Town Council Meeting

October 10, 2022 at 6:00 PM
Howey-in the-Hills Town Hall
101 N. Palm Ave.,
Howey-in-the-Hills, FL 34737

Join Zoom Meeting:
https://us06web.zoom.us/j/81024569680?pwd=QVdsbGd4dmRFU2VIUjY1M0U3U3MyUT09
Meeting ID: 810 2456 9680 | **Passcode:** 272209

AGENDA

Call the Town Council Meeting to order
Pledge of Allegiance to the Flag

ROLL CALL
Acknowledgement of Quorum

AGENDA APPROVAL/REVIEW

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. The approval of the minutes and ratification and confirmation of all Town Council actions at the September 26, 2022 Town Council Public Hearing on Final Budget and Millage Rate.

2. The approval of the minutes and ratification and confirmation of all Town Council actions at the September 26, 2022 Regular Town Council Meeting.

PUBLIC HEARING

3. Consideration and Approval: (First Reading) **Ordinance 2022-019 - Reserve/Hillside Groves Development - PUD Amendment**

   AN ORDINANCE OF THE TOWN OF HOWEY-IN-THE-HILLS, FLORIDA, PERTAINING TO LAND USE; AMENDING ORDINANCE 2021-010 PERTAINING TO THE USE OF LAND WITHIN THE PROPERTY KNOWN AS THE RESERVE AT HOWEY-IN-THE-HILLS; PROVIDING FINDINGS OF THE TOWN COUNCIL; AMENDING THE AMENDED AND RESTATED DEVELOPER'S AGREEMENT FOR THE RESERVE AT HOWEY-IN-THE-HILLS TO ALLOW A CHANGE IN THE REQUIREMENTS FOR CONSTRUCTION OF A NORTH-SOUTH ROAD; RATIFYING AND CONFIRMING THE PROVISIONS OF ORDINANCE 2021-010, AS AMENDED; PROVIDING FOR SEVERABILITY, CONFLICTS, AND AN EFFECTIVE DATE.

- Mayor MacFarlane will read the Ordinance title
- Town Administrator will explain Ordinance 2022-019
- Mayor MacFarlane will open Public Comment and Questions for this item only.
- Mayor MacFarlane will close Public Comment.
- Motion to approve Ordinance 2022-019
- Council Discussion
- Roll Call Vote

OLD BUSINESS

NEW BUSINESS

4. Consideration and Approval: **Appointment of Alan Hayes to the Planning and Zoning Board**

5. Consideration and Approval: **Howey Self Storage Final Site Plan Submission**

6. Discussion: **Retired Landfill Historic Overview**

7. Consideration and Approval: **Fencing around Town Lift Stations in Central Park and Griffin Park**

DEPARTMENT REPORTS

8. Town Hall

9. Police Department

10. Code Enforcement

11. Public Works

12. Library

13. Parks & Recreation Advisory Board / Special Events

14. Town Attorney

15. Finance Department

16. Town Manager Report

COUNCIL MEMBER REPORTS

17. Mayor Pro Tem Gallelli

18. Councilor Lehning

19. Councilor Miles

20. Councilor Klein

21. Mayor MacFarlane

PUBLIC COMMENTS

Any person wishing to address the Mayor and Town Council 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.

Howey Town Hall is inviting you to a scheduled Zoom meeting.
Topic: **Town Council Meeting**
Time: **Oct 10, 2022 06:00 PM Eastern Time** (US and Canada)
Join Zoom Meeting
https://us06web.zoom.us/j/81024569680?pwd=QVdsbGd4dmRFU2VIUjY1M0U3U3MyUT09
Meeting ID: 810 2456 9680
Passcode: 272209
Dial by your location
+1 646 558 8656 US (New York)
+1 346 248 7799 US (Houston)
Meeting ID: 810 2456 9680
Passcode: 272209
Find your local number: https://us06web.zoom.us/u/kbJi7ITDT

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.

Town Council Public Hearing on Final Budget and Millage Rate

September 26, 2022 at 5:05 PM
Howey-in the-Hills Town Hall
101 N. Palm Ave.,
Howey-in-the-Hills, FL 34737

MINUTES

Mayor MacFarlane called the Town Council Meeting to order at 5:05 p.m.
Mayor MacFarlane explained that Councilor Lehning was home sick and that he would have to attend the meeting virtually via Zoom, so as not to expose anyone to his illness.

Motion made by Mayor Pro Tem Gallelli to allow Councilor Lehning to participate and vote via Zoom; seconded by Councilor Miles. Motion was approved unanimously with a voice vote.

ROLL CALL
Acknowledgement of Quorum

MEMBERS PRESENT:
Councilor David Miles | Councilor Rick Klein | Councilor George Lehning (via Zoom) | Mayor Pro Tem Marie V Gallelli | Mayor Martha MacFarlane

STAFF PRESENT:
Sean O'Keefe, Town Administrator | John Brock, Town Clerk | Abigail Herrera, Finance Supervisor | Tara Hall, Library Director | Morgan Cates, Public Works Director | Rick Thomas, Police Chief

Confirmation of Meeting Notification and acknowledgement of Quorum was completed.

PUBLIC HEARING

1. Consideration and Approval: **Resolution 2022-008 - Final Millage Rate**

   Martha MacFarlane, Mayor, read Resolution 2022-008 by title only and the following statements.

   RESOLUTION NO. 2022-008, A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF HOWEY-IN-THE-HILLS, FLORIDA; ADOPTING A FINAL MILLAGE RATE OF 7.50 FOR THE TOWN OF HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA FOR AD VALOREM TAXES FOR FISCAL YEAR 2023; PROVIDING FOR AN EFFECTIVE DATE.

   - The Taxing Authority is the Town of Howey-in-the-Hills.
   - The Rolled-Back Rate is 6.7227 mills.

- The percentage over the Rolled-Back Rate is 11.56%, which is the percentage increase in property taxes.
- The proposed Millage Rate to be levied is 7.500.

Mayor MacFarlane asked Town Clerk, John Brock, to read out loud a written statement that had been submitted to the Town. Mr. Brock read out loud a written statement from **Wayne Mather of 1004 N. Tangerine Ave**. Mr. Mather's statement expressed his objection to the proposed budget and increased millage rate.

Mayor MacFarlane opened Public Comment and Questions for this issue only.

Tim Everline, 1012 N Lakeshore Blvd. – Mr. Everline compared old budgets to the currently proposed budget and was not in favor of the size of the current budget.

Mayor MacFarlane closed Public Comment and Questions.

Mayor MacFarlane opened Councilor Comment and Questions for this issue only.

Town Administrator, Sean O'Keefe, explained the current administrative cost and current budget's expansion. Mayor MacFarlane explained that the Town had only recently brought on two new positions relative to staffing in 2008.

Councilor Miles stated that the inflation during the past year had increased by about 11%, which was close to the rate in the increase of taxes. Councilor Miles also said that the newly-hired Finance Supervisor was necessary for the Town to have adequate internal financial controls.

Mayor MacFarlane stated that the Town Council had reduced the Town's millage rate in 2019 from approximately 8.21 or 8.25 to a millage rate of 7.5.

Mayor Pro Tem Gallelli explained that the Town's staff had been diligently working to get grants and to minimize costs to the Town.

Motion made by Councilor Lehning to approve Resolution 2022-008, RESOLUTION NO. 2022-008, A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF HOWEY-IN-THE-HILLS, FLORIDA; ADOPTING A FINAL MILLAGE RATE OF 7.50 FOR THE TOWN OF HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA FOR AD VALOREM TAXES FOR FISCAL YEAR 2023; PROVIDING FOR AN EFFECTIVE DATE; seconded by Councilor Klein. Motion was approved unanimously by roll-call vote.

Voting
Yea: Councilor Miles, Councilor Klein, Councilor Lehning, Mayor Pro Tem Gallelli, Mayor MacFarlane
Nay: None

2. Consideration and Approval: **Resolution 2022-009 - Final Budget**

Martha MacFarlane, Mayor, read Resolution 2022-009 by title only and the following statements.

RESOLUTION NO. 2022-009, A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF HOWEY-IN-THE-HILLS, FLORIDA; ADOPTING A FINAL BUDGET FOR THE TOWN OF HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA FOR FISCAL YEAR 2023 AND PROVIDING AN EFFECTIVE DATE.

The Final Budget for the Town of Howey-in-the-Hills for Fiscal Year 2023 to be adopted by Fund Department is as follows:

- General Fund in the amount of $2,479,898.
- Infrastructure fund in the amount of $233,227.
- Enterprise fund in the amount of $1,463,696.
- Police Pension Fund in the amount of $95,653.
- Police Advanced Training in the amount of $3,000.
- Impact fees in the amount in the amount of $626,600.
- Building Services in the amount of $219,615.
- Total all Funds $5,121,689.

Mayor MacFarlane opened Public Comment and Questions for this issue only.

Tim Everline, 1012 N Lakeshore Blvd – Mr. Everline asked questions about the Police Department's SROs and stated again that he was not in favor of the increased budget.

Darren Surr, 403 E Camelia Way – Mr. Surr was not in favor of the increased millage rate and budget, and that he thought the proposed budget was too high. Mr. Surr stated that he felt that the employees of the Town were at too high of a pay rate.

Gerald Roque, 505 E Mission Lane – Mr. Roque was concerned that new jobs were not hired appropriately. Mayor MacFarlane stated that all job openings were posted publicly.

Mayor MacFarlane closed Public Comment and Questions.

Mayor MacFarlane opened Councilor Comment and Questions for this issue only.

Mayor Pro Tem Gallelli stated that job openings were posted appropriately on Indeed.com and the Town's website.

Motion made by Councilor Lehning to approve Resolution 2022-009, A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF HOWEY-IN-THE-HILLS, FLORIDA; ADOPTING A FINAL BUDGET FOR THE TOWN OF HOWEY-IN-THE-HILLS, LAKE COUNTY, FLORIDA FOR FISCAL YEAR 2023 AND PROVIDING AN EFFECTIVE DATE; seconded by Mayor Pro Tem Gallelli.
Motion was approved unanimously with a roll-call vote.

Voting
Yea: Councilor Miles, Councilor Klein, Councilor Lehning, Mayor Pro Tem Gallelli, Mayor MacFarlane
Nay: None

PUBLIC COMMENTS
Any person wishing to address the Mayor and Town Council and who is not on the agenda is asked to speak their name and address. Three (3) minutes is allocated per speaker.

Bill Reid, 411 N. Lakeshore Blvd – Mr. Reid voiced his support for the Town's Police force. Mr. Reid asked what a comparable Town's millage rate was. Town Administrator, Sean O'Keefe, stated that the highest millage rate in Lake County was the City of Eustis. Mr. O'Keefe stated that the City of Umatilla and the Town of Astatula were tied with Howey-in-the-Hills' millage rate of 7.5.

Donald Peterson, 1016 N Lakeshore Blvd. – Mr. Peterson stated that he believes Planned Unit Developments (PUDs) can be repealed and that he believed that PUD approvals needed to be set with a finite end date.

Paula Abney, 411 E Orchid Way – Mrs. Abney suggested that the Town should use the electronic sign in front of Town Hall to advertise job openings. Mrs. Abney stated that she was unsure how the bidding for the fishing pier project was done. Mrs. Abney stated that she was upset that the Town's residents didn't get to choose the current sign's design. Councilor Gallelli spoke about how the RFP for the Fishing Pier renovation was created and how it was discussed in previous Town Council meetings.

Councilor Miles stated that a Town Councilor had said to the Simpson parcel developers that they had wanted a five-year expiration on the PUD for the Simpson parcel development project.

ADJOURNMENT

There being no further business to discuss, a motion was made by Mayor Pro Tem Gallelli to adjourn the meeting; Councilor Klein seconded the motion. Motion was approved unanimously by voice vote.

The Meeting adjourned at 5:48 p.m. | **Attendees: 36**

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Mayor Martha MacFarlane

ATTEST:

_____

John Brock, Town Clerk

Town Council Meeting

September 26, 2022 at 6:00 PM

Howey-in the-Hills Town Hall 101 N. Palm Ave., Howey-in-the-Hills, FL 34737

AGENDA

Mayor MacFarlane led the attendees in the Pledge of Allegiance to the Flag.
Mayor MacFarlane called the Town Council Meeting to order at 6:00 p.m.
Mayor MacFarlane explained that Councilor Lehning was home sick and that he would have to attend the meeting virtually via Zoom, so as not to expose anyone to his illness.

Motion made by Councilor Klein to allow Councilor Lehning to participate and vote via Zoom; seconded by Mayor Pro Tem Gallelli. Motion was approved unanimously with a voice vote.

ROLL CALL
Acknowledgement of Quorum

MEMBERS PRESENT
Councilor David Miles | Councilor Rick Klein | Councilor George Lehning (via Zoom) | Mayor Pro Tem Marie V Gallelli | Mayor Martha MacFarlane

STAFF PRESENT:
Sean O'Keefe, Town Administrator | John Brock, Town Clerk | Abigail Herrera, Finance Supervisor | Tara Hall, Library Director | Morgan Cates, Public Works Director | Rick Thomas, Police Chief

AGENDA APPROVAL/REVIEW

Motion made by Councilor Klein to include Proclamation/Resolution 2022-010 State of Emergency and Emergency Event Response Policy under new business; seconded by Councilor Miles. Motion passed unanimously by voice vote.

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. The approval of the minutes and ratification and confirmation of all Town Council actions at the September 12, 2022 Town Council Meeting.

Councilor Miles stated that he had a concern with the minutes from the September 12, 2022 Town Council Meeting. Councilor Miles stated that, in agenda item #19, sentence #4 should be changed from "Councilor Miles would also like incorporated in the Town Manager's report, the acquisition cost of backup generators for the two

Venezia lift station, so that they could be added to the budget within the next two years." to "Councilor Miles would also like incorporated in the Town Manager's report, the acquisition cost of backup generators for the two Venezia lift stations, so that they could be added to the FY2023 or FY2024 budgets."

Motion made by Councilor Miles approve of the Consent Agenda with the addition of his edits to the minutes; seconded by Mayor Pro Tem Gallelli. Motion approved unanimously by roll-call vote.

Voting
Yea: Councilor Miles, Councilor Klein, Councilor Lehning, Mayor Pro Tem Gallelli, Mayor MacFarlane
Nay: None

PUBLIC HEARING

None

OLD BUSINESS

None

NEW BUSINESS

1a. (This item added during Agenda Approval/Review) Consideration and Approval: **Proclamation and Resolution No. 2022-010 Declaration of Emergency for Hurricane Ian and an Emergency Event Response Policy.**

Mayor MacFarlane read out loud the entire Proclamation and Resolution No. 2022-010 Declaration of Emergency. Mayor MacFarlane also explained that, in addition to the Resolution, there was also a proposed new policy on Emergency Event Response that would be considered.

Mayor MacFarlane opened the Public Comment for this item only. Seeing as there was no public comment, Mayor MacFarlane closed Public Comment.

Motion made by Councilor Miles to approve Proclamation and Resolution No. 2022-010; seconded by Councilor Klein. Motion passed unanimously by roll call vote.

Voting
Yea: Councilor Miles, Councilor Klein, Councilor Lehning, Mayor Pro Tem Gallelli, Mayor MacFarlane
Nay: None

Mayor MacFarlane opened the Public Comment for this item only. Seeing as there was no public comment, Mayor MacFarlane closed Public Comment.

Motion made by Mayor Pro Tem Gallelli to approve Emergency Event Response Policy; seconded by Mayor Pro Tem Gallelli. Motion passed unanimously by roll call vote.

Voting
Yea: Councilor Miles, Councilor Klein, Councilor Lehning, Mayor Pro Tem Gallelli, Mayor MacFarlane
Nay: None

2. Proclamation: **National Code Compliance Month**

Mayor MacFarlane read out loud the Proclamation supporting National Code Compliance Month.

Motion made by Councilor Miles to approve the Proclamation of support for National Code Compliance Month; seconded by Mayor Pro Tem Gallelli. Motion approved unanimously by voice vote.

Voting
Yea: Councilor Miles, Councilor Klein, Councilor Lehning, Mayor Pro Tem Gallelli, Mayor MacFarlane

Nay: None

Councilor Miles complimented Code Enforcement Officer Botts' staff report that she had written for the next agenda item. The crowd erupted in applause.

3. Discussion of tree requirements in PUDs.

Mayor MacFarlane asked Code Enforcement Officer, Azure Botts, to introduce and explain this agenda item. Officer Botts said that residents primarily in the Venezia development had expressed concern over the requirement to have a street canopy tree in their front yards. Officer Botts spoke about the amount of space oak trees and magnolia trees require to have open around them and what is needed for their root structure.

Officer Botts spoke about the size of lots in the Venezia neighborhood, and how that effects what type of tree can be planted in these yards. Out of the 196 lots within Venezia, nine lots have been identified as large lots, defined as having 30 feet from front plane wall to the sidewalk: these are mainly corner lots or lots with large side yards. Six lots have been identified as having less than 20 feet from front plane wall to the sidewalk. These lots were approved to have a 15.5-foot setback from the sidewalk. 48 lots have been identified as having between 20 to 25 feet from front plane wall to the sidewalk.

Officer Botts explained the staff recommendations as outlined in her report. The recommendations were allowing the selected list of alternate trees to be planted within the front yard of lots with inadequate room for a street tree. Lots with inadequate room are determined by the footage from the front plane wall of the structure to the sidewalk. Below are the recommendations for the lot sizes:

- Lots greater than 26 ft from the front plane wall to the sidewalk are required to plant one street tree per the LDC.
- Corner lots or lots greater than 100 ft wide at the sidewalk are required to plant 2 street trees.
- Lots with 20 to 26 ft are required to plant one of the following selected trees
    - Natchez Crape myrtle (need to be added to LDC)
    - Purple-leaf plum (need to be added to LDC)
    - Flowering dogwood
    - Sweet bay magnolia
    - Weeping bottlebrush
- Lots with less than 20 ft are recommended for a variance to alleviate the requirement to plant a street tree if the two required understory trees are in place, per LDC. Existing, well-established trees in addition to the required understory trees may be counted as an alternative tree. This will be addressed on a case-by-case basis.

Town Planner, Tom Harowski, explained the Land Development Code (LDC) tree requirements and that heavy tree cover helps define Howey neighborhoods. Mr. Harowski recommended using a sweet bay magnolia for a preference for a street tree in lots with a smaller amount of space.

Motion made by Councilor Miles to approve the staff recommendation, which requires lots greater than 26 feet from the front plane wall to the sidewalk to plant one street tree per the LDC,

corner lots or lots greater than 100 feet wide at the sidewalk being required to plant 2 street trees, lots with 20 to 26 feet being required to plant one of the following selected trees (Natchez Crepe Myrtle, Purple-leaf plum, sweet bay magnolia, or weeping bottlebrush), and lots with less than 20 feet being approved for a variance to alleviate the requirement to plant a street tree if the two required understory trees are in place per the LDC; existing, well-established trees in addition to the required understory trees may be counted as an alternative tree (this would be addressed on a case-by-case basis); seconded by Mayor Pro Tem Gallelli.

Mayor MacFarlane opened the Public Comment for this item only.

Renee Lannaman, 710 Calabria Way – Mrs. Lannaman thanked the Town Council for their motion on this item. Mrs. Lannaman said that she thought this motion would help the entire Town.

Diane Ballou, 1005 N Tangerine Ave – Mrs. Ballou questioned if this motion would affect all properties within the Town or just Venezia.

Joe Saladino, 500 Mission Lane – Mr. Saladino stated that he thought the small lots will have problems with building swimming pools and felt the Town should address this as well.

Tim Everline, 1012 N Lakeshore Blvd. – Mr. Everline stated that he felt that future developments should be required to have lot sizes to be able to require the trees in the LDC and have room for pools.

Donald Peterson – 1016 N Lakeshore Blvd. – Mr. Peterson spoke about Planned Unit Developments (PUDs). Mr. Peterson wants the Town to say "no" to PUDs. Mr. Peterson said that he believed that Florida Statutes required PUD agreements having an end date of not more than 30 years in length.

Peter Tuite, 300 E Croton Way – Mr. Tuite stated he was previously in favor of higher taxes because he thought it would keep people out of the Town. Mr. Tuite stated that he thought the lot sizes that have been approved for PUDs in Town are much too small. Mr. Tuite also stated that he wants the requirement which is in the LDC to only allow 50% impervious space on lots to be enforced.

Frances Wagler, 409 W Central Ave – Mrs. Wagler stated she felt that builders should be fined if they build a house that violates setback requirements.

Joshua Husemann, 671 Avila Place – Mr. Husemann said that he appreciates the Town looking into this issue. Mr. Husemann stated that there were two different version of Natchez Crepe Myrtle, the multi-trunk version, and the single-trunk version. He did not believe that the Town wanted to allow the multi-trunk version, as he believed it would not work well as an understory or canopy tree.

Marcia Meiring, 300 E Croton Way – Mrs. Meiring asked for more information about the Central Lake CDD. Mrs. Meiring also believes that the Town needs more commercial properties.

Mayor MacFarlane closed Public Comment for this item.

Councilor Miles made two amendments to his motion, in the portion of his motion that references what tree would be required to be planted on lots with 20 to 26 feet, that the Natchez Crepe Myrtle version that was allow will be the single-trunk version and that Chickasaw Plum(which replaces the Flowering dogwood on the staff recommendation) also be added to the list; amendment to the motion was seconded by Mayor Pro Tem Gallelli. Amendment to the motion was allowed. Motion was approved unanimously by roll-call vote.

Voting
Yea: Councilor Miles, Councilor Klein, Councilor Lehning, Mayor Pro Tem Gallelli, Mayor MacFarlane

Nay: None

4. Consideration and Approval: **Lake County League of Cities Annual Selection to the League's Board of Directors**

Mayor MacFarlane asked Town Administrator, Sean O'Keefe, to introduce and explain this topic. Mr. O'Keefe explained the purpose of the Lake County League of Cities. He also explained that the previous primary representative was Mayor MacFarlane, and the secondary representative was Sean O'Keefe.

Councilor Miles asked if Mayor MacFarlane and Mr. O'Keefe were willing to remain in their representative roles for the Town. Mayor MacFarlane and Mr. O'Keefe stated that they were.

Mayor MacFarlane opened the Public Comment for this item only. Seeing as there was no public comment, Mayor MacFarlane closed Public Comment.

Motion made by Councilor Miles to reappoint Mayor MacFarlane as the primary representative and Town Manager, Sean O'Keefe, as the secondary representative to the Lake County League of Cities; seconded by Councilor Lehning. Motion passed unanimously by roll-call vote.

Voting
Yea: Councilor Miles, Councilor Klein, Councilor Lehning, Mayor Pro Tem Gallelli, Mayor MacFarlane
Nay: None

DEPARTMENT REPORTS

5. Town Administrator / Finance Manager Reports

Town Administrator, Sean O'Keefe, gave a brief description of the Town's relationship with the Central Lake CDD. The Central Lake CDD sells wastewater treatment capacity to the Town and the Town becomes a retailer for wastewater services. Mr. O'Keefe stated that the Town has contracted the FGUA to complete a feasibility study on water and wastewater needs of the Town.

Mr. O'Keefe stated that there has a been a continuance on the Simpson Parcel Project and there would be an information meeting about the Simpson Parcel Project at the Marianne Beck Memorial Library on Monday, October 3rd at 6:00 pm.

Mr. O'Keefe stated that Captain Larry Chester would be retiring from the Howey-in-the-Hills Police Department on Friday September 30th. Captain Chester was retiring after 18 years of service to the Town.

Mr. O'Keefe stated that the Town was working with the Florida Department of Emergency Management to acquire funding for two generators that would service the two Venezia wastewater lift stations. Each generator would cost approximately $100,000. Public Works Director, Morgan Cates, will be soliciting quotes for erecting fences around the Central Park and Griffin Park lift stations. Councilor Miles wanted to make a motion to require the Town to erect fences around the two lift stations, with the cost not to exceed $2,500. Mayor MacFarlane stated that this was the report section of the meeting, and it was not appropriate for the Town Council to make this decision without allowing the public to comment on the item, and that this motion would need to wait for a future meeting.

COUNCIL MEMBER REPORTS

6. Mayor Pro Tem Gallelli

   Mayor Pro Tem Gallelli stated that the public needed to be prepared for the approaching hurricane. She also applauded the public for attending the meeting

7. Councilor Lehning

   Councilor Lehning also thanked the public for attending the Town Council meeting.

8. Councilor Miles

   Councilor Miles had nothing further to report.

9. Councilor Klein

   Councilor Klein questioned how the portable generator that the Town has will work for the two Venezia lift stations if the Town loses power.

10. Mayor MacFarlane

    Mayor MacFarlane explained that PUDs have a benefit that they require land to be put aside for greenspace, Institutional zoning, or Commercial zoning. Mayor MacFarlane also stated that the Town does have a walkable downtown plan. Mayor MacFarlane stated that the Town needs a professional assessment of the Town that would give the Town marketing promotional materials to help promote what is wonderful about Howey.

    Code Enforcement Officer Botts asked for clarification on agenda item #3. Councilor Miles and Mayor MacFarlane stated that the motion pertained to primarily Venezia and Talichet developments. It was noted that there was a consensus from the Town Council for the Town Manager to start the process of amending the Land Development Code into compliance with the motion that was approved by agenda item #3. Azure stated that she will prepare an Ordinance that will make the LDC comply with the motion made in agenda item #3 and that she will hold off on enforcement until the Town has that Ordinance in place.

PUBLIC COMMENTS

Any person wishing to address the Mayor and Town Council and who is not on the agenda is asked to speak their name and address. Three (3) minutes is allocated per speaker.

Rene Lannaman, 710 Calabria Way – Mrs. Lannaman suggested that what was discussed tonight be put into writing.

Janet Pratt, 1102 E Mission Lane – Mrs. Pratt asked if agenda item #3 affects all properties or just Venezia and Talichet. Councilor Miles stated that, if the tree items are placed in the LDC, it will affect everyone within Town. Mayor MacFarlane stated that future development agreement will adhere to the Town's LDC.

ADJOURNMENT

There being no further business to discuss, a motion was made by Mayor Pro Tem Gallelli to adjourn the meeting; Councilor Miles seconded the motion. Motion was approved unanimously by voice vote.

The Meeting adjourned at 8:00 p.m. | **Attendees: 44**

_____
Mayor Martha MacFarlane

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 Town Council
CC: S. O'Keefe, Town Manager; J. Brock, Town Clerk
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: The Reserve/Hilltop Groves First Amendment to the Development Agreement
DATE: October 5, 2022

The developers of the residential portion of The Reserve development have asked for an amendment to the approved development agreement to make revisions to the preliminary subdivision plan included as an attachment to the development agreement. Some of these proposed revisions qualify as major amendments under the terms of the adopted PUD agreement, so all the requested changes have been included in the proposal. The applicants have submitted a list of plan adjustments on the updated master site plan map including a number key locating each revision. Other than the change of the collector road from 4-lanes to 2-lanes the proposed revisions result from more detailed design and engineering work to harden the preliminary subdivision design. Approval of the requested changes will clear the way for submittal of the final subdivision plan for the first development phase.

The Town's Development Review Committee reviewed the proposed amendments at their meeting on September 8, 2022 and prepared a list of recommendations for the proposed changes. The Planning Board reviewed the package of revisions at their regular meeting of September 22, 2022 and recommended the amendments to Town Council for approval. The changes are limited to the preliminary subdivision plan with no proposed changes to the text of the development agreement. The proposed revisions include the following items:.

1. The applicants are requesting a revised design for the central collector road, identified as Road A on the preliminary subdivision plan, from four lanes to two lanes through the residential portion of The Reserve development. Most of the portion of Road A through the commercial portion of the project will remain as a four-lane section. In support of the requested change the applicants have submitted an analysis from their traffic engineer documenting that a two-lane road is sufficient to support the projected traffic volumes. The Town engineer has reviewed the request and supports the finding that the two-lane section is adequate for the traffic demand, and that with protected left turn lanes can result in reduced speed and increased safety within the project.

The applicants have noted that the road right-of-way through the commercial area has been increased from 90 feet to 100 feet as shown on the roadway cross-sections. The wider right-of-way is proposed to give more room to fit all the necessary components in the four-lane road section. The intersection with SR 19 has moved south about 250 feet, and driveway connections for the commercial area are shown.
(Refer to map items 2, 3, 4 and 12.)

2. The applicants are proposing minor adjustments to Roads D and F and the adjoining lots to reduce the amount of road area and improve safety while still providing access to the adjacent lots. (Refer to map item 1.)

3. The applicants are requesting revisions to Roads B and N along with adjacent lots to improve the connection between Phase 2 and Phase 3. This change improves traffic flow and reduces the number of lots on closed-end streets. (Refer to map item 6.)

4. The applicants are revising the collector road cross-sections to include the minimum 10-foot bicycle/pedestrian pathway that extends from SR 19 to Number Two Road. This facility has been a commitment of the project, but roadway cross-section submitted prior to this plan did not fully identify the bicycle/pedestrian path. (Refer to the revised cross-sections for the two-lane and four-lane sections.)

5. Residential lots along Road AA and Road Z have been changed to the 50 x 115 lot type rather than the originally proposed 50 x 80 lot type. (Refer to map item 8.)

6. The staff has asked for the addition of a street crossing detail where the bicycle/pedestrian path crosses a roadway. This detail is intended to limit the opportunity for cars to inadvertently drive on the path. They have agreed to provide a detail.

7. The applicants have been requested to update the totals of residential units by type and phase. The changes resulting from the road and engineering design changes have reduced the number of cluster units (4) and townhouse units (7) while increasing the total number of single-family units (11). There is no change to the total number of units. (The revised totals for units by phase are shown on the table on the left side of the master site plan.)

8. The applicants have been requested to provide a maximum impervious area for each type of residential unit. The lack of a maximum impervious area has been creating some review issues with our other PUD-based neighborhoods. (The maximum imperious areas by unit type are shown on the table on the left side of the master site plan.)

The Development Review Committee supports these eight revisions to the approved development agreement and the Planning Board recommended the changes to the Town Council.

The revised plan includes several other small adjustments that are noted here as part of the overall amendment. Please note the following revisions:

- The emergency access via Mare Avenue has been removed. The revised street pattern between Phase 2 and Phase 3 will serve this purpose. **(Refer to map item 5.)**

- The driveway connection to Talichet Phase 2 has been removed as the connection is no longer possible. **(Refer to map item 7.)**

- A revised roadway connection in Phase 4 has been added. **(Refer to map item 9.)**

- Stormwater pond locations have been added to Phase 4. **(Refer to map item 10.)**

- The phase line for Phase 1 has been adjusted. **(Refer to map item 11)**

During the review, the DRC also agreed that the intersection designs of the primary collector road at SR 19 and Number Two Road will be considered minor amendment to the development agreement as the permitting agencies (FDOT and Lake County) will ultimately be directing the intersection designs. The preliminary subdivision plan will also provide for a driveway connection from the collector road to the Town's public safety parcel at the intersection with the primary collector road. It is expected that this connection will provide an opportunity to reduce fire and police response times to properties within the project.

Connelly & Wicker Inc.
Planning • Engineering • Landscape Architecture

September 12, 2022

Town of Howey-In-The-Hills
Planning & Zoning Dept.
101 N. Palm Avenue
Howey-In-The-Hills, FL 34737

RE: Hillside Grove (fka. Reserve at Howey-in-the-Hills)
PUD Major Amendment PUD Ordinance 2004-322
CWI Job# 21-04-0008

To whom it may concern,

Please find the following items attached for your review of the above reference project:

- Redlined Master Site Plan
- Typical Section of 90' Right of Way with 2 lanes
- Typical Section of 100' Right of Way with 4 lanes

In addition to the above items, we submit the following summary of the revisions on the attached redlined Master Site Plan from the original approval PUD exhibit. The project has now begun detailed engineering design and a greater level of detail is now shown. Each number below corresponds with a number listed in red on the Master Site Plan

1. The roadway alignment has been revised to create a safer condition for both pedestrians and vehicles.
2. The entrance roadway connection to S. Palm Drive has shifted south approximately 250'.
3. The anticipated driveway apron locations to the commercial area are shown. Previously no driveway aprons were shown.
4. The spine road connecting S. Palm Avenue to has been reduced to a two lane section starting at the commercial driveway apron location north to Number 2 Road.
5. The emergency access adjacent to a stormwater pond at the north side of the project has been removed.
6. A roadway connection is added between phase 2 and phase 3 in lieu of a cul-de-sac in phase 2.
7. The driveway apron pictorially shown previously has been removed.
8. Lots are revised to be 50'x115' lots in lieu of 50'x80' lots.
9. A roadway connection is shown connecting all of phase 4 development.
10. Added stormwater management facility locations.
11. The phase line revised so that spine road connection to Number 2 Road is included in phase 1.

12. The right of way between S. Palm Drive to the project boundary is revised to be a 100' wide to allow for additional green space for tree plantings.
13. Other minor revisions that are a result of additional progress on detailed design that are not numbered but are identified here are:
    a. Shifting of lot lines
    b. Relocation of Pump Stations
    c. Addition of Natural / Vegetative Upland Buffers
    d. Pond banks and normal water lines more accurately depicted

We trust this information is sufficient for your review and approval of the PUD modification. Should you have comments or require additional information, please feel free to contact me at your convenience.

Sincerely,
Connelly & Wicker, Inc.

Richard C. Welch, P.E.
President

Printed: Sep 13, 2022 - 1:35pm Printed By: Justin

J:\2121-04-0008 Preserve at Howey\Design\Dwgs\Maps\21-04-0008 PUD Exhibit.dwg

LEGAL DESCRIPTION:

THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA;

AND

THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA;

AND

A TRIANGULAR TRACT OF LAND DESCRIBED AS:

BEGINNING AT THE NORTHEAST CORNER OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4, IN SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA; RUN THENCE WEST APPROXIMATELY 330 FEET TO THE SOUTHEAST CORNER OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4; THENCE RUN NORTH APPROXIMATELY 330 FEET TO THE NORTHEAST CORNER OF THE TWO AND ONE-HALF ACRE TRACT LAST DESCRIBED; THENCE SOUTHEAST TO THE POINT OF BEGINNING;

AND

THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4, LESS THAT PART LYING WITHIN TAYLOR MEMORIAL CEMETERY HEREINAFTER PARTICULARLY DESCRIBED:

THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4, LYING NORTH AND WEST OF STATE ROAD 19, NOW PAVED; LESS AND EXCEPT SUCH PORTION OF TAYLOR MEMORIAL CEMETERY INCLUDED THEREIN, WHICH CEMETERY IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE EAST 1/2 MILE CORNER OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA; RUN WEST 1490 FEET TO AN IRON PIPE ON THE NORTH RIGHT-OF-WAY LINE OF SAID STATE ROAD NOW PAVED; THENCE SOUTHWESTERLY ALONG SAID RIGHT-OF-WAY LINE 446.5 FEET TO A CEMENT MARKER AND THE POINT OF BEGINNING OF CEMETERY PROPERTY; RUN THENCE SOUTHWESTERLY WITH THE NORTH RIGHT-OF-WAY LINE OF SAID ROAD 509.4 FEET; THENCE NORTH 36°27' WEST, 573.6 FEET; THENCE NORTH 51°33' EAST, 500 FEET; THENCE SOUTH 38°27' EAST, 500 FEET TO THE POINT OF BEGINNING;

AND

THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4, LYING NORTH AND WEST OF STATE ROAD 19, NOW PAVED, LESS AND EXCEPT SUCH PART THEREOF AS IS CONTAINED IN THE PLAT OF PALM GARDENS AS RECORDED IN THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA ON FEBRUARY 26, 1951, IN PLAT BOOK 12, PAGE 11;

AND

THE WEST 1/2, LESS AND EXCEPT THE NORTH 3/4 OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4, IN SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA;

AND

THAT PART OF THE SOUTH 1/4 OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4, LYING SOUTH OF COUNTY CLAY ROAD, IN SECTION 26, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA. SUBJECT TO THE RIGHTS-OF-WAY FOR ALL EXISTING STATE, COUNTY AND TOWN ROAD, STREETS AND HIGHWAYS;

AND

A TRACT OF LAND LOCATED IN THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA, AND GENERALLY DESCRIBED AS LYING SOUTH OF THE RESIDENCE OF DON WHITE AND WEST OF THE WESTERLY BOUNDARY LINE OF PALM GARDENS SUBDIVISION;

AND

ALL OF BLOCK D-14, ACCORDING TO THE PLAT OF PALM GARDENS, FILED FEBRUARY 26, 1951, AND RECORDED IN PLAT BOOK 12, PAGE 11, OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA.

ALL OF THE ABOVE LAKE COUNTY PROPERTY BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THAT PART OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, IN THE TOWN OF HOWEY IN THE HILLS, FLORIDA, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGIN AT THE NORTHWEST CORNER OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35; THENCE RUN EAST ALONG THE NORTH LINE THEREOF TO THE NORTHEAST CORNER OF THE SAID SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4; THENCE RUN SOUTHEASTERLY ALONG A STRAIGHT LINE TO THE NORTHEAST CORNER OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35; THENCE RUN SOUTH ALONG EAST LINE THEREOF, TO THE SOUTHEAST CORNER OF THE SAID SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4; THENCE RUN WEST ALONG THE SOUTH LINE THEREOF TO THE SOUTHWEST CORNER OF THE SAID NORTHWEST 1/4 OF THE NORTHEAST 1/4; THENCE RUN NORTH ALONG THE WEST LINE OF THE SAID NORTHWEST 1/4 OF THE NORTHEAST 1/4 TO THE POINT OF BEGINNING; LESS ALL RIGHTS-OF-WAY FOR STREETS IN HOWEY IN THE HILLS, FLORIDA.

ALL OF BLOCK D-14 IN PALM GARDENS, A SUBDIVISION IN THE TOWN OF HOWEY IN THE HILLS, FLORIDA, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 12, PAGE 11 OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA.

THE SOUTH 3/4 OF THE WEST 1/2; THE NORTHWEST 1/4 OF THE NORTHWEST 1/4, LESS THE RIGHT-OF-WAY OF A COUNTY CLAY ROAD; AND THE SOUTH 1/4 OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA, IN THE TOWN OF HOWEY IN THE HILLS, FLORIDA.

THAT PART OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 AND THAT PART OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 LYING NORTH AND WEST OF THE WESTERLY LINE OF THE RIGHT-OF-WAY OF STATE ROAD NO. 19, IN SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA, IN THE TOWN OF HOWEY IN THE HILLS, FLORIDA; LESS AND EXCEPT THEREFROM THAT PART THEREOF LYING WITHIN TAYLOR MEMORIAL CEMETERY, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 12, PAGE 5, OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA, AND ALSO LESS ALL RIGHTS-OF-WAY FOR STREETS IN HOWEY IN THE HILLS, FLORIDA.

THAT PART OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, IN THE TOWN OF HOWEY IN THE HILLS, FLORIDA, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGIN AT THE NORTHWEST CORNER OF LOT 1, IN BLOCK D-14, IN PALM GARDENS, ACCORDING TO THE PLAT THEREOF RECORDED IN BOOK 12, PAGE 11, OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA; THENCE RUN WEST TO THE WEST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF THE SAID SECTION 35; THENCE RUN SOUTH ALONG THE WEST LINE OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF THE SAID SECTION 35 TO A POINT ON THE NORTHWESTERLY LINE OF THE RIGHT-OF-WAY OF STATE ROAD NO. 19; THENCE RUN NORTHEASTERLY ALONG THE NORTHWESTERLY LINE OF THE SAID RIGHT-OF-WAY LINE OF BLOCK D-14, OF THE SAID PALM GARDENS SUBDIVISION; THENCE RUN NORTHWESTERLY ALONG THE WESTERLY LINE OF THE SAID BLOCK D-14, TO THE POINT OF BEGINNING; LESS ALL RIGHTS-OF-WAY FOR STREETS IN HOWEY IN THE HILLS, FLORIDA,

THAT PART OF THE SOUTH 1/4 OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 26, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA, LYING SOUTH OF THE SOUTHERLY LINE OF THE RIGHT-OF-WAY OF THE COUNTY ROAD.

LESS THE FOLLOWING DESCRIBED PARCEL:

COMMENCE AT THE EAST 1/4 CORNER OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA; THENCE RUN NORTH 89°21'35" WEST ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF SAID SECTION 35, 1487.79 FEET TO A POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 19; THENCE RUN SOUTH 52°07'27" WEST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE 459.23 FEET TO THE POINT OF CURVATURE OF A CURVE CONCAVE SOUTHEASTERLY; THENCE RUN SOUTHWESTERLY ALONG THE ARC OF SAID CURVE AND SAID NORTHWESTERLY RIGHT-OF-WAY LINE HAVING A CENTRAL ANGLE OF 14°35'56", A RADIUS OF 2341.83 FEET, AN ARC LENGTH OF 596.69 FEET, A CHORD BEARING OF SOUTH 44°49'31" WEST AND A CHORD DISTANCE OF 595.08 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE BEING A CURVE CONCAVE SOUTHEASTERLY; THENCE RUN SOUTHWESTERLY ALONG SAID CURVE HAVING A CENTRAL ANGLE OF 22°58'29", A RADIUS OF 2341.83 FEET, AN ARC LENGTH OF 939.04 FEET; A CHORD BEARING OF SOUTH 26°02'16" WEST AND A CHORD DISTANCE OF 932.76 FEET; THENCE RUN NORTH 75°26'58" WEST, 402.66 FEET; THENCE RUN SOUTH 68°12'24" WEST, 668.73 FEET; THENCE RUN NORTH 53°42'00" WEST, 250.16 FEET; THENCE RUN NORTH 12°38'17" EAST, 257.60 FEET; THENCE RUN NORTH 77°21'43" WEST, 125.00 FEET; THENCE RUN NORTH 12°38'17" EAST, 13.01 FEET TO THE POINT OF CURVATURE OF A CURVE CONCAVE EASTERLY; THENCE RUN NORTHEASTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 39°28'41", A RADIUS OF 75.00 FEET, AN ARC LENGTH OF 51.68 FEET, A CHORD BEARING OF NORTH 32°22'37" EAST AND A CHORD DISTANCE; OF 50.66 FEET TO THE POINT OF TANGENCY; THENCE RUN NORTH 54°47'17" EAST, 150.16 FEET; THENCE RUN SOUTH 52°06'58" EAST, 205.75 FEET TO THE POINT OF CURVATURE OF A CURVE CONCAVE SOUTHERLY; THENCE RUN EASTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 62°53'19", A RADIUS OF 24.99 FEET, AN ARC LENGTH OF 27.43 FEET, A CHORD BEARING OF NORTH 83°33'05" EAST AND A CHORD DISTANCE OF 26.08 FEET TO THE POINT OF REVERSE CURVATURE OF A CURVE CONCAVE NORTHWESTERLY; THENCE RUN NORTHEASTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 125°45'35", A RADIUS OF 89.09 FEET, AN ARC LENGTH OF 218.47 FEET, A CHORD BEARING OF NORTH 52°06'58" EAST AND A CHORD DISTANCE OF 178.00 FEET TO THE POINT OF REVERSE CURVATURE OF A CURVE CONCAVE SOUTHEASTERLY; THENCE RUN NORTHEASTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 62°53'19", A RADIUS OF 24.99 FEET, AN ARC LENGTH OF 27.43 FEET, A CHORD BEARING OF NORTH 20°40'51" EAST AND A CHORD DISTANCE OF 26.08 FEET TO THE POINT OF TANGENCY; THENCE RUN NORTH 52°06'58" EAST, 560.98 FEET TO A POINT ON THE NORTHWESTERLY EXTENSION OF THE SOUTHWESTERLY LINE OF TAYLOR MEMORIAL CEMETERY; THENCE RUN SOUTH 37°58'58" EAST ALONG SAID NORTHWESTERLY EXTENSION LINE, 613.80 FEET TO THE POINT OF BEGINNING.

ALSO LESS THE FOLLOWING DESCRIBED PARCEL:

COMMENCE AT THE EAST 1/4 CORNER OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA; THENCE RUN NORTH 89°21'35" WEST ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF SAID SECTION 35, 1487.79 FEET TO A POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 19; THENCE RUN SOUTH 52°07'27" WEST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 66.25 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE SOUTH 52°07'27" WEST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 392.88 FEET TO THE POINT OF CURVATURE OF A CURVE CONCAVE SOUTHEASTERLY; THENCE RUN SOUTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 02°12'24", A RADIUS OF 2341.83 FEET, AN ARC LENGTH OF 90.19 FEET, A CHORD BEARING OF SOUTH 51°01'15" WEST AND A CHORD DISTANCE OF 90.19 FEET TO THE MOST EASTERLY CORNER OF TAYLOR MEMORIAL CEMETERY; THENCE RUN NORTH 38°00'31" WEST, ALONG THE NORTHEASTERLY LINE OF SAID TAYLOR MEMORIAL CEMETERY, 547.00 FEET; THENCE RUN NORTH 52°06'58" EAST, 484.34 FEET TO THE POINT OF CURVATURE OF A CURVE CONCAVE SOUTHERLY; THENCE RUN SOUTHEASTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 90°00'00", A RADIUS OF 10.00 FEET, AN ARC LENGTH OF 15.71 FEET, A CHORD BEARING OF SOUTH 82°53'02" EAST AND A CHORD DISTANCE OF 14.14 FEET TO THE POINT OF TANGENCY; THENCE RUN SOUTH 37°53'02" EAST, 525.33 FEET TO THE POINT OF CURVATURE OF A CURVE CONCAVE NORTHWESTERLY; THENCE RUN SOUTHEASTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 90°00'00", A RADIUS OF 10.00 FEET, AN ARC LENGTH OF 15.71 FEET, A CHORD BEARING OF SOUTH 07°07'12" WEST AND A CHORD DISTANCE OF 14.14 FEET TO THE POINT OF BEGINNING.

AND, ALSO LESS THE FOLLOWING DESCRIBED PARCEL:

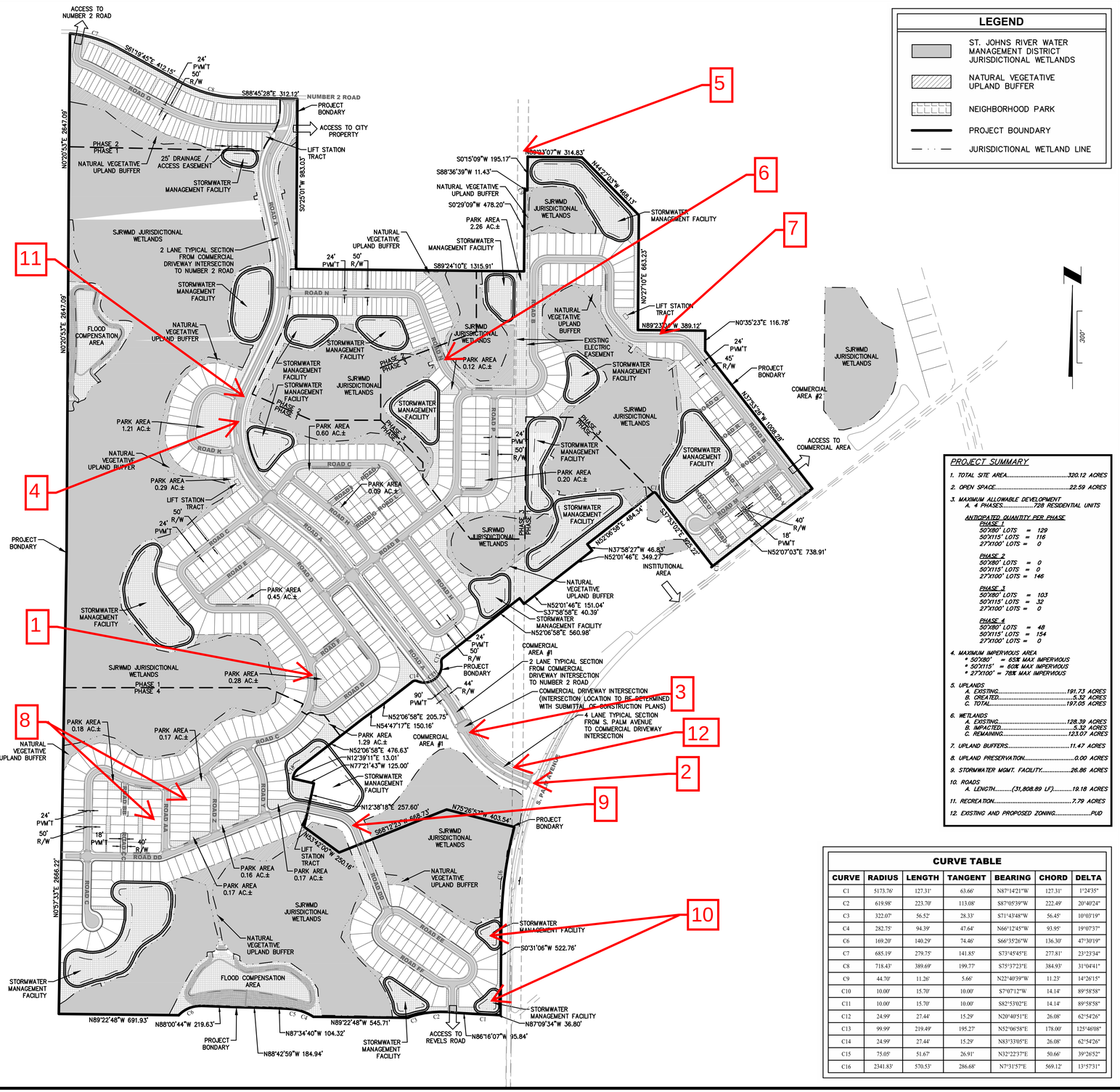
COMMENCE AT THE EAST 1/4 CORNER OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA; THENCE RUN NORTH 89°21'35" WEST ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF SAID SECTION 35, 1487.79 FEET TO A POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 19 THENCE RUN NORTH 52°07'27" EAST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 673.75 FEET TO THE POINT OF BEGINNING; THENCE RUN NORTH 37°53'02" WEST, 1008.88 FEET; THENCE RUN NORTH 00°35'47" EAST, 116.78 FEET TO A POINT ON THE NORTH LINE OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SAID SECTION 35; THENCE RUN SOUTH 89°24'13" EAST ALONG SAID NORTH LINE, 270.08 FEET TO A POINT ON THE WEST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35; THENCE RUN NORTH 00°35'58" EAST ALONG SAID WEST LINE, 256.12 FEET TO A POINT ON THE SOUTH LINE OF THE RESIDENCE OF DON WHITE; THENCE RUN SOUTH 89°24'13" EAST ALONG SAID SOUTH LINE, 418.17 FEET; THENCE RUN SOUTH 00°35'47" WEST, 709.10 FEET; THENCE RUN SOUTH 37°52'33" EAST, 317.47 FEET TO A POINT ON SAID NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 19; THENCE RUN SOUTH 52°07'27" WEST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 329.54 FEET TO THE POINT OF BEGINNING.

ALSO, LESS AND EXCEPT THE FOLLOWING DESCRIBED PARCEL:

THAT PARCEL DESCRIBED AS THE TAYLOR MEMORIAL CEMETERY IN THAT QUITCLAIM DEED RECORDED IN OFFICIAL RECORDS BOOK 1147, PAGE 1398, OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA.

PARCEL 2 (EASEMENT ESTATE):

TOGETHER WITH THOSE APPURTENANT EASEMENTS AS SET FORTH AND GRANTED BY EAGLES LANDING AT OCOEE, INC., A FLORIDA CORPORATION, TO HOWEY IN THE HILLS, A FLORIDA LIMITED PARTNERSHIP, IN THAT DEVELOPMENT AGREEMENT AND GRANT OF EASEMENTS, RECORDED NOVEMBER 10, 2005 IN OFFICIAL RECORDS BOOK 3003, PAGE 1377, OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA.



PROJECT SUMMARY

1. TOTAL SITE AREA.....320.12 ACRES
2. OPEN SPACE.....22.59 ACRES
3. MAXIMUM ALLOWABLE DEVELOPMENT
   A. 4 PHASES.....728 RESIDENTIAL UNITS

ANTICIPATED QUANTITY PER PHASE

PHASE 1
50'X80' LOTS = 129
50'X115' LOTS = 116
27'X100' LOTS = 0

PHASE 2
50'X80' LOTS = 0
50'X115' LOTS = 0
27'X100' LOTS = 146

PHASE 3
50'X80' LOTS = 103
50'X115' LOTS = 32
27'X100' LOTS = 0

PHASE 4
50'X80' LOTS = 48
50'X115' LOTS = 154
27'X100' LOTS = 0

4. MAXIMUM IMPERVIOUS AREA
   * 50'X80' = 65% MAX IMPERVIOUS
   * 50'X115' = 60% MAX IMPERVIOUS
   * 27'X100' = 78% MAX IMPERVIOUS
5. UPLANDS
   A. EXISTING.....191.73 ACRES
   B. BREATED.....5.32 ACRES
   C. TOTAL.....197.05 ACRES
6. WETLANDS
   A. EXISTING.....128.39 ACRES
   B. IMPACTED.....5.32 ACRES
   C. REMAINING.....123.07 ACRES
7. UPLAND BUFFERS.....11.47 ACRES
8. UPLAND PRESERVATION.....0.00 ACRES
9. STORMWATER MGMT. FACILITY.....26.86 ACRES
10. ROADS
    A. LENGTH.....(31,808.89 LF).....19.18 ACRES
11. RECREATION.....7.79 ACRES
12. EXISTING AND PROPOSED ZONING.....PUD

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	BEARING	CHORD	DELTA
C1	5173.76'	127.31'	63.66'	N87°14'21"W	127.31'	1°24'35"
C2	619.98'	223.70'	113.08'	S87°05'39"W	222.49'	20°40'24"
C3	322.07'	56.52'	28.33'	S71°43'48"W	56.45'	10°03'19"
C4	282.75'	94.39'	47.64'	N66°12'45"W	93.95'	19°07'37"
C6	169.20'	140.29'	74.46'	S66°35'26"W	136.30'	47°30'19"
C7	685.19'	279.75'	141.85'	S73°45'45"E	277.81'	23°23'34"
C8	718.43'	389.69'	199.77'	S75°37'23"E	384.93'	31°04'41"
C9	44.70'	11.26'	5.66'	N22°40'39"W	11.23'	14°26'15"
C10	10.00'	15.70'	10.00'	S7°07'12"W	14.14'	89°58'58"
C11	10.00'	15.70'	10.00'	S82°53'02"E	14.14'	89°58'58"
C12	24.99'	27.44'	15.29'	N20°40'51"E	26.08'	62°54'26"
C13	99.99'	219.49'	195.27'	N52°06'58"E	178.00'	125°46'08"
C14	24.99'	27.44'	15.29'	N83°33'05"E	26.08'	62°54'26"
C15	75.05'	51.67'	26.91'	N32°22'37"E	50.66'	39°26'52"
C16	2341.83'	570.53'	286.68'	N7°31'57"E	569.12'	13°57'31"

Connelly & Wicker Inc.
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10060 Skinner Lake Drive, Suite 500 Jacksonville, Florida 32246
(904) 265-3030 FAX: (904) 265-3031 www.cwieng.com
Florida Registry 3650 L.A. Number: LC26000311

No.	Date	Revision	By
A.			
A.			
A.			
A.			
A.			
A.			

MASTER SITE PLAN

HILLSIDE GROVE
HOWEY IN THE HILLS
PREPARED FOR
LENNAR HOMES - ORLANDO

JUSTIN ELLERY WILLIAMS
P.E. NUMBER: 69260
Reg. Engineer

Project No.:	21-04-0008
Designed:	JEW
Drawn:	JEW
Checked:	JEW
O.C.:	RCW
Date:	SEPTEMBER 8, 2022
Scale:	1" = 300'
Sheet	3

ORDINANCE NO. 2022-019

AN ORDINANCE OF THE TOWN OF HOWEY-IN-THE-HILLS, FLORIDA, PERTAINING TO LAND USE; AMENDING ORDINANCE 2021-010 PERTAINING TO THE USE OF LAND WITHIN THE PROPERTY KNOWN AS THE RESERVE AT HOWEY-IN-THE-HILLS; PROVIDING FINDINGS OF THE TOWN COUNCIL; AMENDING THE AMENDED AND RESTATED DEVELOPER'S AGREEMENT FOR THE RESERVE AT HOWEY-IN-THE-HILLS TO ALLOW A CHANGE IN THE REQUIREMENTS FOR CONSTRUCTION OF A NORTH-SOUTH ROAD; RATIFYING AND CONFIRMING THE PROVISIONS OF ORDINANCE 2021-010, AS AMENDED; PROVIDING FOR SEVERABILITY, CONFLICTS, AND AN EFFECTIVE DATE.

BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF HOWEY-IN-THE-HILLS, FLORIDA:

Section 1. Findings. The owners of the land zoned under Ordinance 2021-010 for The Reserve at Howey-in-the-Hills Planned Unit Development ("The Reserve") have requested an amendment to the land-use approvals for The Reserve to allow the north-south spine road labeled "Road A" to be constructed as a two-lane road instead of a four-lane road. The request is reasonable and the Town Council is willing to approve it.

Section 2. Amendments to Land-Use Approvals.

a) The proposed "First Amendment to the Amended and Revised Developer's Agreement for The Reserve at Howey-in-the-Hills" ("First Amendment") is approved. The Town Manager and the Town Clerk are authorized and directed to execute and deliver to the Owners the First Amendment as presented to the Town Council, with such amendments (if any) approved by Town Council.

b) The list in section 2 of Ordinance 2021-010 of the land-use approvals and other documents containing the conditions, requirements, restrictions, and other terms pertaining to development of The Reserve is amended to add the following:

i. The First Amendment to Amended and Restated Developer's Agreement for The Reserve at Howey-in-the-Hills, dated as of _____, 202__, including its Attachment 1; and

ii. The Master Site Plan for The Reserve at Howey-in-the-Hills dated August 2022

and contained in Attachment 1 to the First Amendment; and

iii. The Typical Roadway Cross Section for 90' Right of Way contained in Attachment 1 to the First Amendment; and

iv. The Typical Roadway Cross Section for 90' Right of Way (4 lane section) contained in Attachment 1 to the First Amendment.

Section 3. Ratification; Future Amendments to Developer's Agreement.

a) The First Amendment shall prevail over and supersede Ordinance 2021-010 and the land-use approvals itemized in section 2 of Ordinance 2021-010, but only to the extent a conflict exists between or among them. Otherwise, Ordinance 2021-010 and the land-use approvals and other instruments and documents identified in section 2 of the ordinance are ratified, validated, and confirmed herewith and declared to remain in full force and effect.

b) The Town Council is authorized to approve future amendments (if any) to the Amended and Restated Developer's Agreement for The Reserve at Howey-in-the-Hills without the necessity of amending either Ordinance 2021-010 or this ordinance.

Section 4. Severability. If any part of this ordinance is declared by a court of competent jurisdiction to be void, unconstitutional, or unenforceable, the remaining parts of this ordinance shall remain in full effect. To that end, this ordinance is declared to be severable.

Section 5. Codification. This ordinance shall be codified only if the Town Manager determines, upon consultation with the Town Attorney and Town Planner, that codification is necessary or useful to the Town and its citizens.

Section 6. Effective Date. This ordinance shall take effect upon the later of (i) its enactment by the Town Council or (ii) the date on which the First Amendment to the Amended and Restated Developer's Agreement for Howey-in-the-Hills takes effect.

ORDAINED AND ENACTED this ____ day of _____, 2022, by the Town Council of the Town of Howey-in-the-Hills, Florida.

TOWN OF HOWEY-IN-THE-HILLS, FLORIDA
By: its Town Council

By:_____
Martha MacFarlane, Mayor

ATTEST:

_____
John Brock
Town Clerk

APPROVED AS TO FORM AND LEGALITY
(for use and reliance of the Town only)

_____
Thomas J. Wilkes
Town Attorney

Planning and Zoning hearing held **September 22, 2022**

First Reading held _____**, 2022**

Second Reading and Adoption held _____**, 2022**

Advertised _____**, 2022**

Record and Return to:

Thomas J. Wilkes
Gray Robinson, P.A.
301 East Pine Street, Suite 1400
Orlando, FL 32801

As approved by Town Council
for the Town of Howey-in-the-Hills, Florida

FIRST AMENDMENT

to the

AMENDED AND RESTATED DEVELOPER'S AGREEMENT

THE RESERVE AT HOWEY-IN-THE-HILLS

This **FIRST AMENDMENT to THE AMENDED AND RESTATED DEVELOPER'S AGREEMENT for THE RESERVE AT HOWEY-IN-THE-HILLS** ("First Amendment") is made as of the ___ day of _____, 2022, among the **Town of Howey-in-the-Hills, Florida,** a Florida municipal corporation, whose address for purposes of this First Amendment is 101 North Palm Avenue, Howey-in-the-Hills, Florida 34737 (the "Town"), **Eagle's Landing at Ocoee, LLC**, a Florida limited liability company f/k/a Eagles Landing at Ocoee, Inc., a Florida corporation, whose address for purposes of this First Amendment is P.O. Box 770609, Winter Garden, Florida 34777, **Howey In the Hills, Ltd.**, a Florida limited partnership, whose address for purposes of this First Amendment is 10165 NW 19th Street, Miami, Florida 33172 and **ASF TAP FL I, LLC,** a Delaware limited liability company authorized to do business in the State of Florida, whose address for purposes of this First Amendment is 3565 Piedmont Road NE, Building 1, Suite 200, Atlanta, GA 30305 (collectively, the "Owners").

RECITALS

A. The Town and the Owners entered into that certain Amended and Restated Developer's Agreement for The Reserve at Howey-in-the-Hills dated as of November 8, 2021 ("Developer's Agreement"), under which the Town and the Owners set forth the requirements, restrictions, terms, and conditions for the development of the planned unit development known as The Reserve at Howey-in-the-Hills ("The Reserve"). The Developer's Agreement is recorded at Official Records Book 5903, page 1507, of the Public Records of Lake County, Florida.

B. The Owners are the owners of the approximately 378 acres of land that comprise The Reserve, which land is more particularly described on Exhibit A to the Developer's Agreement ("the Property").

C. The Property is within the corporate limits of the Town, has a future-land-use designation of Village Mixed Use, and is zoned for PUD-Planned Unit Development. The

Developer's Agreement allows the Owners to develop the Property as a mixed-use planned development consisting of single-family residential, multi-family residential, commercial, and institutional land uses, as more specifically set forth in the Developer's Agreement.

D. ASF TAP FL I, LLC, is the successor in interest to REO Funding Solutions IV, LLC, an original party to the Developer's Agreement, and has full right and authority to enter into and execute this First Amendment.

D. The Town and the Owners now intend to enter into this First Amendment for the sole purpose of modifying the requirements and restrictions applicable to the north-south road known on the site plan as "Road A."

NOW, THEREFORE, the Town and the Owners agree as follows:

1. Recitals. The foregoing recitals are true and correct and are hereby incorporated as terms.

2. Authority . This First Amendment is entered into by the Town under the home rule powers granted to it by the Florida Constitution (including Article VIII, Section 2(b) thereof), the home-rule powers granted municipalities by statute and otherwise (including Chapters 163 and 166, Florida Statutes), and the Town's Charter. The Agreement as amended by this First Amendment does not constitute a "development agreement" under the Florida Local Government Development Agreement Act.

3. Amendment. The Owners may construct the north-south spine road labeled "Road A" in accordance with the following contained in Attachment 1 to this First Amendment: (i) the Master Site Plan dated as of August 2022 and (ii) the two-lane and four-lane road cross sections. Road A shall be completed as part of the improvements required in Phase 1 of the development.

4. Ratification. Except as provided in paragraph 3 of this First Amendment, all provisions of the Developer's Agreement remain in full force and effect and are ratified and confirmed by the parties to the Developer's Agreement.

5. Notices. All notices or payments required to be made hereunder shall be made at the following addresses:

To Town: Hon. Martha MacFarlane, Mayor,
Town of Howey-in-the-Hills
101 North Palm Avenue
Howey-in-the-Hills, FL 34737
mmacfarlane@howey.org

With copies to: Sean O'Keefe, Town Administrator

Town of Howey-in-the-Hills
101 North Palm Avenue
Howey-in-the-Hills, FL 34737
sokeefe@howey.org

Thomas J. Wilkes
Gray Robinson, P.A.
301 East Pine Street, Suite 1400
Orlando, FL 32801
twilkes@gray-robinson.com

To Owner:

Eagles Landing at Ocoee, Inc.
Attention: Randy June
June Engineering Consultants, Inc.
23 W. Joiner Street
Winter Garden, Florida 34787
randy@jec3.com

With a copy to:

C. Nick Asma, *Esquire*
Asma & Asma, P.A.
884 South Dillard Street
Winter Garden, Florida 34787
Phone: 407-656-5750 | Fax: 407-656-0486
Nick.Asma@asmapa.com

To Owner:

Howey in the Hills, Ltd.
Attention: Edward J. Easton
10165 NW 19th Street
Miami, FL 33172

With copies to:

Joe Hernandez
Weiss, Serota Helfman Cole and Bierman, P.L
2525 Ponce de Leon Blvd. Suite 700
Coral Gables, Florida 33134
jhernandez@wsh-law.com

Lennar
Attn. Mark McDonald
6675 Westwood Boulevard, 5th Floor
Orlando, Florida 32821
Mark.McDonald@Lennar.com

To Owner:

ASF TAP FL I, LLC
3565 Piedmont Road NE, Bldg. 1, Suite 200
Atlanta, GA 30305
Attn: Dror Bezalel, CFO
[***add email address***]

With copies to: _____
_____
_____

20. Entire Agreement. The Developer's Agreement as amended by this First Amendment constitutes the entire agreement of the parties with respect to the transactions contemplated herein and supersedes all prior understandings or agreements among the parties relating to The Reserve PUD. No amendment to the Developer's Agreement, as amended hereby, shall be effective unless it is in writing signed by all parties hereto. Amendments to the Developer's Agreement will take effect and be binding against the Town only if approved by a vote of the Town Council.

21. Recording. This First Amendment shall be recorded in the Public Records of Lake County, Florida, by the Owners, at their expense.

22. Effective Date. This First Amendment shall become effective concurrently with the effectiveness of Ordinance 2022-___ after enactment of that ordinance by the Town Council and execution of this Agreement by all parties.

[Signatures on the following pages]

IN WITNESS WHEREOF, the parties have executed this instrument as of the day and year first above written.

TOWN OF HOWEY-IN-THE HILLS, FLORIDA
By: its Town Council

By: _____
Martha MacFarlane, Mayor

Attest:

By: _____
John Brock, Town Clerk

Approved as to form and legality:
(for the use and reliance of the Town only)

By: _____
Thomas J. Wilkes, Town Attorney

STATE OF FLORIDA
COUNTY OF LAKE

The foregoing instrument was executed, sworn to and acknowledged before me by means of ____ physical presence or _____ online notarization, this ___ day of _____, 2022, by MARTHA MACFARLANE, as Mayor of TOWN OF HOWEY-IN-THE-HILLS, a Florida municipal corporation, on its behalf.

(SEAL)

_____
Signature of Notary Public

_____
Name of Notary Public
(Typed, Printed or stamped)

Personally Known ____ ***OR*** Produced Identification _____
(Type of Identification Produced)

IN WITNESS WHEREOF, the parties have executed this instrument as of the day and year first above written.

Signed, sealed and delivered
in the presence of:

"WITNESSES"

_____
Printed Name: _____

_____
Printed Name: _____

"OWNER"

EAGLES LANDING AT OCOEE, LLC,
a Florida limited liability company f/k/a Eagles Landing at Ocoee, Inc., a Florida corporation

By: _____
Printed Name: _____
As its: _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was executed, sworn to and acknowledged before me by means of ____ physical presence or _____ online notarization, this ___day of _____, 2021, by _____, as _____ of EAGLES LANDING AT OCOEE, LLC, a Florida limited liability company f/k/a Eagles Landing at Ocoee, Inc., a Florida corporation, on its behalf.

(SEAL)

_____
Signature of Notary Public

_____
Name of Notary Public
(Typed, Printed or stamped)

Personally Known ____ ***OR*** Produced Identification _____
(Type of Identification Produced)

IN WITNESS WHEREOF, the parties have executed this instrument as of the day and year first above written.

Signed, sealed and delivered
in the presence of:

"WITNESSES"

_____
Printed Name: _____

_____
Printed Name: _____

"OWNER"

HOWEY IN THE HILLS, LTD., a Florida limited partnership

By: _____
Printed Name: _____
Title: _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was executed, sworn to and acknowledged before me by means of _____physical presence or _____ online notarization, this ____ day of _____, 2022, by _____, as _____ of HOWEY IN THE HILLS, LTD., a Florida limited partnership, on its behalf.

(SEAL)

_____
Signature of Notary Public

_____
Name of Notary Public
(Typed, Printed or stamped)

Personally Known ____ ***OR*** Produced Identification _____
(Type of Identification Produced)

IN WITNESS WHEREOF, the parties have executed this instrument as of the day and year first above written.

Signed, sealed and delivered
in the presence of:

"WITNESSES"

_____
Printed Name: _____

_____
Printed Name: _____

"OWNER"

ASF TAP FL I, LLC, a Delaware limited liability company

By: _____
Printed Name: _____
As its: _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was executed, sworn to and acknowledged before me by means of ____ physical presence or _____ online notarization, this _____ day of _____, 2022, by _____, as _____ of **ASF TAP FL I, LLC.**, a Delaware limited liability company, on its behalf.

(SEAL)

_____
Signature of Notary Public

_____
Name of Notary Public
(Typed, Printed or stamped)

Personally Known ____ ***OR*** Produced Identification _____
(Type of Identification Produced)

ATTACHMENT 1
to the
FIRST AMENDMENT
to
AMENDED AND RESTATED DEVELOPER'S AGREEMENT
for
THE RESERVE AT HOWEY-IN-THE-HILLS

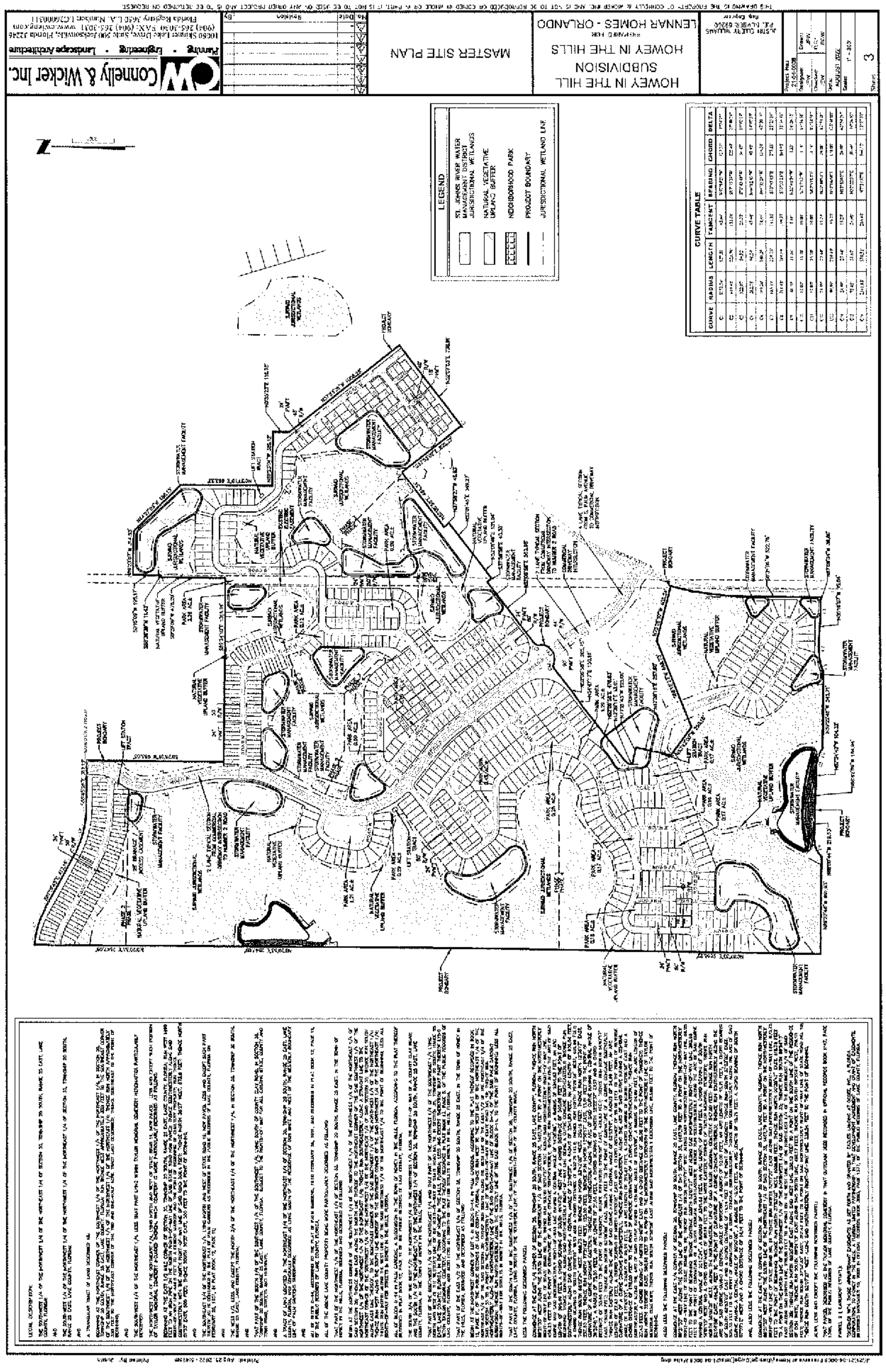
Master Site Plan dated August 2022

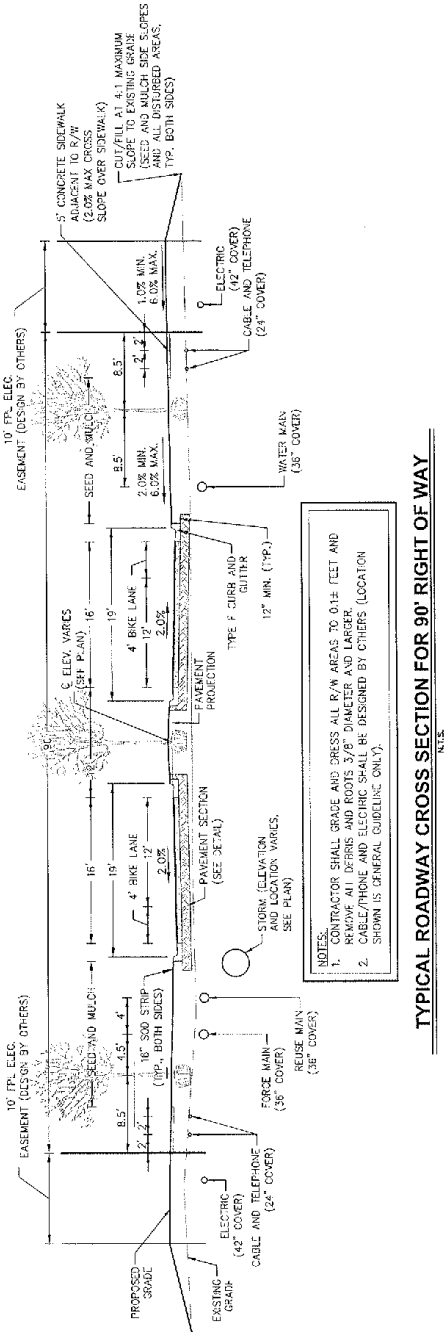
Typical Roadway Cross Section for 90' Right of Way

And

Typical Roadway Cross Section for 90' Right of Way
(4 lane section)

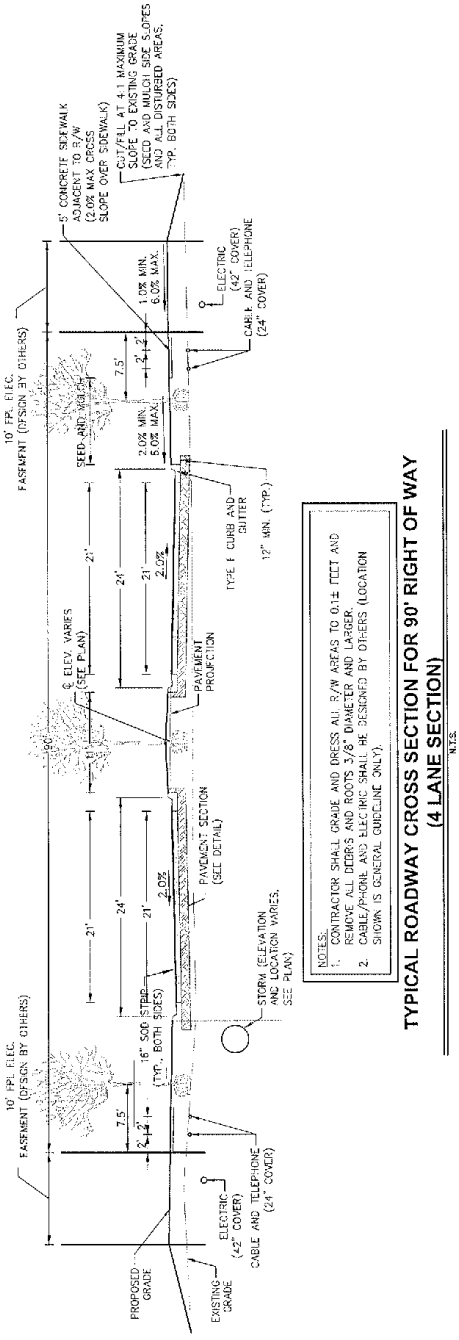
Draft
9-16-2022





TYPICAL ROADWAY CROSS SECTION FOR 90' RIGHT OF WAY

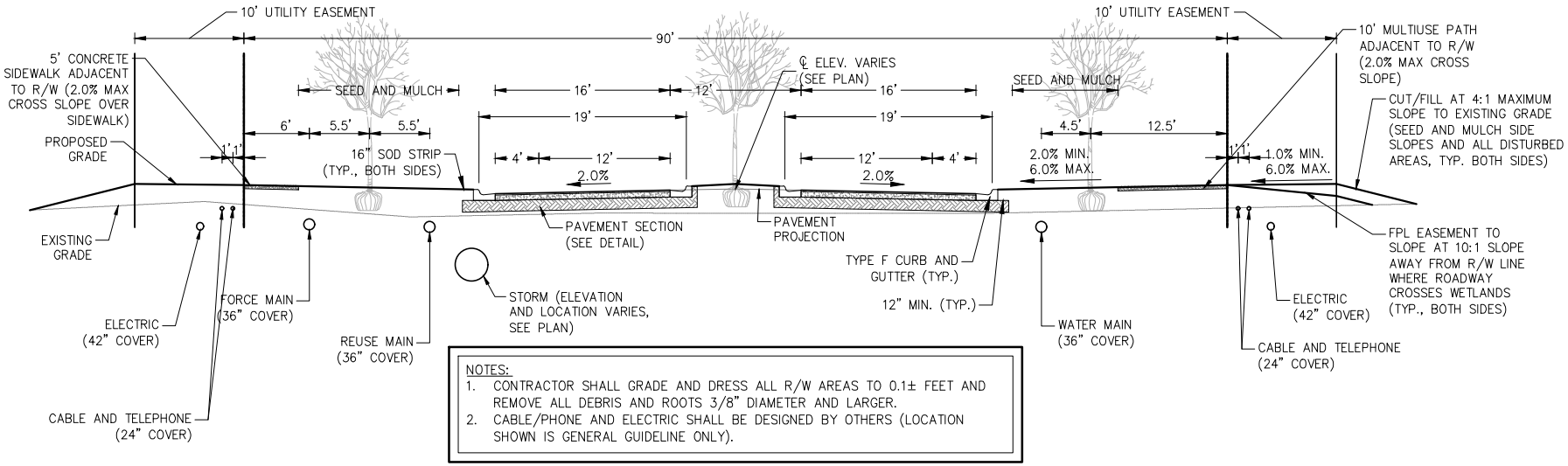
N.T.S.



NOTES:
1. CONTRACTOR SHALL GRADE AND DRESS ALL R/W AREAS TO 0.1± FEET AND REMOVE ALL DEBRIS AND ROOTS 3/8" DIAMETER AND LARGER.
2. CABLE/PHONE AND ELECTRIC SHALL BE DESIGNED BY OTHERS (LOCATION SHOWN IS GENERAL GUIDELINE ONLY).

TYPICAL ROADWAY CROSS SECTION FOR 90' RIGHT OF WAY
(4 LANE SECTION)
N.T.S.

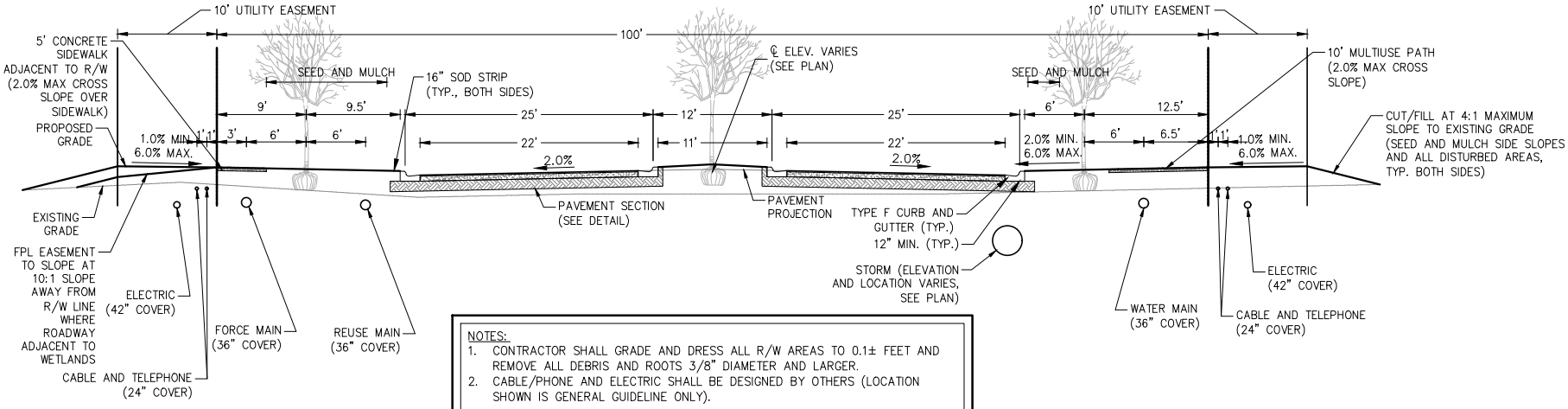
#48304220 v2



NOTES:
1. CONTRACTOR SHALL GRADE AND DRESS ALL R/W AREAS TO 0.1± FEET AND REMOVE ALL DEBRIS AND ROOTS 3/8" DIAMETER AND LARGER.
2. CABLE/PHONE AND ELECTRIC SHALL BE DESIGNED BY OTHERS (LOCATION SHOWN IS GENERAL GUIDELINE ONLY).

TYPICAL ROADWAY CROSS SECTION FOR 90' RIGHT OF WAY

N.T.S.



NOTES:
1. CONTRACTOR SHALL GRADE AND DRESS ALL R/W AREAS TO 0.1± FEET AND REMOVE ALL DEBRIS AND ROOTS 3/8" DIAMETER AND LARGER.
2. CABLE/PHONE AND ELECTRIC SHALL BE DESIGNED BY OTHERS (LOCATION SHOWN IS GENERAL GUIDELINE ONLY).

TYPICAL ROADWAY CROSS SECTION FOR 100' RIGHT OF WAY (4 LANE SECTION)

N.T.S.

Traffic & Mobility Consultants

MEMORANDUM

September 12, 2022

Re: The Reserve at Howey in the Hills
Internal Spine Road Capacity Analysis
Town of Howey in the Hills, Florida
Project № 21082, v1.1

Traffic & Mobility Consultants (TMC) prepared a Traffic Impact Analysis (TIA) for The Reserve at Howey in the Hills project in November 2021. The TIA was reviewed and approved by the Town of Howey in the Hills early 2022. The approved TIA was based on a Site Plan that included a 4-lane divided boulevard, which serves at the main internal roadway (Road A in the PUD Plan) to the development. The spine road connects the main project entrance on SR 19 to the south and the secondary project entrance on Number 2 Road to the north.

The Developer of this project is proposing to modify the configuration of the internal spine road to have the 4-lane divided section that extends from SR 19 to the commercial driveway intersection, then dropping the road section to a 2-lane divided roadway from the commercial driveway intersection to Number 2 Road.

The purpose of this Technical Memorandum is to examine the capacity of the internal spine road (Road A) to ensure that the road can accommodate the projected traffic generated by the proposed development with the proposed change in the cross-section.

The peak hour directional capacity used in the traffic study for the internal spine road is 612 vehicles/hour for the 2-lane roadway section. The capacity of the 4-lane divided roadway section for the same roadway would be 1,314 vehicles/hour for a 4-lane divided roadway section. The traffic study prepared for this development shows a peak hour directional volume of 201 vehicles/hour in the westbound direction (traffic entering the site during the PM peak hour period) of the 2-lane internal divided roadway section of the spine road (Road A). Exerts of the TIA report showing the projected AM and PM peak hour volumes are provided in the **Attachments**. Since the capacity of the 2-lane section is 612 vehicles/hour, it is evident that the roadway will have sufficient capacity to accommodate the projected traffic generated by the residential portion of the project.

As for the 4-lane divided section of the internal spine road (Road A) from SR 19 to the commercial driveway intersection, the projected traffic volume generated by the commercial outparcels had to be calculated, since it was not included in the TIA report.

Trip Generation Analysis

A trip generation analysis was conducted for the northern and southern commercial outparcels. Based on the developable land area for the commercial outparcels, it was assumed that the total buildings will be 230,000 square feet. The trip generation analysis was conducted using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*, and the resulting trip generation of the two (2) commercial outparcels are presented in **Table 1**.

Table 1
Trip Generation Summary (Commercial Outparcels)

ITE			Daily		AM Peak Hour				PM Peak Hour			
Code	Land Use	Size	Rate	Trips	Rate	Total	Enter	Exit	Rate	Total	Enter	Exit
820	Shopping Center (>150k)	230 KSF	37.01	8,512	0.84	193	120	73	3.40	782	375	407

Source: Trip generation analysis based on ITE Trip Generation Manual, 11th Edition
** ITE regression equations are used when R-squared is greater than 0.75*

As shown above, the proposed commercial outparcels are projected to generate 8,512 daily trips, of which 193 trips occur during AM peak hour, and 782 trips occur during the PM peak hour.

Assuming all the commercial trips entering the site during the PM peak hour period will use the main spine road (Road A), which would be 375 vehicles/hour. Accordingly, the total peak hour directional traffic entering the site during the PM peak hour period would be 576 vehicles/hour (201 trips from the residential land uses + 375 trips from the commercial land uses). Since the capacity of the 4-lane divided roadway section is 1,314 vehicles/hour; therefore, the 4-lane section of the internal spine road (Road A) will have sufficient capacity to accommodate the projected traffic for The Reserve at Howey in the Hills development.

Queuing & Turn Lane Analysis

The maximum queue length was calculated at the left turn lane into the southern commercial tract was calculated to determine if there would be sufficient distance between SR 19 and the commercial entrance along Road A (Internal Spine Road). Based on the size of the southern commercial parcel proportionate to the total commercial parcels (northern & southern parcels), it was assumed that 40% of the entering commercial traffic during the PM peak hour period would turn left at the commercial entrance on Road A, which is calculated to be 150 vehicles/hour (375 vehicles/hour x 0.40). Based on roadway design speed of 35 mph, the required length of the westbound left turn lane at the intersection of Road A and Commercial Entrance was calculated as the total of the Deceleration Length plus the Queue Length as shown below:

Left Turn Lane = Deceleration Length + Queue Length
Deceleration Length @ 35 mph design speed = 145 feet (using FDM Exhibit 212-1)
Queue length = 2 x 25 x Left Turn Volume (150 vehicles)/60 = 125 feet
Left Turn Lane = 145+ 125 = 270 feet (including a 50-foot taper)

Summary & Recommendations

This technical memorandum supports the proposed modification of the Boulevard section through the residential area of the PUD to be a 2-lane divided roadway. Furthermore, with a maximum queue length for the westbound left turn calculated at 125 feet, a 270-foot left turn lane would be sufficient to accommodate the commercial traffic turning left into the southern outparcel. Since the distance between the main entrance on SR 19 and the commercial entrance on Road A (internal Spine Road) is approximately 500 feet, it is recommended to accept the proposed internal roadway design as shown on the latest site plan attached.

Attachments

Printed: Aug 25, 2022 - 6:42pm Printed By: Justin

J:\21\21-04-0008 Preserve at Howey\Design\Dwgs\[tab]21-04-0008 Mstte.dwg

LEGAL DESCRIPTION:

THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA;

AND

THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA;

AND

A TRIANGULAR TRACT OF LAND DESCRIBED AS:

BEGINNING AT THE NORTHEAST CORNER OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4, IN SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA; RUN THENCE WEST APPROXIMATELY 330 FEET TO THE SOUTHEAST CORNER OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4; THENCE RUN NORTH APPROXIMATELY 330 FEET TO THE NORTHEAST CORNER OF THE TWO AND ONE-HALF ACRE TRACT LAST DESCRIBED; THENCE SOUTHEAST TO THE POINT OF BEGINNING;

AND

THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4, LESS THAT PART LYING WITHIN TAYLOR MEMORIAL CEMETERY HEREINAFTER PARTICULARLY DESCRIBED:

THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4, LYING NORTH AND WEST OF STATE ROAD 19, NOW PAVED; LESS AND EXCEPT SUCH PORTION OF TAYLOR MEMORIAL CEMETERY INCLUDED THEREIN, WHICH CEMETERY IS MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE EAST 1/2 MILE CORNER OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA; RUN WEST 1490 FEET TO AN IRON PIPE ON THE NORTH RIGHT-OF-WAY LINE OF SAID STATE ROAD NOW PAVED; THENCE SOUTHWESTERLY ALONG SAID RIGHT-OF-WAY LINE 446.5 FEET TO A CEMENT MARKER AND THE POINT OF BEGINNING OF CEMETERY PROPERTY; RUN THENCE SOUTHWESTERLY WITH THE NORTH RIGHT-OF-WAY LINE OF SAID ROAD 509.4 FEET; THENCE NORTH 36°27' WEST, 573.6 FEET; THENCE NORTH 51°33' EAST, 500 FEET; THENCE SOUTH 38°27 EAST, 500 FEET TO THE POINT OF BEGINNING;

AND

THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4, LYING NORTH AND WEST OF STATE ROAD 19, NOW PAVED, LESS AND EXCEPT SUCH PART THEREOF AS IS CONTAINED IN THE PLAT OF PALM GARDENS AS RECORDED IN THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA ON FEBRUARY 26, 1951, IN PLAT BOOK 12, PAGE 11;

AND

THE WEST 1/2, LESS AND EXCEPT THE NORTH 3/4 OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4, IN SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA;

AND

THAT PART OF THE SOUTH 1/4 OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4, LYING SOUTH OF COUNTY CLAY ROAD, IN SECTION 26, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA. SUBJECT TO THE RIGHTS-OF-WAY FOR ALL EXISTING STATE, COUNTY AND TOWN ROAD, STREETS AND HIGHWAYS;

AND

A TRACT OF LAND LOCATED IN THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA, AND GENERALLY DESCRIBED AS LYING SOUTH OF THE RESIDENCE OF DON WHITE AND WEST OF THE WESTERLY BOUNDARY LINE OF PALM GARDENS SUBDIVISION;

AND

ALL OF BLOCK D-14, ACCORDING TO THE PLAT OF PALM GARDENS, FILED FEBRUARY 26, 1951, AND RECORDED IN PLAT BOOK 12, PAGE 11, OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA.

ALL OF THE ABOVE LAKE COUNTY PROPERTY BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THAT PART OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, IN THE TOWN OF HOWEY IN THE HILLS, FLORIDA, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGIN AT THE NORTHWEST CORNER OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35; THENCE RUN EAST ALONG THE NORTH LINE THEREOF TO THE NORTHEAST CORNER OF THE SAID SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4; THENCE RUN SOUTHEASTERLY ALONG A STRAIGHT LINE TO THE NORTHEAST CORNER OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35; THENCE RUN SOUTH ALONG EAST LINE THEREOF, TO THE SOUTHEAST CORNER OF THE SAID SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4; THENCE RUN WEST ALONG THE SOUTH LINE THEREOF TO THE SOUTHWEST CORNER OF THE SAID NORTHWEST 1/4 OF THE NORTHEAST 1/4; THENCE RUN NORTH ALONG THE WEST LINE OF THE SAID NORTHWEST 1/4 OF THE NORTHEAST 1/4 TO THE POINT OF BEGINNING; LESS ALL RIGHTS-OF-WAY FOR STREETS IN HOWEY IN THE HILLS, FLORIDA.

ALL OF BLOCK D-14 IN PALM GARDENS, A SUBDIVISION IN THE TOWN OF HOWEY IN THE HILLS, FLORIDA, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 12, PAGE 11 OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA.

THE SOUTH 3/4 OF THE WEST 1/2; THE NORTHWEST 1/4 OF THE NORTHWEST 1/4, LESS THE RIGHT-OF-WAY OF A COUNTY CLAY ROAD; AND THE SOUTH 1/4 OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA, IN THE TOWN OF HOWEY IN THE HILLS, FLORIDA.

THAT PART OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 AND THAT PART OF THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 LYING NORTH AND WEST OF THE WESTERLY LINE OF THE RIGHT-OF-WAY OF STATE ROAD NO. 19, IN SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA, IN THE TOWN OF HOWEY IN THE HILLS, FLORIDA; LESS AND EXCEPT THEREFROM THAT PART THEREOF LYING WITHIN TAYLOR MEMORIAL CEMETERY, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 12, PAGE 5, OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA, AND ALSO LESS ALL RIGHTS-OF-WAY FOR STREETS IN HOWEY IN THE HILLS, FLORIDA.

THAT PART OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, IN THE TOWN OF HOWEY IN THE HILLS, FLORIDA, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGIN AT THE NORTHWEST CORNER OF LOT 1, IN BLOCK D-14, IN PALM GARDENS, ACCORDING TO THE PLAT THEREOF RECORDED IN BOOK 12, PAGE 11, OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA; THENCE RUN WEST TO THE WEST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF THE SAID SECTION 35; THENCE RUN SOUTH ALONG THE WEST LINE OF THE EAST 1/4 OF THE NORTHEAST 1/4 OF THE SAID SECTION 35 TO A POINT ON THE NORTHWESTERLY LINE OF THE RIGHT-OF-WAY OF STATE ROAD NO. 19; THENCE RUN NORTHEASTERLY ALONG THE NORTHWESTERLY LINE OF THE SAID RIGHT-OF-WAY LINE OF BLOCK D-14, OF THE SAID PALM GARDENS SUBDIVISION; THENCE RUN NORTHWESTERLY ALONG THE WESTERLY LINE OF THE SAID BLOCK D-14, TO THE POINT OF BEGINNING; LESS ALL RIGHTS-OF-WAY FOR STREETS IN HOWEY IN THE HILLS, FLORIDA,

THAT PART OF THE SOUTH 1/4 OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 26, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA, LYING SOUTH OF THE SOUTHERLY LINE OF THE RIGHT-OF-WAY OF THE COUNTY ROAD.

LESS THE FOLLOWING DESCRIBED PARCEL:

COMMENCE AT THE EAST 1/4 CORNER OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA; THENCE RUN NORTH 89°21'35" WEST ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF SAID SECTION 35, 1487.79 FEET TO A POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 19; THENCE RUN SOUTH 52°07'27" WEST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 459.23 FEET TO THE POINT OF CURVATURE OF A CURVE CONCAVE SOUTHEASTERLY; THENCE RUN SOUTHWESTERLY ALONG THE ARC OF SAID CURVE AND SAID NORTHWESTERLY RIGHT-OF-WAY LINE HAVING A CENTRAL ANGLE OF 14°35'56", A RADIUS OF 2341.83 FEET, AN ARC LENGTH OF 596.69 FEET, A CHORD BEARING OF SOUTH 44°49'31" WEST AND A CHORD DISTANCE OF 595.08 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE BEING A CURVE CONCAVE SOUTHEASTERLY; THENCE RUN SOUTHWESTERLY ALONG SAID CURVE HAVING A CENTRAL ANGLE OF 22°58'29", A RADIUS OF 2341.83 FEET, AN ARC LENGTH OF 939.04 FEET, A CHORD BEARING OF SOUTH 26°02'16" WEST AND A CHORD DISTANCE OF 932.76 FEET; THENCE RUN NORTH 75°26'58" WEST, 402.66 FEET; THENCE RUN SOUTH 68°12'24" WEST, 668.73 FEET; THENCE RUN NORTH 53°42'00" WEST, 250.16 FEET; THENCE RUN NORTH 12°38'17" EAST, 257.60 FEET; THENCE RUN NORTH 77°21'43" WEST, 125.00 FEET; THENCE RUN NORTH 12°38'17" EAST, 13.01 FEET TO THE POINT OF CURVATURE OF A CURVE CONCAVE EASTERLY; THENCE RUN NORTHEASTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 39°28'41", A RADIUS OF 75.00 FEET, AN ARC LENGTH OF 51.68 FEET, A CHORD BEARING OF NORTH 32°22'37" EAST AND A CHORD DISTANCE OF 50.66 FEET TO THE POINT OF TANGENCY; THENCE RUN NORTH 52°06'58" EAST, 476.63 FEET; THENCE RUN NORTH 54°47'17" EAST, 150.16 FEET; THENCE RUN NORTH 52°06'58" EAST, 205.75 FEET TO THE POINT OF CURVATURE OF A CURVE CONCAVE SOUTHERLY; THENCE RUN EASTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 62°53'19", A RADIUS OF 24.99 FEET, AN ARC LENGTH OF 27.43 FEET, A CHORD BEARING OF NORTH 83°33'05" EAST AND A CHORD DISTANCE OF 26.08 FEET TO THE POINT OF REVERSE CURVATURE OF A CURVE CONCAVE NORTHWESTERLY; THENCE RUN NORTHEASTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 125°45'33", A RADIUS OF 99.99 FEET, AN ARC LENGTH OF 219.47 FEET, A CHORD BEARING OF NORTH 52°06'58" EAST AND A CHORD DISTANCE OF 178.00 FEET TO THE POINT OF REVERSE CURVATURE OF A CURVE CONCAVE SOUTHEASTERLY; THENCE RUN NORTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A CENTRAL ANGLE OF 62°53'19", A RADIUS OF 24.99 FEET, AN ARC LENGTH OF 27.43 FEET, A CHORD BEARING OF NORTH 20°40'51" EAST AND A CHORD DISTANCE OF 26.08 FEET TO THE POINT OF TANGENCY; THENCE RUN NORTH 52°06'58" EAST, 560.98 FEET TO A POINT ON THE NORTHWESTERLY EXTENSION OF THE SOUTHWESTERLY LINE OF TAYLOR MEMORIAL CEMETERY; THENCE RUN SOUTH 37°58'58" EAST ALONG SAID NORTHWESTERLY EXTENSION LINE, 613.80 FEET TO THE POINT OF BEGINNING.

ALSO LESS THE FOLLOWING DESCRIBED PARCEL:

COMMENCE AT THE EAST 1/4 CORNER OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA; THENCE RUN NORTH 89°21'35" WEST ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF SAID SECTION 35, 1487.79 FEET TO A POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 19; THENCE RUN SOUTH 52°07'27" WEST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 66.25 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE SOUTH 52°07'27" WEST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 392.98 FEET TO THE POINT OF CURVATURE OF A CURVE CONCAVE SOUTHEASTERLY; THENCE RUN SOUTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 02°12'24", A RADIUS OF 2341.83 FEET, AN ARC LENGTH OF 90.19 FEET, A CHORD BEARING OF SOUTH 51°01'15" WEST AND A CHORD DISTANCE OF 90.19 FEET TO THE MOST EASTERLY CORNER OF TAYLOR MEMORIAL CEMETERY; THENCE RUN NORTH 38°00'31" WEST, ALONG THE NORTHEASTERLY LINE OF SAID TAYLOR MEMORIAL CEMETERY, 547.00 FEET; THENCE RUN NORTH 52°06'58" EAST, 484.34 FEET TO THE POINT OF CURVATURE OF A CURVE CONCAVE SOUTHERLY; THENCE RUN SOUTHEASTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 90°00'00", A RADIUS OF 10.00 FEET, AN ARC LENGTH OF 15.71 FEET, A CHORD BEARING OF SOUTH 82°53'02" EAST AND A CHORD DISTANCE OF 14.14 FEET TO THE POINT OF TANGENCY; THENCE RUN SOUTH 37°53'02" EAST, 525.33 FEET TO THE POINT OF CURVATURE OF A CURVE CONCAVE NORTHWESTERLY; THENCE RUN SOUTHWESTERLY ALONG THE ARC OF SAID CURVE HAVING A CENTRAL ANGLE OF 90°00'00", A RADIUS OF 10.00 FEET, AN ARC LENGTH OF 15.71 FEET, A CHORD BEARING OF SOUTH 07°07'12" WEST AND A CHORD DISTANCE OF 14.14 FEET TO THE POINT OF BEGINNING.

AND, ALSO LESS THE FOLLOWING DESCRIBED PARCEL:

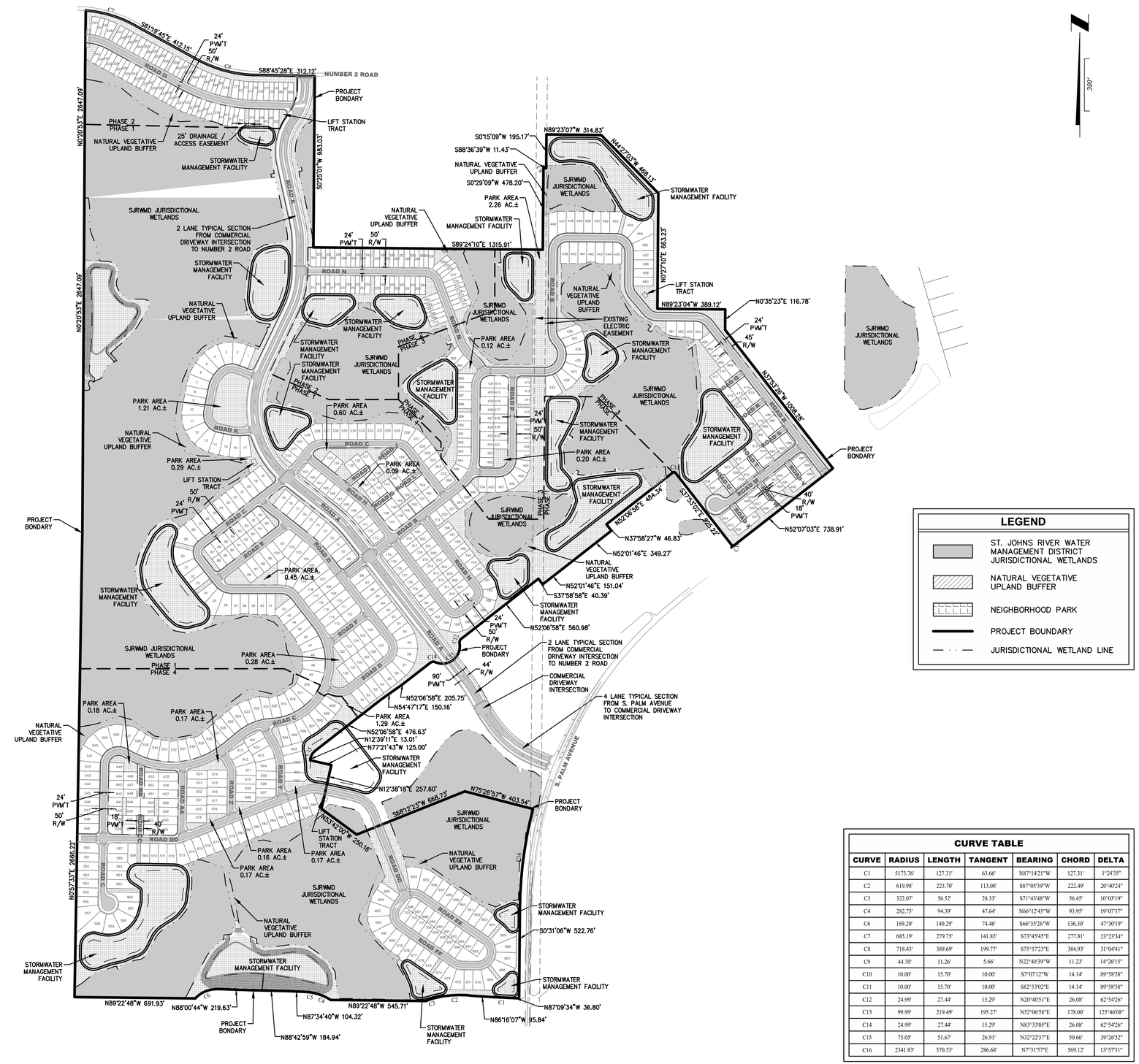
COMMENCE AT THE EAST 1/4 CORNER OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA; THENCE RUN NORTH 89°21'35" WEST ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF SAID SECTION 35, 1487.79 FEET TO A POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 19 THENCE RUN NORTH 52°07'27" EAST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 673.75 FEET TO THE POINT OF BEGINNING; THENCE RUN NORTH 37°53'02" WEST, 1008.88 FEET; THENCE RUN NORTH 00°35'47" EAST, 118.78 FEET TO A POINT ON THE NORTH LINE OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SAID SECTION 35; THENCE RUN SOUTH 89°24'13" EAST ALONG SAID NORTH LINE, 270.08 FEET TO A POINT ON THE WEST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35; THENCE RUN NORTH 00°35'58" EAST ALONG SAID WEST LINE, 256.12 FEET TO A POINT ON THE SOUTH LINE OF THE RESIDENCE OF DON WHITE; THENCE RUN SOUTH 89°24'13" EAST ALONG SAID SOUTH LINE, 418.17 FEET; THENCE RUN SOUTH 00°35'47" WEST, 709.10 FEET; THENCE RUN SOUTH 37°52'33" EAST, 317.47 FEET TO A POINT ON SAID NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 19; THENCE RUN SOUTH 52°07'27" WEST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 329.54 FEET TO THE POINT OF BEGINNING.

ALSO, LESS AND EXCEPT THE FOLLOWING DESCRIBED PARCEL:

THAT PARCEL DESCRIBED AS THE TAYLOR MEMORIAL CEMETERY IN THAT QUITCLAIM DEED RECORDED IN OFFICIAL RECORDS BOOK 1147, PAGE 1398, OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA.

PARCEL 2 (EASEMENT ESTATE):

TOGETHER WITH THOSE APPURTENANT EASEMENTS AS SET FORTH AND GRANTED BY EAGLES LANDING AT OCOEE, INC., A FLORIDA CORPORATION, TO HOWEY IN THE HILLS, A FLORIDA LIMITED PARTNERSHIP, IN THAT DEVELOPMENT AGREEMENT AND GRANT OF EASEMENTS, RECORDED NOVEMBER 10, 2005 IN OFFICIAL RECORDS BOOK 3003, PAGE 1377, OF THE PUBLIC RECORDS OF LAKE COUNTY, FLORIDA.



LEGEND

- ST. JOHNS RIVER WATER MANAGEMENT DISTRICT JURISDICTIONAL WETLANDS
- NATURAL VEGETATIVE UPLAND BUFFER
- NEIGHBORHOOD PARK
- PROJECT BOUNDARY
- JURISDICTIONAL WETLAND LINE

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	BEARING	CHORD	DELTA
C1	5173.76'	127.31'	63.66'	N87°14'21"W	127.31'	1°24'35"
C2	619.98'	223.70'	113.08'	S87°05'39"W	222.49'	20°40'24"
C3	322.07'	56.52'	28.33'	S71°43'48"W	56.45'	10°03'19"
C4	282.75'	94.39'	47.64'	N66°12'45"W	93.95'	19°07'37"
C6	169.20'	140.29'	74.46'	S66°35'26"W	136.30'	47°30'19"
C7	685.19'	279.75'	141.85'	S73°45'45"E	277.81'	23°23'34"
C8	718.43'	389.69'	199.77'	S75°37'23"E	384.93'	31°04'41"
C9	44.70'	11.26'	5.66'	N22°40'39"W	11.23'	14°26'15"
C10	10.00'	15.70'	10.00'	S7°07'12"W	14.14'	89°58'58"
C11	10.00'	15.70'	10.00'	S82°53'02"E	14.14'	89°58'58"
C12	24.99'	27.44'	15.29'	N20°40'51"E	26.08'	62°54'26"
C13	99.99'	219.49'	195.27'	N52°06'58"E	178.00'	125°46'08"
C14	24.99'	27.44'	15.29'	N83°33'05"E	26.08'	62°54'26"
C15	75.05'	51.67'	26.91'	N32°22'37"E	50.66'	39°26'52"
C16	2341.83'	570.53'	286.68'	N7°31'57"E	569.12'	13°57'31"

Connelly & Wicker Inc.
Planning · Engineering · Landscape Architecture
10060 Skinner Lake Drive, Suite 500 Jacksonville, Florida 32246
(904) 265-3030 FAX: (904) 265-3031 www.cwieng.com
Florida Registry 3650 L.A. Number: LC26000311

No.	Date	Revision	By
A1			
A2			
A3			
A4			
A5			
A6			

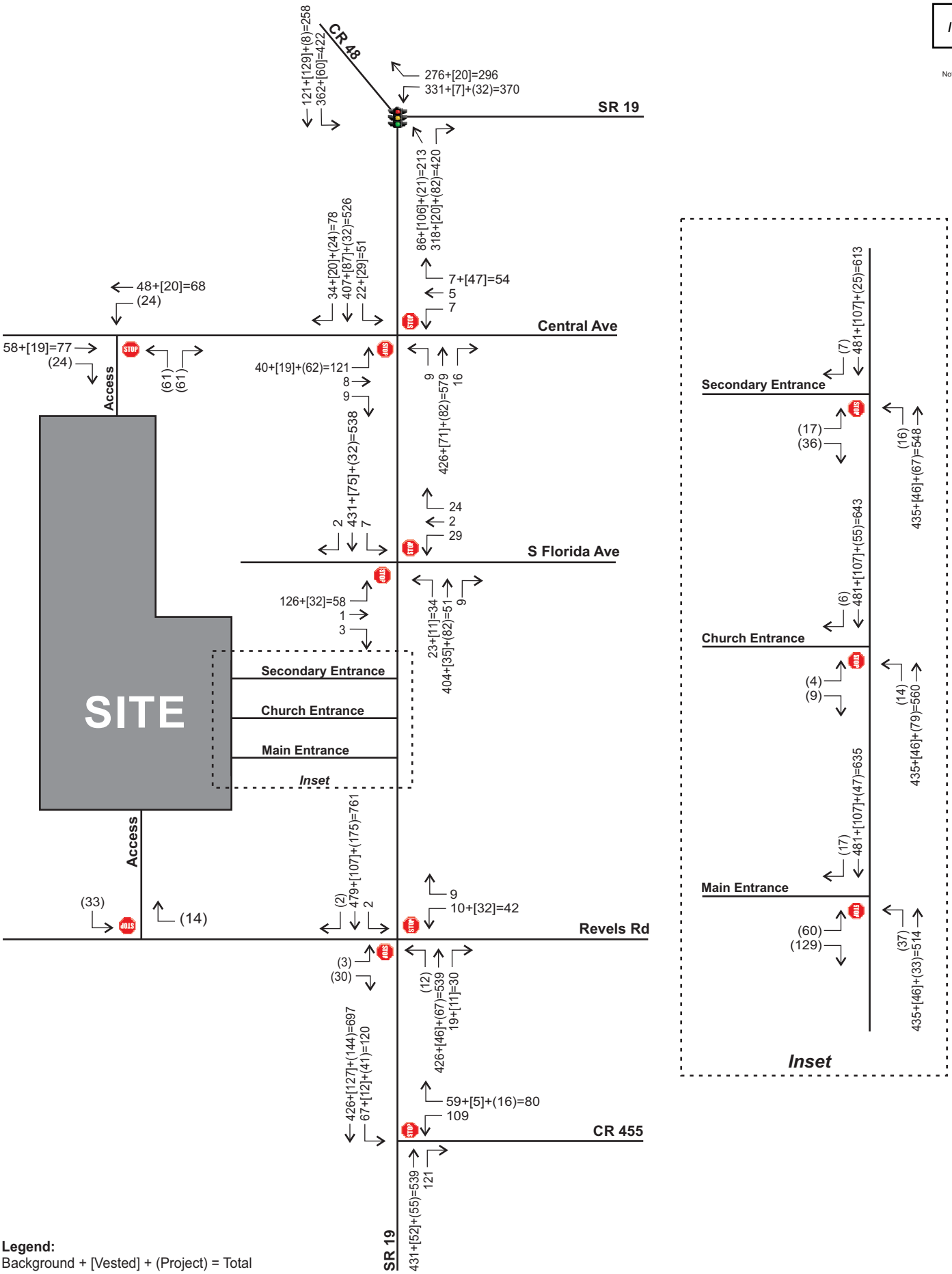
MASTER SITE PLAN

HOWEY IN THE HILL SUBDIVISION
HOWEY IN THE HILLS

PREPARED FOR
LENNAR HOMES - ORLANDO

JUSTIN ELLERY WILLIAMS
P.E. NUMBER: 69260
Reg. Engineer

Project No.:	21-04-0008
Designed:	JEW
Drawn:	JEW
Checked:	JEW
O.C.:	RCW
Date:	AUGUST 2022
Scale:	1" = 300'
Sheet	3



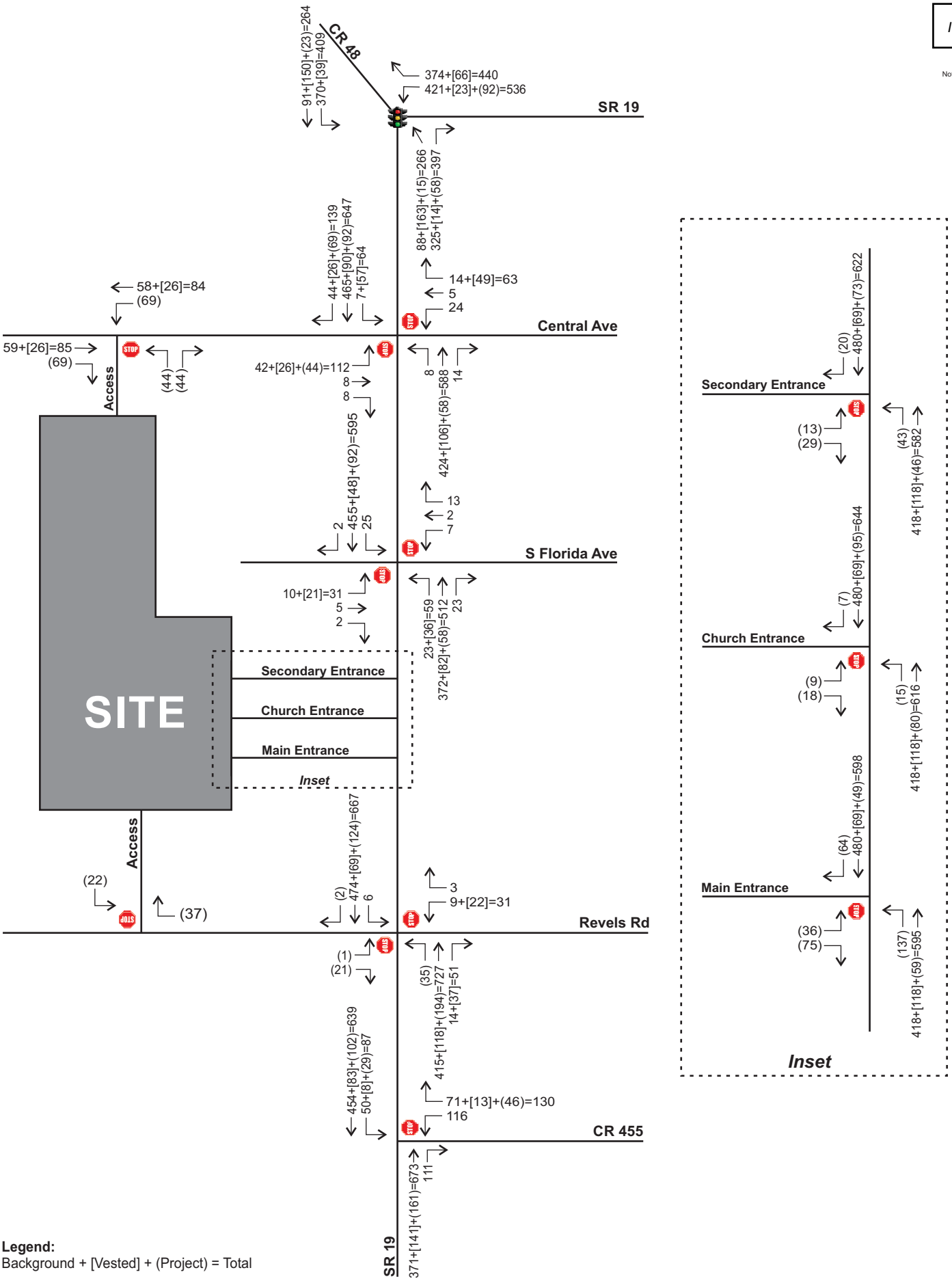
Legend:
Background + [Vested] + (Project) = Total

TMC Traffic & Mobility Consultants

Projected AM Peak Intersection Volumes

The Reserve at Howey in the Hills
21082

Figure 5



Legend:
Background + [Vested] + (Project) = Total

TMC Traffic & Mobility Consultants

Projected PM Peak Intersection Volumes

The Reserve at Howey in the Hills
21082

Figure 6

TOWN OF HOWEY-IN-THE-HILLS, FLORIDA

GENERAL LAND DEVELOPMENT APPLICATION

101 N. Palm Avenue, Howey-in-the-Hills, Florida 34737
Phone: (352) 324-2290 ● Fax: (352) 324-2126

Date Received: Application ID: Received By:

REQUESTED ACTION

- ☐ Comp Plan Amendment
- ☒ PUD
- ☐ Conditional Use
- ☐ Land Development Code Text
- ☐ Variance
- ☐ Rezoning
- ☐ Subdivision Minor
- ☐ Other
- ☐ Site Plan (check one below)
  - ☐ Preliminary
  - ☐ Final
- ☐ Subdivision (check one below)
  - ☐ Preliminary Subdivision
  - ☐ Final Subdivision
  - ☐ Final Plat

Describe Request: ~~PUD~~ Major Amendment to Modify Boulevard Typical Section

APPLICANT INFORMATION:

Name:_____ E-Mail: _____

Address: _____ Phone: _____ Fax: _____

☐ Owner ☐ Agent for Owner ☐ Attorney for Owner

OWNER INFORMATION:

Name: HOWEY IN THE HILLS LTD E-Mail: _____

Address: _____ C/O EASTON & ASSOC Phone: 786-437-5806

_____ 10165 NW 19TH ST Fax: _____

MIAMI FL 33172

PROPERTY INFORMATION:

Address: ___

General Location: SOUTH OF #2 ROAD, NORTH OF SR19

Current Zoning: PUD Current Land Use: VMU

Parcel Size: 375.2 AC +/- Tax Parcel #: ATTACHED

Legal Description Attached [X] Yes [ ] No Survey Attached [X] Yes [ ] No

Pre-Application Meeting Date: ATTACHED
(Attach Pre-Application Form)

Application Fee: $ 3,000

Applicant's Signature: _____ 8/26/22
(Signature) *(Date)*

Rob Bonin
(Print)

Owner's Signature: _____ _____
(Provide letter of Authorization) *(Signature)* *(Date)*

_____
(Print)

Applications must be complete to initiate the review process.

LENNAR®

HOWEY IN THE HILLS, LTD.
10165 NW 19th Street
Miami, Florida 33172
(786)437-5806
EWEaston@TheEastonGroup.com

April 14, 2021

TOWN OF HOWEY-IN-THE-HILLS
101 N. Palm Avenue
Howey-in-the-Hills, FL 34737

Re: Letter of Authorization

To Whom it may Concern:

The purpose of this letter is to provide notice that Howey in the Hills LTD as owner of The Reserve at Howey in the Hills, hereby authorizes Lennar Homes, LLC. as the applicant for the attached Modification to PUD Ordinance 2004-322 and to act on our behalf in regard to amending the PUD and any related approvals.

If you have any question or concerns, please do not hesitate to contact me.

Respectfully,

HOWEY IN THE HILLS, LTD.,
a Florida limited liability company

DocuSigned by:
By: Edward W. Easton
A16C5EEF44ED467...
Print Name: Edward W. Easton

Connelly & Wicker Inc.
Planning • Engineering • Landscape Architecture

August 26, 2022

Town of Howey-In-The-Hills
Planning & Zoning Dept.
101 N. Palm Avenue
Howey-In-The-Hills, FL 34737

RE: Reserve at Howey-in-the-Hills
PUD Major Amendment PUD Ordinance 2004-322
CWI Job # 21-04-0008

Dear Town of Howey in the Hills,

Please find the following items attached for the Major Amendment to the PUD to modify the Boulevard Section through the residential area of the PUD:

- Completed Application
- Letter of Authorization from the owner to Lennar
- 2 copies PUD Plans and supporting Roadway Section Drawings
- Flashdrive with Digital Copies
- $3,000.00 Fee

Please let me know if you need anything else to be scheduled on the September 22, 2022 Planning and Zoning agenda and the following Town Council Meeting on October 10, 2022 and October 24, 2022.

Sincerely,
Connelly & Wicker Inc.

Richard C. Welch, P.E.
Project Manager

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: Town of Howey-in-the-Hills Planning Board
CC: J. Brock, Town Clerk
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: The Reserve/Hilltop Groves First Amendment to the Development Agreement
DATE: September 12, 2022

The developers of the residential portion of The Reserve development have asked for an amendment to the approved development agreement to make some revisions to the preliminary subdivision plan that qualify as major amendments under the terms of the adopted PUD agreement. The applicants have submitted a list of plan adjustments on the updated master site plan map including a number key locating each revision. Some of these adjustments could be considered minor amendments, but since the plan was undergoing a major amendment review, we elected to include all the revisions in the proposed update.

The Town's Development Review Committee reviewed the proposed amendments at their meeting on September 8, 2022 and have prepared the following recommendations for the Planning Board's consideration.

1. The applicants are requesting a revised design for the central collector road, identified as Road A on the preliminary subdivision plan, from four lanes to two lanes through the residential portion of The Reserve development. Most of the portion of Road A through the commercial portion of the project will remain as a four-lane section. In support of the requested change the applicants have submitted an analysis from their traffic engineer documenting that a two-lane road is sufficient to support the projected traffic volumes. The Town engineer has reviewed the request and supports the finding that the two-lane section is adequate for the traffic demand, and that with protected left turn lanes can result in reduced speed and increased safety within the project.

   The applicants have noted that the road through the commercial area has been increased the right-of-way from 90 feet to 100 feet as shown on the roadway cross-sections. The wider right-of-way is proposed to give more room to fit all the necessary components in the four-lane road section. The intersection with SR 19 has moved south about 250 feet, and driveway connections for the commercial area are shown.

(Refer to map items 2, 3, 4 and 12.)

2. The applicants are proposing minor adjustments to Roads D and F and the adjoining lots to reduce the amount of road area and improve safety while still providing access to the adjacent lots. (Refer to map item 1.)

3. The applicants are requesting revisions to Roads B and N along with adjacent lots to improve the connection between Phase 2 and Phase 3. This change improves traffic flow and reduces the number of lots on closed-end streets. (Refer to map item 6.)

4. The applicants are revising the collector road cross-sections to include the minimum 10-foot bicycle/pedestrian pathway that extends from SR 19 to Number Two Road. This facility has been a commitment of the project, but roadway cross-section submitted prior to this plan did not fully identify the bicycle/pedestrian path. (Refer to the revised cross-sections for the two-lane and four-lane sections.)

5. Residential lots along Road AA and Road Z have been changed to the 50 x 115 lot type rather than the originally proposed 50 x 80 lot type. (Refer to map item 8.)

6. The staff has asked for the addition of a street crossing detail where the bicycle/pedestrian path crosses a roadway. This detail is intended to limit the opportunity for cars to inadvertently drive on the path. They have agreed to provide a detail.

7. The applicants have been requested to update the totals of residential units by type and phase. (The revised totals for units by phase are shown on the table on the left side of the master site plan.)

8. The applicants have been requested to provide a maximum impervious area for each type of residential unit. The lack of a maximum impervious area has been creating some review issues with our other PUD-based neighborhoods. (The maximum imperious areas by unit type are shown on the table on the left side of the master site plan.)

The Development Review Committee supports these eight revisions to the approved development agreement.

The revised plan includes several other small adjustments that are noted here as part of the overall amendment. Please note the following revisions:

- The emergency access via Mare Avenue has been removed. The revised street pattern between Phase 2 and Phase 3 will serve this purpose. (Refer to map item 5.)

- The driveway connection to Talichet Phase 2 has been removed as the connection is no longer possible. **(Refer to map item 7.)**

- A revised roadway connection in Phase 4 has been added. **(Refer to map item 9.)**

- Stormwater pond locations have been added to Phase 4. **(Refer to map item 10.)**

- The phase line for Phase 1 has been adjusted. **(Refer to map item 11)**

During the review, the DRC also agreed that the intersection designs of the primary collector road at SR 19 and Number Two Road will be considered minor amendment to the development agreement as the permitting agencies (FDOT and Lake County) will ultimately be directing the intersection designs. The preliminary subdivision plan will also provide for a driveway connection from the collector road to the Town's public safety parcel at the intersection with the primary collector road. It is expected that this connection will provide an opportunity to reduce fire and police response times to properties within the project.

TMH CONSULTING, INC.
Community Planning Services

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MEMORANDUM

TO: Howey-in-the-Hills Development Review Committee
CC: J. Brock, Town Clerk
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: The Reserve/Hilltop Groves First Major Amendment
DATE: August 30, 2022

The development team has submitted an application to amend the approved development agreement. This is the first major amendment to the adopted development agreement. The amendment has been triggered by the proposal to reduce the central collector road from four lanes to two lanes for most of the project length, but there are other revisions to the approved development plan that will need to be addressed and included as part of the amendment.

The Town will be adopting a revised preliminary subdivision plan as part of the amendment, but the adopting ordinance should include a list of all amendment items, so it is clear to all parties what is being approved. Once final action is taken by the Town Council, the adopting ordinance needs to be recorded in the public records to provide a document trail of the fully approved project. The planning comments are as follows:

1. The applicant should present a list of all revisions from the original approved preliminary subdivision plan so that the Town can be sure all items have been reviewed and included in the amending ordinance.

2. The applicant should review the text portions of the adopting ordinance to determine if there are other revisions that are needed or desired.

3. As one example, the plan set needs to include a maximum impervious area for each lot type. The lack of an impervious area number has been an issue with other new developments and needs to be added. The maximum impervious area then needs to be used as an input into the stormwater system design or an explanation needs to be provided as to why a different number is used. This number can be added to the plan set if desired rather than included in the text of the agreement. The maximum impervious area might be different for each of the housing types.

4. The revised roads D and F and the revised lot adjustments are recognized and acceptable. These changes could be considered a minor amendment, but we will include them in the overall amendment since other items are needed.

5. The reduction in the width of the central collector road from 4-lanes to 2-lanes with left turn lanes is acceptable from a speed control and safety perspective, but the applicant's traffic engineer needs to submit an analysis demonstrating that the reduced facility will still accommodate the projected traffic.

6. The transition from the 4-lane segment in the commercial area to the 2-lane segment in the residential area should be moved further north to allow more flexibility in locating access points to the commercial parcel.

7. The intersection designs at SR 19 and Number 2 Road are not fully detailed in the approved plan set. These intersection designs will be directed by FDOT and Lake County through their respective permit processes. When permitting is completed, these will be considered minor amendments to the development agreement.

8. The proposed amendment includes a revised road connection between Phase 2 and Phase 3 with the new alignment following Road B and Road N. The revised road alignment and associated adjustment to the residential lots is recommended for approval.

9. The new plan proposes a revision to the road network within the townhouse area adjacent to Number 2 Road. The approved plan shows a connection Number 2 Road at the west end of this road and not a terminal point. This area has 78 units and therefore requires a second access point. The applicant needs to provide for a second access point or reduce the number of units in the area below 50 units.

10. The revised plan proposes to eliminate the connection to the Town parcel at the intersection of the collector road and Number 2 Road. The Town still needs to retain the option to include a driveway connection. An access at this point could reduce emergency services response times to the project. To facilitate future driveway options, the collector road right-of-way needs to abut the Town parcel for the full length of the parcel if possible.

11. The revised plan proposes to eliminate the connection from Road EE/FF to Revels Road. This deletion is not acceptable. The approved design needs to be retained.

12. The applicant needs to revise the unit totals by type of unit and phase to reflect the current plan.

13. The proposed lot pattern along Road AA and Road Z appears to be different than the currently approved plan. The Town needs to verify that the unit totals by type remain unchanged or approve any revision to the product mix.

14. The revised cross-section for the collector road (Road A) shows 4-foot bicycle lanes on the 2-lane segment and no bicycle lane on the 4-lane segment. The agreement and the cross-section in the approved plan set shows a separate bicycle path. Both cross-sections need to be revised to reflect the bicycle path. Adding the two bicycle lane areas to one of the sidewalks will allow for a 12-foot-wide bicycle/pedestrian facility on one side of the road and save one foot of paved area. A decision should be made as to which side of Road A the bicycle path is to be located.

15. An intersection detail needs to be added where the bicycle path crosses intersection. The bicycle path should have some type of divider to make it clear automotive traffic is not permitted. Some type of pavement markings are appropriate as well.

16. With the 2-lane design, the central median has been reduced from 14-feet for the approved design to about 9 feet with the proposed design. This dimension seems a little skimpy for a quality landscape program and might be less than the minimum width needed for a protected left turn bay. The median in the 2-lane and 4-lane segments should be retained at 14 feet.

GRIFFEY ENGINEERING, INC.

September 5, 2022
Hillside Groves – PUD Amendment
Engineering Review Comments
Page 1

1. Provide a volume and capacity evaluation to show that the 2-lane boulevard will be able to handle the projected future traffic.

2. The master site plan shows the multiuse trail on the east side of the spine road, but the cross-sections don't. Add the trail to the cross-sections, and label the trail on the site plan. Both cross-sections should call out a 5' sidewalk on the west side and a 10' trail on the east side.

3. The cross-section for the 4-lane boulevard needs to show 24' pavement width, not 21'.

4. Move the commercial driveway intersection further north to provide additional left turn lane decal & storage length for northbound vehicles.

5. All legs of all intersections need to provide full pedestrian accommodation including ADA curb ramps & crosswalks. Crosswalks are to be per FDOT Design Standards 2017-18 Index 17346 Sheet 12 of 17. The crosswalks at stop conditions should be standard crosswalks. The crosswalks not at a stop condition should be special emphasis.

HILLSIDE GROVE

LIFT STATION #1

DESIGN REPORT

FOR

Lennar Homes - Orlando
6750 Forum Drive, Suite 310
Orlando, FL 32821
(904) 431-6499

PREPARED BY:

Connelly & Wicker, Inc.
10060 Skinner Lake Drive, Suite 500
Jacksonville, Florida 32246
Florida Registry: 3650 L.A. Number: LC26000311
Phone: (904) 265-3030 Fax: (904) 265-3031
www.cwieng.com

DATE: 10/7/2022

CWI Project No.: 21-04-0008

Connelly & Wicker, Inc.

HILLSIDE GROVE
Index Sheet

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JUSTIN E. WILLIAMS LICENSE No. 69260 STATE OF FLORIDA PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JUSTIN E. WILLIAMS

Justin E Williams

Digitally signed by Justin E Williams
DN: cn=Justin E Williams, c=US, o=CONNELLY AND WICKER INC., ou=A01410C000001711228277500015D35, email=jwilliams@cwieng.com
Date: 2022.10.07 11:40:21 -04'00'

ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

Prepared under the direction of

Justin E. Williams, P.E.
PE # 69260

GENERAL SITE DESCRIPTION

THE PROJECT

The proposed development is located within Lake County, Florida (Town of Howey in the Hills) within the Town of Howey in the Hills service area. The project is located west of State Road 19 (South Palm Avenue) and Taylor Memorial Cemetery, north of Revels Road, and south of Number 2 Road. The proposed development will be constructed in 4 phases and include up to 728 single family units. Lift Station #1 will serve up to 640 of the proposed residential units.

PUMP STATION

The pump station is located on the western side of the property and more specifically is located south of Road “K”, North of Road “C” and west of Road “A”. The effluent will pump through a 6” force main to Road A where the forcemain will increase to 10” and extend to Number 2 Road right of way where it will connect to an existing 10” force main, and will ultimately connect to an existing wastewater treatment facility. (Refer CWI 21-04-0008 Water and Sewer Plans for connection details).

EXISTING CONDITIONS MODELING DATA

The connection head condition was determined by modeling the existing wastewater system based on data provided by Griffey Engineering, Inc. to Connelly and Wicker on September 23rd, 2022, Construction Plans obtained from the SJRWMD and Lidar data for existing grades. Information obtained from those documents are the basis for the existing conditions modeling.

A summary of the peak flow requirements from each of the existing system pump stations and the anticipated flows modeled as part of these calculations is included.

DESIGN ANALYSIS

The modeling for this system was accomplished using Bentley OpenFlows WaterCad CONNECT Edition Update 3.

DESIGN OF SANITARY LIFT STATION

Connelly & Wicker, Inc.
Project Name: HILLSIDE GROVE
Project No: 21-04-0008
Date: October 7, 2022

COMPUTATION OF AVERAGE DAILY FLOW

Type of Development	Units	Average Flow (GPD)	/	Unit	G.P.D.	G.P.M.
Phase 1			/	Unit	0	0.00
Single Family Residential	245	300	/	Unit	73500	51.04
			/	Unit	0	0.00
Phase 2			/	Unit	0	0.00
Single Family Townhomes	146	300	/	Unit	43800	30.42
Phase 3 (Portion)			/	Unit	0	0.00
Single Family Residential	47	300	/	Unit	14100	9.79
Phase 4			/	Unit	0	0.00
Single Family Residential	202	300	/	Unit	60600	42.08
			/	Unit	0	0.00

Average Daily Flow = 192000 G.P.D. = 133.33 G.P.M.

Runout Peaking Factor = (Per CSM Section 17 Part 1.03.C) 3.00

Total Peak Flow = (A.D.F.)*(P.F.) = 400 G.P.M.

Use Total Peak Flow = Q = 400 G.P.M.

FORCE MAIN SIZE

Maximum Flow in Pipe = $Q(G.P.M.) * \left(\frac{1\ Cu.Ft.}{7.48\ Gal.}\right) * \left(\frac{1\ Min.}{60\ Sec.}\right)$ = 0.891 Cfs.

Pipe Diameter			Cross-Sectional Area		Flow (Cfs.)	Flow Velocity	
1. Use	4.27	Inch Pipe	0.099	Sq. Ft.	0.891	8.96	Ft/Sec.
2. Use	6.13	Inch Pipe	0.205	Sq. Ft.	0.891	4.35	Ft/Sec.
3. Use	8.04	Inch Pipe	0.353	Sq. Ft.	0.891	2.53	Ft/Sec.
4. Use	9.87	Inch Pipe	0.531	Sq. Ft.	0.891	1.68	Ft/Sec.
5. Use	11.73	Inch Pipe	0.750	Sq. Ft.	0.891	1.19	Ft/Sec.

Use Force Main of Diameter = 6.13 Inches

LIFT STATION FOR: HILLSIDE GROVE
PROJECT NO.: 21-04-0008

Connelly & Wicker, Inc.

DESIGN OF WET WELL

Use a cycle time (T) = 10 Minutes

Storage Required (Vr) = (T*Q) / 4 = 10 Min. * $\left(\frac{400\ \text{G.P.M.}}{4}\right)$ * $\left(\frac{1\ \text{Cu.Ft.}}{7.48\ \text{Gal.}}\right)$ = 133.69 Cu.Ft.

Storage Height Required for Each Size Wet Well

Diameter of Wet Well (Ft.)	4.00	5.00	6.00	8.00	10.00	12.00
Storage Height (Ft.)	10.64	6.81	4.73	2.66	1.70	1.18

Provide Wet Well Diameter = 8.00 Ft. Storage Height Required (Vr) = 2.66 Ft.

Provide Storage Height = 2.70 Ft. Actual Cycle Time = 10 Min.

Volume Provide (Vp) = 135.72 Cu.Ft.

Since Vr < Vp , Then, Adequate Storage is Provided

WET WELL INFORMATION

Refer To Construction Plans For Actual Pump Station Configuration

Wet Well Diameter = 8.00 Ft.
Wall Thickness (t) = 0.75 Ft.
Over Hang (L) = 1.00 Ft.

Top El. 88.40
Grade El. 87.90

Effluent El. (Force Main) 85.40

Control El. 69.60

Alarm El. 69.10

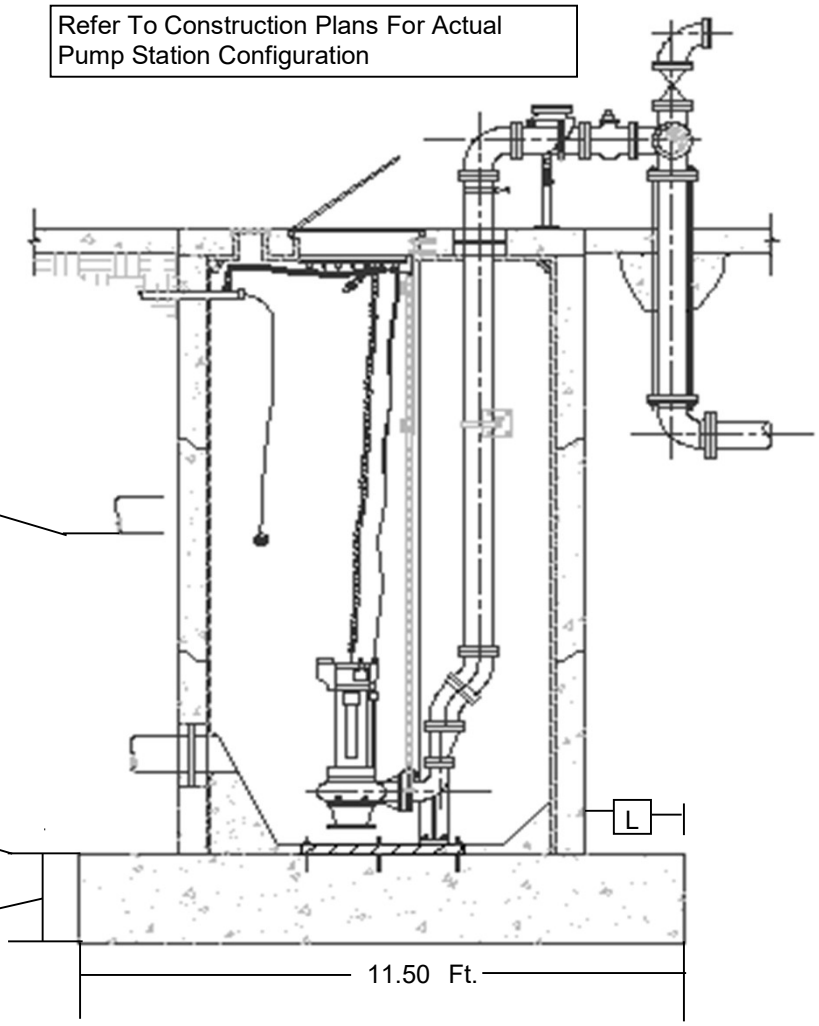
Lag Pump On El. 68.60

Lead Pump On El. 68.10

All Pumps Off El. 65.40

Bottom El. 63.40

Bottom Pad Thickness 1.00



LIFT STATION FOR: HILLSIDE GROVE
PROJECT NO.: 21-04-0008

Connelly & Wicker, Inc.

VERIFY THE STABILITY OF THE WET WELL

Assume:

Submerged Unit Weight of Soil	=	60	Lbs. Per Cu.Ft.
Unit Weight of Fiberglass	=	110	Lbs. Per Cu.Ft.
Unit Weight of Concrete	=	150	Lbs. Per Cu.Ft.
Angle of Repose ϕ =		5	Degrees

Wet Well:

Outer Diameter of Wet Well (D_{WW})	=	9.50	Ft.
Diameter of Base	=	11.50	Ft.
Thickness of Top Cover	=	0.83	Ft.
Thickness of Walls (t)	=	0.75	Ft.
Thickness of Bottom Pad	=	1.00	Ft.
Depth of Wetwell below Grade (H)	=	24.50	Ft.
Width of Collar	=	1.00	Ft.
Depth of Collar (if any)	=	0.00	Ft.
Hatch Size	=	36" X 60"	

Assume Saturated Conditions

Ground Water Elevation	=	87.90	

SELF WEIGHT OF WET WELL

Self Weight of Slabs (Lbs.) = (Volume) * (Unit Weight)

Weight of Soil Acting on Wet Well* (Lbs.) = (V_s)*(Unit Weight) Based on Angle of Repose (ϕ)

$$V_S = \left(\pi * (H) * \left((L)^2 + 2\left(\frac{D_{WW}}{2}\right)(L) + \left(\frac{D_{WW}}{2}\right)(H)(\mathrm{Tan}(\phi)) + (L)(H)(\mathrm{Tan}(\phi)) + \left(\frac{((H)(\mathrm{Tan}(\phi)))^2}{3}\right) \right) \right)$$

	Volume (CF)	*	Unit Weight (lb/CF)	=	Force	Lbs.
Top Cover :	46.38	*	150	=	6957.33	Lbs.
Bottom Pad :	103.87	*	150	=	15580.34	Lbs.
Collar	0.00	*	150	=	0.00	Lbs.
Walls :	498.31	*	150	=	74745.85	Lbs.
Soil :	1874.69	*	60	=	112481.56	Lbs.
				Total Downward Force:	209765.08	Lbs.

UPLIFT FORCE

Uplift Force = (Volume Displaced) * (Unit Weight of Water)

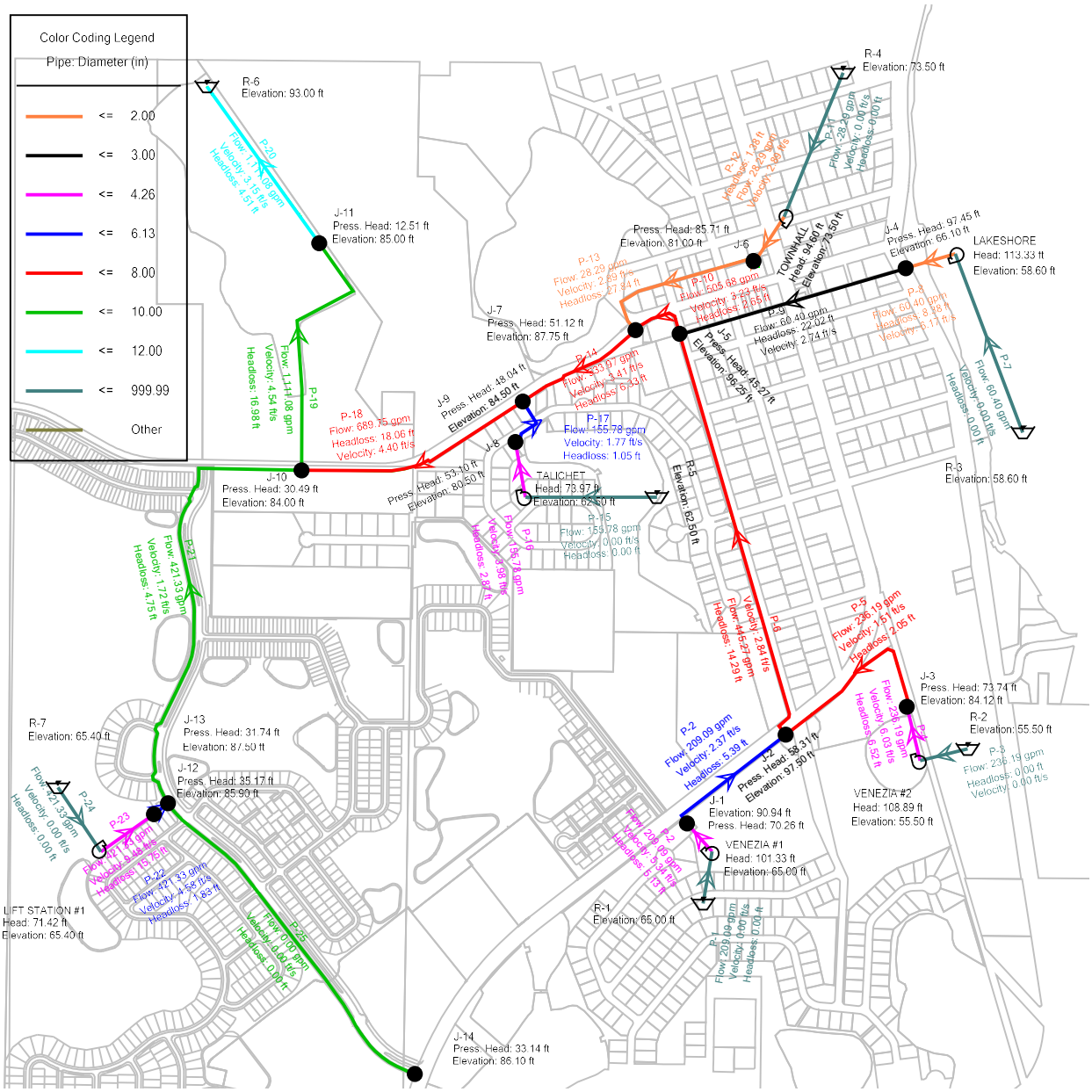
Uplift Force =	1840.48	*	62.4	=	114846.10	Lbs.

FACTOR OF SAFETY

$$\text{Factor of Safety} = \frac{\text{Downward Force}}{\text{Uplift Force}} = \frac{209765.08}{114846.10} = \mathbf{1.83}$$

Pump Information - Flygt					
Pump Type			2 Submersible Pumps		
Pump Model			NP 3153 HT 3~ 456		
Motor			N3153.660 21-15-4AA-W 15hp		
H.P. / Voltage / Phases / Amps			15 HP / 230V / 3 Phase / 32 A		
RPM			1755	R.P.M.	
Impeller Diameter			229	mm	
Discharge Pipe Size			4	Inches	
Force Main Size			4	Inches	
Design Point	400.00	GPM @	72.00	TDH	
Operating Point - Manifold Condition	421.33	GPM @	71.42	TDH	
Operating Point - Runout Condition	515.45	GPM @	65.78	TDH	

Scenario: Base (MANIFOLD CONDITIONS)



FlexTable: Junction Table (MANIFOLD CONDITIONS)

Label	Demand (gpm)	Elevation (ft)	Pressure (psi)	Pressure Head (ft)
J-1	0.00	90.94	30.4	70.26
J-2	0.00	97.50	25.2	58.31
J-3	0.00	84.12	31.9	73.74
J-4	0.00	66.10	42.2	97.45
J-5	0.00	96.25	19.6	45.27
J-6	0.00	81.00	37.1	85.71
J-7	0.00	87.75	22.1	51.12
J-8	0.00	80.50	23.0	53.10
J-9	0.00	84.50	20.8	48.04
J-10	0.00	84.00	13.2	30.49
J-11	0.00	85.00	5.4	12.51
J-12	0.00	85.90	15.2	35.17
J-13	0.00	87.50	13.7	31.74
J-14	0.00	86.10	14.3	33.14

FlexTable: Pipe Table (MANIFOLD CONDITIONS)

Label	Diameter (in)	Length (User Defined) (ft)	Length (ft)	Material	Hazen-Williams C	Minor Loss Coefficient (Unified)	Flow (gpm)	Velocity (ft/s)	Headloss (Friction) (ft)	Headloss (Minor) (ft)	Headloss (ft)
P-1	999.00	1	1	PVC	120.0	0.000	209.09	0.00	0.00	0.00	0.00
P-2	4.00	28	28	PVC	120.0	9.430	209.09	5.34	0.95	4.18	5.13
P-2	6.00	0	927	PVC	110.0	2.580	209.09	2.37	5.16	0.23	5.39
P-3	999.00	1	1	PVC	120.0	0.000	236.19	0.00	0.00	0.00	0.00
P-4	4.00	28	28	PVC	120.0	9.430	236.19	6.03	1.19	5.33	6.52
P-5	8.00	0	1,310	PVC	120.0	3.770	236.19	1.51	1.92	0.13	2.05
P-6	8.00	0	2,771	PVC	120.0	9.340	445.27	2.84	13.12	1.17	14.29
P-7	999.00	1	1	PVC	120.0	0.000	60.40	0.00	0.00	0.00	0.00
P-8	2.00	28	28	PVC	120.0	9.430	60.40	6.17	2.80	5.58	8.38
P-9	3.00	0	1,548	PVC	120.0	4.170	60.40	2.74	21.54	0.49	22.02
P-10	8.00	0	411	PVC	120.0	1.190	505.68	3.23	2.46	0.19	2.65
P-11	999.00	1	1	PVC	120.0	0.000	-28.29	0.00	0.00	0.00	0.00
P-12	2.00	18	18	PVC	120.0	7.270	28.29	2.89	0.44	0.94	1.38
P-13	2.00	0	1,132	HDPE	120.0	0.000	28.29	2.89	27.84	0.00	27.84
P-14	8.00	0	884	PVC	120.0	2.580	533.97	3.41	5.86	0.47	6.33
P-15	999.00	1	1	PVC	120.0	0.000	155.78	0.00	0.00	0.00	0.00
P-16	4.00	28	28	PVC	120.0	9.430	155.78	3.98	0.55	2.32	2.87
P-17	6.00	0	362	PVC	120.0	1.190	155.78	1.77	0.99	0.06	1.05
P-18	8.00	0	1,578	PVC	120.0	4.170	689.75	4.40	16.80	1.26	18.06
P-19	10.00	0	1,779	PVC	120.0	4.770	1,111.08	4.54	15.45	1.53	16.98
P-20	12.00	0	1,262	PVC	120.0	0.000	1,111.08	3.15	4.51	0.00	4.51
P-21	10.00	0	3,027	PVC	120.0	8.490	421.33	1.72	4.36	0.39	4.75
P-22	6.13	0	117	PVC	120.0	0.000	421.33	4.58	1.83	0.00	1.83
P-23	4.26	28	28	PVC	120.0	9.430	421.33	9.48	2.56	13.18	15.75
P-24	999.00	1	1	PVC	120.0	0.000	421.33	0.00	0.00	0.00	0.00
P-25	10.00	0	2,429	PVC	120.0	3.900	0.00	0.00	0.00	0.00	0.00

FlexTable: Pump Table (MANIFOLD CONDITIONS)

Label	Pump Definition	Elevation (ft)	Hydraulic Grade (Suction) (ft)	Hydraulic Grade (Discharge) (ft)	Flow (Total) (gpm)	Pump Head (ft)
LAKESHORE	LAKESHORE	58.60	58.60	171.93	60.40	113.33
LIFT STATION #1	Flygt Pump	65.40	65.40	136.82	421.33	71.42
TALICHET	TALICHET	62.50	62.50	136.47	155.78	73.97
TOWNHALL	TOWNHALL	73.50	73.50	168.10	28.29	94.60
VENEZIA #1	VENEZIA #1	65.00	65.00	166.33	209.09	101.33
VENEZIA #2	VENEZIA #2	55.50	55.50	164.39	236.19	108.89

Pump Definition Detailed Report: LAKESHORE (MANIFOLD CONDITIONS)

Element Details			
ID	173	Notes	
Label	LAKESHORE		

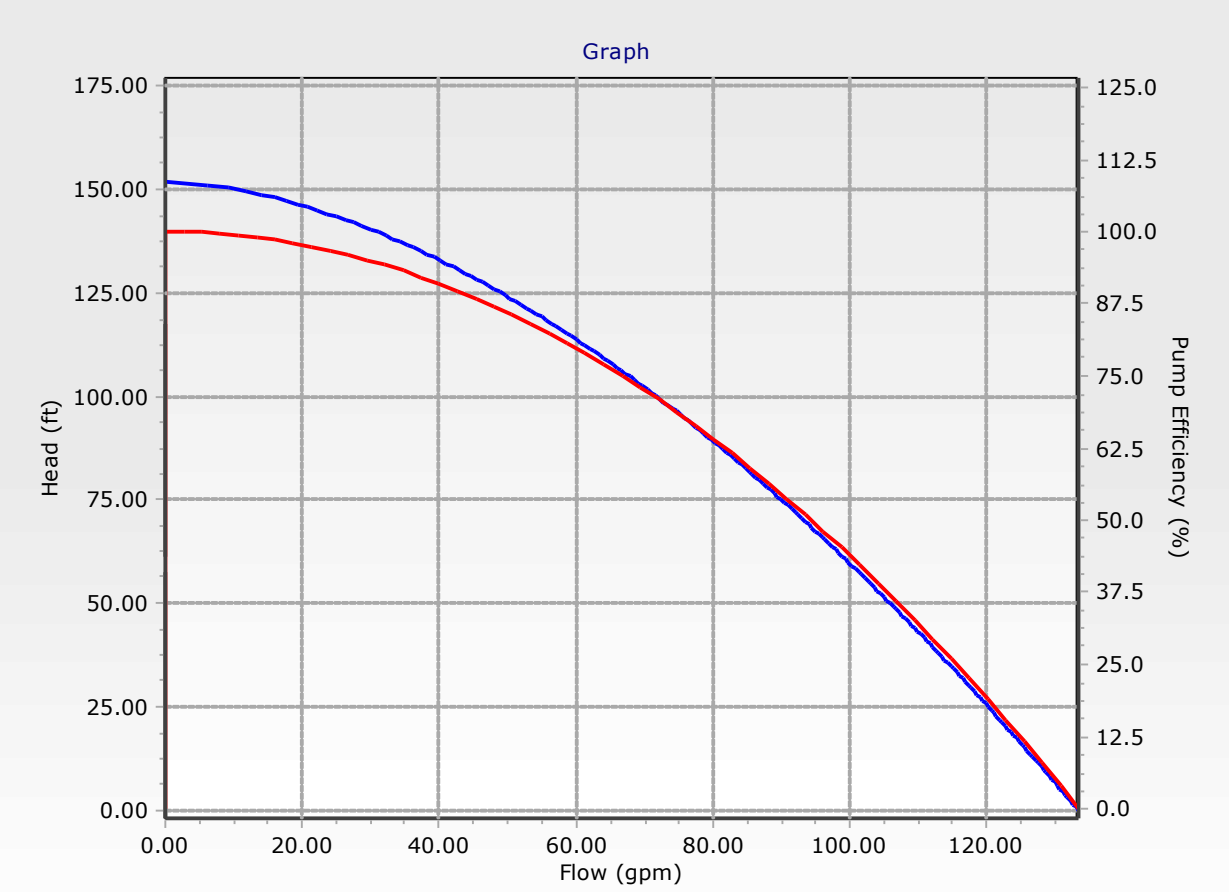
Pump Curve

Flow (gpm)	Head (ft)
0.00	157.00
3.00	155.00
9.00	150.00
17.00	145.00
24.00	140.00
32.00	135.00
39.00	130.00
47.00	125.00
53.00	120.00
61.00	115.00
65.00	110.00
69.00	105.00
73.00	100.00
77.00	95.00
81.00	90.00
84.00	85.00
87.50	80.00
90.00	75.00
93.00	70.00
97.00	65.00
99.00	60.00
102.50	55.00
105.00	50.00
108.00	45.00

Pump Efficiency Type			
Pump Efficiency Type	Best Efficiency Point	Motor Efficiency	100.0 %
BEP Efficiency	100.0 %	Is Variable Speed Drive?	False
BEP Flow	0.00 gpm		

Transient (Physical)			
Inertia (Pump and Motor)	0.000 lb·ft²	Specific Speed	SI=25, US=1280
Speed (Full)	0 rpm	Reverse Spin Allowed?	True

Pump Definition Detailed Report: LAKESHORE (MANIFOLD CONDITIONS)



Pump Definition Detailed Report: TALICHET (MANIFOLD CONDITIONS)

Element Details			
ID	183	Notes	
Label	TALICHET		

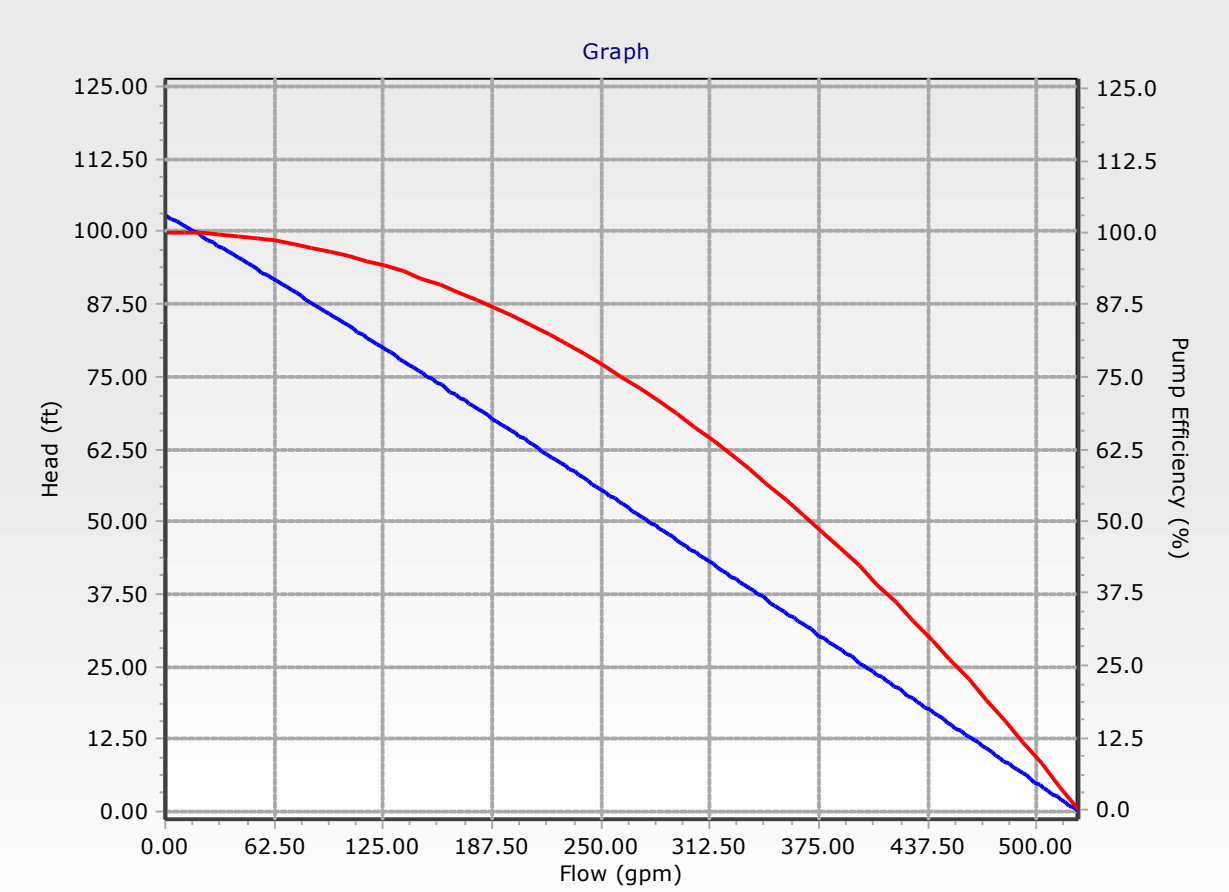
Pump Curve

Flow (gpm)	Head (ft)
0.04	104.92
18.66	100.40
37.27	96.18
55.88	92.18
74.50	88.34
93.11	84.65
111.73	81.08
130.34	77.63
148.95	74.27
167.57	70.98
186.18	67.73
204.79	64.49
223.41	61.22
242.02	57.88
260.63	54.44
279.25	50.89
297.86	47.22
316.47	43.43
335.09	39.54
353.00	35.56
372.31	31.51
390.93	27.40
409.54	23.22
428.15	18.97
446.77	14.65
480.45	6.91

Pump Efficiency Type			
Pump Efficiency Type	Best Efficiency Point	Motor Efficiency	100.0 %
BEP Efficiency	100.0 %	Is Variable Speed Drive?	False
BEP Flow	0.00 gpm		

Transient (Physical)			
Inertia (Pump and Motor)	0.000 lb·ft²	Specific Speed	SI=25, US=1280
Speed (Full)	0 rpm	Reverse Spin Allowed?	True

Pump Definition Detailed Report: TALICHET (MANIFOLD CONDITIONS)



Pump Definition Detailed Report: TOWNHALL (MANIFOLD CONDITIONS)

Element Details			
ID	178	Notes	
Label	TOWNHALL		

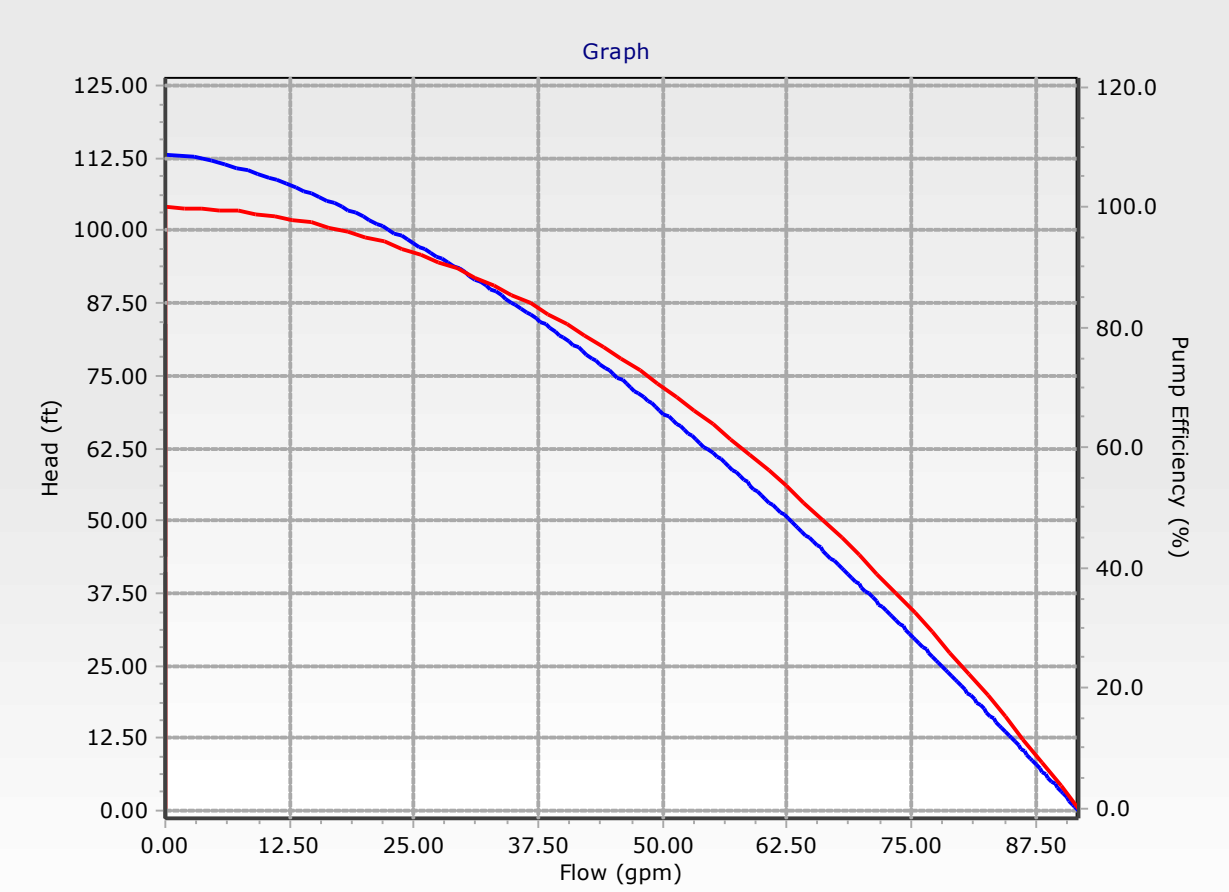
Pump Curve

Flow (gpm)	Head (ft)
0.00	114.20
5.60	111.00
11.40	108.00
15.90	105.00
20.00	102.00
23.80	99.00
27.10	96.00
30.10	93.00
33.00	90.00
35.60	87.00
38.10	84.00
40.50	81.00
42.90	78.00
45.00	75.00
47.70	72.00
49.50	69.00
51.80	66.00

Pump Efficiency Type			
Pump Efficiency Type	Best Efficiency Point	Motor Efficiency	100.0 %
BEP Efficiency	100.0 %	Is Variable Speed Drive?	False
BEP Flow	0.00 gpm		

Transient (Physical)			
Inertia (Pump and Motor)	0.000 lb·ft²	Specific Speed	SI=25, US=1280
Speed (Full)	0 rpm	Reverse Spin Allowed?	True

Pump Definition Detailed Report: TOWNHALL (MANIFOLD CONDITIONS)



Pump Definition Detailed Report: VENEZIA #1 (MANIFOLD CONDITIONS)

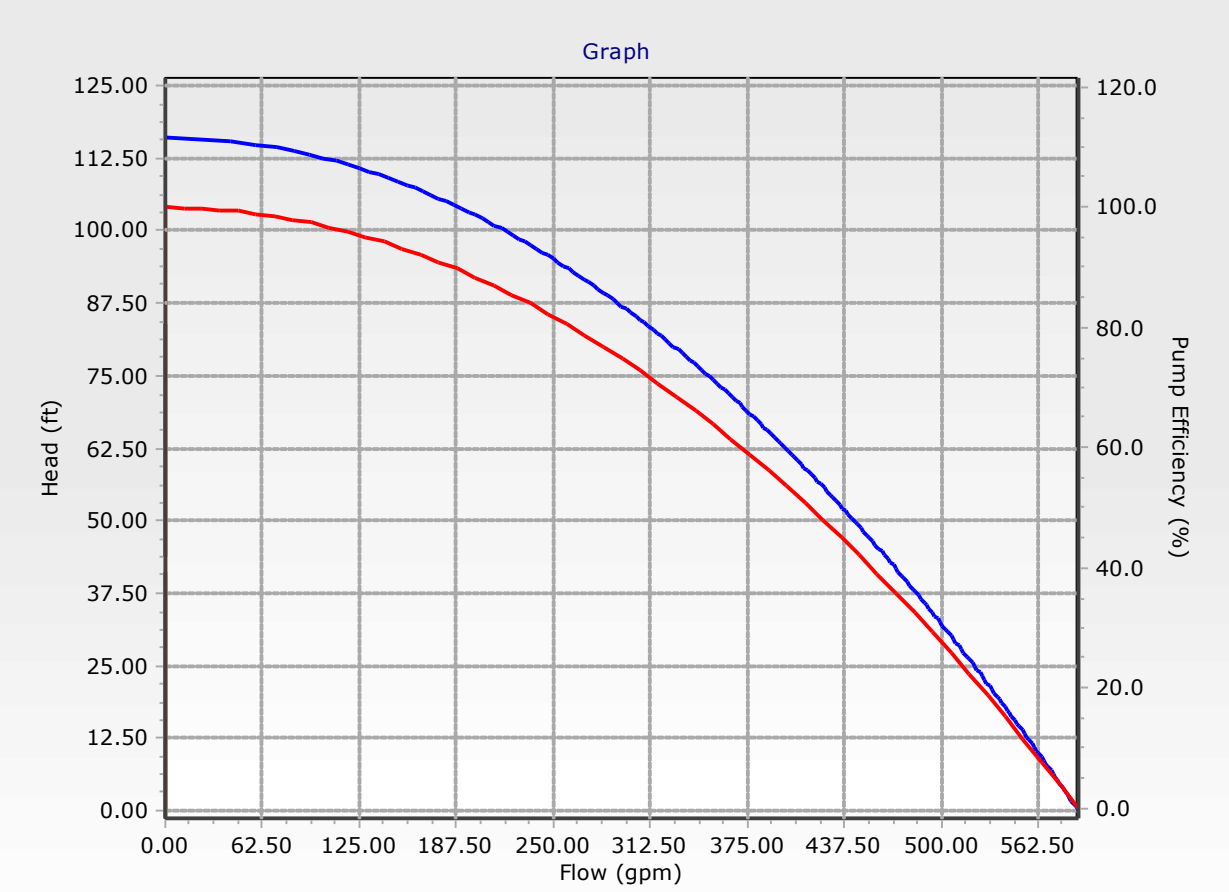
Element Details			
ID	59	Notes	
Label	VENEZIA #1		

Pump Definition Type			
Pump Definition Type	Design Point (1 Point)	Design Head	87.00 ft
Shutoff Flow	0.00 gpm	Maximum Operating Flow	0.00 gpm
Shutoff Head	0.00 ft	Maximum Operating Head	0.00 ft
Design Flow	294.00 gpm		

Pump Efficiency Type			
Pump Efficiency Type	Best Efficiency Point	Motor Efficiency	100.0 %
BEP Efficiency	100.0 %	Is Variable Speed Drive?	False
BEP Flow	0.00 gpm		

Transient (Physical)			
Inertia (Pump and Motor)	0.000 lb·ft²	Specific Speed	SI=25, US=1280
Speed (Full)	0 rpm	Reverse Spin Allowed?	True

Pump Definition Detailed Report: VENEZIA #1 (MANIFOLD CONDITIONS)



Pump Definition Detailed Report: VENEZIA #2 (MANIFOLD CONDITIONS)

Element Details

ID	163	Notes	
Label	VENEZIA #2		

Pump Definition Type

Pump Definition Type	Design Point (1 Point)	Design Head	94.00 ft
Shutoff Flow	0.00 gpm	Maximum Operating Flow	0.00 gpm
Shutoff Head	0.00 ft	Maximum Operating Head	0.00 ft
Design Flow	326.00 gpm		

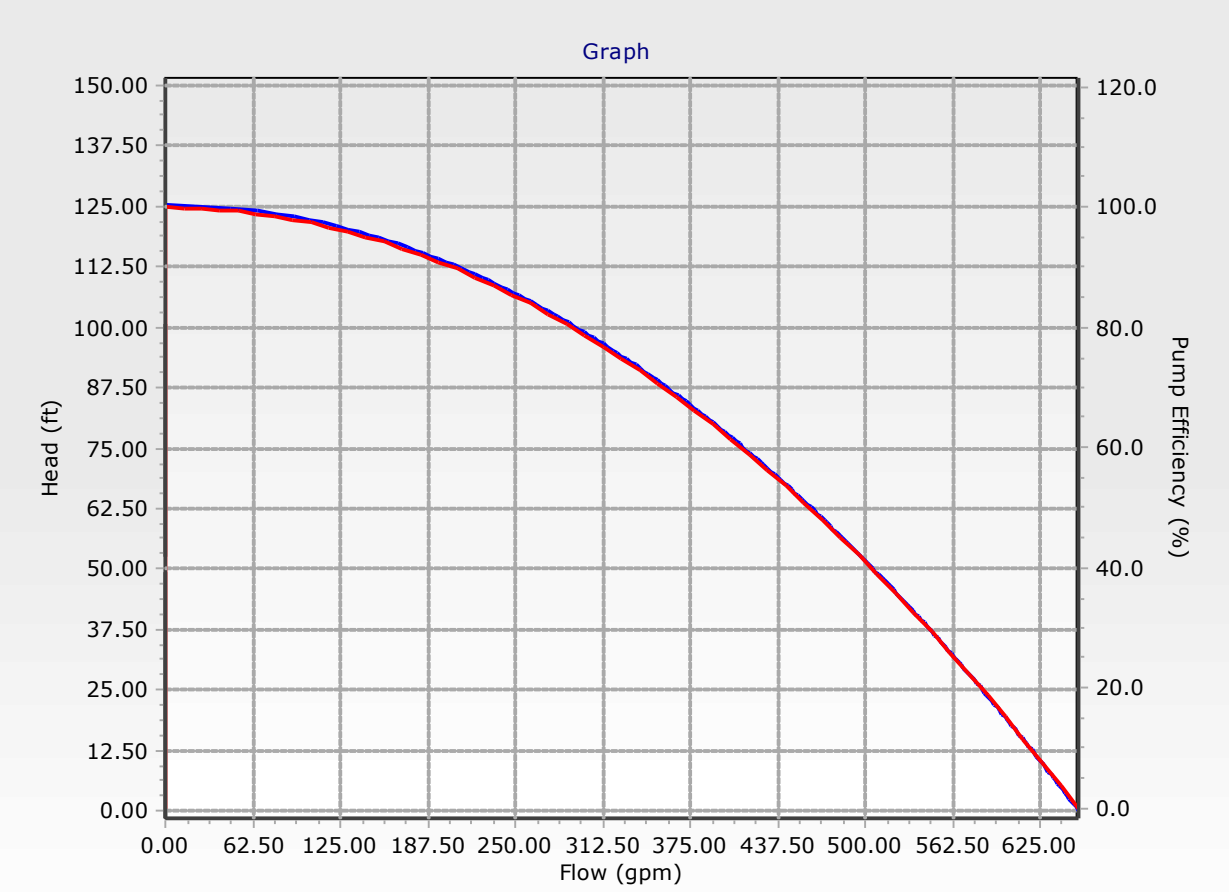
Pump Efficiency Type

Pump Efficiency Type	Best Efficiency Point	Motor Efficiency	100.0 %
BEP Efficiency	100.0 %	Is Variable Speed Drive?	False
BEP Flow	0.00 gpm		

Transient (Physical)

Inertia (Pump and Motor)	0.000 lb·ft²	Specific Speed	SI=25, US=1280
Speed (Full)	0 rpm	Reverse Spin Allowed?	True

Pump Definition Detailed Report: VENEZIA #2 (MANIFOLD CONDITIONS)



Pump Definition Detailed Report: Flygt Pump (MANIFOLD CONDITIONS)

Element Details			
ID	86	Notes	
Label	Flygt Pump		

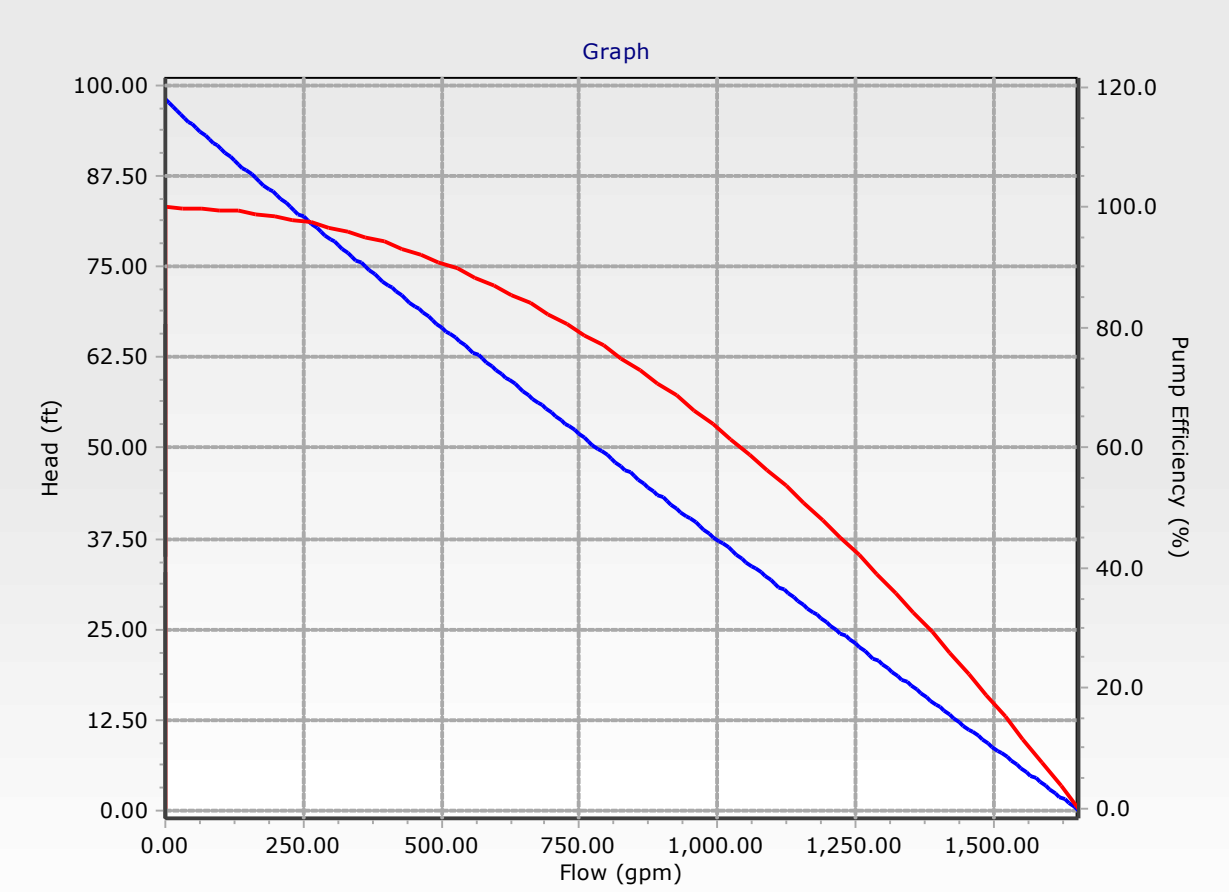
Pump Curve

Flow (gpm)	Head (ft)
0.10	98.68
48.71	95.04
97.33	91.49
145.95	88.07
194.57	84.78
243.19	81.63
291.80	78.62
340.42	75.72
389.04	72.91
437.66	70.16
486.28	67.45
534.90	64.75
583.51	62.05
632.13	59.34
680.75	56.59
729.37	53.81
777.99	50.99
826.61	48.12
875.22	45.19
923.84	42.17
972.46	39.08
1,021.08	35.89
1,069.70	32.64
1,132.07	28.43

Pump Efficiency Type			
Pump Efficiency Type	Best Efficiency Point	Motor Efficiency	100.0 %
BEP Efficiency	100.0 %	Is Variable Speed Drive?	False
BEP Flow	0.00 gpm		

Transient (Physical)			
Inertia (Pump and Motor)	0.000 lb·ft²	Specific Speed	SI=25, US=1280
Speed (Full)	0 rpm	Reverse Spin Allowed?	True

Pump Definition Detailed Report: Flygt Pump (MANIFOLD CONDITIONS)



FlexTable: Reservoir Table (MANIFOLD CONDITIONS)

Label	Elevation (ft)	Flow (Out net) (gpm)
R-1	65.00	209.09
R-2	55.50	236.19
R-3	58.60	60.40
R-4	73.50	28.29
R-5	62.50	155.78
R-6	93.00	-1,111.08
R-7	65.40	421.33

System Head Curve Detailed Report - System Head Curve - 1 (MANIFOLD CONDITIONS)

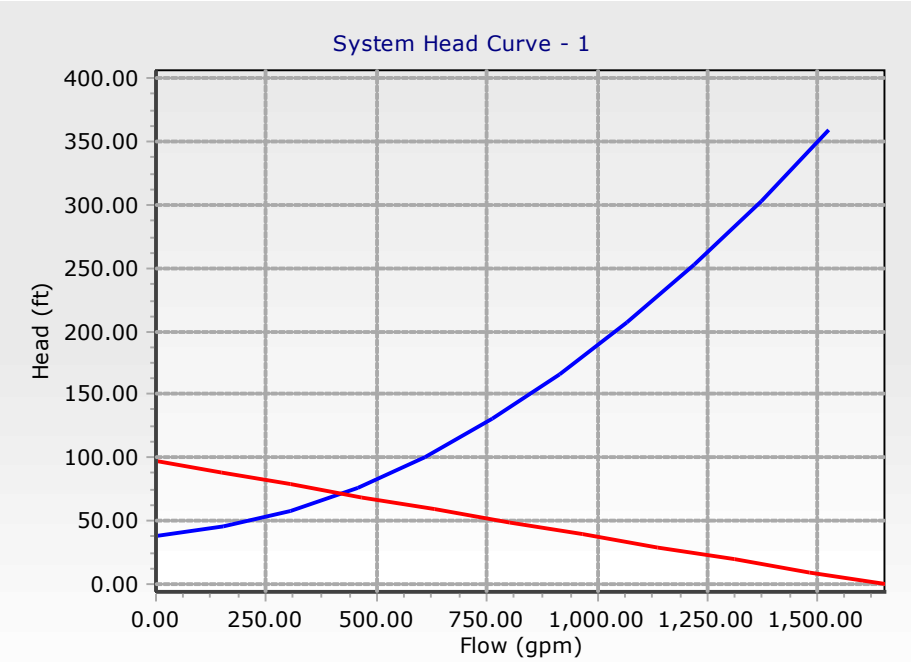
Element Details

Label	System Head Curve - 1	Number of Intervals	10
Pump	LIFT STATION #1	Specify vertical axis limits	False
Maximum Flow	1,523.97 gpm		

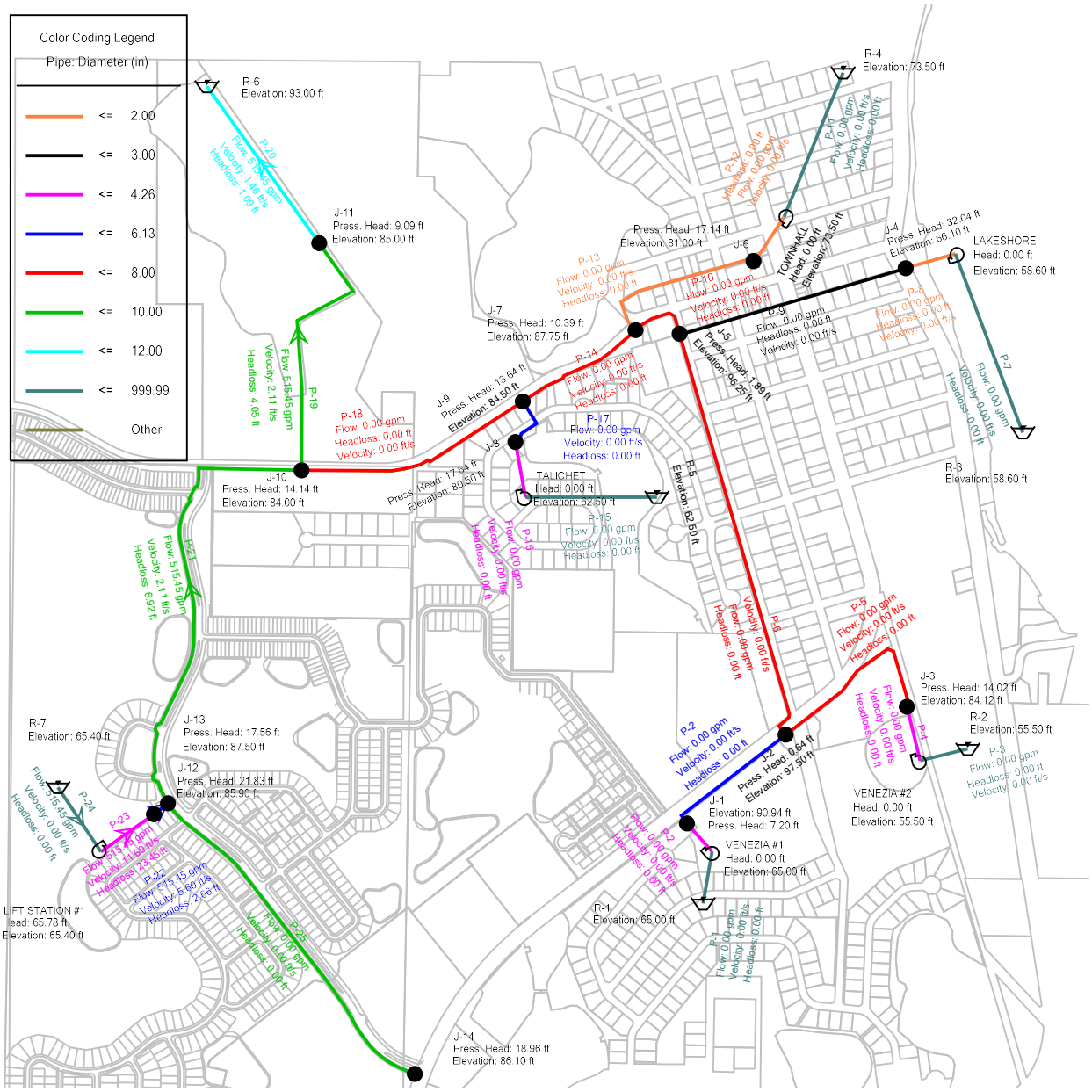
Time (hours)
0.000

System Head Curve @ 0.000 hours Flow (gpm)	System Head Curve @ 0.000 hours Head (ft)	Flygt Pump Flow (gpm)	Flygt Pump Head (ft)
0.00	38.24	1,654.66	0.00
152.40	44.89	1,481.54	9.80
304.79	57.70	1,309.36	19.60
457.19	76.31	1,138.23	29.41
609.59	100.58	968.29	39.21
761.99	130.38	799.75	49.01
914.38	165.63	632.85	58.81
1,066.78	206.24	468.00	68.62
1,219.18	252.13	305.88	78.42
1,371.57	303.23	147.84	88.22
1,523.97	359.46	0.00	98.02

System Head Curve Detailed Report - System Head Curve - 1 (MANIFOLD CONDITIONS)



Scenario: Base (RUNOUT CONDITIONS)



FlexTable: Junction Table (RUNOUT CONDITIONS)

Label	Demand (gpm)	Elevation (ft)	Pressure (psi)	Pressure Head (ft)
J-1	0.00	90.94	3.1	7.20
J-2	0.00	97.50	0.3	0.64
J-3	0.00	84.12	6.1	14.02
J-4	0.00	66.10	13.9	32.04
J-5	0.00	96.25	0.8	1.89
J-6	0.00	81.00	7.4	17.14
J-7	0.00	87.75	4.5	10.39
J-8	0.00	80.50	7.6	17.64
J-9	0.00	84.50	5.9	13.64
J-10	0.00	84.00	6.1	14.14
J-11	0.00	85.00	3.9	9.09
J-12	0.00	85.90	9.4	21.83
J-13	0.00	87.50	7.6	17.56
J-14	0.00	86.10	8.2	18.96

FlexTable: Pipe Table (RUNOUT CONDITIONS)

Label	Diameter (in)	Length (User Defined) (ft)	Length (ft)	Material	Hazen-Williams C	Minor Loss Coefficient (Unified)	Flow (gpm)	Velocity (ft/s)	Headloss (Friction) (ft)	Headloss (Minor) (ft)	Headloss (ft)
P-1	999.00	1	1	PVC	120.0	0.000	0.00	0.00	0.00	0.00	0.00
P-2	4.00	28	28	PVC	120.0	9.430	0.00	0.00	0.00	0.00	0.00
P-2	6.00	0	927	PVC	110.0	2.580	0.00	0.00	0.00	0.00	0.00
P-3	999.00	1	1	PVC	120.0	0.000	0.00	0.00	0.00	0.00	0.00
P-4	4.00	28	28	PVC	120.0	9.430	0.00	0.00	0.00	0.00	0.00
P-5	8.00	0	1,310	PVC	120.0	3.770	0.00	0.00	0.00	0.00	0.00
P-6	8.00	0	2,771	PVC	120.0	9.340	0.00	0.00	0.00	0.00	0.00
P-7	999.00	1	1	PVC	120.0	0.000	0.00	0.00	0.00	0.00	0.00
P-8	2.00	28	28	PVC	120.0	9.430	0.00	0.00	0.00	0.00	0.00
P-9	3.00	0	1,548	PVC	120.0	4.170	0.00	0.00	0.00	0.00	0.00
P-10	8.00	0	411	PVC	120.0	1.190	0.00	0.00	0.00	0.00	0.00
P-11	999.00	1	1	PVC	120.0	0.000	0.00	0.00	0.00	0.00	0.00
P-12	2.00	18	18	PVC	120.0	7.270	0.00	0.00	0.00	0.00	0.00
P-13	2.00	0	1,132	HDPE	120.0	0.000	0.00	0.00	0.00	0.00	0.00
P-14	8.00	0	884	PVC	120.0	2.580	0.00	0.00	0.00	0.00	0.00
P-15	999.00	1	1	PVC	120.0	0.000	0.00	0.00	0.00	0.00	0.00
P-16	4.00	28	28	PVC	120.0	9.430	0.00	0.00	0.00	0.00	0.00
P-17	6.00	0	362	PVC	120.0	1.190	0.00	0.00	0.00	0.00	0.00
P-18	8.00	0	1,578	PVC	120.0	4.170	0.00	0.00	0.00	0.00	0.00
P-19	10.00	0	1,779	PVC	120.0	4.770	515.45	2.11	3.73	0.33	4.05
P-20	12.00	0	1,262	PVC	120.0	0.000	515.45	1.46	1.09	0.00	1.09
P-21	10.00	0	3,027	PVC	120.0	8.490	515.45	2.11	6.34	0.58	6.92
P-22	6.13	0	117	PVC	120.0	0.000	515.45	5.60	2.66	0.00	2.66
P-23	4.26	28	28	PVC	120.0	9.430	515.45	11.60	3.72	19.73	23.45
P-24	999.00	1	1	PVC	120.0	0.000	515.45	0.00	0.00	0.00	0.00
P-25	10.00	0	2,429	PVC	120.0	3.900	0.00	0.00	0.00	0.00	0.00

Pump Definition Detailed Report: Flygt Pump (RUNOUT CONDITIONS)

Element Details			
ID	86	Notes	
Label	Flygt Pump		

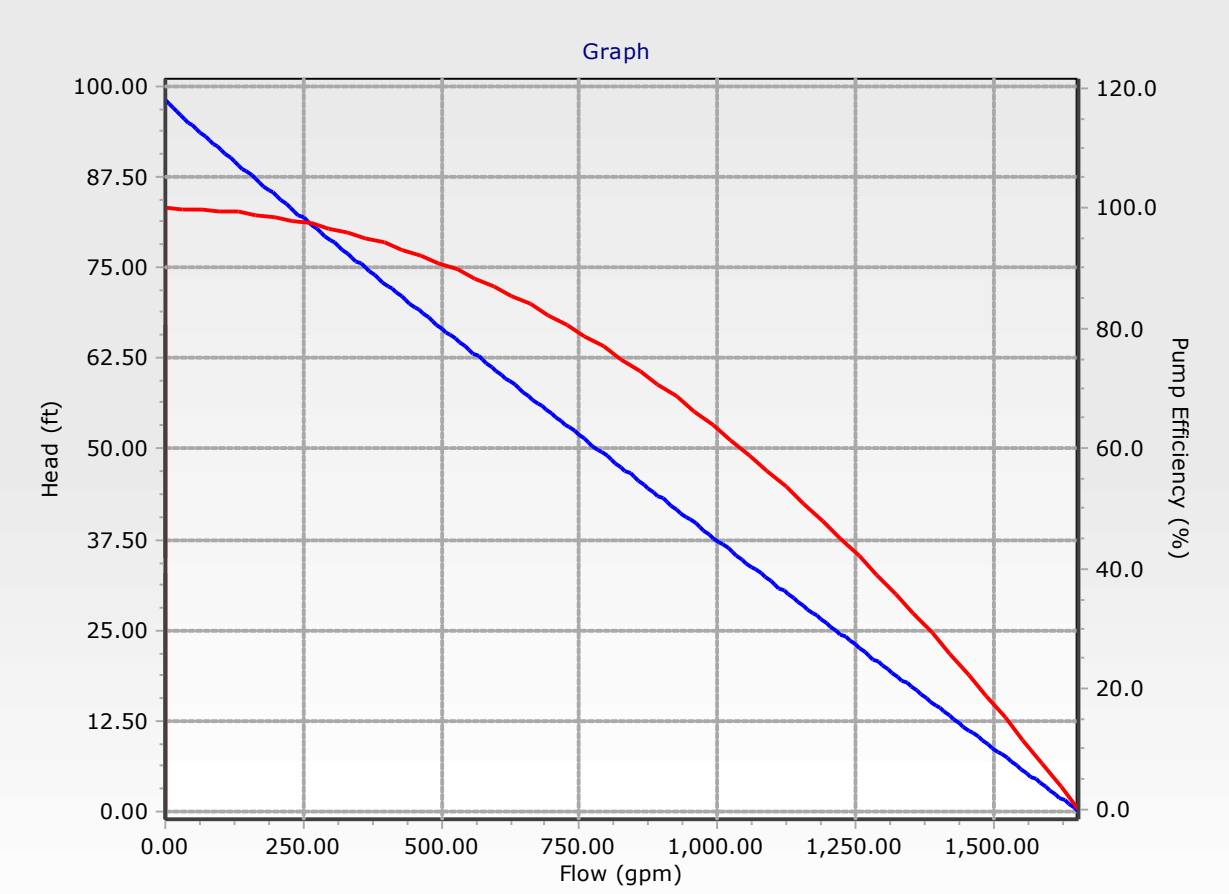
Pump Curve

Flow (gpm)	Head (ft)
0.10	98.68
48.71	95.04
97.33	91.49
145.95	88.07
194.57	84.78
243.19	81.63
291.80	78.62
340.42	75.72
389.04	72.91
437.66	70.16
486.28	67.45
534.90	64.75
583.51	62.05
632.13	59.34
680.75	56.59
729.37	53.81
777.99	50.99
826.61	48.12
875.22	45.19
923.84	42.17
972.46	39.08
1,021.08	35.89
1,069.70	32.64
1,132.07	28.43

Pump Efficiency Type			
Pump Efficiency Type	Best Efficiency Point	Motor Efficiency	100.0 %
BEP Efficiency	100.0 %	Is Variable Speed Drive?	False
BEP Flow	0.00 gpm		

Transient (Physical)			
Inertia (Pump and Motor)	0.000 lb·ft²	Specific Speed	SI=25, US=1280
Speed (Full)	0 rpm	Reverse Spin Allowed?	True

Pump Definition Detailed Report: Flygt Pump (RUNOUT CONDITIONS)



FlexTable: Pump Table (RUNOUT CONDITIONS)

Label	Pump Definition	Elevation (ft)	Hydraulic Grade (Suction) (ft)	Hydraulic Grade (Discharge) (ft)	Flow (Total) (gpm)	Pump Head (ft)
LAKESHORE	LAKESHORE	58.60	58.60	98.14	0.00	0.00
LIFT STATION #1	Flygt Pump	65.40	65.40	131.18	515.45	65.78
TALICHET	TALICHET	62.50	62.50	98.14	0.00	0.00
TOWNHALL	TOWNHALL	73.50	73.50	98.14	0.00	0.00
VENEZIA #1	VENEZIA #1	65.00	65.00	98.14	0.00	0.00
VENEZIA #2	VENEZIA #2	55.50	55.50	98.14	0.00	0.00

FlexTable: Reservoir Table (RUNOUT CONDITIONS)

Label	Elevation (ft)	Flow (Out net) (gpm)
R-1	65.00	0.00
R-2	55.50	0.00
R-3	58.60	0.00
R-4	73.50	0.00
R-5	62.50	0.00
R-6	93.00	-515.45
R-7	65.40	515.45

System Head Curve Detailed Report - System Head Curve - 1 (RUNOUT CONDITIONS)

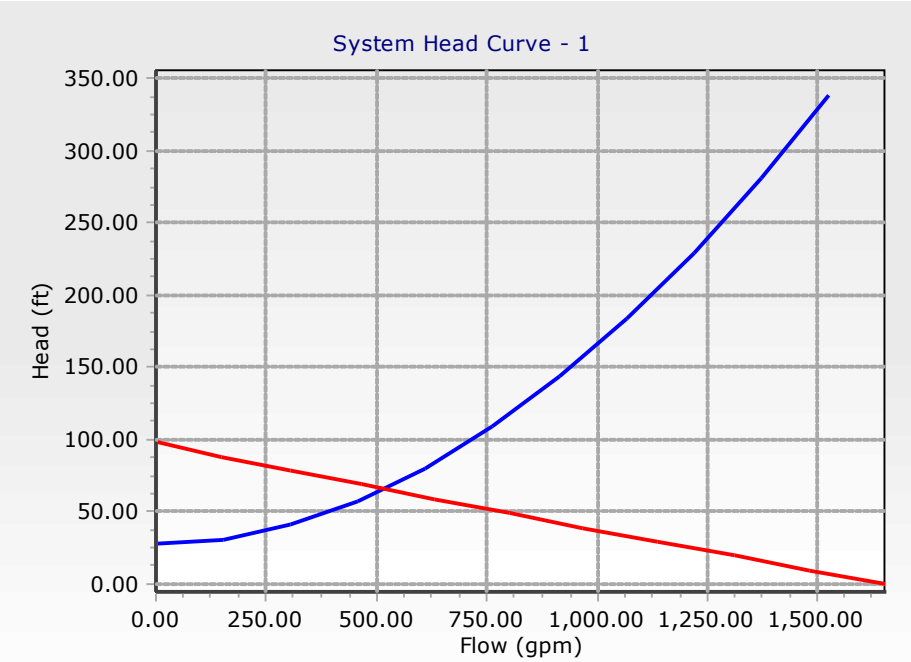
Element Details

Label	System Head Curve - 1	Number of Intervals	10
Pump	LIFT STATION #1	Specify vertical axis limits	False
Maximum Flow	1,523.97 gpm		

Time (hours)
0.000

System Head Curve @ 0.000 hours Flow (gpm)	System Head Curve @ 0.000 hours Head (ft)	Flygt Pump Flow (gpm)	Flygt Pump Head (ft)
0.00	27.60	1,654.66	0.00
152.40	31.24	1,481.54	9.80
304.79	41.45	1,309.36	19.60
457.19	57.89	1,138.23	29.41
609.59	80.40	968.29	39.21
761.99	108.88	799.75	49.01
914.38	143.26	632.85	58.81
1,066.78	183.47	468.00	68.62
1,219.18	229.46	305.88	78.42
1,371.57	281.18	147.84	88.22
1,523.97	338.61	0.00	98.02

System Head Curve Detailed Report - System Head Curve - 1 (RUNOUT CONDITIONS)



SUMMARY OF REQUIRED VS MODELED FLOWS

Connelly & Wicker, Inc.
Project Name: HILLSIDE GROVE
Project No: 21-04-0008
Date: October 6, 2022

COMPUTATION OF EXISTING SYSTEM FLOWS

Talichet Pump Station	Quantity	ADF	Unit	ADF (GPD)	ADF (GPM)	Peaking Factor	Peak Flow (GPM)
Single Family Residential	93	300	/ Unit	27900	19.4	3.72	72.1
* Data taken from Construction Plans for Venezia North Subdivision obtained from the SJRWMD							

SUMMARY OF EXISTING PUMP STATION REQUIRED VS MODELED FLOWS

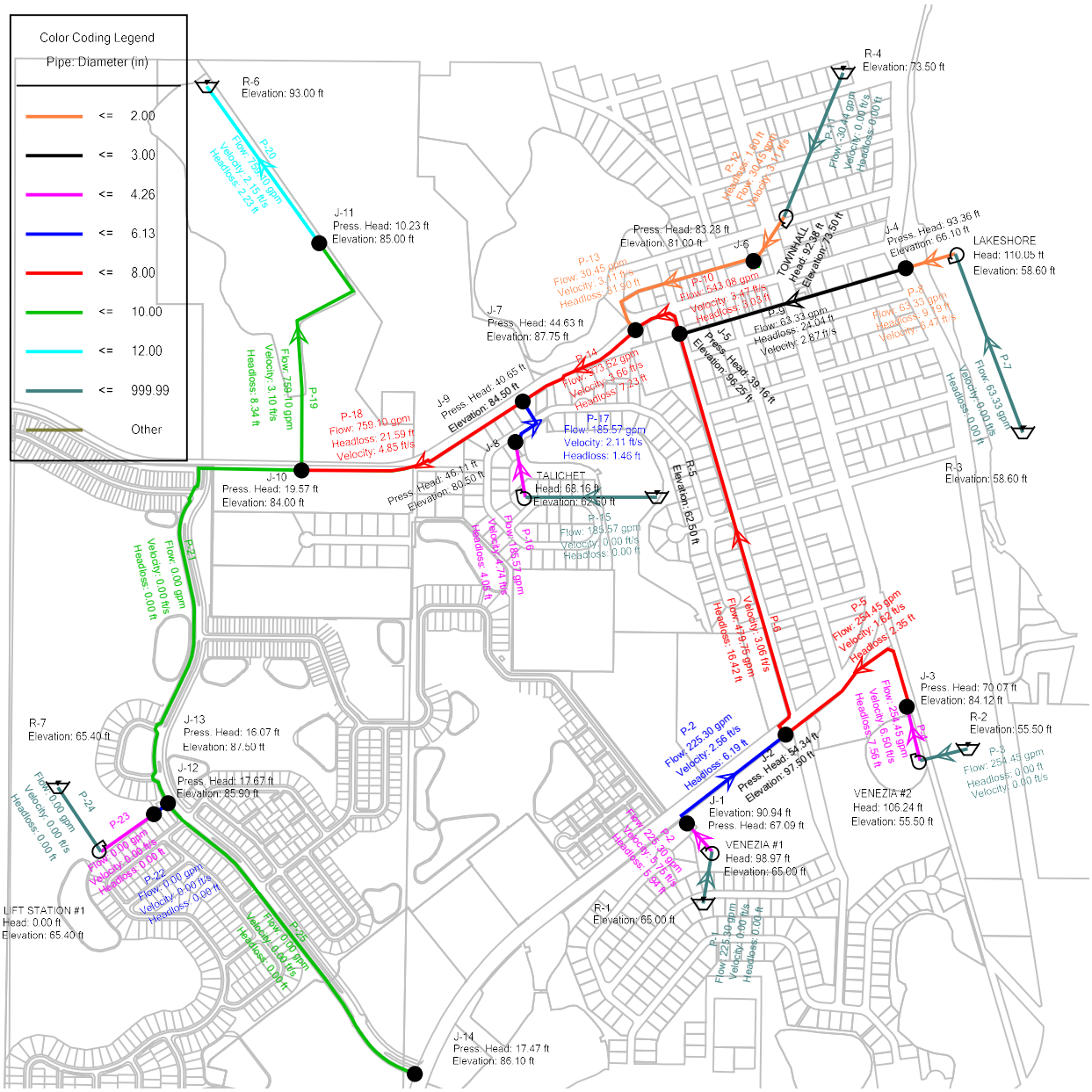
Pump Station Name	Required Peak Flow (GPM)	Peak Flow at Manifold Condition per Watercad Modeling (GPM)
Venezia Pump Station #1	133	209
* Data taken from Howey-In-The-Hills Wastewater Master Plan dated October 2018		
Venezia Pump Station #2	204	236
* Data taken from Howey-In-The-Hills Wastewater Master Plan dated October 2018		
Talichet Pump Station	72	156
* Data calculated above		
Lakeshore Pump Station	59	60
* Data taken Pump Station Engineering Plan provided by Griffey Engineering, Inc.		
Townhall Pump Station	26	28
* Data taken Pump Station Engineering Plan provided by Griffey Engineering, Inc.		

HILLSIDE GROVE PUMP STATION REQUIRED VS PROVIDED FLOWS

Pump Station Name	Required Peak Flow (GPM)	Flow at Manifold Condition per Watercad Modeling (GPM)	Flow at Runout Condition per Watercad Modeling (GPM)
Pump Station #1	400	421	515

APPENDIX

Scenario: Base (EXISTING NETWORK CONDITIONS)



FlexTable: Pump Table (EXISTING NETWORK CONDITIONS)

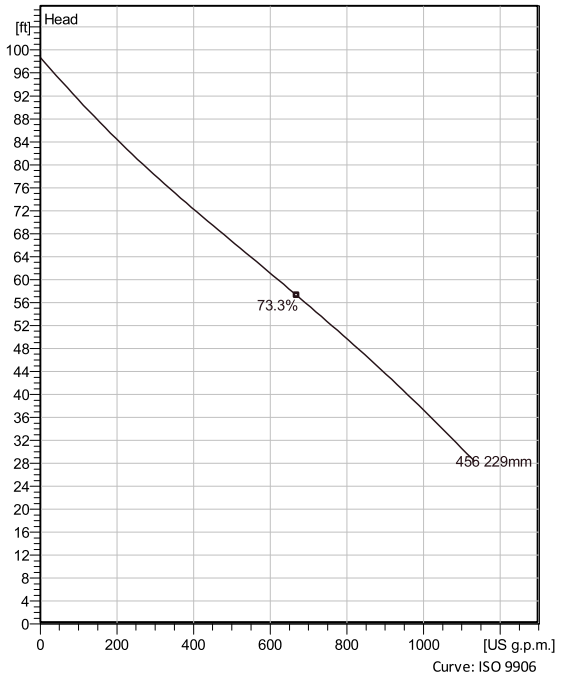
Label	Pump Definition	Elevation (ft)	Hydraulic Grade (Suction) (ft)	Hydraulic Grade (Discharge) (ft)	Flow (Total) (gpm)	Pump Head (ft)
LAKESHORE	LAKESHORE	58.60	58.60	168.65	63.33	110.05
LIFT STATION #1	Flygt Pump	65.40	65.40	103.57	0.00	0.00
TALICHET	TALICHET	62.50	62.50	130.66	185.57	68.16
TOWNHALL	TOWNHALL	73.50	73.50	165.88	30.45	92.38
VENEZIA #1	VENEZIA #1	65.00	65.00	163.97	225.30	98.97
VENEZIA #2	VENEZIA #2	55.50	55.50	161.74	254.45	106.24

NP 3153 HT 3~ 456

Patented self cleaning semi-open channel impeller, ideal for pumping in waste water applications. Modular based design with high adaptation grade.

Technical specification

Curves according to: Water, pure Water, pure [100%],39.2 °F,62.43 lb/ft³,1.6888E-5 ft²/s



Configuration

Motor number
N3153.660 21-15-4AA-W 15hp

Installation type
P - Semi permanent, Wet

Impeller diameter
229 mm

Discharge diameter
4 inch

Pump information

Impeller diameter
229 mm

Discharge diameter
4 inch

Inlet diameter
150 mm

Maximum operating speed
1755 rpm

Number of blades
2

Max. fluid temperature
40 °C

Materials

Impeller
Stainless steel

Project		**Created by**	Garrett Queener		
Block	0	**Created on**	10/7/2022	**Last update**	10/7/2022

NP 3153 HT 3~ 456

Technical specification

FLYGT a xylem brand

Motor - General

Motor number N3153.660 21-15-4AA-W 15hp	**Phases** 3~	**Rated speed** 1755 rpm	**Rated power** 15 hp
ATEX approved No	**Number of poles** 4	**Rated current** 39 A	**Stator variant** 5
Frequency 60 Hz	**Rated voltage** 230 V	**Insulation class** H	**Type of Duty** S1
Version code 660			

Motor - Technical

Power factor - 1/1 Load 0.82	**Motor efficiency - 1/1 Load** 87.8 %	**Total moment of inertia** 1.76 lb ft²	**Starts per hour max.** 30
Power factor - 3/4 Load 0.77	**Motor efficiency - 3/4 Load** 88.7 %	**Starting current, direct starting** 228 A	
Power factor - 1/2 Load 0.65	**Motor efficiency - 1/2 Load** 88.3 %	**Starting current, star-delta** 76 A	

Project		**Created by**	Garrett Queener		
Block	0	**Created on**	10/7/2022	**Last update**	10/7/2022

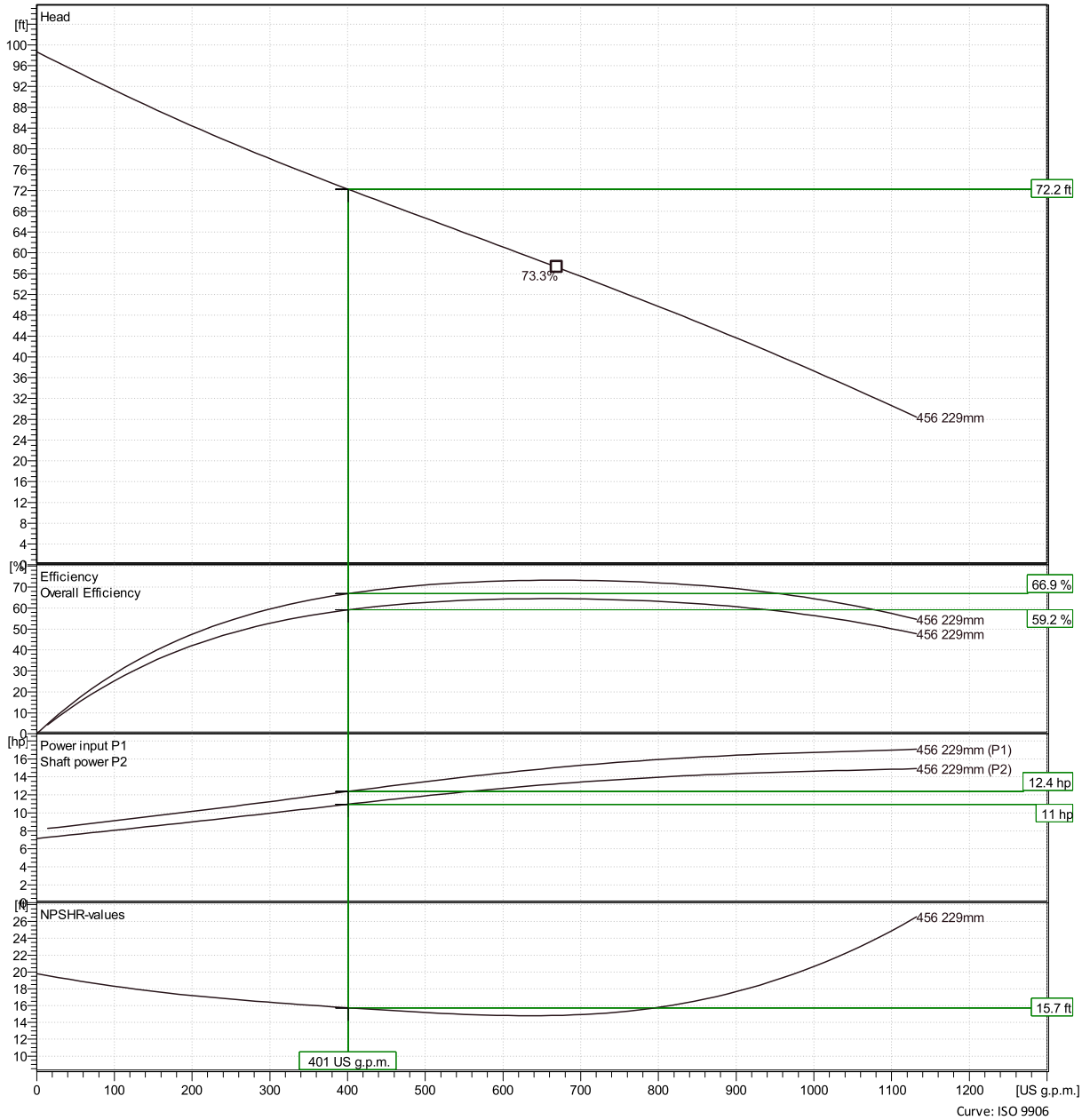
NP 3153 HT 3~ 456

Performance curve

Duty point

Flow	Head
401 US g.p.m.	72.2 ft

Curves according to: Water, pure Water, pure [100%],39.2 °F,62.43 lb/ft³,1.6888E-5 ft²/s



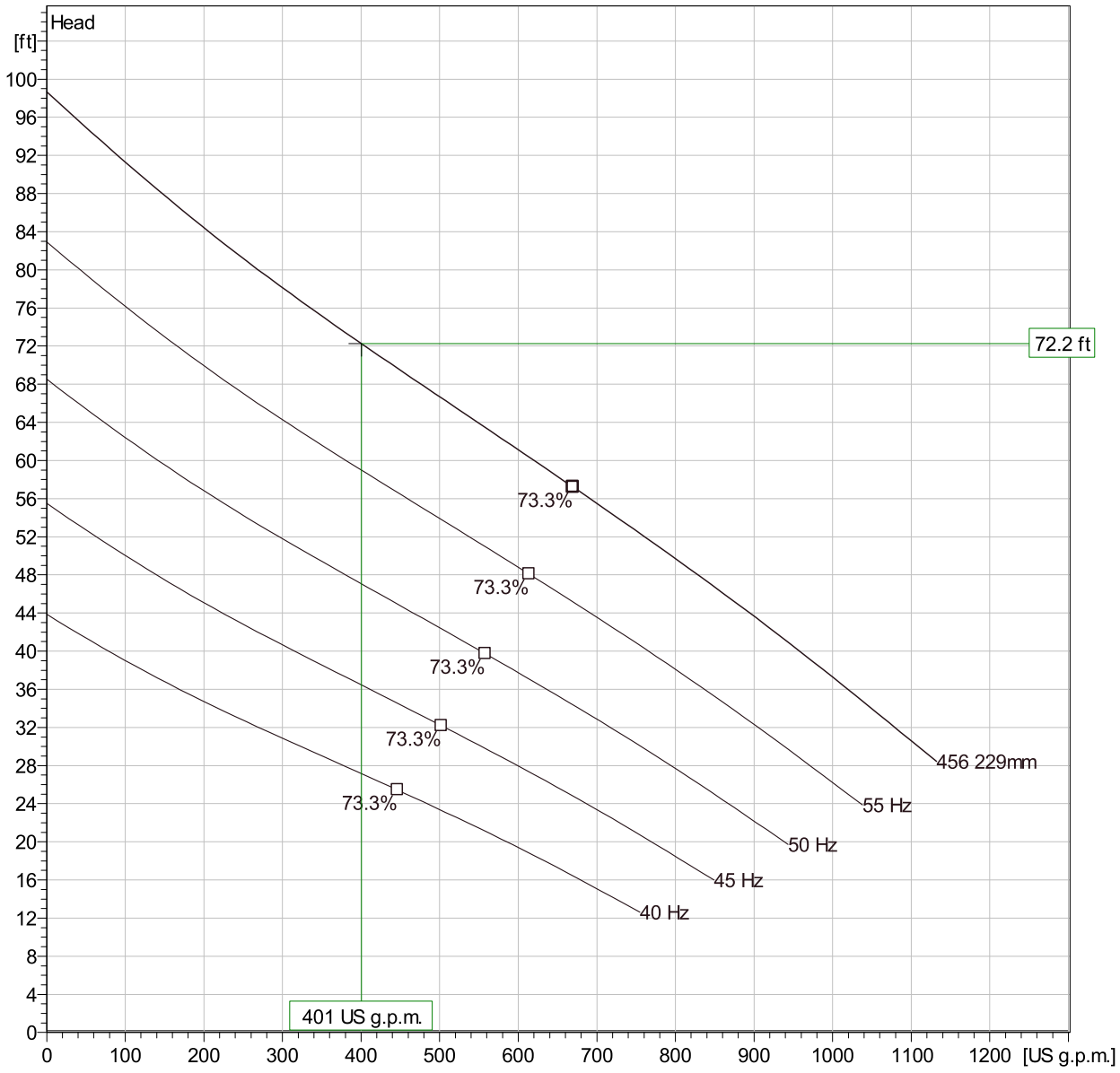
Curve: ISO 9906

			Garrett Queener		
0		Created on	10/7/2022	Last update	10/7/2022

NP 3153 HT 3~ 456

Duty Analysis

Curves according to: Water, pure [100%] ; 39.2°F; 62.43lb/ft³; 1.6888E-5ft²/s



Operating characteristics

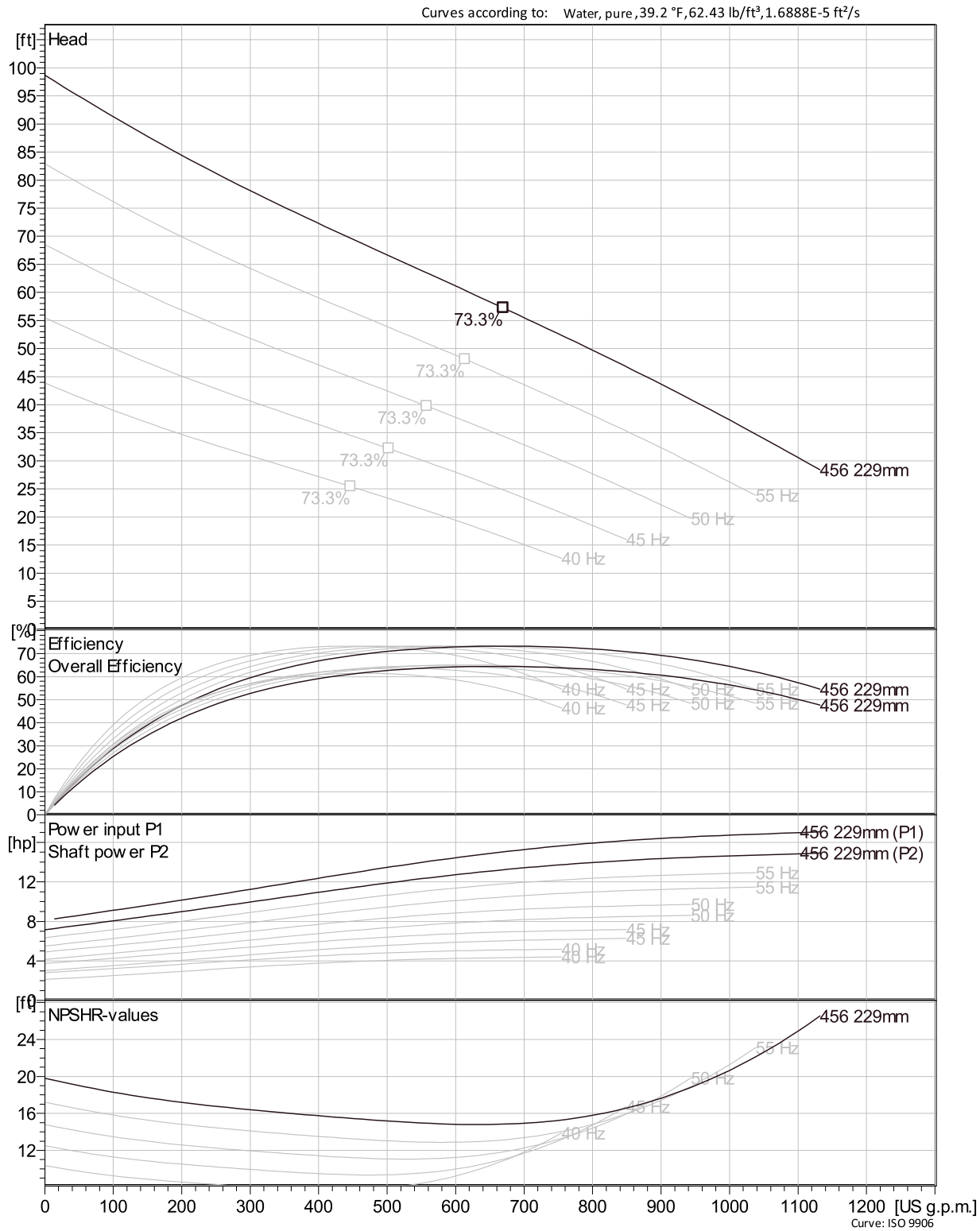
Pumps / Systems	Flow	Head	Shaft power	Flow	Head	Shaft power	Hydr.eff.	Spec. Energy	NPSHre
	US g.p.m.	ft	hp	US g.p.m.	ft	hp		kWh/US MG	ft
1	401	72.2	11	401	72.2	11	66.9 %	384	15.7

Project		**Created by**	Garrett Queener		
Block		**Created on**	10/7/2022	**Last update**	10/7/2022

NP 3153 HT 3~ 456

VFD Curve

FLYGT a xylem brand



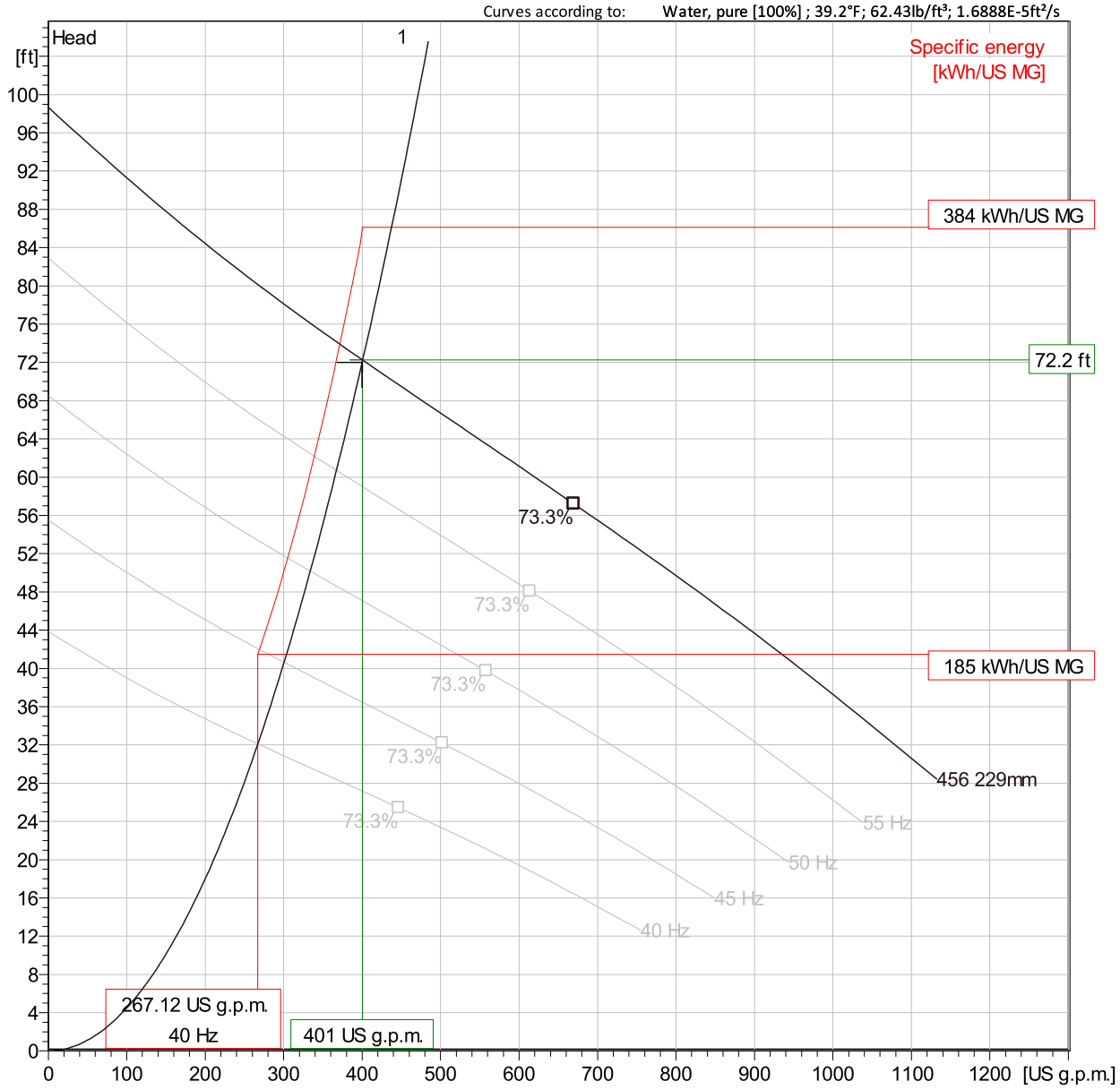
Project		**Created by**	Garrett Queener		
Block	0	**Created on**	10/7/2022	**Last update**	10/7/2022

NP 3153 HT 3~ 456

VFD Analysis

FLYGT a xylem brand

Curves according to: Water, pure [100%] ; 39.2°F; 62.43lb/ft³; 1.6888E-5ft²/s



Operating Characteristics

Pumps / Systems	Frequency	Flow	Head	Shaft power	Flow	Head	Shaft power	Hydr.eff.	Specific energy	NPSHre
		US g.p.m.	ft	hp	US g.p.m.	ft	hp		kWh/US MG	ft
1	60 Hz	401	72.2	11	401	72.2	11	66.9 %	384	15.7
1	55 Hz	367	60.7	8.44	367	60.7	8.44	66.9 %	322	13.7
1	50 Hz	334	50.2	6.34	334	50.2	6.34	66.9 %	269	11.8
1	45 Hz	301	40.6	4.62	301	40.6	4.62	66.9 %	224	9.93

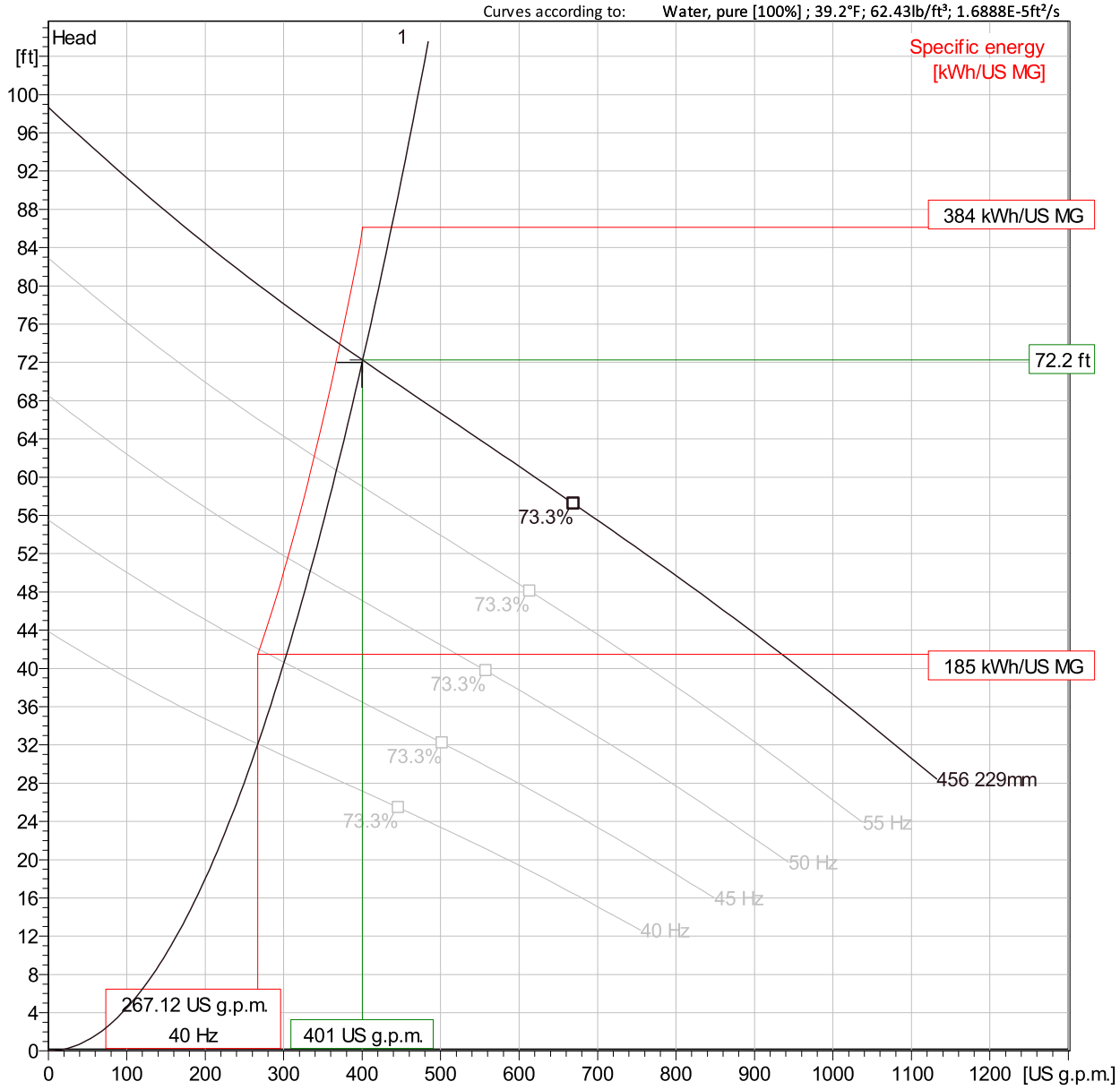
Project		**Created by**	Garrett Queener		
Block	0	**Created on**	10/7/2022	**Last update**	10/7/2022

NP 3153 HT 3~ 456

VFD Analysis

FLYGT a xylem brand

Curves according to: Water, pure [100%] ; 39.2°F; 62.43lb/ft³; 1.6888E-5ft²/s



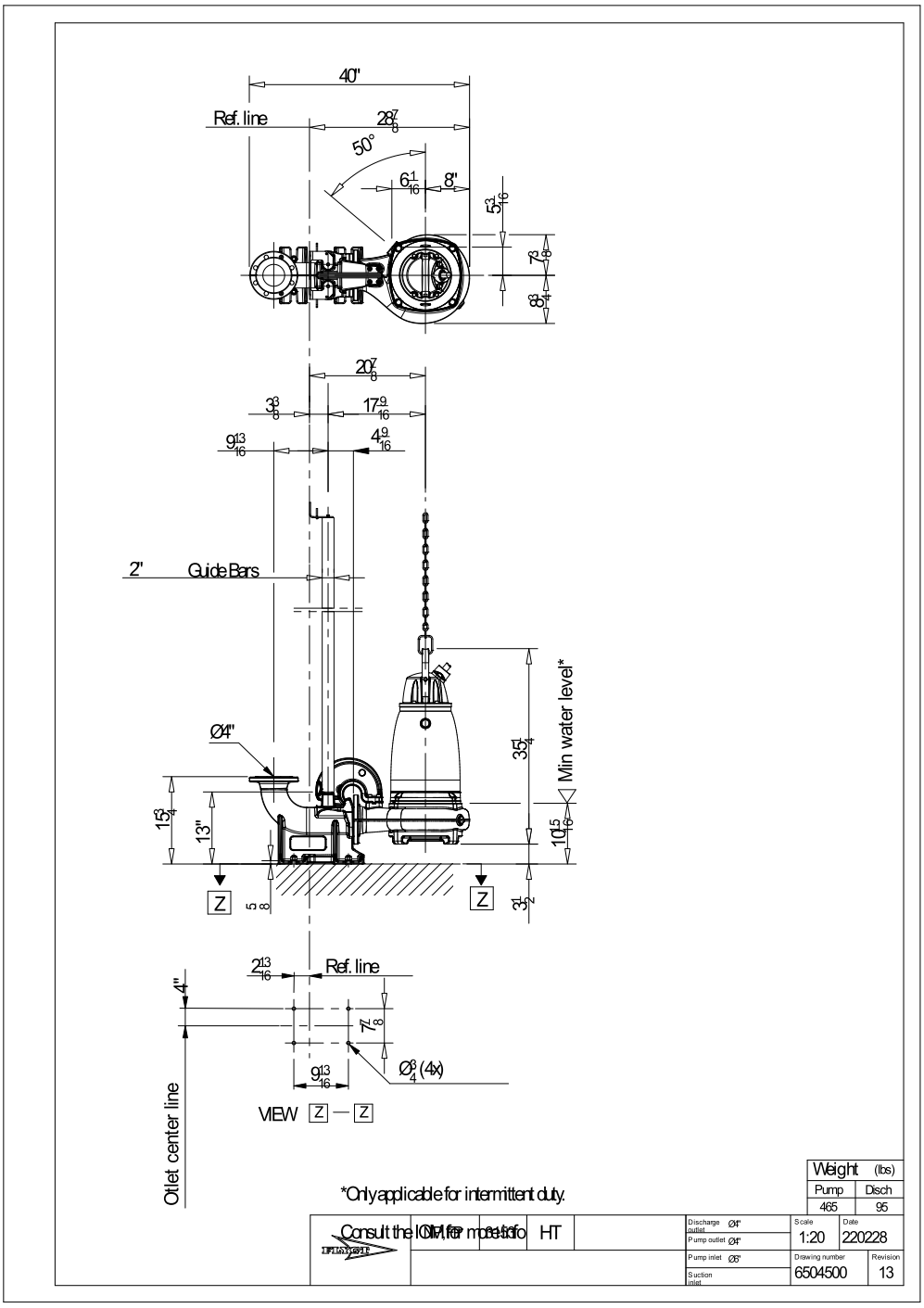
Operating Characteristics

Pumps / Systems	Frequency	Flow	Head	Shaft power	Flow	Head	Shaft power	Hydr.eff.	Specific energy	NPSHre
		US g.p.m.	ft	hp	US g.p.m.	ft	hp		kWh/US MG	ft
1	40 Hz	267	32.1	3.25	267	32.1	3.25	66.9 %	185	8.23

Project		**Created by**	Garrett Queener		
Block	0	**Created on**	10/7/2022	**Last update**	10/7/2022

NP 3153 HT 3~ 456

Dimensional drawing



Project		**Created by**	Garrett Queener		
Block	0	**Created on**	10/7/2022	**Last update**	10/7/2022

N

1" = 600'

TOWNHALL
LIFT STATION

LAKESHORE
LIFT STATION

12" FM

2" FM

3" FM

10" FM

8" FM

8" FM

4" FM

TALICHET
LIFT STATION

8" FM

8" FM

VENEZIA
LS #2

6" FM

VENEZIA
LS #1

LIFT STATION

LIFT STATION

LIFT STATION

LIFT STATION

WASTEWATER MASTER PLAN

Town of Howey in the Hills

Public Wastewater System

Prepared For:

Prepared By:

BOOTH ERN STRAUGHAN HIOTT
ENGINEERS • SURVEYORS
LAND PLANNERS

October 2018

APPENDIX C

Venezia's Existing Lift Station Calculations

LIFT STATION CALCULATIONS

Venezia Lift Station #1

I. Design Flow Rates:

Parcel ID	Land Use Description	Unit Description	Units	Unit Flow (GPD/Unit)	Average Daily Flow (GPD)	Average Daily Flow (GPM)	Minimum Daily Flow (GPM)	Maximum Daily Flow (GPM)	Peak Daily Flow (GPM)
1	*Residential - SF (detached)*	dwelling unit	94	300	28,200	20	10	39	78
2	*Commercial - Shopping Center*	square feet	70,000	0.1	7,000	5	2	10	19
3	*Commercial - Shopping Center - Deli*	square feet	500	0.4	200	0.1	0.1	0.3	0.6
4	*Commercial - Shopping Center - Bakery*	square feet	500	0.4	200	0.1	0.1	0.3	0.6
5	*Commercial - Shopping Center - Meat*	square feet	500	0.75	375	0.3	0.1	0.5	1.0
6	*Commercial - Restaurant <16 hrs*	seat	300	40	12,000	8	4	17	33
7					0	0	0	0	0
8					0	0	0	0	0
9					0	0	0	0	0
10					0	0	0	0	0
				Total	47,975	33	17	67	133
							F_{min}	F_{max}	F_{peak}
						Design Peaking Factors:	0.5	2.0	4.0

II. Wet Well Dimensions:

Wet Well Configuration:	***Duplex***	
No. of Wet Wells:	***1***	
Layout:	***Circular***	
Inner Diameter =	8.00	feet
Volume =	376	gallons/foot
Total Volume =	**376**	gallons/foot
Wall Thickness =	8	inches
Outer Diameter =	9.33	feet
Slab Lip =	18	inches
Slab Diameter =	12.33	feet
Slab Thickness =	12	inches

III. Minimum Cycle Time & Storage Volume:

$T = (V / (Q-S)) + (V/S)$ Where: T = Cycle Time (Min.)
Note: T_{min} occurs when S = 1/2Q (Duplex) S = Peak Inflow (gpm)
$V = (QT / 4)$ Q = Pump Discharge (gpm)
V = Req. Storage Vol. (gal.)

For Minimum T =	10	Min.
S =	147	GPM
Q =	294	GPM (per pump)
Then V =	735	Gallons
Min. Storage Depth =	1.95	**Feet** (Pump ON - Pump OFF)

Cycle Time for Peak Flow Condition, T = 10 Minutes > 5 minutes, OK

Note: Allow an additional 50% Storage Depth for Triplx and 100% for Quadplex
Note: Rule of Thumb: Min. Q = 150 gpm

IV. Wet Well Control Levels:

Wet Well Top Elevation	**89.00**	
Assume Ground Water Table @ Elevation	88.50	
Influent Gravity Sewer Invert Elev.	71.54	
Freeboard =	0.54	Feet
Audible Alarm ON Elevation	71.00	
Freeboard =	1.00	Feet
~~4TH Pump & Alarm Light ON Elev.~~	~~0.00~~	
~~Freeboard =~~	~~0.00~~	~~Feet~~
~~3RD Pump & Alarm Light ON Elev.~~	~~0.00~~	
~~Freeboard =~~	~~0.00~~	~~Feet~~
2ND Pump & Alarm Light ON Elev.	70.00	
Freebaord =	1.00	Feet
Lead Pump ON Elev.	69.00	
Storage Depth =	4.00	Feet
Both Pumps OFF Elev.	65.00	
Sump Depth =	1.50	Feet
Wet Well Bottom Elevation	**63.50**	
Total Depth of Wet Well =	25.50	Feet
Station Yard Finish Grade Elevation =	88.50	
Minimum Station Yard Width =	25.0	Feet
Min. Station Easement Length & Width =	59.3	Feet
Forcemain High Point Elevation =	125.00	ft
Connection Point Elevation =	0.00	ft
Connection Pressure =	0.00	psi
Static Head for Pumps =	**60.00**	**Feet**

V. Buoyancy Calculation:

Structure Rim El. =	89.00	feet
Structure Base El. =	63.50	feet
Structure Depth =	25.50	feet
Structure Volume =	1,282	CF
Wall Volume =	463	CF
Slab Volume =	119	CF
Volume of Concrete =	582	CF
Density of Concrete =	144	lbs/CF
Weight of Concrete =	83,855	lbs.
Volume of Soil Above Slab =	1,302	CF
Density of Soil =	47	lbs/CF
Weight of Soil Above Slab =	61,184	lbs.
Total Resistance Force =	**145,040**	**lbs.**
Ground Water Table @ Elevation	88.50	feet
Volume of Water Displaced =	1,830	CF
Density of Water =	62.4	lbs/CF
Total Uplift Force =	**114,185**	**lbs.**
Factor of Safety =	**1.3**	

LIFT STATION CALCULATIONS (Cont'd)
Venezia Lift Station #1

VI. Calculation of System Head Curve:

Total Static Head = 60.00 Feet

Pump Selection *Flygt* *15* hp
Model: NP3151. Curve: 63-464-00-4550
Impeller: 253 mm
No. Pumps In Parallel = *1* Duplex
Operating Point = 294 gpm @ 87 ft TDH
OP 2 Pumps = gpm @ ft TDH
OP 3 pumps = gpm @ ft TDH

		Station Piping	Force Main Piping			
			New On-Site	*New On-Site*	*New Off-Site*	*N/A*
Pipe Length (feet)		27	947	5,600	3,140	0
Pipe Inside Dia. (inches)		*6*	*6*	*8*	*10*	*12*
Pipe Area (Sq.-Ft.)		0.196	0.196	0.349	0.545	0.785
Pipe Material		*DIP*	*PVC*	*PVC*	*PVC*	*PVC*
Roughness C		100	120	120	120	120
Fittings:	K-Value	No. / Tot K	No. / Tot K	No. / Tot K	No. / Tot K	No. / Tot K
Discharge	1.0	1 / 1.0	0 / 0.0	0 / 0.0	1 / 1.0	0 / 0.0
90° Bend	0.6	2 / 1.2	0 / 0.0	0 / 0.0	2 / 1.2	0 / 0.0
45° Bend	0.4	2 / 0.8	4 / 1.6	4 / 1.6	4 / 1.6	0 / 0.0
22.5° Bend	0.25	0 / 0.0	4 / 1.0	4 / 1.0	4 / 1.0	0 / 0.0
11.25° Bend	0.15	0 / 0.0	0 / 0	0 / 0.0	0 / 0.0	0 / 0.0
Expansion	0.5	0 / 0.0	1 / 0.5	1 / 0.5	0 / 0.0	0 / 0.0
Plug Valve	0.4	1 / 0.4	1 / 0.4	6 / 2.4	3 / 1.2	0 / 0.0
Check Valve	2.5	1 / 2.5	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0
Wye Branch	0.5	1 / 0.5	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0
Contraction	0.5	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0	0 / 0.0
Total K-Value		6.4	3.5	5.5	6.0	0.0

Wet Well Area = 50.3 sf per wet well
Pump On El. = 69.00 ft
Pump Off El. = 65.00 ft
Storage Volume = 201 cf
1,504 gallons per wet well

Pump On Time = Storage Volume / (Outflow - Inflow)
= 9.4 minutes (Peak)
= 5.8 minutes (Average)
Pump Off Time = Storage Volume / (Inflow)
= 11.3 minutes (Peak)
= 45.1 minutes (Average)

Inflow = 33 gpm (Average)
Inflow = 133 gpm (Peak)
Outflow = 294 gpm

Step Interval = 25 gpm Add. Manifold Flows (gpm): 6: 0; 8: 0; 10: 0; 12: 0

System Head Curve

Q (gpm)	Pipe & Fitting Friction Losses in Feet - Velocity in Feet per Second															Friction Head (feet)	TDH (feet)
	6			6			8			10			12				
	Pipe (ft)	Fittings (ft)	Velocity (fps)	Pipe (ft)	Fittings (ft)	Velocity (fps)	Pipe (ft)	Fittings (ft)	Velocity (fps)	Pipe (ft)	Fittings (ft)	Velocity (fps)	Pipe (ft)	Fittings (ft)	Velocity (fps)		
0	0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0	0.00	**60.00**
25	0.00	0.01	0.3	0.09	0.00	0.3	0.13	0.00	0.2	0.02	0.00	0.1	0.00	0.00	0.0	0.27	**60.27**
50	0.02	0.03	0.6	0.33	0.02	0.6	0.47	0.01	0.3	0.09	0.00	0.2	0.00	0.00	0.0	0.96	**60.96**
75	0.04	0.07	0.9	0.69	0.04	0.9	0.99	0.02	0.5	0.19	0.01	0.3	0.00	0.00	0.0	2.05	**62.05**
100	0.07	0.13	1.1	1.17	0.07	1.1	1.69	0.03	0.6	0.32	0.02	0.4	0.00	0.00	0.0	3.50	**63.50**
125	0.10	0.20	1.4	1.78	0.11	1.4	2.55	0.05	0.8	0.49	0.02	0.5	0.00	0.00	0.0	5.31	**65.31**
150	0.14	0.29	1.7	2.49	0.16	1.7	3.58	0.08	1.0	0.68	0.03	0.6	0.00	0.00	0.0	7.45	**67.45**
175	0.19	0.39	2.0	3.31	0.21	2.0	4.76	0.11	1.1	0.91	0.05	0.7	0.00	0.00	0.0	9.93	**69.93**
200	0.25	0.51	2.3	4.24	0.28	2.3	6.10	0.14	1.3	1.16	0.06	0.8	0.00	0.00	0.0	12.74	**72.74**
225	0.31	0.65	2.6	5.28	0.35	2.6	7.58	0.18	1.4	1.44	0.08	0.9	0.00	0.00	0.0	15.87	**75.87**
250	0.38	0.80	2.8	6.42	0.44	2.8	9.21	0.22	1.6	1.75	0.10	1.0	0.00	0.00	0.0	19.31	**79.31**
275	0.45	0.97	3.1	7.65	0.53	3.1	10.99	0.26	1.8	2.09	0.12	1.1	0.00	0.00	0.0	23.07	**83.07**
294	0.51	1.11	3.3	8.66	0.60	3.3	12.44	0.30	1.9	2.37	0.13	1.2	0.00	0.00	0.0	26.13	**86.13**
300	0.53	1.15	3.4	8.99	0.63	3.4	12.91	0.31	1.9	2.46	0.14	1.2	0.00	0.00	0.0	27.13	**87.13**
325	0.62	1.35	3.7	10.43	0.74	3.7	14.97	0.37	2.1	2.85	0.16	1.3	0.00	0.00	0.0	31.50	**91.50**
350	0.71	1.57	4.0	11.97	0.86	4.0	17.18	0.43	2.2	3.27	0.19	1.4	0.00	0.00	0.0	36.17	**96.17**
375	0.81	1.80	4.3	13.60	0.98	4.3	19.51	0.49	2.4	3.71	0.22	1.5	0.00	0.00	0.0	41.13	**101.13**
400	0.92	2.05	4.5	15.33	1.12	4.5	21.99	0.56	2.6	4.19	0.25	1.6	0.00	0.00	0.0	46.39	**106.39**
425	1.03	2.31	4.8	17.15	1.26	4.8	24.60	0.63	2.7	4.68	0.28	1.7	0.00	0.00	0.0	51.95	**111.95**
450	1.15	2.59	5.1	19.06	1.42	5.1	27.35	0.70	2.9	5.21	0.31	1.8	0.00	0.00	0.0	57.79	**117.79**
475	1.27	2.89	5.4	21.07	1.58	5.4	30.22	0.78	3.0	5.75	0.35	1.9	0.00	0.00	0.0	63.93	**123.93**
500	1.41	3.20	5.7	23.18	1.75	5.7	33.23	0.87	3.2	6.33	0.39	2.0	0.00	0.00	0.0	70.35	**130.35**
525	1.54	3.53	6.0	25.37	1.93	6.0	36.37	0.96	3.4	6.93	0.43	2.1	0.00	0.00	0.0	77.05	**137.05**
550	1.69	3.87	6.2	27.65	2.12	6.2	39.65	1.05	3.5	7.55	0.47	2.2	0.00	0.00	0.0	84.04	**144.04**
575	1.83	4.23	6.5	30.03	2.31	6.5	43.04	1.15	3.7	8.20	0.51	2.3	0.00	0.00	0.0	91.31	**151.31**
600	1.99	4.61	6.8	32.49	2.52	6.8	46.57	1.25	3.8	8.87	0.56	2.5	0.00	0.00	0.0	98.86	**158.86**
625	2.15	5.00	7.1	35.05	2.73	7.1	50.23	1.36	4.0	9.56	0.61	2.6	0.00	0.00	0.0	106.68	**166.68**
650	2.32	5.41	7.4	37.69	2.96	7.4	54.01	1.47	4.1	10.28	0.66	2.7	0.00	0.00	0.0	114.79	**174.79**
675	2.49	5.83	7.7	40.42	3.19	7.7	57.92	1.59	4.3	11.03	0.71	2.8	0.00	0.00	0.0	123.16	**183.16**
700	2.67	6.27	7.9	43.24	3.43	7.9	61.95	1.70	4.5	11.80	0.76	2.9	0.00	0.00	0.0	131.81	**191.81**
725	2.85	6.72	8.2	46.14	3.68	8.2	66.10	1.83	4.6	12.59	0.82	3.0	0.00	0.00	0.0	140.74	**200.74**
750	3.04	7.20	8.5	49.13	3.94	8.5	70.39	1.96	4.8	13.40	0.87	3.1	0.00	0.00	0.0	149.93	**209.93**

LIFT STATION CALCULATIONS

Venezia Lift Station #2

I. Design Flow Rates:

Parcel ID	Land Use Description	Unit Description	Units	Unit Flow (GPD/Unit)	Average Daily Flow (GPD)	Average Daily Flow (GPM)	Minimum Daily Flow (GPM)	Maximum Daily Flow (GPM)	Peak Daily Flow (GPM)
1	*Residential - SF (detached)*	dwelling unit	77	300	23,100	16	8	32	64
2	*Residential - SF (attached)*	dwelling unit	113	300	33,900	24	12	47	94
3	*Institutional - School*	student	494	33	16,302	11	6	23	45
4					0	0	0	0	0
5					0	0	0	0	0
6					0	0	0	0	0
7					0	0	0	0	0
8					0	0	0	0	0
9					0	0	0	0	0
10					0	0	0	0	0
				Total	73,302	51	25	102	204
							F_{min}	F_{max}	F_{peak}
						Design Peaking Factors:	0.5	2.0	4.0

II. Wet Well Dimensions:

Wet Well Configuration:	***Duplex***	
No. of Wet Wells:	*1*	
Layout:	***Circular***	
Inner Diameter =	8.00	feet
Volume =	376	gallons/foot
Total Volume =	**376**	gallons/foot
Wall Thickness =	8	inches
Outer Diameter =	9.33	feet
Slab Lip =	18	inches
Slab Diameter =	12.33	feet
Slab Thickness =	12	inches

III. Minimum Cycle Time & Storage Volume:

T = (V / (Q-S)) + (V/S)
Note: T_{min} occurs when S = 1/2Q (Duplex)
V = (QT / 4)

Where: T = Cycle Time (Min.)
S = Peak Inflow (gpm)
Q = Pump Discharge (gpm)
V = Req. Storage Vol. (gal.)

For Minimum T =	10	Min.
S =	163	GPM
Q =	326	GPM (per pump)
Then V =	815	Gallons
Min. Storage Depth =	**2.17**	**Feet** (Pump ON - Pump OFF)

Cycle Time for Peak Flow Condition, T = 10 Minutes > 5 minutes, OK

Note: Allow an additional 50% Storage Depth for Triplx and 100% for Quadplex
Note: Rule of Thumb: Min. Q = 150 gpm

IV. Wet Well Control Levels:

Wet Well Top Elevation	**82.00**	
Assume Ground Water Table @ Elevation	81.50	
Influent Gravity Sewer Invert Elev.	61.72	
Freeboard =	0.72	Feet
Audible Alarm ON Elevation	61.00	
Freeboard =	1.00	Feet
~~4TH Pump & Alarm Light ON Elev.~~	~~0.00~~	
~~Freeboard =~~	~~0.00~~	~~Feet~~
~~3RD Pump & Alarm Light ON Elev.~~	~~0.00~~	
~~Freeboard =~~	~~0.00~~	~~Feet~~
2ND Pump & Alarm Light ON Elev.	60.00	
Freebaord =	1.00	Feet
Lead Pump ON Elev.	59.00	
Storage Depth =	3.00	Feet
Both Pumps OFF Elev.	56.00	
Sump Depth =	1.50	Feet
Wet Well Bottom Elevation	**54.50**	
Total Depth of Wet Well =	27.50	Feet
Station Yard Finish Grade Elevation =	81.50	
Minimum Station Yard Width =	27.0	Feet
Min. Station Easement Length & Width =	63.3	Feet
Forcemain High Point Elevation =	125.00	ft
Connection Point Elevation =	0.00	ft
Connection Pressure =	0.00	psi
Static Head for Pumps =	**69.00**	**Feet**

V. Buoyancy Calculation:

Structure Rim El. =	82.00	feet
Structure Base El. =	54.50	feet
Structure Depth =	27.50	feet
Structure Volume =	1,382	CF
Wall Volume =	499	CF
Slab Volume =	119	CF
Volume of Concrete =	619	CF
Density of Concrete =	144	lbs/CF
Weight of Concrete =	89,083	lbs.
Volume of Soil Above Slab =	1,404	CF
Density of Soil =	47	lbs/CF
Weight of Soil Above Slab =	65,983	lbs.
Total Resistance Force =	**155,066**	**lbs.**
Ground Water Table @ Elevation	81.50	feet
Volume of Water Displaced =	1,967	CF
Density of Water =	62.4	lbs/CF
Total Uplift Force =	**122,724**	**lbs.**
Factor of Safety =	**1.3**	

LIFT STATION CALCULATIONS (Cont'd)
Venezia Lift Station #2

VI. Calculation of System Head Curve:

Total Static Head = 69.00 Feet

Pump Selection *Flygt* *15* hp
Model: CP3152. Curve: 63-487-00-3855
Impeller: 265 mm
No. Pumps in Parallel = *1* Duplex
Operating Point = 326 gpm @ 94 ft TDH
OP 2 Pumps = gpm @ ft TDH
OP 3 pumps = gpm @ ft TDH

		Station Piping		Force Main Piping: New On-Site		New On-Site		New Off-Site		N/A	
Pipe Length (feet)		30		1,260		5,600		3,140		0	
Pipe Inside Dia. (inches)		*6*		*8*		*8*		*10*		*12*	
Pipe Area (Sq.-Ft.)		0.196		0.349		0.349		0.545		0.785	
Pipe Material		*DIP*		*PVC*		*PVC*		*PVC*		*PVC*	
Roughness C		100		120		120		120		120	
Fittings:	K-Value	No.	Tot K	No.	Tot K	No.	Tot K	No.	Tot K	No.	Tot K
Discharge	1.0	1	1.0	0	0.0	0	0.0	1	1.0	0	0.0
90° Bend	0.6	2	1.2	0	0.0	0	0.0	2	1.2	0	0.0
45° Bend	0.4	2	0.8	4	1.6	4	1.6	4	1.6	0	0.0
22.5° Bend	0.25	0	0.0	4	1.0	4	1.0	4	1.0	0	0.0
11.25° Bend	0.15	0	0.0	0	0	0	0.0	0	0.0	0	0.0
Expansion	0.5	0	0.0	1	0.5	1	0.5	0	0.0	0	0.0
Plug Valve	0.4	1	0.4	2	0.8	6	2.4	3	1.2	0	0.0
Check Valve	2.5	1	2.5	0	0.0	0	0.0	0	0.0	0	0.0
Wye Branch	0.5	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0
Contraction	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total K-Value			6.4		3.9		5.5		6.0		0.0

Wet Well Area = 50.3 sf per wet well
Pump On El. = 59.00 ft
Pump Off El. = 56.00 ft
Storage Volume = 151 cf
1,128 gallons per wet well

Pump On Time = Storage Volume / (Outflow - Inflow)
= 9.2 minutes (Peak)
= 4.1 minutes (Average)
Pump Off Time = Storage Volume / (Inflow)
= 5.5 minutes (Peak)
= 22.2 minutes (Average)

Inflow = 51 gpm (Average)
Inflow = 204 gpm (Peak)
Outflow = 326 gpm

Step Interval = 25 gpm Add. Manifold Flows (gpm): 8: 0; 8: 0; 10: 0; 12: 0

System Head Curve

Q (gpm)	6 Pipe (ft)	6 Fittings (ft)	6 Velocity (fps)	8 Pipe (ft)	8 Fittings (ft)	8 Velocity (fps)	8 Pipe (ft)	8 Fittings (ft)	8 Velocity (fps)	10 Pipe (ft)	10 Fittings (ft)	10 Velocity (fps)	12 Pipe (ft)	12 Fittings (ft)	12 Velocity (fps)	Friction Head (feet)	TDH (feet)
	Pipe & Fitting Friction Losses in Feet - Velocity in Feet per Second																
0	0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0	0.00	**69.00**
25	0.01	0.01	0.3	0.03	0.00	0.2	0.13	0.00	0.2	0.02	0.00	0.1	0.00	0.00	0.0	0.20	**69.20**
50	0.02	0.03	0.6	0.11	0.01	0.3	0.47	0.01	0.3	0.09	0.00	0.2	0.00	0.00	0.0	0.73	**69.73**
75	0.04	0.07	0.9	0.23	0.01	0.5	0.99	0.02	0.5	0.19	0.01	0.3	0.00	0.00	0.0	1.56	**70.56**
100	0.07	0.13	1.1	0.39	0.02	0.6	1.69	0.03	0.6	0.32	0.02	0.4	0.00	0.00	0.0	2.67	**71.67**
125	0.11	0.20	1.4	0.58	0.04	0.8	2.55	0.05	0.8	0.49	0.02	0.5	0.00	0.00	0.0	4.05	**73.05**
150	0.15	0.29	1.7	0.82	0.06	1.0	3.58	0.08	1.0	0.68	0.03	0.6	0.00	0.00	0.0	5.69	**74.69**
175	0.21	0.39	2.0	1.09	0.08	1.1	4.76	0.11	1.1	0.91	0.05	0.7	0.00	0.00	0.0	7.58	**76.58**
200	0.26	0.51	2.3	1.39	0.10	1.3	6.10	0.14	1.3	1.16	0.06	0.8	0.00	0.00	0.0	9.73	**78.73**
225	0.33	0.65	2.6	1.73	0.12	1.4	7.58	0.18	1.4	1.44	0.08	0.9	0.00	0.00	0.0	12.11	**81.11**
250	0.40	0.80	2.8	2.10	0.15	1.6	9.21	0.22	1.6	1.75	0.10	1.0	0.00	0.00	0.0	14.74	**83.74**
275	0.48	0.97	3.1	2.51	0.19	1.8	10.99	0.26	1.8	2.09	0.12	1.1	0.00	0.00	0.0	17.61	**86.61**
300	0.57	1.15	3.4	2.95	0.22	1.9	12.91	0.31	1.9	2.46	0.14	1.2	0.00	0.00	0.0	20.72	**89.72**
325	0.66	1.35	3.7	3.42	0.26	2.1	14.97	0.37	2.1	2.85	0.16	1.3	0.00	0.00	0.0	24.05	**93.05**
326	0.67	1.36	3.7	3.44	0.26	2.1	15.06	0.37	2.1	2.87	0.17	1.3	0.00	0.00	0.0	24.19	**93.19**
350	0.77	1.57	4.0	3.92	0.30	2.2	17.18	0.43	2.2	3.27	0.19	1.4	0.00	0.00	0.0	27.62	**96.62**
375	0.87	1.80	4.3	4.46	0.35	2.4	19.51	0.49	2.4	3.71	0.22	1.5	0.00	0.00	0.0	31.41	**100.41**
400	0.99	2.05	4.5	5.03	0.39	2.6	21.99	0.56	2.6	4.19	0.25	1.6	0.00	0.00	0.0	35.44	**104.44**
425	1.11	2.31	4.8	5.62	0.45	2.7	24.60	0.63	2.7	4.68	0.28	1.7	0.00	0.00	0.0	39.68	**108.68**
450	1.23	2.59	5.1	6.25	0.50	2.9	27.35	0.70	2.9	5.21	0.31	1.8	0.00	0.00	0.0	44.15	**113.15**
475	1.37	2.89	5.4	6.91	0.56	3.0	30.22	0.78	3.0	5.75	0.35	1.9	0.00	0.00	0.0	48.83	**117.83**
500	1.51	3.20	5.7	7.60	0.62	3.2	33.23	0.87	3.2	6.33	0.39	2.0	0.00	0.00	0.0	53.74	**122.74**
525	1.65	3.53	6.0	8.32	0.68	3.4	36.37	0.96	3.4	6.93	0.43	2.1	0.00	0.00	0.0	58.87	**127.87**
550	1.81	3.87	6.2	9.07	0.75	3.5	39.65	1.05	3.5	7.55	0.47	2.2	0.00	0.00	0.0	64.21	**133.21**
575	1.96	4.23	6.5	9.85	0.82	3.7	43.04	1.15	3.7	8.20	0.51	2.3	0.00	0.00	0.0	69.76	**138.76**
600	2.13	4.61	6.8	10.66	0.89	3.8	46.57	1.25	3.8	8.87	0.56	2.5	0.00	0.00	0.0	75.53	**144.53**
625	2.30	5.00	7.1	11.49	0.96	4.0	50.23	1.36	4.0	9.56	0.61	2.6	0.00	0.00	0.0	81.51	**150.51**
650	2.48	5.41	7.4	12.36	1.04	4.1	54.01	1.47	4.1	10.28	0.66	2.7	0.00	0.00	0.0	87.71	**156.71**
675	2.66	5.83	7.7	13.25	1.12	4.3	57.92	1.59	4.3	11.03	0.71	2.8	0.00	0.00	0.0	94.11	**163.11**
700	2.86	6.27	7.9	14.18	1.21	4.5	61.95	1.70	4.5	11.80	0.76	2.9	0.00	0.00	0.0	100.72	**169.72**
725	3.05	6.72	8.2	15.13	1.30	4.6	66.10	1.83	4.6	12.59	0.82	3.0	0.00	0.00	0.0	107.54	**176.54**
750	3.26	7.20	8.5	16.11	1.39	4.8	70.39	1.96	4.8	13.40	0.87	3.1	0.00	0.00	0.0	114.57	**183.57**

APPENDIX D

Venezia's Existing Lift Station Record Drawings

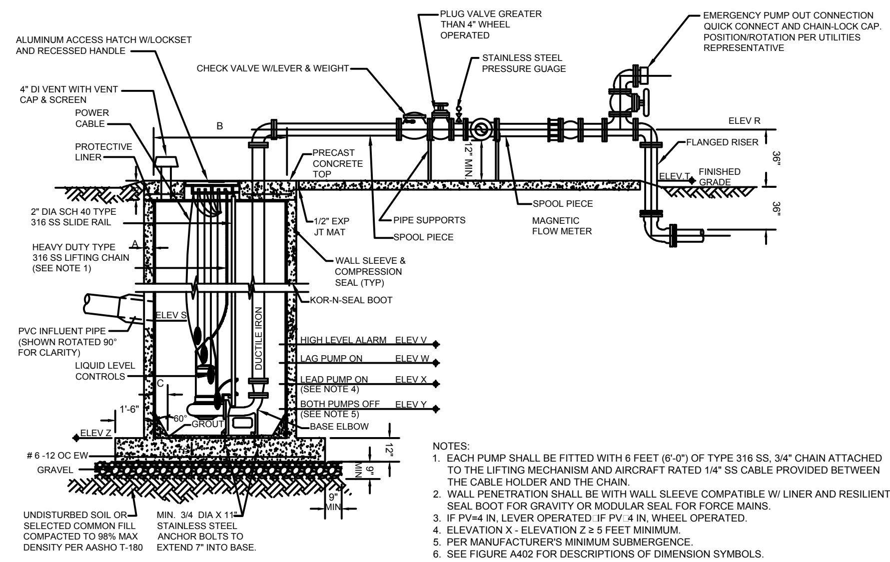
RTU SYSTEM SPECIFICATIONS:

1. A MICROPROCESSOR-BASED PUMP CONTROLLER/TRANSCEIVER (CC) MODEL SIEMENS WATER TECHNOLOGIES LC-150 SHALL BE PROVIDED.

2. THE RTU SHALL BE MOUNTED IN A NEMA 3R 316 STAINLESS STEEL ENCLOSURE ADJACENT TO THE PUMP CONTROL PANEL AND SHALL BE PROVIDED WITH A CLASS II UL LISTED TRANSFORMER/POWER SUPPLY.

3. STANDARDS:
   A. FCC PART 15, SUBPART J, CLASS A - RADIO EMISSIONS
   B. ANSI/IEEE C37.90 - SURGE WITHSTAND CAPABILITY
   C. ANSI/IPC-S815A - QUALITY CONTROL

4. APPROVED SYSTEM SUPPLIER IS SIEMENS WATER TECHNOLOGIES. CONTACT RON ROBINETTE 800-247-0880.



NOTES:
1. EACH PUMP SHALL BE FITTED WITH 6 FEET (6'-0") OF TYPE 316 SS, 3/4" CHAIN ATTACHED TO THE LIFTING MECHANISM AND AIRCRAFT RATED 1/4" SS CABLE PROVIDED BETWEEN THE CABLE HOLDER AND THE CHAIN.
2. WALL PENETRATION SHALL BE WITH WALL SLEEVE COMPATIBLE W/ LINER AND RESILIENT SEAL BOOT FOR GRAVITY OR MODULAR SEAL FOR FORCE MAINS.
3. IF PV=4 IN, LEVER OPERATED: IF PV 4 IN, WHEEL OPERATED.
4. ELEVATION X - ELEVATION Z ≥ 5 FEET MINIMUM.
5. PER MANUFACTURER'S MINIMUM SUBMERGENCE.
6. SEE FIGURE A402 FOR DESCRIPTIONS OF DIMENSION SYMBOLS.
7. INSIDE OF WETWELL TO BE LINED WITH SUPERCOAT PG.

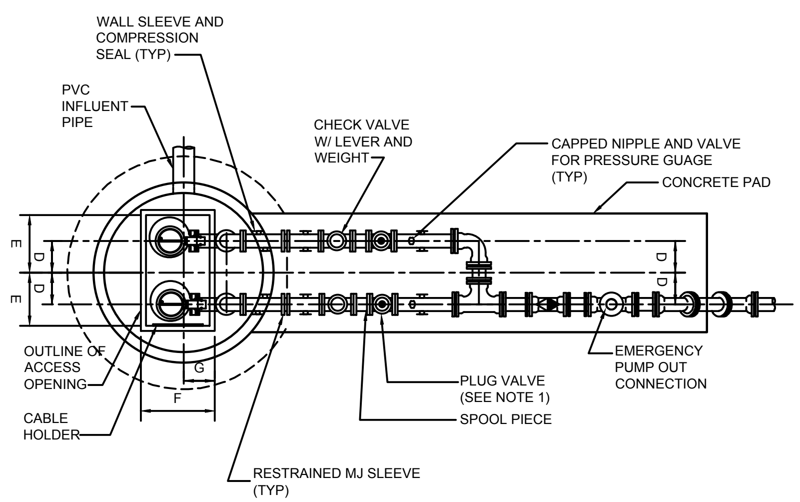
GENERAL NOTES:

1. COATING SHALL BE AS SCHEDULED IN TABLE BELOW.
2. ALL LOCATIONS WHERE GRAVITY PIPES ENTER OR LEAVE THE WET WELL SHALL BE MADE WATERTIGHT WITH AN APPROVED BOOT.
3. ALL LOCATIONS WHERE PRESSURE PIPES ENTER THE WET WELL SHALL BE MADE WATERTIGHT WITH A WALL SLEEVE AND SEAL.
4. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN THE WET WELL.
5. WET WELL COVERS SHALL BE ALUMINUM WITH 316 STAINLESS STEEL HARDWARE WITH LOCK BRACKET.
6. ALL HARDWARE IN WET WELL SHALL BE 316 STAINLESS STEEL.
7. PUMP SUBMERGENCE REQUIREMENTS SHALL BE MET AS MINIMUM.
8. ALL CONNECTIONS IN THE WET WELL SHALL BE FLANGED JOINTS. ALL REMAINING CONNECTIONS BETWEEN THE WET WELL AND THE CONNECTION TO THE FORCE MAIN SHALL BE RESTRAINED MECHANICAL JOINTS.
9. CHECK VALVE ARM SHALL BE LOCATED WITH THE SAME ORIENTATION ([illegible] ALL ARMS ON THE LEFT SIDE OF VALVE).

PUMP STATION COATING SCHEDULE

AREA	APPLICABLE COATING	NOTES
[illegible]	[illegible]	[illegible]: CS-S5
[illegible]	[illegible]	[illegible] PG [illegible]
[illegible]	100% [illegible]	[illegible]
[illegible]	[illegible]	[illegible] 401 [illegible]
[illegible]	[illegible]	[illegible]: 37-77 H [illegible] [illegible]: [illegible] 2H [illegible]

PUMP STATION GENERAL NOTES



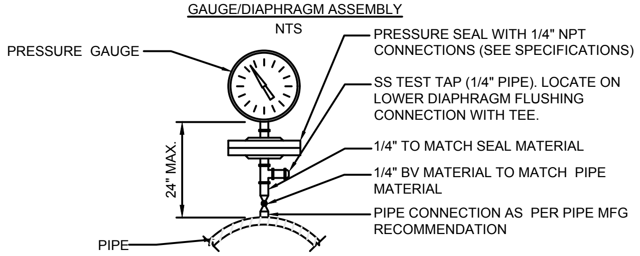
NOTES:
1. IF PV=4 IN, LEVER OPERATED IF PV 4 IN, WHEEL OPERATED.
2. SEE FIGURE A402 FOR DESCRIPTIONS OF DIMENSION SYMBOLS.

DUPLEX PUMP STATION PLAN

FIGURE A404-2

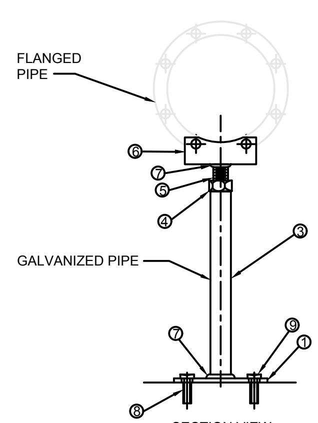
GAUGE/DIAPHRAGM ASSEMBLY

NTS



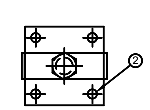
FLANGE PIPE SUPPORT DETAIL

NTS



SECTION VIEW

NTS



PLAN VIEW

N.T.S.

LEGEND
1. BASE
2. MOUNTING HOLE (4-TYP)
3. SUPPORT COLUMN
4. HEIGHT ADJUSTMENT NUT
5. SUPPORT SHAFT - THREADED
6. PIPE SUPPORT FLANGE
7. WELD
8. ANCHOR (4-TYP)
9. LAG BOLT (4-TYP)

NOTE:
1. ALL PIPING TO BE 316 SS OR BRASS

LIFT STATION #1

PUMP DATA

WETWELL INSIDE DIA. 8'0"

FLYGT SUBMERSIBLE PUMPS

MODEL NUMBER NP3153.181

IMPELLER 253

HORSE POWER 15

G.P.M. 294 T.D.H. 87.0

ELECTRICAL REQUIREMENTS 230 V

3 PHASE

NOTE: ELECTRICAL REQUIREMENT TO BE VERIFIED BY CONTRACTOR.

DESCRIPTION	SYMBOL	DIMENSION	ELEVATION	
THICKNESS OF WALL	A	8"	–	
DIAMETER OF WET WELL	B	8'	–	
WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	–	
C/L TO C/L OF PUMPS	D	SEE NOTE 1	–	
LENGTH OF PUMP ACCESS OPENING	E	SEE NOTE 1	–	
WIDTH OF PUMP ACCESS OPENING	F	SEE NOTE 1	–	
BASE ELBOW TO EDGE OF PIT	G	SEE NOTE 1	–	
VALVE BOX HATCH OPENING	H	5.0'	–	
VALVE BOX HATCH OPENING	I	7.0'	–	
TOP OF WET WELL	T	–	~~90.00'~~	88.94'
FINISHED GRADE	U	–	88.50'	
HIGH LEVEL ALARM	V	–	71.00'	
LAG PUMP ON	W	–	70.00'	
LEAD PUMP ON	X	SEE NOTE 2	69.00'	
PUMPS OFF (TOP OF PUMP VOLUTE)	Y	–	65.00'	
FLOOR OF WET WELL	Z	–	~~63.50'~~	63.33'

NOTE:
1. PER PUMP MANUFACTURER'S REQUIREMENTS
2. ELEVEVATION X - ELEVATION Z ≥ 5 FEET MINIMUM
3. TOP ELEVATION OF WET WELL SHALL BE A MINIMUM OF 1' ABOVE THE 100 YEAR FLOOD ELEVATION AND THE ELEVATION OF THE CROWN OF THE ROAD.

LIFT STATION #2

PUMP DATA

WETWELL INSIDE DIA. 8'0"

FLYGT SUBMERSIBLE PUMPS

MODEL NUMBER CP3152.181

IMPELLER 265

HORSE POWER 15

G.P.M. 326 T.D.H. 94.0

ELECTRICAL REQUIREMENTS 480 V

3 PHASE

NOTE: ELECTRICAL REQUIREMENT TO BE VERIFIED BY CONTRACTOR.

DESCRIPTION	SYMBOL	DIMENSION	ELEVATION	
THICKNESS OF WALL	A	8"	–	
DIAMETER OF WET WELL	B	8'	–	
WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	–	
C/L TO C/L OF PUMPS	D	SEE NOTE 1	–	
LENGTH OF PUMP ACCESS OPENING	E	SEE NOTE 1	–	
WIDTH OF PUMP ACCESS OPENING	F	SEE NOTE 1	–	
BASE ELBOW TO EDGE OF PIT	G	SEE NOTE 1	–	
VALVE BOX HATCH OPENING	H	5.0'	–	
VALVE BOX HATCH OPENING	I	7.0'	–	
TOP OF WET WELL	T	–	~~82.00'~~	82.12'
FINISHED GRADE	U	–	81.50'	
HIGH LEVEL ALARM	V	–	61.00'	
LAG PUMP ON	W	–	60.00'	
LEAD PUMP ON	X	SEE NOTE 2	59.00'	
PUMPS OFF (TOP OF PUMP VOLUTE)	Y	–	55.50'	
FLOOR OF WET WELL	Z	–	~~54.00'~~	54.29'

NOTE:
1. PER PUMP MANUFACTURER'S REQUIREMENTS
2. ELEVEVATION X - ELEVATION Z ≥ 5 FEET MINIMUM
3. TOP ELEVATION OF WET WELL SHALL BE A MINIMUM OF 1' ABOVE THE 100 YEAR FLOOD ELEVATION AND THE ELEVATION OF THE CROWN OF THE ROAD.

LIFT STATION #3

PUMP DATA

WETWELL INSIDE DIA. 8'0"

FLYGT SUBMERSIBLE PUMPS

MODEL NUMBER NP3102

IMPELLER 135

HORSE POWER 6.5

G.P.M. 200 T.D.H. 65.0

ELECTRICAL REQUIREMENTS 230 V

3 PHASE

NOTE: ELECTRICAL REQUIREMENT TO BE VERIFIED BY CONTRACTOR.

DESCRIPTION	SYMBOL	DIMENSION	ELEVATION
THICKNESS OF WALL	A	8"	–
DIAMETER OF WET WELL	B	8'	–
WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	–
C/L TO C/L OF PUMPS	D	SEE NOTE 1	–
LENGTH OF PUMP ACCESS OPENING	E	SEE NOTE 1	–
WIDTH OF PUMP ACCESS OPENING	F	SEE NOTE 1	–
BASE ELBOW TO EDGE OF PIT	G	SEE NOTE 1	–
VALVE BOX HATCH OPENING	H	5.0'	–
VALVE BOX HATCH OPENING	I	7.0'	–
TOP OF WET WELL	T	–	82.00'
FINISHED GRADE	U	–	81.50'
HIGH LEVEL ALARM	V	–	69.00'
LAG PUMP ON	W	–	68.00'
LEAD PUMP ON	X	SEE NOTE 2	67.00'
PUMPS OFF (TOP OF PUMP VOLUTE)	Y	–	65.50'
FLOOR OF WET WELL	Z	–	64.00'

NOTE:
1. PER PUMP MANUFACTURER'S REQUIREMENTS
2. ELEVEVATION X - ELEVATION Z ≥ 5 FEET MINIMUM
3. TOP ELEVATION OF WET WELL SHALL BE A MINIMUM OF 1' ABOVE THE 100 YEAR FLOOD ELEVATION AND THE ELEVATION OF THE CROWN OF THE ROAD.

	DATE	REVISIONS
1	6-29-07	ADD ALARM HORN
2	7-8-08	CHANGE VOLTAGE FOR 1 AND 3 TO 230
3	4-29-09	A[illegible] Dr[illegible]
4		
5		
6		
7		

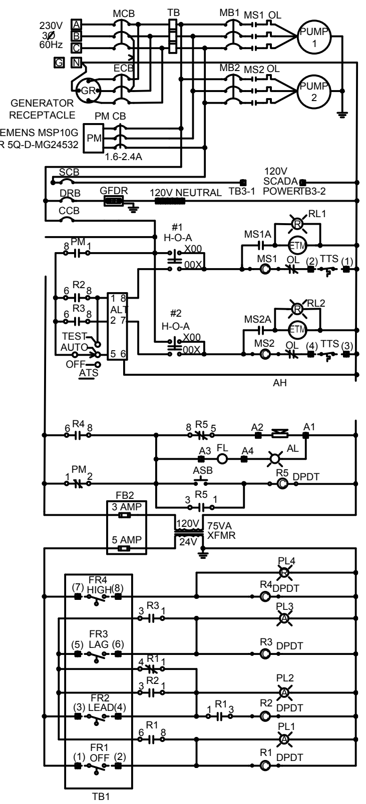
BOOTH ERN STRAUGHAN HIOTT
ENGINEERS • SURVEYORS • LAND PLANNERS
350 North Sinclair Ave.
Tavares, Florida 32778
www.besandh.com
Office: 352.343.8481
Fax: 352.343.8495
Certificate of Authorization Number: 27029

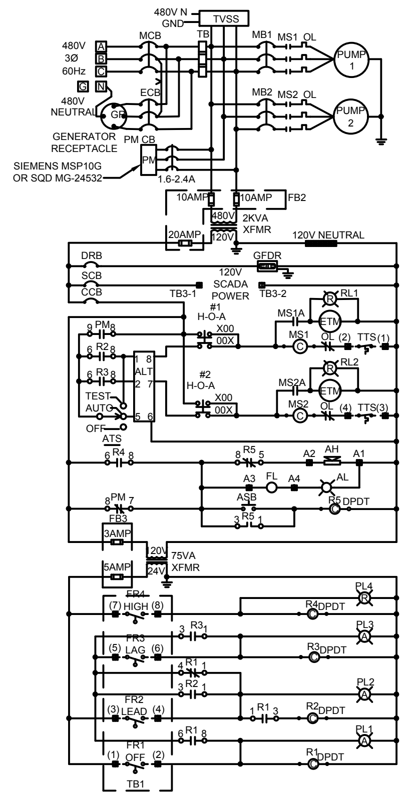
VENEZIA NORTH & SOUTH RESIDENTIAL SUBDIVISION LIFT STATION DETAILS

CHECKED BY: CCH
PROJECT NO.: [illegible]
DATE: MAY 2007
DESIGNED/DRAWN BY: [illegible]

SHT. 47 OF 52

AS-BUILT DRAWING
CHARLES C. HIOTT, P.E.
PROFESSIONAL ENGINEER 54813

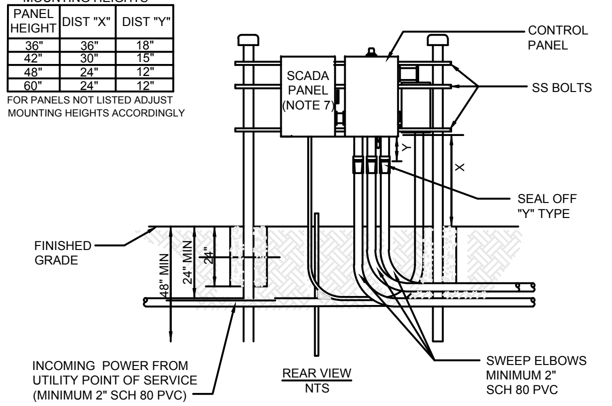




PANEL & SEAL-OFF MOUNTING HEIGHTS

PANEL HEIGHT	DIST "X"	DIST "Y"
36"	36"	18"
42"	30"	15"
48"	24"	12"
60"	24"	12"

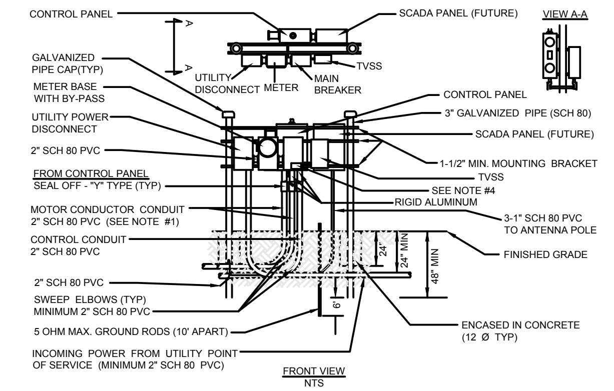
FOR PANELS NOT LISTED ADJUST MOUNTING HEIGHTS ACCORDINGLY



REAR VIEW
NTS

PANEL INSTALLATION NOTES:

1. PUMP MOTOR CONDUIT SHALL BE SIZE TO ACCOMODATE 40% CONDUIT FILL. MINIMUM CONDUIT SIZE TO BE 2" SCH 80 PVC.
2. POWER SUPPLY SHALL BE UNDERGROUND ON THE LIFT STATION SITE AND SHALL BE 3-PHASE, FROM A 3-PHASE SOURCE ONLY.
3. AN ELECTRICAL GROUNDING SYSTEM SHALL BE INSTALLED AS PER THE NATIONAL ELECTRICAL CODE, LOCAL CODES AND ORDINANCES. AN UNDERGROUND PERIMETER CABLE GROUNDING SYSTEM SHALL BE INSTALLED WITH CONNECTIONS TO AT LEAST WET WELL COVER, VALVE VAULT COVER, CONTROL PANELS, GENERATOR, UTILITY COMPANY TRANSFORMER, MANUAL DISCONNECT SWITCH, AND METAL FENCE. REFER TO GROUNDING DETAILS.
4. THE STATION NAME, UTILITIES ID NUMBER, AND ADDRESS SHALL BE AFFIXED TO THE FRONT OF THE METER CABINET.
5. ALL MOUNTING HARDWARE AND BRACKETS SHALL BE 316 STAINLESS STEEL.
6. ON A 4-WIRE, DELTA SYSTEM, THE HIGH-LEG SHALL BE IDENTIFIED WITH ORANGE COLOR TAPE AT ALL CONNECTION POINTS AND SHALL BE LOCATED ON THE "B" PHASE AT THE LINE SIDE OF THE MAIN DISCONNECT.
7. THE SCADA PANEL IS TO SHOWN FOR INFORMATION ONLY AND WILL BE INSTALLED IN THE FUTURE (BY OTHERS).



FRONT VIEW
NTS

PANEL INSTALLATION NOTES:

1. PUMP MOTOR CONDUIT SHALL BE SIZE TO ACCOMODATE 40% CONDUIT FILL. MINIMUM CONDUIT SIZE TO BE 2" SCH 80 PVC.
2. POWER SUPPLY SHALL BE UNDERGROUND ON THE LIFT STATION SITE AND SHALL BE 3-PHASE, FROM A 3-PHASE SOURCE ONLY.
3. AN ELETRICAL GROUNDING SYSTEM SHALL BE INSTALLED AS PER THE NATIONAL ELECTRICAL CODE, LOCAL CODES AND ORDINANCES, AN UNDERGOUND PERIMETER CABLE GROUNDING SYSTEM SHALL BE INSTALLED WITH CONNECTIIONS TO AT LEAST WET WELL COVER, VALVE VAULT COVER, CONTROL PANELS, GENERATOR, UTILITY COMPANY TRANSFORMER, MANUAL DISCONNECT SWITCH, AND METAL FENCE. SEE GROUNDING DETAILS.
4. THE STATION NAME, HOWEY IN THE HILLS I.D. NUMBER, AND ADDRESS SHALL BE AFFIXED TO THE FRONT OF THE METER CABINET.
5. ALL MOUNTING HARDWARE & BRACKETS SHALL BE 316 STAINLESS STEEL.
6. ON A 4-WIRE, DELTA SYSTEM, THE HIGH-LEG SHALL BE IDENTIFIED WITH ORANGE COLOR TAPE AT ALL CONNECTION POINTS AND SHALL BE LOCATED ON THE "B" PHASE AT THE LINE SIDE OF THE MAIN DISONNECT.
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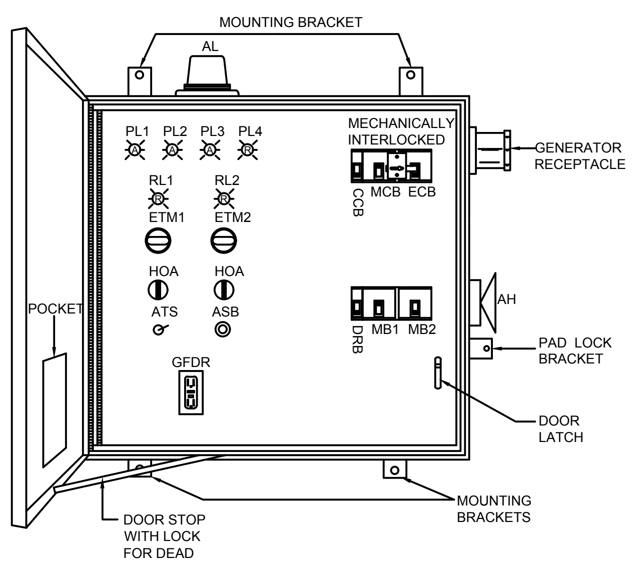
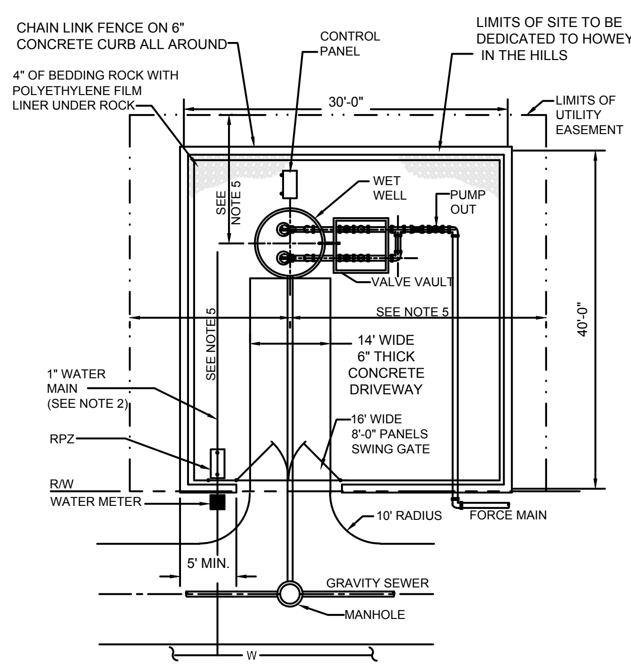


NOTES:

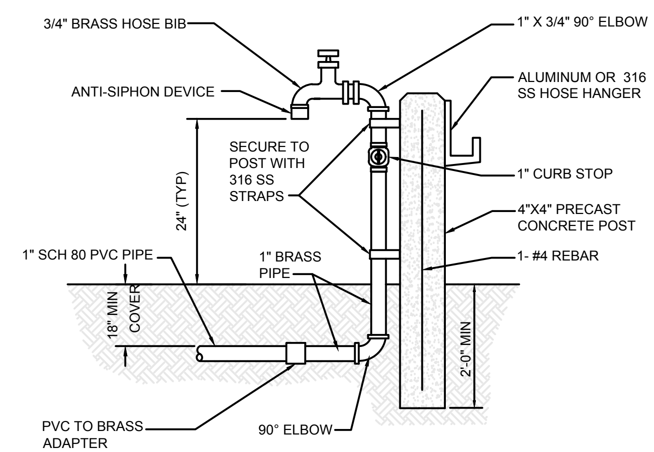
1. DEADFRONT LAYOUT NEMA TYPE 3R SS ENCLOSURE W/CONTINUOUS HINGE. ALL HARDWARE TYPE 316 SS TYPICAL, ACTUAL LAYOUT MAY VARY WITH HORSEPOWER.
2. THIS CONTROL PANEL, INCLUDING THE GENERATOR RECEPTACLE, COMPLIES WITH THE STANDARD LIST OF COMPONENTS REQUIRED BY UTILITIES.
3. ALL CONTROL WIRE TO BE #14 AWG MINIMUM.
4. CONTROL PANEL SHALL BE UL LISTED AND LABELED.
5. 30 SPARE TERMINALS (TB2).
6. PHASE MONITOR CIRCUIT BREAKER TO BE SEIMENS P/N: MSP10G, OR SQ-D P/N: MG24532.



NOTES:

1. MINIMUM 20' ACCESS DRIVEWAY FROM EDGE OF PAVEMENT TO THE GATE SHALL BE PROVIDED ON NON-RESIDENTIAL ROADS.
2. WASHDOWN WATER SOURCE SHALL BE CONNECTED TO THE POTABLE WATER MAIN.
3. ENGINEER SHALL PROVIDE A SCALED (1" = 20' MIN.) SITE SPECIFIC DETAIL.
4. MINIMUM DISTANCE BETWEEN FENCE AND ALL INSTALLED EQUIPMENT SHALL BE 5'.
5. THIS DIMENSION SHALL BE AT LEAST EQUAL TO THE DEPTH OF THE WET WELL WHEN MEASURED FROM THE CENTER OF THE WET WELL.

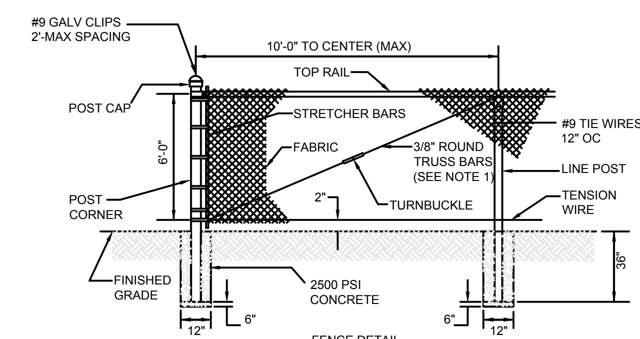
SITE PLAN



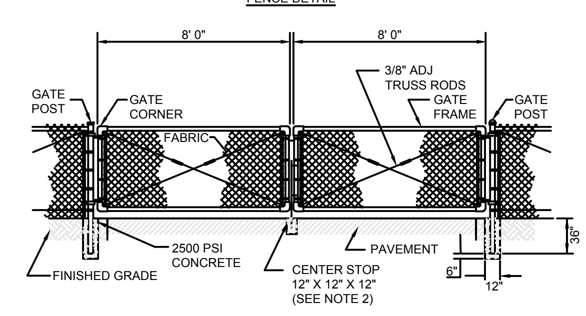
LIFT STATION POTABLE WATER SERVICE

LEGEND

AH	ALARM HORN
AL	ALARM LIGHT
ASB	ALARM SILENCE BUTTON
ATS	ALTERNATOR TEST SWITCH
CCB	CONTROL CIRCUIT BREAKER
DPDT	DOUBLE POLE DOUBLE THROW
DRB	DUPLEX RECEPTACLE BREAKER
ECB	EMERGENCY CIRCUIT BREAKER
ETM	ELAPSED TIME METER
F	FUSE
FB	FUSE BLOCK
FL	FLASHER
FR	FLOAT REGULATOR
GFDR	GROUND FAULT DUPLEX RECEPTACLE
GR	GENERATOR RECEPTACLE
HOA	HAND-OFF-AUTO SELECTOR SWITCH
MB	MOTOR BREAKER
MCB	MAIN CIRCUIT BREAKER
MS	MOTOR STARTER
OL	OVERLOAD
PL	PILOT LIGHT
PM	PHASE MONITOR
R	RELAY
RL	RUNNING LIGHT
SCB	SCADA CIRCUIT BREAKER
TB	TERMINAL BLOCK
TTS	THERMAL TERMINAL STRIP
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESOR
XFMR	TRANSFORMER



FENCE DETAIL



DOUBLE SWING GATE DETAIL

NOTES:

1. TRUSS BARS ARE REQUIRED FOR EACH GATE SECTION AND THE FIRST SPAN ON EACH SIDE OF A CORNER POST ONLY.
2. PROVIDE CHAIN AND LOCK FOR SECURING GATE.
3. FENCING SHALL BE BLACK, VINYL CLAD.

REVISIONS	DATE	
1	6-29-07	ADD ALARM HORN
2		
3		
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5		
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7		

BOOTH ERN STRAUGHAN HIOTT
ENGINEERS • SURVEYORS • LAND PLANNERS
350 North Sinclair Ave.
Tavares, Florida 32778
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Office: 352.343.8481
Fax: 352.343.8495
Certificate of Authorization Number: 27029

VENEZIA NORTH & SOUTH RESIDENTIAL SUBDIVISION LIFT STATION DETAILS

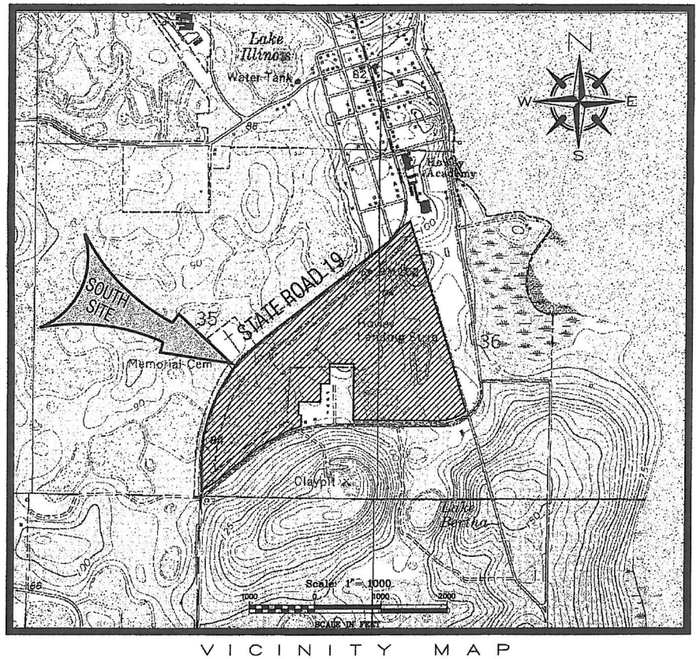
CHECKED BY: CCH
PROJECT NO.: [illegible]
DATE: MAY 2007
DESIGNED/DRAWN BY: [illegible]
SHT. 48 OF 52

CHARLES C. HIOTT, P.E.
PROFESSIONAL ENGINEER 54813

CONSTRUCTION PLANS
FOR
Venezia South Subdivision

Section 35 & 36, Township 22 South, Range 25 East
Town of Howey in the Hills, Lake County, Florida

WAIVER REQUEST:
REQUEST WAIVER FOR LENGTH OF CUL - DE- SACs
TERRACOTTA TERRACE TO BE 1410' LF
CALABRIA WAY TO BE 1088' LF
INSTEAD OF THE REQUIRED 600' LF.



VICINITY MAP

SHEET INDEX

FINAL SUBMITTED PLANS
DATE 12-05-07
INI. DWT
18971-3X
RECEIVED
JUN 29 2007
PDS
ALTAMONTE SVC. CTR.

* See Revised Sheets
Revd 10-31-07
JUN 29 2007

OWNER:
FRED BENNETT
LYKES BROTHERS, INC.
400 NORTH TAMPA STREET
TAMPA, FLORIDA 33601
(813) 470-5509
(813) 470-5020 FAX

DEVELOPER:
FLAGSHIP HARB, LLC
916 HIGHLAND AVENUE
ORLANDO, FLORIDA 32803
(407) 246-1144
(407) 246-1155 FAX
CONTACT: TED BOLIN

ENGINEER:
BOOTH, ERN, STRAUGHAN & HIOTT, INC.
350 NORTH SINCLAIR AVENUE
TAVARES, FLORIDA-32778
(352) 343-8481
CONTACT: CHARLES HIOTT, P.E.

LEGAL DESCRIPTION:

SOUTH PARCEL
A PARCEL OF LAND BEING A PORTION OF "HOWIE-IN-THE-HILLS" (AN UNRECORDED PLAT) LYING IN SECTIONS 35 AND 36, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHWEST CORNER OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY, FLORIDA; THENCE ALONG THE WEST BOUNDARY OF THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35 S00°02'16"W, A DISTANCE OF 1298.85 FEET TO A POINT OF INTERSECTION WITH THE SOUTHERLY RIGHT OF WAY LINE OF PALM AVENUE (STATE ROAD NO. 19) SAID POINT BEING THE POINT OF BEGINNING; THENCE ALONG SAID RIGHT OF WAY N51°23'37"E, A DISTANCE OF 1797.48 FEET TO A POINT OF CURVATURE; THENCE ALONG THE ARC OF SAID CURVE 368.66 FEET, CONCAVE NORTHWESTERLY AND HAVING A RADIUS OF 785.56 FEET, A CENTRAL ANGLE OF 2°41'40" AND A CHORD BEARING AND DISTANCE OF N40°08'15"E, 368.58 FEET; THENCE DEPARTING SAID RIGHT OF WAY N53°52'15"E, A DISTANCE OF 248.38 FEET; THENCE N72°56'00"E, A DISTANCE OF 7.90 FEET; THENCE S17°04'25"E, A DISTANCE OF 2998.56 FEET TO A POINT OF INTERSECTION WITH THE NORTHERLY RIGHT OF WAY LINE OF COUNTY ROAD, (A.K.A. REVELS ROAD), SAID POINT BEING A POINT OF CURVATURE; THENCE ALONG SAID RIGHT OF WAY AND THE ARC OF SAID CURVE 443.81 FEET, CONCAVE NORTHERLY, HAVING A RADIUS OF 610.22 FEET, A CENTRAL ANGLE OF 41°40'17" AND A CHORD BEARING AND DISTANCE OF S85°14'52"W, 434.10 FEET TO A POINT OF TANGENCY; THENCE S85°48'55"W, A DISTANCE OF 1297.88 FEET; THENCE DEPART SAID RIGHT OF WAY N00°12'13"W, A DISTANCE OF 848.49 FEET; THENCE S89°48'55"W, A DISTANCE OF 360.14 FEET; THENCE S00°07'36"E, A DISTANCE OF 305.15 FEET; THENCE S85°56'08"W, A DISTANCE OF 135.00 FEET; THENCE S00°09'07"E, A DISTANCE OF 275.35 FEET; THENCE S89°48'03"W, A DISTANCE OF 328.16 FEET; THENCE S00°37'45"W, A DISTANCE OF 200.21 FEET; THENCE N89°47'35"E, A DISTANCE OF 45.00 FEET; THENCE S00°12'22"W, A DISTANCE OF 168.45 FEET TO A POINT OF INTERSECTION WITH THE NORTHERLY RIGHT OF WAY LINE OF SAID COUNTY ROAD, SAID POINT BEING A POINT ON A CURVE; THENCE ALONG SAID RIGHT OF WAY AND THE ARC OF SAID CURVE 189.84 FEET, CONCAVE SOUTHERLY, HAVING A RADIUS OF 3270.82 FEET, A CENTRAL ANGLE OF 3°19'41" AND A CHORD BEARING AND DISTANCE OF S77°20'23"W, 189.81 FEET; THENCE DEPART SAID RIGHT OF WAY LINE S60°21'53"W, A DISTANCE OF 531.95 FEET; THENCE S51°11'36"W, A DISTANCE OF 795.55 FEET; THENCE S55°02'40"W, A DISTANCE OF 320.80 FEET TO THE EASTERLY RIGHT OF WAY LINE OF STATE ROAD NO. 19, SAID RIGHT OF WAY BEING COMPRISED IN PART BY PORTIONS OF MARIE AVENUE AND PALM AVENUE; THENCE ALONG SAID RIGHT OF WAY N00°09'53"W, A DISTANCE OF 468.11 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°33'39" AND A CHORD BEARING AND DISTANCE OF N25°39'52"E, 1949.98 FEET TO A POINT OF TANGENCY; THENCE N51°23'37"E, A DISTANCE OF 601.65 FEET TO THE POINT OF BEGINNING.

THENCE S89°50'24"W, A DISTANCE OF 232.87 FEET TO THE POINT OF BEGINNING.

STATE OF FLORIDA CERTIFICATION OF AUTHORIZATION NO. 27029

UTILITY CONSTRUCTION NOTES (DEP)

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 Hydrantleads; and service lines that are under the control of a Public Water System and that have an inside diameter of three (3")inches or greater.

(1) Horizontal Separation Between Underground Water Mains and Sanitary or Storm Sewers, Wastewater or Storm water 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 (3) Three Feet between the outside of the WATER MAIN and the outside of any existing or proposed Storm Sewer, Storm water 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 (3) three feet, and preferably (10) 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 (6) Six Feet, and preferably (10) 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 (3) Three Feet where the BOTTOM of the WATER MAIN is laid at least (6) Six Inches above the Top of the Sewer.

(d) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (10) 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.

(2) Vertical Separation Between Underground WATER MAINS and Sanitary or Storm Sewers, Wastewater or Storm water 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 (6) 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.

(b) 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.

(c) At the Utility crossings described in paragraphs (a) & (b) Above, one full length of Water Main Pipe shall be centered above or below the other pipeline so the WATER MAIN Joints will be as far as possible from the other pipeline. Alternatively, at such crossings, the pipes shall be arranged so that all WATER MAIN Joints are at least (3) 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 (6) 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.

(3) Separation Between WATER MAINS and Sanitary or Storm Sewer Manholes:

(a) No WATER MAIN shall pass thru, or come into contact with any part of a Sanitary Manhole or a Storm Sewer 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 (3) 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 (3) Three Feet, and preferably (10) 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 (10) 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.

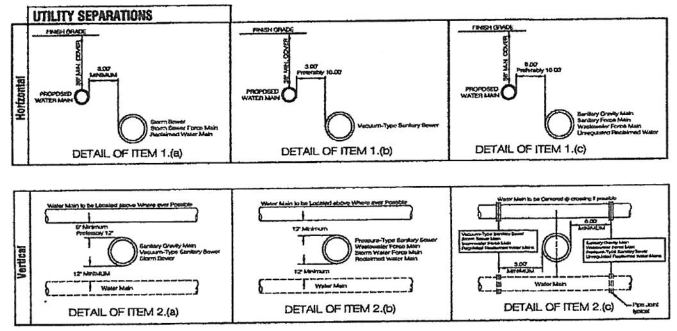
(5) Exceptions/Mitigation: Adherence to the above Constraints and Separations in Items 1 through 4 shall be Complied to, "WITHOUT EXCEPTION". If for some reason where it is not technically feasible or Economically Sensible that Items 1 through 4 cannot be complied with, Contractor will Stop Work and Notify the Engineer of record for the appropriate solution, which will be submitted to "The Department of Environmental Protection" for APPROVAL, prior to work commencement.

COLOR CODING

All water main pipe, including fittings, installed on or after August 28, 2003, except pipe installed under a construction permit for which the Department received complete application before August 28, 2003, shall be color coded or marked using blue as a predominate color to differentiate drinking water from reclaimed or other water. Under-ground plastic pipe shall be solid-wall blue pipe, shall have a co-extruded blue external skin, or shall be white or black pipe with blue stripes incorporated into, or applied to, the pipe wall; and underground metal or concrete pipe shall have blue stripes applied to the pipe wall. Pipe striped during manufacturing of the pipe shall have continuous stripes that run parallel to the axis of the pipe, that are located at no greater than 90° intervals around the pipe, and 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 shall 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 pipes with an internal diameter of 24 inches or greater, tape or paint shall be applied in continuous lines along each side of the pipe as well as along the top of the pipe. Aboveground pipe as drinking water treatment plants shall be color coded and labeled in accordance with subsection 62-555.320(10),F.A.C., and all other aboveground pipe shall be painted blue or shall be color coded or marked like underground pipe.

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 with the pipe manufacturers latest recommendations.
4. Depth of water lines to be 36" minimum cover from finish grade.
5. Water mains to be located 6.00' from back of curb or edge of pavement unless otherwise noted.
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(21)(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 he corresponding AWWA Standards and be conforming to NSF requirements, as may be applicable, with exceptions allowed only if documentation and assurances are provided in compliance with Paragraphs 62-555.320(3) (d) 62-555.320 (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.
11. All existing wells on site to be abandoned in accordance with all applicable FDEP and SJRWMD requirements.



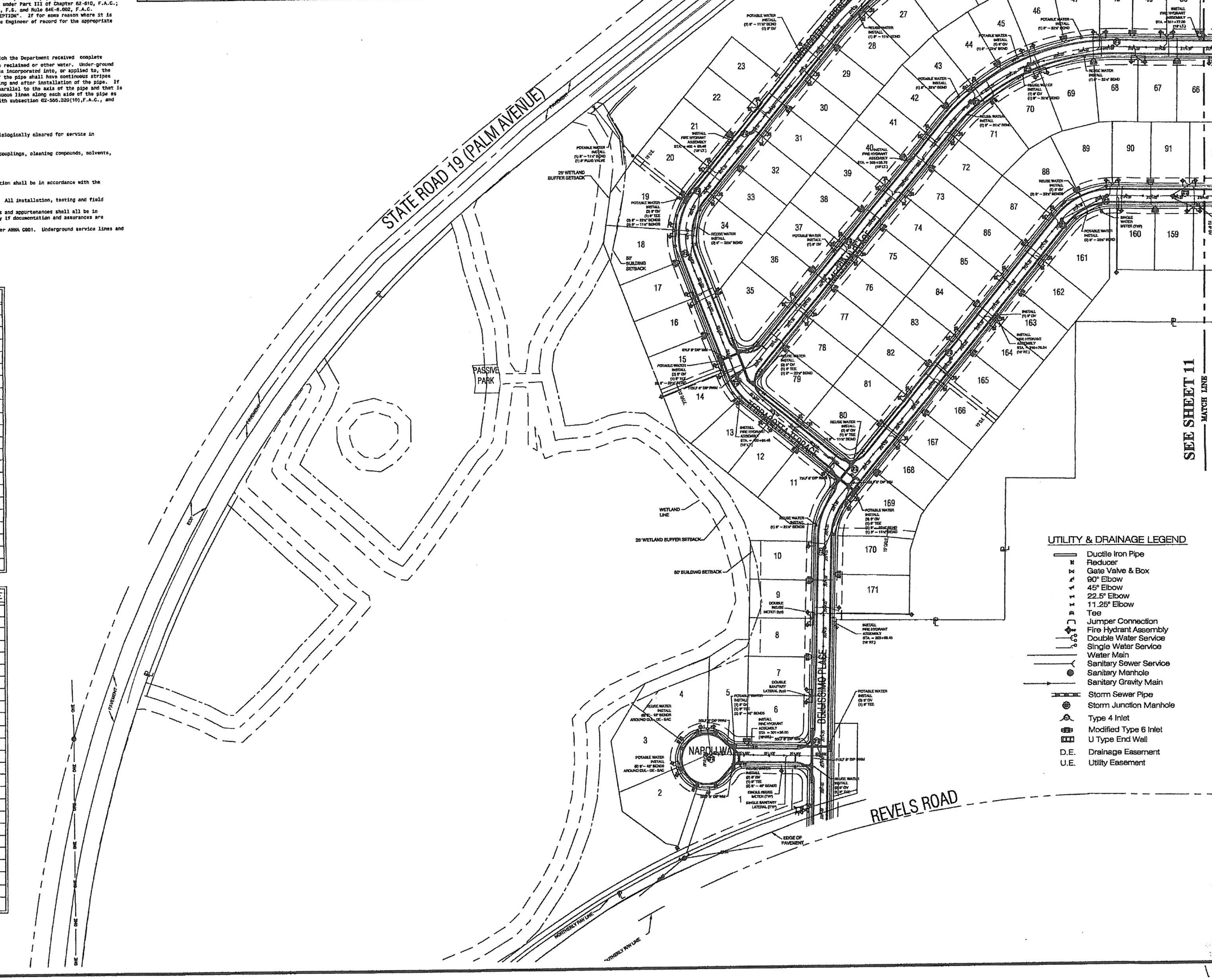
SANITARY PIPE CHART

MANHOLE ID	STATION	RIM	INV	TO	INV	PIPE	LENGTH	SLOPE
LS1 MH #22	215+43.02	101.05	97.05	MH #21	96.07	8" SDR-35	128LF	0.76%
LS1 MH #21	214+13.12	100.07	95.97	MH #20	94.54	8" SDR-35	99LF	1.44%
LS1 MH #20	213+10.52	98.54	94.44	MH #19	85.64	8" SDR-35	344LF	2.26%
LS1 MH #19	209+64.65	90.66	85.54	MH #15	84.35	8" SDR-35	298LF	0.40%
LS1 MH #18	302+22.76	87.32	83.32	MH #17	81.64	8" SDR-35	220LF	0.76%
LS1 MH #17	201+11.90 300+00.00	85.64	81.54	MH #16	79.94	8" SDR-35	400LF	0.40%
LS1 MH #16	205+14.51	92.64	79.84	MH #15	79.27	8" SDR-35	143LF	0.40%
LS1 MH #15	206+64.40 400+00.00	93.88	79.17	MH #9	77.98	8" SDR-35	298LF	0.40%
LS1 MH #14	512+22.76	100.63	96.73	MH #13	95.42	8" SDR-35	212LF	0.62%
LS1 MH #13	510+08.06	99.42	95.32	MH #12	93.68	8" SDR-35	166LF	0.99%
LS1 MH #12	508+38.62	97.68	93.58	MH #11	92.30	8" SDR-35	132LF	0.97%
LS1 MH #11	507+04.47	96.30	92.20	MH #10	88.49	8" SDR-35	368LF	1.01%
LS1 MH #10	503+34.27	92.49	88.39	MH #9	78.98	8" SDR-35	331LF	2.84%
LS1 MH #9	403+01.75	89.07	77.88	MH #8	76.89	8" SDR-35	247LF	0.40%
LS1 MH #8	405+50.76	90.69	76.79	MH #7	76.30	8" SDR-35	123LF	0.40%
LS1 MH #7	406+82.39	91.02	76.20	MH #6	75.59	8" SDR-35	153LF	0.40%
LS1 MH #6	408+37.89	89.86	75.49	MH #5	73.93	8" SDR-35	390LF	0.40%
LS1 MH #5	412+30.40	90.18	73.83	MH #4	73.27	8" SDR-35	140LF	0.40%
LS1 MH #4	413+74.13	88.35	73.17	MH #3	72.83	8" SDR-35	86LF	0.40%
LS1 MH #3	——	xx	72.73	MH #2	71.92	8" SDR-35	202LF	0.40%
LS1 MH #2	——	xx	71.82	MH #1	71.68	8" SDR-35	34LF	0.40%
LS1 MH #1	——	xx	71.58	LS	71.54	8" SDR-35	11LF	0.40%

MANHOLE ID	STATION	RIM	INV	TO	INV	PIPE	LENGTH	SLOPE
LS2 MH #26	234+30.58	83.39	78.39	MH #25	77.51	8" SDR-35	221LF	0.40%
LS2 MH #25	232+17.65	82.42	75.57	MH #24	74.46	8" SDR-35	278LF	0.40%
LS2 MH #24	229+35.28	83.47	74.36	MH #19	73.34	8" SDR-35	255LF	0.40%
LS2 MH #23	610+77.23	85.89	81.89	MH #22	81.23	8" SDR-35	166LF	0.40%
LS2 MH #22	609+07.66	87.77	81.13	MH #21	79.88	8" SDR-35	313LF	0.40%
LS2 MH #21	605+90.45	89.31	79.78	MH #20	78.59	8" SDR-35	298LF	0.40%
LS2 MH #20	602+88.20	86.92	78.49	MH #19	77.35	8" SDR-35	285LF	0.40%
LS2 MH #19	226+74.97 600+00.00	83.80	73.24	MH #13	72.57	8" SDR-35	168LF	0.40%
LS2 MH #18	217+40.71	100.51	96.51	MH #17	95.20	8" SDR-35	104LF	1.26%
LS2 MH #17	218+46.58	99.20	95.10	MH #16	93.59	8" SDR-35	85LF	1.78%
LS2 MH #16	219+36.42	97.59	93.49	MH #15	87.55	8" SDR-35	321LF	1.85%
LS2 MH #15	222+59.89	91.55	87.45	MH #14	86.08	8" SDR-35	76LF	1.80%
LS2 MH #14	223+38.77	90.08	85.98	MH #13	79.50	8" SDR-35	162LF	4.00%
LS2 MH #13	225+03.90 119+36.07	87.00	72.47	MH #12	70.90	8" SDR-35	393LF	0.40%
LS2 MH #12	115+40.97	94.00	70.80	MH #11	69.81	8" SDR-35	248LF	0.40%
LS2 MH #11	112+90.97	90.26	69.71	MH #8	68.69	8" SDR-35	240LF	0.40%
LS2 MH #10	513+75.47	100.16	96.16	MH #9	94.86	8" SDR-35	103LF	1.26%
LS2 MH #9	514+80.65	98.86	94.76	MH #8	80.00	8" SDR-35	390LF	4.01%
LS2 MH #8	518+49.67 110+40.66	91.39	68.59	MH #7	67.30	8" SDR-35	322LF	0.40%
LS2 MH #7	107+17.77	98.65	67.20	MH #6	66.28	8" SDR-35	231LF	0.40%
LS2 MH #6	104+86.40	100.36	66.18	MH #5	65.44	8" SDR-35	186LF	0.40%
LS2 MH #5	——	xx	65.34	MH #4	64.25	8" SDR-35	272LF	0.40%
LS2 MH #4	——	xx	64.15	MH #3	63.34	8" SDR-35	203LF	0.40%
LS2 MH #3	——	xx	63.24	MH #2	62.49	8" SDR-35	187LF	0.40%
LS2 MH #2	——	xx	62.39	LS	61.72	8" SDR-35	154LF	0.40%

GENERAL NOTES:

1. ALL PIPE LENGTHS ARE APPROXIMATE AND ROUNDED OFF TO THE NEAREST FOOT. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL MATERIAL LISTS PRIOR TO FINAL BIDDING.
2. ALL STRUCTURE INVERTS SHALL BE POURED AND SHAPED TO PROMOTE FLOW AND TO PREVENT STANDING WATER.
3. ALL CONSTRUCTION MATERIALS SHALL CONFORM TO THE LATEST TOWN OF HOWEY-IN-THE-HILLS STANDARDS AND SPECIFICATIONS.
4. ALL CONSTRUCTION SHALL BE SUBJECT TO INSPECTIONS AND APPROVALS BY THE PROJECT ENGINEER AND THE TOWN OF HOWEY-IN-THE-HILLS.



UTILITY & DRAINAGE LEGEND

- Ductile Iron Pipe
- Reducer
- Gate Valve & Box
- 90° Elbow
- 45° Elbow
- 22.5° Elbow
- 11.25° Elbow
- Tee
- Jumper Connection
- Fire Hydrant Assembly
- Double Water Service
- Single Water Service
- Water Main
- Sanitary Sewer Service
- Sanitary Manhole
- Sanitary Gravity Main
- Storm Sewer Pipe
- Storm Junction Manhole
- Type 4 Inlet
- Modified Type 6 Inlet
- U Type End Wall
- D.E. Drainage Easement
- U.E. Utility Easement

REVISIONS

	DATE
1	
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BOOTH ERN STRAUGHAN HIOTT
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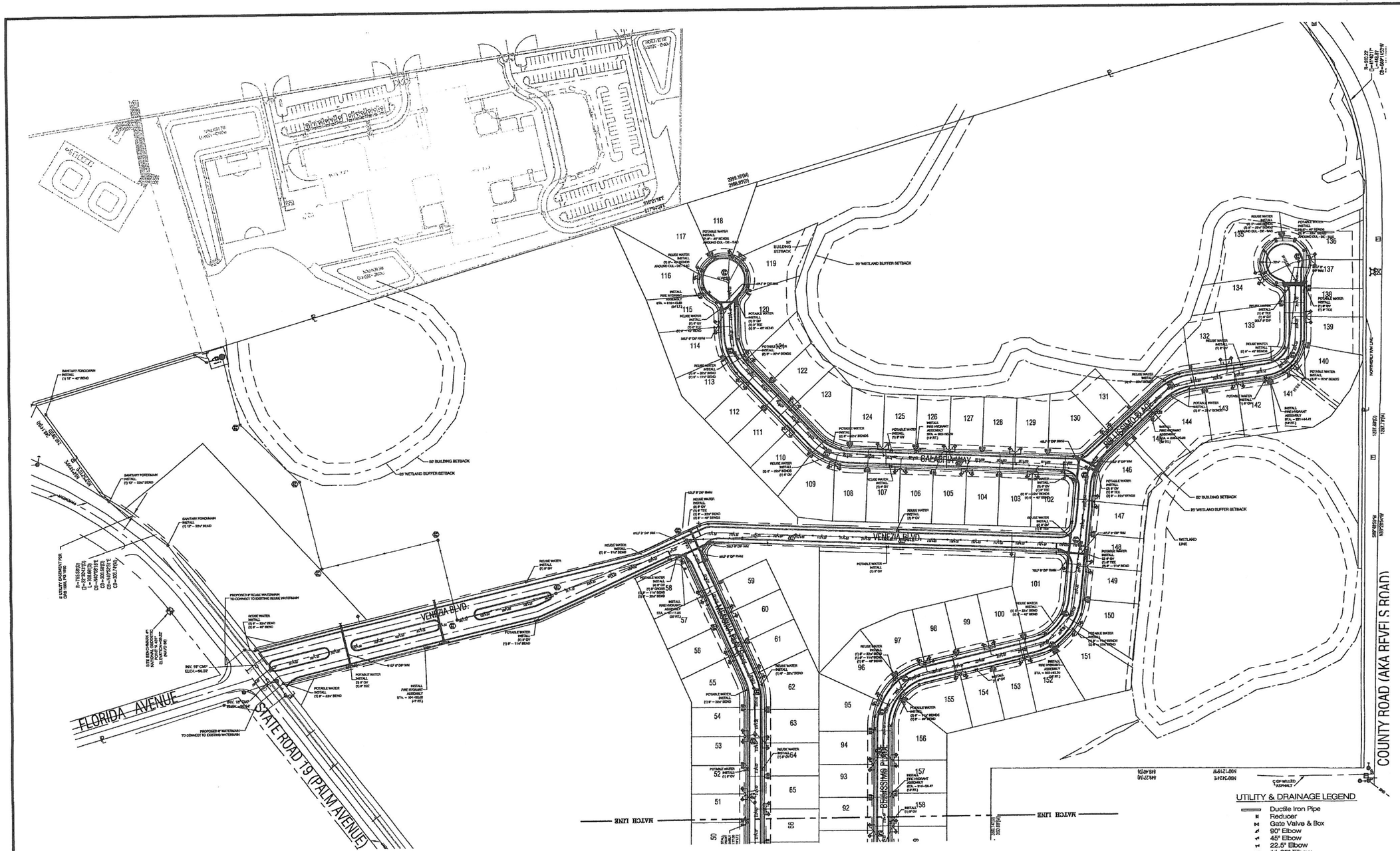
Tavares, Florida 32778
www.besandh.com
Office: 352.343.8481
Fax: 352.343.8495
Certificate of Authorization Number: 27029

VENEZIA SOUTH
RESIDENTIAL SUBDIVISION
UTILITY PLAN
Sheet A

CHECKED BY: CCH
PROJECT NO.: 051373.0000
DATE: JUNE 2006
DESIGNED/DRAWN BY: LCS
SHT. 10 OF 37

JUN 29 2007
CHARLES C. HIOTT, P.E.
PROFESSIONAL ENGINEER 54813

18971-3



UTILITY & DRAINAGE LEGEND

- Ductile Iron Pipe
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- 90° Elbow
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- Storm Junction Manhole
- Type 4 Inlet
- Modified Type 6 Inlet
- U Type End Wall
- D.E. Drainage Easement
- U.E. Utility Easement

REVISIONS

DATE	1	2	3	4	5	6	7

SOUTH GEN STRAUGHAN HOTT
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369 North Sinclair Ave.
Tavares, Florida 32778
www.southgeneral.com
Office: 352.343.8481
Fax: 352.343.8405
Certificate of Authorization Number: 27059

VENEZIA SOUTH
RESIDENTIAL SUBDIVISION

UTILITY PLAN
Sheet B

CHECKED BY:	CCH
PROJECT NO.:	051373.0000
DATE:	JUNE 2006
DESIGNED/DRAWN BY:	LCS
SHT.	11 OF 37

JUN 21 2007

CHARLES C. HOTT, P.E.
PROFESSIONAL ENGINEER 54813

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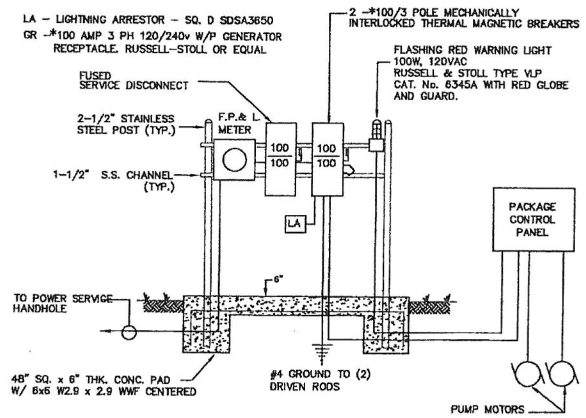


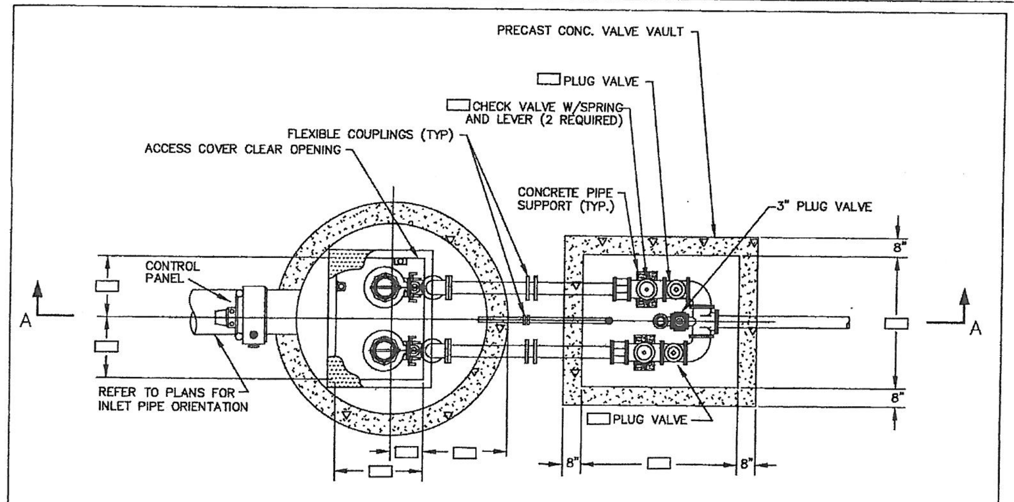
NOTES:

1. SUPPORT FRAME TO BE FABRICATED FROM 316 STAINLESS STEEL. ALL SCREWS, NUTS, BOLTS, STRAPS, AND SIMILAR CONNECTORS SHALL BE 316 STAINLESS STEEL. PROVIDE NEOPRENE PAD AND/OR FIBER WASHERS BETWEEN DISSIMILAR METALS.
2. ALL CONDUIT AND FITTINGS WITHIN 12" OF EQUIPMENT PAD AND GRADE TO BE RGS.
3. ALL BOXES, FITTINGS AND PIPES TO BE NEMA 4X STAINLESS STEEL.
4. MINIMUM 2 GROUND RODS SPACED A MINIMUM OF 6.0' APART.
5. * THIS INFO APPLIES TO TYPICAL 25 HP OR LESS LIFT STATION INSTALLATIONS. ENGINEER/CONTRACTOR SHALL VERIFY SPECIFIC ELECTRICAL AMPERAGE REQUIREMENTS PRIOR TO ORDERING AND INSTALLING EQUIPMENT

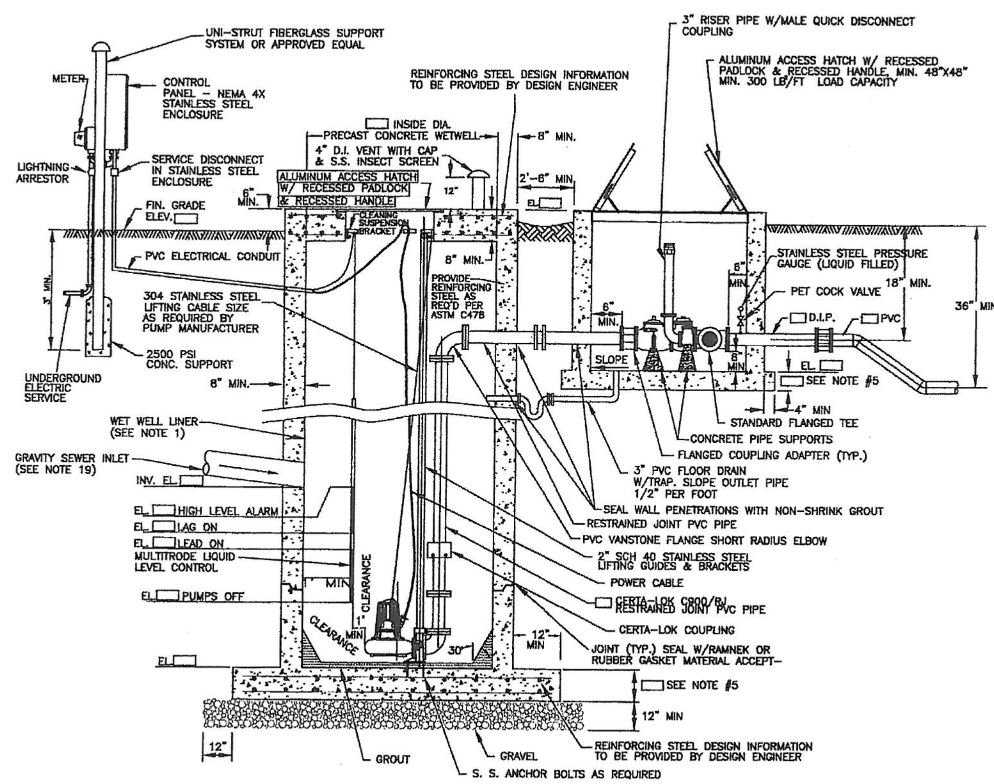
PACKAGED LIFT STATION
ELECTRICAL EQUIPMENT RACK

GENERAL NOTES SUBMERSIBLE PUMP STATION:

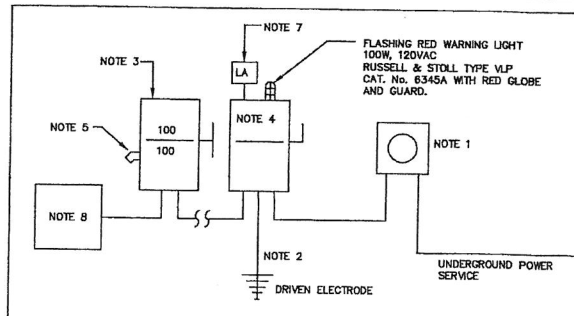
1. WET WELL SHALL BE LINED WITH "AGRU SURE GRIP" CONCRETE PROTECTIVE LINER OR APPROVED EQUAL. WET WELL EXTERIOR SHALL BE COATED WITH COAL TAR EPOXY.
2. BASE AND FIRST RISER UNIT TO BE CAST MONOLITHIC.
3. VALVE VAULT AND ACCESS COVERS SHALL BE SIZED TO PERMIT EASY REMOVAL OF CHECK VALVE.
4. VALVE VAULT SHALL HAVE SEALED FLOOR W/DRAIN TO WET WELL – TRAP REQUIRED.
5. ALL LOCATIONS WHERE PIPES ENTER OR LEAVE THE WET WELL OR VALVE VAULT SHALL BE MADE WATERTIGHT WITH WALL SLEEVE OR NON–SHRINK GROUT.
6. PUMP LIFTING DEVICE SHALL BE 304 SS LIFTING CABLE.
7. THERE SHALL BE NO ELECTRICAL JUNCTION BOXES IN WET WELL OR VALVE VAULT.
8. CHECK VALVES SHALL BE OUTSIDE WEIGHT & LEVER.
9. WET WELL & VALVE VAULT COVERS SHALL BE ALUMINUM WITH 304S.S HARDWARE, AS RECOMMENDED AND REQUIRED BY PUMP MANUFACTURER (LOADING 300 P.S.F.) AND PROVIDED WITH RECESSED LOCKS.
10. CONTROL PANEL SHALL BE AS MANUFACTURED BY THE PUMP SUPPLIER OR APPROVED EQUAL.
11. WET WELL DIAMETER SHALL BE 6' NOMINAL.
12. ACCESS HATCH DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE PUMPING EQUIPMENT, PIPING AND CONCRETE STRUCTURES TO ENSURE ADEQUATE ACCESS OPENINGS FOR INSTALLATION, OPERATION AND MAINTENANCE OF ALL EQUIPMENT.
13. FURNISH AND INSTALL GENERATOR RECEPTACLE
14. VALVE VAULT AND WET WELLS SHALL BE PRECAST CONCRETE. SUBMIT SHOP DRAWINGS WITH REINFORCING DETAILS FOR APPROVAL PRIOR TO FABRICATION.
15. CHAIN LINK FENCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
    A) POSTS SHALL BE SCHEDULE 40, GALVANIZED STEEL (2" OUTSIDE DIAMETER MIN.), MAXIMUM 10 FOOT SPACING
    B) FABRIC FOR FENCING AND GATES SHALL BE 9 GAUGE 2" MESH, CLASS 1, CONFORMING TO A.S.T.M. A–3920, 1.2 OZ. GALVANIZED COATING.
    C) POSTS SHALL BE SET IN 2500 PSI CONCRETE IN AN 8" DIAMETER HOLE WITH A DEPTH OF 36 INCHES.
    D) FENCING SHALL BE SCREENED WITH PVC SLATS, FEATHERLOCK OR APPROVED EQUAL. COLOR SHALL BE GREEN OR BLACK.
16. AUXILIARY POWER CONNECTION:
    A) FOR PUMPS < 10HP – RUSSELL & STOLL CAT. NO. FCF 3134–W–72, 100 AMP, 230 VOLT OR APPROVED EQUAL
    B) FOR PUMPS ≥ 10HP – RUSSELL & STOLL CAT. NO. FCF 3134–W–72, 200 AMP, 230 VOLT AR2042 – CROUSE–HINDS, OR APPROVED EQUAL
17. • HAND – (ON–OFF) – AUTOMATIC SWITCHES ON ALL PUMPS.
    • MANUAL – (ON–OFF) – SWITCH ON ALL ALTERNATORS.
    • ONE ELAPSED TIME METER FOR EACH PUMP.
    • 120 VOLT RECEPTACLE INSIDE CONTROL BOX.
    • 3 PHASE CURRENT (WILL NOT ACCEPT ADD A PHASE OR CAPACITOR PHASE CHANGERS).
    • POWER CABLE TO PUMPS RUN IN CONDUIT SEPARATE FROM FLOAT SWITCH CONDUIT.
    • LIQUID FILLED PRESSURE GAUGE ON FORCE MAIN.
18. FLOAT SWITCHES, MUST BE TRANSFORMER ISOLATED–24 VOLT MAX. ALL CONNECTIONS MUST TERMINATE IN CONTROL PANEL OUTSIDE OF WET WELL.
19. KNIFE SWITCH DISCONNECT BETWEEN POWER SUPPLY AND LIFT STATION CONTROL PANEL.
20. SHAKESPEARE FIBERGLASS LIGHT POLE CATALOG #B520 OR #B524 OR APPROVED EQUAL.
21. RUDD LIGHT 250W #FS3425–M OR APPROVED EQUAL.
22. SEAL GRAVITY PIPE AT WETWELL WITH RUBBER BOOT SEAL.
23. PUMP CONTROLLERS SHALL BE MULTI–TRODE MODEL MTPC CONTROLLER AND MTTS–5 SUPPRESSOR.



PLAN VIEW



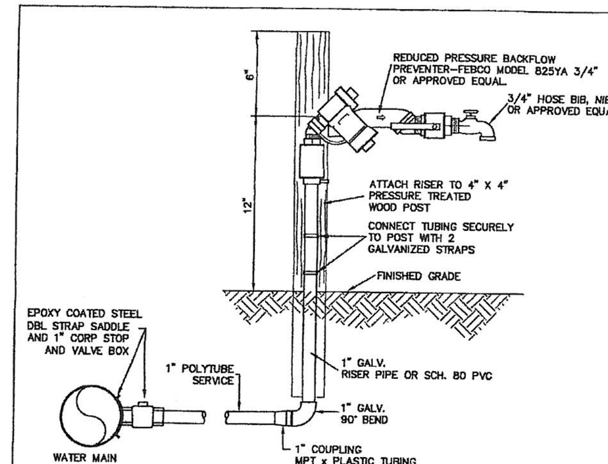
SUBMERSIBLE WET WELL SECTION



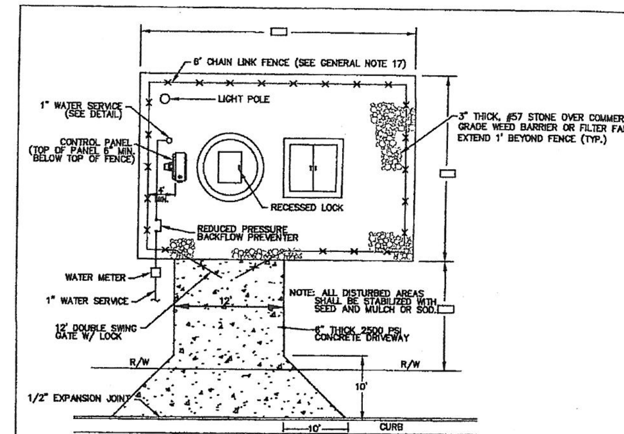
NOTES:

1. ALL BOXES, INCLUDING SWITCH GEAR, ELECTRIC METER CANS, DISCONNECT, AND ALL MISC. ELECTRICAL BOXES SHALL BE NEMA 4X STAINLESS STEEL. ALL BRACKETS, PIPING, BOLTS, NUTS, WASHERS, AND ANY FASTENERS SHALL BE 316 SS.
2. METER WITH BYPASS.
3. SERVICE GROUND TO INCLUDE 3 – 10' ELECTRODES ON 10' CENTERS BOND TO SLAB REBAR. USE #4 BARE COPPER MIN.
4. 100 AMP 3–POLE, CIRCUIT BREAKER MANUAL TRANSFER SWITCH IN WEATHERPROOF ENCLOSURE.
5. 100 AMP 3 POLE S–N FUSED 240 VOLT WEATHERPROOF DISCONNECT.
6. GENERATOR RECEPTACLE, RUSSELL & STOLL
7. PACKAGE PUMP STATION CONTROL PANEL
8. LIGHTNING ARRESTOR – SQUARE D No. SDSA 3650.

PACKAGED LIFT STATION
ELECTRICAL SERVICE SCHEMATIC



LIFT STATION POTABLE WATER SERVICE



LIFT STATION SITE PLAN
N.T.S.

REVISIONS

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BESH
BOOTH ERN STRAUGHAN HIOTT
ENGINEERS • SURVEYORS • LAND PLANNERS
350 North Sinclair Ave.
Tavares, Florida 32778
www.besandh.com
Office: 352.343.8481
Fax: 352.343.8495
Certificate of Authorization Number: 27029

VENEZIA SOUTH
RESIDENTIAL SUBDIVISION

LIFT STATION DETAILS

CHECKED BY:	CCH
PROJECT NO.:	051373.0000
DATE:	JUNE 2006
DRAWN BY:	LCS
DESIGNED BY:	LCS

SHT. 33 OF 37

JUN 19 2007
CHARLES C. HIOTT, P.E.
PROFESSIONAL ENGINEER 54813

18971-3

(2)

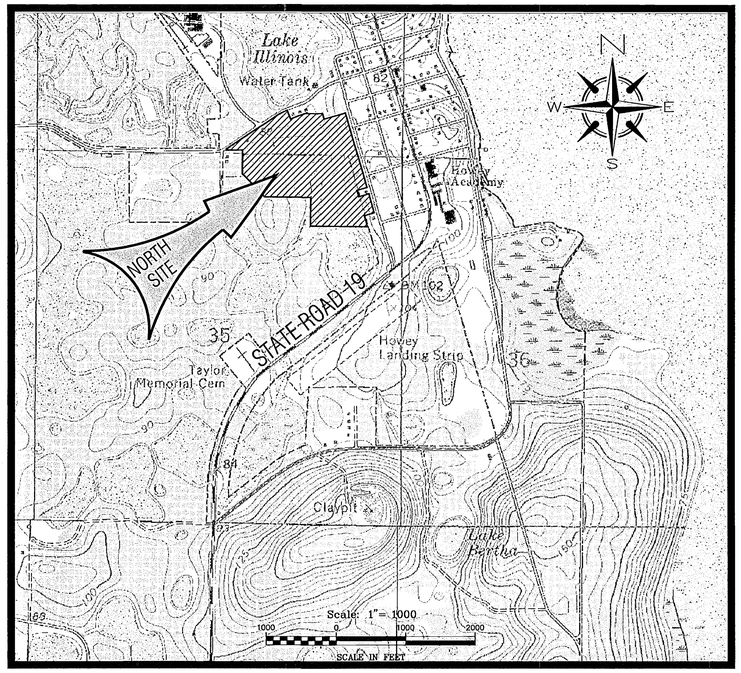
CONSTRUCTION PLANS
FOR
Venezia North Subdivision

Section 35 & 36, Township 22 South, Range 25 East
Town of Howey in the Hills, Lake County, Florida

OWNER:
FRED BENNETT
LYKES BROTHERS, INC.
400 NORTH TAMPA STREET
TAMPA, FLORIDA 33601
(813) 470-5509
(813) 470-5020 FAX

DEVELOPER:
FLAGSHIP HARB, LLC
916 HIGHLAND AVENUE
ORLANDO, FLORIDA 32803
(407) 246-1144
(407) 246-1155 FAX
CONTACT: TED BOLIN

ENGINEER:
BOOTH, ERN, STRAUGHAN & HIOTT, INC.
350 NORTH SINCLAIR AVENUE
TAVARES, FLORIDA-32778
(352) 343-8481
CONTACT: CHARLES HIOTT, P.E.



VICINITY MAP

SHEET INDEX

LEGAL DESCRIPTION:

NORTH PARCEL
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 N89°49'22"E, A DISTANCE OF 97.92 FEET TO THE POINT OF BEGINNING; THENCE DEPART SAID SECTION BOUNDARY N00°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 N56°00'00"E, A DISTANCE OF 921.20 FEET; THENCE N64°54'03"E, A DISTANCE OF 134.15 FEET; THENCE DEPART SAID RIGHT OF WAY LINE S32°46'58"E, A DISTANCE OF 134.90 FEET; THENCE N67°23'40"E, A DISTANCE OF 249.96 FEET; THENCE S06°03'40"E, A DISTANCE OF 12.16 FEET; THENCE N89°52'29"E, A DISTANCE OF 222.15 FEET; THENCE S17°01'37"E, A DISTANCE OF 79.32 FEET; THENCE N72°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 S17°04'04"E, A DISTANCE OF 1132.61 FEET; THENCE DEPART SAID RIGHT OF WAY S72°57'38"W, A DISTANCE OF 149.84 FEET; THENCE S17°10'01"E, A DISTANCE OF 74.94 FEET; THENCE N72°58'13"E, A DISTANCE OF 149.82 FEET TO A POINT ON THE WEST RIGHT OF WAY LINE OF FLORIDA AVENUE; THENCE ALONG SAID RIGHT OF WAY S17°02'44"E, A DISTANCE OF 300.03 FEET; THENCE DEPART SAID RIGHT OF WAY S72°56'00"W, A DISTANCE OF 149.83 FEET; THENCE S17°02'42"E, A DISTANCE OF 164.96 FEET; THENCE N90°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 N00°19'41"W, A DISTANCE OF 404.92 FEET; THENCE DEPARTING SAID SECTION BOUNDARY S89°51'12"W, A DISTANCE OF 609.75 FEET; THENCE N45°09'29"W, A DISTANCE OF 468.37 FEET; THENCE N00°06'38"W, A DISTANCE OF 331.44 FEET; THENCE S89°50'24"W, A DISTANCE OF 232.87 FEET TO THE POINT OF BEGINNING.

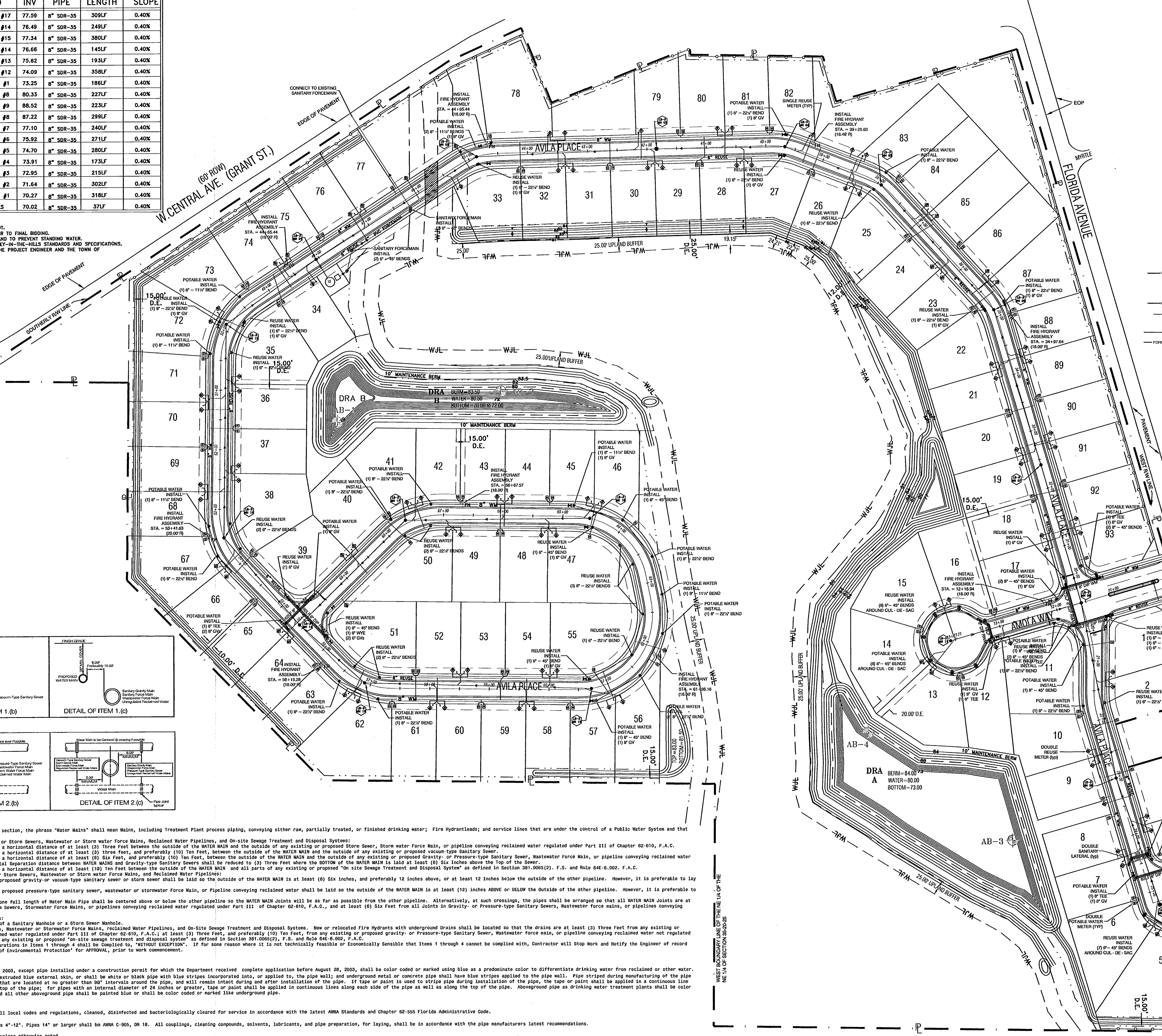
STATE OF FLORIDA CERTIFICATION OF AUTHORIZATION NO. 27029

SANITARY PIPE CHART

MANHOLE ID	STATION	RIM	INV	TO	INV	PIPE	LENGTH	SLOPE
MH #18	64+54.35	84.68	78.83	MH #17	77.59	8" SDR-35	309LF	0.40%
MH #17	67+63.37	86.88	77.49	MH #14	76.49	8" SDR-35	249LF	0.40%
MH #16	60+71.72	85.09	78.86	MH #15	77.34	8" SDR-35	380LF	0.40%
MH #15	56+89.57	88.56	77.24	MH #14	76.66	8" SDR-35	145LF	0.40%
MH #14	55+42.88 70+11.63	89.47	76.39	MH #13	75.62	8" SDR-35	193LF	0.40%
MH #13	53+48.70	89.36	75.52	MH #12	74.09	8" SDR-35	358LF	0.40%
MH #12	49+90.52	86.02	73.99	MH #1	73.25	8" SDR-35	186LF	0.40%
MH #11	13+85.83	85.24	81.24	MH #8	80.33	8" SDR-35	227LF	0.40%
MH #10	25+29.01	93.29	89.41	MH #9	88.52	8" SDR-35	223LF	0.40%
MH #9	23+01.41	91.99	88.42	MH #8	87.22	8" SDR-35	299LF	0.40%
MH #8	11+57.71 20+00.00	95.00	80.23	MH #7	77.10	8" SDR-35	240LF	0.40%
MH #7	32+40.68	87.39	77.00	MH #6	75.92	8" SDR-35	271LF	0.40%
MH #6	35+12.71	87.45	75.82	MH #5	74.70	8" SDR-35	280LF	0.40%
MH #5	37+93.82	86.67	74.60	MH #4	73.91	8" SDR-35	173LF	0.40%
MH #4	39+67.93	84.92	73.81	MH #3	72.95	8" SDR-35	215LF	0.40%
MH #3	41+83.97	84.36	72.85	MH #2	71.64	8" SDR-35	302LF	0.40%
MH #2	44+86.36	87.35	71.54	MH #1	70.27	8" SDR-35	318LF	0.40%
MH #1	48+05.39	86.24	70.17	LS	70.02	8" SDR-35	37LF	0.40%

GENERAL NOTES:

1. ALL PIPE LENGTHS ARE APPROXIMATE AND ROUNDED OFF TO THE NEAREST FOOT. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL MATERIAL LISTS PRIOR TO FINAL BIDDING.
2. ALL STRUCTURE INVERTS SHALL BE POURED AND SHAPED TO PROMOTE FLOW AND TO PREVENT STANDING WATER.
3. ALL CONSTRUCTION MATERIALS SHALL CONFORM TO THE LATEST TOWN OF HOWEY-IN-THE-HILLS STANDARDS AND SPECIFICATIONS.
4. ALL CONSTRUCTION SHALL BE SUBJECT TO INSPECTIONS AND APPROVALS BY THE PROJECT ENGINEER AND THE TOWN OF HOWEY-IN-THE-HILLS.



UTILITY LEGEND

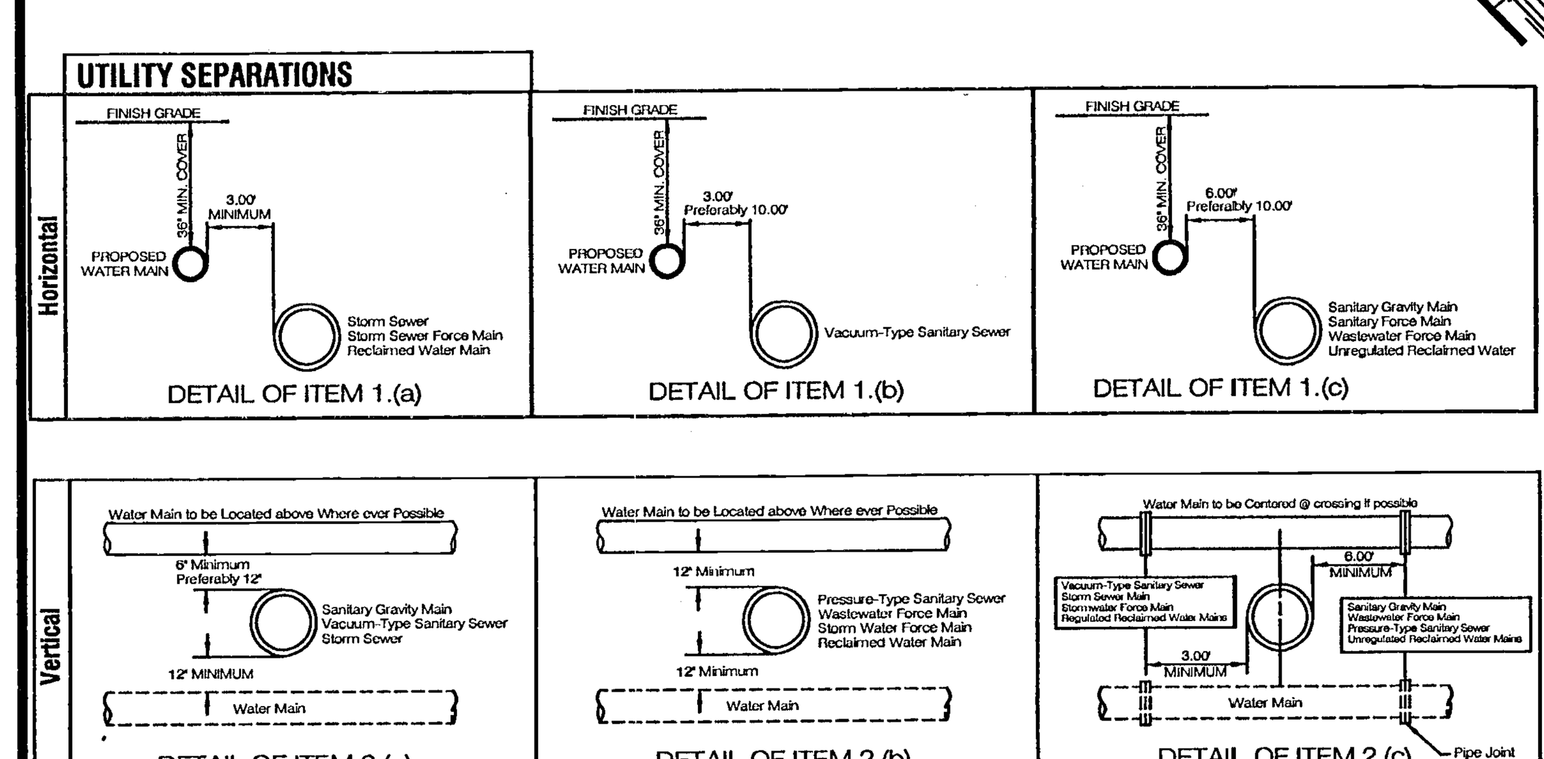
- Gate Valve & Box
- Pipe Elbow
- Tee
- FH Fire Hydrant Assembly
- Double Water Service
- Single Water Service
- WM Water Main
- Double Re-use Water Service
- Single Re-use Water Service
- RWM Re-use Water Main
- Sanitary Sewer Service
- Sanitary Manhole
- Sanitary Gravity Main
- FORCEMAIN Sanitary Force Main
- D.E. Drainage Easement
- U.E. Utility Easement

NOTE:
ALL UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF HOWEY UTILITY CONSTRUCTION SPECIFICATIONS.

GRAPHIC SCALE

1 INCH = 100 FEET

UTILITY SEPARATIONS



UTILITY CONSTRUCTION NOTES (DEP)

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 Hydrantleads; and service lines that are under the control of a Public Water System and that have an inside diameter of three (3")inches or greater.

(1) Horizontal Separation Between Underground Water Mains and Sanitary or Storm Sewers, Wastewater or Storm water 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 (3) Three Feet between the outside of the WATER MAIN and the outside of any existing or proposed Storm Sewer, Storm water 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 (3) three feet, and preferably (10) 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 (6) Six Feet, and preferably (10) 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 (3) Three Feet where the BOTTOM of the WATER MAIN is laid at least (6) Six Inches above the Top of the Sewer.

(d) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (10) 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.

(2) Vertical Separation Between Underground WATER MAINS and Sanitary or Storm Sewers, Wastewater or Storm water 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 (6) 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.

(b) 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.

(c) At the Utility crossings described in paragraphs (a) & (b) Above, one full length of Water Main Pipe shall be centered above or below the other pipeline so the WATER MAIN Joints will be as far as possible from the other pipeline. Alternatively, at such crossings, the pipes shall be arranged so that all WATER MAIN Joints are at least (3) 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 (6) 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.

(3) Separation Between WATER MAINS and Sanitary or Storm Sewer Manholes:

(a) No WATER MAIN shall pass thru, or come into contact with any part of a Sanitary Manhole or a Storm Sewer 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 (3) 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 (3) Three Feet, and preferably (10) 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 (10) 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.

(5) Exceptions/Mitigation: Adherence to the above Constraints and Separations in Items 1 through 4 shall be Complied to, "WITHOUT EXCEPTION". If for some reason where it is not technically feasible or Economically Sensible that Items 1 through 4 cannot be complied with, Contractor will Stop Work and Notify the Engineer of record for the appropriate solution, which will be submitted to "The Department of Environmental Protection" for APPROVAL, prior to work commencement.

COLOR CODING

All water main pipe, including fittings, installed on or after August 28, 2003, except pipe installed under a construction permit for which the Department received complete application before August 28, 2003, shall be color coded or marked using blue as a predominate color to differentiate drinking water from reclaimed or other water. Under-ground plastic pipe shall be solid-wall blue pipe, shall have a co-extruded blue external skin, or shall be white or black pipe with blue stripes incorporated into, or applied to, the pipe wall; and underground metal or concrete pipe shall have blue stripes applied to the pipe wall. Pipe striped during manufacturing of the pipe shall have continuous stripes that run parallel to the axis of the pipe, that are located at no greater than 90° intervals around the pipe, and 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 shall 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 pipes with an internal diameter of 24 inches or greater, tape or paint shall be applied in continuous lines along each side of the pipe as well as along the top of the pipe. Aboveground pipe as drinking water treatment plants shall be color coded and labeled in accordance with subsection 62-555.320(10),F.A.C., and all other aboveground pipe shall be painted blue or shall be color coded or marked like underground pipe.

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 with the pipe manufacturers latest recommendations.
4. Depth of water lines to be 36" minimum cover from finish grade.
5. Water mains to be located 6.00' from back of curb or edge of pavement unless otherwise noted.
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(21)(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 he corresponding AWWA Standards and be conforming to NSF requirements, as may be applicable, with exceptions allowed only if documentation and assurances are provided in compliance with Paragraphs 62-555.320(3) (d) 62-555.320 (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.
11. All existing wells on site to be abandoned in accordance with all applicable FDEP and SJRWMD requirements.

REVISIONS	
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Certificate of Authorization Number: 27029

VENEZIA NORTH RESIDENTIAL SUBDIVISION

UTILITY PLAN

CHECKED BY: CCH
PROJECT NO.: 051373.0000
DATE: JUNE 2006
DESIGNED/DRAWN BY: LCS
SHT. 6 OF 22

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PDS
ALTAMONTE SVC. CTR.

APR 13 2007
CHARLES C. HIOTT, P.E.
PROFESSIONAL ENGINEER 54813

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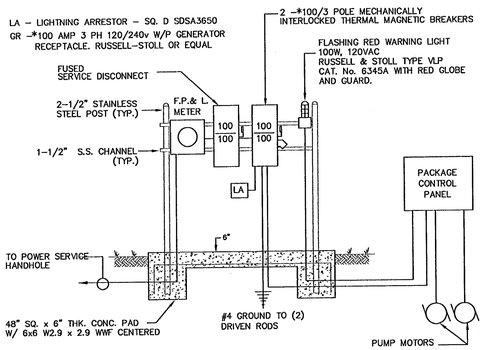


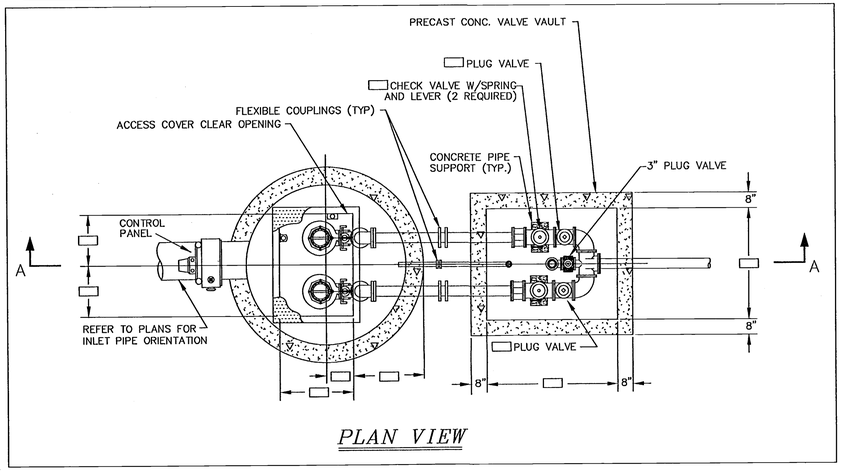
NOTES:

1. SUPPORT FRAME TO BE FABRICATED FROM 316 STAINLESS STEEL. ALL SCREWS, NUTS, BOLTS, STRAPS, AND SIMILAR CONNECTORS SHALL BE 316 STAINLESS STEEL. PROVIDE NEOPRENE PAD AND/OR FIBER WASHERS BETWEEN DISSIMILAR METALS.
2. ALL CONDUIT AND FITTINGS WITHIN 12" OF EQUIPMENT PAD AND GRADE TO BE RGS.
3. ALL BOXES, FITTINGS AND PIPES TO BE NEMA 4X STAINLESS STEEL.
4. MINIMUM 2 GROUND RODS SPACED A MINIMUM OF 6.0' APART.
5. * THIS INFO APPLIES TO TYPICAL 25 HP OR LESS LIFT STATION INSTALLATIONS. ENGINEER/CONTRACTOR SHALL VERIFY SPECIFIC ELECTRICAL AMPERAGE REQUIREMENTS PRIOR TO ORDERING AND INSTALLING EQUIPMENT

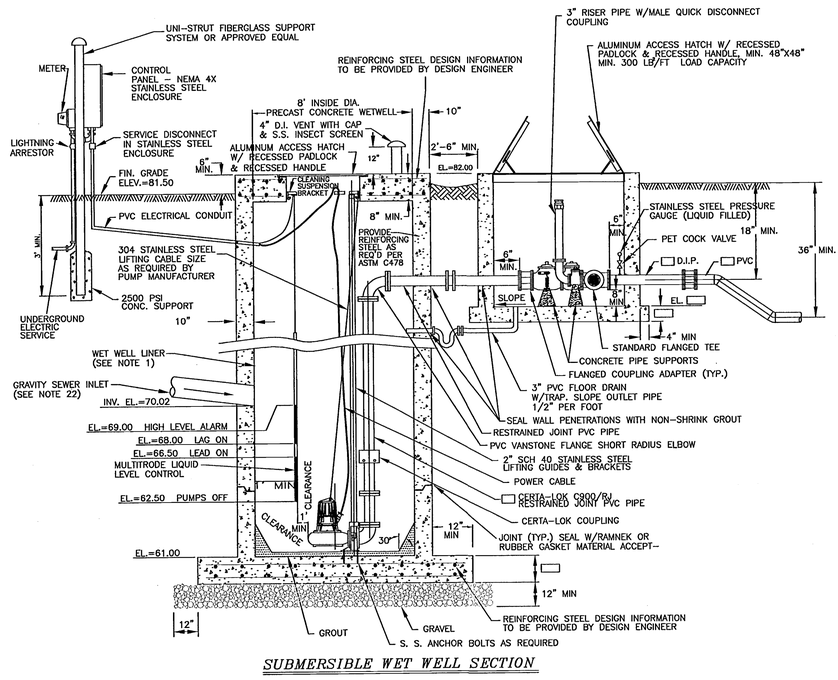
PACKAGED LIFT STATION
ELECTRICAL EQUIPMENT RACK

GENERAL NOTES SUBMERSIBLE PUMP STATION:

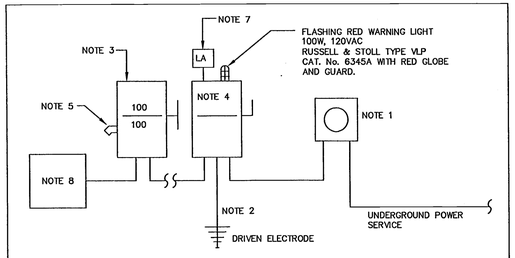
1. WET WELL SHALL BE LINED WITH "AGRU SURE GRIP" CONCRETE PROTECTIVE LINER OR APPROVED EQUAL. WET WELL EXTERIOR SHALL BE COATED WITH COAL TAR EPOXY.
2. BASE AND FIRST RISER UNIT TO BE CAST MONOLITHIC.
3. VALVE VAULT AND ACCESS COVERS SHALL BE SIZED TO PERMIT EASY REMOVAL OF CHECK VALVE.
4. VALVE VAULT SHALL HAVE SEALED FLOOR W/DRAIN TO WET WELL – TRAP REQUIRED.
5. ALL LOCATIONS WHERE PIPES ENTER OR LEAVE THE WET WELL OR VALVE VAULT SHALL BE MADE WATERTIGHT WITH WALL SLEEVE OR NON–SHRINK GROUT.
6. PUMP LIFTING DEVICE SHALL BE 304 SS LIFTING CABLE.
7. THERE SHALL BE NO ELECTRICAL JUNCTION BOXES IN WET WELL OR VALVE VAULT.
8. CHECK VALVES SHALL BE OUTSIDE WEIGHT & LEVER.
9. WET WELL & VALVE VAULT COVERS SHALL BE ALUMINUM WITH 304S.S HARDWARE, AS RECOMMENDED AND REQUIRED BY PUMP MANUFACTURER (LOADING 300 P.S.F.) AND PROVIDED WITH RECESSED LOCKS.
10. CONTROL PANEL SHALL BE AS MANUFACTURED BY THE PUMP SUPPLIER OR APPROVED EQUAL.
11. WET WELL DIAMETER SHALL BE 6' NOMINAL.
12. ACCESS HATCH DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE PUMPING EQUIPMENT, PIPING AND CONCRETE STRUCTURES TO ENSURE ADEQUATE ACCESS OPENINGS FOR INSTALLATION, OPERATION AND MAINTENANCE OF ALL EQUIPMENT.
13. FURNISH AND INSTALL GENERATOR RECEPTACLE
14. VALVE VAULT AND WET WELLS SHALL BE PRECAST CONCRETE. SUBMIT SHOP DRAWINGS WITH REINFORCING DETAILS FOR APPROVAL PRIOR TO FABRICATION.
15. CHAIN LINK FENCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
    A) POSTS SHALL BE SCHEDULE 40, GALVANIZED STEEL (2" OUTSIDE DIAMETER MIN.), MAXIMUM 10 FOOT SPACING
    B) FABRIC FOR FENCING AND GATES SHALL BE 9 GAUGE 2" MESH, CLASS 1, CONFORMING TO A.S.T.M. A–3920, 1.2 OZ. GALVANIZED COATING.
    C) POSTS SHALL BE SET IN 2500 PSI CONCRETE IN AN 8" DIAMETER HOLE WITH A DEPTH OF 36 INCHES.
    D) FENCING SHALL BE SCREENED WITH PVC SLATS, FEATHERLOCK OR APPROVED EQUAL. COLOR SHALL BE GREEN OR BLACK.
16. AUXILIARY POWER CONNECTION:
    A) FOR PUMPS < 10HP – RUSSELL & STOLL CAT. NO. FCF 3134–W–72, 100 AMP, 230 VOLT OR APPROVED EQUAL
    B) FOR PUMPS ≥ 10HP – RUSSELL & STOLL CAT. NO. FCF 3134–W–72, 200 AMP, 230 VOLT AR2042 – CROUSE–HINDS, OR APPROVED EQUAL
17. • HAND – (ON–OFF) – AUTOMATIC SWITCHES ON ALL PUMPS.
    • MANUAL – (ON–OFF) – SWITCH ON ALL ALTERNATORS.
    • ONE ELAPSED TIME METER FOR EACH PUMP.
    • 120 VOLT RECEPTACLE INSIDE CONTROL BOX.
    • 3 PHASE CURRENT (WILL NOT ACCEPT ADD A PHASE OR CAPACITOR PHASE CHANGERS).
    • POWER CABLE TO PUMPS RUN IN CONDUIT SEPARATE FROM FLOAT SWITCH CONDUIT.
    • LIQUID FILLED PRESSURE GAUGE ON FORCE MAIN.
18. FLOAT SWITCHES, MUST BE TRANSFORMER ISOLATED–24 VOLT MAX. ALL CONNECTIONS MUST TERMINATE IN CONTROL PANEL OUTSIDE OF WET WELL.
19. KNIFE SWITCH DISCONNECT BETWEEN POWER SUPPLY AND LIFT STATION CONTROL PANEL.
20. SHAKESPEARE FIBERGLASS LIGHT POLE CATALOG #B520 OR #B524 OR APPROVED EQUAL.
21. RUDD LIGHT 250W #FS3425–M OR APPROVED EQUAL.
22. SEAL GRAVITY PIPE AT WETWELL WITH RUBBER BOOT SEAL.
23. PUMP CONTROLLERS SHALL BE MULTI–TRODE MODEL MTPC CONTROLLER AND MTTS–5 SUPPRESSOR.



PLAN VIEW



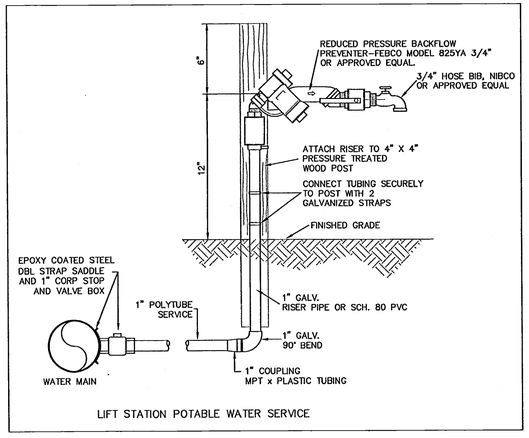
SUBMERSIBLE WET WELL SECTION



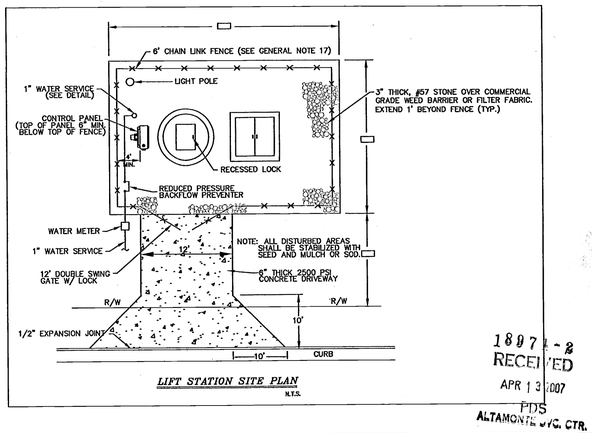
NOTES:

1. ALL BOXES, INCLUDING SWITCH GEAR, ELECTRIC METER CANS, DISCONNECT, AND ALL MISC. ELECTRICAL BOXES SHALL BE NEMA 4X STAINLESS STEEL. ALL BRACKETS, PIPING, BOLTS, NUTS, WASHERS, AND ANY FASTENERS SHALL BE 316 SS.
2. METER WITH BYPASS.
3. SERVICE GROUND TO INCLUDE 3 – 10' ELECTRODES ON 10' CENTERS BOND TO SLAB REBAR. USE #4 BARE COPPER MIN.
4. 100 AMP 3–POLE, CIRCUIT BREAKER MANUAL TRANSFER SWITCH IN WEATHERPROOF ENCLOSURE.
5. 100 AMP 3 POLE S–N FUSED 240 VOLT WEATHERPROOF DISCONNECT.
6. GENERATOR RECEPTACLE, RUSSELL & STOLL
7. PACKAGE PUMP STATION CONTROL PANEL
8. LIGHTNING ARRESTOR – SQUARE D No. SDSA 3650.

PACKAGED LIFT STATION
ELECTRICAL SERVICE SCHEMATIC



LIFT STATION POTABLE WATER SERVICE



LIFT STATION SITE PLAN
N.T.S.

REVISIONS							
DATE							
	1	2	3	4	5	6	7

BOOTH ERN STRAUGHAN HOTT
ENGINEERS • SURVEYORS • LAND PLANNERS
350 North Sinclair Ave.
Tavares, Florida 32778
www.besandh.com
Office: 352.343.8481
Fax: 352.343.8495
Certificate of Authorization Number: 27029

VENEZIA NORTH
RESIDENTIAL SUBDIVISION
LIFT STATION DETAILS

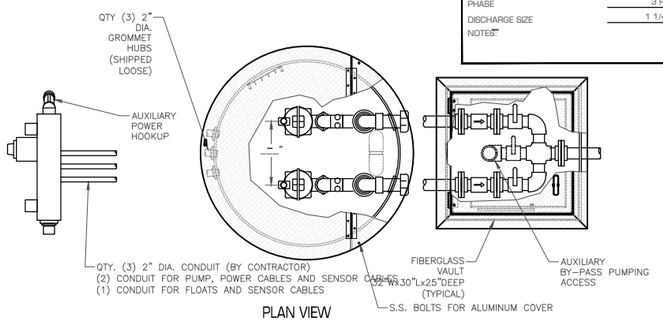
CHECKED BY:	CCH
PROJECT NO.:	051373.0000
DATE:	JUNE 2006
DRAWN BY:	LCS
DESIGNED BY:	LCS
SHT	18 OF 22

LIFT STATION #1

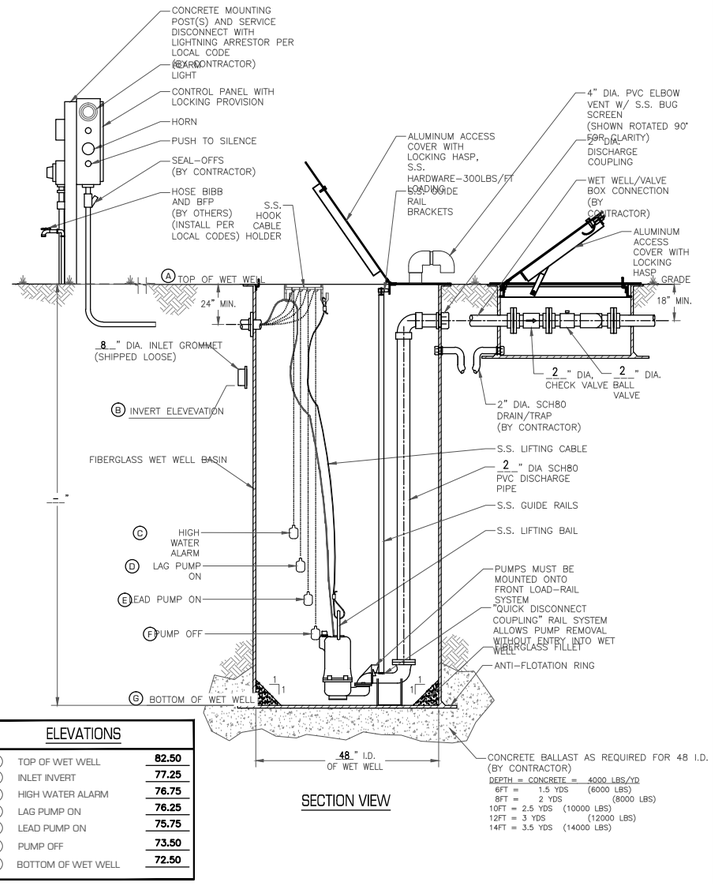
PUMP DATA TABLE

PUMP MODEL	HPG200
IMPELLER DIAMETER	5.25"
PUMP DESIGN CAPACITY	28 GPM
PUMP DESIGN TDH	97 FT
SECONDARY CAPACITY	33 GPM
SECONDARY TDH	89 FT
HORSEPOWER	2 HP
VOLTAGE	230 V
PHASE	3 PH
DISCHARGE SIZE	1 1/4"
NOTES	

WET WELL/VALVE BOX LAYOUT



PLAN VIEW



SECTION VIEW

ELEVATIONS

A	TOP OF WET WELL	82.50
B	INLET INVERT	77.25
C	HIGH WATER ALARM	76.75
D	LAG PUMP ON	76.25
E	LEAD PUMP ON	75.75
F	PUMP OFF	73.50
G	BOTTOM OF WET WELL	72.50

GENERAL NOTES

PUMPS SHALL BE OF THE SUBMERSIBLE TYPE (MANUFACTURED BY HYDROMATIC OR HOMA). EACH PUMP SHALL BE MOUNTED ON A Ø2" RAIL SYSTEM. THE RAIL SYSTEM SHALL BE SELF ENGAGING RESULTING IN A LEAKPROOF COUPLING. THE RAIL SYSTEM SHALL INCLUDE THE BASE ELBOW, DISCHARGE FLANGE ASSEMBLY, 304SS GUIDE RAILS, 316SS UPPER GUIDE BRACKET, 316SS LIFTING BAIL AND CABLE, AND A SIX-HOOK 316SS CABLE HOLDER. THE RAIL SYSTEM SHALL BE MOUNTED AND PRE-PIPED BY THE PUMP SUPPLIER.

PUMP CONSTRUCTION
THE PUMP VOLUTE, MOTOR AND SEAL HOUSING SHALL BE CONSTRUCTED OF CAST IRON. ALL EXTERNAL FASTENERS SHALL BE SERIES 300 STAINLESS STEEL. THE PUMP SHAFT SHALL BE CONSTRUCTED OF SERIES 416 STAINLESS STEEL.

IMPELLER
THE IMPELLER SHALL BE OF MULTI-VANE, SEMI-OPEN CONSTRUCTION. THE IMPELLER SHALL BE STATICALLY AND HYDRAULICALLY BALANCED.

CUTTERS
A CUTTER ASSEMBLY SHALL BE MOUNTED ON THE SUCTION SIDE OF THE PUMP WITH DIRECT DISCHARGE INTO THE PUMP IMPELLER. THE GRINDER SHALL BE CAPABLE OF GRINDING MATERIALS FOUND IN NORMAL, DOMESTIC SEWAGE. BOTH THE STATIONARY AND ROTATING CUTTERS SHALL BE CONSTRUCTED OF HARDENED STEEL.

MOTOR
THE MOTOR SHALL BE MOUNTED IN A SEALED, SUBMERSIBLE TYPE HOUSING. THE STATOR SHALL BE SECURELY HELD IN PLACE WITH A REMOVABLE END RING AND THREADED FASTENERS FOR EASE OF REMOVAL WITHOUT THE USE OF HEAT OR A PRESS. THE MOTOR WILL HAVE TWO HEAVY-DUTY BALL BEARINGS; ONE UPPER (RADIAL) AND ONE LOWER (THRUST), TO SUPPORT THE SHAFT. THE MOTOR SHALL BE EQUIPPED WITH A WINDING THERMOSTAT THAT IS WIRED TO SHUT THE MOTOR OFF IN CASE OF MOTOR OVERHEATING.

SEAL CHAMBER
THE PUMP SHALL HAVE TWO MECHANICAL SEALS, MOUNTED IN TANDEM WITH AN OIL CHAMBER BETWEEN THE SEALS. THE PUMP SHALL BE EQUIPPED WITH A SEAL LEAK DETECTION PROBE AND WARNING SYSTEM BY USING A SEAL FAILURE SENSOR INSTALLED IN THE SEAL CHAMBER.

WET WELL
THE PUMP SUPPLIER SHALL PROVIDE THE WET WELL. THIS GLASS FIBER-REINFORCED POLYESTER BASIN SHALL BE CONSTRUCTED OF A COMMERCIAL GRADE OF GLASS FIBER AND SHALL BE PROVIDED WITH FILLET AND AN ANTI-FLOTATION RING WITH A MINIMUM DIAMETER OF THREE INCHES LARGER THAN THE BASIN DIAMETER. THE RAIL SYSTEM, INTERNAL PIPING AND DISCHARGE CONNECTIONS SHALL BE PRE-INSTALLED BY THE PUMP SUPPLIER.

HATCH COVER
THE HATCH COVER SHALL BE 2/3 HINGED TO ALLOW FOR MAXIMUM ACCESS TO THE WET WELL. THE HATCH COVER SHALL BE ALUMINUM WITH STAINLESS STEEL FASTENERS, RATED FOR 300 PSF OR GREATER. THE HATCH COVER SHALL INCLUDE A SINGLE OR DUAL DOOR OF DIMENSIONS SPECIFIED BY THE PUMP MANUFACTURER FOR PROPER PUMP CLEARANCE. THE COVER SHALL BE MANUFACTURED BY US FABRICATION, OR EQUAL.

VALVE BOX
THE VALVE BOX IS FIBERGLASS WITH ALUMINUM LOCKABLE COVER. STANDARD SIZE VALVE BOX IS 32"x30"x25".

VALVES
VALVES SHALL BE SEWAGE SWING CHECK WITH CLEAN-OUT PORTS AND BRASS GATE VALVES.

FLOATS
FLOATS SHALL BE ANCHOR SCIENTIFIC ROTO-FLOATS OR EQUAL.

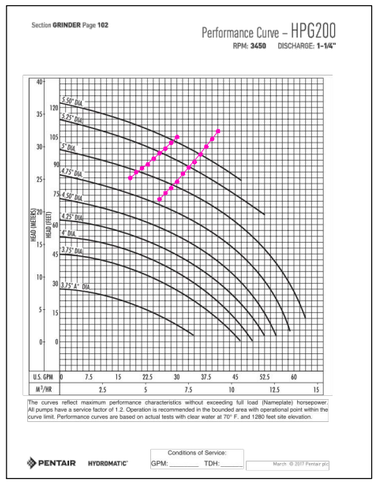
CONTROLS
THE CONTROL PANEL SHALL BE UL508 LISTED. A NEMA 3R ENCLOSURE SHALL BE PROVIDED IN 4X FIBERGLASS. THE PANEL SHALL INCLUDE AN ALTERNATING CONTROL SCHEME (DUPLEX AND ABOVE), MAIN CIRCUIT BREAKER, GENERATOR RECEPTACLE, HIGH LEVEL ALARM LIGHT AND HORN, ELAPSED TIME METERS, VOLTAGE OR PHASE MONITOR, SEAL FAILURE AND OVERLOAD SENSORS. THE LIGHTNING ARRESTOR SHALL BE PROVIDED BY CONTRACTOR.

ELECTRICAL
ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES.

SUPPLIER
PUMP SUPPLIER SHALL PROVIDE SUBMERSIBLE PUMPS, SLIDE RAIL ASSEMBLIES, FIBERGLASS BASIN AND VALVE BOX, CONTROL PANEL, FLOAT SWITCHES, ALUMINUM HATCHES AND ACCESSORIES TO INSURE PROPER OPERATIONS AND WARRANTY. THE COMPLETE PACKAGE PUMPING STATION SHALL HAVE PUMP BASES, RAIL ASSEMBLIES, AND DISCHARGE PIPING ASSEMBLED BY BARNEY'S PUMPS INC. READY FOR FIELD INSTALLATION.

PUMP PACKAGE SHALL BE SUPPLIED BY BARNEY'S PUMPS INC. IN LAKELAND (863-665-8500), CORAL SPRINGS (954-346-0669), OR JACKSONVILLE (904-260-0669), FL.

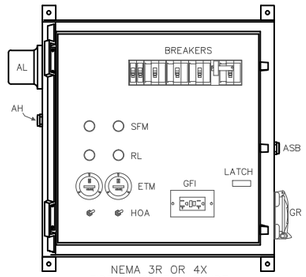
PUMP PERFORMANCE CURVE



ELECTRICAL

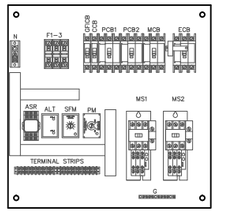
INCOMING POWER: ____V ____ Ø
(CONTRACTOR TO VERIFY)

ENCLOSURE AND DEADFRONT LAYOUT (TYPICAL)
(OUTER DOOR REMOVED)



NEMA 3R OR 4X
FIBERGLASS ENCLOSURE

BASE PLATE LAYOUT (TYPICAL)

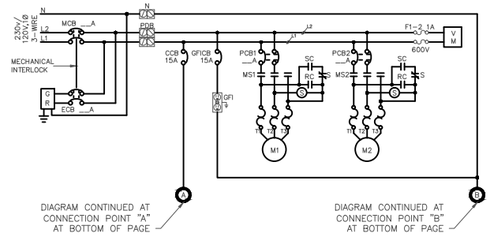


FIELD TERMINALS

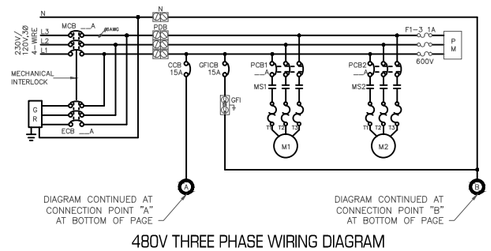
LEGEND

ABBR.	DESCRIPTION
ENC	ENCLOSURE, F.G., NEMA 4X
MCB	MAIN CIRCUIT BREAKER
ECB	EMERGENCY CIRCUIT BREAKER
N	NEUTRAL BLOCK
PDB	POWER DISTRIBUTION BLOCK
PCB1,2	PUMP CIRCUIT BREAKER
CCB	CONTROL CIRCUIT BREAKER
GFCB	GFI CIRCUIT BREAKER
MS1,2	MOTOR STARTER
OL	OVERLOAD HEATER
S	START RELAY
SC	START CAPACITOR
RC	RUN CAPACITOR
GR	GENERATOR RECEPTACLE
F_	FUSE, 1A 600V
VM	VOLTAGE MONITOR
PM	PHASE MONITOR
XFMR	TRANSFORMER
GFI	GFI RECEPTACLE
AL	ALARM LIGHT
AH	ALARM HORN
ASB	ALARM SILENCE BUTTON
ASR	ALARM SILENCE RELAY
SFM	SEAL FAIL MODULE
IL	INDICATING LIGHT, RED
ALT	ALTERNATOR
HOA	HAND OFF AUTO SWITCH
RL	RUN LIGHT, GREEN
ETM	ELAPSED TIME METER

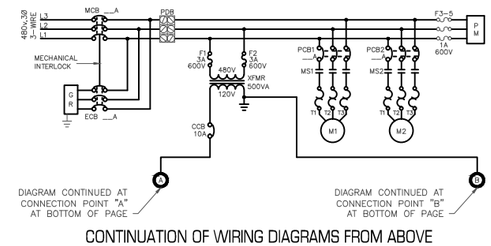
230V SINGLE PHASE WIRING DIAGRAM



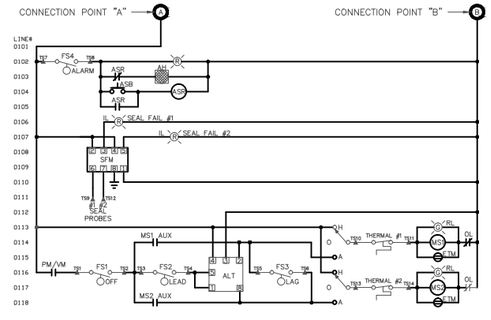
230V THREE PHASE WIRING DIAGRAM



480V THREE PHASE WIRING DIAGRAM



CONTINUATION OF WIRING DIAGRAMS FROM ABOVE



UL LISTED
ENCLOSED INDUSTRIAL CONTROL PANEL

PANEL MANUFACTURER SHALL BE UL 508 AND UL 698A LISTED.

BARNEY'S PUMPS, INC.
PO BOX 3529, LAKELAND, FL 33802
PHONE: (863) 665-8500 FAX: (863) 666-3858

PROJECT		
CUSTOMER	SALESPERSON	
TITLE: GRINDER DUPLEX FIBERGLASS LIFT STATION		REV. 0
DATE: 04/26/2018	DWG. #: WW2GFVFM	DRAWN BY: R.R.B.

Item 3.

DONALD A. GRIFFEY, FLORIDA 036799

GRIFFEY ENGINEERING, INC.
36202 East Eldorado Lake Dr.
EUSTIS, FLORIDA 32736
(352) 589-2368

Town of Howey-In-The-Hills
101 N. Palm Avenue
P.O. Box 128
Howey-In-The-Hills, FL 34737
(352) 324-2290

HOWEY-IN-THE-HILLS
DOWNTOWN SEWER

LIFT STATION 1

Date	Drawn By: DAG
	Drawing #: DWTN SEWER
	Project #: 15028
04-06-21	Scale:
03-08-21	AS NOTED

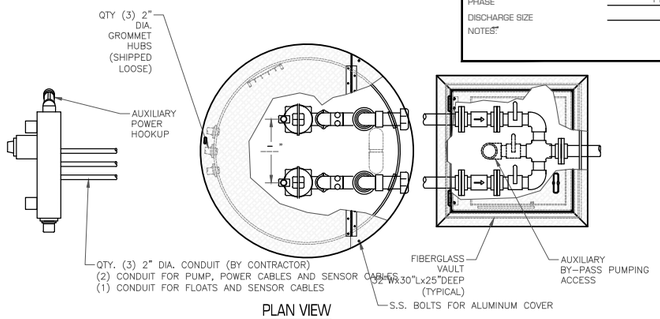
SHEET 19

LIFT STATION #2

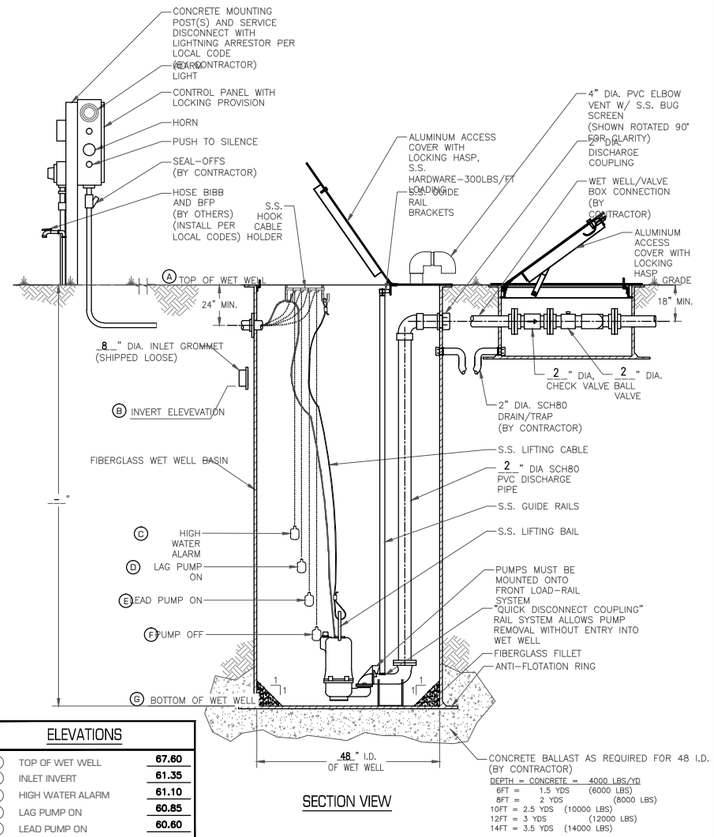
PUMP DATA TABLE

PUMP MODEL	HPGH-500
IMPELLER DIAMETER	6.25"
PUMP DESIGN CAPACITY	59 GPM
PUMP DESIGN TDH	111.7 FT
SECONDARY CAPACITY	70 GPM
SECONDARY TDH	104 FT
HORSEPOWER	5 HP
VOLTAGE	230 V
PHASE	1 PH
DISCHARGE SIZE	2"
NOTES	1

WET WELL/VALVE BOX LAYOUT



PLAN VIEW



SECTION VIEW

ELEVATIONS

A	TOP OF WET WELL	67.60
B	INLET INVERT	61.35
C	HIGH WATER ALARM	61.10
D	LAG PUMP ON	60.85
E	LEAD PUMP ON	60.60
F	PUMP OFF	58.60
G	BOTTOM OF WET WELL	57.60

GENERAL NOTES

PUMPS SHALL BE OF THE SUBMERSIBLE TYPE (MANUFACTURED BY HYDROMATIC OR HOMA). EACH PUMP SHALL BE MOUNTED ON A 02" RAIL SYSTEM. THE RAIL SYSTEM SHALL BE SELF ENGAGING RESULTING IN A LEAKPROOF COUPLING. THE RAIL SYSTEM SHALL INCLUDE THE BASE ELBOW, DISCHARGE FLANGE ASSEMBLY, 304SS GUIDE RAILS, 316SS UPPER GUIDE BRACKET, 316SS LIFTING BAIL AND CABLE, AND A SIX-HOOK 316SS CABLE HOLDER. THE RAIL SYSTEM SHALL BE MOUNTED AND PRE-PIPED BY THE PUMP SUPPLIER.

PUMP CONSTRUCTION
THE PUMP VOLUTE, MOTOR AND SEAL HOUSING SHALL BE CONSTRUCTED OF CAST IRON. ALL EXTERNAL FASTENERS SHALL BE SERIES 300 STAINLESS STEEL. THE PUMP SHAFT SHALL BE CONSTRUCTED OF SERIES 416 STAINLESS STEEL.

IMPELLER
THE IMPELLER SHALL BE OF MULTI-VANE, SEMI-OPEN CONSTRUCTION. THE IMPELLER SHALL BE STATICALLY AND HYDRAULICALLY BALANCED.

CUTTERS
A CUTTER ASSEMBLY SHALL BE MOUNTED ON THE SUCTION SIDE OF THE PUMP WITH DIRECT DISCHARGE INTO THE PUMP IMPELLER. THE GRINDER SHALL BE CAPABLE OF GRINDING MATERIALS FOUND IN NORMAL, DOMESTIC SEWAGE. BOTH THE STATIONARY AND ROTATING CUTTERS SHALL BE CONSTRUCTED OF HARDENED STEEL.

MOTOR
THE MOTOR SHALL BE MOUNTED IN A SEALED, SUBMERSIBLE TYPE HOUSING. THE STATOR SHALL BE SECURELY HELD IN PLACE WITH A REMOVABLE END RING AND THREADED FASTENERS FOR EASE OF REMOVAL WITHOUT THE USE OF HEAT OR A PRESS. THE MOTOR WILL HAVE TWO HEAVY-DUTY BALL BEARINGS; ONE UPPER (RADIAL) AND ONE LOWER (THRUST), TO SUPPORT THE SHAFT. THE MOTOR SHALL BE EQUIPPED WITH A WINDING THERMOSTAT THAT IS WIRED TO SHUT THE MOTOR OFF IN CASE OF MOTOR OVERHEATING.

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HATCH COVER
THE HATCH COVER SHALL BE 2/3 HINGED TO ALLOW FOR MAXIMUM ACCESS TO THE WET WELL. THE HATCH COVER SHALL BE ALUMINUM WITH STAINLESS STEEL FASTENERS, RATED FOR 300 PSF OR GREATER. THE HATCH COVER SHALL INCLUDE A SINGLE OR DUAL DOOR OF DIMENSIONS SPECIFIED BY THE PUMP MANUFACTURER FOR PROPER PUMP CLEARANCE. THE COVER SHALL BE MANUFACTURED BY US FABRICATION, OR EQUAL.

VALVE BOX
THE VALVE BOX IS FIBERGLASS WITH ALUMINUM LOCKABLE COVER. STANDARD SIZE VALVE BOX IS 32"x30"x25".

VALVES
VALVES SHALL BE SEWAGE SWING CHECK WITH CLEAN-OUT PORTS AND BRASS GATE VALVES.

FLOATS
FLOATS SHALL BE ANCHOR SCIENTIFIC ROTO-FLOATS OR EQUAL.

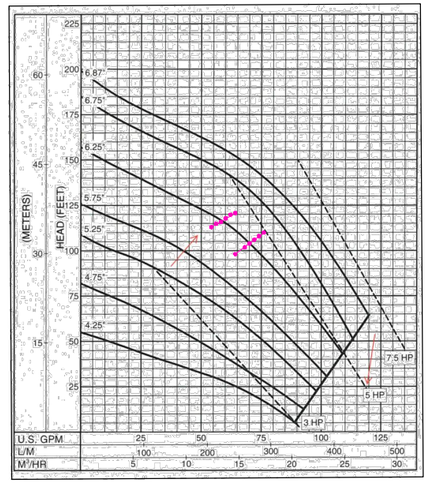
CONTROLS
THE CONTROL PANEL SHALL BE UL508 LISTED. A NEMA 3R ENCLOSURE SHALL BE PROVIDED IN 4X FIBERGLASS. THE PANEL SHALL INCLUDE AN ALTERNATING CONTROL SCHEME (DUPLEX AND ABOVE), MAIN CIRCUIT BREAKER, GENERATOR RECEPTACLE, HIGH LEVEL ALARM LIGHT AND HORN, ELAPSED TIME METERS, VOLTAGE OR PHASE MONITOR, SEAL FAILURE AND OVERLOAD SENSORS. THE LIGHTNING ARRESTOR SHALL BE PROVIDED BY CONTRACTOR.

ELECTRICAL
ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES.

SUPPLIER
PUMP SUPPLIER SHALL PROVIDE SUBMERSIBLE PUMPS, SLIDE RAIL ASSEMBLIES, FIBERGLASS BASIN AND VALVE BOX, CONTROL PANEL, FLOAT SWITCHES, ALUMINUM HATCHES AND ACCESSORIES TO INSURE PROPER OPERATIONS AND WARRANTY. THE COMPLETE PACKAGE PUMPING STATION SHALL HAVE PUMP BASES, RAIL ASSEMBLIES, AND DISCHARGE PIPING ASSEMBLED BY BARNEY'S PUMPS INC. READY FOR FIELD INSTALLATION.

PUMP PACKAGE SHALL BE SUPPLIED BY BARNEY'S PUMPS INC. IN LAKELAND (863-665-8500), CORAL SPRINGS (954-346-0669), OR JACKSONVILLE (904-260-0669), FL.

PUMP PERFORMANCE CURVE

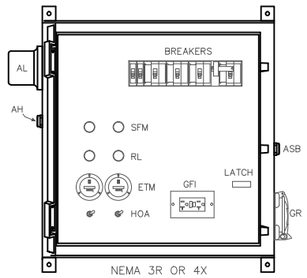


ELECTRICAL

INCOMING POWER: _____V _____ø
(CONTRACTOR TO VERIFY)

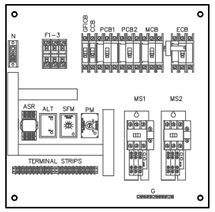
ENCLOSURE AND DEADFRONT LAYOUT (TYPICAL)

(OUTER DOOR REMOVED)

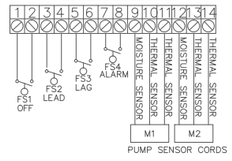


NEMA 3R OR 4X
FIBERGLASS ENCLOSURE

BASE PLATE LAYOUT (TYPICAL)



FIELD TERMINALS

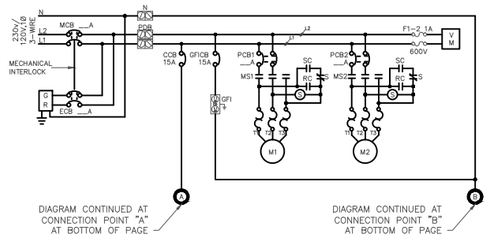


PUMP SENSOR CORDS

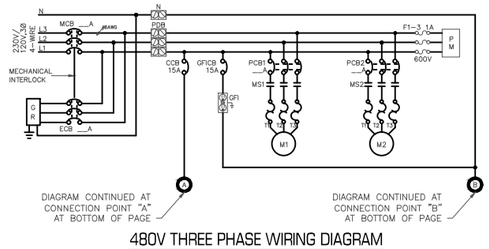
LEGEND

ABBR.	DESCRIPTION
ENC	ENCLOSURE, F.G., NEMA 4X
MCB	MAIN CIRCUIT BREAKER
ECB	EMERGENCY CIRCUIT BREAKER
N	NEUTRAL BLOCK
PDB	POWER DISTRIBUTION BLOCK
PCB1,2	PUMP CIRCUIT BREAKER
CCB	CONTROL CIRCUIT BREAKER
GFICB	GFI CIRCUIT BREAKER
MS1,2	MOTOR STARTER
OL	OVERLOAD HEATER
S	START RELAY
SC	START CAPACITOR
RC	RUN CAPACITOR
GR	GENERATOR RECEPTACLE
F1	FUSE, 1A 600V
VM	VOLTAGE MONITOR
PM	PHASE MONITOR
XFMR	TRANSFORMER
GFI	GFI RECEPTACLE
AL	ALARM LIGHT
AH	ALARM HORN
ASB	ALARM SILENCE BUTTON
ASR	ALARM SILENCE RELAY
SFM	SEAL FAIL MODULE
RL	INDICATING LIGHT, RED
ALT	ALTERNATOR
HOA	HAND OFF AUTO SWITCH
RL	RUN LIGHT, GREEN
ETM	ELAPSED TIME METER

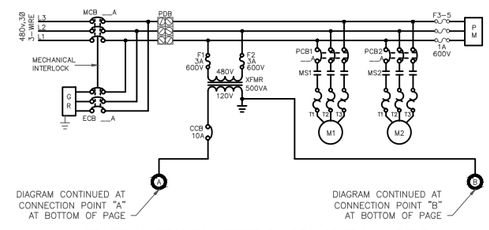
230V SINGLE PHASE WIRING DIAGRAM



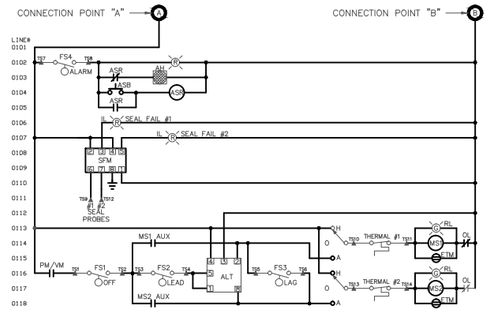
230V THREE PHASE WIRING DIAGRAM



480V THREE PHASE WIRING DIAGRAM



CONTINUATION OF WIRING DIAGRAMS FROM ABOVE



UL LISTED
ENCLOSED INDUSTRIAL CONTROL PANEL

PANEL MANUFACTURER SHALL BE UL 508 AND UL 698A LISTED.

BARNEY'S PUMPS, INC.
PO BOX 3529, LAKELAND, FL 33802
PHONE: (863) 665-8500 FAX: (863) 666-3858

PROJECT		
CUSTOMER	SALESPERSON	
TITLE: GRINDER DUPLEX FIBERGLASS LIFT STATION		REV. 0
DATE: 04/26/2018	DWG. # WW2GFVFM	DRAWN BY: R.R.B.

DONALD A. GRIFFEY
FLORIDA 036799

GRIFFEY ENGINEERING, INC.
36202 East Eldorado Lake Dr.
EUSTIS, FLORIDA 32736
(352) 589-2368

Town of Howey-In-The-Hills
101 N. Palm Avenue
P.O. Box 128
Howey-In-The-Hills, FL 34737
(352) 324-2290

HOWEY-IN-THE-HILLS
DOWNTOWN SEWER

LIFT STATION 2

Date	Drawn By: DAG
	Drawing #: DWTN SEWER
	Project #: 15028
04-06-21	
2 03-19-21	Scale:
03-08-21	

TOWN OF HOWEY-IN-THE-HILLS
APPLICATION FOR BOARDS/COMMITTEES

Please Print Legibly

Name: ALAN HAYES Date: 8.16.22

Home Mailing Address: 111 ISLAND DR HOWEY-in-the-Hills. FL 34737

Home Physical Address: same

Florida Drivers License or ID:

Phone Number: 352.324.2000 E-mail Address: HAYESINHOWEY@gmail.com

Education: A.A. degree and 3 yrs toward B.S.

Business (Name & Type): retired

Business Address:

Business Phone: Position:

Training or experience related to activities of boards or committees to which appointment is sought:

Lic Florida Contractor, extensive residential construction experience

Professional Organizations: FACE (code enforcement) FSPA. (Florida Pool + Spa)

Have you served on a Town Board(s)/Committee(s) in the past? ___ Yes X No

Name of Boards/Committee(s):	**Dates Served:**

Please check Board(s)/Committee(s) that interest you.

___ Cemetery Board
___ Historic Preservation Board
___ Library Board
___ Parks & Recreation Board
X Planning & Zoning Board
___ Police Pension Board
___ Utility Advisory Board
___ Visioning Committee
X Other development review
X Other advisory

(or anywhere I would be helpful.)

I will attend meetings in accordance with the adopted policies of the Town of Howey-in-the-Hills. If at any time my business or professional interests conflict with the interests of this Board or Committee, I will not participate in such deliberations. References may be secured from the following individuals:

	Name	Address	Phone Number
1	Kandace Pourbaix	12526 S. Putney Ct. Leesburg	786.236.7808
2	Amy Bisbo	400 S. Palm Ave Howey	352.636.5032
3	Linda Fulford	2395 Rollins Ave Clermont	407.394.4330

Signature of Applicant

In completing this application, you are acknowledging that personal information you provide is subject to Florida's Public Records Policy as stated in Chapter 119, Florida Statutes, and Article I, Section 24 of the State Constitution.

Additional information may be attached to this form.

FOR TOWN HALL USE

Received by Date

Reviewed by Board

Appointed by Town Council Date

Planning & Zoning Board Meeting

September 22, 2022 at 6:00 PM

Howey-in the-Hills Town Hall
101 N. Palm Ave.,
Howey-in-the-Hills, FL 34737

MINUTES

CALL TO ORDER
ROLL CALL

BOARD MEMBERS PRESENT
Chair Tina St. Clair | Vice-Chair Ron Francis III | Board Member Frances Wagler | Board Member Richard Mulvany | Board Member Shawn Johnson

STAFF PRESENT
Sean O'Keefe, Town Administrator | John Brock, Town Clerk | Tom Harowski, Town Planner | Jack Pavlik, Building Services Clerk

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 August 25, 2022, Planning and Zoning Board Meeting minutes.

Motion made by Vice-Chair Francis III to approve of the Consent Agenda; seconded by Board Member Mulvany. Motion approved unanimously by voice vote.

Voting
Yea: Chair St. Clair, Vice-Chair Francis III, Board Member Wagler, Board Member Mulvany, Board Member Johnson
Nay: None

PUBLIC HEARING

2. Consideration and Recommendation: **469 Avila Place Pool Variance**

   Tina St. Clair, Board Chairperson, asked Tom Harowski, Town Planner, to introduce and explain this item. Mr. Harowski explained and summarized his staff report that he had submitted to the board. Mr. Harowski stated that, to meet the standard for a variance, there was supposed to be something unique about the property, some condition that makes it impossible to meet the code. Mr. Harowski suggested that, if the Planning and Zoning board were to recommend the variance, they should do so conditionally,

with the conditions of requiring any affected trees be moved or replaced to another section of the property and that they cannot change the elevation of the rear 5 feet of the property (which is a drainage easement).

Peter and Janice DeJoseph, applicants and property owners of 469 Avila Place, spoke on their own behalf. Mr. DeJoseph stated that they were under the impression that the rear easement was only 5 feet when they purchased the property. Mr. DeJoseph stated that the pool could not come any closer to the house, and if they are not granted an easement, the width of the pool would only be 5 feet. Mr. DeJoseph also stated that the pool plans call for a small stem wall at the edge of the pool deck.

Tina St. Clair, Board Chairperson, opened Public Comment for this item only.

Peter Tuite, 300 E Croton Way – Mr. Tuite thinks that the lots in Talichet are too small. Mr. Tuite also asked if the pool could be located in the side yard of the property.

Board Chair, Tina St. Clair, closed Public Comment.

Vice-Chair Francis asked the applicant about a cut out area behind the patio which was about 1 foot in size. Vice-Chair Francis then asked the applicant if they were to eliminate that area, could the pool be moved 1 foot closer to the house. Mr. DeJoseph stated that he would check with his pool company.

Motion made by Shawn Johnson to recommend granting the full four feet variance as submitted; there was no second for this motion. Motion failed due to not receiving a second.

Motion made by Vice-Chair Francis to recommend a variance of 3 feet to allow the pool and pool deck to go within 7 feet of the rear property line and also requiring any affected trees to be moved or replaced to another section of the property and requiring the pool deck to have a stem wall to eliminate effects on the rear drainage easement; seconded by Board Member Mulvany. Motion was approved by a roll-call vote.

Voting
Yea: Chair St. Clair, Vice-Chair Francis III, Board Member Mulvany
Nay: Board Member Wagler, Board Member Johnson

3. Consideration and Recommendation: **Ordinance 2022-019 - Reserve/Hillside Groves Development - PUD Amendment Submission**

Tina St. Clair, Board Chairperson, asked Tom Harowski, Town Planner, to introduce and explain this item. Mr. Harowski explained that the amendment to an already approved development would primarily be to the road network. The largest change in the project would be the collector road that runs through the project, from SR 19 to Number Two Rd, and it would change from a four-lane road to a two-lane road.

Appearing for the development team was Rick Welch with Connelly & Wicker (the Civil Engineering team for the project) and Lane Register with Lennar. Mr. Welch stated that, by changing the collector road through the project from a 4-lane to 2-lane road, it would lower the average running speed of people driving through the neighborhood and would be safer.

Town Clerk, John Brock, read out loud a written comment that was submitted to the board. The written comment was from Rhonda Ringer, MD, and she was not in favor of the development.

Tina St. Clair, Board Chairperson, opened Public Comment for this item only.

Marie Gallelli, 1104 N Tangerine Ave – Town Councilor Gallelli asked who determines the speed limit in a development. Town Councilor Gallelli also asked if there would be turning lanes going from the collector road to Number Two Road.

Teresa Pileggi, 1115 N Lakeshore Blvd. – Mrs. Pileggi had questions about how this development would affect the Town's water and wastewater usage.

Peter Tuite, 300 E Croton Way – Mr. Tuite had questions about how this development would affect the Town's Consumptive Use Permit (CUP).

Tim Everline, 1012 N Lakeshore Blvd – Mr. Everline was not in favor of this development.

Gerald Roque, 505 Mission Lane – Mr. Roque wanted the Town to have a laser pointer to use when maps and presentations were utilized.

Daren Surr, 403 E Camelia Way – Mr. Surr was not in favor of this project and 700 more homes coming into the Town.

Board Chair, Tina St. Clair, closed Public Comment.

Motion made by Board Member Mulvany to recommend approval of Ordinance 2022-019 and the Reserve/Hillside Groves PUD Developer's Agreement; seconded by Vice-Chair Francis III. Motion approved unanimously by roll-call vote.

Voting
Yea: Chair St. Clair, Vice-Chair Francis III, Board Member Wagler, Board Member Mulvany, Board Member Johnson
Nay: None

OLD BUSINESS

None

NEW BUSINESS

4. Consideration and Recommendation: **Howey Self Storage Final Site Plan Submission**

Tina St. Clair, Board Chairperson, asked Tom Harowski, Town Planner, to introduce and explain this item. Mr. Harowski explained that the Howey Self Storage project is part of the original Reserve project approved in 2007. Mr. Harowski summarized his staff report that he had submitted to the board and explained the aesthetics of the project.

Randy June, of June Engineering Consultants, spoke on behalf of the application and project.

Tina St. Clair, Board Chairperson, opened Public Comment for this item only.

Marie Gallelli, 1104 N Tangerine Ave – Town Councilor Gallelli asked for a clarification from Mr. Griffey's engineering report.

Seeing no further public comment, Board Chair, Tina St. Clair, closed Public Comment.

Motion made by Board Member Johnson to recommend approval of the Howey Self Storage Final Site Plan Submission; seconded by Board Member Mulvany. Motion approved unanimously by roll-call vote.

Voting
Yea: Chair St. Clair, Vice-Chair Francis III, Board Member Wagler, Board Member Mulvany, Board Member Johnson
Nay: None

5. Consideration and Recommendation: **Applicants for Planning & Zoning Board**

Tina St. Clair, Board Chairperson, asked Planning and Zoning Board Applicant, Allan Hayes, of 111 Island Drive to speak on his own behalf. Mr. Hayes stated that he had lived in the Town since 2003. Mr. Hayes stated that he wanted to be on the board, because he sees that it is the Planning & Zoning Board Members' responsibility to be the stewards for the Town. Mr. Hayes stated that he doesn't think Howey-in-the-Hills needs people like Lennar, Ryan Homes, and other developers. Mr. Hayes stated that he would like to see approval of one acre or maybe half acre lots. Mr. Hayes stated he would like to preserve and protect what was here before he came to the Town.

Tina St. Clair, Board Chairperson, opened Public Comment for this item. There was no public comment and Public Comment was closed.

Motion made by Vice-Chair Francis III to recommend approval of Alan Hayes' application to the Planning and Zoning Board; seconded by Board Member Mulvany. Motion approved unanimously by voice vote.

Voting
Yea: Chair St. Clair, Vice-Chair Francis III, Board Member Wagler, Board Member Mulvany, Board Member Johnson
Nay: None

Applicant Ellen Yarckin was not present at the meeting.

Motion made by Chair St. Clair to table the agenda item of Ellen Yarckin's recommendation to the board until the October meeting; seconded by Board Member Mulvany. Motion approved unanimously by voice vote.

PUBLIC 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.

Kathy Lieffort, 900 N Lakeshore Blvd – Mrs. Lieffort had questions about the Town Planner, his job description, and how he was hired.

ADJOURNMENT

There being no further business to discuss, a motion was made by Frances O'Keefe Wagler to adjourn the meeting; Shawn Johnson seconded the motion. Motion was approved unanimously by voice vote.

The Meeting adjourned at 7:40 p.m. | **Attendees: 55**

_____
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 Town Council
CC: S. O'Keefe, Town Manager; J. Brock, Town Clerk
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: Howey Self Storage Final Site Plan
DATE: October 3, 2022

The applicant has requested final site plan approval for the Howey Self Storage project located on SR 19 just south of the intersection With Florida Avenue. The project is located within The Reserve development and included in the originally approved plans and the amended plans approved by Town Council in late 2021. The project has gone through a series of reviews with Development Review Committee with the most recent review being conducted on September 8, 2022. The Planning Board reviewed the project at their September 22, 2022, regular meeting, and recommended approval of the final site plan to Town Council.

The project consists of 96,136 square feet of enclosed storage space and a rental office of 1,500 square feet. This project falls within the project size approved with the original development agreement. The site plan package consisting of 23 pages is attached for review. The key elements of the proposed project include the following:

- The property orientation has a relatively narrow frontage on SR 19 at about 300 feet with the majority of the storage units extending back from SR 19 in a long, narrow parcel.

- The project will be developed in two phases with the initial phase including about 55,000 square feet of storage area and the 1,500 square foot office. The balance of the storage area is included in Phase 2.

- Access is provided from a street along the south side of the property. This access represents a change from the original design which had access directly from SR 19. The revised access was approved by the Town in the 2021 amendment package.

- The project will provide a fully landscaped buffer along SR 19 as well as landscaping within the parking area fronting on SR 19. A landscaped buffer is provided along the south side of the project along with a wall that will screen the storage area from public view. (See pages 18 – 21 for the planting plans.)

- Landscaping is also provided along the western side of the project, and the balance of the project area along the north side is buffered by preserved natural vegetation, a stormwater retention area and a wetland extending towards Florida Avenue.

- Per the development agreement, the building façade facing SR 19 will use a Spanish design motif as shown page 5 of the plan set.

- The project will provide on-site stormwater retention and the project will connect to Town water and sewer.

- Traffic generation from the project is relatively low with the average daily trips projected at 145 total trips with the AM and PM peak trips estimated at 19 trips each. This level of traffic generation is approximately the same as 14 single-family homes. Capacity is available on the road network.

In recommending the project to Town Council the Planning Board took note of several conditions:

- The applicant will provide architectural details implementing the design as shown in site plan set when application is made for a building permit.

- Prior to issuance of a building permit the applicant will provide copies of other required permits including SJRWMD for drainage, FDEP for water and sewer connections, FDOT for SR 19 road improvements, and an NPDES permit for erosion control.

- As requested by the Town Engineer the project will provide a cross-walk on the entry street intersection with SR-19 meeting FDOT standard design.

- A landscape note will be added to the plan prohibiting the trimming of shade trees in a manner that conflicts with the function of these trees. (No trimming oak trees to look like topiaries.)

- The project will use an onsite well for landscape irrigation.

- The project contains a large camphor tree according to the tree survey. This tree is to be removed in accordance with the Town code once the project landscape architect confirms the tree type.

june engineering
consultants, inc.

August 29, 2022

John Brock, Town Clerk
Planning Department
Town of Howey in the Hills
101 N. Palm Avenue
Howey-in-the-Hills, FL 34737

RE: HOWEY SELF STORAGE

Mr. Brock,

Please accept this letter and attachments as our response to the DRC comments dated May 4, 2022. We have addressed each comment below as they appeared in the DRC memorandum.

Planning Considerations

1. Please provide a survey as a separate page. It was very difficult to review the survey when it is used as a base for other pages.

RESPONSE: The survey has been added as a separate page on sheet 5b.

2. Please make sure the plans include the following required site plan data. Dimensions of all buildings, parking calculations, stop signs and stop bars, etc. Review Section 4.03.18 to check that all applicable items have been included.

RESPONSE: Parking calculations and additional building dimensions have been added to sheet 3. Stop bars & signs have been added and called out on sheets 4 and 6.

3. The plan set shows intersection improvements on SR 19 at the Florida Avenue/Venezia Boulevard intersection. Are these improvements part of the proposed project? Is FDOT requiring these improvements?

RESPONSE: The only improvement near the Florida Avenue intersection is our connection to the existing water main. We have toned down the existing striping, piping, etc. to show more clearly.

4. The plan set shows a building concept that follows the design component of the development agreement. Verification of the building design details will be done with the application for the building permit. The applicant needs to careful to include the detailed design elements with the building construction plans.

RESPONSE: Details of the proposed building design will be submitted separately with the building permit.

P.O. Box 770609
Winter Garden, FL. 34777-0609
Ph: (407) 905-8180 Fax (407) 905-6232

5. The construction of the sidewalk on SR-19 is required by the project. Section E on page 4 covers the sidewalk area but does not show the sidewalk as part of the cross-section. Please update the cross-section to show the sidewalk. (This same cross-section appears with the landscape plans and needs to be corrected in all locations.)
RESPONSE: The sidewalk has been added to section E on sheet 4.

6. The sign needs to be setback at least 10 feet from the south property line. Landscaping should be included around the base of the sign.
RESPONSE: The sign has been located 15 feet from the south property line and a small hedge placed around the perimeter of the sign has been added.

7. It looks like one of the pole-mounted lights at the front of the project is located in the driveway entrance. Please move the pole to a safer location.
RESPONSE: Pole-mounted light has been relocated out of the drive lane..

Landscaping and Irrigation Considerations
1. The landscape plans need to be sealed by a qualified landscape architect unless the applicant can document an exception to this requirement.
RESPONSE: Plans signed by our Landscape Architect.

2. Buffer requirements per code are a minimum of 15-feet when adjacent to a street and 10-feet when adjacent to an interior property line. The Boyer Singleton Plan called for a 10-foot buffer on the south side of the property, and the Boyer Singleton plan will be applied. The most recent plans have eliminated the planting in the buffer, and the plantings need to be restored consistent with the buffer content requirements. Section A on page 4 shows trees, but these are not shown on the landscape plans. As shown the trees are too close to the wall and need to be moved outboard.
RESPONSE: Landscaping has been modified to show the landscaping along the south side of the property and the wall has been relocated to allow the planting of the trees.

3. The applicant should dimension the front buffer and document the specified width of the buffer on SR-19. The application of the 75-foot setback from the SR-19 centerline was based on increased landscaping, and this consideration should be included in the front buffer analysis. The applicant needs to document the plant content in the front buffer meets the code requirements.
RESPONSE: Buffer along SR19 is 22 feet from the property line and 72.5' from the centerline.

4. The SR 19 buffer should present more of a free-flow layout. Mass some of the shrubs into planting beds and place some of the understory trees into groupings.
RESPONSE: See revised landscape plans.

5. The swales in the front buffer and the side buffer are negatively impacting the landscape design, the swales need to be removed.

RESPONSE: Swales have been relocated as to not negatively impact the landscape design.

6. The code for non-residential buffers requires one canopy tree, two understory trees and 30 linear feet of shrubs per each 50 linear feet of buffer. The planting plan needs to be amended to conform to these requirements.
RESPONSE: See revised Landscape plan.

7. Landscaping for the parking area with the office needs further modification. The landscaped islands require ground cover and shrubs per 7.05.01 B. Just showing mulch is insufficient.
RESPONSE: See revised Landscape plan.

8. The Town has recently adopted revised irrigation standards, and the plan is being reviewed for compliance with these standards.
RESPONSE: See revised Landscape plan.

9. Is there another feasible water source for irrigation other than potable water?
RESPONSE: We will look into using a well on site.

10. Earlier reviews noted at least one large tree (30-inch camphor) near the perimeter of the retention area. Is this tree still present on site? Do the plans show preservation of the tree?
RESPONSE: The 30 inch Camphor has been shown on the revised plans. This tree will be saved. It is within the upland buffer and is not proposed to be removed.

Engineering Comments
1. The plan needs to incorporate the town's new standard details.
RESPONSE: The plan detail sheets have been revised with the most recent Town details.

2. The proposed access drive from the site is too close to SR 19. It needs to be moved further away from the right-of-way/property line to allow for vehicle movement into and out of the site as well as vehicle queuing on the Hillside Groves (Reserve) road connecting to SR 19.
RESPONSE: As per our discussion we have shifted the proposed entrance.

3. Provide a vehicle turning evaluation of the project. Demonstrate for the entrance and the internal areas of the site, that it can be successfully navigated by a passenger vehicle pulling and trailer and a fire truck.
RESPONSE: We have added sheet 5a to show the truck turning radii.

4. Will this project construct the road segment connecting to SR 19? If so, it needs to conform to the attached concept plan for SR 19 improvements.
RESPONSE: Plans have been revised to show our entrance to be consistent with the over concept plan.

5. Remove the drainage swale from the landscape buffer.
RESPONSE: The drainage swale has been removed from the landscape buffer.

6. Provide crosswalk striping between the onsite curb ramps.
RESPONSE: Proposed crosswalk striping has been called out on sheet 3.

7. Field-locate the existing 4" water main from your project's SW corner to the east side of Florida Avenue and add it into your offsite improvement plan. Depending on its location, the town may choose to keep it operational. If it is not needed, the unused portion should be removed, and not abandoned in place.
RESPONSE: The existing 4" water main has been shown on sheet 6 of the revised plans. We have shown this main to remain.

8. Show on the plan how and where the exiting 4" will tie in to the new 12". It should be west of the new road connection.
RESPONSE: The connection to the existing 4" WM has been show west of our proposed new driveway access.

9. Update the Utility Connection Detail on sheet 6 to add the ex. 4" WM, correct the new WM size, remove the FM connection note.
RESPONSE: The FM connection note has been removed.

10. Identify on the plan the water main jumper locations and BacT testing points. Add the town's temporary jumper detail PW-5A.
RESPONSE: Sample points SP-1, SP-2 and SP-3 are shown on sheet 6. The temporary jumper detail is shown on sheet 9.

We hope that all of your comments have been addressed and will allow for your approval. Please let us know if you have any additional comments or questions. Thank you.

Sincerely,

Jeffrey A Sedloff

Jeffrey A. Sedloff, P.E.
JUNE ENGINEERING CONSULTANTS, INC.

CONSTRUCTION PLANS

FOR

Howey Self Storage

S.R. 19
HOWEY IN THE HILLS, FLORIDA

LAND DESCRIPTION (EAGLES LANDING AT OCOEE, INC. PARCEL)(VILLAGE 4 OF THE RESERVE AT HOWEY IN THE HILLS)

COMMENCE AT THE EAST 1/4 CORNER OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY FLORIDA; THENCE RUN N89°21'35"W ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF SAID SECTION 35, 1487.79 FEET TO A POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 19; THENCE RUN N52°07'27"E ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 673.75 FEET TO THE POINT OF BEGINNING; THENCE RUN N37°53'02"W, 1008.88 FEET; THENCE RUN N00°35'47"E, 116.78 FEET TO A POINT ON THE NORTH LINE OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SAID SECTION 35; THENCE RUN S89°24'13"E ALONG SAID NORTH LINE, 270.08 FEET TO A POINT ON THE WEST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35; THENCE RUN N00°35'58"E ALONG SAID WEST LINE, 256.12 FEET TO A POINT ON THE SOUTH LINE OF THE RESIDENCE OF DON WHITE; THENCE RUN S89°24'13"E ALONG SAID SOUTH LINE, 418.17 FEET; THENCE RUN S00°35'47"W, 709.10 FEET; THENCE RUN S37°52'33"E, 317.47 FEET TO A POINT ON SAID NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 19; THENCE RUN S52°07'27"W ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 329.54 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 11.978 ACRES MORE OR LESS.

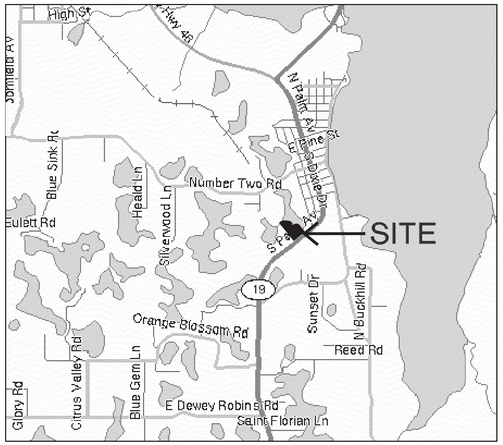
LAND DESCRIPTION (HOWEY IN THE HILLS, LTD. PARCEL)

HOWEY FROM E 1/4 COR OF SEC 35-20-25 RUN N 89-21-35 W 1487.79 FT TO NW'LY R/W LINE OF SR 19, N 52-07-27 E ALONG SAID NW'LY R/W LINE 1003.29 FT FOR POB, RUN N 37-52-33 W 317.47 FT, N 0-35-47 E 709.10 FT, S 89-24-13 E TO NW COR OF LOT 1 BLK D-14 OF PALM GARDENS SUB, SE'LY ALONG SAID W'LY LINE OF BLK D-14 OF PALM GARDENS SUB TO NW'LY LINE OF SR 19, SW'LY ALONG SAID R/W LINE TO POB ORB 3003 PG 1362 ORB 3446 PG 103

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 11.00 ACRES MORE OR LESS.

DEVELOPER:	HOWEY SELF STORAGE C/O P.O. BOX 770609 WINTER GARDEN, FL. 34777-0609	(407) 905-8180
ENGINEER:	JUNE ENGINEERING CONSULTANTS P.O. BOX 770609 WINTER GARDEN, FL. 34777-0609	(407) 905-8180
SURVEYOR:	BISHMAN SURVEYING & MAPPING 13610 GRANVILLE AVENUE CLERMONT, FL. 34711	(407) 905-8877
GEOTECHNICAL ENGINEER:	YOVAISH ENGINEERING SCIENCES, INC. 953 SUNSHINE LANE ALTAMONTE SPRINGS, FL. 32714	(407) 774-9383
ENVIRONMENTAL CONSULTANT:	BIO-TECH CONSULTING, INC. 2002 EAST ROBINSON STREET ORLANDO, FL. 32803	(407) 894-5969

UTILITIES	
Water	Town of Howey in the Hills
Sewer	Town of Howey in the Hills
Telephone	Centurylink
Electric	Duke Energy



Location Map

INDEX OF SHEETS	
SHEET TITLE	No.
Cover Sheet	1
Site Plan – Overall	2
Site Plan – Utilities	3
Site Plan – Paving & Drainage	4
Design Requirements	4a
SWPPP	5
Truck Turn Radius Plan	5a
Survey – Boundary & Topo	5b
Offsite Improvements	6
FDOT Details	7
Standard Details	8-9
Lift Station Detail Sheet	10
Landscape Plan	L-1
Irrigation Plan	I-1
Photometric Plan	P-1

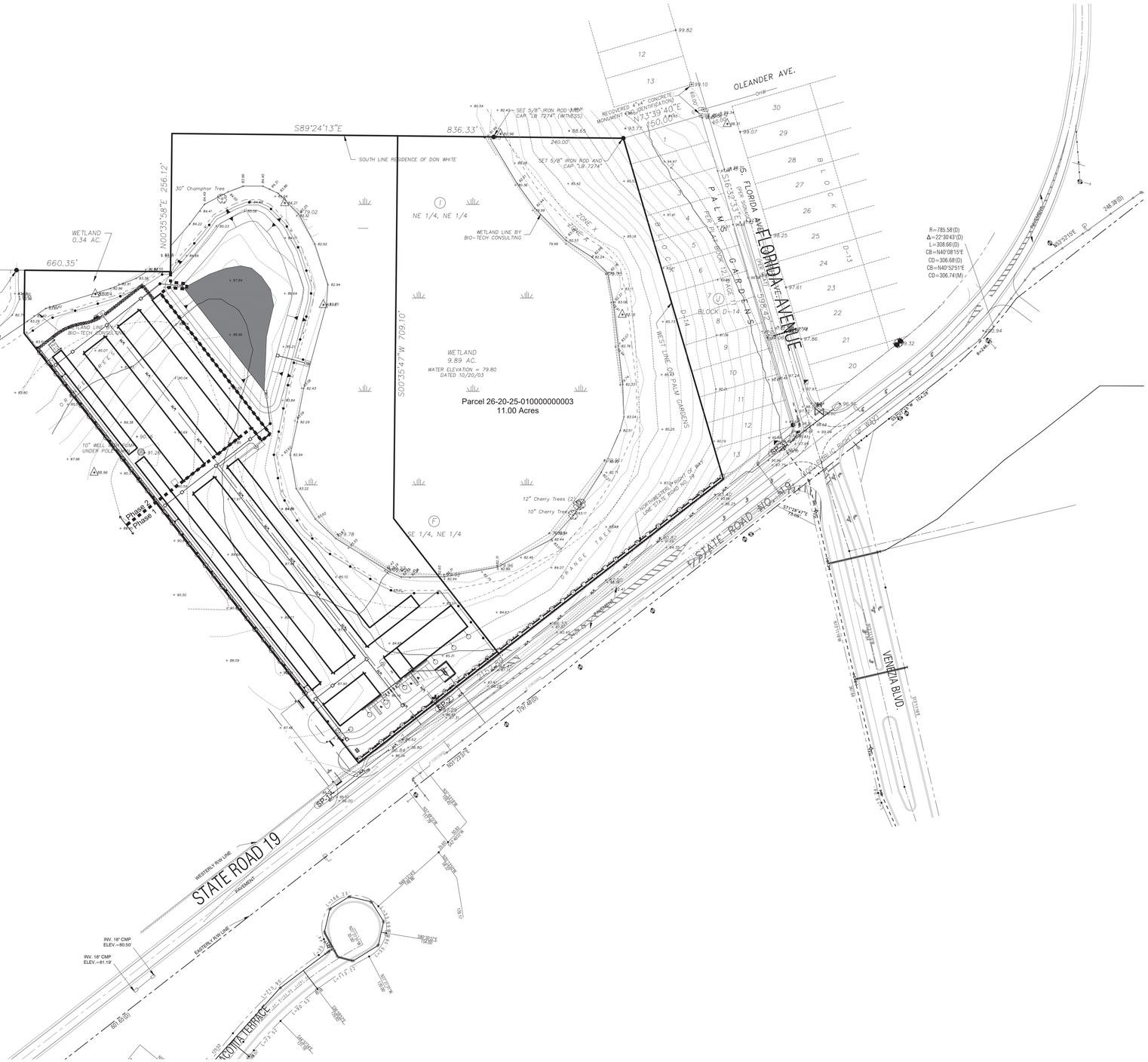
GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE TOWN OF HOWEY-IN-THE HILLS STANDARDS AND SPECIFICATIONS AND TO THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MOST RECENT EDITIONS.
2. ALL DISTURBED AREAS SHALL BE GRASSED UPON COMPLETION OF CONSTRUCTION.
3. ALL LANDSCAPING SHALL CONFORM TO THE TOWN OF HOWEY-IN-THE HILLS LANDSCAPE CODE, MOST RECENT ADDITION.
4. ALL PROPOSED GRADES SHOWN ARE FINISHED GRADES.
5. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE OF THE SITE TO THE SPILLWAYS AS INDICATED BY GRADES AND FLOW ARROWS.
6. UTILITIES SHOWN WERE LOCATED FROM BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION ALL UTILITY COMPANIES AND FOR THE LOCATION AND PROTECTION OF ALL UTILITIES THAT MAY EXIST.
7. EXISTING ZONING OF THE SUBJECT SITE IS PCD.
8. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE EROSION AND SEDIMENT CONTROL THROUGHOUT THE CONSTRUCTION PHASE WHICH SHALL INCLUDE, BUT NOT LIMITED TO THE PLACEMENT OF SILT FENCES, STACKED HAY BALES OR OTHER SIMILAR STRUCTURES ALONG THE PERIMETER OF THE SITE. THIS WORK SHALL CONFORM TO THE REQUIREMENTS OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT AND THE FLORIDA DEPARTMENT OF TRANSPORTATION AS OUTLINED IN F.D.O.T. STANDARD INDEX #102 & CITY CODE. THE CONTRACTOR SHALL PROVIDE AN EROSION PROTECTION PLAN, PRIOR TO PRE-CONSTRUCTION MEETING.
9. REMOVE ALL STRIPPINGS AND UNCLASSIFIED MATERIALS OFFSITE AND DISPOSE OF IN LEGAL MANNER.
10. FILL TO BE PLACED AND COMPACTED TO A MINIMUM 95% MAXIMUM DENSITY (PER AASHTO T-180)
11. JUNE ENGINEERING CONSULTANTS, INC. SHALL BE NOTIFIED IMMEDIATELY OF ANY PROBLEMS REQUIRING DEVIATION FROM THESE PLANS AND SPECIFICATIONS.
12. ALL PAVEMENT SHALL BE GRADED TO OBTAIN A MINIMUM GRADE OF 0.50% AND SHALL DRAIN POSITIVELY TO ALL INLETS OR SPILLWAYS.
13. CONTRACTOR SHALL PROVIDE AND COORDINATE PLACEMENT OF ANY REQUIRED UNDERGROUND CONDUITS NECESSARY FOR PLACEMENT OF UTILITIES (TELEPHONE, ELECTRIC, CABLE.. ETC.) AND THE SPRINKLER SYSTEM.
14. CONTRACTOR SHALL PROVIDE JUNE ENGINEERING CONSULTANTS WITH AS-BUILT INFORMATION ON THE FOLLOWING: LOCATIONS AND INVERTS OF ALL UTILITIES AND STORM STRUCTURES; PAVEMENT LOCATIONS AND GRADES; AND POND GRADES SHOWN ON PLANS.
15. THE CONTRACTOR IS RESPONSIBLE FOR THE NOTIFICATION, LOCATION & PROTECTION OF ALL UTILITIES THAT MAY EXIST. WITHIN THE PROJECT LIMITS.

February 4, 2008
Revised June 1, 2022

JEC june engineering consultants, inc.
23 W. Joiner Street
Winter Garden, FL. 34787
Ph. 407-905-8180
Fax 407-905-6232
Certificate of Authorization #00031567

JEFFREY A. SEDLOFF
PE# 51506



LEGEND	
Existing Contours	- - -
Lot Number	(12)
Direction of Flow	→
Existing Grade	×79.3
Proposed Grade	102.2
Water Main	—8" WM—
Sanitary Sewer	—S—
Stormpipe	—
Fire Hydrant	♀
Storm Inlet	▲
Concrete	▨
Gate Value	⋈
Water Blowoff	⬡

DATE	REVISION
11/17/09	FDOT / Town Comments
6/21/21	Town Comments
8/23/21	Town Comments
2/16/22	Town Comments
6/1/22	Town/FDOT Comments

Site Plan — Overall

Howey Self Storage

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23 W. Joiner Street
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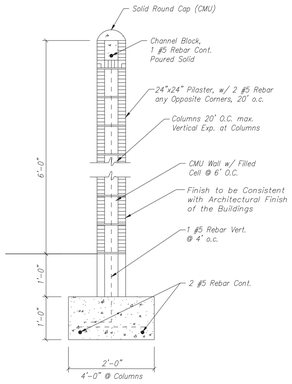
Certificate of Authorization #00008507

DRAWN BY: CLK	CHECKED BY: RAJ	SCALE
DATE: 2/4/08	DATE: 2/4/08	1" = 100'

JEFFREY A. SEDLOFF
PE# 51506

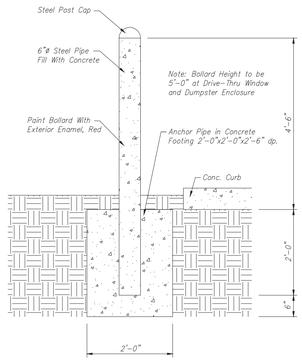
JOB NO.
07-0398

SHEET
2
OF 10



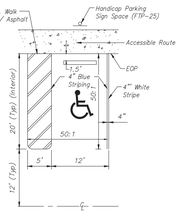
TYPICAL WALL SECTION

N.T.S.



STEEL PIPE BOLLARD DETAIL

N.T.S.



Note
PARKING STALLS SHALL BE MARKED WITH WHITE & BLUE PAINT PER FLORIDA ACCESSIBILITY CODE SECTION 4.6.1.

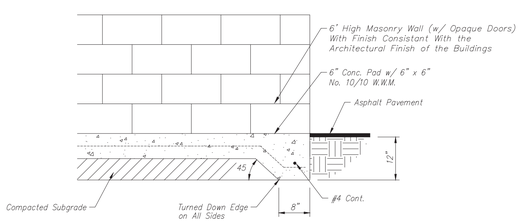
ACCESSIBILITY: A) IN ACCORDANCE WITH THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION, 4.1.3 SECTION (1), DATED OCT. 1996, AT LEAST ONE ACCESSIBLE ROUTE COMPLYING WITH 4.3 SHALL CONNECT ACCESSIBLE BUILDING OR FACILITY ENTRANCES WITH ALL ACCESSIBLE SPACES AND ELEMENTS WITHIN THE BUILDING OR FACILITY. DOOR ACCESSING THE BUILDING MUST BE DEPICTED ON SITE PLAN. RAMP DETAILS WITH SLOPE INFORMATION SHALL BE DEPICTED ON SITE PLAN. B) THE LOCATION OF HANDICAPPED PARKING STALLS ; LOADING ZONES ; SIDEWALKS AND RAMPS ON SITE SHALL MEET CHAPTER 316.1955 OF THE FLORIDA STATUES AND SECTION 4.1.3 OF THE FLORIDA ACCESSIBILITY CODE. CURB RAMPS SHALL NOT EXCEED 12:1 SLOPES PARKING SPACE AND AISLE SHALL NOT EXCEED 50:1 CROSS-SLOPE. (TLO 11-26-96) 12-11-96

NOTE: (HANDICAP SIGN ONLY)

1. ALL LETTERS SHALL BE BLACK AND SHALL CONFORM TO FDOT "ROADWAY AND TRAFFIC DESIGN STANDARDS".
2. TOP PORTION OF SIGN SHALL HAVE REFLECTORIZED (ENGINEERING GRADE) BLUE BACKGROUND WITH WHITE REFLECTORIZED LEGEND AND BORDER.
3. BOTTOM PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK BORDER.
4. ONE SIGN REQUIRED FOR EACH PARKING SPACE.
5. HEIGHT OF SIGN SHALL BE 7' ABOVE GROUND IN ACCORDANCE WITH FDOT "ROADWAY AND TRAFFIC DESIGN STANDARDS".

HANDICAP SYMBOL & SIGN

N.T.S.



DUMPSTER PAD

N.T.S.

Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Reclaimed Water (2)	Water Main — 3 ft. minimum	Water Main — 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 3 ft. minimum — Water Main
Vacuum Sanitary Sewer	Water Main — 10 ft. preferred, 3 ft. minimum	Water Main — 12 inches preferred, 6 inches minimum	Alternate 3 ft. minimum — Water Main
Gravity or Pressure Sanitary Sewer, Sanitary Sewer Force Main, Reclaimed Water (4)	Water Main — 10 ft. preferred, 6 ft. minimum (3)	Water Main — 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 6 ft. minimum — Water Main
On-Site Sewage Treatment & Disposal System	10 ft. minimum	---	---

(1) Water main should cross above other pipe. When water main must be below other pipe, the minimum separation is 12 inches.
(2) Reclaimed water regulated under Part III of Chapter 62-610, F.A.C.
(3) 3 ft. for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer.
(4) Reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

Disclaimer: - This document is provided for your convenience only. Please refer to F.A.C. Rule 62-555.314 for additional country-wise requirements.

Howey-In-The-Hills

TOWN OF HOWEY-IN-THE-HILLS

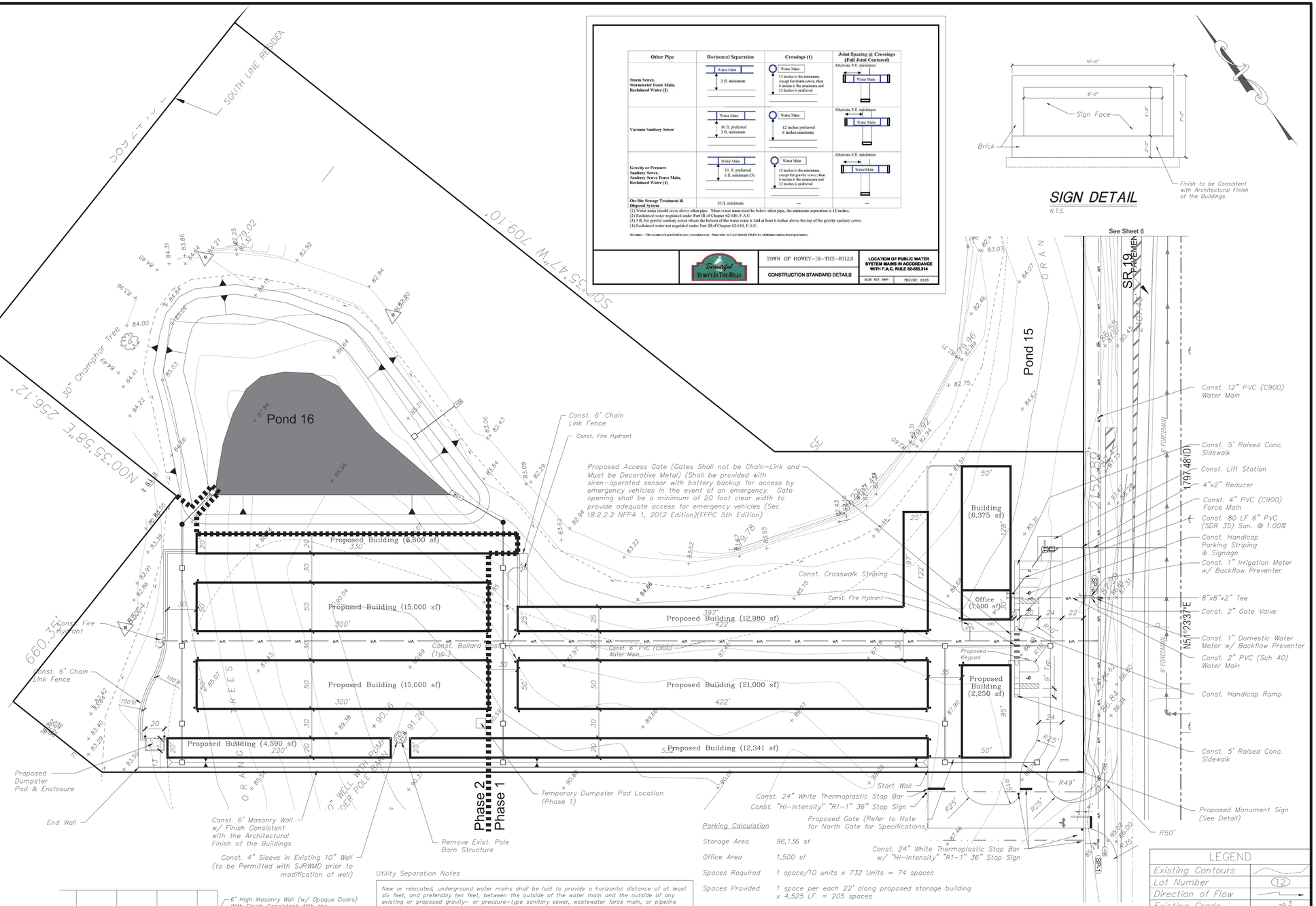
CONSTRUCTION STANDARD DETAILS

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

DATE: NOV. 1989 — FIGURE: A116

SIGN DETAIL

N.T.S.



Utility Separation Notes

New or relocated, underground water mains shall be laid to provide a horizontal distance of at least six feet, and preferably ten feet, between the outside of the water main and the outside of any existing or proposed gravity- or pressure-type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C. The minimum horizontal separation distance between water mains and gravity-type sanitary sewers shall be reduced to three feet where the bottom of the water main is laid at least six inches above the top of the sewer. New or relocated, underground water mains crossing any existing or proposed gravity- or vacuum-type sanitary sewer shall be laid so the outside of the water main is at least six inches, and preferably 12 inches, above or at least 12 inches below the outside of the other pipeline. However, it is preferable to lay the water main above the other pipeline.

At the utility crossings described above, one full length of water main pipe shall be centered above or below the other pipeline so the water main joints will be as far as possible from the other pipeline. Alternatively, at such crossings, the pipes shall be arranged so that all water main joints are at least three feet from all joints in vacuum-type sanitary sewers, 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.

Parking Calculation

Storage Area	96,136 sf	
Office Area	1,500 sf	
Spaces Required	1 space/10 units x 732 Units = 74 spaces	
Spaces Provided	1 space per each 22' along proposed storage building x 4,525 LF. = 205 spaces	
	Spaces in front of office = 7	
	Total spaces provided = 212 spaces	

Traffic Calculation

96,136 SF x 1.51 TPD/1,000 SF = 145 TPD (as per ITE ISI - Mini Warehousing

AM Peak Hour = 19 Trips	PM Peak Hour = 19 Trips
Water Demand 1 ERU = 350 gpd	Solid Waster: 16.7 PPP
Sewer Demand 1 ERU = 300 gpd	Stormwater: Provided on site

Village 4	
Setbacks:	
Front	25'
South Side	10'
North Side	10'
Rear	10'
SR 19	75' from old R/W

LEGEND

Existing Contours	
Lot Number	(12)
Direction of Flow	
Existing Grade	x 79.3
Proposed Grade	x 198.2
Water Main	8" WM
Sanitary Sewer	S
Stormpipe	
Fire Hydrant	
Storm Inlet	
Concrete	
Gate Valve	
Water Blowoff	

DATE	REVISION
7/22/09	City / SJRWMD Comments
11/17/09	FDOT / Town Comments
6/21/21	Town Comments
2/16/22	Town Comments
6/1/22	Town/FDOT Comments

Site Plan - Utilities

Howey Self Storage

june engineering consultants, inc.
23 W. Joiner Street
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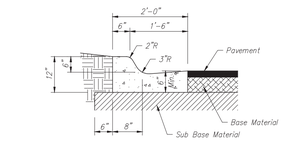
Ph. 407-905-8180
Fax 407-905-6232
Certificate of Authorization #00008507

DRAWN BY: CLK — DATE: 2/4/08
CHECKED BY: RAJ — DATE: 2/4/08
SCALE: 1" = 50'

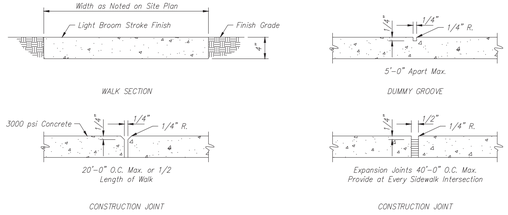
JEFFREY A. SEDLOFF
PE# 51506

JOB NO. 07-0398
SHEET 3 OF 10

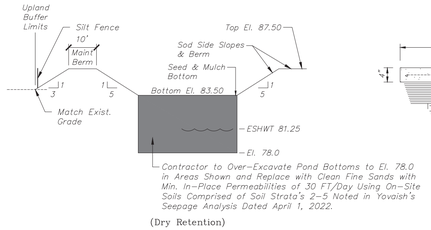


Note: When Used on High Side of Roadways, The Cross Slope of the Gutter Shall Match the Cross Slope of the Adjacent Pavement and the Thickness of the Lip Shall be 6", Unless Otherwise Shown on Plans.

TYPE "F" CURB & GUTTER
N.T.S.



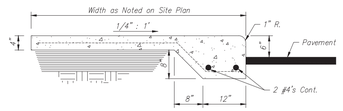
SIDEWALK DETAILS
N.T.S.



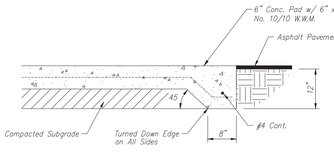
Contractor to Over-Excavate Pond Bottoms to El. 78.0 in Areas Shown and Replace with Clean Fine Sands with Min. In-Place Permeabilities of 30 FT/Day Using On-Site Soils Comprised of Soil Strata's 2-5 Noted in Yovaish's Seepage Analysis Dated April 1, 2022.

(Dry Retention)

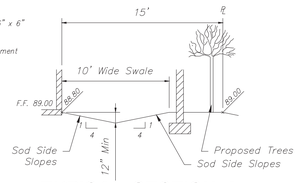
TYPICAL POND SECTION
N.T.S.



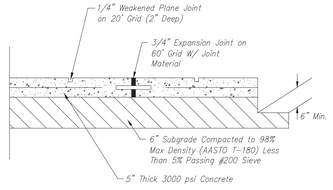
RAISED SIDEWALK
N.T.S.



DUMPSTER PAD
N.T.S.

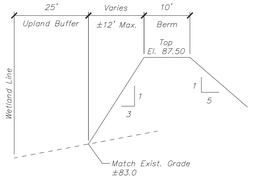


TYPICAL SECTION A
N.T.S.



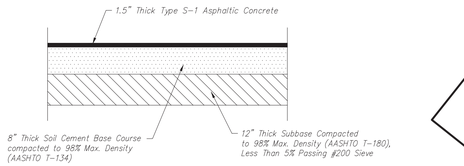
Option "A"

TYPICAL PAVEMENT SECTION
N.T.S.



TYPICAL SECTION "D"
N.T.S.

TYPICAL "CONSERVATION AREA" SIGNAGE
N.T.S.



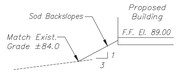
Asphaltic Prime Coat Applied at 0.15 gal/sq. yd.

*Alternative
8" Limerock Base Course Compacted to 95% Max. Density (AASHTO T-180), Asphaltic Prime Coat Applied at 0.15gal./sf

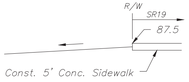
12" Subgrade Compacted to 98% Max. Density (AASHTO T-180), Less Than 5% Passing #200 Sieve, Top 6" Stabilized to 50 psi FBV, Min.

Option "B"

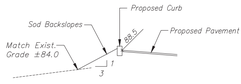
PAVEMENT DETAIL
N.T.S.



TYPICAL SECTION B
N.T.S.

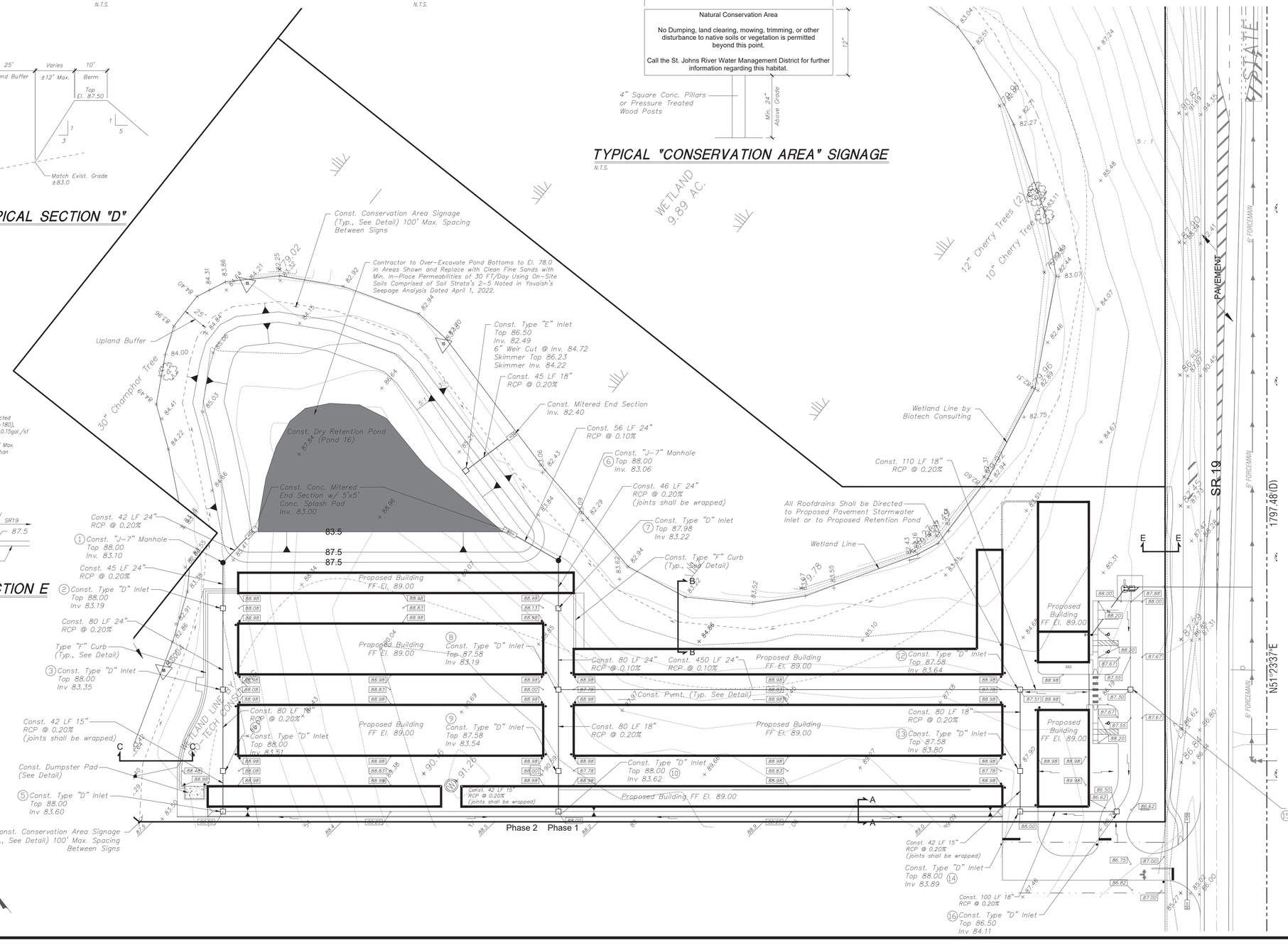


TYPICAL SECTION E
N.T.S.



TYPICAL SECTION C
N.T.S.

LEGEND	
Existing Contours	
Lot Number	(12)
Direction of Flow	
Existing Grade	×79.3
Proposed Grade	108.2
Water Main	—8" WM—
Sanitary Sewer	—S—
Stormpipe	
Fire Hydrant	
Storm Inlet	
Concrete	
Gate Valve	
Water Blowoff	



JOB NO. 07-0398	SHEET 4 OF 10

JEFFREY A. SEDLOFF PE# 51506

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DRAWN BY: CJK	CHECKED BY: RAJ	SCALE 1" = 50'
DATE: 2/4/08	DATE: 2/4/08	

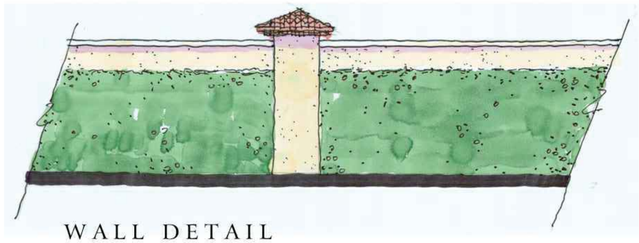
DATE	REVISION
11/17/09	FDOT / Town Comments
6/21/21	Town Comments
2/16/22	Town Comments
5/3/22	SJRWMD Comments
6/1/22	Town/FDOT Comments

Site Plan - Paving & Drainage
Howey Self Storage

THE RESERVE
AT HOWEY IN THE HILLS

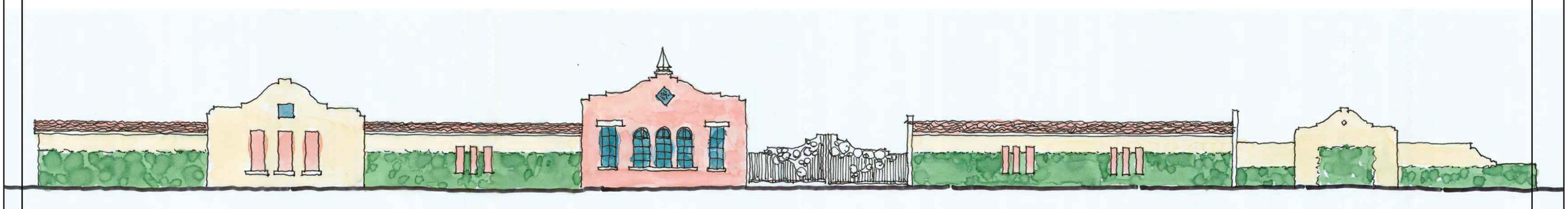
SELF STORAGE FACILITY

The street frontage buildings of the facility will be modeled in the same fashion as the Village Center. The interior buildings will be low profile single story structures surrounded by the architecture on the street and a wall along the residential areas.



WALL DETAIL

AREA PLAN



BUILDING ELEVATIONS

MORRISSEY DESIGN STUDIO

DATE	REVISION
6/21/21	Town Comments

Design Requirements

Howey Self Storage

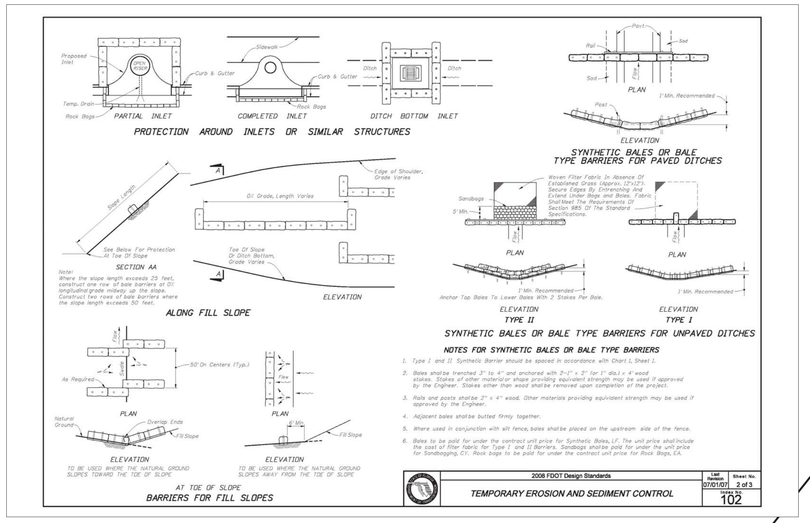
june engineering consultants, inc.
23 W. Joiner Street
Winter Garden, FL. 34787
Ph. 407-905-8180
Fax 407-905-6232
Certificate of Authorization #00008507

DRAWN BY: CLK DATE: 2/4/08 | CHECKED BY: RAJ DATE: 2/4/08 | SCALE 1" = 50'

JEFFREY A. SEDLOFF
PE# 51506

JOB NO. 07-0398

SHEET 4a OF 10



Project Name: Howey Self Storage
FDEP Project ID # FLR 10GL81

Site Area: The total site is approximately 10.5 acres of which 10.5 will be disturbed by construction activities.

Owner Name: Howey Self Storage, LLC
132 W. Plant Street, Suite 200
Winter Garden, FL 34787

Contractor Name:

Project Description: Construct infrastructure associated with an self storage facility. Clearing and Grubbing; installing a stabilized construction entrance; perimeter and other erosion and sediment controls; grading; excavation for the stormwater ponds, storm sewer, utilities and building foundations; construction of roads, curbing, sidewalks; preparation for final planting and seeding.

Construction Sequence:
1. Install stabilized construction entrance.
2. Clear and Grub for silt fence installation.
3. Install Silt fence
4. Construct Retention ponds/Mass Site Grading
5. Install infrastructure - (Storm Sewer, Utilities, Roads, etc.)
6. Complete final grading and install permanent seeding and plantings.
7. Remove any accumulated sediment from basin.
8. When construction activity is complete and the site is stabilized, remove silt fence and reseed/resod any areas disturbed by their removal.

Soil Type: Site is primarily underlain with USDA-SCS Type "A" Soils
(Candler & Tavares Fine Sands)

Runoff Coefficient: The final runoff coefficient for the site will be C=0.76

Dewatering Methods: Point well

Receiving Water
Body: Adjacent Wetlands

CONTROLS (BMP's)

Erosion and Sediment Controls
Stabilization Practices
Temporary Stabilization - Top stock piles and disturbed portions of the site where construction activity temporarily ceases for at least 7 days will be stabilized with temporary seed and mulch.

Permanent Stabilization - Disturbed portions of the site where construction activities permanently ceases shall be stabilized with permanent seed and mulch and/or sod no later than 30 days after the last construction activity..

Structural Practices
Silt Fencing - Will be constructed around the perimeter of the site as indicated on the overall plans of the construction plans.

Retention Pond/
Sediment Basin - Will be constructed with the site grading. Once construction activities are nearly complete, the accumulated sediment will be removed from the basin.

Other Controls
Waste Disposal
Waste Materials - All waste materials will be collected and stored in a dumpster or as required by the City of Ocoee. All trash and debris from the site will be stored in the dumpster.

Hazardous Waste - All hazardous waste materials will be disposed of in the manner specified by local or state regulation or by the manufacturer.

Sanitary Waste - All sanitary waste will be collected from the portable units as per the requirement of the City of Ocoee.

Offsite Vehicle Tracking
A stabilized construction entrance has been provided to help reduce vehicle tracking of sediments. The paved street adjacent to the site entrance will be swept as necessary to remove any excess mud, dirt or rock tracked from the site. Dump trucks hauling material from the construction site will be covered with a tarpaulin.

TIMING OF CONTROLS/MEASURES

As indicated in the Sequence of Major Activities, the silt fence, stabilized construction entrance will be constructed prior to clearing or grading of any other portions of the site. Areas where construction activity temporarily ceases for more than 7 days will be stabilized with a temporary seed and mulch. Once construction activity ceases permanently in an area, that area will be stabilized with permanent seed and mulch and/or sod. After the entire site is stabilized, the accumulated sediment will be removed from the retention ponds and along the silt fence.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS

The storm water pollution prevention plan reflects the Town of Howey in the Hills, Lake County, St. Johns River Water Management District, Florida Department of Environmental Protection and the U.S. Environmental Protection Agency requirements for storm water management and erosion and sediment control.

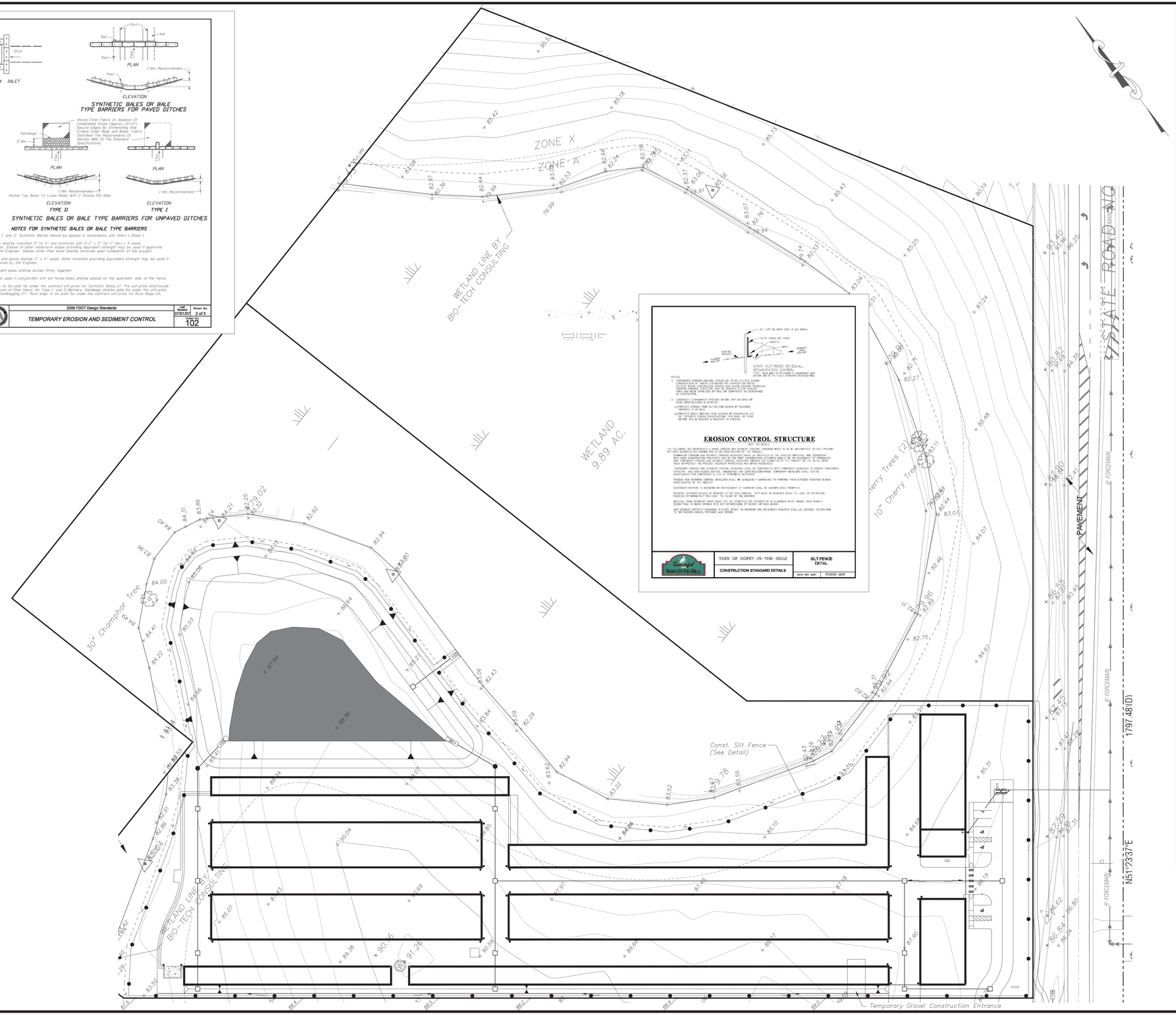
MAINTENANCE/INSPECTION PROCEDURES

These are the inspection and maintenance practices that will be used to maintain erosion and sediment controls.
· All control measures will be inspected at least once each week and following any storm event of 0.5 inches or greater. A rain gauge will be on site to measure rainfall amounts.
· All measures will be maintained in good working order; if repair is necessary, it will be initiated within 24 hours of the report.
· Built up sediment will be removed from silt fence when it has reached one-third the height of the fence.
· Silt fence will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
· The retention ponds/sediment basins will be inspected, and sediment will be removed at the end of the job.
· Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.

It is expected that the following non-stormwater discharges will occur from the site during construction:
· Water from flushing of the water lines.
· Water from the washing of the pavement (where no spills or leaks of toxic or hazardous materials have occurred).
· Uncontaminated groundwater (from dewatering excavation)
All non-storm water discharges will be directed to the sediment basin prior to discharge.

INVENTORY FOR POLLUTION PREVENTION PLAN

The materials or substances listed below are expected to be present onsite during construction:
· Concrete
· Asphalt
· Wood
· Masonry Block
· Roofing Shingles
· Petroleum Based Products
· Fertilizers
· Cleaning Solvents
· Paints (Enamel and Latex)
· Metal Studs
· Detergents
CONTRACTOR IS RESPONSIBLE FOR INSTALLING ANY ADDITIONAL EROSION CONTROL IF IT BECOMES NECESSARY TO MEET STATE AND LOCAL STANDARDS.



JEC
June engineering consultants, inc.
23 W. Joiner Street
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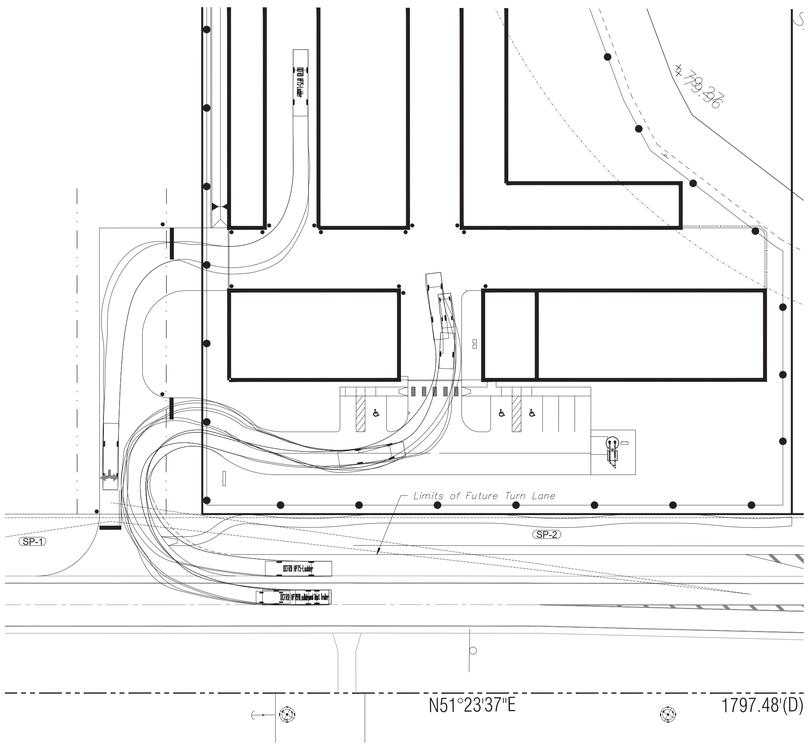
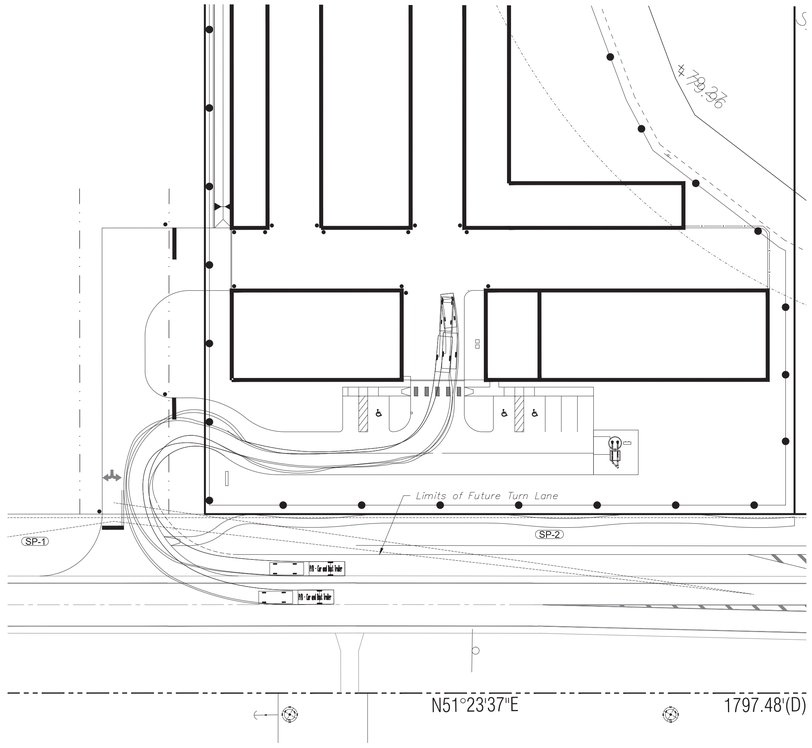
Ph. 407-905-8180
Fax 407-905-0232
Certificate of Authorization #00008507
DRAWN BY: CJK DATE: 2/4/08
CHECKED BY: RAJ DATE: 2/4/08
SCALE 1" = 50'
JEFFREY A. SEDLOFF PE# 51506

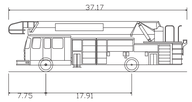
JOB NO. 07-0398
SHEET 5 OF 10

Stormwater Pollution Prevention Plan
Howey Self Storage

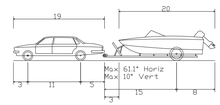
DATE	REVISION
7/22/09	City / SJRWMD Comments
11/17/09	FDOT / Town Comments
6/1/22	Town/FDOT Comments







CFRD HP75-Ladder	
Overall Length	37.170ft
Overall Width	8.330ft
Overall Body Height	10.489ft
Min Body Ground Clearance	0.920ft
Track Width	8.330ft
Lock-to-lock time	6.00s
Max Wheel Angle	31.80°



P/B - Car and Boat Trailer	
Overall Length	42.000ft
Overall Width	8.000ft
Overall Body Height	6.305ft
Min Body Ground Clearance	0.681ft
Max Track Width	8.000ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	24.000ft

LEGEND	
Existing Contours	
Lot Number	(12)
Direction of Flow	
Existing Grade	x 79.3
Proposed Grade	108.2
Water Main	—8" WM—
Sanitary Sewer	—S—
Stormpipe	
Fire Hydrant	
Storm Inlet	
Concrete	
Gate Valve	
Water Blowoff	

DATE	REVISION

Truck Turn Radius Plan

Howey Self Storage

june engineering consultants, inc.
23 W. Joiner Street
Winter Garden, FL. 34787
Ph. 407-905-8180
Fax 407-905-6232
Certificate of Authorization #00008507

DRAWN BY: CLK DATE: 2/4/08 | CHECKED BY: RAJ DATE: 2/4/08 | SCALE 1" = 50'

JEFFREY A. SEDLOFF
PE# 51506

JOB NO. 07-0398
SHEET 5a OF 10

LAND DESCRIPTION (EAGLES LANDING AT OCOEE, INC. PARCEL)(VILLAGE 4 OF THE RESERVE AT HOWEY IN THE HILLS)

COMMENCE AT THE EAST 1/4 CORNER OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY FLORIDA; THENCE RUN N89°21'35"W ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF SAID SECTION 35, 1487.79 FEET TO A POINT ON THE NORTHWESTERLY RIGHT–OF–WAY LINE OF STATE ROAD NO. 19; THENCE RUN N52°07'27"E ALONG SAID NORTHWESTERLY RIGHT–OF–WAY LINE, 673.75 FEET TO THE POINT OF BEGENNING; THENCE RUN N37°53'02"W, 1008.88 FEET; THENCE RUN N00°35'47"E, 116.78 FEET TO A POINT ON THE NORTH LINE OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SAID SECTION 35; THENCE RUN S89°24'13"E ALONG SAID NORTH LINE, 270.08 FEET TO A POINT ON THE WEST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35; THENCE RUN N00°35'58"E ALONG SAID WEST LINE, 256.12 FEET TO A POINT ON THE SOUTH LINE OF THE RESIDENCE OF DON WHITE; THENCE RUN S89°24'13"E ALONG SAID SOUTH LINE, 418.17 FEET; THENCE RUN S00°35'47"W, 709.10 FEET; THENCE RUN S37°52'33"E, 317.47 FEET TO A POINT ON SAID NORTHWESTERLY RIGHT–OF–WAY LINE OF STATE ROAD NO. 19; THENCE RUN S52°07'27"W ALONG SAID NORTHWESTERLY RIGHT–OF–WAY LINE, 329.54 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 11.978 ACRES MORE OR LESS.

LAND DESCRIPTION (HOWEY IN THE HILLS, LTD. PARCEL)

HOWEY FROM E 1/4 COR OF SEC 35–20–25 RUN N 89–21–35 W 1487.79 FT TO NW'LY R/W LINE OF SR 19, N 52–07–27 E ALONG SAID NW'LY R/W LINE 1003.29 FT FOR POB, RUN N 37–52–33 W 317.47 FT, N 0–35–47 E 709.10 FT, S 89–24–13 E TO NW COR OF LOT 1 BLK D–14 OF PALM GARDENS SUB, SE'LY ALONG SAID W'LY LINE OF BLK D–14 OF PALM GARDENS SUB TO NW'LY LINE OF SR 19, SW'LY ALONG SAID R/W LINE TO POB ORB 3003 PG 1362 ORB 3446 PG 103

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 11.00 ACRES MORE OF LESS.

LEGEND	
Existing Contours	
Lot Number	(12)
Direction of Flow	
Existing Grade	×79.3
Proposed Grade	102.2
Water Main	8" WM
Sanitary Sewer	S
Stormpipe	
Fire Hydrant	
Storm Inlet	
Concrete	
Gate Valve	⋈
Water Blowoff	⬡

DATE	REVISION

Survey – Boundary & Topo

Howey Self Storage

JEC june engineering consultants, inc.
23 W. Joiner Street
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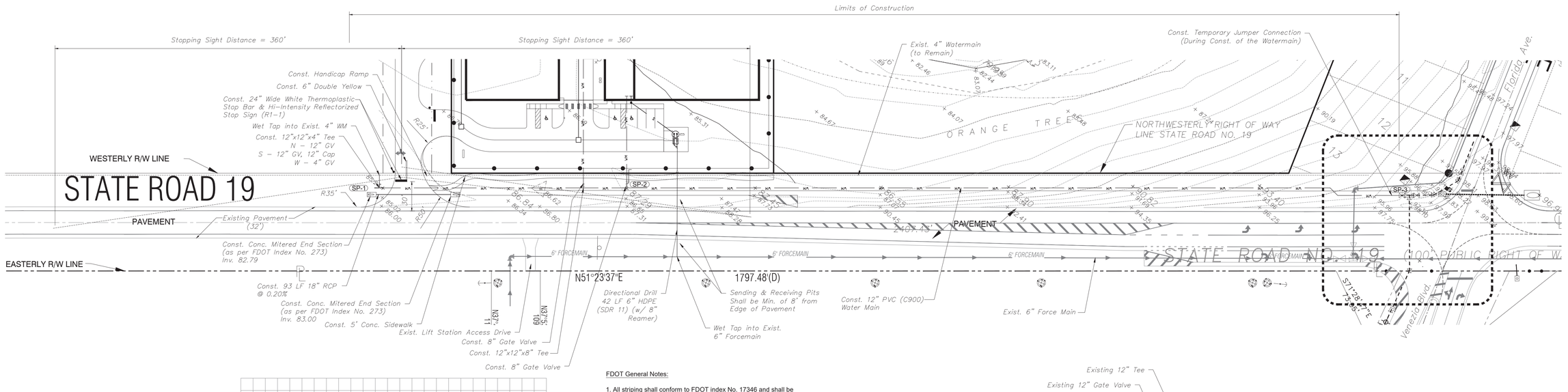
Ph. 407-905-8180
Fax 407-905-6232
Certificate of Authorization #00008507

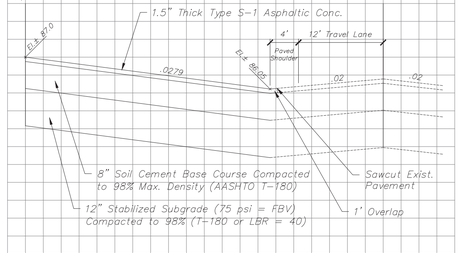
DRAWN BY: CLK
DATE: 2/4/08
CHECKED BY: RAJ
DATE: 2/4/08
SCALE 1" = 100'

JEFFREY A. SEDLOFF
PE# 51506

JOB NO. 07–0398

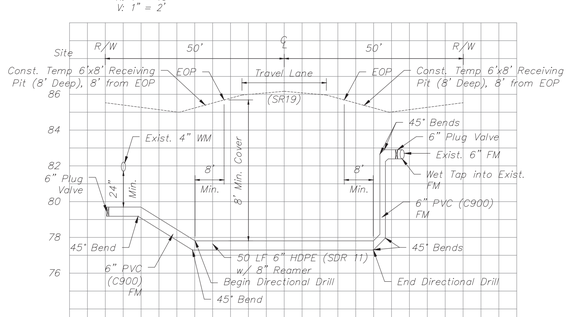
SHEET 5b OF 10





TYPICAL DRIVEWAY SECTION

H: 1" = 10'
V: 1" = 2'



TYPICAL SECTION - DIRECTIONAL DRILL

H: 1" = 20'
V: 1" = 4'

LEGEND	
Existing Contours	
Lot Number	(12)
Direction of Flow	
Existing Grade	x79.3
Proposed Grade	98.2
Water Main	—8" WM—
Sanitary Sewer	—S—
Stormpipe	
Fire Hydrant	
Storm Inlet	
Concrete	
Gate Valve	
Water Blowoff	

FDOT General Notes:

1. All striping shall conform to FDOT index No. 17346 and shall be thermoplastic with reflective pavement markers.

2. Turn lanes were designed based on a design speed of 55mph.

3. Use FDOT Index 526, Sheet 2 of 8 for roadway transitions, design speed = 45mph, center widening.

4. Use FDOT Index 301 for turn lanes, design speed = 45mph.

5. The contractor shall locate the exact location of the existing utilities within FDOT R/W, prior to construction.

6. All construction in the FDOT ROW shall conform to the latest editions of the FDOT Design Standards (Indexes), the FDOT Standard Specifications for Road and Bridge Construction, and the FDOT Utility Accommodation Manual.

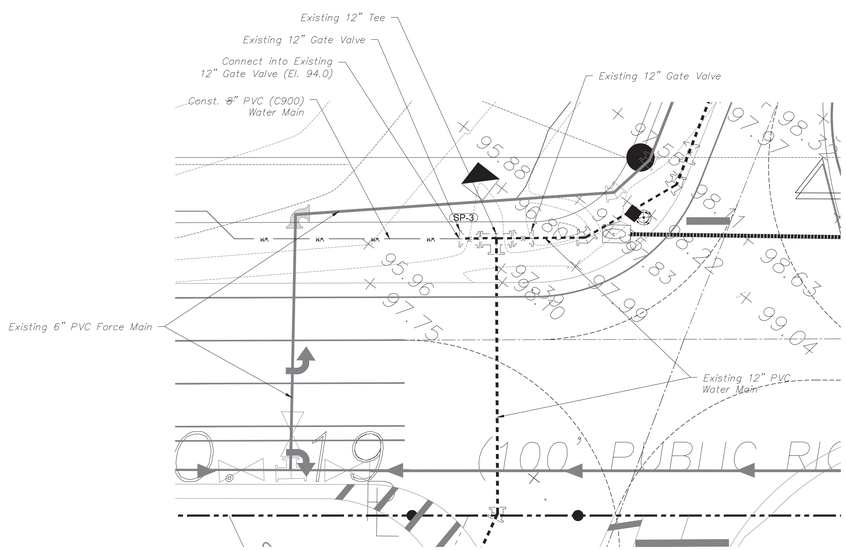
7. All disturbed area within the Department's Right of Way shall be graded and sodded with Argetine Bahia sod.

8. All striping within the Department's Right of Way shall be lead-free thermoplastic.

9. All maintenance of traffic shall adhere to the requirements of the Design Standards 600 indexes.

10. Paved shoulders need to be saw cut and removed prior to construction.

11. All sidewalks, ramps, and crosswalks shall be constructed and inspected to meet most current ADA Standards.



UTILITY CONNECTION DETAIL

Scale: 1" = 20'

Note:
Weld on MJ Fittings Shall be Used for all Directional Bore Piping

DATE	REVISION
11/17/09	FDOT / Town Comments
6/21/21	Town Comments
2/16/22	Town Comments
6/1/22	Town/FDOT Comments
6/23/22	Town Comments

Offsite Improvements

Howey Self Storage

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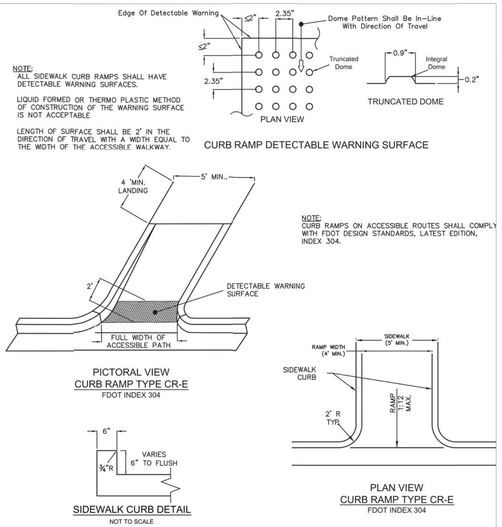
JEFFREY A. SEDLOFF PE# 51506

JOB NO. 07-0398

SHEET 6 OF 10



SIDEWALK CURB RAMP (N.T.S.)

Howey-in-the-Hills Standard Details	DATE: FEB 2022
	DETAIL R-15

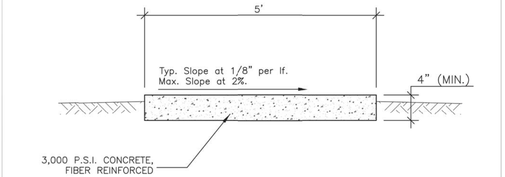
CURB RAMP – GENERAL NOTES

ALL REFERENCES TO FDOT AND ADA STANDARDS SHALL MEAN THE LATEST EDITION

1. Public sidewalk curb ramps shall be constructed in the public right of way at locations that will provide continuous unobstructed pedestrian circulation paths to pedestrian areas, elements and facilities in the public right of way and to accessible pedestrian routes on adjacent sites. Curbed facilities with sidewalks and those without sidewalks are to have curb ramps constructed at all street intersections and at turnouts that have curbed returns. Partial curb returns shall extend to the limit prescribed by FDOT Index No. 515 to accommodate curb ramps. Ramps constructed at locations without sidewalks shall have a 5' x 5' landing constructed at the top of each ramp.
2. The location of curb ramps shall be as shown in the plans, but shall conform to F.D.O.T. standard details. All ramps, landings and curbs shall be constructed with minimum 3000 psi, Class A concrete and shall have minimum thickness of 6 inches. All concrete for pedestrian areas shall have a medium broom finish and standard color, unless specifically required by the plans.
3. Curb ramp running slopes at unrestrained sites shall not be steeper than 1 : 12 and cross slope shall not be steeper than 2%. Transition slopes shall not be steeper than 1 : 12. When altering existing pedestrian facilities where existing site development precludes the accommodation of a ramp slope of 1 : 12, a running slope between 1 : 12 and 1 : 10 is permitted for a rise of 6" maximum and a running slope of between 1 : 10 and 1 : 8 is permitted for a rise of 3" maximum.
4. If a curb ramp is located where pedestrians must walk across the ramp, then the walk shall have transitions with a maximum longitudinal slope of 1 : 12. and a 2% cross-slope. Ramps with curb returns may be used to provide guidance, avoid an obstacle, or when R/W limitations prohibit fixes. Improvements for directional guidance are required whenever necessary to guide or re-direct the pedestrian towards the receiving ramp.
5. All curb ramps shall have detectable warning surfaces that extend the full width of the ramp and 24" from the back of curb in the direction of travel. Detectable warning surfaces shall be constructed in conformance with A.D.A. Standards For Accessible Design, A.D.A. Accessibility Guidelines, Section 4.29.2, Transition slopes are not to have detectable warnings. Dome pattern shall be in-line with direction of travel.
6. The color requirement for detectable warnings is to provide a dark-on-light visual contrast between the detectable warning surface and the adjacent walking surface. Where adjacent walking surfaces are dark colored and/or constructed with materials other than standard Class I Portland Cement Concrete in accordance with the Standard Specifications, the Contractor must provide a detectable warning surface color that provides the necessary contrast, with the adjacent concrete. The standard color is dark red brick or yellow colored detectable warning tile with standard concrete unless otherwise noted.
7. Where a curb ramp is constructed within existing curb, curb and gutter or sidewalk, the existing concrete shall be removed to the nearest joint beyond the transition slope so that no remaining section of concrete is less than 5' long. The existing sidewalk shall be removed to the nearest joint beyond the transition slope, if the ramp must extend into the sidewalk.
8. Expansion joints shall be placed at all perimeter edges abutting concrete, but no joints shall be made in the ramp itself.

SIDEWALK CURB RAMP GENERAL NOTES

Howey-in-the-Hills Standard Details	DATE: FEB 2022
	DETAIL R-15A



SIDEWALK (N.T.S.)

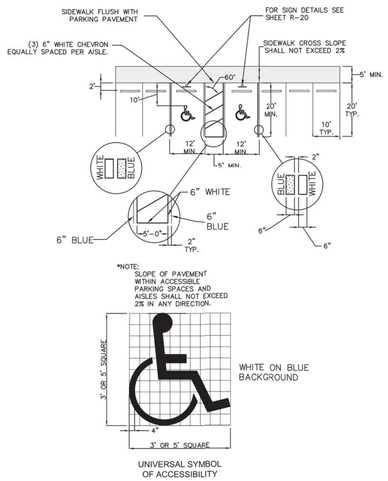
Howey-in-the-Hills Standard Details	DATE: FEB 2022
	DETAIL R-16

SIDEWALK CONSTRUCTION- GENERAL NOTES

1. SIDEWALKS, BIKE PATHS, RAMPS, AND DRIVEWAY APRONS SHALL BE CONSTRUCTED OF PLAIN PORTLAND CEMENT CONCRETE WITH A MAXIMUM SLUMP OF 3 INCHES, A MINIMUM DEVELOPED COMPRESSIVE STRENGTH OF 3,000 P.S.I. IN 28 DAYS, AND A MINIMUM UNIFORM THICKNESS OF 4 INCHES WHERE INTENDED SOLELY FOR PEDESTRIAN TRAFFIC, AND 6 INCHES THICK WHERE MOTOR VEHICLES ARE LIKELY TO CROSS.
2. SIDEWALKS AND BIKE PATHS SHALL BE PLACED PARALLEL TO, AND ONE FOOT WITHIN THE RIGHT-OF-WAY LINE EXCEPT THAT THE CITY MAY APPROVE DEVIATIONS TO SAVE SPECIMEN TREES PROVIDED THAT THE PAVEMENT REMAINS WITHIN THE RIGHT-OF-WAY, OR ADJACENT EASEMENT DEDICATED FOR SIDEWALK USE, IS NOT DIMINISHED IN WIDTH, AND REMAINS AT LEAST 3 FEET FROM THE EDGE OF THE STREET PAVEMENT, UNLESS OTHERWISE APPROVED BY THE CITY.
3. THE TOP OF THE CONCRETE SHALL BE AT AN ELEVATION NO LOWER THAN THE CROWN OF THE ADJACENT ROADWAY, AND NO HIGHER THAN 6 INCHES ABOVE THE CROWN UNLESS APPROVED BY THE CITY TO MAKE A MORE NATURAL TRANSITION WITH THE ADJACENT LAND. UNDER NO CIRCUMSTANCES WILL THE SIDEWALK EXCEED ADA MAXIMUM GRADES.
4. ISOLATION JOINTS (TYPE A JOINTS) SHALL BE PROVIDED BETWEEN EXISTING SLABS OR STRUCTURES AND FRESH CONCRETE, TO SEPARATE PEDESTRIAN SECTIONS FROM SECTIONS WHICH WILL ENCOUNTER VEHICLE TRAFFIC, TO SEPARATE FRESH PLACEMENT FROM CONCRETE WHICH HAS SET FOR MORE THAN 60 MINUTES, AND NO FARTHER APART THAN 120 FEET IN SIDEWALKS AND BIKE PATHS. JOINT MATERIAL SHALL BE AS SPECIFIED IN FDOT STANDARDS AND SPECIFICATIONS AND SHALL BE RUBBER, PLASTIC OR OTHER APPROVED NON-BIODEGRADABLE ELASTOMERIC MATERIAL. WOOD IS PROHIBITED.
5. CONTROL JOINTS (TYPE B JOINTS) SHALL BE TOOLED INTO THE FRESH CONCRETE, OR SAW-CUT WITHIN 24 HOURS OF PLACEMENT, TO A DEPTH EQUAL TO 1/4 THE SLAB THICKNESS AND SPACED APART A DISTANCE EQUAL TO THE WIDTH OF THE SLAB OR 5 FEET, WHICHEVER IS GREATEST.
6. THE SLAB SURFACE SHALL BE BROOM FINISHED TO BE SLIP RESISTANT, AND SHALL MATCH AS CLOSELY AS POSSIBLE THE FINISH OF EXISTING ADJACENT SLABS AND ALL EDGES SHALL BE TOOLED TO ELIMINATE SHARP CORNERS.
7. THE BEARING SUBSURFACE SHALL HAVE ALL ORGANIC, LOOSE, AND DELETERIOUS MATTER REMOVED, AND THE REMAINING CLEAN SOIL SHALL BE SMOOTH, SOUND, AND SOLID. ANY FILL MATERIAL SHALL BE COMPACTED WITH A VIBRATORY OR IMPACT COMPACTION MACHINE IN MAXIMUM 12 INCH LIFTS OR COMPACTED WITH A HAND TAMPER IN MAXIMUM 4 INCH LIFTS. THE CITY SHALL REQUIRE A COMPACTION TEST FOR EACH LIFT IF THE TOTAL FILLED SECTION IS MORE THEN 12 INCHES DEEP OR IF THE SUBSURFACE HAS BEEN DISTURBED MORE THAN 12 INCHES DEEP. WHERE SUCH TEST IS REQUIRED, THE RESULTS SHALL SHOW A MINIMUM PROCTOR FIELD DENSITY OF 95 PERCENT.
8. ALL CONCRETE WORK IN THE RIGHT-OF-WAY SHALL BE INSPECTED BY THE CITY AFTER THE SUBSOIL IS PREPARED AND THE FORMS ARE SET, BUT BEFORE THE CONCRETE PLACEMENT BEGINS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE FINISHED SLAB FROM ALL DAMAGE AND VANDALISM UNTIL THE CITY ACCEPTS OR APPROVES THE SLAB.
10. SIDEWALKS LOCATED WITHIN THE RIGHT-OF-WAY SHALL NOT BE TINTED, STAINED, COLORED, OR COATED, UNLESS APPROVED BY THE CITY ENGINEER.
11. ALL FORMS SHALL BE REMOVED PRIOR TO ACCEPTANCE OR APPROVAL AND THE DISTURBED GROUND SHALL BE BACK-FILLED, RE-GRADED, AND SODDED SO THAT THE WEAR SURFACE OF THE CONCRETE IS REASONABLY FLUSH WITH THE ADJACENT GRADE.
12. THE CITY MAY REQUIRE ADDITIONAL JOINTS AROUND UTILITY STRUCTURES LOCATED WITHIN THE SIDEWALK.

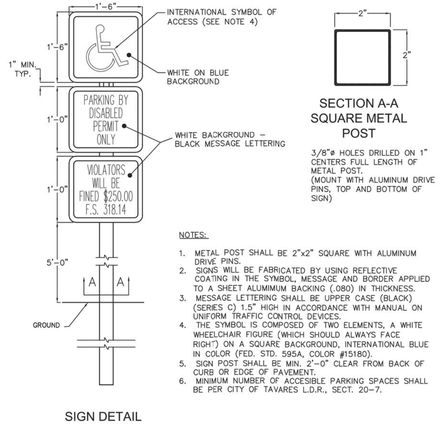
SIDEWALK - GENERAL NOTES

Howey-in-the-Hills Standard Details	DATE: FEB 2022
	DETAIL R-16A



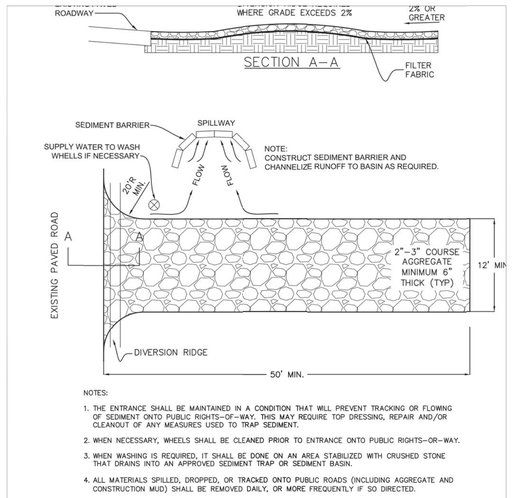
ACCESSIBLE PARKING (N.T.S.)

Howey-in-the-Hills Standard Details	DATE: FEB 2022
	DETAIL R-18



ACCESSIBLE PARKING SIGN (N.T.S.)

Howey-in-the-Hills Standard Details	DATE: FEB 2022
	DETAIL R-19



TEMPORARY CONSTRUCTION ENTRANCE (N.T.S.)

Howey-in-the-Hills Standard Details	DATE: FEB 2022
	DETAIL R-23

DATE	REVISION
7/22/09	City / SJRWMD Comments
11/17/09	FDOT / Town Comments
6/21/21	Town Comments
6/1/22	Town/FDOT Comments

Standard Details

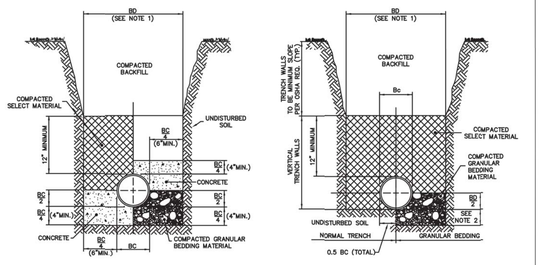
Howey Self Storage

june engineering consultants, inc.
23 W. Joiner Street
Winter Garden, FL. 34787
Ph. 407-905-8180
Fax 407-905-6232
Certificate of Authorization #00008507

DRAWN BY: CLK | CHECKED BY: RAJ | SCALE
DATE: 2/4/08 | DATE: 2/4/08 | 1" = 50'

JEFFREY A. SEDLOFF
PE# 51506

JOB NO. 07-0398
SHEET 7 OF 10



CLASS "A" BEDDING
SPECIAL CONDITIONS

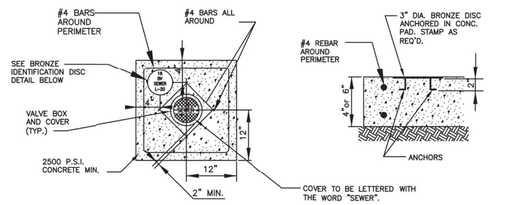
CLASS "B" BEDDING
NORMAL CONDITIONS

NOTES: FOR BEDDING AND TRENCHING

1. DIMENSION BC = PIPE O.D.
   DIMENSION BD = TRENCH WIDTH AT TOP OF PIPE
   MAXIMUM BD = BC + 30"
   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-CUSHIONING MATERIAL, DEPTH SHALL BE 6" BELOW BOTTOM OF UTILITY.
3. ALL BACKFILL AND SELECT MATERIAL UNDER ALL ROADWAYS, DRIVES (INCLUDING DIRT DRIVES), AND PARKING AREAS SHALL BE COMPACTED TO 98% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY. (AASHTO T-180). BACKFILL AND SELECT MATERIAL UNDER ALL OTHER AREAS SHALL BE COMPACTED AS FOLLOWS: FROM BOTTOM OF TRENCH TO 12" ABOVE TOP OF PIPE – 95% 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)

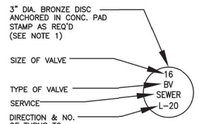
TRENCHING AND BEDDING
NOT TO SCALE

Howey-in-the-Hills Standard Details	DATE: FEB 2022	DETAIL PW-2



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
NOT TO SCALE

Howey-in-the-Hills Standard Details	DATE: FEB 2022	DETAIL WW-15

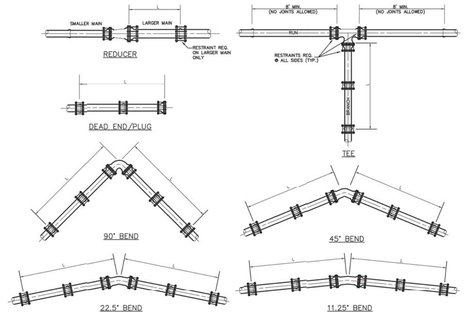


TABLE OF THRUST RESTRAINT LENGTHS

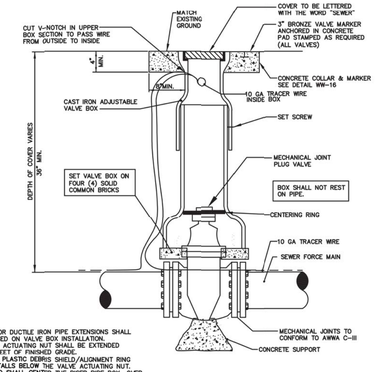
PIPE SIZE (Inches)	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEES		DEAD END & PLUG		REDUCER		
	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE IRON (L)	P.V.C. (L)	DUCTILE IRON (L)	PIPE SIZES	P.V.C. (L)	DUCTILE IRON (L)
4	20'	16'	8'	7'	4'	3'	2'	2'	15'	10'	45'	29'	6"x4"	33'	21'
6	28'	22'	12'	9'	6'	4'	3'	2'	33'	21'	63'	40'	8"x6"	34'	22'
8	36'	29'	15'	12'	7'	6'	4'	3'	52'	33'	82'	53'	10"x8"	33'	21'
10	43'	34'	18'	14'	9'	7'	4'	3'	68'	43'	98'	63'	12"x10"	34'	22'
12	50'	40'	21'	17'	10'	8'	5'	4'	84'	54'	116'	74'	16"x12"	63'	40'
16	63'	51'	26'	21'	13'	10'	6'	5'	116'	74'	148'	94'	18"x16"	33'	21'
18	75'	56'	29'	23'	14'	11'	7'	6'	131'	83'	163'	103'	20"x18"	33'	21'
20	75'	61'	31'	25'	15'	12'	7'	6'	145'	92'	178'	113'	20"x20"	62'	39'
24	86'	70'	36'	29'	17'	14'	9'	7'	173'	110'	207'	132'			

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 MAX. PRESSURE OF 150 p.s.i., THE UNIFIED SOILS CLASSIFICATION SYSTEM (SOIL TYPE SP), THE PIPE BEDDED IN NATIVE SOIL w/ A MINIMUM OF 2.5' COMPACTED FILL OVER THE PIPE, 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).

THRUST RESTRAINT
NOT TO SCALE

Howey-in-the-Hills Standard Details	DATE: FEB 2022	DETAIL PW-7



NOTES

1. PVC PIPE OR DUCTILE IRON PIPE EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE VALVE ACTUATING NUT SHALL BE 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.
4. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS.
5. VALVE BOX SHALL BE A TWO PIECE SCREW TYPE.

PLUG VALVE AND BOX
NOT TO SCALE

Howey-in-the-Hills Standard Details	DATE: FEB 2022	DETAIL WW-13

DATE	REVISION
7/22/09	City / SJRWMD Comments
11/17/09	FDOT / Town Comments
6/21/21	Town Comments
6/1/22	Town/FDOT Comments

Standard Details

Howey Self Storage

june engineering consultants, inc.
23 W. Joiner Street
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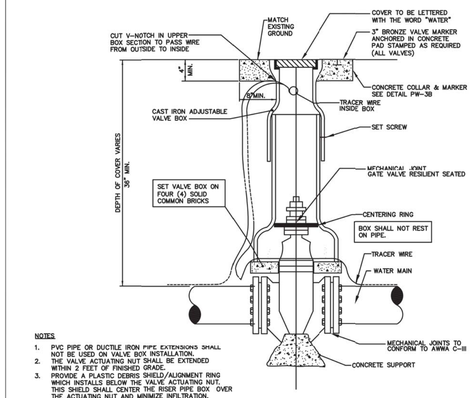
JEFFREY A. SEDLOFF
PE# 51506

JOB NO. 07-0398
SHEET 8 OF 10



NOTES

1. PVC PIPE OR DUCTILE IRON PIPE EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE VALVE ACTUATING NUT SHALL BE 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.
4. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS.
5. VALVE BOX SHALL BE A TWO PIECE SCREW TYPE.

GATE VALVE AND BOX

NOT TO SCALE

Howey-in-the-Hills | Standard Details | DATE: FEB 2022 | DETAIL PW-3A

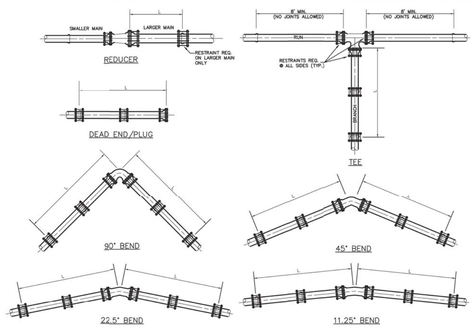


TABLE OF THRUST RESTRAINT LENGTHS

PIPE SIZE (inches)	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEES		DEAD END & PLUG		REDUCER	
	P.V.C. DJ	DUCTILE IRON P.J.	P.V.C. DJ	DUCTILE IRON P.J.	P.V.C. DJ	DUCTILE IRON P.J.	P.V.C. DJ	DUCTILE IRON P.J.	P.V.C. DJ	DUCTILE IRON P.J.	P.V.C. DJ	DUCTILE IRON P.J.	PIPE SIZES	P.V.C. DJ
4	20'	16'	8'	7'	4'	3'	2'	2'	15'	10'	45'	29'	6"x4"	33'
6	28'	22'	12'	9'	6'	4'	3'	2'	33'	21'	63'	40'	8"x6"	34'
8	36'	29'	15'	12'	7'	6'	4'	3'	52'	33'	82'	52'	10"x8"	33'
10	43'	34'	18'	14'	9'	7'	4'	3'	68'	43'	98'	63'	12"x10"	34'
12	50'	40'	21'	17'	10'	8'	5'	4'	84'	54'	116'	74'	16"x12"	63'
16	63'	51'	26'	21'	13'	10'	6'	5'	116'	74'	148'	94'	18"x16"	33'
18	70'	56'	29'	23'	14'	11'	7'	6'	131'	83'	163'	103'	20"x18"	33'
20	75'	61'	31'	25'	15'	12'	7'	6'	145'	92'	178'	113'	20"x20"	62'
24	88'	70'	36'	29'	17'	14'	9'	7'	173'	110'	207'	132'		

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 MAX. PRESSURE OF 150 p.s.i., THE UNIFIED SOILS CLASSIFICATION SYSTEM (SOIL TYPE SP), THE PIPE BEDDED IN NATIVE SOIL w/ A MINIMUM OF 2.5' COMPACTED FILL OVER THE PIPE, 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).

THRUST RESTRAINT

NOT TO SCALE

Howey-in-the-Hills | Standard Details | DATE: FEB 2022 | DETAIL PW-7

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 WITH THE 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 OTHERWISE NOTED.
6. ALL WATER MAINS UNDER PAVEMENT SHALL BE DUCTILE IRON.
7. ALL CASINGS UNDER PAVEMENT SHALL EXTEND 5' BEYOND THE BACK OF CURB.
8. DISINFECTING: FOLLOWING THE PRESSURE TESTING, THE CONTRACTOR SHALL DISINFECT ALL SECTIONS OF THE NEW WATER DISTRIBUTION SYSTEM. DISINFECTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF AWWA STANDARD C651 "DISINFECTING WATER MAINS", AND ALL APPROPRIATE AGENCY APPROVAL.
9. ALL HYDROSTATIC TESTS SHALL BE IN ACCORDANCE WITH AWWA C600 FOR DUCTILE IRON PIPE AND C605/M23 FOR PVC PIPE.
10. ALL WATER MAINS SHALL BE INSTALLED, PRESSURE AND LEAK TESTED IN ACCORDANCE WITH AWWA C600, (62-555.320(21)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.
11. 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 CONFORMING TO NSF REQUIREMENTS, AS MAY BE APPLICABLE, WITH EXCEPTIONS ALLOWED ONLY IF DOCUMENTATION AND ASSURANCES ARE PROVIDED IN COMPLIANCE WITH PARAGRAPHS 62-555.320(3) (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 WALL; AND UNDERGROUND METAL OR CONCRETE PIPE WILL HAVE BLUE STRIPES APPLIED TO THE PIPE WALL. PIPE STRIPED DURING MANUFACTURING OF THE PIPE WILL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO 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 62/CELL 555.320(21)(B)3]

UNLESS DESCRIBED IN THE CITY CSM ELSEWHERE, 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.

Howey-in-the-Hills | Standard Details | DATE: FEB 2022 | DETAIL PW-11C

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-6.002, 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 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-PARAGRAPHS A. THROUGH D. BELOW. - 361
   - 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.

(A) 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.

Howey-in-the-Hills | Standard Details | DATE: FEB 2022 | DETAIL PW-11D

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. ACCEPTABLE ALTERNATIVE CONSTRUCTION FEATURES INCLUDE THE FOLLOWING:

(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.

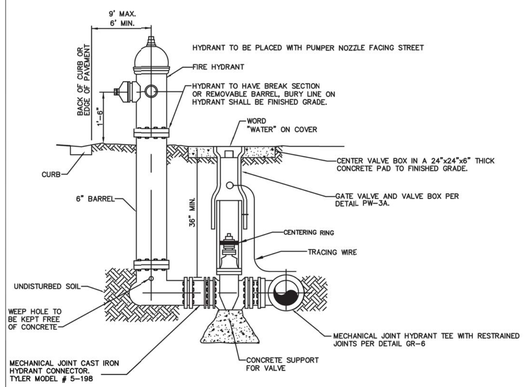
Howey-in-the-Hills | Standard Details | DATE: FEB 2022 | DETAIL PW-11E

PAINTING

1. APPLY TWO COATS OF OSHA SAFETY INDUSTRIAL RED PAINT TO HYDRANT BARREL.
2. APPLY TWO COATS OF 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 #SW4086)
   - GREEN 1000 GPM TO 1499 GPM (SHERWIN WILLIAMS #B54614)
   - ORANGE 500 GPM TO 999 GPM (SHERWIN WILLIAMS #B54E39)
   - RED 499 GPM OR LESS (SHERWIN WILLIAMS #B54R38)
   - RED HYDRANT BARREL (SHERWIN WILLIAMS #B54R38)

SPECIFICATIONS

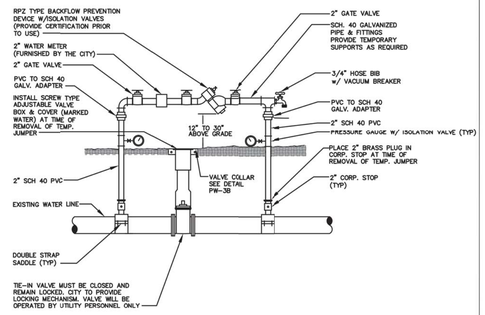
1. AWWA SPECIFICATIONS C-502
2. TWO 2-1/2" HOSE NOZZLE DISCHARGE
3. ONE 4-1/2" PUMPER NOZZLE DISCHARGE
4. ONE 1-1/2" OPERATING NUT, LEFT
5. ALL HYDRANTS SHALL BE EQUIPPED WITH FITTINGS TO ALLOW FOR ELEVATION ADJUSTMENTS.
6. 5¼" MAIN VALVE OPENING
7. RESTRAINED JOINTS OR ALL THREADED ROD REQUIRED TO SECURE PIPE, RISER AND VALVE IN THE FIRE HYDRANT ASSEMBLY TO THE MAIN



FIRE HYDRANT WITH VALVE

NOT TO SCALE
(STANDARD FIRE HYDRANT ASSEMBLY)

Howey-in-the-Hills | Standard Details | DATE: FEB 2022 | DETAIL PW-18



TEMPORARY JUMPER CONNECTION

NOT TO SCALE

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

Howey-in-the-Hills | Standard Details | DATE: FEB 2022 | DETAIL PW-6A

DATE	REVISION
7/22/09	City / SJRWMD Comments
11/17/09	FDOT / Town Comments
6/21/21	Town Comments
6/1/22	Town/FDOT Comments

Standard Details

Howey Self Storage

june engineering consultants, inc.
23 W. Joiner Street
Winter Garden, FL. 34787
Ph. 407-905-8180
Fax 407-905-6232
Certificate of Authorization #00008507

DRAWN BY: CLK DATE: 2/4/08 | CHECKED BY: RAJ DATE: 2/4/08 | SCALE 1" = 50'

JEFFREY A. SEDLOFF PE# 51506

JOB NO. 07-0398

SHEET 9 OF 10

RILEY & Company, Inc. (H-20 GP)

w/ BATTERY BACK-UP FOR AUDIO AND VISUAL ALARMS

SCOPE: Supply one complete H-20 GP Pre-Fab Lift Station, per design.

Pumps shall be capable of grinding and pumping domestic & commercial sewage.

Complete system shall be supplied by:

RILEY & Company, Inc.
Sanford, FL 32773 (Ph. 407-265-9963)

NO SUBSTITUTIONS - NO ALTERNATES

The H-20 Load Rated Fiberglass Wetwell Must Be Warranted For 20 Years And Manufactured By L.F. Manufacturing, Giddings, Texas.

After the H-20 load rated wetwell has been installed, the ASTM Certification Number and Serial Tracking Number must be visible.

PUMPS: Submersible grinder pumps shall be HOMA Model GRP. The pumps shall be installed in the H-20 GP FRP wetwell utilizing a dual slide rail system. The grinder unit shall be capable of macerating materials normally found in domestic and commersial sewage into a fine slurry which will pass through the pump and the Sch.80 PVC discharge piping.

Stator winding shall be open type with Class F insulation and shall be heat-shrink fitted into the stator housing. The use of pins, bolts, or other fastening devices is not acceptable.

A heat sensor theromstat shall be attached to the top end of the motor winding and shall be connected in series with the magnetic contactor coil in the control panel to stop motor if winding temperature exceeds 140 C., but shall automatically reset when the winding temperature returns to normal. Two heat sensor thermostats shall be used on three phase motors.

The pump motor grinder shaft shall be AISI 430F SS threaded to take the pump impeller and the grinder impeller. Upper & lower mechanical seals shall be Silicon Carbide vs Silicon Carbide.

DUPLEX CONTROL PANEL:

Control panel shall be assembled and built by a TUV (UL508A CERTIFIED) manufacturing facility.

The Enclosure shall be NEMA 4X, minimum 30" high x 30" wide x 10" deep fiberglass with padlockable draw latches.

The enclosure shall have external mounting feet to allow for wall mounting.

The following components shall be mounted through the enclosure:
1- ea. Red Alarm Beacon (Light)
1- ea. Alarm Horn
1- ea. Generator Receptacle w/ weatherproof cover
1- ea. Alarm Silence Pushbutton

The backpanel shall be fabricated from .125, 5052-H32 marine alloy aluminum. All components shall be mounted by machined stainless steel screws.

The following components shall be mounted to backpanel:
2- ea. Motor Contactors
1- ea. Volt Monitor (Single Phase) Phase Monitor (Three Phase)
1- ea. Control Transformer (480 Volt Only)
1- ea. Silence Relay
1- ea. Duplex Alternator
1- ea. Model BOAC5AH Battery Back-Up w/ Smart Charger
20- ea. Terminals For Field Connections
6- ea. Terminals For Motor Connections (Single Phase Only)
3- ea. Grounding Lugs

The innerdoor shall be fabricated from .080, 5052-H32 marine alloy aluminum. The innerdoor shall have a continuous aluminum piano hinge.

The following components shall be mounted through the innerdoor:
1- ea. Main Circuit Breaker
1- ea. Emergency Circuit Breaker
1- ea. Mechanical Interlock For Emergency And Main Breakers
2- ea. Short Circuit Protectors
1- ea. Control Circuit Breaker
2- ea. Seal Failure Indicator Lights
1- ea. Hand-Off-Auto Selector Switches
2- ea. Pump Run Pilot Lights
1- ea. Power On Pilot Light
2- ea. Elapse Time Meters (Non-Resetable)
1- ea. GFI Duplex Convenience Outlet

COMPONENT SPECIFICATIONS:
All circuit breakers shall be molded thermal magnetic. The mechanical interlock shall prevent the normal and emergency main breakers being energized at the same time.
An emergency generator receptacle shall be supplied in accordance with DEP standards. The generator receptacle shall be adequately sized to meet the equipment operating conditions.

NEUTRAL TO BE SUPPLIED FOR BOTH 230V 3PHASE OR 230V SINGLE PHASE POWER

All motor short circuit protection devices must provide for undervoltage release and class 10 overload protection on all three phases. Visable trip indication, test, and reset capability must be provided without opening inner door.
Open frame, across the line, contactors shall be rated per IEC standards and properly sized per the motor requirements.
Contactors shall provide for safe touch power and control terminals.
Lightning Arrestor shall meet or exceed the requirements of ANSI/IEEE Std. C62.21-1984 section 8.6.1. and 8.7.3 shall be supplied by electrician and mounted on the bottom side of the switch disconnect ahead of the pump control panel.
A voltage monitor shall be supplied for single phase service.
A phase monitor shall be supplied for (3) phase service.
A green pilot light shall be supplied for each motor. The pilot light shall illuminate each time the motor is called to run.
Each pump shall have an Elapse Time Meter to record the accumulated run time. The ETM shall be 2" diameter, non-resettable, six digit, totally encapsulated unit.
A Red pilot light shall be supplied for control power. The pilot light shall illuminate when the control power is available inside the control panel.
Relays shall be ice-cube plug in type. Relay contacts shall be rated 10 amp minimum, DPDT.
Twenty (20) terminals shall be supplied for field connections. The terminals shall be rated 25 amps minimum.
Each motors over-temperature contact shall be connected to the terminal strip and shall open a contact to de-energize the appropriate motor upon a high temperature within the motor.
A 15 Amp GFI duplex receptacle shall be supplied and mounted on the innerdoor.
Ground lugs shall be supplied and appropriately sized for each motor and for service entrance.
Nameplates for the innerdoor and back panel shall be of a graphic design, specifically depicting the intent for each device.

MISCELLANEOUS: All wiring on the backpanel shall be containted within the wiring duct. All wiring between the innerdoor and the backpanel shall be contained with in a plastic spiral wrap.
Each wire shall have a wire number at each end to correspond to the as built drawing for field troubleshooting.
The control panel shall be assembled by a TUV (UL508A Certified) manufacturing facility.

PUMP DATA		ELEVATIONS	
PRIMARY PUMP CAPACITY	118.0 GPM	TOP OF WETWELL	88.25
PRIMARY TDH	45.1 'TDH	INLET INVERT	83.25
PUMP MANUFACTURER	HOMA	HIGH LEVEL ALARM	83.00
PUMP MODEL #	GRP34/1/C	2nd PUMP ON	82.50
R.P.M.	3450	1st PUMP ON	82.00
HORSEPOWER	4.0	PUMPS OFF	81.00
ELECTRICAL/ VOLTS / PHASE	230/1	BOTTOM OF WETWELL	79.00
PUMP DISCHARGE SIZE	2"	WETWELL DIAMETER	48"
IMPELLER DIAMETER	5 7/8"		

*** ELECTRICIAN NOTES:**

1. DRAWING NOT TO SCALE
* 2. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES
* 3. ELECTRICIAN SHALL SEAL OFF CONDUIT RUNS
* 4. ELECTRICIAN TO MOUNT LIGHTNING ARRESTOR AT SWITCH DISCONNECT
* 5. CONTRACTOR SHALL VERIFY POWER SOURCE PRIOR TO ORDERING EQUIPMENT
* 6. NEUTRAL TO BE SUPPLIED FOR 23OV-3 PHASE OR 230V-SINGLE PHASE POWER.

RILEY & CO. / H-20 GP 06-19-08

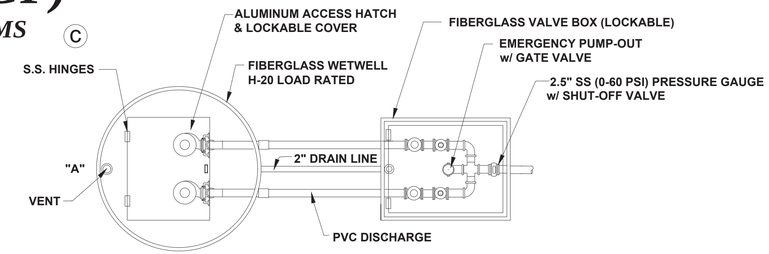
FASTNERS & APPURTANCES: All fasternes, lifting cables, float cable bracket, hinges, and appurtances shall be made of AISI 304SS.
A 304SS slide/latch assembly shall be provided tor holding the doors open on the wetwell and valve box.
Slide rails shall be made of SCH.40 AISI 304SS pipe.
Pump lifting cables shall be made of AISI 304 SS.
Pump lifting bales shall be made of AISI 304 SS.

H-20 LOAD RATED WETWELL WITH LIFTING LUGS:
The fiberglass wetwell must be H-20 load rated with integral lifting lugs, fiberglass slope in bottom of wetwell and valve box.
Certification of the H-20 load rating must be supplied at the time of submittals to Engineer.
The wetwell shall be manufactured of fiberglass reinforced polyester (FRP) of depth and diameter as shown on the lift station elevation detail. The wall thickness shall be adequate for the depth of the wetwell to maintain the H-20 LOAD RATING.

EXECUTION:
Installation shall be in strict accordance with the manufacturer's recommendations in the locations shown on the drawing.

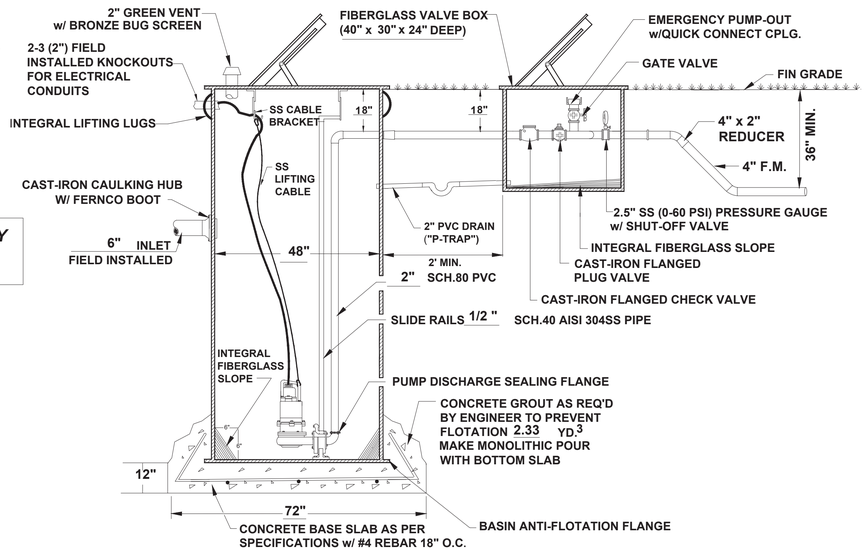
INSPECTION & TESTING: A factory representative shall be provide for a one (1) time start-up and shall have complete knowledge of the proper operation and maintenance of complete system.
Megger the motors. The pump motors shall be megged out prior to the start-up to ensure that the insulation of the pump motor/cable is intact.
The pump controls and pumps shall be checked for mechanical reliability and proper operation.

LIFT STATION SHALL BE PRIVATELY OWNED AND MAINTAINED.

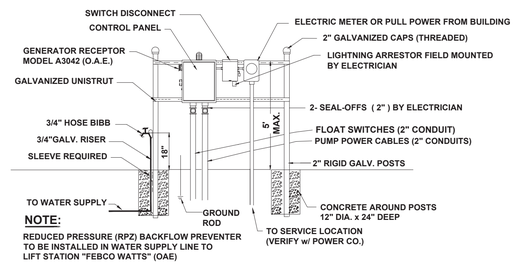


NOTE: PUMP CONTROL PANEL SHALL BE LOCATED 3 FEET FROM WETWELL PERIMETER AT POINT "A"

LIFT STATION PLAN



LIFT STATION SECTION



NOTE:
REDUCED PRESSURE (RPZ) BACKFLOW PREVENTER TO BE INSTALLED IN WATER SUPPLY LINE TO LIFT STATION "FEBCO WATTS" (OAE)

ELECTRICAL RISER

REVISIONS	BY

RILEY & Company, Inc.
5491 Benchmark Lane
Sanford, FL 32773
PH. 407-265-9963

DRAWN	
CHECKED	
DATE	
SCALE	
JOB NO.	

IRRIGATION PLAN

SCALE : 1" = 40' - 0"

CITY / COUNTY PROJECT NUMBER

IR-1

Drawing No.

DATE: 08/23/22

22038.00

RSB

PROFESSIONAL REGISTRATION
RANDALL S. BAKER
FL. LIC. 0001760

Digitally signed by Randall S. Baker
DN: cn=Randall S. Baker, o=Land Art Landscape Architecture, ou=Florida RLA 0001760, email=Randall@LandArtLA.com, c=US
Date: 2022.08.24 20:36:25 -04'00'
Adobe Acrobat Reader version: 2022.002.20191

REGISTERED LANDSCAPE ARCHITECT
RANDALL S. BAKER
LA 0001760
STATE OF FLORIDA

Randall S. Baker

754 ELLWOOD AVENUE
ORLANDO FLORIDA, 32804
407-912-9083
FLORIDAIRRIGATIONDESIGN@GMAIL.COM
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FLORIDAIRRIGATIONDESIGN@GMAIL.COM
407-912-9083

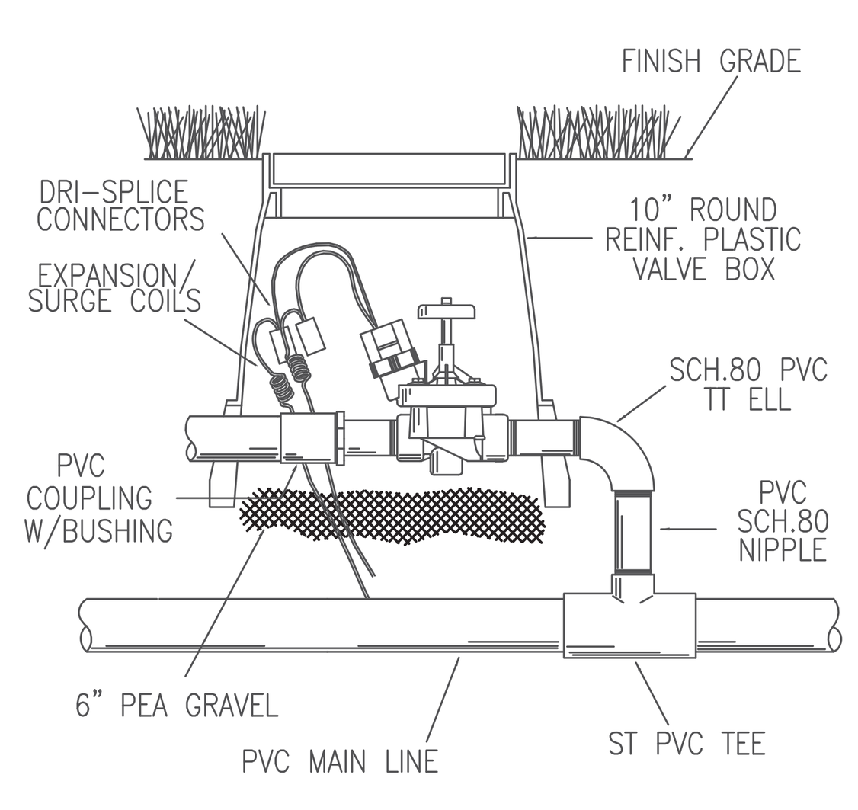
Project Name
HOWEY SELF STORAGE
S. PALM AVENUE, S.R. 19, HOWEY IN THE HILLS FLORIDA

Drawing Title
IRRIGATION PLAN

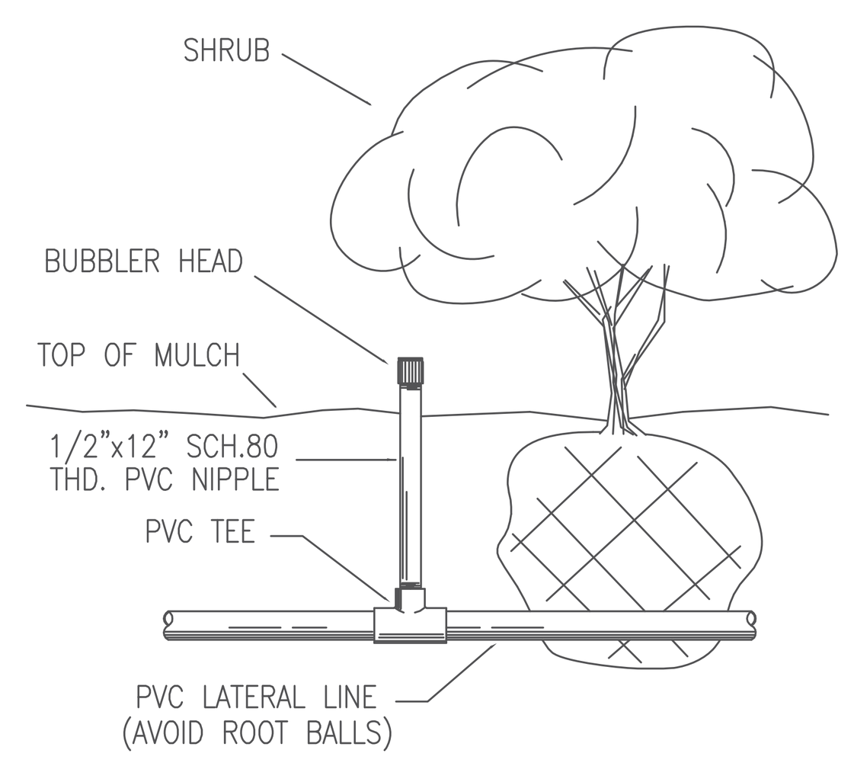
No.	REVISIONS	Date
2.	PER COUNTY COMMENT	05/19/21

ISSUED FOR PERMIT

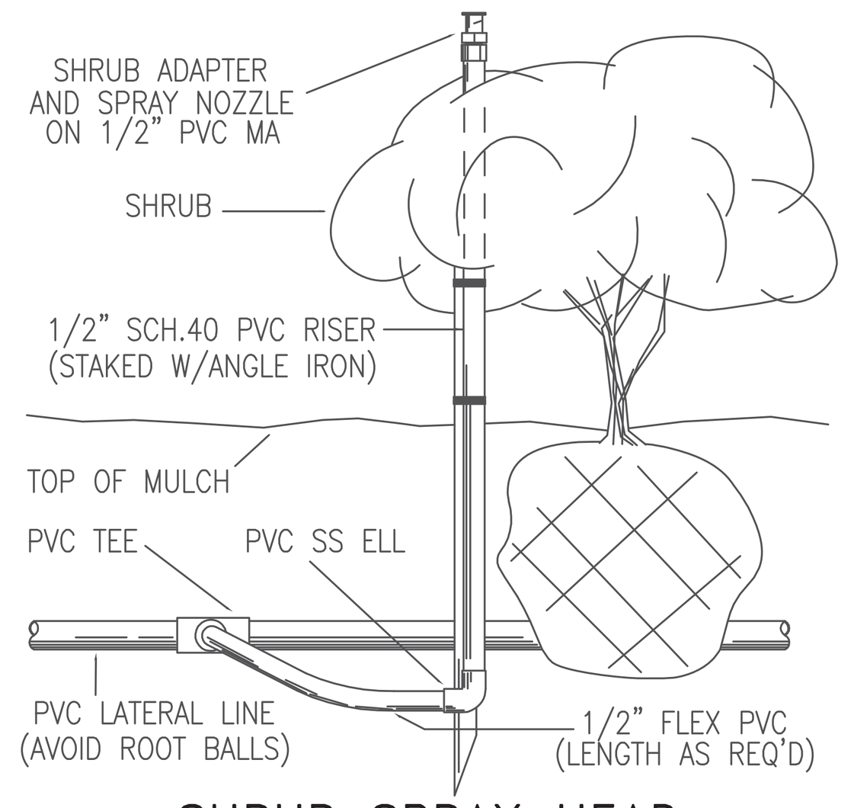
Item 5.



ELECTRIC CONTROL VALVE



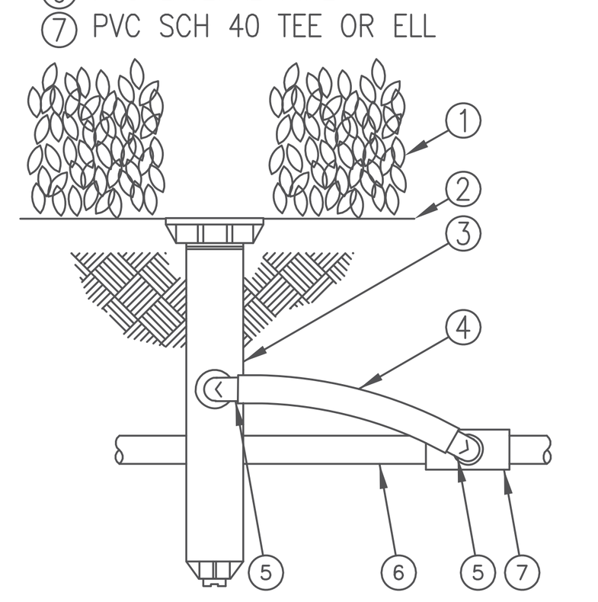
SHRUB BUBBLER HEAD



SHRUB SPRAY HEAD

INSET HEADS INTO PLANTS FROM WALLS, WALKS, CURBS, ETC.
(PAINT RISER AND STAKE APPROVED COLOR - HEIGHT PER PLANTING)

1. PLANT MATERIAL / SOD
2. FINISH GRADE/TOP OF MULCH
3. POP-UP SPRAY SPRINKLER: RAIN BIRD 1806 W/SPECIFIED NOZZLE
4. SWING PIPE, 12-INCH LENGTH: RAIN BIRD MODEL SP-100
5. 1/2-INCH MALE NPT x .490 INCH BARB ELBOW: RAIN BIRD MODEL SBE-050
6. PVC LATERAL PIPE
7. PVC SCH 40 TEE OR ELL

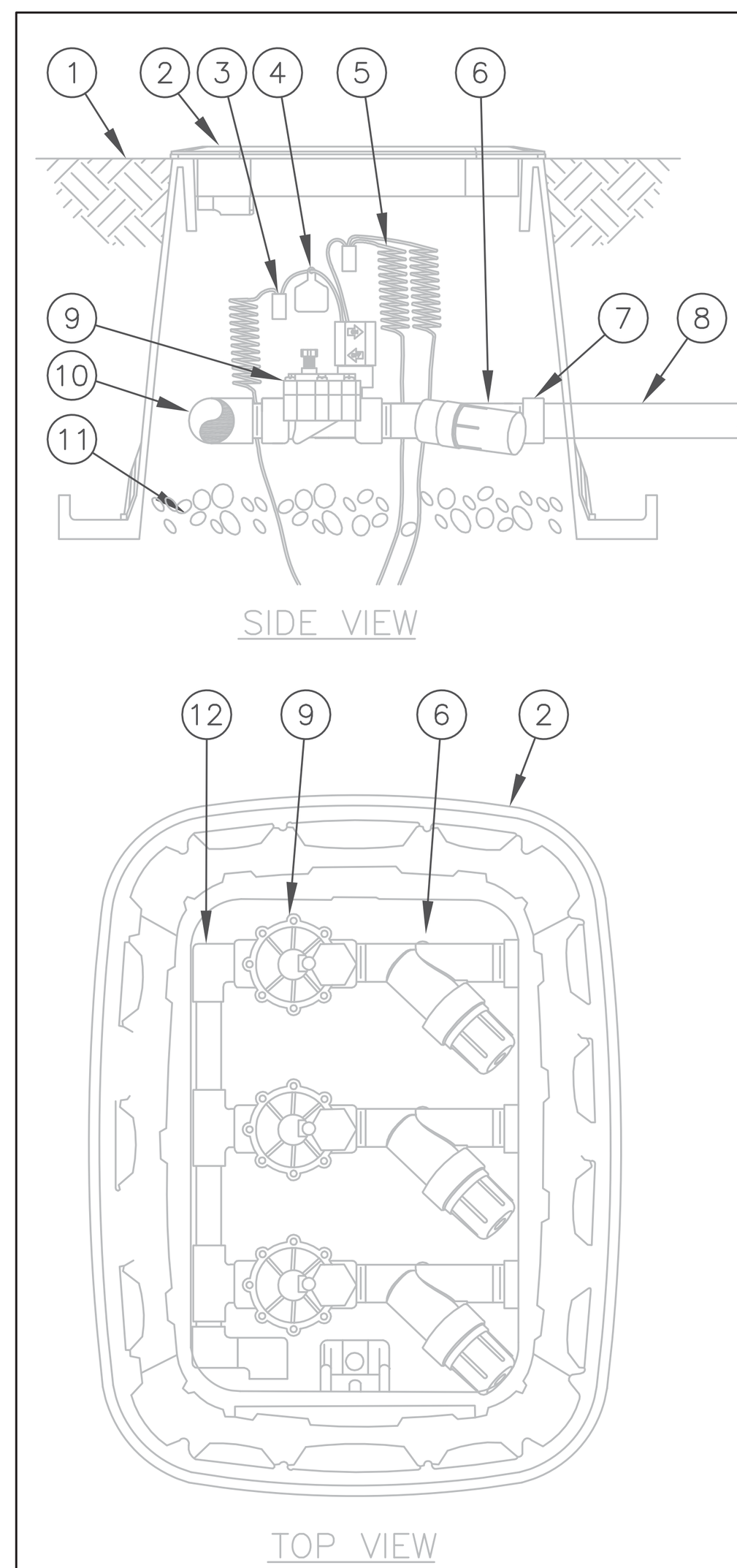


6" POP UP MIST SPRAY HEAD

USED WITH VARIOUS NOZZLES, SEE PLAN

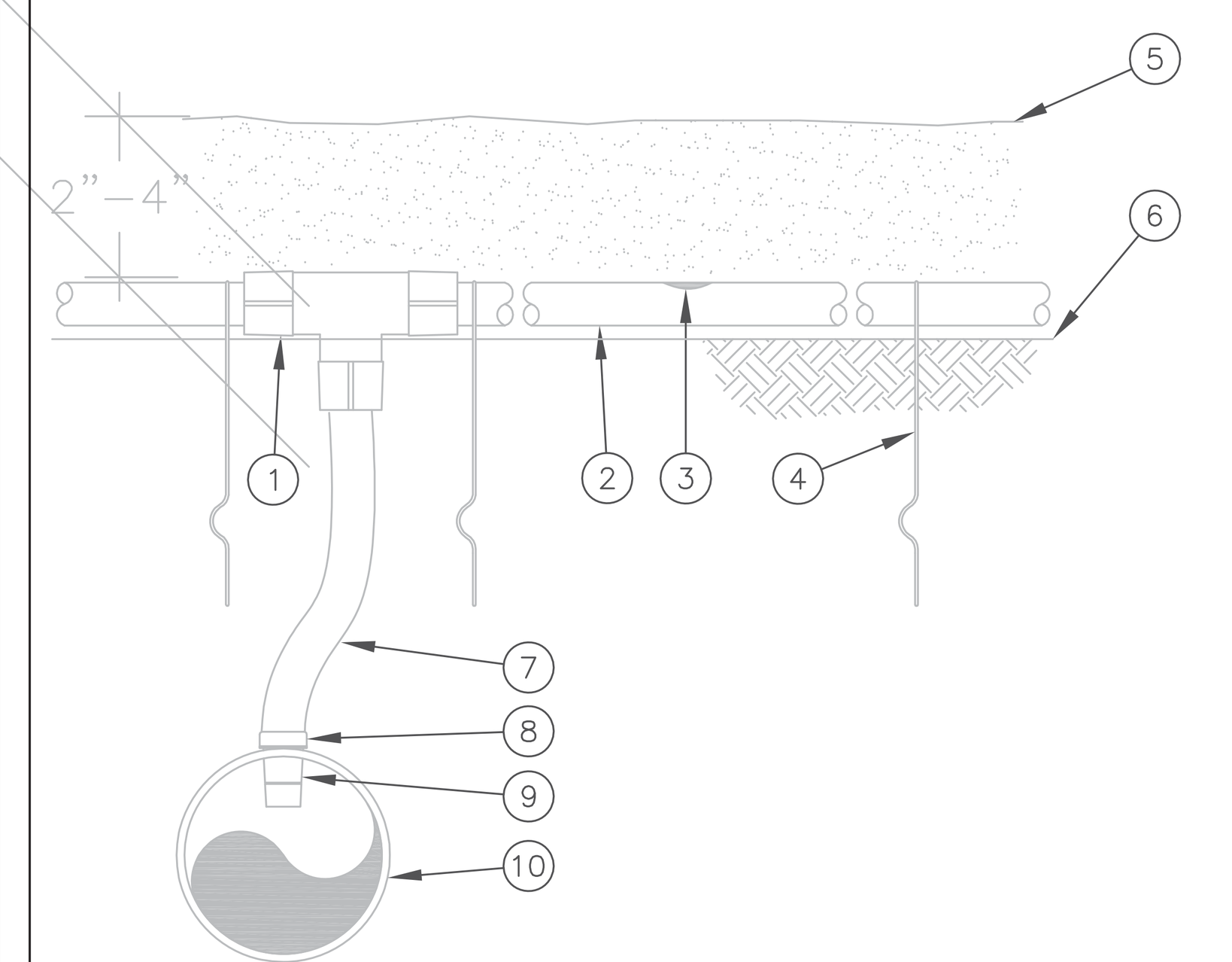
MATERIALS LIST – IRRIG. LEGEND SPEC'S

SYMBOL	QTY	SPECIFICATION
	9	6" POP UP MIST HEAD 90 DEGREE NOZZLE 8' THROW
	8	6" POP UP MIST HEAD 180 DEGREE NOZZLE 8' THROW
	1	6" POP UP MIST HEAD 360 DEGREE NOZZLE 8' THROW
	3	6" POP UP MIST HEAD 90 DEGREE NOZZLE 10' THROW
	2	6" POP UP MIST HEAD 90 DEGREE NOZZLE 15' THROW
	1	6" POP UP MIST HEAD 180 DEGREE NOZZLE 10' THROW
	3	5H-BUBBLER HEAD 25' RUBBER FLEX PIPE
	2	PEB SERIES VALVE
	2	LOW FLOW VALVE
	1	RAIN SENSOR
	1	1" BACKFLOW PREVENTER
	1	IRRIGATION CLOCK
	1	WIRELESS MODULE
	1	2" PVC SLEEVE
	750'	DRIPLINE 12" EMITTERS 12" SPACING
	AS NEEDED	2" MAINLINE (SEE NOTES)
	AS NEEDED	SERVICE LINES (SEE NOTES) VARYING DIAMETER
	1	1" SPECIAL IRRIG. METER O.U.C. 407-434-2535 1" = 25 G.P.M.
	1	1" BALL VALVE
VB	1	10" CIRC. VALVE BOX SEE NOTES
	1	20X14X12 VALVE BOX SEE NOTES
HB +	1	SPEAKMAN ½" NPTF BRASS HOSE BIB VALVE, POLISHED CHROME



1. FINISH GRADE
2. STANDARD VALVE BOX WITH COVER: RAIN BIRD VB-STD
3. WATERPROOF CONNECTION: RAIN BIRD DB SERIES
4. VALVE ID TAG
5. 30-INCH LINEAR LENGTH OF WIRE, COILED
6. PRESSURE REGULATING FILTER: RAIN BIRD PRF-075-RBY (INCLUDED IN XCZ-075-PRF KIT)
7. PVC SCH 40 FEMALE ADAPTOR
8. LATERAL PIPE
9. REMOTE CONTROL VALVE: RAIN BIRD LVF-075 (INCLUDED IN XCZ-075-PRF KIT)
10. PVC SCH 40 TEE OR ELL TO MANIFOLD
11. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
12. MANIFOLD PIPE AND FITTINGS

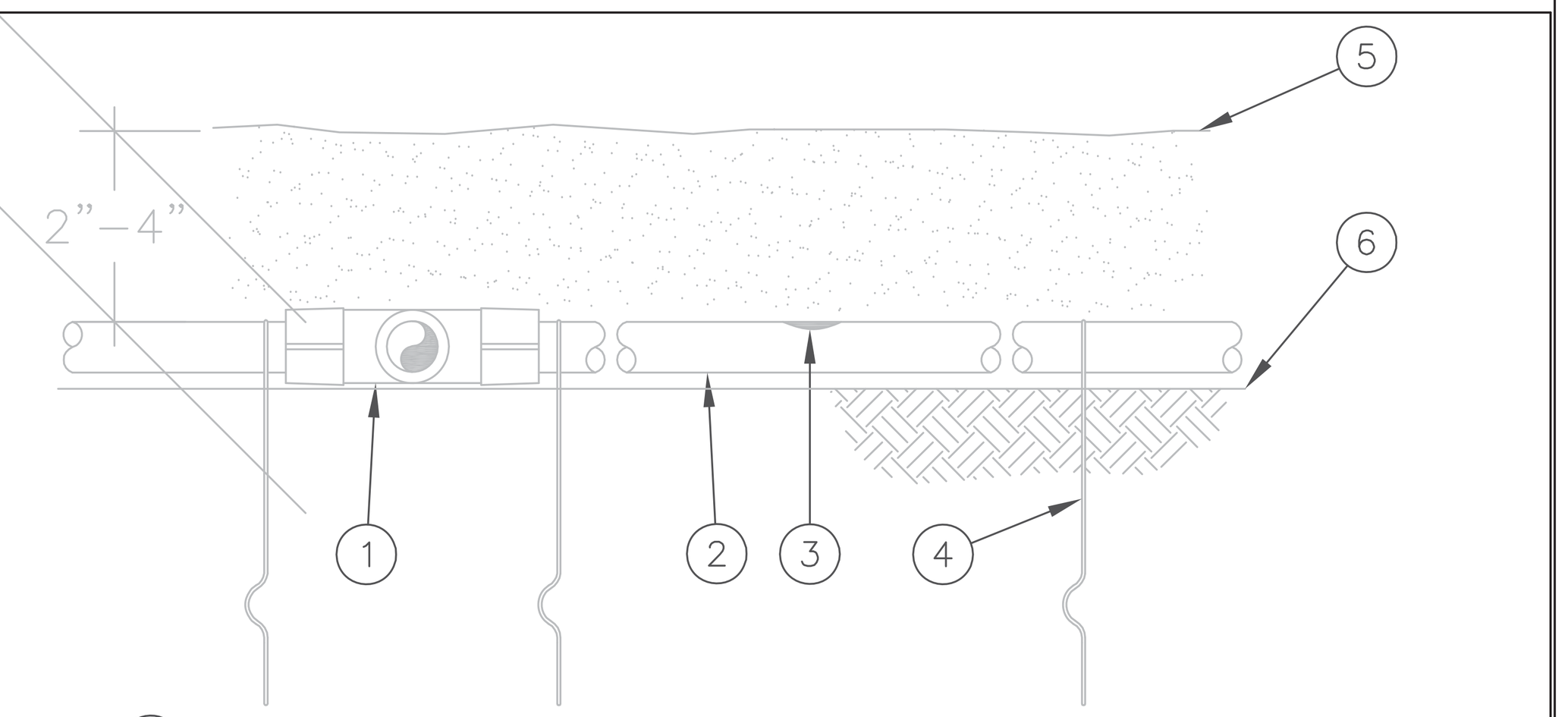
XCZ-075-PRF 3/4" CONTROL ZONE KIT IN SQUARE VALVE BOX



1. EASY FIT COMPRESSION TEE: RAIN BIRD MDCFTEE
2. ON-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFCV DRIPLINE
3. INLINE DRIP EMITTER OUTLET
4. TIE DOWN STAKE: RAIN BIRD TDS-050 WITH BEND (TYPICAL)
5. MULCH
6. FINISH GRADE
7. ½" POLYETHYLENE TUBING: RAIN BIRD XF SERIES BLANK TUBING
8. RATCHET CLAMP (INCLUDED WITH ADAPTER)
9. INSERT ADAPTER FOR PVC PIPE: RAIN BIRD XFD-INVPC
10. PVC LATERAL PIPE MINIMUM 1" IN DIAMETER

NOTES:
1. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR 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.

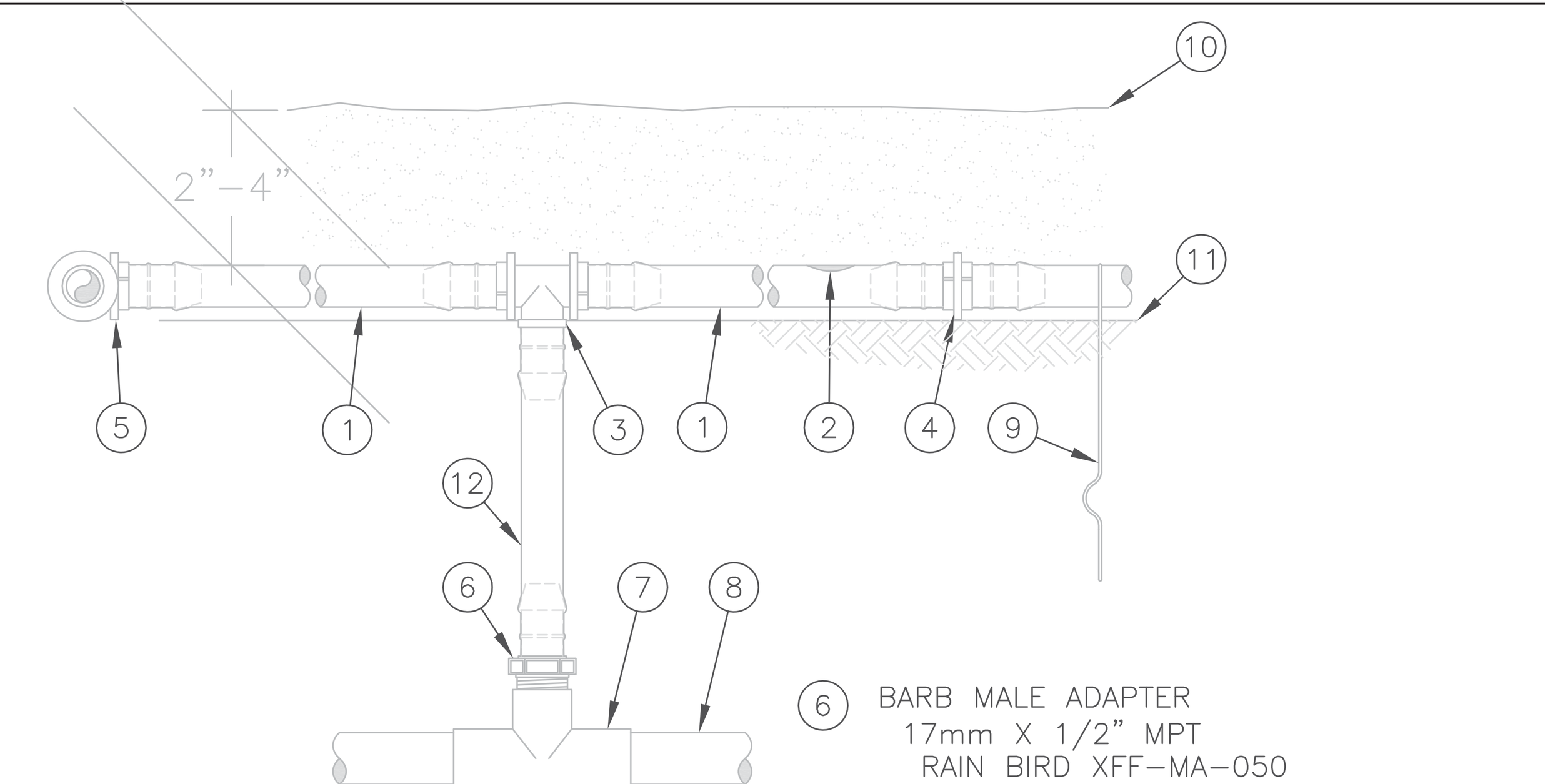
XFCV ON-SURFACE DRIPLINE INSERT ADAPTER FOR 1" OR LARGER PVC



1. EASY FIT COMPRESSION TEE: RAIN BIRD MDCFTEE
2. ON-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFCV DRIPLINE
3. INLINE DRIP EMITTER OUTLET
4. TIE DOWN STAKE: RAIN BIRD TDS-050 WITH BEND (TYPICAL)
5. MULCH
6. FINISH GRADE

NOTES:
1. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR 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.

XFCV ON-SURFACE DRIPLINE AT GRADE



1. ON-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFCV 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 (TYPICAL)
10. MULCH
11. FINISH GRADE
12. RAIN BIRD XF SERIES BLANK TUBING LENGTH AS REQUIRED

NOTES:
1. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR 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.
3. SAVE YOUR HANDS. USE THE RAIN BIRD FITTINS-TOOL XF INSERTION TOOL FOR FITTING ASSEMBLY.

XFCV ON-SURFACE DRIPLINE RISER ASSEMBLY

IRRIGATION INSTALLATION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ALL MATERIAL REQUIRED TO MAKE THE SYSTEM FUNCTION PROPERLY. ALL IRRIGATION SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND ALSO STATE AND/OR LOCAL CODES.
2. IRRIGATION PLANS ARE SCHEMATIC AND DRAWN FOR GRAPHIC CLARITY. ALL PIPING BELOW PAVEMENT SHALL BE SLEEVED. LAYOUT OF IRRIGATION SYSTEM SHALL BE COORDINATED WITH CORRESPONDING LANDSCAPE PLAN.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING LOCAL UNDERGROUND UTILITIES TO VERIFY LOCATIONS. THE CONTRACTOR SHOULD VISIT THE SITE PRIOR TO INSTALLATION AND BECOME FAMILIAR WITH EXISTING CONDITIONS.

CALL 811 FOR A UTILITY LOCATE BEFORE YOU DIG

4. VALVE LOCATIONS ARE SCHEMATIC ONLY AND WILL BE ADJUSTED FOR SITE CONDITIONS. EACH VALVE SHALL BE INSTALLED IN A AMETEK OR CARSON VALVE BOX. THE FLOW ADJUSTMENT FEATURE WILL BE USED TO BALANCE PRESSURE THROUGHOUT THE SYSTEM.
5. PIPING SHALL BE SIZED TO MINIMIZE FRICTION LOSS AND MAINTAIN FLOW VELOCITY BELOW 5 FPS.
6. THE IRRIGATION CONTROLLER SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES AND MANUFACTURER'S RECOMMENDATIONS. PROPER GROUNDING EQUIPMENT AND SURGE PROTECTION SHALL BE PROVIDED. A RAIN SENSOR SHALL BE INSTALLED TO OVER-RIDE THE CONTROLLER.
7. ALL HEADS ON RISERS SHALL BE SET AT THE HEIGHT OF ADJACENT PLANT MATERIAL.
8. SPRINKLER LOCATIONS ADJACENT TO PAVEMENT, STRUCTURES, FENCES, ETC. SHALL BE OFFSET AS FOLLOWS: 12" MIN FOR POP-UP MIST HEADS, 18" FOR SHRUB RISERS, 18" FOR ROTOR HEADS, AND TYPICALLY 5 FEET FOR ROTORS ALONG UNCURBED ROADWAYS.
9. ALL SLEEVING SHALL BE SCH 40 PVC TO SIZE INDICATED ON PLAN, OR IF NOT INDICATED, A MIN. OF 2 PIPE SIZES LARGER THAN SUPPLY LINE CONTAINED. ALL SLEEVES SHALL BE INSTALLED A MIN. OF 12" BELOW FINISH GRADE.
10. CONTROL WIRES SHALL BE UL APPROVED PE IRRIGATION CONTROL WIRE. USE 14 GAGE CONTROL WIRE AND 12 GAGE GROUND WIRE. WIRE SHALL BE BUNDLED AND ATTACHED TO THE MAIN LINE IN TRENCH OR THROUGH WIRE SLEEVES AT PAVEMENT CROSSINGS 24" BELOW FIN. GRADE. ALL SPLICES SHALL BE MADE WITH WATERPROOF DIRECT-BURIAL SPLICE KITS AND CONTAINED IN VALVE BOXES. TWO EXTRA CONTROL WIRES SHALL BE INSTALLED TO THE FURTHEST VALVES IN EACH DIRECTION FROM THE CONTROLLER.
11. PIPING IN NARROW PLANTING AREAS, PARKING ISLANDS AND PLANTERS SHALL BE SET TO ONE SIDE TO ALLOW ROOM FOR ROOT BALLS. PIPE AS INDICATED ON PLAN IS SCHEMATIC AND SHOULD BE ADJUSTED FOR FIELD CONDITIONS.
12. ALL GLUE JOINTS SHALL BE CLEANED, SANDED, AND TREATED WITH A COLORED HIGH ETCH PRIMER AND JOINED USING A SOLVENT CONFORMING WITH ASTM D2564.
13. SYSTEM PIPE SIZE 3/4" SHALL BE CLASS 200 PVC; SYSTEM PIPE SIZE 1" OR GREATER SHALL BE CLASS 160 PVC. SYSTEM MAIN WILL BE SCH. 40 PVC TO SIZE INDICATED ON PLAN. ALL FITTINGS WILL BE SOLVENT WELD SCH 40 PVC. MAIN LINE SHALL HAVE 24" MINIMUM COVER; ALL OTHER PIPING WILL HAVE 12" MIN. COVER. ALL BACKFILL FOR PIPE TRENCHES SHALL BE CLEAN AND FREE OF FOREIGN DEBRIS AND SHARP OBJECTS; BACKFILLED TRENCHES SHALL BE PROPERLY COMPACTED. ALL MAIN LINES WILL BE INSTALLED A MIN. OF 3' FROM ANY TREE OR PALM.
14. AS-BUILT DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND GIVEN TO THE OWNER PRIOR TO FINAL ACCEPTANCE.
15. WATERING TIME PER STATION WILL BE DETERMINED IN THE FIELD AND PER LOCAL REQUIREMENTS. REFER TO MANUFACTURER'S INSTRUCTIONS FOR PRECIPITATION RATES OF SPRINKLERS SPECIFIED.
16. IRRIGATION SYSTEM TO PROVIDE 100% COVERAGE WITH 50% OVERLAP MINIMUM.
17. SLEEVES SHALL EXTEND 6" BEYOND PAVEMENT AND BE TEMPORARILY CAPPED TO PREVENT SOIL INTRUSION.

BID NOTES

1.) MIST IRRIGATION SYSTEM IS DESIGNED AS A PERMANENT UNDERGROUND SYSTEM. DRIP SYSTEM IS DESIGNED TO BE ON SURFACE.

2.) RECLAIMED WATER IS AVAILABLE, THIS IS A RECLAIMED GRAY WATER SYSTEM. ALL PIPING AND PARTS SHALL BE PURPLE COLOR FOR IDENTIFICAITON OF RECLAIMED.

3.) RECLAIMED WATER PIPE IS INSTALLED AT THE NEIGHBORING PROPERTY, THE SIZE OF THIS SERVICE LINE SHALL BE MATCHED TO THE EXISTING SOURCE WHICH IS STUBBED AND CAPPED FOR EASY CONNECTION. PROVICE A SERVICE LINE EXTENSION WITH CAP AT THE OTHER SIDE OF PROPERTY FOR EASE OF SUPPLY EXTENSION IN THE FUTURE.

4.) IRRIGATION SYSTEM IS DESIGNED IN ACCORDANCE WITH SEC. 24-6 AND SEC. 24-7 AND THE SYSTEM IS DESIGNED TO CONFORM TO CH. 37, SECTIONS 601-613 OF THE ORANGE COUNTY LAND DEVELOPMENT CODE.

5.) PROVIDE THREE BUBBLERS FOR EACH TREE, AS SHOWN ON PLAN . TREE BUBBLERS MAY BE PLACED ON A ON A SEPERATE ZONE.

6.) CONTACT FLORIDA IRRIGATION SUPPLY FOR MATERIALS PURCHASE.
FIS – ORLANDO
2400 POSEO AVENUE
ORLANDO, FLORIDA 32805
407-425-6669

7.) PROVIDE AS BUILT DRAWINGS UPON COMPLETION OF INSTALLATION.

IRRIGATION LEGEND

FULL / THREE-QTR. / HALF / QUARTER

MIST HEADS

RAINBIRD 1812 6" or 12" POP-UP MIST HEAD WITH THE FOLLOWING NOZZLES:

- 15' SERIES NOZZLE.
- 10' SERIES NOZZLE.
- 8' SERIES NOZZLE.
- 15SST
- 15EST

ROTORS

- 35' SERIES ROTOR
- 20' SERIES ROTOR
- 10' SERIES ROTOR
- 36' SERIES ROTOR

BUBBLER NOZZLES

RAINBIRD BUBBLER NOZZLE ON FIXED RISER 3" ABOVE FINISH GRADE AS FOLLOWS:

- 5H-B 1.0 GPM
- 1502-SBH .5 GPM

VALVES

- RAINBIRD PEB SERIES ELECTRIC GLOBE VALVE, SIZE AS NOTED ON PLAN, IN AMETEK OR CARSON 12"x18" VALVE BOX
- RAINBIRD 3/4" INLINE DRIP CONTROL KIT LFV (LOW FLOW VALVE)
- AMES BRASS GATE VALVE, SAME SIZE AS MAIN LINE, IN 6" SCH 40 PVC COLLAR EXTENSION AND VALVE BOX.
- RAINBIRD ESP SERIES CONTROLLERS LOCATION (TM-2)
- RAIN BIRD LINK WIFI MODULE
- RAINBIRD RSDBDX RAIN SENSOR

SLEEVES

SLEEVES: SCH 40 PVC OR RATED EQUAL CLASS. SLEEVES TO BE MIN. 24"- MAX. 36" DEEP

DRIPLINE (ON SURFACE, BELOW MULCH):

RAIN BIRD XFD DRIP LINE, 12" EMITTERS, .9 GPH EMITTERS XFD-09-12-100, XFD-09-12-250, XFD-09-12-500

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	WIRE	PSI	PSI @ POC	GPM	PRECIP
1	Rain Bird PEB	1-1/2"	Shrub Spray	156.4	40.04	56.27	42.89	1.73 in/h
2	Rain Bird PEB	1-1/2"	Shrub Spray	145.4	35.44	52.26	44.76	1.70 in/h
3	Rain Bird PEB	1-1/2"	Shrub Spray	130.1	35.46	50.37	31.13	1.65 in/h
4	Rain Bird PEB	1-1/2"	Shrub Spray	240.3	34.81	52.55	40.12	1.63 in/h
5	Rain Bird PEB	1-1/2"	Turf Spray	162.9	34.46	50.21	36.95	1.73 in/h
6	Rain Bird PEB	1-1/2"	Turf Spray	20.4	35.23	51.61	41.82	1.81 in/h
7	Rain Bird PEB	1-1/2"	Turf Spray	141.8	35.49	52.27	43.56	1.71 in/h
8	Rain Bird PEB	1"	Shrub Rotor	219.8	43.98	56.95	14.40	0.19 in/h
9	Rain Bird PEB	1-1/2"	Shrub Rotor	219.9	47.29	61.48	25.20	0.53 in/h
10	Rain Bird PEB	1-1/2"	Shrub Rotor	266.9	50.14	67.78	46.00	0.45 in/h
11	Rain Bird PEB	1-1/2"	Shrub Rotary	307.4	45.38	61.50	21.47	0.41 in/h
12	Rain Bird PEB	1-1/2"	Turf Rotor	245.5	57.84	77.76	55.00	0.82 in/h
13	Rain Bird PEB	1-1/2"	Turf Rotor	141.8	57.65	77.05	55.00	0.79 in/h
14	Rain Bird PEB	1-1/2"	Turf Rotor	116.2	56.76	73.33	44.00	0.37 in/h
15	Rain Bird PEB	1-1/2"	Turf Rotor	163.0	56.76	73.48	44.00	0.38 in/h
16	Rain Bird PEB	1-1/2"	Turf Rotor	210.1	56.76	73.64	44.00	0.38 in/h
17	Rain Bird PEB	1-1/2"	Turf Rotor	256.8	56.76	73.79	44.00	0.38 in/h
18	Rain Bird PEB	1-1/2"	Turf Rotor	266.6	56.05	75.84	55.00	0.81 in/h
19	Rain Bird PEB	1-1/2"	Turf Rotor	303.6	56.76	73.95	44.00	0.38 in/h
20	Rain Bird PEB	1-1/2"	Turf Rotor	350.7	56.76	74.10	44.00	0.38 in/h
21	Rain Bird PEB	1-1/2"	Turf Rotor	384.2	64.04	81.49	44.00	1.65 in/h
22	Rain Bird PEB	1-1/2"	Turf Rotor	395.5	58.77	79.21	55.00	0.81 in/h
23	Rain Bird PEB	1-1/2"	Turf Rotary	204.7	46.47	61.98	32.85	0.48 in/h
	Common Wire			1,398				

No.	REVISIONS	Date
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Project Name
HOWEY SELF STORAGE
S. PALM AVENUE, S.R. 19, HOWEY IN THE HILLS FLORIDA
Drawing Title
Irrigation Details, Notes

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754 ELLWOOD AVENUE
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Digitally signed by Randall S. Baker
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Date: 2022.08.24 20:37:14 -04'00'
Adobe Acrobat Reader version: 2022.002.20191

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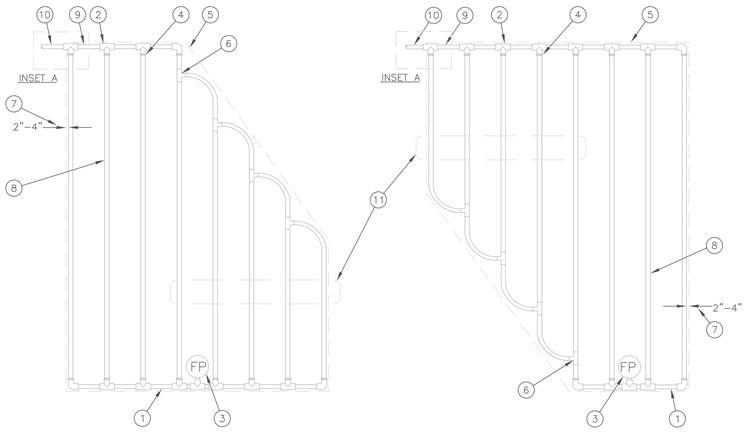
22038.00
DATE: 08/23/22
Drawing No.
IR-2

ISSUED FOR PERMIT

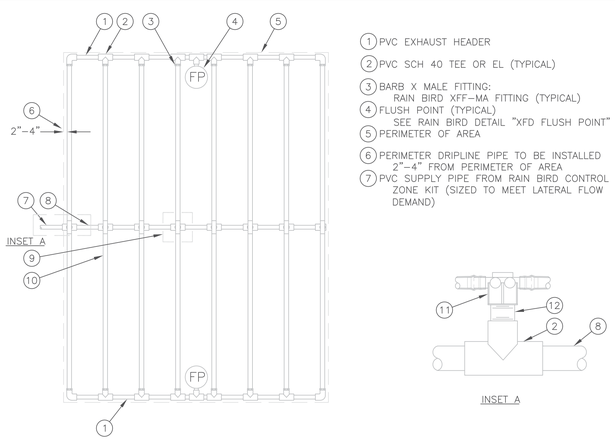
COUNTY PROJECT NUMBER



1. PVC EXHAUST HEADER
2. PVC SCH 40 TEE OR EL (TYPICAL)
3. FLUSH POINT (TYPICAL)
   SEE RAIN BIRD DETAIL "XFC FLUSH POINT
4. BARB X MALE FITTING:
   RAIN BIRD XFF–MA FITTING (TYPICAL)
5. PERIMETER OF AREA
6. BARB X BARB INSERT TEE OR CROSS:
   RAIN BIRD XFF–TEE OR
   RAIN BIRD XFD–CROSS (TYPICAL)
7. PERIMETER DRIPLINE PIPE TO BE INSTALLED
   2"–4" FROM PERIMETER OF AREA
8. ON–SURFACE DRIPLINE:
   RAIN BIRD XF SERIES DRIPLINE (TYPICAL)
   POTABLE: XFCV DRIPLINE
9. PVC SUPPLY MANIFOLD
10. PVC SUPPLY PIPE FROM RAIN BIRD CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
11. TOTAL LENGTH OF SELECTED DRIPLINE SHOULD NOT EXCEED LENGTH SHOWN IN TABLE
12. PVC SCH 40 RISER PIPE

NOTES:
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
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.

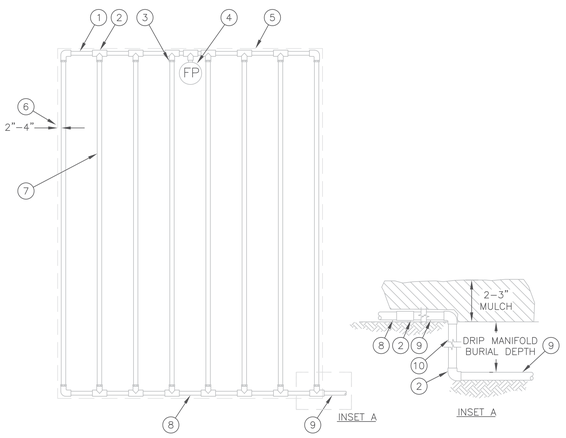
XFCV ON–SURFACE DRIPLINE IRREGULAR SHAPED LAYOUT



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: XFCV DRIPLINE
11. BARB X FEMALE FITTING:
    RAIN BIRD XFD–TFA–075 FITTING
12. ¾" PVC NIPPLE, LENGTH AS NECESSARY

NOTES:
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
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.

XFCV ON–SURFACE DRIPLINE CENTER FEED LAYOUT



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 "XFC FLUSH POINT"
5. PERIMETER OF AREA
6. PERIMETER DRIPLINE PIPE TO BE INSTALLED
   2"–4" FROM PERIMETER OF AREA
7. ON–SURFACE DRIPLINE:
   RAIN BIRD XF SERIES DRIPLINE (TYPICAL)
   POTABLE: XFCV DRIPLINE
8. PVC SUPPLY HEADER
9. PVC DRIP MANIFOLD FROM RAIN BIRD CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
10. PVC SCH 40 RISER PIPE

NOTES:
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
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.

XFCV ON–SURFACE DRIPLINE END FEED LAYOUT

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Project Name
HOWEY SELF STORAGE
S. PALM AVENUE, S.R. 19, HOWEY IN THE HILLS FLORIDA

Drawing Title
Drip Irrigation Details, Notes

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PROFESSIONAL REGISTRATION
LANDSCAPE ARCHITECT
LA 0001760
STATE OF FLORIDA

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Date: 2022.08.24 20:37:42 -04'00'
Adobe Acrobat Reader version: 2022.002.20191

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22038.00

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Drawing No.
IR–3

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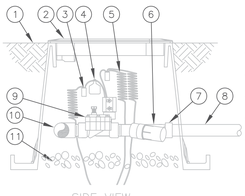
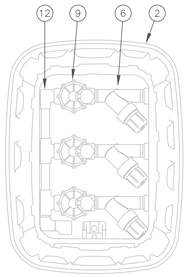
COUNTY PROJECT NUMBER



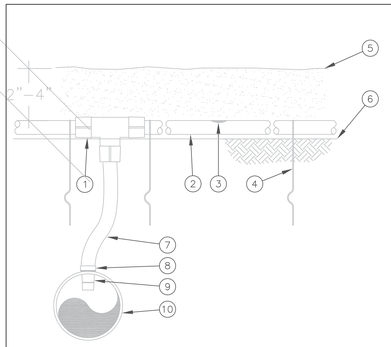
SIDE VIEW



TOP VIEW

1. FINISH GRADE
2. STANDARD VALVE BOX WITH COVER: RAIN BIRD VB–STD
3. WATERPROOF CONNECTION: RAIN BIRD DB SERIES
4. VALVE ID TAG
5. 30–INCH LINEAR LENGTH OF WIRE, COILED
6. PRESSURE REGULATING FILTER: RAIN BIRD PRF–075–RBY (INCLUDED IN XCZ–075–PRF KIT)
7. PVC SCH 40 FEMALE ADAPTOR
8. LATERAL PIPE
9. REMOTE CONTROL VALVE: RAIN BIRD LVF–075 (INCLUDED IN XCZ–075–PRF KIT)
10. PVC SCH 40 TEE OR ELL TO MANIFOLD
11. 3–INCH MINIMUM DEPTH OF 3/4–INCH WASHED GRAVEL
12. MANIFOLD PIPE AND FITTINGS

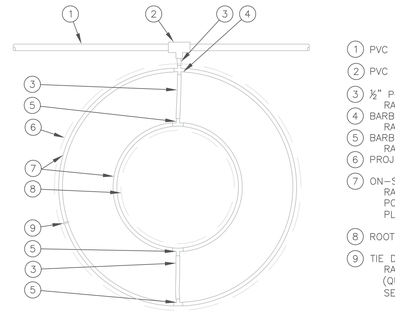
XCZ–075–PRF 3/4" CONTROL ZONE KIT IN SQUARE VALVE BOX



1. EASY FIT COMPRESSION TEE: RAIN BIRD MDDFTEE
2. ON–SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFCV DRIPLINE
3. INLINE DRIP EMITTER OUTLET
4. TIE DOWN STAKE: RAIN BIRD TDS–050 WITH BEND (TYPICAL)
5. MULCH
6. FINISH GRADE
7. ½" POLYETHYLENE TUBING: RAIN BIRD XF SERIES BLANK TUBING
8. RATCHET CLAMP (INCLUDED WITH ADAPTER)
9. INSERT ADAPTER FOR PVC PIPE: RAIN BIRD XFD–INVPC
10. PVC LATERAL PIPE MINIMUM 1" IN DIAMETER

NOTES:
1. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR 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.

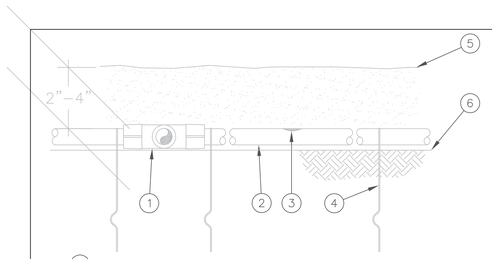
XFCV ON–SURFACE DRIPLINE INSERT ADAPTER FOR 1" OR LARGER PVC



1. PVC DRIP MANIFOLD PIPE
2. PVC SCH 40 TEE OR EL
3. ½" POLYETHYLENE TUBING: RAIN BIRD XF SERIES BLANK TUBING
4. BARB CROSS INSERT FITTING: RAIN BIRD XFD–CROSS
5. BARB TEE INSERT FITTING: RAIN BIRD XFF–TEE
6. PROJECTED CANOPY LINE OF TREE
7. ON–SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFCV DRIPLINE PLACE AS SHOWN (LENGTH AS REQUIRED)
8. ROOT BALL
9. TIE DOWN STAKE: RAIN BIRD TDS–050 WITH BEND (QUANTITY AS REQUIRED, SEE NOTES 2–3 BELOW)

NOTES:
1. DISTANCE BETWEEN LATERAL RINGS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, AND TREE CANOPY. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
2. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE FEET IN CLAY.
3. 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.

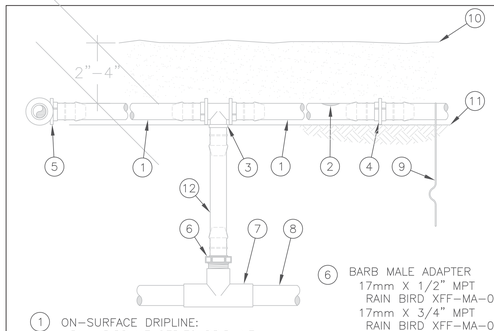
XFCV ON–SURFACE DRIPLINE AROUND TREE



1. EASY FIT COMPRESSION TEE: RAIN BIRD MDCFTEE
2. ON–SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFCV DRIPLINE
3. INLINE DRIP EMITTER OUTLET
4. TIE DOWN STAKE: RAIN BIRD TDS–050 WITH BEND (TYPICAL)
5. MULCH
6. FINISH GRADE

NOTES:
1. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR 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.

XFCV ON–SURFACE DRIPLINE AT GRADE



1. ON–SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFCV 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 (TYPICAL)
10. MULCH
11. FINISH GRADE
12. RAIN BIRD XF SERIES BLANK TUBING LENGTH AS REQUIRED

NOTES:
1. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR 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.
3. SAVE YOUR HANDS. USE THE RAIN BIRD FITTINS–TOOL XF INSERTION TOOL FOR FITTING ASSEMBLY.

XFCV ON–SURFACE DRIPLINE RISER ASSEMBLY

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PROFESSIONAL REGISTRATION

RSB

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Drawing No.

IR–4

ISSUED FOR PERMIT

COUNTY PROJECT NUMBER

1 L-1 BIKE RACK

1 L-1 PAVER

MATERIAL SCHEDULE

SYMBOL	ITEM	DESCRIPTION	QUAN
1	BIKE RACK	RING BY LANDSCAPE FORMS, SILVER, SEE DETAILS THIS SHEET, LANDSCAPEFORMS.COM, 800-430-6209	1 EACH
2	PERVIOUS PAVER	BELGARD TURFSTONE 16" X 24" GREY OLDCASTLE COASTAL ORLANDO - 800-226-9117	160 SF
3	BENCH	PEVO SPORT 7.5' COVERED BENCH, SKY BLUE, NO IMAGE, ROB@PEVOSPORTS.COM, 910-397-9388	1 EA
4	TRASH RECEPTACLE	AUSTIN SIDE OPEN TRASN BIN, SILVER, LANDSCAPEFORMS.COM, 800-430-6209	1 EA.
5	ASH URN	HUMO VERTICAL ASH URN, SILVER, DECK MOUNT, LANDSCAPEFORMS.COM, 800-430-6209	1 EA.
6	VEHICLE GATE	VERTICAL PIVOT LIFT BUCKEYE GATE AND OPERATOR BY AUTOGATE.COM 800-944-4283 CONTACT BILL RODWANCY OR BRIAN FRITZ	2 EA.
7	PEDESTRIAN GATE	BUCKEYE PEDESTRIAN GATE BY AUTOGATE.COM 800-944-4283 CONTACT BILL RODWANCY OR BRIAN FRITZ	2 EA.

6 L-1 MATERIALS LIST

KEY:

A PROPOSED ENTRY DRIVE
B PROPOSED SIGN (UNDER SEPARATE PERMIT)
C PROPOSED ACCESSIBLE PARKING
D PROPOSED ACCESSIBLE PARKING SIGNAGE
E PROPOSED PARKING SPACE
F PROPOSED LIFT STATION
G PROPOSED DUMPSTER
H PROPOSED 6' MASONRY WALL
I PROPOSED 6' FENCE
J PROPOSED STORAGE OFFICE
K PROPOSED STORAGE BUILDING
L PROPOSED RETENTION
J PROPOSED CANOPY TREE
K PROPOSED PALM TREE
L PROPOSED FLOWERING / UNDERSTORY TREE
M PROPOSED CONIFER TREE
N SAVE AS MUCH NATIVE VEGETATION AND TREES AS POSSIBLE. REMOVE ANY INVASIVES

LEGEND

APPROX. LINE OF TREE CANOPY
LOCATION OF EXISTING TREE
TREE NUMBER

NEW LOCATION OF MOVED TREES
SEE SHEET L12 FOR LOCATIONS

TREE TO RELOCATE

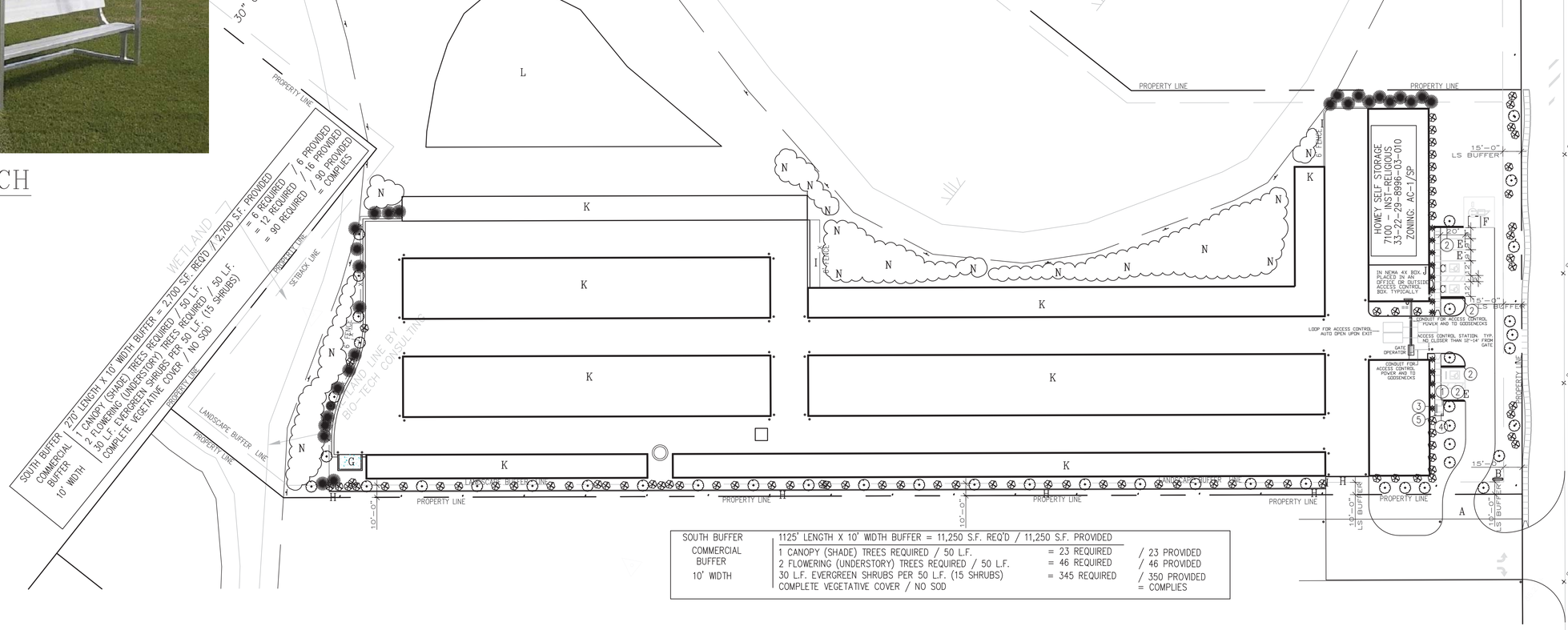
TREE TO REMOVE

TREE TO REMAIN AND PROTECT

3 L-1 BENCH

5 L-1 ASH URN

4 L-1 RECEPTACLE



1 L-1 LANDSCAPE SITE PLAN
SCALE : 1" = 40' - 0"

NORTH

PERMIT NUMBER

No.	REVISIONS	DATE
2.	PER COUNTY COMMENT	05/19/21

Project Name
HOWEY SELF STORAGE
S. PALM AVENUE, S.R. 19, HOWEY IN THE HILLS FLORIDA
Drawing Title
LANDSCAPE SITE PLAN

L.a.L.a. LANDART LANDSCAPE ARCHITECTURE
754 ELLWOOD AVENUE
ORLANDO, FLORIDA, 32804
407-484-6099
PROJECTS@LANDARTLA.COM
WWW.LANDARTLA.COM

REGISTERED LANDSCAPE ARCHITECT RANDALL S. BAKER LA 0001760 STATE OF FLORIDA

Digitally signed by Randall S. Baker
DN: cn=Randall S. Baker, o=Land Art Landscape Architecture, ou=Florida RLA 0001760, email=Randall@LandArtLA.com, c=US
Date: 2022.08.24 17:53:48 -04'00'
Adobe Acrobat Reader version: 2022.002.20191

DRAWN BY:	RSB
JOB NO.	22038.00
DATE	DATE: 08/23/22
Drawing No.	L-1

ISSUED FOR PERMIT

TREE #	COMMON NAME	SCIENTIFIC NAME	CAL.	HT.	SPR.	NOTE	ACTION
1	CAMPHOR	CINNANOMUM CAMPHORA	30"			INVASIVE	REMOVE
2	CHERRY LAUREL	PRUNUS LAUROCERASUS	12"			INVASIVE	REMOVE
3	CHERRY LAUREL	PRUNUS LAUROCERASUS	12"			INVASIVE	REMOVE
4	CHERRY LAUREL	PRUNUS LAUROCERASUS	10"			INVASIVE	REMOVE
5							
6							
7							
8							
9							
10							

LEGEND

APPROX. LINE OF TREE CANOPY
LOCATION OF EXISTING TREE
TREE NUMBER

NEW LOCATION OF MOVED TREES
SEE SHEET L12 FOR LOCATIONS

TREE TO RELOCATE

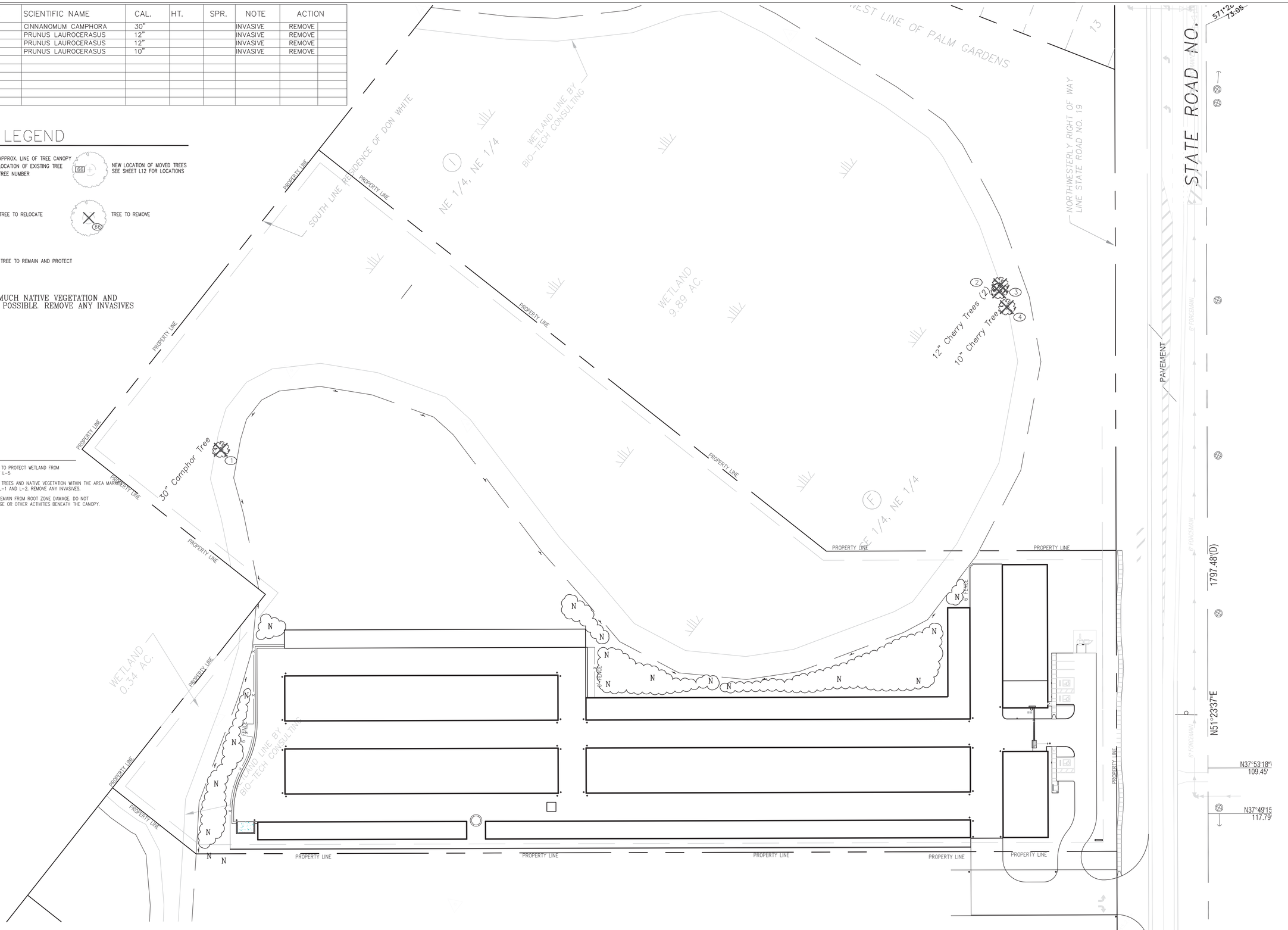
TREE TO REMOVE

TREE TO REMAIN AND PROTECT

N SAVE AS MUCH NATIVE VEGETATION AND TREES AS POSSIBLE. REMOVE ANY INVASIVES

TREE REMOVAL NOTES

1. INSTALL SILT FENCE AT PERIMETER TO PROTECT WETLAND FROM CONSTRUCTION RUNOFF, SEE SHEET L-5
2. MAKE ALL ATTEMPTS TO SAVE ALL TREES AND NATIVE VEGETATION WITHIN THE AREA MARKED AS "N" ON SHEETS L-1 AND L-2. REMOVE ANY INVASIVES.
3. PROTECT ALL EXISTING TREES TO REMAIN FROM ROOT ZONE DAMAGE. DO NOT ALLOW PARKING, MATERIALS STORAGE OR OTHER ACTIVITIES BENEATH THE CANOPY.



L.a.L.a. LAND ART LANDSCAPE ARCHITECTURE
754 ELLWOOD AVENUE
ORLANDO, FLORIDA, 32804
407-484-6099
PROJECTS@LANDARTLA.COM
WWW.LANDARTLA.COM

No.	REVISIONS	DATE
2.	PER COUNTY COMMENT	05/19/21

Project Name
HOWEY SELF STORAGE
S. PALM AVENUE, S.R. 19, HOWEY IN THE HILLS FLORIDA

Drawing Title
TREE REMOVAL PLAN

STATE OF FLORIDA — RANDALL S. BAKER — LA 0001760 — REGISTERED LANDSCAPE ARCHITECT

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DN: cn=Randall S. Baker, o=Land Art Landscape Architecture, ou=Florida RLA 0001760, email=Randall@LandArtLA.com, c=US
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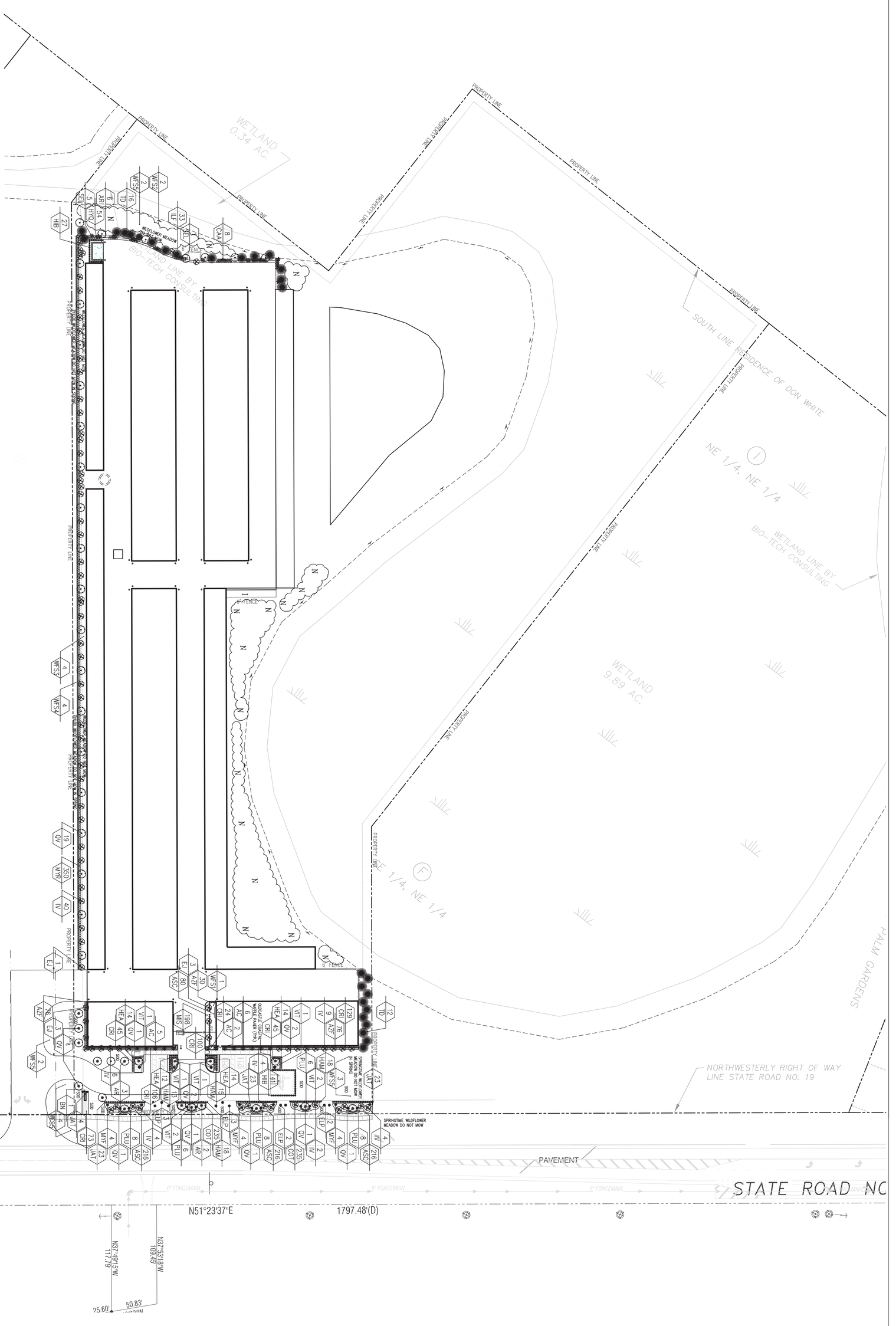
Adobe Acrobat Reader version: 2022.002.20191

RSB
22038.00
DATE: 08/23/22

Drawing No.
L-2

ISSUED FOR PERMIT

CITY / COUNTY PROJECT NUMBER



CITY / COUNTY PROJECT NUMBER

L-3

RSB

22038.00

DATE: 08/23/22

PROFESSIONAL REGISTRATION
Digitally signed by Randall S. Baker
DN: cn=Randall S. Baker, o=Land Art Landscape Architecture, ou=Florida RLA 0001760, email=RandallB@LandArtLA.com, c=US
Date: 2022.08.24 20:33:55 -04'00'
Adobe Acrobat Reader version: 2022.002.20191

754 ELLWOOD AVENUE
WINTER PARK, FLORIDA 32804
407-484-6559
PRANDALL@LANDARTLA.COM
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L.a.L.a.
LANDART
LANDSCAPE ARCHITECTURE

Project Name
HOWEY SELF STORAGE
S. PALM AVENUE, S.R. 19, HOWEY IN THE HILLS FLORIDA

Drawing Title
LANDSCAPE PLAN

No.	REVISIONS	Date
2.	PER COUNTY COMMENT	05/19/21

ISSUED FOR PERMIT

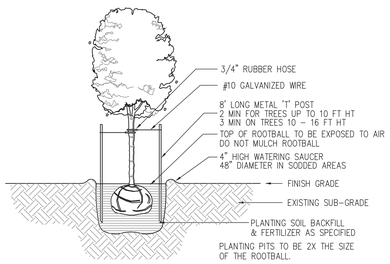
153

Item 5

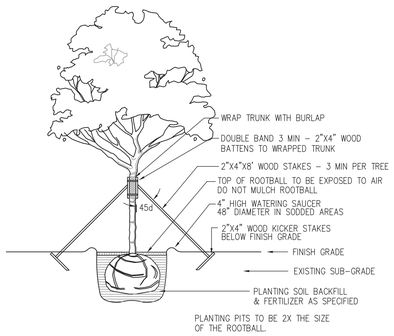
PLANT NOTES

1. ALL PLANTS ARE TO BE FLORIDA NO 1. GRADE OR BETTER.
2. NO SUBSTITUTIONS WILL BE ACCEPTED WITHOUT PRIOR WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT.
3. ALL LANDSCAPE AREAS TO RECEIVE 100% IRRIGATION COVERAGE WITH A MINIMUM 50% OVERLAP BY AN AUTOMATIC IRRIGATION SYSTEM. SYSTEM SHALL INCLUDE A RAIN SENSOR DEVICE. USE OF NONPOTABLE WATER SHALL BE USED FROM A RUST FREE SOURCE WHEN AVAILABLE..
4. QUANTITIES ON PLANT LIST ARE FOR CONVENIENCE ONLY. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL PLANTS SHOWN ON PLANTING PLAN(S). WHEN DISCREPENCIES OCCUR BETWEEN THE PLANT LIST AND PLANTING PLANS, THE PLANS ARE TO OVERIDE THE PLANT LIST IN ALL CASES.
5. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WORK. DIAL 811 FOR SUNSHINE ONE CALL. ALTERNATE 800-432-4770
6. ALL SHRUB AND GROUNDCOVER BEDS SHALL BE LAID OUT IN A UNIFORM AND CONSISTENT PATTERN; SET IN A PERPENDICULAR LINE WHEN ABUTTING PAVEMENT OR BUILDINGS.
7. ALL TREES AND PALMS TO BE STAKED AND GUYED AS INDICATED ON DETAILS.
8. ALL PLANTING AREAS TO RECIEVE 3" LAYER OF GRADE B SHREDDED EUCALYPTUS MULCH. TOP OF MULCH SHALL BE 2" BELOW ANY ADJACENT PAVEMENT.
9. ALL PLANT MATERIAL TO BE BACKFILLED WITH A LANDSCAPE MIX,, SUBMIT SAMPLE TO LANDSCAPE ARCHITECT FOR APPROVAL.
10. RELOCATE TREES PER TREE RELOCATON PLAN, STAKE AND SECURE PER INDUSTRY STANDARDS.
11. ALL SOD SHALL BE LAID ON 1" DEPTH OF TOPSOIL.
12. ALL EXISTING TREES TO REMAIN SHALL RECEIVE A MIN. 32" MULCH RING. DO NOT DISTURB ROOT STRUCTURE.
13. ALL MECHANICAL EQUIPMENT SHALL BE SCREENED ON THREE SIDES WITH APPROVED HEDGE.
14. ALL TREES SHALL BE PLANTED AT LEAST 10' FROM OVERHEAD POWER LINES.
15. LANDSCAPE SHALL NOT OBSCURE FIRE HYDRANT NOR SPRINKLER/STANDPIPE WYES.
16. ALL EXISTING TREES ON SITE IN THE VICINITY OF NEW CONSTRUCTION SHALL BE PROTECTED AS PER COUNTY / CITY CODE.
17. ALL EXISTING TREES ON SITE TO RECEIVE 3' MULCH RING AND CLEAN CUT BEDLINES.
18. CONTRACTOR TO CONTACT SPECIFIED GROWERS TO OBTAIN SHIPPING INFORMATION PRIOR TO BID.
19. CONTRACTOR TO SUPPLY PHOTOGRAPHS OF ANY SPECIMENS FOR APPROVAL PRIOR TO SECURING THEIR PURCHASE.
20. ALL TREES SHALL BE IRRIGATED BY A DRIP OR BUBBLER ZONE THAT SERVICES TREES ONLY, THIS IS IN ADDITION TO THE SPRAY AND MIST SYSTEM.

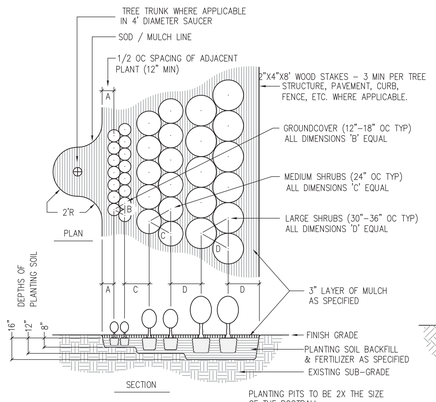
1 / L-4 PLANTING NOTES



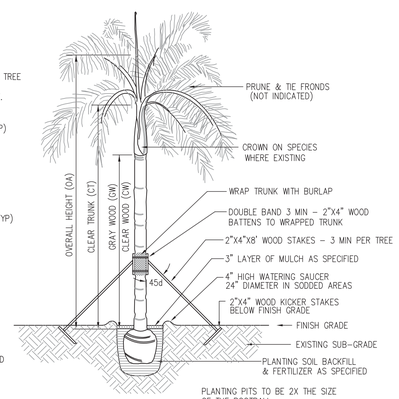
SMALL TREE PLANTING DETAIL



LARGE TREE PLANTING DETAIL



SHRUB PLANTING DETAIL



PALM PLANTING DETAIL

2 / L-4 PLANTING DETAILS

RE-SEEDS	Wet/Dry	Sun/Shd	Native	Quan.	Tag	Plant	Specification
Y	W	SUN/SHD	N	13	AC	Archontophoenix cunninghamiana 'Illawarra'	25 Gal., Singles - Matched
						Illawarra King Palm, Cold Hardy King Palm	Sunscapes East 321-733-4812
Y	W	SUN/SHD	Y	11	AR	Acer rubrum	45 Gal., 3" Cal, 12' o.a. ht. x 5' spr.
						Red Maple	Marion Gardens, 352-429-4151
Y	MOIST/DRY	Sun	N	1	BN	Bismarkia nobilis 'Silver Select'	25 Gal., 9' ht. min, container grown only.
						Silver Bismark palm	Field Grown will be rejected
Y	D	Sun	N	7	EJ	Eriobotrya japonica	15 Gal., 9' ht. x 5' spr.
						Loquat Tree	A Natural Farm 352-536-3112
Y	D	SUN/SHD	Y	69	IV	Ilex vomitoria 'Pendula'	25 Gal., 9' ht. x 2.5' spr.
						Weeping Yaupon Holly	Tropic Traditions 352-472-6084
Y	MOIST/DRY	Sun	Y	33	QV	Quercus virginiana	45 Gal., 12' to 14' ht., 3.0 top 3.25" Cal.
						Live Oak	Natural Habit, Min. prune
							Marion Gardens, 352-429-4151
Y	MOIST/DRY	SUN/SHD	Y	28	TD	Taxodium distichum	30 Gal.,10' ht. x 3' spr. 2" cal.
						Bald Cypress	Tropic Traditions 352-472-6084
Y	MOIST/DRY	Sun	Y	728	ASC	Asclepias spp.	1 gal., 12" ht. x 12" spr., 18" o.c.
						Butterfly Milkweed	Green Dynamix 386-754-0161
Y	W	SUN/SHD	N	182	AZF	Azalea indica `Formosa'	3 gal., 20" ht. x 15" spr., 24" o.c.
						Purple Formosa Azalea	Brantley Nursery, 407-869-6545
Y	MOIST/DRY	PT SHD	Y	8	CAA	Callicarpa americana	7 Gal., 36"ht. x 36" spr.
						American Beautyberry	Tropic Traditions 352-472-6084
Y	MOIST/DRY	SUN	Y	468	COT	Coreopsis tinctoria	1 Gal., 16" ht. x 8" spr. 24" o.c.
						Coreopsis Tickseed	Green Dynamix 386-754-0161
Y	MOIST/DRY	SUN/SHD	N	522	CRI	Crossandra infundibuiformis	3 gal., 18" x 18", 24" o.c.
						Crossandra	Excelsa Gardens 561-790-3789
							Excelsa broker from MSA Nursery
Y	Dry	Sun	N	10	ELP	Eleagnus pungens	3 Gal., 36" x 30"
						Silverthorn	Quality Trees and Shrubs 352-257-2080
Y	W/D	SUN/SHD	Y	64	HAM	Hamelia patens	3 Gal., 24" ht. x 24" spr., 30" o.c.
						Firebush	Brantley Nursery, 407-869-6545
Y	D	Sun/Pt	Y	54	HEA	Heliotropium angiospermum	1 gal., 18" ht. x 18" spr., 24" o.c.
						Scorpion Tail	Green Dynamix 386-754-0161
N	MOIST/DRY	SUN	N	68	HIB	Hibiscus rosa-sinensis 'Snow Queen	3 Gal., 30" ht. x 24" spr. 30" o.c.
						Snow Queen Tropical Hibiscus	Brantley Nursery, 407-869-6545
Y	W	Y	Y	54	HYQ	Hydrangea quercifolia	3 Gal., 16" x 12"
						Oakleaf Hydrangea	Green Dynamix 386-754-0161
Y	W	SUN/SHD	Y	33	ILF	Illicium floridanum	3 Gal.,18" x 18", 24" o.c.
						Florida anise	Green Dynamix 386-754-0161
Y	MOIST/DRY	SUN/SHD	N	73	JAT	Jatropha integerrima	3 Gal., 36' ht. x 24' spr.
						Spicy Jatropha	Excelsa Gardens 561-790-3789
RHI	Dry	Full	Y	198	MIS	Mimosa strigillosa	1 Gal., 6" ht. x 8" spr., 36" o.c.
						Sensitive Plant	All Native LLC, 800-449-2363
							Green Dynamix 386-754-0161
Y	MOIST/DRY	SUN	Y	12	MYF	Myrcianthes fragrans	3 Gal., 24" ht. x 18" spr.
						Simpsons Stopper	Green Dynamix 386-754-0161
N	W/D	FULL SUN/PS	Y	350	MYR	Myrica cerifera	3 gal., 24" ht x 18" spr. , 30" o.c.
						Wax Myrtle	Tropic Traditions 352-472-6084
Y	MOIST/DRY	SUN/SHD	N	0	PET	Petrea volubilis	3 Gal., 36" ht. x 18" spr.
						Queens wreath vine	Green Dynamix 386-754-0161
N	Dry	SUN	N	36	PLU	Plumbago capensis (auriculata)	3 Gal., 24" x 24", 48 o.c.
						Leadwort	Brantley Nursery, 407-869-6545
Y	MOIST/DRY	SUN/SHD	Y	6	SEL	Senna Ligustrina	7 Gal., 5' ht. x 2' spr. 1.5" cal.
						Privet Senna	Green Dynamix 386-754-0161
Y	MOIST/DRY	SUN	N	8	VIT	Vitex agnus-castus	7 Gal., 5' ht. x 2' spr. 1.5" cal.
						Chaste Tree	Green Dynamix 386-754-0161
Y	Y	HIGH	Y	1 LB	WFS1	Wildflower seed Mix 1 (410 s.f.)	WildSeedFarms.com
						Asclepias tuberosa	seed mix (Broadcast Rate: 272 sf. Per ounce)
						Butterfly Milkweed	800-848-0078
Y	Y	HIGH	Y	2 LB	WFS2	Wildflower seed Mix 2 (3203 s.f.)	WildSeedFarms.com
						Southeastern Wildflower Mix	seed mix (Broadcast Rate: 2000 sf. Per pound)
							800-848-0078
Y	Y	HIGH	Y	4 LB	WFS3	Wildflower seed Mix 3 (340 s.f.)	WildSeedFarms.com
						Salvia farinacea	seed mix (Broadcast Rate: 340 sf. Per ounce)
						Texas Sage, Mealy Blue Sage	800-848-0078
Y	Y	HIGH	Y	4 LB	WFS4	Wildflower seed Mix 4 (123 s.f.)	WildSeedFarms.com
						Salvia coccinea	seed mix (Broadcast Rate: 340 sf. Per ounce)
						Scarlet Sage	800-848-0078
Y	Y	HIGH	Y	11 LB	WFS5	Wildflower seed Mix 4 (410 s.f.)	WildSeedFarms.com
						Phlox drummondii	seed mix (Broadcast Rate: 340 sf. Per ounce)
						Purple Phlox	800-848-0078

3 / L-4 PLANT LIST

No.	REVISIONS	DATE
2.	PER COUNTY COMMENT	05/19/21

Project Name
HOWEY SELF STORAGE
S. PALM AVENUE, S.R. 19, HOWEY IN THE HILLS FLORIDA
Drawing Title
Plant List, Details, Notes

L.a.L.a. LANDART LANDSCAPE ARCHITECTURE
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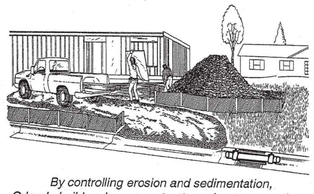
RSB
22038.00
DATE: 08/23/22
Drawing No.
L-4

ISSUED FOR PERMIT

COUNTY PROJECT NUMBER

CITY OF ORLANDO

EROSION & SEDIMENTATION CONTROL FOR CONSTRUCTION SITES



By controlling erosion and sedimentation, Orlando builders keep our streets and waterways clean.

Erosion Is a Costly Problem

Eroding construction sites are a leading cause of water quality problems in Florida. For every acre under construction, about 1 ½ dump truck loads of soil wash into the stormwater system and into a nearby lake unless builders use proper erosion control measures.

Controlling Erosion Can Be Easy

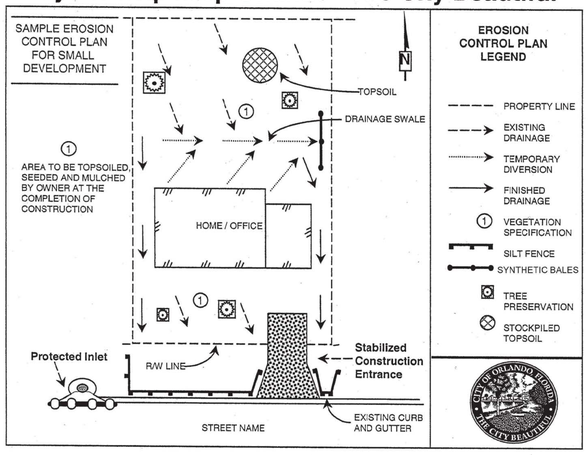
Erosion control is important and necessary for all development sites. The materials needed are easy to find and relatively inexpensive - silt fencing, synthetic bales, stakes, inlet protection, and grass seed. Putting these materials to use is a straightforward process. Maintenance to those Best Management Practices (BMP's) is key to staying in compliance.

This fact sheet includes shows step-by-step instructions that can be used by builders. Additional controls will be needed for sites that are adjacent to lakes, wetlands, and streams, have steep slopes, receive runoff from adjacent land, or are larger than one acre.

When areas are stabilized and not endanger of eroding, the temporary erosion control measures can be removed. BMP's should not be left on finished sites.

For more information on erosion and sediment control issues and how you can help save our lakes, please contact the City of Orlando Streets and Stormwater Hotline at 407-246-2370.

Ways to help keep Orlando "The City Beautiful"



Under the Stormwater Utility Code, Section 31.19, the City prohibits the discharge of pollutants (including sediment and construction debris) into lakes, stormwater drains, or any part of the stormwater conveyance system (ex. streets, gutters, alleyways, ditches, canals, parking lots, and retention/detention ponds, etc.). For more information about erosion and sediment control, refer to the Florida Development Manual: A Guide to Sound Land and Water Management, and the FDEP Erosion, Sediment, and Stormwater Inspector Manual. Violators may be subject to civil penalties, citations, pollution abatement costs, and/or action by the City of Orlando Code Board.

(over)

1 / L-9 EROSION CONTROL (BLUE SHEET)

SCALE : N.T.S.

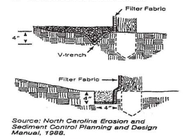
COMMONLY USED EROSION CONTROL MEASURES

PERIMETER CONTROLS

- Examples may include trenched-in silt fence, trenched-in synthetic bales, berms, sod buffers, waddles, turbidity barrier, etc.
- Install within 24 hours of land disturbance.
- Ensure that perimeter controls are installed properly (trenched-in, no gaps, appropriate BMP for conditions) and maintained until area is stabilized.
- Special attention to perimeter controls needs to be taken along sensitive and critical areas such as wetlands, waterbodies, stormwater systems, roads, adjacent parcels, etc.
- Inspect, repair, replace, and remove accumulated sediments weekly and after ½ inch rain event.

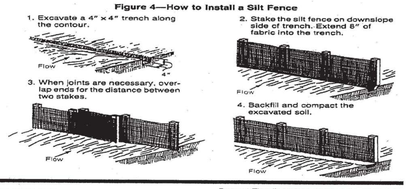
Silt Fences

Figure 3—Cross Sections of Trenches for Silt Fences



Source: North Carolina Erosion and Sediment Control Planning and Design Manual, 1988.

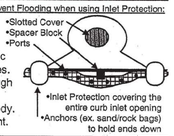
Figure 4—How to Install a Silt Fence



STORMWATER SYSTEM PROTECTION

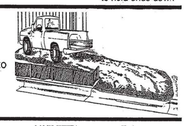
- Examples of stormwater systems may include stormwater inlets and grates, ditches, swales, retention/detention ponds, canals, lakes, etc.
- Method of protecting on-site and off-site stormwater systems include properly installed synthetic bales, silt fence fabric, filter fabric, sock-covered perforated pipe, or other inlet protection devices.
- In problem flood-prone areas (such as streets), ensure that floodwaters can be alleviated through ports and bypasses.
- Floating turbidity curtain may need to be installed for added protection to the receiving waterbody.
- Inspect, repair, replace, and remove accumulated sediments weekly and after ½ inch rain event.

Prevent Flooding when using Inlet Protection:



OFFSITE TRACKING

- Prevent offsite tracking of sediment onto streets by stabilizing the site entrance.
- Examples include at least 50 foot of gravel with geo-fabric underlay, tire wash area, etc.
- At the end of each workday, remove sediment by sweeping and scraping up soil tracked onto the street. Frequent sweeping of street and curb line will prevent sediment accumulation.
- Sediment in the streets and curbs can become major safety and environmental hazards for your site. Sediment can impede traffic, cause flooding, and degrade lakes.



SOIL STOCKPILES

- Locate away from any down-slope street, driveway, stream, lake, wetland, ditch, or drainageway.
- If stockpiles are located near a perimeter, cover stockpiles with plastic sheeting.
- Add perimeter controls at the toe of stockpile.
- Wet down exposed soil with a light spray or sprinkler to keep dust and erosion at a minimum.

STABILIZE AREAS

- Wherever possible, preserve existing trees, shrubs, and other vegetation to minimize exposed areas.
- Stabilize exposed areas immediately. Do not wait till end of project.
- Stabilization can be achieved with sod, seeding, mulch, erosion control blankets, etc. Hard armor (ex. rip-rap, netting, concrete, rock, etc.) may be more appropriate in channels, flumes, steep slopes, swift moving water, etc.
- Revegetate exposed areas with seed, sod, or mulch as soon as possible.
- To prevent root damage to existing trees, do not grade, place soil stockpiles, or park near trees marked for preservation.
- Mulch may need to be anchored down by disking, crimping, or nets. Sod may need to be anchored down with staples – especially on side slopes.
- Seed and sod must be watered and maintained to establish effective cover per City Engineering Standards Manual specs.

DEWATERING OPERATIONS

- Dewatering a site to install underground utilities will require a permit through the Water Management District (St Johns River WMD 407-659-4800 or South Florida WMD 407-858-6100).
- Dewatering methods include well-points, sock filters, sump pumps, etc.
- Directing the water offsite will require the discharge to meet FDEP Surface Water Quality Classifications (62-302.530). The water will need to be tested for pollutants.
- Turbidity levels on the discharge water shall not exceed 29 N.T.U.'s above the receiving waterbody. This can be achieved through well-point and sock filter methods, velocity controls, armored spillways, sediment basins, use of chemical clarifiers, etc.
- Floating turbidity curtains should be installed in the receiving waterbody. Curtain must extend to bottom of waterbody and attached to sides of bank.

MAINTENANCE TO BMP's

- Inspect BMP's at least weekly and after ½ inch rain event.
- Remove sediment and repair spots of erosion immediately.
- If site is subject to NPDES permitting (1+ acres disturbed), keep a weekly log of erosion control efforts.

For more information on Erosion and Sediment Control Issues and how you can help save our lakes, please contact the City of Orlando Streets and Stormwater Hotline at 407-246-2370.

NOTES

1. THE GUIDELINES FOR EROSION SEDIMENT CONTROL BLUE SHEET WILL SERVE AS A GUIDE FOR THE IMPLEMENTATION OF EROSION SEDIMENT CONTROL MEASURES IF NONE OTHER IS PROVIDED.
2. THE CONTRACTOR SHALL NOT AND PROTECT ALL SUNSHINE ONE CALL UTILITY MARKINGS THROUGHOUT THE PROJECT.
3. THE PROPOSED PROJECT IS DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE AND FLORIDA BUILDING CODE COMMERCIAL, CURRENT EDITION WITH REVISIONS.
4. THE PROPOSED PROJECT CONSTRUCTION IS DESIGNED FOR 140 M.P.H. WIND SPEED.

CITY/COUNTY PROJECT NUMBER

No.	REVISIONS	Date
2.	PER COUNTY COMMENT	05/19/21

Project Name: HOWEY SELF STORAGE
S. PALM AVENUE, S.R. 19, HOWEY IN THE HILLS FLORIDA

Drawing Title: EROSION CONTROL

L.a.L.a. LAND ART LANDSCAPE ARCHITECTURE
754 ELLWOOD AVENUE
ORLANDO FLORIDA, 32804
407-484-6099
PROJECTS@LANDARTLA.COM
WWW.LANDARTLA.COM

PROFESSIONAL REGISTRATION LA 0001760 STATE OF FLORIDA

Digitally signed by Randall S. Baker
DN: cn=Randall S. Baker, o=Land Art Landscape Architecture, ou=Florida RLA 0001760, email=Randall@LandArtLA.com, c=US
Date: 2022.08.24 20:35:24 -04'00'
Adobe Acrobat Reader version: 2022.002.20191

RSB

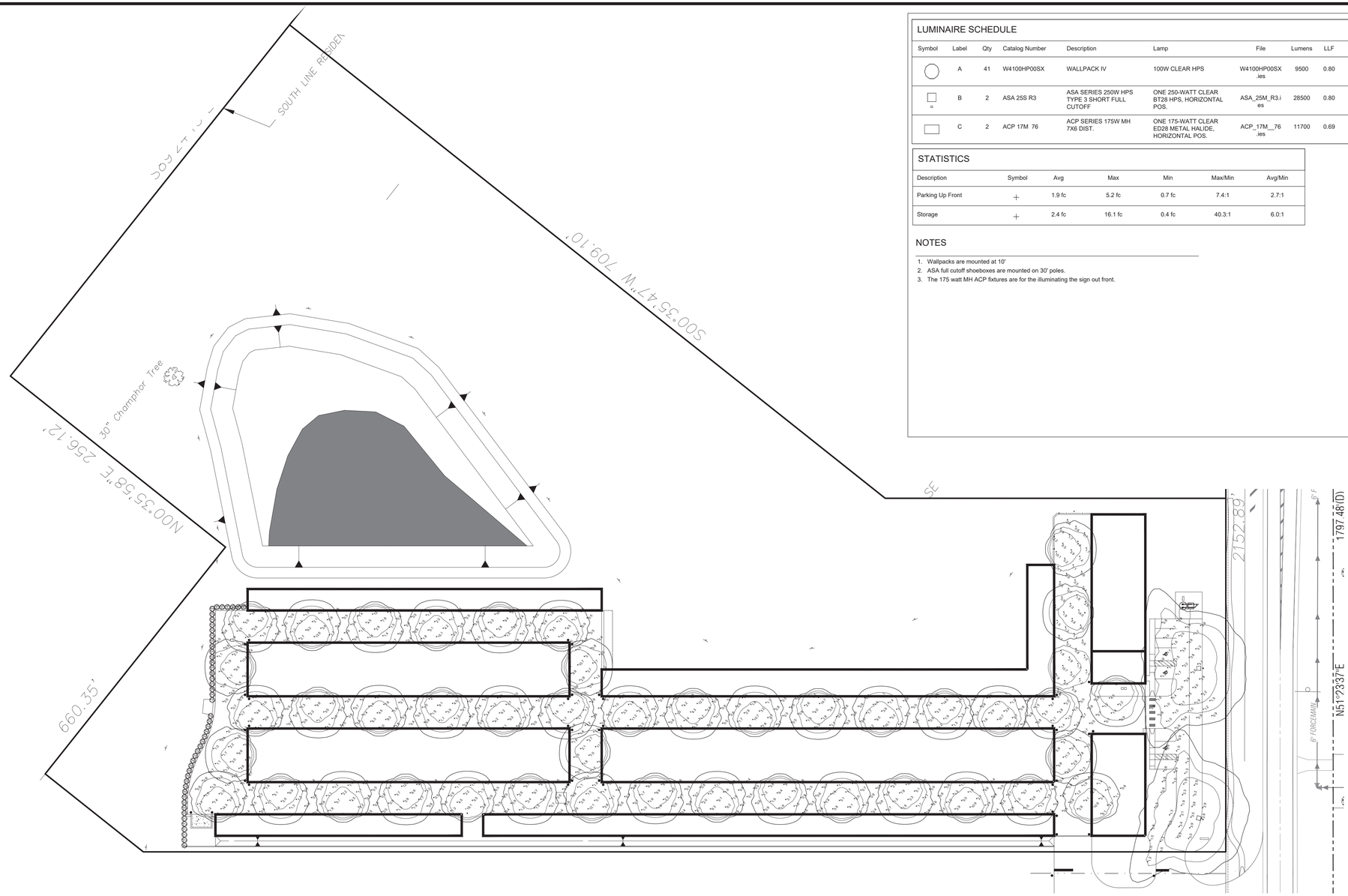
22038.00

DATE: 08/23/22

Drawing No.

L-5

ISSUED FOR PERMIT



LUMINAIRE SCHEDULE

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
◯	A	41	W4100HP00SX	WALLPACK IV	100W CLEAR HPS	W4100HP00SX .ies	9500	0.80	128
□ o	B	2	ASA 25S R3	ASA SERIES 250W HPS TYPE 3 SHORT FULL CUTOFF	ONE 250-WATT CLEAR BT28 HPS, HORIZONTAL POS.	ASA_25M_R3.i es	28500	0.80	294
▭	C	2	ACP 17M 76	ACP SERIES 175W MH 7X6 DIST.	ONE 175-WATT CLEAR ED28 METAL HALIDE, HORIZONTAL POS.	ACP_17M__76 .ies	11700	0.69	213

STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking Up Front	+	1.9 fc	5.2 fc	0.7 fc	7.4:1	2.7:1
Storage	+	2.4 fc	16.1 fc	0.4 fc	40.3:1	6.0:1

NOTES

1. Wallpacks are mounted at 10'
2. ASA full cutoff shoeboxes are mounted on 30' poles.
3. The 175 watt MH ACP fixtures are for the illuminating the sign out front.

Howey Self Storage
Holophane Wallpacks
AEL ASA Shoeboxes

Designer
Steve Prior

Date
Aug 7 2009

Scale

Drawing No.

1 of 1

DATE	REVISION
6/21/21	Town Comments

Photometric Plan

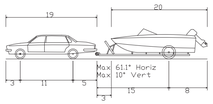
Howey Self Storage

june engineering consultants, inc.
132 W. Plant Street, Suite 200
Winter Garden, FL. 34787
Ph. 407-905-8180
Fax 407-905-6232
Certificate of Authorization #00008507

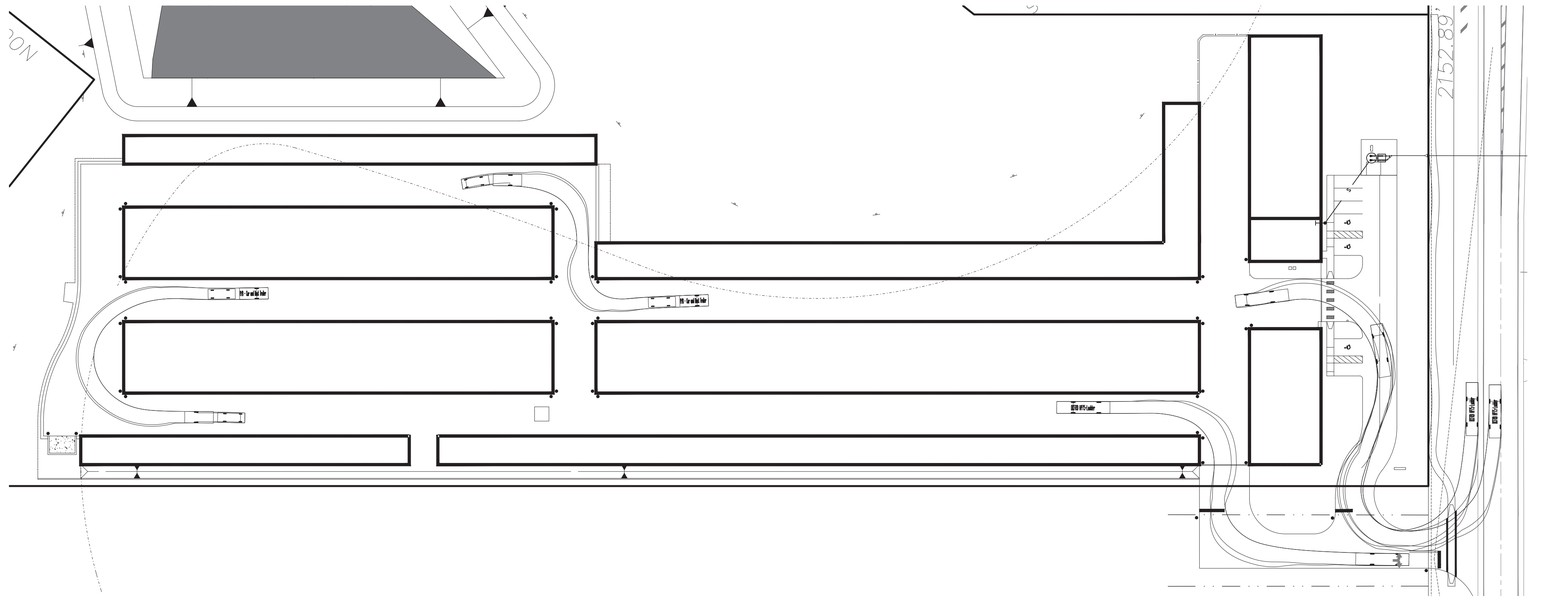
DRAWN BY: CLK DATE: 2/4/08 | CHECKED BY: RAJ DATE: 2/4/08 | SCALE 1" = 50'

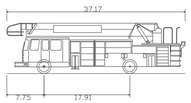
JEFFREY A. SEDLOFF
PE# 51506

JOB NO. 07-0398
SHEET P-1
OF 10



P/B - Car and Boat Trailer	
Overall Length	42.000ft
Overall Width	8.000ft
Overall Body Height	5.305ft
Min Body Ground Clearance	0.681ft
Max Track Width	8.000ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	24.000ft





CFRD HP75-Ladder	
Overall Length	37.170ft
Overall Width	8.330ft
Overall Body Height	10.489ft
Min Body Ground Clearance	0.920ft
Track Width	8.330ft
Lock-to-lock time	6.00s
Max Wheel Angle	31.80°

DATE	REVISION

Fire Path Exhibit

Howey Self Storage

june engineering consultants, inc.
23 W. Joiner Street
Winter Garden, FL. 34787
Ph. 407-905-8180
Fax 407-905-6232
Certificate of Authorization #00008507

DRAWN BY: CLK | CHECKED BY: RAJ | SCALE
DATE: 2/4/08 | DATE: 2/4/08 | 1" = 50'

JEFFREY A. SEDLOFF
PE# 51506

JOB NO. 07-0398
SHEET 1 OF 1

june engineering
consultants, inc.

September 6, 2022

Nancy Porter, Permits Coordinator I
FDOT – Leesburg Operations
1405 Thomas Ave.
Leesburg, FL 34748

RE: HOWEY SELF STORAGE (Permit # 2022-H-592-00144)

Dear Nancy,

Please accept this letter and attachments as our response to your comments dated May 4, 2022. We have addressed each comment below as they appeared in your letter.

1. Under Tap 2 of OSP, Work Description, please add method of installation (bore, trench, bore) to the Work description, as well as the reamer size for installation by directional bore. Please add the location (state roadway and nearest cross street) to the work description.
RESPONSE: The work description has been added under tab 2 on OSP.

2. Under Tab 2 of OSP, Calendar Days Required to Complete the Work, 120 days to complete the work within FDOT R/W seems excessive. Please reconsider the requested time to complete the work, keeping in mind that the time request should reflect the actual time work crews will be on site performing the work..
RESPONSE: The days to complete work has been added under tab 2 on OSP.

3. Please clearly identify the limits of the proposed work within FDOT R/W on the plan view.
RESPONSE: The limits of construction have been labeled on sheet 6.

4. For installation by directional bore, boring operation and equipment must maintain a minimum of 8 feet clearance from edge of pavement. Please show minimum distance of bore pit from EOP in plan view. UAM 2017- Spec. 3.16.1. Please show location of bore pit(s) on plan view and call out the distance (8 feet minimum) from bore pit to EOP.
RESPONSE: A typical section for the directional drill has been added to sheet 6, showing the minimum clearance from EOP.

5. Please show aboveground features such as existing utility poles within the work area on the plan view. UAM 2017- Spec.
2.4.1 (h).
RESPONSE: There are not any existing poles within our proposed work limits.

P.O. Box 770609
Winter Garden, FL. 34777-0609
Ph: (407) 905-8180 Fax (407) 905-6232

6. The submitted Utility Notification Letters indicate several underground utilities within the proposed work area, e.g., electric, water, and telecommunications. Please show these existing underground utilities on the plans and on the cross section.
RESPONSE: We have shown all existing utilities on our sheet 6 of the revised plans.

7. Please submit a cross section drawing showing all horizontal and vertical locations of all existing underground facilities. UAM 2017- Spec. 2.4.1 (3)(c).
RESPONSE: A cross section of the proposed directional drill have been included on sheet 6.

8. Please show vertical datum information on the cross section. If no actual benchmark elevations can be found, assign an elevation to a permanent feature such as EOP or BOC. UAM 2017- Spec. 2.3.4 (3)(b) . Please call out the location of the benchmark elevation (EOP, BOC).
RESPONSE: Note 12 has been added to sheet 6 with the benchmark and elevation datum.

9. Will the proposed water main and force main tie into an existing water man and force main along SR 19? Please clarify because the plan sheet does not show an existing water main or force main along SR 19.
RESPONSE: We proposed to connect to existing force main on SE side of SR19 as shown on sheet 6. Our water main connection is to the existing 12" WM near intersection at S. Florida Ave., which is shown on sheet 6.

10. Please be advised that there are no lane closure restrictions on SR 19 within the proposed work zone.
RESPONSE: Understood.

We hope that all the information you need has been provided and will allow for your approval. If you have any questions or comments, please feel free to contact our office at your earliest convenience. Thank you.

Sincerely,

Jeffrey A Sedloff

Jeffrey A. Sedloff, P.E.
JUNE ENGINEERING CONSULTANTS, INC.

CONSTRUCTION PLANS

FOR

Howey Self Storage

S.R. 19
HOWEY IN THE HILLS, FLORIDA

LAND DESCRIPTION (EAGLES LANDING AT OCOEE, INC. PARCEL)(VILLAGE 4 OF THE RESERVE AT HOWEY IN THE HILLS)

COMMENCE AT THE EAST 1/4 CORNER OF SECTION 35, TOWNSHIP 20 SOUTH, RANGE 25 EAST, LAKE COUNTY FLORIDA; THENCE RUN N89°21'35"W ALONG THE SOUTH LINE OF THE NORTHEAST 1/4 OF SAID SECTION 35, 1487.79 FEET TO A POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 19; THENCE RUN N52°07'27"E ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 673.75 FEET TO THE POINT OF BEGINNING; THENCE RUN N37°53'02"W, 1008.88 FEET; THENCE RUN N00°35'47"E, 116.78 FEET TO A POINT ON THE NORTH LINE OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SAID SECTION 35; THENCE RUN S89°24'13"E ALONG SAID NORTH LINE, 270.08 FEET TO A POINT ON THE WEST LINE OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SAID SECTION 35; THENCE RUN N00°35'58"E ALONG SAID WEST LINE, 256.12 FEET TO A POINT ON THE SOUTH LINE OF THE RESIDENCE OF DON WHITE; THENCE RUN S89°24'13"E ALONG SAID SOUTH LINE, 418.17 FEET; THENCE RUN S00°35'47"W, 709.10 FEET; THENCE RUN S37°52'33"E, 317.47 FEET TO A POINT ON SAID NORTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 19; THENCE RUN S52°07'27"W ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, 329.54 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 11.978 ACRES MORE OR LESS.

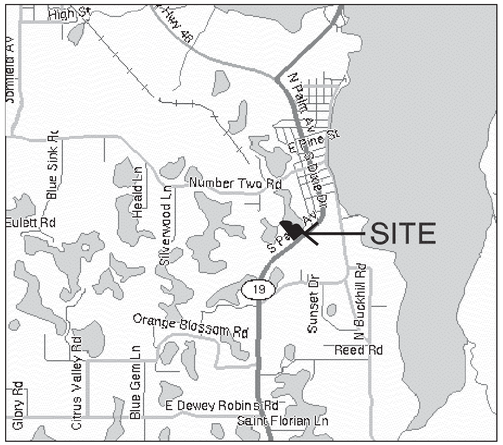
LAND DESCRIPTION (HOWEY IN THE HILLS, LTD. PARCEL)

HOWEY FROM E 1/4 COR OF SEC 35-20-25 RUN N 89-21-35 W 1487.79 FT TO NW'LY R/W LINE OF SR 19, N 52-07-27 E ALONG SAID NW'LY R/W LINE 1003.29 FT FOR POB, RUN N 37-52-33 W 317.47 FT, N 0-35-47 E 709.10 FT, S 89-24-13 E TO NW COR OF LOT 1 BLK D-14 OF PALM GARDENS SUB, SE'LY ALONG SAID W'LY LINE OF BLK D-14 OF PALM GARDENS SUB TO NW'LY LINE OF SR 19, SW'LY ALONG SAID R/W LINE TO POB ORB 3003 PG 1362 ORB 3446 PG 103

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 11.00 ACRES MORE OR LESS.

DEVELOPER:	HOWEY SELF STORAGE C/O P.O. BOX 770609 WINTER GARDEN, FL. 34777-0609	(407) 905-8180
ENGINEER:	JUNE ENGINEERING CONSULTANTS P.O. BOX 770609 WINTER GARDEN, FL. 34777-0609	(407) 905-8180
SURVEYOR:	BISHMAN SURVEYING & MAPPING 13610 GRANVILLE AVENUE CLERMONT, FL. 34711	(407) 905-8877
GEOTECHNICAL ENGINEER:	YOVAISH ENGINEERING SCIENCES, INC. 953 SUNSHINE LANE ALTAMONTE SPRINGS, FL. 32714	(407) 774-9383
ENVIRONMENTAL CONSULTANT:	BIO-TECH CONSULTING, INC. 2002 EAST ROBINSON STREET ORLANDO, FL. 32803	(407) 894-5969

UTILITIES	Water	Town of Howey in the Hills
	Sewer	Town of Howey in the Hills
	Telephone	Centurylink
	Electric	Duke Energy



Location Map

INDEX OF SHEETS	
SHEET TITLE	No.
Cover Sheet	1
Site Plan – Overall	2
Site Plan – Utilities	3
Site Plan – Paving & Drainage	4
Design Requirements	4a
SWPPP	5
Truck Turn Radius Plan	5a
Survey – Boundary & Topo	5b
Offsite Improvements	6
FDOT Details	7
Standard Details	8-9
Lift Station Detail Sheet	10
Landscape Plan	L-1
Irrigation Plan	I-1
Photometric Plan	P-1

GENERAL NOTES

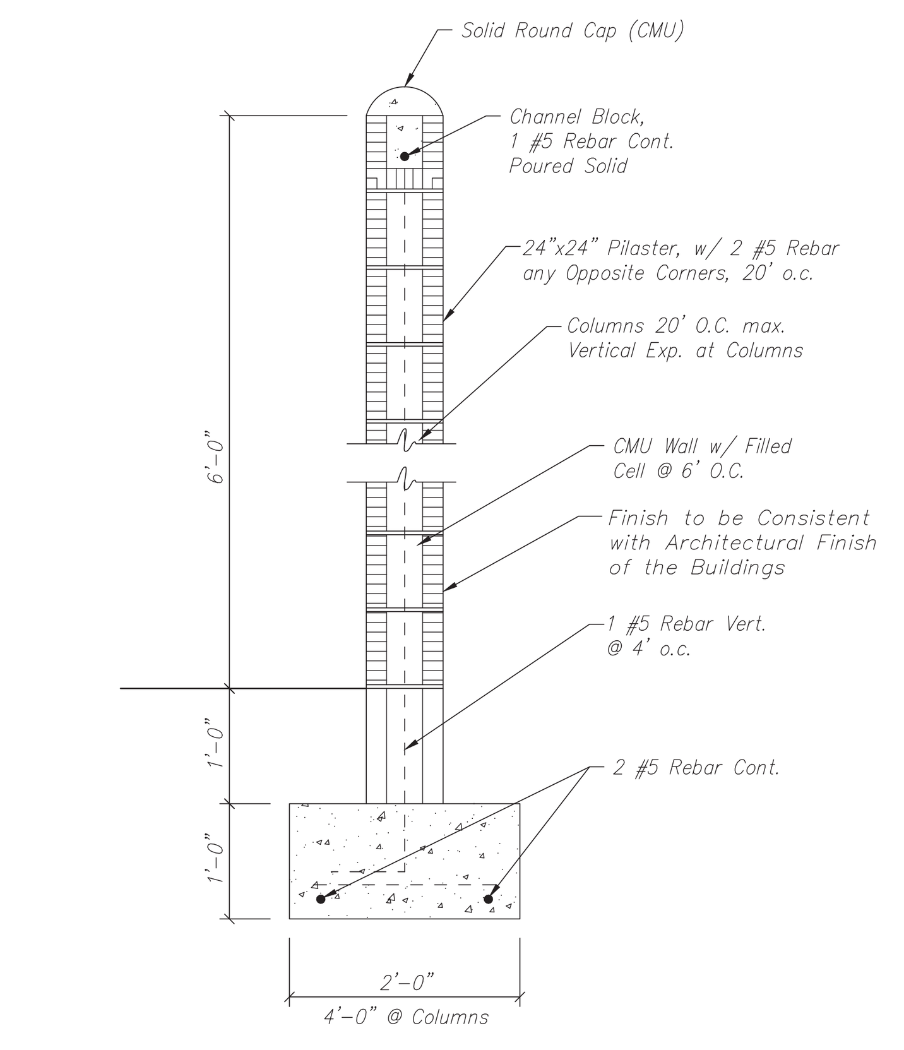
1. ALL CONSTRUCTION SHALL CONFORM TO THE TOWN OF HOWEY-IN-THE HILLS STANDARDS AND SPECIFICATIONS AND TO THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MOST RECENT EDITIONS.
2. ALL DISTURBED AREAS SHALL BE GRASSED UPON COMPLETION OF CONSTRUCTION.
3. ALL LANDSCAPING SHALL CONFORM TO THE TOWN OF HOWEY-IN-THE HILLS LANDSCAPE CODE, MOST RECENT ADDITION.
4. ALL PROPOSED GRADES SHOWN ARE FINISHED GRADES.
5. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE OF THE SITE TO THE SPILLWAYS AS INDICATED BY GRADES AND FLOW ARROWS.
6. UTILITIES SHOWN WERE LOCATED FROM BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION ALL UTILITY COMPANIES AND FOR THE LOCATION AND PROTECTION OF ALL UTILITIES THAT MAY EXIST.
7. EXISTING ZONING OF THE SUBJECT SITE IS PCD.
8. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE EROSION AND SEDIMENT CONTROL THROUGHOUT THE CONSTRUCTION PHASE WHICH SHALL INCLUDE, BUT NOT LIMITED TO THE PLACEMENT OF SILT FENCES, STACKED HAY BALES OR OTHER SIMILAR STRUCTURES ALONG THE PERIMETER OF THE SITE. THIS WORK SHALL CONFORM TO THE REQUIREMENTS OF THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT AND THE FLORIDA DEPARTMENT OF TRANSPORTATION AS OUTLINED IN F.D.O.T. STANDARD INDEX #102 & CITY CODE. THE CONTRACTOR SHALL PROVIDE AN EROSION PROTECTION PLAN, PRIOR TO PRE-CONSTRUCTION MEETING.
9. REMOVE ALL STRIPPINGS AND UNCLASSIFIED MATERIALS OFFSITE AND DISPOSE OF IN LEGAL MANNER.
10. FILL TO BE PLACED AND COMPACTED TO A MINIMUM 95% MAXIMUM DENSITY (PER AASHTO T-180)
11. JUNE ENGINEERING CONSULTANTS, INC. SHALL BE NOTIFIED IMMEDIATELY OF ANY PROBLEMS REQUIRING DEVIATION FROM THESE PLANS AND SPECIFICATIONS.
12. ALL PAVEMENT SHALL BE GRADED TO OBTAIN A MINIMUM GRADE OF 0.50% AND SHALL DRAIN POSITIVELY TO ALL INLETS OR SPILLWAYS.
13. CONTRACTOR SHALL PROVIDE AND COORDINATE PLACEMENT OF ANY REQUIRED UNDERGROUND CONDUITS NECESSARY FOR PLACEMENT OF UTILITIES (TELEPHONE, ELECTRIC, CABLE.. ETC.) AND THE SPRINKLER SYSTEM.
14. CONTRACTOR SHALL PROVIDE JUNE ENGINEERING CONSULTANTS WITH AS-BUILT INFORMATION ON THE FOLLOWING: LOCATIONS AND INVERTS OF ALL UTILITIES AND STORM STRUCTURES; PAVEMENT LOCATIONS AND GRADES; AND POND GRADES SHOWN ON PLANS.
15. THE CONTRACTOR IS RESPONSIBLE FOR THE NOTIFICATION, LOCATION & PROTECTION OF ALL UTILITIES THAT MAY EXIST. WITHIN THE PROJECT LIMITS.

February 4, 2008
Revised June 1, 2022

JEC june engineering consultants, inc.
23 W. Joiner Street
Winter Garden, FL. 34787
Ph. 407-905-8180
Fax 407-905-6232
Certificate of Authorization #00031567

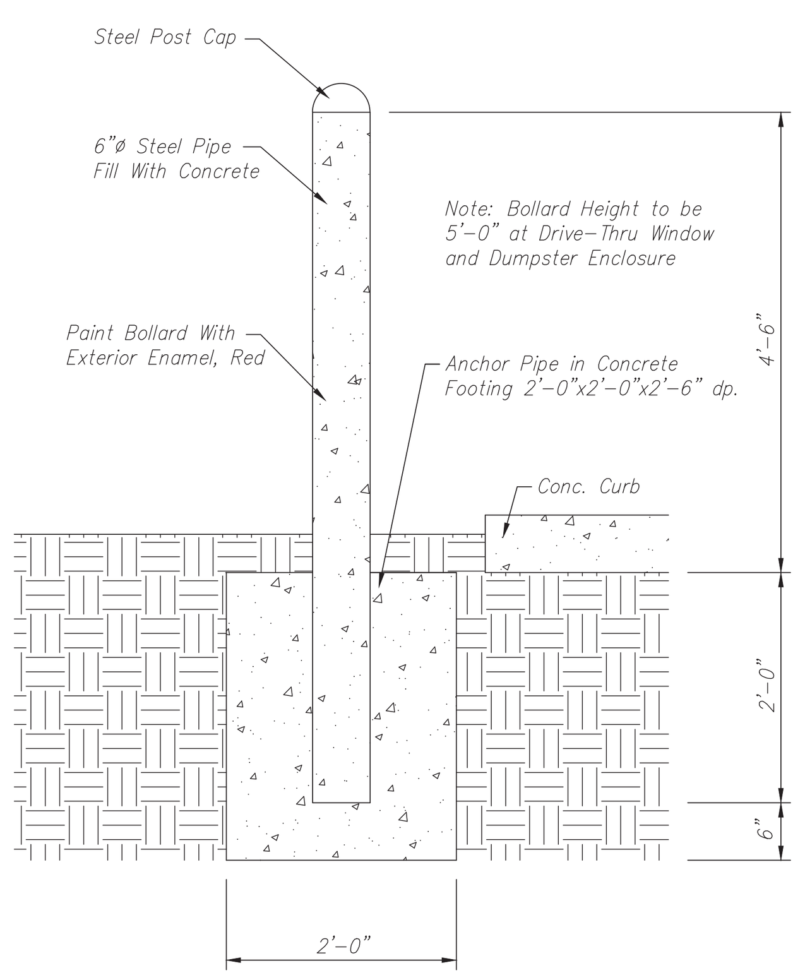
Digitally signed by Jeffrey A Sedloff
DN: c=US, st=Florida, l=Winter Garden, o=June Engineering Consultants, Inc., cn=Jeffrey A Sedloff, email=jeff@jec3.com
Date: 2022.09.06 09:43:16 -04'00'

JEFFREY A. SEDLOFF
PE# 51506



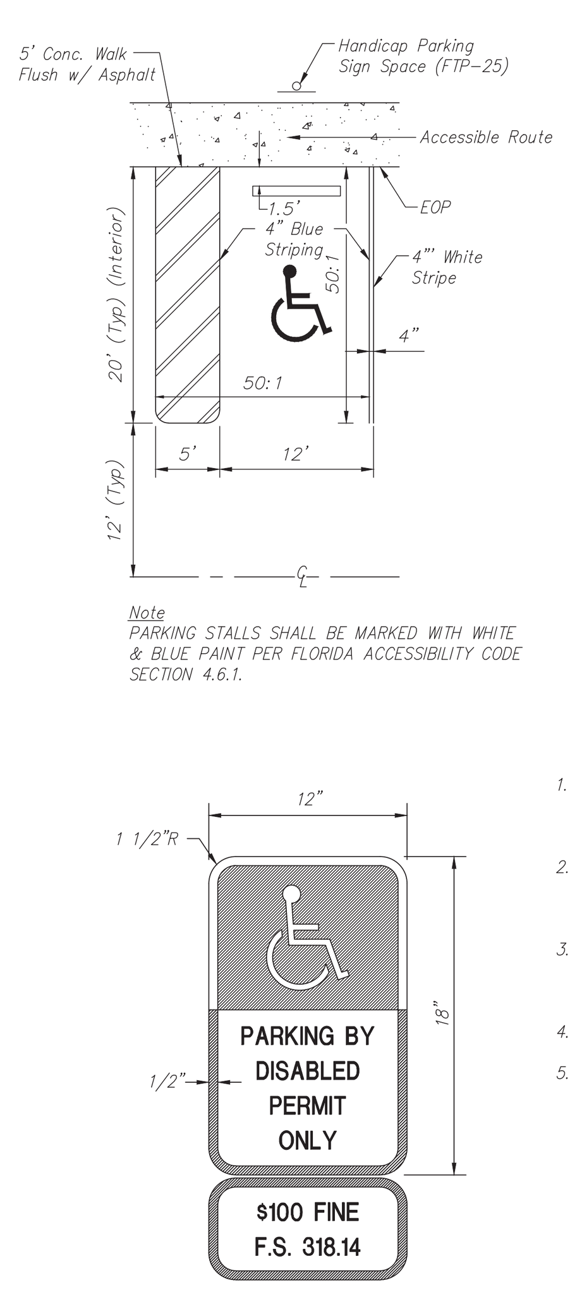
TYPICAL WALL SECTION

N.T.S.



STEEL PIPE BOLLARD DETAIL

N.T.S.



Note
PARKING STALLS SHALL BE MARKED WITH WHITE & BLUE PAINT PER FLORIDA ACCESSIBILITY CODE SECTION 4.6.1.

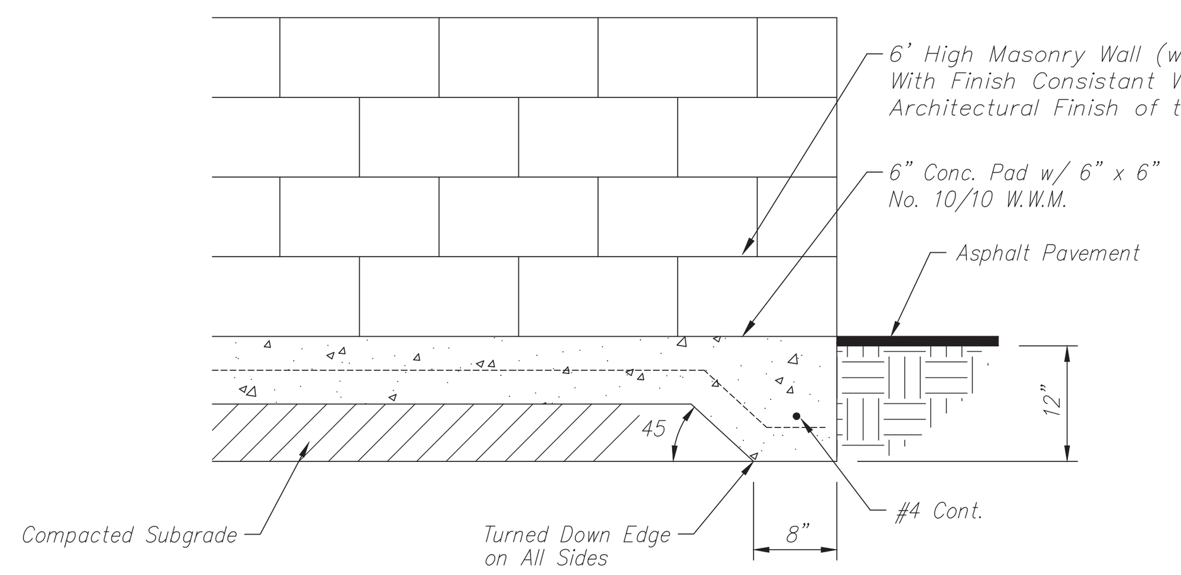
ACCESSIBILITY: A) IN ACCORDANCE WITH THE FLORIDA ACCESSIBILITY CODE FOR BUIDING CONSTRUCTION, 4.1.3 SECTION (1), DATED OCT. 1996, AT LEAST ONE ACCESSIBLE ROUTE COMPLYING WITH 4.3 SHALL CONNECT ACCESSIBLE BUILDING OR FACILITY ENTRANCES WITH ALL ACCESSIBLE SPACES AND ELEMENTS WITHIN THE BUILDING OR FACILITY, DOOR ACCESSING THE BUILDING MUST BE DEPICTED ON SITE PLAN. RAMP DETAILS WITH SLOPE INFORMATION SHALL BE DEPICTED ON SITE PLAN. B) THE LOCATION OF HANDICAPPED PARKING STALLS , LOADING ZONES , SIDEWALKS AND RAMPS ON SITE SHALL MEET CHAPTER 316.1955 OF THE FLORIDA STATUES AND SECTION 4.1.3 OF THE FLORIDA ACCESSIBILITY CODE. CURB RAMPS SHALL NOT EXCEED 12:1 SLOPES PARKING SPACE AND AISLE SHALL NOT EXCEED 50:1 CROSS-SLOPE. (TLO 11-26-96) 12-11-96

NOTE: (HANDICAP SIGN ONLY)

1. ALL LETTERS SHALL BE BLACK AND SHALL CONFORM TO FDOT "ROADWAY AND TRAFFIC DESIGN STANDARDS".
2. TOP PORTION OF SIGN SHALL HAVE REFLECTORIZED (ENGINEERING GRADE) BLUE BACKGROUND WITH WHITE REFLECTORIZED LEGEND AND BORDER.
3. BOTTOM PORTION OF SIGN SHALL HAVE A REFLECTORIZED (ENGINEERING GRADE) WHITE BACKGROUND WITH BLACK BORDER.
4. ONE SIGN REQUIRED FOR EACH PARKING SPACE.
5. HEIGHT OF SIGN SHALL BE 7' ABOVE GROUND IN ACCORDANCE WITH FDOT "ROADWAY AND TRAFFIC DESIGN STANDARDS".

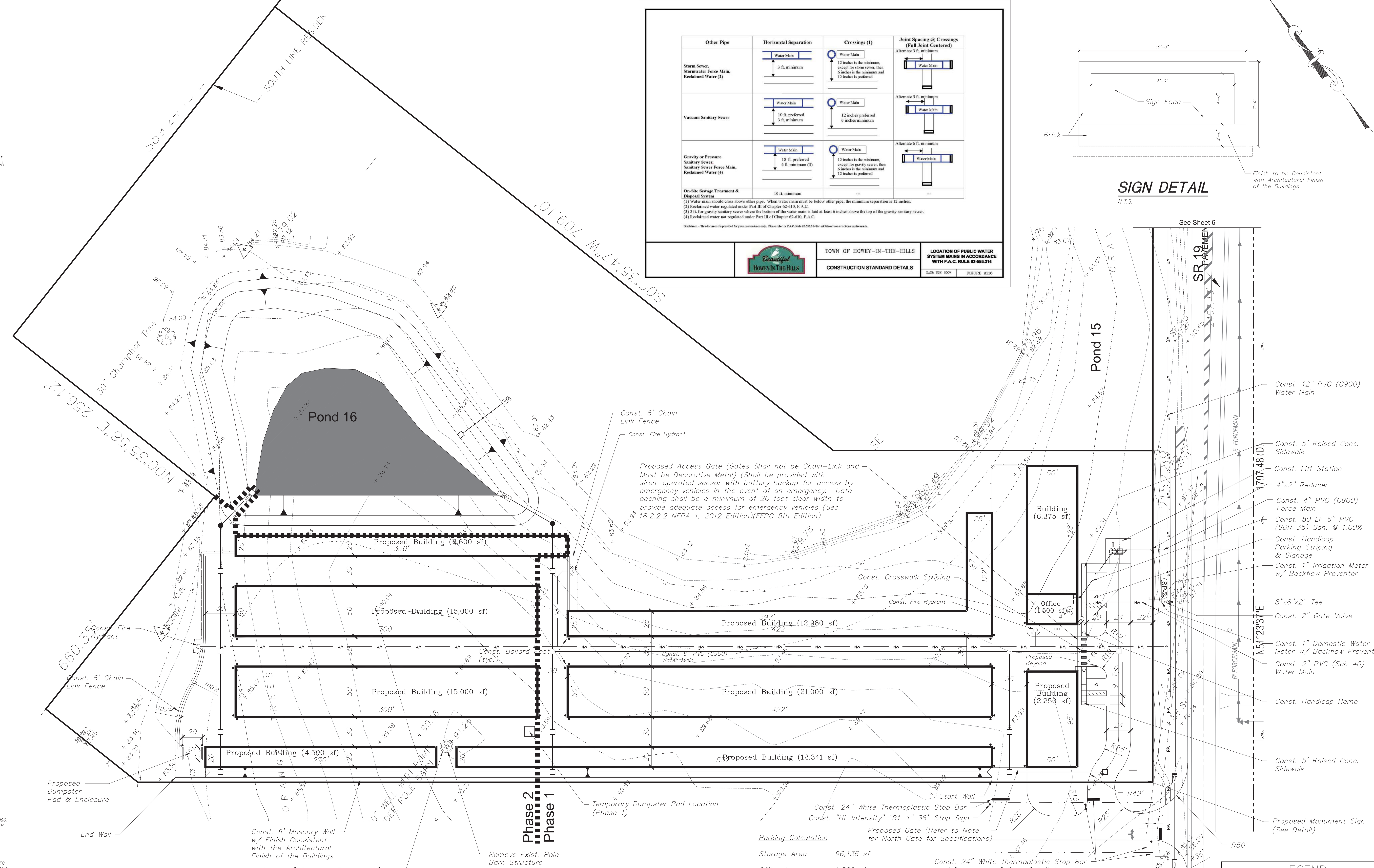
HANDICAP SYMBOL & SIGN

N.T.S.



DUMPSTER PAD

N.T.S.



Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Reclaimed Water (2)	Water Main; 3 ft. minimum	Water Main; 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 3 ft. minimum; Water Main
Vacuum Sanitary Sewer	Water Main; 10 ft. preferred 3 ft. minimum	Water Main; 12 inches preferred 6 inches minimum	Alternate 3 ft. minimum; Water Main
Gravity or Pressure Sanitary Sewer, Sanitary Sewer Force Main, Reclaimed Water (4)	Water Main; 10 ft. preferred 6 ft. minimum (3)	Water Main; 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 6 ft. minimum; Water Main
On-Site Sewage Treatment & Disposal System	10 ft. minimum	—	—

(1) Water main should cross above other pipe. When water main must be below other pipe, the minimum separation is 12 inches.
(2) Reclaimed water regulated under Part III of Chapter 62-610, F.A.C.
(3) 3 ft. for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer.
(4) Reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

TOWN OF HOWEY-IN-THE-HILLS — CONSTRUCTION STANDARD DETAILS — LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314 — FIGURE A110

Sign Face — Brick — Finish to be Consistent with Architectural Finish of the Buildings

SIGN DETAIL

N.T.S.

Utility Separation Notes

New or relocated, underground water mains shall be laid to provide a horizontal distance of at least six feet, and preferably ten feet, between the outside of the water main and the outside of any existing or proposed gravity- or pressure-type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C. The minimum horizontal separation distance between water mains and gravity-type sanitary sewers shall be reduced to three feet where the bottom of the water main is laid at least six inches above the top of the sewer. New or relocated, underground water mains crossing any existing or proposed gravity- or vacuum-type sanitary sewer shall be laid so the outside of the water main is at least six inches, and preferably 12 inches, above or at least 12 inches below the outside of the other pipeline. However, it is preferable to lay the water main above the other pipeline.

At the utility crossings described above, one full length of water main pipe shall be centered above or below the other pipeline so the water main joints will be as far as possible from the other pipeline. Alternatively, at such crossings, the pipes shall be arranged so that all water main joints are at least three feet from all joints in vacuum-type sanitary sewers, 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.

Parking Calculation

Storage Area: 96,136 sf
Office Area: 1,500 sf
Spaces Required: 1 space/10 units x 732 Units = 74 spaces
Spaces Provided: 1 space per each 22' along proposed storage building x 4,525 LF. = 205 spaces
Spaces in front of office = 7
Total spaces provided = 212 spaces

Traffic Calculation

96,136 SF x 1.51 TPD/1,000 SF = 145 TPD (as per ITE ISI - Mini Warehousing

AM Peak Hour = 19 Trips — PM Peak Hour = 19 Trips
Water Demand 1 ERU = 350 gpd — Solid Waster: 16.7 PPP
Sewer Demand 1 ERU = 300 gpd — Stormwater: Provided on site

Village 4	
Setbacks:	
Front	25'
South Side	10'
North Side	10'
Rear	10'
SR 19	75' from old R/W

LEGEND

Existing Contours	
Lot Number	(12)
Direction of Flow	
Existing Grade	x79.3
Proposed Grade	
Water Main	8" WM
Sanitary Sewer	S
Stormpipe	
Fire Hydrant	
Storm Inlet	
Concrete	
Gate Valve	
Water Blowoff	

DATE	REVISION
7/22/09	City / SJRWMD Comments
11/17/09	FDOT / Town Comments
6/21/21	Town Comments
2/16/22	Town Comments
6/1/22	Town/FDOT Comments

Site Plan - Utilities

Howey Self Storage

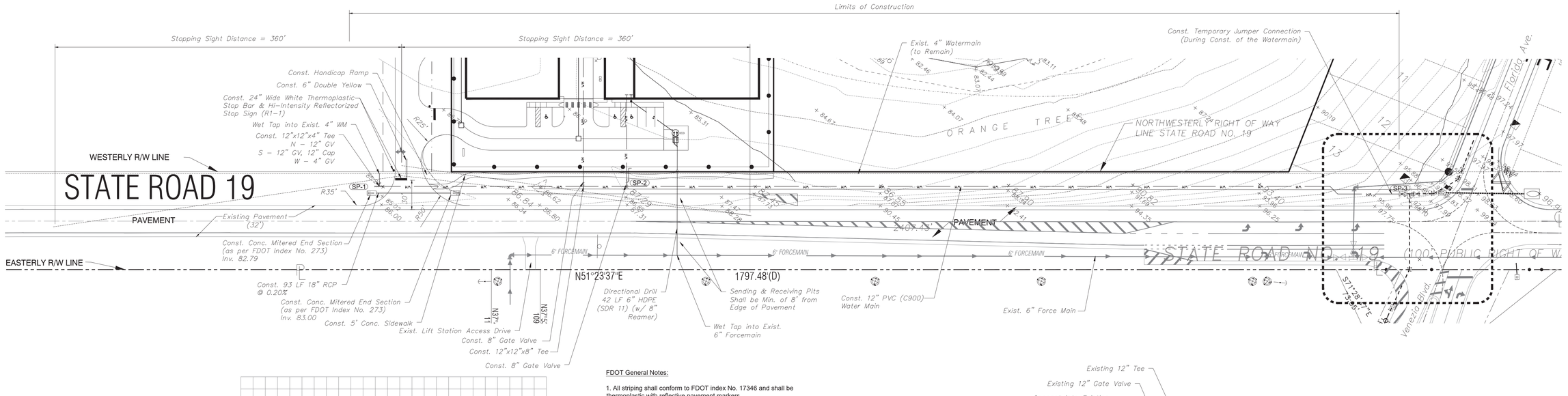
JEC june engineering consultants, inc.
23 W. Joiner Street
Winter Garden, FL. 34787
Ph. 407-905-8180
Fax 407-905-6232
Certificate of Authorization #00008507

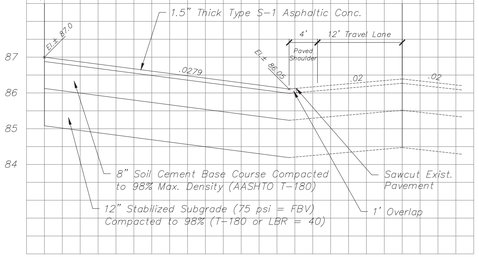
DRAWN BY: CLK DATE: 2/4/08 — CHECKED BY: RAJ DATE: 2/4/08 — SCALE 1" = 50'

JEFFREY A. SEDLOFF PE# 51506

JOB NO. 07-0398

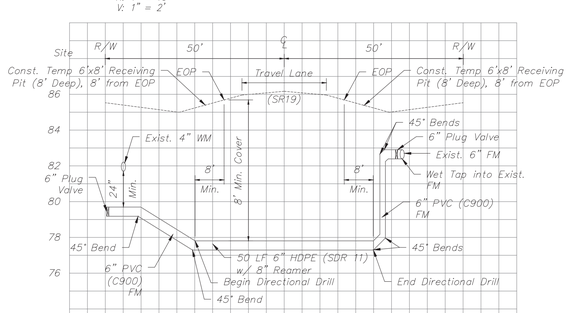
SHEET 3 OF 10





TYPICAL DRIVEWAY SECTION

H: 1" = 10'
V: 1" = 2'



TYPICAL SECTION - DIRECTIONAL DRILL

H: 1" = 20'
V: 1" = 4'

LEGEND	
Existing Contours	
Lot Number	(12)
Direction of Flow	
Existing Grade	x79.3
Proposed Grade	83.2
Water Main	—8" WM—
Sanitary Sewer	—S—
Stormpipe	
Fire Hydrant	
Storm Inlet	
Concrete	
Gate Valve	
Water Blowoff	

FDOT General Notes:

1. All striping shall conform to FDOT index No. 17346 and shall be thermoplastic with reflective pavement markers.

2. Turn lanes were designed based on a design speed of 55mph.

3. Use FDOT Index 526, Sheet 2 of 8 for roadway transitions, design speed = 45mph, center widening.

4. Use FDOT Index 301 for turn lanes, design speed = 45mph.

5. The contractor shall locate the exact location of the existing utilities within FDOT R/W, prior to construction.

6. All construction in the FDOT ROW shall conform to the latest editions of the FDOT Design Standards (Indexes), the FDOT Standard Specifications for Road and Bridge Construction, and the FDOT Utility Accommodation Manual.

7. All disturbed area within the Department's Right of Way shall be graded and sodded with Argetine Bahia sod.

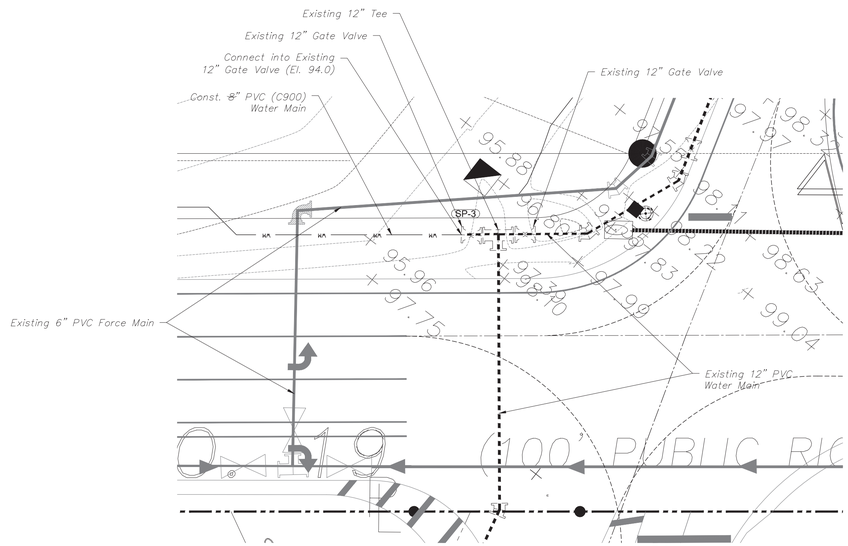
8. All striping within the Department's Right of Way shall be lead-free thermoplastic.

9. All maintenance of traffic shall adhere to the requirements of the Design Standards 600 indexes.

10. Paved shoulders need to be saw cut and removed prior to construction.

11. All sidewalks, ramps, and crosswalks shall be constructed and inspected to meet most current ADA Standards.

12. The elevations shown hereon are based on NGS-NOAA datum per Benchmark number A431, Elevation = 99.32 (NAVD88).



UTILITY CONNECTION DETAIL

Scale: 1" = 20'

Note:
Weld on MJ Fittings Shall be Used for all Directional Bore Piping

DATE	REVISION
11/17/09	FDOT / Town Comments
6/21/21	Town Comments
2/16/22	Town Comments
6/1/22	Town/FDOT Comments
6/23/22	Town Comments

Offsite Improvements

Howey Self Storage

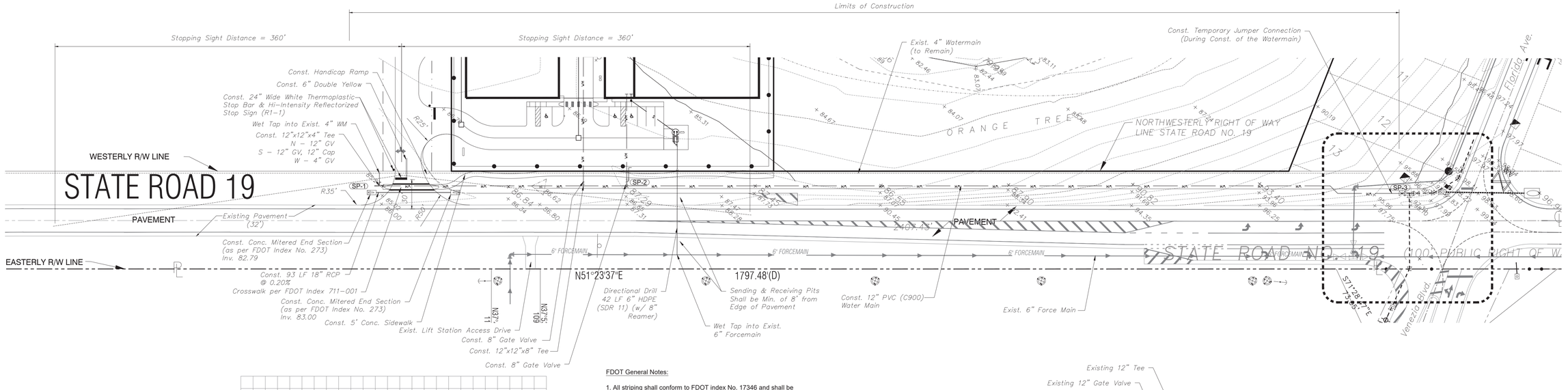
june engineering consultants, inc.
23 W. Joiner Street
Winter Garden, FL. 34787
Ph. 407-905-8180
Fax 407-905-6232
Certificate of Authorization #00008507

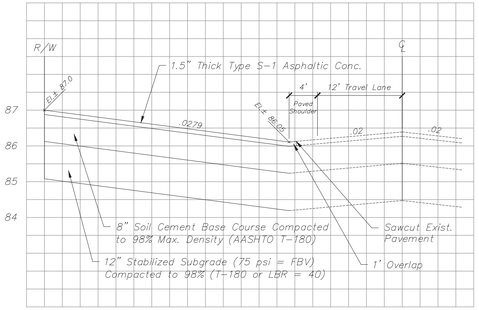
DRAWN BY: CLK DATE: 2/4/08 | CHECKED BY: RAJ DATE: 2/4/08 | SCALE 1" = 50'

JEFFREY A. SEDLOFF PE# 51506

JOB NO. 07-0398

SHEET 6 OF 10





TYPICAL DRIVEWAY SECTION

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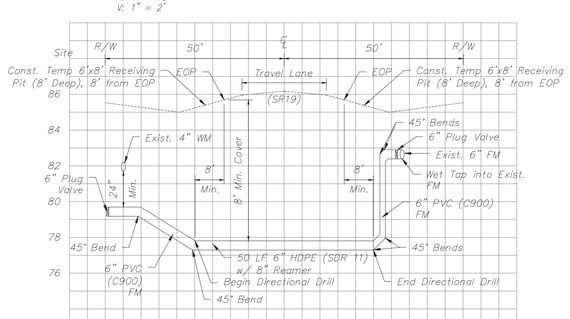

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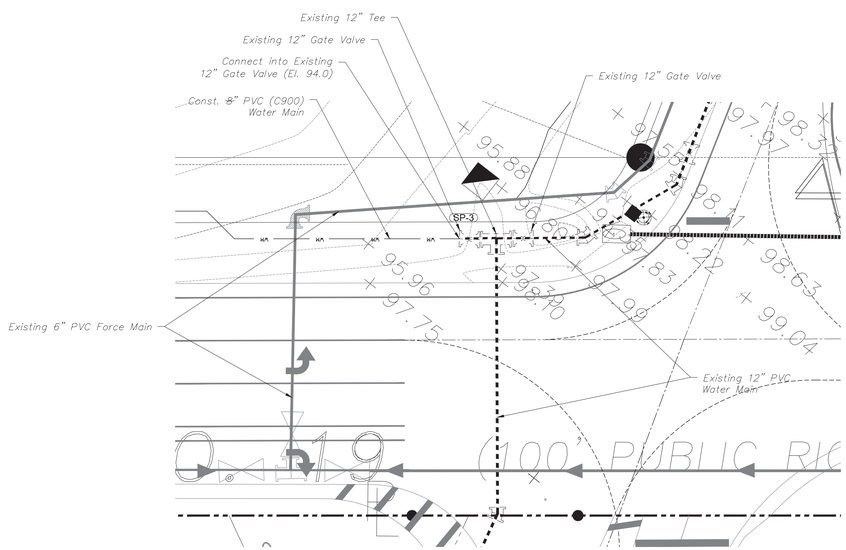

UTILITY CONNECTION DETAIL

Scale: 1" = 20'

Note:
Weld on MJ Fittings Shall be Used for all Directional Bore Piping

LEGEND	
Existing Contours	
Lot Number	(12)
Direction of Flow	
Existing Grade	x79.3
Proposed Grade	98.2
Water Main	—8" WM—
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Stormpipe	
Fire Hydrant	
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Certificate of Authorization #00008507

DRAWN BY: CLK DATE: 2/4/08 | CHECKED BY: RAJ DATE: 2/4/08 | SCALE 1" = 50'

JEFFREY A. SEDLOFF PE# 51506

JOB NO. 07-0398

SHEET 6 OF 10

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
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: Howey Self Storage Final Site Plan
DATE: September 9, 2022

The applicant is requesting approval of the final site plan for the Howey Self Storage project. This proposed development was included in The Reserve development first approved by the Town in 2007 and is now being presented for approval. The project consists of approximately 96,000 square feet of storage divided into 732 individual units. The project also includes a rental office of about 1,500 square feet. The project fronts on SR 19 just south of the intersection with Florida Avenue, but the project will not be directly accessed from SR-19. Access will be provided via a road along the south side of the project which primarily serves The Reserve/Hilltop Groves development. (This road is identified as Road B on the Hilltops Grove plan.) The self-storage project is currently proposed for development in two phases.

Adequate parking is provided with the rental office area and within the project adjacent to the storage units. A landscaped buffer will be provided along SR-19 and along the south side of the project to buffer the self-storage project from the residential area to the south. A wetland and stormwater retention area separates the project from properties along Florida Avenue and other residential areas within The Reserve.

The project has undergone a series of reviews at the Development Review Committee, and at the September 8, 2022, DRC meeting the committee and the applicant finalized a few conditions that are recommended for inclusion with the overall site plan approval. These include:

1. The project buildings fronting SR-19 must comply with design standards included in the overall agreement for The Reserve. The applicant agrees to the review of the construction drawing in comparison with the design included in the plan set at the time a building permit is requested.

2. The applicant intends to use a well for site irrigation rather than using potable water.

3. The applicant will add a note to the landscape plans requiring that any tree trimming done to the shade trees will be done in a manner consistent with the growth of the trees as shade trees.

4. The applicant will provide a standard cross-walk detail where the project sidewalk meets the entrance road. A supplemental detail is to be submitted.

5. The applicant will provide the Town copies of all required permits prior to the issuance of a Town building permit.

6. The applicant will document adequate turning radius for emergency vehicles on the internal driveways.

GRIFFEY ENGINEERING, INC.

September 5, 2022
Howey Self Storage
Engineering Review Comments
Page 1

1. Provide copies of all outside agency permits required for the project (SJRWMD, FDOT, FDEP, FWC, etc).

2. Provide standard crosswalk striping (FDOT Index 17346) at the entrance on SR 19 and a terminal sidewalk ramp on the west side of the new driveway.

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 Development Review Committee
CC: J. Brock, Town Clerk; S. O'Keefe, Town Administrator
FROM: Thomas Harowski, AICP, Planning Consultant
SUBJECT: Howey Self Storage Site Plan
DATE: September 1, 2022

This review is based on the staff report dated May 4, 2022 and the plan set dated August 29, 2022. The "Planning Considerations" comments have been addressed with the following notes:

- The building design compliance for the buildings fronting on SR 19 will be reviewed for compliance with the plan when the building permits are submitted.

The landscape comments have been addressed with the following notes:

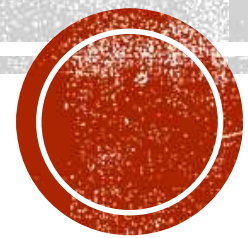
- The water source for irrigation was to be reviewed to determine if there is an alternate source other than potable water. Is an alternate source feasible?

- We understood the 30-inch camphor tree was to be preserved, but the landscape plans call for its removal. Why is this change occurring?

- Please add a note to the landscape plans direccting that trimming of canopy trees and understory trees is to be done consistent with the natural shape of the trees. Shade trees and understory trees are not to be trimmed like topiaries.

HOWEY-IN-THE-HILLS LANDFILL

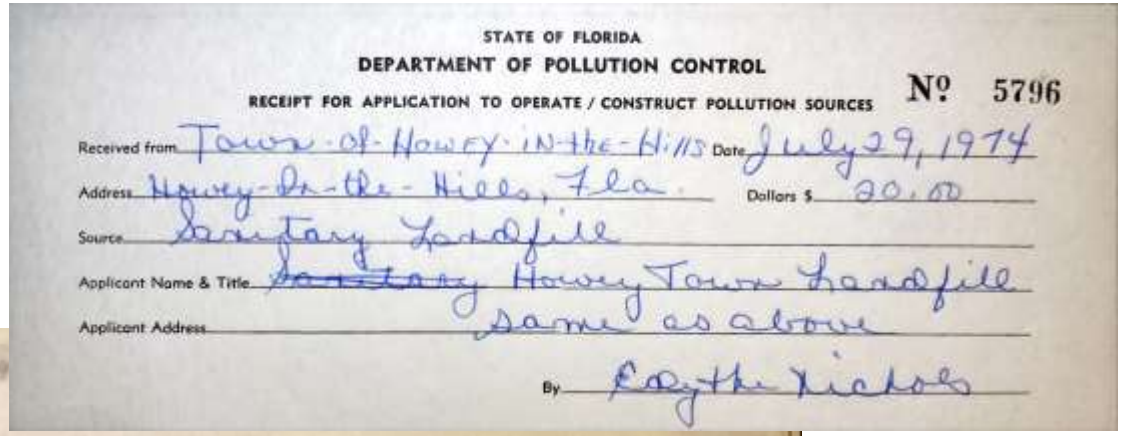
A Review of a Half-Century of Solid Waste Management



LOCATION

The landfill is a ~5-acre parcel east of the Highway 19/Revels Road intersection.

The landfill is in a sharply elevated location, with four easements leading to the site, none with official paved road access. The site also has an easement going through it.



STATE OF FLORIDA
DEPARTMENT OF POLLUTION CONTROL
RECEIPT FOR APPLICATION TO OPERATE / CONSTRUCT POLLUTION SOURCES

Nº 5796

Received from Town of Howey-in-the-Hills Date July 29, 1974

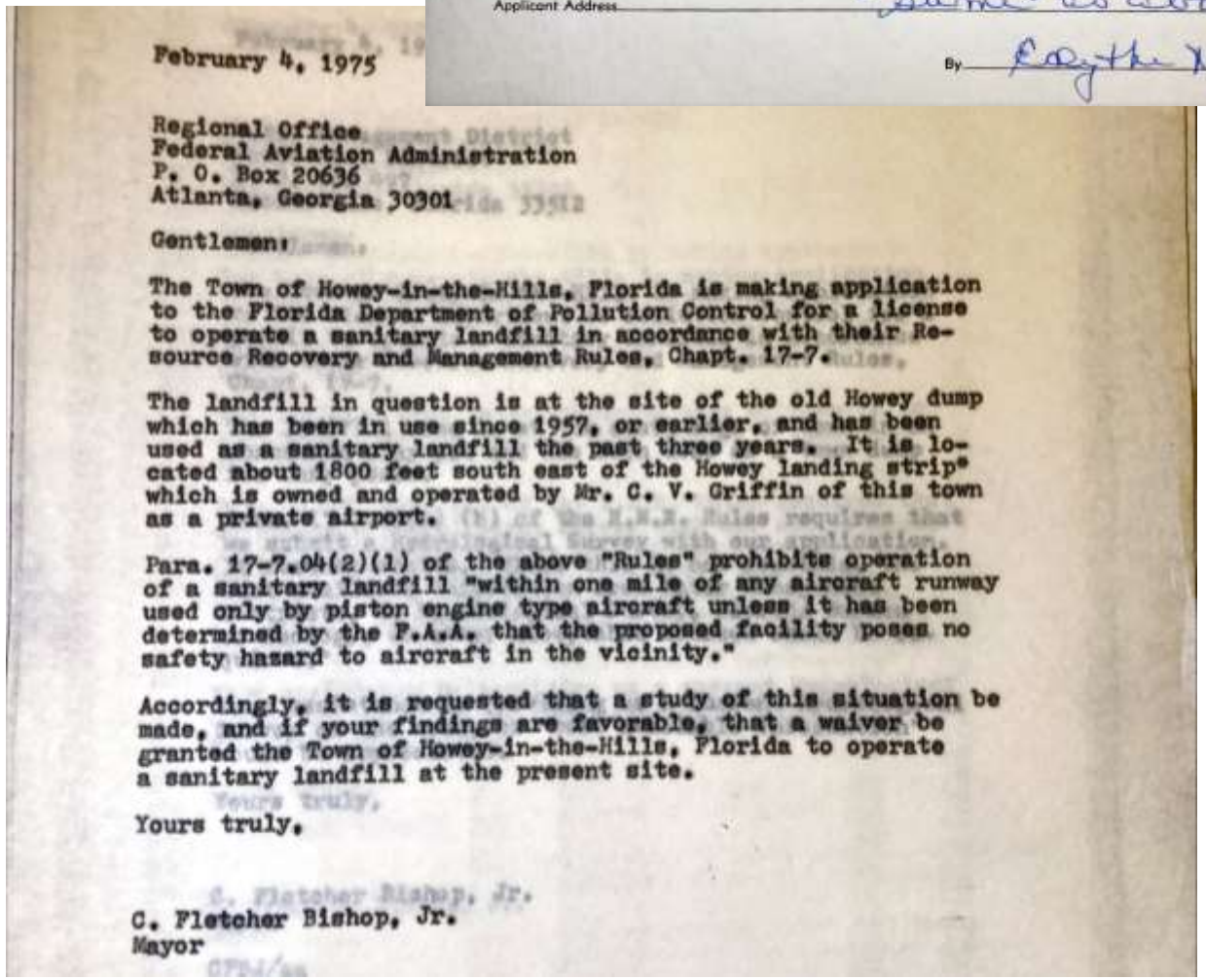
Address Howey-In-The-Hills, Fla. Dollars $ 20.00

Source Sanitary Landfill

Applicant Name & Title ~~Sanitary~~ Howey Town Landfill

Applicant Address Same as above

By Edythe Nichols



February 4, 1975

Regional Office
Federal Aviation Administration
P. O. Box 20636
Atlanta, Georgia 30301

Gentlemen:

The Town of Howey-in-the-Hills, Florida is making application to the Florida Department of Pollution Control for a license to operate a sanitary landfill in accordance with their Resource Recovery and Management Rules, Chapt. 17-7.

The landfill in question is at the site of the old Howey dump which has been in use since 1957, or earlier, and has been used as a sanitary landfill the past three years. It is located about 1800 feet south east of the Howey landing strip which is owned and operated by Mr. C. V. Griffin of this town as a private airport.

Para. 17-7.04(2)(1) of the above "Rules" prohibits operation of a sanitary landfill "within one mile of any aircraft runway used only by piston engine type aircraft unless it has been determined by the F.A.A. that the proposed facility poses no safety hazard to aircraft in the vicinity."

Accordingly, it is requested that a study of this situation be made, and if your findings are favorable, that a waiver be granted the Town of Howey-in-the-Hills, Florida to operate a sanitary landfill at the present site.

Yours truly,

C. Fletcher Bishop, Jr.
Mayor

ORIGINS

In documents from 1975 requesting a license to operate a sanitary landfill, there is reference to use of "the old Howey dump" providing solid waste services to residents since at least 1957.

This area has also been known as the "clay pit" referencing its initial use preceding the original landfill use.

Howey Landfill Plan Wins State Approval

HOWEY-IN-THE-HILLS — The State Pollution Control Board has granted a temporary license to the town for its sanitary landfill operation, according to Councilman Robert Edwards.

Edwards told council the state requires a wire fence be erected around the six-acre tract by May 1, 1977. Also required will be frequent testing of water to see if pollution is seeping from the landfill into a nearby water supply.

THE TOWN also was given a waiver for the location of the site, which is within 1,500 feet of the Howey airport. The landfill would be subject to closing if birds attracted to the area become a hazard to aircraft.

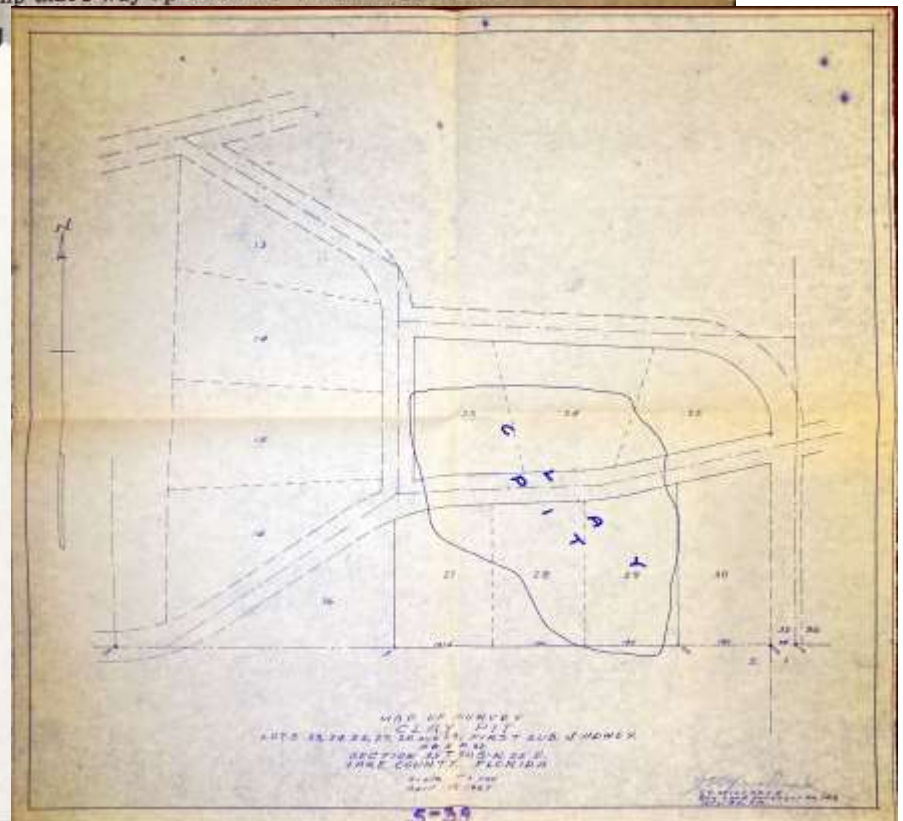
Edwards reported that the board had also agreed to relax a demand that the town purchase a $54,000 specialized impactor to replace the relatively new, all-purpose machine now used to cover and impact trash and garbage.

Edwards had complained in February that new state regulations for certification of sanitary landfills were designed to "put the small guy out of business — and could cost the town as much as $100,000 to comply.

THE TOWN has two alternatives to operating its own landfill. The town either could turn its disposal operation over to the county or hire a commercial garbage operator.

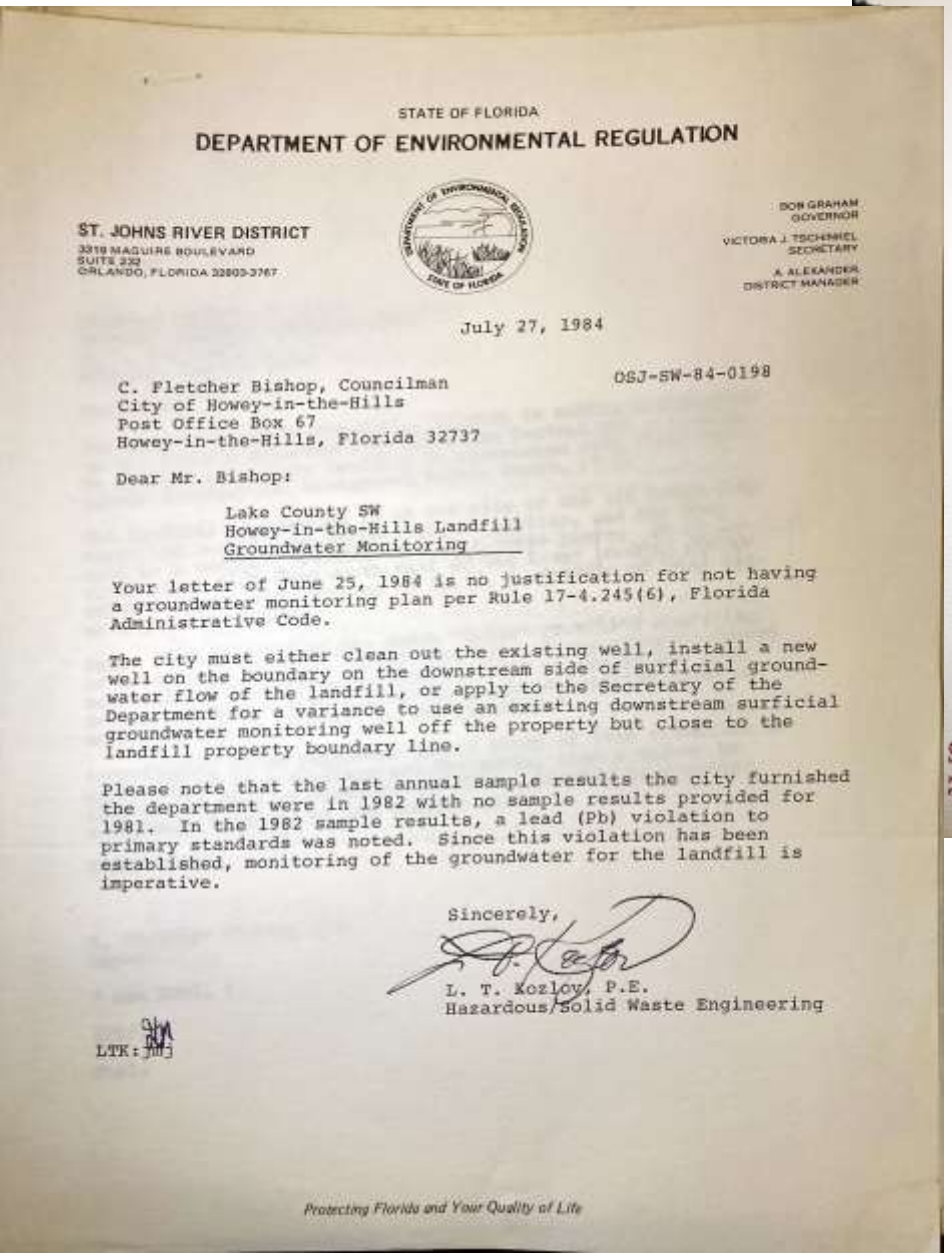
Bill Hennessey, Lake County Pollution Control officer, said "locally, I'm not upset with the operation in Howey. It's hard to be disturbed about a dump that's way up on a hill over clay strata. It's just not going to pollute anything."

Robert Alderman, Lake County landfill supervisor had said that the volume of refuse Howey generates wouldn't even put a dent in county landfill operations.



RE-ESTABLISHMENT

In 1977, the re-establishment of the sanitary landfill was permitted by the State Pollution Board under Mayor C. Fletcher Bishop.



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767

DON GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY
A. ALEXANDER
DISTRICT MANAGER

July 27, 1984

OSJ-SW-84-0198

C. Fletcher Bishop, Councilman
City of Howey-in-the-Hills
Post Office Box 67
Howey-in-the-Hills, Florida 32737

Dear Mr. Bishop:

Lake County SW
Howey-in-the-Hills Landfill
Groundwater Monitoring

Your letter of June 25, 1984 is no justification for not having a groundwater monitoring plan per Rule 17-4.245(6), Florida Administrative Code.

The city must either clean out the existing well, install a new well on the boundary on the downstream side of surficial groundwater flow of the landfill, or apply to the Secretary of the Department for a variance to use an existing downstream surficial groundwater monitoring well off the property but close to the landfill property boundary line.

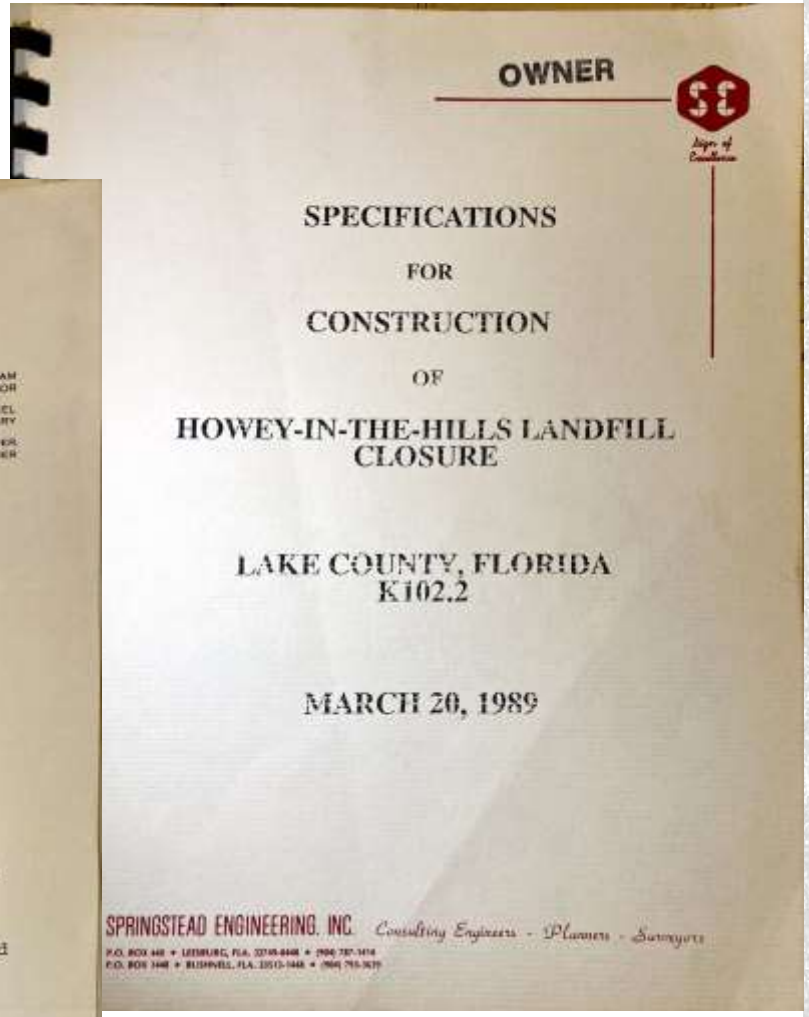
Please note that the last annual sample results the city furnished the department were in 1982 with no sample results provided for 1981. In the 1982 sample results, a lead (Pb) violation to primary standards was noted. Since this violation has been established, monitoring of the groundwater for the landfill is imperative.

Sincerely,

L. T. Kozlov, P.E.
Hazardous/Solid Waste Engineering

LTK:

Protecting Florida and Your Quality of Life



OWNER

SPECIFICATIONS

FOR

CONSTRUCTION

OF

HOWEY-IN-THE-HILLS LANDFILL
CLOSURE

LAKE COUNTY, FLORIDA
K102.2

MARCH 20, 1989

SPRINGSTEAD ENGINEERING, INC. Consulting Engineers - Planners - Surveyors

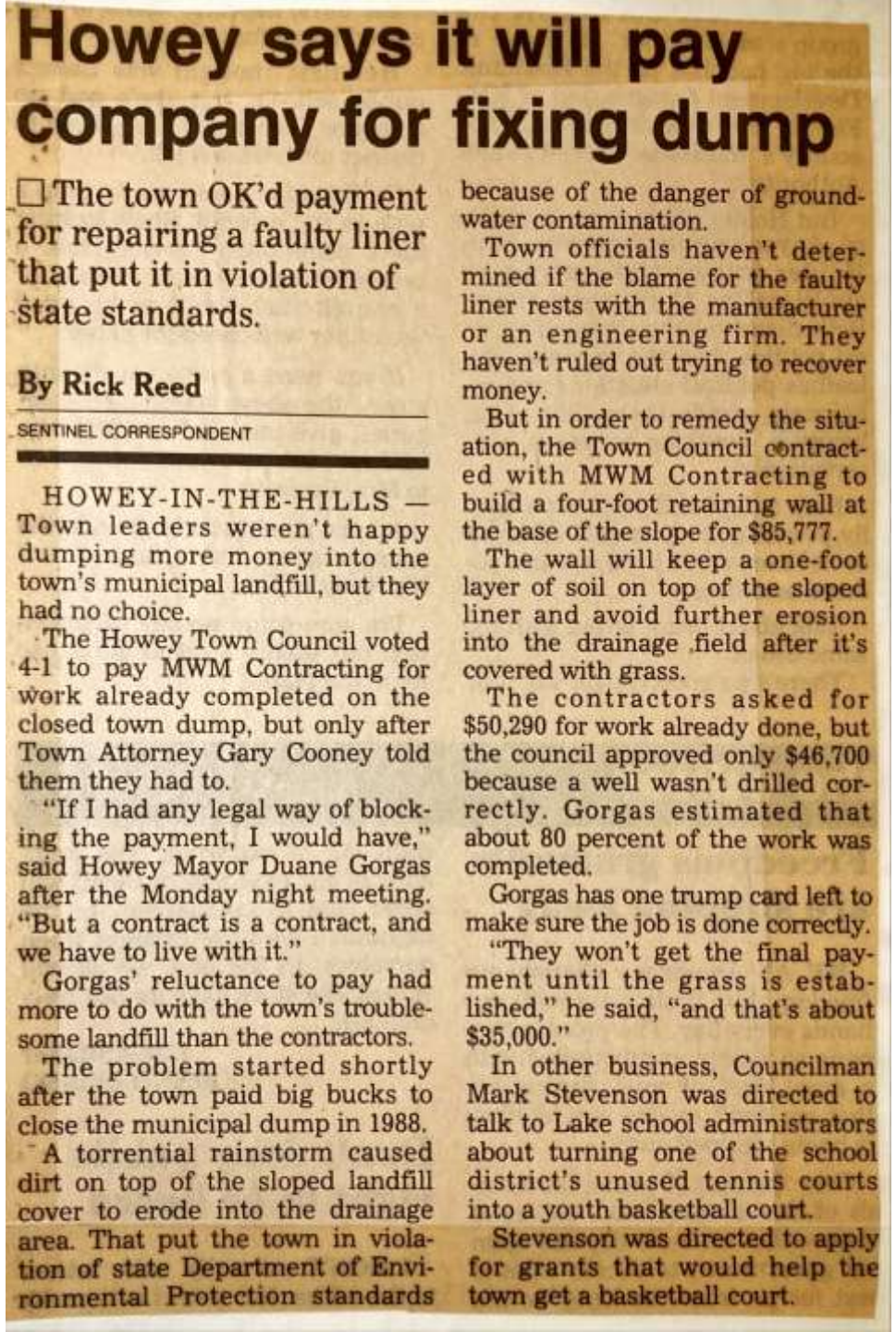
CLOSURE

Proper monitoring of the groundwater continued to be an issue for the Town.

In 1988, the closure of the landfill was proposed under Mayor Dwayne Gorgas. Springstead Engineering, Inc. was engaged to develop proposals for the closure and the installation of monitoring wells.

POST-CLOSURE

In the period of 1988-1993, there were problems with the implementation of the closure process. In particular, the liner extended across the landfill was exposed after installation and therefore compromised.



Howey says it will pay company for fixing dump

The town OK'd payment for repairing a faulty liner that put it in violation of state standards.

By Rick Reed

SENTINEL CORRESPONDENT

HOWEY-IN-THE-HILLS — Town leaders weren't happy dumping more money into the town's municipal landfill, but they had no choice.

The Howey Town Council voted 4-1 to pay MWM Contracting for work already completed on the closed town dump, but only after Town Attorney Gary Cooney told them they had to.

"If I had any legal way of blocking the payment, I would have," said Howey Mayor Duane Gorgas after the Monday night meeting. "But a contract is a contract, and we have to live with it."

Gorgas' reluctance to pay had more to do with the town's troublesome landfill than the contractors.

The problem started shortly after the town paid big bucks to close the municipal dump in 1988.

A torrential rainstorm caused dirt on top of the sloped landfill cover to erode into the drainage area. That put the town in violation of state Department of Environmental Protection standards because of the danger of groundwater contamination.

Town officials haven't determined if the blame for the faulty liner rests with the manufacturer or an engineering firm. They haven't ruled out trying to recover money.

But in order to remedy the situation, the Town Council contracted with MWM Contracting to build a four-foot retaining wall at the base of the slope for $85,777.

The wall will keep a one-foot layer of soil on top of the sloped liner and avoid further erosion into the drainage field after it's covered with grass.

The contractors asked for $50,290 for work already done, but the council approved only $46,700 because a well wasn't drilled correctly. Gorgas estimated that about 80 percent of the work was completed.

Gorgas has one trump card left to make sure the job is done correctly.

"They won't get the final payment until the grass is established," he said, "and that's about $35,000."

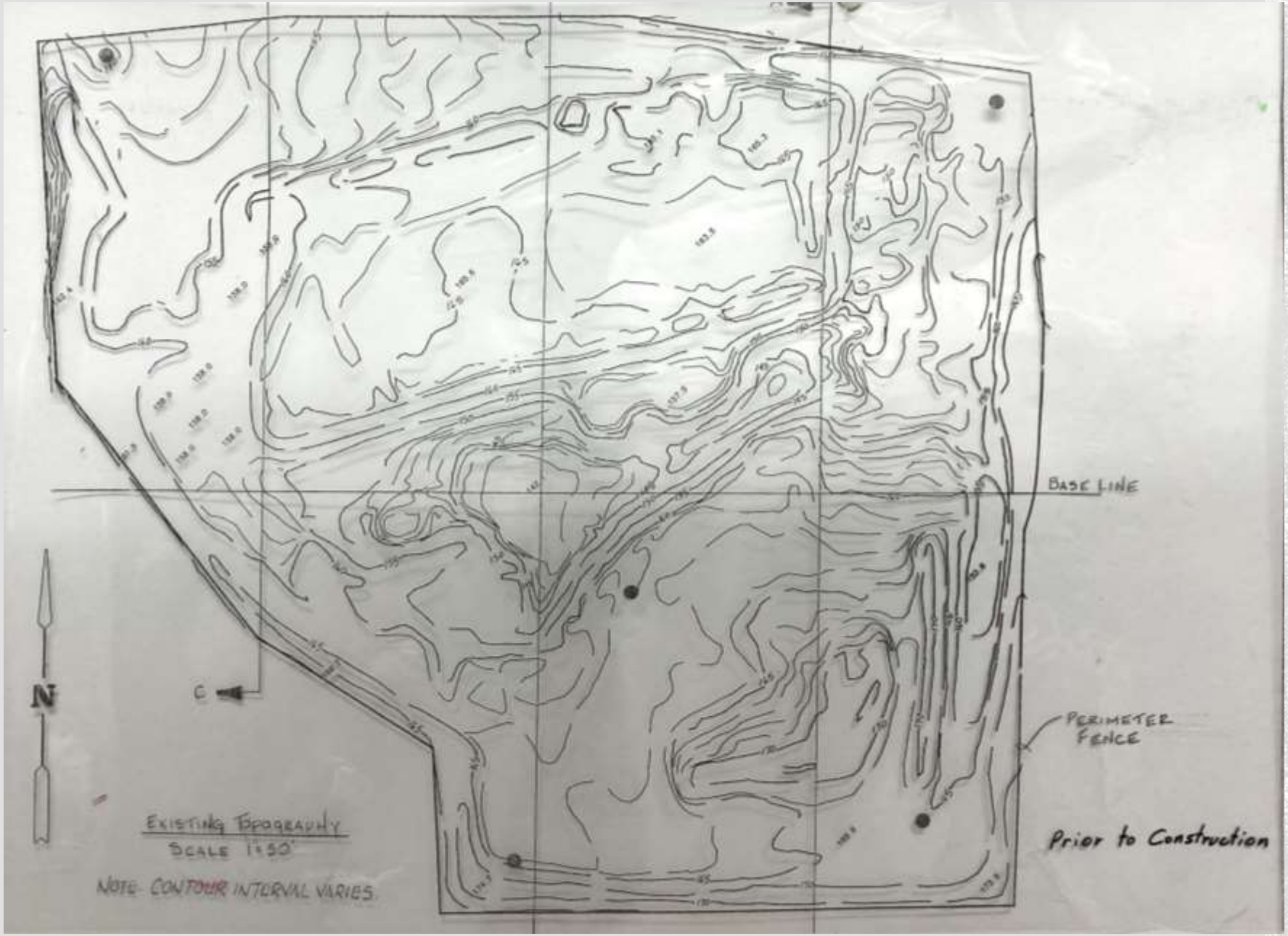
In other business, Councilman Mark Stevenson was directed to talk to Lake school administrators about turning one of the school district's unused tennis courts into a youth basketball court.

Stevenson was directed to apply for grants that would help the town get a basketball court.

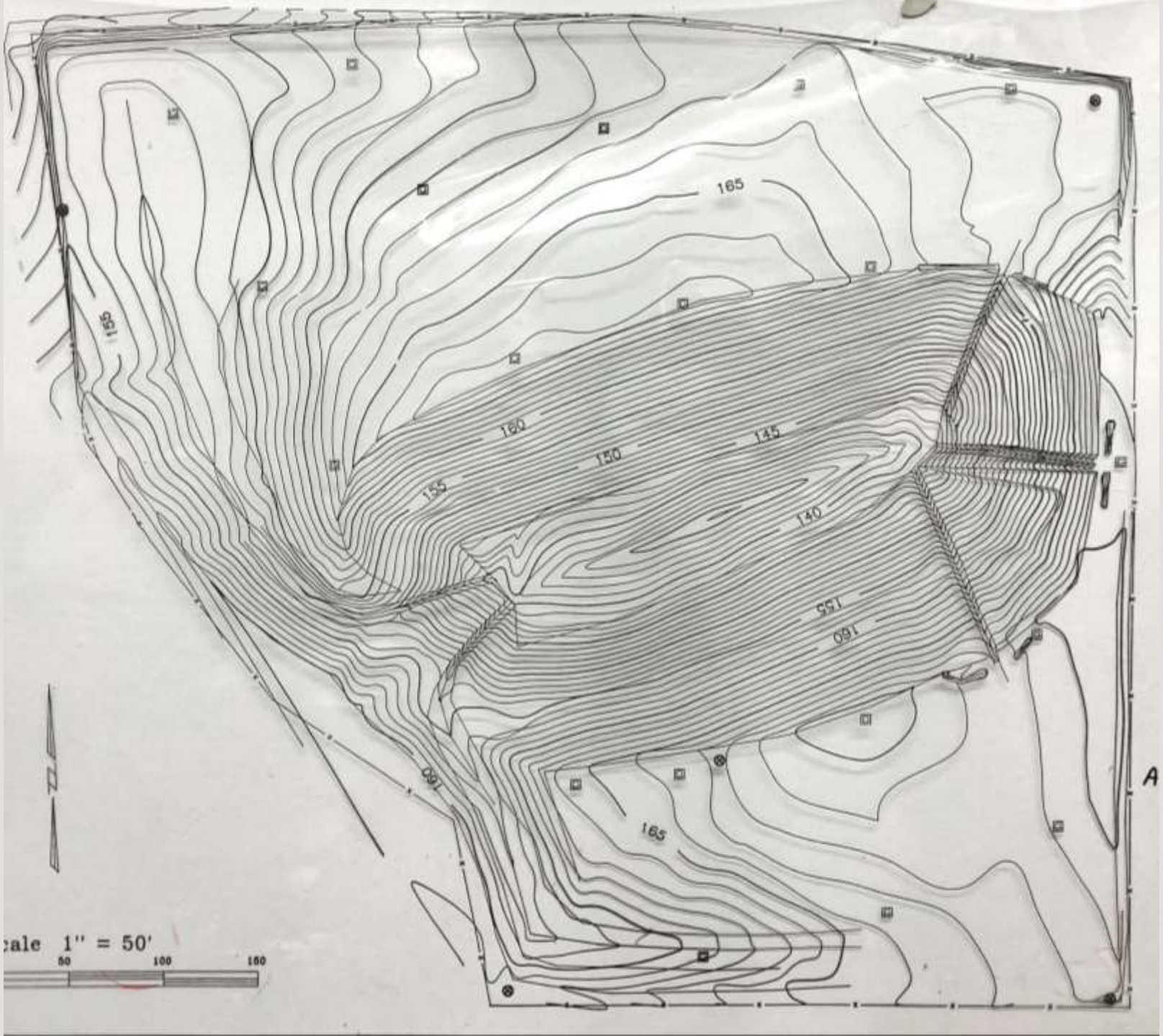
RECOVERY

As there were problems with closing the landfill in a compliant manner and completing the closure work with the contractor, including changing the original proposed layout of work, the Town initially withheld payment.

MAP OF LANDFILL PRIOR TO CONSTRUCTION



MAP OF LANDFILL AS CONSTRUCTED



DOCUMENTATION AND RECORDS

DOCUMENTS

- "Specifications for Installation of Monitoring Wells at the Howey Landfill" [Springstead Eng., June 3, 1988, Two copies]
- "Specifications for Construction of Howey-in-the-Hills Landfill Closure" [Springstead Eng., March 20, 1989]
- "Engineering Evaluation and Application for Long-Term Care Permit" [Springstead Eng., Oct. 28, 1993]
- "Specifications for Construction of Modifications to Landfill and Installation of a New Monitoring Well" [Springstead, April 25, 1994]
- Transparencies (x3) showing construction (in large brown envelope)
- SILVER SPRINGS CITRUS COOPERATIVE RECEIPTS (to show operations tonnage taken to landfill?)
- Large Map of Howey [Moorhead, February 1978]
- *ANCHOR TRENCH DETAIL* [Large Map, MWM Contracting Corporation, 5-31-89]
- *BOUNDARY SURVEY FOR HOWEY LANDFILL* [Two copies, Large Map, Springstead Eng., 9-29-89]
- *FINAL GRADING PLAN FOR HOWEY-IN-THE-HILLS LANDFILL* [Large Map, Springstead Eng., 2-21-89]

FOLDERS

- LAND DISPOSAL SITE DATA FORM [note on front of folder: "Start of Landfill (1977)] [Doc. Range 1973-1984]
- CAPITAL PROJECTS – LANDFILL / Ground Water Monitoring (Pembroke, DEP) [Doc. Range 1993-1997]
- CAPITAL PROJECTS – LANDFILL / Closure Permit [Doc. Range 1988-1999]
- CAPITAL PROJECTS – LANDFILL / Correspondence - Contract [Doc. Range 1994-1995]
- LANDFILL CLOSURE [Doc. Range 1986-1991]
- LANDFILL DOCS [Doc. Range 1998-2000]
- LANDFILL (SURVEY)
- SANITARY (LANDFILL) PERMIT
- LANDFILL WELL REPORTS WATER TESTS [Doc. Range 1975-1985]
- LANDFILL [note on front says "1988"] [Doc. Range 1987-1988]
- LANDFILL MTG. [Doc. Range 1986-1993]
- LANDFILL [note on front says 1984-1988] [Doc. Range is 1975-1988]
- BROWN ACCORDION FOLDER WITH FOUR SUBFOLDERS

  - Landfill Contract / Costs
  - DER – Landfill Correspondence
  - Two packs of photos
  - Landfill 1/4ly reports 1989 to 1991
  - Landfill STD of Analysis
  - Pembroke Laboratories Report 3/11/91
  - Mayor Cargile Request to reduce sampling frequency June 5, 1992
  - 1989 DEP Quarterly Reports

Date: October 10, 2022

To: Mayor and Town Council

From: Morgan Cates

Re: Consideration and Approval: **Fencing around Town Lift Stations in Central Park and Griffin Park**

Objective:

To procure estimates for the installation of fences around Lift Station #3 (S. Lakeshore Blvd.) and Lift Station #4 (Town Hall) to provide extra security measures at both Town-owned Lift Stations.

Summary:

The Public Works Director was asked to procure estimates (not to exceed $2,500.00 per fence) for the installation of fences around the Town-owned Lift Stations #3 and #4. The Public Works Director contacted South Lake Fence Company, an approved vendor that the Public Works Director has used recently for fence repairs.

Recommended Motions:

The Town Council has the following options:

1. The Town Council motions to approve

   OR

2. The Town Council motions to approve with the following conditions

   OR

3. Motion to Deny

Fiscal Impact:

There is an initial fiscal impact to the Town of $7,126.00 for both fences, based on the attached estimates from South Lake Fence of Lake County.

Staff Recommendation:

The Public Works Director is satisfied with the current security measures in place at each Lift Stations as they meet the current FDEP regulations. Except for Lift Station #3 (S. Lakeshore Blvd.) which the Public Works Director recommends adding safety barricades or concrete bollards to help prevent damages to the Lift Station from vehicles traveling along S. Lakeshore Blvd.

ESTIMATE

South Lake Fence of Lake County
PO Box 560286
Montverde, FL 34756

SouthLakeFence3@gmail.com
(407) 785-4900
https://fenceinstallationinClermontFL.com

City Of Howey In The Hills

Bill to
City Of Howey In The Hills

Estimate details
Estimate no. : 1788
Estimate date : 10/7/22

	Product or service	Amount
1.	**Pvc privacy** Installation of tan privacy 6 foot high tongue and groove with flat caps to surround lift station behind Town building.	$3,250.00

Total **$3,250.00**

Note to customer

Thank you for your business.

ESTIMATE

South Lake Fence of Lake County
PO Box 560286
Montverde, FL 34756

SouthLakeFence3@gmail.com
(407) 785-4900
https://fenceinstallationinClermontFL.com

City Of Howey In The Hills Park

Bill to
City Of Howey In The Hills Park

Estimate details
Estimate no. : 1789
Estimate date : 10/7/22

	Product or service	Amount
1.	**Chain-link fence** Vinyl coated chain-link fence including one gate, Lift station at Lakeshore	$3,876.00

Total **$3,876.00**

Note to customer

Thank you for your business.

MEMO

To: Town Council

CC:

From: John Brock, Town Clerk

RE: September 2022 Month-End Town Hall Report

Date: 10/07/2022

Utility Billing:

Top Utility Bill Bad Debt for September 2022

service_address	Action	current_charges	past_due_amount
107 E MYRTLE ST	Lien - 2019, Locked	25.65	3305.77
606 S FLORIDA AVE	Payment Plan	43.63	434.18
463 BELLISSIMO PL-IRRIGATION	Locked	515.75	385.51
440 AVILA PL-IRRIGATION	Locked	41.13	385.13
423 BELLISSIMO PL-POTABLE	Payment Plan due to leak	87.13	210.88
325 TERRACOTTA TER-POTABLE	Payment Plan	97.12	198.66
1104 N HAMLIN AVE	Payment Plan	41.13	155.47
107 E LAUREL	Paying prior to 10/15	41.13	136.25
406 BELLISSIMO PL-IRRIGATION	Paying prior to 10/15	50.74	115.5
497 BELLISSIMO PL-POTABLE	Paying prior to 10/15	95.84	101.99
122 W MAGNOLIA AVE	Payment Plan	51.12	91.66

Building Permits:

PERMITS	Sep-22	Aug-22	Jul-22	Q 4 Totals
Talichet - SFR	2	0	0	2
Independent - SFR	0	0	0	0
Building	0	2	0	2
Building Commercial	1	2	1	4
Re-Roof	4	4	3	11
Screen Enclosure	1	2	2	5
Sheds	0	1	0	1
Fence	1	2	4	7
Electrical	0	1	2	3
Pool/Decks	1	4	1	6
Solar	1	4	4	9
HVAC / Mechanical	2	0	3	5
Plumbing	0	0	1	1
Windows	0	2	2	4
Monthly Totals	13	24	23	60
Monthly Permit Amount $	$ 9,148.13	$ 21,118.92	$ 40,238.34	$ 70,505.39
Talichet CO's	0	1	5	6
Independent CO's	2	1	2	5

Activity Log Event Summary (Cumulative Totals)

Howey-in-the-Hills PD

(09/01/2022 - 09/30/2022)

Aandoned 911 - Business	1	Abandoned 911	1
Alarm Activation	2	Animal Complaint	2
Anti-Social Behavior	57	Arrest	2
Assault & Battery	4	Assist other Agency- Alarms	3
Assist other Agency- Back-up	9	Assist other Agency- In Progress calls	3
Assist other Agency- Medical Call	1	Assist other Agency- Other	3
Assist other Agency- Traffic	7	Attempt to Contact	1
Baker Act	3	Be on the look-out- BOLO	2
Case Follow-Up	1	Citizen Assist	5
Civil Complaint-Legal Advice	5	Code Enforcement	1
Control Burn	1	Death Investigation	1
Disabled Vehicle (DAV)	3	Found / Lost Property	2
Fraud Investigation	1	Golf Cart Registration	1
Intell Report	1	Juvenile Complaint	3
Mental Health Illness	3	Missing/Found Person	1
Narcotics-Arrest	1	Patrol	201
Patrol-Busines	4	Patrol-School	195
Property Check-Boat Ramp	17	Property Check-Business	44
Property Check-Residence	31	Property Check-Schools/Govt. Bldg.	48
Property Check-Town Property	164	Property Damage	1
Public Relations	14	Reckless Driver	3
Road Hazard	39	School Threat	4
Sick/Injured Person	4	Special Detail	1
SRO School Meeting	1	Storm Duty	1
Suspicious Incident	2	Suspicious Person	5
Suspicious Vehicle	4	Traffic Crash	1
Traffic Stop-Civil Citation	127	Traffic Stop-Criminal Citation	12
Traffic Stop-warning	101	Traffic Watch	52
Training-	3	Well Being Check	14

Total Number Of Events: 1,224

Code Summary Report Violation Name

Violation Date10/01/2021 TO 09/30/2022

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Row Total
Accumulation of Junk. Chapter 127, Sec. 127-4	4	1	1	2	1	0	2	1	1	0	6	0	19
Accumulation of Refuse Sec. 127-2	4	0	0	2	0	1	3	2	3	0	5	0	20
Adoption by reference of State standards. Chapter 61, Sec. 61-1	0	0	0	0	0	0	0	0	1	0	0	0	1
Excessive or Untended Growth of Vegetation Sec. 127-3	1	1	0	6	2	6	2	6	1	0	2	0	27
Fence Material 5.01.07(D)	0	0	0	0	0	0	0	1	0	0	0	0	1
Fence Permit 5.01.07(A)	0	0	0	0	0	0	0	2	0	0	0	0	2
Florida Building Code 105.1	2	1	1	0	1	0	0	0	1	4	0	2	12
Junk definition Chapter 127, Sec. 127-1. - Definitions	0	0	0	0	0	0	0	0	1	0	0	0	1
Land Clearing LDC Chap 7.13.00	0	0	1	0	0	0	0	0	0	0	0	0	1
Movable Module Storage Units LDC 5.02.06	1	0	0	0	0	0	0	1	0	0	0	0	2
Parking-Boats and RVs (A) Article I, Sec. 166-3	0	0	0	0	2	0	0	1	6	2	2	0	13
Parking-Boats and RVs (C) Article I, Sec. 166-3	2	2	1	1	3	0	2	2	5	0	0	0	18
Parking-Boats and RVs (D) Article I, Sec. 166-3	0	1	4	1	0	0	0	1	4	0	0	0	11
Political Signs 5.03.05(K)	4	0	0	0	7	0	0	0	0	0	3	0	14
Prohibited Signs 5.03.04	0	0	0	0	9	0	0	0	0	8	2	0	19
Required Landscaping 7.08.01	0	0	0	0	0	0	0	66	4	0	0	0	70
Storm water Management 8.05.05 (K)(2)(o)	0	1	0	0	0	0	0	0	0	0	0	0	1
Stormwater Maintenance 8.05.05(I)(5)(b)(2)	0	0	0	0	0	0	0	1	0	0	0	0	1
Stormwater Maintenance 8.05.05(M)(4)	0	0	0	0	0	0	0	1	0	0	0	0	1
Stormwater Maintenance 8.05.05(M)(5)	0	0	0	0	0	0	0	1	0	0	0	0	1
Temp Carports and Covers LDC 05.02.08	0	0	0	0	0	0	0	0	1	0	0	0	1
Tree Permit LDC Chap 7.12.01	0	0	1	0	0	0	0	0	0	0	0	0	1
Use of Parking Areas - Sales and Repairs Article II, Sec. 166-13	0	0	0	0	0	0	0	0	1	0	0	0	1
Water Restriction Sec. 171-123(c)(1)	1	5	0	2	8	5	23	1	0	0	0	0	45
Water Restriction Sec. 171-123(c)(2)	0	0	10	0	2	6	0	0	0	0	0	0	18
Totals:	**19**	**12**	**19**	**14**	**35**	**18**	**32**	**87**	**29**	**14**	**20**	**2**	**301**

Code Summary Report Violation Name

Violation Date09/01/2022 TO 09/30/2022

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Row Total
Accumulation of Junk. Chapter 127, Sec. 127-4	0	0	0	0	0	0	0	0	1	0	0	0	1
Accumulation of Refuse Sec. 127-2	0	0	0	0	0	0	0	0	3	0	0	0	3
Adoption by reference of State standards. Chapter 61, Sec. 61-1	0	0	0	0	0	0	0	0	1	0	0	0	1
Excessive or Untended Growth of Vegetation Sec. 127-3	0	0	0	0	0	0	0	0	1	0	0	0	1
Florida Building Code 105.1	0	0	0	0	0	0	0	0	1	0	0	0	1
Junk definition Chapter 127, Sec. 127-1. - Definitions	0	0	0	0	0	0	0	0	1	0	0	0	1
Parking-Boats and RVs (A) Article I, Sec. 166-3	0	0	0	0	0	0	0	0	6	0	0	0	6
Parking-Boats and RVs (C) Article I, Sec. 166-3	0	0	0	0	0	0	0	0	5	0	0	0	5
Parking-Boats and RVs (D) Article I, Sec. 166-3	0	0	0	0	0	0	0	0	4	0	0	0	4
Required Landscaping 7.08.01	0	0	0	0	0	0	0	0	4	0	0	0	4
Temp Carports and Covers LDC 05.02.08	0	0	0	0	0	0	0	0	1	0	0	0	1
Use of Parking Areas - Sales and Repairs Article II, Sec. 166-13	0	0	0	0	0	0	0	0	1	0	0	0	1
Totals:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**29**	**0**	**0**	**0**	**29**

Code Summary Report Activity Type

Activity Date10/01/2021 TO 09/30/2022

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Row Total
Email	2	1	3	0	1	0	0	155	5	0	0	2	169
Initial Inspection	18	25	14	14	26	18	9	86	22	18	12	3	265
Issue Citation	0	0	0	0	0	0	0	0	0	2	0	0	2
Meeting	0	0	0	1	0	1	0	67	12	0	0	0	81
Office visit	1	0	2	0	0	0	0	1	0	0	0	1	5
Personal Service	0	0	0	0	0	0	0	0	1	0	0	0	1
Phone call	7	4	10	4	11	1	9	21	4	10	6	5	92
Posting	0	0	0	0	0	0	0	0	1	0	0	0	1
Re-Inspection	13	6	16	7	28	15	15	3	40	17	12	12	184
Research	2	0	10	1	17	14	27	96	80	0	2	2	251
Send Letter	2	3	13	3	6	2	2	8	5	4	3	1	52
Verbal Warning	0	0	0	0	0	0	0	0	0	0	1	0	1
Totals:	**45**	**39**	**68**	**30**	**89**	**51**	**62**	**437**	**170**	**51**	**36**	**26**	**1104**

Code Summary Report Activity Type

Activity Date09/01/2022 TO 09/30/2022

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Row Total
Email	0	0	0	0	0	0	0	0	5	0	0	0	5
Initial Inspection	0	0	0	0	0	0	0	0	22	0	0	0	22
Meeting	0	0	0	0	0	0	0	0	12	0	0	0	12
Personal Service	0	0	0	0	0	0	0	0	1	0	0	0	1
Phone call	0	0	0	0	0	0	0	0	4	0	0	0	4
Posting	0	0	0	0	0	0	0	0	1	0	0	0	1
Re-Inspection	0	0	0	0	0	0	0	0	40	0	0	0	40
Research	0	0	0	0	0	0	0	0	80	0	0	0	80
Send Letter	0	0	0	0	0	0	0	0	5	0	0	0	5
Totals:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**170**	**0**	**0**	**0**	**170**

Public Works

September 2022 – Monthly Report

Activity	Location/ Address	Notes
Road Maintenance / Potholes		
Street Signs	Alley and S. Lakeshore Blvd	Added "STOP" sign and "Do Not Enter" sign at the alley and S. Lakeshore Blvd
Stormwater/Drainage		
Sidewalk Maintenance		
Building Maintenance	Library Town Hall	Public Works Staff cleaned the gutters at Town Hall and Library for Hurricane preparations. Public Works Staff installed plastic and sandbags in front of Library LEC doors for Hurricane preparations.
Grounds Maintenance	Library	
Tree Trimming/Tree Removal/Stump Removal	Cemetery	Tree contractor has removed multiple trees in the back right corner of the cemetery in preparation for dirt removal and fence installation.
Mowing/Weed Eating	Main Water Plant Well # 3 Lakeshore Blvd Cemetery	Monthly Maintenance mowing, weed eating and edging. Monthly Mowing of Town Right of Way
Boardwalk Repairs	Sara Maude Mason Nature Preserve	See Hurricane Ian update below
Landscape/Irrigation/Lot Grading Inspections/Sidewalk Inspections		

Additional Notes:

- Hurricane Ian Update:
  - No damages to any Town owned buildings.
  - Trees were damaged in Blevins Park and the Cemetery; trees will be removed by the contractor if needed.
  - GFL will begin storm debris pick up on Thursday 10/6/2022 throughout the Town.

- Sara Maude Mason Nature Preserve will be closed until further notice:
  - The boardwalk was damaged in multiple areas due to fallen trees. (Unsafe for pedestrian traffic)
  - The nature trail has multiple fallen trees across it. (Unsafe for pedestrian traffic)
  - The Town's tree contractor will begin removing the trees from the boardwalk and nature trail on Thursday 10/6/2022.

- Public Works will meet with Hottinger Construction on Friday 10/7/2022 for an estimate on replacing damaged section of the boardwalk.

Public Utilities

September 2022– Monthly Report

Activity	Location/ Address	Notes
Locates	Throughout Town	28 locates for utility work
Data log	Throughout Town	8 logs for high usage and leak checks, code enforcment
Service Orders	Throughout town	24 Service orders for rereads, starting reads, register head replacements
Repairs		No large repairs needed this month

Library Director's Report
Marianne Beck Memorial Library
For the Month of September 2022

Statistics for September 2022

KOHA: 1,683, Digital: 171 total KOHA: 1,854. Computer sessions: 125. Total items holding: 12,631

Funds collected for September:

Copies/Fax: $140.70 Fines: **$**22.60 Total**:** $ 163.30 **FOL:** $59.55

Activities during the month of September:

Hurricane Ian closed the library for three days. We reopened on Saturday, October 1st. There was no damage to the library. I am awaiting Public Works to install a lock on storage room in LEC.

We have begun accepting applications for the laptops from local home school families. We will run the program in cycles. In two weeks intervals, we will offer the laptops to one child per family. Once the local home school families have been accommodated we will reach further into the county to offer the laptops to other home schools families.

We offered several programs in September. The most successful was the miniature golf. Hannah and Greyson built the nine hole course using 458 books and then made obstacles for each hole. 41 patrons participated in this program. County library youth service director came and took pictures to share with other libraries. She felt certain that others would like to do the same. Hannah also held a teddy bear sleepover. 12 teddy bears stayed overnight and took part in many events throughout the library. The monthly movie night continues to do well as does story time.

The LEC was very active in September with a number of meetings and programs being held. AARP held a Driver's Safety class, there was a HOA meeting, FREA holds its Medicare class here. DAR holds there monthly meeting every third Saturday and the town has also held public meetings in the LEC in September.

The library is looking forward to hosting the annual Halloween Bash On October 29th 4-6pm. We have confirmed 28 booths, we have asked them to decorate their tables after their favorite Halloween book. We will have costume contests, house decorating contest and best decorated booth, Should be a lot of fun! I will keep the council updated as the date approaches.

Respectively Submitted,
Tara Hall, Library Director

HOWEY-IN-THE-HILLS FINANCIAL REPORT
Sep-22

REVENUES		FYE 2021	RECEIVED SINCE LAST REP.	RECEIVED YEAR-TO-DATE	ESTIMATED REVENUE	REVENUE TO BE RECEIVED	PERCENT RECEIVED	DIFFERENCE FROM LAST REP.
GENERAL		$ 2,490,840.72	$ 14,033.91	$ 1,978,997.92	$ 2,074,421.00	$ 95,423.08	95%	1%
POLICE ADV TRAINING		$ 3,318.28	$ 396.26	$ 3,091.26	$ 3,000.00	$ (91.26)	103%	13%
POLICE IMPACT FEES*		$ 101,152.17	$ 4,572.68	$ 32,556.73	$ 50,000.00	$ 17,443.27	65%	9%
PARK IMPACT FEES*		$ 93,591.14	$ 4,292.72	$ 28,472.62	$ 40,000.00	$ 11,527.38	71%	11%
WATER IMPACT FEES*		$ 201,671.56	$ 6,301.64	$ 53,563.94	$ 90,000.00	$ 36,436.06	60%	7%
INFRASTRUCTURE FUND		$ 216,889.55	$ 888.79	$ 211,761.45	$ 219,707.00	$ 7,945.55	96%	0%
BUILDING FUND			$ 22,407.71	$ 184,426.29	$ -	$ (184,426.29)	#DIV/0!	
WATER/SANITATION FUND		$ 1,067,854.09	$ 92,799.70	$ 1,640,781.90	$ 1,126,500.00	$ (514,281.90)	146%	8%
POLICE RETIREMENT		$ 486,776.74	$ -	$ 8,087.62	$ 214,653.00	$ 206,565.38	4%	0%
	TOTALS	$ 4,662,094.25	$ 145,693.41	$ 4,141,739.73	$ 3,818,281.00	$ (323,458.73)	108%	4%

*Subtotal for Impact Fees Revenues	$ 15,167.04	$ 114,593.29	

EXPENDITURES		FYE 2021	COMMITTED SINCE LAST REP.	COMMITTED YEAR-TO-DATE	CURRENT APPROPRIATION	AVAILABLE APPROPRIATION	PERCENT COMMITTED	DIFFERENCE FROM LAST REP.
GENERAL		$ 1,963,604.45	$ 124,454.90	$ 2,044,158.86	$ 2,300,202.00	$ 256,043.14	89%	5%
POLICE ADV TRAINING		$ 1,950.82	$ -	$ -	$ 3,100.00	$ 3,100.00	0%	0%
POLICE IMPACT FEES*		$ 31,022.45	$ -	$ 172,529.26	$ 198,600.00	$ 26,070.74	87%	0%
PARK IMPACT FEES*		$ 11,675.00	$ -	$ 41,364.37	$ 29,456.00	$ (11,908.37)	140%	0%
WATER IMPACT FEES*		$ 2,598.45	$ -	$ 17,263.23	$ 54,000.00	$ 36,736.77	32%	0%
INFRASTRUCTURE FUND		$ 108,974.72	$ -	$ 186,699.70	$ 178,523.00	$ (8,176.70)	105%	0%
BUILDING FUND			$ 17,857.26	$ 126,596.35	$ -	$ (126,596.35)	#DIV/0!	
WATER/SANITATION FUND		$ 921,015.41	$ 62,859.90	$ 1,135,137.83	$ 1,174,269.00	$ 39,131.17	97%	5%
POLICE RETIREMENT		$ 93,290.98	$ -	$ 62,653.51	$ 79,438.00	$ 16,784.49	79%	0%
	TOTALS	$ 3,134,132.28	$ 205,172.06	$ 3,786,403.11	$ 4,017,588.00	$ 231,184.89	94%	5%

*Subtotal for Impact Fees Expenditures	$	-	$ 231,156.86

HOWEY IN THE HILLS
FINANCIAL REPORT
Sep-22

ACCOUNTS

151200

Florida Prime Account

STATE BOARD ADMINISTRATION BALANCE (usually comes in 2nd week of month)

SBA FUND A	$	19,204.54
INTEREST RECEIVED (APY 0.10%)	$	36.85
TOTAL	$	19,241.39

101076

SEACOAST MONEY MARKET ACCOUNT

(RESERVES)	**BEGINNING BALANCE**	$	658,590.36
	TRANSFERS IN (OUT)		
	INTEREST RECEIVED (APY 0.05%)	$	27.07
	ENDING BALANCE	$	658,617.43

101080

SEACOAST #2 MONEY MARKET ACCOUNT

(BISHOPS GATE)	**BEGINNING BALANCE**		2,926.07
Sinking Fund	**TRANSFERS IN (OUT)**		
	INTEREST RECEIVED (APY 0.01%)	$	0.02
	ENDING BALANCE	$	2,926.09

101005

SEACOAST CHECKING ACCOUNT (Operating)

Operating Checking	**BEGINNING BALANCE**	$	2,417,183.40
	REVENUES DEPOSITED	$	250,187.90
	TRANSFERS IN (OUT)		
	EXPENDITURES CLEARED	$	(250,282.81)
	ENDING BALANCE	$	2,417,088.49

101160

SEASIDE MONEY MARKET ACCOUNT

BEGINNING BALANCE	$	343,316.46
TRANSFERS IN (OUT)	$	-
INTEREST RECEIVED (APY 0.10%)	$	28.22
ENDING BALANCE	$	343,344.68

101110

SEASIDE CHECKING ACCOUNT (Pays to Loan)

BEGINNING BALANCE	$	18,083.56
TRANSFERS IN (OUT)		
DEPOSITED	$	-
ENDING BALANCE	$	18,083.56

101120

SEASIDE SRF LOAN SWEEP ACCOUNT

BEGINNING BALANCE	$	2,490.97
TRANSFERS IN (OUT)		
EXPENDITURES CLEARED		
ENDING BALANCE	$	2,490.97

TOTAL	**$**	**3,461,792.61**

United Community Bank (renamed from Seaside)

LOANS

FDEP SRF LOAN (2.71%/2.12% interest)*

BEGINNING BALANCE	$	1,322,737.88
TRANSFERS IN (OUT)		$0.00
ALLOCATED TO PRINCIPAL		$0.00
ALLOCATED TO INTEREST		$0.00
ENDING BALANCE	$	1,322,737.88

*payments of $72,314.68 are made in April and Oct. and will continue until 2032

TOTAL $ 1,322,737.88

HOWEY-IN-THE-HILLS FINANCIAL REPORT (Previous Month)

Aug-22

(revenues and expenditures updated one month after initial report completion)

REVENUES	Balance Brought Forward	FYE 2021	RECEIVED CURRENT MON.	RECEIVED YEAR-TO-DATE	ESTIMATED REVENUE	REVENUE TO BE RECEIVED	PERCENT RECEIVED
GENERAL	$ 796,058	$ 2,490,840.72	$ 24,205.31	$ 1,964,964.01	$ 2,074,421.00	$ 109,456.99	95%
POLICE ADV TRAINING		$ 3,318.28	$ 341.66	$ 2,695.00	$ 3,000.00	$ 305.00	90%
POLICE IMPACT FEES*	$ 273,218	$ 101,152.17	$ 3,932.40	$ 27,984.05	$ 50,000.00	$ 22,015.95	56%
PARK IMPACT FEES*	$ 273,129	$ 93,591.14	$ 1,600.80	$ 24,179.90	$ 40,000.00	$ 15,820.10	60%
WATER IMPACT FEES*	$ 731,659	$ 201,671.56	$ -	$ 47,262.30	$ 90,000.00	$ 42,737.70	53%
INFRASTRUCTURE FUND	$109,297	$ 216,889.55	$ 984.54	$ 210,872.66	$ 219,707.00	$ 8,834.34	96%
BUILDING FUND	$ 158,928		$ 16,010.72	$ 162,018.58	$ -	$ (162,018.58)	
WATER/SANITATION FUND		$ 1,067,854.09	$ 85,162.70	$ 1,547,982.20	$ 1,126,500.00	$ (421,482.20)	137%
POLICE RETIREMENT	$1,676,709	$ 486,776.74	$ 16,798.48	$ 8,087.62	$ 214,653.00	$ 206,565.38	4%
	TOTALS	$ 4,662,094.25	$ 149,036.61	$ 3,996,046.32	$ 3,818,281.00	$ (177,765.32)	105%

*Subtotal for Impact Fees Revenues	$ 5,533.20	$ 99,426.25

EXPENDITURES		FYE 2021	COMMITTED CURRENT MON.	COMMITTED YEAR-TO-DATE	CURRENT APPROPRIATION	AVAILABLE APPROPRIATION	PERCENT COMM.
GENERAL		$ 1,963,604.45	$ 147,556.98	$ 1,919,703.96	$ 2,300,202.00	$ 380,498.04	83%
POLICE ADV TRAINING		$ 1,950.82	$ -	$ -	$ 3,100.00	$ 3,100.00	0%
POLICE IMPACT FEES*		$ 31,022.45	$ -	$ 172,529.26	$ 198,600.00	$ 26,070.74	87%
PARK IMPACT FEES*		$ 11,675.00	$ 5,425.00	$ 41,364.37	$ 29,456.00	$ (11,908.37)	140%
WATER IMPACT FEES*		$ 2,598.45	$ -	$ 17,263.23	$ 54,000.00	$ 36,736.77	32%
INFRASTRUCTURE FUND		$ 108,974.72	$ -	$ 186,699.70	$ 178,523.00	$ (8,176.70)	105%
BUILDING FUND			$ 21,407.52	$ 108,739.09	$ -	$ (108,739.09)	
WATER/SANITATION FUND		$ 921,015.41	$ 79,723.80	$ 1,072,277.93	$ 1,174,269.00	$ 101,991.07	91%
POLICE RETIREMENT		$ 93,290.98	$ -	$ 62,653.51	$ 79,438.00	$ 16,784.49	79%
	TOTALS	$ 3,134,132.28	$ 254,113.30	$ 3,581,231.05	$ 4,017,588.00	$ 436,356.95	89%

*Subtotal for Impact Fees Expenditures	$ 5,425.00	$ 231,156.86

TOWN OF HOWEY-IN-THE-HILLS

MAJOR DEVELOPMENT SUMMARY
OCTOBER 2022

PREPARED BY
TMH CONSULTING, INC.

INTRODUCTION

In the period between 2005 and 2008, the Town approved a series of major development projects using planned unit development zoning for the most part and developing projects that conformed to the Village Mixed Use land use classification added to the Town's comprehensive plan in 2010. Many of these projects stalled during the recession beginning in 2008, and as the Florida economy moved out of the recession, there were several requests to revise the approved projects based on changes in the housing market and other factors that were applicable to the individual projects. Additionally, the very active housing market that has emerged in Florida generally and in Central Florida over the past several years has given rise to proposals for several additional large scale residential projects.

Since TMH Consulting joined the Town as its planning consultant in 2012 four projects have been completed, one other project has initiated its first phase of development, and five other projects have undergone or sought major revisions. These other projects include Lake Hills, Simpson Trust, Thompson Grove, Mission Rise and Whispering Hills. Note also that two commercial projects, a plant nursery, and a self-storage development, have been approved over the past year as well.

In June of 2020, TMH Consulting prepared a summary of the major development projects including an analysis of the project scope, project status, and presentation of the then current development layout including a subdivision plat or concept plan. This summary was updated in November 2021, and it is now time to update the summary to reflect changes that have occurred over the past year. Some of the proposed projects remain speculative in that no development approvals have been issued, but an update to the major development summary can provide a more comprehensive data base for the Town to consider as it works to address development issues, particularly utilities and transportation.

This report is intended to provide this status report. The attached map titled "Howey-in-the-Hills Major Projects October 2022" provides a location for each project. This report will provide a summary of each project and offer some information about the status of each project. The information provided addresses the comprehensive plan and zoning status of each project. The projects have been divided into two groups with the first group being projects that have some level of development approval, and the second group being projects that are more speculative in nature as no development approvals have been issued. In some cases, non-local approvals such as state permits are still required. The projects included in the review are summarized in the following tables.

Since the end of 2021 final plats have been approved for the Venezia Townhomes Project and the second phase of the Talichet development. Construction of new homes in Talichet Phase 1 continued at a rapid pace. The Venezia South single-family subdivision was largely built out by the beginning of 2021.

TABLE 1 RECENTLY COMPLETED DEVELOPMENT PROJECTS TOWN OF HOWEY-IN-THE-HILLS OCTOBER 2022			
PROJECT	**SINGLE-FAMILY**	**MULTI-FAMILY**	**TOTAL UNITS**
Venezia South	172		172
Venezia Townhomes		113	113
Talichet Phase 1	92		92
Talichet Phase 2	21		21
Total	285	113	398

TABLE 2 MAJOR DEVELOPMENT PROJECT PROPOSALS TOWN OF HOWEY-IN-THE-HILLS OCTOBER 2021	
APPROVED	**SPECULATIVE**
Whispering Hills	Mission Rise
The Reserve/Hilltop Groves	Thompson Grove
Lake Hills	Simpson Parcel
	Westminster Parcel
	J5 Equities
	Carter Trust

PROJECT SUMMARIES

The individual projects will be reviewed in the following sections except for the Venezia South and Talichet Phase 1 development which have moved into the completed stage.

Ongoing Projects and Projects with Some Approval Status

Talichet Phase 2

Talichet Phase 2 includes 21 single-family lots along a cul-de-sac street extending south from the phase one project. One lot in the original project was removed to accommodate a street connection. This project included annexation of a ten-acre parcel along with comprehensive plan amendments and zoning assignment. The developer is currently finishing the subdivision improvements with the final plat approval expected before the end of the calendar year.

Whispering Hills (Whispering Heights)

Whispering Hills is the one large-scale project that is developing guided by standard zoning classifications rather than a planned unit development agreement. The project is designated as Medium Density Residential by the comprehensive plan and is zoned MDR-2 Medium Density Residential. The MDR-2 zoning was assigned in 2019 which allowed for the project size to increase from 107 to 156 single-family lots. In return for the increase in the number of residential lots, the Town secured an agreement for the project to develop with central sewer rather than developing under the previous approval which allowed 107 septic systems in proximity to Little Lake Harris. Since the rezoning generated a new subdivision design, the project had to go back through the full subdivision review process. The Town Council approved the final subdivision plan in November 2020 clearing the way for construction of subdivision improvements. The developer is currently working on a final subdivision plan in preparation for construction. The project still needs to secure sewage treatment capacity. (A recent advisory from the applicant noted a name change to Whispering Heights to avoid confusion with a similarly named project near Leesburg.)

Venezia Townhouses

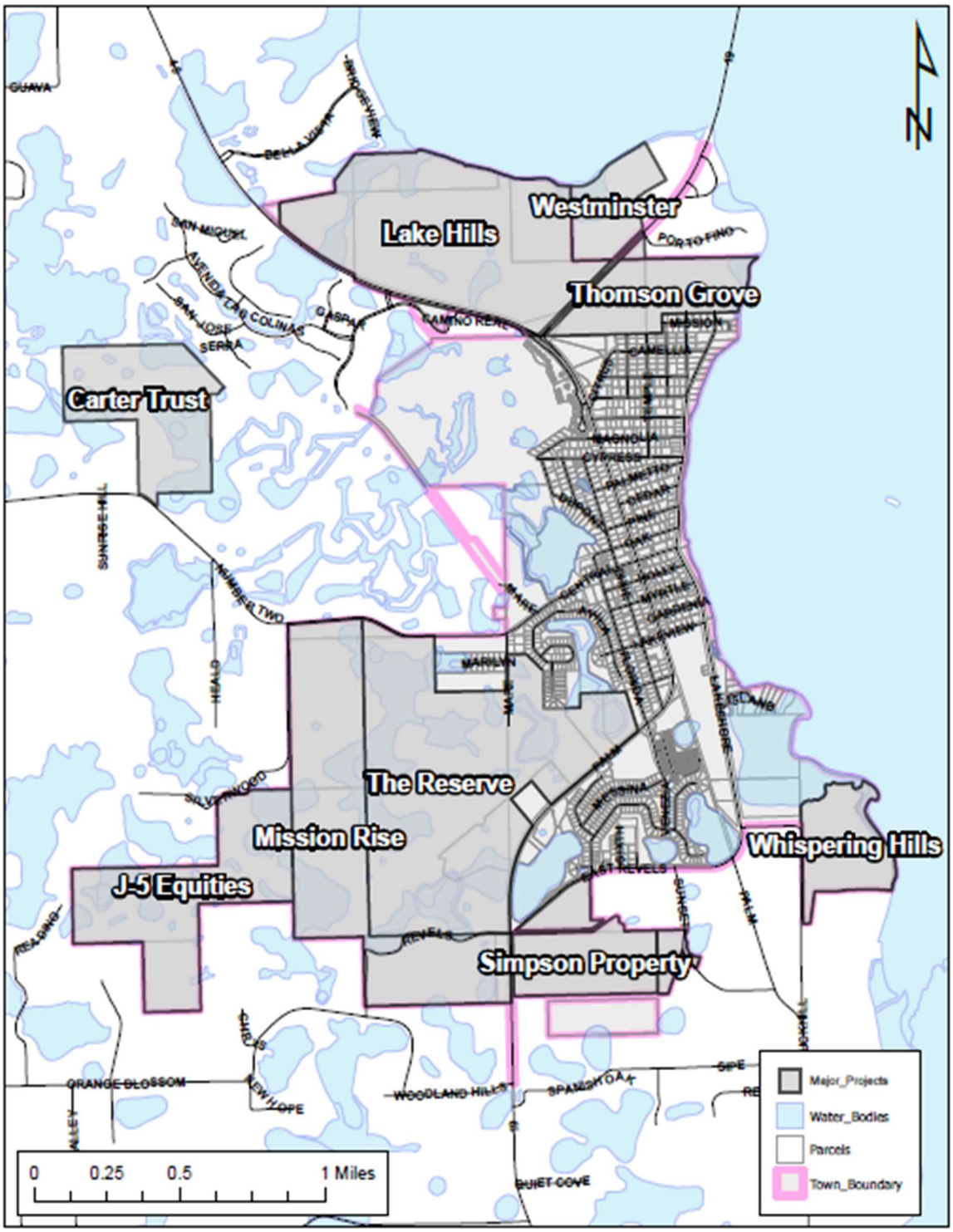
The original approval of the Venezia development included approval to construct 113 townhouse units. The project received final subdivision plan approval in February 2022 and final plat approval in July 2022. Unit construction is expected to begin in the last quarter of the current calendar year.

Lake Hills Development

The Lake Hills project is located at the intersection of CR 48 and SR 19. The current project was approved in revised development agreement completed in 2016. As designed the project allows 780 housing units divided among single-family lots in a variety of lot sizes, attached dwellings and townhouses. The project also allows 150,000 square feet of commercial use and 176,000 square feet of institutional use.

The Town had received an application for final subdivision plan approval for 650 units, many of which were to be age restricted to 55 years of age and older. This proposal has apparently been abandoned and any residential development will be delayed. The Town is still moving forward with a new water treatment plant to serve the northern half of Town on a two-acre site located within the project, and Lake County School Board is moving forward with a plan to purchase 19 acres within the Lake Hills project for a future elementary school. Initial interest in developing the commercial portion of the project is now likely to be delayed pending action on the residential development.

Howey in the Hills Major Projects Oct 2022



The Reserve

The residential portion of Reserve project was amended in November 2021 (Ordinance 2021-010) to modify the street layout and types of units permitted. The 2021 amendment included 284 single-family homes on standard lot designs, 291 single-family cluster homes and 153 townhouse units. Additionally, the plan allows a self-storage facility of up to 105,000 square feet, office, and commercial space up to 300,000 square feet and institutional use up to 100,000 square feet (likely a church site). The master plan also includes six single-family lots along South Florida Avenue that match the lot sizes of the units on the east side of South Florida Avenue. The revised plan for the residential sections of the project includes major revisions to the street layout, a completely revised park plan, and an expanded bicycle and pedestrian network. With the recent approval of the amended master development agreement, final subdivision design is expected in early 2022. The owner of the self-storage site is also actively developing a proposal for site plan approval.

In September 2022 an amendment to the November 2021 preliminary subdivision plan was submitted that refined the residential portion of the project. The unit mix was revised to include 302 single-family units, 280 cluster units and 146 townhouse units, but the major changes were to the roadways. The collector road through the residential portion of the project was reduced to two-lanes and several other road alignments were modified. The developer is moving toward approval for final subdivision plan for the first phase of residential development which includes 245 single-family and cluster units.

Speculative Projects

The projects that have been designated as speculative projects are proposed developments that have been submitted to the Town for review but have not yet attained any formal approval status. Depending on future actions, these projects may be approved as submitted, undergo modification prior to approval or fail to obtain development approvals. In addition to the following projects being considered by the Town, there is a nearby project, Drake Point, which includes 530 single-family units located north along CR 48 that is under review by Lake County but would clearly impact traffic and utilities in Howey.

Simpson Parcel

The Simpson Parcel is located at the southeast corner of the intersection of Revels Road with SR-19. The project proposes 260 residential lots which is consistent with the Medium Density Residential Land Use classification. The project proposes 60-foot and 70-foot-wide single-family lots, but the current MDR-1 and MDR-2 zoning requires a minimum lot width of 100 feet and 75 feet, respectively. The property owners have applied for rezoning to Planned Unit Development (PUD) to allow for the smaller lot sizes. The project is currently under review by the Town Council.

Thompson Grove

This project is located at the southeast corner of the intersection of CR 48 with SR-19 and extends from SR 19 to the northern end of "Old Howey" east of SR 19. The proposal submitted is for 252 single family lots and a ten-acre commercial area. The proposal exceeds the maximum density of two units per acre allowed by the Low-Density Residential Land Use applied by the comprehensive plan. The property owner is seeking approval to amend the future land use designation to medium density residential (maximum four units per acre) and to approve a PUD permitting lot sizes at 60 x 110 and 50 x 110 feet. A minor annexation is also required. These applications are currently under review through the Town's development review process.

Mission Rise

The Mission Rise development is a large L-shaped parcel connecting between SR 19 and Number Two Road. In the initial report, Mission Rise was considered an approved project, but a revised plan proposed by a development group was not approved and the original development agreement expired. As originally approved the project allowed 400 single-family homes on 75-foot-wide lots. The property retains its comprehensive plan designation as Village Mixed Use and is entitled to develop under the goals, objectives, and policies in the comprehensive plan for VMU properties.

Westminster Parcel

This project is located just west of the bridge on the north side of SR-19. It abuts the eastern end of the Lake Hills property. The project proposal is for senior housing in two basic types. The project is requesting approval for 300 to 350 townhouse units for independent living and an ALF of undetermined size. Based on the parcel size, residential density will approach ten units per acre. The property is still within unincorporated Lake County and will require annexation, amendment to the comprehensive plan and application of suitable zoning. A pre-application meeting was held in November 2021 to review the development options. This project is currently on hold pending further action by the applicant.

Carter Trust Property

This project consists of approximately 161 acres located west of the Mission Inn development and north of Number Two Road. The project is in unincorporated Lake County but within the Town's utility service area. The applicants are pursuing lot sizes with 50-foot lot widths. A preliminary concept plan reviewed by Town staff shows a net density of 3.12 units per acre which would require application of the Town's medium density residential classification. To proceed the project will require annexation into the Town corporate limits, assignment of a suitable future land use classification and assignment of an appropriate zoning classification, likely PUD.

J-5 Equities Proposal

This project proposal encompasses the remaining Town area west of the Mission Rise location. The Town has held a pre-application meeting for the project area, but no formal applications have been received. The project proposed about 600 residential units which will require development under the Town's Village Mixed Use land use classification, which is the land use designation currently applied to the property. The property is currently zoned agriculture and is being used in that manner. Proposed residential lot sizes have not been determined. If the development proceeds, a rezoning to PUD is required by the comprehensive plan, and development must meet the Village Mixed Use requirements. A portion of the project area falls within the County's Yalaha-Lake Apopka Rural Protection Area. There is no information at this time on how this designation might impact the project design.

STATISTICAL SUMMARY

The following tables summarize the individual projects with some level of approval to provide an overall planned development total for the Town and those projects that have been proposed but do not yet have approval status. The single-family component for Venezia South is excluded as these units are essentially part of developed portion of the Town.

TABLE 3
DEVELOPMENT PROJECT PROFILES
APPROVED AND PENDING PROJECTS

Project	Single-Family	Multi-Family	Total Units	Commercial Area	Other Area
Venezia South				85,000	
Talichet Phase 2	21		21		
Whispering Hills	156		156		
Lake Hills	650		650	150,000	176,000
The Reserve	582	146	728	300,000	205,000
TOTAL	1,409	146	1,555	535,000	381,000

Notes:

1. Venezia South phases are complete. Only commercial area remains.
2. Lake Hills is the project entitlement. Unit split between single-family and multi-family are not available.
3. The Reserve data is the most recent approved amendment total.

TABLE 4 DEVELOPMENT PROJECT PROFILES PROPOSED PROJECTS WITH NO APPROVAL STATUS					
Project	**Single-Family**	**Multi-Family**	**Total Units**	**Commercial Area**	**Other Area**
Mission Rise	400		400		
Thompson Grove	252		252	130,000	
Simpson Parcel	260		260		
Westminster		350	350		ALF
Carter Trust	313		313		
J-5 Equities	607		607		
TOTAL	1,832	350	2,182	130,000	ALF

Notes:

1. Mission Rise total units is based on the most recent approved plan. The comprehensive plan allows for four units per acre on the total net acreage as the maximum unit total. Net acreage excludes wetlands and waterbodies.
2. Thompson Grove commercial allocation assumes 0.30 FAR for 10 acres.

Development project tracking is a dynamic process as project concepts can change rapidly and new projects are presented. Most Howey residents are aware of very active development proposals further west in the Leesburg area and Groveland to the south has been a very active development area in recent years. The Town has received inquiries about land area along the Town's southern border, but none of these inquiries have moved to the point of preliminary discussions sufficient to identify a project scope.

DEVELOPMENT TRENDS

2022 is the third consecutive year that this major development summary has been produced. Over the past three years some development trends have emerged, and it seems appropriate to call out these trends as the Town reviews projects and looks to decide on the future of the developments, both entitled and prospective. The key trends and issues identified to date are as follows:

Smaller lot sizes: There is almost a universal push from the development community to build on smaller lots developed as single-family ownerships. The predominant size for requested lots is for a 50-foot-wide lot with varying lot depths from 100 feet to 120 feet. The projects approved and proposed do offer some proposals for 60-foot-wide lots, but there have also requests for lots smaller than 50-foot widths.

House sizes remain large: While lots are shrinking, house sizes are not. Few units are being constructed at the minimum dwelling unit size required by code. Having larger houses does help maintain higher property values, but the parcels have relatively high lot coverage and smaller setbacks, especially for side yards. The outcome is houses that are close together, typically 10 feet between units, and reduced space to accommodate accessory structures including sheds and swimming pools. The town has seen an increase in variance applications as a result with property owners trying to shoehorn these items, especially swimming pools, into the reduced lot area.

Single-family units dominate: While the Village Mixed Use land use category and the use of planned unit development zoning offers the opportunity to develop mixed use communities, single-family units dominate the building types. The Town has expressed a strong sentiment for owner-occupied single-family units and this desire may be directing the proposed unit mix to some extent.

Affordable housing is limited: The dominance of single-family units in the product mix and the continued larger size of housing units negatively impact the affordability of new housing stock. While unit type and unit size are far from the only factors limiting housing affordability they will have a negative effect on affordability.

Subdivisions not neighborhoods: Except where the Village Mixed Use land use category demands the inclusion of recreation opportunities and civic land uses including community centers, churches and schools, most projects are simply subdivisions with no elements that contribute to neighborhood identity and opportunities for social interaction. Venezia South and the Talichet subdivisions are clear examples of this trend. They offer no community-based assets that might promote social interaction among subdivision residents. The only common areas are stormwater retention ponds. The large Village Mixed Use projects such as The Reserve and Lake Hills do include parks, walking and cycling trails, and community facilities because they are mandated by the VMU policies. Of the non-VMU projects only the Simpson Trust project offers any facilities that would foster neighborhood interaction.

Early commercial interest: When the Lake Hills project appeared to be moving forward with its residential development, the Town saw the first interest in developing in any of the approved commercial areas. This action suggests the Town is getting close to the residential base that would support additional commercial development. With the delay of the Lake Hills residential component, the timing for development of a commercial project is uncertain. The Town will likely need to see one more of the large-scale projects move forward to trigger renewed interest in commercial development.

Public service limitations: With the volume of approved and potential development the Town is seeing its first negative impacts on the ability to

provide public services including potable water and sewage treatment. The existing north water treatment plant needs to be replaced and the potential demand for water service adds to the issue. The Town has a plan in place to replace the treatment plant, improve service to existing customers and provide for the approved but as yet undeveloped residential areas. Funding is the current limitation. The Town's sewage treatment provider has advised the Town that there is not currently capacity at the treatment facility. Approved projects such as Whispering Hills and Lake Hills may be delayed until additional capacity becomes available. The Town is currently considering options to provide sanitary sewer service, but a formal plan needs to be developed.

Traffic issues are emerging: The most recent traffic impact assessments are showing intersection issues at key locations along SR 19. As development impacts Number Two Road, this route will need some upgrade as well. It is substandard in width and right-of-way is limited for much of its length. The Town is working on a fair share program for traffic mitigation as a solution to these problems. Coordination will be required with FDOT and Lake County as the controlling agencies for the arterial and collector roads serving the Town, and quite a bit of work remains to put the fair share system in place.

New school capacity: The new residential projects are encountering concurrency issues with schools and Lake County Schools are experiencing capacity problems and elementary, middle, and high school levels. The school district has responded by moving to purchase a 19-acre school site identified within the Lake Hills development, and by entering into mitigation agreements that provide funding to assist with other school capacity projects.

Regional impacts: As the Town considers development within its borders, it is important to keep in mind that extra-jurisdictional impacts are still likely. The closest example of this is the proposed Drake Point project on CR 48 between SR 19 and Yalaha. But there are also projects in Leesburg to the west and Groveland to the south which will impact Howey, especially roads, to some degree.