PASCO COUNTY, FLORIDA
INTEROFFICE MEMORANDUM

TO: Joaquin Servia
Development Review Manager

DATE: 8/7/15 FILE: PDD15-1536

SUBJECT: Large Commercial Development Review – Tower Road – Bexley Village Drive to Ballantrae Boulevard Preliminary Site Plan/ Construction Plan, Stormwater Management Plan and Report (Project No. LRG15-012) Recommendation: Approval with Conditions (Attachment No. 1)

FROM: Brad Tippin
Senior Development Review Technician

REFERENCES: Land Development Code, Sections 300, Procedures; 403, Site Development; and 900, Development Standards; RZ 7109 (Bexley South MPUD) Comm. Dist.4

The following is presented to the Development Review Manager for consideration.

PROJECT DESCRIPTION:

Commission District:	The Honorable Mike Wells
Project Name:	Tower Road – Bexley Village Drive to Ballantrae Boulevard
Developer's Name:	NNP-Bexley, LLC
Location:	North of S.R. 54, East of Suncoast Parkway, North of Tower Road Sections 17, 19 and 20, Township 26, Range 18 (Attachment No. 2)
Parcel ID Nos.:	19-26-18-0000-00100-0000 (A Portion Of) 20-26-18-0000-00100-0012 20-26-18-0000-00100-0021 20-26-18-0000-00200-0000 (A Portion Of) 17-26-18-0000-00100-0010 (A Portion Of)
Land Use Classification:	PD (Planned Development)
Zoning District:	MPUD Master Planned Unit Development
Acreage:	34.6 acres m.o.l. (Total Project Area) 26.0 acres m.o.l. (Disturbed Project Area)
Type of Development:	Road

Mobility Fee Assessment District:	A
Mobility Fee Collection/Benefit District:	2
Roads:	Public
Certificate of Capacity:	N/A

DEVELOPER'S REQUEST:

The applicant/developer of Tower Road – Bexley Village Drive to Ballantrae Boulevard is requesting approval of a Preliminary Site Plan/Construction Plan, Stormwater Management Plan and Report to construct a roadway within the Bexley South MPUD (Attachment No. 3).

BACKGROUND AND FINDINGS OF FACT:

See Attachment No. 4

RECOMMENDATION:

The Planning and Development Department approves the Preliminary Site Plan/Construction Plan, Stormwater Management Plan and Report request with the attached conditions.

ATTACHMENTS:

1. Conditions of Approval
2. Location Map
3. Site Plan
4. Background and Findings of Fact

PLANNING AND DEVELOPMENT DEPARTMENT ACTION:

APPROVED

☐ B.C.C.
☐ D.R.C.
☑ P. D. D.

Pasco County
By: _____ Date 8-13-15
For Substantial Compliance With
The Applicable Provisions of Pasco County
Land Development Regulations
And Their Intent

ATTACHMENT NO. 1 – CONDITIONS OF APPROVAL
Tower Road – Bexley Village Drive to Ballantrae Boulevard

Hard-Copy Site Development Permit

1. Before commencing approved construction activities, the applicant/developer or project contractor shall obtain from the Planning and Development Department an authorization to commence approved construction, a.k.a. "a Hard Copy Site Development Permit." To obtain said authorization the following must be submitted to the Planning and Development Department:

   a. The completed notarized acknowledgment portion of the attached agenda memorandum. The applicant/Developer is hereby notified that the effective date of this development approval shall be the date of the final County action; however, no activity shall commence on site until such time as the acknowledgment portion of this document is completed (including notarization) and received by the Planning and Development Department.

   b. A copy of the Southwest Florida Water Management District (SWFWMD) Permit and Plan. In the event the SWFWMD Permit and Plan require any changes to the County-approved plan, an amendment to the County-approved plan shall be submitted for review and approval prior to the issuance of the Site Development Permit.

   c. A copy of all required State and Federal permits from the appropriate agencies, including drawings, plans, etc.

   d. National Pollutant Discharge Elimination System Permit/permit application.

   e. Completed Pasco County Wetland Data Form.

   No construction shall commence until the permit has been properly posted on the site.

Specific Conditions

2. All conditions of approval pursuant to Rezoning Petition number 7109, the Bexley South MPUD, approved by the Board of County Commissioners (BCC) on April 24, 2015, remain in full force and effect. Any conditions of Rezoning Petition 7109 not specifically mentioned herein as they may pertain to Tower Road Road construction shall be adhered to.

3. Subject to provisions of the LDC, Section 901.2.J. (Transportation Corridor Management; Dedication- Rough Proportionality), the developer shall convey at no cost to the County 120 feet of right-of-way for Tower Road from the western boundary to the eastern boundary of Bexley South.

4. To the extent that any of the conditions of this approval constitute monetary or property exactions that are subject to *Nollan v. California Coastal Comm'n*, 483 U.S. 825 (1987), and *Dolan v. City of Tigard*, 512 U.S 374 (1994), the applicant/owner, and successors and assigns (a), agrees that there is a nexus and rough proportionality between such conditions and the impacts of this project/development, and that such conditions are necessary to ensure compliance with the criteria of the LDC and Comprehensive Plan that are applicable to this approval, and (b) waives any claims based on such conditions. This agreement/waiver was entered into voluntarily, in good faith, for valuable consideration, and with an opportunity to consult legal counsel, but does not affect the applicant/owner's ability to seek variances, administrative remedies, or modifications of the conditions of this approval through applicable processes in the LDC.

5. The jurisdictional wetland line and the upland buffer line shall be clearly field demarcated prior to any construction activities.

6. No construction activities including: clearing, grading, grubbing shall occur within the Wetland Upland Buffer as depicted on the approved project Construction Plans.

7. The County biologist shall be contacted prior to construction activities to confirm if the Florida Sandhill Crane and Sherman's Fox Squirrel breeding season surveys are necessary.

8. If during construction activities any evidence of the presence of State and Federally protected plant and/or animal species is discovered that would result in a take, work shall come to an immediate stop, and Pasco County shall be notified within two working days. Work may resume if construction activities are consistent with state and/or federal rules, guidelines or all pertinent permits have been obtained.

9. There shall be no residential driveway connections to this section of Tower Road.

General Conditions

10. If any landscaping is to be planted within the County right of way, a Maintenance and License Agreement shall be required, along with the appropriate Right-of-Way Use Permit, if applicable pursuant to Section 406.5 of the LDC.

11. All roadway construction required herein as a condition of development approval shall not be entitled to transportation impact fee (TIF) or mobility fee credits.

12. The applicant/developer shall acknowledge that should Pasco County collect funds under a guarantee document, the developer shall authorize the County or its designee access to the property in question to complete the required work.

13. The applicant/developer shall acknowledge that should Pasco County be required to institute legal proceedings in order to collect any funds under a guarantee document, the developer shall be responsible for attorney's fees and court costs incurred by the County in such action.

14. The developer acknowledges that an appeal may be filed against the decision of the Development Review Manager within 30 days of the date of this approval. Any development that takes place within the 30-day-appeal deadline shall not establish vested rights with respect to construction of the project.

15. All conveyances shall occur at record plat or construction plan approval where a record plat is not required or within 90 days of the County's request, whichever occurs first. All conveyances shall include access easements, be in a form acceptable to the Real Estate Division, and be free and clear of all liens and encumbrances, including exemption from all covenants and deed restrictions.

16. Where underground water mains and hydrants are to be provided, they shall be installed, completed, and in service prior to combustibles being brought on site (National Fire Protection Association, NFPA-1, 16.4.3.1.3).

17. The applicant/developer acknowledges that the Preliminary Site Plan (PSP) shall expire within ten years of the original PSP approval date. In the event that the applicant/developer does not comply with this provision, all plans related to the uncompleted portion of the PDP approval shall be deemed void, and approval shall be deemed withdrawn, unless an extension has been obtained from the County Administrator or designee prior to expiration of any of the time limits provided above. Any extension shall be applied for at least 60 days prior to expiration of any of the above time limits.

    In the event the PDP is voided, all subsequent submittals shall comply with regulations in effect at the time of the said resubmittals.

Construction

18. The applicant/developer or project contractor shall notify the Project Management Division at least five working days prior to commencing any activity on the site.

19. Prior to any construction activity, the developer shall ensure that proper erosion and sediment control measures are in place. The applicant/developer or project contractor shall notify the Stormwater Management Division at least two working days prior to commencing any site preparation, including clearing and grubbing work, for a preinspection of the sediment and erosion-control devices. The developer shall control all fugitive dust originating from the project site and shall indicate on the construction drawings the manner in which fugitive dust is to be controlled. Further, all retention pond side slopes and associated swales shall be sodded to prevent soil erosion.

20. No excavation within the area of future lanes of multilane facilities will be allowed with the exception of excavation for drainage structures, permitted removal of wetlands, excavation to match existing grade, or as direct by the Engineering Services Director.

21. All construction work, including roads, drainage, and utilities, shall be constructed in accordance with County design standards and tested in compliance with the Engineering

Services Department's *Testing Specifications for Construction of Roads, Storm Drainage, and Utilities*.

22. Curb ramps are required at all intersections of curbs and sidewalks and shall be constructed in conformance with the uniform *Federal Accessibility Standards* published by the General Services Administration, Department of Housing and Urban Development, Department of Defense, and United States Postal Service (Section 336.045, Florida Statutes).

23. No fill shall be placed within the 100-year floodplain designation unless compensating volume to mitigate the fill is provided on site or off site within the same basin and reviewed and approved by the County.

24. For improvements within the County right-of-way with traffic-control devices, the applicant/developer shall submit to the Traffic Operations Division, "the submittal data form" for approval prior to the installation of any traffic-control devices within the County right-of-way.

25. All construction within the County right-of-way will require a Right-of-Way Use Permit. The review and issuance of the Right-of-Way Use Permit shall be conducted in accordance with the LDC, Section 406.5, Right-of-Way Use Permit, and must be obtained prior to commencement of construction. The developer shall ensure that any improvements installed in rights-of-way are constructed to County standards.

26. If, during construction activities, any evidence of historic resources including, but not limited to, aboriginal or historic pottery, prehistoric stone tools, bone or shell tools, historic trash pits, or historic building foundation, are discovered, work shall come to an immediate stop, and the Florida Department of Historic Resources (State Historic Preservation Officer) and the County shall be notified within two working days of the resources found on the site.

OWNER/DEVELOPER ACKNOWLEDGMENT:

The owner/developer acknowledges that he/she has read, understood, and accepted the conditions of approval.

_____ _____

Date Signature

_____

Print Name

_____

Title

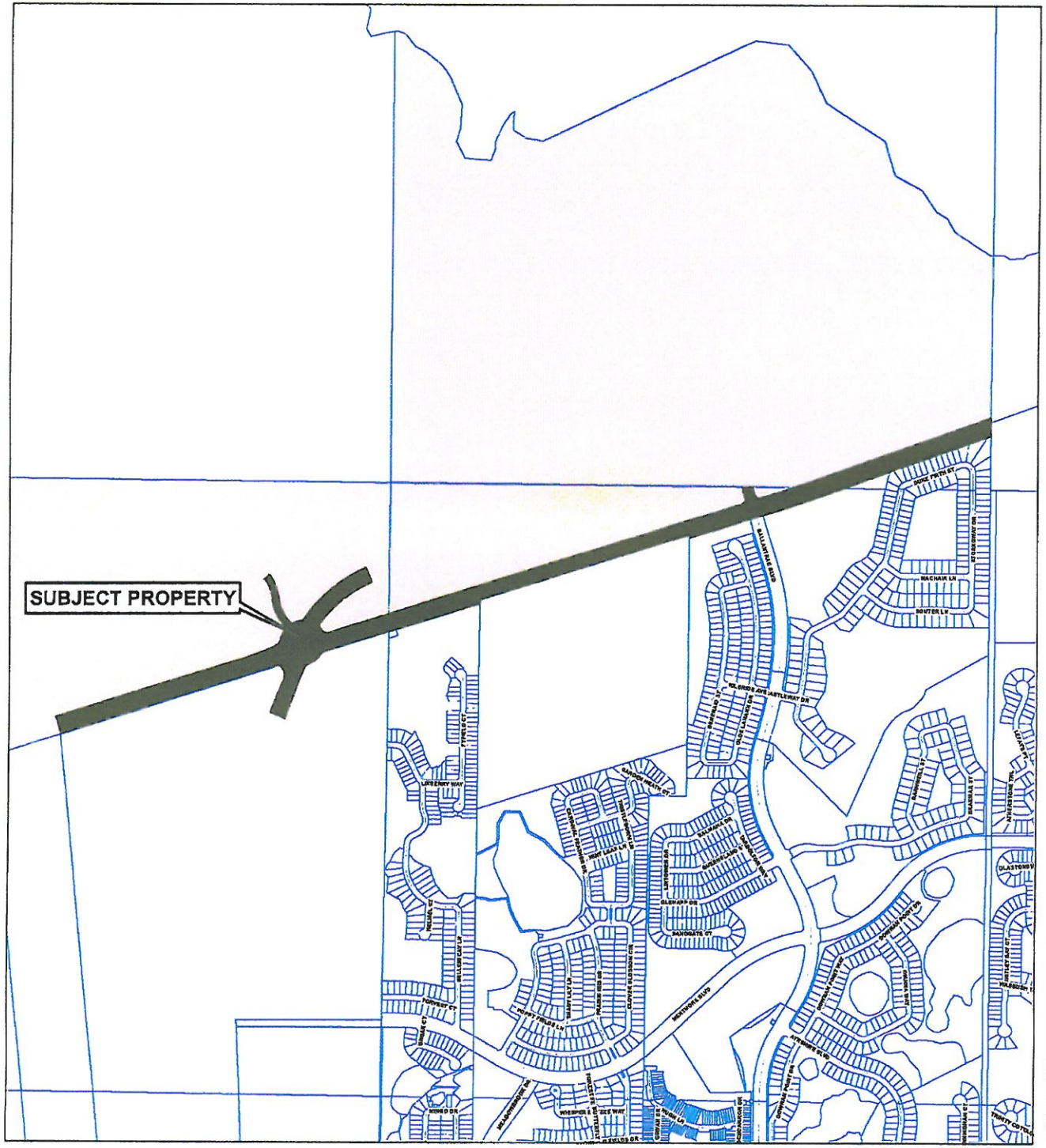
STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me the _____ (date), by _____ (name of person acknowledging), who is personally known to me or who has produced _____ (type of identification) as identification.

Seal:

_____

NOTARY



LRG15-012
Tower Road – Bexley Village Drive to Ballantrae Blvd

19 26 18 0000 00100 0000
20 26 18 0000 00100 0012
20 26 18 0000 00100 0021
20 26 18 0000 00200 0000
17 26 18 0000 00100 0010

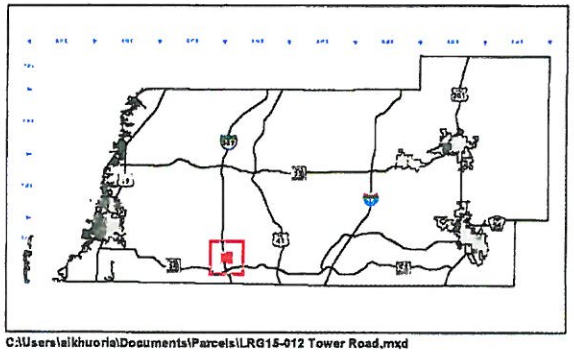
PHYSICAL ADDRESS:

TAZ - 228
COMMISSION DISTRICT: 4

PARENT PARCEL
SUBJECT PROPERTY

0 800 1,600
Feet

Pasco County GIS | 8/7/2015 | aikhuoria



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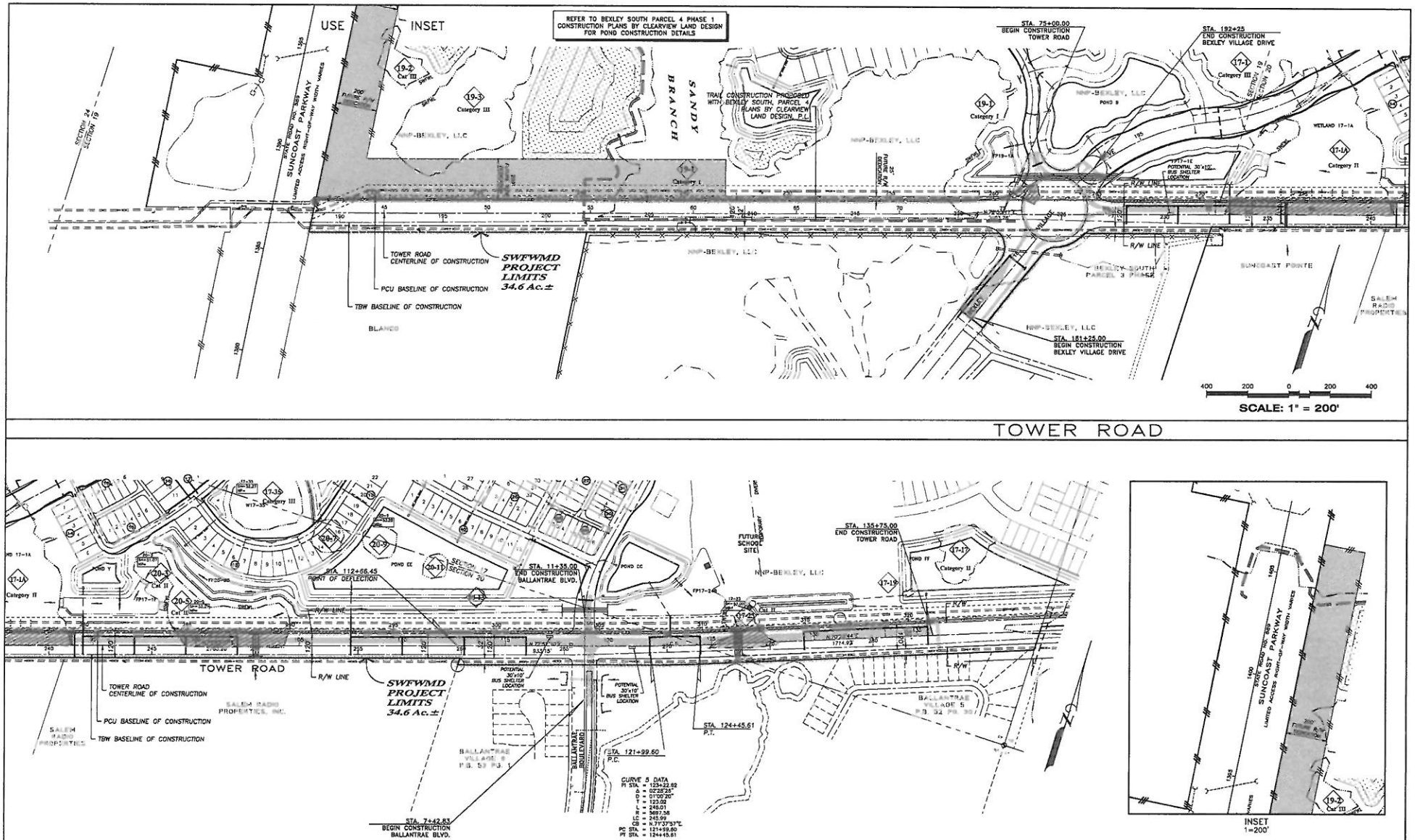


TOWER ROAD

TOWER ROAD RIGHT-OF-WAY SHALL BE PROVIDED VIA PLAT WITH BEXLEY SOUTH PARCEL 4 PHASE 1. SEE BEXLEY SOUTH PARCEL 4 PHASE 1 PLANS PREPARED BY CLEARVIEW LAND DESIGN. FUTURE TOWER ROAD RIGHT-OF-WAY WEST OF APPROXIMATELY STA 75+00 SHALL BE PROVIDED VIA FUTURE DEED.

LEGEND

EXISTING	PROPOSED			
		STORM DRAINAGE STRUCTURE	SWFWL	SWFWMD WETLAND LINE
10	10	STRUCTURE NO.	29'09	25' OFFSET FROM SWFWMD WETLAND LINE SHOWN FOR INFORMATIONAL PURPOSES
x 15.00	x 15.00 OR 15.00	SPOT ELEVATION	19	WETLAND IDENTIFICATION
15	15.00	CONTOUR	00	PLAN & PROFILE SHEET NO.
		DIRECTION OF SURFACE FLOW		STAKED EROSION CONTROL (REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WETLAND)
ABJ		SOIL BORING LOCATION		

DATE	DESCRIPTION	BY
08-15-15	SHOW FUTURE R/W DEDICATION	MS

REVISIONS

DATE:

JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 8th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3970

PRELIMINARY SITE PLAN

JOB NO.	NLC-BX-026
DESIGN	SMIRCH
DRAWN	SMIRCH
DATE	12/01/14
FILE	PSPKEY-TOWER

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: **NNP-BEXLEY, LLC**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

ATTACHMENT NO. 4 – BACKGROUND AND FINDINGS OF FACT
Tower Road – Bexley Village Drive to Ballantrae Boulevard

BACKGROUND:

1. On April 21, 2015, the Board of County Commissioners (BCC) approved the Bexley South MPUD (Master Planned Unit Development), Rezoning Petition No. 7109, which supersedes the prior MPUD, Rezoning Petition No. 6997, approved by the BCC on January 24, 2012, and Rezoning Petition No. 6669, approved by the BCC on December 19, 2006.

2. On August 6, 2015, the Planning and Development Department (PDD) approved the Bexley South MUTRM Neighborhood Plan for Neighborhoods A, B, and Partial C (PDD15-1493).

FINDINGS OF FACT:

1. Presently, the subject site is unimproved.

2. The subject roadway will be constructed pursuant to the approved Bexley South MPUD rezoning (Rezoning Petition No. 7109).

3. Bexley South MPUD (Rezoning Petition No. 7109) condition number 14.d specifies that:

> "Tower Road Segment A which commences at Bexley Village Drive and extends to the eastern boundary of Bexley South, as shown in Exhibit D [of RZ7109]. The developer shall design and permit, at no cost Pasco County, a two-lane urban collector roadway within the required right-of-way, including all roadway appurtenances needed for the ultimate four-lanes. The design plans shall depict the location and width of the ultimate four-lane roadway. Prior to record plat (or construction plan approval where no plat is required) for the 1,500th single-family dwelling unit or equivalent in gross p.m. peak hour trips, or as necessary to serve adjacent development, whichever occurs first, the developer shall construct, at no cost to Pasco County, two-lanes (offset) including the necessary drainage/retention, wetland, and floodplain mitigation facilities, all roadway appurtenances to accommodate the ultimate four-lane roadway, and any bicycle and/or pedestrian facilities, including all intersection improvements shown in Exhibit E-4 [of RZ7109]."

4. Bexley South MPUD (Rezoning Petition No. 7109) condition number 15.c specifies that:

> "The developer shall construct a round-about at the intersection of Tower Road and Bexley Village Drive. The round-about shall be constructed initially as a one lane round-about expandable to two lanes, as shown in Exhibit E-3 [of RZ7109]."

5. Bexley South MPUD (Rezoning Petition No. 7109) condition number 15d specifies that:

   "The developer shall construct the intersection of Tower Road and Ballentrae Boulevard with the geometry shown in Exhibit E-4 [of RZ7109]."

6. Bexley South MPUD (Rezoning Petition No. 7109) condition numbers 14 and 15 specify that the aforementioned roadway improvements are not eligible for mobility fee credits.

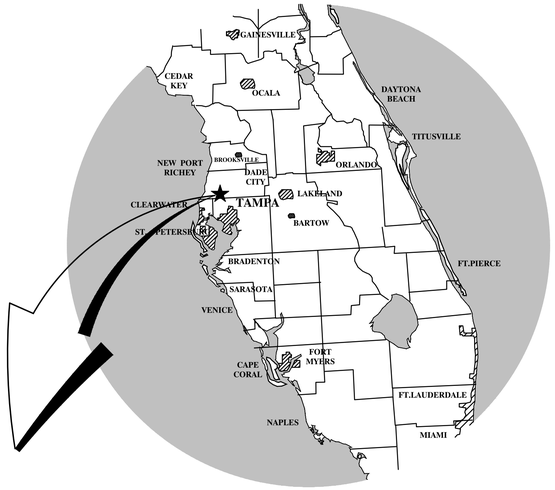
7. The Preliminary Site Plan/Construction Plan, Stormwater Management Plan and Report for the above-subject project was prepared for NNP-Bexley, LLC, by Clearview Land Design, P.L., and consists of 55 sheets dated December 1, 2014; the sheets were last revised on June 15, 2015. The plans were originally received by the Planning and Development Department on February 4, 2015, and final revisions were received on July 1, 2015.

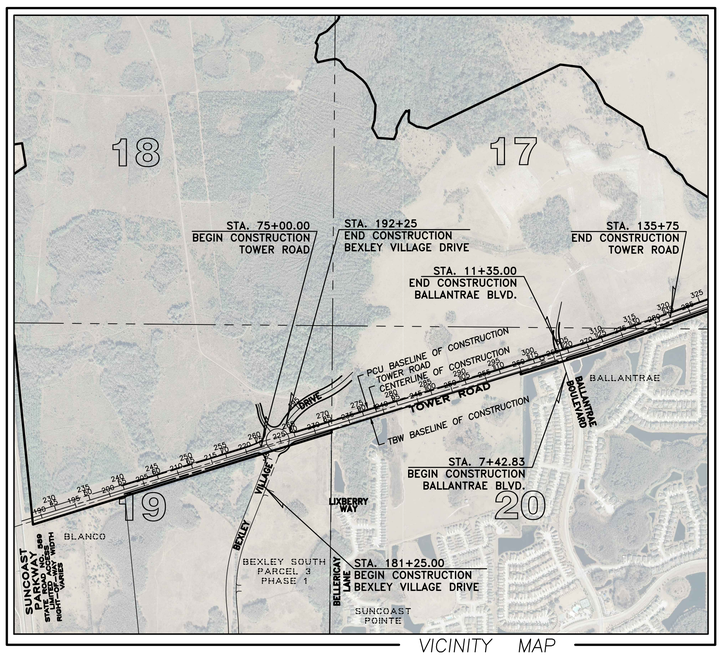
8. Primary access to this portion of Tower Road will be from State Road 54 via Bexley Village Drive. Additional access to Tower Road will be from State Road 54 via Ballantrae Boulevard.

9. The Preliminary Site Plan/Construction Plan, Stormwater Management Plan and Report have been found consistent with the Bexley South MPUD, Bexley South Master MUTRM Plan, Bexley South MUTRM Neighborhood Plan and applicable provisions of the Land Development Code and Comprehensive Plan.

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PRELIMINARY SITE PLAN, CONSTRUCTION PLANS, & STORMWATER MANAGEMENT PLAN





VICINITY MAP
PASCO COUNTY, FLORIDA
SECTION 17, 19, 20, TOWNSHIP 26 SOUTH, RANGE 18 EAST

INDEX OF CONSTRUCTION PLANS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3-4	TYPICAL ROADWAY SECTIONS
5-6	PRELIMINARY SITE PLAN
7-9	DRAINAGE MAP
10	DRAINAGE STRUCTURE DATA
11-12	BEXLEY VILLAGE DRIVE PLAN & PROFILE
13	ROUNDABOUT PLAN
14-21	TOWER ROAD PLAN & PROFILE
22	BALLANTRAE BOULEVARD PLAN & PROFILE
23	TOWER ROAD UTILITY DETAILS
24-38	CROSS-SECTIONS
39-45	SIDEWALK, SIGNING, & PAVEMENT MARKING PLAN
46-48	DRAINAGE DETAILS
49-50	WATER & RECLAIMED WATER DETAILS
51	SANITARY SEWER SYSTEM DETAILS
52	CONSTRUCTION SURFACE WATER MANAGEMENT PLAN
B100-B102	GEOTECHNICAL DATA & REQUIREMENTS BY MEI

PREPARED FOR:

NNP-BEXLEY, LLC

777 S. Harbour Island Blvd.
Suite 320
Tampa, Florida 33602
Phone: (813) 620-3555

PREPARED BY:

CLEARVIEW LAND DESIGN, P.L.

Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

PERMIT / FILE NOS.	
PASCO PDD PROJECT NO.	
PASCO COUNTY UTILITIES PROJECT NO.	
SWFWMD ERP/APPLICATION ID NO.	709075
WATER DEP	
SEWER DEP	
RECLAIMED WATER DEP	
PARCEL ID NO.	

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, STATE OF FLORIDA IN EFFECT AT THE TIME OF PASCO COUNTY APPROVAL, AND ARE IN COMPLIANCE WITH THE STANDARDS THEREIN EXCEPT AS NOTED ON THE PLANS. ANY DEVIATIONS NOTED ON THE PLANS SUBSTANTIALLY COMPLY WITH THE INTENT OF THE STANDARDS.

CALL 48 HOURS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
811 Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

DATE	SHEET NO.	BY
06-15-15	7, 11-15, 17-21	STW
02-26-15	11-14, 18, 20, 21	MS
02-05-15	14-20	MS

REVISIONS

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

DATE: JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

DATE: 12/01/14 JOB NO. NLC-BX-026

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

STREET & DRAINAGE	WATER & SANITARY SEWER
DESIGNED BY: SMIRCH	DESIGNED BY: WILCOX
DRAWN BY: SMIRCH	DRAWN BY: SMIRCH

FILE: CV-TOWER

SHEET 1 OF 52

P:\BEXLEY RANCH\BEXLEY SOUTH TRACT 4 PHASE 1\DRAWING\CONDOCS\CV-TOWER.DWG-COVER SHEET 2015/06/29 10:18 AM MIKE SMIRCH

STORM WATER POLLUTION PREVENTION PLAN

Contained on these plans and within the following notes is a Storm Water Pollution Prevention Plan (SWPPP) which has been developed by Clearview Land Design in accordance with the Florida Department of Environmental Protection's (FDEP) "National Pollutant Discharge Elimination System" (NPDES) Generic Permit for Stormwater Discharge from Large and Small Construction Activities.

The following entities are identified as team members of "SWPPP": Clearview Land Design, the Developer as identified in the title box of these plans, and the site contractor and his sub-contractors. Each team member has specific responsibilities and obligations. In general, all team members, with regard to their involvement and responsibilities on the project, are to implement all necessary storm water management controls to assure compliance with the NPDES Generic Permit for Storm Water Discharges from Construction Activities, the Southwest Florida Water Management District Permit, the applicable local governing agency (i.e. Hillsborough County, Pasco County, etc.) and the guidelines listed in the SWPPP. The duties and responsibilities of the team members as they pertain to the SWPPP are as follows:

CLEARVIEW LAND DESIGN, P.L.

A. Develop SWPPP including, but not limited to, retention/detention ponds, control structures, erosion control methods and locations and stabilization criteria. This design is included within these construction plans and the following notes and instructions.

B. Submit and obtain the necessary design related storm water permits from the Florida Department of Environmental Protection, the Southwest Florida Water Management District and other applicable governmental bodies.

C. Upon notification by the developer of his intent to commence construction, submit a Notice of Intent to the FDEP on behalf of the developer and copy the contractor including SWPPP certification and copy of the permit.

D. Submit to SWFWMD and the operator of the municipal separate storm water system, if applicable, a letter of construction commencement.

E. Complete and submit a Notice of Termination and certification for developer. The NOT's shall be submitted no more than 30 days after
(a) completion of the project and final stabilization of the site or
(b) when responsibility for the site has ended. Final stabilization as defined by EPA is when all soil disturbing activities at the site have been completed and a uniform (e.g. evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures. As an alternative, equivalent permanent stabilization measures (such as riprap, gabions, or geotextiles) may be employed. The client shall notify Clearview Land Design when one of these criteria has been met.

Contractor

A. Sign and return to Clearview a Contractors Certification Form certifying your understanding of and willingness to comply with the Storm Water Pollution Prevention Plan no later than 48 hours prior to commencement of construction. Also, each subcontractor affected by the SWPPP must certify to the contractor that they understand and shall comply with the NPDES permit and SWPPP. A record of these certifications shall be maintained by the contractor on site.

B. During construction, assure compliance with the designed Storm Water Pollution Prevention Plans prepared by Clearview Land Design and the NPDES Generic Permit for Storm Water Discharges from Large and Small Construction Activities.

C. Maintain a copy of the construction plans, which include the Storm Water Pollution Prevention Plan, the NOI, and all inspection reports and certifications on site.

D. Undertake all reasonable Best Management Practices (BMP's) to assure that silted or otherwise polluted storm water is not allowed to discharge from the site during all phases of construction. Stabilization BMP's that may be used include: temporary or permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees and preservation of mature vegetation. Structural erosion and sediment control BMP's that may be used include: straw bale dikes, silt fences, earth dikes, brush barriers, drainage swales, check dams, subsurface drain, pipe slope drain, level spreaders, storm drain inlet protection, outlet protection, sediment traps, and temporary sediment basins. Detention ponds may also be used as temporary sediment basins. Additional BMP's that may need to be implemented include: providing protected storage areas for chemicals, paints, solvents, fertilizers, and other potentially toxic materials. Providing waste receptacles at convenient locations and providing regular collection of wastes, including building material wastes. Minimizing off-site tracking of sediments. Making adequate preparations, including training and equipment to contain spills of oil and hazardous materials. Complying with applicable state or local waste disposal, sanitary sewer or septic system regulations and the use of appropriate pollution prevention measures for allowable non-storm water components of discharge.

E. Notify Clearview Land Design and the developer in writing of any non-storm water pollution sources which are being stored, or otherwise used during the construction of the project, i.e., fertilizers, fuels, pesticides, other chemicals. This notification should be accompanied with the contractor's design and methods to prevent pollution run-off from these sources.

F. Develop a maintenance and inspection plan which includes, but is not limited to the following:

A. The specific areas to be inspected and maintained that includes all the disturbed areas and material storage areas of the site.

B. The erosion and sediment controls identified in the SWPPP to be maintained and inspected and those additional controls that the contractor deems necessary.

C. Maintenance procedures.

D. The procedure to follow if additional work is required or whom to call.

E. Inspections and maintenance forms.

F. The personnel assigned to each task.

The following shall be inspected a minimum of once a week or within 24 hours after 0.50 inches of rainfall:

- Stabilization measures (once a month if fully stabilized).
- Structural controls.
- Discharge points.
- Construction entrances and exits.
- Areas used for storage of exposed materials.

An inspection form shall be completed for each inspection. Any permit violations should be noted and corrective measures shall be taken no later than 7 days after the inspection occurred. If revisions to the SWPPP are needed, a report form for changes in the SWPPP shall be completed and a copy sent to Clearview Land Design, P.L. The original shall be kept on-site as documentation of the change. If the inspection passes, a certification that the facility is in compliance with the SWPPP and the NPDES permit must be signed by a duly authorized representative of the principal executive official of the operator of the SWPPP with one of the following qualifications:

1. Has successfully completed the Florida Stormwater, Erosion and Sediment Control Inspector Training Program.

2. Successfully completed a similar training program.

3. Has enough practical on the job training to be qualified to perform the inspections.

Retain inspection reports and certifications for at least three years.

G. Site stabilization measures shall be initiated as soon as practical but in no case more than 7 days, in portions of the site where construction activities have temporarily or permanently ceased.

H. Releases in Excess of Reportable Quantities.

1. The discharge of hazardous substances or oil in the stormwater discharge(s) from a facility or activity shall be prevented or minimized in accordance with the applicable stormwater pollution prevention plan for the facility or activity. This permit does not relieve the operator of the reporting requirements of 40 CFR part 117 and 40 CFR part 302. Where a release containing a hazardous substance in an amount equal to or in excess of a reporting quantity established under either 40 CFR 117 or 40 CFR 302, occurs during a 24 hour period:

a. The operator is required to notify the State Warning Point (800-210-0519 or 850-413-9911) as soon as he or she has knowledge of the discharge;

b. The operator shall submit within 14 calendar days of knowledge of the release a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and remedial steps to be taken, to the Florida Department of Environmental Protection, NPDES Stormwater Section, Mail Station 2500, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and

c. The stormwater pollution prevention plan required under Part V of this permit must be modified within 14 calendar days of knowledge of the release to: provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

2. This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill.

Developer

A. Notify Clearview of your intent to commence construction. Sign the Notice of Intent form as operator of the storm water discharge facility and permittee and return to Clearview Land Design, P.L.

B. Sign a Certification of Storm Water Pollution Prevention Plan and return to Clearview Land Design, P.L.

C. Notify Clearview when it is time to submit a Notice of Termination as defined under Part E of the Clearview Land Design section of the SWPPP. Sign and return to Clearview Land Design, P.L. for submittal to FDEP a Notice of Termination form and certification.

PRE-DEVELOPED SITE INFORMATION:

1. Total site acreage: 34.6 Ac.±
2. Land use: VACANT PASTURE
3. Vegetation: PASTURE, WETLANDS
4. Receiving waters or municipal separate storm water system: SANDY BRANCH/ ANCLOTE RIVER
5. 2 Year/24 Hour rainfall depth: 4.5"
6. Soil types: PINEDA, MYAKKA, SELLERS, EAUGALLIE FINE SANDS

PROJECT INFORMATION:

1. Project type: Residential
2. Anticipated construction sequence is as follows:
   1. Complete erosion control installation
   2. Clearing and grubbing
   3. Earthwork activities
   4. Storm water system construction
   5. Utility construction
   6. Base and pavement construction
   7. Final stabilization

   The BMP's listed in Part D of the Contractor section of the SWPPP shall be considered during all phases of construction.
3. Anticipated start date: 3/15/2015
4. Anticipated completion date: 3/15/2020
5. Total acres disturbed: 26.0 Ac. ± (SILT FENCE LIMITS)
6. Pre-developed "C" factor: 0.20
7. Post-developed "C" factor: 0.45
8. The storm water management system, upon completion of construction and appropriate certification and as-built submittals will be operated and maintained by CDD (UNLESS OTHERWISE NOTED).
9. The potential source of pollution from this project is on-site development and construction activity.

OWNER'S INSTRUCTIONS FOR MAINTENANCE AND INSPECTION OF STORMWATER FACILITIES

The entire stormwater system should be inspected on at least a semi-annual basis. This should include a visual inspection of the pond, pond banks, bleed-down orifices, other control structures, and discharge pipes. These should be kept free of debris and cleaned on a frequency as required to keep them functional, as designed. Mowing/clearing around the structures may be required to prevent vegetation from clogging them.

Wetland plants, if intentionally installed, should be monitored and maintained as required on the approved construction plans. Areas of littoral shelving, which are required to be vegetated but not intentionally planted, should not be cleared of the wetland plants. These areas should have as high a plant coverage as possible, for maximum water filtration.

Sediment sumps, if designed and installed, should have sediment removed as necessary to allow them to efficiently remove suspended particles. They should be re-dug to the original design specifications, if silted in.

For percolation treatment ponds/swales, the owner of the facility shall inspect the pond bottom periodically after heavy rainfall events to check for persistent ponding or pooling of water. All large debris shall be removed and disposed of elsewhere. If prolonged ponding persists, i.e., in excess of 72 hours, the owner shall rake or scarify the surface. If required, the soil in the area of ponding shall be removed and replaced with clean sandy, non-cohesive soils.

Please check the construction plans to see if written reports on monitoring or plant survival rates are required to be sent to any reviewing agencies. Written notes should always be kept which describe maintenance activities undertaken during each inspection.

Specific conditions of all permits may require additional maintenance activities above and beyond those outlined above. Please be aware of all permit conditions as issued by regulatory agencies to ensure permit compliance.

Pond/Lake Excavation Note:
No excavation shall extend below the permitted design depths/elevations shown on the drawings, unless additional testing supports otherwise; and no lower semi-confining unit clayey soil material and/or no limestone materials shall be excavated, regardless if these materials are encountered within the permitted excavation depths/elevations. If any lower semi-confining unit clayey soil materials or limestone materials are encountered above the permitted depths/elevations, then excavation operations shall cease in the general area and the Engineer of Record shall be notified immediately.

NOTE: CONTRACTOR SHALL INSPECT EROSION CONTROL DAILY (INCLUDING BUT NOT LIMITED TO TYPICAL OUTFALLS). CORRECTIVE ACTION SHALL BE TAKEN IMMEDIATELY TO REPAIR OR REPLACE AS NEEDED.

LEGAL DESCRIPTION: SEE PRELIMINARY DEVELOPMENT PLAN

GENERAL EROSION AND TURBIDITY CONTROL NOTES

1. The Site Subcontractor shall be responsible for installation and maintenance of all erosion and turbidity controls and the quality and quantity of offsite or wetland discharges.

2. Prior to construction, the Site Subcontractor is responsible for having his dewatering plan and turbidity control plan approved by the applicable reviewing agencies. Refer to the project's permit approvals and permit conditions for agencies requiring such review and approval. Questions concerning appropriate techniques should be addressed to those agencies and/or discussed with the project engineer and owner.

3. The appropriate turbidity and erosion control methodologies selected by the Site Subcontractor for this project should be made following assessment of the plans and project site specific factors and after consultations as needed with the project engineer and appropriate agencies.

4. The Site Subcontractor will be responsible for obtaining any and all necessary permits for such activity; several factors to consider are listed below:
4.1. Clay content in excavated materials and/or permeabilities rates
4.2. Depth of cut in ponds, trenches, or utility lines
4.3. Ambient ground water levels
4.4. Actual rainfall amounts and time of year relative to normal rainy season
4.5. Proximity to wetlands, water bodies or offsite properties
4.6. 'Class' designation of receiving water bodies (i.e., Outstanding Florida Waters, shellfish harvesting areas, etc.)
4.7. Density, type, and proximity of upland vegetation to be retained during construction (for use as possible filtration areas)
4.8. Fill height relative to natural grade and length and steepness of the proposed slopes
4.9. Existing topography and directions of surface flow
4.10. Type of equipment used
4.11. Project type
4.12. Duration of construction activities
4.13. Separation distance of onsite ponds
4.14. Ambient quality of surface and groundwater
4.15. Temporary stockpile locations and heights

5. At the onset of construction, the Site Subcontractor, as the party responsible for implementation of the erosion and sediment control plan, shall assess the above described conditions and factors with respect to relative cost effectiveness and select the appropriate methods of protection. A fairly extensive list of techniques are presented below but it must be stressed that any or all of the following may be necessary to maintain water quality and quantity standards.

6. The construction sequencing should be thought out in advance of initiation to provide adequate protection of water quality.

7. Any offsite disturbance shall be restored to the Pre or better condition.
7.1. Discharges of water quantities which affect offsite properties or may damage wetlands are also prohibited by regulating agencies.
7.2. Discharges which exceed 29 N.T.U.'s over the background levels are in violation of state water quality standards.

8. The erosion and turbidity control measures shown hereon are the minimum required for agency approval. Additional control and measures may be required due to the Site Subcontractor's construction sequence & unforeseen weather conditions. Any additional measures deemed necessary by the Site Subcontractor shall be included in the lump sum bid with no extras for materials and labor allowed.

9. Hay bales or silt screens shall be installed prior to land clearing to protect water quality and to identify areas to be protected from clearing activities and maintained for the duration of the project until all soil is stabilized.

10. Floating turbidity barriers shall be in place in flowing systems or in open water lake edges prior to initiation of earthwork and maintained for the duration of the project until all soil is stabilized.

11. No clay material shall be left exposed in any stormwater storage facility.
11.1. If clay or sandy-clays are encountered during stormwater storage excavation, the Site Subcontractor shall notify the Engineer immediately before proceeding with further excavation.
11.2. If the Engineer of Record has determined that such soils are non-confining and must be excavated to meet permit and design conditions, excavation may proceed after obtaining written authorization from the appropriate governing agency.
11.3. If said soils are left exposed at the permitted and designed depth, the Site Subcontractor shall over-excavate the pond's bottom and side slopes by a minimum of twenty-four (24") inches and backfill with clean sands to help prevent suspension of fine particles in the water column.

12. The installation of temporary erosion control barriers shall be coordinated with the construction of the permanent erosion control features to the extent necessary to assure effective and continuous control of erosion and water pollution throughout the life of the construction phase.

13. The type of erosion control barriers used shall be governed by the nature of the construction operation and soil type that will be exposed. Silty and clayey material may require solid sediment barriers to prevent turbid water discharge, while sandy material may need only silt screens or hay bales to prevent erosion. Floating turbidity curtains should generally be used in open water situations. Diversion ditches or swales may be required to prevent turbid stormwater runoff from being discharged to wetlands or other water bodies. It may be necessary to employ a combination of barriers, ditches, and other erosion/turbidity control measures if conditions warrant.

14. Where pumps are to be used to remove turbid waters from construction areas, the water shall be treated prior to discharge to the wetlands. Treatment methods include, for example, turbid water being pumped into grassed swales or appropriate upland vegetated areas (other than upland preservation areas and wetland buffers), sediment basins, or confined by an appropriate enclosure such as turbidity barriers or low berms, and kept confined until turbidity levels meet State Water Quality Standards.

15. The Permittee shall schedule his operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operation, and the duration of exposed, uncompleted construction to the elements shall be as short as practicable. Clearing and grubbing shall be so scheduled and performed such that grading operations can follow immediately thereafter. Grading operations shall be so scheduled and performed that permanent erosion control features can follow immediately thereafter if conditions on the project permit.

16. Water derived from various dewatering methods should be passed through sufficiently wide areas of existing upland vegetation to filter out excess turbidity. If this is not sufficient, the water shall be retained in previously constructed permanent stormwater ponds or else retained in temporary sedimentation basins until the clarity is suitable to allow for its discharge. Plugging the outfalls from completed stormwater ponds may be needed to avoid discharge. However, such situations should be monitored closely to preclude berm failure if water levels rise too high.

17. Water can be transported around the site by the use of internal swales or by pumps and pipes.

18. Sheet flow of newly filled or scraped areas may be controlled or contained by the use of brush barriers, diversion swales, interceptor ditches or low berms. Flow should be directed toward areas where sediments can sufficiently settle out.

19. Exposed soils shall be stabilized as soon as possible, especially slopes leading to wetlands. Stabilization methods include solid sod, seeding and mulching or hydromulching to provide a temporary or permanent grass cover mulch blankets, filter fabrics, etc., can be employed to provide vegetative cover.

20. Energy dissipaters (such as rip rap, a gravel bed, hay bales, etc.) shall be installed at the discharge point of pipes or swales if scouring is observed.

21. Attempt to install roadway curb and gutters as soon as possible to reduce the surface area for erosion to occur.

22. Implement storm drain inlet protection (hay bales or gravel) to limit sedimentation within the stormwater system. Perform inspections and periodic cleaning of sediments which wash out into the streets until all soil is stabilized.

23. Water discharge velocities from impounded areas and temporary sedimentation basins shall be restricted to avoid scouring in receiving areas.

24. If water clarity does not reduce to state standards rapidly enough in holding ponds, it may be possible to use chemical agents such as alum to flocculate or coagulate the sediment particles.

25. Hay bales, silt screens, or gravel beds can be added around the pipe or swale discharge points to help clarify discharges. Spreader swales may help dissipate cloudy water prior to contact with wetlands.

26. All fuel storage areas or other hazardous storage areas shall conform to accepted state or federal criteria for such containment areas.

27. Vehicle or equipment washdown areas will be sufficiently removed from wetlands or offsite areas.

28. Fugitive dust controls (primarily by using water spray trucks) shall be employed as needed to control windborn emissions.

29. If the above controls remain ineffective in precluding release of turbid water, especially during pond or utility line dewatering, then the contractor may be compelled to use a vertical dewatering system such as well points or sock drains to withdraw groundwater which may already be clear enough to allow for direct discharge to wetlands.

30. Ongoing inspections and periodic maintenance by the Site Subcontractor shall occur daily (at a minimum) to insure the above methods are working suitably. Corrective action must be taken immediately to repair or replace any damaged BMP's to ensure the above methods are working properly.

31. Site Subcontractors are required to obtain and thoroughly review The Florida Development Manual: A Guide to Sound Land and Water Management, which was developed by the State of Florida Department of Environmental Protection in 1988. This provides fairly in-depth discussions of recommended techniques and also provides specific design and technical standards. A copy of this document is available for review at Clearview Land Design, P.L.

GENERAL CONSTRUCTION NOTES:

1. Prior to construction, the Contractor shall obtain from the Engineer or Owner a copy of all pertinent permits related to this project. It is the Contractor's responsibility to assure that all construction activities are in compliance with the conditions of all permits and approvals. Contractor is also responsible for having his dewatering plan approved by SWFWMD.

2. All construction, materials and workmanship are to be in accordance with Pasco County Land Development Code and DOT Specifications, latest editions.

3. Grass and mulch, or solid sod, all areas in existing rights- of-way disturbed by construction. In the proposed rights-of- way a 16" wide area behind the back of curb shall be solid sodded. The remainder of the proposed rights-of-way shall be stabilized with Sod or Seed & Mulch in accordance with applicable County standards. On slopes 4:1 and flatter, seed & mulch may be used. On slopes steeper than 4:1, sod shall be used. Sod slopes steeper than 4:1 shall be installed with sod pegs per County standards.

4. Contractor is to coordinate all work within, but not limited to Pasco County rights-of-way with utility companies in order to prevent damage to utility lines and making of adjustments to same, if required.

5. Suitable fill obtained through excavation of streets and detention ponds shall be placed on lots and adjacent land in accordance with the Master Drainage and Grading Plan as directed by the Engineer.

6. Sod/Seed & Mulch shall be placed in accordance with applicable City/County standards as well as in accordance with standard and specific conditions in the SWFWMD permit, if applicable. At a minimum this shall include sodding of all pond embankments of a slope 4:1 or greater to the NW (SHWL) line, as well as seeding and mulching of the balance of the pond tracts (including pond berms, excluding the area below NW (SHWL)), sodding a minimum of 16" from the back of curb, and stabilizing all other areas within the project using sod or seed & mulch per County standards. On slopes 4:1 and flatter, seed & mulch may be used. On slopes steeper than 4:1, sod shall be used. Sod slopes steeper than 4:1 shall be installed with sod pegs per County standards.

7. Site clearing shall be performed per the approved construction plans and in accordance with Pasco County Land Development Code. Installation and maintenance of the required barricading and erosion control shall be the responsibility ofthe site development contractor unless otherwise designated.

8. Prior to beginning construction, Contractor shall expose all existing utility inverts to which a tie-in is proposed and have Engineer verify the elevation and adequacy of these inverts.

9. All subsurface construction shall comply with the "Trench Safety Act." The Contractor shall ensure that the method of trench protection and construction is in compliance with the Occupational Safety and Health Administration (OSHA)regulations.

10. Siltation accumulations greater than the lesser of 12 inches or one-half the depth of the siltation barrier shall be immediately removed and placed in upland areas.

11. During land alteration and construction activities, it shall be unlawful to remove vegetation by grubbing or to place soil deposits, debris, solvents, construction material, machinery or other equipment of any kind within the dripline of a tree to remain on the site unless otherwise approved by the County.

12. All erosion control installation and installation coordination shall be the responsibility of the Contractor. Clearview Land Design, if contracted by the Owner, will stake the alignment of the proposed erosion control and shall limit its responsibility and coordination at that point. Be advised that the construction approval and maintenance of the erosion control shall be the sole responsibility of the Site Contractor.

13. Building downspouts to be directed to the on-site storm drainage system.

14. Future expansion areas, if disturbed, to be seeded and mulched or sodded to prevent erosion to existing pavement surfaces.

15. Should any noticeable soil slumping or sinkhole formation become evident, the applicant/developer shall immediately notify the County, Tampa Bay Water (TBW), and SWFWMD, and adopt one or more of the following procedures as determined to be appropriate by the County and SWFWMD:
15.1. If the slumping or sinkhole formation becomes evident before or during construction activities, stop all work (except for mitigation activities) in the affected area and remain stopped until the County and SWFWMD approve resuming construction activities.
15.2. Take immediate measures to ensure no surface water drains into the affected areas.
15.3. Visually inspect the affected area.
15.4. Excavate and backfill or grout as required to fill the affected area and prevent further subsidence.
15.5. Use soil reinforcement materials in the backfilling operation,when appropriate.
15.6. If the affected area is in the vicinity of a water-retention area,maintain a minimum distance of two feet from the bottom of the retention pond to the surface of the lime-rock or karst connection.
15.7. If the affected area is in the vicinity of a water-retention area and the above methods do not Stabilize the collapse, relocate the retention area.
15.8. Discharge of storm-water into depressions with direct or demonstrated hydrologic connection to the Floridan Aquifer shall be prohibited.

16. The site shall be graded to within 12 inches of the final grade. Where fill is proposed it shall be placed in compliance with the geotechnical/geological engineering report recommendations (including any lift depths recommended) and compacted to a minimum density of 95% of the modified Proctor maximum dry density. Density tests to confirm compaction shall be required within the building pad area, before the next lift is placed. Upon completion of the land development construction, a professional engineer shall provide a certification to Pasco County that the project, including each pad area, complies with the recommendations of the geotechnical/geological engineering report.

17. The engineer responsible for the project shall certify to the County Engineering Services Director (thru PC Engineering Inspections) that the select material below the stabilized subgrade meets these standards prior to installation of the Base. Certification shall strictly comply with the subgrade certification form available in "Engineering Services Department: A Procedural Guide for the Preparation of Assurances of Completion and Maintenance.

18. The engineer responsible for the project shall certify to County Engineering Services Director that the underdrains have been properly installed prior to the installation of any asphalt. Certification shall strictly comply with the underdrain certification form available in Engineering Services Department: A procedural Guide for the Preparation of Assurance of Completion and Maintenance.

19. If during construction activities any evidence of the presence of State and Federally protected plant and/or animal species is discovered, work shall come to an immediate stop and Pasco County shall be notified within two working days of the plant and/or animal species found on the site.

20. If during construction activities any evidence of historic resources, including but not limited to aboriginal or historic pottery, prehistoric stone tools, bone or shell tools, historic trash pits, or historic building foundation, are discovered, work shall come to an immediate stop and the Florida Department of Historic Resources (State Historic Preservation Officer) and Pasco County shall be notified within two working days of the resources found on the site.

21. Prior to construction, a Building Permit shall be obtained for all structures that have a footer, regardless of size, through the Central Permitting Division; i.e.,including, but not inclusive of, buildings, accessories, dumpster walls, and retaining walls.

22. All first floor elevations (FF) shall be a minimum of one (1) foot above the base flood elevation (and meet the requirements of Pasco County LDC 1104) and be at least sixteen (16) inches above the highest crown line of the street lying between the projection of the side-building lines, unless otherwise approved by the County Administrator (per LDC 902).

23. Pasco Environmental Lands Conditions of Approval:
1. The jurisdictional wetland line and the upland buffer line shall be field demarcated prior to any construction activities.
2. No construction activities including; clearing, grading, grubbing shall occur within the Wetland Upland Buffer as depicted on the approved project Construction Plans.

ESTIMATED EARTHWORK QUANTITIES (UNADJUSTED)*:

VOLUME:
CUT = 0 CY
FILL = 75,000 CY*

NET = 75,000 CY*

* PROVIDED AS AN ESTIMATE PER PASCO COUNTY REQUIREMENTS - NOT INTENDED AS A BID QUANTITY

GEOTECHNICAL REPORT

THESE PLANS REFERENCE THE MEI GEOTECHNICAL REPORT, DATED JANUARY 27, 2015 PREPARED BY MEI AVAILABLE UPON REQUEST.

SOIL REUSE REQUIREMENTS

At least the following six (6) types of materials are present on-site that require proper handling/treatment by the Contractor, during the course of site development/construction activities, in accordance with the noted reuse requirements for each type. Although some soil material quality control testing will be randomly and periodically performed by the project Geotechnical Consultant, as required, working for the Owner, it is the Contractors sole responsibility to reuse onsite soil materials as described and specified below. All discovered or future filling or material reuse work onsite not in accordance or compliance with these notes, or any future adverse impacts or consequences resulting from the Contractors failure to properly reuse soil materials onsite as specifically described below, will be the Contractors sole responsibility for remedy and repair at his cost. If the Contractor has any questions regarding any of the soil materials onsite, the project Geotechnical reports (which he needs to obtain from the Owner or Geotechnical Consultant/ Engineer), or any questions associated with the notes below, it is presumed that the Contractor will satisfactorily resolve such questions/concerns prior to site demolition, clearing, grubbing, stripping and excavation operations begin.

Please note, local, state and federal rules, laws, and regulations prohibiting soil reuse as described below shall take precedence and shall be followed to the fullest extent.

1. Site Demolition Debris (Site demolition debris, not generally considered an environmental/contamination hazard, includes such items as wood pieces, concrete pieces, plastic pipe pieces,certain metal/steel pieces, or similar. If any such debris or other demolition debris is considered an environmental/contamination hazard, or if burial onsite of such materials is prohibited by the governing environmental agency, then all such materials shall be hauled off site by the Contractor for proper disposal, in accordance with all applicable governing environmental agency requirements. In no case, shall any such debris materials remain, orbe placed by the Contractor, beneath any type of structure, pavement, roadway, house, building, pipeline, slab, etc.)All Site Demolition Debris shall be removed from the site development and disposed of properly in accordance with all applicable governing environmental agency requirements.

2. Clearing and Grubbing Debris (Site clearing and grubbing debris includes all larger organic materials, such items as trees, stumps, limbs, brush, vegetation, or similar; all such materials must be either "burned" or "mulched" by the Contractor prior to reuse or disposal onsite.)If acceptable to the governing environmental agency, then all such "burned" or "mulched" site clearing/grubbing debris, if approved in writing first by the Owner/Geotechnical Consultant/Engineer, could be:
2.1.1. placed as "mulch" material surface dressing in future landscape areas, stockpiling of such "mulched" materials (amounts/locations), if acceptable, will be directed by the Owner/Geotechnical Consultant//Landscape Architect/Engineer;
2.1.2. placed in temporarily excavated littoral shelf areas in selected stormwater ponds, or in temporarily excavated selected wetland mitigation ponds, in either case not in side banks and not below the permitted design depth of the pond, or such debris could be buried in temporarily excavated passive recreation/park areas (at least 30 feet from any structure) at approved depths/locations, but all these disposal areas will require adequate soil mixing (mix soil with the mulch) and then refilling (with compaction) to required design grades;
2.1.3. placed along the bottom of selected floodplain mitigation ponds (not in side banks), not below the permitted excavation depth of the pond, but will require adequate soil cover;
2.1.4. placed along the bottom of selected deeper stormwater ponds (not in side banks), not below the permitted design depth, but will require adequate soil cover.
2.2. In all instances, the minimum pond depth (including floodplain and wetland mitigation areas) shall be no less than required by the Engineer.
2.3. All organic debris burial areas in stormwater pond areas and floodplain mitigation pond areas will require adequate soil cover of 18 - 24 inches (with compaction) by the Contractor, meaning at least an adequate weight/thickness of soil material overtop the buried organic debris, such that there will be no future floating up of debris; and for all organic debris burial areas in littoral shelf areas, wetland mitigation pond areas, and passive recreation/park areas, adequate soil/mulch mixing (with compaction) will be necessary by the Contractor, such that no significant future unacceptable settlement of a littoral shelf area, created wetland area, or park/grassed area will occur. If any of these procedures are contemplated by the Contractor, then the Contractor shall notify the owner/Geotechnical Consultant/Engineer in writing, at the start of construction, with some specific information, including the estimated quantity and types of materials, to which stormwater ponds, floodplain mitigation ponds, wetland mitigation ponds, or passive recreation/park areas they propose to use for this type of organic debris disposal, and what approximate elevations will be the top and bottom of the organic debris.

3. Muck/Peat Organic Materials (Typically generated from wetland or lowland areas, or similar areas, permitted for impact or displacement, including excavation of unsuitable organic materials and refilling with suitable sandy soils to accommodate development; includes significant organic peat materials, organic sandy muck materials, and mucky or organic sand materials, designated either Pt or A-8, per the Unified and AASHTO Soil Classification Systems, respectively; those organic materials whose presence, or placement by the Contractor, is unacceptable beneath any type of structure, pavement, roadway, house, building, pipeline, slab, etc.) If acceptable to the governing environmental agency, then all such muck/peat (significant) organic materials, if approved in writing first by the Owner/Geotechnical Consultant/Engineer, could be:
3.0.1. placed as "peat/muck/organic matter" surface layer in new or created wetland mitigation areas, stockpiling of such "significant organic" materials (amounts/locations), if acceptable, will be directed by the Owner/Wetland Consultant;
3.0.2. placed in temporarily excavated littoral shelf areas in selected stormwater ponds, or in temporarily excavated selected wetland mitigation ponds, in either case not in side banks and not below the permitted design depth of the pond, or such organic materials could be buried in temporarily excavated passive recreation/park areas (at least 30 feet from any structure) at approved depths/locations, but all these disposal areas will require adequate soil mixing (mix soil with the organic materials) and then refilling (with compaction) to required design grades;
placed along the bottom of selected floodplain mitigation ponds (not in side banks), not below the permitted excavation depth of the pond, but will require adequate soil cover;
3.0.4. placed along the bottom of selected deeper stormwater ponds (not in side banks), not below the permitted design depth, but will require adequate soil cover.
3.1. All organic debris burial areas in stormwater pond areas and floodplain mitigation pond areas will require adequate soil cover (with compaction) by the Contractor, meaning at least an adequate weight/thickness of soil material overtop the buried organic debris, such that there will be no future floating up of debris; and for all organic debris burial areas in littoral shelf areas, wetland mitigation pond areas, and passive recreation/park areas, adequate soil/organics mixing (with compaction) will be necessary by the Contractor, such that no significant future unacceptable settlement of a littoral shelf area, created wetland area, or park/grassed area will occur.
3.2. If any of these procedures are contemplated by the Contractor, then the Contractor shall notify the Owner/Geotechnical Consultant/Engineer in writing, at the start of construction, with some specific information, including the estimated quantity and types of materials, to which stormwater ponds, floodplain mitigation ponds, wetland mitigation ponds, or passive recreation/park/landscape berm areas they propose to use for this type of organic material disposal, and what approximate elevations will be the top and bottom of the organic materials.

4. Topsoils/Site Strippings (Typically generated from upland areas, after demolition/clearing/grubbing/discing operations; stripping of surficial organics/topsoils being a requirement over at least all structure, building, concrete slab and pavement areas prior to filling to accommodate development; includes topsoils and organic laden sands; those topsoils/organic sand materials whose presence, or placement by the Contractor, is unacceptable beneath any type of structure, pavement, roadway, house, building, pipeline, slab, etc.)
4.1. If acceptable to the governing environmental agency, all such topsoils/organic laden sand materials, if approved in writing first by the Owner/Geotechnical Consultant/Engineer, could be:
4.1.1. placed as fill in new (larger) landscape/grass common areas or landscape berm areas (with compaction), stockpiling of such "topsoils/organic laden sand materials" (amounts/locations), if acceptable, will be directed by the Owner/Landscape Consultant;
4.1.2. placed in temporarily excavated littoral shelf areas in selected stormwater ponds, or in temporarily excavated selected wetland mitigation ponds, in either case not in side banks and not below the permitted design depth of the pond, or such topsoils/organic laden sand materials could be buried in temporarily excavated passive recreation/park areas (at least 30 feet from any structure) at approved depths/locations, but all these disposal areas will require refilling (with compaction) to required design grades;
4.1.3. placed along the bottom of selected floodplain mitigation ponds (not in side banks), not below the permitted excavation depth of the pond;
4.1.4. placed along the bottom of selected deeper stormwater ponds (not in side banks), not below the permitted design depth.
4.2. All topsoil/organic laden sand disposal areas in littoral shelf areas, wetland mitigation pond areas, passive recreation/park areas, or landscape/berm areas will require adequate compaction by the Contractor, such that no significant future unacceptable settlement of a littoral shelf area, created wetland area, park/grassed area, or landscape berm will occur.
4.3. If any of these procedures are contemplated by the Contractor, then the Contractor shall notify the Owner/Geotechnical Consultant/Engineer in writing, at the start of construction, with some specific information, including the estimated quantity and types of materials, to which stormwater ponds, floodplain mitigation ponds, wetland mitigation ponds, passive recreation/park areas, or landscape berm areas they propose to use for this type of organic debris disposal, and what approximate elevations will be the top and bottom of the organic debris.

5. Non-Structural Clayey Sand/Clay Materials (Typically generated from pond/lake excavations or from utility pipeline/manhole excavations; such clayey sand/clay materials, with typically 40% fines or more passing the No. 200 sieve, designated either SC, CL, CH or A-4 to A-7, per the Unified and AASHTO Soil Classification Systems, respectively; such clayey sand/clay materials being unsuitable or unacceptable for reuse by the Contractor as building pad fill, structural fill, roadway embankment fill, and pipeline or manhole excavation backfill.)
5.1. If acceptable to the governing environmental agency, all such clayey sand/clay materials, if approved in writing first by the Owner/Geotechnical Consultant/Engineer, could be:
5.1.1. placed as fill in new (larger) landscape/grass common areas or landscape berm areas (with compaction), provide some surface drainage relief, use where infiltration and drainage is not an important issue, provide some surface sandy soils (min. of 18-inches) as directed by the Landscape Consultant for planting; stockpiling of such "clayey sand/clay materials" (amounts/locations), if acceptable, will be directed by the Owner/Landscape Consultant;
5.1.2. placed in temporarily excavated littoral shelf areas in selected stormwater ponds, or in temporarily excavated selected wetland mitigation ponds, in either case not in side banks and not below the permitted design depth of the pond, or such clayey sand/clay materials could be buried in temporarily excavated passive recreation/park areas (at least 30 feet from any structure) at approved depths/locations, but all these disposal areas will require refilling (with compaction) to required design grades, and the top 2 feet (min.) being sand materials (not clayey materials) for turbidity control and planting;
5.1.3. placed along the bottom of selected floodplain mitigation ponds (not in side banks), not below the permitted excavation depth of the pond; however, a 12-inch layer (min.) of sand material overtop the clayey materials will be necessary for turbidity control.
5.1.4. placed along the bottom of selected deeper stormwater ponds (not in side banks), not below the permitted design depth, however, a 12-inch layer (min.) of sand material overtop the clayey materials will be necessary for turbidity control.
5.2. All clayey sand/clay disposal areas in littoral shelf areas, wetland mitigation pond areas, passive recreation/park areas, or landscape/berm areas will require adequate compaction by the Contractor, such that no significant future unacceptable settlement of a littoral shelf area, created wetland area, park/grassed area, or landscape berm will occur.
5.3. If any of these procedures are contemplated by the Contractor, then the Contractor shall notify the Owner/Geotechnical Consultant/Engineer in writing, at the start of construction, with some specific information, including the estimated quantity and types of materials, to which stormwater ponds, floodplain mitigation ponds, wetland mitigation ponds, passive recreation/park areas, or landscape berm areas they propose to use for this type of clayey sand/clay disposal, and what approximate elevations will be the top and bottom of the clayey materials.

6. Structural Sand Fill Materials (Typically generated from pond/lake excavations, cut from higher elevation areas, or from utility pipeline/manhole excavations; such sand materials, with typically 35% fines or less passing the No. 200 sieve, designated either SP, SP-SM, SM or A-2-4, A-2-6 or A-3, per the Unified and AASHTO Soil Classification Systems, respectively; such sand materials being suitable or acceptable for reuse by the Contractor as building pad fill, structural fill, roadway embankment fill, and pipeline or manhole excavation backfill.)
6.1. All such sand materials shall be reused onsite by the Contractor, per the Geotechnical reports, as building pad fill, structural fill, roadway embankment fill, and pipeline or manhole excavation backfill; placed by the Contractor in loose lifts not exceeding 12-inches, compacted to at least 95% or 98% modified Proctor (per ASTM D-1557 or AASHTO T-180), whichever is applicable depending upon the future use of the filled area (see Geotechnical reports); with density testing of each fill lift for acceptance by the Geotechnical Consultant, upon Contractor request, prior to the next fill lift being placed.

DATE	DESCRIPTION	BY
06-15-15	ADD ESTIMATED EARTHWORK QUANTITIES	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

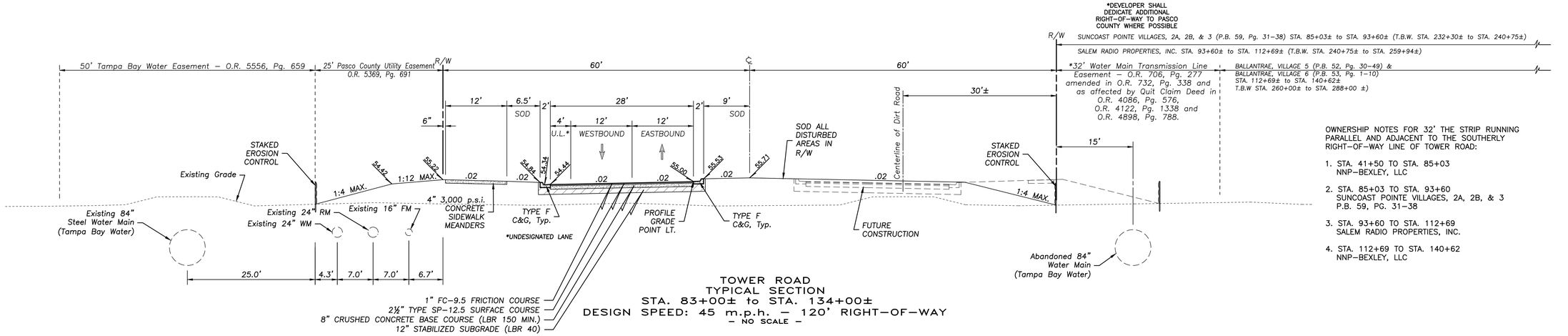
GENERAL NOTES

JOB NO. NLC-BX-026
DESIGN MS
DRAWN MS
DATE 12/01/14
FILE GN-TOWER

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: NNP-BEXLEY, LLC

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



TOWER ROAD
TYPICAL SECTION
STA. 83+00± to STA. 134+00±
DESIGN SPEED: 45 m.p.h. – 120' RIGHT-OF-WAY
– NO SCALE –

OWNERSHIP NOTES FOR 32' THE STRIP RUNNING PARALLEL AND ADJACENT TO THE SOUTHERLY RIGHT-OF-WAY LINE OF TOWER ROAD:

1. STA. 41+50 TO STA. 85+03
   NNP-BEXLEY, LLC
2. STA. 85+03 TO STA. 93+60
   SUNCOAST POINTE VILLAGES, 2A, 2B, & 3
   P.B. 59, PG. 31-38
3. STA. 93+60 TO STA. 112+69
   SALEM RADIO PROPERTIES, INC.
4. STA. 112+69 TO STA. 140+62
   NNP-BEXLEY, LLC

PASCO COUNTY SUBDIVISION
SOIL CEMENT BASE SPECIFICATIONS

DESCRIPTION
CONSTRUCT A BASE COURSE COMPOSED OF A COMBINATION OF SOIL, PORTLAND CEMENT, AND WATER.

MATERIALS
MEET THE FOLLOWING REQUIREMENTS:
- CEMENT: PORTLAND CEMENT, TYPE I, II, III, OR TYPE I–P OR TYPE I–S [SECTION 921]
- WATER: USE WATER THAT IS FREE FROM SUBSTANCES DELETERIOUS TO HARDENING OF THE SOIL–CEMENT MIXTURE.
- CURING MATERIAL: [SECTION 916–4]
- USE EMULSIFIED ASPHALT GRADE SS, RS, OR MS AS APPROVED BY THE ENGINEER, DILUTE THESE AS RECOMMENDED BY MANUFACTURER.
- SOIL: FOR BASE COURSE CONSTRUCTION, USE EITHER THE MATERIAL EXISTING IN THE LOCATION TO OCCUPIED BY BASE, A SUITABLY FRIABLE MATERIAL FURNISHED BY THE CONTRACTOR, OR A COMBINATION OF THESE. IF THE MATERIAL EXISTING IN THE LOCATION TO BE OCCUPIED BY THE BASE DOES NOT MEET THE REQUIREMENTS SPECIFIED BELOW, REMOVE AND REPLACE WITH SUITABLE SOIL.
- OBTAIN APPROVAL OF THE MATERIAL PITS PRIOR TO USE. EXCAVATE MATERIAL PITS TO ACHIEVE A UNIFORMLY MIXED MATERIAL WITH REASONABLY CONSISTENT CHARACTERISTICS. BLEND STRATA OR DIFFERING MATERIALS IN ACCORDANCE WITH A PROCEDURE APPROVED BY THE ENGINEER. THE COUNTY WILL CONSIDER PROPOSED RECYCLED MATERIALS ON A CASE BY CASE BASIS.

- SPECIFIC REQUIREMENTS FOR SOIL:

• ORGANIC MATERIAL (AS PER FM 1–T267)	MAXIMUM 5%
• TOTAL CLAY AND SILT CONTENT (MINUS NO. 200 [75 µΩ SIEVE] (AS PER FM 1–T088, NO HYDROMETER TEST)	MAXIMUM 25%
• PLASTIC INDEX (AS PER FM 1–T090)	MAXIMUM 10%
• LIQUID LIMIT (AS PER FM 1–T089)	MAXIMUM 25%
• GRADATION:	
▪ PASSING 2 INCH [50MM] SIEVE	MINIMUM 100%
▪ PASSING NO. 4 [4.75 MM] SIEVE	MINIMUM 55%
▪ PASSING NO. 10 [2.00 MM] SIEVE (AS PER FM 1–T088)	MINIMUM 37%

AS AN EXCEPTION TO THE ABOVE REQUIREMENTS, THE CONTRACTOR MAY USE ANY MATERIAL MEETING THE REQUIREMENTS FOR LIMEROCK.

NOTE:
THE ABOVE SOIL CEMENT BASE SPECIFICATIONS WERE TAKEN FROM FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2002 MANUAL – SECTION 270, AS SUCH, THE REFERENCED MATERIALS FOR SOIL CEMENT BASE SHALL CONFORM TO THE ROUIREMENTS SPECIFIED IN
DIVISION III (MATERIALS) OF THE FDOT MANUAL AS WELL.

SOIL CEMENT SHALL BE PLANT MIXED. DESIGN MIX SHALL BE 300 PSI AND CONSTRUCTED BASE SHALL NOT EXCEED 350 PSI.

NOTE:
NO DEVIATIONS TO THIS DETAIL WILL BE PERMITTED UNLESS APPROVED BY THE COUNTY ENGINEER. ANY PROPOSED ALTERATIONS SHALL BE CLEARLY IDENTIFIED AND HIGHLIGHTED ON DETAIL.

Proposed Pavement Structure

Layer Coefficients	Thickness
0.44 – Type FC–9.5 Friction Course	1"
0.44 – Type SP–9.5 Surface Course	2 1/2"
0.15 – Crushed Concrete Base (LBR 150 min.)	8"
0.08 – Stabilized Subgrade (LBR 40 min.)	12"

SN = (0.44) (1) + (0.44) (2.5) +
(0.15) (8) + (0.08) (12) = 3.70

Alternate Pavement Structure

Layer Coefficients	Thickness
0.44 – Type FC–9.5 Friction Course	1"
0.44 – Type SP–9.5 Surface Course	2 1/2"
0.15 – Soil Cement Base (300 p.s.i. min.)	12"
0.04 – Compacted Subgrade (98% AASHTO T–180)	12"

SN = (0.44) (1) + (0.44) (2.5) +
(0.15) (12) + (0.04) (12) = 3.82

CONTRACTOR MAY PROPOSE ALTERNATE PAVEMENT DESIGNS. CONTRACTOR SHALL SUBMIT ANY PAVEMENT ALTERNATIVES TO ENGINEER FOR APPROVAL PRIOR TO FINAL SUBGRADE PREPARATIONS.

ALTERNATE PAVEMENT CONSTRUCTION NOTES (SOIL CEMENT)

1. SUBGRADE UNDER A SOIL–CEMENT BASE SHALL BE PROOF–ROLLED TO GRADE, AS DIRECTED BY THE ENGINEER AND APPROVED BY THE ENGINEER WITH SUITABLE COMPACTION EQUIPMENT TO ACHIEVE A DENSITY OF NINETY–EIGHT (98%) PERCENT MODIFIED PROCTOR FOR A DEPTH OF TWELVE (12) INCHES PRIOR TO PLACING SOIL–CEMENT BASE.
2. SOIL–CEMENT MIX DESIGN SHALL BE PROVIDED A MINIMUM 30 DAYS IN ADVANCE OF PLACEMENT OF BASE MATERIAL FOR APPROVAL BY THE ENGINEER. THE SOIL–CEMENT PRODUCT SHALL BE IN ACCORDANCE WITH PCA STANDARDS. 300 P.S.I. MINIMUM.
3. SOIL–CEMENT SURFACE SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO ANY PAVING OPERATION.

ALL CLEAR ZONES SHALL BE FREE OF ANY OBSTRUCTIONS.
SEE CLEAR ZONE WIDTHS PER PASCO COUNTY LDC 901.6(D)(6) IN THE FOLLOWING TABLE:

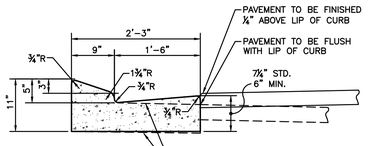
STREET TYPE	FDOT TYPE F & D CURB	FDOT TYPE A, E, & MIAMI CURB
2	4'	6'
3	4'	6'
4	1½'	6'

1. FOR PRIVATE STREETS, ENTRANCE AND EXIT GATE EQUIPMENT, GUARDHOUSE, OR OTHER LIKE STRUCTURE MAY BE SET BACK 1½ FEET FROM THE FDOT TYPE F AND D CURB.
2. WIDTHS IN ABOVE CHART ARE MEASURED FROM FACE OF BARRIER CURB OR EDGE OF PAVEMENT IF NO BARRIER CURB PROVIDED.

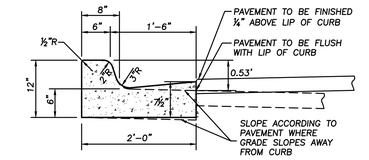
PASCO COUNTY
PAVEMENT DESIGN CRITERIA

MINIMUM SN*	ROADWAY CLASSIFICATION
2.34	LOCAL
3.50	TYPE 1
3.50	SUBDIVISION COLLECTOR
3.70	MAJOR COLLECTOR

* FROM PASCO COUNTY LDC SECTION 901



TYPE "E" MEDIAN CURB



TYPE "F" CURB AND GUTTER

ALL CONCRETE SIDEWALK SHALL BE FIBERMESH–REINFORCED

ALL SIDEWALK CROSSING DRIVEWAYS AND ALL SIDEWALKS ADJACENT TO PONDS SHALL BE 6" THICK

Contractor may propose alternate pavement designs. Contractor shall submit any pavement alternatives to Engineer for approval prior to final subgrade preparations.

PASCO COUNTY SUBDIVISION
PAVEMENT CONSTRUCTION NOTES (CRUSHED CONCRETE)

1. PAVEMENT WEARING SURFACE SHALL BE ASPHALTIC CONCRETE OF TYPE AND THICKNESS SHOWN IN DETAIL AND SHALL MEET CURRENT FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) SPECIFICATIONS.
2. PAVEMENT BASE SHALL BE CRUSHED CONCRETE, AS DESIGNATED IN PLANS, AND SHALL BE COMPACTED TO A MINIMUM THICKNESS AS SHOWN.
3. CRUSHED CONCRETE ROAD BASE MATERIAL SHALL MEET THE FOLLOWING CONDITIONS:

   THE WORK SPECIFIED UNDER THIS SECTION CONSISTS OF THE CONSTRUCTION OF ROADWAY BASE UTILIZING CRUSHED CONCRETE (RECLAIMED CONCRETE AGGREGATE BASE MATERIAL) ON A PREPARED STABILIZED SUBGRADE OF LBR 40 WITH A DENSITY OF 98% OF THE MODIFIED PROCTOR MAXIMUM DENSITY AS DETERMINED BY FM1–T 180, METHOD D, IN CONFORMITY WITH THE LINES, GRADES NOTES AND TYPICAL CROSS SECTIONS SHOWN IN THE PLANS, AND AS DIRECTED BY THE COUNTY ENGINEER.

   THE CONSTRUCTION OF CRUSHED CONCRETE BASE SHALL CONFORM TO THE REQUIREMENTS OF THIS SECTION, OR, IN LIEU THEREOF, SUCH REQUIREMENTS AS MAY BE ESTABLISHED BY THE COUNTY ENGINEER DURING CONSTRUCTION. THE COUNTY ENGINEER SHALL HAVE FULL AUTHORITY TO MODIFY THE PROVISIONS OF THIS SECTION AS DEEMED NECESSARY, IN HIS OPINION, TO MEET FIELD CONDITIONS AND REQUIREMENTS.

3.1. MATERIALS

3.1.1. CRUSHED CONCRETE MUST BE PRODUCED FROM A SOURCE APPROVED BY FLORIDA DEPARTMENT OF TRANSPORTATION OR THE COUNTY ENGINEER. THE SUPPLIER SHALL HAVE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) PERMIT REQUIREMENTS SECTION 62–701.730 OR BE QUALIFIED AS A CLEAN DEBRIS SOURCE UNDER DEP RULES. THE RECLAIMED CONCRETE AGGREGATE BASE SHALL CONSIST OF CRUSHED CONCRETE MATERIAL DERIVED FROM THE CRUSHING OF HARD PORTLAND CEMENT CONCRETE.

3.2. COMPOSITION

3.2.1. BASE MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	% BY WEIGHT PASSING
2 INCH	100
3/4 INCH	65 TO 95
3/8 INCH	40 TO 85
NO. 4	25 TO 65
NO. 10	20 TO 50
NO. 50	5 TO 25
NO. 200	0 TO 10

3.2.2. CRUSHED CONCRETE BASE SHALL NOT CONTAIN PLASTIC SOILS SUCH THAT THE NO. 40 SIEVE MATERIAL SHALL BE NON–PLASTIC.

3.2.3. LIQUID LIMIT (AS DETERMINED BY AASHTO T80) (LESS THAN 25) PER MATERIAL TYPE

3.2.4. THE FINISHED IN–PLACE CRUSHED CONCRETE BASE LIMEROCK BEARING RATIO SHALL HAVE A MINIMUM (LBR) OF 150.

3.2.5. CRUSHED CONCRETE BASE SHALL BE FREE OF ALL MATERIALS THAT FALL UNDER THE CATEGORY OF SOLID WASTE OR HAZARD MATERIALS AS DEFINED BY THE STATE OR LOCAL JURISDICTION AND SHALL MEET ALL DEP PERMIT REQUIREMENTS WHICH PERTAIN TO CONSTRUCTION, DEMOLITION AND RECYCLING OF THESE MATERIALS. CRUSHED CONCRETE BASE SHALL BE ASBESTOS FREE. THE FOLLOWING LIMITS SHALL NOT BE EXCEEDED:

BITUMINOUS CONCRETE	1.0% BY WEIGHT
BRICKS	1.0% BY WEIGHT
WOOD & OTHER ORGANIC SUBSTANCES	0.5% BY WEIGHT
HEAVY METALS (EXCEPT LEAD)	0.1% BY WEIGHT
LEAD	5 PARTS PER MILLION
REINFORCED STEEL AND WELDED FABRIC	0.1% BY WEIGHT
PLASTER AND GYPSUM BOARD	0.1% BY WEIGHT

3.2.6. THE MATERIAL FOR CRUSHED CONCRETE BASE SHALL CONSIST ONLY OF CRUSHED CONCRETE PAVEMENT AND SUCH ADDITIVE MATERIAL AS MAY BE APPROVED BY THE COUNTY ENGINEER FOR THE PURPOSE OF FACILITATING CONSTRUCTION AND ACHIEVING THE DESIRED CHARACTERISTICS OF THE FINISHED IN–PLACED PRODUCT. APPROVAL FROM THE COUNTY ENGINEER IS REQUIRED BEFORE PLACING MATERIAL FROM MORE THAN ONE SOURCE. ONCE APPROVED, A CHANGE IN THE SOURCE OF BASE MATERIAL SHALL REQUIRE ADDITIONAL ACCEPTANCE TESTING. THE MATERIAL SHALL NOT CONTAIN LUMPS, BALLS OR POCKETS OF SAND OR CLAY MATERIAL IN SIZE OR QUANTITY SUFFICIENT TO BE DETRIMENTAL TO THE PROPER BONDING, FINISHING, STRENGTH OF THE CONCRETE BASE. EXISTING BASE IS TO BE REMOVED TO CONSTRUCT THE NEW BASE.

3.3. EQUIPMENT, PLACEMENT AND SPREADING OF MATERIAL

3.3.1. USE MECHANICAL ROCK SPREADERS, EQUIPPED WITH A DEVICE THAT STRIKES OFF THE ROCK UNIFORMLY TO LAYING THICKNESS AND CAPABLE OF PRODUCING EVEN DISTRIBUTION. FOR ROADWAY WIDTHS OF 20 FEET OR LESS, CROSSOVERS, INTERSECTIONS, RAMP AREAS OR WHERE THE USE OF A MECHANICAL SPREADER IS NOT PRACTICABLE; THE CONTRACTOR MAY SPREAD THE CRUSHED CONCRETE BASE USING BULLDOZERS OR BLADE GRADERS.

3.3.2. TRANSPORT CRUSHED CONCRETE TO THE POINT OF USE, OVER THE BASE PREVIOUSLY PLACED, AND DUMP IT ON THE END OF THE PRECEDING SPREAD. HAULING ON SUBGRADE TO DUMP CRUSHED CONCRETE BASE WILL BE PERMITTED ONLY WHEN, IN THE ENGINEER'S OPINION, THESE OPERATIONS WILL NOT BE DETRIMENTAL TO THE BASE AND SUBGRADE.

3.3.3. CRUSHED CONCRETE SHALL BE SPREAD UNIFORMLY WITHOUT SEGREGATION OF FINE OR COURSE MATERIALS. SEGREGATED AREAS SHALL BE REPLACED WITH PROPERLY GRADED CRUSHED CONCRETE AFTER REMOVAL.

3.3.4. THE MINIMUM THICKNESS OF THE CRUSHED CONCRETE BASE SHALL BE INDICATED ON THE PLANS. WHEN THE SPECIFIED COMPACTED THICKNESS OF THE CRUSHED CONCRETE BASE IS GREATER THAN SIX INCHES, CONSTRUCT THE BASE IN MULTIPLE COURSES OF EQUAL THICKNESS. INDIVIDUAL COURSES SHALL NOT BE LESS THAN THREE INCHES. PLACE CRUSHED CONCRETE MATERIAL TO ENSURE THE TOTAL THICKNESS SINGLE SOURCE INTEGRITY AT ANY STATION LOCATION OF THE BASE.

3.4. COMPACTING, FINISHING AND TESTING REQUIREMENTS

3.4.1. AFTER SPREADING IS COMPLETED THE CRUSHED CONCRETE SHALL BE UNIFORMLY COMPACTED, WITH WATER BEING ADDED AS REQUIRED TO A DENSITY OF NOT LESS THAN ONE HUNDRED PERCENT (100%) OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T–180. DURING FINAL COMPACTION OPERATIONS, IF THE BLADING OF ANY AREAS IS NECESSARY TO OBTAIN THE TRUE GRADE AND CROSS SECTION, FREE OF SCABS AND LAMINATIONS, THE COMPACTING OPERATIONS FOR SUCH AREAS SHALL BE COMPLETED PRIOR TO THE PERFORMANCE OF DENSITY TESTS ON THE FINISHED BASE.

3.4.2. MULTIPLE COURSE BASE: CLEAN THE FIRST COURSE OF FOREIGN MATERIAL, THEN BLADE AND BRING IT TO A SURFACE CROSS–SECTION APPROXIMATELY PARALLEL TO THE FINISHED BASE. BEFORE SPREADING ANY MATERIAL FOR THE UPPER COURSES, OBTAIN DENSITY TESTS FOR THE LOWER COURSES TO DETERMINE THAT THE REQUIRED COMPACTION [NOT LESS THAN ONE HUNDRED PERCENT (100%) OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T–180 HAS BEEN OBTAINED. AFTER SPREADING THE CRUSHED CONCRETE FOR THE TOP COURSE, FINISH AND SHAPE ITS SURFACE TO PRODUCE THE REQUIRED GRADE AND CROSS–SECTION, FREE OF SCABS AND LAMINATIONS, AFTER COMPACTION.

3.4.3. THE MINIMUM DENSITY THAT WILL BE ACCEPTED AT ANY LOCATION OUTSIDE THE TRAVELED ROADWAY (SUCH AS INTERSECTIONS, CROSSOVERS, TURNOUTS, ETC.) SHALL BE 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T–180.

3.5. TESTING OF BASE COURSE

3.5.1. THE MINIMUM FREQUENCY OF SAMPLING AND TESTING OF CRUSHED CONCRETE MATERIAL, LAB DENSITY, FIELD DENSITY AND THICKNESS SHALL ADHERE TO THE FREQUENCY OF TESTING FOR LIMEROCK BASE IN THE MOST CURRENT EDITION OF "PASCO COUNTY ENGINEERING SERVICES DEPARTMENT TESTING SPECIFICATIONS FOR CONSTRUCTION OF ROADS, STORM DRAINAGE AND UTILITIES", ONE PLANT MIX DESIGN, ONE PLANT GRADATION TEST FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (AASHTO T–27) (FM1–T027) INCLUDING A PLASTICITY INDEX (FM–T090) (AASHTO T–90) FROM THE APPROVED SOURCE SHALL BE SUBMITTED AT ONE PER DAY OR CHANGE OF MATERIAL. ONE ROADWAY FIELD TEST FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C–136) SHALL BE SUBMITTED PER 500 FEET OF ROAD PER DAY PER MIX DESIGN; MINIMUM ONE PER ROAD.

3.5.2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING PERFORMED IN CONSTRUCTION WITH CONSTRUCTION OF THE BASE.

3.6. CORRECTION OF DEFECTS

3.6.1. ALL SEGREGATED AREAS OF FINE OR COURSE CRUSHED CONCRETE SHALL BE REMOVED AND REPLACED WITH PROPERLY GRADED RECLAIMED CONCRETE AGGREGATE BASE MATERIAL. ALL DEFECTS IN MATERIALS AND CONSTRUCTION SHALL BE CORRECTED BY THE CONTRACTOR, AT HIS EXPENSE, AND TO THE SATISFACTION OF THE COUNTY ENGINEER.

3.7. PRIMING AND MAINTENANCE

3.7.1. APPLY THE PRIME COAT ONLY WHEN THE BASE MEETS THE SPECIFIED DENSITY REQUIREMENTS AND WHEN THE MOISTURE CONTENT. AT THE TIME OF PRIMING, ENSURE THAT THE BASE IS FIRM, UNYIELDING AND IN SUCH CONDITION THAT NO UNDUE DISTORTION WILL OCCUR. MAINTAIN THE TRUE CROWN AND TEMPLATE, WITH NO RUTTING OR DISTORTION, WHILE APPLYING THE SURFACE COURSE.

3.8. PASCO COUNTY TESTING SPECIFICATIONS ON CRUSHED CONCRETE BASE

3.8.1. TESTS FOR BASE THICKNESS, AND DENSITY SHALL BE LOCATED NO MORE THAN THREE HUNDRED (300) FEET APART AND SHALL BE STAGGERED TO THE LEFT, RIGHT, AND ON THE CENTERLINE OF ROADWAY. THERE SHALL BE NO LESS THAN ONE (1) TEST PER STREET. BEARING VALUE, GRADATION AND FIELD TEST FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C–136) SHALL BE NO MORE THAN FIVE HUNDRED (500) FEET.

3.8.2. EXAMPLE: A SEVEN HUNDRED FEET ROAD WOULD REQUIRE TWO FIELD LBR AND GRADATION TESTS, THREE FIELD DENSITY AND THICKNESS TESTS ALONG WITH THE APPROPRIATE LAB TESTING.

4. SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH FDOT INDEX NO. 505, LATEST EDITION. EMBANKMENT FILLS OR NATURAL SANDS TO 24–INCHES BELOW THE BOTTOM OF THE PAVEMENT BASE (IF NO STABILIZED SUBGRADE), OR TO 24–INCHES BELOW THE BOTTOM OF STABILIZED SUBGRADE, SHALL BE SANDY SOILS (A–3 OR SP/SP–SM) WITH TYPICALLY 15% FINES OR LESS PASSING THE NO. 200 SIEVE.
5. A TYPE "B" STABILIZED SUBGRADE WITH A MINIMUM LBR OF 40 AND TESTED AT A FREQUENCY REQUIRED BY FDOT IS REQUIRED BENEATH CRUSHED CONCRETE BASE COURSES.
6. SUBGRADE UNDER A CRUSHED CONCRETE BASE SHALL BE PROOF–ROLLED TO GRADE, AS DIRECTED AND APPROVED BY THE ENGINEER WITH SUITABLE COMPACTION EQUIPMENT TO ACHIEVE A MINIMUM DENSITY OF NINETY–EIGHT (98) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T–180 FOR A MINIMUM DEPTH OF TWELVE (12) INCHES.
7. THE SUBGRADE SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF ANY BASE MATERIAL.
8. THE BASE COURSE SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF ANY ASPHALT MATERIAL.
9. CRUSHED CONCRETE SURFACE SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO ANY PAVING OPERATION.
10. ALL CURBS AND GUTTERS SHALL BE PLACED ON A FOUNDATION OF TYPE "B" STABILIZED SUBGRADE WITH A MINIMUM LBR OF 40 AND WHICH HAS BEEN COMPACTED TO A MINIMUM DENSITY OF NINETY–EIGHT (98) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY AASHTO T 180 FOR A MINIMUM DEPTH OF TWELVE (12) INCHES.
11. ROADWAY UNDERDRAIN HAS BEEN LOCATED ON THESE PLANS TO MEET THE MINIMUM STANDARDS OF PASCO COUNTY.PRIOR TO CURB CONSTRUCTION, THE GEOTECHNICAL ENGINEER SHALL REVIEW THE PREDESIGN BORINGS AND, ALONG WITH THEIR FIELD INSPECTION, MAKE A RECOMMENDATION REGARDING ADDITIONAL UNDERDRAIN REQUIREMENTS.
12. SHOULD NO UNDERDRAIN BE SPECIFIED ON THE PLANS THE CONTRACTOR IS TO INCLUDE 1,000 LINEAR FEET OF UNDERDRAIN AT UNIT PRICES FOR BID PURPOSES.
13. ALL PORTLAND CEMENT CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 P.S.I. UNLESS OTHERWISE SPECIFIED.

DATE	DESCRIPTION	BY
06–15–15	SHOW FUTURE LANES PER COUNTY COMMENTS	MS
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813–223–3919 Fax: 813–223–3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

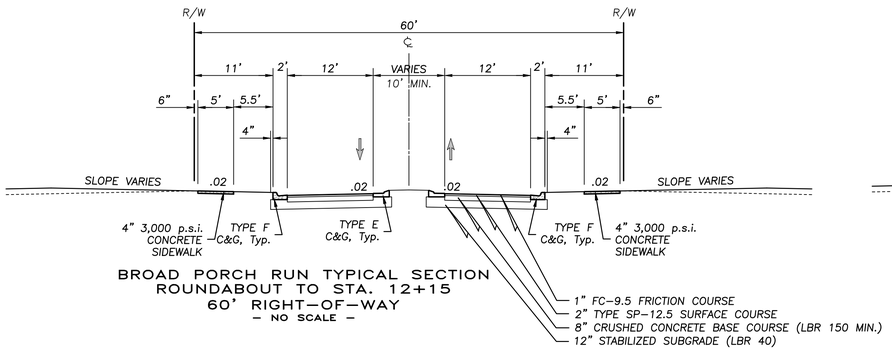
TYPICAL ROADWAY SECTIONS

JOB NO.	NLC–BX–026
DESIGN	MS
DRAWN	MS
DATE	12/01/14
FILE	RS–TOWER

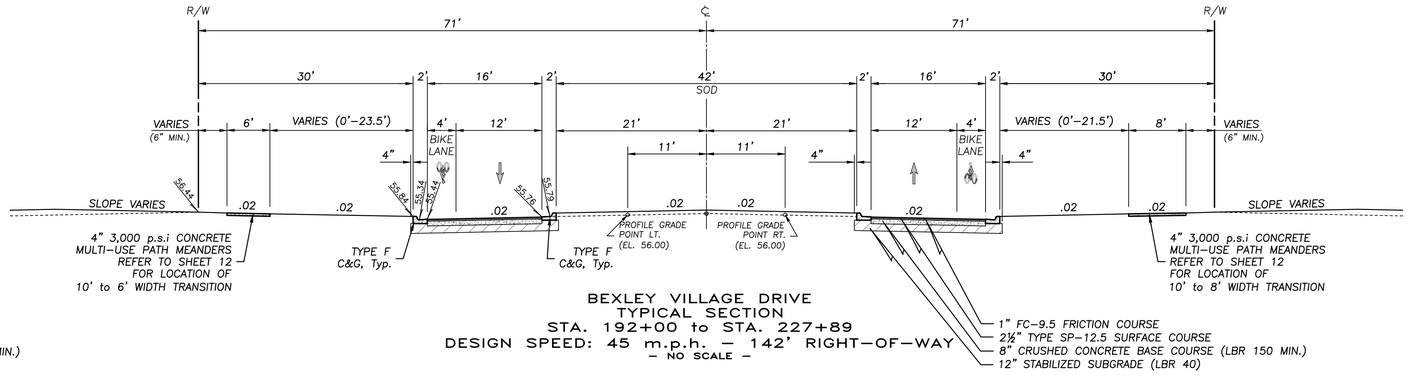
TOWER ROAD – BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: NNP-BEXLEY, LLC

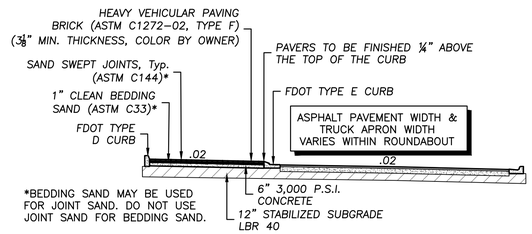
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



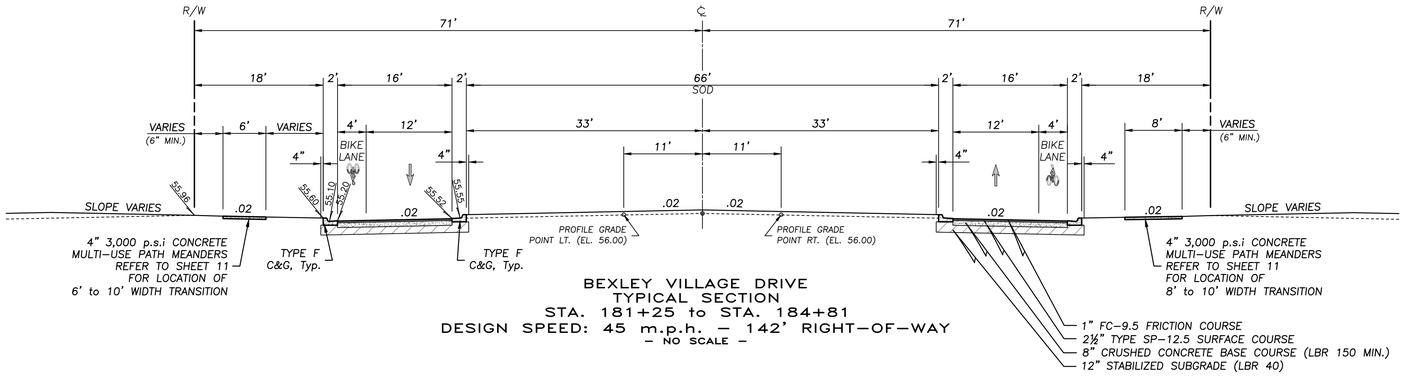
BROAD PORCH RUN TYPICAL SECTION
ROUNDABOUT TO STA. 12+15
60' RIGHT-OF-WAY
- NO SCALE -



BEXLEY VILLAGE DRIVE
TYPICAL SECTION
STA. 192+00 to STA. 227+89
DESIGN SPEED: 45 m.p.h. - 142' RIGHT-OF-WAY
- NO SCALE -



TRUCK APRON AT ROUNDABOUT
- NO SCALE -

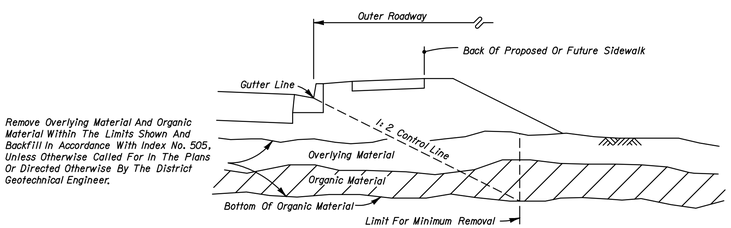


BEXLEY VILLAGE DRIVE
TYPICAL SECTION
STA. 181+25 to STA. 184+81
DESIGN SPEED: 45 m.p.h. - 142' RIGHT-OF-WAY
- NO SCALE -

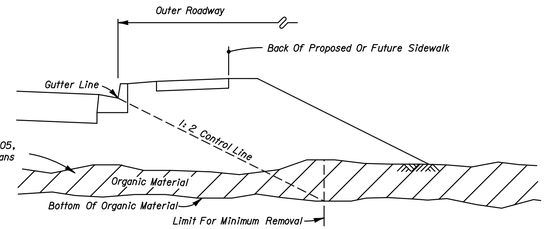
GENERAL NOTES

1. All details shown on this index for removal of organic and plastic materials apply unless otherwise shown on the plans.
2. Utilization of excavated materials shall be in accordance with Index No. 505.
3. Where organic or plastic material is undercut, backfill shall be made of suitable material in accordance with Index No. 505, unless otherwise shown on the plans.
4. The term "Plastic Material" used in this index in conjunction with removal of plastic soil is as defined under soil classifications for Plastic (P) and High Plastic (H) on Index No. 505.
5. The term "Organic Material" as used on this index is defined as any soil which has an average organic content greater than five (5.0) percent, or an individual organic content test result which exceeds seven (7.0) percent. Organic material shall be removed as shown on this index and the plans unless directed otherwise by the District Geotechnical Engineer.

   Average organic content shall be determined from the test results from a minimum of three randomly selected samples from each stratum. Tests shall be performed in accordance with AASHTO T 267 on the portion of a sample passing the No. 4 sieve.



WITH OVERBURDEN - HALF SECTION

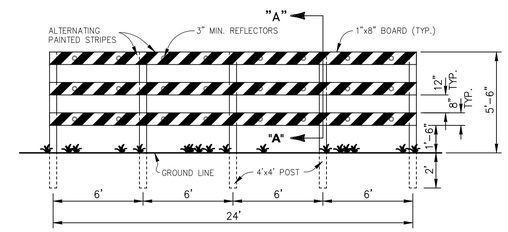


WITHOUT OVERBURDEN - HALF SECTION

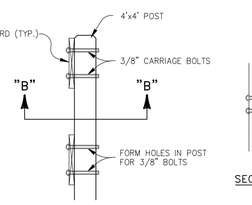
At locations where organic material or other soft soil deposits persists to such depth that removal is impractical, the construction of a geosynthetic foundation over those soils will be considered. The Engineer of Record will request guidance from the Geotechnical Engineer and make a geosynthetic foundation design in accordance with Index No. 501 when pursuing geosynthetic alternates.

IN URBAN CONSTRUCTION

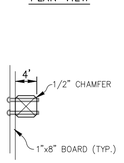
REMOVAL OF ORGANIC MATERIAL



PLAN VIEW

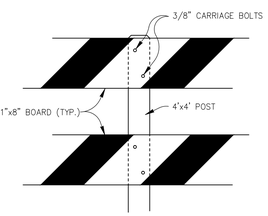


SECTION "A-A"



SECTION "B-B"

DEAD END BARRICADE



BOLT LOCATION

DATE	DESCRIPTION	BY
06-15-15	ADD DEAD-DEND BARRICADE	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

TYPICAL ROADWAY SECTIONS

JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN MS	
DRAWN MS	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE RS-TOWER	SHEET 4 OF 52 SHEETS

REFER TO BEXLEY SOUTH PARCEL 4 PHASE 1 CONSTRUCTION PLANS BY CLEARVIEW LAND DESIGN FOR POND CONSTRUCTION DETAILS

USE INSET

STA. 75+00.00
BEGIN CONSTRUCTION
TOWER ROAD

STA. 192+25
END CONSTRUCTION
BEXLEY VILLAGE DRIVE

SECTION 24
SECTION 19

1385

1390

SUNCOAST PARKWAY
STATE ROAD NO. 589
LIMITED ACCESS RIGHT-OF-WAY WIDTH VARIES

200' FUTURE R/W DEDICATION

19-2
Cat III

SWFWL

19-3
Category III

NNP-BEXLEY, LLC

SANDY BRANCH

TRAIL CONSTRUCTION PROPOSED WITH BEXLEY SOUTH, PARCEL 4 PLANS BY CLEARVIEW LAND DESIGN, P.L.

19-1
Category I

NNP-BEXLEY, LLC

25' FUTURE R/W DEDICATION

NNP-BEXLEY, LLC
POND B

17-1
Category III

SECTION 19
SECTION 20

WETLAND 17-1A

17-1A
Category II

TP19-1A

DRIVE

FP17-1E
POTENTIAL 30'x10'
BUS SHELTER
LOCATION

R/W LINE

N.70°23'44"E.
3003.26'

VILLAGE

BEXLEY SOUTH
PARCEL 3 PHASE 1

SUNCOAST POINTE

SALEM
RADIO
PROPERTIES

TOWER ROAD
CENTERLINE OF CONSTRUCTION

PCU BASELINE OF CONSTRUCTION

TBW BASELINE OF CONSTRUCTION

SWFWMD
PROJECT
LIMITS
34.6 Ac.±

BLANCO

1380

BEXLEY

NNP-BEXLEY, LLC

STA. 181+25.00
BEGIN CONSTRUCTION
BEXLEY VILLAGE DRIVE

400 200 0 200 400

SCALE: 1" = 200'

TOWER ROAD

17-35
Category III
W17-35

20-7

20-9

POND EE

20-11

SECTION 17
SECTION 20

STA. 112+66.45
POINT OF DEFLECTION

STA. 11+35.00
END CONSTRUCTION
BALLANTRAE BLVD.

POND CC

DIVERT

FUTURE SCHOOL SITE
TEMPORARY

NNP-BEXLEY, LLC

STA. 135+75.00
END CONSTRUCTION
TOWER ROAD

17-17
Category II

POND FF

17-19

17-1A
Category II

POND Y

20-3
Cat II

20-5
Cat II

FP17-1F

FP20-3C

20-13

FP17-24B

17-23
Cat II

R/W LINE

N.72°53'07"E.
2763.20'

N.72°52'10"E.
933.15'

N.70°23'44"E.
1714.92'

TOWER ROAD

TOWER ROAD
CENTERLINE OF CONSTRUCTION

PCU BASELINE OF CONSTRUCTION

TBW BASELINE OF CONSTRUCTION

SALEM
RADIO
PROPERTIES

SALEM RADIO
PROPERTIES, INC.

SWFWMD
PROJECT
LIMITS
34.6 Ac.±

POTENTIAL
30'x10'
BUS SHELTER
LOCATION

POTENTIAL
30'x10'
BUS SHELTER
LOCATION

BALLANTRAE
VILLAGE 6
P.B. 53 PG. 1

BALLANTRAE
BOULEVARD

STA. 121+99.60
P.C.

STA. 124+45.61
P.T.

BALLANTRAE
VILLAGE 5
P.B. 52 PG. 30

CURVE 5 DATA
PI STA. = 123+22.62
Δ = 02°28'26"
D = 01°00'20"
T = 123.02
L = 246.01
R = 5697.58
LC = 245.99
CB = N.71°37'57"E.
PC STA. = 121+99.60
PT STA. = 124+45.61

STA. 7+42.83
BEGIN CONSTRUCTION
BALLANTRAE BLVD.

1405

1400

SUNCOAST PARKWAY
STATE ROAD NO. 589
LIMITED ACCESS RIGHT-OF-WAY WIDTH VARIES

200' FUTURE R/W DEDICATION

1395

19-2
Cat III

INSET
1=200'

TOWER ROAD RIGHT-OF-WAY SHALL BE PROVIDED VIA PLAT WITH BEXLEY SOUTH PARCEL 4 PHASE 1. SEE BEXLEY SOUTH PARCEL 4 PHASE 1 PLANS PREPARED BY CLEARVIEW LAND DESIGN. FUTURE TOWER ROAD RIGHT-OF-WAY WEST OF APPROXIMATELY STA 75+00 SHALL BE PROVIDED VIA FUTURE DEED.

LEGEND

EXISTING	PROPOSED			
----□----	—■—	STORM DRAINAGE STRUCTURE	SWFWL	SWFWMD WETLAND LINE
(10)	(10)	STRUCTURE NO.	25'OS	25' OFFSET FROM SWFWMD WETLAND LINE SHOWN FOR INFORMATIONAL PURPOSES
+15.00	ø15.00 OR 15x00	SPOT ELEVATION	1	WETLAND IDENTIFICATION
15	15.00	CONTOUR	00	PLAN & PROFILE SHEET NO.
		DIRECTION OF SURFACE FLOW		STAKED EROSION CONTROL (REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WETLAND)
	AB#	SOIL BORING LOCATION		

DATE	DESCRIPTION	BY
06-15-15	SHOW FUTURE R/W DEDICATION	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

PRELIMINARY SITE PLAN

JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN SMIRCH	
DRAWN SMIRCH	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE PSPKEY-TOWER	SHEET 5 OF 52 SHEETS

DESCRIPTION: A parcel of land lying in Sections 7, 8, 16, 17, 18, 19, and 20, Township 26 South, Range 18 East, Pasco County, Florida, and being more particularly described as follows:

Commence at the Southwest corner of said Section 16, said point also lying on the Easterly boundary of BALLANTRAE VILLAGE 5, according to the plat thereof as recorded in Plat Book 52, Pages 30 through 49, inclusive, of the Public Records of Pasco County, Florida; thence along the West boundary of said Section 16, also being said Easterly boundary of BALLANTRAE VILLAGE 5, N.00°22'14"E., 478.45 feet to a point on the Southerly right-of-way boundary of former Seaboard Coast Line Railroad, now abandoned, said point also being the Northeasterly corner of said BALLANTRAE VILLAGE 5 for a POINT OF BEGINNING; thence along said Southerly right-of-way boundary, and the Northerly boundary of said BALLANTRAE VILLAGE 5, and also the Northerly boundary of BALLANTRAE VILLAGE 6, according to the plat thereof as recorded in Plat Book 53, Pages 1 through 10, inclusive, of the Public Records of Pasco County, Florida, the following three (3) courses: 1) S.70°23'44"W., 1615.67 feet to a point on a curve; 2) Westerly, 250.36 feet along the arc of a curve to the right having a radius of 5789.58 feet and a central angle of 02°28'40" (chord bearing S.71°37'21"W., 250.34 feet); 3) S.72°52'10"W., 931.40 feet to a point on the East boundary of the Northwest 1/4 of the aforesaid Section 20, said point also being the Northwesterly corner of said BALLANTRAE VILLAGE 6; thence along said East boundary of the Northwest 1/4 of Section 20, N.00°28'06"E., 125.88 feet to a point on the Northerly right-of-way boundary of said former Seaboard Coast Line Railroad; thence along said Northerly boundary, S.72°53'07"W., 1930.40 feet; thence S.00°28'06"W., 92.31 feet; thence along a line lying 32.00 feet North of and parallel with the aforesaid Southerly right-of-way boundary of former Seaboard Coast Line Railroad, also being the Northerly boundary of SUNCOAST POINTE VILLAGES 2A, 2B, AND 3, according to the plat thereof as recorded in Plat Book 59, Pages 31 through 38, inclusive, of the Public Records of Pasco County, Florida, S.72°53'07"W., 835.32 feet to a point on the East boundary of the aforesaid Section 19; thence along said East boundary of Section 19, S.00°36'22"W., 33.59 feet to a point on the aforesaid Southerly right-of-way boundary of former Seaboard Coast Line Railroad, said point also being the Northwesterly corner of the aforesaid SUNCOAST POINTE VILLAGES 2A, 2B, AND 3; thence along said Southerly right-of-way boundary, the following two (2) courses: 1) S.72°53'41"W., 3020.39 feet; 2) S.72°51'13"W., 1346.12 feet to a point on the Easterly Limited Access Right-of-way line of STATE ROAD No. 589, per Florida Department of Transportation Right-of-way Section Map No. 97140.2301; thence along said Easterly Limited Access Right-of-way line, the following eleven (11) courses: 1) N.05°43'13"W., 4778.57 feet; 2) N.55°28'08"E., 456.51 feet; 3) N.09°17'48"W., 320.63 feet; 4) S.81°16'01"W., 380.53 feet; 5) N.05°43'13"W., 853.80 feet to a point of curvature; 6) Northerly, 2325.72 feet along the arc of a curve to the right having a radius of 22718.31 feet and a central angle of 05°51'56" (chord bearing N.02°47'15"W., 2324.71 feet); 7) N.76°53'33"E., 637.42 feet; 8) N.15°31'45"W., 218.40 feet; 9) N.76°25'34"W., 395.38 feet; 10) N.89°35'01"W., 175.00 feet; 11) thence N.00°24'59"E., 1192.32 feet; thence S.88°40'01"E., 196.65 feet; thence S.73°49'03"E., 622.74 feet; thence N.44°48'56"E., 713.35 feet; thence N.74°08'31"E., 657.14 feet; thence S.57°19'45"E., 2782.99 feet; thence S.67°16'01"E., 49.78 feet; thence S.57°16'07"E., 345.93 feet; thence S.42°32'02"E., 43.51 feet; thence S.03°22'19"E., 44.79 feet; thence S.00°48'37"E., 117.72 feet; thence S.07°20'00"W., 146.77 feet; thence S.09°30'27"W., 101.90 feet; thence S.18°23'48"W., 114.14 feet; thence S.10°18'11"W., 68.14 feet; thence S.23°15'32"W., 40.02 feet; thence S.32°04'18"W., 280.55 feet; thence S.25°15'33"W., 108.90 feet; thence S.06°57'47"W., 46.15 feet; thence S.30°07'14"W., 54.22 feet; thence S.37°51'28"W., 131.22 feet; thence S.32°40'09"E., 30.49 feet; thence S.81°20'11"E., 183.95 feet; thence N.85°39'10"E., 201.94 feet; thence S.51°09'22"E., 151.30 feet; thence S.32°26'31"E., 63.29 feet; thence S.41°00'19"E., 116.85 feet; thence S.20°10'27"E., 173.06 feet; thence S.30°35'06"E., 139.99 feet; thence S.03°09'51"W., 60.66 feet; thence S.33°13'59"W., 47.84 feet; thence S.44°27'12"W., 205.30 feet; thence S.62°20'15"W., 119.37 feet; thence S.24°21'36"W., 116.67 feet; thence S.53°04'07"E., 23.44 feet; thence S.16°43'53"E., 27.50 feet; thence S.11°10'38"W., 166.35 feet; thence S.28°14'39"E., 76.75 feet; thence N.77°42'21"E., 173.29 feet; thence N.83°28'38"E., 82.31 feet; thence S.65°42'30"E., 47.98 feet; thence S.50°34'07"E., 25.41 feet; thence S.37°25'04"E., 131.85 feet; thence S.65°37'57"E., 102.87 feet; thence S.50°14'12"E., 172.32 feet; thence S.41°23'23"E., 71.50 feet; thence S.30°24'59"E., 81.66 feet; thence S.23°05'40"E., 106.16 feet; thence S.22°14'36"E., 140.20 feet; thence S.03°30'59"W., 210.78 feet; thence S.16°11'39"W., 117.17 feet; thence S.29°12'43"E., 156.80 feet; thence S.85°46'57"E., 228.04 feet; thence N.23°06'56"E., 28.48 feet; thence N.21°07'53"E., 68.97 feet; thence N.00°17'27"W., 64.22 feet; thence N.25°59'58"E., 165.66 feet; thence N.33°22'46"E., 110.60 feet; thence S.53°04'07"E., 16.65 feet; thence N.59°46'44"E., 34.51 feet; thence S.05°06'40"W., 117.20 feet; thence S.09°19'13"E., 48.40 feet; thence S.59°37'03"E., 126.59 feet; thence S.80°17'56"E., 107.85 feet; thence S.77°47'53"E., 39.75 feet; thence N.64°19'52"E., 2063.22 feet; thence S.83°00'00"E., 289.00 feet; thence S.41°55'23"E., 310.04 feet; thence S.25°26'48"E., 307.61 feet; thence S.57°39'51"E., 611.84 feet; thence S.17°11'08"E., 316.90 feet; thence S.62°09'11"E., 263.19 feet; thence S.34°45'30"E., 229.37 feet; thence S.58°00'00"E., 116.91 feet; thence S.29°57'38"E., 135.61 feet; thence S.57°13'09"E., 372.00 feet; thence N.89°22'39"E., 121.08 feet; thence S.57°44'23"E., 58.74 feet; thence N.87°03'04"E., 115.37 feet; thence N.52°32'26"E., 47.71 feet; thence N.75°58'19"E., 201.38 feet; thence N.85°55'00"E., 99.82 feet; thence S.62°32'20"E., 99.69 feet; thence S.43°44'13"E., 269.36 feet; thence S.34°20'54"E., 165.88 feet; thence S.68°33'22"E., 33.26 feet; thence S.33°38'57"W., 253.66 feet; thence S.78°49'29"W., 195.11 feet; thence S.00°43'00"W., 177.97 feet; thence S.40°19'11"E., 459.58 feet; thence S.70°23'38"W., 1022.78 feet to the West boundary of the aforesaid Section 16; thence S.00°22'14"W., 119.17 feet to the POINT OF BEGINNING.

Containing 1431.258 acres, more or less.

PRELIMINARY DEVELOPMENT PLAN NOTES:

1. Owner/Developer: NNP-Bexley, LLC
   777 S. Harbour Island Boulevard, Suite 320
   Tampa, FL. 33602
   (813) 620-3555
2. Engineer: Clearview Land Design, P.L.
   1213 E. 6th Ave.
   Tampa, Florida 33605
   (813) 223-3919
3. Surveyor: GeoPoint Surveying, Inc.
   1403 E. 5th Ave.
   Tampa, Florida 33605
   (813) 248-8888
4. Existing Zoning: Bexley South MPUD Petition No. 7109 (BOCC Approved 04-21-2015)
5. Existing Land Use: Vacant/Agricultural
6. Future Land Use Classification: PD
7. ~~Water service to be provided by Pasco County Utilities.~~
8. Sewage disposal service to be provided by Pasco County Utilities.
9. Electrical power to be provided by Duke Energy.
10. Telephone service to be provided by Verizon & Brighthouse.
11. Street lighting to be provided by Duke Engergy.
12. Fire protection to be provided by the existing Pasco County Fire Station No. 37. located on SR 54 approximately 1.5 miles from the project entrance. Fire Hydrants will be provided on-site.
13. The uplands are pasture. The wetlands are cypress heads and grass marshes.
14. Predominant soil types on-site consist of Pineda, Myakka, Sellers and Eaugallie Fine Sands.
15. Recreation areas, conservation areas, and detention ponds will be owned and maintained by the CDD unless otherwise noted.
16. Detention ponds to be within tracts dedicated to the Community Development District for maintenance unless otherwise noted.
17. Contours shown are based on North American Vertical Datum (NAVD88).
18. Proposed rights-of-way for local streets shall be a minimum of fifty (50) feet.
19. All roadway standards to comply with the Manual of Uniform Minimum Standards, State of Florida.
20. All water and wastewater facilities to be installed in compliance with Pasco County Standards for design and construction of water and wastewater facilities.
21. All utility lines shall be installed underground.
22. The site appears to lie within Flood Zone "A" "AE" & "X" according to Federal Emergency Management Agency (FEMA) – Flood Insurance Rate Map (FIRM) Community-Panel No. 120230 0381 F (Map Number 12101C0381F), 120230 0382 F (Map Number 12101C0382F), 120230 0383 F (Map Number 12101C0383F), and 120230 0384 F (Map Number 12101C0384F) effective September 26, 2014. Flood Zone determination based on DFIRM data supplied by FEMA NFIP. Base Flood Elevation varies; refer to Neighborhood Grading Plan.
23. A minimum of 16" of sod strip will be provided along all roadways per Pasco County requirements.
24. Setbacks from post-developed wetlands shall be as follows: 25-foot minimum around all Category I Wetlands; Buffers around Category II and Category III Wetlands shall be as required by SWFWMD. Allowable uses and restrictions for buffers shall be in accordance with Section 805 of the Pasco County Land Development Code.
25. Sidewalks will be provided on both sides of all roads including non-lot areas. Unless otherwise shown, all sidewalks shall be five (5) feet wide, 4" thick concrete, and 3000 p.s.i., fiber-reinforced. Sidewalks shall be constructed on a compacted non-yielding subgrade, and 6" in thickness is required where sidewalk is crossed by a driveway.
26. Buffering for all retention/detention areas along road right-of-ways to have trees selected from tree list at the rate of one tree per 50 L.F.
27. All landscape and sodded areas along collector road will be irrigated and maintained by the CDD or an entity other than Pasco County.
28. This project will comply with the Pasco County Tree Protection and Restoration Ordinance.
29. All construction work, including road, drainage and utilities, shall be constructed in accordance with Pasco County design standards and tested in compliance with the Pasco County Engineering Service Department Testing Specifications for construction of roads, storm drainage and utilities.
30. If, during construction activities, any evidence of historic resources, including but not limited to aboriginal or historic pottery, prehistoric stone tools, bone or shell tools, historic trash pits, or historic building foundations are discovered, work shall stop immediately, and the Florida Department of Historic Resources (State Historic Preservation Officer) and Pasco County shall be notified within two (2) working days of the resources being found at the site.
31. In the event that unmarked human remains are encountered during permitted activities, all work must stop immediately, and the proper authorities must be notified in accordance with Section 872.05, Florida Statutes.
32. All proposed signs must be applied for, approved, and permitted on an individual basis apart from any ultimately-approved site plan. Approval of this site plan does not constitute approval of any signage.
33. All clear-site areas shall be kept free of any signage plantings, trees, etc. in excess of three-and-a-half (3-1/2) feet in height.
34. No irrigation system or landscaping shall be installed in any County or State right-of-way without issuance of appropriate Right-of-way Use Permit.
35. Fugitive dust emissions shall be controlled by sprinkling as necessary.
36. On-site burning shall not be employed without approval from the Fire Marshall.
37. The soil erosion and sediment control devices shall be installed prior to construction, maintained throughout construction and until the site is permanently stabilized.
38. All driveway cuts shall be installed to local streets.
39. The CDD will be responsible for maintenance of the underdrain system.
40. Maintenance of sidewalk shall be the responsibility of the CDD or an entity other than Pasco County.
41. Drainage tracts/easements shall be conveyed to the CDD by plat. The easements will be required to be given to Pasco County, for the right but not the obligation to maintain. Maintenance responsibility will be that of the CDD.
42. In consideration of Pasco County's agreement to provide potable water and/or reclaimed water to the subject property, Developer/Owner, and its successors and assigns, agree to the following:
    (a) In the event of Production Failure or Shortfall by Tampa Bay Water, as set forth in section 3.19 of the Interlocal Agreement creating Tampa Bay Water, Developer/Owner shall transfer to Pasco County any and all water use permits or water use rights the Developer/Owner may have to use or consume surface or ground water within Pasco County.
    (b) Prior to Developer/Owner selling water or water use permits or water use rights, Developer/Owner shall notify Pasco County, and Pasco County shall have a right of first refusal to purchase such water or water use permits or water use rights.
43. The Developer will grant, convey, warrant and dedicate to the County via plat a Non-Exclusive Flow through Easement and reasonable right of access to ensure the free flow of water for general public drainage purposes over, through and under all drainage easements/areas or commonly owned property shown on this plat. In the event the Owner, the District or the Association fails to properly maintain any public or private drainage easements/areas preventing the free flow of water, the County shall have the reasonable right, but not the obligation, to access and enter upon any public or private drainage easement/area for the purpose of performing maintenance to ensure the free flow of water.
44. As applicable, the Owner/Developer will provide copies of the required permits from the respective agencies prior to the issuance of the SDP.
45. All work within the County ROW will require a ROW Use Permit.
46. Standard Fire Protection Notes:
    a. All projects must comply with Pasco County Fire Hydrant Ordinance No. 46-51.
    b. Fire hydrants shall be installed and in service prior to the accumulation of combustibles.
    c. Per the National Fire Protection Association, NFPA-1, 16.4.3.1.3: Where underground water mains and hydrants are to be provided, they shall be installed, completed, and in service prior to construction work.
    d. Per NFPA-1, 18.3.4.1: Clearances of 7 1/2 feet in front of and to the sides of the fire hydrant with a 4-foot clearance to the rear must be maintained at all times.
    e. Gated entries require a Siren Operating System or a 3M Opticom system for emergency access.

DATE	DESCRIPTION	BY
06-15-15	REVISE NOTE 30 PER COUNTY COMMENTS	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

PRELIMINARY SITE PLAN

JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN SMIRCH	
DRAWN SMIRCH	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE PSPKEY-TOWER	SHEET 6 OF 52 SHEETS

REFER TO BEXLEY SOUTH PARCEL 4 PHASE 1 CONSTRUCTION PLANS BY CLEARVIEW LAND DESIGN FOR POND CONSTRUCTION DETAILS

STA. 75+00.00 BEGIN CONSTRUCTION TOWER ROAD

STA. 11+23 END CONSTRUCTION BROAD PORCH RUN

STA. 192+25 END CONSTRUCTION BEXLEY VILLAGE DRIVE

SECTION 24 / SECTION 19

SUNCOAST PARKWAY STATE ROAD NO. 589 (LIMITED ACCESS RIGHT-OF-WAY WIDTH VARIES)

200' FUTURE R/W DEDICATION

19-2 Cat III

19-3 Category III

SEE TOWER ROAD UTILITY DETAILS, SHEET 23

MITIGATION AREA M-10 (FP19-1G) NW=47.2

SANDY BRANCH

POND D DHW100=51.3 DHW25=50.6 DNW=48.3

FP19-1D (NF539a) DHW100=48.6 DHW25=48.5 DNW=48.3

19-1 Category I

REFER TO SHARED USE PATH PLANS BY CLEARVIEW LAND DESIGN, P.L.

FP19-1A DHW100=50.0 DHW25=49.9 DNW=48.3

NNP-BEXLEY, LLC

POND B DHW100=50.6 DHW25=50.0 DNW=48.3

IMPACT 19-5 0.19 Ac.

17-1 Category III

WETLAND 17-1A DHW100=50.8 DHW25=50.0 DNW=48.3

IMPACT 17-1A 1.52 Ac.

17-1A Category II

FP17-1E DHW100=50.5 DHW25=50.2 DNW=48.3

DRIVE

R/W LINE

VILLAGE

TBW 1P

TBW 2P

TBW 3P

TBW 10R

TBW 4R

Local Benchmark 13 Found "X" cut on Top of Water Manhole with Elevation = 52.23'

SWFWMD PROJECT LIMITS 34.6 Ac.±

TOWER ROAD CENTERLINE OF CONSTRUCTION

PCU BASELINE OF CONSTRUCTION

TBW BASELINE OF CONSTRUCTION

BLANCO

BEXLEY SOUTH PARCEL 3 PHASE 1

SUNCOAST POINTE

IMPACT SW-D2 ADDRESSED UNDER ERP APPLICATION NO. 707582 (PARCEL 3, PHASE 1)

BEXLEY

STA. 181+25.00 BEGIN CONSTRUCTION BEXLEY VILLAGE DRIVE

TOWER ROAD

SCALE: 1" = 200'

TBW 2P / TBW 10R TAMPA BAY WATER CROSSING LOCATION

'R' DENOTES SECTION OF ABANDONED LINE PROPOSED FOR REMOVAL

'P' DENOTES SECTION OF ACTIVE LINE PROPOSED FOR SHOCKPAD PROTECTION

FUTURE SCHOOL SITE

17-23 Cat II

IMPACT 17-23 0.52 Ac.

STA. 135+75.00 END CONSTRUCTION TOWER ROAD

17-19

17-17 Category II

POND FF DHW100=58.7 DHW25=58.5 DNW=57.2

POND CC DHW100=57.1 DHW25=56.8 DNW=55.7

FP17-24A DHW100=58.7 DHW25=58.5 DNW=57.2

FP17-24B DHW100=56.9 DHW25=56.6 DNW=55.7

TBW 5P

TBW 6R

17-35 Category III

W17-35 DHW100=55.0 DHW25=54.5 DLW=52.5 DNW=52.3

SUMP E3

SUMP E2

20-7

20-9

20-11

20-13

POND EE DHW100=57.6 DHW25=56.8 DNW=54.7

SECTION 17 / SECTION 20

STA. 112+66.45 POINT OF DEFLECTION

STA. 12+50 END CONSTRUCTION BALLANTRAE BLVD.

20-3 Cat II

20-5 Cat II

FP20-3C DHW100=53.9 DHW25=53.8 DNW=52.2

FP17-3 DHW100=53.2 DHW25=53.1 DNW=51.1

POND Y DHW100=53.5 DHW25=53.0 DNW=51.1

IMPACT 20-5 1.10 Ac.

SWFWL

R/W LINE

TOWER ROAD

Local Benchmark 9 Found "X" cut on Top of Water Manhole with Elevation = 55.65'

TOWER ROAD CENTERLINE OF CONSTRUCTION

PCU BASELINE OF CONSTRUCTION

TBW BASELINE OF CONSTRUCTION

SALEM RADIO PROPERTIES, INC.

IMPACT SW-103 0.008 Ac.

SWFWMD PROJECT LIMITS 34.6 Ac.±

DITCH J7 0.06 Ac.

IMPACT S-17-J7 0.06Ac.

BALLANTRAE

BALLANTRAE BOULEVARD

STA. 124+45.61 P.T.

STA. 121+99.60 P.C.

CURVE 5 DATA
PI STA. = 123+22.62
Δ = 02°28'26"
D = 01°00'20"
T = 123.02
L = 246.01
R = 5697.58
LC = 245.99
CB = N.71°37'57"E.
PC STA. = 121+99.60
PT STA. = 124+45.61

STA. 7+06 BEGIN CONSTRUCTION BALLANTRAE BLVD.

NNP-BEXLEY, LLC

EXISTING DRAINAGE STRUCTURE DATA

T1 14"x23" RCP S. Inv. 47.8 N. Inv. El. 48.0	T5 14"x23" RCP S. Inv. 47.8 N. Inv. El. 47.8	T9 36" RCP S. Inv. 49.7 N. Inv. El. 49.6	T13 36" RCP S. Inv. 53.7 S. Inv. El. 53.5
T2 14"x23" RCP S. Inv. 47.6 N. Inv. El. 47.8	T6 14"x23" RCP S. Inv. 46.2 N. Inv. El. 46.0	T10 2'x6' C.B.C. E. Inv. 51.3 W. Inv. El. 51.5	T14 30" RCP S. Inv. 54.3 N. Inv. El. 53.7
T3 14"x23" RCP S. Inv. 47.8 N. Inv. El. 47.6	T7 14"x23" RCP S. Inv. 46.4 N. Inv. El. 46.5		T15 3-48" RCPs S. Inv. 44.52 N. Inv. 44.29 S. Inv. 44.04 N. Inv. 44.41 S. Inv. 44.19 N. Inv. 44.76
T4 14"x23" RCP S. Inv. 47.8 N. Inv. El. 47.8	T8 14"x23" RCP S. Inv. 47.6 N. Inv. El. 47.7		

Wetland Summary Table

Wetland ID	Acres On-Site	Impact ID	Impact Acreage
WCA 17-1A	1.08	17-1A	1.52*
WCA 17-23	0.43	17-23	0.52**
WCA 19-5	0.19	19-5	0.19
WCA 20-5	0.78	20-5	1.10***
DITCH J7	0.06	S-17-J7	0.06
SW-D2	0.07		****
SW-103	0.008	SW-103	0.008

* Includes 0.44-Ac. Parcel 4, Phase 1 Project Area (App. 709030)

** Includes 0.09-Ac. Parcel 4, Phase 1 Project Area (App. 709030)

*** Includes 0.32-Ac. Parcel 4, Phase 1 Project Area (App. 709030)

**** To be addressed with Parcel 3, Phase 1 Project Area (App. 707582)

LEGEND

EXISTING	PROPOSED	
		STORM DRAINAGE STRUCTURE
10	10	STRUCTURE NO.
+15.00 / -15	ø15.00 OR 15x00	SPOT ELEVATION
	15.00	CONTOUR
		DIRECTION OF SURFACE FLOW
AB#		SOIL BORING LOCATION
SWFWL		SWFWMD WETLAND LINE
25'OS		25' OFFSET FROM SWFWD WETLAND LINE SHOWN FOR INFORMATIONAL PURPOSES
4		WETLAND IDENTIFICATION
00		PLAN & PROFILE SHEET NO.
		STAKED EROSION CONTROL (REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WETLAND)

DATE	DESCRIPTION	BY
06-15-15	SHOW PAVEMENT PER COUNTY COMMENTS	MS
03-26-15	TBW CROSSING LOCATIONS	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

JOB NO. NLC-BX-026

DESIGN SMIRCH

DRAWN SMIRCH

DATE 12/01/14

FILE MD3-TOWER

DRAINAGE MAP

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: **NNP-BEXLEY, LLC**

Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

REFER TO BEXLEY SOUTH PARCEL 4 PHASE 1 CONSTRUCTION PLANS BY CLEARVIEW LAND DESIGN FOR POND CONSTRUCTION DETAILS

STA. 75+00.00 BEGIN CONSTRUCTION TOWER ROAD

STA. 11+23 END CONSTRUCTION BROAD PORCH RUN

STA. 192+25 END CONSTRUCTION BEXLEY VILLAGE DRIVE

STA. 135+75.00 END CONSTRUCTION TOWER ROAD

STA. 12+50.00 END CONSTRUCTION BALLANTRAE BLVD.

STA. 112+66.45 POINT OF DEFLECTION

STA. 181+25.00 BEGIN CONSTRUCTION BEXLEY VILLAGE DRIVE

STA. 7+06 BEGIN CONSTRUCTION BALLANTRAE BLVD.

STA. 124+45.61 P.T.

STA. 121+99.60 P.C.

TOWER ROAD

Local Benchmark 9
Found "X" cut on Top of Water Manhole with Elevation = 55.65'

TOWER ROAD CENTERLINE OF CONSTRUCTION

PCU BASELINE OF CONSTRUCTION

TBW BASELINE OF CONSTRUCTION

SWFWMD PROJECT LIMITS 34.6 Ac.±

IMPACT 19-5 0.19 Ac.

IMPACT 17-1A 1.52 Ac.

IMPACT 20-5 1.10 Ac.

IMPACT 17-23 0.52 Ac.

IMPACT SW-D2 ADDRESSED UNDER ERP APPLICATION NO. 707582 (PARCEL 3, PHASE 1)

IMPACT SW-103 0.008 Ac.

IMPACT S-17-U7 0.06 Ac.

BEXLEY SOUTH PARCEL 3 PHASE 1

SUNCOAST POINTE

SALEM RADIO PROPERTIES, INC.

BALLANTRAE

FUTURE SCHOOL SITE

BALLANTRAE BOULEVARD

POND B DHW100=50.6 DHW25=50.0 DNW=48.3

POND Y DHW100=53.5 DHW25=53.0 DNW=51.1

POND CC DHW100=57.1 DHW25=56.8 DNW=55.7

POND EE DHW100=57.6 DHW25=56.8 DNW=54.7

POND FF DHW100=59.0 DHW25=58.5 DNW=57.2

FP19-1A DHW100=50.0 DHW25=49.8 DNW=48.3

FP17-1E DHW100=50.5 DHW25=~~54.2~~ DNW=48.3

FP17-1F DHW100=53.2 DHW25=53.1 DNW=51.1

FP20-3C DHW100=53.9 DHW25=53.8 DNW=52.2

FP17-24B DHW100=56.9 DHW25=56.6 DNW=55.7

FP17-24A DHW100=58.7 DHW25=58.5 DNW=57.2

WETLAND 17-1A DHW100=50.8 DHW25=50.0 DNW=48.3

W17-35 DHW100=55.0 DHW25=54.5 DNW=52.5

SUMP E2

SUMP E3

17-1 Category III

19-1 Category I

17-1A Category II

17-23 Cat II

20-3 Cat II

20-5 Cat II

SECTION 19

SECTION 20

SECTION 17

SWFWL

R/W LINE

R/W

N.72°53'41"E. 5003.26'

N.72°23'07"E. 2163.20'

N.72°52'10"E. 933.15'

N.70°23'44"E. 1714.97'

CURVE 5 DATA
PI STA. = 123+22.62
Δ = 02°28'26"
D = 01°00'20"
T = 123.02
L = 246.01
R = 5697.58
LC = 245.99
CB = N.71°37'57"E.
PC STA. = 121+99.60
PT STA. = 124+45.61

EXISTING DRAINAGE STRUCTURE DATA

T1 14"x23" RCP S. Inv. 47.8 N. Inv. El. 48.0
T2 14"x23" RCP S. Inv. 47.6 N. Inv. El. 47.8
T3 14"x23" RCP S. Inv. 47.8 N. Inv. El. 47.6
T4 14"x23" RCP S. Inv. 47.8 N. Inv. El. 47.8
T5 14"x23" RCP S. Inv. 47.8 N. Inv. El. 47.8
T6 14"x23" RCP S. Inv. 46.2 N. Inv. El. 46.0
T7 14"x23" RCP S. Inv. 46.4 N. Inv. El. 46.5
T8 14"x23" RCP S. Inv. 47.6 N. Inv. El. 47.7
T9 36" RCP S. Inv. 49.7 N. Inv. El. 49.6
T19 2'x6' C.B.C. E. Inv. 51.3 W. Inv. El. 51.5
T13 36" RCP S. Inv. 53.7 N. Inv. El. 53.5
T14 30" RCP S. Inv. 54.3 N. Inv. El. 53.7

1"=200'

TOWER ROAD

SCALE: 1" = 5' VERTICAL
1" = 200' HORIZONTAL

STA. 79+51 (TOWER ROAD)= STA. 226+62 (TBW) 16" RM 50.0±

STA. 75+86 (TOWER ROAD)= STA. 223+01 (TBW) 12" WM 50.3±

Approximate Location of Existing Pasco County Utility Lines, 72 LF± North of Tower Road Centerline of Construction:
24" Water Main
24" Reclaimed Main
12" Force Main

STA. 79+57 (TOWER ROAD)= STA. 226+68 (TBW) 8" FM 48.6±

STA. 118+37 (TOWER ROAD)= STA. 265+52 (TBW) 8" RM 56.3±

STA. 119+27 (TOWER ROAD)= STA. 266+45 (TBW) 12" WM 56.0±

PROFILE GRADE

Existing Grade

18" RCP

3-24" RCP's

30" RCP WILDLIFE CROSSING

14"x23" RCP

19"x30" RCP

2-3'x12' C.B.C.'s

4-3'x8' C.B.C.'s

14"x 23" RCP

Apporximate Location of Existing 84" Tampa Bay Water Main, 110 LF± North of Tower Road Centerline of Construction

Approximate Location of Existing Pasco County Utility Lines, 72 LF± North of Tower Road Centerline of Construction:
24" Water Main
24" Reclaimed Main
16" Force Main

75+00 80+00 85+00 90+00 95+00 100+00 105+00 110+00 115+00 120+00 125+00 130+00 135+00

70 65 60 55 50 45 40 35

LEGEND

EXISTING	PROPOSED	
----□----	■	STORM DRAINAGE STRUCTURE
(10)	(10)	STRUCTURE NO.
+15.00	ø15.00 OR 15x00	SPOT ELEVATION
-15-	15.00	CONTOUR
		DIRECTION OF SURFACE FLOW
AB#		SOIL BORING LOCATION

SWFWL — SWFWMD WETLAND LINE
25'OS — 25' OFFSET FROM SWFWMD WETLAND LINE SHOWN FOR INFORMATIONAL PURPOSES
4 — WETLAND IDENTIFICATION
00 — PLAN & PROFILE SHEET NO.
STAKED EROSION CONTROL (REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WETLAND)

DATE	DESCRIPTION	BY
06-15-15	SHOW PAVEMENT PER COUNTY COMMENTS	MFS
03-24-15	ADD UTILITY XINGS;DELETE T10 & T11	MFS

REVISIONS

DATE:

JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

JOB NO. NLC-BX-026
DESIGN SMIRCH
DRAWN SMIRCH
DATE 12/01/14
FILE MD1-TOWER

DRAINAGE MAP

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: **NNP-BEXLEY, LLC**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

REFER TO BEXLEY SOUTH PARCEL 4 PHASE 1 CONSTRUCTION PLANS BY CLEARVIEW LAND DESIGN FOR POND CONSTRUCTION DETAILS

BEGIN TOWER ROAD CONSTRUCTION STA. 75+46.53

BEXLEY VILLAGE BOULEVARD

TOWER ROAD

IMPACT 17-1A 1.52 Ac.

IMPACT 19-5 0.19 Ac.

IMPACT 20-5 1.10 Ac.

IMPACT SW-103 0.008 Ac.

CONTROL STRUCTURE 90

POND Y DHW100=53.5 DHW25=53.0 DNW=51.1

FP19-1A DHW100=50.0 DHW25=49.9 DNW=48.3

FP17-1E DHW100=50.5 DHW25=50.2 DNW=48.3

WETLAND 17-1A DHW100=50.8 DHW25=50.0 DNW=48.3

FP17-1F DHW100=53.2 DHW25=53.1 DNW=51.1

FP20-3C DHW100=53.9 DHW25=53.8 DNW=52.2

Existing 24" Water Main
Existing 24" Reclaimed Main
Existing 12" Force Main
(Pasco County Utilities)

Existing 84" Water Main (Tampa Bay Water)

BASELINE OF CONSTRUCTION (PASCO COUNTY UTILITIES)

Existing 24" Water Main
Existing 24" Reclaimed Main
Existing 16" Force Main
(Pasco County Utilities)

PROVIDE MIN. 2' COVER OVER STORM PIPE

Existing Wastewater Pump Station

SUNCOAST POINTE VILLAGES, 2A, 2B, & 3
PLAT BOOK 59, PAGES 31-38

Existing & Abandoned 84" Water Main (Tampa Bay Water)

CENTERLINE OF CONSTRUCTION (PROPOSED TOWER ROAD)

BASELINE OF CONSTRUCTION (TAMPA BAY WATER)

SALEM RADIO PROPERTIES, INC.

1"=100'

REFER TO ROUNDABOUT PLAN FOR BEXLEY VILLAGE DRIVE AT TOWER ROAD FOR SPECIAL GRADING

PROFILE GRADE LINE

Approximate Location of Existing Pasco County Utility Lines, 72 LF± North of Tower Road Centerline of Construction:
24" Water Main
24" Reclaimed Main
12" Force Main

18" RCP INV. 50.84
18" RCP INV. 50.08
18" RCP INV. 49.34
18" RCP INV. 50.09
3-24" RCP INV. 47.92
30" RCP INV. 50.55
14"x23" RCP INV. 50.87
14"x23" RCP INV. 51.53
18" RCP INV. 52.30
14"x23" RCP INV. 53.09
2-3'x12' CBC's INV. 50.75
14"x23" RCP INV. 53.70

Existing Grade at Centerline of Construction

Apporximate Location of Existing 84" Tampa Bay Water Main, 110 LF± North of Tower Road Centerline of Construction

Approximate Location of Existing Pasco County Utility Lines, 72 LF± North of Tower Road Centerline of Construction:
24" Water Main
24" Reclaimed Main
12" Force Main

SCALE: 1" = 5' VERTICAL
1" = 100' HORIZONTAL

80+00 85+00 90+00 95+00 100+00 105+00

REFER TO BEXLEY SOUTH PARCEL 4 PHASE 1 CONSTRUCTION PLANS BY CLEARVIEW LAND DESIGN FOR POND CONSTRUCTION DETAILS

END TOWER ROAD CONSTRUCTION STA. 135+75.00

SCHOOL SITE

BASELINE OF CONSTRUCTION (PASCO COUNTY UTILITIES)

Existing 84" Water Main (Tampa Bay Water)

Existing 24" Water Main
Existing 24" Reclaimed Main
Existing 16" Force Main
(Pasco County Utilities)

Existing 42" Water Main (Tampa Bay Water)

CONTROL STRUCTURE 119

IMPACT 17-23 0.52 Ac.

IMPACT S-17-J7 0.06 Ac.

POND CC DHW100=57.1 DHW25=56.8 DNW=55.7

POND EE DHW100=57.6 DHW25=56.8 DNW=54.7

FP17-24B DHW100=56.9 DHW25=56.6 DNW=55.7

FP17-24A DHW100=58.7 DHW25=58.5 DNW=57.2

POND FF DHW100=58.7 DHW25=58.5 DNW=57.2

Existing & Abandoned 84" Water Main (Tampa Bay Water)

CENTERLINE OF CONSTRUCTION (PROPOSED TOWER ROAD)

BALLANTRAE VILLAGE 6
PLAT BOOK 53, PAGES 1-10

BASELINE OF CONSTRUCTION (TAMPA BAY WATER)

BALLANTRAE VILLAGE 5
PLAT BOOK 52, PAGES 30-49

PROFILE GRADE LINE

9'x30" RCP
14"x23" RCP INV. 54.43
14"x23" RCP INV. 55.38
14"x23" RCP INV. 56.34
14"x23" RCP INV. 56.41
18" RCP INV. 57.50
4-3'x8' CBC's INV. 54.95
14"x23" RCP INV. 59.17
14"x23" RCP INV. 57.92

Existing Grade at Centerline of Construction

Approximate Location of Existing Pasco County Utility Lines, 72 LF± North of Tower Road Centerline of Construction:
24" Water Main
24" Reclaimed Main
12" Force Main

Apporximate Location of Existing 84" Tampa Bay Water Main, 110 LF± north of Tower Road Centerline of Construction

SCALE: 1" = 5' VERTICAL
1" = 100' HORIZONTAL

110+00 115+00 120+00 125+00 130+00 135+00 140+00

DATE	DESCRIPTION	BY
06-15-15	ADD WILDLIFE CROSSING STR 287-288	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
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1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

DRAINAGE MAP

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

JOB NO. NLC-BX-026
DESIGN SMIRCH
DRAWN SMIRCH
DATE 12/01/14
FILE MD2-TOWER

PREPARED FOR: NNP-BEXLEY, LLC

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

STORM STRUCTURE DATA

STRUCTURE			LINE							
							INVERT ELEV.			
NO.	TYPE & SIZE	TOP ELEV.	TYPE	DIAM. IN.	LENGTH FEET	SLOPE %	UPPER END	LOWER END	FALL IN FEET	STRUCTURE LOCATION & REMARKS
1	6 CURB INLET	53.73	RCP	24	104	0.20	48.63	48.42	0.21	FDOT INDEX NO. 211
2	6 CURB INLET	53.73	RCP	30	385	0.20	47.92	47.15	0.77	FDOT INDEX NO. 211
EX										
3	1 CURB INLET	55.52	RCP	18	84	0.20	50.92	50.75	0.17	CONSTRUCT TEMPORARY TOP
4	1 CURB INLET	55.52	RCP	18	250	0.20	50.75	50.25	0.50	
6										
5	1 CURB INLET	54.77	RCP	18	84	0.20	50.17	50.00	0.17	CONSTRUCT TEMPORARY TOP
6	1 CURB INLET	54.77	RCP	18	250	0.20	50.00	49.50	0.50	
10										
7	1 CURB INLET	54.77	RCP	18	84	0.20	50.17	50.00	0.17	CONSTRUCT TEMPORARY TOP
8	I CURB INLET	54.77	RCP	18	250	0.20	50.00	49.50	0.50	
10										
9	1 CURB INLET	54.02	RCP	18	84	0.20	49.42	49.25	0.17	CONSTRUCT TEMPORARY TOP
10	1 CURB INLET	54.02	RCP	14x23	100	0.16	48.43	48.27	0.16	
11										CONNECT TO EXISTING MANHOLE
23	1 CURB INLET	52.92	RCP	18	40	0.30	48.32	48.20	0.12	
24										CONNECT TO EXISTING CURB INLET
80	1 CURB INLET	57.38	RCP	14x23	84	0.30	53.21	52.96	0.25	CONSTRUCT TEMPORARY TOP
81	1 CURB INLET	57.38	RCP	14x23	250	0.30	52.96	52.21	0.75	
83										
82	1 CURB INLET	56.56	RCP	18	84	0.16	52.36	52.23	0.13	CONSTRUCT TEMPORARY TOP
83	1 CURB INLET	56.56	RCP	14x23	250	0.30	52.21	51.46	0.75	
85										
84	1 CURB INLET	55.74	RCP	14x23	84	0.12	51.57	51.48	0.10	CONSTRUCT TEMPORARY TOP
85	1 CURB INLET	55.74	RCP	14x23	250	0.30	51.46	50.71	0.75	
87										
86	1 CURB INLET	54.92	RCP	14x23	84	0.20	50.95	50.79	0.17	CONSTRUCT TEMPORARY TOP
87	1 CURB INLET	54.92	RCP	19x30	100	0.24	50.71	50.47	0.24	
88										CONNECT TO EXISTING MANHOLE
92	1 CURB INLET	60.38	RCP	14x23	84	0.40	56.51	56.18	0.34	CONSTRUCT TEMPORARY TOP
93	1 CURB INLET	60.38	RCP	14x23	300	0.32	56.18	55.22	0.96	
95										
94	1 CURB INLET	59.38	RCP	14x23	84	0.30	55.51	55.26	0.25	CONSTRUCT TEMPORARY TOP
95	1 CURB INLET	59.38	RCP	14x23	300	0.30	55.22	54.32	0.90	
97										

STORM STRUCTURE DATA

STRUCTURE			LINE							
							INVERT ELEV.			
NO.	TYPE & SIZE	TOP ELEV.	TYPE	DIAM. IN.	LENGTH FEET	SLOPE %	UPPER END	LOWER END	FALL IN FEET	STRUCTURE LOCATION & REMARKS
96	1 CURB INLET	58.42	RCP	14x23	84	0.30	54.55	54.30	0.25	CONSTRUCT TEMPORARY TOP
97	1 CURB INLET	58.42	RCP	19x30	250	0.12	53.88	53.58	0.30	
99										
98	1 CURB INLET	57.62	RCP	14x23	84	0.12	53.75	53.65	0.10	CONSTRUCT TEMPORARY TOP
99	1 CURB INLET	57.62	RCP	19x30	97	0.24	53.58	53.35	0.23	
100										CONNECT TO EXISTING MANHOLE
102	1 CURB INLET	62.89	RCP	14x23	84	0.12	59.22	59.12	0.10	CONSTRUCT TEMPORARY TOP
103	1 CURB INLET	62.89	RCP	14x23	281	0.24	59.12	58.45	0.67	
103A	MANHOLE	63.81	RCP	14x23	318	0.24	58.45	57.68	0.76	
103C										
103B	1 CURB INLET	62.40	RCP	14x23	84	0.50	58.13	57.71	0.42	CONSTRUCT TEMPORARY TOP
103C	1 CURB INLET	62.40	RCP	19x30	96	0.20	57.68	57.48	0.19	
103D										CONNECT TO EXISTING STRUCTURE
105	1 CURB INLET	62.15	RCP	18	84	0.12	57.55	57.45	0.10	CONSTRUCT TEMPORARY TOP
106	1 CURB INLET	62.15	RCP	18	143	0.64	57.35	56.44	0.92	
109										
107	1 CURB INLET	60.18	RCP	14x23	84	0.24	56.51	56.31	0.20	CONSTRUCT TEMPORARY TOP
108	1 CURB INLET	60.18	RCP	14x23	100	0.24	56.31	56.07	0.24	
109	MANHOLE	61.07	RCP	14x23	94	0.30	56.07	55.79	0.28	
110										CONNECT TO EXISTING MANHOLE
116	1 CURB INLET	60.56	RCP	18	66	0.24	55.96	55.80	0.16	TEMPORARY TOP
117										CONNECT TO EXISTING STRUCTURE
275	HEADWALL	63.70	CBC	3'x8'	117	0.10	55.20	55.08	0.12	QUADRUPLE BOX CULVERT-DITCH PAVING REQ'D FDOT INDEX NO. 291 & 292
276	HEADWALL									DITCH PAVING REQ'D FDOT INDEX NO. 291 & 292
279	HEADWALL	58.01	CBC	3'x12'	108	0.08	50.80	50.70	0.10	DITCH PAVING REQ'D FDOT INDEX NO. 291 & 292
280	HEADWALL									DITCH PAVING REQ'D
281	ENDWALL	55.22	RCP	3-24	108	0.46	48.17	47.68	0.49	DITCH PAVING REQ'D FDOT INDEX NO. 250
282	ENDWALL	55.22	RCP							DITCH PAVING REQ'D FDOT INDEX NO. 250
287	ENDWALL	54.80	RCP	30	120	0.08	50.60	50.50	0.10	WILDLIFE CROSSING FDOT INDEX NO. 250
288	ENDWALL									FDOT INDEX NO. 250

PEDESTRIAN & CYCLIST DROP-OFF CONDITIONS SHALL BE SHIELDED ACCORDING TO FDOT INDEX NO's 851 & 852 AT ALL CROSS-DRAIN AND WILDLIFE CROSSING LOCATIONS

ALL STRUCTURE BOTTOMS SHALL BE TYPE 'P' UNLESS OTHERWISE NOTED.

DATE	DESCRIPTION	BY
06-15-15	ADD WILDLIFE CROSSING STR 287-288	MS

REVISIONS

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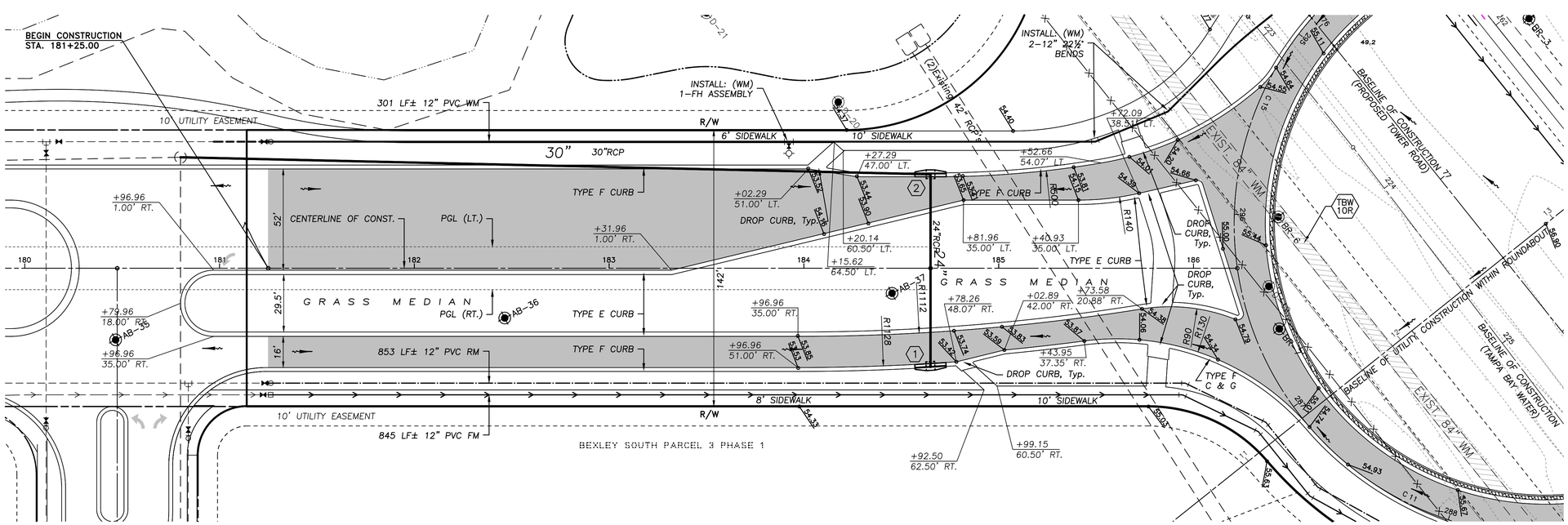
DATE:

JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

DRAINAGE STRUCTURE DATA

JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN MS/TF	
DRAWN DM/TF/MS	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE ST-TOWER	SHEET 10 OF 52 SHEETS



REFER TO SHEET 12
FOR UTILITY CONSTRUCTION
IN BEXLEY VILLAGE DRIVE
AT TOWER ROAD

REFER TO SHEET 14
FOR UTILITY CONSTRUCTION
IN TOWER ROAD
AT BEXLEY VILLAGE DRIVE

REFER TO SHEET 13 FOR
SPECIAL GRADING
OF BEXLEY VILLAGE DRIVE
AT TOWER ROAD

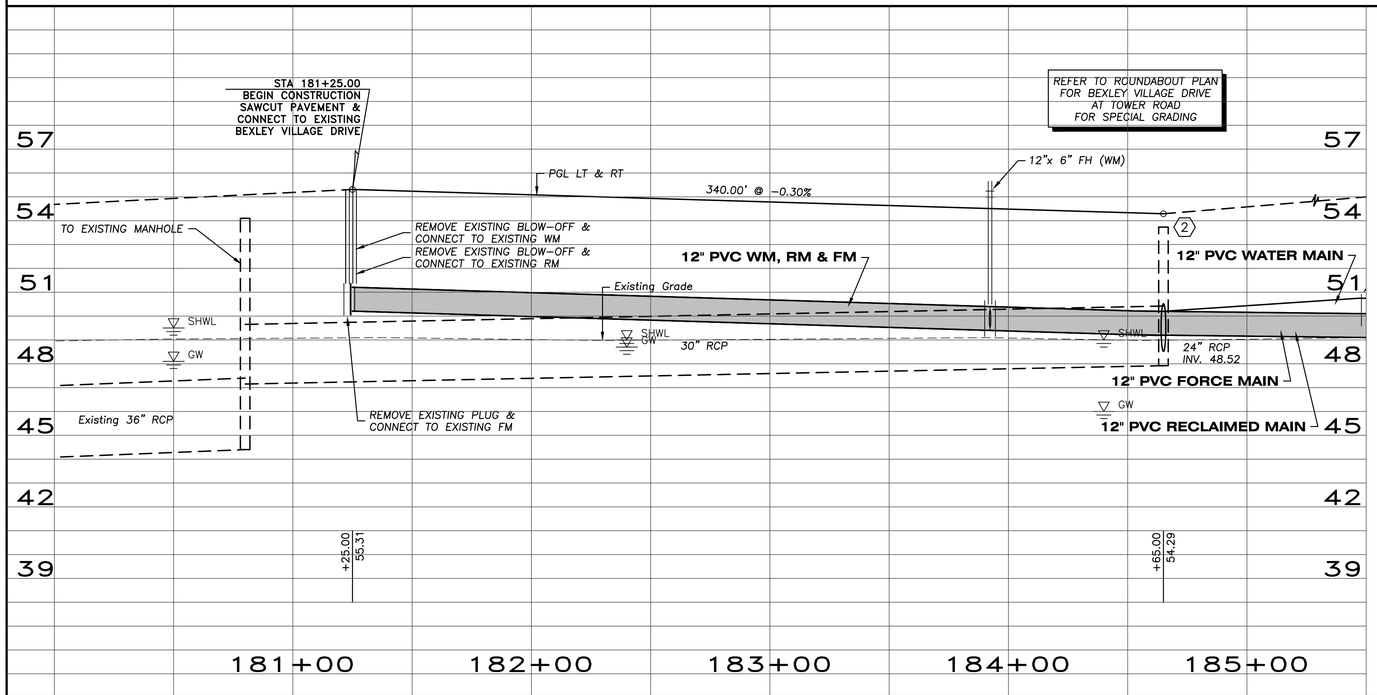
TBW 2P / TBW 10R — EARTHWORK HAULING CROSSING LOCATION AT TAMPA BAY WATER PIPE LINE

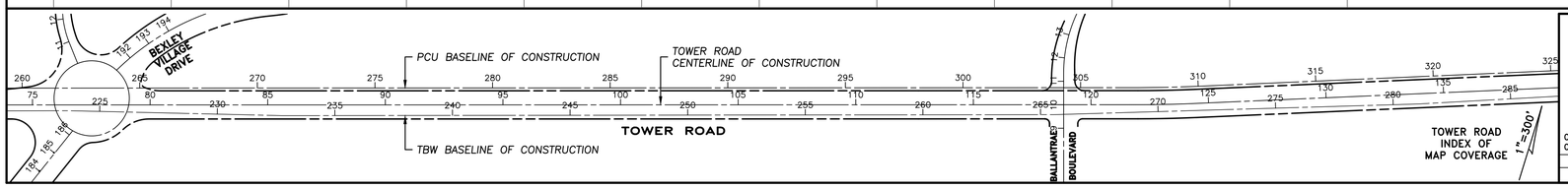
'R' DENOTES SECTION OF ABANDONED LINE PROPOSED FOR REMOVAL

'P' DENOTES SECTION OF ACTIVE LINE PROPOSED FOR SHOCKPAD PROTECTION

BEXLEY VILLAGE DRIVE

SCALE: 1" = 3' VERTICAL
1" = 30' HORIZONTAL





TEST HOLE DATA PROVIDED BY GEORGE F. YOUNG, INC., SUBSURFACE UTILITY ENGINEERING REPORT, APRIL 2015.

Test Hole	Northing	Easting	Surface Elev.	Measure Down	Top of Utility	Description	Owner	Field Date
Vh101	1410421.31	683983.87	49.52	2.63	46.89	12" PVC Force Main (green)	Pasco Co.	4/9/2015
Vh102	1410433.95	683994.48	49.60	5.80	43.80	Force Main (Size/Material NFV)	Pasco Co.	4/9/2015
Vh103	1410448.23	683988.48	49.46	2.62	46.84	24" DIP Reclaimed Water Main	Pasco Co.	4/9/2015
Vh104	1410456.65	683998.62	49.55	2.52	47.03	24" DIP Water Main (Blue Wrap)	Pasco Co.	4/9/2015
Vh105	1410488.19	684000.47	49.78	5.30	44.48	84" Water Main (Material NFV)	Tampa Bay Water	4/9/2015
Vh106	1410579.73	684298.51	49.89	6.20	43.69	84" Water Main (Material NFV)	Tampa Bay Water	4/9/2015
Vh107	1410719.07	684852.86	51.86	2.94	48.92	24" DIP Water Main	Pasco Co.	4/9/2015
Vh108	1410735.11	684953.57	52.82	3.14	49.68	16" PVC Force Main (green)	Pasco Co.	4/9/2015
Vh109	1410741.00	684946.64	52.89	2.81	50.08	24" DIP Reclaimed Water Main	Pasco Co.	4/9/2015
Vh110	1410777.77	684937.32	52.92	8.44	44.48	84" Water Main (Material NFV)	Tampa Bay Water	4/9/2015
Vh111	1411130.41	686088.28	55.83	5.85	49.98	84" Water Main (Material NFV)	Tampa Bay Water	4/9/2015
Vh112	1411102.83	686096.29	56.00	3.19	52.81	24" DIP Water Main	Pasco Co.	4/9/2015
Vh113	1411094.97	686097.51	56.03	3.13	52.90	24" DIP Reclaimed Water Main	Pasco Co.	4/9/2015
Vh114	1411089.78	686098.75	56.25	3.27	52.97	16" PVC Force Main (green)	Pasco Co.	4/9/2015
Vh115	1411453.40	687129.16	57.80	5.65	52.15	84" Water Main (Material NFV)	Tampa Bay Water	4/9/2015
Vh116	1411422.27	687134.42	57.88	2.60	55.28	24" DIP Water Main	Pasco Co.	4/9/2015
Vh117	1411415.57	687135.59	58.06	3.55	54.51	24" DIP Reclaimed Water Main	Pasco Co.	4/9/2015
Vh118	1411407.83	687138.19	57.84	2.53	55.31	16" PVC Force Main (green)	Pasco Co.	4/9/2015
Vh119	1411442.16	687199.63	57.85	2.97	54.88	24" DIP Water Main	Pasco Co.	4/9/2015
Vh120	1411436.14	687202.27	57.86	3.34	54.52	24" DIP Reclaimed Water Main	Pasco Co.	4/9/2015
Vh121	1411429.41	687208.24	57.85	2.90	54.95	16" PVC Force Main (green)	Pasco Co.	4/9/2015
Vh122	1411453.02	687218.77	57.70	2.90	54.80	16" PVC Force Main (green)	Pasco Co.	4/9/2015
Vh123	1411440.09	687215.99	57.48	3.00	54.48	24" DIP Reclaimed Water Main	Pasco Co.	4/9/2015
Vh124	1411446.62	687215.88	57.36	2.55	54.81	24" DIP Water Main	Pasco Co.	4/9/2015
Vh125	1411474.11	687205.57	57.83	5.90	51.93	84" Water Main (Material NFV)	Tampa Bay Water	4/9/2015
Vh126	1411471.01	687190.39	57.57	5.15	52.42	84" Water Main (Material NFV)	Tampa Bay Water	4/9/2015
Vh127	1411495.79	687369.67	57.97	3.03	54.94	24" DIP Water Main	Pasco Co.	4/9/2015
Vh128	1411488.97	687372.02	58.23	3.44	54.79	24" DIP Reclaimed Water Main	Pasco Co.	4/10/2015
Vh129	1411482.33	687376.07	58.12	3.32	54.80	16" PVC Force Main (green)	Pasco Co.	4/10/2015
Vh130	1411559.15	687473.88	57.79	5.98	51.81	84" Water Main (Material NFV)	Tampa Bay Water	4/10/2015
Vh131	1411530.72	687483.28	58.26	3.10	55.16	24" DIP Water Main	Pasco Co.	4/10/2015
Vh132	1411523.80	687485.19	58.06	3.40	54.66	24" DIP Reclaimed Water Main	Pasco Co.	4/10/2015
Vh133	1411515.79	687487.15	57.92	2.92	55.00	16" PVC Force Main (green)	Pasco Co.	4/10/2015
Vh134	1411677.78	687827.94	57.14	4.98	52.16	84" Water Main (Material NFV)	Tampa Bay Water	4/10/2015
Vh135	1411649.86	687833.57	56.80	3.10	53.70	24" DIP Water Main	Pasco Co.	4/10/2015
Vh136	1411644.23	687840.24	56.75	3.28	53.47	24" DIP Reclaimed Water Main	Pasco Co.	4/10/2015
Vh137	1411636.58	687841.60	56.86	3.10	53.76	16" PVC Force Main (green)	Pasco Co.	4/10/2015
Vh138	1411805.66	688459.77	58.86	5.32	53.54	84" Water Main (Material NFV)	Tampa Bay Water	4/10/2015
Vh139	1411874.70	688466.85	58.94	2.88	56.06	24" DIP Water Main	Pasco Co.	4/10/2015
Vh140	1411868.83	688469.33	59.13	2.90	56.23	24" DIP Reclaimed Water Main	Pasco Co.	4/10/2015
Vh141	1411860.31	688469.35	59.08	2.74	56.34	16" PVC Force Main (green)	Pasco Co.	4/10/2015
Vh142	1411880.85	688474.10	59.03	3.35	55.68	12" DIP Water Main	Pasco Co.	4/10/2015
Vh143	1411882.83	688481.50	58.89	6.05	52.84	DIP Reclaimed Water Main (Size NFV)	Pasco Co.	4/10/2015
Vh144	1411883.94	688487.58	58.80	5.50	53.30	PVC Force Main (Size NFV, green)	Pasco Co.	4/10/2015
Vh145	1412200.67	689319.67	58.84	6.01	52.83	42" Concrete Water Main	Tampa Bay Water	4/10/2015
Vh146	1412126.43	689319.43	59.10	6.93	52.17	42" Concrete Water Main	Tampa Bay Water	4/10/2015
Vh147	1409574.72	681041.75	48.28	5.28	43.00	84" Water Main (Material NFV)	Tampa Bay Water	4/10/2015
Vh148	1409547.67	681049.29	48.65	5.05	45.60	24" DIP Water Main	Pasco Co.	4/10/2015
Vh149	1409539.41	681051.50	48.66	2.54	46.12	24" DIP Reclaimed Water Main	Pasco Co.	4/10/2015
Vh150	1409535.53	681054.48	48.72	2.54	46.18	84" Water Main (Material NFV)	Tampa Bay Water	4/10/2015
Vh151	1410205.29	683083.16	48.72	7.50	41.22	84" Water Main (Material NFV)	Tampa Bay Water	4/10/2015
Vh152	1410176.19	683092.84	48.39	2.75	45.64	12" PVC Force Main (green)	Pasco Co.	4/10/2015
Vh153	1410169.27	683093.48	48.15	2.25	45.90	24" DIP Reclaimed Water Main	Pasco Co.	4/10/2015
Vh154	1410164.15	683095.15	48.63	3.04	45.59	12" PVC Force Main (green)	Pasco Co.	4/10/2015
Vh155	1410308.04	683412.50	49.14	6.72	42.42	84" Water Main (Material NFV)	Tampa Bay Water	4/10/2015
Vh156	1410277.33	683420.05	48.93	2.65	46.28	24" DIP Water Main	Pasco Co.	4/13/2015
Vh157	1410270.69	683421.77	48.93	2.37	46.56	24" DIP Reclaimed Water Main	Pasco Co.	4/13/2015
Vh158	1410265.04	683423.07	48.63	2.62	46.01	12" PVC Force Main (green)	Pasco Co.	4/13/2015

DATE	DESCRIPTION	BY
06-15-15	ADD SUE DATA TABLE	STW
03-26-15	ADD TBW XINGS	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
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DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

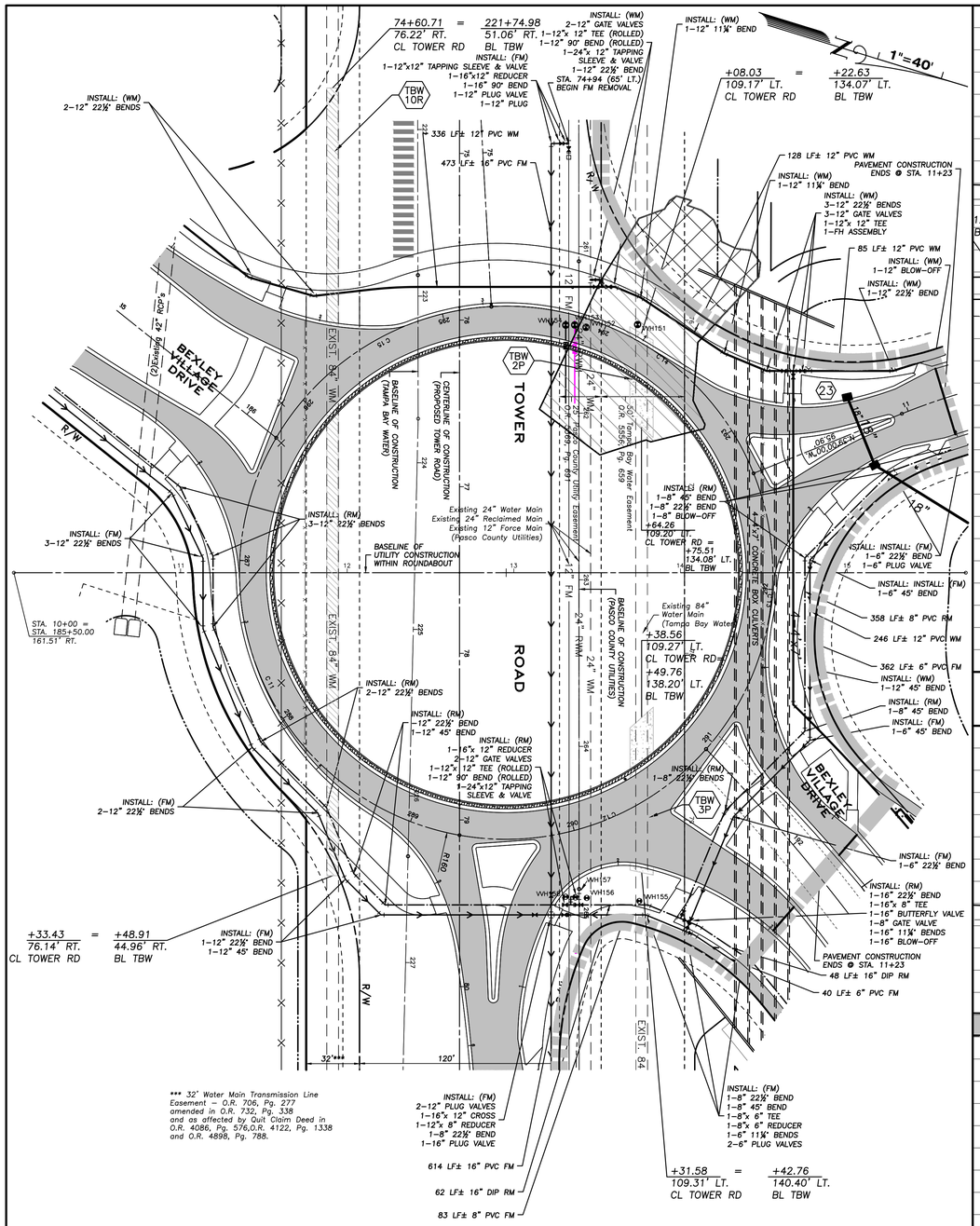
BEXLEY VILLAGE DRIVE PLAN & PROFILE

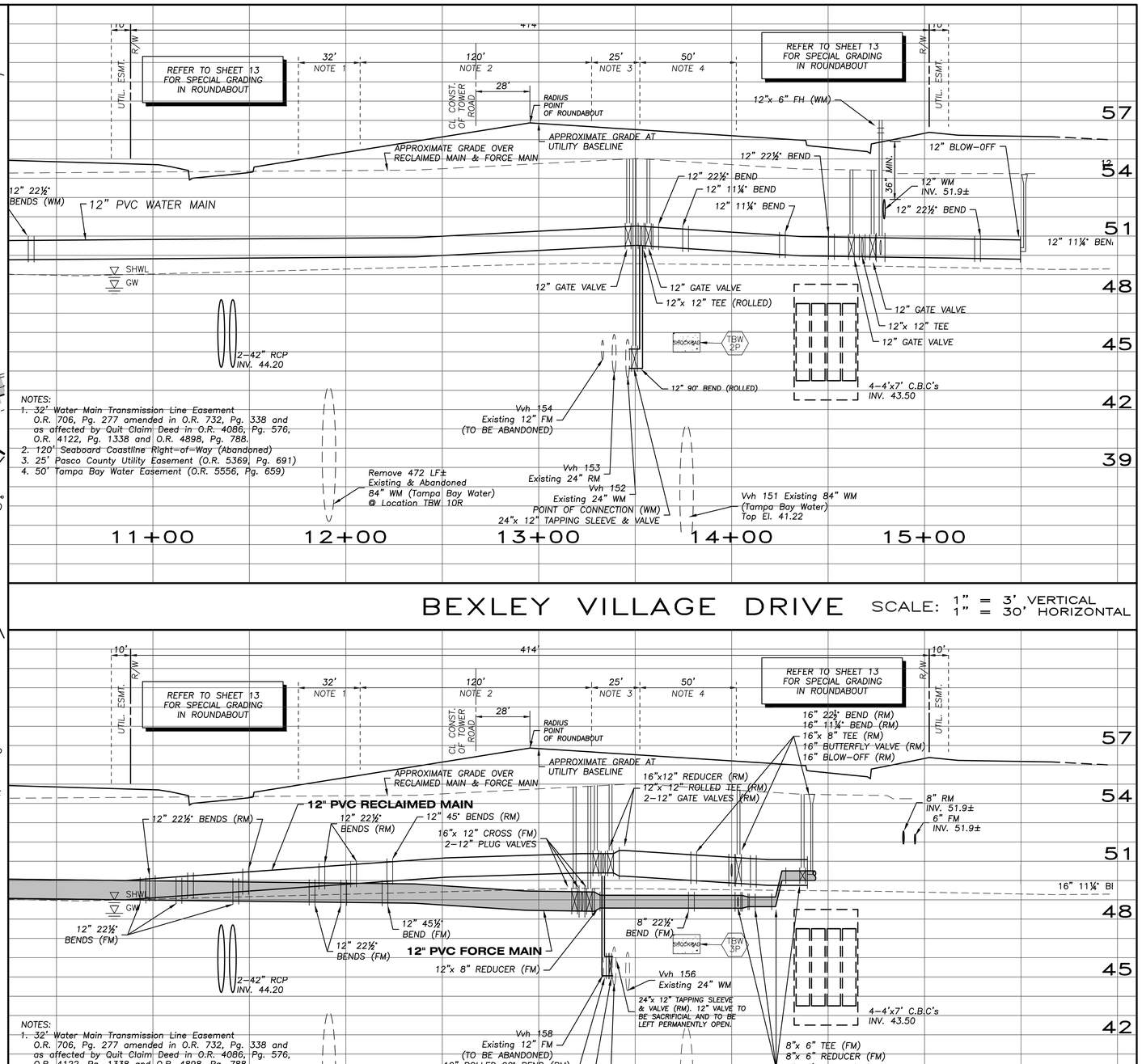
JOB NO. NLC-BX-026
DESIGN MS/TF
DRAWN DM/TF/MS
DATE 12/01/14
FILE RPTOWER-BVD

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: NNP-BEXLEY, LLC

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet





NOTES:
1. 32' Water Main Transmission Line Easement O.R. 706, Pg. 277 amended in O.R. 732, Pg. 338 and as affected by Quit Claim Deed in O.R. 4086, Pg. 576, O.R. 4122, Pg. 1338 and O.R. 4898, Pg. 788.
2. 120' Seaboard Coastline Right–of–Way (Abandoned)
3. 25' Pasco County Utility Easement (O.R. 5369, Pg. 691)
4. 50' Tampa Bay Water Easement (O.R. 5556, Pg. 659)

BEXLEY VILLAGE DRIVE

SCALE: 1" = 3' VERTICAL
1" = 30' HORIZONTAL

NOTES:
1. 32' Water Main Transmission Line Easement O.R. 706, Pg. 277 amended in O.R. 732, Pg. 338 and as affected by Quit Claim Deed in O.R. 4086, Pg. 576, O.R. 4122, Pg. 1338 and O.R. 4898, Pg. 788.
2. 120' Seaboard Coastline Right–of–Way (Abandoned)
3. 25' Pasco County Utility Easement (O.R. 5369, Pg. 691)
4. 50' Tampa Bay Water Easement (O.R. 5556, Pg. 659)

TBW 2P / TBW 10R — EARTHWORK HAULING CROSSING LOCATION AT TAMPA BAY WATER PIPE LINE

'R' DENOTES SECTION OF ABANDONED LINE PROPOSED FOR REMOVAL

'P' DENOTES SECTION OF ACTIVE LINE PROPOSED FOR SHOCKPAD PROTECTION

DATE	DESCRIPTION	BY
??–??–?? 03–26–15	ADD VVH DATA ADD TBW XINGS	STW MS

REVISIONS

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FLORIDA PROFESSIONAL ENGINEER

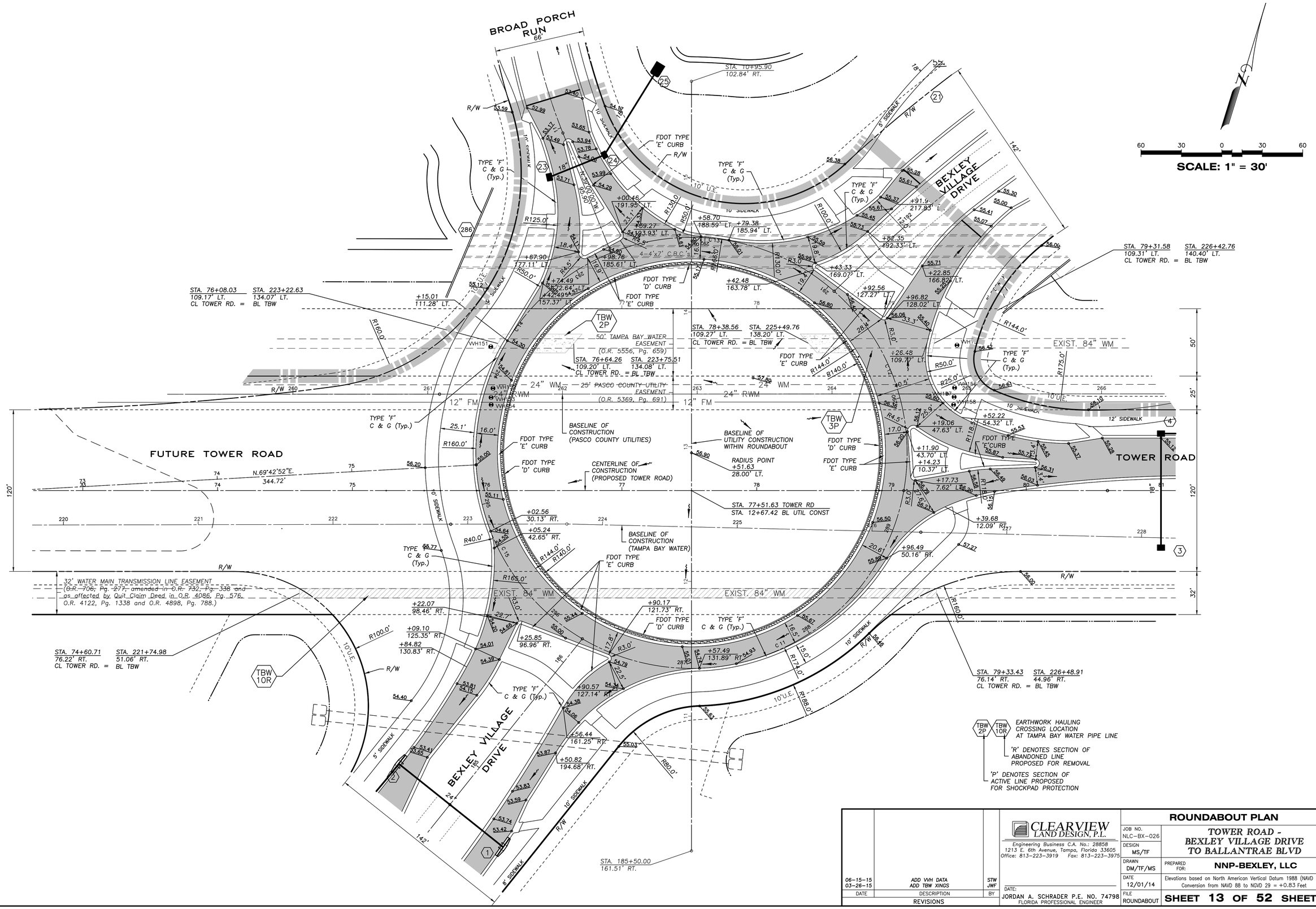
BEXLEY VILLAGE DRIVE PLAN & PROFILE

JOB NO.	NLC–BX–026
DESIGN	MS
DRAWN	MS
DATE	12/01/14
FILE	RPTOWER–WM

TOWER ROAD – BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: **NNP–BEXLEY, LLC**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



TBW 2P / TBW 10R — EARTHWORK HAULING CROSSING LOCATION AT TAMPA BAY WATER PIPE LINE

'R' DENOTES SECTION OF ABANDONED LINE PROPOSED FOR REMOVAL

'P' DENOTES SECTION OF ACTIVE LINE PROPOSED FOR SHOCKPAD PROTECTION

DATE	DESCRIPTION	BY
06-15-15	ADD VVH DATA	STW
03-26-15	ADD TBW XINGS	JWF

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
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DATE:
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FLORIDA PROFESSIONAL ENGINEER

ROUNDABOUT PLAN

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

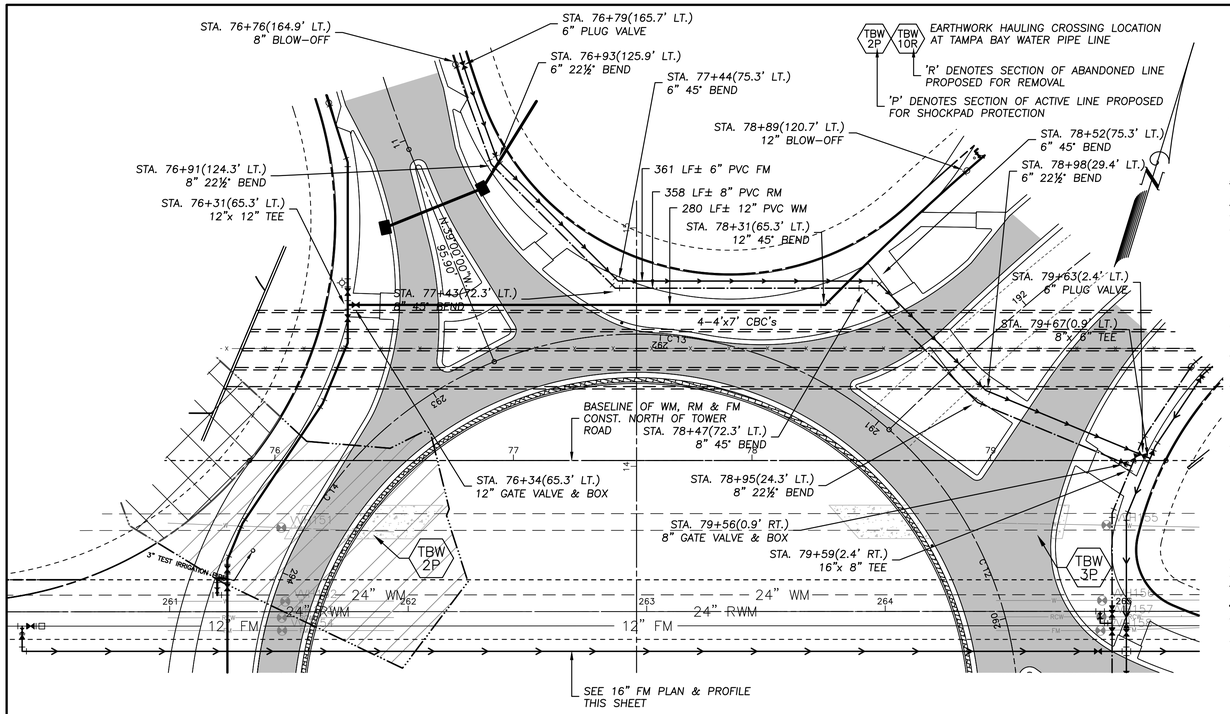
JOB NO.	NLC-BX-026
DESIGN	MS/TF
DRAWN	DM/TF/MS
DATE	12/01/14
FILE	ROUNDABOUT

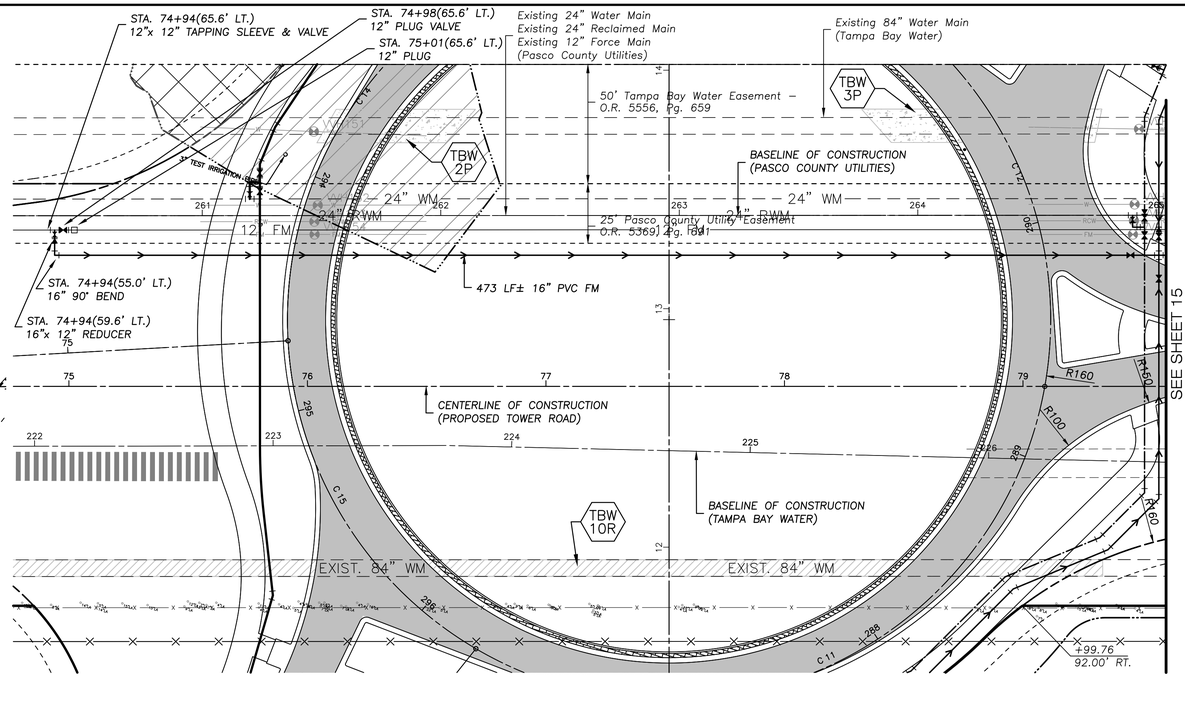
PREPARED FOR: NNP-BEXLEY, LLC

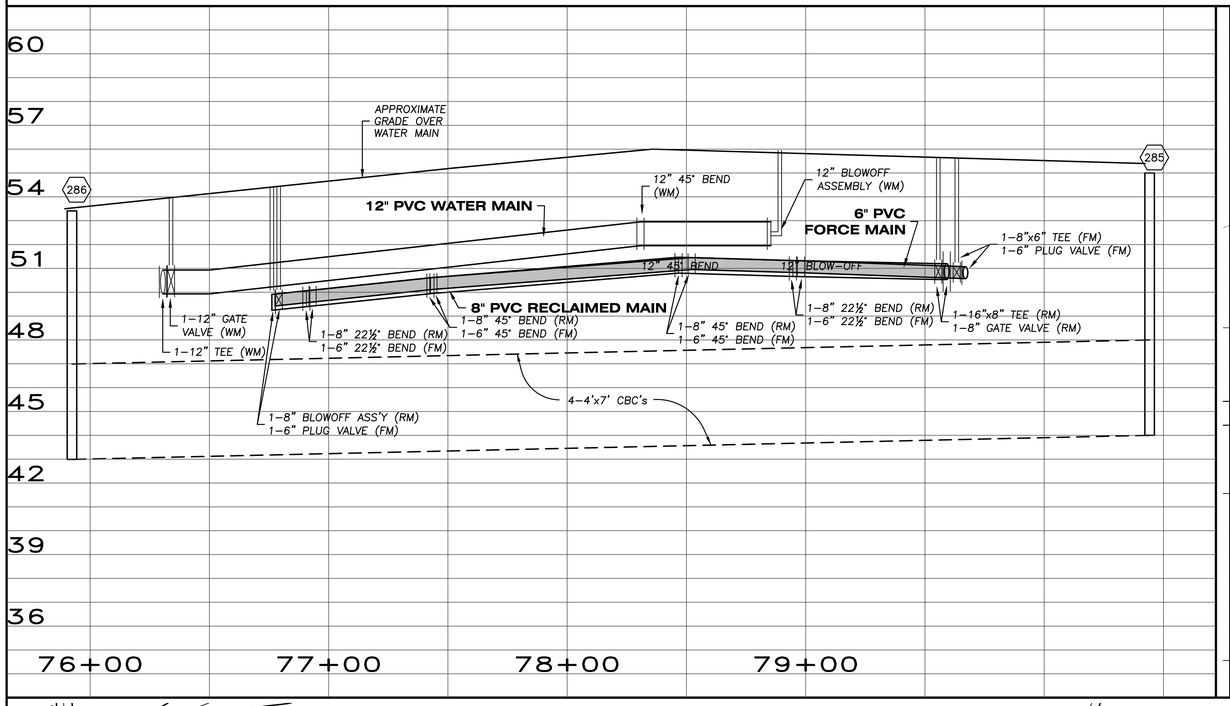
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

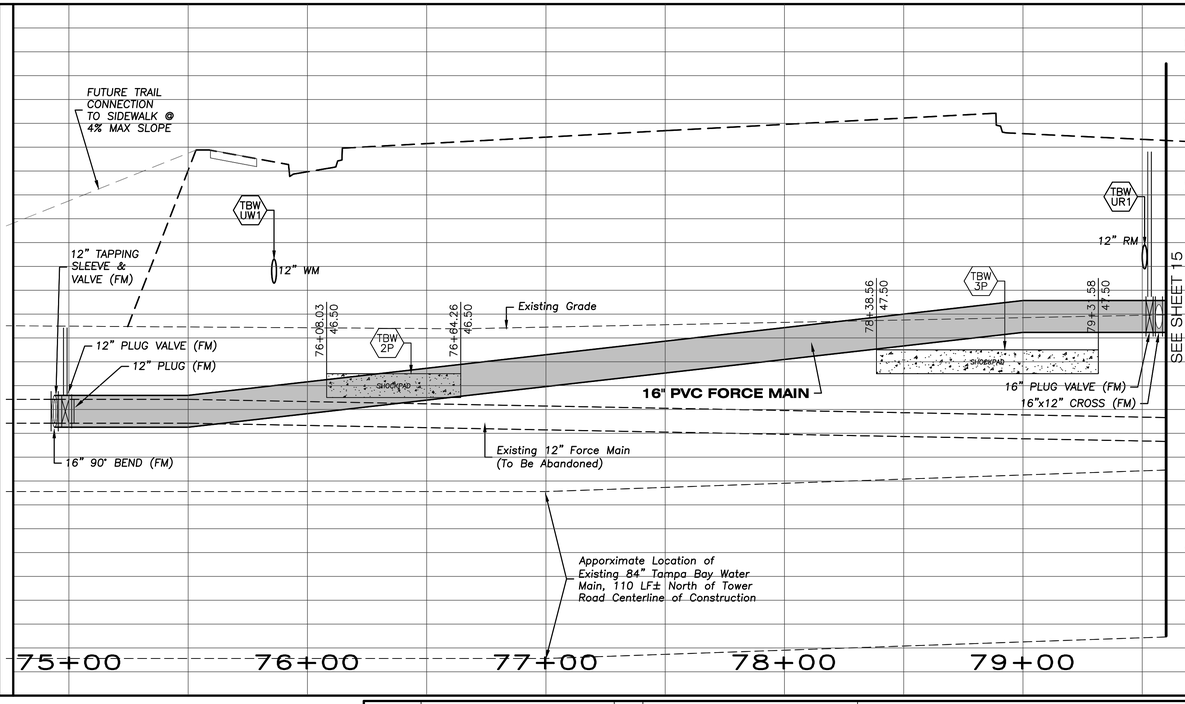
TOWER ROAD

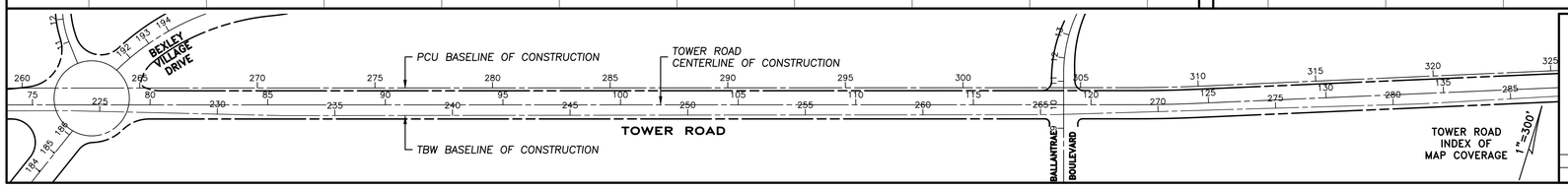
SCALE: 1" = 3' VERTICAL
1" = 30' HORIZONTAL











DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

TOWER ROAD PLAN & PROFILE

JOB NO.	NLC-BX-026
DESIGN	MS
DRAWN	MS
DATE	12/01/14
FILE	RPTOWER8

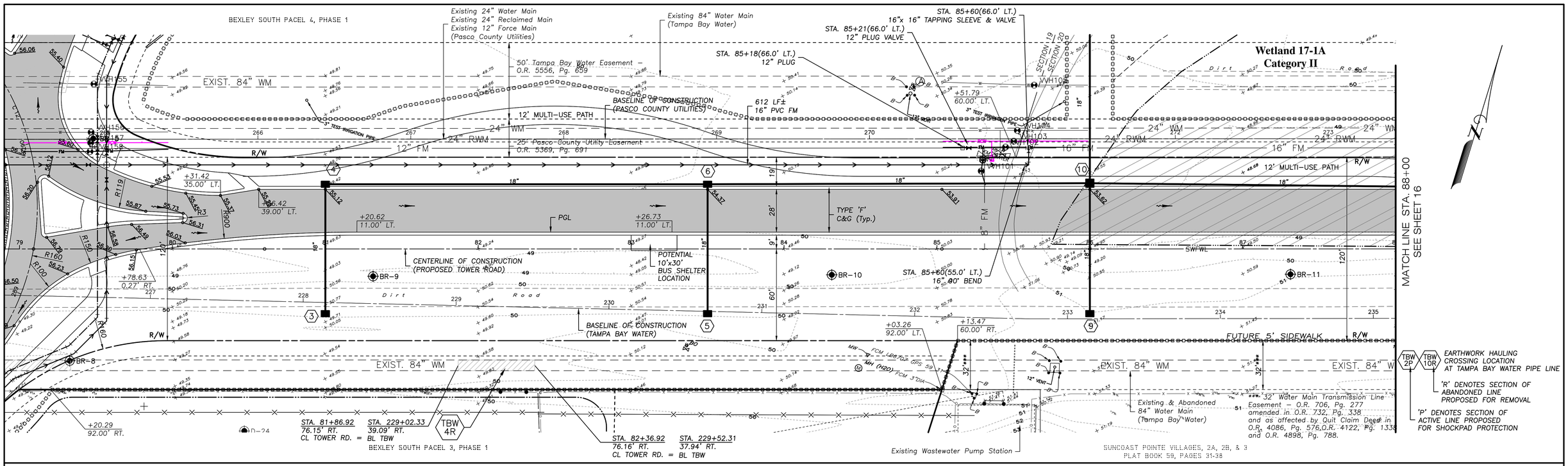
TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

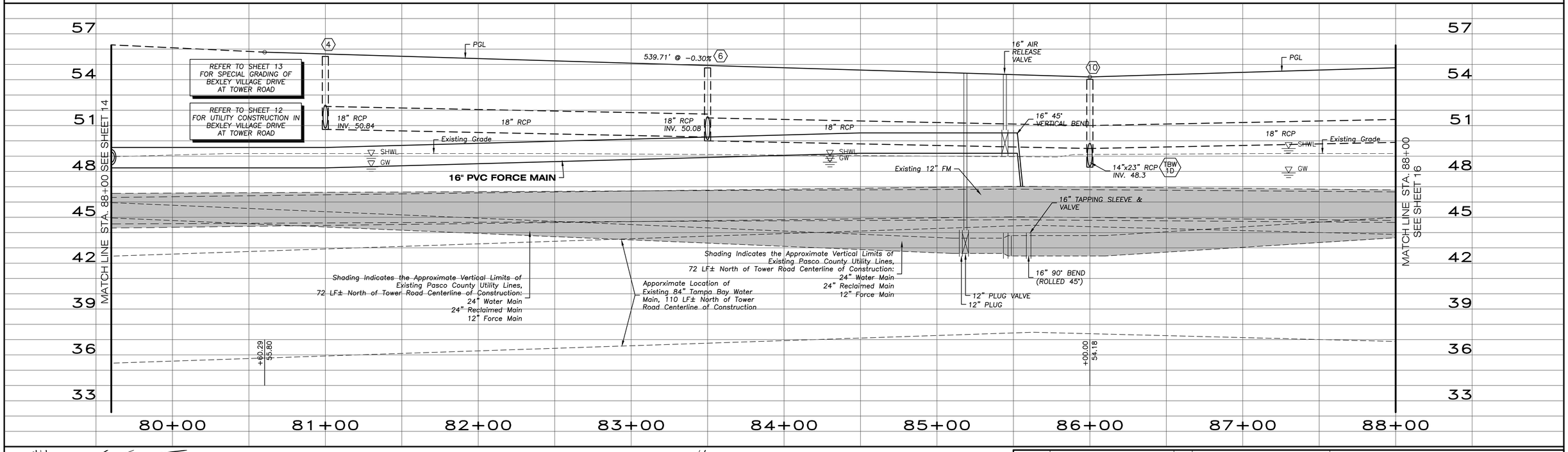
PREPARED FOR: NNP-BEXLEY, LLC

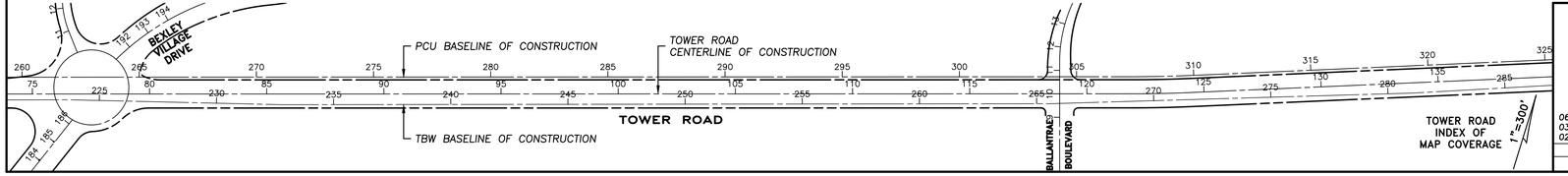
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

TOWER ROAD

SCALE: 1" = 3' VERTICAL
1" = 30' HORIZONTAL







DATE	DESCRIPTION	BY
06-15-15	ADD VVH DATA	STW
03-26-15	ADD TBW XINGS	JWF
02-05-15	ADD SHWL, GW TO PROFILE	MS

REVISIONS

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

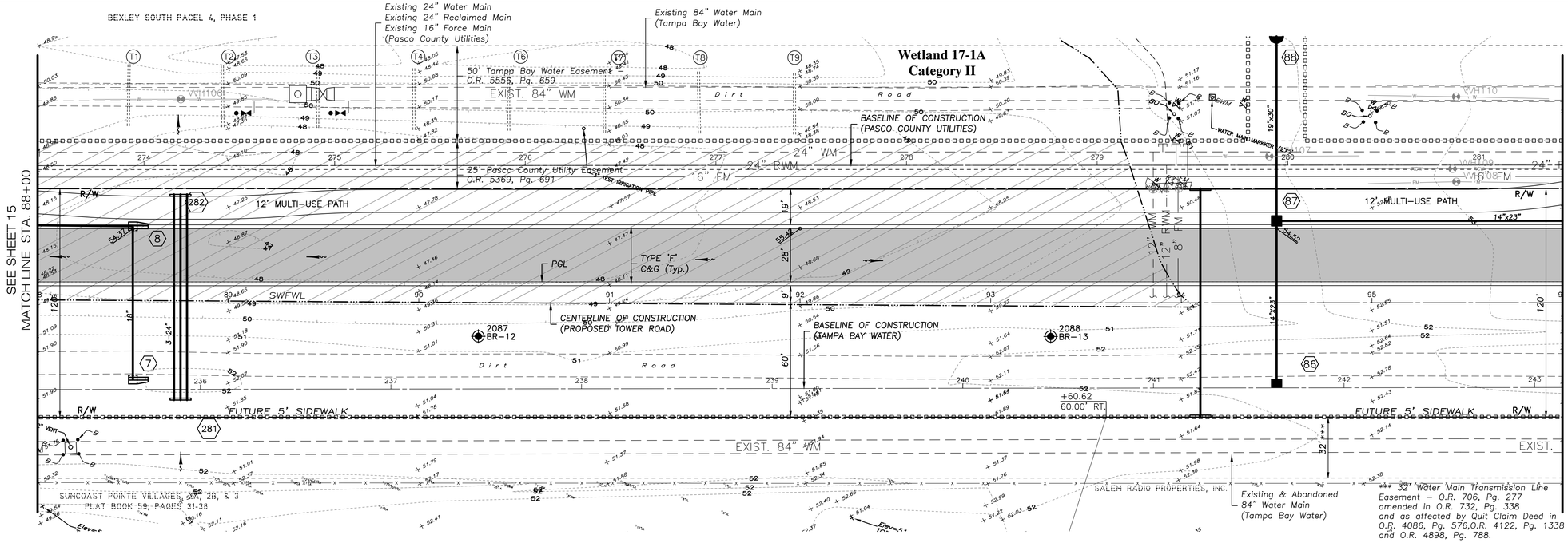
TOWER ROAD PLAN & PROFILE

JOB NO.	NLC-BX-026
DESIGN	MS
DRAWN	MS
DATE	12/01/14
FILE	RPTOWER1

TOWER ROAD -
BEXLEY VILLAGE DRIVE
TO BALLANTRAE BLVD

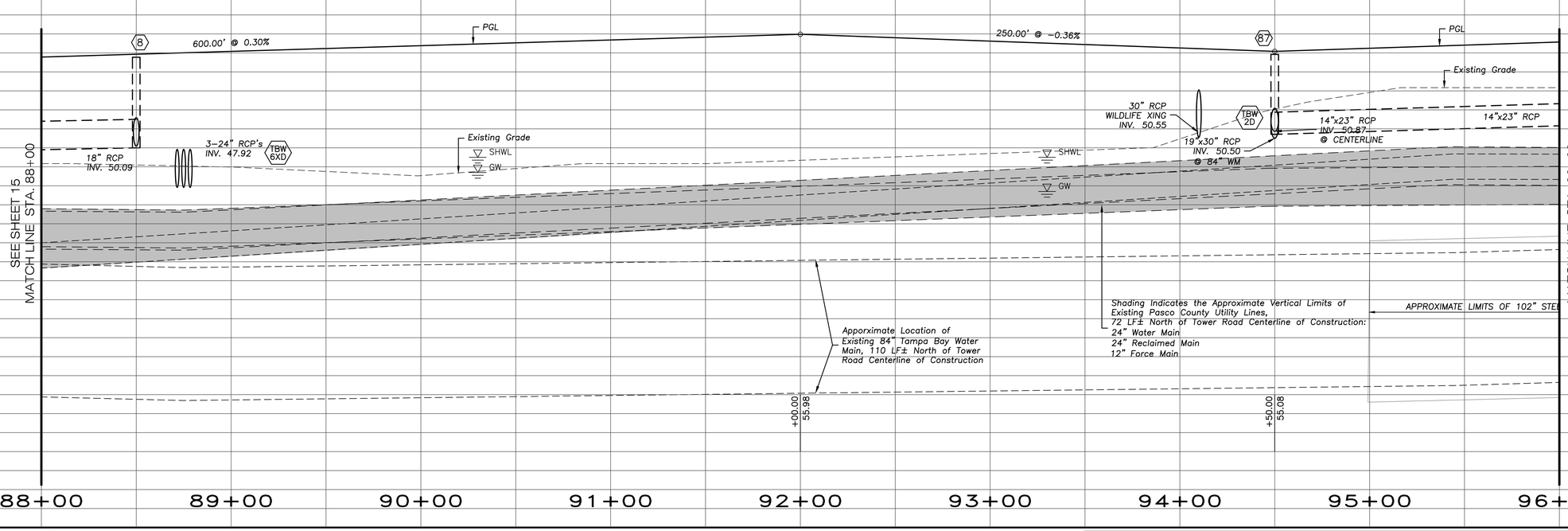
PREPARED FOR: NNP-BEXLEY, LLC

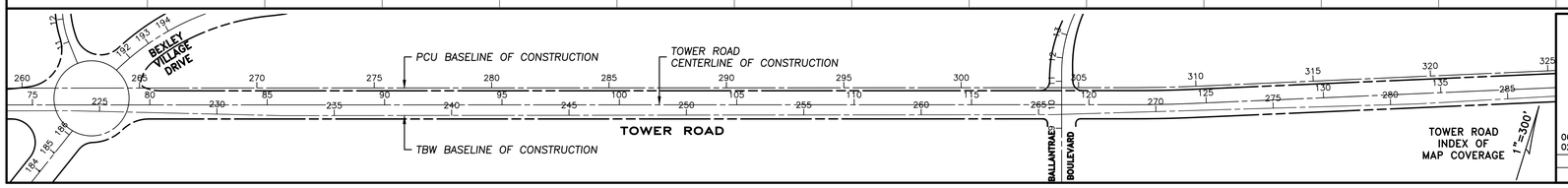
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



TOWER ROAD

SCALE: 1" = 3' VERTICAL
1" = 30' HORIZONTAL





DATE	DESCRIPTION	BY
06-15-15	ADD Vvh DATA	STW
02-05-15	ADD SHWL, GW TO PROFILE	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
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DATE:
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FLORIDA PROFESSIONAL ENGINEER

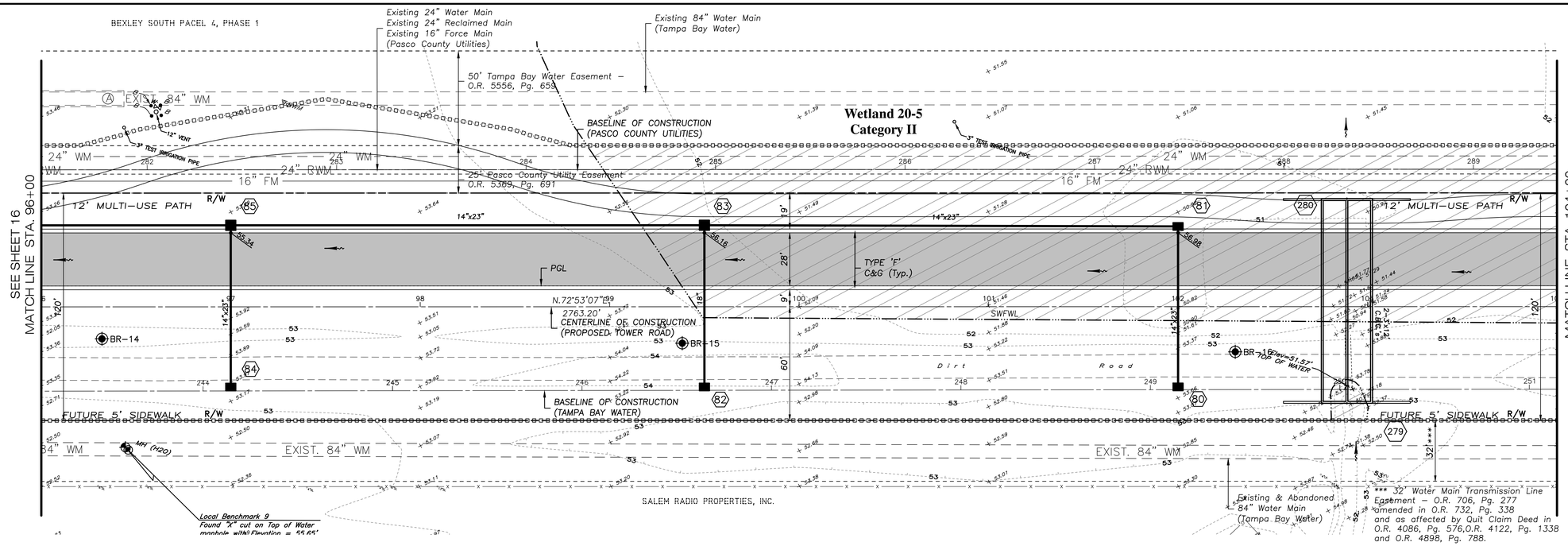
TOWER ROAD PLAN & PROFILE

JOB NO.	NLC-BX-026
DESIGN	MS
DRAWN	MS
DATE	12/01/14
FILE	RPTOWER2

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

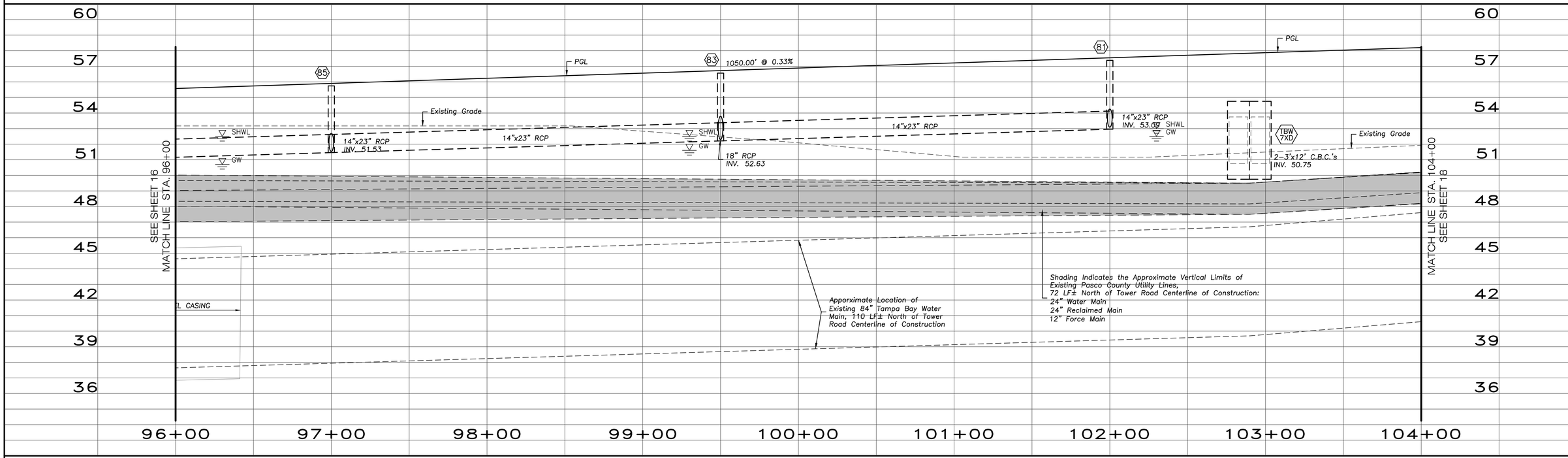
PREPARED FOR: NNP-BEXLEY, LLC

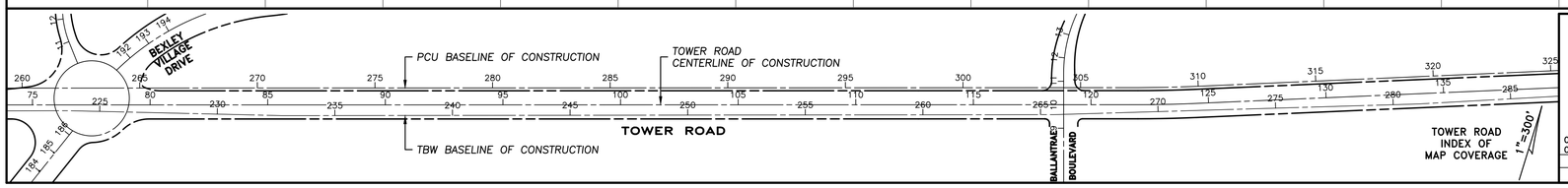
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



TOWER ROAD

SCALE: 1" = 3' VERTICAL
1" = 30' HORIZONTAL





DATE	DESCRIPTION	BY
06-15-15	ADD Vvh DATA	MS
02-05-15	ADD SHWL & GW DATA	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

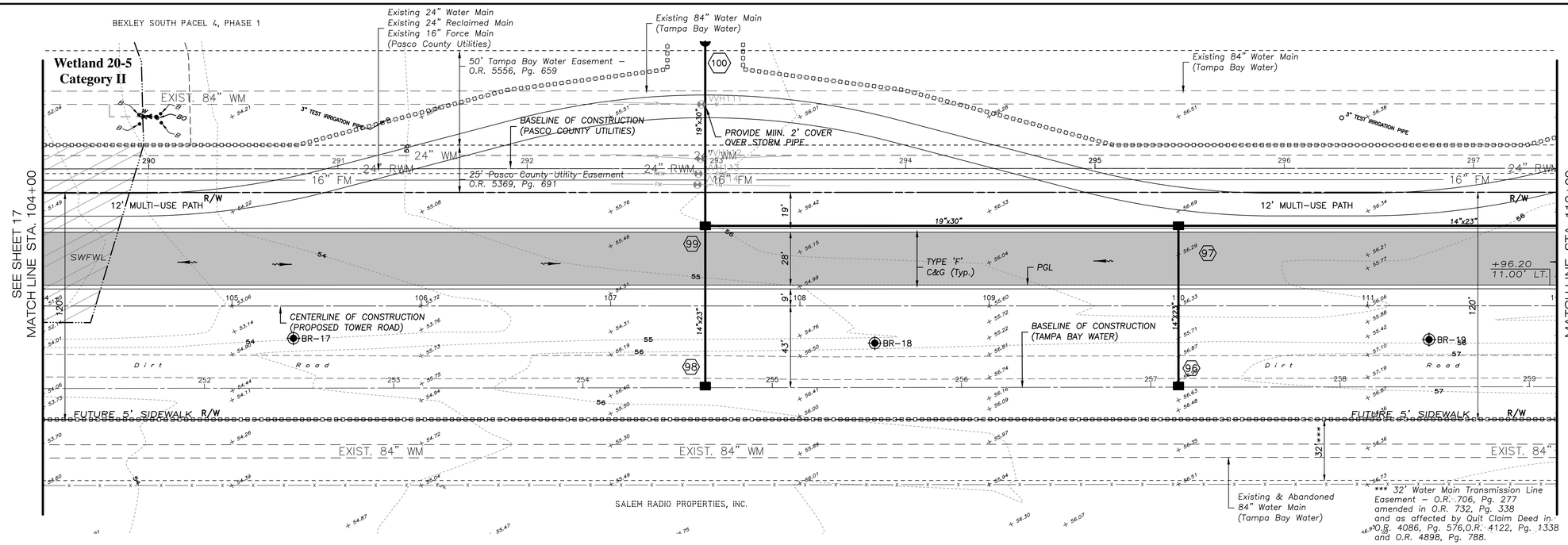
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

TOWER ROAD PLAN & PROFILE

JOB NO.	NLC-BX-026
DESIGN	MS
DRAWN	MS
DATE	12/01/14
FILE	RPTOWER3
PREPARED FOR:	NNP-BEXLEY, LLC

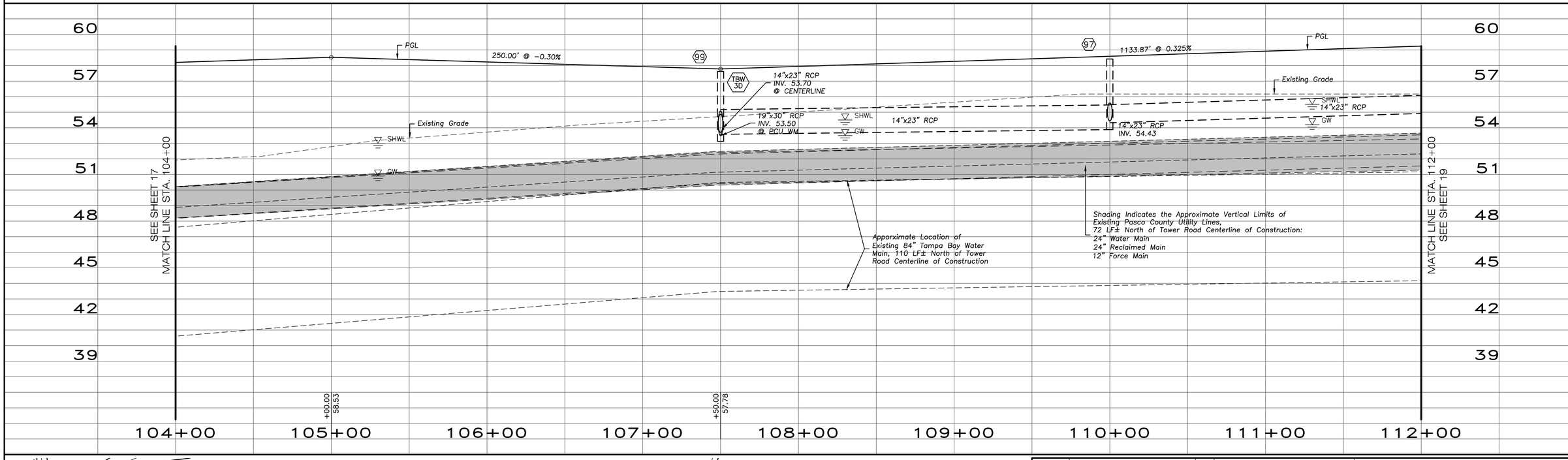
TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

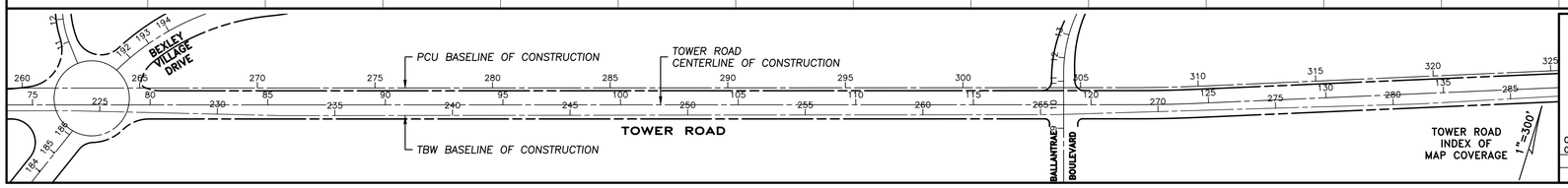
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



TOWER ROAD

SCALE: 1" = 3' VERTICAL
1" = 30' HORIZONTAL





DATE	DESCRIPTION	BY
06-15-15	ADD Vvh DATA	MS
02-05-15	ADD SHWL & GW DATA	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

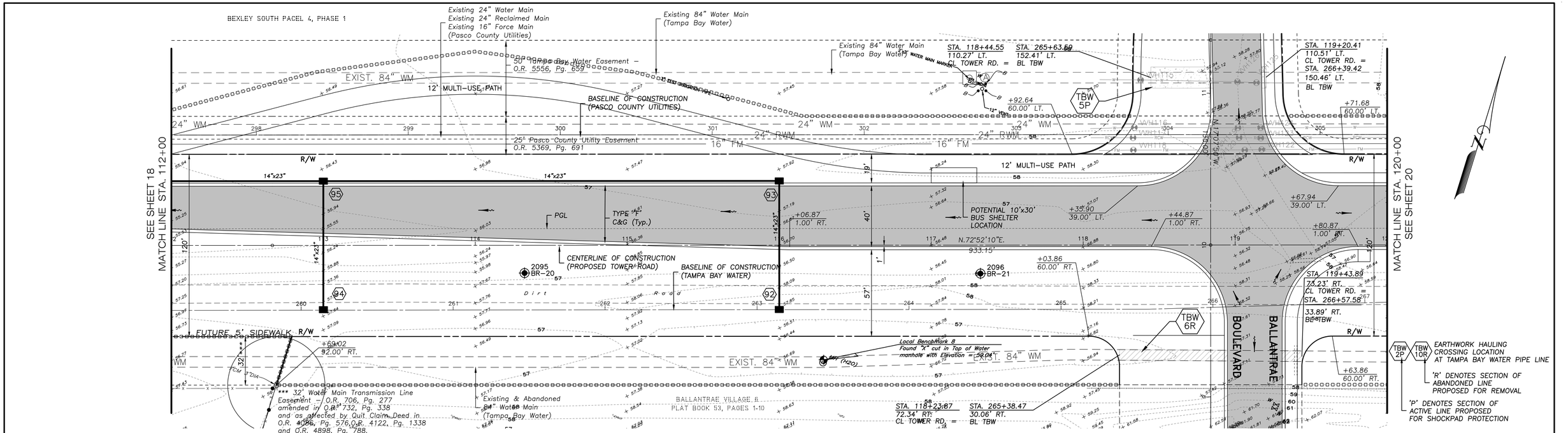
TOWER ROAD PLAN & PROFILE

JOB NO.	NLC-BX-026
DESIGN	MS
DRAWN	MS
DATE	12/01/14
FILE	RPTOWER4

TOWER ROAD -
BEXLEY VILLAGE DRIVE
TO BALLANTRAE BLVD

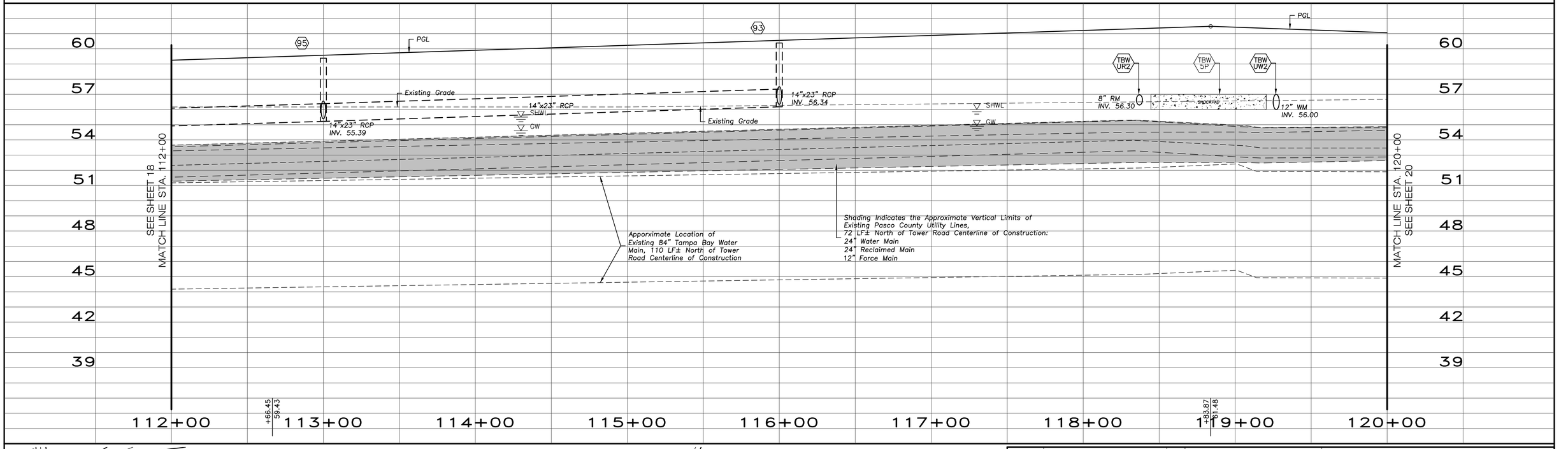
PREPARED FOR: NNP-BEXLEY, LLC

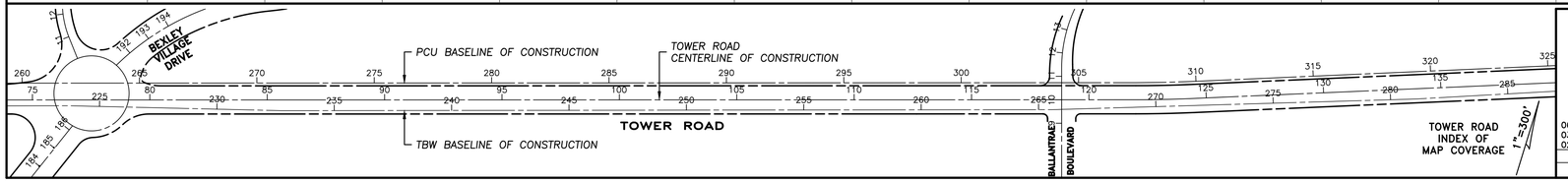
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



TOWER ROAD

SCALE: 1" = 3' VERTICAL
1" = 30' HORIZONTAL





DATE	DESCRIPTION	BY
06-15-15	ADD Vvh DATA	MS
03-26-15	ADD TBW XINGS	JWF
02-05-15	ADD SHWL & GW DATA	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
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1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

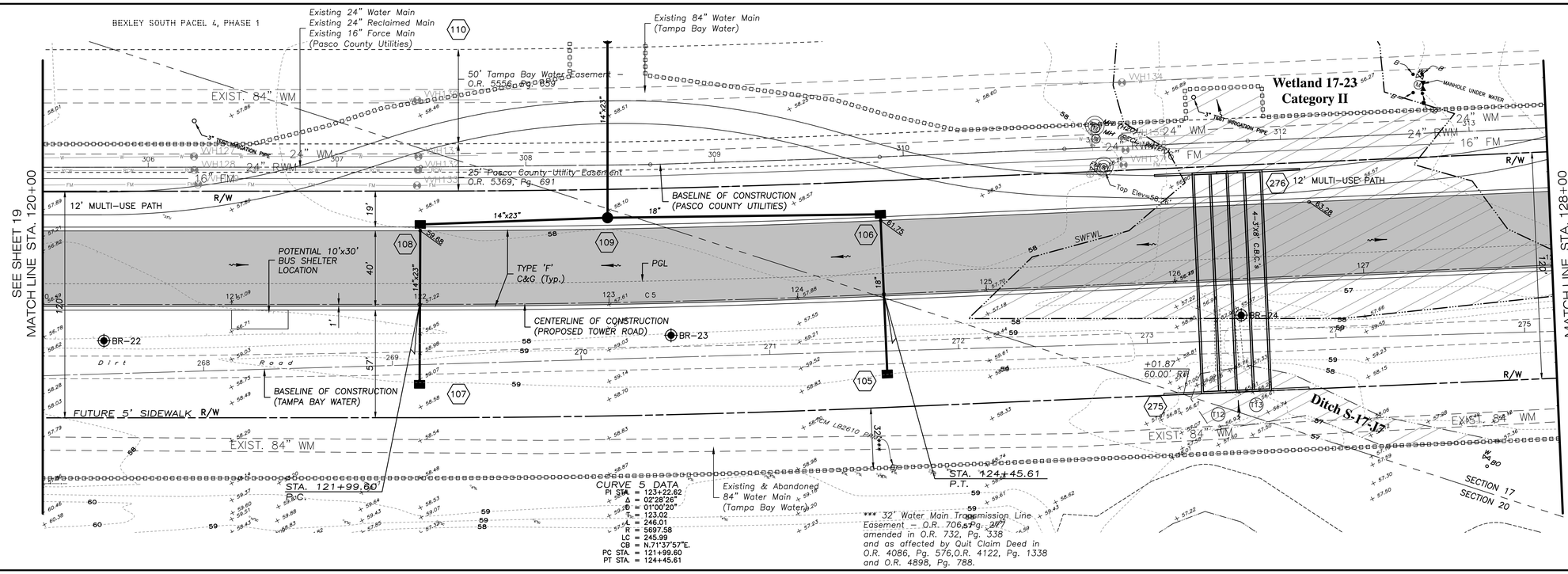
TOWER ROAD PLAN & PROFILE

JOB NO.	NLC-BX-026
DESIGN	MS
DRAWN	MS
DATE	12/01/14
FILE	RPTOWER5

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

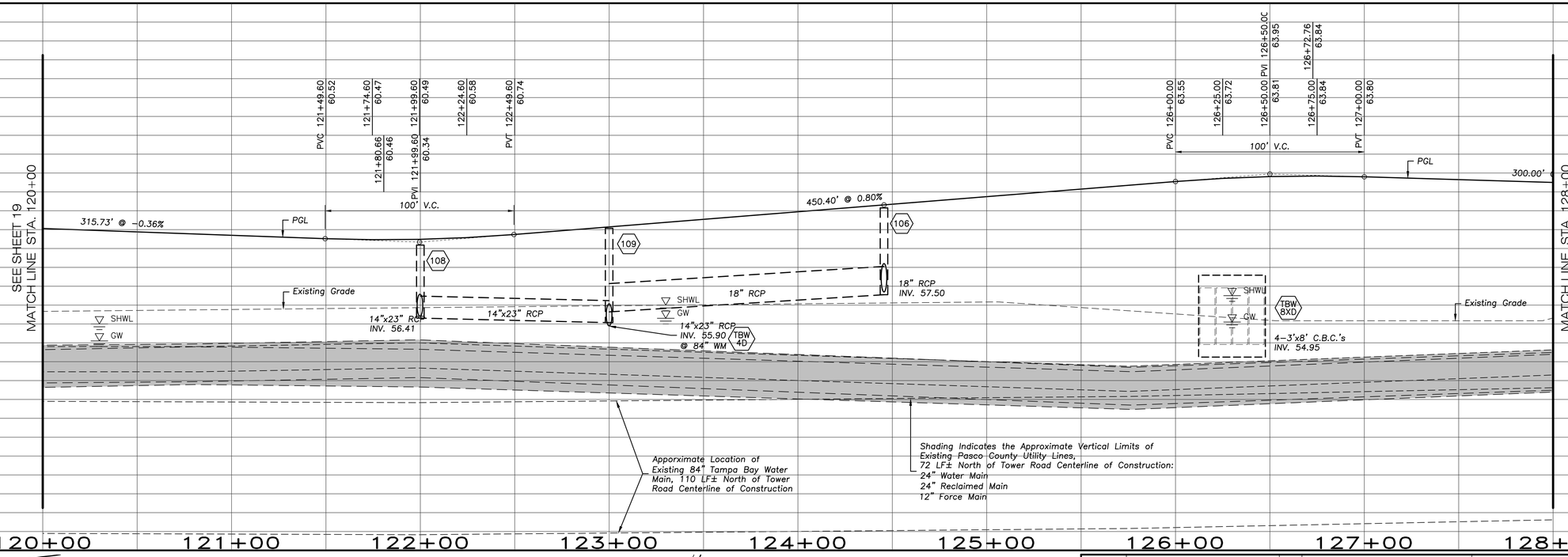
PREPARED FOR: NNP-BEXLEY, LLC

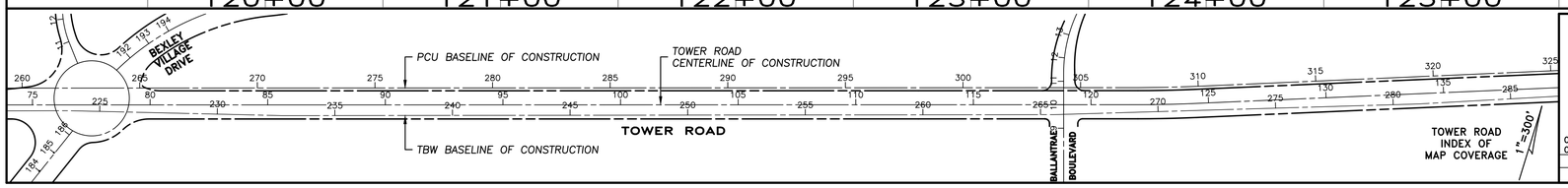
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



TOWER ROAD

SCALE: 1" = 3' VERTICAL
1" = 30' HORIZONTAL





DATE	DESCRIPTION	BY
06-15-15	ADD Vvh DATA	MS
02-05-15	ADD SHWL & GW DATA	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
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DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

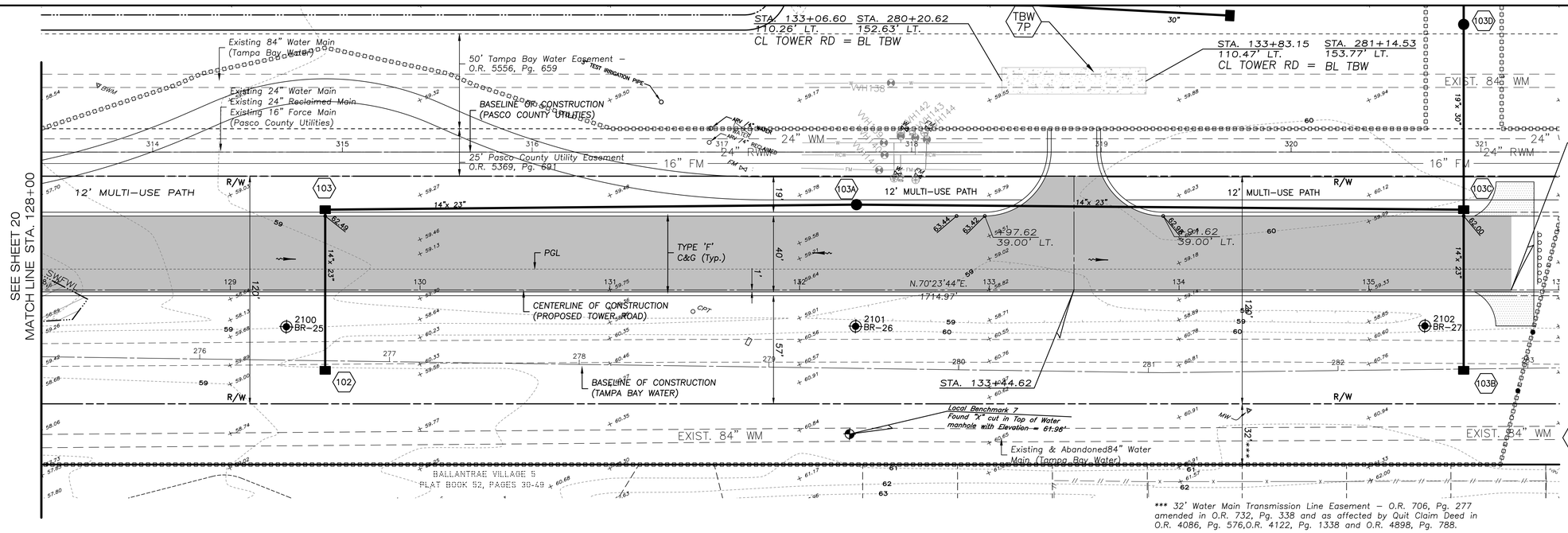
TOWER ROAD PLAN & PROFILE

JOB NO.	NLC-BX-026
DESIGN	MS
DRAWN	MS
DATE	12/01/14
FILE	RPTOWER6

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

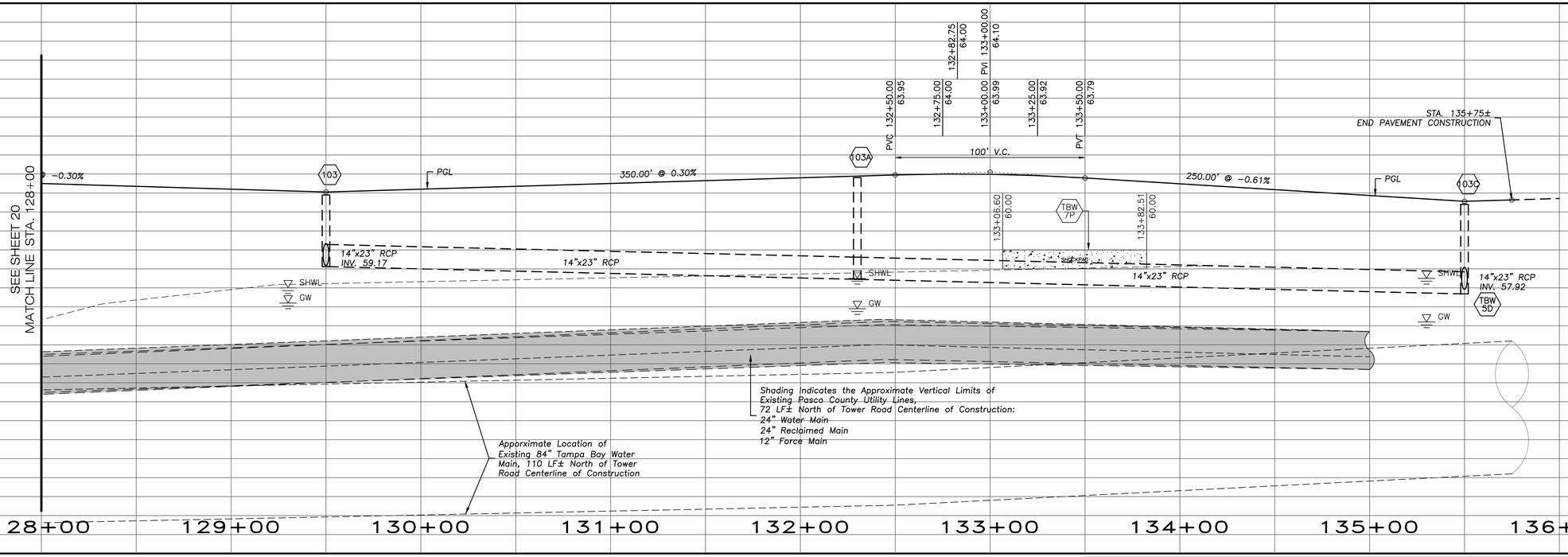
PREPARED FOR: NNP-BEXLEY, LLC

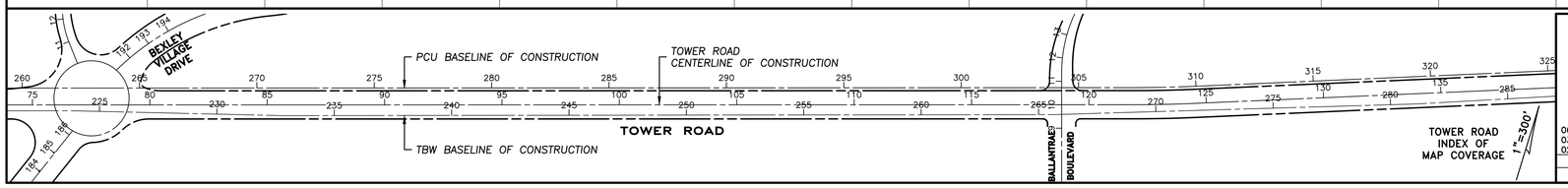
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



TOWER ROAD

SCALE: 1" = 3' VERTICAL
1" = 30' HORIZONTAL





DATE	DESCRIPTION	BY
06-15-15	ADD Vvh DATA	MS
03-26-15	ADD TBW XINGS	JWF
02-05-15	ADD SHWL & GW DATA	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
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DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

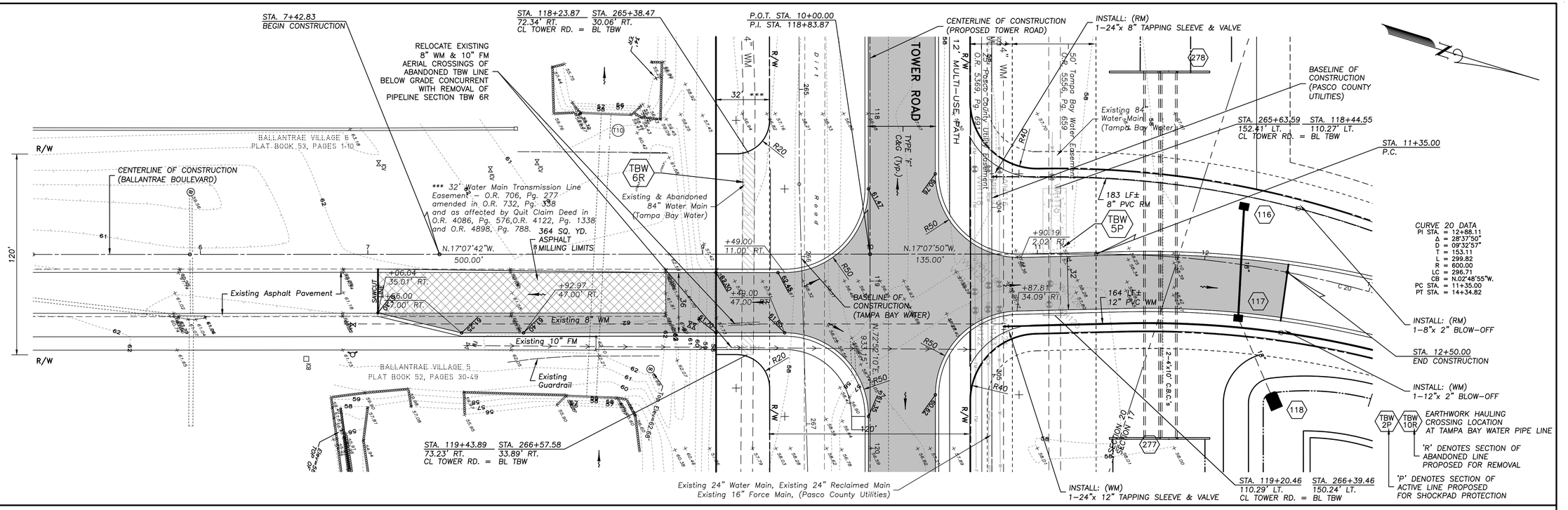
TOWER ROAD PLAN & PROFILE

JOB NO.	NLC-BX-026
DESIGN	MS
DRAWN	MS
DATE	12/01/14
FILE	RPTOWER7

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

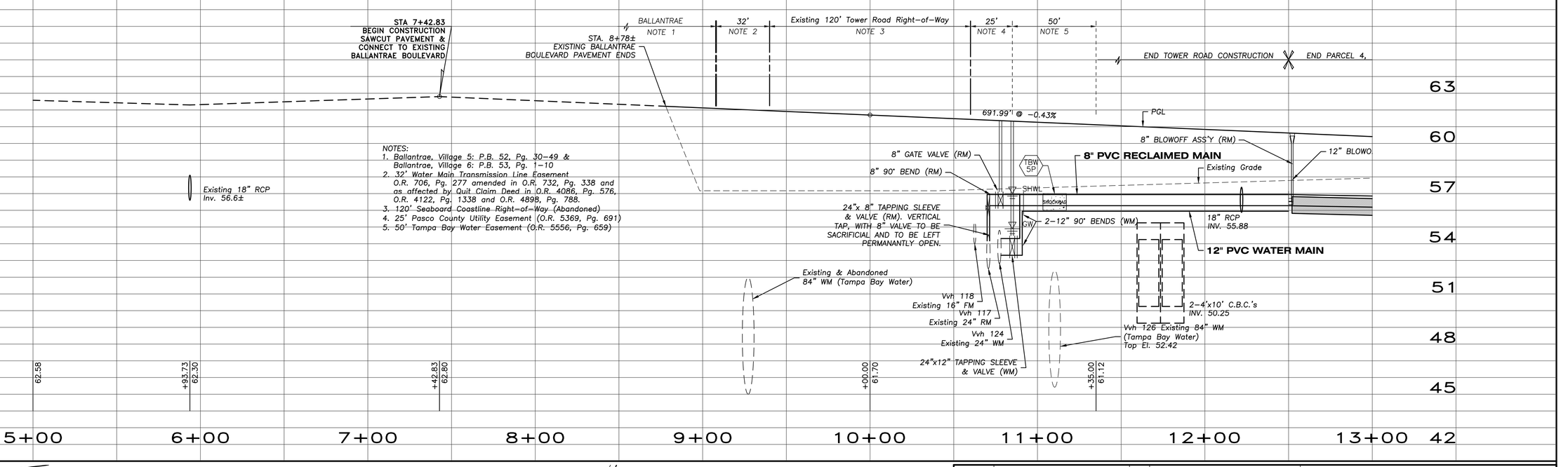
PREPARED FOR: NNP-BEXLEY, LLC

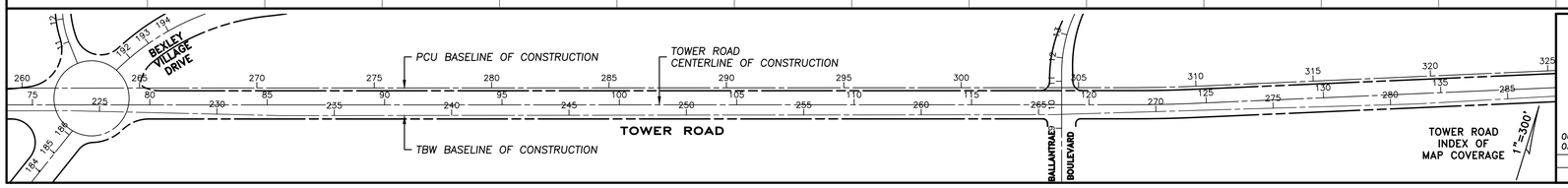
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



BALLANTRAE BOULEVARD

SCALE: 1" = 30' HORIZONTAL





DATE	DESCRIPTION	BY
06-15-15	ADD VVH DATA	STW
03-26-15	ADD TBW XINGS	JWF

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

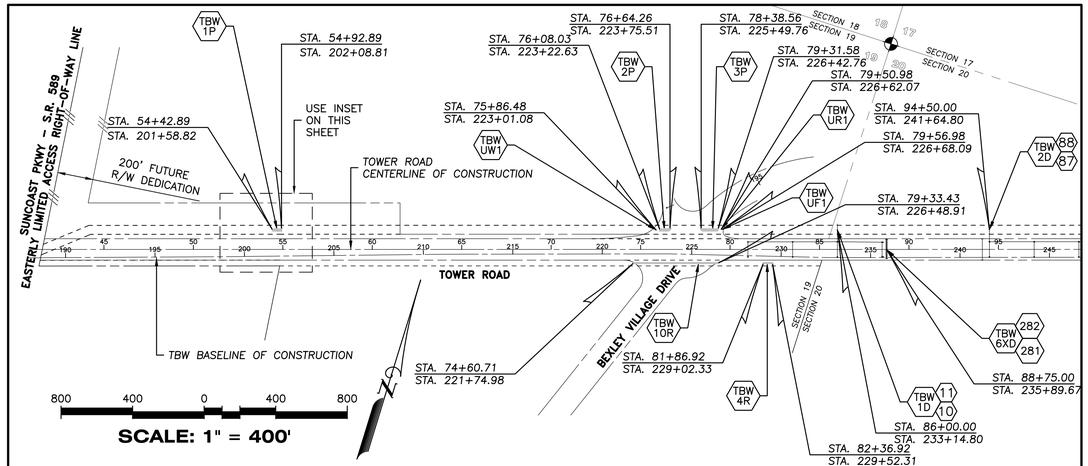
BALLANTRAE BLVD PLAN & PROFILE

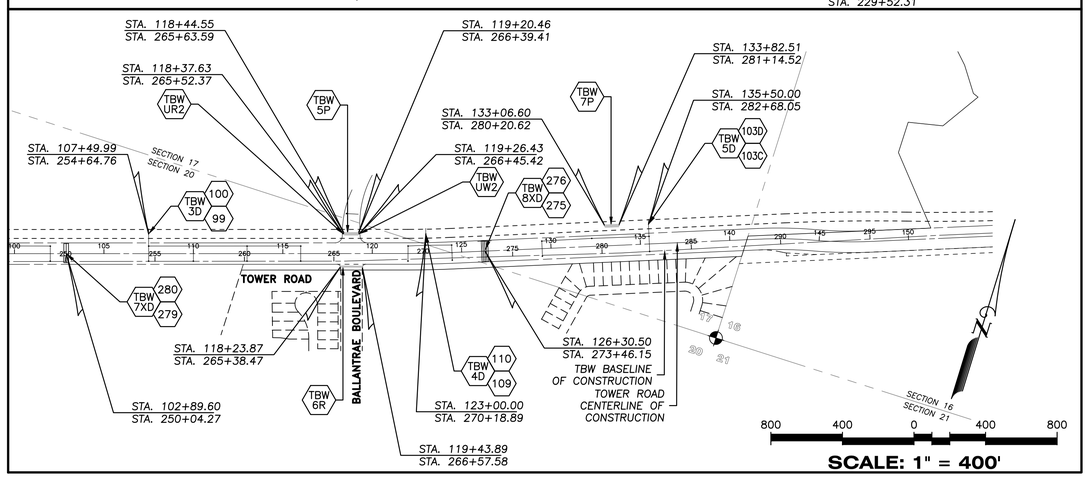
JOB NO.	NLC-BX-026
DESIGN	MS/SW
DRAWN	MS
DATE	12/01/14
FILE	RPTOWER-BALL

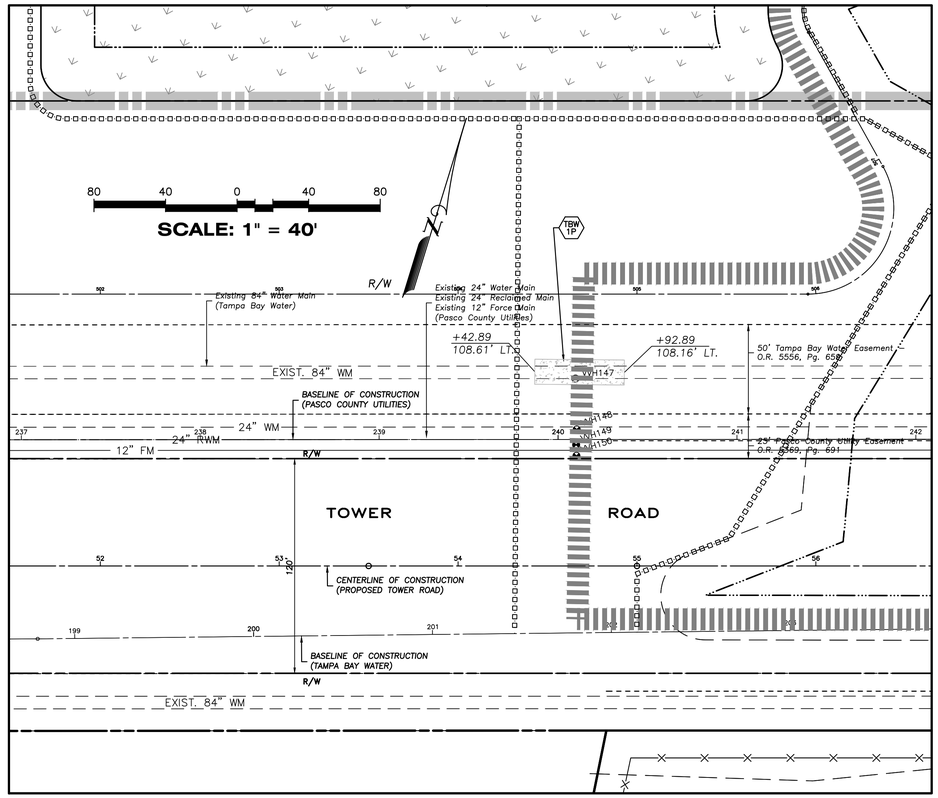
TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: NNP-BEXLEY, LLC

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet







Test Hole	Northing	Easting	Surface Elev.	Measure Down	Top of Utility	Description	Owner	Field Date
Vvh147	1409574.72	481040.25	48.28	5.28	43.00	84" Water Main (Material NFV)	Tampa Bay Water	4/10/2015
Vvh148	1409547.67	481049.29	48.65	3.05	45.60	24" DIP Water Main	Pasco Co.	4/10/2015
Vvh149	1409539.41	481051.50	48.66	2.54	46.12	24" DIP Reclaimed Water Main	Pasco Co.	4/10/2015
Vvh150	1409533.53	481053.48	48.72	2.54	46.18	84" Water Main (Material NFV)	Tampa Bay Water	4/10/2015

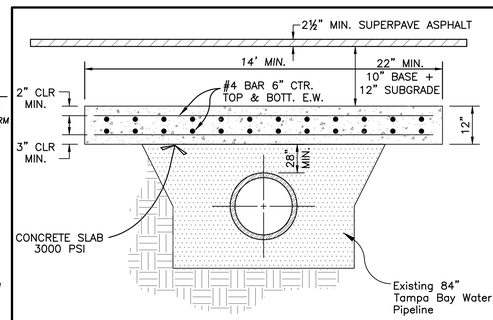
LEGEND

- TBW 9R / TBW 2P — REMOVAL OF EXISTING & ABANDONED PIPELINE; PROTECTION OF ACTIVE 84" PIPELINE
- TBW UW1 — PROPOSED WATER MAIN CROSSING OF ACTIVE 84" PIPELINE
- TBW 30 / 100 / 99 — PROPOSED DRAINAGE STRUCTURES @ STORM CROSSING OF ACTIVE 84" PIPELINE; PROPOSED STORM CROSSING OF ACTIVE 84" PIPELINE
- TBW UF1 — PROPOSED FORCE MAIN CROSSING OF ACTIVE 84" PIPELINE
- TBW 8XD / 276 / 275 — PROPOSED DRAINAGE STRUCTURES @ ROADWAY CROSS-DRAIN; PROPOSED ROADWAY CROSS-DRAIN
- TBW UR1 — PROPOSED RECLAIMED WATER MAIN CROSSING OF ACTIVE 84" PIPELINE

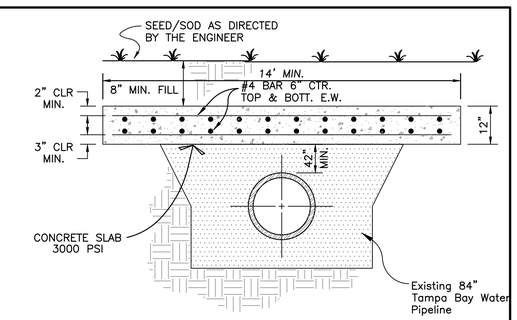
WATER & SANITARY SEWER CONSTRUCTION NOTES:

1. Prior to construction, the Contractor shall obtain from the Engineer or Owner a copy of all pertinent permits related to this project. It is the Contractor's responsibility to assure that all construction activities are in compliance with the conditions of all permits and approvals.
2. Grass and mulch, or solid sod, all areas in existing rights-of-way disturbed by construction.
3. Contractor is to coordinate all work within, but not limited to, Pasco County rights-of-way with utility companies in order to prevent damage to utility lines and the making of adjustments to same, if required.
4. All utility materials and workmanship must comply with Standards for Design and Construction of Water, Wastewater and Reclaimed Water Facilities Specifications, latest edition.
5. Contractor shall be responsible for obtaining any and all road crossing or utility permits.
6. The existing underground utility lines shown hereon were taken from documents furnished by others and not field verified, therefore the Engineer cannot guarantee the accuracy of same nor that all are shown. The Contractor shall expose all underground utility lines in coordination with the Owners to his satisfaction and make adjustments to same in the event there are conflicts with new construction.
7. Contractor shall verify locations and depths of existing water and sewer lines prior to beginning construction.
8. The locations and elevation of all service lines are to be determined in the field by Owner and/or Contractor prior to construction of same.
9. Fire hydrant, gate valve and blow-off valve assemblies shall consist of all pipe, valves, tees, fittings, and any and all other appurtenances comprising a complete, working unit.
10. All fire hydrants shall be flow tested and color coded based on flow results.
11. Per NFPA-1, 16.4.3.1.3: where underground water mains and hydrants are to be provided, they shall be installed, completed, and in service prior to construction work.
12. Fire hydrants shall be installed and in service prior to the accumulation of combustibles.
13. All 4"–12" PVC water main pipe shall be C–900 DR 18, conforming to the requirements found in AWWA Standard, latest edition at the time of plan approval. 16" water main shall be C–905 DR 25 PVC. All service pipe less than 4" in diameter shall be PVC Pressure Pipe; Pressure Rate 200; DR 21 per ASTM Standard D–2241. Water mains smaller than 2" in diameter shall be Class 1120 or 1220 ; Schedule 80 and meet the requirements of ASTM D–1785.
14. All water main pipe and fittings installed under this project shall be color coded or marked in accordance with subparagraph 62–555.320(21)(b)3, Florida Administrative Codes, using blue as the predominant color.
15. All 8" sanitary sewer pipe shall be constructed at a 0.40% minimum slope unless otherwise noted.
16. Force mains shall be constructed of C–900 DR 18 PVC pigmented green.
17. Adjusting manhole tops to match grade and slope of the finish paving shall be included in the respective contract unit price for manholes, payment of which will constitute full compensation for the construction and completion of the manhole, and no additional payment will be allowed or made for adjusting manhole tops.
18. Bends shall be installed in force main or water main to avoid unforeseen conflicts in existing or proposed structures.
19. The joint deflection method shall be used where practical in lieu of installing bends.
20. All valve box assemblies located within roadways or parking areas shall be protected from truck traffic by use of 6" thick reinforced concrete pads poured around valve boxes (see detail).
21. Connections into existing county-owned systems shall be via wet tap. Wet taps shall be performed by the Pasco County Utilities Services Branch at the developer's expense. Material for wet taps larger than 2" shall be provided and installed by the project contractor. Excavation, backfill and surface restoration shall be the contractor's responsibility.
22. Gate valves installed for phasing shall be restrained per current Pasco County standards.
23. Off-road utility easements shall be "stabilized" for access by maintenance vehicles.
24. Stub-out lines on the water main and force main shall have restrained joints from the main line to the stub-out.
25. All PVC pressure pipe shall have a minimum 36" cover.
26. Maintain 5' minimum horizontal separation between reclaimed mains and water mains or force mains.
27. All water mains shall be deflected vertically where crossing storm sewer pipe to obtain a minimum vertical distance of 18 inches between the outside of the water main and the outside of the storm sewer. Joints shall be located such that the distance from the storm sewer and water main joint is as far as practical.
28. Water mains should be laid at least 10 feet horizontally from any existing or proposed storm sewer.
29. At no time should vertical clearance between force main or gravity sewer and water main be less than 18" at crossing of same.
30. At no time should horizontal clearance between force main or gravity sewer and water main be less than 10' when same are paralleling each other.
31. Sanitary sewers, force and reclaimed mains and storm sewers should cross under water mains. Sanitary sewers, force and reclaimed mains and storm sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the invert of the upper pipe and the crown of the lower pipe whenever possible.
32. When sanitary sewers, force and reclaimed mains and storm sewers must cross a water main with less than 18 inches vertical distance, both the sewer and the water main shall be constructed of ductile iron pipe (DIP) at the crossing. (DIP is not required for storm sewers if it is not available in the size proposed). Sufficient lengths of DIP must be used to provide a minimum separation of 10 feet between any two joints. All joints on the water main within 20 feet of the crossing must be leak free and mechanically restrained. A minimum vertical clearance of 6 inches must be maintained at the crossing.
33. Where there is no alternative to sewer and reclaimed pipes crossing over a water main, the criteria for minimum separation of 18 inches between lines and 10 feet between joints shall be required.
34. All crossings shall be arranged so that the sewer and reclaimed pipes joints and the water main pipe joints are equidistant from the point of crossing (pipes centered on the crossing).
35. Where a new pipe conflicts with an existing pipe, the new pipe shall be constructed of DIP and the crossing shall be arranged to meet the requirements above.
36. A minimum 10-foot horizontal separation shall be maintained in parallel installations between any type of sewer (including drainage inlets) and water main whenever possible. A minimum 5-foot horizontal separation shall be maintained in parallel installation between reclaimed water mains and water mains, and between reclaimed water mains and sanitary sewers whenever possible.
37. In cases where it is not possible to maintain a 10-foot horizontal separation between any type of parallel sewer and water main, or a 5-foot separation between reclaimed main and water main, the water main must be laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer, reclaimed main, or force main at such an elevation that the bottom of the water main is at least 18 inches above the top of the sewer.
38. Where it is not possible to maintain a vertical distance of 18 inches or a horizontal distance of 10 feet in parallel installations, the water main shall be constructed of DIP and the sewer, reclaimed main or the force main shall be constructed of DIP (if available in the size proposed) with a minimum vertical distance of 6 inches. The water main should be above the sewer, reclaimed main, or force main. Joints on the water main shall be located as far apart as possible from joints on the sewer, reclaimed main, or force main (staggered joints).
39. All subsurface construction shall comply with the "Trench Safety Act." The Contractor shall ensure that the method of trench protection and construction is in compliance with the Occupational Safety and Health Administration (OSHA) Regulations.
40. Fire protection shall meet the requirements of the Pasco County Code, Chapter 46, Fire Prevention and Protection, and plans shall comply with referenced requirements.
41. "Contractor's Responsibilities" regarding wet taps two inches and larger shall be as follows:
    - 2" Only — This excavated trench must be dry or the trench will require rock and a pump to be in place. The minimum distance from the face of the valve to the wall of the trench is to be six feet.
    - 3" and Larger — The contractor will supply a tapping saddle being epoxy coated, a tapping valve with mechanical joint and the equipment to provide, and conduct a pressure test. County personnel will witness the pressure test which must be at 150 psi for a duration of thirty minutes.
    - The contractor is responsible for the excavation before any County personnel will enter an excavated area. If the trench is four feet in depth or deeper, it will require a trench box or sloping, and a ladder according to Occupational Safety and Health (OSHA) standards.
    - The tapping valve will require a blocking device made of suitable material or device. This blocking device or material will be placed under the valve and remain in place until the tap machine is removed and the tap is completed.
    - Note: If the contractor has not fulfilled his responsibilities, as stated above, prior to the arrival of Pasco County Utilities Operations and Maintenance tapping crew, there will be an additional charge of $95.00.

If you have any questions regarding this information, contact Nelson D. Holt, Field Supervisor, Utilities Services Branch, at (727) 847–8145, or e–mail nholt@pascocountyfl.net.



PROTECTION REQUIREMENTS AT
LOCATION TBW 2P (SHEETS 12 & 14)
LOCATION TBW 3P (SHEETS 12 & 14)
LOCATION TBW 5P (SHEETS 19 & 22)
LOCATION TBW 7P (SHEET 21)



PROTECTION REQUIREMENTS AT
LOCATION TBW 1P
STA. 54+42 to STA. 54+93 (TOWER RD.)
STA. 201+59 to STA 202+09 (TBW)
SEE SHEETS 7 & 23

DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813–223–3919 Fax: 813–223–3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

TOWER ROAD UTILITY DETAILS

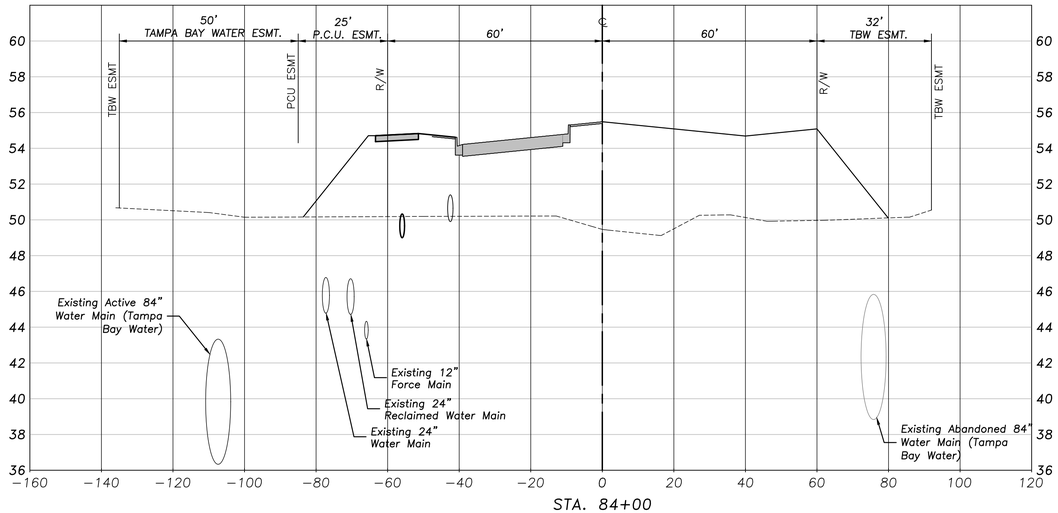
JOB NO. NLC–BX–026
DESIGN MS
DRAWN MS
DATE 12/01/14
FILE TOWER–SUE1

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

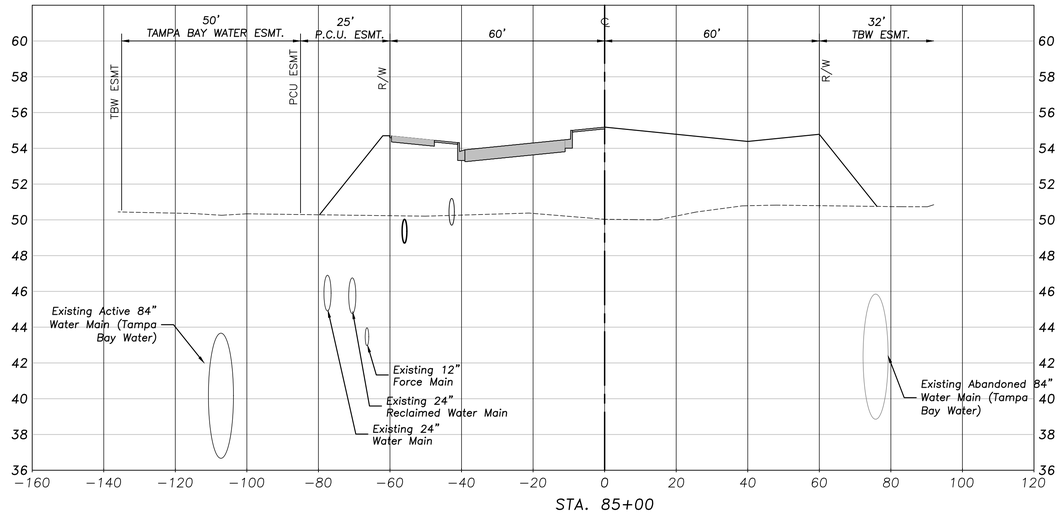
PREPARED FOR: NNP-BEXLEY, LLC

Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 23 OF 52 SHEETS



STA. 84+00



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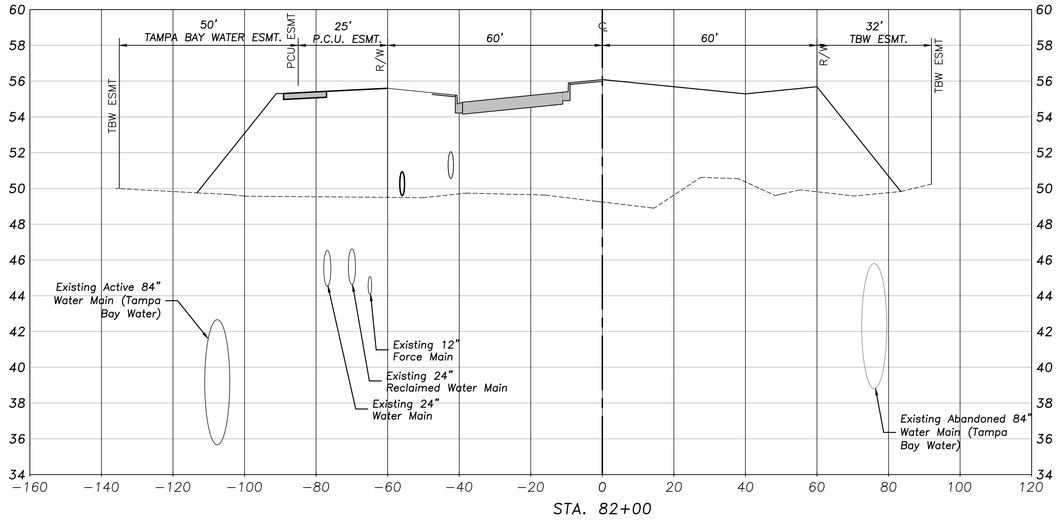

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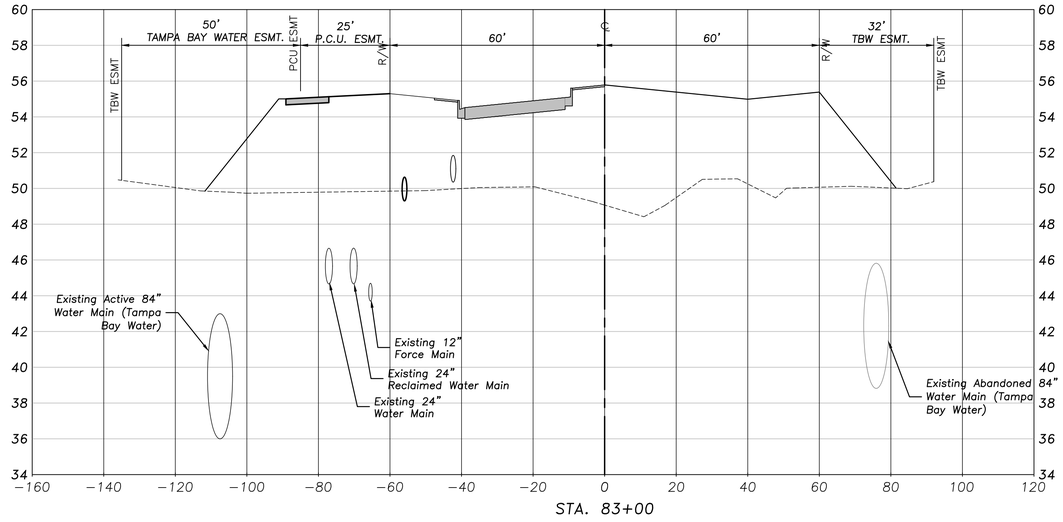

STA. 83+00

SCALE:
1"=20 HORIZ
1"=4' VERT

DATE	DESCRIPTION	BY
	REVISIONS	

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Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

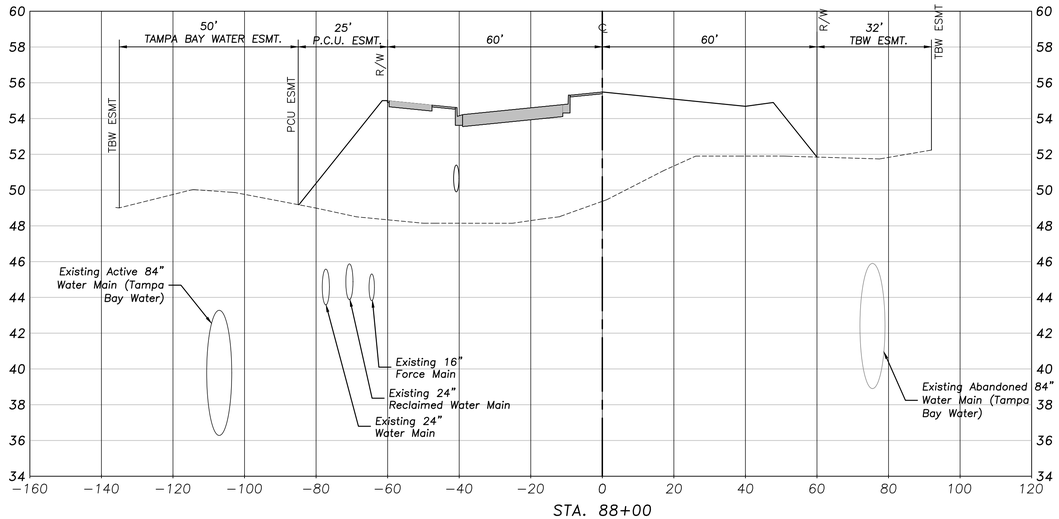
CROSS-SECTIONS

JOB NO. NLC-BX-026
DESIGN MS/TF
DRAWN DM/TF/MS
DATE 12/01/14
FILE XSEC

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: NNP-BEXLEY, LLC

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



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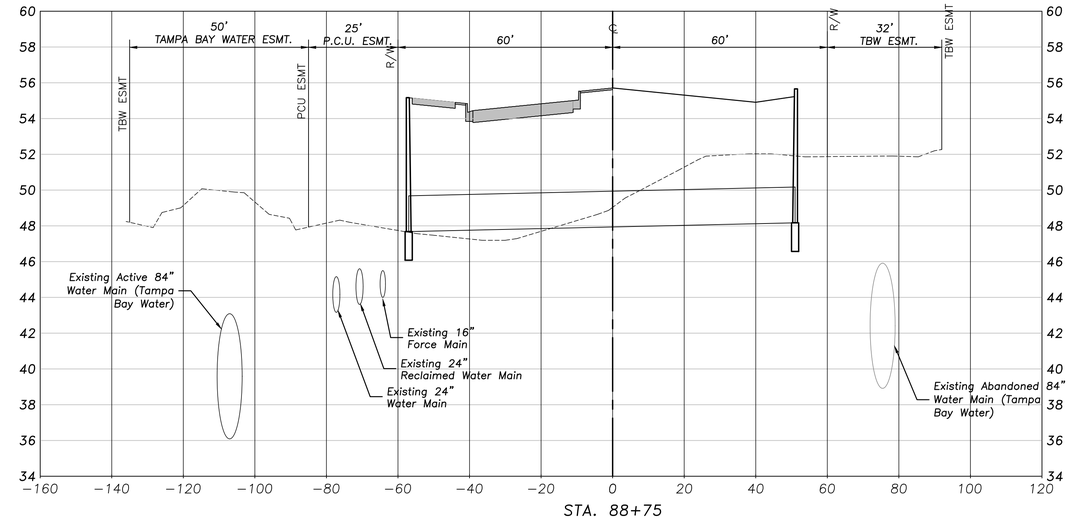

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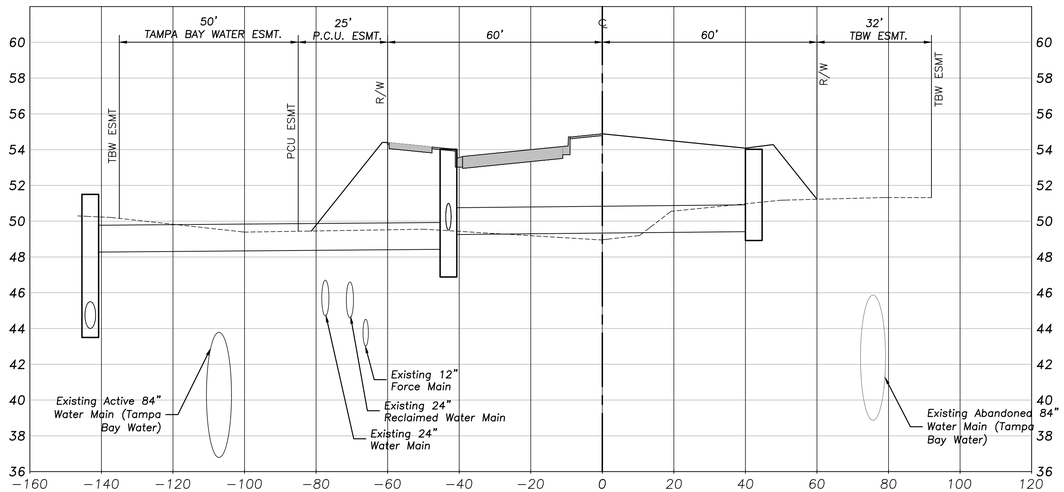

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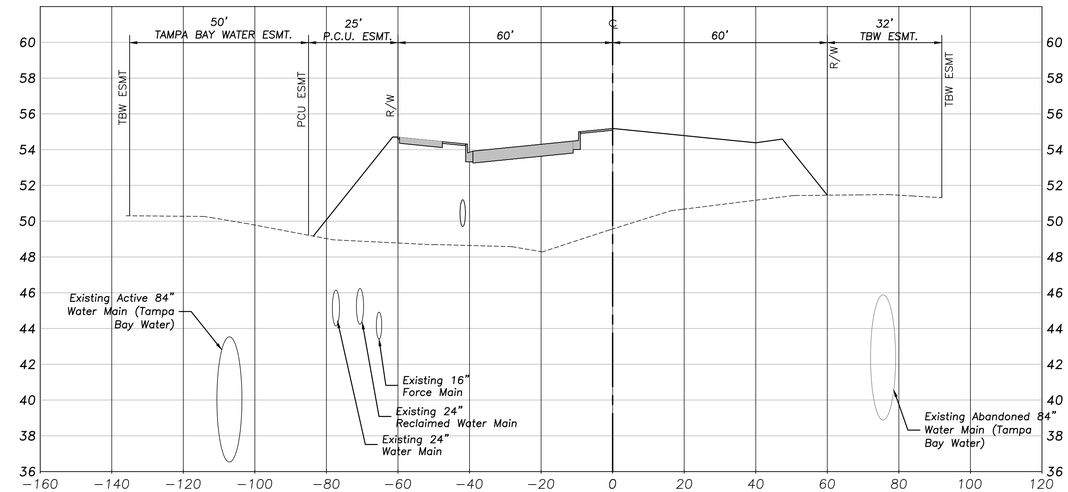

STA. 87+00

SCALE:
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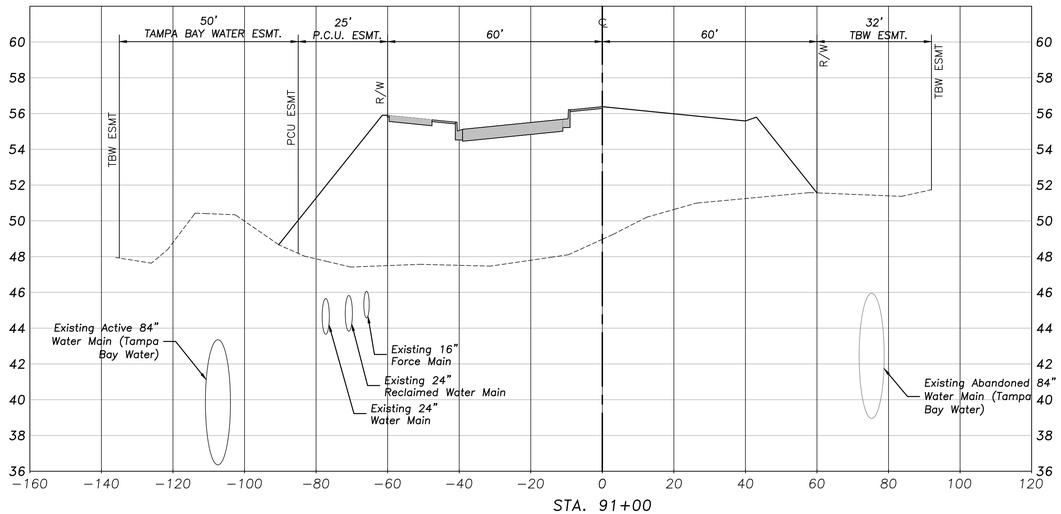
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

CROSS-SECTIONS

JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN MS/TF	
DRAWN DM/TF/MS	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE XSEC	SHEET 25 OF 52 SHEETS



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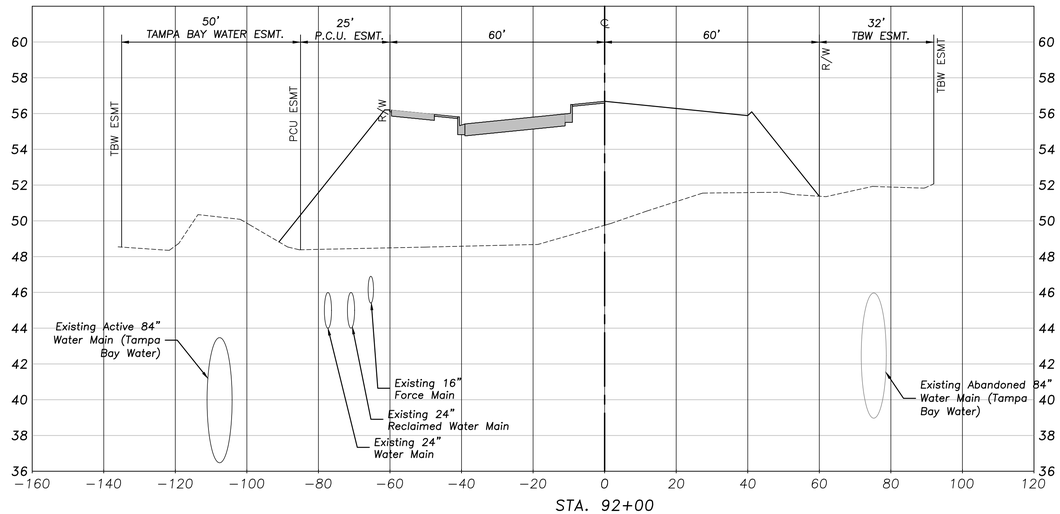

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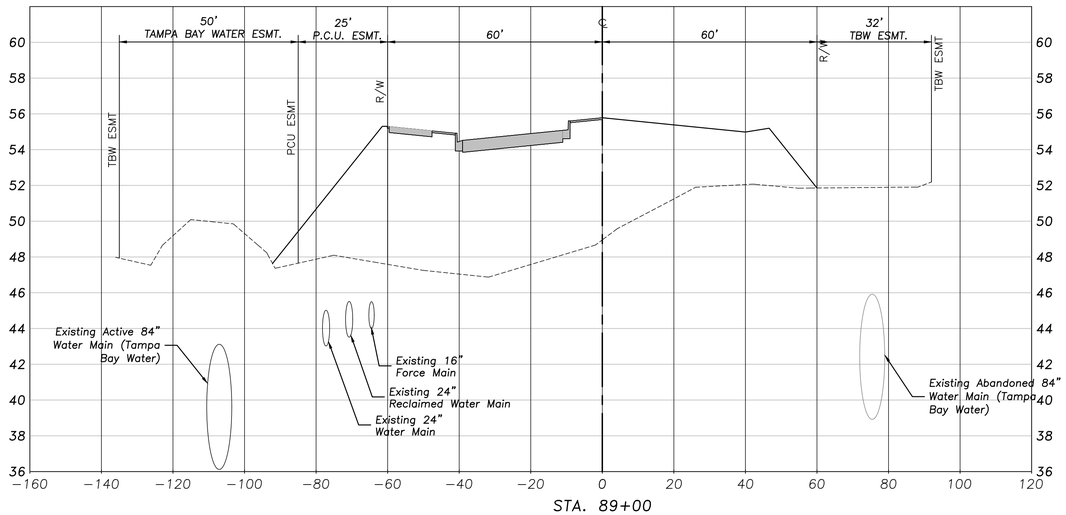

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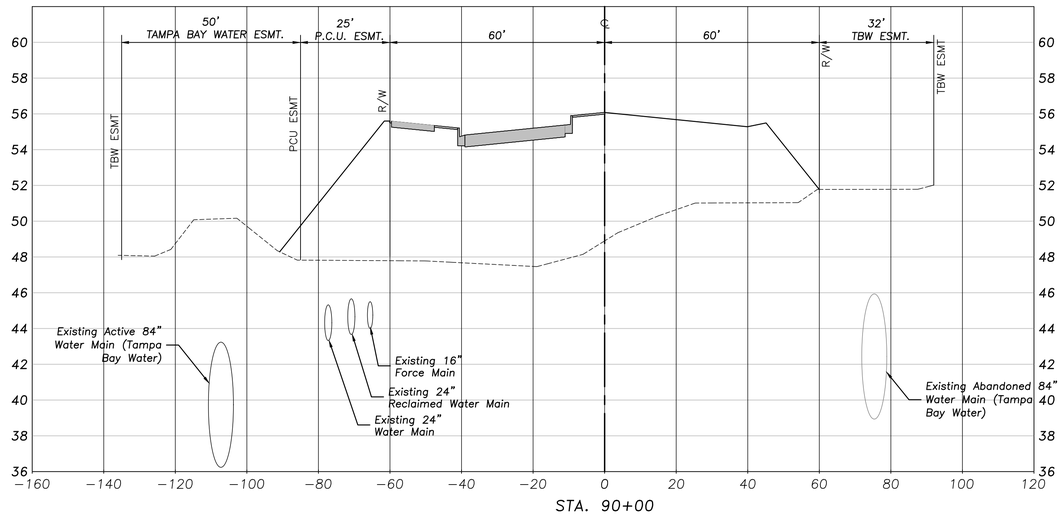

STA. 90+00

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CROSS-SECTIONS

JOB NO. NLC-BX-026
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DATE 12/01/14
FILE XSEC

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PREPARED FOR: NNP-BEXLEY, LLC

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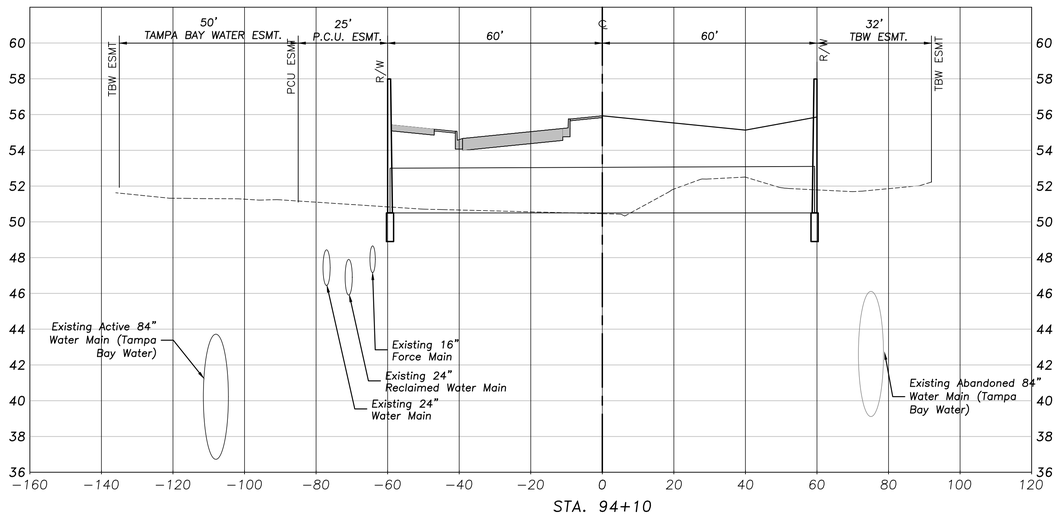

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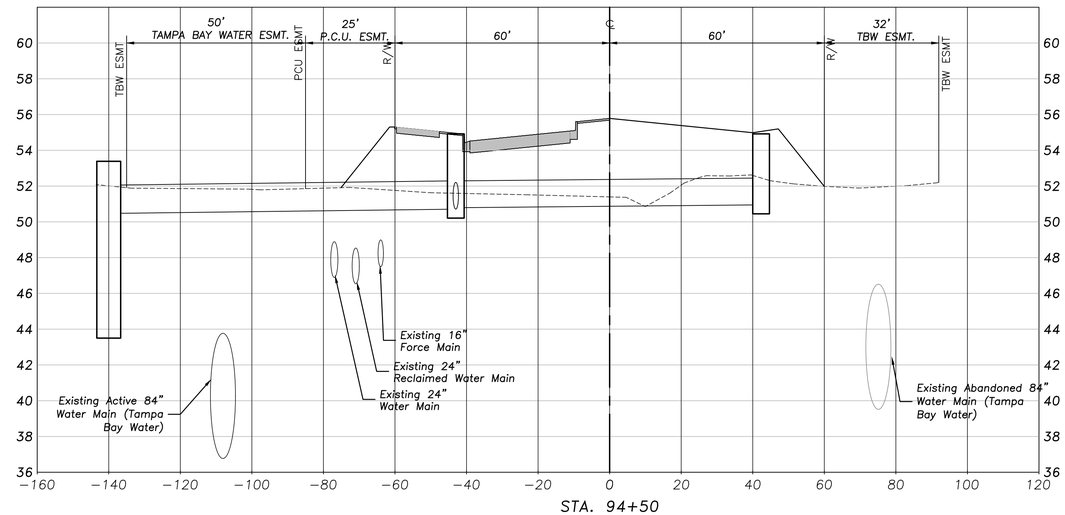

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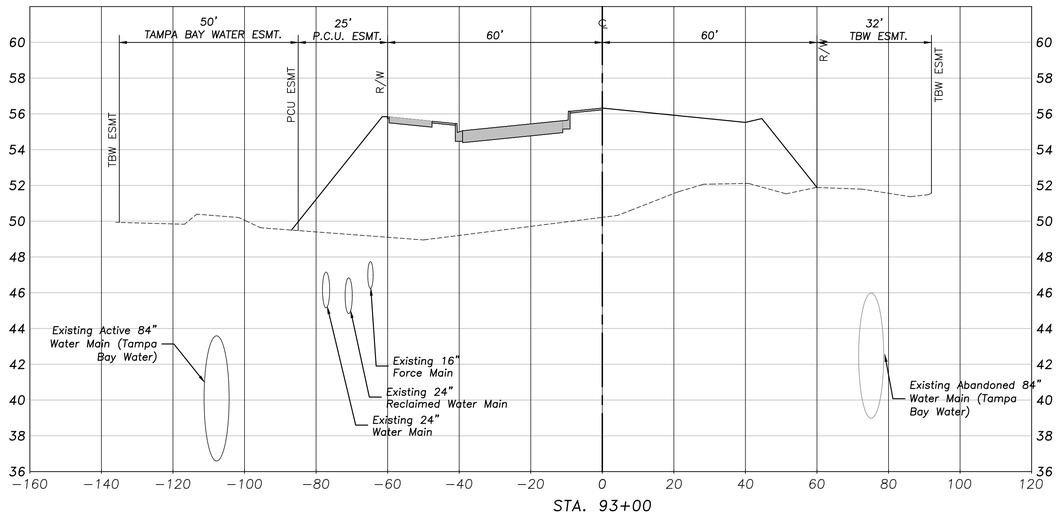

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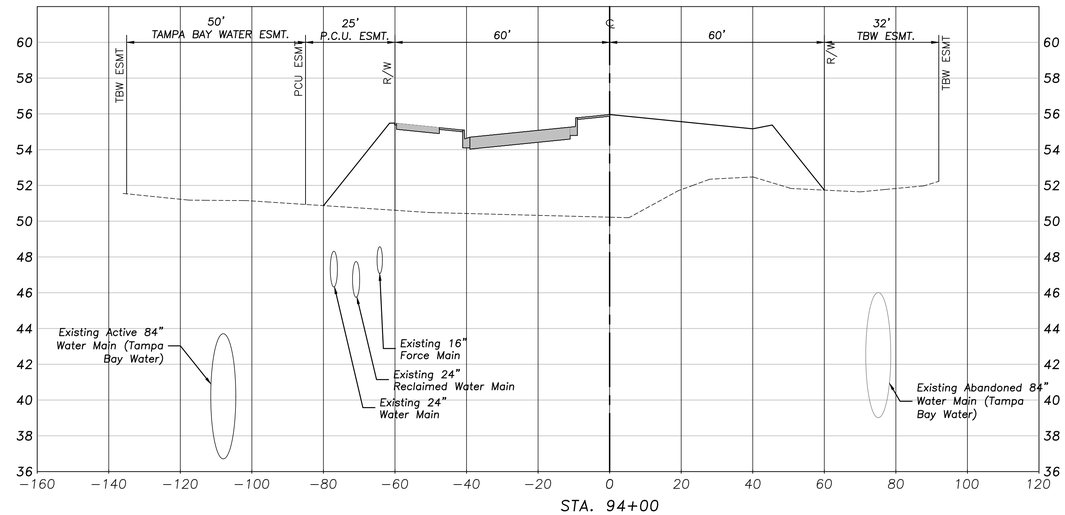

STA. 94+00

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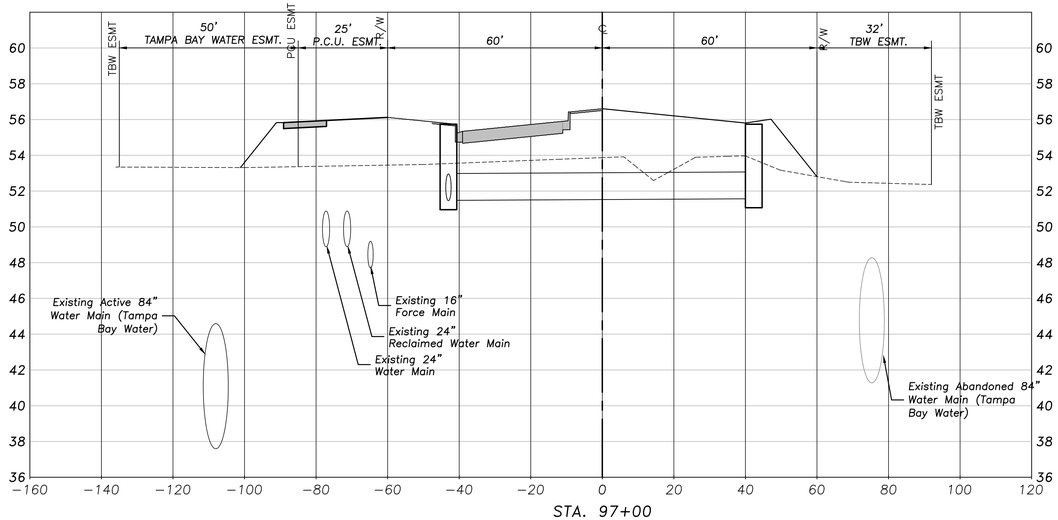

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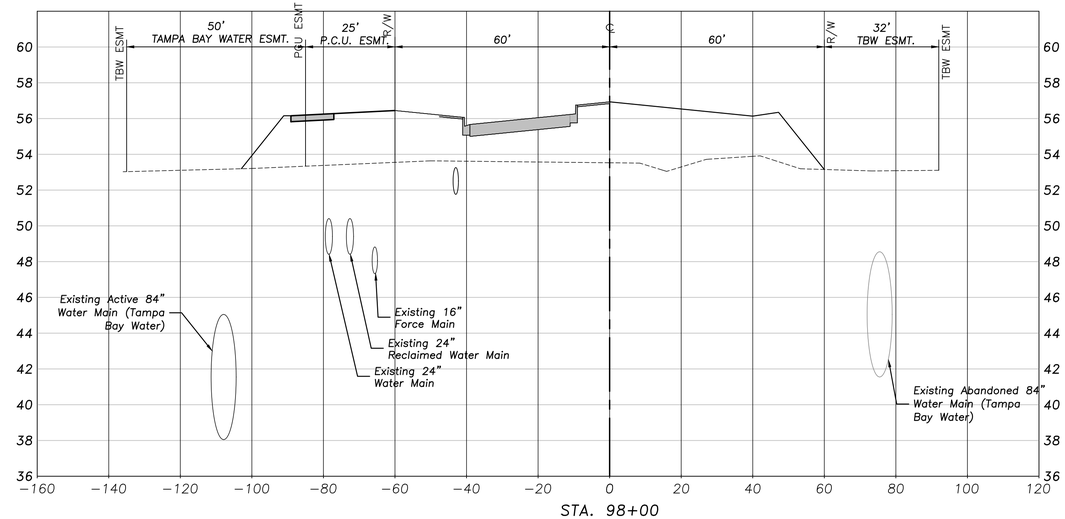

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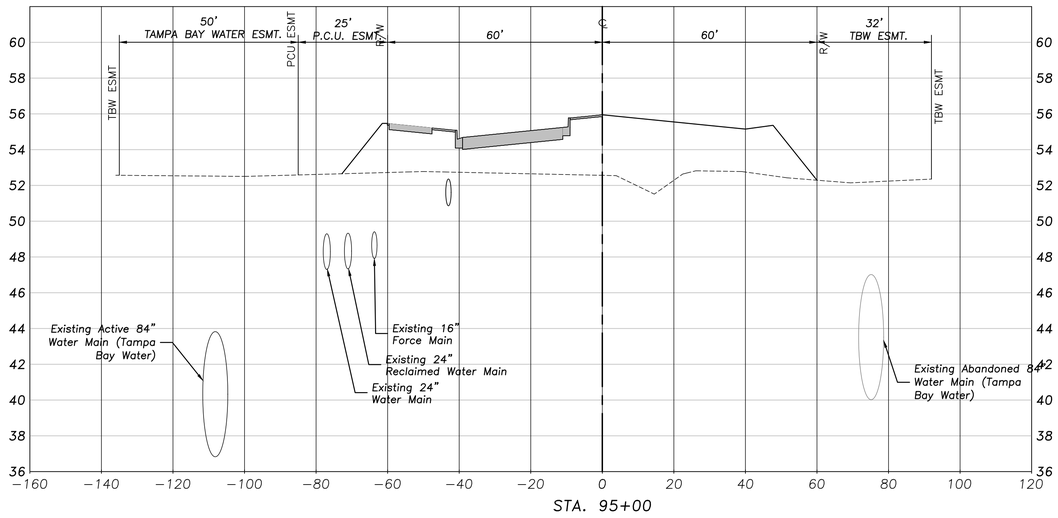

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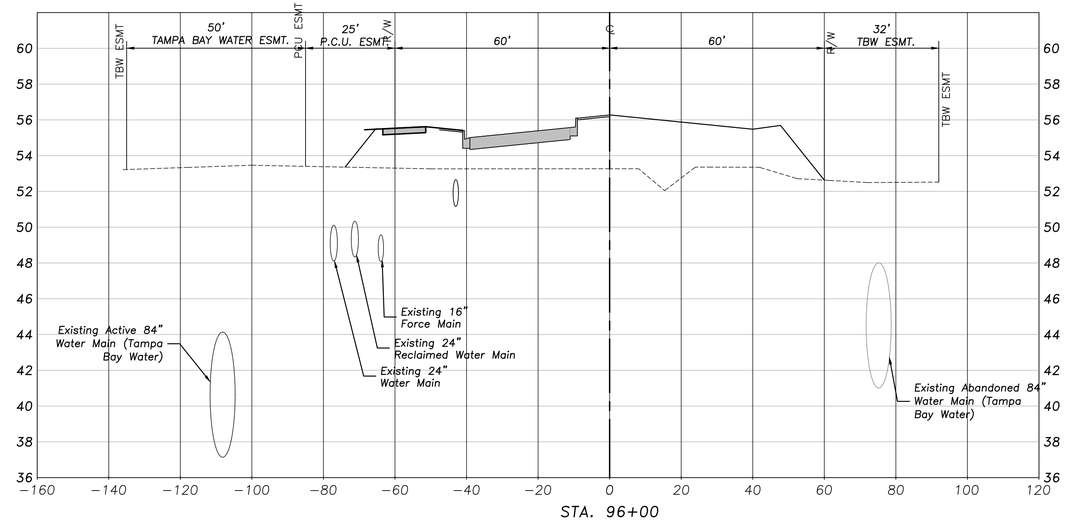

STA. 96+00

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1213 E. 6th Avenue, Tampa, Florida 33605
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DATE:
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FLORIDA PROFESSIONAL ENGINEER

CROSS-SECTIONS

JOB NO. NLC-BX-026
DESIGN MS/TF
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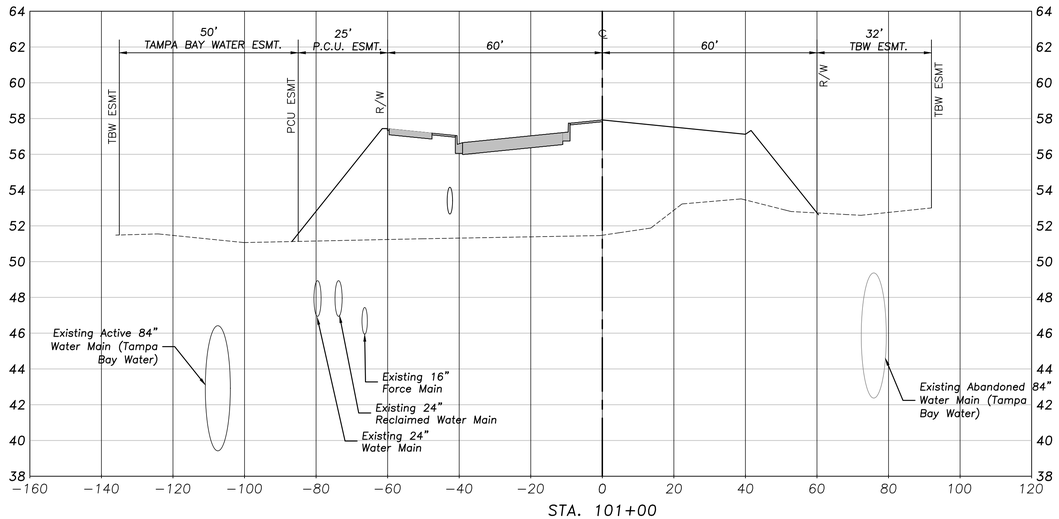
DATE 12/01/14
FILE XSEC

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: NNP-BEXLEY, LLC

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



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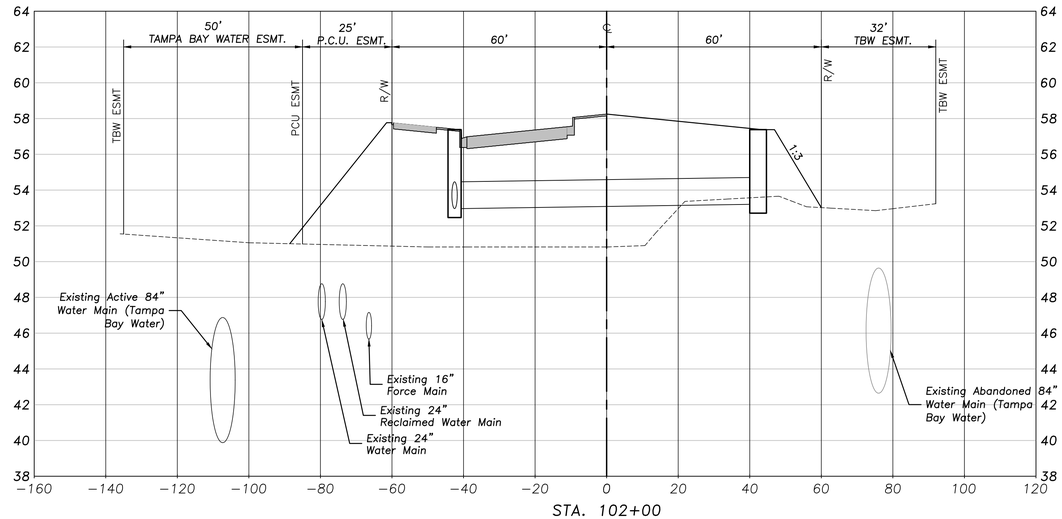

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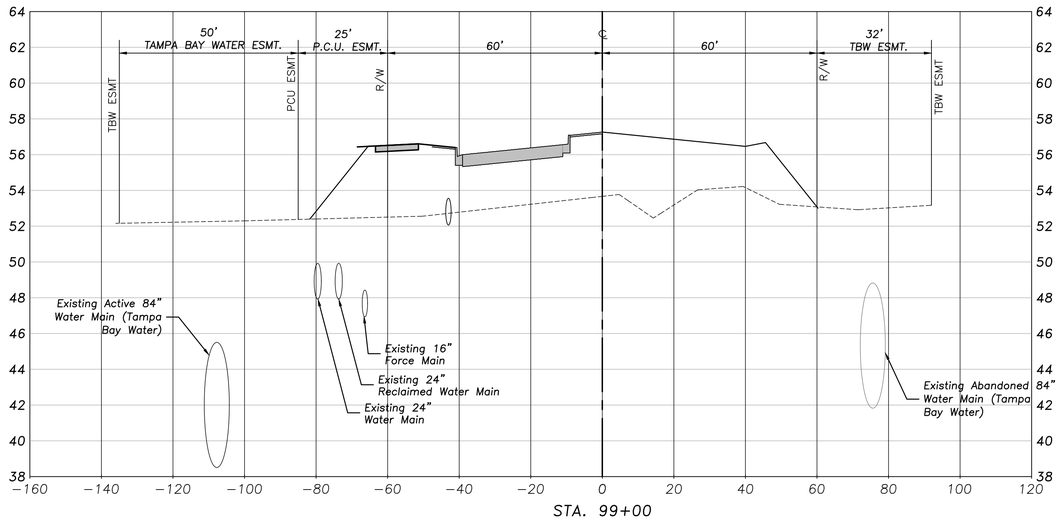

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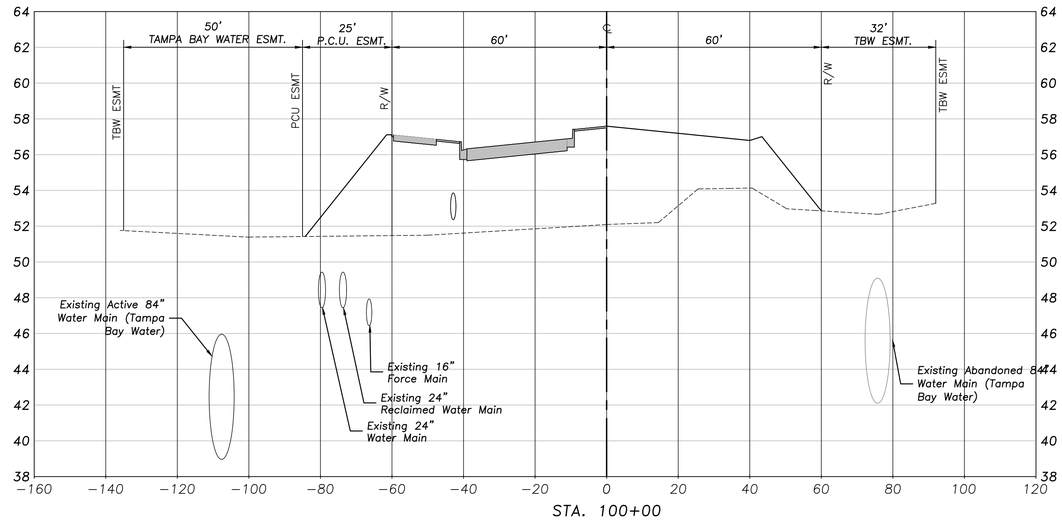

STA. 100+00

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JOB NO. NLC-BX-026

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

DESIGN MS/TF

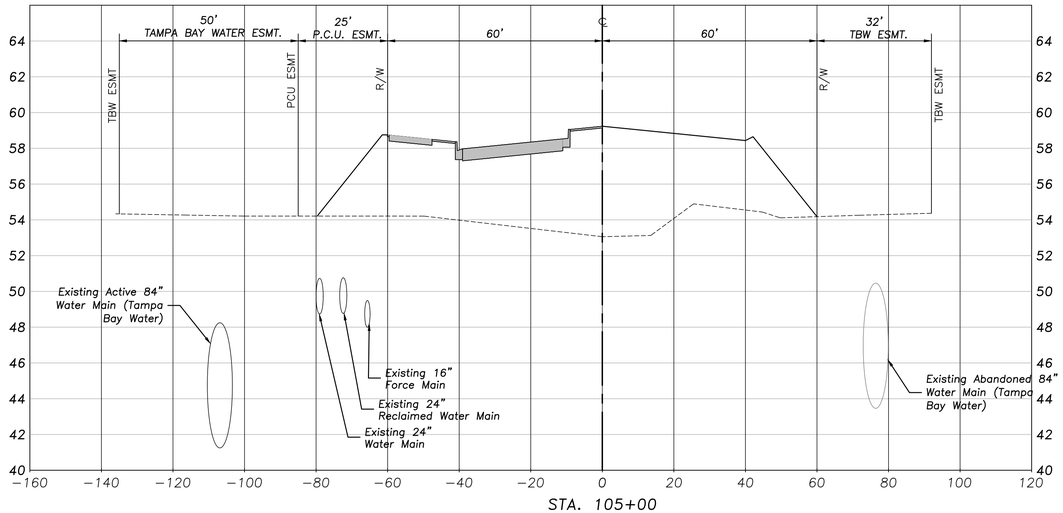
DRAWN DM/TF/MS

PREPARED FOR: **NNP-BEXLEY, LLC**

DATE 12/01/14

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

FILE XSEC



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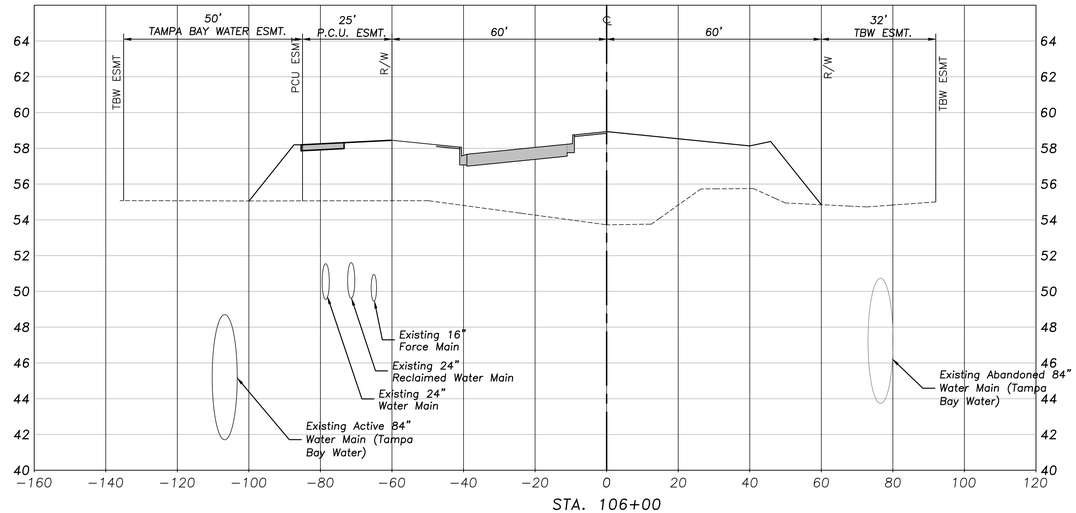

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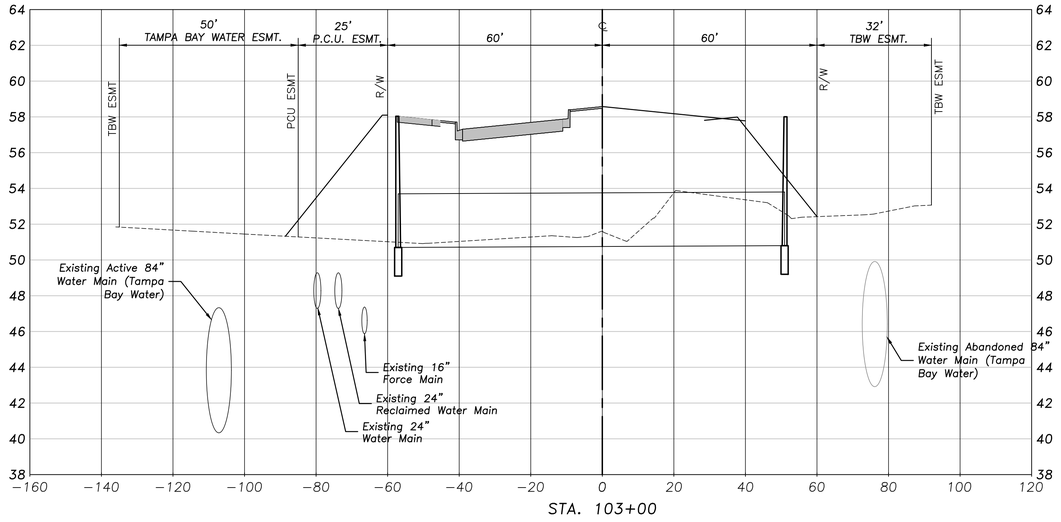

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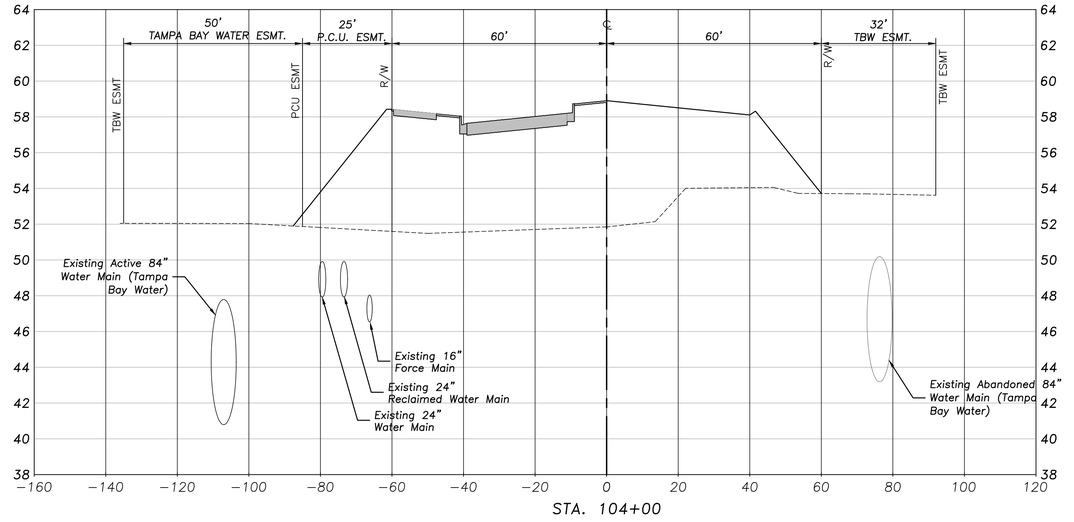

STA. 104+00

SCALE:
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JOB NO. NLC-BX-026
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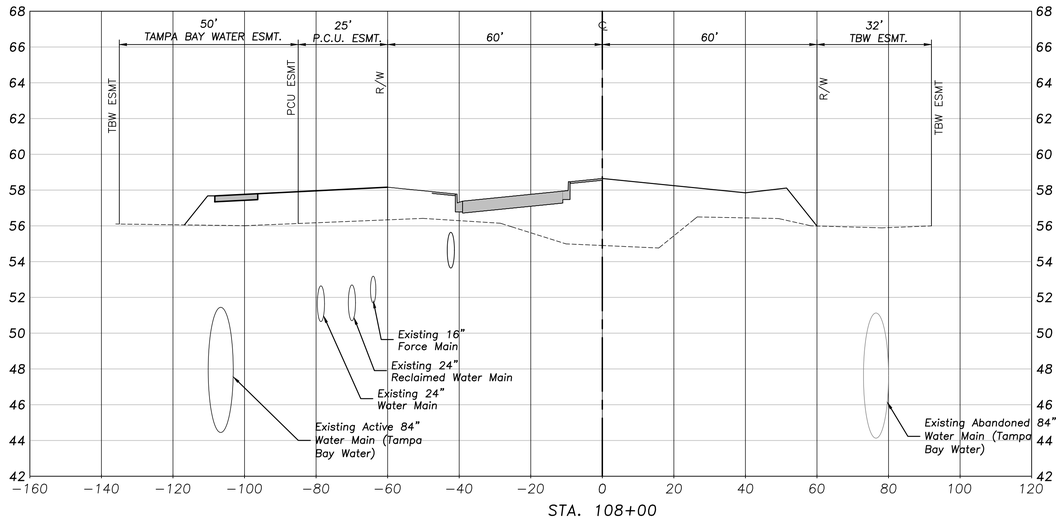

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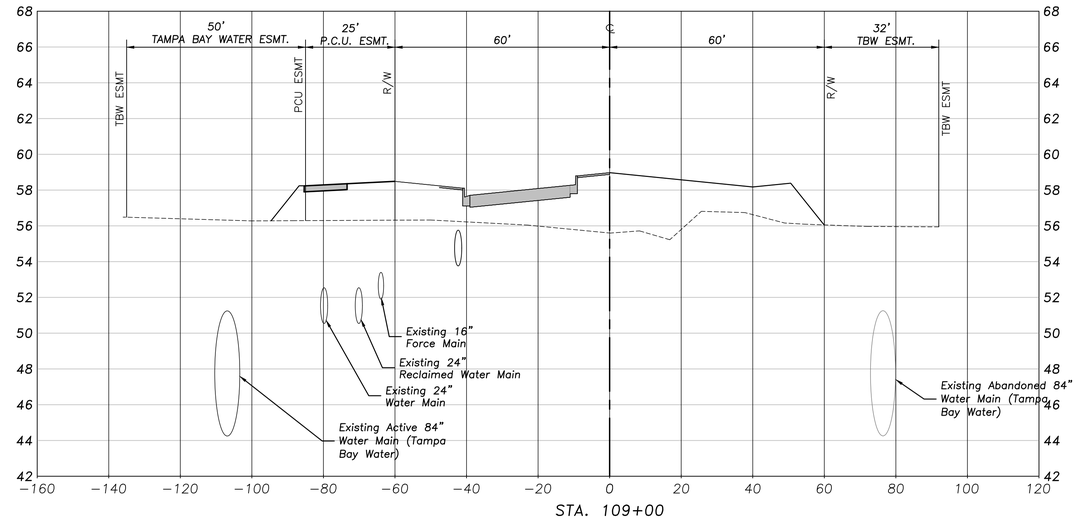

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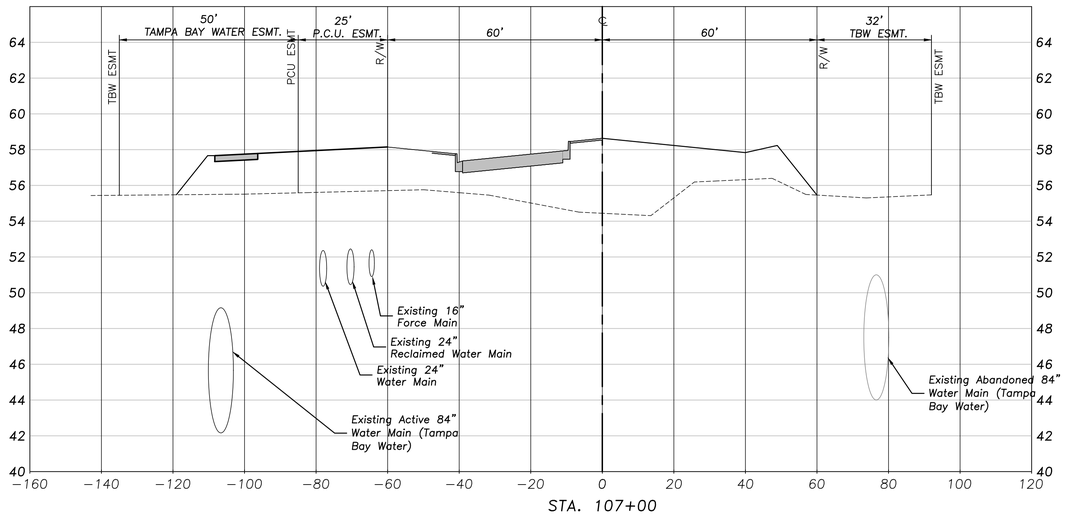

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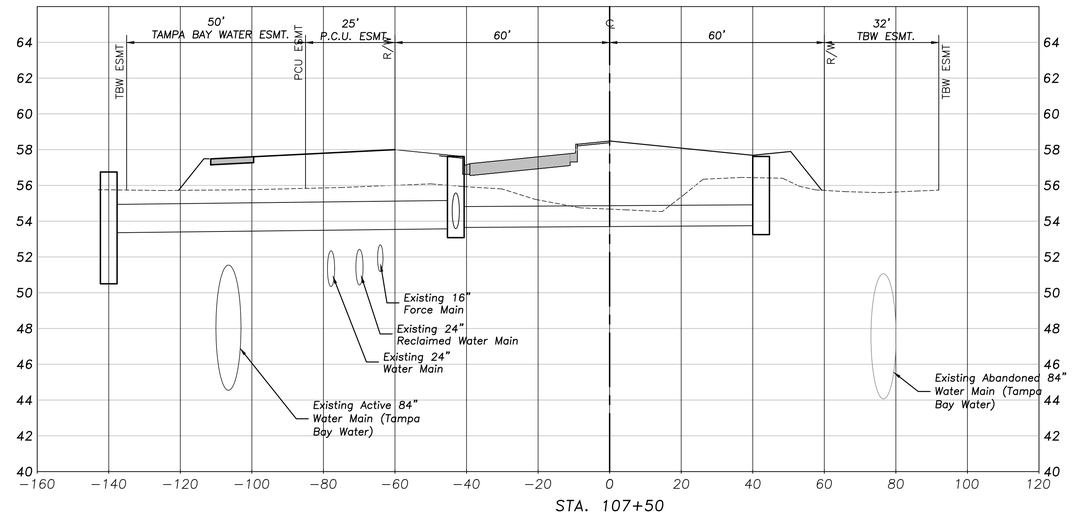

STA. 107+50

SCALE:
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Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

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FLORIDA PROFESSIONAL ENGINEER

CROSS-SECTIONS

JOB NO. NLC-BX-026
DESIGN MS/TF
DRAWN DM/TF/MS
DATE 12/01/14
FILE XSEC

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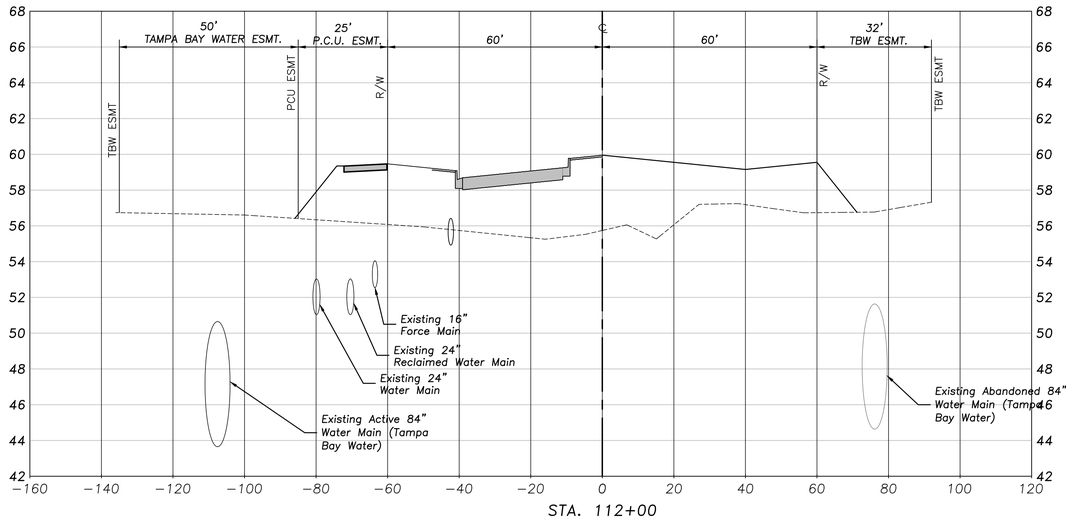

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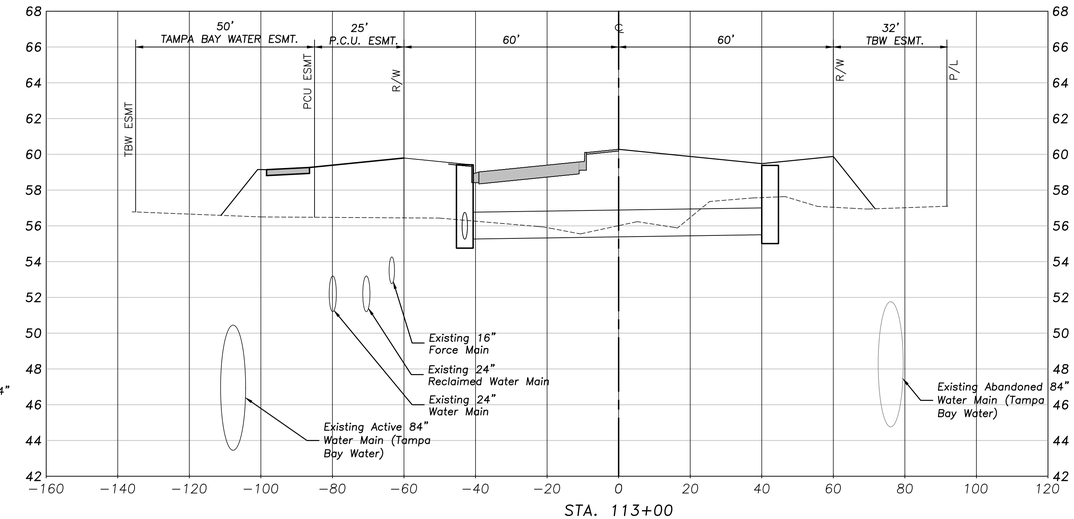

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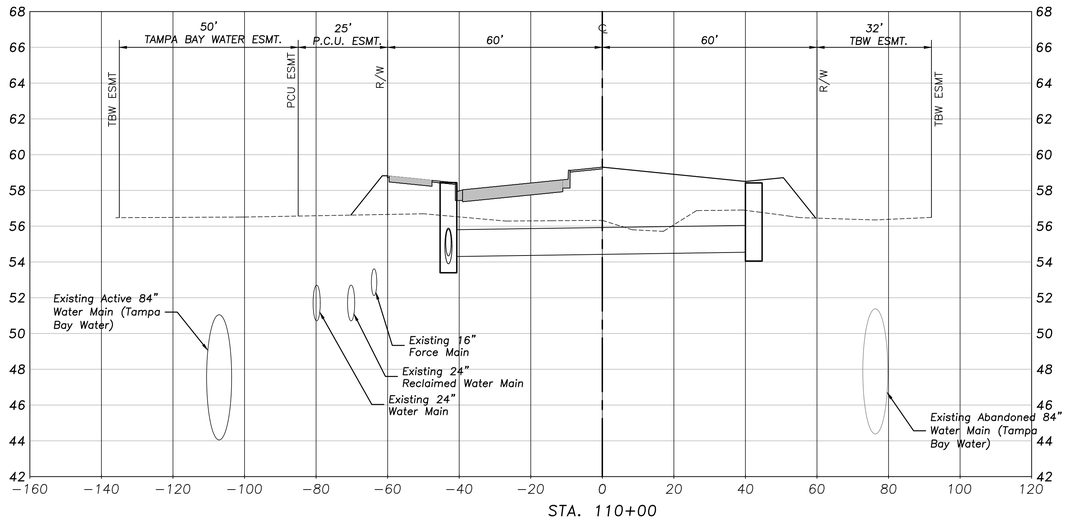
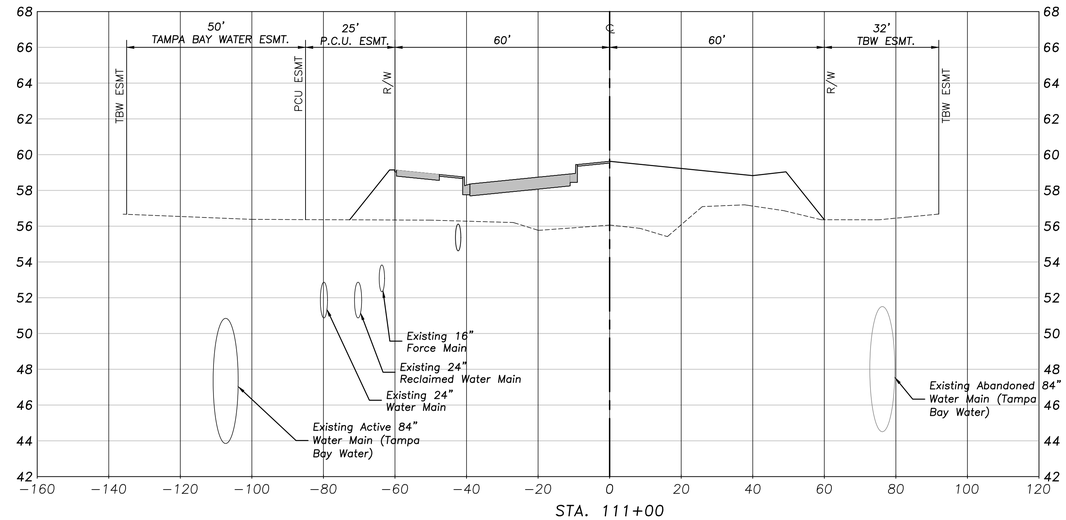


STA. 110+00



STA. 111+00

SCALE:
1"=20 HORIZ
1"=4' VERT

DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

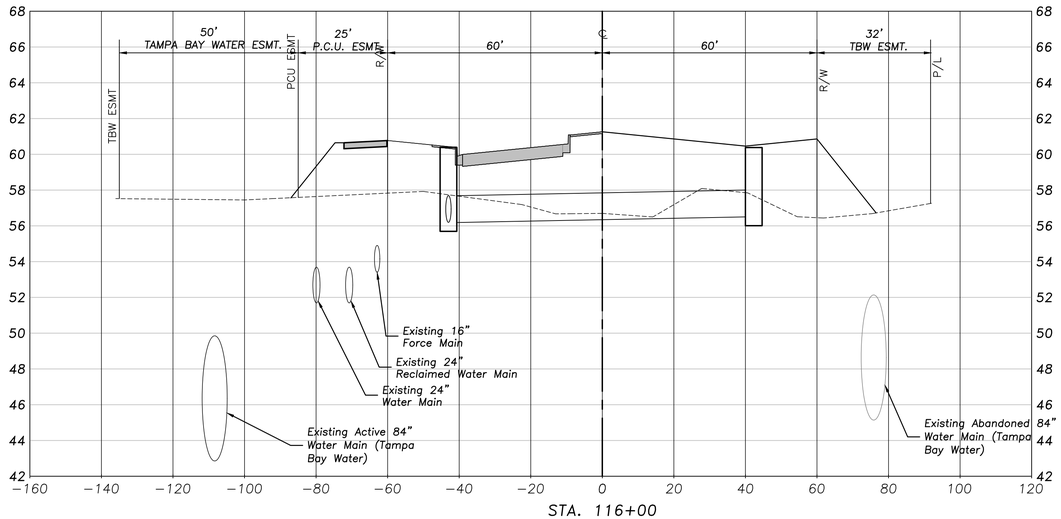
CROSS-SECTIONS

JOB NO. NLC-BX-026
DESIGN MS/TF
DRAWN DM/TF/MS
DATE 12/01/14
FILE XSEC

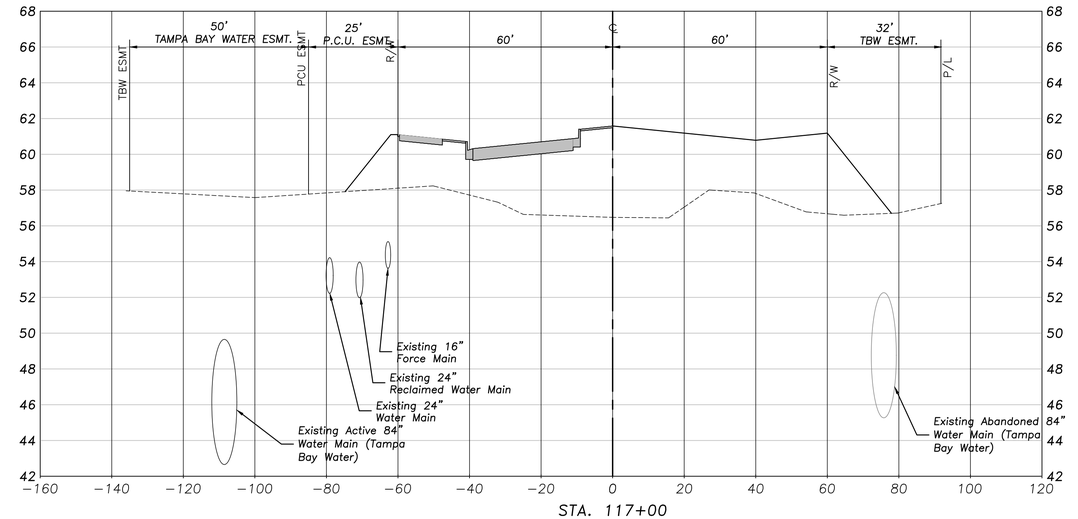
TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: **NNP-BEXLEY, LLC**

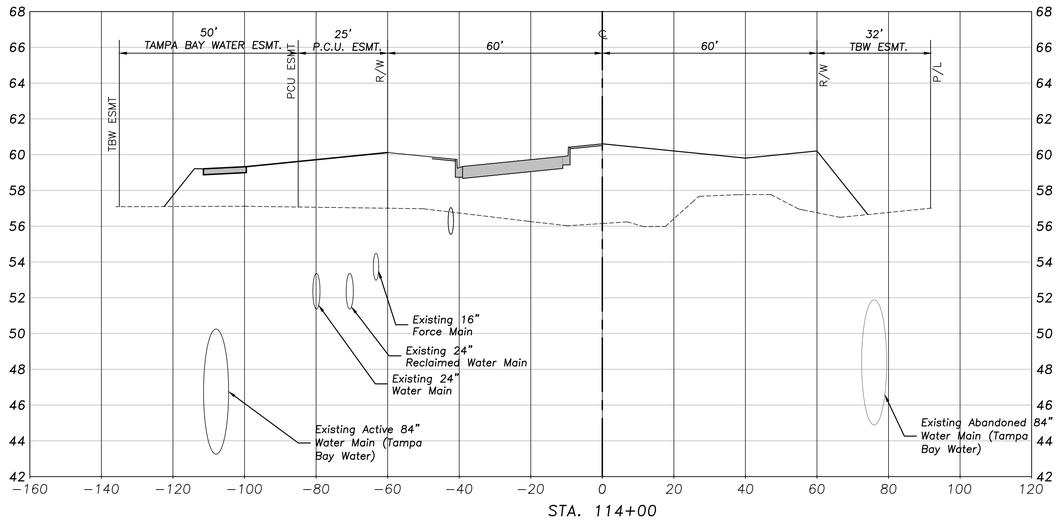
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



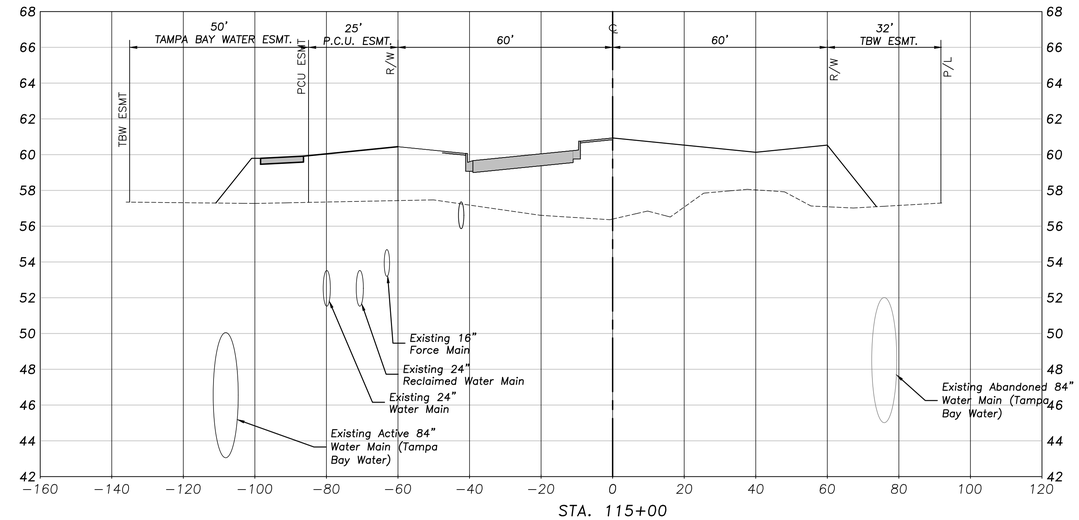
STA. 116+00



STA. 117+00



STA. 114+00



STA. 115+00

SCALE:
1"=20 HORIZ
1"=4' VERT

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CROSS-SECTIONS

JOB NO. NLC-BX-026
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DATE 12/01/14
FILE XSEC

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: NNP-BEXLEY, LLC

Elevations based on North American Vertical Datum 1988 (NAVD 88)
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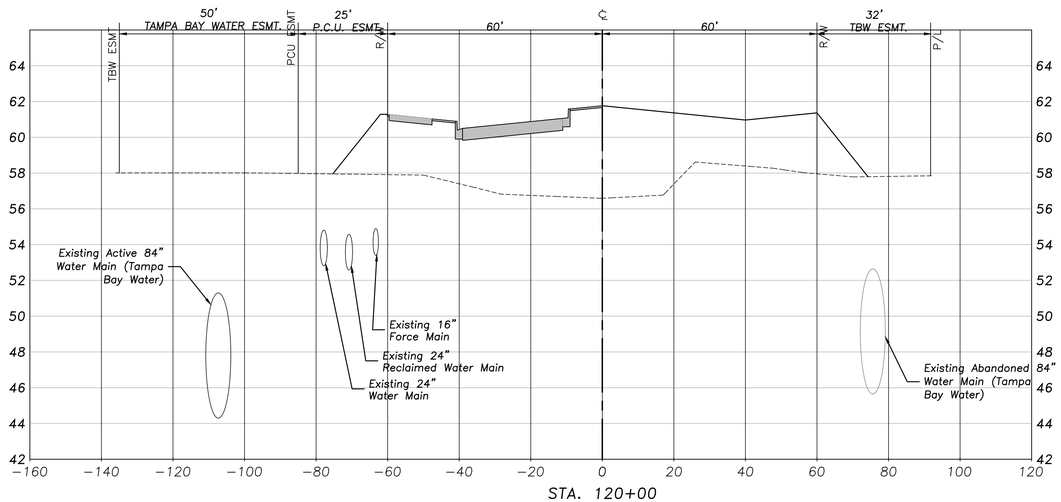
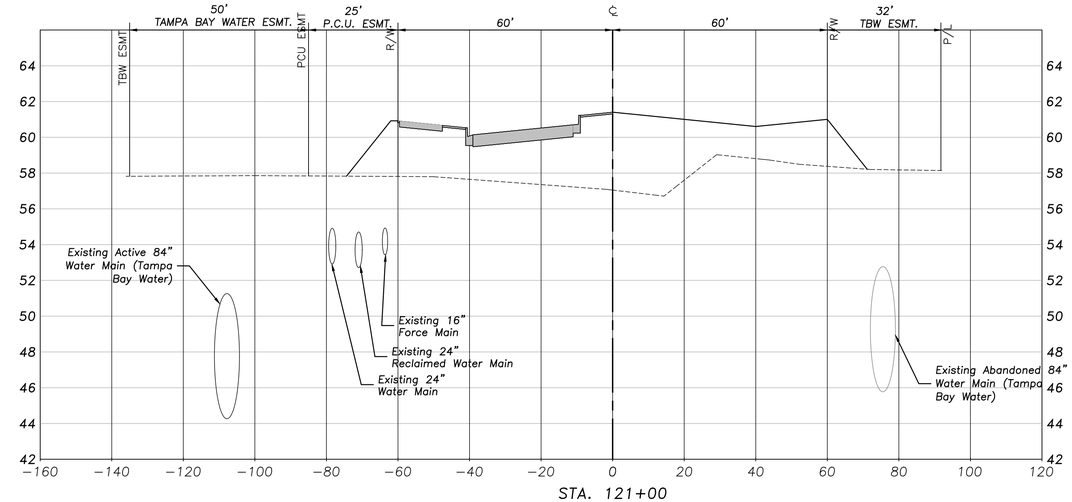
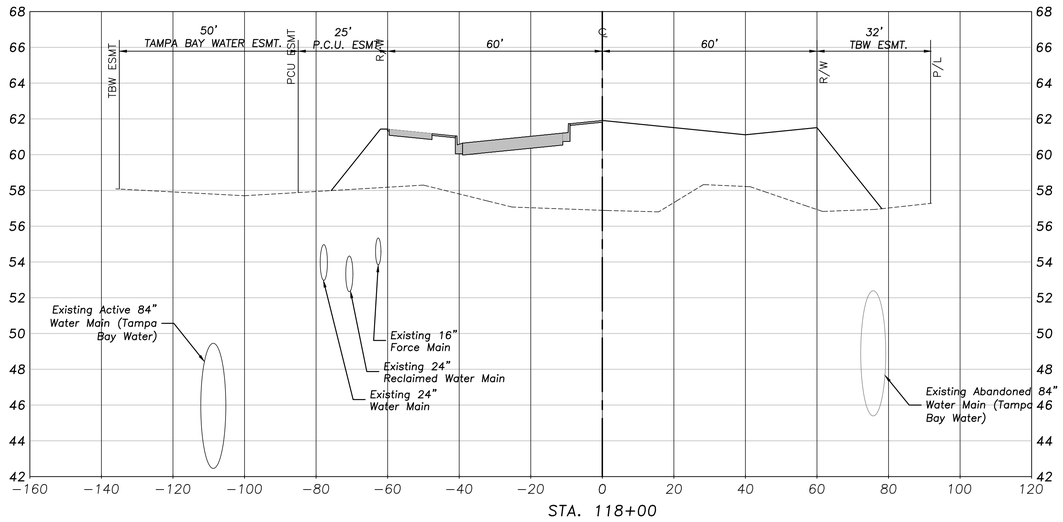


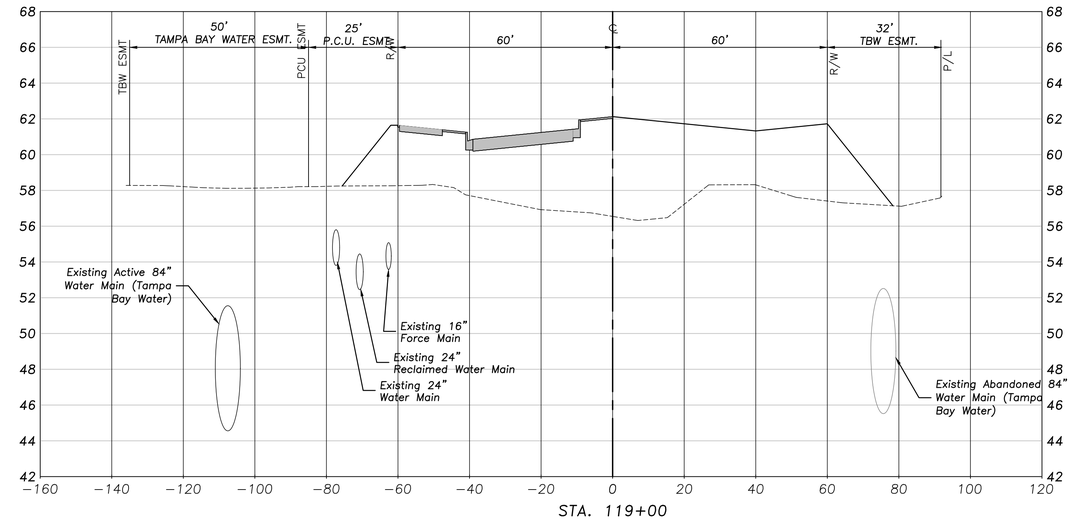
STA. 120+00



STA. 121+00



STA. 118+00



STA. 119+00

SCALE:
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1"=4' VERT

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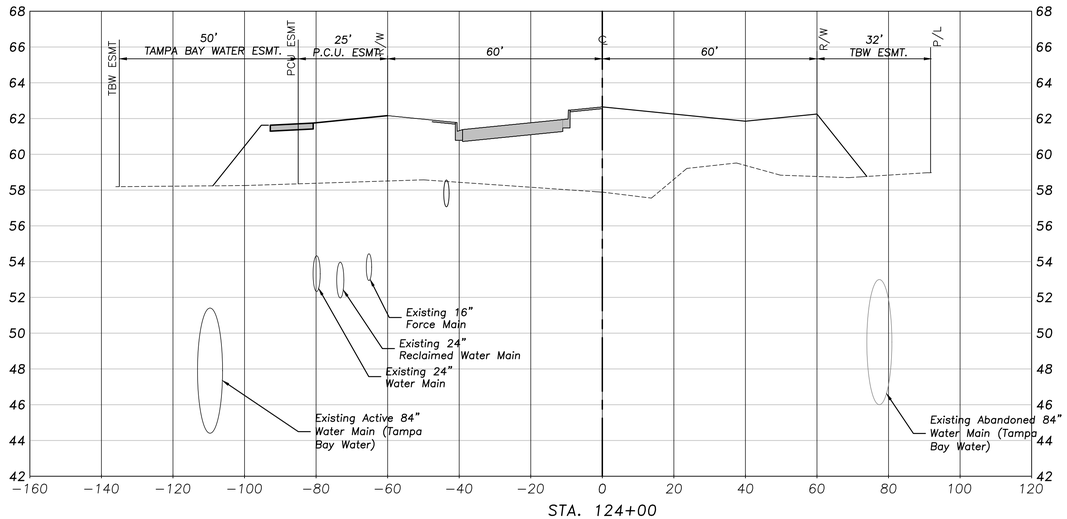
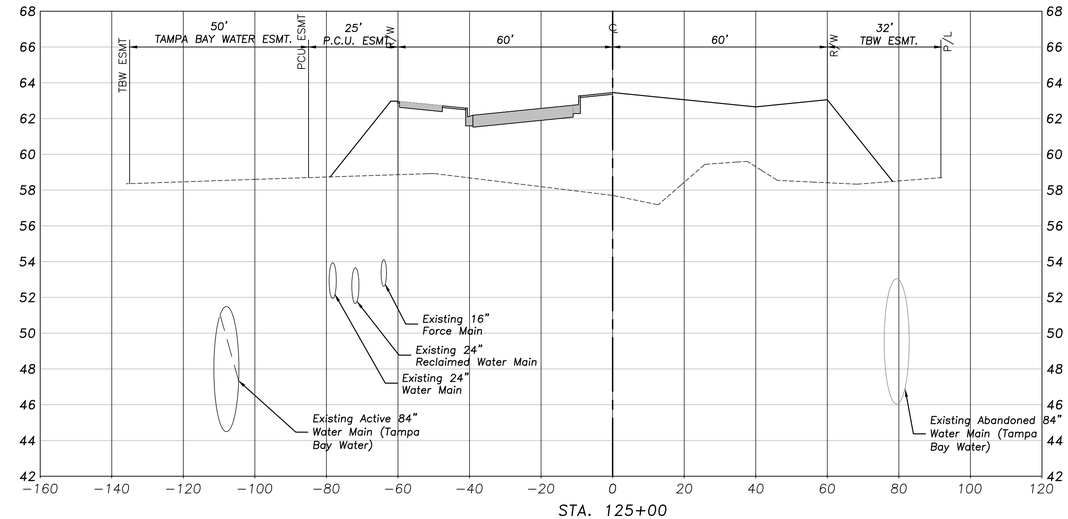
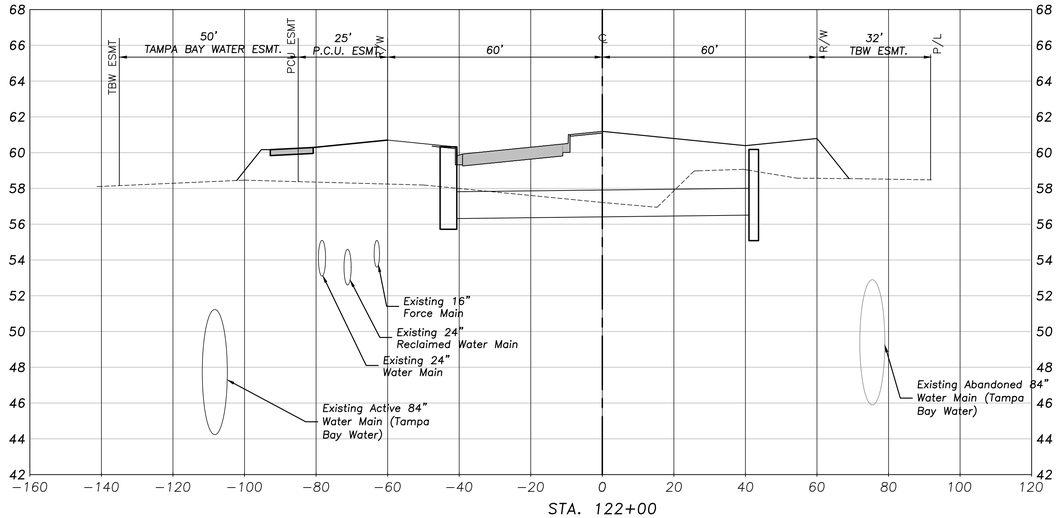


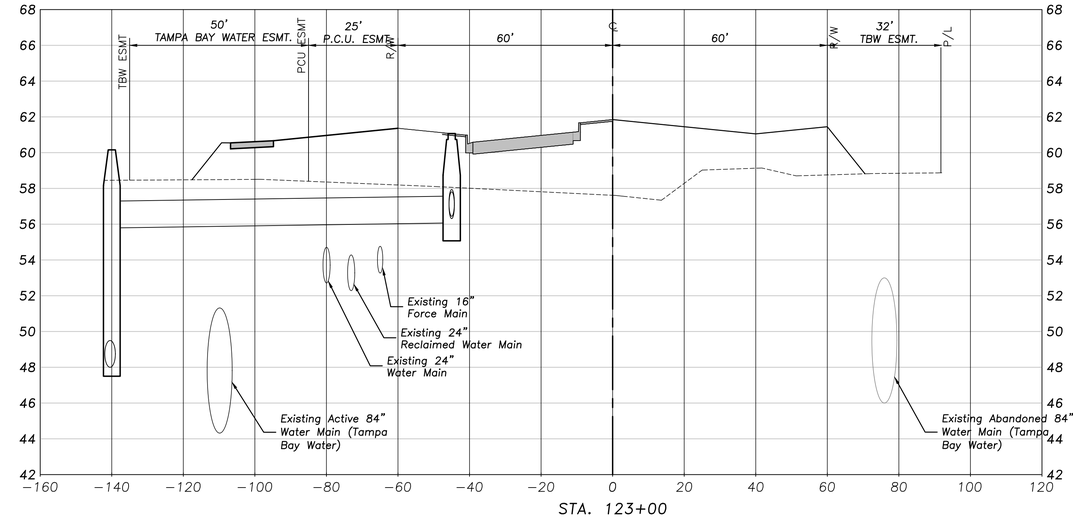
STA. 124+00



STA. 125+00



STA. 122+00



STA. 123+00

SCALE:
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1"=4' VERT

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DATE:
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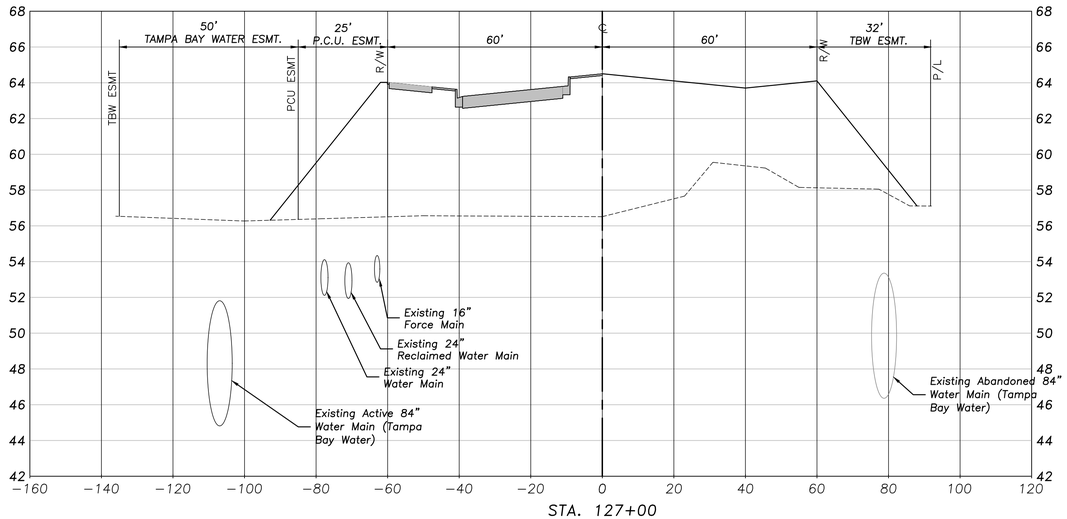
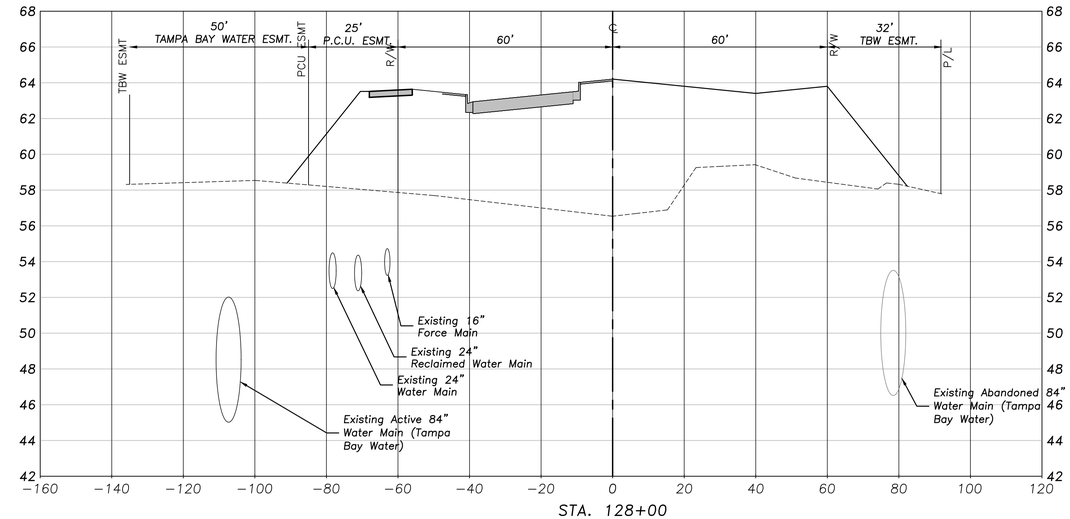
FLORIDA PROFESSIONAL ENGINEER

CROSS-SECTIONS

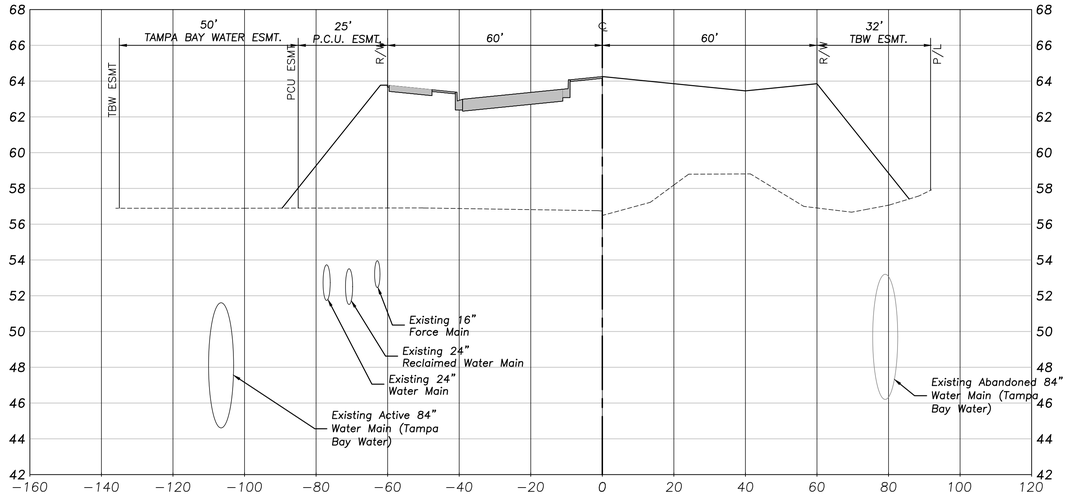
JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN MS/TF	
DRAWN DM/TF/MS	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE XSEC	SHEET 35 OF 52 SHEETS



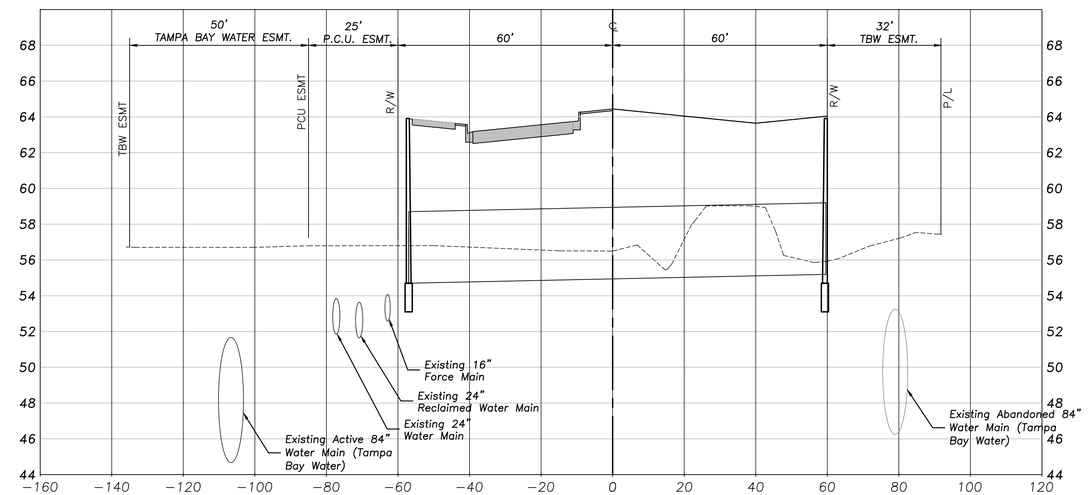
STA. 127+00



STA. 128+00



STA. 126+00



STA. 126+30

SCALE:
1"=20 HORIZ
1"=4' VERT

DATE	DESCRIPTION	BY
	REVISIONS	

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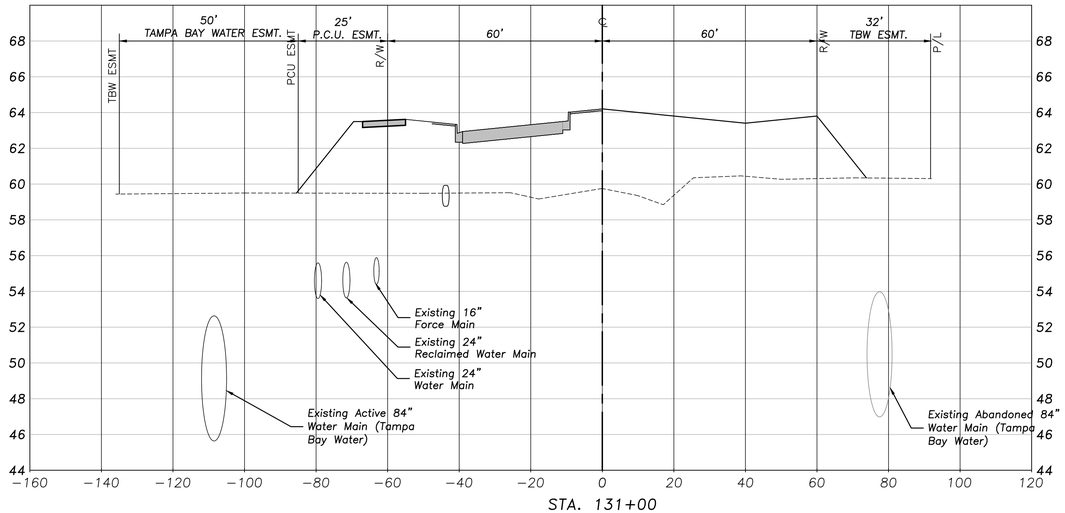
CROSS-SECTIONS

JOB NO. NLC-BX-026
DESIGN MS/TF
DRAWN DM/TF/MS
DATE 12/01/14
FILE XSEC

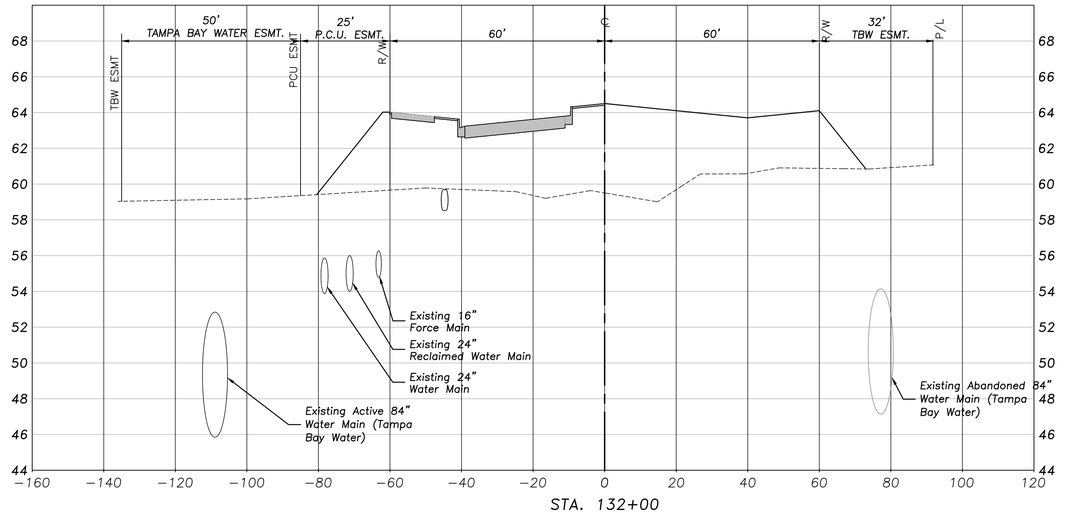
TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: **NNP-BEXLEY, LLC**

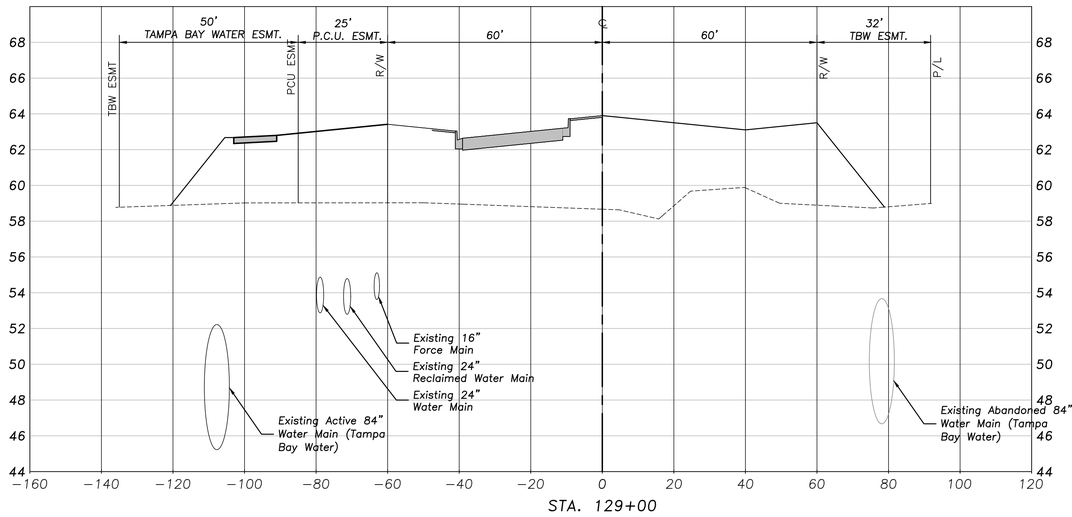
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



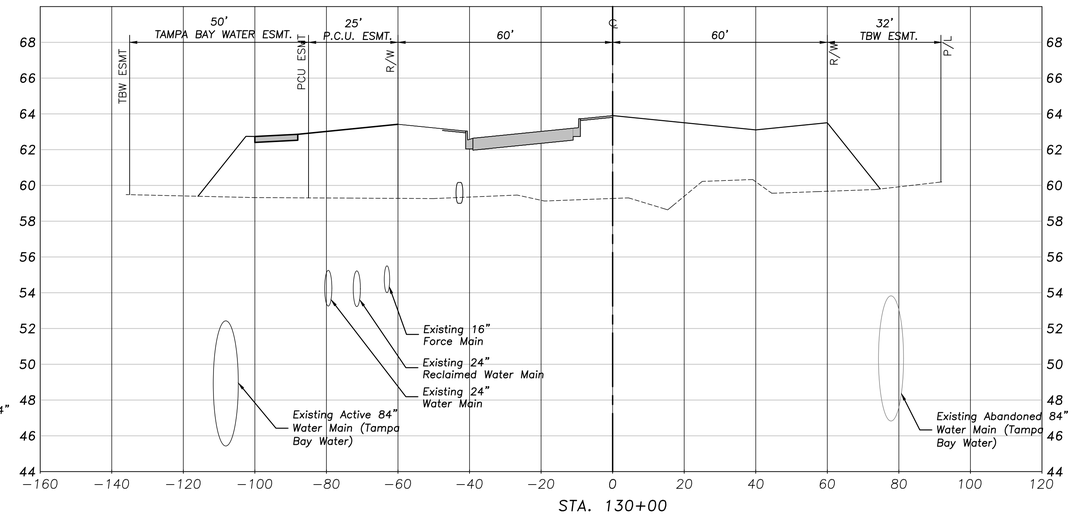
STA. 131+00



STA. 132+00



STA. 129+00



STA. 130+00

SCALE:
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CROSS-SECTIONS

JOB NO. NLC-BX-026
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PREPARED FOR: NNP-BEXLEY, LLC

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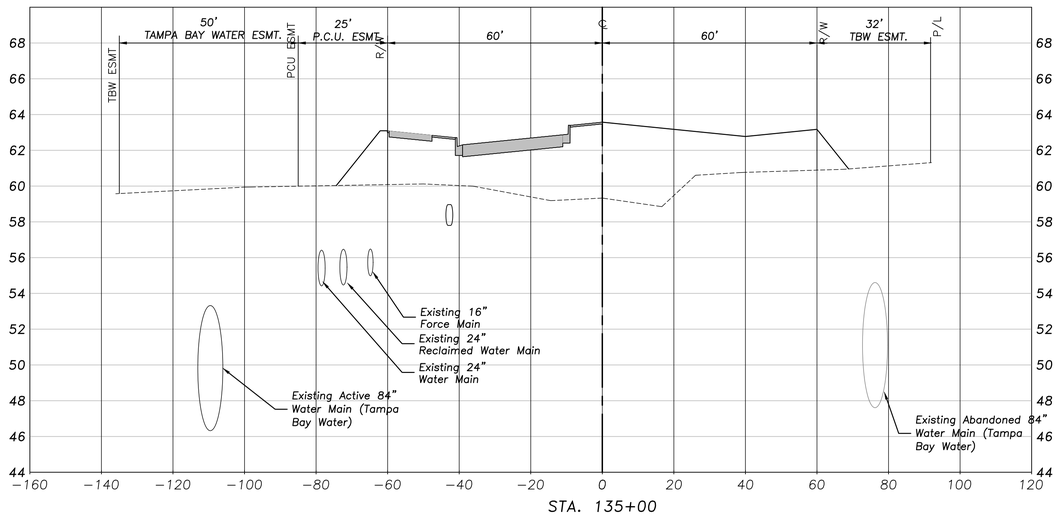
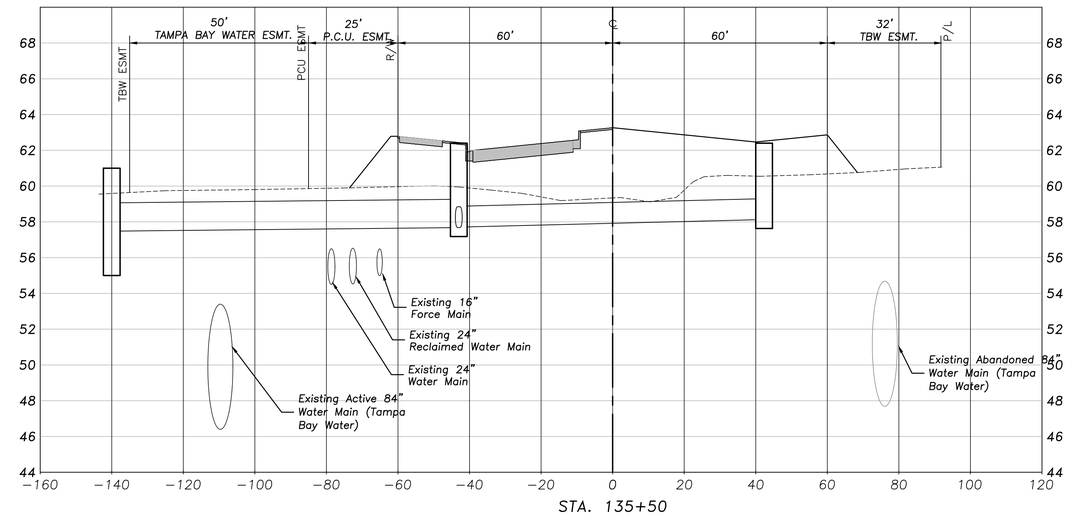
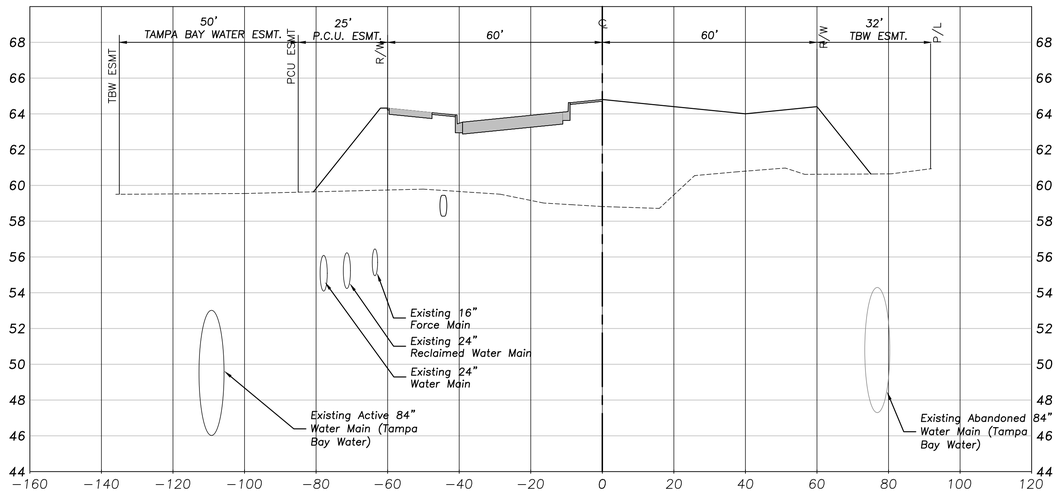


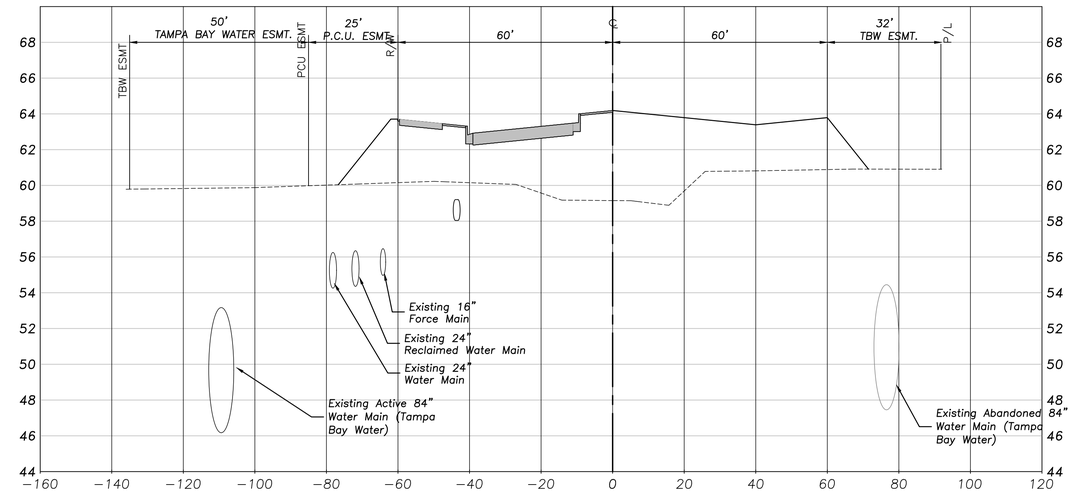
STA. 135+00



STA. 135+50



STA. 133+00



STA. 134+00

SCALE:
1"=20 HORIZ
1"=4' VERT

DATE	DESCRIPTION	BY
	REVISIONS	

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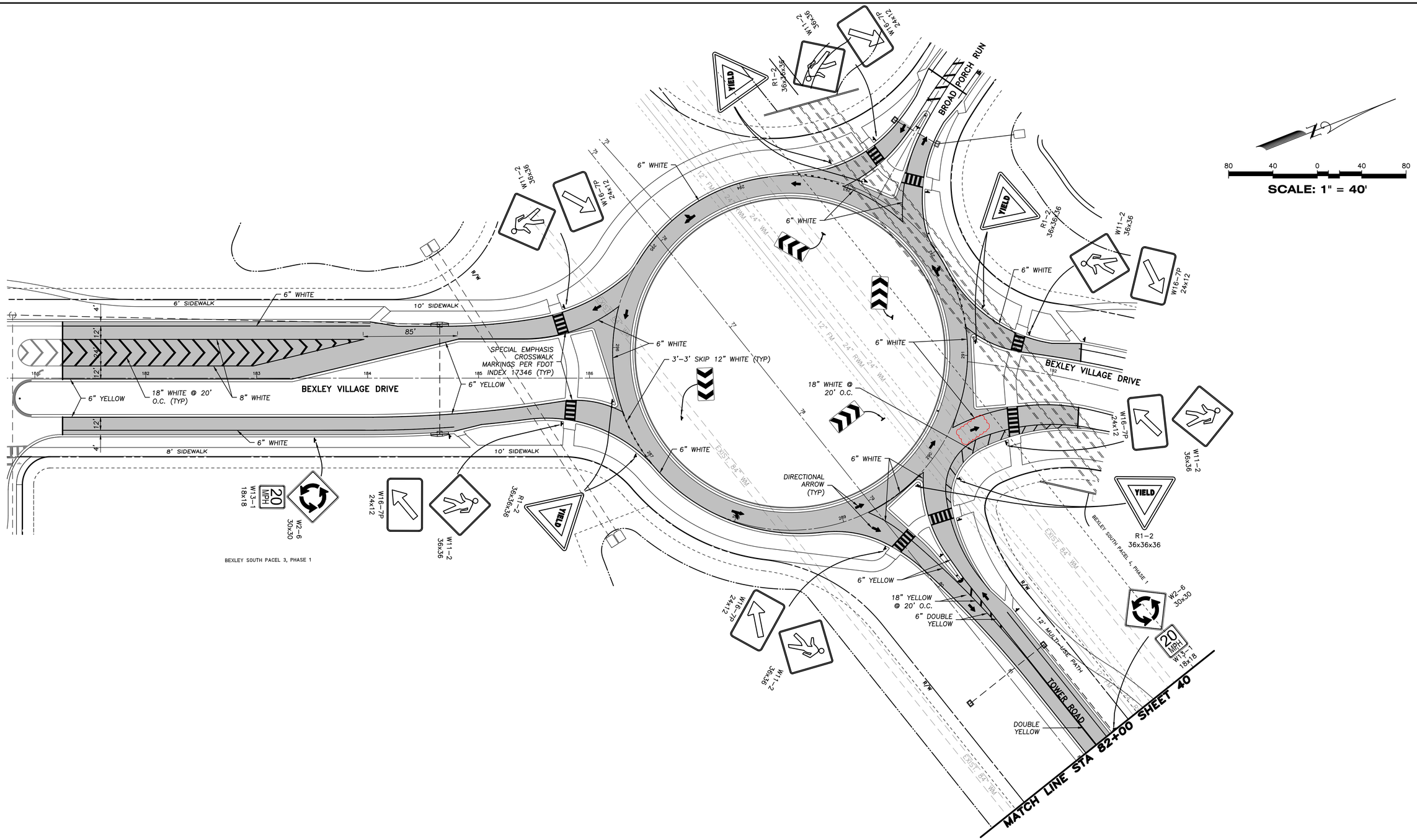
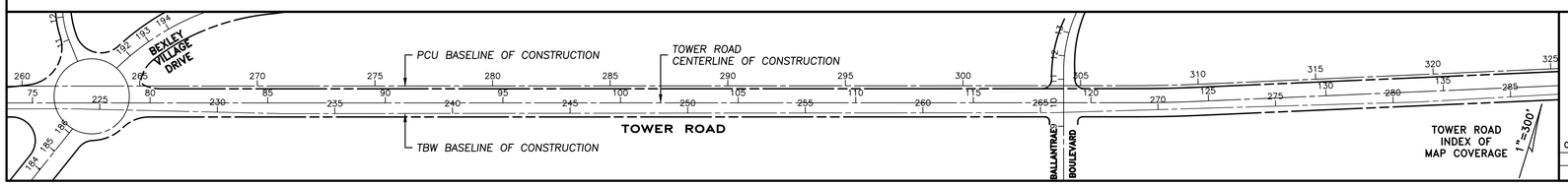
CROSS-SECTIONS

JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN MS/TF	
DRAWN DM/TF/MS	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE XSEC	SHEET 38 OF 52 SHEETS





DATE	DESCRIPTION	BY
06-15-15	REVISE LANE MARKINGS PER COUNTY COMMENTS	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

SIDEWALK & SIGNING & PAVEMENT MARKING PLAN

JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN SMIRCH	
DRAWN SMIRCH	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE SPM1-TOWER	SHEET 39 OF 52 SHEETS

SEE SHEET 39
MATCH LINE STA. 82+00

Existing 84" Water Main
(Tampa Bay Water)

Existing 24" Water Main
Existing 24" Reclaimed Main
Existing 16" Force Main
(Pasco County Utilities)

DOUBLE YELLOW

POTENTIAL 10'x30' BUS SHELTER LOCATION

12' MULTI-USE PATH

CENTERLINE OF CONSTRUCTION (PROPOSED TOWER ROAD)

R2-1 24x30 SPEED LIMIT 40

10'-30' SKIP YELLOW W/ BIDIRECTIONAL WHITE/RED RPMs (TYP)

TYPE 'F' C&G (Typ.)

6" WHITE (TYP)

TOWER ROAD

FUTURE 5' SIDEWALK

Existing & Abandoned
84" Water Main

MATCH LINE STA. 94+00

MATCH LINE STA. 94+00

MATCH LINE STA. 106+00

MATCH LINE STA. 106+00

MATCH LINE STA. 118+00
SEE SHEET 41

6" DOUBLE YELLOW

18" YELLOW @ 20' O.C.

CENTERLINE OF CONSTRUCTION (PROPOSED TOWER ROAD)

85'

153'

1"=40'

BEXLEY VILLAGE DRIVE

PCU BASELINE OF CONSTRUCTION

TOWER ROAD
CENTERLINE OF CONSTRUCTION

TBW BASELINE OF CONSTRUCTION

TOWER ROAD

BALLANTRAE BOULEVARD

TOWER ROAD
INDEX OF
MAP COVERAGE 1"=300'

DATE	DESCRIPTION	BY
06-15-15	POTENTIAL BUS SHELTER LOCATIONS	MS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
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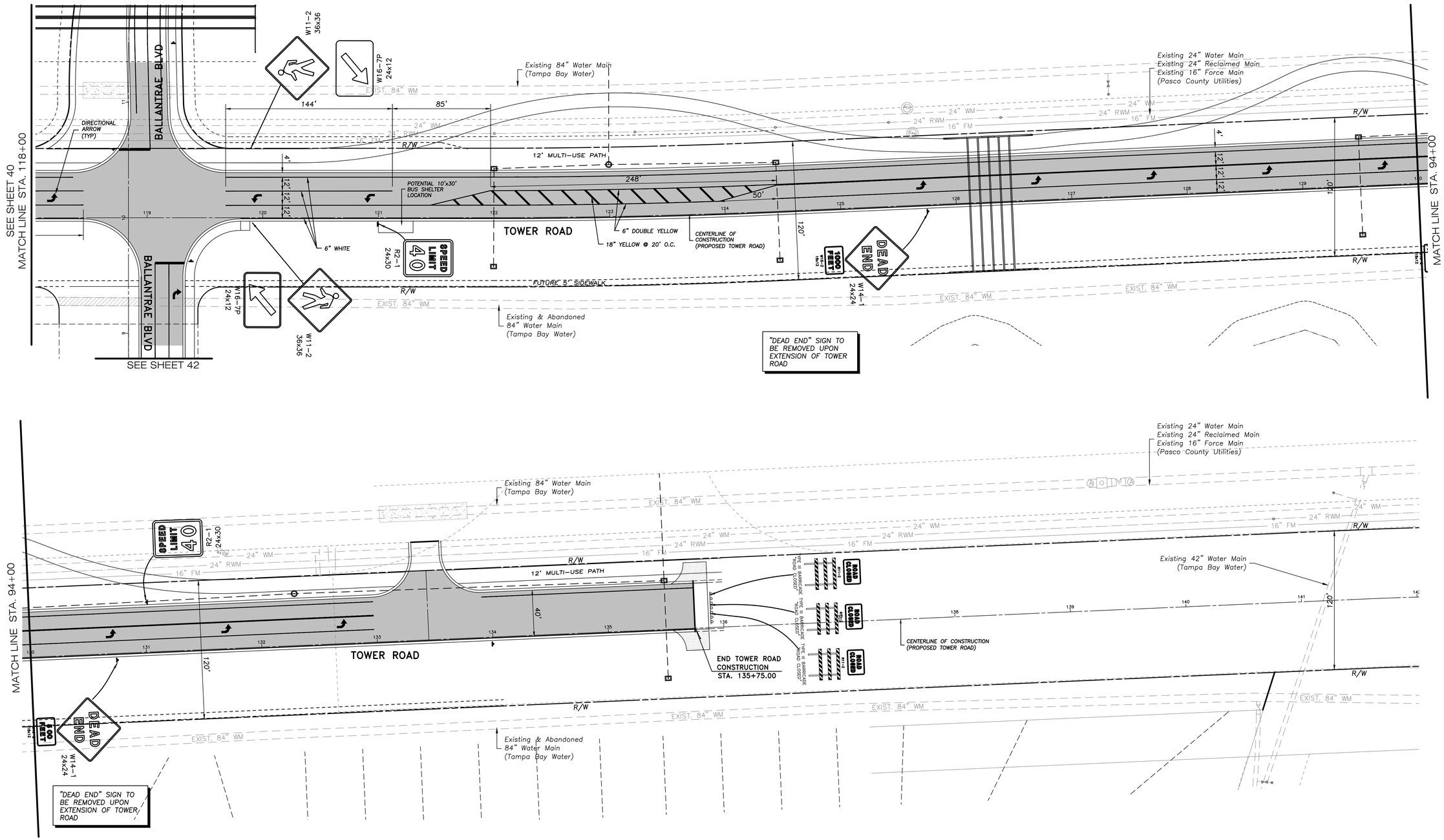
SIDEWALK & SIGNING & PAVEMENT MARKING PLAN

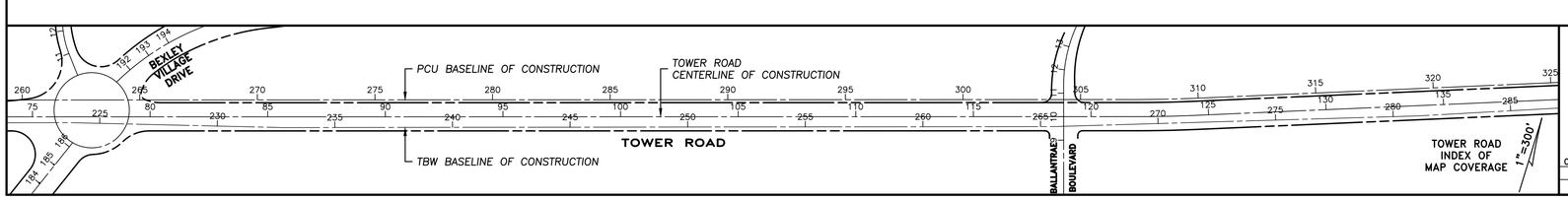
JOB NO. NLC-BX-026
DESIGN SMIRCH
DRAWN SMIRCH
DATE 12/01/14
FILE SPM2-TOWER

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: NNP-BEXLEY, LLC

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet





DATE	DESCRIPTION	BY
06-15-15	POTENTIAL BUS SHELTER LOCATION	MS

REVISIONS

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SIDEWALK & SIGNING & PAVEMENT MARKING PLAN

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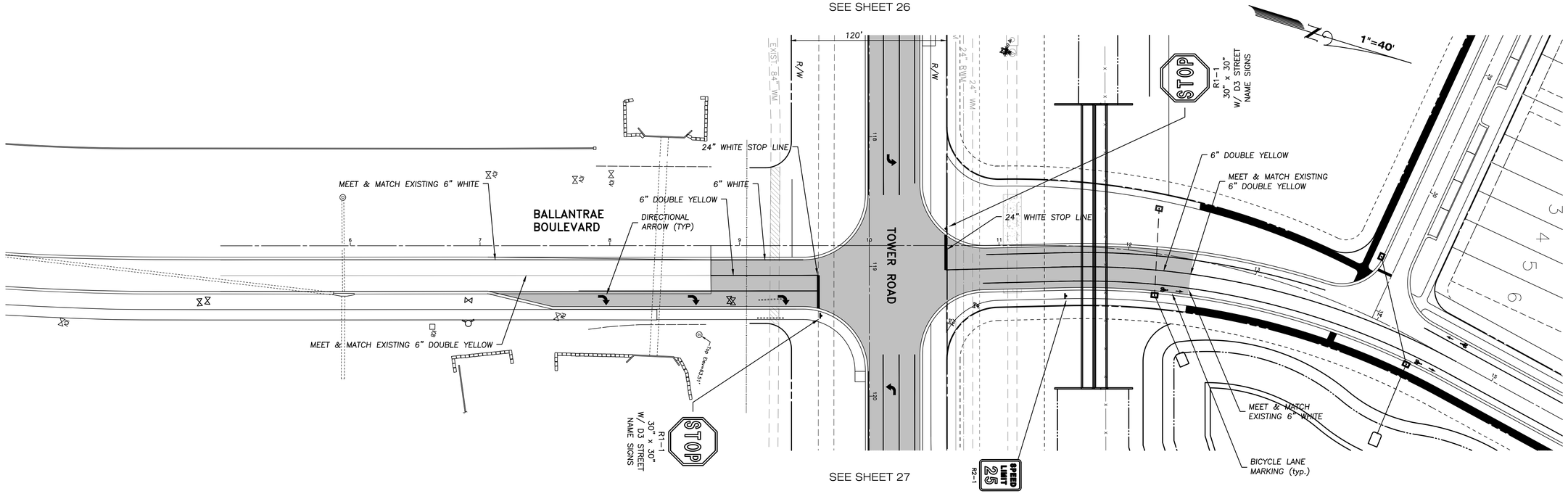
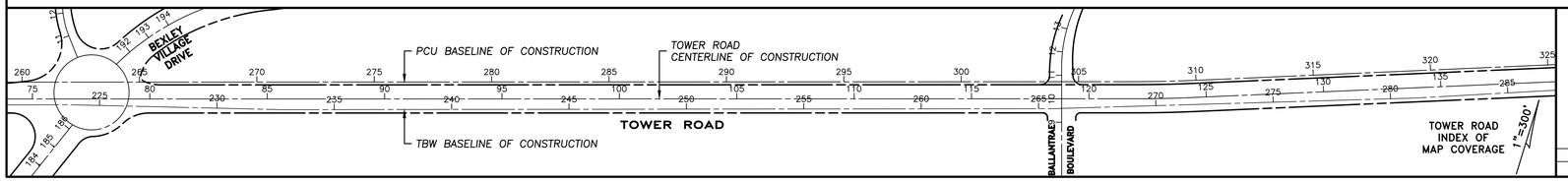
DESIGN SMIRCH	
DRAWN SMIRCH	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE SPM2-TOWER	SHEET 41 OF 52 SHEETS

SEE SHEET 26



SEE SHEET 27



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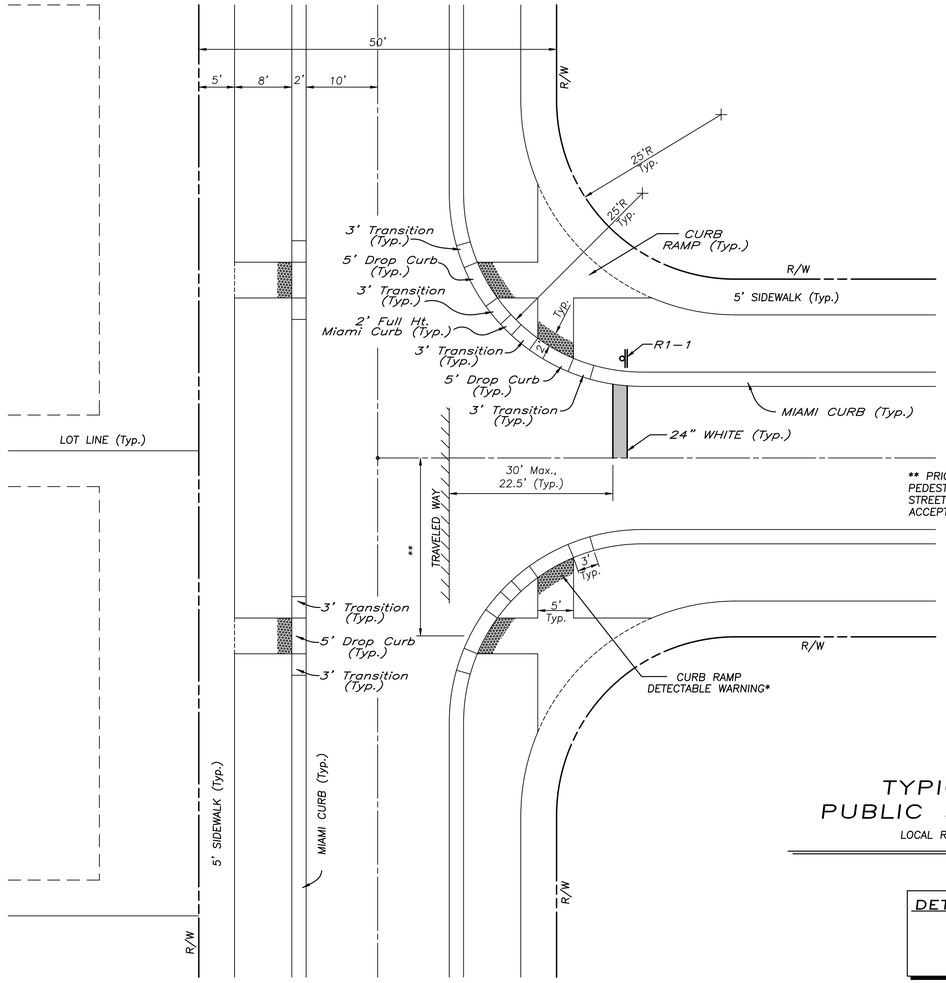
SIDEWALK & SIGNING & PAVEMENT MARKING PLAN

JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN SMIRCH	
DRAWN SMIRCH	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE SPM3-TOWER	SHEET 42 OF 52 SHEETS



THREE–LEG INTERSECTION

** PRIOR TO THE CONSTRUCTION OF CURB RAMPS, PEDESTRIAN CROSSWALK LOCATIONS ON INTERSECTING STREETS MAY BE FIELD ADJUSTED TO A LOCATION MUTUALLY ACCEPTABLE TO THE COUNTY INSPECTOR AND THE ENGINEER.

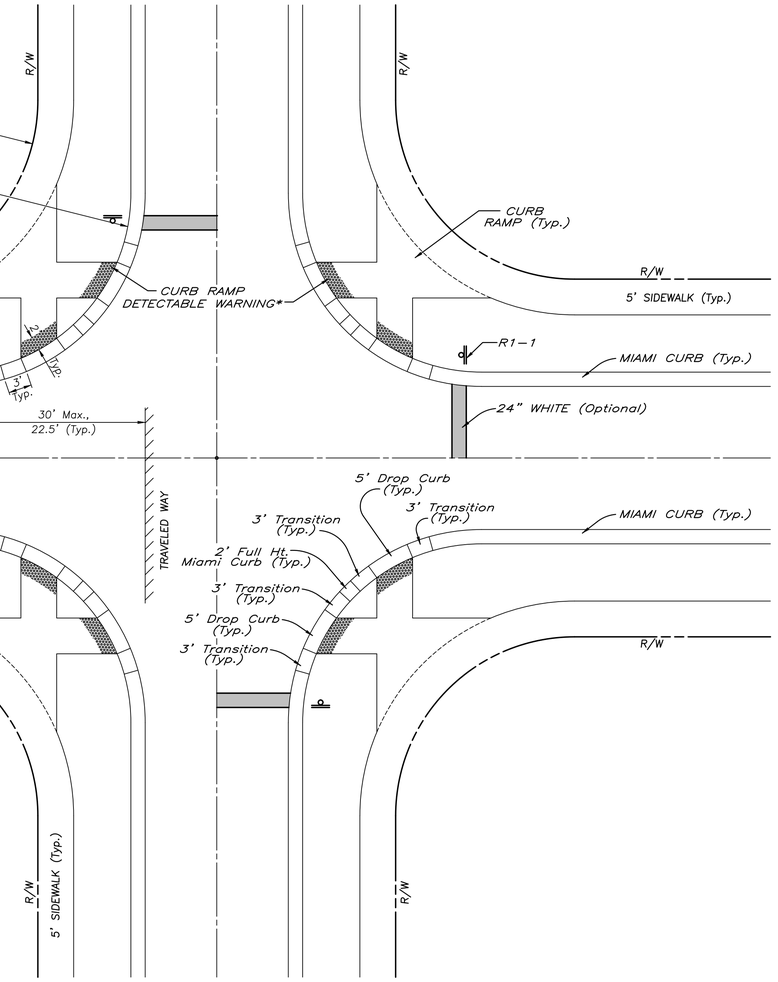
TYPICAL PLACEMENT OF PUBLIC SIDEWALK CURB RAMPS

LOCAL ROADWAY – 20' ASPHALT PAVEMENT – MIAMI CURB

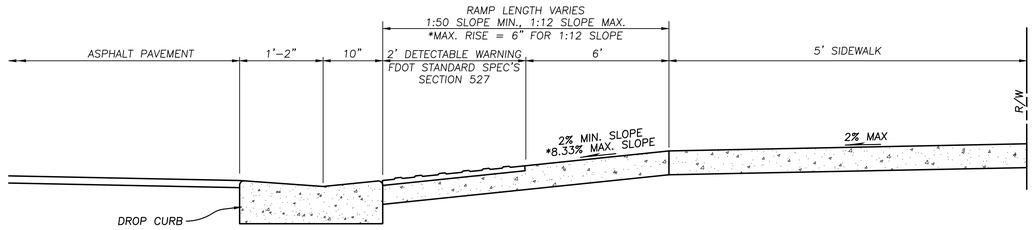
SCALE: 1"=10'

DETECTABLE WARNING STANDARD

(REFER TO LOCAL COLOR STANDARD)
BLACK – FDOT
YELLOW – CITY OF TAMPA
RED – HILLSBOROUGH COUNTY



FOUR–LEG INTERSECTION



RAMP PROFILE

NOT TO SCALE

DATE	DESCRIPTION	BY
	REVISIONS	

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Office: 813–223–3919 Fax: 813–223–3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

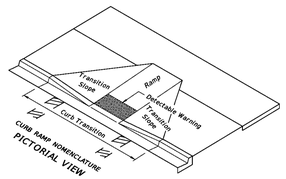
SIDEWALK & SIGNING & PAVEMENT MARKING PLAN

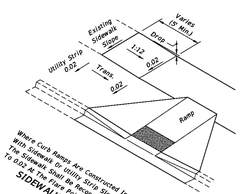
JOB NO. NLC–BX–026
DESIGN MS/TF
DRAWN DM/TF/MS
DATE 12/01/14
FILE SWD–TOWER

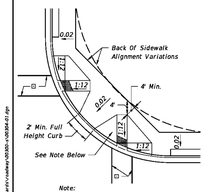
TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: **NNP-BEXLEY, LLC**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

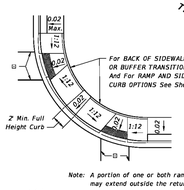




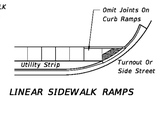


Note:
When crosswalk markings are required, ramp runs must fall within crosswalk limits and where practical, be parallel with the projected crosswalk alignment. The bottom of the ramp beyond the curb line shall have a clear space 48" minimum within the markings of a marked crosswalk. If no crosswalk markings are present, the bottom of the ramp beyond the curb ramp shall have a clear space 48" minimum outside active traffic lanes.

□ Crosswalk widths and configuration vary; must conform to Index No. 17344 and 17346.



Note: A portion of one or both ramps may extend outside the return.



LINEAR SIDEWALK RAMPS

TYPICAL PLACEMENT OF PUBLIC SIDEWALK CURB RAMPS AT CURBED RETURNS

GENERAL NOTES

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 Index No. 515 to accommodate curb ramps. Ramps constructed at locations without sidewalks shall have a landing constructed at the top of each ramp, see Sheet 5.
2. The location and orientation of curb ramps shall be as shown in the plans.
3. Curb ramp running slopes at unrestrained sites shall not be steeper than 1:12 and cross slope shall be 0.02 or flatter. 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. Where compliance with the requirements for cross slope cannot be fully met, the minimum feasible cross slope shall be provided.

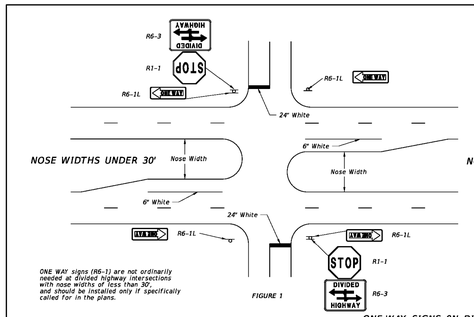
   Ramp running slope is not required to exceed 8' in length, except at sites where the plans specify a greater length.
4. If a curb ramp is located where pedestrians must walk across the ramp, then the walk shall have transition slopes to the ramp; the maximum slope of the transitions shall be 1:12. Ramps with curb returns may be used at locations where other improvements provide guidance away from that portion of curb perpendicular to the sidewalk; improvements for guidance are not required at curb ramps for linear pedestrian traffic.
5. Curb ramp detectable warning surfaces shall extend the full width of the ramp and 24" deep. Detectable warning surfaces shall be constructed in accordance with Specification 527. See Sheet 6 for detectable warning layouts. Transition slopes are not to have detectable warnings. Detectable warnings are required on sidewalks at intersecting roads, streets and railroads. For requirements for detectable warnings on sidewalks at intersecting driveways, see Index 310.
6. Where a curb ramp is constructed within existing curb, curb and gutter and/or sidewalk, the existing curb or curb and gutter shall be removed to the nearest joint beyond the curb transitions or to the extent that no remaining section of curb or curb and gutter is less than 5' long. The existing sidewalk shall be removed to the nearest joint beyond the transition slope or walk around or to the extent that no remaining section of sidewalk is less than 5' long. For details of Concrete Sidewalk See Index 310.
7. Alpha-numeric identifications are for reference (plans, permits, etc.).
8. Public sidewalk curb ramps are to be paid for as follows:

   Ramps, reconstructed sidewalks, walk around sidewalks, sidewalk landings and sidewalk curbs are to be paid for under the contract unit price for Sidewalk Concrete, (__" Thick), SY. Curb transitions and reconstructed curbs are to be paid for under the contract unit price for the parent curb, i.e., Concrete Curb (Type __), LF or Concrete Curb and Gutter (Type __), LF.

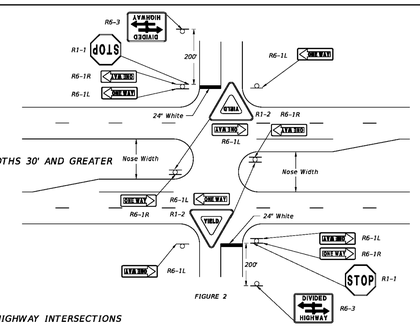
   When a separate pay item for the removal and disposal of existing curb, curb and gutter, and/or sidewalk is not provided in the plans, the cost of removal and disposal of these features shall be included in the contract unit price for new curb, curb and gutter and/or sidewalk respectively.
9. Acceptance Criteria for Detectable Warnings:

   a. The ramp detectable warning surface shall be complete and uniform in color and texture
   b. 90% of the individual truncated domes must comply with the design criteria
   c. There may be no more than 4 non-complying domes in any one square foot of surface
   d. No two adjacent domes may be non-compliant
   e. Surface may not deviate more than 0.10" From a true plane
10. All sidewalk surfaces, ramp surfaces, and landings with a cross slope shown in this Index to be 0.02 shall be 0.02 maximum. All ramp surfaces and ramp transition slopes with a slope shown in this Index to be 1:12 shall be 1:12 maximum.

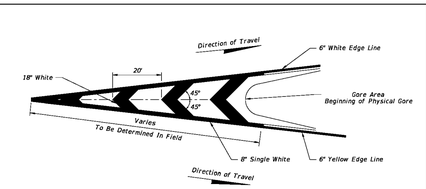
LAST REVISION	DESCRIPTION:	FDOT DESIGN STANDARDS FY 2012/2013	INDEX NO.	SHEET NO.
01/01/11	REVISION	PUBLIC SIDEWALK CURB RAMPS	304	1



ONE WAY signs (R6-1) are not ordinarily needed at divided highway intersections with nose widths of less than 30', and should be installed only if specifically called for in the plans.

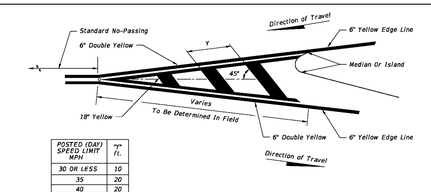


ONE-WAY SIGNS ON DIVIDED HIGHWAY INTERSECTIONS



PAVEMENT MARKINGS FOR TRAFFIC CHANNELIZATION AT GORE

(TRAFFIC FLOWS IN SAME DIRECTION)

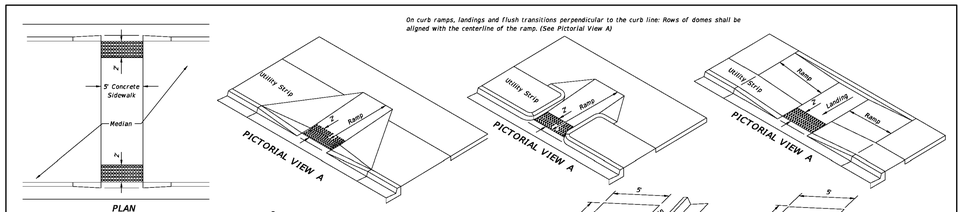


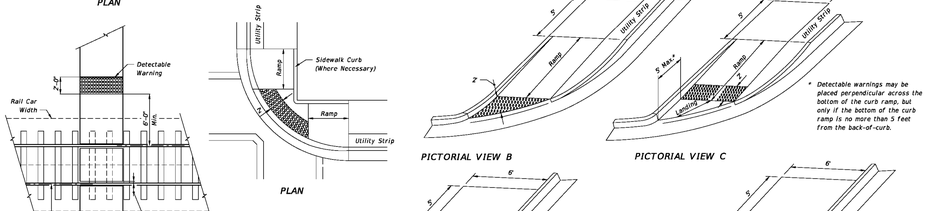
POSTED (DAY) SPEED LIMIT MPH	"Y" Ft.
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40

PAVEMENT MARKING FOR TRAFFIC SEPARATION

(TRAFFIC FLOWS IN OPPOSING DIRECTIONS)

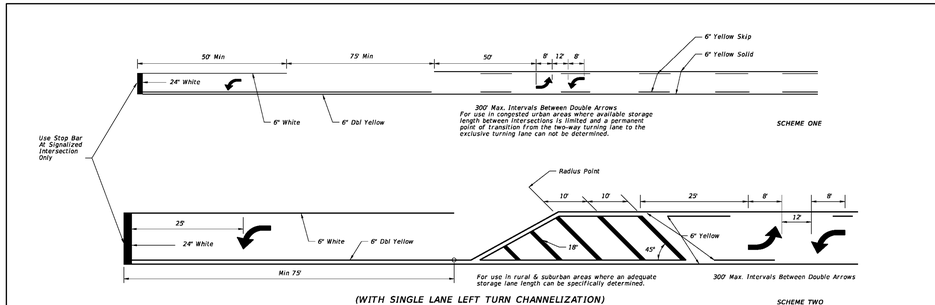
LAST REVISION	DESCRIPTION:	FDOT DESIGN STANDARDS FY 2012/2013	INDEX NO.	SHEET NO.
07/01/09	REVISION	SPECIAL MARKING AREAS	17346	5





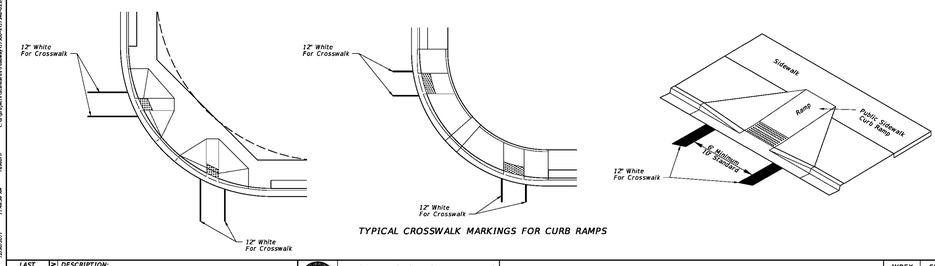
TYPICAL PLACEMENT OF DETECTABLE WARNING AT CURB RAMPS

LAST REVISION	DESCRIPTION:	FDOT DESIGN STANDARDS FY 2012/2013	INDEX NO.	SHEET NO.
01/01/11	REVISION	PUBLIC SIDEWALK CURB RAMPS	304	6



(WITH SINGLE LANE LEFT TURN CHANNELIZATION)

TWO WAY LEFT TURN LANE



TYPICAL CROSSWALK MARKINGS FOR CURB RAMPS

LAST REVISION	DESCRIPTION:	FDOT DESIGN STANDARDS FY 2012/2013	INDEX NO.	SHEET NO.
07/01/09	REVISION	SPECIAL MARKING AREAS	17346	3

DATE	DESCRIPTION	BY
	REVISIONS	

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DATE:

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SIDEWALK & SIGNING & PAVEMENT MARKING PLAN

JOB NO. NLC-BX-026

DESIGN MS/TF

DRAWN DM/TF/MS

DATE 12/01/14

FILE SWD-TOWER

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: NNP-BEXLEY, LLC

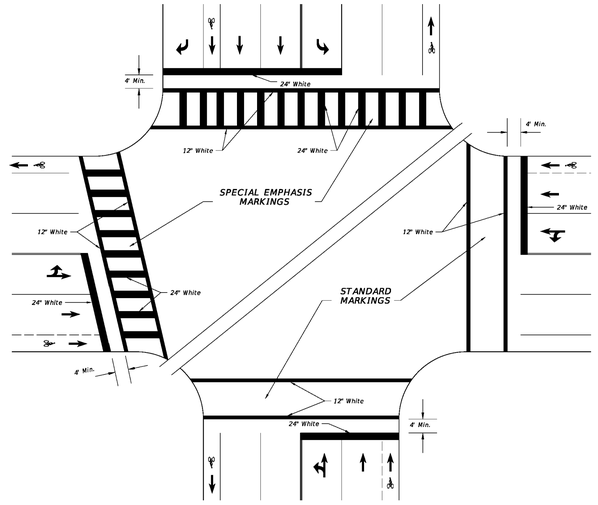
Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 44 OF 52 SHEETS

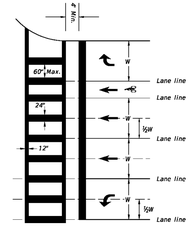
GENERAL NOTES

1. For traffic and pedestrian signal installation, refer to Index No. 17721 through 17890.
2. For public sidewalk curb ramps, refer to Index No. 304.
3. For pavement marking and sign installation, refer to Indexes 11200 through 17356.
4. Crosswalk minimum widths: Intersection Crosswalk 6'. Midblock Crosswalk 10'.
5. All crosswalk marking shall be white.
6. Longitudinal lines in Special Emphasis Crosswalk shall be 24" wide and spaced to avoid the wheel path of vehicles as shown in detail. The maximum space between markings shall not exceed 60". A longitudinal marking shall be centered at each lane line. Additional longitudinal markings shall be placed at the center of each lane (1/2W).

   Where the Crosswalk is skewed to the lane lane lines, the Special Emphasis longitudal lines should be parallel to the lane line.



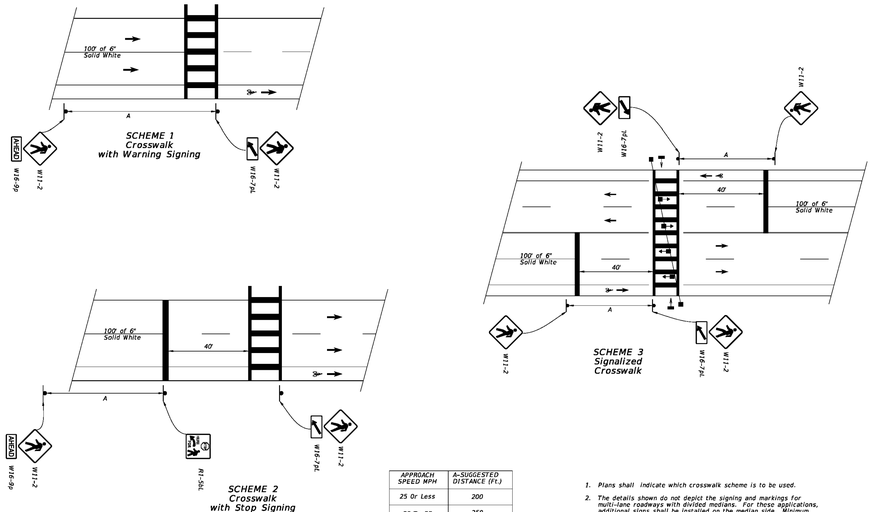
SPECIAL EMPHASIS AND STANDARD CROSSWALKS
SIGNALIZED OR STOP SIGN CONTROLLED INTERSECTION



SPECIAL EMPHASIS CROSSWALK MARKING DETAIL

LAST REVISION	DESCRIPTION:		INDEX NO.	SHEET NO.
07/01/09 REVISION		FDOT DESIGN STANDARDS FY 2012/2013	17346	9

SPECIAL MARKING AREAS



APPROACH SPEED MPH	A-SUGGESTED DISTANCE (Ft.)
25 Or Less	200
26 To 35	250
36 To 45	300

1. Plans shall indicate which crosswalk scheme is to be used.
2. The details shown do not deplict the signing and markings for multi-lane roadways with divided medians. For these applications, additional signs shall be installed on the median side. Minimum width of Mid-Block Crosswalks is 10'.
3. All mid-block crosswalks shall use special emphasis crosswalk markings.
4. Crosswalk marking should utilize preformed marking materials.

LAST REVISION	DESCRIPTION:		INDEX NO.	SHEET NO.
01/01/12 REVISION		FDOT DESIGN STANDARDS FY 2012/2013	17346	10

SPECIAL MARKING AREAS

DATE	DESCRIPTION	BY
	REVISIONS	

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DATE:
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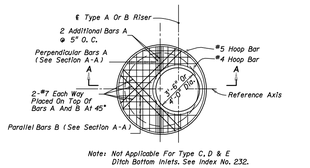
FLORIDA PROFESSIONAL ENGINEER

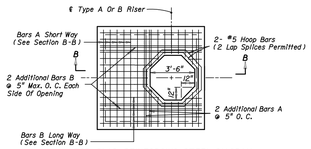
SIDEWALK & SIGNING & PAVEMENT MARKING PLAN

JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN MS/TF	
DRAWN DM/TF/MS	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE SWD-TOWER	SHEET 45 OF 52 SHEETS

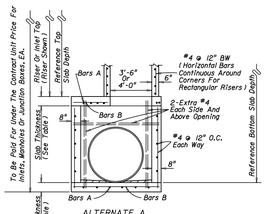


Note: Not Applicable For Type C, D & E Ditch Bottom Inlets. See Index No. 232.

TOP SLAB REINFORCING STEEL DIAGRAM

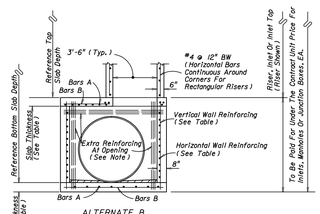


TOP SLAB REINFORCING STEEL DIAGRAM



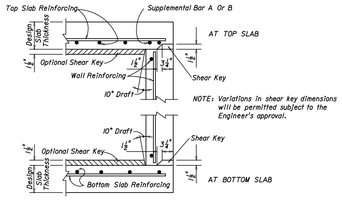
ALTERNATE A
SECTION A-A

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

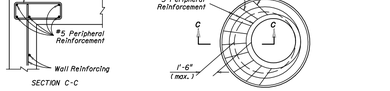


ALTERNATE B
SECTION B-B

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



SLAB TO WALL DETAILS FOR PRECAST ALTERNATE WITH 8" WALLS



SPECIAL TOP SLAB *

GENERAL NOTES

1. Standard structure bottoms 4'-0" diameter and smaller (Alt. A) and 3'-6" square (Alt. B) are designated Type P. Larger standard structure bottoms are designated Type J. Risers are permitted for all structures.
2. Walls of circular structures (Alternate A) constructed in place may be of non-reinforced concrete or brick or reinforced concrete. Precast and rectangular structures (Alternate B) shall be constructed of reinforced concrete only.
3. Wall thickness and reinforcement are for either reinforced cast-in-place or precast concrete units except that precast circular units may be furnished with walls in accordance with either ASTM C478 (up to 96" diameter) or ASTM C76, Class III, B Wall, modified where the elliptical steel cage area is placed in the center one-third of the wall.
4. Top and floor slab thickness and reinforcement are for precast and cast in place construction. Top and floor slabs shall be of Class II concrete. Concrete as specified in ASTM C478 (4000 psi) may be used in lieu of Class I and Class II concrete in precast items manufactured in plants which are under the "Standard Operating Procedures" for the inspection of precast drainage products.
5. All reinforcement shown is ASTM A615/A615M Grade 60 steel, either smooth or deformed. Equivalent area Grade 40 steel or Grade 65KSI welded wire fabric may be substituted according to Index No. 201.
6. Structure bottoms may be used in conjunction with curb inlet tops Types 1, 2, 3, 4, 5, 6, 9, and 10, and any manhole or junction box unless otherwise shown in the plans or other standard drawings. Alt. B structure bottoms may be used in conjunction with curb inlet Types 7 & 8, or any ditch bottom inlet unless otherwise shown in the plans or other standard drawings.
7. Rectangular structures may be rotated as directed by the Engineer in order to facilitate connections between the structure walls and storm sewer pipes.
8. Except when ACI hooks are specifically required, reinforcement top and slab shall be straight embedment.
9. All steel bars shall have 1½" minimum cover unless otherwise shown except for precast circular units manufactured under ASTM C76 or ASTM C478. Horizontal steel in rectangular structures shall be lapped a minimum of 24 bar diameters at corners.
10. The corner fillets shown are necessary for rectangular structures used with circular risers and inlet throats and used on skew with rectangular risers, inlet and inlet throats. Fillets will be required in lieu of the bottom slab of the Alt. B riser when used with the Alt. A box. Each fillet shall be reinforced with 2-#5 bars.
11. Inlet throats, riser or manhole tops shall be secured to structures as shown on Index No. 201.
12. Structures with depths over 14' are to be checked for floatation by designer of project drainage.
13. Units larger than specified standard may be substituted at the contractor's option when these units will not cause or increase the severity of utility conflicts. Such larger units shall be furnished at no additional cost to the Department. Larger Alternate A units cannot replace Alternate B units without approval of the Engineer. This note applies to this Index only.
14. For manhole and junction box tops, for frames and covers, and, for supplementary details see Index No. 201.

STRUCTURE BOTTOMS TYPE J AND P

1 of 2

SLAB DESIGNS - SQUARE AND RECTANGULAR STRUCTURES

(ALL SLABS 8" THICK - REINFORCING PARALLEL TO SHORT WAY AND LONG WAY)

SHORT-WAY		LONG-WAY	
SLAB DEPTH	SCHEDULE	SLAB DEPTH	SCHEDULE
SIZE: 3'-6" x UNLIMITED			
≥ 0.5' < 29'	B	≥ 0.5' < 40'	B
29' < 40'	C		
SIZE: 4'-0" x UNLIMITED			
≥ 0.5' < 19'	B	≥ 0.5' < 34'	B
19' < 29'	C	34' < 40'	C
29' < 40'	D		
SIZE: 5' x 5'			
≥ 0.5' < 3'	C	≥ 0.5' < 3'	C
3' < 19'	B	3' < 19'	B
19' < 28'	C	19' < 28'	C
28' < 38'	D	28' < 38'	D
38' < 40'	F	38' < 40'	F
SIZE: 5' x 6'			
≥ 0.5' < 3'	C	≥ 0.5' < 3'	C
3' < 16'	B	3' < 20'	B
16' < 24'	C	20' < 29'	C
24' < 34'	D	29' < 40'	D
34' < 40'	F		
SIZE: 5' x 7'			
≥ 0.5' < 3'	C	≥ 0.5' < 3'	C
3' < 14'	B	3' < 22'	B
14' < 21'	C	22' < 33'	C
21' < 39'	D	33' < 40'	D
39' < 40'	F		
SIZE: 5' x 8'			
≥ 0.5' < 3'	C	≥ 0.5' < 39'	B
3' < 8'	B	39' < 40'	C
8' < 17'	C		
17' < 23'	D		
23' < 40'	F		
SIZE: 5' x 9'			
≥ 0.5' < 3'	C	≥ 0.5' < 32'	B
3' < 8'	B	32' < 40'	C
8' < 17'	C		
17' < 23'	D		
23' < 40'	F		

SHORT-WAY		LONG-WAY	
SLAB DEPTH	SCHEDULE	SLAB DEPTH	SCHEDULE
SIZE: 6' x 6'			
≥ 0.5' < 3'	D	≥ 0.5' < 3'	D
3' < 4'	C	3' < 4'	C
4' < 14'	B	4' < 14'	B
14' < 21'	C	14' < 21'	C
21' < 28'	D	21' < 28'	D
28' < 40'	F	28' < 40'	F
SIZE: 6' x 7'			
≥ 0.5' < 3'	D	≥ 0.5' < 3'	D
3' < 4'	C	3' < 4'	C
4' < 12'	B	4' < 15'	B
12' < 19'	C	15' < 21'	C
19' < 26'	D	21' < 30'	D
26' < 40'	F	30' < 40'	F
SIZE: 6' x 8'			
≥ 0.5' < 3'	D	≥ 0.5' < 3'	D
3' < 4'	C	3' < 4'	C
4' < 7'	B	4' < 16'	B
7' < 16'	C	16' < 23'	C
16' < 23'	D	23' < 32'	D
23' < 40'	F	32' < 40'	F
SIZE: 6' x 9'			
≥ 0.5' < 3'	D	≥ 0.5' < 3'	D
3' < 15'	C	3' < 4'	C
15' < 21'	D	4' < 18'	B
21' < 27'	E	18' < 27'	C
27' < 40'	G	27' < 37'	D
		37' < 40'	E
SIZE: 7' x 7'			
≥ 0.5' < 3'	E	≥ 0.5' < 3'	E
3' < 4'	D	3' < 4'	D
4' < 16'	C	4' < 16'	C
16' < 22'	D	16' < 22'	D
22' < 28'	E	22' < 28'	E
28' < 40'	G	28' < 40'	G
SIZE: 7' x 8'			
≥ 0.5' < 3'	E	≥ 0.5' < 3'	E
3' < 4'	D	3' < 4'	D
4' < 15'	C	4' < 17'	C
15' < 21'	D	17' < 23'	D
21' < 27'	E	23' < 29'	E
27' < 40'	G	29' < 40'	G
SIZE: 7' x 9'			
≥ 0.5' < 3'	E	≥ 0.5' < 3'	E
3' < 4'	D	3' < 4'	D
4' < 12'	C	4' < 18'	C
12' < 18'	D	18' < 24'	D
18' < 24'	E	24' < 32'	E
24' < 40'	G	32' < 40'	G

SHORT-WAY		LONG-WAY	
SLAB DEPTH	SCHEDULE	SLAB DEPTH	SCHEDULE
SIZE: 8' x 8'			
≥ 0.5' < 3'	D	≥ 0.5' < 3'	D
3' < 4'	C	3' < 4'	C
4' < 16'	B	4' < 18'	C
16' < 22'	C	18' < 25'	D
22' < 29'	D	25' < 32'	F
29' < 40'	F	32' < 40'	G
SIZE: 8' x 9'			
≥ 0.5' < 3'	D	≥ 0.5' < 3'	E
3' < 4'	C	3' < 4'	D
4' < 16'	B	4' < 18'	C
16' < 22'	C	18' < 25'	D
22' < 29'	D	25' < 32'	F
29' < 40'	F	32' < 40'	G
SIZE: 9' x 9'			
≥ 0.5' < 3'	F	≥ 0.5' < 3'	F
3' < 14'	C	3' < 14'	C
14' < 20'	D	14' < 20'	D
20' < 26'	E	20' < 26'	E
26' < 40'	G	26' < 40'	G

GENERAL NOTES

1. Size is the inside dimensions (s) of a structure.
2. Slab reinforcement is appropriate for top, intermediate, and bottom slabs.
3. Slab depth is measured from finished grade to top of slab.
4. Wall design depth is measured to the top of the bottom slab for boxes and to the top of the intermediate slab for risers.
5. Wall height is the distance between top of lower slab to bottom of upper slab.
6. Wall sizes exceeding 9'-0" require a special design.

REINFORCING SCHEDULE

SCHEDULE	GRADE 60 STEEL OR 65 KSI (WIRE FABRIC) in²/ft
A	0.20
B	0.24
C	0.37
D	0.53
E	0.73
F	1.06
G	1.45

SLAB DESIGNS - ROUND STRUCTURES

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

WALL DESIGNS - RECTANGULAR STRUCTURES

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

* Precast structures 3'-6" x 3'-6" maybe cast with 6" walls to depths of 15'. See Index No. 201.

STRUCTURE BOTTOMS TYPE J AND P

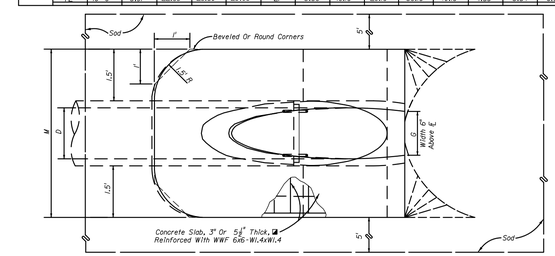
2 of 2

DIMENSIONS AND QUANTITIES

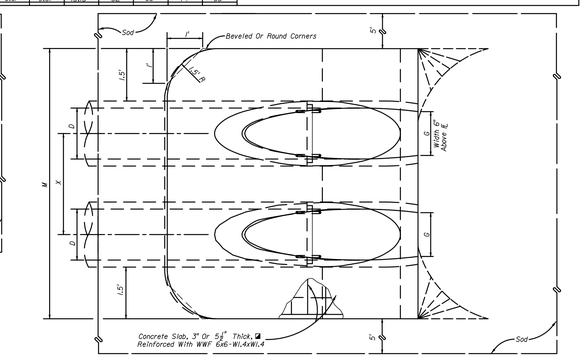
	D	X	A	B	C	E	F	G	M Single Pipe	M Double Pipe	M Triple Pipe	M Quad. Pipe	N	5½" CONCRETE SLAB (CY) ◪ Single Pipe	5½" CONCRETE SLAB (CY) ◪ Double Pipe	5½" CONCRETE SLAB (CY) ◪ Triple Pipe	5½" CONCRETE SLAB (CY) ◪ Quad. Pipe	SODDING (SQ. YDS.) Single Pipe	SODDING (SQ. YDS.) Double Pipe	SODDING (SQ. YDS.) Triple Pipe	SODDING (SQ. YDS.) Quad. Pipe
2d Slope	15"	2'-7"	1.50'	2.18'	4.40'	2.06'	5'	1.22'	4.63'	7.91'	9.79'	12.37'	1.19'	0.38	0.58	0.77	0.96	21	24	27	30
	18"	2'-11"	1.50'	2.74'	4.71'	2.56'	6'	1.41'	4.90'	7.75'	10.58'	13.42'	1.91'	0.44	0.65	0.87	1.09	22	25	28	31
	24"	3'-5"	2.00'	3.81'	5.38'	3.56'	7'	1.73'	5.20'	8.92'	12.33'	15.75'	1.25'	0.54	0.83	1.12	1.42	24	28	32	35
	30"	4'-1"	2.25'	4.95'	6.07'	4.56'	8'	2.00'	6.08'	10.33'	14.58'	18.83'	1.29'	0.66	1.09	1.50	1.91	26	31	35	40
	36"	4'-7"	2.25'	6.08'	6.81'	5.56'	9'	2.24'	6.97'	11.75'	16.53'	21.30'	1.33'	0.81	1.38	1.96	2.54	28	34	39	45
	42"	6'-0"	2.54'	7.21'	9.55'	6.56'	10'	2.45'	7.95'	13.25'	18.55'	23.85'	1.58'	0.97	1.70	2.45	3.19	30	37	43	50
	48"	6'-9"	2.43'	8.33'	10.76'	7.56'	11'	2.65'	7.83'	14.58'	20.33'	28.08'	1.42'	1.13	2.04	2.93	3.84	32	39	47	54
	54"	7'-8"	2.63'	9.44'	11.96'	8.56'	12'	2.83'	8.40'	16.08'	23.75'	31.42'	1.46'	1.31	2.44	3.58	4.72	34	42	51	59
	60"	8'-6"	2.63'	10.56'	13.18'	9.56'	14'	3.00'	9.00'	17.50'	26.00'	34.50'	1.50'	1.51	2.89	4.28	5.68	36	45	55	64
	66"	9'-5"	2.71'	11.68'	14.39'	10.56'	15'	3.18'	9.58'	18.75'	27.92'	37.08'	1.54'	1.68	3.25	4.84	6.43	38	48	58	68
	72"	10'-3"	2.80'	12.80'	15.60'	11.56'	16'	3.30'	10.16'	20.16'	30.16'	40.16'	1.58'	1.89	3.74	5.59	7.45	40	51	62	73
4d Slope	15"	2'-7"	2.27'	4.09'	6.36'	4.03'	8'	1.22'	4.63'	7.91'	9.79'	12.37'	1.19'	0.57	0.87	1.15	1.44	23	26	29	32
	18"	2'-11"	2.50'	5.18'	7.46'	5.03'	9'	1.41'	4.90'	7.75'	10.58'	13.42'	1.91'	0.66	0.99	1.31	1.65	25	28	32	35
	24"	3'-5"	2.53'	7.18' Δ	9.71'	7.03' Δ	11'	1.73'	5.20'	8.92'	12.33'	15.75'	1.25'	0.85	1.30	1.75	2.20	28	33	38	43
	30"	4'-1"	2.70'	9.25'	11.85'	9.03'	13'	2.00'	6.08'	10.33'	14.58'	18.83'	1.29'	1.10	1.74	2.39	3.05	31	36	41	46
	36"	4'-7"	2.81'	11.39' ◇	14.18'	11.03' ◇	15'	2.24'	6.97'	11.75'	16.53'	21.30'	1.33'	1.32	2.21	3.09	3.96	34	40	46	52
	42"	6'-0"	3.05'	13.71'	16.42'	13.03'	17'	2.45'	7.95'	13.25'	19.25'	25.25'	1.58'	1.58	2.76	3.94	5.09	38	44	51	58
	48"	6'-9"	3.22'	15.43'	18.65'	15.03'	19'	2.65'	7.83'	14.58'	21.33'	28.08'	1.42'	1.85	3.30	4.73	6.17	41	48	56	63
	54"	7'-8"	3.39'	17.49'	20.88'	17.03'	21'	2.83'	8.40'	16.08'	23.75'	31.42'	1.46'	2.14	3.95	5.77	7.58	44	52	61	69
	60"	8'-6"	3.56'	19.55'	23.31'	19.03'	23'	3.00'	9.00'	17.50'	26.00'	34.50'	1.50'	2.45	4.66	6.87	9.07	47	56	66	75
	66"	9'-5"	3.73'	21.62'	25.80'	21.03'	25'	3.18'	9.58'	18.75'	27.92'	37.08'	1.54'	2.88	5.54	8.18	10.84	49	59	69	80
	72"	10'-3"	3.82'	22.68'	26.59'	23.03'	27'	3.30'	10.16'	20.16'	30.16'	40.16'	1.58'	3.54	6.61	9.67	13.13	52	63	74	85

◪ See General Note No. 3.
See Sheet 5 Of 6 For 3" Slab Quantities

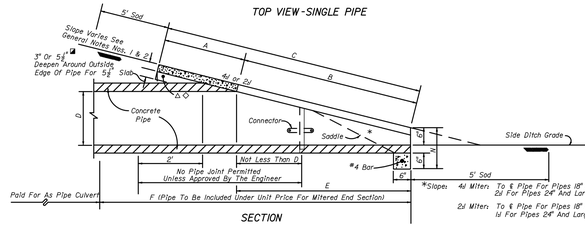
B E
Δ 6.42' Δ 6.25 Dimensions permitted to allow use of 8' standard pipe lengths.
◇ 10.40 ◇ 10.10' Dimensions permitted to allow use of 12' standard pipe lengths.
Δ ◇ Concrete slab shall be deepened to form bridge across crown of pipe. See section below.



TOP VIEW-SINGLE PIPE



TOP VIEW-MULTIPLE PIPE



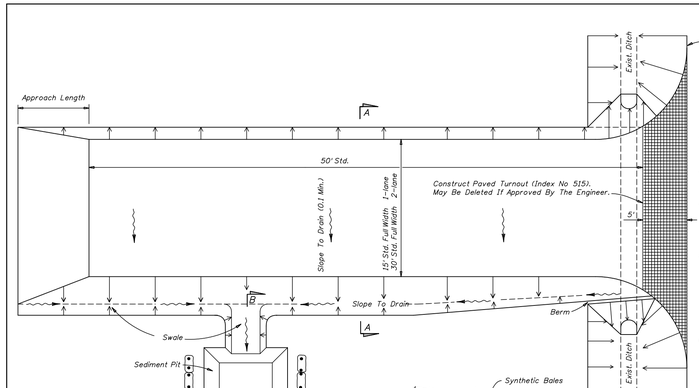
NOTE: See sheet 6 for details and notes.

CROSS DRAIN
MITERED END SECTION
SINGLE AND MULTIPLE ROUND CONCRETE PIPE
FDOT INDEX #272

*Slopes: 4d Miters: To ℄ Pipe For Pipes 18" And Smaller. 2d For Pipes 24" And Larger.
2d Miters: To ℄ Pipe For Pipes 18" And Smaller. 1d For Pipes 24" And Larger.

GENERAL NOTES

1. Mitered end sections for pipe sizes 15", 18" and 24" round or equivalent pipe arch or elliptical pipe are permitted within the clear zone. When the slope intersection permits, the mitered end section may be located with the culvert opening as close as 8' beyond the outside edge of the shoulder.
2. Slope and ditch transitions shall be used when the normal roadway slope must be flattened to place end section outside clear zone. See detail left.
3. The reinforced concrete slab shall be constructed for all sizes of cross drain pipe and cast in place with Class I concrete. Slabs shall be 5½" thick unless 3" thickness called for in plans.
4. Concrete pipe used in the assembly of mitered end sections shall be selective lengths to avoid excessive connections.
5. Corrugated metal pipe galvanizing that is damaged during beveling and perforating for mitered end section shall be repaired.
6. That portion of corrugated metal pipe in direct contact with the concrete slab shall be bituminous coated prior to placing of the concrete.
7. Unless otherwise designated in the plans, concrete pipe mitered end sections may be used with any type of cross drain pipe; corrugated steel pipe mitered end sections may be used with any type of cross drain pipe except aluminum pipes and, corrugated aluminum mitered end sections may be used with any type of cross drain pipe except steel pipe. When bituminous coated metal pipe is specified for cross drain pipe, mitered end sections shall be constructed with like pipe or concrete pipe.
8. When the mitered end section pipe is dissimilar to the cross drain pipe, a concrete jacket shall be constructed in accordance with Standard Index 280.
9. When existing multiple cross drain pipes are spaced other than the dimensions shown in this detail, or have non-parallel axes, or have non-uniform sections, the mitered end sections will be constructed either separately as single pipe mitered end sections or collectively as multiple pipe end sections as directed by the Engineer; however, mitered end sections will be paid for each based on each independent pipe end.
10. The cost of all pipe(s), fasteners, reinforcing, connectors, anchors, concrete, sealants, jackets, and coupling bands shall be included in the cost for the mitered end section. Sodding shall be paid for separately under the contract unit price of Sodding, SY.
11. Mitered end sections shall be paid for under the contract unit price for Mitered End Section (CD), Each, based on each independent pipe end. Mitered end sections use for detention/retention basin outlets are to be paid for under the contract unit price for Mitered End Section, (BD), Each.



GENERAL NOTES

1. A Soil Tracking Prevention Device (STPD) shall be constructed at locations designated by the engineer for points of egress from unstabilized areas of the project to public roads where off-site tracking of mud could occur. Traffic from unstabilized areas of the construction project shall be directed thru a STPD. Barriers, flagging, or other positive means shall be used as required to limit and direct vehicular egress across the STPD.
2. The Contractor may propose an alternative technique to minimize off-site tracking of sediment. The alternative must be reviewed and approved by the Engineer prior to its use.
3. All materials spilled, dropped, or tracked onto public roads (including the STPD aggregate and construction mud) shall be removed daily, or more frequently if so directed by the Engineer.
4. Aggregates shall be as described in Section 901 excluding 901-2.3. Aggregates shall be FDOT size #1. If this size is not available, the next available smaller size aggregate may be substituted with the approval of the Engineer. Sizes containing excessive small aggregate will track off the project and are unsuitable.
5. The sediment pit should provide a retention volume of 3600 cubic feet/acre of surface area draining to the pit. When the STPD is isolated from other drainage areas, the following pit volumes will satisfy this requirement:
   15' x 50'=100 ft.³ 30' x 50'=200 ft.³
   As an option to the sediment pit, the width of the swale bottom can be increased to obtain the volume. When the sediment pit or swale volume has been reduced to one half, it shall be cleaned. When a swale is used, synthetic bales or silt fence shall be placed along the entire length.
6. The swale ditch draining the STPD shall have a 0.02X minimum and a 1.0X maximum grade along the STPD and to the sediment pit.
7. Mitered end sections are not required when the sidedrain pipe satisfies the clear zone requirements.
8. The STPD shall be maintained in a condition that will allow it to perform its function. To prevent off-site tracking, the STPD shall be rinsed (daily when in use) to move accumulated mud downward thru the stone. Additional stabilization of the vehicular route leading to the STPD may be required to limit the mud tracked.
9. A STPD shall be paid for under the contract unit price for Soil Tracking Prevention Device, EA. The unit price shall constitute full compensation for construction, maintenance, replacement of materials, removal, and restoration of the area utilized for the STPD; including but not limited to excavation, grading, temporary pipe (including MES when required), filter fabric, aggregate, paved turnout (including asphalt and base construction), ditch stabilization, approach route stabilization, sediment removal and disposal, water, rinsing and cleaning of the STPD and cleaning of public roads, grassing and sod. Synthetic Bale or Bale Type Barrier shall be paid for under the contract unit price for Synthetic Bales, L.F.. Silt fence shall be paid for under the contract unit price for Staked Silt Fence, LF.
10. The nominal size of a standard STPD is 15' x 50' unless otherwise shown in the plans. If the volume of entering and existing vehicles warrant, a 30' width STPD may be used if approved by the Engineer. When a double width (30') STPD is used, the pay quantity shall be 2 for each location.

SOIL TRACKING PREVENTION DEVICE
TYPE A

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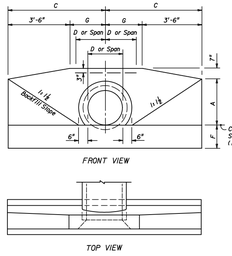
DATE	DESCRIPTION	BY
	REVISIONS	

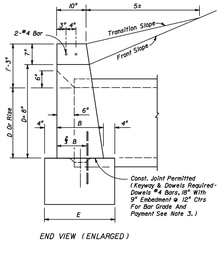
CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

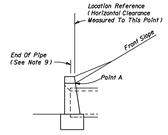
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

DRAINAGE DETAILS

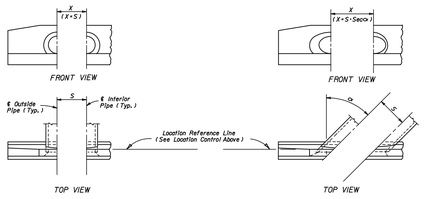
JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN MS/TF	
DRAWN DM/TF/MS	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE DD-TOWER	SHEET 46 OF 52 SHEETS







ENDWALL DIMENSIONS (EXCLUSIVE OF MULTIPLE PIPE SPACING)



LEGEND

∝ Pipe Skew
S Center To Center Pipe Spacing
X Centerline To Centerline Dimension At Face Of Headwall

ENDWALL POSITIONS FOR SINGLE AND MULTIPLE PIPE AND SPACING FOR MULTIPLE PIPE

STANDARD LOCATION CONTROL

1. Position is set by the intersection of the front slope and Point A where this intersection falls outside the clear zone.
2. Where the front slope and Point A intersects inside the clear zone, the endwall is positioned so the location reference point is at the clear zone limit. The front slope is transitioned to the endwall as shown in Index No. 280.

GENERAL NOTES

1. Endwall dimensions, locations and positions are for round and elliptical concrete pipe and for round and pipe-arch corrugated metal pipe. Round concrete pipe shown.
2. Front slope and ditch transitions shall be in accordance with Index No. 280.
3. Endwalls may be cast in place or precast concrete. Reinforcing steel shall be Grades 40 or 60. Additional reinforcement necessary for handling precast units shall be determined by the Contractor or the supplier. Cost of reinforcement shall be included in the contract unit price for concrete, (endwalls).
4. All exposed corners and edges of concrete are to be chamfered ¾".
5. Concrete meeting the requirements of ASTM C478 (4000 psi) may be used in lieu of Class I concrete in precast items manufactured in plants which are under the Standard Operating Procedures for the Inspection of precast drainage products.
6. On outfall ditches with side slopes flatter than 1:1½ provide 20' transitions from the endwall to the flatter side slopes, right of way permitting.
7. For sodding around endwalls see Index No. 281.
8. Payment for concrete quantities for endwalls skewed to the pipe shall be made on the following basis:

Endwall Skew To Pipe	Use Tabulated Value
0° to 5°	0°
6° to 15°	15°
16° to 30°	30°
31° or over	45°

9. Pipe length plan quantities shall be based on the pipe end locations shown in the standard location control end view, or lengths based on special endwall locations called for in the plans.
10. Payment for pipe in pipe culverts shall be based on plan quantities, adjusted for endwall locations subsequently established by the Engineer.
11. Endwalls to be paid for under the contract unit price for Class I Concrete (Endwalls), CY.

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STRAIGHT CONCRETE ENDWALLS
SINGLE AND MULTIPLE PIPE

Index No. 250

DATA AND ESTIMATED QUANTITIES FOR ONE ENDWALL

ROUND CONCRETE AND CORRUGATED METAL PIPE

D	Opening Area (SF)	Dimensions								Class I Concrete (CY)																D
	Number Of Pipes	A	B	C	E	F	G	S	X	Number And Type Of Pipe And Skew Angle Of Pipe														
										Single	Double			Triple			Quadruple							
	1 2 3 4									Concrete	Metal	Concrete			Metal		Concrete			Metal		Concrete			Metal	
										0°	0°	0°	15°	30° 45°	0°	15°	30° 45°	0°	15°	30° 45°	0°	15°	30° 45°	0°	15°	30° 45°	
15"	1.23	2.46	3.69	4.92	1'-10"	1'-2"	4'-0"	1'-10"	1'-2"	0'-6"	2'-7"	2'-8"	3'-0"	3'-8"	1.83	1.59	1.60	1.65	1.74	1.62	1.63	1.68	1.78	1.94	1.96	2.05	2.23	1.99	2.02	2.11	2.30	2.30	2.34	2.47	2.74	2.37	2.41	2.75	2.84	15"
18"	1.77	3.54	5.31	7.08	2'-5"	1'-3"	4'-6"	1'-9"	1'-3"	1'-0"	2'-10"	2'-10"	3'-3"	4'-0"	1.56	1.59	1.99	2.01	2.06	2.17	2.04	2.06	2.11	2.23	2.43	2.46	2.56	2.79	2.51	2.54	2.65	2.89	2.86	2.91	3.06	3.40	2.96	3.01	3.17	3.53	18"
20"	2.41	4.82	7.23	9.64	2'-5"	1'-4"	5'-0"	2'-0"	1'-4"	1'-6"	3'-2"	3'-2"	3'-7"	4'-5"	1.97																								20"
24"	3.14	6.28	9.42	12.56	2'-8"	1'-4"	5'-6"	2'-0"	1'-4"	2'-0"	3'-5"	3'-5"	3'-9"	4'-10"	2.24	2.29	2.82	2.84	2.9	3.06	2.9	2.93	3.01	3.17	3.39	3.43	3.57	3.87	3.52	3.56	3.71	4.03	3.97	4.03	4.24	4.69	4.14	4.20	4.43	4.9	24"
27"	3.98	7.96	11.94	15.92	2'-11"	1'-5"	6'-0"	2'-1"	1'-5"	2'-6"	3'-9"	3'-9"	4'-0"	4'-5"	5'-5"	2.73																							27"
30"	4.91	9.82	14.73	19.64	3'-2"	1'-6"	6'-6"	2'-2"	1'-6"	3'-0"	4'-1"	4'-1"	4'-5"	5'-0"	6'-0"	3.35	3.34	4.13	4.16	4.26	4.49	4.28	4.31	4.43	4.67	4.98	5.04	5.25	5.69	5.20	5.27	5.49	5.97	5.84	5.93	6.24	6.9	6.13	6.23	6.56	7.29	30"
36"	7.09	14.14	21.21	28.28	3'-8"	1'-8"	7'-6"	2'-4"	1'-8"	4'-0"	5'-1"	5'-1"	5'-3"	5'-0"	7'-2"	4.53	4.64	5.73	5.77	5.92	6.23	5.95	6.00	6.15	6.49	6.92	7.00	7.29	7.91	7.25	7.34	7.65	8.33	8.13	8.26	8.69	9.62	8.57	8.71	9.08	10.20	36"
42"	9.62	19.24	28.86	38.48	4'-2"	1'-10"	8'-6"	2'-6"	1'-10"	5'-0"	6'-1"	6'-1"	6'-3"	5'-11"	8'-6"	6.33	6.49	8.0	8.07	8.29	8.72	8.33	8.40	8.61	9.08	9.23	9.80	10.02	10.45	10.38	10.39	10.57	10.98	11.39	11.68	12.07	12.51	13.49	12.32	12.52	13.22	14.73	42"
48"	12.57	25.14	37.71	50.28	4'-8"	2'-1"	9'-6"	2'-9"	2'-0"	6'-0"	6'-9"	6'-9"	7'-0"	7'-0"	9'-7"	8.15	8.38	10.40	10.48	10.75	11.33	10.85	10.94	11.23	11.87	12.64	12.80	13.14	14.50	13.14	13.5	14.0	15.39	14.89	15.13	15.53	17.68	15.82	16.08	16.9	18.90	48"
54"	15.90	31.80	47.70	63.60	5'-2"	2'-6"	10'-6"	3'-2"	2'-3"	7'-0"	7'-8"	7'-8"	7'-11"	8'-0"	10'-10"	11.71	11.77	15.23	15.35	15.78	16.69	15.35	15.48	15.90	16.83	18.77	19.02	19.86	21.69	18.93	19.8	20.04	21.89	22.29	22.66	23.93	26.67	22.5	22.89	24.17	26.96	54"

CORRUGATED METAL PIPE ARCH

Span	Rise	Opening Area (SF)	Dimensions								Class I Concrete (CY)												Span	Rise	Approx. Equiv. Round Pipe
		Number Of Pipes	A	B	C	E	F	G	S	X	Number Of Pipe And Skew Angle Of Pipe														
											Single	Double			Triple			Quadruple						
		1 2 3 4									Concrete	0°	15°	30°	45°	0°	15°	30°	45°	0°	15°	30°	45°	0°	15°	30° 45°			
17"	13"	1.1	2.2	3.3	4.4	1'-9"	1'-2"	3'-10"	1'-10"	1'-2"	0'-4"	2'-6"	2'-6"	2'-7"	3'-1"	3'-6"	1.16	1.41	1.48	1.52	1.60	1.78	1.80	1.88	2.04	2.09	2.12	2.23	2.48	17"	13"	15"
21"	15"	1.6	3.2	4.8	6.4	1'-3"	1'-2"	4'-3"	1'-10"	1'-2"	0'-9"	2'-10"	2'-10"	2'-11"	3'-3"	4'-0"	1.33	1.69	1.70	1.75	1.84	2.04	2.06	2.15	2.33	2.40	2.44	2.57	2.84	21"	15"	18"
28"	20"	2.8	5.6	8.4	11.2	2'-4"	1'-3"	5'-3"	2'-1"	1'-3"	1'-8"	3'-5"	3'-5"	3'-5"	3'-6"	4'-0"	1.78	2.31	2.33	2.39	2.51	2.83	2.87	2.99	3.26	3.36	3.42	3.60	4.0	28"	20"	24"
35"	24"	4.3	8.6	12.9	17.2	2'-8"	1'-4"	5'-10"	2'-1"	1'-4"	2'-5"	4'-0"	4'-0"	4'-0"	4'-1"	4'-7"	2.34	3.03	3.05	3.14	3.32	3.72	3.77	3.93	4.29	4.40	4.46	4.72	5.25	35"	24"	30"
42"	29"	5.9	11.8	17.7	23.6	3'-1"	1'-5"	6'-6¼"	2'-1"	1'-5"	3'-4"	4'-9"	4'-9"	4'-9"	4'-10"	5'-6"	3.13	4.06	4.09	4.20	4.45	4.99	5.06	5.28	5.76	5.93	6.03	6.36	7.09	42"	29"	36"
49"	33"	8.4	16.8	25.2	33.6	3'-5"	1'-7"	7'-3"	2'-2"	1'-7"	4'-2"	5'-4"	5'-4"	5'-4"	5'-4"	6'-2"	3.83	5.00	5.04	5.18	5.48	6.16	6.24	6.52	7.12	7.32	7.44	7.86	8.76	49"	33"	42"
57"	38"	10.6	21.2	31.8	42.4	3'-10"	1'-7"	8'-2½"	2'-3"	1'-7"	5'-1"	6'-1"	6'-1"	6'-1"	6'-1"	7'-1"	4.87	6.3	6.36	6.53	6.9	7.74	7.84	8.18	8.93	9.18	9.33	9.85	10.96	57"	38"	48"
64"	43"	13.2	26.4	39.6	52.8	4'-3"	1'-8"	9'-1½"	2'-4"	1'-8"	6'-0"	7'-1"	7'-1"	7'-1"	7'-4"	8'-2"	5.88	7.64	7.70	7.9	8.37	9.40	9.52	9.94	10.86	11.15	11.33	11.97	13.31	64"	43"	54"
71"	47"	16.9	33.8	50.7	67.6	4'-7"	1'-10"	10'-4"	2'-6"	2'-0"	6'-10"	7'-10"	7'-10"	7'-10"	8'-1"	9'-1"	7.80	10.0	10.23	10.5	11.12	12.49	12.65	13.22	14.43	14.85	15.0	15.94	17.77	71"	47"	60"

Note: Use the guidelines of General Note No. 8 for selecting tabular quantities.

CONCRETE ELLIPTICAL PIPE

Rise	Span	Opening Area (SF)	Dimensions								Class I Concrete (CY)												Rise	Span	Approx. Equiv. Round Pipe
		Number Of Pipes	A	B	C	E	F	G	S	X	Number Of Pipe And Skew Angle Of Pipe														
											Single	Double			Triple			Quadruple						
		1 2 3 4									Concrete	0°	15°	30°	45°	0°	15°	30°	45°	0°	15°	30°	45°			
12"	18"	1.3	2.6	3.9	5.2	1'-8"	1'-2"	3'-9"	1'-10"	1'-2"	0'-3"	2'-0"	2'-0"	2'-1"	2'-3"	4'-0"	1.09	1.45	1.46	1.5	1.60	1.80	1.82	1.9	2.09	2.16	2.20	2.33	2.60	12"	18"	15"
14"	23"	1.8	3.6	5.4	7.2	1'-10"	1'-3"	4'-6¾"	1'-10"	1'-3"	0'-4"	2'-5"	2'-5"	2'-6"	2'-8"	4'-0"	1.36	1.82	1.84	1.89	2.01	2.29	2.35	2.43	2.68	2.75	2.80	2.97	3.33	14"	23"	18"
19"	30"	3.3	6.6	9.9	13.2	2'-3"	1'-4"	5'-10"	2'-0"	1'-4"	1'-0"	2'-11"	2'-11"	2'-11"	3'-2"	4'-0"	1.89	2.53	2.57	2.65	2.85	3.22	3.27	3.43	3.77	3.88	3.95	4.19	4.70	19"	30"	24"
24"	38"	5.1	10.2	15.3	20.4	2'-8"	1'-5"	6'-3"	2'-1"	1'-5"	2'-0"	3'-5"	3'-5"	3'-5"	3'-8"	4'-0"	2.64	3.55	3.58	3.69	3.93	4.48	4.54	4.77	5.24	5.39	5.49	5.82	6.53	24"	38"	30"
29"	45"	7.4	14.8	22.2	29.6	3'-1"	1'-6"	7'-0"	2'-2"	1'-6"	3'-0"	4'-0"	4'-0"	4'-0"	4'-3"	4'-11"	3.32	4.49	4.52	4.66	4.96	5.64	5.72	6.00	6.60	6.80	6.92	7.34	8.24	29"	45"	36"
34"	53"	10.2	20.4	30.6	40.8	3'-6"	1'-7"	7'-8"	2'-3"	1'-7"	4'-0"	4'-9"	4'-9"	4'-9"	4'-11"	5'-8"	4.24	5.76	5.8	6.00	6.39	7.29	7.40	7.76	8.55	8.8	8.97	9.52	10.70	34"	53"	42"
38"	60"	12.9	25.8	38.7	51.6	3'-10"	1'-8"	8'-3"	2'-4"	1'-8"	5'-3"	5'-7"	5'-7"	5'-7"	5'-7"	6'-5"	5.22	7.15	7.23	7.46	7.96	9.10	9.24	9.70	10.71	11.05	11.25	11.95	13.46	38"	60"	48"
43"	68"	16.6	33.2	49.8	66.4	4'-3"	1'-10"	9'-1½"	2'-6"	1'-10"	6'-0"	6'-8"	6'-8"	6'-8"	6'-8"	7'-8"	6.63	9.01	9.09	9.38	10.00	11.39	11.56	12.13	13.36	13.77	14.02	14.88	16.73	43"	68"	54"
48"	76"	20.5	41.0	61.5	82.0	4'-8"	2'-1"	10'-6"	2'-9"	2'-0"	7'-0"	7'-9"	7'-9"	7'-9"	7'-10"	9'-1"	8.66	11.74	11.85	12.22	13.02	14.83	15.04	15.77	17.37	17.91	18.23	19.34	21.74	48"	76"	60"
53"	83"	24.8	49.6	74.4	99.2	5'-1"	2'-6"	11'-7"	3'-2"	2'-6"	8'-1"	10'-7"	10'-7"	10'-7"	10'-10"	12'-3"	12.50	16.98	16.98	17.67	18.83	20.97	21.78	22.86	25.18	25.97	26.44	28.06	31.55	53"	83"	66"
58"	91"	29.5	59.0	88.5	118.0	5'-6"	2'-10"	12'-6¼"	3'-5"	2'-7"	9'-0"	9'-4"	9'-4"	9'-4"	9'-5"	10'-7"	16.46	22.28	22.46	23.16	24.66	28.05	28.46	29.85	32.61	33.53	34.46	36.55	40.05	58"	91"	72"

STRAIGHT CONCRETE ENDWALLS
SINGLE AND MULTIPLE PIPE

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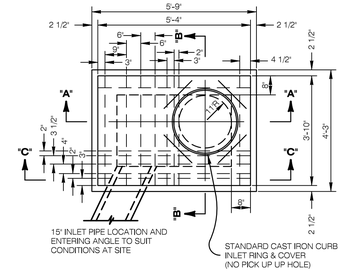
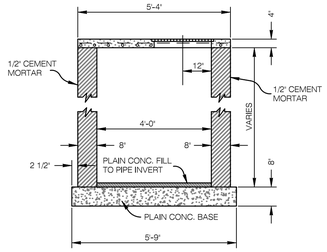
Index No. 250



PLAN



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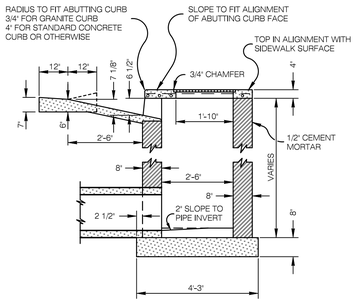

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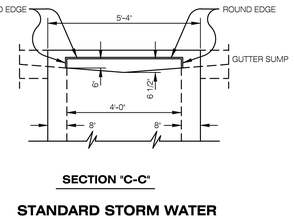
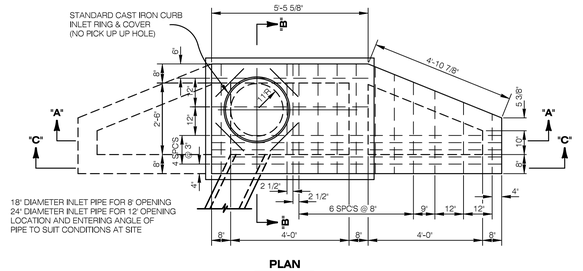


SECTION "C-C"

STANDARD STORM WATER CURB INLET TYPE 1

NOTES:
1) STRUCTURES LARGER THAN 4'x6' (INSIDE) SHALL BE PRECAST OR CAST-IN-PLACE.
2) ALL INSIDE BRICK WALLS TO BE PLASTERED WITH 1/2" MIN. OF 1:2 CEMENT MORTAR.

BAR SCHEDULE FOR TOP SLAB			
NO.	SIZE	LOCATION	LENGTH
8	1/2" Ø	TRANSVERSE BARS	3'-6"
6	1/2" Ø	LONGITUDINAL BARS	5'-1"
1	1/2" Ø	LONGITUDINAL BARS	2'-8"
5	5/8" Ø	TRAFFIC BEARING ONLY	2'-4"



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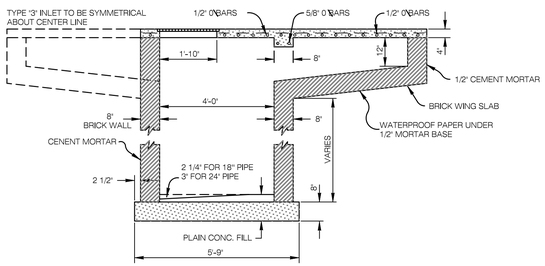

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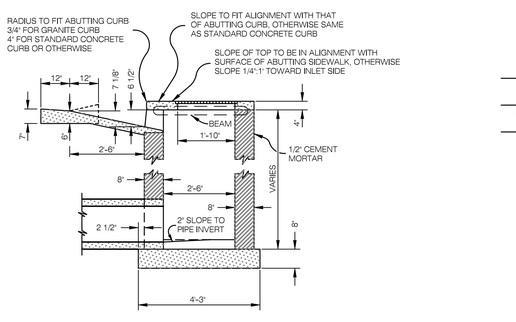
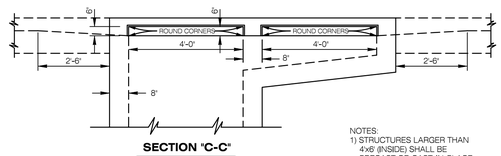


SECTION "B-B"

TYPE "2" - SINGLE WING WITH 8' LENGTH OF THROAT OPENING

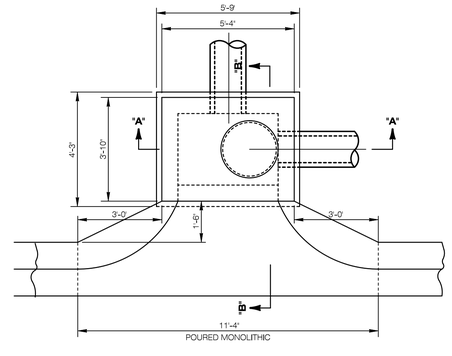
TYPE "3" - DOUBLE WING WITH 12' LENGTH OF THROAT OPENING



SECTION "C-C"

STANDARD STORM WATER CURB INLET TYPE 2 & 3

BAR SCHEDULE FOR TOP SLAB			
NO.	SIZE	LOCATION	LENGTH
8	1/2" Ø	TRANSVERSE BARS - STRAIGHT	3'-6"
1	1/2" Ø	TRANSVERSE BARS - STRAIGHT	3'-4"
1	1/2" Ø	TRANSVERSE BARS - STRAIGHT	3'-0"
1	1/2" Ø	TRANSVERSE BARS - STRAIGHT	2'-9"
1	1/2" Ø	TRANSVERSE BARS - STRAIGHT	2'-5"
1	1/2" Ø	TRANSVERSE BARS - STRAIGHT	2'-0"
2	5/8" Ø	TRANSVERSE BARS - W/ HOOKED ENDS	3'-6"
5	1/2" Ø	LONGITUDINAL BARS - STRAIGHT	9'-9"
1	1/2" Ø	LONGITUDINAL BARS - STRAIGHT	6'-3"
1	1/2" Ø	LONGITUDINAL BARS - STRAIGHT	5'-9"



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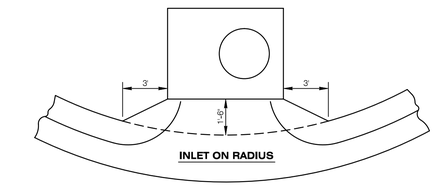


INLET ON RADIUS

STANDARD INLET FOR MIAMI GUTTER

NOTES:
1) STRUCTURES LARGER THAN 4'x6' (INSIDE) SHALL BE PRECAST OR CAST-IN-PLACE.
2) PAVE WITH BRICK AND MORTAR UP TO SPRING LINE WHEREVER TWO OR MORE PIPES ENTER ONE INLET TO PROVIDE A CHANNEL FOR FLOW OF WATER THROUGH INLET.

MUMS NOTE:
THIS CURB INLET HAS BEEN APPROVED BY PASCO COUNTY FOR USE ON NON-FUNCTIONALLY CLASSIFIED ROADWAYS, SUCH AS LOCAL STREETS AND SUBDIVISION COLLECTOR ROADWAYS. IT DOES NOT CONFORM TO THE FLORIDA DEPARTMENT OF TRANSPORTATION MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION, AND MAINTENANCE FOR STREETS AND HIGHWAYS. THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, OR THE DESIGN STANDARDS FOR DESIGN, CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS ON THE STATE HIGHWAY SYSTEM. HOWEVER, WE HEREBY CERTIFY THAT IT IS SUITABLE FOR USE AT THE LOCATIONS DEPICTED HEREIN.

DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

DRAINAGE DETAILS

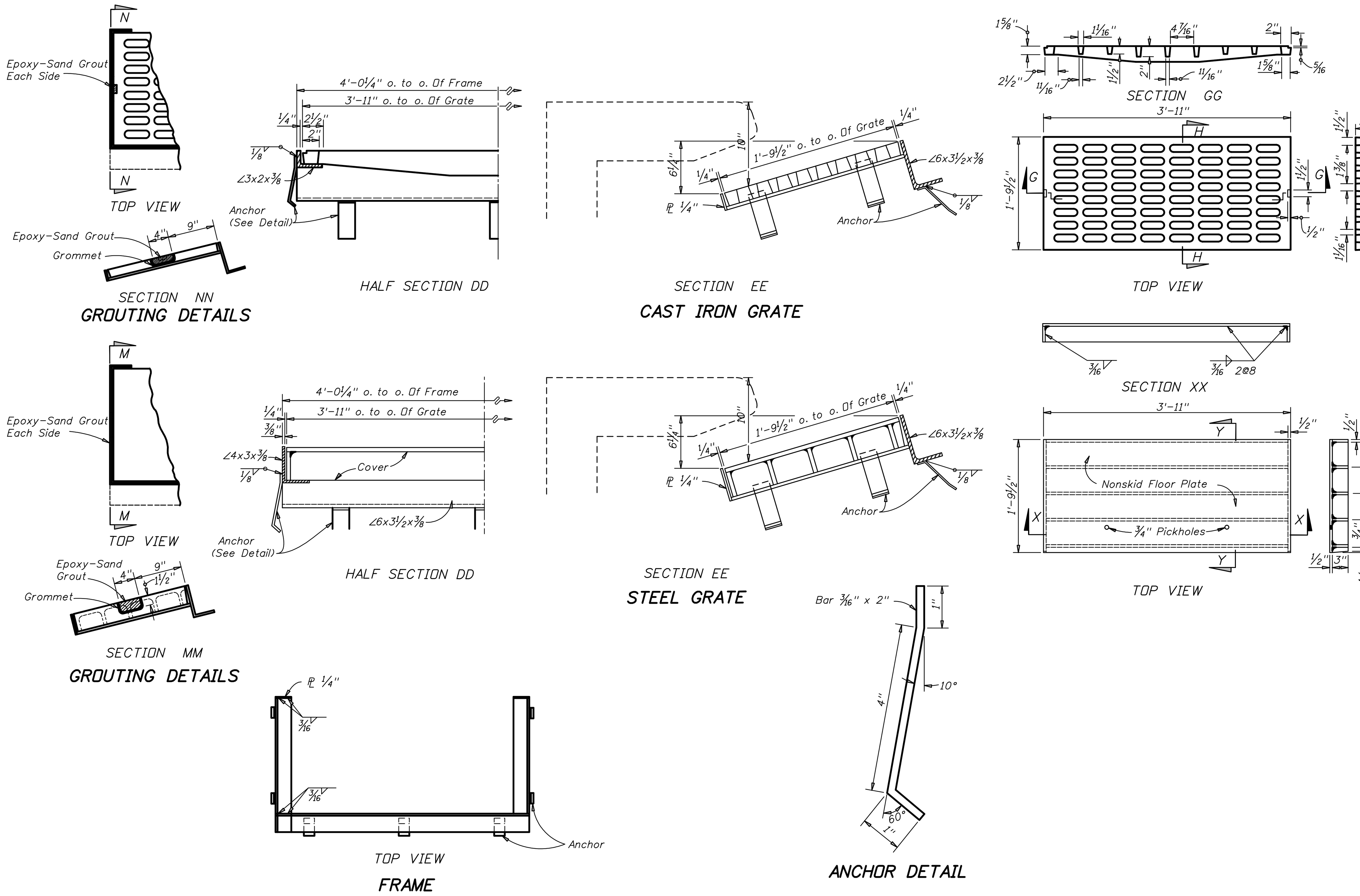
JOB NO.	NLC-BX-026
DESIGN	MS/TF
DRAWN	DM/TF/MS
DATE	12/01/14
FILE	DD-TOWER

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: NNP-BEXLEY, LLC

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 47 OF 52 SHEETS



CURB INLET TOPS
TYPES 5 & 6

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00	2 of 2
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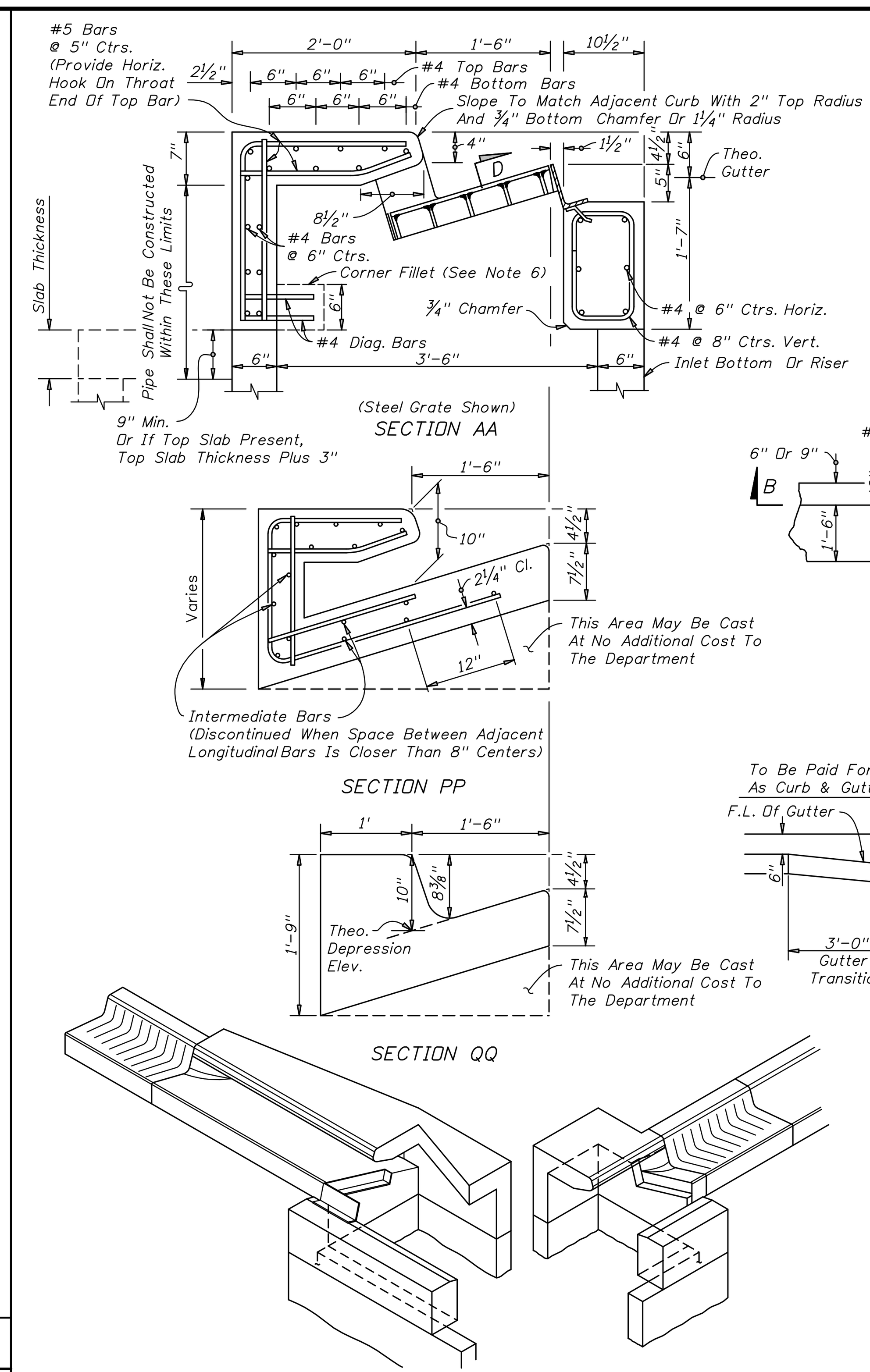

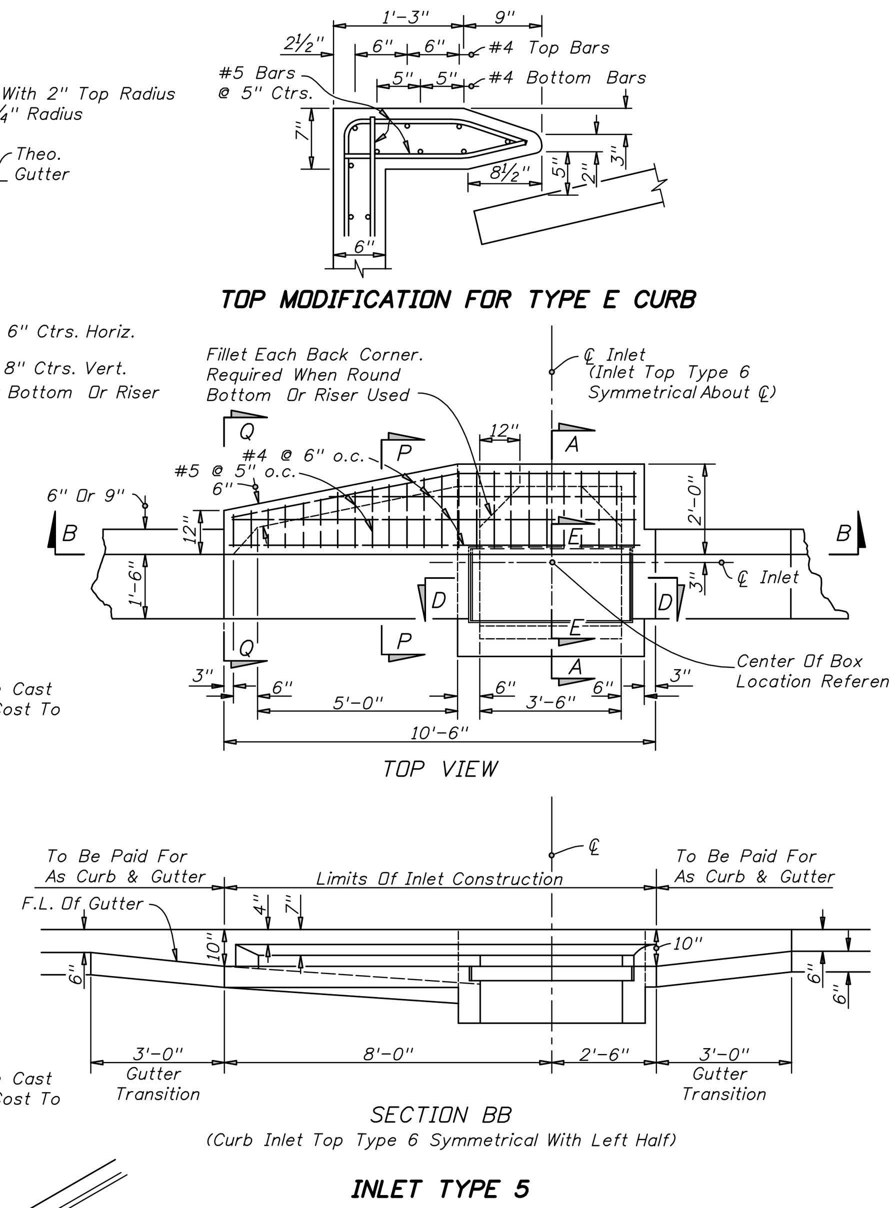

GENERAL NOTES

1. The finished grade and slope of the inlet tops are to conform with the finished cross slope and grade of the proposed sidewalk and/or border.
2. When inlets are to be constructed on a curve, refer to the plans to determine the radius and, where necessary, modify the inlet details accordingly. Bend steel when necessary.
3. All reinforcing steel shall have 1¼" minimum cover unless otherwise shown. Inlet tops shall be either cast-in-place or precast concrete.
4. Precasting of this inlet top will be permitted. Precast units shall conform to the dimensions shown or in accordance with approved shop drawings. Request for shop drawing approval shall be directed to the State Drainage Engineer.
5. Concrete meeting the requirements of ASTM C478 (4,000 PSI) may be used in lieu of Class I concrete for precast units, manufactured in plants which are under the Standard Operating Procedures for the inspection of precast drainage products.
6. The corner fillets shown for rectangular throats are necessary only when throats are to be used in conjunction with circular inlet bottoms or when used on skew with rectangular inlet boxes.
7. For inlet bottoms see Index No. 200. 4' and larger bottoms are to be used with 3'-6" riser.
8. These inlet tops are designed for use with standard curb and gutter Type E and Type F. Locate inlet outside of pedestrian crosswalks.
9. See Index No. 201 for supplemental details.
10. All steel used for frame and grate shall meet the requirements of ASTM A36/A36M.
11. Either cast iron grates or steel grates may be used.
12. When Alternate "G" grate is specified in the plans either the cast iron grate and galvanized steel frame or the the galvanized steel grate and frame must be used. Grates are to be grouted in accordance with the grouting detail shown on sheet 2 of 2, in lieu of tack welding.
13. Inlet to be paid for under the contract unit price for Inlets (Curb) (Type_), Each.

CURB INLET TOPS
TYPES 5 & 6

Last Revision	Sheet No.
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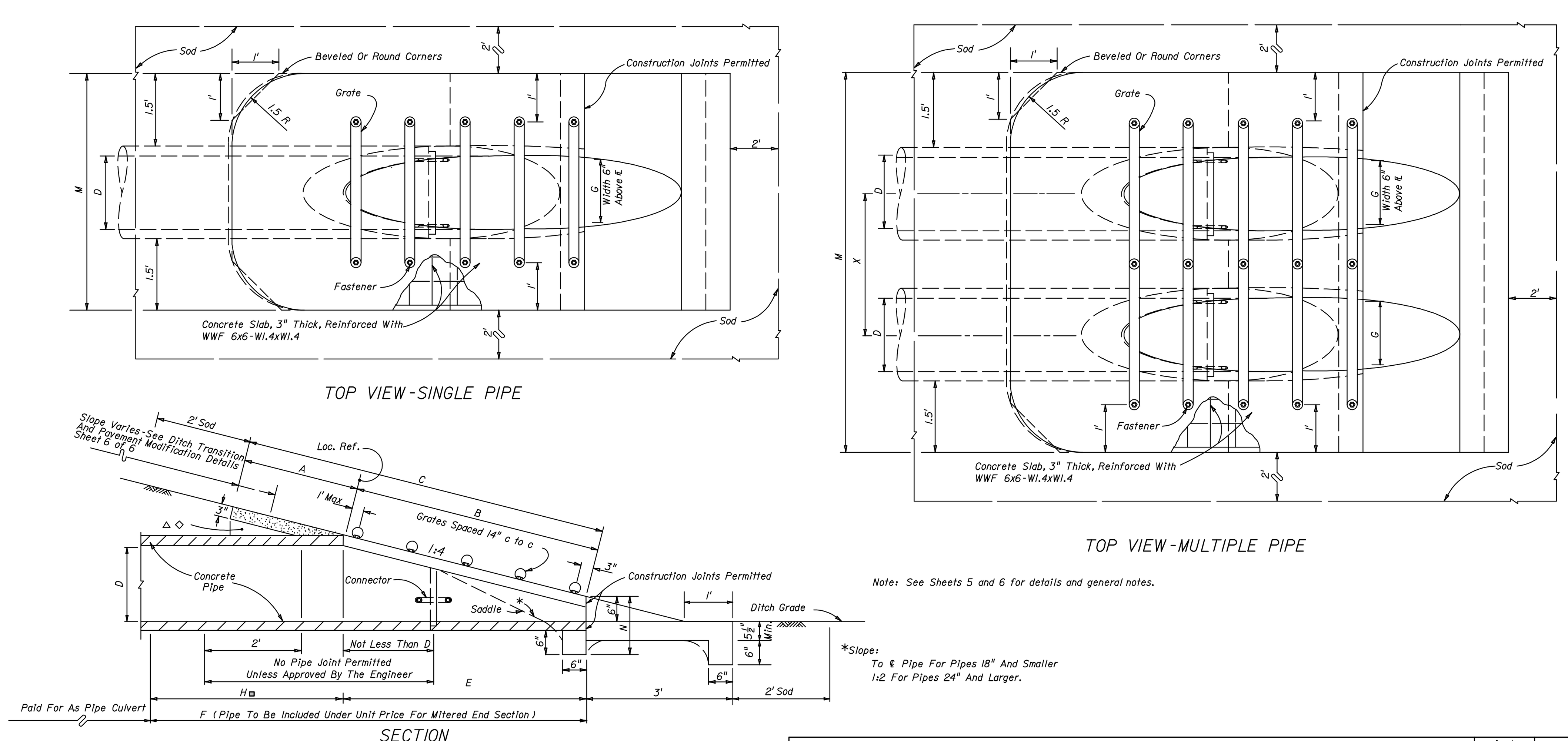
Index No. 211	

DIMENSIONS & QUANTITIES

D	X	A	B	C	E	F	G	H □	M Single Pipe	M Double Pipe	M Triple Pipe	M Quad Pipe	N	Grate Sizes Standard Weight Pipe	Grate Sizes Extra Strong Pipe	Concrete (Cu. Yds.) Single Pipe	Concrete Double Pipe	Concrete Triple Pipe	Concrete Quad Pipe	Sodding (Sq. Yds.) Single Pipe	Sodding Double Pipe	Sodding Triple Pipe	Sodding Quad Pipe
15"	2'-7"	2.27'	4.09'	6.36'	4.03'	8'	1.22'	4.0'	4.63'	7.21'	9.79'	12.37'	1.19'			0.76	1.16	1.54	1.94	8	10	11	12
18"	2'-10"	2.36'	5.12'	7.48'	5.03'	9'	1.41'	4.0'	4.92'	7.75'	10.58'	13.42'	1.21'			0.85	1.28	1.71	2.17	9	10	12	13
24"	3'-5"	2.53'	7.18' △	9.71'	7.03' △	11'	1.73'	4.0'	5.50'	8.92'	12.33'	15.75'	1.25'			1.02	1.58	2.15	2.75	10	12	13	15
30"	4'-3"	2.70'	9.25'	11.95'	9.03'	13'	2.00'	4.0'	6.08'	10.33'	14.58'	18.83'	1.29'	2½"	3"	1.23	1.98	2.74	3.50	12	14	15	17
36"	5'-1"	2.87'	11.31' ◇	14.18'	11.03' ◇	15'	2.24'	4.0'	6.67'	11.75'	16.83'	21.92'	1.33'	2½"	3"	1.40	2.38	3.33	4.24	13	15	17	20
42"	6'-0"	3.05'	13.37'	16.42'	13.03'	17'	2.45'	4.0'	7.25'	13.25'	19.25'	25.25'	1.38'	2½"	3½"	1.60	2.83	4.04	5.26	14	17	19	22
48"	6'-9"	3.22'	15.43'	18.65'	15.03'	19'	2.65'	4.0'	7.83'	14.58'	21.33'	28.08'	1.42'	2½"	3½"	1.81	3.26	4.70	6.14	15	18	21	24
54"	7'-8"	3.39'	17.49'	20.88'	17.03'	21'	2.83'	4.0'	8.42'	16.08'	23.75'	31.42'	1.46'	3"	4"	2.03	3.78	5.54	7.28	17	20	23	27
60"	8'-6"	3.56'	19.55'	23.11'	19.03'	23'	3.00'	4.0'	9.00'	17.50'	26.00'	34.50'	1.50'	3"	4"	2.28	4.36	6.43	8.50	18	22	25	29

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

□ Values shown for estimating pipe quantities and are for information only.

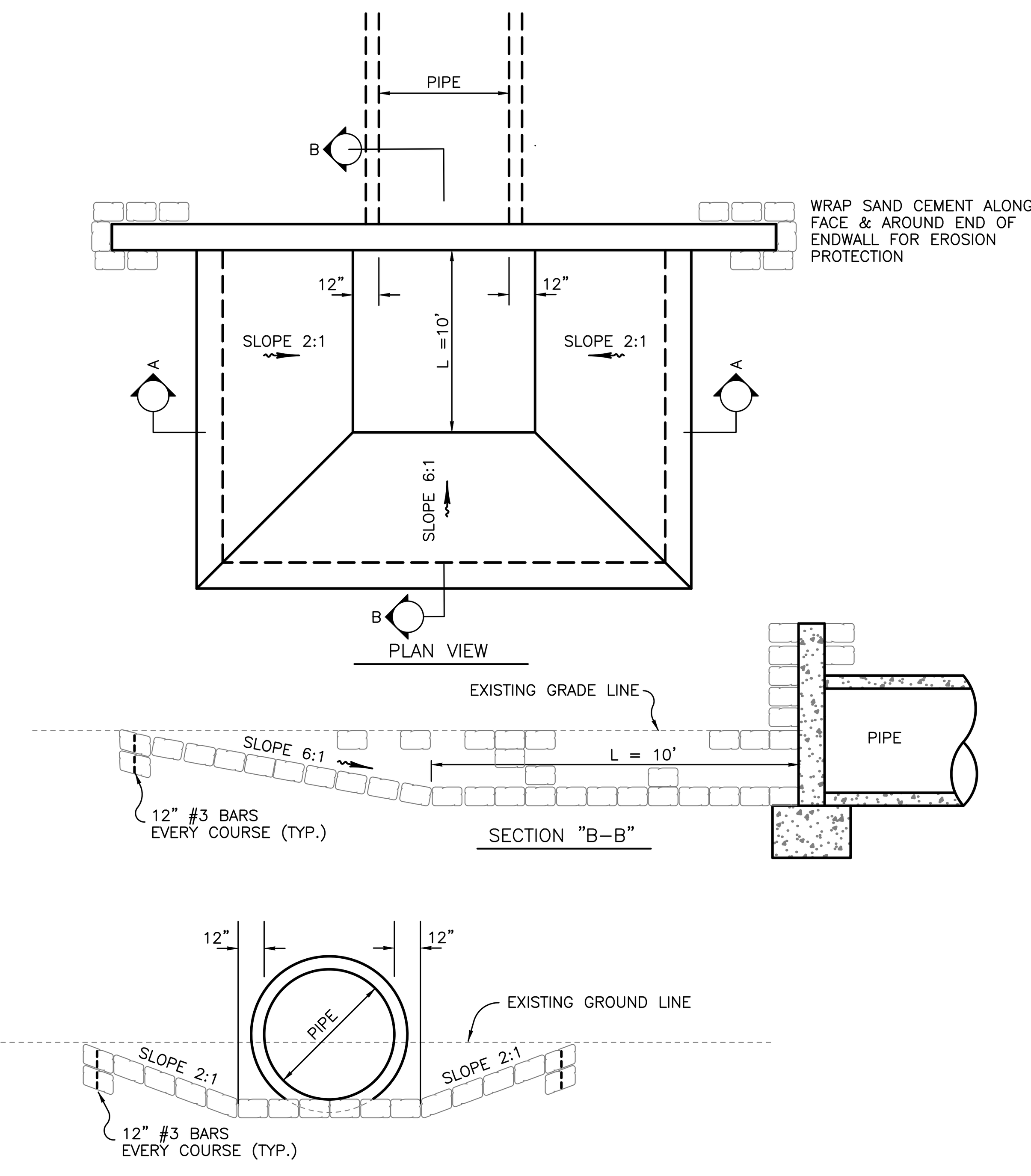


Note: See Sheets 5 and 6 for details and general notes.

*Slope:
To ℄ Pipe For Pipes 18" And Smaller
1:2 For Pipes 24" And Larger.

SIDE DRAIN MITERED END SECTION
SINGLE AND MULTIPLE ROUND CONCRETE PIPE

Last Revision	Sheet No.
02	1 of 6
Index No. 273	



TYPICAL SAND CEMENT BAG RIP-RAP PAVED SUMP DETAIL

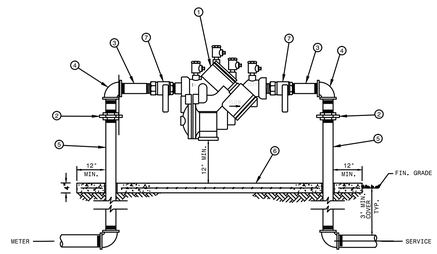
DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

DRAINAGE DETAILS

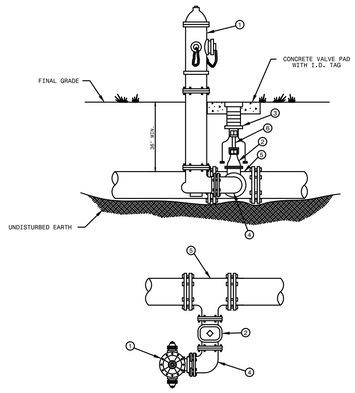
JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN MS/TF	
DRAWN DM/TF/MS	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE DD-TOWER	SHEET 48 OF 52 SHEETS



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	BACKFLOW PREVENTER ASSEMBLY, REDUCED PRESSURE ZONE
2	2	UNIONS - GALV.
3	2	NIPPLES - BRASS
4	2	ELBOWS - GALV. 90°
5	2	RISER - GALV.
6	*	CONCRETE SLAB
7	2	BALL VALVES - BRASS OR S.S. (PROVIDED WITH BFP ASS'Y)

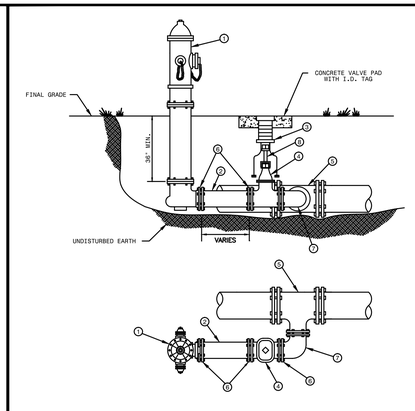
NOTE:
- FIELD ADJUST AND CUT ITEM 5 TO THE PROPER LENGTH.
- MINIMUM CLEARANCE OF 24" TO BE MAINTAINED AROUND DEVICE FOR TESTING.
- ENTIRE ASSEMBLY TO BE PAINTED SAFETY BLUE.
- CONCRETE SLAB TO EXTEND 12" MIN. AROUND ENTIRE DEVICE.
- DEVICE MUST BE LISTED WITH THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH.

CREATED 02/24/03	REDUCED PRESSURE BACKFLOW PREVENTER (SINGLE SERVICE: 3/4", 1", 1-1/2", 2")	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 11



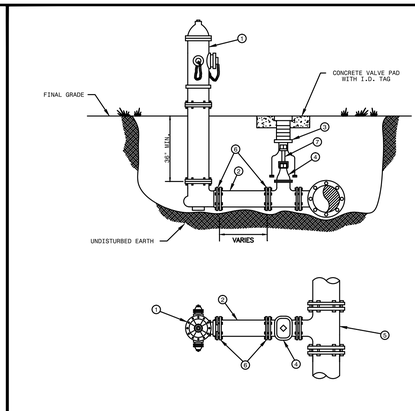
MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	HYDRANT, FIRE (5 1/4" VALVE MIN.), PAINTED YELLOW
2	1	6" VALVE, GATE, MJ RESILIENT WEDGE
3	1	BOX, VALVE SLIP TYPE
4	1	6" BEND, ANCHORING, D.I.
5	1	TEE, ANCHORING, MJ
6	*	VALVE EXTENSION ROD, AS NECESSARY (3' MAX, BELOW GRADE)

CREATED 02/24/03	FIRE HYDRANT PARALLEL TO THE MAIN	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 22



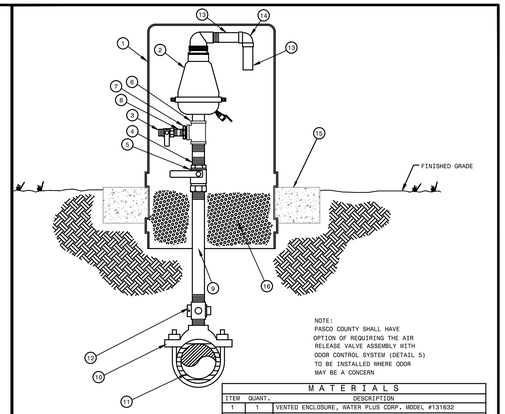
MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	HYDRANT, FIRE (5 1/4" VALVE MIN.), PAINTED YELLOW
2	*	6" PIPE, P.V.C. (DR-18)
3	1	BOX, VALVE SLIP TYPE
4	1	6" VALVE, GATE, M.J. RESILIENT WEDGE
5	1	TEE, ANCHORING, M.J.
6	*	6" RESTRAINER GLAND (MEGALUG)
7	1	BEND, ANCHORING, D.I.
8	*	VALVE EXTENSION ROD, AS NECESSARY (3' MAX. BELOW GRADE)

CREATED 02/24/03	FIRE HYDRANT PARALLEL TO THE MAIN	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 23



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	HYDRANT, FIRE (5 1/4" VALVE MIN.), PAINTED YELLOW
2	*	6" PIPE, P.V.C. (DR-18)
3	1	BOX, VALVE SLIP TYPE
4	1	6" VALVE, GATE, M.J. RESILIENT WEDGE
5	1	TEE, ANCHORING, M.J.
6	*	6" RESTRAINER GLAND (MEGALUG)
7	*	VALVE EXTENSION ROD, AS NECESSARY (3' MAX, BELOW GRADE)

CREATED 02/24/03	FIRE HYDRANT PERPENDICULAR TO THE MAIN	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 24



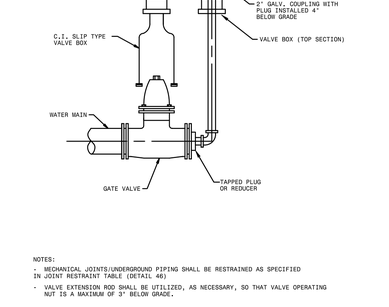
NOTE:
PASCO COUNTY SHALL HAVE OPTION OF REQUIRING THE AIR RELEASE VALVE ASSEMBLY WITH ODOR CONTROL SYSTEM (DETAIL 5) TO BE INSTALLED WHERE ODOR MAY BE A CONCERN

MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	VENTED ENCLOSURE, WATER PLUS CORP. MODEL #131632
2	1	AIR RELEASE VALVE 2" NPT (SEE BELOW)
		SEWER AIR RELEASE VALVES SHALL BE ARI MODEL D-025
		WATER AIR RELEASE VALVES SHALL BE VALMATIC OR EQUAL
3	1	1" CURB STOP, S.S.
4	1	2" x 4" NIPPLE, S.S.
5	1	2" BALL VALVE, S.S.
6	1	2" TEE, S.S.
7	1	2" X 1" REDUCER, S.S.
8	1	1" SHORT NIPPLE, S.S.
9	1	2" PIPE, S.S. LENGTH AS REQUIRED
10	1	2" DOUBLE STRAP TAPPING SADDLE, S.S.
11	1	4" & LARGER PIPE, D.I. OR PVC (DR-18)
12	1	2" CORPORATION BRASS
13	2	1-1/2" PIPE, PVC, LENGTH AS REQUIRED
14	1	1-1/2" x 90° ELBOW, PVC
15	1	CONCRETE SLAB AROUND ENCLOSURE
16	1	#57 WHITE ROCK

NOTE:
VENTED ENCLOSURE TO BE COLOR CODED AS FOLLOWS:

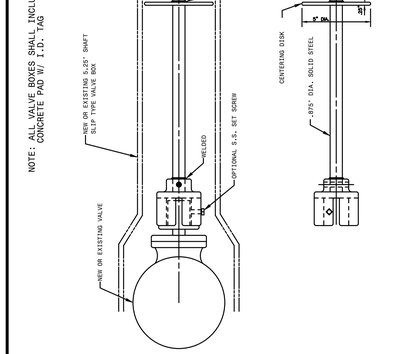
WATER MAIN – BLUE
FORCE MAIN – GREEN
REUSE MAIN – PURPLE

CREATED 02/24/03	STANDARD AIR RELEASE VALVE ASSEMBLY (VERTICAL PIPE LAYOUT)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 4

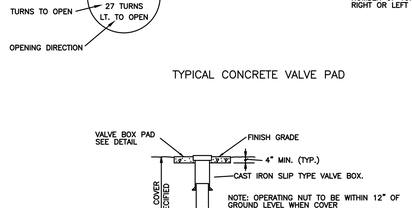


NOTES:
- MECHANICAL JOINTS/UNDERGROUND PIPING SHALL BE RESTRAINED AS SPECIFIED IN JOINT RESTRAINT TABLE (DETAIL 46)
- VALVE EXTENSION ROD SHALL BE UTILIZED, AS NECESSARY, SO THAT VALVE OPERATING NUT IS A MAXIMUM OF 3' BELOW GRADE.

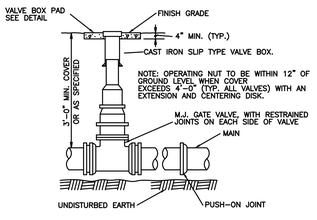
CREATED 02/24/03	PERMANENT BLOW-OFF DETAIL	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 25



CREATED 02/24/03	VALVE EXTENSION RODS	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 26



TYPICAL CONCRETE VALVE PAD



CREATED 02/24/03	VALVE BOX DETAIL SLIP TYPE	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 27

PIPE RESTRAINT LENGTHS IN FEET COMMON FITTINGS

WATER MAINS - TEST PRESSURE 150 PSI

PIPE SIZE	FITTING TYPE 11-1/4°	22-1/2°	45°	90°	DEAD END
4"	2'	4'	8'	20'	45'
6"	3'	6'	12'	28'	63'
8"	4'	7'	15'	36'	82'
10"	4'	9'	18'	43'	98'
12"	5'	10'	21'	50'	116'
16"	6'	13'	26'	63'	148'
20"	7'	15'	31'	76'	179'
24"	9'	17'	36'	87'	208'

FORCE MAINS - TEST PRESSURE 100 PSI

PIPE SIZE	FITTING TYPE 11-1/4°	22-1/2°	45°	90°	DEAD END
4"	1'	3'	6'	13'	30'
6"	2'	4'	8'	19'	42'
8"	2'	5'	10'	24'	55'
10"	3'	6'	12'	29'	66'
12"	3'	7'	14'	34'	77'
16"	4'	8'	18'	42'	99'
20"	5'	10'	21'	50'	119'
24"	6'	11'	24'	58'	139'

RESTRAINT LENGTHS ARE MEASURED FROM THE CENTER LINE OF THE FITTING ALONG THE PIPE IN BOTH DIRECTIONS (EXCEPT DEAD ENDS).

CREATED 02/24/03	RESTRAINED JOINT TABLE COMMON FITTINGS	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 28

PIPE RESTRAINT LENGTHS IN FEET TEES (BRANCH SIDE)

WATER MAINS - TEST PRESSURE 150 PSI

RUN SIZE	BRANCH SIZE 3"	4"	6"	8"	10"	12"	16"	20"	24"
3"	6'	14'	30'	—	—	—	—	—	—
4"	2'	11'	28'	44'	—	—	—	—	—
6"	1'	2'	22'	40'	52'	—	—	—	—
8"	1'	1'	16'	35'	48'	62'	—	—	—
10"	1'	1'	10'	30'	44'	58'	83'	—	—
12"	1'	1'	3'	25'	40'	55'	80'	103'	—
16"	1'	1'	1'	14'	31'	48'	75'	98'	119'
20"	1'	1'	1'	2'	22'	40'	69'	94'	116'
24"	1'	1'	1'	1'	11'	31'	63'	89'	111'

RESTRAINT LENGTHS ARE MEASURED FROM THE CENTER LINE OF THE TEE ALONG THE BRANCH FOR THE DISTANCE INDICATED. A MINIMUM OF 5 FEET OF RESTRAINED PIPE MUST BE INSTALLED ON BOTH RUNS OF THE TEE. MEGALUG TYPE RESTRAINERS ARE REQUIRED ON ALL JOINTS.

CREATED 02/24/03	RESTRAINED JOINT TABLE TEES (BRANCH SIDE)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 29

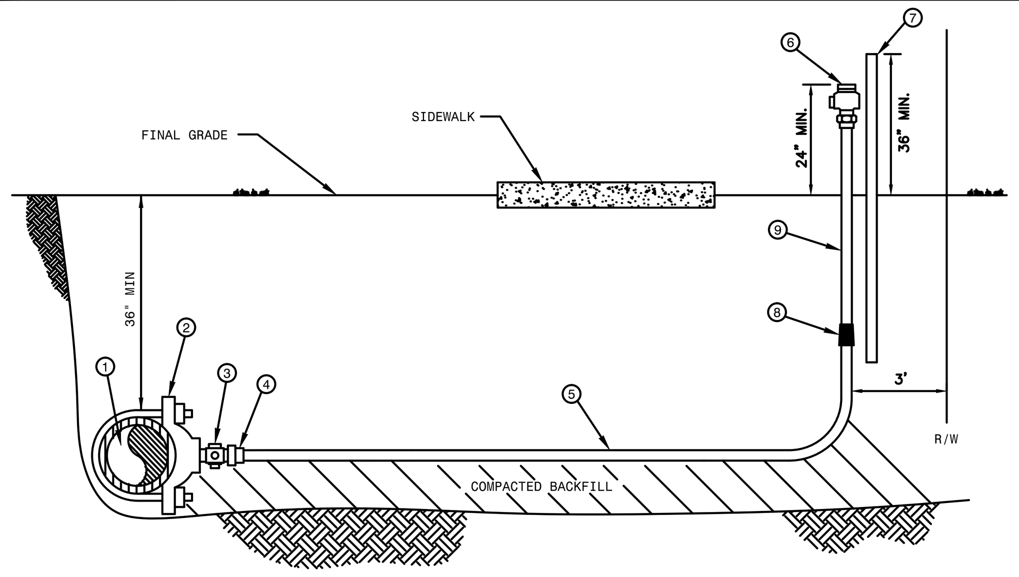
DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

WATER & RECLAIMED WATER DETAILS

JOB NO. NLC-BX-026	TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD
DESIGN MS/TF	
DRAWN DM/TF/MS	PREPARED FOR: NNP-BEXLEY, LLC
DATE 12/01/14	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE WD-TOWER	SHEET 49 OF 52 SHEETS



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	*	PIPE, PVC (DR-18) OR D.I.P.
2	1	SADDLE, SERVICE W/ 1" F.I.P. THREAD
3	1	1" CORPORATION (M.I.P. x COMP.)
4	1	1" INSERT (STAINLESS STEEL)
5	*	1" TUBING, POLYETHYLENE
6	1	3/4" WATER OR 1" REUSE CURB STOP BALL
		VALVE W/ LOCK WINGS (F.I.P. x COMP.)
7	1	2" x 4" P.T. MARKER STAKE
8	1	1" x 3/4" COUPLING (COMP. x COMP.) WATER ONLY
9	1	3/4" WATER OR 1" REUSE TUBING, POLYETHYLENE 4'

NOTES:
- ALL FITTINGS FOR POLYETHYLENE TUBING ARE BRASS COMPRESSION TYPE.
- A VALVE BOX MAY BE REQUIRED AS SPECIFIED BY THE ENGINEER.
- CURB STOP TO TERMINATE 24" ABOVE GROUND AT R/W LINE.
- REUSE CURB STOPS = 1" / WATER CURB STOPS = 3/4"
- TUBING TO BE YARDLEY 3406 OR EQUAL.
- SADDLES 2" - 3" TO BE BRASS FULL CIRCLE TYPE.
- SADDLES 4" AND LARGER TO BE D.I. DUAL STRAP TYPE.
- CURB STOPS TO BE TIED TO MARKER STAKE.
- SADDLE MAY BE INSTALLED AT ANGLE (WITHIN 45° OF HORIZONTAL).
- MARKER STAKES PAINTED SAFETY BLUE FOR WATER, PURPLE FOR REUSE.

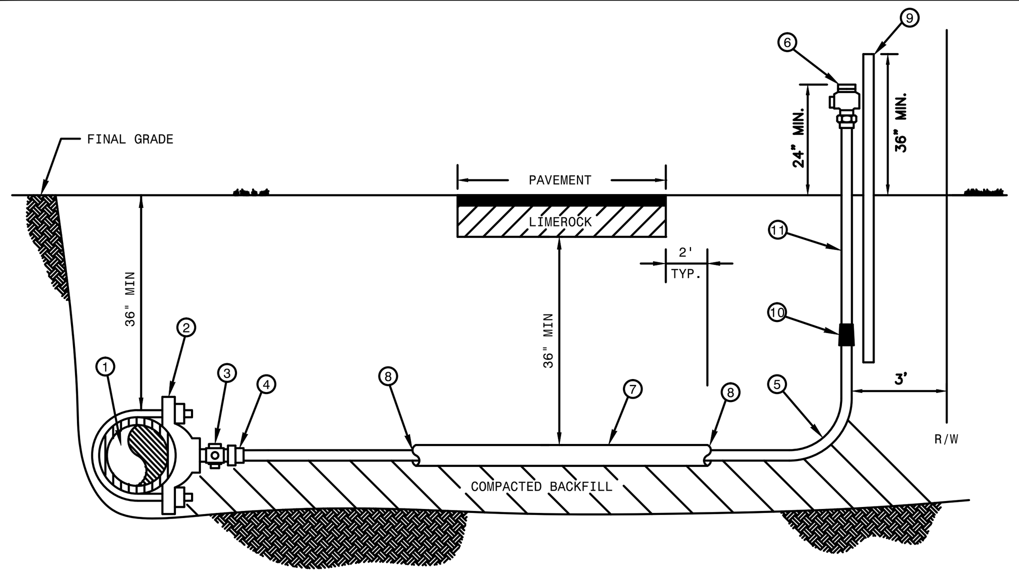
CREATED 02/24/03
REVISED

SINGLE NEAR SIDE WATER SERVICE - 3/4"
SINGLE NEAR SIDE REUSE SERVICE - 1"
POLYETHYLENE TUBING

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 16



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	*	PIPE, PVC (DR-18) OR D.I.P.
2	1	SADDLE, SERVICE W/ 1" F.I.P. THREAD
3	1	1" CORPORATION (M.I.P. x COMP.)
4	1	1" INSERT (STAINLESS STEEL)
5	*	1" TUBING, POLYETHYLENE
6	1	3/4" WATER OR 1" REUSE CURB STOP BALL
		VALVE W/ LOCK WINGS (F.I.P. x COMP.)
7	*	2" CASING, PVC OR HDPE - 2' BEYOND EDGE PAVEMENT
8	*	SEALER, RAM-NEK
9	1	2" x 4" P.T. MARKER STAKE
10	1	1" x 3/4" COUPLING (COMP. x COMP.) WATER ONLY
11	1	3/4" WATER OR 1" REUSE TUBING, POLYETHYLENE 4'

NOTES:
- ALL FITTINGS FOR POLYETHYLENE TUBING ARE BRASS COMPRESSION TYPE.
- A VALVE BOX MAY BE REQUIRED AS SPECIFIED BY THE ENGINEER.
- CURB STOP TO TERMINATE 24" ABOVE GROUND AT R/W LINE.
- REUSE CURB STOPS = 1" / WATER CURB STOPS = 3/4"
- TUBING TO BE YARDLEY 3406 OR EQUAL.
- SADDLES 2" - 3" TO BE BRASS FULL CIRCLE TYPE.
- SADDLES 4" AND LARGER TO BE D.I. DUAL STRAP TYPE.
- CURB STOPS TO BE TIED TO MARKER STAKE.
- SADDLE MAY BE INSTALLED AT ANGLE (WITHIN 45° OF HORIZONTAL).
- MARKER STAKES PAINTED SAFETY BLUE FOR WATER, PURPLE FOR REUSE.

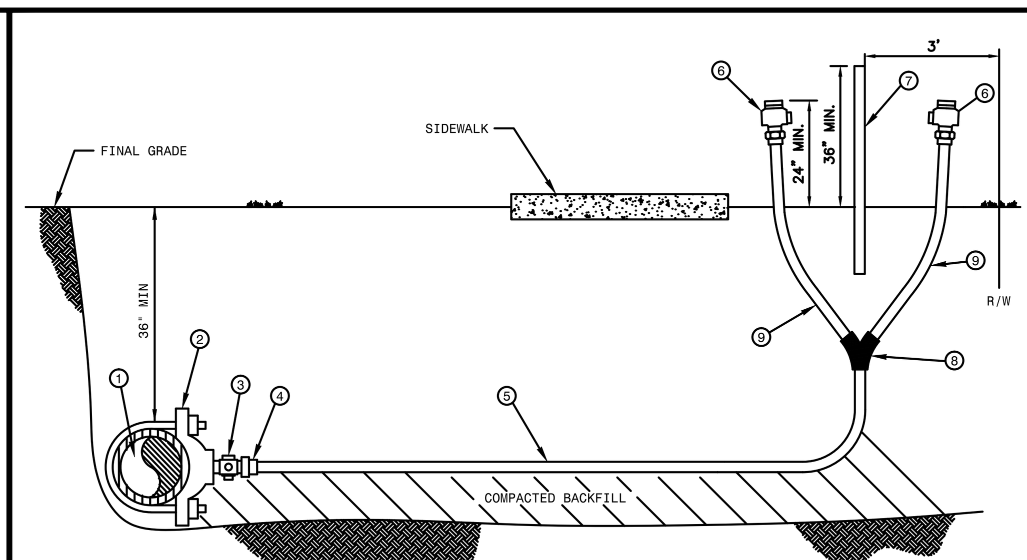
CREATED 02/24/03
REVISED

SINGLE FAR SIDE WATER SERVICE - 3/4"
SINGLE FAR SIDE REUSE SERVICE - 1"
POLYETHYLENE TUBING

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 17



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	*	PIPE, PVC (DR-18) OR D.I.P.
2	1	SADDLE, SERVICE W/ 1" F.I.P. THREAD
3	1	1" CORPORATION (M.I.P. x COMP.)
4	1	1" INSERT (STAINLESS STEEL)
5	*	1" TUBING, POLYETHYLENE
6	1	3/4" WATER OR 1" REUSE CURB STOP BALL
		VALVE W/ LOCK WINGS (F.I.P. x COMP.)
7	1	2" x 4" P.T. MARKER STAKE
8	1	1" x 3/4" WYE BRANCH (COMP. x COMP.) WATER ONLY
		1" x 1" WYE BRANCH (COMP. x COMP.) REUSE ONLY
9	1	3/4" WATER OR 1" REUSE TUBING, POLYETHYLENE 4'

NOTES:
- ALL FITTINGS FOR POLYETHYLENE TUBING ARE BRASS COMPRESSION TYPE.
- A VALVE BOX MAY BE REQUIRED AS SPECIFIED BY THE ENGINEER.
- CURB STOP TO TERMINATE 24" ABOVE GROUND AT R/W LINE.
- REUSE CURB STOPS = 1" / WATER CURB STOPS = 3/4"
- TUBING TO BE YARDLEY 3406 OR EQUAL.
- SADDLES 2" - 3" TO BE BRASS FULL CIRCLE TYPE.
- SADDLES 4" AND LARGER TO BE D.I. DUAL STRAP TYPE.
- CURB STOPS TO BE TIED TO MARKER STAKE.
- SADDLE MAY BE INSTALLED AT ANGLE (WITHIN 45° OF HORIZONTAL).
- MARKER STAKES PAINTED SAFETY BLUE FOR WATER, PURPLE FOR REUSE.

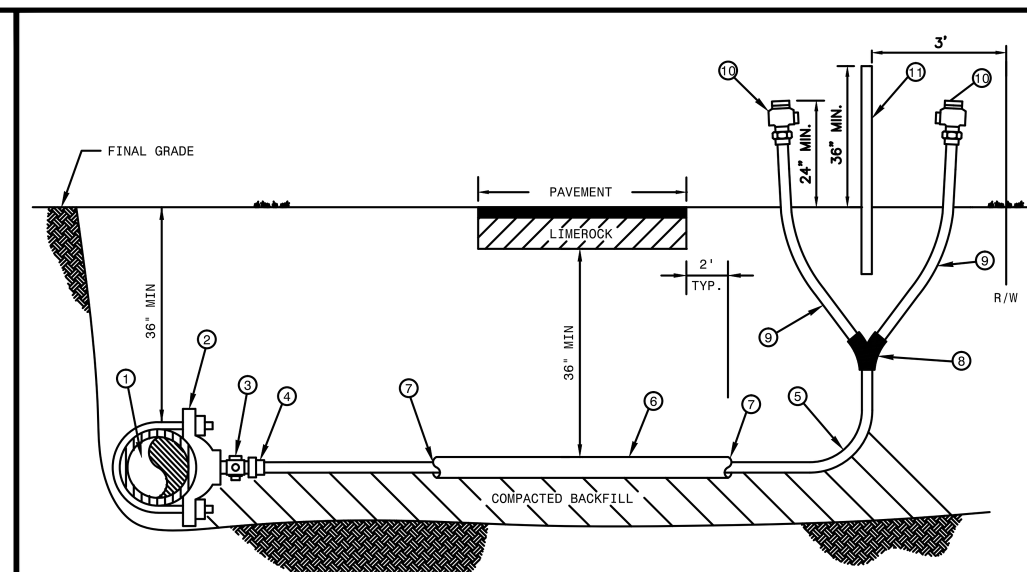
CREATED 02/24/03
REVISED

DOUBLE NEAR SIDE WATER SERVICE - 3/4"
DOUBLE NEAR SIDE REUSE SERVICE - 1"
POLYETHYLENE TUBING

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 18



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	*	PIPE, PVC (DR-18) OR D.I.P.
2	1	SADDLE, SERVICE W/ 1" F.I.P. THREAD
3	1	1" CORPORATION (M.I.P. x COMP.)
4	1	1" INSERT (STAINLESS STEEL)
5	*	1" TUBING, POLYETHYLENE
6	*	2" CASING, PVC OR HDPE - 2' BEYOND EDGE PAVEMENT
7	*	SEALER, RAM-NEK
8	1	WYE BRANCH FOR POLY TUBING
9	2	3/4" WATER OR 1" REUSE TUBING, POLYETHYLENE 4'
10	2	3/4" WATER OR 1" REUSE CURB STOP BALL
		VALVE W/ LOCK WINGS (F.I.P. x COMP.)
11	1	2" x 4" P.T. MARKER STAKE

NOTES:
- ALL FITTINGS FOR POLYETHYLENE TUBING ARE BRASS COMPRESSION TYPE.
- A VALVE BOX MAY BE REQUIRED AS SPECIFIED BY THE ENGINEER.
- CURB STOP TO TERMINATE 24" ABOVE GROUND AT R/W LINE.
- REUSE CURB STOPS = 1" / WATER CURB STOPS = 3/4"
- TUBING TO BE YARDLEY 3406 OR EQUAL.
- SADDLES 2" - 3" TO BE BRASS FULL CIRCLE TYPE.
- SADDLES 4" AND LARGER TO BE D.I. DUAL STRAP TYPE.
- CURB STOPS TO BE TIED TO MARKER STAKE.
- SADDLE MAY BE INSTALLED AT ANGLE (WITHIN 45° OF HORIZONTAL).
- MARKER STAKES PAINTED SAFETY BLUE FOR WATER, PURPLE FOR REUSE.

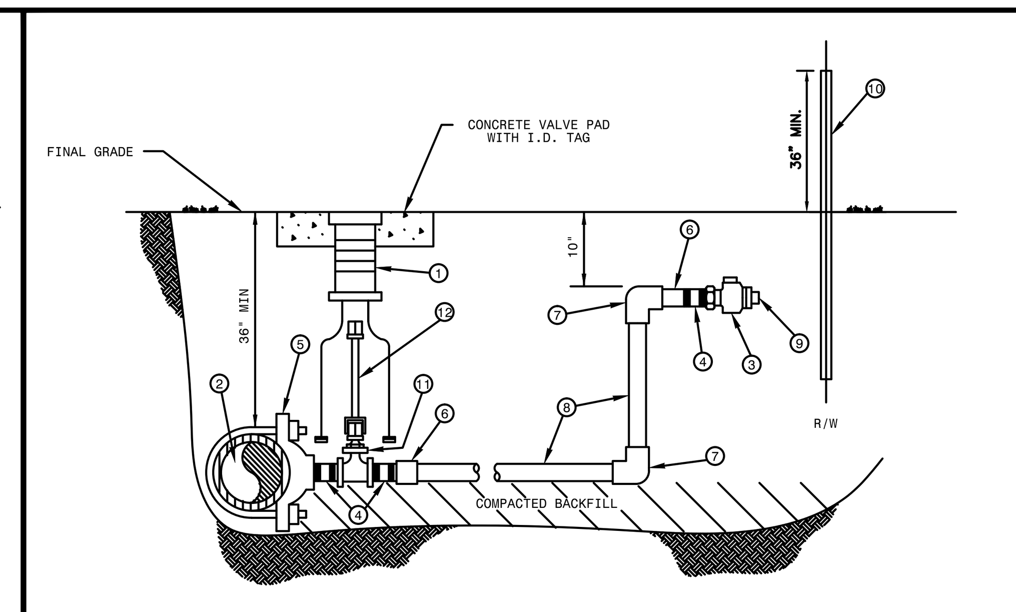
CREATED 02/24/03
REVISED

WATER AND REUSE LATERAL SERVICE 3/4"
(DOUBLE - FAR SIDE)
POLYETHYLENE TUBING

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 19



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	BOX, VALVE CAST IRON SLIP TYPE
2	*	4" & LARGER PIPE, PVC (DR-18) OR D.I.P. (CLASS 50)
3	2	1 1/2", 2" CURB STOP BALL VALVE W/ LOCK WINGS (FIP x FIP OR FIP x CTS)
4	3	1 1/2", 2" NIPPLE, BRASS OR STAINLESS STEEL
5	1	1 1/2", 2" SADDLE, SERVICE (I.P. THREADS)
6	2	1 1/2", 2" ADAPTER (PVC SCH 40 / SLIP x FPT OR BRASS MIP x CTS)
7	2	1 1/2", 2" 90° ELBOW (SLIP x SLIP) SCH 40 (NOT REQUIRED FOR HDPE)
8	*	1 1/2", 2" PIPE, PVC (SCH 40) OR HDPE (3408) - LENGTH VARIES
9	1	1 1/2", 2" PLUG, THREADED (W/ TEFLON TAPE)
10	1	2" x 4" P.T. MARKER STAKE
11	1	2" GATE VALVE, IRON BODY W/ SQUARE NUT
12	1	VALVE EXTENSION ROD, AS REQUIRED (3' MAX. BELOW GRADE)

NOTE:
- A VALVE BOX SHALL BE REQUIRED ON ALL GATE VALVES.
- SERVICE SADDLES SHALL BE INSTALLED ON ALL TAPS TO P.V.C. (DR-18) WATER MAINS.
- 2" GATE VALVE TO BE RESILIENT WEDGE IRON BODY TYPE WITH 2" OPERATING UNIT.
- SADDLES 4" AND LARGER TO BE DUCTILE IRON DUAL STRAP TYPE.
- 1 1/2" BRASS REDUCER BUSHING REQUIRED WITH ITEM NO. 11 FOR 1 1/2" SERVICE.
- MARKER STAKES PAINTED SAFETY BLUE FOR WATER, PURPLE FOR REUSE.
- 4" DIAMETER CASING REQUIRED FOR ROAD CROSSINGS

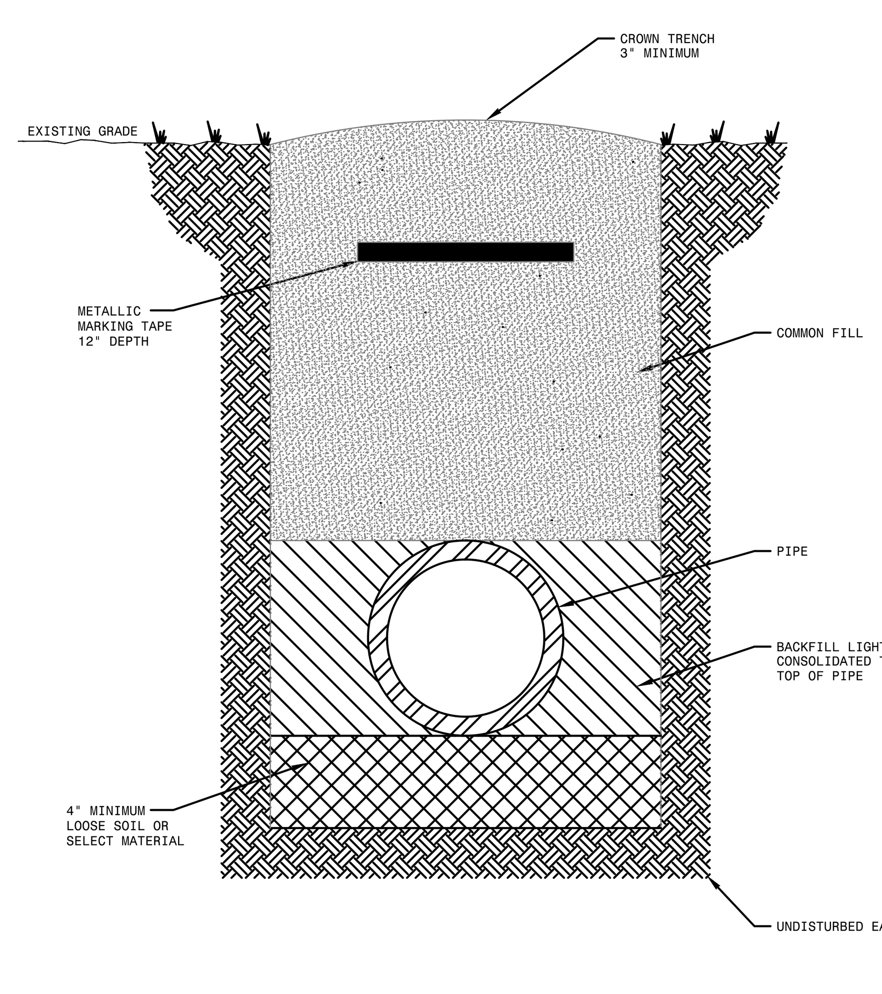
CREATED 02/24/03
REVISED

WATER AND REUSE LATERAL SERVICE
1 1/2" OR 2"
SERVICE LATERAL PVC (SCHEDULE 40)

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 20



NOTES:
- LOOSE SOIL OR SELECT MATERIAL IS NATIVE SOIL EXCAVATED FROM THE TRENCH FREE OF ROCKS AND FOREIGN MATERIAL.
- COMMON FILL TO BE PLACED AND COMPACTED IN 12" LAYERS. ROLLING EQUIPMENT SHALL NOT BE USED FOR COMPACTION UNTIL A MINIMUM OF 18" OF COMMON FILL HAS BEEN PLACED AND COMPACTED OVER THE PIPE. THREE FEET OF FILL SHALL BE PLACED BEFORE A HYDROHAMMER MAY BE USED FOR COMPACTION.

NTS

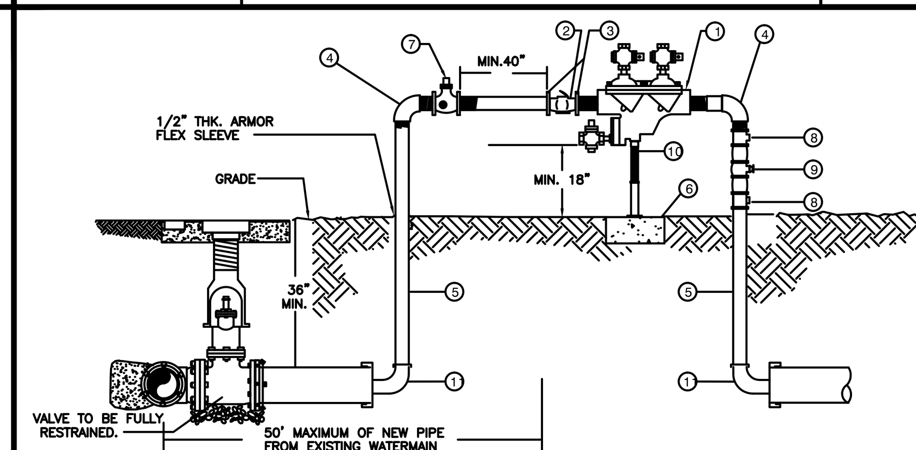
CREATED 02/24/03
REVISED

PIPE LAYING CONDITIONS
STANDARD UNPAVED AREAS

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 32



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	2" BACKFLOW PREVENTER ASSEMBLY, REDUCED PRESSURE ZONE
2	1	2" METER FURNISHED BY PASCO COUNTY UTILITIES
3	2	BRASS-METER FLANGES OR ADAPTORS
4	2	2" ELBOWS - GALV. 90°
5	2	2" RISER - GALV.
6	*	CONCRETE SLAB
7	1	2" VALVE - BRASS OR S.S.
8	2	TEE/ VALVES - BRASS OR S.S.
9	1	2" GATE VALVE - BRASS OR S.S.
10	1	PIPE STAND (SUPPORT)
11	2	M.J. CAP WITH 2" TAP

NOTE:
- CONTRACTOR/CUSTOMER SHALL APPLY AT PASCO COUNTY UTILITIES CUSTOMER SERVICE FOR TEMPORARY WATER SERVICE AT LEAST THREE DAYS PRIOR TO REQUIRED SERVICE DATE.
- THE METER WILL BE FURNISHED, INSTALLED AND INITIAL READING TAKEN BY PASCO COUNTY UTILITIES. ALL FITTINGS, PIPING, VALVES AND MATERIALS INCLUDING THE PASCO COUNTY APPROVED REDUCED PRESSURE BACKFLOW PREVENTION DEVICE SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR/CUSTOMER.
- CONTRACTOR/CUSTOMER FURNISHED REDUCED PRESSURE BACKFLOW PREVENTION DEVICE MUST BE INSTALLED BEFORE THE METER IS INSTALLED BY PASCO COUNTY UTILITIES. THE APPROVED BACKFLOW PREVENTION DEVICE SHALL BE TESTED AND CERTIFIED BY PASCO COUNTY UTILITIES CERTIFIED BACKFLOW PREVENTION TECHNICIAN AT TIME OF METER INSTALLATION.
- CONTRACTOR/CUSTOMER SHALL PROTECT THE JUMPER/METER ASSEMBLY FROM DAMAGE.
- CONTRACTOR/CUSTOMER IS RESPONSIBLE FOR BACTERIOLOGICAL TESTING AFTER CONNECTION OF TEMPORARY WATER SERVICE.
- TEMPORARY CONSTRUCTION JUMPER/METER ASSEMBLY SHALL NOT BE REMOVED UNTIL SYSTEM IS ACCEPTED AND DEPARTMENT OF HEALTH CERTIFICATION AND CLEARANCE FOR SERVICE FORM HAS BEEN RECEIVED BY PASCO COUNTY UTILITIES.
- WHEN THE NEW SYSTEM IS ACCEPTED AND THE FINAL METER READING TAKEN BY PASCO COUNTY, THE TEMPORARY CONSTRUCTION JUMPER/METER ASSEMBLY MUST BE COMPLETELY REMOVED FROM M.J CAP TO M.J. CAP AND A NEW WATER MAIN IS TO BE CHLORINATED AND INSTALLED COMPLETING THE FINAL CONNECTION.
- BY APPLYING FOR SERVICE, CONTRACTOR/CUSTOMER AGREES TO TAKE WATER SERVICE FROM PASCO COUNTY UTILITIES IN ACCORDANCE WITH THE APPROPRIATE RATE SCHEDULE AND IN ACCORDANCE WITH PASCO COUNTY UTILITIES RULES AND REGULATION.

CREATED 11/18/05
REVISED 05/30/06

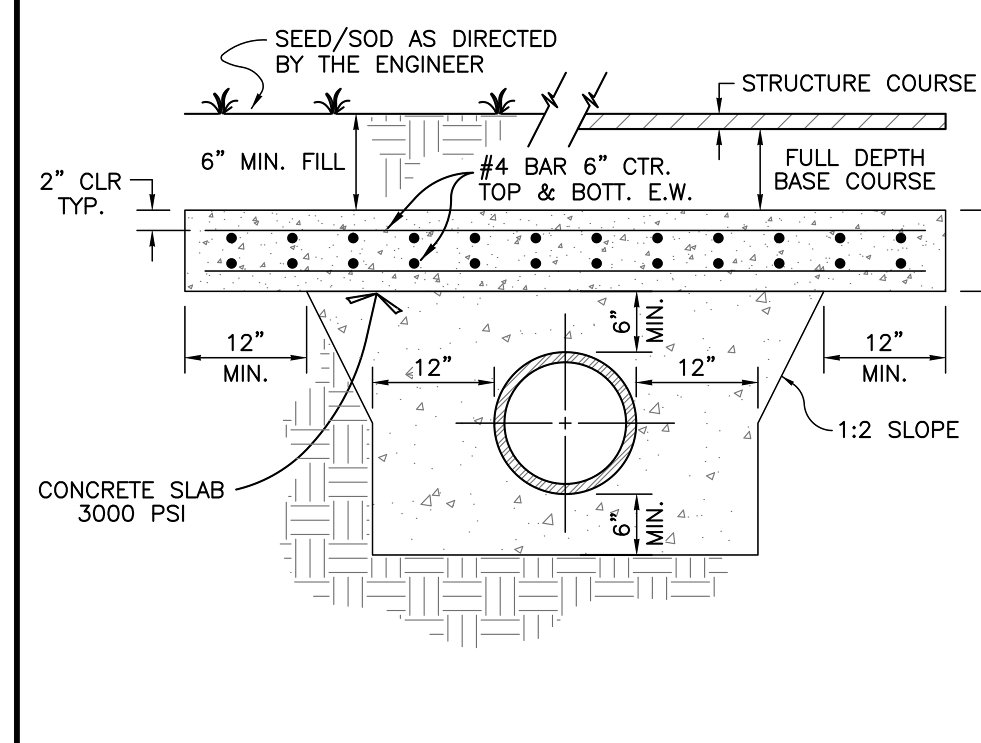
TEMPORARY CONSTRUCTION WATER SERVICE

PASCO COUNTY UTILITIES

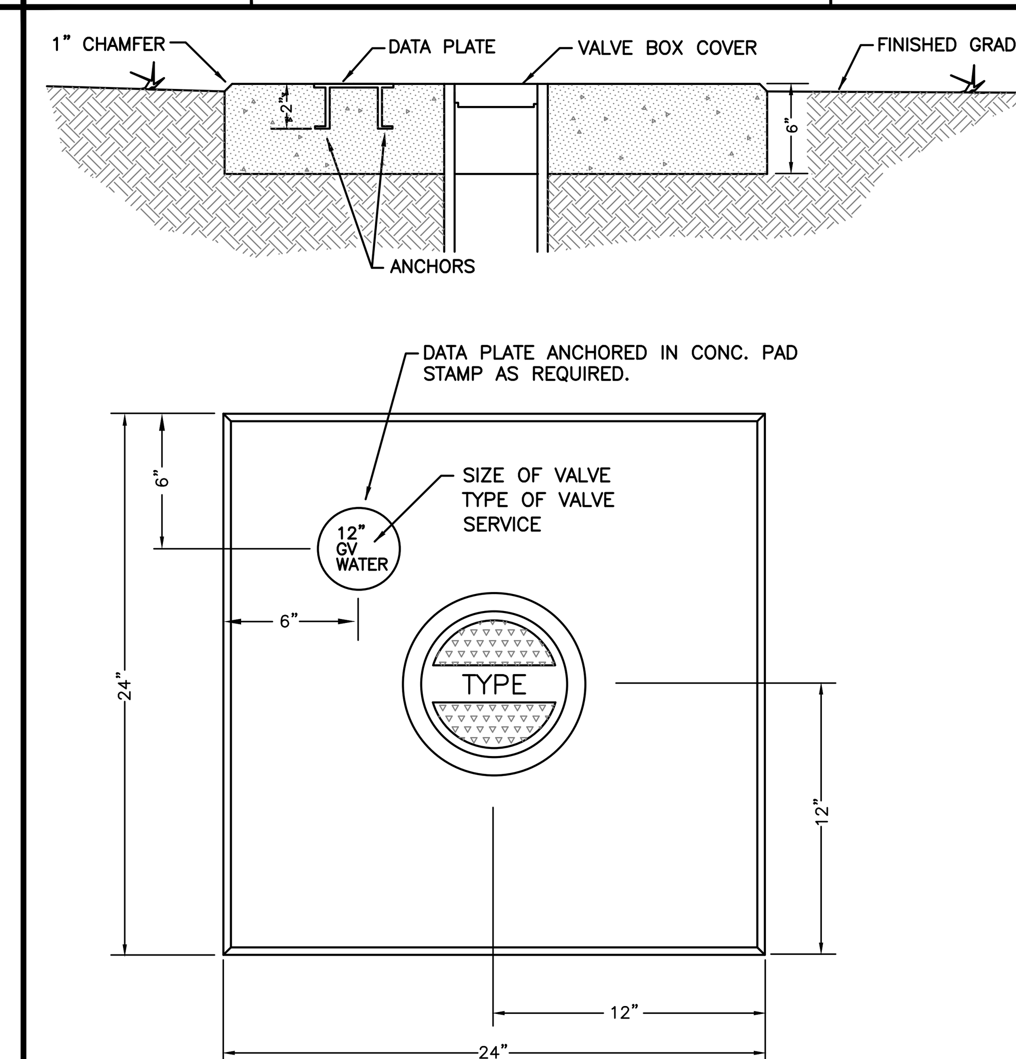
PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 01

NOTE:
ALL PRESSURIZED PIPE WILL BE INSTALLED AT A MAXIMUM DEPTH OF FIVE FEET. TO MEET THIS REQUIREMENT, AT CROSSINGS WITH STORM SEWER OR SANITARY SEWER PIPING, PRESSURIZED PIPE MAY NEED TO BE CONSTRUCTED ON TOP. IF A MINIMUM THREE FEET OF COVER IS NOT ACHIEVABLE, A CONCRETE SHOCK PAD WILL BE INSTALLED (SEE DETAIL BELOW).



CONCRETE SHOCK PAD



CONCRETE VALVE PAD
(FOR UNPAVED AREAS)

NOTES:

CONCRETE TO BE TYPE I GENERAL PORTLAND CEMENT WITH 3/4" TOP SIZE AGGREGATE AND SHALL DEVELOP A 28-DAY STRENGTH OF 3000 P.S.I.

CONCRETE VALVE PAD SHALL BE POURED IN PLACE AND SHALL BE SET 1/2" ABOVE FINISHED GRADE

DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

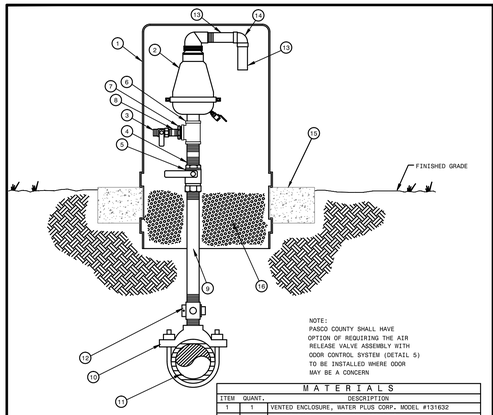
WATER & RECLAIMED WATER DETAILS

JOB NO. NLC-BX-026
DESIGN MS/TF
DRAWN DM/TF/MS
DATE 12/01/14
FILE WD-TOWER

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: **NNP-BEXLEY, LLC**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



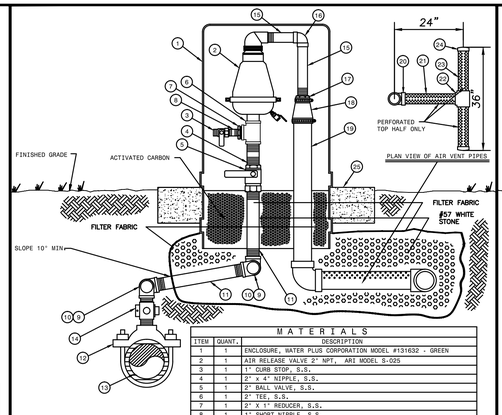
NOTE:
PASCO COUNTY SHALL HAVE OPTION OF REQUIRING THE AIR RELEASE VALVE ASSEMBLY WITH ODOR CONTROL SYSTEM (DETAIL S) TO BE INSTALLED WHERE ODOR MAY BE A CONCERN

MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	VENTED ENCLOSURE, WATER PLUS CORP. MODEL #131632
2	1	AIR RELEASE VALVE 2" NPT (SEE BELOW)
		SEWER AIR RELEASE VALVES SHALL BE ARI MODEL D-025
		WATER AIR RELEASE VALVES SHALL BE VALMATIC OR EQUAL
3	1	1" CURB STOP, S.S.
4	1	2" x 4" NIPPLE, S.S.
5	1	2" BALL VALVE, S.S.
6	1	2" TEE, S.S.
7	1	2" X 1" REDUCER, S.S.
8	1	1" SHORT NIPPLE, S.S.
9	1	2" PIPE, S.S. LENGTH AS REQUIRED
10	1	2" DOUBLE STRAP TAPPING SADDLE, S.S.
11	1	4" & LARGER PIPE, D.I. OR PVC (DR-18)
12	1	2" CORPORATION BRASS
13	2	1-1/2" PIPE, PVC, LENGTH AS REQUIRED
14	1	1-1/2" x 90° ELBOW, PVC
15	1	CONCRETE SLAB AROUND ENCLOSURE
16	1	#57 WHITE ROCK

NOTE:
VENTED ENCLOSURE TO BE COLOR CODED AS FOLLOWS:

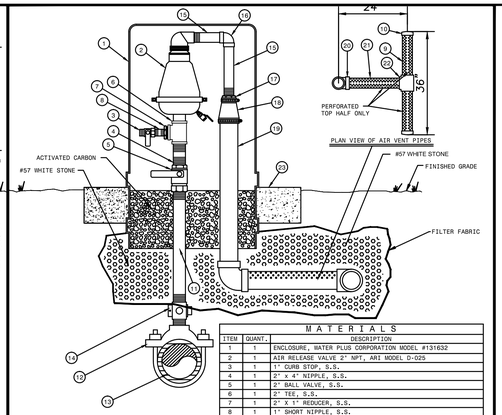
WATER MAIN – BLUE
FORCE MAIN – GREEN
REUSE MAIN – PURPLE

CREATED 02/24/03	STANDARD AIR RELEASE VALVE ASSEMBLY (VERTICAL PIPE LAYOUT)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 4



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	ENCLOSURE, WATER PLUS CORPORATION MODEL #131632 - GREEN
2	1	AIR RELEASE VALVE 2" NPT, ARI MODEL S-025
3	1	1" CURB STOP, S.S.
4	1	2" x 4" NIPPLE, S.S.
5	1	2" BALL VALVE, S.S.
6	1	2" TEE, S.S.
7	1	2" X 1" REDUCER, S.S.
8	1	1" SHORT NIPPLE, S.S.
9	4	3" x 90° ELBOW, S.S.
10	2	2" SHORT NIPPLE, S.S.
11	2	2" PIPE, S.S. LENGTH AS REQUIRED
12	1	2" DOUBLE STRAP TAPPING SADDLE, S.S.
13	1	4" & LARGER PIPE, D.I. OR PVC (DR-18)
14	1	2" CORPORATION BRASS
15	2	1-1/2" PIPE, PVC, LENGTH AS REQUIRED
16	1	1-1/2" x 90° ELBOW, PVC
17	1	2" X 1-1/2" REDUCER, PVC
18	1	3" X 2" FLEX COUPLING
19	1	3" PIPE, PVC, LENGTH AS REQUIRED
20	1	3" x 90° ELBOW, PVC
21	1	3" PIPE, PVC, LENGTH AS SHOWN,PERFORATED TOP HALF ONLY
22	1	3" TEE, PVC
23	2	3" PIPE, PVC, LENGTH AS SHOWN,PERFORATED TOP HALF ONLY
24	2	3" CAP, PVC
25	1	CONCRETE SLAB AROUND ENCLOSURE

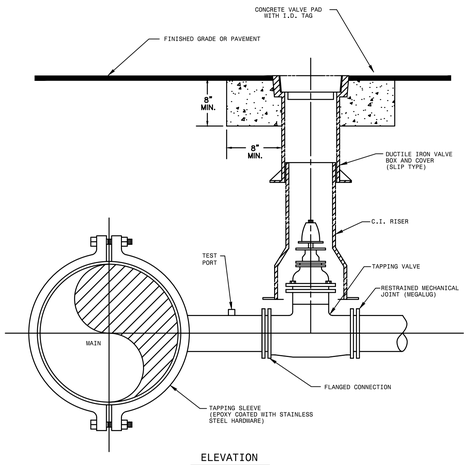
CREATED 02/24/03	SEWER AIR RELEASE VALVE ASSEMBLY WITH ODOR CONTROL SYSTEM AND COVER ABOVE GROUND OFFSET PIPE LAYOUT	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED 08/09/06	PASCO COUNTY UTILITIES	DETAIL 08



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	ENCLOSURE, WATER PLUS CORPORATION MODEL #131632
2	1	AIR RELEASE VALVE 2" NPT, ARI MODEL D-025
3	1	1" CURB STOP, S.S.
4	1	2" x 4" NIPPLE, S.S.
5	1	2" BALL VALVE, S.S.
6	1	2" TEE, S.S.
7	1	2" X 1" REDUCER, S.S.
8	1	1" SHORT NIPPLE, S.S.
9	2	3" PIPE, PVC, LENGTH AS SHOWN,PERFORATED TOP HALF ONLY
10	2	3" CAP, PVC
11	1	2" PIPE, S.S. LENGTH AS REQUIRED
12	1	2" DOUBLE STRAP TAPPING SADDLE, D.I.
13	1	4" & LARGER PIPE, D.I. OR PVC (DR-18)
14	1	2" CORPORATION BRASS
15	2	1-1/2" PIPE, PVC, LENGTH AS REQUIRED
16	1	1-1/2" x 90° ELBOW, PVC
17	1	2" X 1-1/2" REDUCER, PVC
18	1	3" X 2" FLEX COUPLING
19	1	3" PIPE, PVC, LENGTH AS REQUIRED
20	1	3" x 90° ELBOW, PVC
21	1	3" PIPE, PVC, LENGTH AS SHOWN,PERFORATED TOP HALF ONLY
22	1	3" TEE, PVC
23	1	CONCRETE SLAB AROUND ENCLOSURE

NOTE:
ENCLOSURE SHALL BE COLOR CODED GREEN

CREATED 02/24/03	SEWER AIR RELEASE VALVE ASSEMBLY WITH ODOR CONTROL SYSTEM (VERTICAL PIPE LAYOUT)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 06



ELEVATION

NOTES:
- SADDLE CONNECTION WILL BE TESTED TO 150 PSI PRIOR TO TAPPING MAIN.
- MECHANICAL JOINTS/UNDERGROUND PIPING SHALL BE RESTRAINED AS SPECIFIED BY COUNTY/ENGINEER.
- VALVE EXTENSION ROD SHALL BE UTILIZED, AS NECESSARY, SO THAT VALVE OPERATING NUT IS A MAXIMUM OF 3' BELOW GRADE.

CREATED 02/24/03	WATER, REUSE, AND FORCE MAIN TAPPING DETAIL W/ VALVE LOCATION	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 34

DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
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DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

SANITARY SEWER SYSTEM DETAILS

JOB NO. NLC-BX-026
DESIGN MS/TF
DRAWN DM/TF/MS
DATE 12/01/14
FILE SD-TOWER

TOWER ROAD - BEXLEY VILLAGE DRIVE TO BALLANTRAE BLVD

PREPARED FOR: NNP-BEXLEY, LLC

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

STORM WATER POLLUTION PREVENTION PLAN

Contained on these plans and within the following notes is a Storm Water Pollution Prevention Plan (SWPPP) which has been developed by Clearview Land Design in accordance with the Florida Department of Environmental Protection's (FDEP) "National Pollutant Discharge Elimination System" (NPDES) Generic Permit for Stormwater Discharge from Large and Small Construction Activities.

The following entities are identified as team members of "SWPPP": Clearview Land Design, the Developer as identified in the title box of these plans, and the site contractor and his sub–contractors. Each team member has specific responsibilities and obligations. In general, all team members, with regard to their involvement and responsibilities on the project, are to implement all necessary storm water management controls to assure compliance with the NPDES Generic Permit for Storm Water Discharges from Construction Activities, the Southwest Florida Water Management District Permit, the applicable local governing agency (i.e. Hillsborough County, Pasco County, etc.) and the guidelines listed in the SWPPP. The duties and responsibilities of the team members as they pertain to the SWPPP are as follows:

Clearview Land Design, P.L.

A. *Develop SWPPP including, but not limited to, retention/detention ponds, control structures, erosion control methods and locations and stabilization criteria. This design is included within these construction plans and the following notes and instructions.*

B. *Submit and obtain the necessary design related storm water permits from the Florida Department of Environmental Protection, the Southwest Florida Water Management District and other applicable governmental bodies.*

C. *Upon notification by the developer of his intent to commence construction, submit a Notice of Intent to the FDEP on behalf of the developer and copy the contractor including SWPPP certification and copy of the permit.*

D. *Submit to SWFWMD and the operator of the municipal separate storm water system, if applicable, a letter of construction commencement.*

E. *Complete and submit a Notice of Termination and certification for developer. The NOT's shall be submitted no more than 30 days after*
   (a) completion of the project and final stabilization of the site or
   (b) when responsibility for the site has ended. Final stabilization as defined by EPA is when all soil disturbing activities at the site have been completed and a uniform (e.g. evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures. As an alternative, equivalent permanent stabilization measures (such as riprap, gabions, or geotextiles) may be employed. The client shall notify Clearview Land Design when one of these criteria has been met.

Contractor

A. *Sign and return to Clearview a Contractors Certification Form certifying your understanding of and willingness to comply with the Storm Water Pollution Prevention Plan no later than 48 hours prior to commencement of construction. Also, each subcontractor affected by the SWPPP must certify to the contractor that they understand and shall comply with the NPDES permit and SWPPP. A record of these certifications shall be maintained by the contractor on site.*

B. *During construction, assure compliance with the designed Storm Water Pollution Prevention Plans prepared by Clearview Land Design and the NPDES Generic Permit for Storm Water Discharges from Large and Small Construction Activities.*

C. *Maintain a copy of the construction plans, which include the Storm Water Pollution Prevention Plan, the NOI, and all inspection reports and certifications on site.*

D. *Undertake all reasonable Best Management Practices (BMP's) to assure that silted or otherwise polluted storm water is not allowed to discharge from the site during all phases of construction. Stabilization BMP's that may be used include: temporary or permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees and preservation of mature vegetation. Structural erosion and sediment control BMP's that may be used include: straw bale dikes, silt fences, earth dikes, brush barriers, drainage swales, check dams, subsurface drain, pipe slope drain, level spreaders, storm drain inlet protection, outlet protection, sediment traps, and temporary sediment basins. Detention ponds may also be used as temporary sediment basins. Additional BMP's that may need to be implemented include: providing protected storage areas for chemicals, paints, solvents, fertilizers, and other potentially toxic materials. Providing waste receptacles at convenient locations and providing regular collection of wastes, including building material wastes. Minimizing off–site tracking of sediments. Making adequate preparations, including training and equipment to contain spills of oil and hazardous materials. Complying with applicable state or local waste disposal, sanitary sewer or septic system regulations and the use of appropriate pollution prevention measures for allowable non–storm water components of discharge.*

E. *Notify Clearview Land Design and the developer in writing of any non–storm water pollution sources which are being stored, or otherwise used during the construction of the project, i.e., fertilizers, fuels, pesticides, other chemicals. This notification should be accompanied with the contractor's design and methods to prevent pollution run–off from these sources.*

F. *Develop a maintenance and inspection plan which includes, but is not limited to the following:*
   A. *The specific areas to be inspected and maintained that includes all the disturbed areas and material storage areas of the site.*
   B. *The erosion and sediment controls identified in the SWPPP to be maintained and inspected and those additional controls that the contractor deems necessary.*
   C. *Maintenance procedures.*
   D. *The procedure to follow if additional work is required or whom to call.*
   E. *Inspections and maintenance forms.*
   F. *The personnel assigned to each task.*

   The following shall be inspected a minimum of once a week or within 24 hours after 0.50 inches of rainfall:
   - *Stabilization measures (once a month if fully stabilized).*
   - *Structural controls.*
   - *Discharge points.*
   - *Construction entrances and exits.*
   - *Areas used for storage of exposed materials.*

   An inspection form shall be completed for each inspection. Any permit violations should be noted and corrective measures shall be taken no later than 7 days after the inspection occurred. If revisions to the SWPPP are needed, a report form for changes in the SWPPP shall be completed and a copy sent to Clearview Land Design, P.L. The original shall be kept on–site as documentation of the change. If the inspection passes, a certification that the facility is in compliance with the SWPPP and the NPDES permit must be signed by a duly authorized representative of the principal executive official of the operator of the SWPPP with one of the following qualifications:
   1. *Has successfully completed the Florida Stormwater, Erosion and Sediment Control Inspector Training Program.*
   2. *Successfully completed a similar training program.*
   3. *Has enough practical on the job training to be qualified to perform the inspections.*

   Retain inspection reports and certifications for at least three years.

G. *Site stabilization measures shall be initiated as soon as practical but in no case more than 7 days, in portions of the site where construction activities have temporarily or permanently ceased.*

H. *Releases in Excess of Reportable Quantities.*
   1. *The discharge of hazardous substances or oil in the stormwater discharge(s) from a facility or activity shall be prevented or minimized in accordance with the applicable stormwater pollution prevention plan for the facility or activity. This permit does not relieve the operator of the reporting requirements of 40 CFR part 117 and 40 CFR part 302. Where a release containing a hazardous substance in an amount equal to or in excess of a reporting quantity established under either 40 CFR 117 or 40 CFR 302, occurs during a 24 hour period:*
      a. *The operator is required to notify the State Warning Point (800–210–0519 or 850–413–9911) as soon as he or she has knowledge of the discharge;*
      b. *The operator shall submit within 14 calendar days of knowledge of the release a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and remedial steps to be taken, to the Florida Department of Environmental Protection, NPDES Stormwater Section, Mail Station 2500, 2600 Blair Stone Road, Tallahassee, Florida 32399–2400; and*
      c. *The stormwater pollution prevention plan required under Part V of this permit must be modified within 14 calendar days of knowledge of the release to provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.*
   2. *This permit does not authorize the discharge of hazardous substances or oil resulting from an on–site spill.*

Developer

A. *Notify Clearview of your intent to commence construction. Sign the Notice of Intent form as operator of the storm water discharge facility and permittee and return to Clearview Land Design, P.L.*

B. *Sign a Certification of Storm Water Pollution Prevention Plan and return to Clearview Land Design, P.L.*

C. *Notify Clearview when it is time to submit a Notice of Termination as defined under Part E of the Clearview Land Design section of the SWPPP. Sign and return to Clearview Land Design, P.L. for submittal to FDEP a Notice of Termination form and certification.*

PRE–DEVELOPED SITE INFORMATION:

1. *Total site acreage:* 26.0 Ac.±
2. *Land use:* VACANT PASTURE
3. *Vegetation:* PASTURE, WETLANDS
4. *Receiving waters or municipal separate storm water system:* SANDY BRANCH/ ANCLOTE RIVER
5. *2 Year/24 Hour rainfall depth:* 4.5"
6. *Soil types:* PINEDA, MYAKKA, SELLERS, EAUGALLIE FINE SANDS

PROJECT INFORMATION:

1. *Project type: Residential*
2. *Anticipated construction sequence is as follows:*
   1. *Complete erosion control installation*
   2. *Clearing and grubbing*
   3. *Earthwork activities*
   4. *Storm water system construction*
   5. *Utility construction*
   6. *Base and pavement construction*
   7. *Final stabilization*

   The BMP's listed in Part D of the Contractor section of the SWPPP shall be considered during all phases of construction.
3. *Anticipated start date:* 3/15/2015
4. *Anticipated completion date:* 3/15/2020
5. *Total acres disturbed:* 26.0 Ac. ± (SILT FENCE LIMITS)
6. *Pre–developed "C" factor:* 0.20
7. *Post–developed "C" factor:* 0.45
8. *The storm water management system, upon completion of construction and appropriate certification and as–built submittals will be operated and maintained by* CDD (UNLESS OTHERWISE NOTED)
9. *The potential source of pollution from this project is on–site development and construction activity.*

OWNER'S INSTRUCTIONS FOR MAINTENANCE AND INSPECTION OF STORMWATER FACILITIES

The entire stormwater system should be inspected on at least a semi–annual basis. This should include a visual inspection of the pond, pond banks, bleed–down orifices, other control structures, and discharge pipes. These should be kept free of debris and cleaned on a frequency as required to keep them functional, as designed. Mowing/clearing around the structures may be required to prevent vegetation from clogging them.

Wetland plants, if intentionally installed, should be monitored and maintained as required on the approved construction plans. Areas of littoral shelving, which are required to be vegetated but not intentionally planted, should not be cleared of the wetland plants. These areas should have as high a plant coverage as possible, for maximum water filtration.

Sediment sumps, if designed and installed, should have sediment removed as necessary to allow them to efficiently remove suspended particles. They should be re–dug to the original design specifications, if silted in.

For percolation treatment ponds/swales, the owner of the facility shall inspect the pond bottom periodically after heavy rainfall events to check for persistent ponding or pooling of water. All large debris shall be removed and disposed of elsewhere. If prolonged ponding persists, i.e., in excess of 72 hours, the owner shall rake or scarify the surface. If required, the soil in the area of ponding shall be removed and replaced with clean sandy, non–cohesive soils.

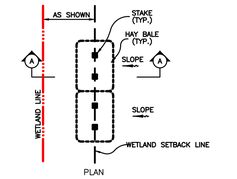
Please check the construction plans to see if written reports on monitoring or plant survival rates are required to be sent to any reviewing agencies. Written notes should always be kept which describe maintenance activities undertaken during each inspection.

Specific conditions of all permits may require additional maintenance activities above and beyond those outlined above. Please be aware of all permit conditions as issued by regulatory agencies to ensure permit compliance.

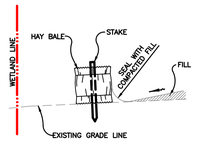
NOTE: CONTRACTOR SHALL INSPECT EROSION CONTROL DAILY (INCLUDING BUT NOT LIMITED TO TYPICAL OUTFALLS TO OFWs). CORRECTIVE ACTION SHALL BE TAKEN IMMEDIATELY TO REPAIR OR REPLACE AS NEEDED.

GENERAL EROSION AND TURBIDITY CONTROL NOTES

1. *The Site Subcontractor shall be responsible for installation and maintenance of all erosion and turbidity controls and the quality and quantity of offsite or wetland discharges.*
2. *Prior to construction, the Site Subcontractor is responsible for having his dewatering plan and turbidity control plan approved by the applicable reviewing agencies. Refer to the project's permit approvals and permit conditions for agencies requiring such review and approval. Questions concerning appropriate techniques should be addressed to those agencies and/or discussed with the project engineer and owner.*
3. *The appropriate turbidity and erosion control methodologies selected by the Site Subcontractor for this project should be made following assessment of the plans and project site specific factors and after consultations as needed with the project engineer and appropriate agencies. The Site Subcontractor will be responsible for obtaining any and all necessary permits for such activity; several factors to consider are listed below:*
   A. *Clay content in excavated materials and/or permeabilities rates*
   B. *Depth of cut in ponds, trenches, or utility lines*
   C. *Ambient ground water levels*
   D. *Actual rainfall amounts and time of year relative to normal rainy season*
   E. *Proximity to wetlands, water bodies or offsite properties*
   F. *'Class' designation of receiving water bodies (i.e., Outstanding Florida Waters, shellfish harvesting areas, etc.)*
   G. *Density, type, and proximity of upland vegetation to be retained during construction (for use as possible filtration areas)*
   H. *Fill height relative to natural grade and length and steepness of the proposed slopes*
   I. *Existing topography and directions of surface flow*
   J. *Type of equipment used*
   K. *Project type*
   L. *Duration of construction activities*
   M. *Separation distance of onsite ponds*
   N. *Ambient quality of surface and groundwater*
   O. *Temporary stockpile locations and heights*
4. *At the onset of construction, the Site Subcontractor, as the party responsible for implementation of the erosion and sediment control plan, shall assess the above described conditions and factors with respect to relative cost effectiveness and select the appropriate methods of protection. A fairly extensive list of techniques are presented below but it must be stressed that any or all of the following may be necessary to maintain water quality and quantity standards. The construction sequencing should be thought out in advance of initiation to provide adequate protection of water quality.*
5. *Discharges which exceed 29 N.T.U.'s over the background levels are in violation of state water quality standards. Discharges of water quantities which affect offsite properties or may damage wetlands are also prohibited by regulating agencies.*
6. *The erosion and turbidity control measures shown hereon are the minimum required for agency approval. Additional control and measures may be required due to the Site Subcontractor's construction sequence & unforeseen weather conditions. Any additional measures deemed necessary by the Site Subcontractor shall be included in the lump sum bid with no extras for materials and labor allowed.*
7. *Hay bales or silt screens shall be installed prior to land clearing to protect water quality and to identify areas to be protected from clearing activities and maintained for the duration of the project until all soil is stabilized.*
8. *Floating turbidity barriers shall be in place in flowing systems or in open water lake edges prior to initiation of earthwork and maintained for the duration of the project until all soil is stabilized.*
9. *No clay material shall be left exposed in any stormwater storage facility. If clay or sandy–clays are encountered during stormwater storage excavation, the Site Subcontractor shall notify the Engineer immediately before proceeding with further excavation. If the Engineer of Record has determined that such soils are non–confining and must be excavated to meet permit and design conditions, excavation may proceed after obtaining written authorization from the appropriate governing agency. If said soils are left exposed at the permitted and designed depth, the Site Subcontractor shall over–excavate the pond's bottom and side slopes by a minimum of twelve (12") inches and backfill with clean sands to help prevent suspension of fine particles in the water column.*
10. *The installation of temporary erosion control barriers shall be coordinated with the construction of the permanent erosion control features to the extent necessary to assure effective and continuous control of erosion and water pollution throughout the life of the construction phase.*
11. *The type of erosion control barriers used shall be governed by the nature of the construction operation and soil type that will be exposed. Silty and clayey material may require sediment barriers to prevent turbid water discharge, while sandy material may need only silt screens or hay bales to prevent erosion. Floating turbidity curtains should generally be used in open water situations. Diversion ditches or swales may be required to prevent turbid stormwater runoff from being discharged to wetlands or other water bodies. It may be necessary to employ a combination of barriers, ditches, and other erosion/turbidity control measures if conditions warrant.*
12. *Where pumps are to be used to remove turbid waters from construction areas, the water shall be treated prior to discharge to the wetlands. Treatment methods include, for example, turbid water being pumped into grassed swales or appropriate upland vegetated areas (other than upland preservation areas and wetland buffers), sediment basins, or confined by an appropriate enclosure such as fabricated dikes or berms, and kept confined until turbidity levels meet State Water Quality Standards.*
13. *The Permittee shall schedule his operations such that the area of unprotected erodible earth exposed at one time is not larger than the minimum area necessary for efficient construction operation, and the duration of exposed, uncompleted construction to the elements shall be as short as practicable. Clearing and grubbing shall be so scheduled and performed such that grading operations can follow immediately thereafter. Grading operations shall be so scheduled and performed that permanent erosion control features can follow immediately thereafter if conditions on the project permit.*
14. *Water derived from various dewatering methods should be passed through sufficiently wide areas of existing upland vegetation to filter out excess turbidity. If this is not sufficient, the water shall be retained in previously constructed permanent stormwater ponds or else retained in temporary sedimentation basins until the clarity is suitable to allow for its discharge. Plugging the outfalls from completed stormwater ponds may be needed to avoid discharge. However, such situations should be monitored closely to preclude berm failure if water levels rise too high.*
15. *Water can be transferred around the site by the use of internal swales or by pumps and pipes.*
16. *Sheet flow of newly filled or scraped areas may be controlled or contained by the use of brush barriers, diversion swales, interceptor ditches or low berms. Flow should be directed toward areas where sediments can sufficiently settle out.*
17. *Exposed soils shall be stabilized as soon as possible, especially slopes leading to wetlands. Stabilization methods include solid sod, seeding and mulching or hydromulching to provide a temporary or permanent grass cover mulch blankets, filter fabrics, etc., can be employed to provide vegetative cover.*
18. *Energy dissipaters (such as rip rap, a gravel bed, hay bales, etc.) shall be installed at the discharge point of pipes or swales if scouring is observed.*
19. *Attempt to install roadway curb and gutters as soon as possible to reduce the surface area for erosion to occur.*
20. *Implement storm drain inlet protection (hay bales or gravel) to limit sedimentation within the stormwater system. Perform inspections and periodic cleaning of sediments which wash out into the streets until all soil is stabilized.*
21. *Water discharge velocities from impounded areas and temporary sedimentation basins shall be restricted to avoid scouring in receiving areas.*
22. *If water clarity does not reduce to state standards rapidly enough in holding ponds, it may be possible to use chemical agents such as alum to flocculate or coagulate the sediment particles.*
23. *Hay bales, silt screens, or gravel beds can be added around the pipe or swale discharge points to help clarify discharges. Spreader swales may help dissipate cloudy water prior to contact with wetlands.*
24. *All fuel storage areas or other hazardous storage areas shall conform to accepted state or federal criteria for such containment areas.*
25. *Vehicle or equipment washdown areas will be sufficiently removed from wetlands or offsite areas.*
26. *Fugitive dust controls (primarily by using water spray trucks) shall be employed as needed to control windborn emissions.*
27. *If the above controls remain ineffective in precluding release of turbid water, especially during pond or utility line dewatering, then the contractor may be compelled to use a vertical dewatering system such as well points or sock drains to withdraw groundwater which may already be clear enough to allow for direct discharge to wetlands.*
28. *Ongoing inspections and periodic maintenance by the Site Subcontractor shall occur daily (at a minimum) to insure the above methods are working suitably. Corrective action must be taken immediately to repair or replace any damaged BMP's to ensure the above methods are working properly.*
29. *Site Subcontractors are required to obtain and thoroughly review The Florida Development Manual: A Guide to Sound Land and Water Management, which was developed by the State of Florida Department of Environmental Protection in 1988. This provides fairly in–depth discussions of recommended techniques and also provides specific design and technical standards. A copy of this document is available for review at Clearview Land Design, P.L.*



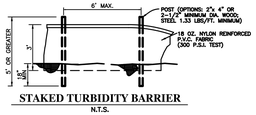
PLAN



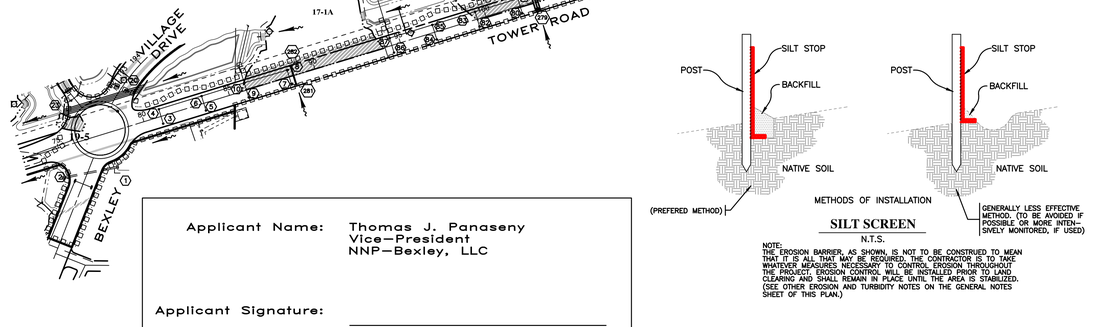
SECTION "A–A"

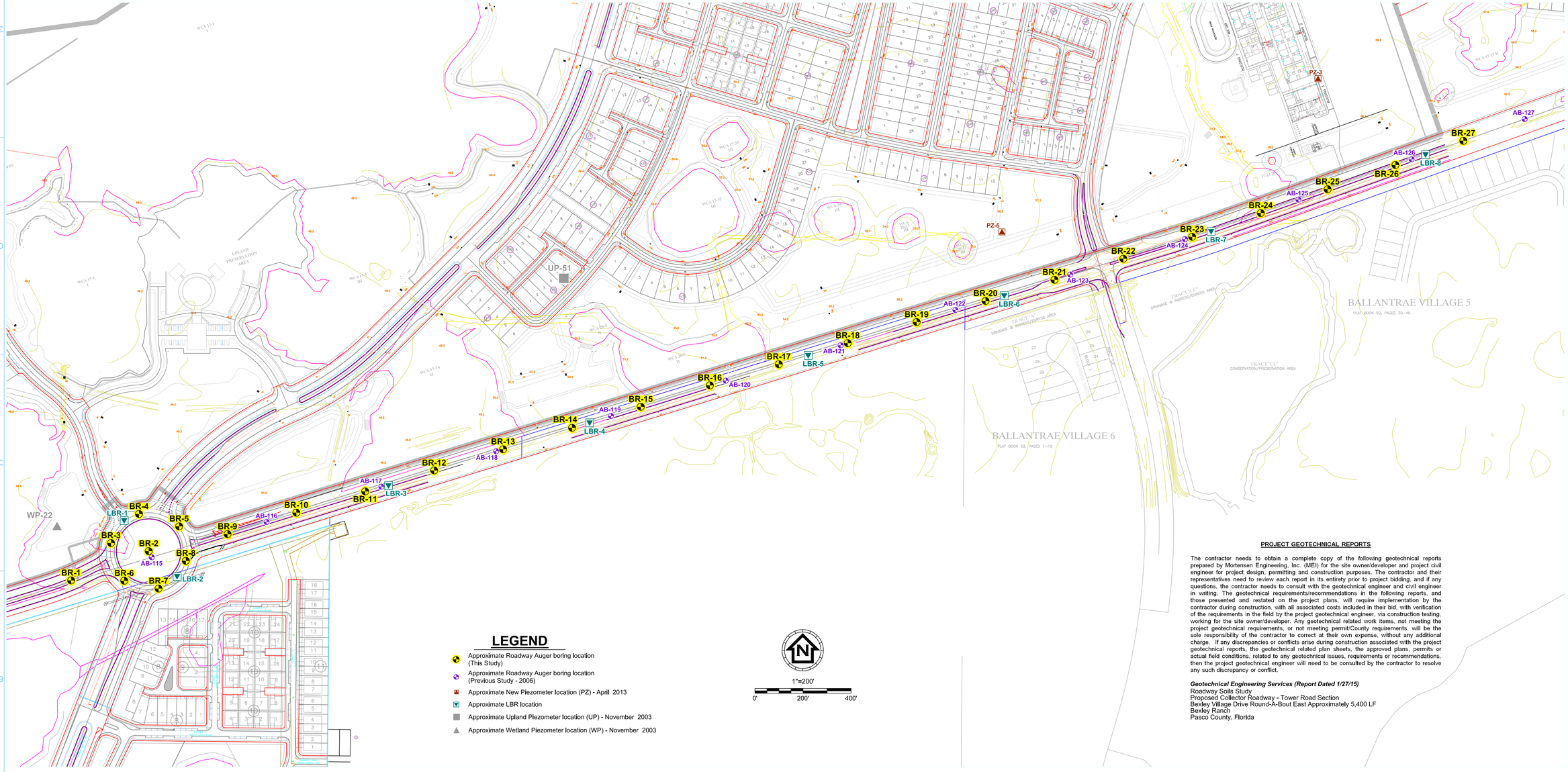
HAY BALE
N.T.S.

EROSION CONTROL DETAILS
EITHER METHOD OR A COMBINATION OF BOTH IS ACCEPTABLE



STAKED TURBIDITY BARRIER
N.T.S.





LEGEND

- Approximate Roadway Auger boring location (This Study)
- Approximate Roadway Auger boring location (Previous Study - 2006)
- Approximate New Piezometer location (PZ) - April 2013
- Approximate LBR location
- Approximate Upland Piezometer location (UP) - November 2003
- Approximate Wetland Piezometer location (WP) - November 2003

1"=200'

0' 200' 400'

PROJECT GEOTECHNICAL REPORTS

The contractor needs to obtain a complete copy of the following geotechnical reports prepared by Mortensen Engineering, Inc. (MEI) for the site owner/developer and project civil engineer for project design, permitting and construction purposes. The contractor and their representatives need to review each report in its entirety prior to project bidding, and if any questions, the contractor needs to consult with the geotechnical engineer and civil engineer in writing. The geotechnical requirements/recommendations in the following reports, and those presented and restated on the project plans, will require implementation by the contractor during construction, with all associated costs included in their bid, with verification of the requirements in the field by the project geotechnical engineer, via construction testing, working for the site owner/developer. Any geotechnical related work items, not meeting the project geotechnical requirements, or not meeting permit/County requirements, will be the sole responsibility of the contractor to correct at their own expense, without any additional charge. If any discrepancies or conflicts arise during construction associated with the project geotechnical reports, the geotechnical related plan sheets, the approved plans, permits or actual field conditions, related to any geotechnical issues, requirements or recommendations, then the project geotechnical engineer will need to be consulted by the contractor to resolve any such discrepancy or conflict.

Geotechnical Engineering Services (Report Dated 1/27/15)
Roadway Soils Study
Proposed Collector Roadway - Tower Road Section
Bexley Village Drive Round-A-Bout East Approximately 5,400 LF
Bexley Ranch
Pasco County, Florida

MORTENSEN ENGINEERING, INC.
6408 W. Linebaugh Ave. Suite 111
Tampa, Florida 33625
Office: 813-908-5555
Fax: 813-908-3588
www.meitampa.com

BEXLEY RANCH TOWER ROAD
GEOTECHNICAL DATA AND REQUIREMENTS

NNP - BEXLEY, LLC

PREPARED FOR:

DESCRIPTION	DATE

DESCRIPTION	DATE

PROJECT NO: 14-10-08016
FILE: SEE FILE TAG BELOW
DESIGN BY: MTG
DRAWN BY: DNH

FLORIDA PROFESSIONAL ENGINEER

MICHAEL T. GAGNE
DATE:
REGISTRATION NO. 63006

B-100

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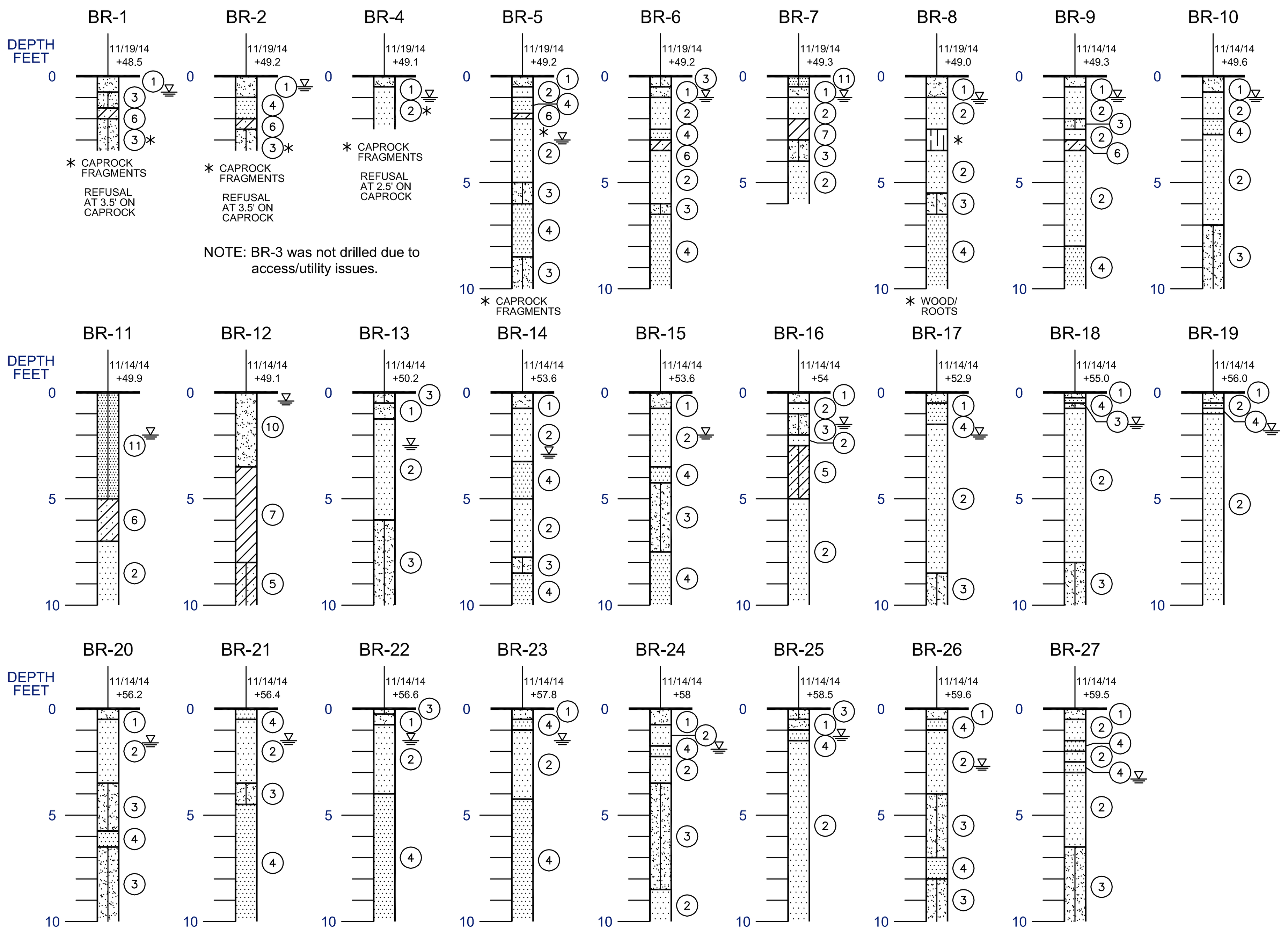

LEGEND

1. Gray to dark gray fine SAND to slightly silty fine SAND, trace organics (SP/SP-SM)
2. White to light brown fine SAND to silty fine SAND (SP/SP-SM/SM)
3. Brown or gray fine SAND to silty fine SAND (SP/SP-SM/SM)
4. Dark brown to reddish brown or black slightly silty fine SAND to silty fine SAND (SP-SM/SM)
5. Gray or brown silty to slightly clayey fine SAND (SM/SM-SC)
6. Gray or brown clayey SAND (SC)
7. Gray or brown to gray-green sandy CLAY to CLAY (CL/CH)
8. White or light gray weathered LIMESTONE
9. Light gray to gray or tan cemented SILT to clayey SILT (ML/MH)
10. Dark brown to black sandy and organic MUCK (PT)
11. Dark gray to dark brown organic laden silty SAND, with significant roots (SM-PT)

Groundwater level, at time of field work

SP — Unified Soil Classification group symbol as determined by visual review

+48.5 — Ground Elevation per GeoPoint Surveying, Inc. (NAVD 88)

11/19/14 — Date of field work

The test boring results hereon are representative of the subsurface conditions only at the noted approximate boring location, only for the noted depth, and only on the date tested. Local variations characteristic of the subsurface materials of the region should be anticipated at different times and may be encountered particularly in areas previously disturbed. The soil profiles and the other field test data hereon are based on the driller's logs and visual review of selected soil samples in the laboratory. The delineations between different soil material types shown hereon should be considered approximate. The generalized soil descriptions hereon represent our interpretation of the subsurface soil conditions at the noted boring locations only on the dates drilled.

The groundwater level data shown hereon alongside the soil boring profiles represent short term (not necessarily stabilized) groundwater levels, measured in the boreholes or in an offset borehole on the date drilled, unless otherwise noted. Fluctuations in the shallow groundwater level from the levels shown hereon will occur and should be anticipated throughout the year; local variations from the levels shown hereon should also be anticipated.

SHALLOW GROUNDWATER DATA TABLE

BEXLEY RANCH - TOWER ROAD
ROADWAY AREA TEST BORING LOCATIONS

Boring Number	Ground Elevation[1]	Depth to GWT Below Grade (Ft.)[2]	Elevation of GWT[2]	Estimated Average (Temporary) NWSGWT[3] Elevation (+/-)
BR-1	48.5	0.8	47.7	48.5
BR-2	49.2	0.5	48.7	49.0
BR-4	49.1	1.0	48.1	48.5
BR-5	49.2	3.0	46.2	48.5
BR-6	49.2	1.0	48.2	48.5
BR-7	49.3	1.0	48.3	49.0
BR-8	49.0	1.1	47.9	49.0
BR-9	49.3	1.0	48.3	49.0
BR-10	49.6	1.0	48.6	49.0
BR-11	49.9	2.0	47.9	49.5
BR-12	49.1	0.4	48.7	49.5
BR-13	50.2	2.5	47.7	49.5
BR-14	53.6	2.9	50.7	52.5
BR-15	53.6	2.0	51.6	52.5
BR-16	54.0 *	1.5	52.5	53.0
BR-17	52.9	2.0	50.9	53.0
BR-18	55.0	1.5	53.5	54.5
BR-19	56.0	1.8	54.2	55.5
BR-20	56.2	1.6	54.6	55.5
BR-21	56.4	1.5	54.9	56.0
BR-22	56.6	1.5	55.1	56.0
BR-23	57.8	1.5	56.3	57.0
BR-24	58.0 *	1.9	56.1	57.5
BR-25	58.5	1.3	57.2	58.0
BR-26	59.6	2.7	56.9	58.5
BR-27	59.5	3.3	56.2	58.5

Notes: 1) All elevation data per GeoPoint Surveying, Inc. (NAVD88)
2) GWT = groundwater level (at time of fieldwork, Nov. 2014).
3) NWSGWT = normal wet season high groundwater level.
* Estimated

410.4/08016.xlsx

Geotechnical Engineer Certification: Regarding Implementation of General and Special (If Any) Geotechnical Recommendations Related to Project Ponds, Roads and Utilities Per Section 807.5E LDC

This certification is for compliance with Section 807.5E LDC (*Soils and Geotechnical Hazards* ordinance, Section 807 LDC), specifically related to constructed stormwater ponds, roads and utilities in or near identified geologic hazard concern areas. To the best of my knowledge, the general and special (if any) geotechnical recommendations required during the project construction phase, including those on MEI "B Sheets", or later altered or modified by me during the construction phase, based on discovered or changed conditions in the field, in constructed stormwater ponds, for storm and sanitary sewer utility pipelines/structures, and for the project roads, in or near identified geologic hazard concern areas, were satisfactorily implemented by the contractor(s), with satisfactory compliance testing or site observations by MEI field personnel working under my direction, and meet the general intentions of Section 807 LDC.

Print Name: ______________________ Date: __________

Sign/PE Seal: ______________________

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Geotechnical Engineer Certification: Regarding Project Construction Plans and Section 807 LDC "Soils and Geotechnical Hazards" Ordinance

This certification is for compliance with Section 807.4 LDC (*Soils and Geotechnical Hazards* ordinance, Section 807 LDC). The relevant test borings on the project plans and included in the project geotechnical reports were performed under my professional direction, and to the best of my knowledge, should be representative of the project site subsurface conditions. The general and special (if any) geotechnical engineering evaluations and recommendations provided in the project geotechnical reports, for compliance with Section 807 LDC, were prepared under my direction, including those on MEI prepared "B Sheets", which are part of the project construction plan set prepared by the project civil engineer. We have reviewed portions of the project construction plans (those portions pertaining to our involvement and areas of expertise), we have provided geotechnical related comments to the project civil engineer in past correspondence, including MEI "B Sheets", and to the best of my knowledge, the design/construction plans incorporate and consider MEI's geotechnical engineering data, evaluations, and recommendations, requiring implementation by various parties and subsequent verification testing by MEI during the project construction phase.

Print Name: ______________________ Date: __________

Sign/PE Seal: ______________________

Mainfile/410.4/Generic.plans.cert.docx.last revised 10/17/14

GENERAL GEOTECHNICAL REQUIREMENTS ROADWAY AREAS

1. Considering the shallow soil and groundwater conditions on-site and the potential for higher groundwater levels during normal wet seasons, we recommend that the proposed collector roadway be constructed with either a soil cement base course or a crushed concrete aggregate base course, over a compacted sandy soil subgrade (less than 15% fines), minimum LBR of 20; unless a stabilized subgrade LBR of 40 is required for pavement design by the project civil engineer. With either base course referenced above, pavement grades should be selected such that there is at least 18 inches of separation between the bottom of the base course and the anticipated normal wet season high groundwater level (and this assumes pavement underdrains along both sides of a conventional width collector roadway, possibly also in the center median, with positive discharge at all times). The fine sand subgrade beneath the base or stabilized subgrade, and any fill used to raise the roadway area, after topsoil stripping and demucking, should be compacted to a minimum of 98% of the maximum modified Proctor dry density in accordance with AASHTO T-180, to a depth of 1-foot below the stripped grade. A soil cement base, if used as the base course alternate, should meet PCA and Pasco County requirements, should have a 300 psi 7-day compressive strength, and should be compacted to a minimum of 98% of AASHTO T-134; soil cement compressive strengths in excess of 400 psi should be avoided. If crushed concrete aggregate is used as the base course in lieu of soil cement, the crushed concrete material should have a minimum limerock bearing ratio (LBR) of 150, should have a minimum compacted dry density of 114.0 pcf, should generally meet FDOT grainsize criteria for graded aggregate base, should be free of all deleterious materials, and should be compacted to a minimum of 98% of the maximum modified Proctor dry density in accordance with AASHTO T-180 (and should be acceptable to Pasco County). If crushed concrete is considered as the base material, then we recommend that the proposed crushed concrete aggregate borrow source be evaluated by our office prior to any material arriving on-site. The actual pavement thickness design should be performed by the project civil engineer considering traffic loadings and volume data, and Pasco County standards.

2. The fine sand subgrade soils beneath all roadway/pavement areas, and any approved sandy fill materials (Strata 1-4) used to raise the roadway areas, after topsoil stripping and demucking, shall be heavily proofrolled and compacted to a minimum of 98% of the maximum modified Proctor dry density in accordance with AASHTO T-180, tested to a depth of 1-foot below the stripped or cleared grade. The roadway embankment sandy fills, or natural sands, within 24-inches of the bottom of the base (if no stabilized subgrade), or within 24-inches of the bottom of the stabilized subgrade (if there is stabilized subgrade), shall be fine sand materials with 15% fines or less passing the No. 200 sieve (typically A-3, SP or SP-SM sand materials). The uppermost fine sands (after topsoil material removal) along the upland portions of the roadway areas, should in general, have less than 15% fines passing the No. 200 sieve. In general, a majority of the upper Strata 1-4 (fine sand materials), free of organics, should have less than 15% fines passing the No. 200 sieve.

3. Per FDOT Index No. 500, no plastic clayey sands, silts or clays shall be present within 2 feet of the bottom of the proposed roadway base course elevation (or bottom of a stabilized subgrade); this separation distance will need to be checked and confirmed during roadway design and construction. If this minimum 2-foot separation distance is not present in a roadway area, then the clayey materials need to be completely removed to obtain this minimum 2-foot separation depth at least the entire width of the roadway ROW, and replaced with suitable sandy soils compacted to at least 98% modified Proctor for each 1-foot lift. After clayey soil removal, the exposed clayey soil surface, prior to refilling with sand, should be of acceptable moisture content, stable and unyielding to form an adequate subbase for the sandy soil layer beneath the base. This requirement should allow for acceptable pavement and underdrain performance. The civil engineer needs to consider this FDOT Index during road design and road grade selection, and provide direction to the contractor for areas where these conditions warrant attention.

4. During roadway alignment stripping operations (and after root-raking and demucking operations), all surficial topsoils, organic sands, mucks, deleterious fills, roots, stumps, existing fills, all existing stockpiles, and all buried organics and deleterious fills, etc. shall be stripped and completely removed (at least plus a 5-foot margin beyond the roadway ROW); all these unsuitable materials shall be either hauled offsite or placed in unsuitable material disposal areas onsite after permission and direction from the project engineers, with developer consent. All stripped areas (and demucked areas) should be checked by the geotechnical consultant before proofrolling and any fill placement. All roadway areas shall be root-raked to a depth of at least 12 inches by the contractor prior to any compaction or filling. Any buried organic materials known or later discovered by the contractor or engineers (during the required test pit operations at least in the "concern" areas noted in the project geotechnical report), shall be uncovered and completely removed by the contractor during stripping/demucking operations in all roadway/pavement areas.

5. After stripping (and any demucking) operations are completed and the subgrade over all the roadway/pavement areas is checked by the geotechnical consultant, all the roadway/pavement areas shall be proof-rolled with a large diameter vibratory drum roller, under the full-time observation/monitoring by a senior field technician working for the project geotechnical consultant; subject to Items 6 and 7 below. The contractor's proof-rolling equipment shall make 20 overlapping passes over all roadway areas; subject to Items 6 and 7 below. Any significant soft or yielding ground/subgrade areas, or ground depressions, caused by or discovered during proof-rolling operations, shall be noted and reported to the project engineers by the contractor, and then shall be treated by the contractor as directed in the field by the geotechnical consultant.

6. After acceptable proofrolling, all roadway stripped subgrades shall be compacted to 98% of AASHTO T-180 to a depth of 1-foot below the stripped/proofrolled surface; with density testing by the geotechnical consultant. Depending upon the time of the year and daily weather conditions, the contractor may need to implement some effective shallow groundwater and surface water dewatering measures and controls to facilitate and accomplish the above proofrolling requirement and the above subgrade density testing requirement. After acceptable stripped subgrade density testing, the contractor shall fill all roadway areas with approved fine sands (Strata 1-4) in 12-inch +/- loose lifts compacted to a minimum of 98% of AASHTO T-180, up to finished design grades; no subsequent fill lifts shall be placed by the contractor until the previous lift is compacted to the required density. If there exists any discrepancies or conflicts between any geotechnical requirements, the project geotechnical reports, the project plans, or the project permits, the contractor needs to notify the project engineers for resolution and final direction.

7. The contractor must select and operate all their construction/compaction/proofrolling/dewatering equipment such that no adjacent existing structures or underground utilities are adversely impacted. This will be a very important consideration for the collector roadway, and for underground pipelines, adjacent to the existing Pasco County and TBW Easement. All roadways/utilities adjacent to the existing easements need subgrade improvement for proper support; this improvement needs to be accomplished by the contractor, satisfactory to the geotechnical consultant, without adversely impacting any adjacent existing structures, pipelines, etc. The contractor will need to implement effective procedures to dampen construction (and dewatering) vibrations/impacts beyond the new roadway limits, and should also provide ground vibration/settlement monitoring procedures in the field (if necessary) to document that their operations are not adversely impacting any adjacent existing structures/pipelines. The contractor must be experienced and prepared to handle the above issues; and the contractor must include any additional associated work/equipment or costs in their bid relative to effectively and properly handling/resolving these issues.

8. Depending upon final pavement grades (low points), it may be necessary to utilize pavement underdrains to control temporary wet season groundwater levels adequately below the pavement base. Pavement underdrains need to have positive discharge at all times. At least the current Pasco County guidelines for roadside underdrain locating, placement, design and construction should be followed by the project civil engineer and contractor. Pavement underdrain cleaning and routine maintenance (at least once a year) is essential for long-term effective working performance, and shall be the sole responsibility of the County for public roads and the developer or CDD for private roads.

9. Based on the test boring results provided, the fine sandy soils (Strata 1 – 4) excavated for utility pipeline/manhole installations should be reusable as general backfill over pipe and around structures (and as pavement area structural fill), assuming proper drying and placement. Strata 1 - 4 sands are the more desirable structural fill materials and utility trench/manhole backfill materials. Slightly clayey fine sands (Stratum 5) will require some additional drying and mixing with the upper sands by the contractor prior to reuse. The contractor should anticipate some additional handling, drying and mixing time when utilizing slightly clayey fine sand materials as structural fill or as utility trench or structure/manhole backfill. Clayey sand and sandy clay materials (Strata 6 and 7), shallow weathered limestone materials (Stratum 8), and any "caprock" materials, if encountered during excavation, shall not be reused as utility trench or manhole/structure general backfill, or as pavement subgrade structural fill.

10. During utility manhole, inlet and pipeline excavations, the contractor could encounter some shallow clayey sands and/or plastic clays (Strata 6 and 7), shallow weathered limestone materials (Stratum 8), or shallow "caprock" materials (Stratum 14), which after excavation will not be suitable for reuse as pipeline trench or manhole/structure backfill. The contractor must be prepared to handle these situations, including some difficult deeper excavations (due to shallow weathered limestone or "caprock"), and any associated potential dewatering problems that might arise during deeper utility/manhole excavations; and the contractor must include any associated work/equipment or costs in their construction bid relative to effectively handling and dealing with any excavation/dewatering issues. Any pipeline trench or manhole/structure excavation bottom "boils" shall be reported to the project engineers by the contractor, and then shall be properly repaired/sealed by the contractor, prior to pipe/foundation placement or backfilling, with input from the geotechnical consultant. Temporary dewatering will be a significant construction issue, and must be effective and sustained to accomplish all the requirements and confirming testing. The contractor, prior to placing any pipe bedding or piping, shall improve any significant trench bottom or structure subgrade concerns to an acceptable condition, as directed in the field by the geotechnical consultant.

11. In general, all surficial and buried organic laden sand/muck/debris/deleterious fill materials, etc., currently known or later discovered by the contractor or via onsite testing, are unacceptable beneath roadway and other structure areas, because of the elevated risk of unacceptable post-construction settlement. In general, all these unsuitable materials, discovered during subsequent roadway construction or testing, need to be completely removed and replaced (by the contractor) with acceptable structural fill materials properly compacted to at least 98% of AASHTO T-180, under geotechnical observation and testing. Also, all existing fills (of acceptable quality), in the roadway areas, will need to be adequately compacted to the same criteria, prior to additional fill placement; with confirming density testing of each 1-foot of fill material within the roadway area.

MEI/Mainfile/405/08016.GenGeotReqRoad.doc (last revised 1/26/15)

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BEXLEY RANCH
TOWER ROAD
GEOTECHNICAL DATA AND REQUIREMENTS

PREPARED FOR: NNP - BEXLEY, LLC

DATE	DESCRIPTION

DATE	DESCRIPTION

PROJECT NO:	14-10-08016
FILE:	SEE FILE TAG BELOW
DESIGN BY:	MTG
DRAWN BY:	DNH

FLORIDA PROFESSIONAL ENGINEER

MICHAEL T. GAGNE
DATE:____________
REGISTRATION NO. 63006

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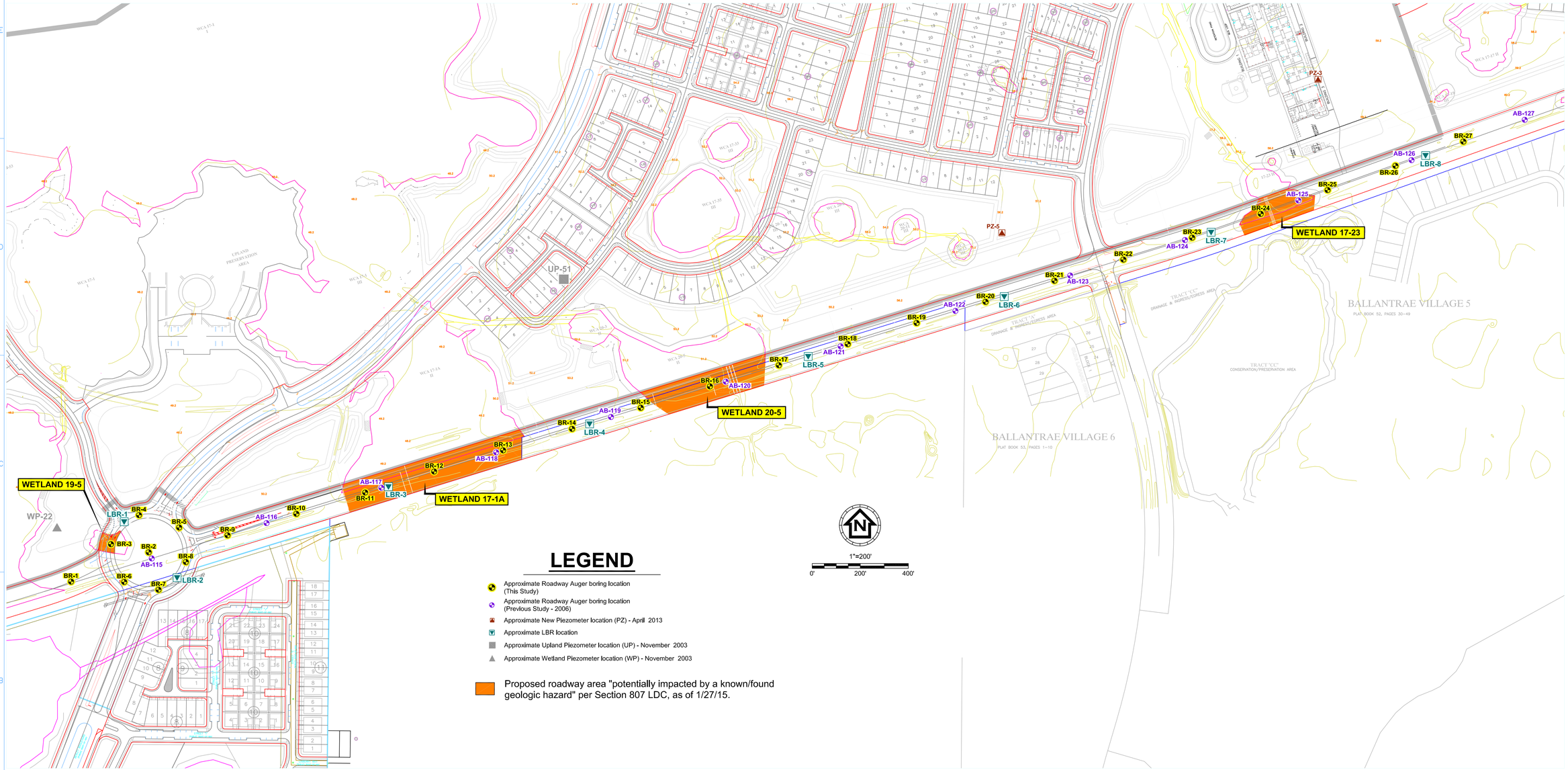

LEGEND

- Approximate Roadway Auger boring location (This Study)
- Approximate Roadway Auger boring location (Previous Study - 2006)
- Approximate New Piezometer location (PZ) - April 2013
- Approximate LBR location
- Approximate Upland Piezometer location (UP) - November 2003
- Approximate Wetland Piezometer location (WP) - November 2003

Proposed roadway area "potentially impacted by a known/found geologic hazard" per Section 807 LDC, as of 1/27/15.

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BEXLEY RANCH TOWER ROAD
GEOTECHNICAL DATA AND REQUIREMENTS

NNP - BEXLEY, LLC

PREPARED FOR:

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DRAWN BY: DNH

FLORIDA PROFESSIONAL ENGINEER

MICHAEL T. GAGNE
DATE:
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