gasket joints, thrust blocked. Install 18" below grade.	2,715 l.f.
	Pipe Sleeve: PVC Class 200 SDR 21 Sizes shall be twice the diameter of the pipe or wire bundle carried. Place below all paving, hardscape etc. and as directed by the Owners representative.	212.2 l.f.
	Pipe Sleeve: PVC Schedule 40 Sizes shall be twice the diameter of the pipe or wire bundle carried. Place below all paving, hardscape etc. and as directed by the Owners representative.	407.4 l.f.

Valve Callout
Valve Number
Valve Flow
Valve Size

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	
08 08HE-VAN 12 12HE-VAN 10 10HE-VAN 15 15HE-VAN	Rain Bird RD-06-P30-F-NP-U HE-VAN Series Turf Spray, 6.0" Pop-Up, with 30 psi in-stem pressure regulation, Flow-Shield Technology, and Non-Potable Cover (purple cap). 1/2" NPT female threaded inlet.	156	30	
25 50 10 20	Hunter AFB 10 Adjustable Flow Bubbler, 1/2" FIPT, stainless steel screw adjustment.	272	20	

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	RADIUS
30	Rain Bird 5006-NP-PC,FC-MPR Turf Rotor, 6" Pop-Up, Plastic Riser, Matched Precipitation Rotor (MPR nozzle). Arc and Radius as per Symbol. 25 ft=red, 30 ft=green, 35ft=beige. With Non-Potable Purple Cover.	18	35	30'
35	Rain Bird 5006-NP-PC,FC-MPR Turf Rotor, 6" Pop-Up, Plastic Riser, Matched Precipitation Rotor (MPR nozzle). Arc and Radius as per Symbol. 25 ft=red, 30 ft=green, 35ft=beige. With Non-Potable Purple Cover.	3	35	34'

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird XCZ-150-LCDR High Flow Control Zone Kit, for Large Commercial Drip Zones. 1-1/2" PESB-R Scrubber Globe Valve with single 1-1/2" Pressure Regulating (40psi) Quick-Check Basket Filters. Flow range: 15-62gpm.	3
F	Rain Bird MDCFPCAP Dripline Flush Valve purple cap in compression fitting coupler. For non-potable water use.	6
I	Rain Bird OPERIND Drip System Operation Indicator, stem rises 6" for clear visibility when drip system is charged to a minimum of 20psi. Includes 16" of 1/4" distribution tubing with connection fitting pre-installed.	3
	Area to Receive Dripline Rain Bird XFD-09-12-NP XFD On-Surface Pressure Compensating Landscape Dripline. 0.9 GPH emitters at 12" O.C. Dripline laterals spaced at 12" apart, with emitters offset for triangular pattern. UV Resistant. Specify XF insert fittings.	5,022 s.f.

SCALE: 1" = 100'
0' 50' 100' 200'

IRR. DESIGN
AN IRRIGATION DESIGN COMPANY
3215 ELLEN DR.
ORLANDO, FLORIDA 32806
PHONE (407) 859-5790
www.irrdesign.com
Jason McElroy
irrdesign@gmail.com

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OVERALL IRRIGATION PLAN

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FLORIDA REGISTERED LANDSCAPE ARCHITECT TODD W. BONNETT LA1718 STATE OF FLORIDA

Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:54:53 -05'00'

Todd W. Bonnett, RLA # FL0001

1
L500

NOTES

1. THIS SPRINKLER SYSTEM USES RECLAIMED WATER, THE IRRIGATION CONTRACTOR WILL INSTALL ALL SPRINKLER EQUIPMENT WITH PURPLE CAPS, TAGS,VALVE BOX LIDS, ETC. THE CONTRACTOR WILL POST "RECLAIMED WATER" SIGNAGE PER LOCAL CODES
2. CONTRACTOR TO INSTALL RECLAIM IRRIGATION WATER NOTICE POC SIGNAGE, PER LAKE COUNTY SPECIFICATIONS.

1" IRRIGATION RECLAIMED WATER METER SYSTEM REQUIRES 72 GPM @ 65 PSI. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE SOURCES ABILITY TO SERVICE THE SYSTEMS REQUIREMENTS AT SITE BEFORE STARTING CONSTRUCTION. COORDINATE WITH CIVIL DRAWINGS AND AT SITE TO DETERMINE ACTUAL METER LOCATION.

CONNECTION FOR LOTS 108-113

65GPM 50PSI

9-12 DRIPLINE, INSTALLED IN 12" ROWS (TYP).

DUE TO LACK OF SPACE ON PLANS THE MAINLINE IS SHOWN FOR GRAPHICAL PURPOSES ONLY OUTSIDE OF THE PROJECTS BOUNDARIES. THE CONTRACTOR WILL INSTALL ALL PIPING AND EQUIPMENT INSIDE THE PROJECTS LANDSCAPED AREAS AND SLEEVE ALL OTHER MAINLINE. SPRINKLER LOCATIONS ARE TO SCALE. PIPING LOCATIONS ARE DIAGRAMATIC.

VENEZIA BOULEVARD
VARIABLE WIDTH PUBLIC RIGHT-OF-WAY
CURBED ROAD
PLAT BOOK 75, PAGE 12

MATCHLINE L501
MATCHLINE L502

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NOTE: LANDSCAPING INDIVIDUAL RESIDENCES AND IRRIGATION SYSTEM DESIGN SHALL BE IN ACCORDANCE WITH HOWEY-IN-THE-HILLS LDC (7.06.01) AND (7.08.01)

SCALE: 1" = 20'
0' 10' 20' 40'

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community planning
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407.622.1588 voice

Venezia
Landscape Architecture
D.R. Horton
Howey-in-the-Hills, Florida
IRRIGATION PLAN

DATE: December 10, 2021
DRAWN BY: JM
CHECKED BY: TWB
JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_IRBASE

REVISIONS:
1 Irrigation 12-10-2021
2 Town Comments 1-19-2022

REGISTERED LANDSCAPE ARCHITECT TODD W. BONNETT LA1718 STATE OF FLORIDA
Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:55:21 -05'00'
Todd W. Bonnett, FLA # FL0001718

1
L501

DRAWING PLOTTED: 1/19/2022 12:40:24 PM
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MATCHLINE L501
MATCHLINE L502

108 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 107 106 105 104 103 102 101 100 99 98 97

30.0 3 1½" 3"
29.1 4 1½"
27.8 5 1½"
37.6 6 1½"
34.0 7 1½"

65GPM 50PSI

CONNECTION FOR LOTS 1-12

CONNECTION FOR LOTS 97-107

CONNECTION FOR LOTS 13-30

9-12 DRIPLINE, INSTALLED IN 12" ROWS (TYP).

DUE TO LACK OF SPACE ON PLANS THE MAINLINE IS SHOWN FOR GRAPHICAL PURPOSES ONLY OUTSIDE OF THE PROJECTS BOUNDARIES. THE CONTRACTOR WILL INSTALL ALL PIPING AND EQUIPMENT INSIDE THE PROJECTS LANDSCAPED AREAS AND SLEEVE ALL OTHER MAINLINE. SPRINKLER LOCATIONS ARE TO SCALE. PIPING LOCATIONS ARE DIAGRAMATIC.

MATCHLINE L501
MATCHLINE L505

MATCHLINE L502
MATCHLINE L503

NOTES

1. THIS SPRINKLER SYSTEM USES RECLAIMED WATER, THE IRRIGATION CONTRACTOR WILL INSTALL ALL SPRINKLER EQUIPMENT WITH PURPLE CAPS, TAGS,VALVE BOX LIDS, ETC. THE CONTRACTOR WILL POST "RECLAIMED WATER" SIGNAGE PER LOCAL CODES
2. CONTRACTOR TO INSTALL RECLAIM IRRIGATION WATER NOTICE POC SIGNAGE, PER LAKE COUNTY SPECIFICATIONS.

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D.R. Horton
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IRRIGATION PLAN

DATE: December 10, 2021
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JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_IRBASE

REVISIONS:
1 Irrigation 12-10-2021
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REGISTERED LANDSCAPE ARCHITECT TODD N. BONNETT LA1718 STATE OF FLORIDA
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Date: 2022.01.19 12:55:59 -05'00'

L502

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MATCHLINE L502

MATCHLINE L503

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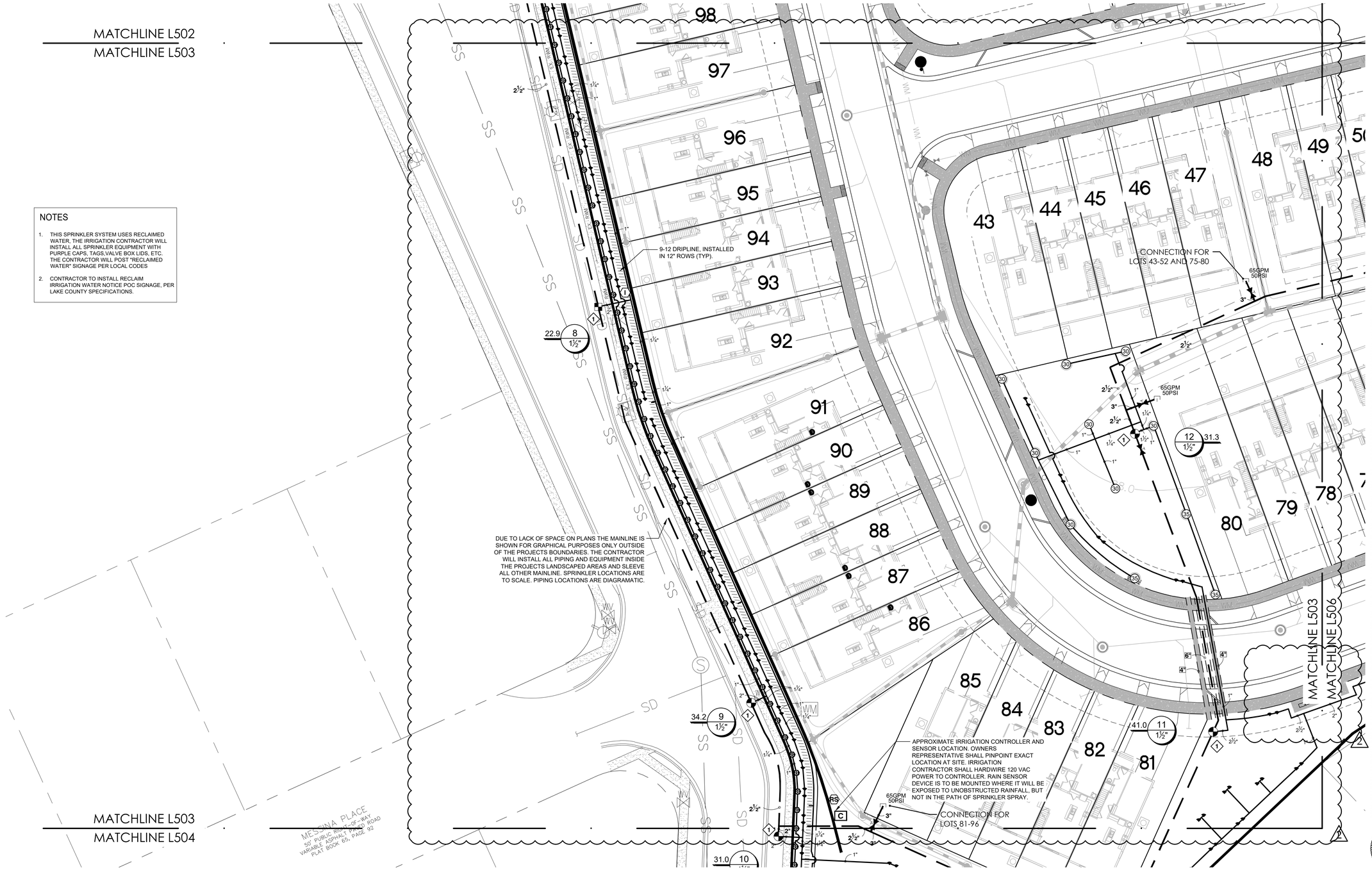

MATCHLINE L503

MATCHLINE L504

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IRRIGATION PLAN

DATE: December 10, 2021
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JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_IRRASE

REVISIONS:
1 Irrigation 12-10-2021
2 Town Comments 1-19-2022

FLORIDA REGISTERED LANDSCAPE ARCHITECT TODD W. BONNETT LA1718 STATE OF FLORIDA
Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:56:37 -05'00'
Todd W. Bonnett, RLA # FL0001778

1
L503

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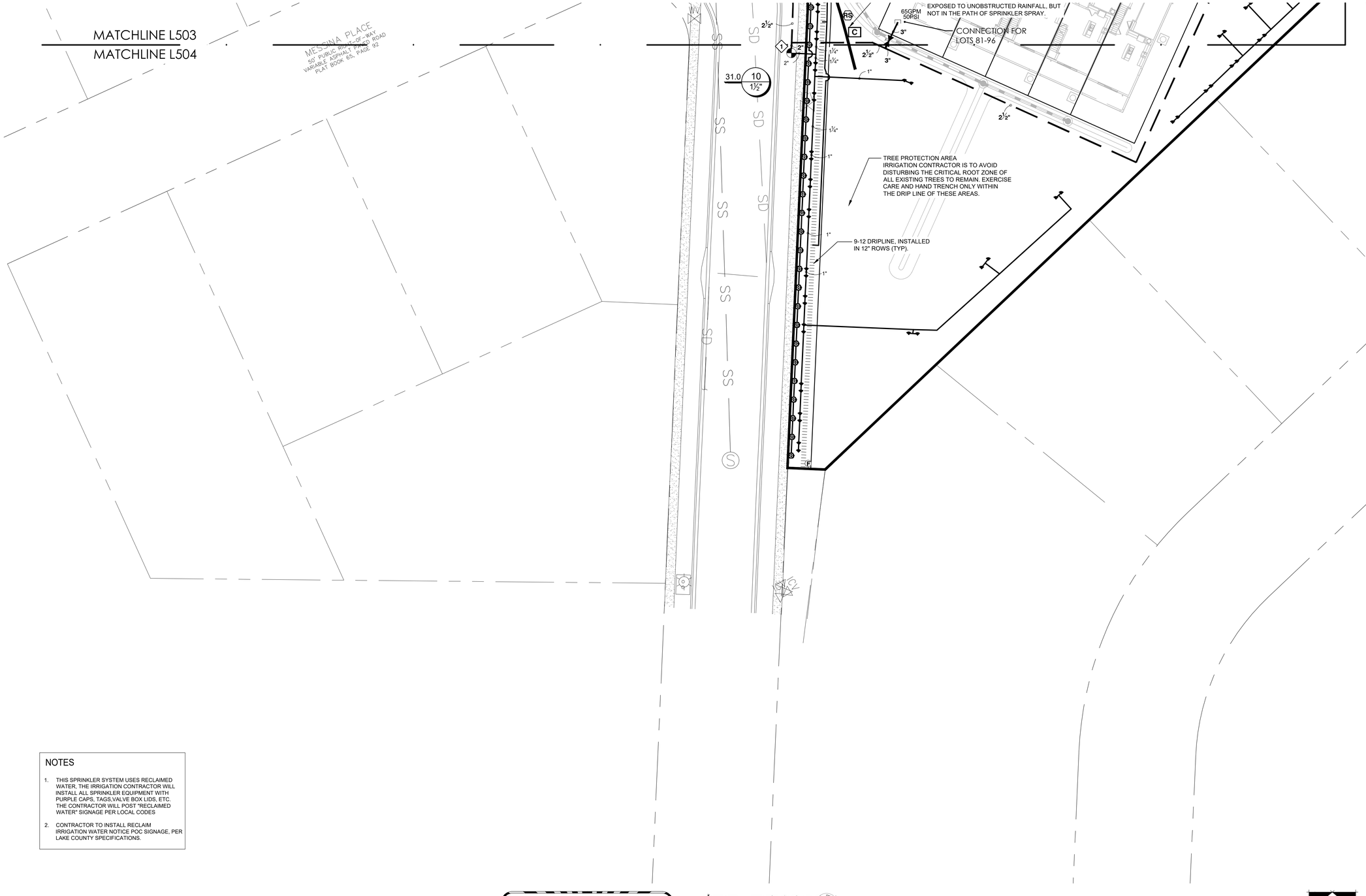

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Howey-in-the-Hills, Florida
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DATE: December 10, 2021
DRAWN BY: JM
CHECKED BY: TWB
JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_IRBASE

REVISIONS:
1 Irrigation 12-10-2021

PROFESSIONAL LANDSCAPE ARCHITECT TODD W. BONNETT LA1718 STATE OF FLORIDA

Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:57:08 -05'00'
Todd W. Bonnett, RLA # FL1000

1
L504

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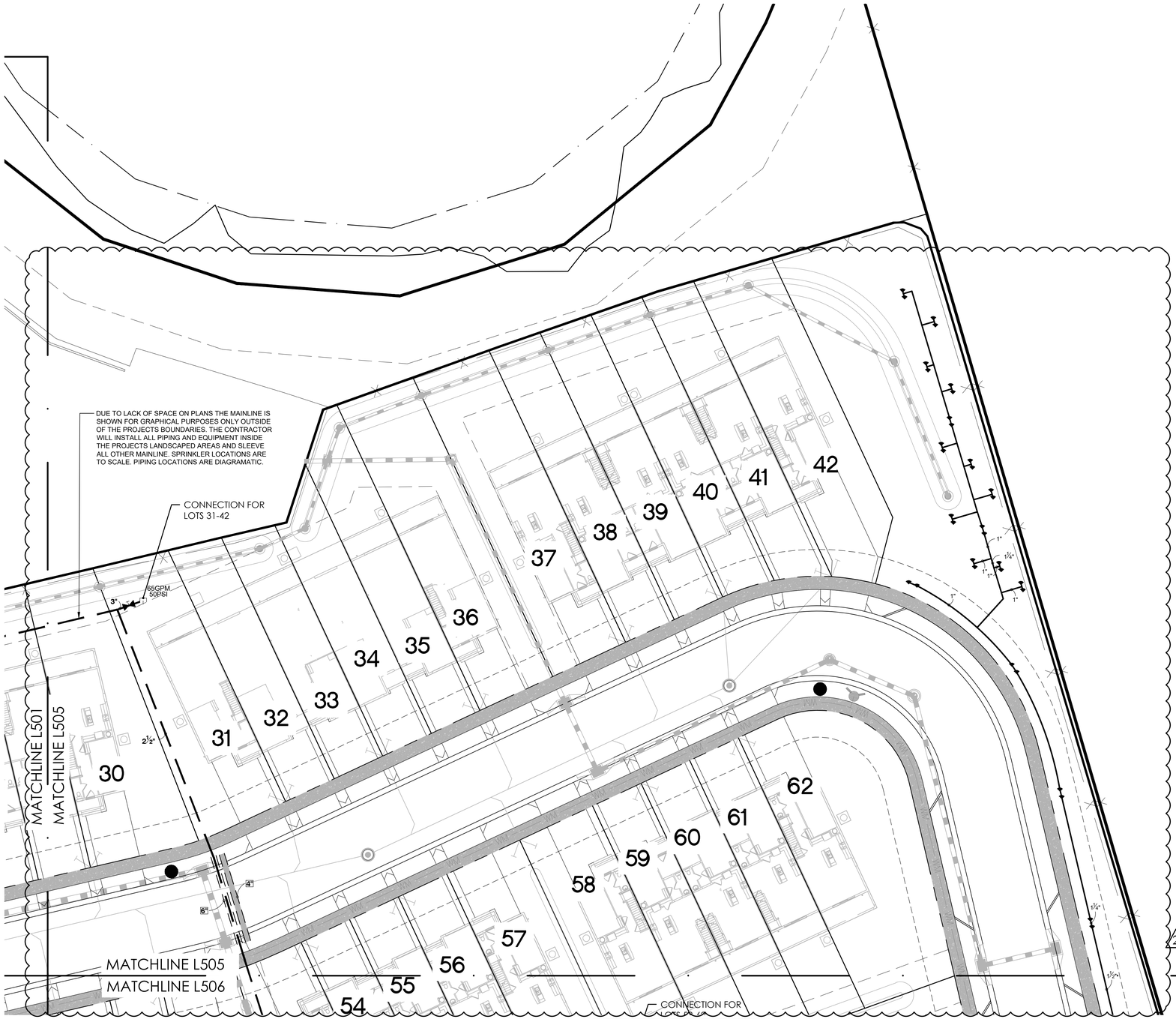

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Todd W. Bonnett, FL.A # FLA001718

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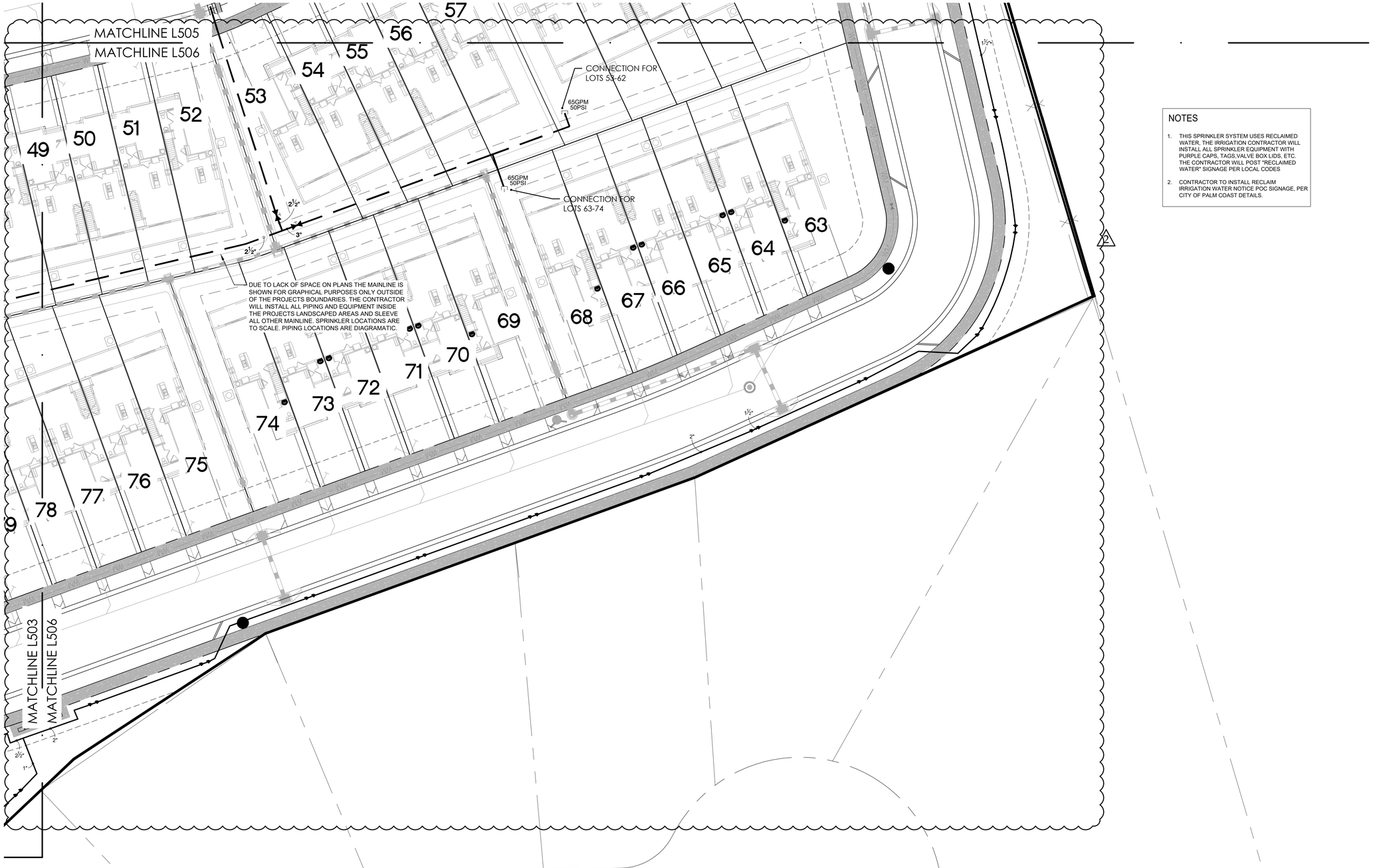

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Todd W. Bonnett, FLA # FLA0001718

1
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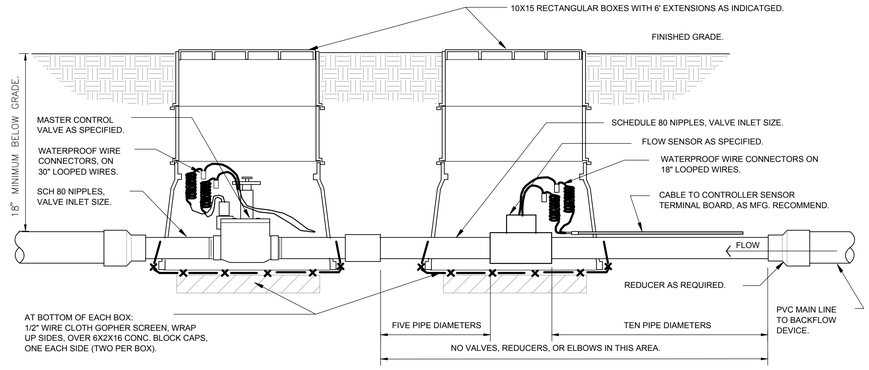
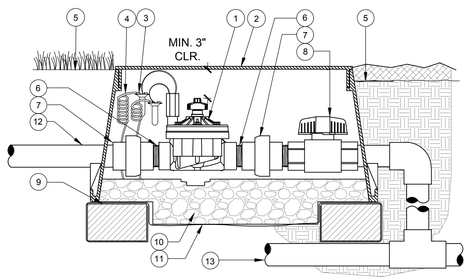
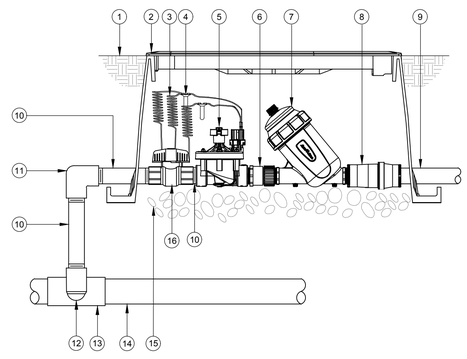


MASTER VALVE / FLOW SENSOR ASSEMBLY



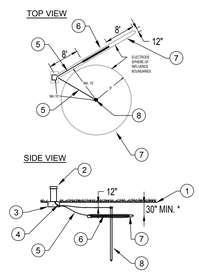
1. REMOTE CONTROL VALVE WITH FLOW CONTROL - PER PLAN
2. IRRIGATION VALVE BOX: HEAT STAMP LID WITH 'RCV' IN 2" LETTERS
3. WATERPROOF CONNECTORS (2)
4. 18"-24" COILED WIRE TO CONTROLLER
5. FINISH GRADE AT ADJACENT SURFACE (TURF OR MULCH)
6. SCH. 80 CLOSE NIPPLE, SIZE PER RCV
7. PVC SLIP (OR FPT) X FPT UNION
8. ISOLATION VALVE, LINE SIZE
9. BRICK SUPPORTS (4)
10. FILTER FABRIC - WRAP TWICE AROUND BRICK SUPPORTS
11. 3/4" WASHED GRAVEL - 4" MIN. DEPTH
12. IRRIGATION LATERAL
13. MAINLINE AND FITTINGS

ELECTRIC REMOTE CONTROL VALVE



1. FINISH GRADE/TOP OF MULCH
2. JUMBO VALVE BOX WITH PURPLE COVER: RAIN BIRD VBJMBPL
3. 30-INCH LINEAR LENGTH OF WIRE, COILED
4. WATERPROOF CONNECTION: RAIN BIRD DB SERIES
5. 1 1/2" PESB-R VALVE (INCLUDED IN XCZ-150-LCDR KIT)
6. 1 1/2" SCH 40 ADAPTER (MALE X FEMALE) INCLUDED IN XCZ-150-LCDR KIT
7. 1 1/2" FILTER - RAIN BIRD LARGE CAPACITY DISC FILTER (INCLUDED IN XCZ-150-LCDR KIT)
8. 1 1/2" HIGH FLOW PRESSURE REGULATOR (INCLUDED IN XCZ-150-LCDR KIT)
9. LATERAL PIPE
10. PVC SCH 80 NIPPLE 1 1/2"
11. PVC SCH 40 ELBOW
12. PVC SCH 80 NIPPLE (2" LENGTH, HIDDEN) AND PVC 40 ELBOW
13. PVC SCH 40 TEE OR ELBOW
14. MAINLINE PIPE
15. 4" MINIMUM DEPTH OF 3/4" WASHED GRAVEL
16. ISOLATION VALVE, LINE SIZE

RAIN BIRD XCZ-150-LCDCR 1.5" COMMERCIAL CONTROL ZONE KIT IN JUMBO VALVE BOX



1. FINISH GRADE
2. CONTROLLER OR CONTROLLER MOUNTED IN PUMP STATION
3. CONCRETE PAD
4. 1.5" SCH-40 PVC SWEEP ELL FOR WIRE
5. RUN 6 AWG SOLID COPPER WIRES CONTINUOUSLY FROM GROUND ROD/PLATE TO CONTROLLER BUS BAR.
6. COPPER GROUND PLATE (4"x96"x.0625") WITH 25-FEET OF #6 AWG INSULATED GREEN WIRE WITH YELLOW STRIPE PRE-WELDED TO GROUND PLATE, (PAIGE ELECTRIC 18299IC). PROVIDE MINIMUM OF (2) 50LB BAGS OF EARTH CONTACT MATERIAL (POWER SET BY PAIGE ELECTRIC 1821991C).
7. SPHERE OF INFLUENCE KEEP ELECTRIC EQUIPMENT OUTSIDE SPHERE OF INFLUENCE.
8. 5/8"X8' COPPER CLAD GROUND ROD WITH 15-FEET OF #6 AWG INSULATED GREEN WIRE PRE-WELDED TO GROUND ROD PAIGE ELECTRIC 182000IC6).

NOTE:
1. DO NOT INSTALL ANY OTHER WIRE OR CABLE WITHIN THE SPHERE OF INFLUENCE.
2. INSTALL GROUNDING PLATE MINIMUM 30" BELOW FINISHED GRADE, OR BELOW FROSTLINE, WHICHEVER IS DEEPER.
3. MEGGAR TEST GROUNDING GRID, MINIMUM 10 OHMS OR LESS REQUIRED, CONTRACTOR TO PROVIDE ON HIS LETTER HEAD, TIME, DATE, AND TEST RESULT. SUBMIT A COPY TO OWNER OR OWNERS REP. PRIOR TO FINAL WALK THROUGH

CONTROLLER GROUNDING DETAIL

IRRIGATION SYSTEM PERFORMANCE NOTES

1. IRRIGATION SYSTEM IS DESIGNED TO OPERATE OFF A RECLAIMED WATER METER PROVIDING A MINIMUM FLOW OF 72 GPM AND A MINIMUM PRESSURE OF 65 PSI.

   CONTRACTOR MUST CONTACT THE LANDSCAPE ARCHITECT PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION IF THE AVAILABLE FLOW AND PRESSURE DEVIATES MORE THEN 5% OR WILL AFFECT THE PERFORMANCE OF THE SYSTEM.

   MINIMUM PRESSURE REQUIREMENTS - 65 PSI AT THE POINT OF CONNECTION
   A. 35 PSI AT THE BASE OF THE POP-UP ROTOR/ROTATOR HEADS
   B. 30 PSI AT THE BASE OF THE POP-UP SPRAY HEADS

2. HEAD LAYOUT IS BASED ON BASE INFORMATION PROVIDED. HEADS SHALL BE ADJUSTED TO ACCOMMODATE FIELD VARIATIONS WHILE MAINTAINING 100% COVERAGE AND MINIMIZING OVER-SPRAY ONTO PAVED AREAS AND BUILDINGS.

3. ¾" PIPE SHALL NOT BE USED FOR LATERAL PIPING

DRIP TUBING NOTES

1. INSTALL DRIP TUBING AT GRADE AND COVER WITH MULCH. TYPICAL SPACING FOR DRIP TUBING IS 12" TO 18" ON CENTER. SPACING TO BE DETERMINED BY PLANT LAYOUT. REFER TO LANDSCAPE PLAN, ANCHOR TUBING EVERY 10' WITH 12" LONG PLASTIC TUBING STAKES. INSTALL FLUSH VALVE ASSEMBLIES AT ALL TUBING "DEAD ENDS". INSTALL AIR/VACUUM RELIEF VALVES AT "HIGH POINTS" OF EVERY SECTION.
2. GRID LAYOUT SHALL BE USED ON THIS PROJECT. USE CENTER GRID LAYOUT WHERE POSSIBLE.
3. WHEN SLEEVING DRIPLINE, USE BLANK DRIPLINE IN SLEEVE. SLEEVE SHALL BE 2X DRIPLINE DIAMETER. NO EMITTER DRIPLINE SHALL BE PLACED IN SLEEVE.
4. THE LENGTH OF ANY DRIPLINE LATERAL SHALL NOT BE LONGER THAN:
   12" EMITTERS @ 0.9 GPH
   a) @ 15 PSI = 155 FEET
   b) @ 20 PSI = 169 FEET
   c) @ 30 PSI = 230 FEET
   d) @ 40 PSI = 255 FEET
   LATERAL DISTANCE DOUBLED WHEN CENTER FEED LAYOUT USED (SEE CENTER FEED LAYOUT DETAIL
5. MANUAL FLUSH VALVE SHALL BE USED & PLACED WITH A 6" X 6" SUMP. VALVES SHALL BE OPENED EVERY WATERING DAY FOR 2 WEEKS AND THEN A MINIMUM OF 2 TIMES A YEAR TO CLEAR DRIPLINE OF DEBRIS.
6. AIR/VACUUM RELIEF SHALL BE INSTALLED WHEN THE CHANGE IN SLOPE OCCURS 3% OR GREATER.
7. STAPLES SHALL BE USED AT 5' O.C. AND 2 STAPLES 'X'ED OVER EACH OTHER WITH ANY CHANGE IN DIRECTION, ELBOWS, OR CROSSES.
8. SUPPLY, EXHAUST HEADERS AND DRIPLINE SHALL BE PLACED 2"- 4" FROM PLANTS AND PAVEMENT EDGES.
9. BLANK DRIPLINE SHALL BE USED FOR ALL SUPPLY AND EXHAUST HEADERS, UNLESS OTHERWISE NOTED ON PLANS.
10. PRIOR TO COVERING DRIPLINE, DRIPLINE CIRCUIT WILL BE PRESSURIZED AND TESTED FOR PROPER OPERATION.
11. DRIP LINE LATERALS SHALL BE LAID IN THE LONGEST RUN, WHETHER IT BE THE WIDTH OR LENGTH OF THE ZONE.

RECLAIMED WATER NOTES

1. ALL PIPE SHALL BE PURPLE WATER TYPE.
2. ALL MAINLINE SHALL HAVE MAGNETIC MARKER TAPE PLACED IN THE TRENCH 6" ABOVE THE PIPE.
3. ALL SPRINKLER HEADS SHALL HAVE PURPLE RECLAIMED IDENTIFICATION.
4. ALL MANUAL AND ELECTRIC VALVES SHALL HAVE TAGS TO INDICATE RECLAIMED WATER.
5. ALL VALVE BOXES SHALL HAVE PURPLE LIDS TO INDICATE THE PRESENCE OF RE-USE WATER.
6. ALL CROSSINGS OF IRRIGATION PIPING AND POTABLE WATER LINES SHALL HAVE THE VERTICAL CLEARANCE VISUALLY VERIFIED AND THE VERIFICATION MUST BE SHOWN ON THE AS-BUILT DRAWING BY DOCUMENTING THE VERTICAL MEASUREMENTS SEPARATING THE PIPES.
7. THE VERTICAL SEPARATION BETWEEN THE POTABLE AND RECLAIMED WATER LINES SHALL BE A MINIMUM OF 18". THIS SEPARATION SHALL BE VERIFIED AND DOCUMENTED IN A SET OF AS-BUILTS DRAWINGS AS PER SPECIFICATIONS. THE HORIZONTAL SEPARATION SHALL BE 5' CENTER TO CENTER AND 3' OUTSIDE TO OUTSIDE IF VERTICAL MINIMUM OF 18" IS NOT MET. REFER TO THE SPECIFIC CODE IF THESE SEPARATIONS CANNOT BE MET.

GENERAL IRRIGATION NOTES

1. ALL MAINLINES TO HAVE A MINIMUM OF 18" OF COVER. (CLASS 200 PVC PIPE).
2. ALL LATERAL AND SUB-MAIN PIPE TO HAVE A MINIMUM OF 12" OF COVER (CLASS 200 PVC PIPE).
3. NO ROCKS, BOULDER, OR OTHER EXTRANEOUS MATERIALS TO BE USED IN BACKFILLING OF TRENCH.
4. ALL PIPE TO BE INSTALLED AS PER MANUFACTURERS' SPECIFICATIONS.
5. ALL THREADED JOINTS TO BE COATED WITH TEFLON TAPE OR LIQUID TEFLON.
6. ALL LINES TO BE THOROUGHLY FLUSHED BEFORE INSTALLATION OF SPRINKLER HEADS.
7. SPRINKLER AND RELATED EQUIPMENT TO BE INSTALLED AS PER DETAILS.
8. ALL ELECTRICAL JOINTS TO BE MADE USING WATERPROOF CONNECTIONS AS SHOWN ON DETAILS.
9. ALL EQUIPMENT NOT SPECIFIED IN THE LEGEND SHALL BE DETERMINED AND FURNISHED BY THE CONTRACTOR.
10. NO ELECTRICAL CONNECTIONS SHALL BE MADE IN THE FIELD EXCEPT AT A VALVE CONTROL BOX OR ANOTHER VALVE BOX SPECIFICALLY FOR CONNECTIONS.
11. ANY DISCREPANCY BETWEEN THIS SHEET AND OTHERS IN THIS SET MUST BE REFERRED TO THE IRRIGATION CONSULTANT BY THE CONTRACTOR FOR CLARIFICATION BEFORE PRECEDING WITH THE WORK.
12. ALL 24 VOLT WIRE SHALL BE #12 UF/UL FOR COMMON WIRE, AND #14 UF/UL FOR CONTROL WIRES, DIRECT BURIAL, SOLID COPPER.
13. CONTRACTOR TO BE RESPONSIBLE FOR PROPER COVERAGE OF AREAS TO BE WATERED. i.e ADJUST HEADS WITH INSUFFICIENT COVERAGE DUE TO BLOCKAGE BY EXISTING OR PROPOSED SITE FEATURES.
14. CONTRACTOR TO REFER TO LANDSCAPE PLAN TO KEEP SPRINKLER EQUIPMENT AND ACCESSORY MATERIAL FROM INTERFERING WITH PROPER PLANTING, i.e VERIFY ROOT BALL SIZE FOR PLANTING
15. CONTRACTOR SHALL PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN A VALVE BOX (WRAP AROUND 3/4" PIPE 12 TIMES.
16. SPRINKLERS IN LOW-LYING AREAS SHALL HAVE CHECK VALVES
17. ALL SPRINKLERS TO BE MOUNTED ON FLEX PIPE - REFER TO DETAILS.
18. INSTALL DRIP LINE TUBING AND NON-PRESSURE LATERAL LEAD LINE PIPING IN LANDSCAPE AREAS AND ADJACENT TO SELECTED PLANT MATERIAL AS SHOWN IN DETAILS.
19. CONTRACTOR SHALL UTILIZE VALVE I.D. TAGS ON ALL REMOTE CONTROL VALVES.
20. 24 VOLT WIRE SHALL BE COLOR CODE; COMMON-WHITE, CONTROL-RED.
21. CONTRACTOR SHALL INSTALL MANUFACTURERS' RECOMMENDED GROUNDING EQUIPMENT FOR POWER SUPPLY AND VALVE OUTPUT WITH (2) 5/8" COPPER CLAD GROUND RODS.
22. CONTRACTOR SHALL INSTALL MANUFACTURERS' RECOMMENDATION ON FAULT GROUND AND LIGHTNING PROTECTION.
23. CONTROLLER GROUNDING MUST BE PER ASIC REQUIREMENTS.
24. ALL MATERIAL TO BE SUPPLIED BY CONTRACTOR TO OWNER:
    A. TWO WRENCHES FOR DISASSEMBLING AND ADJUSTING EACH TYPE OF SPRINKLER HEAD AND VALVE SUPPLIED.
    B. TWO KEYS FOR EACH OF THE AUTOMATIC CONTROLLERS.
    C. TWO QUICK COUPLER KEYS WITH MATCHING HOSE SWIVELS.
26. SYSTEM IS DIAGRAMMATIC TO IMPROVE CLARITY. ALL MAINLINE PIPING, ELECTRIC VALVES AND WIRING ARE TO BE INSTALLED IN LANDSCAPED AREAS AND REFERENCE THE LANDSCAPE PLAN PRIOR TO THE INSTALLATION OF PIPING TO AVOID CONTACT WITH PLANT MATERIALS EXISTING OR NEW.
27. CONTRACTOR TO ADD EXTENSION RISERS TO POP-UP HEADS WHEN NEEDED TO PROVIDE PROPER COVERAGE.
28. CONTRACTOR SHALL INSTALL SPRINKLER EQUIPMENT 18" FROM FOUNDATIONS, ALSO INSTALL SPRINKLERS 4" FROM CURBS OR WALKS.
29. PRIOR TO BID IRRIGATION CONTRACTOR SHALL VERIFY RIGHT-OF-WAY AND BACKFLOW REQUIREMENTS NO LATER THAN FIVE DAYS BEFORE BID SUBMITTALS. CONTRACTOR SHALL NOTIFY CONSULTANT OF ANY CHANGES FROM PLANS OR SPECIFICATIONS.
30. IRRIGATION CONTRACTOR SHALL PROVIDE THE OWNER AND LANDSCAPE ARCHITECT WITH A REPRODUCIBLE AS-BUILT DRAWING OF THE INSTALLED IRRIGATION SYSTEM IN A PDF FILE FORMAT BEFORE FINAL ACCEPTANCE. PROVIDE CROSS-MEASURED LOCATIONS OF ALL VALVE LOCATIONS, CONTROLLER, WATER SOURCE, WIRE SPLICES, SLEEVE LOCATIONS, ETC.
31. A 1-YEAR WARRANTY PERIOD SHALL BE PROVIDED FOR SYSTEM AFTER SUBSTANTIAL COMPLETION IS ACCEPTED. START UP AND ADJUSTING OF SYSTEM IN SPRING TIME SHALL BE INCLUDED IN WARRANTY.
32. PRIOR TO BID, CONTRACTOR SHALL VERIFY THAT ALL MATERIAL, INSTALLATION PARAMETERS AND OPERATIONS CONFORM TO ALL APPLICABLE CODES AND ORDINANCES NO LATER THAN FIVE DAYS BEFORE BID SUBMITTALS. CONTRACTOR SHALL NOTIFY IRRIGATION CONSULTANT/DESIGNER OF ANY CHANGES REQUIRED DUE TO CURRENT CODE OR ORDINANCE DISCREPANCIES. IF CONTRACTOR DOES NOT COMPLY TO THIS NOTIFICATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY INSTALLATION CHANGE AND REDESIGN COSTS FOR NON-COMPLIANCE.
33. UNLESS OTHERWISE NOTED, THE CONTRACTOR MUST COMPLETE TWO PRESSURE TESTS OF THE IRRIGATION SYSTEM MAINLINE(BOTH TO SHOW NO DROP IN PRESSURE DURING DURATION OF THE TEST).
    A. 2-HOUR PRESSURE TEST AT 1.5 TIMES THE SYSTEM STATIC PRESSURE
    B. 24-HOUR PRESSURE TEST AT THE SYSTEM STATIC PRESSURE
34. IRRIGATION INSTALLATION CONTRACTOR SHALL PROVIDE THE OWNER WITH A COLOR-CODED ZONE DIAGRAM PLAN, 8-1/2"X11" LAMINATED SHEET(S) WITH AN ELECTRONIC FILE COPY TO IDENTIFY CONTROLLER STATION TO THE CONTROL VALVE NUMBER FOR EACH CONTROLLER. THE LAMINATED CHART IS TO BE LOCATED IN AN ADHESIVE POUCH ATTACHED TO THE INSIDE OF CONTROLLER(S).
35. THE CONTROLLER(S) SHALL SCHEDULE PROGRAM "A" TO A REGULAR RUN-TIME SETTINGS FOR AFTER THE ESTABLISHMENT PERIOD OF THE PLANT MATERIAL. PROGRAM "B" SHALL BE USED DURING THE ESTABLISHMENT PERIOD AND TURNED OFF AFTER THE 30-60 DAYS OF PLANT INSTALLATION.
36. THE IRRIGATION CONTRACTOR WILL READ ALL SPECIFICATIONS AND REVIEW ALL DETAILS AND EXAMINE THESE PLANS CAREFULLY PRIOR TO BIDDING THIS PROJECT. FAILURE TO READ THIS INFORMATION IS NOT AN ACCEPTABLE REASON IF THE JOB IS UNDERBID.
37. THE PLAN MAY NOT INCLUDE ALL MATERIALS. THIS DOESN'T RELIEVE THE CONTRACTOR FROM BEING RESPONSIBLE TO PROVIDE A COMPLETE SYSTEM IN PERFECT WORKING ORDER.

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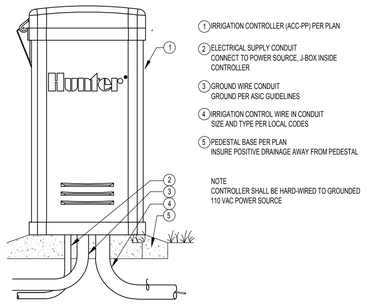
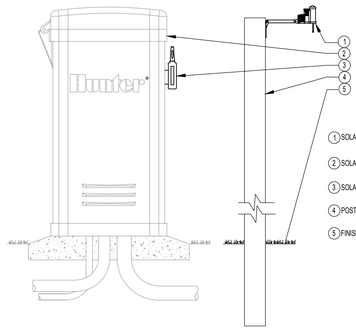


1. IRRIGATION CONTROLLER (ACC-PP) PER PLAN
2. ELECTRICAL SUPPLY CONDUIT CONNECT TO POWER SOURCE, J-BOX INSIDE CONTROLLER
3. GROUND WIRE CONDUIT GROUND PER ASIC GUIDELINES
4. IRRIGATION CONTROL WIRE IN CONDUIT SIZE AND TYPE PER LOCAL CODES
5. PEDESTAL BASE PER PLAN INSURE POSITIVE DRAINAGE AWAY FROM PEDESTAL

NOTE
CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 VAC POWER SOURCE

ACC - PLASTIC PEDESTAL



1. SOLAR SYNC WIRELESS SENSOR
2. SOLAR SYNC COMPATIBLE CONTROLLER
3. SOLAR SYNC WIRELESS RECEIVER
4. POST OR SUITABLE MOUNTING SUF
5. FINISHED GRADE

SOLAR SYNC WIRELESS WITH PEDESTAL CONTROLLER

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IRRIGATION DETAILS & NOTES

DATE: December 10, 2021
DRAWN BY: JM
CHECKED BY: TWB
JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_IRBASE

REVISIONS:
1 Irrigation 12-10-2021

REGISTERED LANDSCAPE ARCHITECT TODD W. BONNETT LA1718 STATE OF FLORIDA
Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:59:05 -05'00'
Todd W. Bonnett, RLA # FL0001

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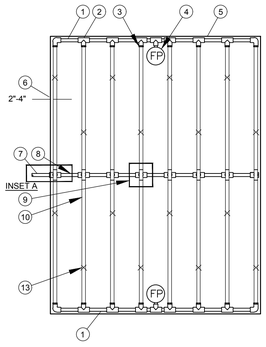
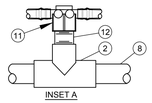
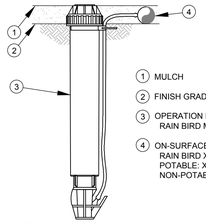


1. PVC EXHAUST HEADER
2. PVC SCH 40 TEE OR EL (TYPICAL)
3. BARB X MALE FITTING: RAIN BIRD XFF-MA FITTING (TYPICAL)
4. FLUSH POINT (TYPICAL) SEE RAIN BIRD DETAIL "XFD FLUSH POINT"
5. PERIMETER OF AREA
6. PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
7. PVC SUPPLY PIPE FROM RAIN BIRD CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
8. PVC SUPPLY MANIFOLD
9. CONNECTION FROM SUPPLY MANIFOLD TO DRIPLINE (TYPICAL)- SEE INSET A
10. ON-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE(TYPICAL) POTABLE: XFD DRIPLINE NON-POTABLE: XFDP DRIPLINE
11. BARB X FEMALE FITTING: RAIN BIRD XFD-TFA-075 FITTING
12. 3/4" PVC NIPPLE, LENGTH AS NECESSARY
13. RAINBIRD TDS-050 TIE DOWN STAKE, STAGGER 3' APART ALONG DRIP LINE AND AT AND AT FITTINGS. (TYPICAL)



NOTES:
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION.
2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.
3. WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.

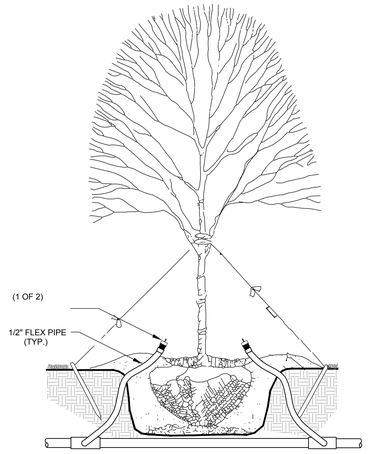
XFD ON-SURFACE DRIPLINE - CENTER FEED LAYOUT



1. MULCH
2. FINISH GRADE
3. OPERATION INDICATOR RAIN BIRD MODEL: OPERIND
4. ON-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFD SERIES NON-POTABLE: XFDP SERIES

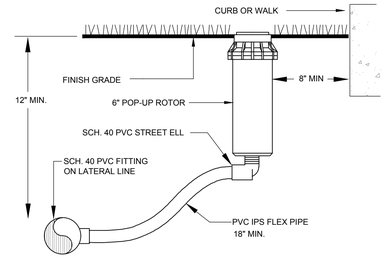
NOTE:
1. INSERT BARB TRANSFER FITTING DIRECTLY INTO DRIPLINE TUBING.
2. VAN NOZZLE MAY BE SET TO CLOSED, OR IF IT IS DESIRED TO SEE SPRAY FROM THE NOZZLE, SET THE ARC TO ¼ PATTERN.

ON-SURFACE DRIPLINE OPERATIONAL INDICATOR

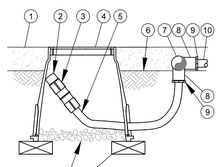


IRRIGATION CONTRACTOR IS TO AVOID ANY CONTACT WITH THE ROOT BALL OF THE TREE

TREE BUBBLER DETAIL



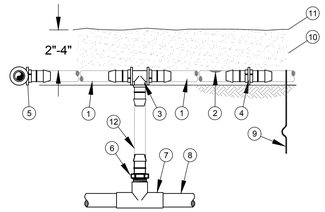
TURF ROTOR HEAD



1. TOP OF MULCH LAYER
2. FLUSH CAP FOR EASY FIT COMPRESSION FITTINGS: POTABLE:RAIN BIRD MDCFCAP NON-POTABLE: RAIN BIRD MDCFPCAP
3. EASY FIT COUPLING: RAIN BIRD MDCFCOUP
4. SUBTERRANEAN EMITTER BOX: RAIN BIRD SEB 7XB
5. RAIN BIRD XF BLANK TUBING
6. FINISH GRADE
7. PVC EXHAUST HEADER
8. PVC SCH 40 TEE OR EL
9. BARB X MALE FITTING: RAIN BIRD XFF-MA FITTING (TYPICAL)
10. ON-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFD DRIPLINE NON-POTABLE: XFDP DRIPLINE
11. 3-INCH MINIMUM DEPTH OF 3/4" WASHED GRAVEL
12. BRICK (1 OF 2)

NOTE:
1. ALLOW A MINIMUM OF 6-INCHES OF DRIPLINE TUBING IN VALVE BOX IN ORDER TO DIRECT FLUSHED WATER OUTSIDE VALVE BOX.

XFD ON-SURFACE DRIPLINE FLUSH POINT



NOTES:
1. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, F0UR FEET IN LOAM, AND FIVE FEET IN CLAY.
2. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

1. ON-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFD DRIPLINE NON-POTABLE: XFDP DRIPLINE
2. INLINE DRIP EMITTER OUTLET, SEE PLANS FOR DRIPLINE OUTLET SPACING.
3. BARB TEE 17x17x17mm RAIN BIRD XFF-TEE
4. BARB COUPLING 17x17mm RAIN BIRD XFF-COUP
5. BARB ELBOW 17x17mm RAIN BIRD XFF-ELBOW
6. BARB MALE ADAPTER 17mm X 1/2" MPT RAIN BIRD XFF-MA-050 17mm X 3/4" MPT RAIN BIRD XFF-MA-075
7. PVC TEE SxSxT
8. PVC LATERAL SUPPLY HEADER
9. TIE DOWN STAKE: RAIN BIRD TDS-050 WITH BEND (TYP)
10. MULCH
11. FINISH GRADE
12. RAIN BIRD XF SERIES BLANK TUBING LENGTH AS REQUIRED

XFD ON-SURFACE DRIPLINE RISER ASSEMBLY

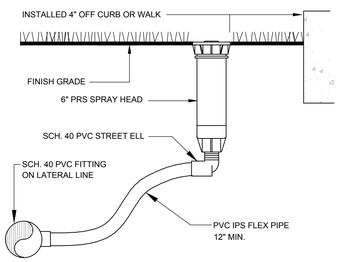
TREE IRRIGATION AFTER PLANTING DURING ESTABLISHMENT

SIZE OF NURSERY STOCK	IRRIGATION SCHEDULE FOR VITALITY
LESS THAN 2" CALIPER	DAILY FOR TWO WEEKS, EVERY OTHER DAY FOR TWO MONTHS, WEEKLY UNTIL ESTABLISHED
2"-4" CALIPER	DAILY FOR ONE MONTH, EVERY OTHER DAY FOR THREE MONTHS, WEEKLY UNTIL ESTABLISHED.
GREATER THAN 4" CALIPER	DAILY FOR SIX WEEKS, EVERY OTHER DAY FOR FIVE MONTHS, WEEKLY UNTIL ESTABLISHED

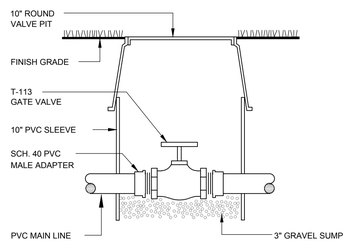
1. AT EACH IRRIGATION, APPLY TWO TO THREE GALLONS PER INCH TRUNK CALIPER AT THE ROOT BALL SURFACE. APPLY IT IN A MANNER SO ALL WATER SOAKS THE ENTIRE ROOT BALL. DO NOT WATER IF THE ROOT BALL IS WET/SATURATED ON THE IRRIGATION DAY

2. DELETE DAILY IRRIGATION WHEN PLANTING IN WINTER. ESTABLISHMENT TAKES THREE (HARDINESS ZONE 10-11) TO FOUR (HARDINESS ZONE 8-9) MONTHS PER INCH TRUNK CALIPER. NEVER APPLY IRRIGATION IF THE SOIL IS SATURATED.

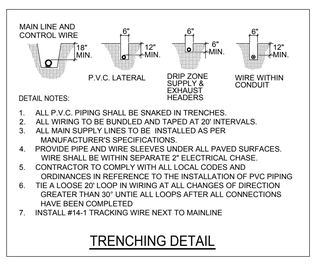
SPRINKLERS IN LOW-LYING AREAS SHALL HAVE CHECK VALVES



6" POP-UP SPRAY HEAD DETAIL

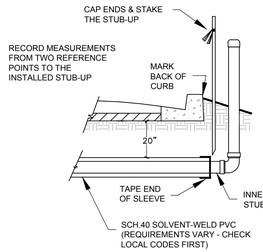


ISOLATION GATE VALVE

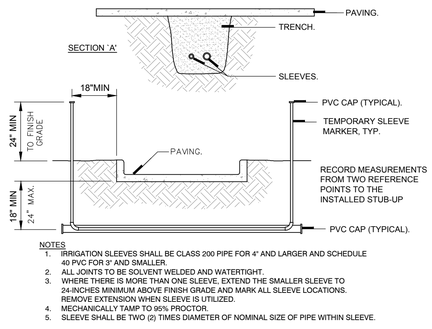


DETAIL NOTES:
1. ALL P.V.C. PIPING SHALL BE SNAKED IN TRENCHES.
2. ALL WIRING TO BE BUNDLED AND TAPED AT 20' INTERVALS.
3. ALL MAIN SUPPLY LINES TO BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS.
4. PROVIDE PIPE AND WIRE SLEEVES UNDER ALL PAVED SURFACES. WIRE SHALL BE WITHIN SEPARATE 2" ELECTRICAL CHASE.
5. CONTRACTOR TO COMPLY WITH ALL LOCAL CODES AND ORDINANCES IN REFERENCE TO THE INSTALLATION OF PVC PIPING
6. TIE A LOOSE 20' LOOP IN WIRING AT ALL CHANGES OF DIRECTION GREATER THAN 30° UNTIE ALL LOOPS AFTER ALL CONNECTIONS HAVE BEEN COMPLETED
7. INSTALL #14-1 TRACKING WIRE NEXT TO MAINLINE

TRENCHING DETAIL



ROUGH IN SLEEVING DETAIL



NOTES:
1. IRRIGATION SLEEVES SHALL BE CLASS 200 PIPE FOR 4" AND LARGER AND SCHEDULE 40 PVC FOR 3" AND SMALLER.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHERE THERE IS MORE THAN ONE SLEEVE, EXTEND THE SMALLER SLEEVE TO 24-INCHES MINIMUM ABOVE FINISH GRADE AND MARK ALL SLEEVE LOCATIONS. REMOVE EXTENSION WHEN SLEEVE IS UTILIZED.
4. MECHANICALLY TAMP TO 95% PROCTOR.
5. SLEEVE SHALL BE TWO (2) TIMES DIAMETER OF NOMINAL SIZE OF PIPE WITHIN SLEEVE.

IRRIGATION SLEEVE DETAIL

THE DESIGN PROFESSIONAL DOES NOT ACCEPT ANY/ALL RESPONSIBILITY AND/OR LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND DESIGN INTENT THEY CONVEY OR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE DESIGN PROFESSIONALS GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

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Venezia
Landscape Architecture
D.R. Horton
Howey-in-the-Hills, Florida
IRRIGATION DETAILS & NOTES

DATE: December 10, 2021
DRAWN BY: JM
CHECKED BY: TWB
JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_IRBASE

REVISIONS:
1 Irrigation 12-10-2021

REGISTERED LANDSCAPE ARCHITECT TODD W. BONNETT LA1718 STATE OF FLORIDA

Digitally signed by Todd W Bonnett
Date: 2022.01.19 12:59:54 -05'00'

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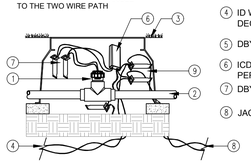
NOTE
EARTH GROUND TO BE A
MINIMUM OF 8' AWAY FROM
DUAL-S AND AT A RIGHT ANGLE
TO THE TWO WIRE PATH



1. FLOW SENSER PER PLAN
2. PVC MAINLINE
3. FINISHED GRADE
4. ID WIRE PATH TO NEXT DECODER AS NEEDED
5. DBY (2)
6. ICD SENSOR DECODER PER PLAN
7. DBY-6 (3)
8. JACKETED ID WIRE PATH

ICD SENSOR DECODER

TWO-WIRE DECODER CONTROL SYSTEM NOTES

1. THE DECODERS MAY BE LABELED AND PROGRAMMED AT THE CONTROLLER PRIOR TO INSTALLATION.
2. DO NOT CREATE DUPLICATE STATION ADDRESSES FOR DECODERS.
3. A ICD-SEN SENSOR DECODER SHALL BE USED TO ACCEPT INPUTS FROM SENSORS. EACH ICD-SEN ALSO HAS 2 COLOR-CODED LOOPS CALLED "PORTS".
4. HFS FLOW SENSORS CAN ONLY BE CONNECTED TO "PORT A" OF THE ICD-SEN.
5. THE TWO WIRE CABLE SHALL BE A SOLID-CORE, COLOR-CODED, TWISTED-PAIR CABLE.
6. GROUND ONE DECODER AT THE END OF THE WIRE PATH AND ONE DECODER GROUNDED EVERY 500' OR 8TH DECODER WHICHEVER IS SHORTER.
7. BOTH THE CONTROLLER AND DECODER ARE TO BE GROUNDED TO GROUND RODS OR PLATES WITH LESS THAN 10 OHMS RESISTANCE.
8. ALL TWO-WIRE SYSTEM COMPONENTS ARE TO BE INSTALLED PER THE HUNTER ACC/ACC DECODER SPECIFICATIONS.
9. ALL CONNECTIONS AND SPLICES IN THE TWO-WIRE PATH MUST BE MADE WITH DBRY-6 OR EQUAL WATERPROOF CONNECTORS.
10. ALL T-SPLICES MUST BE MADE IN VALVE BOXES WITH DBRY-6 OR EQUAL WATERPROOF CONNECTIONS.
11. INSTALL THE GROUNDING WIRE AND EARTH GROUND HARDWARE AT RIGHT ANGLES TO THE RUN OF THE TWO-WIRE PATH.
12. FROM THE DECODER OUTPUTS TO INDIVIDUAL SOLENOIDS, USE STANDARD IRRIGATION WIRE SIZED FOR THE LENGTH OF THE RUN.
13. WIRING FROM THE DECODER TO THE SOLENOID SHOULD NOT EXCEED 150 FT.
14. WHEN DOUBLING SOLENOIDS ON A DECODER OUTPUT, WIRE THE SOLENOIDS IN PARALLEL RATHER THAN IN SERIES.
15. TWO-WIRE DECODER CABLE SHALL BE INSTALLED WITHIN A 1" CONDUIT UTILIZING SWEEPS INSTEAD OF 90'S.

PLAN NOTES: HUNTER ACC2 DECODER CONTROLLER

DECODERS: The controller shall interface to Hunter ICD decoders capable of controlling 1, 2, 4 or 6 valves per unit (ICD-100, ICD0200, ICD400 and ICD-600). Provide an ICD-SEN sensor decoder for the flow sensors and Clik sensors. Maximum distance from decoder output to solenoid under normal conditions is 150 ft. Integrated surge protection shall eliminate the need for extra surge protection devices.

WIRE: The Hunter ACC2 Decoder Controller requires twisted wire meeting their specification on all paths of the ACC2 Decoder Controller (Hunter IDWIRE, Paige Electric P7354D or equal). IDWIRE1 (14 AWG) is recommended for wire path length up to 10,000 ft and IDWIRE2 (12 AWG) for wire path length up to 15,000 ft. The controller allows up to 3 two-wire paths per output module. The jacket colors shall be such to facilitate the identification of various wire path zones. Looping a two-wire path from one output to another (back to the controller) is not recommended. Provide an additional 36-inch of loose wire (measured from top of valve box), rolled up to the side in all splice boxes and valve boxes. All connections and splices in the red/blue two-wire path must be made with DBRY-6 or equal waterproof connectors and installed in a valve box. IT IS ESSENTIAL THAT ALL CONNECTIONS BE ABSOLUTELY WATERTIGHT WITH NO LEAKAGE TO GROUND NOR SHORTING BETWEEN CONDUCTORS.

GROUNDING: All grounding and installation of equipment specified, shall be installed in strict compliance with the Manufacturer's recommendations and in accordance with Local, State and Federal requirements. Both the controller and the decoders shall be grounded to ground rods or plates with less than 10 Ohms resistance. At a minimum, earth ground should be connected at the first decoder, every 12th valve/decoder, or 1,000 ft of wire run (whichever is shorter) and at the last valve/decoder in any wire run. The solid copper grounding plate shall have a pre-welded #6 AWG insulated green-yellow wire, and Power Set Earth Contact Material. The ground plates are to be installed to a minimum depth of 30". Keep electronic equipment, underground wires, and cables outside of the sphere of influence. Ground plates shall be made of a copper alloy intended for grounding applications and have minimum dimensions as follows:

a. For grounding controllers - 4" x 8' x 0.0625" solid copper grounding plate, a 25-foot continuous length of 6 AWG, green insulated, with extruded yellow stripe, solid bare copper wire welded to the plate (Paige Electric 182199IC) and two 50lb bags of Power Set Earth Contact Material.

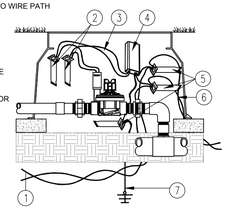
b. For grounding decoders - 4" x 3' x 0.0625" solid copper grounding plate, a 15-foot continuous length of 10 AWG, green insulated, with extruded yellow stripe, solid bare copper wire is welded to the plate (Paige Electric 182201IC) and one 50lb bag of Power Set Earth Contact Material.

When using ground rods, provide 5/8" diameter x 8' long copper clad steel ground rods with 15' pre-welded #6 AWG insulated green-yellow wire (Paige Electric part # 1820007IC6). The rods are to be driven into the ground in a vertical position or an oblique angle not to exceed 45 degrees at a location 10 feet from the electronic equipment, the ground plate, or the wires and cables connected to said equipment. The grounding rods shall be covered by a valve box. Install all grounding circuit components in straight lines. Reference the Grounding Details and/or Paige Electric Wiring Guide https://www.paigewire.com

LIGHTNING ARRESTOR: Protect the controller from surges coming from the 120 or 240 Vac wires by installing Paige Electric 250090LED lightening arrestor. This arrester incorporates a visible green LED to indicate that the unit is ready to fire in case of a power or lightning surge. Reference Paige Electric Wiring Guide https://www.paigewire.com

NOTE
EARTH GROUND TO BE A
MINIMUM OF 8' AWAY FROM
DUAL-S AND AT A RIGHT ANGLE
TO THE TWO WIRE PATH

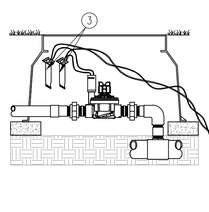
NOTE: All ICD -100 DECODERS SHALL HAVE THE FOLLOWING ADDRESS AND CORRESPONDING COLOR ADDRESS 1 = Black



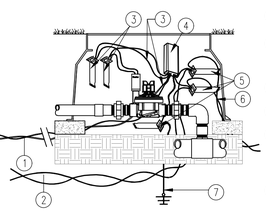
1. ID WIRE PATH TWISTED TO NEXT DECODER
2. DBY (2)
3. TWO BLACK WIRES TO SOLENOID/UP TO 150FT
4. ICD-100 DECODER
5. DBRY-6 (3)
6. JACKETED ID WIRE PATH FROM CONTROLLER ALLOW 5 ft SLACK PER DECODER 1/2 ON EITHER SIDE OF DECODER
7. TO EARTH GROUND INSTALLED PER ASIC GUIDELINES. 1 PER 8 DECODERS OR EVERY 500ft.

ICD-100 DECODER

NOTE
EARTH GROUND TO BE A
MINIMUM OF 8' AWAY FROM
DUAL-S AND AT A RIGHT ANGLE
TO THE TWO WIRE PATH

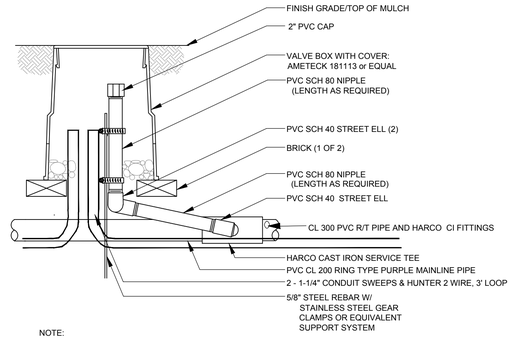


NOTE: All ICD-200 DECODERS SHALL HAVE THE FOLLOWING ADDRESS AND CORRESPONDING COLOR
ADDRESS 1 = Black
ADDRESS 2 = Yellow



1. DECODER TO SOLENOID MAX RUN 150 ft.
2. ID WIRE PATH TWISTED TO NEXT DECODER
3. DBY (4)
3. COLOR CODED VALVE WIRES. SEE LEGEND FOR COLOR AND VALVE #
4. ICD-200 DECODER
5. DBRY-6 (3)
6. JACKETED ID WIRE PATH FROM CONTROLLER ALLOW 5 ft SLACK PER DECODER - 1/2 ON EITHER SIDE OF DECODER
7. TO EARTH GROUND INSTALLED PER ASIC GUIDELINES. 1 PER 8 DECODERS OR EVERY 500ft.

ICD-200 DECODER



NOTE:
1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL STUB SIZE.

3" STUB FOR FUTURE CONNECTION

2

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	HEADS	PIPE 1"	PIPE 1 1/4"	PIPE 1 1/2"	PIPE 2"	PIPE 2 1/2"	DESIGN PSI	VALVE LOSS	PSI	PSI @ POC	PRECIP
1	Rain Bird PESBR	1-1/2"	Turf Rotor	25.83	10	254.5	21.1				35	3.27	40.29	46.89	0.61 in/h
2	Rain Bird XCZ-150-LCDR	1-1/2"	Area for Dripline	24.65	1,643 l.f.	95.4	15.1				20	4.79	26.75	33.4	1.44 in/h
3	Rain Bird PESBR	1-1/2"	Bubbler	30.00	60	493.6	84.7	34.0	10.5		20	3.1	24.96	32.24	2.1 in/h
4	Rain Bird PESBR	1-1/2"	Turf Spray	29.14	44	390.5		7.6			30	3.13	35.23	42.57	0.99 in/h
5	Rain Bird XCZ-150-LCDR	1-1/2"	Area for Dripline	27.83	1,855 l.f.	234.3	47.6	4.7			20	5.13	26.96	35.5	1.44 in/h
6	Rain Bird PESBR	1-1/2"	Turf Spray	38.08	54	386.2	91.8		7.6		30	2.45	35.34	43.92	0.96 in/h
7	Rain Bird PESBR	1-1/2"	Bubbler	34.00	68	321.9	121.4	18.7	10.6		20	2.78	24.77	33.54	2.1 in/h
8	Rain Bird XCZ-150-LCDR	1-1/2"	Area for Dripline	22.86	1,524 l.f.	539.4	45.6		14.5		20	4.26	26.77	36.17	1.44 in/h
9	Rain Bird PESBR	1-1/2"	Turf Spray	34.24	58	424.0	32.4		7.3		30	2.76	35.59	45.59	0.92 in/h
10	Rain Bird PESBR	1-1/2"	Bubbler	31.00	62	473.1	97.9		10.5		20	3.02	24.53	34.73	2.08 in/h
11	Rain Bird PESBR	1-1/2"	Bubbler	41.00	82	558.7	152.0	251.9	340.8	48.8	20	2.28	27.91	38.76	2.12 in/h
12	Rain Bird PESBR	1-1/2"	Turf Rotor	31.31	11	314.3	25.0	4.2			35	3	39.12	50.22	0.57 in/h

WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK
1	Rain Bird PESBR	Turf Rotor	0.61 in/h	1	98	2,531
2	Rain Bird XCZ-150-LCDR	Area for Dripline	1.44 in/h	1	42	1,035
3	Rain Bird PESBR	Bubbler	2.1 in/h	1	29	870
4	Rain Bird PESBR	Turf Spray	0.99 in/h	1	61	1,778
5	Rain Bird XCZ-150-LCDR	Area for Dripline	1.44 in/h	1	42	1,169
6	Rain Bird PESBR	Turf Spray	0.96 in/h	1	63	2,399
7	Rain Bird PESBR	Bubbler	2.1 in/h	1	29	986
8	Rain Bird XCZ-150-LCDR	Area for Dripline	1.44 in/h	1	42	960.1
9	Rain Bird PESBR	Turf Spray	0.92 in/h	1	66	2,260
10	Rain Bird PESBR	Bubbler	2.08 in/h	1	29	899
11	Rain Bird PESBR	Bubbler	2.12 in/h	1	29	1,189
12	Rain Bird PESBR	Turf Rotor	0.57 in/h	1	105	3,288

- WATER APPLICATION(S) TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND/OR WATER MANAGEMENT DISTRICT RULES & REGULATIONS.
- WATERING SCHEDULE IS BASED ON A ONE (1) DAY APPLICATION TO PROVIDE A ONE (1) ACRE INCH VOLUME OF WATER PER WEEK.
- DURATION OF WATERING TIMES SHALL BE ADJUSTED FOR MULTIPLE WATERING DAYS, IF ALLOWED. (I.E. ONE-HALF OF THE RECOMMENDED TIME IS REQUIRED FOR A TWO (2) DAY PER WEEK SCHEDULE.
- WATERING SCHEDULE IS PROVIDED FOR PURPOSES OF ASCERTAINING WATER VOLUME REQUIREMENTS FROM AVAILABLE WATER SOURCE ONLY AND SHALL NOT CONSTRUCTED AS PRESCRIPTION FOR WATERING APPLICATION FOR SPECIFIC TREES, SHRUBS, GROUND COVERS OR SOD. FINAL WATER APPLICATION AS NEEDED FOR PLANTS, TREES, AND SOD SHALL BE RESPONSIBILITY OF THE OWNER.

THE DESIGN PROFESSIONAL DOES NOT ACCEPT ANY/ALL RESPONSIBILITY AND/OR LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND DESIGN INTENT THEY CONVEY OR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE DESIGN PROFESSIONALS GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES, AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

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BONNETT design group, llc
landscape architecture
community planning
FL LC 26000341
400 South Orlando Ave. Suite 201
Mailland, FL. 32751
407.622.1588 voice

Venezia
Landscape Architecture
D.R. Horton
Howey-in-the-Hills, Florida
IRRIGATION DETAILS & NOTES

DATE: December 10, 2021
DRAWN BY: JM
CHECKED BY: TWB
JOB NUMBER: 2021.182
FILE NAME: 2021.182_DRH-VENEZIA THS_IRBASE

REVISIONS:
1 Irrigation 12-10-2021
2 Town Comments 1-19-2022

Digitally signed by Todd W Bonnett
Date: 2022.01.19 13:00:54 -05'00'
Todd W. Bonnett, RLA # FL6007

1

L509

DRAWING PLOTTED: 1/19/2022 12:44:13 PM
Z:\SHARED\BONNETT DESIGN GROUP\2021\2021.182_DRH - VENEZIA THS\DESIGN\2021.182_DRH-VENEZIA THS_IRBASE.DWG

LAKE COUNTY SCHOOLS

201 West Burleigh Boulevard · Tavares · FL 32778-2496
(352) 253-6500 · Fax: (352) 253-6503 · *www.lake.k12.fl.us*

November 12, 2021

DR Horton
Attn: Bennett Ruedas
10192 Dowden Road, #150
Orlando, FL 32832

RE: Venezia Townhomes – Howey in the Hills
School Concurrency Capacity Reservation (District Project #LCS2021-39)

Dear Mr. Ruedas:

The School Board of Lake County has reviewed the application information for the above referenced residential development. The application indicates 113 single family attached dwelling units. The proposed development is estimated to generate approximately forty (40) students.

Based on the information provided in the application the property is located within Concurrency Service Area (CSA) 10. The analysis performed indicates the level of service standards for each school level will **not** be exceeded by the students generated from this residential development.

It has been determined at this time that school capacity is available and will be reserved for your project. **This capacity reservation is valid for one year from date of issuance.** In the event, a final development order is obtained within the year this capacity reservation will be valid for the life of the project. Please notify the school district when the final development order is obtained in order to update the project records.

If you should require additional time to obtain the final development order approval, please notify District staff prior to the expiration date to discuss time extension options. Once the reservation expires, the capacity will be released and a new completed application and fee will be required. If you have any questions, please contact me at (352) 253-6694 or at lavalleyh@lake.k12.fl.us.

Sincerely,

Helen LaValley
Growth Planning Department

Encl: School Concurrency Availability Determination

Lake County Florida School Board CIP

School Concurrency Availability Determination

Project Name: Venezia Townhomes
Date Received: 10/25/2021
Case Number: LCS2021-39
Builder Name: DR Horton
Location: SEC of Venezia and S. Palm Avenue

Project Planned Units:

 # Single Family: 113 **# Multi-Family:** 0
 # Townhomes: 0 **# Apartments:** 0

Additional Information: 10/26/21 Recd SC application

Project Unit Yield By Type of School

	Yield	Elem	Mid	High
Single Family	0.157	18		
Single Family	0.114			13
Single Family	0.079		9	

Service Area Analysis

Concurrency Service Area (CSA)	Current Capacity	Programmed Capacity	Total Capacity	Current Enrollment	Reserved Demand	Total Demand	Available Capacity	Project Demand
CSA #12 - Elementary	4806	966	5772	4702	486	5188	584	18
CSA #10 - Middle	1427	0	1427	1087	118	1205	222	9
CSA #13 - High	2412	0	2412	2008	389	2397	15	13

Project Demand may differ from Project Yield by Type of School due to rounding

Venezia Townhomes

Stormwater Calculations
Letter Modification to SJRWMD Permit No. 18971-3

MADDEN
MOORHEAD & STOKES, LLC
CIVIL ENGINEERS

Prepared for:

D. R. Horton
10192 Dowden Road, Suite 150
Orlando, FL 32832

Prepared by:

Madden, Moorhead and Stokes, LLC
431 East Horatio Avenue, Suite 260
Maitland, Florida 32751
(407) 629-8330

Issue Date	Comment
October 22, 2021	Original Issue
December 10, 2021	Revised Per Town of Howey-In-The-Hills Comments

BENJAMIN S. BECKHAM LICENSE No. 79452 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been electronically signed and sealed by Benjamin S. Beckham, P.E. using a digital signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Digitally signed by Benjamin S Beckham:A01410C00000177CA2F2882000124BC
DN: c=US, o=Unaffiliated, cn=Benjamin S Beckham:A01410C00000177CA2F2882000124BC
Date: 2021.12.10 12:31:25 -05'00'

Benjamin S. Beckham, P.E. #79452
Certificate of Authorization No. EB-0007723

Documents included herein which have been prepared by professionals other than Madden, Moorhead, and Stokes, Inc. are not covered under the above registered engineer's signature and seal

Project Description

The project site is 11.33 acres of vacant, cleared, and mass-graded land located in south Howey-in-the-Hills, Lake County, Florida, southeast of the intersection of Venezia Boulevard and State Road 19. The project includes construction of 113 townhome units as well as associated parking, utilities, and amenities. The site is Tract MM of the Venezia South PD. An existing dry retention pond on site was designed and constructed to serve the site under SJRWMD permit no. 18971-3. Water quality treatment and attenuation is provided 10.27 acres of impervious cover, which includes 0.24 acres for Venezia South and 10.03 acres for future townhomes and commercial. As demonstrated below, the proposed development meets the design criteria previously established for the master stormwater management system.

Summary of Design Criteria

Land Use:

Impervious:	5.62 acres	48%
Pervious:	6.21 acres	52%
Total:	11.83 acres	100%

Impervious area remaining for future development: 10.27 ac – 5.62 ac – 4.65 ac

Existing Design Elevations [ft, NGVD 88] for Pond DRA-J:

Top of Pond	86.00
25yr / 96hr Peak Stage	85.86
25yr/24hr Peak Stage	85.60
10yr / 24hr Peak Stage	85.28
Basin Floor	77.00

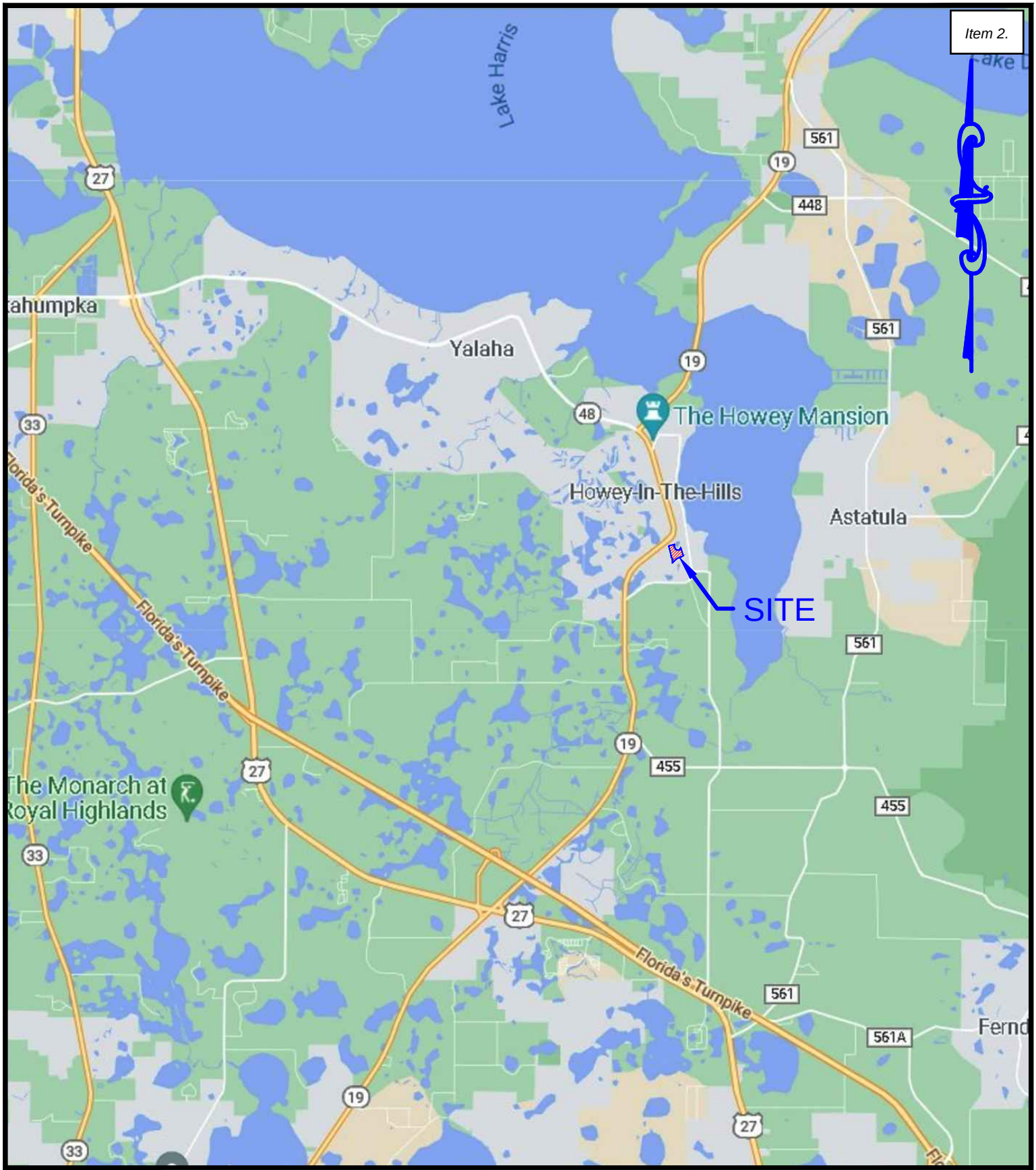
Minimum Design Elevations [ft, NAVD 88] for project:

Minimum Finished Floor	88.06
Minimum Street	85.44

Tailwater Discussion:

The secondary drainage system is modeled using StormCAD by Haestad Methods. The tailwater elevation was estimated using the average of the peak stage for the 25yr/24hr storm event and the bottom of pond: (85.60 + 77.00) / 2 = 81.30 ft NAVD.

Exhibits



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MOORHEAD & STOKES, LLC
CIVIL ENGINEERS
431 E. HORATIO AVE., STE. 260, MAITLAND, FL 32751 * (407) 629-8330

JOB NO.	21052
SEC. 35, TWP. 20S, RANGE 25E	
DRAWN BY:	FM
APPROVED BY:	CHM
DATE:	09/07/2021
Scale:	1" = 5000'

VENEZIA TOWNHOMES

LOCATION MAP

GOOGLE MAPS

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DATE:	09/07/2021
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VENEZIA TOWNHOMES

AERIAL MAP

GOOGLE MAPS

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Scale:	1" = 500'

VENEZIA TOWNHOMES

SOILS MAP

USGS SOILS SURVEY

Report—Water Features

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flood	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	
				Ft	*Ft*		*Ft*				
8—Candler sand, 0 to 5 percent slopes											
Candler	A	Negligible	Jan-Dec	—	—	—	—	—	None	—	N
9—Candler sand, 5 to 12 percent slopes											
Candler	A	Very low	Jan-Dec	—	—	—	—	—	None	—	N

Data Source Information

Soil Survey Area: Lake County Area, Florida
Survey Area Data: Version 20, Jun 8, 2020

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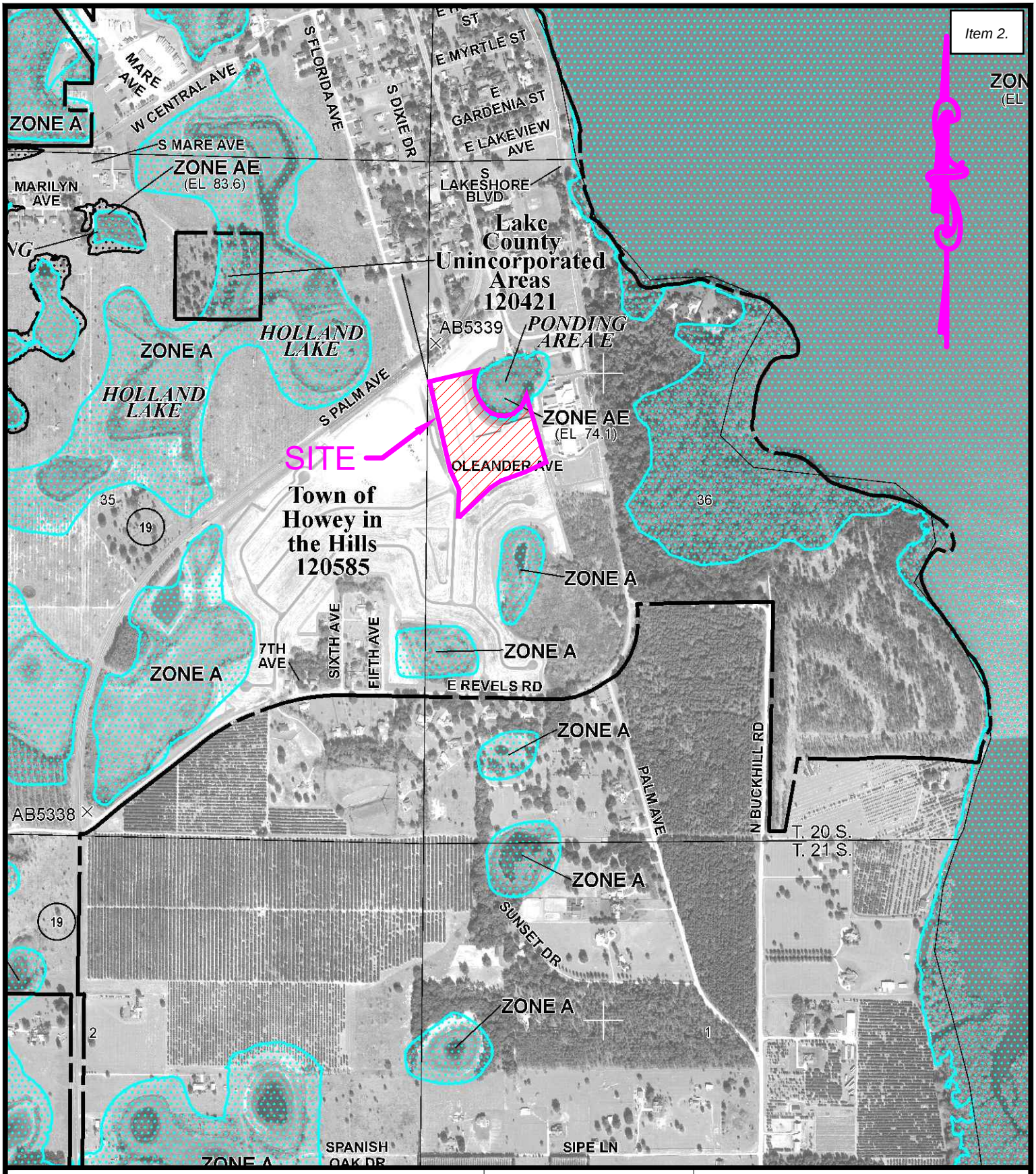
VENEZIA TOWNHOMES

SOILS LEGEND

USGS SOILS SURVEY



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APPROVED BY:	CHM
DATE:	09/07/2021
Scale:	1" = 1000'

VENEZIA TOWNHOMES

FLOOD INSURANCE RATE MAP
LAKE COUNTY, FLORIDA
MAP #12069C0485E
EFFECTIVE DATE DEC. 18, 2

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0485E

FIRM

FLOOD INSURANCE RATE MAP

LAKE COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 485 OF 750

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ASTATULA, TOWN OF	120581	0485	E
HOWEY IN THE HILLS, TOWN OF	120585	0485	E
LAKE COUNTY	120421	0485	E
TAVARES, CITY OF	120138	0485	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
12069C0485E

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency

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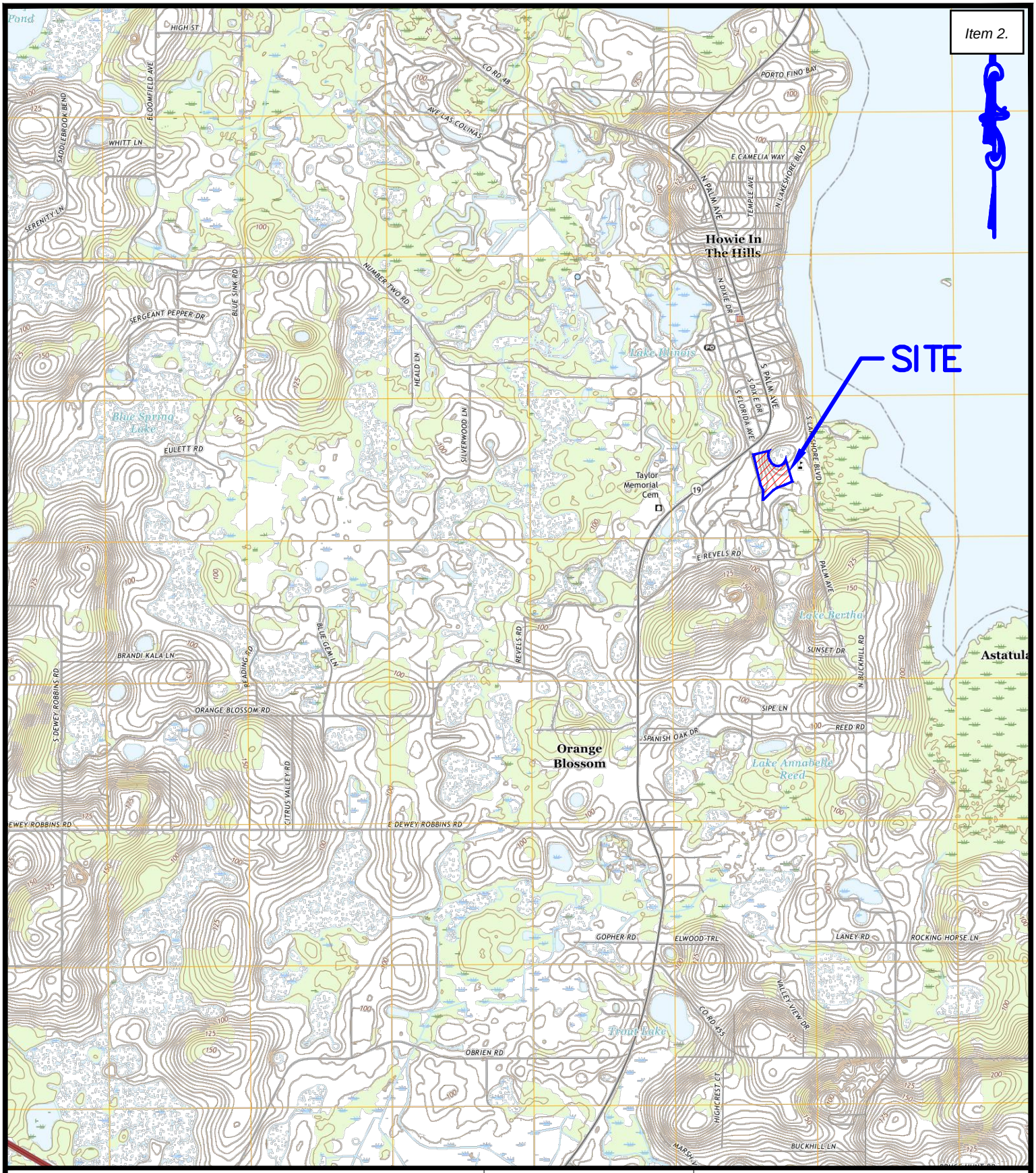
MOORHEAD & STOKES, LLC
CIVIL ENGINEERS
431 E. HORATIO AVE., STE. 260, MAITLAND, FL 32751 * (407) 629-8330

JOB NO.	21052
SEC. 35, TWP. 20S, RANGE 25E	
DRAWN BY:	FM
APPROVED BY:	CHM
DATE:	09/07/2021
Scale:	N.T.S.

VENEZIA TOWNHOMES

FLOOD INSURANCE RATE MAP
LAKE COUNTY, FLORIDA
MAP #12069C0485E
EFFECTIVE DATE DEC. 18, 2



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SEC. 35, TWP. 20S, RANGE 25E	
DRAWN BY:	FM
APPROVED BY:	CHM
DATE:	09/07/2021
Scale:	1" = 3000'

VENEZIA TOWNHOMES

QUAD MAP

STORE.USGS.GOV

Excerpts from SJRWMD Permit No. 18971-3

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 10 YEAR 24 HOUR STORM EVENT (P1024)
10-28-07

BASIN NAME	BASINA	BASINB	BASINC	BASIND	BASINE
NODE NAME	BASINA	BASINB	BASINC	BASIND	BASINE
TIME INCREMENT (min)	5.00	5.00	5.00	5.00	5.00
RAINFALL FILE	SCSII-24	SCSII-24	SCSII-24	SCSII-24	SCSII-24
RAIN AMOUNT (in)	7.40	7.40	7.40	7.40	7.40
STORM DURATION (hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	13.11	12.52	11.00	8.64	25.64
CURVE NUMBER	69.24	63.69	70.32	59.49	56.42
DCIA (%)	.00	.00	.00	.00	.00
TC (mins)	10.00	10.00	10.00	10.00	10.00
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
BASINA	54.18	11.92	3.87	
BASINB	43.32	11.92	3.27	
BASINC	46.88	11.92	3.98	
BASIND	25.44	11.92	2.83	
BASINE	65.78	11.92	2.52	

BASIN NAME	BASINF	BASINH	BASINI	BASINJ	BASINAB
NODE NAME	BASINF	BASINH	BASINI	BASINJ	BASINAB
TIME INCREMENT (min)	5.00	5.00	5.00	5.00	5.00
RAINFALL FILE	SCSII-24	SCSII-24	SCSII-24	SCSII-24	SCSII-24
RAIN AMOUNT (in)	7.40	7.40	7.40	7.40	7.40
STORM DURATION (hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	17.47	7.99	2.78	18.40	3.75
CURVE NUMBER	72.03	57.30	55.13	71.93	75.82
DCIA (%)	.00	.00	.00	.00	.00
TC (mins)	10.00	10.00	10.00	10.00	10.00
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
BASINF	77.99	11.92	4.17	
BASINH	21.37	11.92	2.61	
BASINI	6.69	11.92	2.39	
BASINJ	81.92	11.92	4.16	
BASINAB	18.38	11.92	4.59	

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 10 YEAR 24 HOUR STORM EVENT (P1024)
10-28-07

CONTROL PARAMETERS
==========

START TIME: .00
END TIME: 24.00

TO TIME (hours)	SIMULATION INC (secs)	PRINT INC (mins)
4.00	2.00	30.00
7.00	2.00	15.00
12.00	2.00	5.00
17.00	2.00	15.00
24.00	2.00	30.00

RUNOFF HYDROGRAPH FILE: DEFAULT
OFFSITE HYDROGRAPH FILE: DEFAULT
BOUNDARY DATABASE FILE: NONE

NOTE:

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PROPOSED 10 YEAR 24 HOUR STORM EVENT (P1024)
10-28-07

NODE NAME	NODE TYPE	INI STAGE (ft)	X-COOR (ft)	Y-COOR (ft)	LENGTH (ft)	STAGE (ft)	AR/TM/STR (ac/hr/af)
BASINA	AREA	84.000	.000	.000	.000	84.000	1.150
						85.000	1.340
						86.000	1.540
						87.000	1.740
						88.000	1.940
BASINB	AREA	80.000	.000	.000	.000	80.000	.900
						81.000	.980
						82.000	1.080
						83.000	1.320
BASINC	AREA	82.000	.000	.000	.000	82.000	.470
						83.000	.570
						84.000	.670
						85.000	.790
						85.500	.860
BASIND	AREA	86.000	.000	.000	.000	86.000	.610
						87.000	.700
						88.000	.790
						89.000	.880
						90.000	.970
BASINE	AREA	79.000	.000	.000	.000	79.000	1.880
						80.000	2.280
						81.000	2.640
						82.000	3.000
BASINF	AREA	92.000	.000	.000	.000	92.000	.920
						93.000	1.020
						94.000	1.120
						95.000	1.230
BASINH	AREA	79.000	.000	.000	.000	79.000	.737
						80.000	.957
						81.000	1.220
						82.000	1.490
BASINI	AREA	76.000	.000	.000	.000	76.000	.180
						77.000	.280
						78.000	.380

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)
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PROPOSED 10 YEAR 24 HOUR STORM EVENT (P1024)
10-28-07

NODE NAME	NODE TYPE	INI STAGE (ft)	X-COOR (ft)	Y-COOR (ft)	LENGTH (ft)	STAGE (ft)	AR/TM/STR (ac/hr/af)
BASINJ	AREA	77.000	.000	.000	.000	77.000	.650
						78.000	.690
						79.000	.730
						80.000	.770
						81.000	.810
						82.000	.830
						83.000	.840
						84.000	.840
						85.000	.840
						85.600	.850
97	TIME	78.000	.000	.000	.000	78.000	.000
						79.000	12.000
						78.000	24.000
98	TIME	60.000	.000	.000	.000	60.000	.000
						62.000	12.000
						60.000	24.000
99	TIME	62.000	.000	.000	.000	62.000	.000
						63.000	12.000
						62.000	24.000
100	TIME	69.000	.000	.000	.000	72.500	.000
						73.000	12.000
						72.500	24.000
BASINE2	AREA	78.000	.000	.000	.000	78.000	4.170
						79.000	4.290
						80.000	4.410
						81.000	4.530
						82.000	5.160
BASINAB	AREA	81.250	.000	.000	.000	81.250	2.130
						82.000	2.220
						83.000	2.340

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        PROPOSED 10 YEAR 24 HOUR STORM EVENT (P1024)
        10-28-07

 >>REACH NAME       : RA
   FROM NODE        : BASINA
   TO NODE          : 97
   REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
   FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
     CREST EL. (ft): 87.500 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
      RGHT SS (h/v):  4.000   OPENING (ft): 999.000    WEIR COEF.:  3.000
         GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
               NOTE:

 >>REACH NAME       : RB
   FROM NODE        : BASINB
   TO NODE          : 97
   REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
   FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
     CREST EL. (ft): 82.750 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
      RGHT SS (h/v):  4.000   OPENING (ft): 999.000    WEIR COEF.:  3.000
         GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
               NOTE:

 >>REACH NAME       : RC
   FROM NODE        : BASINC
   TO NODE          : 97
   REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
   FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
     CREST EL. (ft): 85.000 BTM. WIDTH (ft): 15.000  LEFT SS (h/v):  4.000
      RGHT SS (h/v):  4.000   OPENING (ft): 999.000    WEIR COEF.:  3.000
         GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
               NOTE:

 >>REACH NAME       : RE
   FROM NODE        : BASINE
   TO NODE          : BASINE2
   REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
   FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
     CREST EL. (ft): 80.500 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
      RGHT SS (h/v):  4.000   OPENING (ft): 999.000    WEIR COEF.:  3.000
         GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
               NOTE:

 >>REACH NAME       : RF
   FROM NODE        : BASINF
   TO NODE          : BASINE2
   REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
   FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
     CREST EL. (ft): 94.000 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
      RGHT SS (h/v):  4.000   OPENING (ft): 999.000    WEIR COEF.:  3.000
         GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
               NOTE:
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Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 10 YEAR 24 HOUR STORM EVENT (P1024)
10-28-07

```
>>REACH NAME       : RH
  FROM NODE        : BASINH
  TO NODE          : 98
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 80.500 BTM. WIDTH (ft): 25.000 LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000   OPENING (ft): 999.000   WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:

>>REACH NAME       : RI
  FROM NODE        : BASINI
  TO NODE          : 98
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 77.750 BTM. WIDTH (ft): 25.000 LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000   OPENING (ft): 999.000   WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:

>>REACH NAME       : RJ
  FROM NODE        : BASINJ
  TO NODE          : 99
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 85.500 BTM. WIDTH (ft): 25.000 LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000   OPENING (ft): 999.000   WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:
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Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 10 YEAR 24 HOUR STORM EVENT (P1024)
10-28-07

```
>>REACH NAME       : RD
  FROM NODE        : BASIND
  TO NODE          : 97
  REACH TYPE       : DROP STRUCTURE w/ CIRC. CULVERT
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
  TURBO SWITCH     : OFF

  CULVERT DATA     :
        SPAN (in):  18.000       RISE (in):  18.000     LENGTH (ft): 361.000
   U/S INVERT (ft): 82.000 D/S INVERT (ft):  79.000       MANNING N:    .013
      ENTRNC LOSS:    .500   # OF CULVERTS:   1.000

  POSITION A       : RECTANGULAR RISER SLOT
    CREST EL. (ft): 89.500  CREST LN. (ft):  10.160    OPENING (ft): 999.000
       WEIR COEF.:   3.200      GATE COEF.:    .600 NUMBER OF ELEM.:   1.000

  POSITION B       : NOT USED

             NOTE:

>>REACH NAME       : RAB
  FROM NODE        : BASINAB
  TO NODE          : 97
  REACH TYPE       : DROP STRUCTURE w/ CIRC. CULVERT
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
  TURBO SWITCH     : OFF

  CULVERT DATA     :
        SPAN (in):  12.000       RISE (in):  12.000     LENGTH (ft):  90.000
   U/S INVERT (ft): 79.250 D/S INVERT (ft):  79.000       MANNING N:    .013
      ENTRNC LOSS:    .500   # OF CULVERTS:   1.000

  POSITION A       : RECTANGULAR RISER SLOT
    CREST EL. (ft): 82.500  CREST LN. (ft):  10.160    OPENING (ft): 999.000
       WEIR COEF.:   3.200      GATE COEF.:    .600 NUMBER OF ELEM.:   1.000

  POSITION B       : CIRCULAR RISER SLOT
   INVERT EL. (ft): 81.250       SPAN (in):   4.000       RISE (in):   4.000
       WEIR COEF.:   3.200      GATE COEF.:    .600 NUMBER OF ELEM.:   1.000

             NOTE:
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Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 10 YEAR 24 HOUR STORM EVENT (P1024)
10-28-07

REACH SUMMARY

INDEX	RCHNAME	FRMNODE	TONODE	REACH TYPE
1	RA	BASINA	97	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
2	RB	BASINB	97	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
3	RC	BASINC	97	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
4	RE	BASINE	BASINE2	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
5	RF	BASINF	BASINE2	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
6	RH	BASINH	98	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
7	RI	BASINI	98	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
8	RJ	BASINJ	99	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
9	RD	BASIND	97	DROP STRUCTURE w/ CIRC. CULVERT
10	RAB	BASINAB	97	DROP STRUCTURE w/ CIRC. CULVERT

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 10 YEAR 24 HOUR STORM EVENT (P1024)
10-28-07

NODAL MIN/MAX/TIME CONDITIONS REPORT

NODE ID	PARAMETER	MINIMUMS VALUE	MINIMUMS TIME (hr)	MAXIMUMS VALUE	MAXIMUMS TIME (hr)
BASINA	STAGE (ft):	84.00	7.92	86.98	24.00
	VOLUME (af):	.00	7.75	4.30	24.00
	RUNOFF (cfs):	.00	7.75	54.18	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	24.00	.00	24.00
BASINB	STAGE (ft):	80.00	9.17	82.81	18.00
	VOLUME (af):	.00	9.08	2.94	18.00
	RUNOFF (cfs):	.00	9.08	43.32	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	16.50	1.15	18.00
BASINC	STAGE (ft):	82.00	7.67	85.28	12.75
	VOLUME (af):	.00	7.50	2.10	12.75
	RUNOFF (cfs):	.00	7.50	46.88	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	12.00	7.01	12.75
BASIND	STAGE (ft):	86.00	10.00	88.81	24.00
	VOLUME (af):	.00	9.92	2.07	24.00
	RUNOFF (cfs):	.00	9.92	25.44	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	24.00	.00	24.00
BASINE	STAGE (ft):	79.00	10.50	80.63	14.75
	VOLUME (af):	.00	10.50	3.62	14.75
	RUNOFF (cfs):	.00	10.50	65.78	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	13.00	3.48	14.75

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 10 YEAR 24 HOUR STORM EVENT (P1024)
10-28-07

NODAL MIN/MAX/TIME CONDITIONS REPORT

NODE ID	PARAMETER	MINIMUMS VALUE	MINIMUMS TIME (hr)	MAXIMUMS VALUE	MAXIMUMS TIME (hr)
BASINF	STAGE (ft):	92.00	7.17	94.56	12.25
	VOLUME (af):	.00	7.00	2.69	12.25
	RUNOFF (cfs):	.00	7.00	77.99	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	11.92	33.89	12.25
BASINH	STAGE (ft):	79.00	10.42	80.54	18.00
	VOLUME (af):	.00	10.25	1.44	18.00
	RUNOFF (cfs):	.00	10.25	21.37	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	16.00	.70	18.00
BASINI	STAGE (ft):	76.00	10.67	77.77	19.50
	VOLUME (af):	.00	10.67	.48	19.50
	RUNOFF (cfs):	.00	10.67	6.69	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	17.50	.20	19.50
BASINJ	STAGE (ft):	77.00	7.17	85.28	24.00
	VOLUME (af):	.00	7.08	6.49	24.00
	RUNOFF (cfs):	.00	7.08	81.92	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	24.00	.00	24.00
97	STAGE (ft):	78.00	24.00	79.00	12.00
	VOLUME (af):	.00	6.25	2.60	24.00
	RUNOFF (cfs):	.00	24.00	.00	24.00
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	6.25	7.22	12.75
	OUTFLOW (cfs):	.00	24.00	.00	24.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 10 YEAR 24 HOUR STORM EVENT (P1024)
10-28-07

NODAL MIN/MAX/TIME CONDITIONS REPORT

NODE ID	PARAMETER	MINIMUMS VALUE	MINIMUMS TIME (hr)	MAXIMUMS VALUE	MAXIMUMS TIME (hr)
98	STAGE (ft):	60.00	24.00	62.00	12.00
	VOLUME (af):	.00	16.00	.42	24.00
	RUNOFF (cfs):	.00	24.00	.00	24.00
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	16.00	.84	19.00
	OUTFLOW (cfs):	.00	24.00	.00	24.00
99	STAGE (ft):	62.00	24.00	63.00	12.00
	VOLUME (af):	.00	24.00	.00	24.00
	RUNOFF (cfs):	.00	24.00	.00	24.00
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	24.00	.00	24.00
100	STAGE (ft):	69.00	.00	73.00	12.00
	VOLUME (af):	.00	24.00	.00	24.00
	RUNOFF (cfs):	.00	24.00	.00	24.00
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	24.00	.00	24.00
BASINE2	STAGE (ft):	78.00	11.92	79.42	24.00
	VOLUME (af):	.00	11.92	6.07	24.00
	RUNOFF (cfs):	.00	24.00	.00	24.00
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	11.92	33.89	12.25
	OUTFLOW (cfs):	.00	24.00	.00	24.00
BASINAB	STAGE (ft):	81.25	6.25	81.81	23.50
	VOLUME (af):	.00	6.00	1.21	23.50
	RUNOFF (cfs):	.00	6.00	18.38	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	6.25	.26	23.50

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 24 HOUR STORM EVENT (P2524)
10-28-07

BASIN NAME NODE NAME	BASINA BASINA	BASINB BASINB	BASINC BASINC	BASIND BASIND	BASINE BASINE
TIME INCREMENT (min)	5.00	5.00	5.00	5.00	5.00
RAINFALL FILE	SCSII-24	SCSII-24	SCSII-24	SCSII-24	SCSII-24
RAIN AMOUNT (in)	8.40	8.40	8.40	8.40	8.40
STORM DURATION (hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	13.11	12.52	11.00	8.64	25.64
CURVE NUMBER	69.24	63.69	70.32	59.49	56.42
DCIA (%)	.00	.00	.00	.00	.00
TC (mins)	10.00	10.00	10.00	10.00	10.00
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
BASINA	66.16	11.92	4.71	
BASINB	54.16	11.92	4.06	
BASINC	57.00	11.92	4.84	
BASIND	32.51	11.92	3.57	
BASINE	85.74	11.92	3.22	

BASIN NAME NODE NAME	BASINF BASINF	BASINH BASINH	BASINI BASINI	BASINJ BASINJ	BASINAB BASINAB
TIME INCREMENT (min)	5.00	5.00	5.00	5.00	5.00
RAINFALL FILE	SCSII-24	SCSII-24	SCSII-24	SCSII-24	SCSII-24
RAIN AMOUNT (in)	8.40	8.40	8.40	8.40	8.40
STORM DURATION (hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	17.47	7.99	2.78	18.40	3.75
CURVE NUMBER	72.03	57.30	55.13	71.93	75.82
DCIA (%)	.00	.00	.00	.00	.00
TC (mins)	10.00	10.00	10.00	10.00	10.00
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
BASINF	94.24	11.92	5.05	
BASINH	27.68	11.92	3.32	
BASINI	8.80	11.92	3.07	
BASINJ	99.03	11.92	5.03	
BASINAB	21.93	11.92	5.50	

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 24 HOUR STORM EVENT (P2524)
10-28-07

CONTROL PARAMETERS

START TIME: .00
END TIME: 24.00

TO TIME (hours)	SIMULATION INC (secs)	PRINT INC (mins)
4.00	2.00	30.00
7.00	2.00	15.00
12.00	2.00	5.00
17.00	2.00	15.00
24.00	2.00	30.00

RUNOFF HYDROGRAPH FILE: DEFAULT
OFFSITE HYDROGRAPH FILE: DEFAULT
BOUNDARY DATABASE FILE: NONE

NOTE:

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 24 HOUR STORM EVENT (P2524)
10-28-07

NODE NAME	NODE TYPE	INI STAGE (ft)	X-COOR (ft)	Y-COOR (ft)	LENGTH (ft)	STAGE (ft)	AR/TM/STR (ac/hr/af)
BASINA	AREA	84.000	.000	.000	.000	84.000	1.150
						85.000	1.340
						86.000	1.540
						87.000	1.740
						88.000	1.940
BASINB	AREA	80.000	.000	.000	.000	80.000	.900
						81.000	.980
						82.000	1.080
						83.000	1.320
BASINC	AREA	82.000	.000	.000	.000	82.000	.470
						83.000	.570
						84.000	.670
						85.000	.790
BASIND	AREA	86.000	.000	.000	.000	86.000	.610
						87.000	.700
						88.000	.790
						89.000	.880
						90.000	.970
BASINE	AREA	79.000	.000	.000	.000	79.000	1.880
						80.000	2.280
						81.000	2.640
						82.000	3.000
BASINF	AREA	92.000	.000	.000	.000	92.000	.920
						93.000	1.020
						94.000	1.120
						95.000	1.230
BASINH	AREA	79.000	.000	.000	.000	79.000	.737
						80.000	.957
						81.000	1.220
						82.000	1.490
BASINI	AREA	76.000	.000	.000	.000	76.000	.180
						77.000	.280
						78.000	.380

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 24 HOUR STORM EVENT (P2524)
10-28-07

NODE NAME	NODE TYPE	INI STAGE (ft)	X-COOR (ft)	Y-COOR (ft)	LENGTH (ft)	STAGE (ft)	AR/TM/STR (ac/hr/af)
BASINJ	AREA	77.000	.000	.000	.000	77.000	.650
						78.000	.690
						79.000	.730
						80.000	.770
						81.000	.810
						82.000	.830
						83.000	.840
						84.000	.840
						85.000	.840
						86.000	.850
97	TIME	78.000	.000	.000	.000	78.000	.000
						79.000	12.000
						78.000	24.000
98	TIME	60.000	.000	.000	.000	60.000	.000
						62.000	12.000
						60.000	24.000
99	TIME	62.000	.000	.000	.000	62.000	.000
						63.000	12.000
						62.000	24.000
100	TIME	69.000	.000	.000	.000	72.500	.000
						73.000	12.000
						72.500	24.000
BASINE2	AREA	78.000	.000	.000	.000	78.000	4.170
						79.000	4.290
						80.000	4.410
						81.000	4.530
						82.000	5.160
BASINAB	AREA	81.250	.000	.000	.000	81.250	2.130
						82.000	2.220
						83.000	2.340

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 24 HOUR STORM EVENT (P2524)
10-28-07

```
>>REACH NAME       : RA
  FROM NODE        : BASINA
  TO NODE          : 97
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 87.500 BTM. WIDTH (ft): 25.000 LEFT SS (h/v): 4.000
     RGHT SS (h/v): 4.000 OPENING (ft): 999.000 WEIR COEF.: 3.000
        GATE COEF.: .600 NUMBER OF ELEM.: 1.000
              NOTE:

>>REACH NAME       : RB
  FROM NODE        : BASINB
  TO NODE          : 97
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 82.750 BTM. WIDTH (ft): 25.000 LEFT SS (h/v): 4.000
     RGHT SS (h/v): 4.000 OPENING (ft): 999.000 WEIR COEF.: 3.000
        GATE COEF.: .600 NUMBER OF ELEM.: 1.000
              NOTE:

>>REACH NAME       : RC
  FROM NODE        : BASINC
  TO NODE          : 97
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 85.000 BTM. WIDTH (ft): 15.000 LEFT SS (h/v): 4.000
     RGHT SS (h/v): 4.000 OPENING (ft): 999.000 WEIR COEF.: 3.000
        GATE COEF.: .600 NUMBER OF ELEM.: 1.000
              NOTE:

>>REACH NAME       : RE
  FROM NODE        : BASINE
  TO NODE          : BASINE2
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 80.500 BTM. WIDTH (ft): 25.000 LEFT SS (h/v): 4.000
     RGHT SS (h/v): 4.000 OPENING (ft): 999.000 WEIR COEF.: 3.000
        GATE COEF.: .600 NUMBER OF ELEM.: 1.000
              NOTE:

>>REACH NAME       : RF
  FROM NODE        : BASINF
  TO NODE          : BASINE2
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 94.000 BTM. WIDTH (ft): 25.000 LEFT SS (h/v): 4.000
     RGHT SS (h/v): 4.000 OPENING (ft): 999.000 WEIR COEF.: 3.000
        GATE COEF.: .600 NUMBER OF ELEM.: 1.000
              NOTE:
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Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 24 HOUR STORM EVENT (P2524)
10-28-07

```
>>REACH NAME       : RH
  FROM NODE        : BASINH
  TO NODE          : 98
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 80.500 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000   OPENING (ft): 999.000   WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:

>>REACH NAME       : RI
  FROM NODE        : BASINI
  TO NODE          : 98
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 77.750 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000   OPENING (ft): 999.000   WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:

>>REACH NAME       : RJ
  FROM NODE        : BASINJ
  TO NODE          : 99
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 85.500 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000   OPENING (ft): 999.000   WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:
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Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 24 HOUR STORM EVENT (P2524)
10-28-07

```
>>REACH NAME       : RD
  FROM NODE        : BASIND
  TO NODE          : 97
  REACH TYPE       : DROP STRUCTURE w/ CIRC. CULVERT
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
  TURBO SWITCH     : OFF

  CULVERT DATA     :
        SPAN (in):  18.000       RISE (in):  18.000     LENGTH (ft): 361.000
   U/S INVERT (ft): 82.000 D/S INVERT (ft):  79.000       MANNING N:    .013
      ENTRNC LOSS:    .500   # OF CULVERTS:   1.000

  POSITION A       : RECTANGULAR RISER SLOT
    CREST EL. (ft): 89.500  CREST LN. (ft):  10.160    OPENING (ft): 999.000
       WEIR COEF.:   3.200      GATE COEF.:    .600 NUMBER OF ELEM.:   1.000

  POSITION B       : NOT USED

             NOTE:

>>REACH NAME       : RAB
  FROM NODE        : BASINAB
  TO NODE          : 97
  REACH TYPE       : DROP STRUCTURE w/ CIRC. CULVERT
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
  TURBO SWITCH     : OFF

  CULVERT DATA     :
        SPAN (in):  12.000       RISE (in):  12.000     LENGTH (ft):  90.000
   U/S INVERT (ft): 79.250 D/S INVERT (ft):  79.000       MANNING N:    .013
      ENTRNC LOSS:    .500   # OF CULVERTS:   1.000

  POSITION A       : RECTANGULAR RISER SLOT
    CREST EL. (ft): 82.500  CREST LN. (ft):  10.160    OPENING (ft): 999.000
       WEIR COEF.:   3.200      GATE COEF.:    .600 NUMBER OF ELEM.:   1.000

  POSITION B       : CIRCULAR RISER SLOT
    INVERT EL. (ft): 81.250       SPAN (in):   4.000       RISE (in):   4.000
       WEIR COEF.:   3.200      GATE COEF.:    .600 NUMBER OF ELEM.:   1.000

             NOTE:
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Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 24 HOUR STORM EVENT (P2524)
10-28-07

REACH SUMMARY

INDEX	RCHNAME	FRMNODE	TONODE	REACH TYPE
1	RA	BASINA	97	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
2	RB	BASINB	97	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
3	RC	BASINC	97	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
4	RE	BASINE	BASINE2	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
5	RF	BASINF	BASINE2	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
6	RH	BASINH	98	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
7	RI	BASINI	98	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
8	RJ	BASINJ	99	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
9	RD	BASIND	97	DROP STRUCTURE w/ CIRC. CULVERT
10	RAB	BASINAB	97	DROP STRUCTURE w/ CIRC. CULVERT

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 24 HOUR STORM EVENT (P2524)
10-28-07

NODAL MIN/MAX/TIME CONDITIONS REPORT

NODE ID	PARAMETER	<-- MINIMUMS --> VALUE	TIME (hr)	<-- MAXIMUMS --> VALUE	TIME (hr)
BASINA	STAGE (ft):	84.00	7.25	87.50	24.00
	VOLUME (af):	.00	7.08	5.24	24.00
	RUNOFF (cfs):	.00	7.08	66.16	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	24.00	.00	24.00
BASINB	STAGE (ft):	80.00	8.50	82.86	14.25
	VOLUME (af):	.00	8.50	3.01	14.25
	RUNOFF (cfs):	.00	8.50	54.16	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	13.25	2.91	14.25
BASINC	STAGE (ft):	82.00	6.75	85.48	12.25
	VOLUME (af):	.00	6.75	2.22	12.25
	RUNOFF (cfs):	.00	6.75	57.00	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	12.00	16.92	12.25
BASIND	STAGE (ft):	86.00	9.42	89.41	24.00
	VOLUME (af):	.00	9.33	2.62	24.00
	RUNOFF (cfs):	.00	9.33	32.51	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	24.00	.00	24.00
BASINE	STAGE (ft):	79.00	10.00	80.74	13.25
	VOLUME (af):	.00	9.92	3.89	13.25
	RUNOFF (cfs):	.00	9.92	85.74	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	12.25	8.95	13.25

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 24 HOUR STORM EVENT (P2524)
10-28-07

NODAL MIN/MAX/TIME CONDITIONS REPORT

NODE ID	PARAMETER	MINIMUMS VALUE	MINIMUMS TIME (hr)	MAXIMUMS VALUE	MAXIMUMS TIME (hr)
BASINF	STAGE (ft):	92.00	6.50	94.70	12.25
	VOLUME (af):	.00	6.50	2.86	12.25
	RUNOFF (cfs):	.00	6.50	94.24	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	11.83	48.74	12.25
BASINH	STAGE (ft):	79.00	9.83	80.58	14.00
	VOLUME (af):	.00	9.75	1.48	14.00
	RUNOFF (cfs):	.00	9.75	27.68	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	13.00	1.71	14.00
BASINI	STAGE (ft):	76.00	10.25	77.79	14.25
	VOLUME (af):	.00	10.17	.49	14.25
	RUNOFF (cfs):	.00	10.17	8.80	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	13.50	.52	14.25
BASINJ	STAGE (ft):	77.00	6.50	85.60	17.50
	VOLUME (af):	.00	6.50	6.76	17.50
	RUNOFF (cfs):	.00	6.50	99.03	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	16.50	2.53	17.50
97	STAGE (ft):	78.00	24.00	79.00	12.00
	VOLUME (af):	.00	5.75	4.27	24.00
	RUNOFF (cfs):	.00	24.00	.00	24.00
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	5.75	17.14	12.25
	OUTFLOW (cfs):	.00	24.00	.00	24.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 24 HOUR STORM EVENT (P2524)
10-28-07

NODAL MIN/MAX/TIME CONDITIONS REPORT

NODE ID	PARAMETER	MINIMUMS VALUE	MINIMUMS TIME (hr)	MAXIMUMS VALUE	MAXIMUMS TIME (hr)
98	STAGE (ft):	60.00	24.00	62.00	12.00
	VOLUME (af):	.00	13.00	1.06	24.00
	RUNOFF (cfs):	.00	24.00	.00	24.00
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	13.00	2.23	14.25
	OUTFLOW (cfs):	.00	24.00	.00	24.00
99	STAGE (ft):	62.00	24.00	63.00	12.00
	VOLUME (af):	.00	16.50	1.13	24.00
	RUNOFF (cfs):	.00	24.00	.00	24.00
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	16.50	2.53	17.50
	OUTFLOW (cfs):	.00	24.00	.00	24.00
100	STAGE (ft):	69.00	.00	73.00	12.00
	VOLUME (af):	.00	24.00	.00	24.00
	RUNOFF (cfs):	.00	24.00	.00	24.00
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	24.00	.00	24.00
BASINE2	STAGE (ft):	78.00	11.83	80.06	24.00
	VOLUME (af):	.00	11.83	8.86	24.00
	RUNOFF (cfs):	.00	24.00	.00	24.00
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	11.83	48.74	12.25
	OUTFLOW (cfs):	.00	24.00	.00	24.00
BASINAB	STAGE (ft):	81.25	5.75	81.92	23.50
	VOLUME (af):	.00	5.50	1.47	23.50
	RUNOFF (cfs):	.00	5.50	21.93	11.92
	OFFSITE (cfs):	.00	24.00	.00	24.00
	OTHER (cfs):	.00	24.00	.00	24.00
	OUTFLOW (cfs):	.00	5.75	.30	23.50

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 96 HOUR STORM EVENT (P2596)
10-28-07

BASIN NAME	BASINA	BASINB	BASINC	BASIND	BASINE
NODE NAME	BASINA	BASINB	BASINC	BASIND	BASINE
TIME INCREMENT (min)	5.00	5.00	5.00	5.00	5.00
RAINFALL FILE	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
RAIN AMOUNT (in)	11.40	11.40	11.40	11.40	11.40
STORM DURATION (hrs)	96.00	96.00	96.00	96.00	96.00
AREA (ac)	13.11	12.52	11.00	8.64	25.64
CURVE NUMBER	69.24	63.69	70.32	59.49	56.42
DCIA (%)	.00	.00	.00	.00	.00
TC (mins)	10.00	10.00	10.00	10.00	10.00
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
BASINA	60.38	59.92	7.39	
BASINB	52.51	59.92	6.59	
BASINC	51.48	59.92	7.54	
BASIND	33.26	59.92	5.98	
BASINE	91.81	59.92	5.52	

BASIN NAME	BASINF	BASINH	BASINI	BASINJ	BASINAB
NODE NAME	BASINF	BASINH	BASINI	BASINJ	BASINAB
TIME INCREMENT (min)	5.00	5.00	5.00	5.00	5.00
RAINFALL FILE	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
RAIN AMOUNT (in)	11.40	11.40	11.40	11.40	11.40
STORM DURATION (hrs)	96.00	96.00	96.00	96.00	96.00
AREA (ac)	17.47	7.99	2.78	18.40	3.75
CURVE NUMBER	72.03	57.30	55.13	71.93	75.82
DCIA (%)	.00	.00	.00	.00	.00
TC (mins)	10.00	10.00	10.00	10.00	10.00
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
BASINF	83.73	59.92	7.78	
BASINH	29.24	59.92	5.65	
BASINI	9.63	59.92	5.33	
BASINJ	88.07	59.92	7.76	
BASINAB	18.84	59.92	8.30	

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)
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PROPOSED 25 YEAR 96 HOUR STORM EVENT (P2596)
10-28-07

CONTROL PARAMETERS
==================

START TIME: .00
END TIME: 96.00

TO TIME (hours)	SIMULATION INC (secs)	PRINT INC (mins)
24.00	2.00	30.00
48.00	2.00	15.00
60.00	2.00	5.00
72.00	2.00	15.00
96.00	2.00	30.00

RUNOFF HYDROGRAPH FILE: DEFAULT
OFFSITE HYDROGRAPH FILE: DEFAULT
BOUNDARY DATABASE FILE: NONE

NOTE:

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 96 HOUR STORM EVENT (P2596)
10-28-07

NODE NAME	NODE TYPE	INI STAGE (ft)	X-COOR (ft)	Y-COOR (ft)	LENGTH (ft)	STAGE (ft)	AR/TM/STR (ac/hr/af)
BASINA	AREA	84.000	.000	.000	.000	84.000	1.150
						85.000	1.340
						86.000	1.540
						87.000	1.740
						88.000	1.940
BASINB	AREA	80.000	.000	.000	.000	80.000	.900
						81.000	.980
						82.000	1.080
						83.000	1.320
BASINC	AREA	82.000	.000	.000	.000	82.000	.470
						83.000	.570
						84.000	.670
						85.000	.790
						85.500	.860
BASIND	AREA	86.000	.000	.000	.000	86.000	.610
						87.000	.700
						88.000	.790
						89.000	.880
						90.000	.970
BASINE	AREA	79.000	.000	.000	.000	79.000	1.880
						80.000	2.280
						81.000	2.640
						82.000	3.000
BASINF	AREA	92.000	.000	.000	.000	92.000	.920
						93.000	1.020
						94.000	1.120
						95.000	1.230
BASINH	AREA	79.000	.000	.000	.000	79.000	.737
						80.000	.957
						81.000	1.220
						82.000	1.490
BASINI	AREA	76.000	.000	.000	.000	76.000	.180
						77.000	.280
						78.000	.380

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 96 HOUR STORM EVENT (P2596)
10-28-07

NODE NAME	NODE TYPE	INI STAGE (ft)	X-COOR (ft)	Y-COOR (ft)	LENGTH (ft)	STAGE (ft)	AR/TM/STR (ac/hr/af)
BASINJ	AREA	77.000	.000	.000	.000	77.000	.650
						78.000	.690
						79.000	.730
						80.000	.770
						81.000	.810
						82.000	.830
						83.000	.840
						84.000	.840
						85.000	.840
						86.000	.850
97	TIME	78.000	.000	.000	.000	78.000	.000
						79.000	48.000
						78.000	96.000
98	TIME	60.000	.000	.000	.000	60.000	.000
						62.000	48.000
						60.000	96.000
99	TIME	62.000	.000	.000	.000	62.000	.000
						63.000	48.000
						62.000	96.000
100	TIME	69.000	.000	.000	.000	72.500	.000
						73.000	48.000
						72.500	96.000
BASINE2	AREA	78.000	.000	.000	.000	78.000	4.170
						79.000	4.290
						80.000	4.410
						81.000	4.530
						82.000	5.160
BASINAB	AREA	81.250	.000	.000	.000	81.250	2.130
						82.000	2.220
						83.000	2.340

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 96 HOUR STORM EVENT (P2596)
10-28-07

```
>>REACH NAME       : RA
  FROM NODE        : BASINA
  TO NODE          : 97
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 87.500 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000   OPENING (ft): 999.000    WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:

>>REACH NAME       : RB
  FROM NODE        : BASINB
  TO NODE          : 97
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 82.750 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000   OPENING (ft): 999.000    WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:

>>REACH NAME       : RC
  FROM NODE        : BASINC
  TO NODE          : 97
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 85.000 BTM. WIDTH (ft): 15.000  LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000   OPENING (ft): 999.000    WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:

>>REACH NAME       : RE
  FROM NODE        : BASINE
  TO NODE          : BASINE2
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 80.500 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000   OPENING (ft): 999.000    WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:

>>REACH NAME       : RF
  FROM NODE        : BASINF
  TO NODE          : BASINE2
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 94.000 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000   OPENING (ft): 999.000    WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:
```

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 96 HOUR STORM EVENT (P2596)
10-28-07

```
>>REACH NAME       : RH
  FROM NODE        : BASINH
  TO NODE          : 98
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 80.500 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000    OPENING (ft): 999.000     WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:

>>REACH NAME       : RI
  FROM NODE        : BASINI
  TO NODE          : 98
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 77.750 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000    OPENING (ft): 999.000     WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:

>>REACH NAME       : RJ
  FROM NODE        : BASINJ
  TO NODE          : 99
  REACH TYPE       : TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
    CREST EL. (ft): 85.500 BTM. WIDTH (ft): 25.000  LEFT SS (h/v):  4.000
     RGHT SS (h/v):  4.000    OPENING (ft): 999.000     WEIR COEF.:  3.000
        GATE COEF.:   .600 NUMBER OF ELEM.:  1.000
              NOTE:
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Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 96 HOUR STORM EVENT (P2596)
10-28-07

```
>>REACH NAME       : RD
  FROM NODE        : BASIND
  TO NODE          : 97
  REACH TYPE       : DROP STRUCTURE w/ CIRC. CULVERT
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
  TURBO SWITCH     : OFF

  CULVERT DATA     :
        SPAN (in):  18.000       RISE (in):  18.000     LENGTH (ft): 361.000
   U/S INVERT (ft): 82.000 D/S INVERT (ft): 79.000       MANNING N:     .013
      ENTRNC LOSS:    .500   # OF CULVERTS:   1.000

  POSITION A       : RECTANGULAR RISER SLOT
    CREST EL. (ft): 89.500  CREST LN. (ft): 10.160    OPENING (ft): 999.000
       WEIR COEF.:   3.200      GATE COEF.:    .600 NUMBER OF ELEM.:   1.000

  POSITION B       : NOT USED

             NOTE:

>>REACH NAME       : RAB
  FROM NODE        : BASINAB
  TO NODE          : 97
  REACH TYPE       : DROP STRUCTURE w/ CIRC. CULVERT
  FLOW DIRECTION   : POSITIVE AND NEGATIVE FLOWS ALLOWED
  TURBO SWITCH     : OFF

  CULVERT DATA     :
        SPAN (in):  12.000       RISE (in):  12.000     LENGTH (ft):  90.000
   U/S INVERT (ft): 79.250 D/S INVERT (ft): 79.000       MANNING N:     .013
      ENTRNC LOSS:    .500   # OF CULVERTS:   1.000

  POSITION A       : RECTANGULAR RISER SLOT
    CREST EL. (ft): 82.500  CREST LN. (ft): 10.160    OPENING (ft): 999.000
       WEIR COEF.:   3.200      GATE COEF.:    .600 NUMBER OF ELEM.:   1.000

  POSITION B       : CIRCULAR RISER SLOT
   INVERT EL. (ft): 81.250       SPAN (in):   4.000       RISE (in):   4.000
       WEIR COEF.:   3.200      GATE COEF.:    .600 NUMBER OF ELEM.:   1.000

             NOTE:
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Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)
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PROPOSED 25 YEAR 96 HOUR STORM EVENT (P2596)
10-28-07

REACH SUMMARY

INDEX	RCHNAME	FRMNODE	TONODE	REACH TYPE
1	RA	BASINA	97	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
2	RB	BASINB	97	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
3	RC	BASINC	97	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
4	RE	BASINE	BASINE2	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
5	RF	BASINF	BASINE2	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
6	RH	BASINH	98	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
7	RI	BASINI	98	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
8	RJ	BASINJ	99	TRAPEZOIDAL WEIR/GATE/ORIFICE, MAVIS EQ.
9	RD	BASIND	97	DROP STRUCTURE w/ CIRC. CULVERT
10	RAB	BASINAB	97	DROP STRUCTURE w/ CIRC. CULVERT

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 96 HOUR STORM EVENT (P2596)
10-28-07

NODAL MIN/MAX/TIME CONDITIONS REPORT

NODE ID	PARAMETER	<-- MINIMUMS --> VALUE	TIME (hr)	<-- MAXIMUMS --> VALUE	TIME (hr)
BASINA	STAGE (ft):	84.00	27.25	87.62	62.25
	VOLUME (af):	.00	27.25	5.46	62.25
	RUNOFF (cfs):	.00	27.25	60.38	59.92
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	96.00	.00	96.00
	OUTFLOW (cfs):	.00	61.00	3.11	62.25
BASINB	STAGE (ft):	80.00	31.00	83.14	60.25
	VOLUME (af):	.00	31.00	3.33	60.25
	RUNOFF (cfs):	.00	31.00	52.51	59.92
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	96.00	.00	96.00
	OUTFLOW (cfs):	.00	59.92	19.21	60.25
BASINC	STAGE (ft):	82.00	26.50	85.83	60.00
	VOLUME (af):	.00	26.50	2.56	60.00
	RUNOFF (cfs):	.00	26.50	51.48	59.92
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	96.00	.00	96.00
	OUTFLOW (cfs):	.00	59.58	41.62	60.00
BASIND	STAGE (ft):	86.00	34.50	89.63	63.75
	VOLUME (af):	.00	34.25	2.82	63.75
	RUNOFF (cfs):	.00	34.25	33.26	59.92
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	96.00	.00	96.00
	OUTFLOW (cfs):	.00	61.25	1.59	63.75
BASINE	STAGE (ft):	79.00	37.25	81.48	96.00
	VOLUME (af):	.00	37.00	5.90	96.00
	RUNOFF (cfs):	.00	37.00	91.81	59.92
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	96.00	.00	96.00
	OUTFLOW (cfs):	.00	59.75	39.21	60.25

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

PROPOSED 25 YEAR 96 HOUR STORM EVENT (P2596)
10-28-07

NODAL MIN/MAX/TIME CONDITIONS REPORT

NODE ID	PARAMETER	MINIMUMS VALUE	MINIMUMS TIME (hr)	MAXIMUMS VALUE	MAXIMUMS TIME (hr)
BASINF	STAGE (ft):	92.00	25.50	94.91	60.00
	VOLUME (af):	.00	25.50	3.11	60.00
	RUNOFF (cfs):	.00	25.50	83.73	59.92
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	96.00	.00	96.00
	OUTFLOW (cfs):	.00	58.58	75.11	60.00
BASINH	STAGE (ft):	79.00	36.25	80.77	60.25
	VOLUME (af):	.00	36.25	1.68	60.25
	RUNOFF (cfs):	.00	36.25	29.24	59.92
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	96.00	.00	96.00
	OUTFLOW (cfs):	.00	59.92	10.89	60.25
BASINI	STAGE (ft):	76.00	38.50	77.90	60.25
	VOLUME (af):	.00	38.25	.53	60.25
	RUNOFF (cfs):	.00	38.25	9.63	59.92
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	96.00	.00	96.00
	OUTFLOW (cfs):	.00	60.00	4.32	60.25
BASINJ	STAGE (ft):	77.00	25.50	85.86	60.50
	VOLUME (af):	.00	25.50	6.99	60.50
	RUNOFF (cfs):	.00	25.50	88.07	59.92
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	96.00	.00	96.00
	OUTFLOW (cfs):	.00	60.25	17.48	60.50
97	STAGE (ft):	78.00	96.00	79.00	48.00
	VOLUME (af):	.00	23.00	14.62	96.00
	RUNOFF (cfs):	.00	96.00	.00	96.00
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	23.00	48.88	60.25
	OUTFLOW (cfs):	.00	96.00	.00	96.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.40)

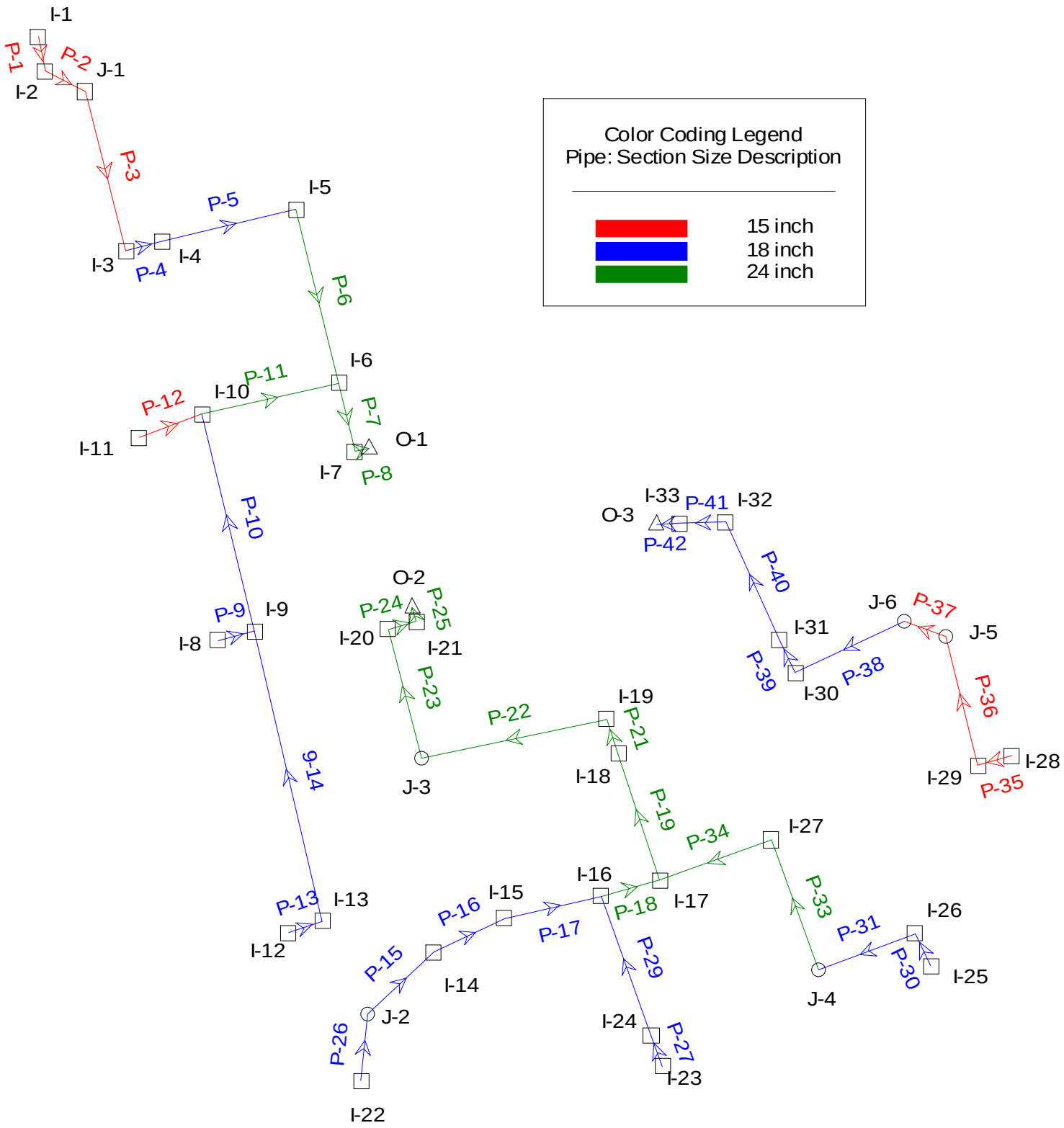
PROPOSED 25 YEAR 96 HOUR STORM EVENT (P2596)
10-28-07

NODAL MIN/MAX/TIME CONDITIONS REPORT

NODE ID	PARAMETER	MINIMUMS VALUE	MINIMUMS TIME (hr)	MAXIMUMS VALUE	MAXIMUMS TIME (hr)
98	STAGE (ft):	60.00	96.00	62.00	48.00
	VOLUME (af):	.00	59.92	3.15	96.00
	RUNOFF (cfs):	.00	96.00	.00	96.00
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	59.92	15.20	60.25
	OUTFLOW (cfs):	.00	96.00	.00	96.00
99	STAGE (ft):	62.00	96.00	63.00	48.00
	VOLUME (af):	.00	60.25	5.32	96.00
	RUNOFF (cfs):	.00	96.00	.00	96.00
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	60.25	17.48	60.50
	OUTFLOW (cfs):	.00	96.00	.00	96.00
100	STAGE (ft):	69.00	.00	73.00	48.00
	VOLUME (af):	.00	96.00	.00	96.00
	RUNOFF (cfs):	.00	96.00	.00	96.00
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	96.00	.00	96.00
	OUTFLOW (cfs):	.00	96.00	.00	96.00
BASINE2	STAGE (ft):	78.00	58.58	81.48	96.00
	VOLUME (af):	.00	58.58	15.38	96.00
	RUNOFF (cfs):	.00	96.00	.00	96.00
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	58.58	98.84	60.00
	OUTFLOW (cfs):	.00	96.00	.00	96.00
BASINAB	STAGE (ft):	81.25	23.00	82.11	68.50
	VOLUME (af):	.00	22.50	1.88	68.50
	RUNOFF (cfs):	.00	22.50	18.84	59.92
	OFFSITE (cfs):	.00	96.00	.00	96.00
	OTHER (cfs):	.00	96.00	.00	96.00
	OUTFLOW (cfs):	.00	23.00	.35	68.50

Secondary Drainage System Calculations (StormCAD)

Scenario: Base



Scenario: Base

Pipe Report

Label	Up. Invert (ft)	Dn. Invert (ft)	User L?	L (ft)	S (ft/ft)	Up. Node	Dn. Node	Size	Mannings n	Q Full (cfs)	HGL In (ft)	Avg. v (ft/s)	HGL Out (ft)	Material
P-1	89.81	89.67	false	28.00	0.005000	I-1	I-2	15 inch	0.012	4.95	90.03	2.18	90.04	HDPE
P-2	89.67	88.47	false	36.00	0.033333	I-2	J-1	15 inch	0.012	12.78	89.98	5.42	89.12	HDPE
P-3	88.47	84.61	false	129.00	0.029922	J-1	I-3	15 inch	0.012	12.10	89.01	7.14	85.41	HDPE
P-4	84.61	84.26	false	30.00	0.011667	I-3	I-4	18 inch	0.012	12.29	85.28	5.80	85.22	HDPE
P-5	84.26	82.90	false	108.00	0.012593	I-4	I-5	18 inch	0.012	12.77	85.06	6.54	83.87	HDPE
P-6	82.90	81.16	false	140.00	0.012429	I-5	I-6	24 inch	0.012	27.32	83.71	6.74	83.35	HDPE
P-7	81.16	81.05	false	55.00	0.002000	I-6	I-7	24 inch	0.012	10.96	83.08	5.73	82.58	HDPE
P-8	77.05	77.00	false	11.00	0.004545	I-7	O-1	24 inch	0.012	16.52	81.00	6.05	80.93	HDPE
P-9	81.79	81.73	false	29.00	0.002069	I-8	I-9	18 inch	0.012	5.18	85.38	2.56	85.34	HDPE
P-10	81.73	81.38	false	175.00	0.002000	I-9	I-10	18 inch	0.012	5.09	85.09	5.69	83.72	HDPE
P-11	81.38	81.16	false	110.00	0.002000	I-10	I-6	24 inch	0.012	10.96	83.61	3.80	83.35	HDPE
P-12	86.92	86.02	false	53.00	0.016981	I-11	I-10	15 inch	0.012	9.12	87.29	4.74	86.29	HDPE
P-13	83.78	83.32	false	28.00	0.016429	I-12	I-13	18 inch	0.012	14.59	85.76	1.41	85.75	HDPE
P-14	83.32	81.73	false	233.00	0.006824	I-13	I-9	18 inch	0.012	9.40	85.70	2.53	85.34	HDPE
P-15	82.34	82.15	false	71.00	0.002676	J-2	I-14	18 inch	0.012	5.89	85.07	2.34	84.97	HDPE
P-16	82.15	81.98	false	61.00	0.002787	I-14	I-15	18 inch	0.012	6.01	84.91	2.91	84.78	HDPE
P-17	81.98	81.76	false	78.00	0.002821	I-15	I-16	18 inch	0.012	6.04	84.72	2.92	84.56	HDPE
P-18	81.76	80.88	false	48.00	0.018333	I-16	I-17	24 inch	0.012	33.18	84.48	3.17	84.40	HDPE
P-19	80.88	80.67	false	105.00	0.002000	I-17	I-18	24 inch	0.012	10.96	84.22	4.80	83.82	HDPE
P-21	80.67	80.61	false	28.00	0.002143	I-18	I-19	24 inch	0.012	11.34	83.60	5.28	83.48	HDPE
P-22	80.61	78.96	false	148.00	0.011149	I-19	J-3	24 inch	0.012	25.88	83.22	5.75	82.42	HDPE
P-23	78.96	77.45	false	105.00	0.014381	J-3	I-20	24 inch	0.012	29.39	82.17	5.67	81.61	HDPE
P-24	77.45	77.12	false	23.00	0.014348	I-20	I-21	24 inch	0.012	29.35	81.36	5.67	81.24	HDPE
P-25	77.12	77.00	false	11.00	0.010909	I-21	O-2	24 inch	0.012	25.60	80.99	5.69	80.93	HDPE
P-26	82.48	82.34	false	53.00	0.002642	I-22	J-2	18 inch	0.012	5.85	85.18	2.37	85.11	HDPE
P-27	82.24	82.19	false	25.00	0.002000	I-24	I-23	18 inch	0.012	5.09	84.77	1.36	84.76	HDPE
P-29	82.19	81.76	false	116.00	0.003707	I-23	I-16	18 inch	0.012	6.93	84.71	2.37	84.56	HDPE
P-30	81.50	81.44	false	28.00	0.002143	I-25	I-26	18 inch	0.012	5.27	84.71	0.92	84.70	HDPE
P-31	81.44	81.28	false	81.00	0.001975	I-26	J-4	18 inch	0.012	5.06	84.65	2.60	84.52	HDPE
P-33	81.28	81.07	false	109.00	0.001927	J-4	I-27	24 inch	0.012	10.76	84.50	1.44	84.46	HDPE
P-34	81.07	80.88	false	93.00	0.002043	I-27	I-17	24 inch	0.012	11.08	84.44	1.69	84.40	HDPE
P-35	81.38	81.17	false	27.00	0.007778	I-28	I-29	15 inch	0.012	6.17	84.03	1.81	84.00	HDPE
P-36	81.17	80.39	false	104.00	0.007500	I-29	J-5	15 inch	0.012	6.06	83.84	4.48	83.20	HDPE
P-37	80.39	80.13	false	34.00	0.007647	J-5	J-6	15 inch	0.012	6.12	83.05	4.44	82.84	HDPE
P-38	80.13	79.41	false	94.00	0.007660	J-6	I-30	18 inch	0.012	9.96	82.77	3.07	82.55	HDPE
P-39	79.41	79.20	false	29.00	0.007241	I-30	I-31	18 inch	0.012	9.68	82.44	3.79	82.34	HDPE
P-40	79.20	78.45	false	101.00	0.007426	I-31	I-32	18 inch	0.012	9.81	82.19	4.48	81.70	HDPE
P-41	78.45	78.10	false	36.00	0.009722	I-32	I-33	18 inch	0.012	11.22	81.54	4.49	81.36	HDPE
P-42	78.10	77.00	false	18.00	0.061111	I-33	O-3	18 inch	0.012	28.13	81.09	5.99	80.93	HDPE

Scenario: Base

Inlet Report

Label	Inlet C	Area (acres)	Ground Elev. (ft)	Rim Elev. (ft)	Hydraulic Grade Line In (ft)	Hydraulic Grade Line Out (ft)	Inv. In Elev. (ft)	Inv. Out Elev. (ft)	Inlet CA (acres)	Time of Concentration (min)	Total Intercepted Flow (cfs)	Bypassed Additional Flow (cfs)	Desired Sump Depth (ft)	Sump Elevation (ft)
I-1	0.75	0.05	94.32	94.32	90.06	90.03	N/A	89.81	0.04	10.00	0.28	0.00	0.00	89.81
I-2	0.75	0.06	94.32	94.32	90.04	89.98	89.67	89.67	0.05	10.00	0.36	0.00	0.00	89.67
I-3	0.55	0.31	92.66	92.66	85.41	85.28	84.61	84.61	0.17	10.00	1.28	0.00	0.00	84.61
I-4	0.55	0.31	92.66	92.66	85.22	85.06	84.26	84.26	0.17	10.00	1.28	0.00	0.00	84.26
I-5	0.75	0.18	91.20	91.20	83.87	83.71	82.90	82.90	0.14	10.00	1.03	0.00	0.00	82.90
I-6	0.75	0.23	89.70	89.70	83.35	83.08	81.16	81.16	0.17	10.00	1.28	0.00	0.00	81.16
I-7	0.75	0.21	89.20	89.20	81.28	81.00	81.05	77.05	0.16	10.00	1.19	0.00	0.00	77.05
I-8	0.65	0.93	89.52	89.52	85.43	85.38	N/A	81.79	0.61	10.00	4.52	0.00	0.00	81.79
I-9	0.75	0.28	89.52	89.52	85.34	85.09	81.73	81.73	0.21	10.00	1.56	0.00	0.00	81.73
I-10	0.75	0.23	91.30	91.30	83.72	83.61	81.38	81.38	0.17	10.00	1.27	0.00	0.00	81.38
I-11	0.75	0.16	92.30	92.68	87.36	87.29	N/A	86.92	0.12	10.00	0.90	0.00	0.00	86.92
I-12	0.65	0.51	87.69	87.69	85.78	85.76	N/A	83.78	0.33	10.00	2.49	0.00	0.00	83.78
I-13	0.75	0.36	89.67	89.67	85.75	85.70	83.32	83.32	0.27	10.00	2.02	0.00	0.00	83.32
I-14	0.55	0.27	87.00	87.00	84.97	84.91	82.15	82.15	0.15	10.00	1.09	0.00	0.00	82.15
I-15	0.25	0.04	87.50	87.50	84.78	84.72	81.98	81.98	0.01	10.00	0.07	0.00	0.00	81.98
I-16	0.55	0.21	87.00	87.00	84.56	84.48	81.76	81.76	0.12	10.00	0.87	0.00	0.00	81.76
I-17	0.55	0.11	86.50	86.50	84.40	84.22	80.88	80.88	0.06	10.00	0.44	0.00	0.00	80.88
I-18	0.75	0.33	87.92	87.92	83.82	83.60	80.67	80.67	0.25	10.00	1.85	0.00	0.00	80.67
I-19	0.75	0.30	87.92	87.92	83.48	83.22	80.61	80.61	0.22	10.00	1.67	0.00	0.00	80.61
I-20	0.25	0.09	88.70	88.70	81.61	81.36	77.45	77.45	0.02	10.00	0.16	0.00	0.00	77.45
I-21	0.55	0.03	86.92	86.92	81.24	80.99	77.12	77.12	0.02	10.00	0.12	0.00	0.00	77.12
I-22	0.65	0.86	87.17	87.17	85.23	85.18	N/A	82.48	0.56	10.00	4.18	0.00	0.00	82.48
I-23	0.65	0.38	86.16	86.16	84.76	84.71	82.19	82.19	0.24	10.00	1.82	0.00	0.00	82.24
I-24	0.75	0.43	86.16	86.16	84.78	84.77	N/A	82.24	0.32	10.00	2.40	0.00	0.00	82.19
I-25	0.65	0.33	85.23	85.23	84.71	84.71	N/A	81.50	0.22	10.00	1.62	0.00	0.00	81.50
I-26	0.75	0.54	85.23	85.23	84.70	84.65	81.44	81.44	0.41	10.00	3.03	0.00	0.00	81.44
I-27	0.55	0.24	86.05	86.05	84.46	84.44	81.07	81.07	0.13	10.00	1.00	0.00	0.00	81.07
I-28	0.65	0.46	85.88	85.88	84.05	84.03	N/A	81.38	0.30	10.00	2.22	0.00	0.00	81.38
I-29	0.75	0.59	85.88	85.88	84.00	83.84	81.17	81.17	0.44	10.00	3.32	0.00	0.00	81.17
I-30	0.75	0.25	87.12	87.12	82.55	82.44	79.41	79.41	0.19	10.00	1.39	0.00	0.00	79.41
I-31	0.75	0.23	87.12	87.12	82.34	82.19	79.20	79.20	0.17	10.00	1.30	0.00	0.00	79.20
I-32	0.55	0.03	87.37	87.37	81.70	81.54	78.45	78.45	0.01	10.00	0.10	0.00	0.00	78.45
I-33	0.55	0.69	86.00	86.00	81.36	81.09	78.10	78.10	0.38	10.00	2.83	0.00	0.00	78.10
J-1	0.55	0.30	94.03	94.03	89.12	89.01	88.47	88.47	0.17	10.00	1.24	0.00	0.00	88.47

Scenario: Base

Outlet Report

Label	Station (ft)	Ground Elevation (ft)	System CA (acres)	Rim Elevation (ft)	Tailwater Elevation (ft)	Description
O-1	0+00	91.00	2.77	91.00	80.93	50% 25/24 PEAK FROM 18971-3
O-2	0+00	87.00	2.72	87.00	80.93	50% 25/24 PEAK FROM 18971-3
O-3	0+00	87.00	1.50	87.00	80.93	50% 25/24 PEAK FROM 18971-3

Scenario: Base

Junction Report

Label	Rim Elevation (ft)	Hydraulic Grade Line In (ft)	Hydraulic Grade Line Out (ft)	Structure Diameter (ft)	Sump Elevation (ft)
J-2	87.43	85.11	85.07	4.00	82.34
J-3	88.75	82.42	82.17	4.00	78.96
J-4	85.73	84.52	84.50	4.00	81.28
J-5	86.55	83.20	83.05	4.00	80.39
J-6	86.74	82.84	82.77	4.00	80.13

Scenario: Base

DOT Report

Label	-Node- Up. Dn.	L (ft)	-Invert- Up. Dn. (ft)	S (ft/ft)	Section Shape Size	Up. Inlet Area (acres)	-Ground- Up. Dn. (ft)	-HGL- Up. Dn. (ft)	Up. Calc. Sys. CA (acres)	-Cover- Up. Dn. (ft)	Avg. v (ft/s)	Mannings n	Excess Full Cap. (cfs)
P-1	I-1	28.00	89.81	0.005000	Circular	0.05	94.32	90.03	0.04	3.26	2.18	0.012	4.67
	I-2		89.67		15 inch		94.32	90.04		3.40			
P-2	I-2	36.00	89.67	0.033333	Circular	0.06	94.32	89.98	0.09	3.40	5.42	0.012	12.14
	J-1		88.47		15 inch		94.03	89.12		4.31			
P-4	I-3	30.00	84.61	0.011667	Circular	0.31	92.66	85.28	0.42	6.55	5.80	0.012	9.19
	I-4		84.26		18 inch		92.66	85.22		6.90			
P-5	I-4	108.00	84.26	0.012593	Circular	0.31	92.66	85.06	0.59	6.90	6.54	0.012	8.42
	I-5		82.90		18 inch		91.20	83.87		6.80			
P-6	I-5	140.00	82.90	0.012429	Circular	0.18	91.20	83.71	0.73	6.30	6.74	0.012	22.00
	I-6		81.16		24 inch		89.70	83.35		6.54			
P-7	I-6	55.00	81.16	0.002000	Circular	0.23	89.70	83.08	2.61	6.54	5.73	0.012	-7.04
	I-7		81.05		24 inch		89.20	82.58		6.15			
P-8	I-7	11.00	77.05	0.004545	Circular	0.21	89.20	81.00	2.77	10.15	6.05	0.012	-2.48
	O-1		77.00		24 inch		91.00	80.93		12.00			
P-9	I-8	29.00	81.79	0.002069	Circular	0.93	89.52	85.38	0.61	6.23	2.56	0.012	0.65
	I-9		81.73		18 inch		89.52	85.34		6.29			
P-10	I-9	175.00	81.73	0.002000	Circular	0.28	89.52	85.09	1.42	6.29	5.69	0.012	-4.97
	I-10		81.38		18 inch		91.30	83.72		8.42			
P-11	I-10	110.00	81.38	0.002000	Circular	0.23	91.30	83.61	1.71	7.92	3.80	0.012	-0.98
	I-6		81.16		24 inch		89.70	83.35		6.54			
P-12	I-11	53.00	86.92	0.016981	Circular	0.16	92.30	87.29	0.12	4.13	4.74	0.012	8.22
	I-10		86.02		15 inch		91.30	86.29		4.03			
P-13	I-12	28.00	83.78	0.016429	Circular	0.51	87.69	85.76	0.33	2.41	1.41	0.012	12.10
	I-13		83.32		18 inch		89.67	85.75		4.85			
P-14	I-13	233.00	83.32	0.006824	Circular	0.36	89.67	85.70	0.60	4.85	2.53	0.012	4.93
	I-9		81.73		18 inch		89.52	85.34		6.29			
P-16	I-14	61.00	82.15	0.002787	Circular	0.27	87.00	84.91	0.71	3.35	2.91	0.012	0.86
	I-15		81.98		18 inch		87.50	84.78		4.02			
P-17	I-15	78.00	81.98	0.002821	Circular	0.04	87.50	84.72	0.71	4.02	2.92	0.012	0.88
	I-16		81.76		18 inch		87.00	84.56		3.74			
P-18	I-16	48.00	81.76	0.018333	Circular	0.21	87.00	84.48	1.40	3.24	3.17	0.012	23.22
	I-17		80.88		24 inch		86.50	84.40		3.62			
P-19	I-17	105.00	80.88	0.002000	Circular	0.11	86.50	84.22	2.21	3.62	4.80	0.012	-4.13
	I-18		80.67		24 inch		87.92	83.82		5.25			
P-21	I-18	28.00	80.67	0.002143	Circular	0.33	87.92	83.60	2.46	5.25	5.28	0.012	-5.25
	I-19		80.61		24 inch		87.92	83.48		5.31			
P-22	I-19	148.00	80.61	0.011149	Circular	0.30	87.92	83.22	2.68	5.31	5.75	0.012	7.82
	J-3		78.96		24 inch		88.75	82.42		7.79			
P-24	I-20	23.00	77.45	0.014348	Circular	0.09	88.70	81.36	2.71	9.25	5.67	0.012	11.56
	I-21		77.12		24 inch		86.92	81.24		7.80			
P-25	I-21	11.00	77.12	0.010909	Circular	0.03	86.92	80.99	2.72	7.80	5.69	0.012	7.73
	O-2		77.00		24 inch		87.00	80.93		8.00			
P-26	I-22	53.00	82.48	0.002642	Circular	0.86	87.17	85.18	0.56	3.19	2.37	0.012	1.66
	J-2		82.34		18 inch		87.43	85.11		3.59			
P-29	I-23	116.00	82.19	0.003707	Circular	0.38	86.16	84.71	0.56	2.47	2.37	0.012	2.75
	I-16		81.76		18 inch		87.00	84.56		3.74			
P-27	I-24	25.00	82.24	0.002000	Circular	0.43	86.16	84.77	0.32	2.42	1.36	0.012	2.69
	I-23		82.19		18 inch		86.16	84.76		2.47			
P-30	I-25	28.00	81.50	0.002143	Circular	0.33	85.23	84.71	0.22	2.23	0.92	0.012	3.65
	I-26		81.44		18 inch		85.23	84.70		2.29			
P-31	I-26	81.00	81.44	0.001975	Circular	0.54	85.23	84.65	0.62	2.29	2.60	0.012	0.47
	J-4		81.28		18 inch		85.73	84.52		2.95			
P-34	I-27	93.00	81.07	0.002043	Circular	0.24	86.05	84.44	0.76	2.98	1.69	0.012	5.77

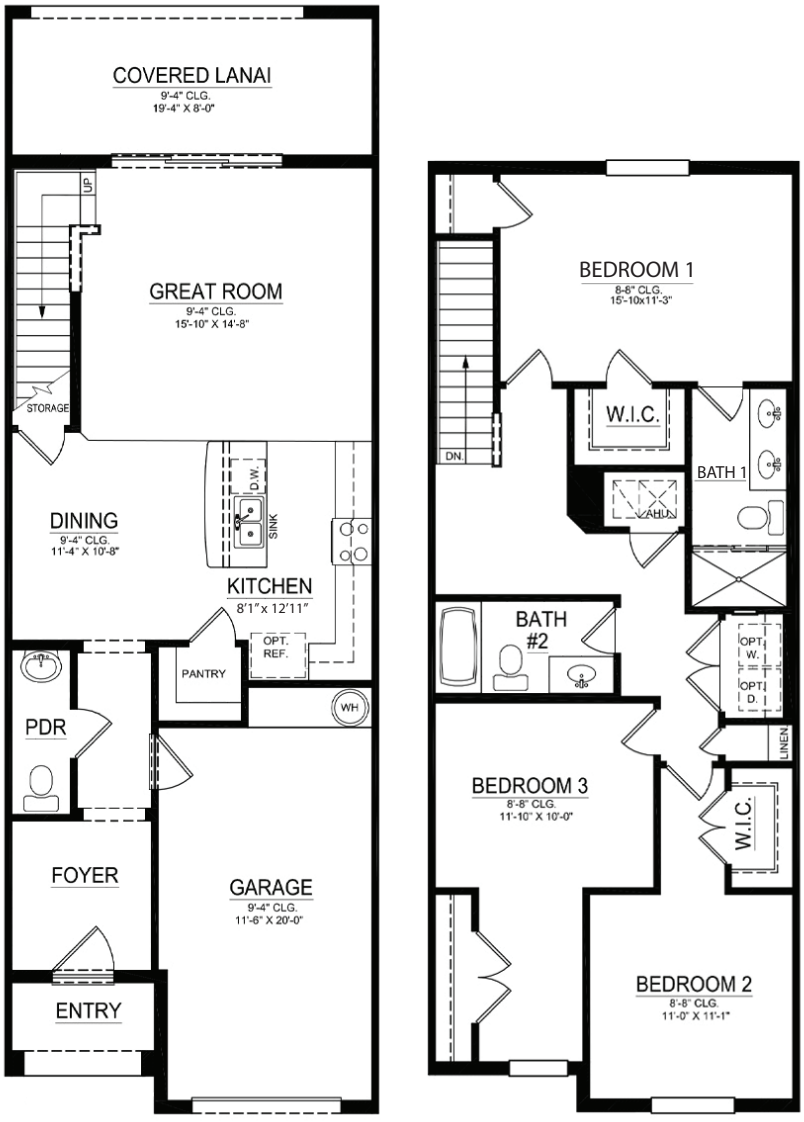
Scenario: Base

DOT Report

Label	-Node- Up. Dn.	L (ft)	-Invert- Up. Dn. (ft)	S (ft/ft)	Section Shape Size	Up. Inlet Area (acres)	-Ground- Up. Dn. (ft)	-HGL- Up. Dn. (ft)	Up. Calc. Sys. CA (acres)	-Cover- Up. Dn. (ft)	Avg. v (ft/s)	Mannings n	Excess Full Cap. (cfs)
	I-17		80.88		24 inch		86.50	84.40		3.62			
P-35	I-28	27.00	81.38	0.007778	Circular	0.46	85.88	84.03	0.30	3.25	1.81	0.012	3.95
	I-29		81.17		15 inch		85.88	84.00		3.46			
P-36	I-29	104.00	81.17	0.007500	Circular	0.59	85.88	83.84	0.74	3.46	4.48	0.012	0.56
	J-5		80.39		15 inch		86.55	83.20		4.91			
P-39	I-30	29.00	79.41	0.007241	Circular	0.25	87.12	82.44	0.93	6.21	3.79	0.012	2.99
	I-31		79.20		18 inch		87.12	82.34		6.42			
P-40	I-31	101.00	79.20	0.007426	Circular	0.23	87.12	82.19	1.10	6.42	4.48	0.012	1.89
	I-32		78.45		18 inch		87.37	81.70		7.42			
P-41	I-32	36.00	78.45	0.009722	Circular	0.03	87.37	81.54	1.12	7.42	4.49	0.012	3.29
	I-33		78.10		18 inch		86.00	81.36		6.40			
P-42	I-33	18.00	78.10	0.061111	Circular	0.69	86.00	81.09	1.50	6.40	5.99	0.012	17.54
	O-3		77.00		18 inch		87.00	80.93		8.50			
P-3	J-1	129.00	88.47	0.029922	Circular	0.30	94.03	89.01	0.25	4.31	7.14	0.012	10.25
	I-3		84.61		15 inch		92.66	85.41		6.80			
P-15	J-2	71.00	82.34	0.002676	Circular	N/A	87.43	85.07	0.56	3.59	2.34	0.012	1.74
	I-14		82.15		18 inch		87.00	84.97		3.35			
P-23	J-3	105.00	78.96	0.014381	Circular	N/A	88.75	82.17	2.68	7.79	5.67	0.012	11.57
	I-20		77.45		24 inch		88.70	81.61		9.25			
P-33	J-4	109.00	81.28	0.001927	Circular	N/A	85.73	84.50	0.62	2.45	1.44	0.012	6.23
	I-27		81.07		24 inch		86.05	84.46		2.98			
P-37	J-5	34.00	80.39	0.007647	Circular	N/A	86.55	83.05	0.74	4.91	4.44	0.012	0.67
	J-6		80.13		15 inch		86.74	82.84		5.36			
P-38	J-6	94.00	80.13	0.007660	Circular	N/A	86.74	82.77	0.74	5.11	3.07	0.012	4.53
	I-30		79.41		18 inch		87.12	82.55		6.21			

GLEN

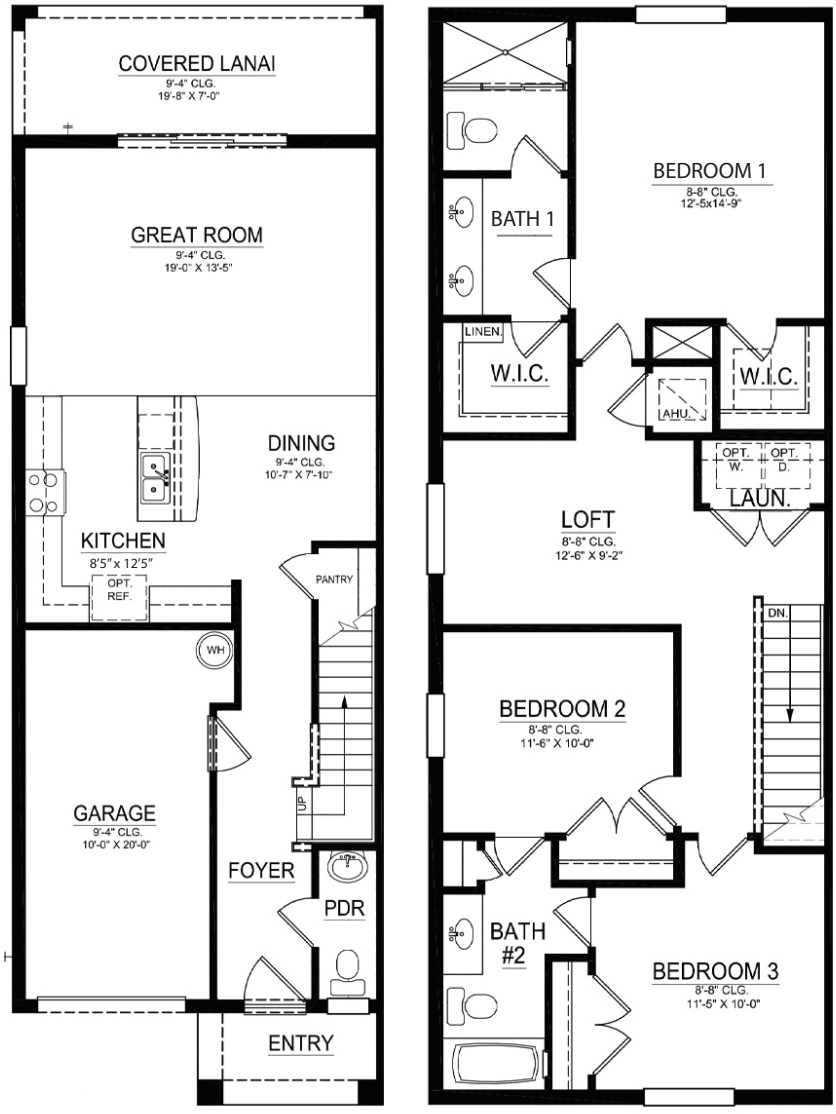
3 Beds, 2.5 Baths, 1-Car Garage, 1,67[illegible]t.



First Floor Second Floor

VALE

3 Beds, 2.5 Baths, 1-Car Garage, 1,75[illegible]t.



First Floor Second Floor

Town of Howey-in-the-Hills
and
Central Lake Community Development District

WHOLESALE WASTEWATER SERVICE AGREEMENT

For

THE MISSION RISE, THE RESERVE, AND VENEZIA NORTH AND SOUTH DEVELOPMENTS

July 9, 2007

Town of Howey-in-the-Hills
and
Central Lake Community Development District

WHOLESALE WASTEWATER SERVICE AGREEMENT

For

THE MISSION RISE, THE RESERVE, AND VENEZIA NORTH AND SOUTH DEVELOPMENTS

THIS AGREEMENT is made and entered into this ~~9th~~ 7th day of ~~July~~ August, 2007, by and between the **Town of Howey-in-the-Hills**, a Florida municipal corporation (hereafter "Howey"), and the **Central Lake Community Development District**, a Florida Special District created pursuant to Chapter 190 of the Florida Statutes, (hereafter the "CDD").

RECITALS

WHEREAS, the CDD leases and operates a wastewater system located in Lake County, Florida (hereafter the "CDD's Wastewater System") and is willing to sell, on a wholesale basis, Wastewater Service Capacity to Howey for the three developments described herein and known as The Mission Rise, The Reserve, and Venezia North and South (collectively the "Developments"); and

WHEREAS, Howey's residents currently use septic systems; and

WHEREAS, the Developments are located within Howey;

WHEREAS, Developments are interested in obtaining centralized sewer service because the Developments are not suitable for septic systems; and

WHEREAS, Howey wishes to connect the Developments to the CDD's Wastewater System and to purchase Wastewater Service Capacity on a wholesale basis from the CDD in order to serve the Developments; and

WHEREAS, Howey and the CDD covenant and agree that they have the power and authority to enter this Agreement and bind their respective governmental entities to the provisions of this Agreement; and

WHEREAS, the CDD is in the process of expanding its wastewater treatment and disposal system to 0.87 million gallons per day (MGD) and hereby represents to Howey that it has or will have the capability of serving the Developments; and

WHEREAS, Howey and the CDD are entering into this Agreement pursuant to and in compliance with the requirements of subsection 190.012(1)(g) of Florida Statutes (2006); and

WHEREAS, this Agreement shall govern the wastewater utility service to be provided by the CDD, on a wholesale basis, to Howey for the Developments only.

NOW THEREFORE, in consideration of the Recitals, covenants, agreement and promises herein contained, and other good and valuable consideration the receipt and sufficiency of which are hereby acknowledged by the parties, the parties covenant and agree as follows:

SECTION 1. RECITALS. The above Recitals are true and correct, and form a material part of this Agreement upon which the parties have relied.

SECTION 2. DEFINITIONS. The Parties agree that in construing this Agreement, the following words, phrases, and terms shall have the following meanings unless the context indicates otherwise:

2.1. "Agreement" means this Howey / CDD Wholesale Wastewater Service Agreement as it may from time to time be modified.

2.2. "Howey's Collection Facilities" means the lines, pipes, meters, and appurtenant equipment owned and operated by Howey to collect Sewage within the three developments and to transmit the same to the Point of Connection with the Interconnect Facilities.

2.3. "CDD Service Agreements" means those certain Agreements and Commitments for Utility Service between the CDD, as wastewater service provider, and the Developments, attached hereto as Composite Exhibit "A."

2.4. "Developments" mean the lands being developed as residential and commercial land use projects known as The Mission Rise, The Reserve, and Venezia North and South, legal descriptions of which are included in the CDD Service Agreements, the owners of which (or their predecessors) have entered into the CDD Service Agreements prior to this Agreement, and which lands have been annexed prior to December 31, 2006 into the municipal boundaries of Howey.

2.5. "Interconnect Facilities" means the wastewater meters and other facilities owned and operated by the CDD at the points of connection between Howey's Collection Facilities and the Treatment Facilities.

2.6. "GPD" means gallons per day, average annual basis.

2.7. "GPM" means gallons per minute actual flow rate.

2.8. "MGD" means million gallons per day on an annual average basis.

2.9. "Point of Connection" means the location where Howey's Collection Facilities connect to the CDD's Interconnect Facilities. At that point, appropriate metering will be installed by the CDD to measure the flow of wastewater from Howey's Collection Facilities.

2.10. "PSI" means pounds per square inch of fluid pressure.

2.11. "Residential Wastewater Strength" means residential and commercial wastewater discharges exhibiting the following characteristics: biochemical oxygen demand of 300 mg/1 or less, suspended solids of 300 mg/1 or less, and pH between 6.0 and 9.0 or such other restrictions as established for residential wastewater strength by the Florida Department of Environmental Protection. Prohibited discharges include, but are not limited to, constituents that could cause a fire or explosion; solid or viscous substances which could obstruct flow or interfere with the system; or discharges containing any toxic pollutants.

2.12. The "CDD's Wastewater System" means the CDD's wastewater collection, transmission and treatment facilities (including the Treatment Facilities) in which Sewage is treated and disposed of, and which are operated and maintained by the CDD.

2.13. "Sewage" or "Wastewater" means water-carried wastes from residences, business-buildings, commercial establishments, institutions, industrial establishments, and other customers, but does not mean or include hazardous or toxic wastes.

2.14. "Treatment Facilities" means those treatment and disposal facilities and rights used by the CDD to treat wastewater and detain, transmit, and dispose of said treated wastewater in accordance with applicable governmental and regulatory requirements.

2.15. "Wastewater Service Capacity" means the volume of wastewater flow measured in GPD, which Howey wishes to buy from the CDD and which the CDD agrees to accept on a continuous basis into the CDD's Wastewater System in accordance with the terms of this Agreement.

SECTION 3. PROVISION AND ALLOCATION OF WASTEWATER SERVICE CAPACITY. On and after the effective date of this Agreement, as set forth in Section 22, Wastewater Service Capacity shall be provided by the CDD to Howey for service in the Developments in the following manner and subject to the following terms and conditions:

3.1. Capacity Reservation by the Developments.

The CDD represents and warrants to Howey that, pursuant to the CDD Service Agreements, the Developments have reserved capacity, and the CDD has set aside and encumbered capacity, in the CDD's Wastewater System for the residential and nonresidential land development contemplated by the CDD Service Agreements to occur in the future at the Developments in the amounts set forth in Exhibit "B" attached hereto. To ensure that contributions in aid of construction have been paid and that the wastewater-treatment demand of land development to be permitted from time to time by Howey within the Developments does not exceed the treatment and disposal capacity of the CDD's Wastewater Facilities, the Town Council for Howey shall require, as a condition to the issuance of a building permit for the

construction of a residence or commercial building within the Developments, the issuance by the CDD of a certificate assuring Howey that, as required by Section 163.3180 of Florida Statutes, wastewater service will be available concurrent with the new development and that appropriate contributions in aid of construction have been paid.

3.2. Capacity Needs of the Developments. On and after the effective date of this Agreement, the CDD shall accept, treat, and dispose of the Wastewater Service Capacity as required by the CDD Service Agreements to serve the Developments. Howey shall have no liability for any charges for the capital costs of capacity at the Treatment Facilities or any other capital costs associated with expanding the CDD's Wastewater System to serve the Developments.

3.3. Technical and Operation and Maintenance Requirements. The CDD shall determine the Point of Connection of the two systems to serve the Developments. The CDD will provide to Howey the required system pressures and elevations to connect, along with any other applicable technical requirements for connection. Howey shall review the proposed Point of Connection based upon the CDD's technical requirements.

Both Howey and the CDD acknowledge that each party operates and maintains its own wastewater system on its respective side of the Point of Connection. At the Point of Connection, the CDD will be responsible for providing the appropriate metering and maintenance and reading of the Point of Connection meters. The meter shall be calibrated as required by law and the results provided to Howey. In the event of meter failure, both Howey and the CDD will mutually develop a method to estimate flows until the meter is repaired.

3.4. Delivery Pressure; Peak Flows; Usage. Howey shall deliver Wastewater through Howey's Collection Facilities and to the Interconnect Facilities at a pressure not less than 26 PSI to enable receipt of Wastewater into the Treatment Facilities without repumping.

The CDD shall receive Wastewater flows from Howey at a flow rate not exceeding 1,500 GPM. If at any time sanitary Wastewater flow from Howey exceeds 1,500 GPM, Howey shall, at its expense, plan, construct, operate, and maintain a surge tank as a part of the Howey Collection Facilities, in order to reduce Wastewater flows to a rate that is at or below 1,500 GPM.

3.5. Treated Wastewater. Wastewater received by the CDD from Howey through the Interconnect Facilities shall be deemed to be the property of the CDD.

SECTION 4. PURCHASE OF EXCESS WASTEWATER CAPACITY. In the event that Howey's wastewater usage exceeds its subscribed capacity by the three (3) Developments for three (3) consecutive months, Howey shall either buy additional wastewater capacity from the CDD or shall pay the capital costs of providing the additional capacity needed, but only if the CDD provides Howey written notice that wastewater received by the CDD has exceeded Howey's subscribed capacity for a one (1) month period and such notice is received by Howey within fifteen (15) days following the termination of that one (1) month period for which Howey's usage exceeded its subscribed capacity.

SECTION 5. SERVICE STANDARDS. The parties mutually agree that after connection of Howey's Collection Facilities to the Interconnect Facilities, the CDD agrees to comply with all state, regional, and federal requirements and rules applicable to the provision of Wastewater Service Capacity to the public. Notwithstanding the above, the CDD does not guaranty or warrant any special service, pressure, quality, capacity, availability, or other facility other than what is required to fulfill a duty of reasonable care to the customers to whom it provides such Wastewater Service Capacity. Upon connection of Howey's Collection Facilities to the Interconnect Facilities, any customers that have connected or will connect into Howey's Collection Facilities shall be Howey's retail customers. Howey shall be the party responsible for discontinuing services to customers provided for hereunder if customers fail to pay bills for said services.

SECTION 6. CONSISTENCY OF WASTEWATER. Howey acknowledges and recognizes that in the operation and maintenance of the CDD's Wastewater System, the CDD has certain obligations to protect the health, safety and welfare of the public and to prevent undue burden to the CDD's customers resulting from extraordinary discharges attributable to Howey. Howey agrees that all Sewage collected by Howey and transmitted to the CDD shall conform to the CDD's published standards prior to introduction into the CDD's Treatment Facilities.

No substance other than domestic wastewater, including but not limited to hazardous, flammable, toxic, and/or industrial constituents, regardless of the concentrations of such constituents, will be placed into the CDD's Wastewater System and delivered to the Treatment Facilities. Non-domestic wastes from commercial establishments may be introduced into the CDD's Wastewater System only upon prior written approval from the CDD based on the CDD's determination that such non-domestic waste will not harm the Treatment Facilities. Should any non-domestic wastes, grease or oils, including but not limited to, floor wax, paint, chlorides, or salt water be delivered to the Treatment Facilities, Howey will be responsible for payment of the cost and expense required in correcting or repairing any resulting damage to the Treatment Facilities or property of third parties. The CDD shall have the right to sample Howey's sewage to verify compliance with this Agreement.

In the event the CDD determines that property served or to be served by Howey poses a threat of introducing chlorides, salt water, or similar constituents into the Treatment Facilities at levels determined by the CDD, in accordance with current industry standards, to be harmful to the Treatment Facilities, including but not limited to, the Treatment Facilities' ability to provide effluent meeting reuse standards, and its acceptability as an irrigation supply source for vegetation, the CDD has the right to decline or discontinue service, or charge a higher rate due to increased treatment costs if applicable, to such property or customer and to require such pretreatment or other measures as are necessary to protect the integrity of Treatment Facilities. In the event of such declination or discontinuance of service, Howey shall have the right to provide or obtain treatment of the effluent from such property through its own facilities or from a third party.

SECTION 7. WHOLESALE WASTEWATER USER CHARGES. The CDD agrees to provide transmission, treatment and disposal of Howey's wastewater initially for a monthly charge per thousand gallons of metered flow. The volume shall be measured by the CDD at the Point of Connection between the CDD and Howey. After the first of each month, the CDD shall submit an invoice to Howey for treatment services rendered to Howey during the previous month detailing the daily volume through the Point of Connection. Howey shall pay the invoice within twenty-five (25) days of receipt.

The initial rate payable by Howey shall be $2.00 per thousand gallons. This rate shall remain in effect for no less than four (4) years running from the date of the first building permit issuance for the construction of a residence or commercial building in any of three Developments, unless:

> CDD elects to conduct, at its expense, a rate study for the entire CDD Wastewater System, both inside and outside the boundaries of Howey. The study shall arrive at a uniform retail rate for all retail customers of the CDD's Wastewater System. Upon completion of the rate study, that replacement rate shall be charged uniformly to all CDD retail wastewater customers, and the wholesale rate to be charged to Howey will be eighty-five percent (85%) of the retail rate determined by the study. That replacement rate (and the 85% wholesale rate to be paid by Howey) shall remain in effect for at least the remainder of the four (4) years running from the date of the first building permit issued in the Developments.

At the end of the four (4) year period as referenced hereinabove, either Howey may require the CDD to conduct, or the CDD may elect to conduct, a new rate study to determine both retail and wholesale rates. Howey and the CDD each shall pay one-half (1/2) the cost of this second rate study. If neither party requests a rate study at the end of the four-year period, then any future rate studies shall be at the discretion of the CDD and at the expense of the CDD.

One of the following firms will be selected to conduct these two rate studies, if they are conducted:

(1) Burton & Associates (Mike Burton);
(2) Brown & Caldwell (Mike Rocca); or
(3) PRMG (Rob Ori); or
(4) such other firm that the parties may hereinafter agree to.

The retail rate determined by the study shall apply uniformly to all the CDD's retail wastewater customers, both inside and outside Howey's boundaries. The wholesale rate to be charged to Howey shall be the wholesale rate determined by the study conducted after the four-year period, and the retail rate charged by Howey to its retail wastewater customers shall be a rate determined by Howey's Town Council to be sufficient to pay the costs of Howey's retail wastewater operation.

In all events, at such time as the wholesale rate charged to Howey exceeds $2.00 per thousand gallons, and thereafter throughout the term of this Agreement, the CDD shall charge a

uniform rate to all its retail wastewater customers, both within the town limits of Howey and outside the town limits, without discrimination. If and when rate studies are conducted from time to time, as allowed by Section 8 and this Section, such studies shall assume, for purposes of calculating Howey's wholesale rate, that the costs incurred by the CDD for administration, billing and collection, capital improvements, and operation and maintenance of its treatment, collection and transmission system not related to providing service to Howey shall be excluded from the wholesale rate.

SECTION 8. CHANGE OF RATES. For each year after the expiration of the initial rate established as provided in Section 7, the CDD may increase its retail wastewater rates and the wholesale rate paid by Howey either

(i) by a percentage not exceeding the price-increase-or-decrease index established during that year by the Florida Public Service Commission for wastewater utilities as required by Section 367.081(4)(a) of Florida Statutes, or

(ii) as determined and calculated by a rate study performed by one of the firms listed in Section 7.

SECTION 9. ASSIGNMENT OF CDD RETAIL WASTEWATER AGREEMENTS. The CDD hereby assigns to Howey the right to be the retail wastewater service provider for the Developments and Howey assumes such obligations for the Developments. The CDD retains the right under the CDD Service Agreements to provide wastewater service to the Developments, but only as a wholesale provider to Howey. Howey agrees that the Developments have purchased and made provision for payment in full of Wastewater Service Capacity sufficient for the needs of such customers, and that no other or additional wastewater connection fee, impact fee, service availability fee, or other capital charges whatsoever (however characterized by Howey) shall be due from the Developments for or on account of the provision of wastewater service.

SECTION 10. RESERVATION AND MAINTENANCE FEES. In the event that the CDD adopts reservation and maintenance fees that apply to customers uniformly, both inside and outside the boundaries of Howey, the fees shall be payable by the Developments, and the CDD shall be entitled to receive from Howey all such fee revenues collected, without deduction of any type. Howey shall use reasonable efforts to collect such fees from its customers and shall pay the amounts collected to the CDD within twenty-five (25) days of receipt. Should any customer not pay reservation and maintenance fees, then the CDD shall notify Howey, at which time such capacity will be forfeited in accordance with the procedure adopted by the CDD.

SECTION 11. INDEPENDENT CONTRACTOR RELATIONSHIP; NO LIABILITY FOR HOWEY OR CDD DEBT.

11.1. Neither the CDD nor Howey is or shall be deemed to be an agent of the other, and neither shall have the authority or power to obligate or act for or on behalf of the other. Each is entering into this Agreement as an independent contractor.

11.2. The parties agree expressly that (i) the CDD has no obligation whatsoever to creditors of Howey or other third-parties for any existing or future debts or other obligations of Howey of any type or nature, and (ii) Howey has no obligation whatsoever to creditors of the CDD or other third-parties for any existing or future debts or other obligations of the CDD of any type or nature.

SECTION 12. DISCLAIMER OF THIRD PARTY BENEFICIARIES. This Agreement is solely for the benefit of the formal parties herein, and no right or cause of action shall accrue upon or by reason hereof, to or for the benefit of any third party not a formal party hereto.

SECTION 13. ASSIGNMENT. This Agreement shall be binding on the parties hereto and their representatives, successors, and assigns. Neither party shall assign this Agreement or the rights and obligations to any other party without the prior written consent of the other party hereto, which may not be unreasonably withheld.

SECTION 14. INDEMNIFICATION.

14.1. Neither party hereto waives sovereign immunity, except that, consistent with applicable Florida law, including, but not limited to Chapter 768, Florida Statutes, each party shall hold the other harmless for the negligent acts of itself and its officers, agents, and employees, but only to the extent permitted by law.

14.2. If service provided hereunder is discontinued to a customer due to failure of the customer to pay for services provided, the party responsible for discontinuing service shall hold the other party harmless as to any and all claims or suits regarding such action.

SECTION 15. DEFAULT.

15.1. Either party to this Agreement, in the event of or act of default by the other, shall have all remedies available to it under the laws of the state of Florida including but not limited to injunction to prevent default or specific performance to enforce this Agreement. Each party agrees to pay all reasonable costs and attorneys fees to the other party not in default provided such costs and attorneys fees are payable under this section only to the prevailing party in such suit. The rights of the parties shall be considered cumulative and shall not be waived now or in the future by the exercise of any rights and remedies provided under the terms of this Agreement and authorized by law.

15.2. In the event of a default by Howey, the CDD agrees that it will not discontinue service to Howey except in the case of an emergency resulting from a substantial and material default under Section 6 of this Agreement, provided all payments for service required hereunder are made by Howey and until such time as a court of competent jurisdiction has rendered an adjudication of default. In the event Howey disputes amounts payable for service pursuant to this Agreement, Howey shall continue to make such payments under protest. Upon resolution of the protest, CDD shall refund any amounts determined to be overpaid, plus interest at the prime rate as published daily in the Wall Street Journal plus two percent (2%).

15.3. In the event of default by the CDD, Howey shall be entitled to any and all remedies available to customers of the CDD's water and sewer system.

15.4. Each of the parties hereto shall give the other party written notice of any defaults hereunder and shall allow the defaulting party thirty (30) days from the date of receipt to cure such defaults (or if the default cannot be cured within thirty (30) days, the defaulting party shall commence the cure within such period and shall complete such cure within a reasonable period thereafter), and shall otherwise comply with any state law related to resolving disputes between local governments.

SECTION 16. NOTICES. Any notice required or allowed to be delivered hereunder shall be in writing and be deemed to be delivered when either (1) hand-delivered to the official hereinafter designated, or (2) upon receipt of such notice when deposited in the U.S. mail, postage prepaid, certified mail, return-receipt requested, addressed to a party at the address set forth opposite the party's name below, or at such other address as the party's name below, or at such other address as the party shall have specified by written notice to the other party delivered in accordance herewith:

CDD: Mr. Bud Beucher
Central Lake Community Development District
201 East Pine Street, Suite 950
Orlando, Florida 32801

with a copy to: George S. Flint
District Manager
Central Lake Community Development District
201 East Pine Street, Suite 950
Orlando, Florida 32801

and: Daniel B. Harrell
Gonano & Harrell
1600 S. Federal Highway, Suite 200
Fort Pierce, Florida 34950

HOWEY: The Honorable Kenneth Green
Mayor, Howey-in-the-Hills
(101 North Palm Ave. 34737)
P. O. Box 128
Howey-in-the-Hills, Florida 34737

with a copy to: Thomas J. Wilkes
GrayRobinson, P.A.
(301 E. Pine Street, Suite 1400 32801)
P. O. Box 3068
Orlando, Florida 32802

SECTION 17. SEVERABILITY. If any part of this Agreement is found invalid or unenforceable by any court, such invalidity or unenforceability shall not affect the other parts of the Agreement if the rights and obligations of the parties contained herein are not materially prejudiced and if the intentions of the parties can continue to be effected. To that end, this Agreement is declared severable.

SECTION 18. RECORDATION. The parties hereto agree that an executed copy of this Agreement and Exhibits attached hereto shall be recorded in the Public Records of Lake County at the expense of the parties, said expense to be shared equally.

SECTION 19. TIME OF THE ESSENCE. Time is hereby declared of the essence to the lawful performance of the duties and obligations contained in this Agreement.

SECTION 20. APPLICABLE LAW. This Agreement and the Provisions contained herein shall be construed, controlled, and interpreted according to the laws of the state of Florida.

SECTION 21. FORCE MAJEURE. In the event that the performance of this Agreement by either party is prevented or interrupted in consequence of any cause beyond the control of either party, including but not limited to an Act of God or of the public enemy, war, national emergency, allocation or of other governmental restrictions upon the use or availability of labor or materials, rationing, civil insurrection, riot, racial or civil rights disorder or demonstration, strike, embargo, flood, tidal wave, fire, explosion, bomb detonation, nuclear fallout, windstorm, hurricane, earthquake, or other casualty or disaster or catastrophe, governmental rules or acts or orders or restrictions or regulations or requirements, acts or action of any government or public or governmental authority or commission or board or agency or agent or official or officer, the enactment of any statute or ordinance or resolution or regulation or rule or ruling or order, order or decree or judgment or restraining order or injunction of any court, such party shall not be liable for such non-performance.

SECTION 22. EFFECTIVE DATE; TERM. This Agreement shall be effective as of the date last executed by the parties. This Agreement shall continue in full force and effect until midnight on the December 31st next following the 35th anniversary of the issuance of the first building permit for the construction of a residence or commercial building in the Developments (such date the "Initial Termination Date"). Upon issuance of the first building permit in the Developments, the parties shall execute an Addendum to this Agreement acknowledging commencement of the thirty-five (35) year period term and confirming the Initial Termination Date. This Agreement shall automatically be extended for one twenty (20) year period, until midnight on December 31 twenty (20) years following the Initial Termination Date, unless one party provides the other party written notice of its intent to cancel this Agreement at the expiration of the initial term, and such notice is delivered no later than December 31, 2040. Both parties shall be fully discharged from any service obligations arising from any cancellation.

SECTION 23. ENTIRE AGREEMENT; EFFECT ON PRIOR AGREEMENT. This instrument constitutes the entire Agreement between the parties and supersedes all previous discussions, understandings, and agreements between the parties relating to the subject matter of

this Agreement. Amendments to and waivers of the provisions herein may be made only by the parties in writing, by formal waiver or amendment approved by majority vote of both Howey's Town Council and the CDD's Board of Supervisors.

SECTION 24. EXERCISE OF POLICE POWER. Without limiting Howey's obligations under this Agreement, nevertheless, nothing contained in this Agreement shall be construed to require Howey to exercise the police power, and nothing herein shall act as a waiver of Howey's authority to require a permit, license, certificate, approval, exception, or variance applicable to similar projects and uniformly imposed by Howey.

SECTION 25. DISPUTE RESOLUTION. By Resolution No. 2006-03, dated July 7, 2006 ("Conflict Resolution"), the Board of Supervisors of the CDD initiated the conflict resolution procedures set forth in the Florida Government Conflict Resolution Act, Chapter 164, Florida Statutes, with respect to Howey's adoption of its Ordinance 2006-005. The parties agree that the dispute that occasioned the CDD's adoption of the Conflict Resolution has been resolved by this Agreement, that no further conflict exists between the parties, and that this Agreement constitutes a full and complete resolution of such conflict in accordance with Section 164.1057, Florida Statutes.

IN WITNESS WHEREOF, the Parties hereto have hereunder executed this Agreement on the date and year first above written.

CENTRAL LAKE COMMUNITY DEVELOPMENT DISTRICT

ATTEST: By: Board of Supervisors

By: _____ By: _____

Mr. Bud Beucher, Chairman

Approved as to form and correctness:

_____

Name Martin S. Friedman

TOWN OF HOWEY-IN-THE-HILLS

ATTEST WITH SEAL

By: Brenda Brasher
Town Clerk Brenda Brasher

By: Town Council

By: Kenneth L Green Sr.
Mayor Kenneth Green

Approved as to form and correctness:

Thomas J Wilkes
Town Attorney

STATE OF FLORIDA
COUNTY OF LAKE

The foregoing instrument was acknowledged before me this 7th day of ~~July~~ August, 2007, by BUD BEUCHER as Chairman of CENTRAL LAKE COMMUNITY DEVELOPMENT DISTRICT, Board of Supervisors. He is personally known to me or has produced as identification.

GEORGE S. FLINT
Comm# DD0482363
Expires 10/16/2009
Bonded thru (800)432-4254
Florida Notary Assn., Inc

NOTARY PUBLIC – STATE OF FLORIDA
Printed Name: George S. Flint
My Commission Expires: 10/16/2009

STATE OF FLORIDA
COUNTY OF LAKE

The foregoing instrument was acknowledged before me this 30 day of July, 2007, by MAYOR KENNETH GREEN, as Mayor of TOWN OF HOWEY-IN-THE-HILLS, Town Council. He is personally known to me or has produced _____ as identification.

BRENDA BRASHER
MY COMMISSION # DD 297202
EXPIRES: March 8, 2008
Bonded Thru Notary Public Underwriters

Brenda Brasher
NOTARY PUBLIC – STATE OF FLORIDA
Printed Name: Brenda Brasher
My Commission Expires: _____

EXHIBIT A

[CDD Service Agreements]

AGREEMENT AND COMMITMENT FOR UTILITY SERVICE

PROJECT NAME: **THE RESERVE AT HOWEY-IN-THE-HILLS**

PROJECT DESCRIPTION: See Exhibit AB@ attached hereto and incorporated herein by reference.

PROJECT OWNER: **EAGLES LANDING, LLC**

THIS AGREEMENT is entered into this 21 day of June, 2005, between **EAGLES LANDING, LLC** whose address is 232 S. Dillard Street, 2nd Floor; Winter Garden, Florida 34787 ("Developer"), and **CENTRAL LAKE COMMUNITY DEVELOPMENT DISTRICT,** whose address is 10400 CR 48 Howey-in-the-Hills, Fl 34737 (the "District").

RECITALS

1. Developer owns or controls lands located in Lake County, Florida, as more particularly described in Exhibit A attached hereto and made a part hereof by reference (the "Property"), and the Developer has developed or intends to develop the Property by constructing or having constructed, the Project described above, the project to include approximately 750 residential structures and approximately 300,000 square feet of commercial structures.

2. Developer desires that the District provide central wastewater collection and treatment services (the "Utility Services") for the Property and that District provide potable water in the event a potable water supply is not available from or provided by the City of Howey-in-the-Hills ~~(ACity@)~~. ("City").

3. The District is a duly created community development district with the authority and capacity to provide the Utility Services to the Property.

4. The District is willing to commit to provide Utility Services and potable water to the Property in accordance with the conditions and provisions of this Agreement.

5. The Developer, at its sole cost and expense, is willing to design, construct and install the necessary water mains, valves, services, sewage pumping station(s), force main (if applicable), gravity sewer mains, manholes, laterals, connection to District's water and sewer system and other appurtenances at its expense to furnish water supply (if applicable) and sewage disposal service to the Property.

6. Both the Developer and the District recognize that the supply of water and the collection and disposal of sewage by the District for the Property are subject to regulation, prohibition, limitation and restriction by local, State and Federal governmental agencies.

Copy to Mayor Green via FedEx 6/13/05

7. The Developer recognizes and agrees that the District's obligations for the provision of water and for the collection and disposal of sewage for the Property are at all times subject to such governmental regulation, prohibition, limitation and restriction and that these factors are beyond the control and responsibility of the District.

8. At this time the parties wish to set forth their agreement as stated below.

NOW, THEREFORE, for and in consideration of the premises, the mutual undertakings and agreements herein contained and assumed, Developer and District hereby covenant and agree as follows:

1. Recitals. The Recitals set forth above are true and correct.

2. District Obligations.

2.1 District covenants and agrees that it will allow Developer to connect the wastewater collection facilities installed by Developer in connection with development of the Property to the central facilities of District and, if applicable, that the District will provide potable water to the Property in accordance with the terms and intent of this Agreement upon:

a. the completion of construction of the on-site and off-site central wastewater facilities and potable water distribution system (if applicable) by Developer in accordance with plans and specifications approved by District all at Developer's sole expense except as provided herein,

b. the inspection and approval of such central wastewater facilities and potable water distribution system during construction by District and the furnishing of a complete set of "as built" plans in a form acceptable to District for all facilities constructed by Developer,

c. the issuance of the final letter of acceptance by District (which District will promptly issue solely on Developer's satisfaction of the other requirements prescribed in this Section 2.1), subject to an acceptable warranty and guarantee by either Developer and/or the Developer's contractor running in favor of District, which shall be for a period of not less than one year as described later in this Agreement,

d. the compliance by the Developer with all of the other terms of this Agreement, including the payment of such fees and charges as set forth herein,

e. authorization by all necessary governmental entities for the District to provide such services outside its boundaries.

2.2 Such connections to District's central wastewater and potable water facilities shall

at all times be in accordance with rules, regulations and orders of the applicable governmental authorities and of the published rules and specifications of the District. The District agrees that once it provides Utility Service and, if applicable, potable water to the Property, that thereafter, the District will continuously provide Utility Services and potable water, in accordance with the rules and regulations and rate schedules of the District, as they exist from time to time, such rules to include, but not be limited to, a prohibition on acceptance of any type of hazardous materials or industrial waste and regulations as to usage and quantity of potable water. The current charge per residence for sewer services is $35.00 per month and the current charges for potable water are set forth in established rules of the District. Utility deposits may be required from the owners of completed residences on the Property.

3. CIAC.

3.1 In addition to the charges as set forth above, the Developer agrees to pay to the District Contributions-In-Aid-of-Construction (CIAC) as set forth in District rules and policy at the rates set forth below:

Sewer connection per residence	$2,000.00
Water connection per residence	$1,000.00
Commercial connections	TBD

4. Developer Obligations.

4.1 Design. The Developer at its sole cost and expense shall be responsible for designing and preparing the plans and specifications for the Utility Services and potable water supply for the Property and for the connection of such services to District's system and for obtaining all necessary and required permits from all regulatory agencies.

4.2 Construction and Installation. Developer shall install its main sewer distribution line connection from the Property to District's central treatment plant utilizing a pipe sized to provide services to the Property and, subject to District's obligation below to pay to oversize the pipe, to other properties in the general area to District's specifications, this to include all required connections to District's current system. Said pipe shall not be exclusively used to provide Utility Services to the Property as District may utilize said pipe to provide Utility Services to other properties up to the capacity of the pipe. Developer shall be responsible for the cost of the sewer pipe to serve its development and District shall have the option and right to pay any required additional expense for upsizing the pipe and any pump station(s) as necessary to provide Utility Services to other properties and developments. If District elects to so oversize the pipe, District will so notify Developer within 150 days of the date of this Agreement. After that date, Developer may refuse to oversize the pipe.

4.3 Inspections. The Developer, at its sole cost and expense, shall retain the services of a Florida registered professional engineer for the purposes of inspecting and supervising the

construction and installation of the Utility Services and potable water system (if applicable) to insure compliance with accepted civil engineering practices and the approved plans and specifications. Prior to Developer's conveying the systems as constructed to the District, the engineer shall certify in writing that the construction and installation of all systems comply with accepted civil engineering practices and are in substantial conformance with the approved plans and specifications. The District shall have the right but not the obligation to make inspections of all of the construction work performed by or for the Developer under the terms of this Agreement, including both onsite and offsite facilities, and regardless of whether or not the facilities will be subsequently owned by the District. Inspections by the District shall not be construed to constitute any guarantee by the District as to materials or workmanship, nor shall they relieve the Developer of the responsibility of the proper construction of said facilities in accordance with the requirements of this Agreement nor shall the inspections, if undertaken, abrogate any warranties made by the Developer as to the quality and condition of the materials and workmanship. District shall not disrupt or delay the performance of work on the Property nor cause any damage to the Property or improvements thereon. All inspections conducted by District shall be at District's sole risk and expense. District will indemnify, defend, and hold harmless Developer with respect to any fines, penalties, expenses (including legal fees and court costs incurred at all levels of review), losses, damages, claims, judgments, obligations, and liabilities arising from or relating to District's inspections.

4.4 Accuracy of Information. The Developer shall furnish to the District accurate information with regard to all matters under this Agreement. The Developer shall be responsible for errors or changes in the information furnished by Developer to the District under this Agreement.

4.5 Expansion of District Plant. Developer shall pay in advance amounts required to expand District's sewage plant to accommodate Developer's project, this to include, but not be limited to, all engineering, permitting and construction costs. District will furnish an engineer's estimate of such costs and Developer will either deposit with District or furnish an irrevocable standby letter of credit in form reasonably satisfactory to the District or other financial guarantee satisfactory to District in an amount of 110% of such estimate that District can draw upon to cover the costs. District will reimburse such costs to Developer through credits granted by District against required sewer CIAC, each residential credit to be calculated by dividing the number of residential units approved for the Property into the cost of such expansion. Credits will be limited to 50% of each residential sewer CIAC until advanced costs are paid in full. District will utilize all such funds solely for expanding District's sewage plant as may be necessary to provide additional capacity for providing the Utility Service. District shall maintain detailed books and records relating to expansion of the sewage plant and will from time to time make those records available to Developer for review and copying. District will perform the sewage plant expansion in an efficient and economical manner, consistent with prudent practices. If the cost of performing the sewage plant expansion is less than the financial guarantee provided by Developer pursuant to this Agreement, then on completion of the expansion, District will immediately refund to Developer the surplus funds. Developer shall pay all costs of expanding the system pursuant to this provision.

Accordingly, if the total cost thereof exceeds the amount of the deposit, letter of credit, or other financial guarantee provided by Developer pursuant to this provision, then Developer shall pay the deficit to District within forty-five (45) days of receiving District's demand therefor accompanied by an accounting verifying the actual costs of the work.

4.6 Potable Water Connection. As to potable water, if provided by the District, Developer shall install a potable water distribution main line from the Property to connect to District's potable water system utilizing a pipe sized to provide potable water to the Property and, subject to District's obligation below to pay to oversize the pipe, to other properties in the general area to District's specifications, this to include all required connections to District's current system. Said pipe shall not be exclusively used to provide potable water to the Property as District may utilize said pipe to provide potable water to other properties up to the capacity of the pipe. Developer shall be responsible for the cost of the potable water system and pipes to serve its development and District shall have the option and right to pay any required additional expense for upsizing certain main distribution pipe as necessary to provide potable water to other properties and developments. If District elects to so oversize the pipe, District will so notify Developer within ____ days of the date of this Agreement. After that date, Developer may refuse to oversize the pipe.

4.7 Cost of Expansion. If Developer elects to have the District provide potable water to the Property, Developer shall pay in advance amounts required to expand District's water supply system to accommodate Developer's project, this to include, but not be limited to, all engineering, permitting and construction costs. District will furnish an engineer's estimate of such costs and Developer will either deposit with District or furnish an irrevocable standby letter of credit in form reasonably satisfactory to the District or other financial guarantee satisfactory to the District in an amount of 110% of such estimate that District can draw upon to cover the costs. District will reimburse such costs through credits against required water CIAC, each residential credit to be calculated by dividing the number of residential units into the cost of such expansion. Credits will be limited to 50% of each residential water CIAC until advanced costs are paid in full. District will utilize all such funds solely for expanding District's water supply system as may be necessary to provide additional capacity for providing the potable water. District shall maintain detailed books and records relating to expansion of the water supply system and will from time to time make those records available to Developer for review and copying. District will perform the water supply system expansion in an efficient and economical manner, consistent with prudent practices. If the cost of performing the water supply system expansion is less than the financial guarantee provided by Developer pursuant to this Agreement, then on completion of the expansion, District will immediately refund to Developer the surplus funds. Developer shall pay all costs of expanding the system pursuant to this provision. Accordingly, if the total cost thereof exceeds the amount of the deposit, letter of credit, or other financial guarantee provided by Developer pursuant to this provision, then Developer shall pay the deficit to District within forty-five (45) days of receiving District's demand therefor accompanied by an accounting verifying the actual costs of the work.

4.8 Fire Hydrants. In the event District provides potable water to the Property, no

water may be used or disbursed by Developer, its employees or agents through fire hydrants or water mains, or by any person, firm, corporation or agency, public or private, until there has first been made adequate provisions for compensating the District for such water.

4.9 Wells. Developer, its successors and assigns, and the owners and occupants of buildings on the Property shall not install or maintain any water wells for any purpose. Under no circumstances at any time will wells be used on the Property for potable water. This provision shall remain in effect even if the City, rather than the District, provides potable water service to the Property. Notwithstanding the foregoing, wells may be used to irrigate portions of the Property intended for public use such as common areas, parkways, right-of-ways, golf courses, parks, and the like.

4.10 Developer=s Cost Controls. This provision will apply to both the sewage plant expansion contemplated by Section 4.5 above (ASewage Work@) and to the water supply system expansion contemplated by Section 4.7 above (AWater Work@). District acknowledges Developer has a substantial interest in limiting as much as possible the costs of the Sewage Work and the Water Work. In acknowledgement of that interest, Developer and District agree as follows:

a. Developer shall have the right, but not the obligation, to participate with and to assist District in preparing the plans, specifications, and other details (collectively, ADetails@) for the Sewage Work and the Water Work.

b. Developer, shall have the right, but not the obligation, to participate with and assist District in negotiating and securing estimates, proposals, and contracts (collectively, AContracts@) for the provision of materials and services for the Sewage Work and the Water Work. Notwithstanding any other provision of this Agreement, if Developer in its reasonable discretion determines that the amount of any such Contract is unreasonable or excessive, Developer shall have the right to secure proposals from other qualified providers. All such proposals secured by Developer shall be pursuant to competitive bids complying with Chapter 190, Florida Statutes. Further, Developer shall secure such proposals only from providers that District has prequalified for bidding on the Sewage Work or Water Work, as the case may be. For purposes of this Agreement, a provider shall be deemed qualified if it has been prequalified by District for bidding, possesses any license or certification required for the supplies or services it provides, has as least six (6) years experience in providing those supplies or services, and is solvent.

c. District will provide to Developer the estimates prepared by District=s engineer of the costs of the Sewage Work and the Water Work. Notwithstanding any other provision of this Agreement, Developer will have the right in Developer=s discretion to terminate this Agreement if Developer determines the costs so estimated are excessive. If Developer does elect to so terminate this Agreement, then Developer will reimburse to District the engineering costs and permitting costs then incurred by District in performing this Agreement, and the parties will be relieved of all obligations hereunder.

d. Notwithstanding any other provision of this Agreement, if at any stage during the course of constructing the Sewage Work or the Water Work, the costs exceed by more than then percent (10%) of the bid amount for that stage of the Work, excluding, however, any such excess costs caused by change orders or changes in plans required or requested by Developer, Developer will have the right to terminate this Agreement by delivering notice of termination to District. If Developer does elect to so terminate this Agreement, then Developer will reimburse to District the engineering and construction costs then actually incurred by District, and the parties will be relieved of all obligations hereunder.

e. Developer shall have the right to require that any provider engaged to perform Sewage Work or Water Work provide payment and performance bonds to secure the performance of the provider's obligations. The cost of such bonds shall be paid either by Developer or by the provider.

f. Developer will have the right to participate in the selection of the providers for the Sewage Work and Water Work. Notwithstanding the foregoing, the District legally must have the right to make final determination of the providers that will be permitted to submit bids.

g. Developer will have the right to require the contract by which a provider for the Sewage Work or Water Work is engaged be a fixed sum contract so that the provider bears the risk of cost increases, other than cost increases resulting from change orders.

5. Ownership of System.

5.1 Ownership. Developer agrees with District that Developer will transfer and convey to District all wastewater facilities and, if applicable, the potable water distribution system accepted by the District in connection with providing Utility Services and potable water to the Property, and such facilities and system shall at all times remain in the sole, complete and exclusive ownership of District, its successors and assigns, and any person or entity owning any part of the Property or any residence, building or unit constructed or located thereon, shall not have any right, title, claim or interest in and to such facilities or any part of them, for any purpose, including the furnishing of wastewater services or potable water to other persons or entities located within or beyond the limits of the Property.

5.2 Conveyance.

a. Upon completion and approval of the water and sewer systems contemplated hereunder for District ownership, the Developer shall, at no cost to the District, convey to the District, its successors or assigns, all of the right, title and interest of the Developer in and to all of the water and sewer facilities constructed pursuant to this Agreement free and clear of all liens and encumbrances.

b. Developer shall deliver to the District a No Lien Affidavit and Waiver and Release of Lien from all contractors, subcontractors and suppliers of materials or labor in connection with the systems.

c. Developer shall deliver to the District a Warranty on a form provided by and approved by the District warranting all systems to the satisfaction of the District in accordance with the warranties expressly prescribed in this Agreement.

d. Developer shall remain owner of the real property on which such systems are located, but Developer shall grant to the District, its successors and assigns, a perpetual easement and/or right of way on, over, under and across those portions of the Property necessary for the construction, installation, repair, relocation, and/or maintenance of the systems contemplated hereby. Such Grant of Easements shall be in a form provided by and approved by the District and shall be accompanied by either an Opinion of Title in a form acceptable to the District prepared by a member of the Florida Bar in good standing or by a licensed Florida title company indicating that title to the easement property is vested in the Developer and indicating all appropriate subordinating releases and/or satisfaction from subordinate lienors and/or mortgagees having an interest in the easement property have been given.

e. Developer shall convey to the District, its successors and assigns title to the lands where lift and/or pumping stations are located. Such conveyance shall be by Statutory Warranty Deed and shall be accompanied by either an Opinion of Title in a form acceptable to the District prepared by a member of the Florida Bar in good standing or by a licensed Florida title company indicating that title to the property is vested in the Developer and indicating all appropriate subordinating releases and/or satisfaction from subordinate lienors and/or mortgagees having an interest in the easement property have been given.

6. Warranties and Bonds.

6.1 Developer shall warrant that all systems provided hereunder to be owned by the District shall be free from defects in materials and workmanship. The Developer also warrants that it shall be solely responsible for the repair of any damages to said facilities caused by persons in Developer's employment. Said warranties shall remain in full force and effect for a period of one year from the date of final acceptance of the facilities by the District, at the end of which time the warranties shall expire and be of no further force or effect. In the event it becomes necessary to repair and/or replace any of the facilities during the initial one year period, then the warranty as to those items repaired and/or replaced shall continue to remain in effect for an additional period of one year from the date of final acceptance by the District of those repairs and/or replacements.

6.2 Simultaneous with the conveyance of the facilities contemplated hereby, the Developer shall deliver to the District an executed surety bond in a form satisfactory to the District or irrevocable letter of credit acceptable to the District in an amount equal to 25% of the actual cost of construction of the facilities, guaranteeing all work pursuant to this Agreement against any and

all defects in material, equipment or construction for a period of one year following the date of final acceptance of the facilities by the District.

Upon demand by the District, the Developer shall correct or cause to be corrected all such defects, which are discovered within the warranty period as set forth above, failing which the District may make such repairs and/or replacements of defective work and/or materials and the Developer and/or its surety shall be liable to the District for all costs arising therefrom (the surety being liable to the extent of the surety bond or letter of credit provided by Developer).

7. Exclusive Provider.

7.1 Developer, as a further and essential consideration of this Agreement, agrees that Developer, or the successors and assigns of Developer, shall not (the words "shall not" being used in a mandatory definition) engage in the business or businesses of providing Utility Services and/or potable water to the Property during the period of time District, its successors or assigns, provide Utility Services and potable water to the Property, it being the intention of the parties hereto that under the foregoing provision and also other provisions of this Agreement, District shall have the sole and exclusive right and privilege to provide Utility Services and potable water (if applicable) to the Property and to the occupants of such residence, building or unit constructed thereon. Notwithstanding the foregoing, if at any time the District defaults in its obligation to provide sufficient Utility Services or potable water to the Property, Developer and the successors and assigns of Developer in addition to such other remedies and actions as may be available, shall have the right, after providing notice to District at least sixty (60) days in advance, temporarily to secure the Utility Services and potable water from other sources; provided, however, that Developer shall again obtain such Utility Services or potable water from District after District provides Utility Services and potable water to the Property.

8. Notices.

8.1 Until further written notice by either party to the other, all notices provided for herein shall be in writing and transmitted by messenger, by mail or by telegram to the addresses set forth above

9. Force Majeure.

9.1 In the event that the performance of this Agreement by either party to this Agreement is prevented or interrupted in consequence of any cause beyond the control of either party, including but not limited to Act of God or of the public enemy, war, national emergency, allocation or of other governmental restrictions upon the use or availability of labor or materials, rationing, civil insurrection, riot, racial or civil rights disorder or demonstration, strike, embargo, flood, tidal wave, fire, explosion, bomb detonation, nuclear fallout, windstorm, hurricane, earthquake, sinkhole or other casualty or disaster or catastrophe, unforeseeable failure or breakdown of pumping transmission or other facilities, necessary maintenance work, unforeseeable governmental rules or acts or orders or restrictions or regulations or requirements, unforeseeable

acts or action of any government or public or governmental authority or commission or board or agency or agent or official or officer, the enactment of any statute or ordinance or resolution or regulation or rule or ruling or order, order or decree or judgment or restraining order or injunction of any court, said party shall be excused from such performance for such period as may be reasonably required to overcome the cause of the delay.

10. Indemnification.

10.1 Developer agrees to indemnify and hold District and Packing House By-Products, Inc., its successors and/or assigns, (Packing House) harmless forever from all damages, liability, cost and expense, including reasonable attorney's fees, related to negligence of the Developer, its officers, agents and employees and from any foreseeable damage to the facilities constructed by the Developer and conveyed to the District caused by negligence of the Developer, its officers, agents and employees. Indemnification shall include costs for physical repair of the District's system.

10.2 Developer agrees to hold District and Packing House harmless forever from and all liability and damages for District's non-performance under this Agreement as a result of any ruling or order by any other governmental or regulatory agency having jurisdiction over the subject matter in the Agreement or from any discontinuance of water and sewer services as a result of the District's inability to provide such services for reasons beyond the control of District.

11. Applicable Law.

11.1 This Agreement shall be governed by the laws of the State of Florida and it shall be and become effective immediately upon execution by both parties hereto, subject to any approvals which must be obtained from any governmental authority.

11.2 The sole venue for any action arising out of this agreement shall be the circuit or county court in and for Lake County, Florida.

12. Assignment.

12.1 Developer may not assign its rights, duties or obligations under this agreement without the express written consent of District which consent shall not be unreasonably withheld. Notwithstanding the foregoing, Developer shall have the right to assign this Agreement without first obtaining District's consent to the new owner of the Property if Developer at any time conveys all or substantially all of the Property, in bulk, to another person or entity.

13. Default. The occurrence of any of the following during this Agreement shall constitute a default:

13.1 Developer's failure to pay within fifteen (15) days after receipt of notice or demand from District any sums, fees, charges, costs or expenses which are payable under this Agreement.

13.2 Developer's failure in the performance or observance of any of the terms and conditions of this Agreement within thirty (30) days after receipt of District's demand or notice; provided, however, if Developer's failure cannot reasonably be remedied within thirty (30) days, then Developer shall be permitted reasonable additional time to remedy the default for as long as Developer exercises reasonable diligence.

13.3 There shall be filed by or against the Developer in any court or other tribunal pursuant to any governmental requirement, a petition in bankruptcy or insolvency proceedings or for reorganization or for the appointment of a receiver or trustee of all or substantially all of Developer's Property.

In the event of Developer's default under this Agreement, the District's obligations under this Agreement shall, at the option of District, terminate.

14. Binding Effect.

14.1 This Agreement shall bind the parties, together with their respective successors, grantees, heirs and assigns.

15. Miscellaneous Provisions.

15.1 This Agreement constitutes the entire agreement between the parties for all matters contained herein and shall supersede all previous agreements or representations either oral or in writing with respect to all matters contained herein.

15.2 This Agreement or a memorandum thereof shall be recorded in the Public Records of Lake County, Florida, to put all parties on record as to the obligations of the Developer and its successors and assigns as contained herein.

15.3 In the event of any dispute and/or litigation arising from this Agreement, the prevailing party shall be awarded reasonable attorney's fees and costs through and including any appeal.

15.4 Except to the extent this Agreement expressly provides otherwise, District shall exercise its rights to approve, consent, or exercise other discretion reasonably. Without limiting the foregoing, District shall not unreasonably withhold, condition, or delay any consent, approval, or other exercise of discretion under this Agreement, except as this Agreement expressly provides otherwise.

15.5 District warrants and represents that this Agreement does not violate any law, regulation, statute, ordinance, or other governmental requirements (collectively, "Laws") in effect as of the date of this Agreement and applicable to District. District shall employ its best efforts to

obtain all governmental approvals and consents that may be required in order for District to perform its obligations and covenants under this Agreement.

15.6 Notwithstanding any other provision of this Agreement, Developer shall have the right in Developer's sole discretion to elect not to obtain potable water from District, but from the City. If Developer elects not to obtain potable water from the District, then the provisions of this Agreement relating to potable water, including without implied limitation references to the Water Work, will be deemed removed from this Agreement, and the remainder of this Agreement will remain in effect.

[*Signatures on following page*]

IN WITNESS WHEREOF, Developer and District have executed or caused this Agreement, with the named Exhibits attached, to be duly executed in several counterparts, each of which counterpart shall be considered an original executed copy of this Agreement.

DEVELOPER:
EAGLES LANDING, LLC

By: _____
Print Name: R. W. Holston
As its: Managing Partner

DISTRICT:
CENTRAL LAKE COMMUNITY DEVELOPMENT DISTRICT

By: _____
Print name: Bud Bevcher
As its: Chairman

EXHIBIT ~~AA~~EXHIBIT ~~AA~~A

legal description of Property

EXHIBIT "B"

description of Project

A mixed-use development containing townhomes, single-family detached homes, self-storage facilities, town center with retail and office uses, and a church site, all in the following approximate quantities:

Townhomes	269 units;
Single-Family	481 lots;
self storage facilities	80,000 square feet;
retail and commercial	220,000 square feet; and
church site	12,000 square feet.

AGREEMENT AND COMMITMENT FOR UTILITY SERVICE

PROJECT NAME: **7L HOWEY-IN-THE-HILLS (North and South)**

PROJECT DESCRIPTION: See Exhibit "B" attached hereto and incorporated herein by reference.

PROJECT OWNER: **7L HOWEY-IN-THE-HILLS, LLC**

THIS AGREEMENT is entered into this 1 day of August, 2005, between **7L HOWEY-IN-THE-HILLS** whose address is **400 N. Tampa Street, Suite 2200, Tampa, Florida 33602** ("Developer"), and **CENTRAL LAKE COMMUNITY DEVELOPMENT DISTRICT**, whose address is 10400 CR 48 Howey-in-the-Hills, Fl 34737 (the "District").

RECITALS

1. Developer owns or controls lands located in Lake County, Florida, as more particularly described in Exhibit A attached hereto and made a part hereof by reference (the "Property"), and the Developer has developed or intends to develop the Property by constructing or having constructed, the Project described above, the project to include approximately **378** residential structures and approximately **85,000** square feet of commercial structures.

2. Developer desires that the District provide central wastewater collection and treatment services (the "Utility Services") for the Property and that District provide potable water in the event a potable water supply is not available from or provided by the City of Howey-in-the-Hills ("City").

3. The District is a duly created community development district with the authority and capacity to provide the Utility Services to the Property.

4. The District is willing to commit to provide Utility Services and potable water to the Property in accordance with the conditions and provisions of this Agreement.

5. The Developer, at its sole cost and expense, is willing to design, construct and install the necessary water mains, valves, services, sewage pumping station(s), force main (if applicable), gravity sewer mains, manholes, laterals, connection to District's water and sewer system and other appurtenances at its expense to furnish water supply (if applicable) and sewage disposal service to the Property.

6. Both the Developer and the District recognize that the supply of water and the collection and disposal of sewage by the District for the Property are subject to regulation, prohibition, limitation and restriction by local, State and Federal governmental agencies.

7. The Developer recognizes and agrees that the District's obligations for the provision of water and for the collection and disposal of sewage for the Property are at all times subject to such governmental regulation, prohibition, limitation and restriction and that these factors are beyond the control and responsibility of the District.

8. At this time the parties wish to set forth their agreement as stated below.

NOW, THEREFORE, for and in consideration of the premises, the mutual undertakings and agreements herein contained and assumed, Developer and District hereby covenant and agree as follows:

1. Recitals. The Recitals set forth above are true and correct.

2. District Obligations.

2.1 District covenants and agrees that it will allow Developer to connect the wastewater collection facilities installed by Developer in connection with development of the Property to the central facilities of District and, if applicable, that the District will provide potable water to the Property in accordance with the terms and intent of this Agreement upon:

a. the completion of construction of the on-site and off-site central wastewater facilities and potable water distribution system (if applicable) by Developer in accordance with plans and specifications approved by District all at Developer's sole expense except as provided herein,

b. the inspection and approval of such central wastewater facilities and potable water distribution system during construction by District and the furnishing of a complete set of "as built" plans in a form acceptable to District for all facilities constructed by Developer,

c. the issuance of the final letter of acceptance by District (which District will promptly issue solely on Developer's satisfaction of the other requirements prescribed in this Section 2.1), subject to an acceptable warranty and guarantee by either Developer and/or the Developer's contractor running in favor of District, which shall be for a period of not less than one year as described later in this Agreement,

d. the compliance by the Developer with all of the other terms of this Agreement, including the payment of such fees and charges as set forth herein,

e. authorization by all necessary governmental entities for the District to provide such services outside its boundaries.

2.2 Such connections to District's central wastewater and potable water facilities shall at all times be in accordance with rules, regulations and orders of the applicable governmental authorities and of the published rules and specifications of the District. The District agrees that once it provides Utility Service and, if applicable, potable water to the Property, that thereafter, the District will continuously provide Utility Services and potable water, in accordance with the rules and regulations and rate schedules of the District, as they exist from time to time, such rules to include, but not be limited to, a prohibition on acceptance of any type of hazardous materials or industrial waste and regulations as to usage and quantity of potable water. The current charge per residence for sewer services is $35.00 per month and the current charges for potable water are set forth in established rules of the District. Utility deposits may be required from the owners of completed residences on the Property.

3. CIAC.

3.1 In addition to the charges as set forth above, the Developer agrees to pay to the District Contributions-In-Aid-of-Construction (CIAC) as set forth in District rules and policy at the rates set forth below:

Sewer connection per residence	$2,000.00
Water connection per residence	$1,000.00
Commercial connections	TBD

4. Developer Obligations.

4.1 Design. The Developer at its sole cost and expense shall be responsible for designing and preparing the plans and specifications for the Utility Services and potable water supply for the Property and for the connection of such services to Districts' system and for obtaining all necessary and required permits from all regulatory agencies.

4.2 Construction and Installation. Developer shall install its main sewer distribution line connection from the Property to District's central treatment plant utilizing a pipe sized to provide services to the Property and, subject to District's obligation below to pay to oversize the pipe, to other properties in the general area to District's specifications, this to include all required connections to District's current system. Said pipe shall not be exclusively used to provide Utility Services to the Property as District may utilize said pipe to provide Utility Services to other properties up to the capacity of the pipe. Developer shall be responsible for the cost of the sewer pipe to serve its development and District shall have the option and right to pay any required additional expense for upsizing the pipe and any pump station(s) as necessary to provide Utility Services to other properties and developments. If District elects to so oversize the pipe,

District will so notify Developer within **120** days of the date of this Agreement. After that date, Developer may refuse to oversize the pipe.

4.3 Inspections. The Developer, at its sole cost and expense, shall retain the services of a Florida registered professional engineer for the purposes of inspecting and supervising the construction and installation of the Utility Services and potable water system (if applicable) to insure compliance with accepted civil engineering practices and the approved plans and specifications. Prior to Developer's conveying the systems as constructed to the District, the engineer shall certify in writing that the construction and installation of all systems comply with accepted civil engineering practices and are in substantial conformance with the approved plans and specifications. The District shall have the right but not the obligation to make inspections of all of the construction work performed by or for the Developer under the terms of this Agreement, including both onsite and offsite facilities, and regardless of whether or not the facilities will be subsequently owned by the District. Inspections by the District shall not be construed to constitute any guarantee by the District as to materials or workmanship, nor shall they relieve the Developer of the responsibility of the proper construction of said facilities in accordance with the requirements of this Agreement nor shall the inspections, if undertaken, abrogate any warranties made by the Developer as to the quality and condition of the materials and workmanship. District shall not disrupt or delay the performance of work on the Property nor cause any damage to the Property or improvements thereon. All inspections conducted by District shall be at District's sole risk and expense. District will indemnify, defend, and hold harmless Developer with respect to any fines, penalties, expenses (including legal fees and court costs incurred at all levels of review), losses, damages, claims, judgments, obligations, and liabilities arising from or relating to Districts' inspections.

4.4 Accuracy of Information. The Developer shall furnish to the District accurate information with regard to all matters under this Agreement. The Developer shall be responsible for errors or changes in the information furnished by Developer to the District under this Agreement.

4.5 Expansion of District Plant. Developer shall pay in advance amounts required to expand District's sewage plant to accommodate Developer's project, this to include, but not be limited to, all engineering, permitting and construction costs. District will furnish an engineer's estimate of such costs and Developer will either deposit with District or furnish an irrevocable standby letter of credit in form reasonably satisfactory to the District or other financial guarantee satisfactory to the District in an amount of 110% of such estimate that District can draw upon to cover the costs. District will reimburse such costs to Developer through credits granted by District against required sewer CIAC, each residential credit to be calculated by dividing the number of residential units approved for the Property into the cost of such expansion. Credits will be limited to 50% of each residential sewer CIAC until advanced costs are paid in full. District will utilize all such funds solely for expanding District's sewage plant as may be necessary to provide additional capacity for providing the Utility Service. District shall maintain

detailed books and records relating to expansion of the sewage plant and will from time to time make those records available to Developer for review and copying. District will perform the sewage plant expansion in an efficient and economical manner, consistent with prudent practices. If the cost of performing the sewage plant expansion is less than the financial guarantee provided by Developer pursuant to this Agreement, then on completion of the expansion, District will immediately refund to Developer the surplus funds. Developer shall pay all costs of expanding the system pursuant to this provision. Accordingly, if the total cost thereof exceeds the amount of the deposit, letter of credit, or other financial guarantee provided by Developer pursuant to this provision, then Developer shall pay the deficit to District within forty-five (45) days of receiving District's demand therefor accompanied by an accounting verifying the actual costs of the work.

4.6 Potable Water Connection. As to potable water, if provided by the District, Developer shall install a potable water distribution main line from the Property to connect to District's potable water system utilizing a pipe sized to provide potable water to the Property and, subject to District's obligation below to pay to oversize the pipe, to other properties in the general area to District's specifications, this to include all required connections to District's current system. Said pipe shall not be exclusively used to provide potable water to the Property as District may utilize said pipe to provide potable water to other properties up to the capacity of the pipe. Developer shall be responsible for the cost of the potable water system and pipes to serve its development and District shall have the option and right to pay any required additional expense for upsizing certain main distribution pipe as necessary to provide potable water to other properties and developments. If District elects to so oversize the pipe, District will so notify Developer within 120 days of the date of this Agreement. After that date, Developer may refuse to oversize the pipe.

4.7 Cost of Expansion. If Developer elects to have the District provide potable water to the Property, Developer shall pay in advance amounts required to expand District's water supply system to accommodate Developer's project, this to include, but not be limited to, all engineering, permitting and construction costs. District will furnish an engineer's estimate of such costs and Developer will either deposit with District or furnish an irrevocable standby letter of credit in form reasonably satisfactory to the District or other financial guarantee satisfactory to the District in an amount of 110% of such estimate that District can draw upon to cover the costs. District will reimburse such costs through credits against required water CIAC, each residential credit to be calculated by dividing the number of residential units into the cost of such expansion. Credits will be limited to 50% of each residential water CIAC until advanced costs are paid in full. District will utilize all such funds solely for expanding District's water supply system as may be necessary to provide additional capacity for providing the potable water. District shall maintain detailed books and records relating to expansion of the water supply system and will from time to time make those records available to Developer for review and copying. District will perform the water supply system expansion in an efficient and economical manner, consistent with prudent practices. If the cost of performing the water supply system expansion is

less than the financial guarantee provided by Developer pursuant to this Agreement, then on completion of the expansion, District will immediately refund to Developer the surplus funds. Developer shall pay all costs of expanding the system pursuant to this provision. Accordingly, if the total cost thereof exceeds the amount of the deposit, letter of credit, or other financial guarantee provided by Developer pursuant to this provision, then Developer shall pay the deficit to District within forty-five (45) days of receiving District's demand therefor accompanied by an accounting verifying the actual costs of the work.

4.8 Fire Hydrants. In the event District provides potable water to the Property, no water may be used or disbursed by Developer, its employees or agents through fire hydrants or water mains, or by any person, firm, corporation or agency, public or private, until there has first been made adequate provisions for compensating the District for such water.

4.9 Wells. Developer, its successors and assigns, and the owners and occupants of buildings on the Property shall not install or maintain any water wells for any purpose. Under no circumstances at any time will wells be used on the Property for potable water. This provision shall remain in effect even if the City, rather than the District, provides potable water services to the Property. Notwithstanding the foregoing, wells may be used to irrigate portions of the Property intended for public use such as common areas, parkways, right-of-ways, golf courses, parks, and the like.

4.10 Developer's Cost Controls. This provision will apply to both the sewage plant expansion contemplated by Section 4.5 above ("Sewage Work") and to the water supply system expansion contemplated by Section 4.7 above ("Water Work"). District acknowledges Developer has a substantial interest in limiting as much as possible the costs of the Sewage Work and the Water Work. In acknowledgment of that interest, Developer and District agree as follows:

a. Developer shall have the right, but not the obligation, to participate with and to assist District in preparing the plans, specifications, and other details (collectively, "Details") for the Sewage Work and the Water Work.

b. Developer shall have the right, but not the obligation, to participate with and assist District in negotiation and securing estimates, proposals, and contracts (collectively, "Contracts") for the provision of materials and services for the Sewage Work and Water Work. Notwithstanding any other provision of this Agreement, if Developer in its reasonable discretion determines that the amount of any such Contract is unreasonable or excessive, Developer shall have the right to secure proposals from other qualified providers. All such proposals secured by Developer shall be pursuant to competitive bids complying with Chapter 190, Florida Statutes. Further, Developer shall secure such proposals only from providers that District has prequalified for bidding on the Sewage Work or Water Work, as the case may be. District will accept the lowest contract proposed by a qualified provider. For purposes of this Agreement, a provider

shall be deemed qualified if it has been prequalified by District for bidding, possesses any license or certification required for the supplies or services it provides, has at least six (6) years experience in providing those supplies or services, and is solvent.

c. District will provide Developer the estimates prepared by District's engineer of the costs of the Sewage Work and the Water Work. Notwithstanding any other provision of this Agreement, Developer will have the right in Developer's discretion to terminate this Agreement if Developer determines the costs so estimated are excessive. If Developer does elect to so terminate this Agreement, then Developer will reimburse to District the engineering costs then incurred by District in performing this Agreement, and the parties will be relieved of all obligations hereunder.

d. Notwithstanding any other provision of this Agreement, if at any stage during the course of constructing the Sewage Work or the Water Work, the costs exceed by more than ten percent (10%) of the bid amount for that stage of the Work, excluding, however, any such excess costs caused by change orders or changes in plans required or requested by Developer, Developer will have the right to terminate this Agreement by delivering notice of termination to District. If Developer does elect to so terminate this Agreement, then Developer will reimburse to District the engineering and construction costs then actually incurred by District, and the parties will be relieved of all obligations hereunder.

e. Developer shall have the right to require that any provider engaged to perform Sewage Work or Water Work provide payment and performance bonds to secure the performance of the provider's obligations. The cost of such bonds shall be paid either by Developer or by the provider.

f. Developer will have the right to participate in the selection of the providers for the Sewage Work and Water Work. Notwithstanding the foregoing, the District legally must have the right to make final determination of the providers that will be permitted to submit bids.

g. Developer will have the right to require the contract by which a provider for the Sewage Work or Water Work is engaged to be a fixed sum contract so that the provider bears the risk of cost increases, other than cost increases resulting from change orders.

5. Ownership of System.

5.1 Ownership. Developer agrees with District that Developer will transfer and convey to District all wastewater facilities and, if applicable, the potable water distribution system accepted by the District in connection with providing Utility Services and potable water to the Property, and such facilities and system shall at all times remain in the sole, complete and exclusive ownership of District, its successors and assigns, and any person or entity owning any part of the Property or any residence, building or unit constructed or located thereon, shall not

have any right, title, claim or interest in and to such facilities or any part of them, for any purpose, including the furnishing of wastewater services or potable water to other persons or entities located within or beyond the limits of the Property.

5.2 Conveyance.

a. Upon completion and approval of the water and sewer systems contemplated hereunder for District ownership, the Developer shall, at no cost to the District, convey to the District, its successors or assigns, all of the right, title and interest of the Developer in and to all of the water and sewer facilities constructed pursuant to this Agreement free and clear of all liens and encumbrances.

b. Developer shall deliver to the District a No Lien Affidavit and Waiver and Release of Lien from all contractors, subcontractors and suppliers of materials or labor in connection with the systems.

c. Developer shall deliver to the District a Warranty on a form provided by and approved by the District warranting all systems to the satisfaction of the District in accordance with the warranties expressly prescribed in this Agreement.

d. Developer shall remain owner of the real property on which such systems are located, but Developer shall grant to the District, its successors and assigns, a perpetual easement and/or right of way on, over, under and across those portions of the Property necessary for the construction, installation, repair, relocation, and/or maintenance of the systems contemplated hereby. Such Grant of Easements shall be in a form provided by and approved by the District and shall be accompanied by either an Opinion of Title in a form acceptable to the District prepared by a member of the Florida Bar in good standing or by a licensed Florida title company indicating that title to the easement property is vested in the Developer and indicating all appropriate subordinating releases and/or satisfaction from subordinate lienors and/or mortgagees having an interest in the easement property have been given.

e. Developer shall convey to the District, its successors and assigns title to the lands where lift and/or pumping stations are located. Such conveyance shall be by Statutory Warranty Deed and shall be accompanied by either an Opinion of Title in a form acceptable to the District prepared by a member of the Florida Bar in good standing or by a licensed Florida title company indicating that title to the property is vested in the Developer and indicating all appropriate subordinating releases and/or satisfaction from subordinate lienors and/or mortgagees having an interest in the easement property have been given.

6. Warranties and Bonds.

6.1 Developer shall warrant that all systems provided hereunder to be owned by the District shall be free from defects in materials and workmanship. The Developer also warrants that it shall be solely responsible for the repair of any damages to said facilities caused by persons in Developer's employment. Said warranties shall remain in full force and effect for a period of one year from the date of final acceptance of the facilities by the District, at the end of which time the warranties shall expire and be of no further force or effect. In the event it becomes necessary to repair and/or replace any of the facilities during the initial one year period, then the warranty as to those items repaired and/or replaced shall continue to remain in effect for an additional period of one year from the date of final acceptance by the District of those repairs and/or replacements.

6.2 Simultaneous with the conveyance of the facilities contemplated hereby, the Developer shall deliver to the District an executed surety bond in a form satisfactory to the District or irrevocable letter of credit acceptable to the District in an amount equal to 25% of the actual cost of construction of the facilities, guaranteeing all work pursuant to this Agreement against any and all defects in material, equipment or construction for a period of one year following the date of final acceptance of the facilities by the District.

Upon demand by the District, the Developer shall correct or cause to be corrected all such defects, which are discovered within the warranty period as set forth above, failing which the District may make such repairs and/or replacements of defective work and/or materials and the Developer and/or its surety shall be liable to the District for all costs arising therefrom (the surety being liable to the extent of the surety bond or letter of credit provided by Developer).

7. Exclusive Provider.

7.1 Developer, as a further and essential consideration of this Agreement, agrees that Developer, or the successors and assigns of Developer, shall not (the words "shall not" being used in a mandatory definition) engage in the business or businesses of providing Utility Services and/or potable water to the Property during the period of time District, its successors or assigns, provide Utility Services and potable water to the Property, it being the intention of the parties hereto that under the foregoing provision and also other provisions of this Agreement, District shall have the sole and exclusive right and privilege to provide Utility Services and potable water (if applicable) to the Property and to the occupants of such residence, building or unit constructed thereon. Notwithstanding the foregoing, if at any time the District defaults in its obligation to provide sufficient Utility Services or potable water to the Property, Developer and the successors and assigns of Developer in addition to such other remedies and actions as may be available, shall have the right, after providing notice to District at least sixty (60) days in advance, temporarily to secure the Utility Services and potable water from other sources; provided, however, that Developer shall again obtain such Utility Services or potable water from District after District provides Utility Services and potable water to the Property.

8. Notices.

8.1 Until further written notice by either party to the other, all notices provided for herein shall be in writing and transmitted by messenger, by mail or by telegram to the addresses set forth above

9. Force Majeure.

9.1 In the event that the performance of this Agreement by either party to this Agreement is prevented or interrupted in consequence of any cause beyond the control of either party, including but not limited to Act of God or of the public enemy, war, national emergency, allocation or of other governmental restrictions upon the use or availability of labor or materials, rationing, civil insurrection, riot, racial or civil rights disorder or demonstration, strike, embargo, flood, tidal wave, fire, explosion, bomb detonation, nuclear fallout, windstorm, hurricane, earthquake, sinkhole or other casualty or disaster or catastrophe, unforeseeable failure or breakdown of pumping transmission or other facilities, necessary maintenance work, unforeseeable governmental rules or acts or orders or restrictions or regulations or requirements, unforeseeable acts or action of any government or public or governmental authority or commission or board or agency or agent or official or officer, the enactment of any statute or ordinance or resolution or regulation or rule or ruling or order, order or decree or judgment or restraining order or injunction of any court, said party shall be excused from such performance for such period as may be reasonably required to overcome the cause of the delay.

10. Indemnification.

10.1 Developer agrees to indemnify and hold District and Packing House By-Products, Inc., its successors and/or assigns, ("Packing House") harmless forever from all damages, liability, cost and expense, including reasonable attorney's fees, related to negligence of the Developer, its officers, agents and employees and from any foreseeable damage to the facilities constructed by the Developer and conveyed to the District caused by negligence of the Developer, its officers, agents and employees. Indemnification shall include costs for physical repair of the District's system.

10.2 Developer agrees to hold District and Packing House harmless forever from and all liability and damages for District's non-performance under this Agreement as a result of any ruling or order by any other governmental or regulatory agency having jurisdiction over the subject matter in the Agreement or from any discontinuance of water and sewer services as a result of the District's inability to provide such services for reasons beyond the control of District.

11. Applicable Law.

11.1 This Agreement shall be governed by the laws of the State of Florida and it shall be and become effective immediately upon execution by both parties hereto, subject to any approvals which must be obtained from any governmental authority.

11.2 The sole venue for any action arising out of this agreement shall be the circuit or county court in and for Lake County, Florida.

12. Assignment.

12.1 Developer may not assign its rights, duties or obligations under this agreement without the express written consent of District which consent shall not be unreasonably withheld. Notwithstanding the foregoing, Developer shall have the right to assign this Agreement without first obtaining District's consent to the new owner of the Property if Developer at any time conveys all or substantially all of the Property, in bulk, to another person or entity.

13. Default. The occurrence of any of the following during this Agreement shall constitute a default:

13.1 Developer's failure to pay within fifteen (15) days after receipt of notice or demand from District any sums, fees, charges, costs or expenses which are payable under this Agreement.

13.2 Developer's failure in the performance or observance of any of the terms and conditions of this Agreement within thirty (30) days after receipt of Districts' demand or notice; provided, however, if Developer's failure cannot reasonably be remedied within thirty (30) days, then Developer shall be permitted reasonable additional time to remedy the default for as long as Developer exercises reasonable diligence.

13.3 There shall be filed by or against the Developer in any court or other tribunal pursuant to any governmental requirement, a petition in bankruptcy or insolvency proceedings or for reorganization or for the appointment of a receiver or trustee of all or substantially all of Developer's Property.

In the event of Developer's default under this Agreement, the District's obligations under this Agreement shall, at the option of District, terminate.

14. Binding Effect.

14.1 This Agreement shall bind the parties, together with their respective successors, grantees, heirs and assigns.

15. Miscellaneous Provisions.

15.1 This Agreement constitutes the entire agreement between the parties for all matters contained herein and shall supersede all previous agreements or representations either oral or in writing with respect to all matters contained herein.

15.2 This Agreement or a memorandum thereof shall be recorded in the Public Records of Lake County, Florida, to put all parties on record as to the obligations of the Developer and its successors and assigns as contained herein.

15.3 In the event of any dispute and/or litigation arising from this Agreement, the prevailing party shall be awarded reasonable attorney's fees and costs through and including any appeal.

15.4 Except to the extent this Agreement expressly provides otherwise, District shall exercise its rights to approve, consent, or exercise other discretion reasonably. Without limiting the foregoing, District shall not unreasonably withhold, condition, or delay any consent, approval, or other exercise of discretion under this Agreement, except as this Agreement expressly provides otherwise.

15.5 District warrants and represents that this Agreement does not violate any law, regulation, statute, ordinance, or other governmental requirements (collectively, "Law") in effect as of the date of this Agreement and applicable to District. District shall employ its best efforts to obtain all governmental approvals and consents that may be required in order for District to perform its obligations and covenants under this Agreement.

15.6 Notwithstanding any other provision of this Agreement, Developer shall have the right in Developer's sole discretion to elect not to obtain potable water from District, but from the City. If Developer elects not to obtain potable water from the District, then the provision s of this Agreement relating to potable water, including without implied limitation references to the Water Work, will be deemed removed from this Agreement, and the remainder of this Agreement will remain in effect.

[*Signatures on following page*]

IN WITNESS WHEREOF, Developer and District have executed or caused this Agreement, with the named Exhibits attached, to be duly executed in several counterparts, each of which counterpart shall be considered an original executed copy of this Agreement.

DEVELOPER:

7L HOWEY-IN-THE-HILLS, LLC

By: _____
Print Name: Frederick J Jennett

As its: Vice President

DISTRICT:
CENTRAL LAKE COMMUNITY DEVELOPMENT DISTRICT

By: _____
Print name: Bud Beucher

As its: Chairman

POINT ON A CURVE; THENCE ALONG SAID RIGHT OF WAY AND THE ARC OF SAID CURVE 189.94 FEET, CONCAVE SOUTHERLY, HAVING A RADIUS OF 3270.02 FEET, A CENTRAL ANGLE OF 3°19'41" AND A CHORD BEARING AND DISTANCE OF S71°20'23"W, 189.91 FEET; THENCE DEPART SAID RIGHT OF WAY LINE S60°21'55"W, A DISTANCE OF 531.96 FEET; THENCE S51°11'38"W, A DISTANCE OF 795.55 FEET; THENCE S55°02'40"W, A DISTANCE OF 309.80 FEET TO THE EASTERLY RIGHT OF WAY LINE OF STATE ROAD No. 19, SAID RIGHT OF WAY BEING COMPRISED IN PART BY PORTIONS OF MARE AVENUE AND PALM AVENUE; THENCE ALONG SAID RIGHT OF WAY N00°09'53"W, A DISTANCE OF 488.11 FEET TO A POINT OF CURVATURE; THENCE ALONG THE ARC OF SAID CURVE 2017.34 FEET, CONCAVE SOUTHEASTERLY, HAVING A RADIUS OF 2241.83 FEET, A CENTRAL ANGLE OF 51°33'30" AND A CHORD BEARING AND DISTANCE OF N25°36'52"E, 1949.96 FEET TO A POINT OF TANGENCY; THENCE N51°23'37"E, A DISTANCE OF 601.65 FEET TO THE POINT OF BEGINNING.

CONTAINING 160.059 ACRES MORE OR LESS

TOGETHER WITH

NORTH LEGAL DESCRIPTION

A PARCEL OF LAND BEING A PORTION OF "GROVE GARDENS" (PLAT BOOK 17, PAGE 2) AND "HOWIE-IN-THE-HILLS" (AN UNRECORDED PLAT) LYING IN SECTIONS 26 AND 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHWEST CORNER OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA; THENCE ALONG THE NORTH BOUNDARY OF SAID SECTION N 89°49'22"E, A DISTANCE OF 97.92 FEET TO THE POINT OF BEGINNING; THENCE DEPART SAID SECTION BOUNDARY N 00°00'07"E, A DISTANCE OF 29.70 FEET TO A POINT ON THE SOUTHERLY RIGHT OF WAY LINE OF GRANT STREET; THENCE ALONG SAID RIGHT OF WAY N 56°00'00"E, A DISTANCE OF 921.20 FEET; THENCE N 64°54'03"E, A DISTANCE OF 134.15 FEET; THENCE DEPART SAID RIGHT OF WAY LINE S 22°46'58"E, A DISTANCE OF 134.90 FEET; THENCE N67°23'46"E, A DISTANCE OF 249.96 FEET; THENCE S 06°03'40"E, A DISTANCE OF 12.16 FEET; THENCE N 89°52'29"E, A DISTANCE OF 222.15 FEET; THENCE S 17°01'37"E, A DISTANCE OF 79.32 FEET; THENCE N 72°54'16"E, A DISTANCE OF 315.08 FEET TO A POINT ON THE WEST RIGHT OF WAY LINE OF FLORIDA AVENUE; THENCE ALONG SAID RIGHT OF WAY S 17°04'04"E, A DISTANCE OF 1132.61' FEET; THENCE DEPART SAID RIGHT OF WAY S 72°57'38"W, A DISTANCE OF 149.84 FEET; THENCE S 17°10'01"E, A DISTANCE OF 74.94 FEET; THENCE N 72°58'13"E, A DISTANCE OF 149.82' TO A POINT ON THE WEST RIGHT OF WAY LINE OF FLORIDA AVENUE; THENCE ALONG SAID RIGHT OF WAY

S 17°02'44"E, A DISTANCE OF 300.03 FEET; THENCE DEPART SAID RIGHT OF WAY S 72°56'00"W, A DISTANCE OF 149.83 FEET; THENCE S 17°02'42"E, A DISTANCE OF 164.96 FEET; THENCE N 90°00'00"W, A DISTANCE OF 835.94 FEET TO A POINT ON THE WEST BOUNDARY OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35; THENCE ALONG SAID SECTION BOUNDARY N 00°19'41"W, A DISTANCE OF 404.92 FEET; THENCE DEPARTING SAID SECTION BOUNDARY S 89°51'12"W, A DISTANCE OF 659.75 FEET; THENCE N 45°09'29"W, A DISTANCE OF 468.37 FEET; THENCE N 00°06'38"W, A DISTANCE OF 331.44 FEET; THENCE S 89°50'24"W, A DISTANCE OF 232.87 FEET TO THE POINT OF BEGINNING.

CONTAINING 51.272 ACRES MORE OR LESS.

EXHIBIT "B"
description of Project

A mixed-use development containing townhomes, single-family detached homes, town center with retail and office uses, all in the following approximate quantities:

Townhomes	113	units;
Single-Family	265	lots;
Retail and commercial	85,000	square feet

AGREEMENT AND COMMITMENT FOR UTILITY SERVICE

PROJECT NAME: **MISSION RISE**

PROJECT OWNER: **RICHARD H. LANGLEY**

THIS AGREEMENT is entered into this 1 day of Aug, 2005, between **RICHARD H. LANGLEY** whose address is P.O.Box120188 Clermont, Fl 34712 ("Developer"), and **CENTRAL LAKE COMMUNITY DEVELOPMENT DISTRICT**, whose address is 10400 CR 48 Howey-in-the-Hills, Fl 34737 (the "District").

RECITALS

1. Developer owns or controls lands located in Lake County, Florida, as more particularly described in Exhibit A attached hereto and made a part hereof by reference (the "Property"), and the Developer has developed or intends to develop the Property by constructing or having constructed, the Project described above, the project to include approximately **400** residential structures and no commercial structures.

2. Developer desires that the District provide central wastewater collection and treatment services (the "Utility Services") for the Property and that District provide potable water in the event a potable water supply is not available from or provided by the City of Howey-in-the-Hills ("City").

3. The District is a duly created community development district with the authority and capacity to provide the Utility Services to the Property.

4. The District is willing to commit to provide Utility Services and potable water to the Property in accordance with the conditions and provisions of this Agreement.

5. The Developer, at its sole cost and expense, is willing to design, construct and install the necessary water mains, valves, services, sewage pumping station(s), force main (if applicable), gravity sewer mains, manholes, laterals, connection to District's water and sewer system and other appurtenances at its expense to furnish water supply (if applicable) and sewage disposal service to the Property.

6. Both the Developer and the District recognize that the supply of water and the collection and disposal of sewage by the District for the Property are subject to regulation, prohibition, limitation and restriction by local, State and Federal governmental agencies.

7. The Developer recognizes and agrees that the District's obligations for the provision of water and for the collection and disposal of sewage for the Property are at all times

subject to such governmental regulation, prohibition, limitation and restriction and that these factors are beyond the control and responsibility of the District.

8. At this time the parties wish to set forth their agreement as stated below.

NOW, THEREFORE, for and in consideration of the premises, the mutual undertakings and agreements herein contained and assumed, Developer and District hereby covenant and agree as follows:

1. Recitals. The Recitals set forth above are true and correct.

2. District Obligations.

2.1 District covenants and agrees that it will allow Developer to connect the wastewater collection facilities installed by Developer in connection with development of the Property to the central facilities of District and, if applicable, that the District will provide potable water to the Property in accordance with the terms and intent of this Agreement upon:

a. the completion of construction of the on-site and off-site central wastewater facilities and potable water distribution system (if applicable) by Developer in accordance with plans and specifications approved by District all at Developer's sole expense except as provided herein,

b. the inspection and approval of such central wastewater facilities and potable water distribution system during construction by District and the furnishing of a complete set of "as built" plans in a form acceptable to District for all facilities constructed by Developer,

c. the issuance of the final letter of acceptance by District (which District will promptly issue solely on Developer's satisfaction of the other requirements prescribed in this Section 2.1), subject to an acceptable warranty and guarantee by either Developer and/or the Developer's contractor running in favor of District, which shall be for a period of not less than one year as described later in this Agreement,

d. the compliance by the Developer with all of the other terms of this Agreement, including the payment of such fees and charges as set forth herein,

e. authorization by all necessary governmental entities for the District to provide such services outside its boundaries.

2.2 Such connections to District's central wastewater and potable water facilities shall at all times be in accordance with rules, regulations and orders of the applicable governmental authorities and of the published rules and specifications of the District. The District agrees that once it provides Utility Service and, if applicable, potable water to the

Property, that thereafter, the District will continuously provide Utility Services and potable water, in accordance with the rules and regulations and rate schedules of the District, as they exist from time to time, such rules to include, but not be limited to, a prohibition on acceptance of any type of hazardous materials or industrial waste and regulations as to usage and quantity of potable water. The current charge per residence for sewer services is $35.00 per month and the current charges for potable water are set forth in established rules of the District. Utility deposits may be required from the owners of completed residences on the Property.

3. CIAC.

3.1 In addition to the charges as set forth above, the Developer agrees to pay to the District Contributions-In-Aid-of-Construction (CIAC) as set forth in District rules and policy at the rates set forth below:

Sewer connection per residence	$2,000.00
Water connection per residence	$1,000.00
Commercial connections	TBD

4. Developer Obligations.

4.1 Design. The Developer at its sole cost and expense shall be responsible for designing and preparing the plans and specifications for the Utility Services and potable water supply for the Property and for the connection of such services to Districts' system and for obtaining all necessary and required permits from all regulatory agencies.

4.2 Construction and Installation. Developer shall install its main sewer distribution line connection from the Property to District's central treatment plant utilizing a pipe sized to provide services to the Property and, subject to District's obligation below to pay to oversize the pipe, to other properties in the general area to District's specifications, this to include all required connections to District's current system. Said pipe shall not be exclusively used to provide Utility Services to the Property as District may utilize said pipe to provide Utility Services to other properties up to the capacity of the pipe. Developer shall be responsible for the cost of the sewer pipe to serve its development and District shall have the option and right to pay any required additional expense for upsizing the pipe and any pump station(s) as necessary to provide Utility Services to other properties and developments. If District elects to so oversize the pipe, District will so notify Developer within **120** days of the date of this Agreement. After that date, Developer may refuse to oversize the pipe.

4.3 Inspections. The Developer, at its sole cost and expense, shall retain the services of a Florida registered professional engineer for the purposes of inspecting and supervising the construction and installation of the Utility Services and potable water system (if applicable) to insure compliance with accepted civil engineering practices and the approved plans and specifications. Prior to Developer's conveying the systems as constructed to the District, the

engineer shall certify in writing that the construction and installation of all systems comply with accepted civil engineering practices and are in substantial conformance with the approved plans and specifications. The District shall have the right but not the obligation to make inspections of all of the construction work performed by or for the Developer under the terms of this Agreement, including both onsite and offsite facilities, and regardless of whether or not the facilities will be subsequently owned by the District. Inspections by the District shall not be construed to constitute any guarantee by the District as to materials or workmanship, nor shall they relieve the Developer of the responsibility of the proper construction of said facilities in accordance with the requirements of this Agreement nor shall the inspections, if undertaken, abrogate any warranties made by the Developer as to the quality and condition of the materials and workmanship. District shall not disrupt or delay the performance of work on the Property nor cause any damage to the Property or improvements thereon. All inspections conducted by District shall be at District's sole risk and expense. District will indemnify, defend, and hold harmless Developer with respect to any fines, penalties, expenses (including legal fees and court costs incurred at all levels of review), losses, damages, claims, judgments, obligations, and liabilities arising from or relating to Districts' inspections.

4.4 Accuracy of Information. The Developer shall furnish to the District accurate information with regard to all matters under this Agreement. The Developer shall be responsible for errors or changes in the information furnished by Developer to the District under this Agreement.

4.5 Expansion of District Plant. Developer shall pay in advance amounts required to expand District's sewage plant to accommodate Developer's project, this to include, but not be limited to, all engineering, permitting and construction costs. District will furnish an engineer's estimate of such costs and Developer will either deposit with District or furnish an irrevocable standby letter of credit in form reasonably satisfactory to the District or other financial guarantee satisfactory to the District in an amount of 110% of such estimate that District can draw upon to cover the costs. District will reimburse such costs to Developer through credits granted by District against required sewer CIAC, each residential credit to be calculated by dividing the number of residential units approved for the Property into the cost of such expansion. Credits will be limited to 50% of each residential sewer CIAC until advanced costs are paid in full. District will utilize all such funds solely for expanding District's sewage plant as may be necessary to provide additional capacity for providing the Utility Service. District shall maintain detailed books and records relating to expansion of the sewage plant and will from time to time make those records available to Developer for review and copying. District will perform the sewage plant expansion in an efficient and economical manner, consistent with prudent practices. If the cost of performing the sewage plant expansion is less than the financial guarantee provided by Developer pursuant to this Agreement, then on completion of the expansion, District will immediately refund to Developer the surplus funds. Developer shall pay all costs of expanding the system pursuant to this provision. Accordingly, if the total cost thereof exceeds the amount of the deposit, letter of credit, or other financial guarantee provided by Developer pursuant to this

provision, then Developer shall pay the deficit to District within forty-five (45) days of receiving District's demand therefor accompanied by an accounting verifying the actual costs of the work.

4.6 Potable Water Connection. As to potable water, if provided by the District, Developer shall install a potable water distribution main line from the Property to connect to District's potable water system utilizing a pipe sized to provide potable water to the Property and, subject to District's obligation below to pay to oversize the pipe, to other properties in the general area to District's specifications, this to include all required connections to District's current system. Said pipe shall not be exclusively used to provide potable water to the Property as District may utilize said pipe to provide potable water to other properties up to the capacity of the pipe. Developer shall be responsible for the cost of the potable water system and pipes to serve its development and District shall have the option and right to pay any required additional expense for upsizing certain main distribution pipe as necessary to provide potable water to other properties and developments. If District elects to so oversize the pipe, District will so notify Developer within 120 days of the date of this Agreement. After that date, Developer may refuse to oversize the pipe.

4.7 Cost of Expansion. If Developer elects to have the District provide potable water to the Property, Developer shall pay in advance amounts required to expand District's water supply system to accommodate Developer's project, this to include, but not be limited to, all engineering, permitting and construction costs. District will furnish an engineer's estimate of such costs and Developer will either deposit with District or furnish an irrevocable standby letter of credit in form reasonably satisfactory to the District or other financial guarantee satisfactory to the District in an amount of 110% of such estimate that District can draw upon to cover the costs. District will reimburse such costs through credits against required water CIAC, each residential credit to be calculated by dividing the number of residential units into the cost of such expansion. Credits will be limited to 50% of each residential water CIAC until advanced costs are paid in full. District will utilize all such funds solely for expanding District's water supply system as may be necessary to provide additional capacity for providing the potable water. District shall maintain detailed books and records relating to expansion of the water supply system and will from time to time make those records available to Developer for review and copying. District will perform the water supply system expansion in an efficient and economical manner, consistent with prudent practices. If the cost of performing the water supply system expansion is less than the financial guarantee provided by Developer pursuant to this Agreement, then on completion of the expansion, District will immediately refund to Developer the surplus funds. Developer shall pay all costs of expanding the system pursuant to this provision. Accordingly, if the total cost thereof exceeds the amount of the deposit, letter of credit, or other financial guarantee provided by Developer pursuant to this provision, then Developer shall pay the deficit to District within forty-five (45) days of receiving District's demand therefor accompanied by an accounting verifying the actual costs of the work.

4.8 Fire Hydrants. In the event District provides potable water to the Property, no water may be used or disbursed by Developer, its employees or agents through fire hydrants or

water mains, or by any person, firm, corporation or agency, public or private, until there has first been made adequate provisions for compensating the District for such water.

4.9 Wells. Developer, its successors and assigns, and the owners and occupants of buildings on the Property shall not install or maintain any water wells for any purpose. Under no circumstances at any time will wells be used on the Property for potable water. This provision shall remain in effect even if the City, rather than the District, provides potable water services to the Property. Notwithstanding the foregoing, wells may be used to irrigate portions of the Property intended for public use such as common areas, parkways, right-of-ways, golf courses, parks, and the like.

4.10 Developer's Cost Controls. This provision will apply to both the sewage plant expansion contemplated by Section 4.5 above ("Sewage Work") and to the water supply system expansion contemplated by Section 4.7 above ("Water Work"). District acknowledges Developer has a substantial interest in limiting as much as possible the costs of the Sewage Work and the Water Work. In acknowledgment of that interest, Developer and District agree as follows:

a. Developer shall have the right, but not the obligation, to participate with and to assist District in preparing the plans, specifications, and other details (collectively, "Details") for the Sewage Work and the Water Work.

b. Developer shall have the right, but not the obligation, to participate with and assist District in negotiation and securing estimates, proposals, and contracts (collectively, "Contracts") for the provision of materials and services for the Sewage Work and Water Work. Notwithstanding any other provision of this Agreement, if Developer in its reasonable discretion determines that the amount of any such Contract is unreasonable or excessive, Developer shall have the right to secure proposals from other qualified providers. All such proposals secured by Developer shall be pursuant to competitive bids complying with Chapter 190, Florida Statutes. Further, Developer shall secure such proposals only from providers that District has prequalified for bidding on the Sewage Work or Water Work, as the case may be. District will accept the lowest contract proposed by a qualified provider. For purposes of this Agreement, a provider shall be deemed qualified if it has been prequalified by District for bidding, possesses any license or certification required for the supplies or services it provides, has at least six (6) years experience in providing those supplies or services, and is solvent.

c. District will provide Developer the estimates prepared by District's engineer of the costs of the Sewage Work and the Water Work. Notwithstanding any other provision of this Agreement, Developer will have the right in Developer's discretion to terminate this Agreement if Developer determines the costs so estimated are excessive. If Developer does elect to so terminate this Agreement, then Developer will reimburse to District the engineering costs then incurred by District in performing this Agreement, and the parties will be relieved of all obligations hereunder.

d. Notwithstanding any other provision of this Agreement, if at any stage during the course of constructing the Sewage Work or the Water Work, the costs exceed by more than ten percent (10%) of the bid amount for that stage of the Work, excluding, however, any such excess costs caused by change orders or changes in plans required or requested by Developer, Developer will have the right to terminate this Agreement by delivering notice of termination to District. If Developer does elect to so terminate this Agreement, then Developer will reimburse to District the engineering and construction costs then actually incurred by District, and the parties will be relieved of all obligations hereunder.

e. Developer shall have the right to require that any provider engaged to perform Sewage Work or Water Work provide payment and performance bonds to secure the performance of the provider's obligations. The cost of such bonds shall be paid either by Developer or by the provider.

f. Developer will have the right to participate in the selection of the providers for the Sewage Work and Water Work. Notwithstanding the foregoing, the District legally must have the right to make final determination of the providers that will be permitted to submit bids.

g. Developer will have the right to require the contract by which a provider for the Sewage Work or Water Work is engaged to be a fixed sum contract so that the provider bears the risk of cost increases, other than cost increases resulting from change orders.

5. Ownership of System.

5.1 Ownership. Developer agrees with District that Developer will transfer and convey to District all wastewater facilities and, if applicable, the potable water distribution system accepted by the District in connection with providing Utility Services and potable water to the Property, and such facilities and system shall at all times remain in the sole, complete and exclusive ownership of District, its successors and assigns, and any person or entity owning any part of the Property or any residence, building or unit constructed or located thereon, shall not have any right, title, claim or interest in and to such facilities or any part of them, for any purpose, including the furnishing of wastewater services or potable water to other persons or entities located within or beyond the limits of the Property.

5.2 Conveyance.

a. Upon completion and approval of the water and sewer systems contemplated hereunder for District ownership, the Developer shall, at no cost to the District, convey to the District, its successors or assigns, all of the right, title and interest of the Developer in and to all of the water and sewer facilities constructed pursuant to this Agreement free and clear of all liens and encumbrances.

b. Developer shall deliver to the District a No Lien Affidavit and Waiver and Release of Lien from all contractors, subcontractors and suppliers of materials or labor in connection with the systems.

c. Developer shall deliver to the District a Warranty on a form provided by and approved by the District warranting all systems to the satisfaction of the District in accordance with the warranties expressly prescribed in this Agreement.

d. Developer shall remain owner of the real property on which such systems are located, but Developer shall grant to the District, its successors and assigns, a perpetual easement and/or right of way on, over, under and across those portions of the Property necessary for the construction, installation, repair, relocation, and/or maintenance of the systems contemplated hereby. Such Grant of Easements shall be in a form provided by and approved by the District and shall be accompanied by either an Opinion of Title in a form acceptable to the District prepared by a member of the Florida Bar in good standing or by a licensed Florida title company indicating that title to the easement property is vested in the Developer and indicating all appropriate subordinating releases and/or satisfaction from subordinate lienors and/or mortgagees having an interest in the easement property have been given.

e. Developer shall convey to the District, its successors and assigns title to the lands where lift and/or pumping stations are located. Such conveyance shall be by Statutory Warranty Deed and shall be accompanied by either an Opinion of Title in a form acceptable to the District prepared by a member of the Florida Bar in good standing or by a licensed Florida title company indicating that title to the property is vested in the Developer and indicating all appropriate subordinating releases and/or satisfaction from subordinate lienors and/or mortgagees having an interest in the easement property have been given.

6. Warranties and Bonds.

6.1 Developer shall warrant that all systems provided hereunder to be owned by the District shall be free from defects in materials and workmanship. The Developer also warrants that it shall be solely responsible for the repair of any damages to said facilities caused by persons in Developer's employment. Said warranties shall remain in full force and effect for a period of one year from the date of final acceptance of the facilities by the District, at the end of which time the warranties shall expire and be of no further force or effect. In the event it becomes necessary to repair and/or replace any of the facilities during the initial one year period, then the warranty as to those items repaired and/or replaced shall continue to remain in effect for an additional period of one year from the date of final acceptance by the District of those repairs and/or replacements.

6.2 Simultaneous with the conveyance of the facilities contemplated hereby, the Developer shall deliver to the District an executed surety bond in a form satisfactory to the District or irrevocable letter of credit acceptable to the District in an amount equal to 25% of the

actual cost of construction of the facilities, guaranteeing all work pursuant to this Agreement against any and all defects in material, equipment or construction for a period of one year following the date of final acceptance of the facilities by the District.

Upon demand by the District, the Developer shall correct or cause to be corrected all such defects, which are discovered within the warranty period as set forth above, failing which the District may make such repairs and/or replacements of defective work and/or materials and the Developer and/or its surety shall be liable to the District for all costs arising therefrom (the surety being liable to the extent of the surety bond or letter of credit provided by Developer).

7. Exclusive Provider.

7.1 Developer, as a further and essential consideration of this Agreement, agrees that Developer, or the successors and assigns of Developer, shall not (the words "shall not" being used in a mandatory definition) engage in the business or businesses of providing Utility Services and/or potable water to the Property during the period of time District, its successors or assigns, provide Utility Services and potable water to the Property, it being the intention of the parties hereto that under the foregoing provision and also other provisions of this Agreement, District shall have the sole and exclusive right and privilege to provide Utility Services and potable water (if applicable) to the Property and to the occupants of such residence, building or unit constructed thereon. Notwithstanding the foregoing, if at any time the District defaults in its obligation to provide sufficient Utility Services or potable water to the Property, Developer and the successors and assigns of Developer in addition to such other remedies and actions as may be available, shall have the right, after providing notice to District at least sixty (60) days in advance, temporarily to secure the Utility Services and potable water from other sources; provided, however, that Developer shall again obtain such Utility Services or potable water from District after District provides Utility Services and potable water to the Property.

8. Notices.

8.1 Until further written notice by either party to the other, all notices provided for herein shall be in writing and transmitted by messenger, by mail or by telegram to the addresses set forth above

9. Force Majeure.

9.1 In the event that the performance of this Agreement by either party to this Agreement is prevented or interrupted in consequence of any cause beyond the control of either party, including but not limited to Act of God or of the public enemy, war, national emergency, allocation or of other governmental restrictions upon the use or availability of labor or materials, rationing, civil insurrection, riot, racial or civil rights disorder or demonstration, strike, embargo, flood, tidal wave, fire, explosion, bomb detonation, nuclear fallout, windstorm, hurricane, earthquake, sinkhole or other casualty or disaster or catastrophe, unforeseeable failure or breakdown of pumping transmission or other facilities, necessary maintenance work,

unforeseeable governmental rules or acts or orders or restrictions or regulations or requirements, unforeseeable acts or action of any government or public or governmental authority or commission or board or agency or agent or official or officer, the enactment of any statute or ordinance or resolution or regulation or rule or ruling or order, order or decree or judgment or restraining order or injunction of any court, said party shall be excused from such performance for such period as may be reasonably required to overcome the cause of the delay.

10. Indemnification.

10.1 Developer agrees to indemnify and hold District and Packing House By-Products, Inc., its successors and/or assigns, ("Packing House") harmless forever from all damages, liability, cost and expense, including reasonable attorney's fees, related to negligence of the Developer, its officers, agents and employees and from any foreseeable damage to the facilities constructed by the Developer and conveyed to the District caused by negligence of the Developer, its officers, agents and employees. Indemnification shall include costs for physical repair of the District's system.

10.2 Developer agrees to hold District and Packing House harmless forever from and all liability and damages for District's non-performance under this Agreement as a result of any ruling or order by any other governmental or regulatory agency having jurisdiction over the subject matter in the Agreement or from any discontinuance of water and sewer services as a result of the District's inability to provide such services for reasons beyond the control of District.

11. Applicable Law.

11.1 This Agreement shall be governed by the laws of the State of Florida and it shall be and become effective immediately upon execution by both parties hereto, subject to any approvals which must be obtained from any governmental authority.

11.2 The sole venue for any action arising out of this agreement shall be the circuit or county court in and for Lake County, Florida.

12. Assignment.

12.1 Developer may not assign its rights, duties or obligations under this agreement without the express written consent of District which consent shall not be unreasonably withheld. Notwithstanding the foregoing, Developer shall have the right to assign this Agreement without first obtaining District's consent to the new owner of the Property if Developer at any time conveys all or substantially all of the Property, in bulk, to another person or entity.

13. Default. The occurrence of any of the following during this Agreement shall constitute a default:

13.1 Developer's failure to pay within fifteen (15) days after receipt of notice or demand from District any sums, fees, charges, costs or expenses which are payable under this Agreement.

13.2 Developer's failure in the performance or observance of any of the terms and conditions of this Agreement within thirty (30) days after receipt of Districts' demand or notice; provided, however, if Developer's failure cannot reasonably be remedied within thirty (30) days, then Developer shall be permitted reasonable additional time to remedy the default for as long as Developer exercises reasonable diligence.

13.3 There shall be filed by or against the Developer in any court or other tribunal pursuant to any governmental requirement, a petition in bankruptcy or insolvency proceedings or for reorganization or for the appointment of a receiver or trustee of all or substantially all of Developer's Property.

In the event of Developer's default under this Agreement, the District's obligations under this Agreement shall, at the option of District, terminate.

14. Binding Effect.

14.1 This Agreement shall bind the parties, together with their respective successors, grantees, heirs and assigns.

15. Miscellaneous Provisions.

15.1 This Agreement constitutes the entire agreement between the parties for all matters contained herein and shall supersede all previous agreements or representations either oral or in writing with respect to all matters contained herein.

15.2 This Agreement or a memorandum thereof shall be recorded in the Public Records of Lake County, Florida, to put all parties on record as to the obligations of the Developer and its successors and assigns as contained herein.

15.3 In the event of any dispute and/or litigation arising from this Agreement, the prevailing party shall be awarded reasonable attorney's fees and costs through and including any appeal.

15.4 Except to the extent this Agreement expressly provides otherwise, District shall exercise its rights to approve, consent, or exercise other discretion reasonably. Without limiting the foregoing, District shall not unreasonably withhold, condition, or delay any consent, approval, or other exercise of discretion under this Agreement, except as this Agreement expressly provides otherwise.

15.5 District warrants and represents that this Agreement does not violate any law, regulation, statute, ordinance, or other governmental requirements (collectively, "Law") in effect as of the date of this Agreement and applicable to District. District shall employ its best efforts to obtain all governmental approvals and consents that may be required in order for District to perform its obligations and covenants under this Agreement.

15.6 Notwithstanding any other provision of this Agreement, Developer shall have the right in Developer's sole discretion to elect not to obtain potable water from District, but from the City. If Developer elects not to obtain potable water from the District, then the provision s of this Agreement relating to potable water, including without implied limitation references to the Water Work, will be deemed removed from this Agreement, and the remainder of this Agreement will remain in effect.

IN WITNESS WHEREOF, Developer and District have executed or caused this Agreement, with the named Exhibits attached, to be duly executed in several counterparts, each of which counterpart shall be considered an original executed copy of this Agreement.

DEVELOPER:
MISSION RISE

By: _____
Richard H. Langley

DISTRICT:
CENTRAL LAKE COMMUNITY DEVELOPMENT DISTRICT

By: _____
Print name: Bud Beucher

As its: Chairman

EXHIBIT "A"

legal description of Property

EXHIBIT B

[Developments and Reserved Capacity]

Developer	Residential Units	GPD/Unit	Commercial Sq. Ft.	Gal./Sq. Ft.	TOTAL
Eagles Landing & Howey-in-the-Hills, Ltd.	750	250	300,000	0.5	337,500
7L Howey in the Hills	378	250	85,000	0.5	137,000
Mission Rise	400	250	0	0.5	100,000
TOTAL					574,500