

PROJECT LOCATION
ST. LUCIE COUNTY

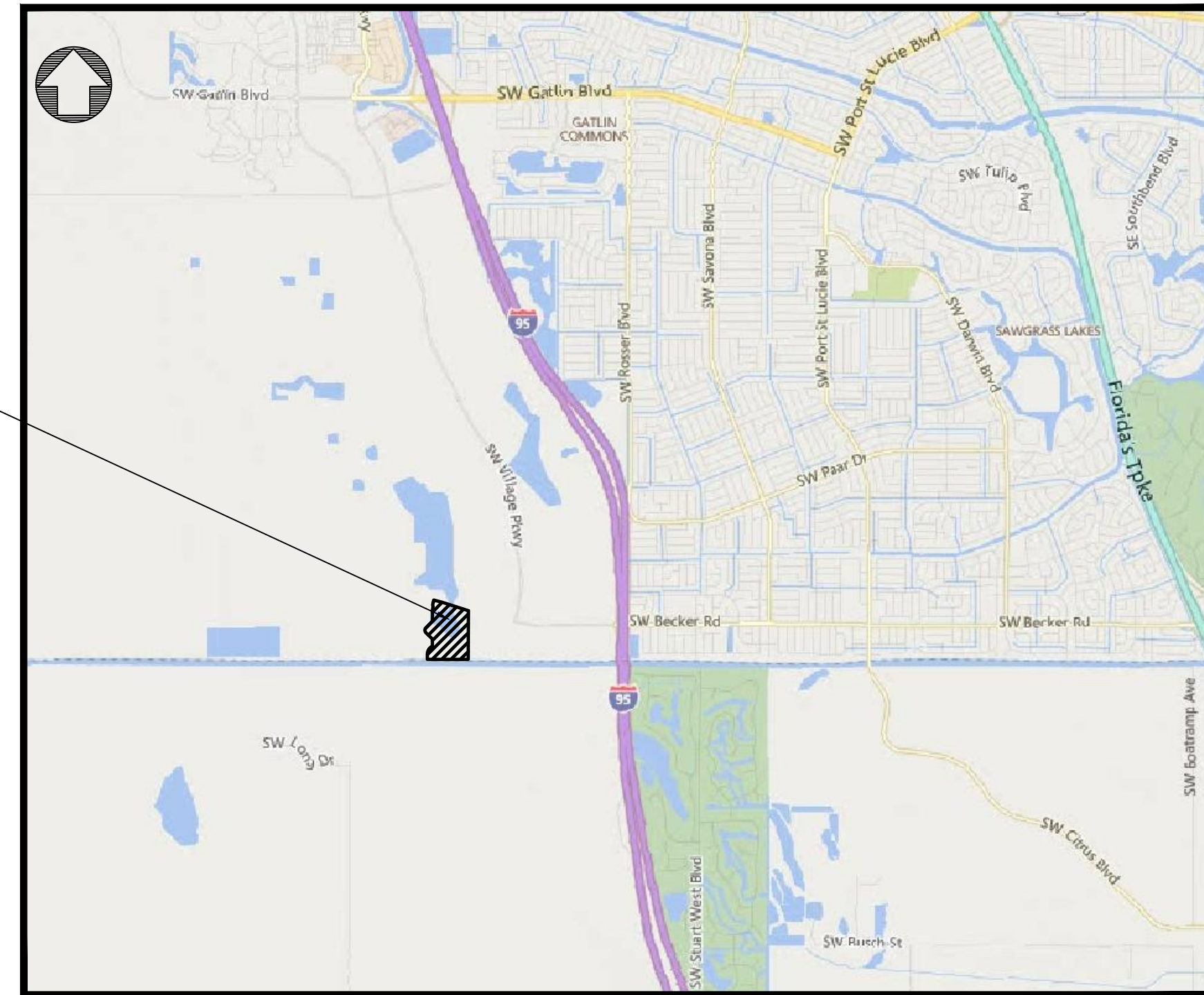
BELTERRA PHASE 1 AT SOUTHERN GROVE

F/K/A GHO HOMES AT SOUTHERN GROVE

PORT ST. LUCIE, FLORIDA

ENGINEERING PLANS

ISSUED DATE: 3/03/2022



LOCATION MAP
N.T.S.

GOVERNING STANDARD PLANS:
Florida Department of Transportation, FY 2020-21 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road and Bridge Construction and associated IRs are available at the following website:
<http://www.fdot.gov/design/Standardplans.shtm>

GOVERNING STANDARD SPECIFICATIONS:
Florida Department of Transportation, July 2020 Standard Specifications for Road and Bridge Construction at the following website:
<http://www.fdot.gov/programmanagement/Implemented/Specbooks>

City of Port St. Lucie, December 2020 Engineering Standards for Land Development at the following website:
<https://www.cityofpsl.com/Home/ShowDocument?id=9579>

LEGAL DESCRIPTION

PARCEL IDENTIFICATION NO.: 4315-700-0032-000-1

BELTERRA PHASE 1 PLAT 1 AS RECORDED IN PLAT BOOK 94 PAGES 23-29 OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA, LYING IN SECTION 34, TOWNSHIP 37 SOUTH, RANGE 39 EAST, CITY OF PORT ST. LUCIE, ST. LUCIE COUNTY, FLORIDA

COMMENCING AT THE SOUTHWEST CORNER OF SAID PARCEL 29; THENCE SOUTH 89°54'26" EAST, ALONG THE SOUTH LINE OF SAID PARCEL 29, A DISTANCE OF 2973.41 FEET TO THE POINT OF BEGINNING; THENCE NORTH 00°00'00" EAST A DISTANCE OF 199.48 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE TO THE RIGHT, HAVING A RADIUS OF 322.00 FEET, AND A CENTRAL ANGLE OF 64°51'21"; THENCE NORTHERLY AND NORTHEASTERLY, ALONG THE ARC OF SAID CURVE A DISTANCE OF 364.49 FEET; THENCE NORTH 00°00'00" WEST A DISTANCE OF 275.36 FEET; THENCE NORTH 45°49'01" WEST A DISTANCE OF 330.78 FEET TO THE POINT OF CURVATURE OF A CIRCULAR CURVE TO THE RIGHT, HAVING A RADIUS OF 137.00 FEET, AND A CENTRAL ANGLE OF 90°00'00"; THENCE NORTHERLY AND NORTHEASTERLY ALONG THE ARC OF SAID CURVE A DISTANCE OF 215.20 FEET; THENCE NORTH 44°10'59" EAST A DISTANCE OF 341.67 FEET; THENCE NORTH 00°15'20" EAST A DISTANCE OF 414.49 FEET; THENCE NORTH 13°12'01" EAST A DISTANCE OF 139.99 FEET; THENCE NORTH 22°52'19" WEST A DISTANCE OF 61.88 FEET; THENCE NORTH 12°46'16" EAST A DISTANCE OF 189.66 FEET TO A POINT ON THE ARC OF A CIRCULAR CURVE TO THE RIGHT, HAVING A RADIUS OF 4925.00 FEET, AND A CENTRAL ANGLE OF 4°54'24"; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE A DISTANCE OF 421.77 FEET; THENCE SOUTH 72°19'20" EAST A DISTANCE OF 946.81 FEET; THENCE SOUTH 00°02'49" WEST A DISTANCE OF 1832.63 FEET; THENCE NORTH 89°54'26" WEST A DISTANCE OF 1542.48 FEET TO THE POINT OF BEGINNING.

SAID LANDS HAVING AN AREA OF 67.796 ACRES MORE OR LESS.

PROJECT TEAM

OWNER/DEVELOPER
GRBK GHO HOMES, LLC
590 NW MERCANTILE PLACE
PORT ST. LUCIE, FL 34986

CIVIL ENGINEER
WILLIAM R. BARBARO, P.E.
CARNAHAN PROCTOR & CROSS
814 S. MILITARY TRAIL
DEERFIELD BEACH, FL 33442

SURVEYOR
LONDON M. CROSS, P.S.M.
CARNAHAN PROCTOR & CROSS
814 S. MILITARY TRAIL
DEERFIELD BEACH, FL 33442

ADDITIONAL GOVERNING AGENCIES

PLANNING/ZONING
CITY OF PORT ST. LUCIE
121 S.W. PORT ST. LUCIE BLVD
PORT ST. LUCIE, FL 34984

FIRE CHIEF
ST. LUCIE COUNTY FIRE DISTRICT
5160 NW MILNER DRIVE
PORT ST. LUCIE, 34983

UTILITY/ENGINEERING
CITY OF PORT ST. LUCIE
121 S.W. PORT ST. LUCIE BLVD
PORT ST. LUCIE, FL 34984

Legend

Infrastructure sheets
for Plat 3

Final Limits of Infrastructure for Plat
Number 3 (15 Sheets)

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NO	DATE	BY	APRV	REVISIONS
02/15/22	12/15/21	RP	WRB	REVISED PER PSL COMMENTS

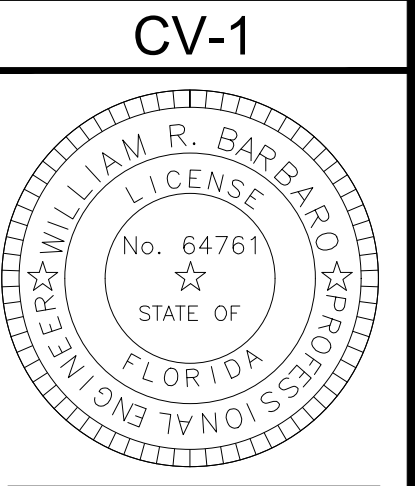
BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

COVER



CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
PHONE: (854) 972-3859 FAX: (854) 972-4178
FILE NO. 190214
CPC AUTH. NO. 00029396

SCALE: N.T.S.
DATE: 12/08/21
DRAWN BY: R.P.
CHECKED BY: W.R.B.
DESIGNED BY: R.F.



CITY OF PORT ST. LUCIE
PROJECT NO. P23-147
PSLUSD FILE NO. 5336
WILLIAM R. BARBARO, P.E.
FL. REGISTRATION NO. - 64761



ALL ELEVATIONS ARE BASED ON NAVD-88 UNLESS SPECIFIED DIFFERENTLY

2/09/21 p:\projects_2019\deerfield_shore\southern_grove\cod\190214-COV.dwg

I. APPLICABLE CODES

A. GENERAL:

ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF PORT ST. LUCIE, SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SFWMD), AND ALL OTHER LOCAL AND NATIONAL CODES WHERE APPLICABLE.

B. CONSTRUCTION SAFETY:

ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER, SPECIFICALLY THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL BE STRICTLY OBSERVED.

C. TRENCH SAFETY ACT

- 1. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLIANCE WITH THE STATE OF FLORIDA TRENCH SAFETY ACT.
2. WHERE EXCAVATIONS TO A DEPTH IN EXCESS OF FIVE FEET (5') ARE REQUIRED THE CONTRACTOR SHALL INCLUDE THE FOLLOWING INFORMATION IN THE BID:
A. A REFERENCE TO THE SAFETY STANDARDS THAT WILL BE IN EFFECT DURING THE PERIOD OF CONSTRUCTION OF THE PROJECT.
B. WRITTEN ASSURANCES BY THE CONTRACTOR PERFORMING THE TRENCH EXCAVATION THAT SUCH CONTRACTOR WILL COMPLY WITH THE APPLICABLE TRENCH SAFETY STANDARDS.
C. A SEPARATE ITEM IDENTIFYING THE COST OF COMPLIANCE WITH THE APPLICABLE TRENCH SAFETY STANDARDS.
3. WHERE A BID IS NOT SUBMITTED, THE CONTRACTOR SHALL SUBMIT THE INFORMATION LISTED IN ITEM 2. TO THE ENGINEER PRIOR TO STARTING WORK.

D. SURVEY DATA:

- ALL ELEVATIONS ON THE PLANS OR REFERENCED IN THE SPECIFICATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
E. THE PROPERTY OWNER, CONTRACTOR, AND AUTHORIZED REPRESENTATIVES SHALL PROVIDE PICKUP, REMOVAL, AND DISPOSAL OF LITTER WITHIN THE PROJECT LIMITS AND SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE AREA FROM THE EDGE OF PAVEMENT TO THE PROPERTY LINE WITHIN THE CITY'S RIGHT-OF-WAY IN ACCORDANCE WITH CITY CODE, SECTION 41.08 (G).

II. PRECONSTRUCTION RESPONSIBILITY

- A. UPON RECEIPT OF NOTICE OF AWARD, THE CONTRACTOR SHALL ARRANGE A PRECONSTRUCTION CONFERENCE TO INCLUDE THE CITY OF PORT ST. LUCIE ENGINEERING DIVISION, THE OWNER, AND THE ENGINEER, AFTER OBTAINING A CONSTRUCTION PERMIT FROM THE ENGINEERING DIVISION.
B. THE CONTRACTOR SHALL OBTAIN A "SUNSHINE CERTIFICATION NUMBER" AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.
C. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, ELEVATION, AND MATERIAL OF ALL EXISTING UTILITIES WITHIN THE AREA OF CONSTRUCTION.
D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES FOR WHICH HE FAILS TO REQUEST LOCATIONS SUNSHINE CERTIFICATION NUMBER. HE IS RESPONSIBLE AS WELL FOR DAMAGE TO ANY EXISTING UTILITIES WHICH ARE PROPERLY LOCATED.
E. IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION OR TO BE OF A SIZE OR MATERIAL DIFFERENT FROM THAT SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER, WHO WILL IN TURN NOTIFY THE CITY OF PORT ST. LUCIE UTILITIES DEPARTMENT.

III. INSPECTIONS

THE CONTRACTOR SHALL NOTIFY THE CITY OF PORT ST. LUCIE ENGINEERING DIVISION 772-871-5177, PSLUSD INSPECTORS@CITYOFPSL.COM AND THE ENGINEER OF RECORD AT LEAST 24 HOURS PRIOR TO THE INSPECTION OF THE FOLLOWING ITEMS:

- A. 1. STORM DRAINAGE.
2. SANITARY SEWER; SEWER INSPECTIONS SHALL BE SCHEDULED WITH PSLUSD, 772-873-6400.
3. WATER SYSTEM; WATER INSPECTIONS SHALL BE SCHEDULED WITH PSLUSD, 772-873-6400.
4. SUBGRADE; SUBMIT AND HAVE APPROVED DENSITIES PRIOR TO PLACEMENT OF ROCK.
5. LIMEROCK BASE; SUBMIT AND HAVE APPROVED DENSITIES AND AS-BUILTS PRIOR TO THE PLACEMENT OF ANY ASPHALT.
6. ASPHALTIC CONCRETE.
7. FINAL.
B. ALL INSPECTIONS MADE BY THE CITY OF PORT ST. LUCIE, PSLUSD, AND FOOT THE ENGINEER OF RECORD WILL PROVIDE CONSTRUCTION OBSERVATION SERVICES.

IV. SHOP DRAWINGS

- A. PRIOR TO ISSUANCE OF A CONSTRUCTION PERMIT, A QUALITY PRODUCTS LIST SHALL BE SUBMITTED TO AND REVIEWED BY THE ENGINEER OF RECORD AND THE CITY OF PORT ST. LUCIE FOR SANITARY MANHOLES, HYDRANTS, VALVES, PIPING, LIFT STATIONS AND OTHER ACCESSORIES. CATALOGUE LITERATURE SHALL BE SUBMITTED FOR WATER AND SEWER PIPES, FITTINGS AND APPURTENANCES.
B. ANY PRODUCT THAT IS NOT ON THIS LIST MUST BE APPROVED IN ADVANCE BY THE ENGINEER OF RECORD AND THE CITY OF PORT ST. LUCIE UTILITY SYSTEMS DIVISION. SUCH APPROVAL REQUIRES THE ELECTRONIC SUBMISSION OF A SHOP DRAWING FOR EACH PRODUCT. SHOP DRAWINGS WILL ALSO BE REQUIRED FOR ALL NON-STANDARD ITEMS.
C. INDIVIDUAL SHOP DRAWINGS FOR ALL PRECAST STRUCTURES ARE REQUIRED. CATALOGUE LITERATURE WILL NOT BE ACCEPTED FOR PRECAST STRUCTURES.

V. TEMPORARY FACILITIES

- A. TEMPORARY UTILITIES:
1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO HIS EMPLOYEE AND SUBCONTRACTORS FOR THEIR USE DURING CONSTRUCTION.
2. OBTAIN CONSTRUCTION METER FOR ALL WATER USED ON JOB. ALL WATER USED FOR CLEANING, TESTING, ETC. WILL BE PAID FOR BY THE CONTRACTOR. IF WATER CAN NOT BE METERED THEN IT WILL BE CALCULATED.
B. TRAFFIC REGULATION:
1. MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE MUTCD AND FOOT STANDARD PLANS.
2. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
3. NO TRENCHES OR HOLES NEAR WALKWAYS OR IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS WITHOUT EXPRESS PERMISSION OF THE CITY OF PORT ST. LUCIE.

VI. PROJECT CLOSE OUT

- A. CLEANING UP:
1. DURING CONSTRUCTION, THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER. UPON FINAL CLEAN UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH. THE PAVED AREAS SHALL BE SWEEP BROOM CLEAN.
2. THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED BY THE ENGINEER OR THE CITY OF PORT ST. LUCIE, ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY HIS WORK, EQUIPMENT, EMPLOYEES OR THOSE OF HIS SUBCONTRACTORS TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS. TO THIS END, THE CONTRACTOR SHALL DO AS REQUIRED, ALL NECESSARY HIGHWAY OR DRIVEWAY, SIDEWALK AND LANDSCAPING WORK. SUITABLE MATERIALS AND METHODS SHALL BE USED FOR SUCH RESTORATION.
3. WHERE MATERIAL OR DEBRIS HAS WASHED OR FLOWED INTO OR BEEN PLACED IN WATER WATER COURSES, GRAVITY SEWER, DITCHES, DRAINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED AND SATISFACTORILY DISPOSED OF DURING PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION.
4. WHEN WORKING IN AND AROUND EXISTING DRAINAGE CANALS, APPROPRIATE SILT BARRIERS SHOULD BE INSTALLED AS REQUIRED.
B. PROJECT RECORD DOCUMENTS:
1. THE CONTRACTOR SHALL MAINTAIN ACCURATE AND COMPLETE RECORDS OF ALL WORK ITEMS COMPLETED.

- 2. ALL "AS-BUILT" INFORMATION SUBMITTED TO THE ENGINEER SHALL BE SUFFICIENTLY ACCURATE, CLEAR AND LEGIBLE TO SATISFY THE ENGINEER THAT THE INFORMATION PROVIDED A TRUE REPRESENTATION OF THE IMPROVEMENTS CONSTRUCTED.
3. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD ONE COMPLETE SET OF "AS-BUILT" CONSTRUCTION DRAWINGS. THESE DRAWINGS SHALL BE MARKED TO SHOW "AS-BUILT" CONSTRUCTION CHANGES AND DIMENSIONED LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS AND SHALL BE SIGNED BY THE CONTRACTOR.
4. ALL "AS-BUILT" INFORMATION ON ELEVATIONS, STATIONING OFFSETS AND TIES OF THE WATER, SANITARY SEWER, PAVING AND DRAINAGE SHALL BE CERTIFIED BY A REGISTERED LAND SURVEYOR.
5. "AS-BUILT" INFORMATION ON THE WATER SYSTEM SHALL INCLUDE, BUT IS NOT LIMITED TO LOCATIONS OF ALL VALVES, FITTINGS, FIRE HYDRANTS AND WATER SERVICES AND TOP-OF-PIPE ELEVATION ON 100-FOOT INTERVALS AT A MINIMUM.
6. PRIOR TO A FINAL INSPECTION BY THE CITY OF PORT ST. LUCIE, THE ENGINEER SHALL SUBMIT TWO (2) SETS OF BLUEPRINTS OF "AS-BUILT" CONSTRUCTION DRAWINGS.
7. UPON A FINAL INSPECTION BY THE CITY OF PORT ST. LUCIE, THE ENGINEER SHALL SUBMIT TO THE CITY AS-BUILT OR RECORD DRAWING (SIGNED AND SEALED) - PDF AND HARD COPY AND AS-BUILT OR RECORD DRAWING - AUTOCAD.
8. PRIOR TO PLACEMENT OF ANY ASPHALT OR CONCRETE PAVEMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER "AS-BUILT" PLANS SHOWING LIMEROCK BASE GRADES AND ALL DRAINAGE, WATER, AND SEWER IMPROVEMENTS. PAVING OPERATIONS SHALL NOT COMMENCE UNTIL THE ENGINEER AND THE CITY OF PORT ST. LUCIE HAVE REVIEWED AND APPROVED THE "AS-BUILTS".
9. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR SUBGRADE SHALL BE PROVIDED TO AND APPROVED BY THE ENGINEER AND THE CITY OF PORT ST. LUCIE PRIOR TO THE PLACING THE LIMEROCK BASE MATERIAL.
10. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR LIMEROCK SHALL BE PROVIDED TO AND APPROVED BY THE ENGINEER AND THE CITY OF PORT ST. LUCIE PRIOR TO PLACING ASPHALT.

VI. WATER DISTRIBUTION AND/OR SEWAGE FORCE MAIN SYSTEM

A. GENERAL:

- 1. THE CONTRACTOR SHALL NOTIFY THE CITY OF PORT ST. LUCIE UTILITIES DEPARTMENT AND THE ENGINEER OF RECORD NO LATER THAN 24 HOURS PRIOR TO MAKING CONNECTIONS TO EXISTING SYSTEMS. A CITY OF PORT ST. LUCIE ENGINEERING DIVISION REPRESENTATIVE AND THE ENGINEER OF RECORD MUST BE PRESENT.
2. SEPARATION OF WATER AND SEWER MAINS:
A. PARALLEL WATER AND SEWER MAINS SHALL HAVE A MINIMUM 10 FEET HORIZONTAL SEPARATION. WHERE THIS IS NOT POSSIBLE THE SEWER MAIN SHALL BE IN A SEPARATE TRENCH AND BE AT LEAST 18 INCHES BELOW THE WATER MAIN AND BOTH MAINS SHALL BE PVC PER PRESSURE PIPE SPECIFICATIONS.
B. THE SEWER MAIN SHALL CROSS BELOW ALL WATER MAINS WITH A MINIMUM OF 18 INCHES VERTICAL CLEARANCE, WHERE THE CLEARANCE IS LESS THAN 18 INCHES, THE SEWER MAIN AND THE WATER MAIN SHALL BE PVC OR HDPE PIPE WITH A MINIMUM 12" CLEARANCE FOR 20 FEET CENTERED ON THE POINT OF CROSSING. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING SHALL BE MECHANICALLY RESTRAINED.
C. IF A SEWER MAIN MUST CROSS ABOVE A WATER MAIN, REGARDLESS OF VERTICAL CLEARANCE, THE PRECAUTION IN ITEM (B.) ABOVE SHALL BE TAKEN.
3. NO CONNECTIONS TO THE EXISTING LINES SHALL BE MADE UNTIL PRESSURE TESTS FOR THE WATER MAINS AND SEWER FORCE MAINS, AND BACTERIOLOGICAL TESTS HAVE BEEN PERFORMED AND THE SYSTEM IS ACCEPTABLE TO THE CITY OF PORT ST. LUCIE.
4. CLEANING OF NEWLY INSTALLED PIPING SYSTEMS SHALL BE ACCOMPLISHED USING PIPE PIGGING METHODS. OPEN FLUSHING SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL OF THE UTILITIES DEPARTMENT. ALL WATER WILL BE ACCOUNTED FOR.
5. ALL EFFORTS SHALL BE MADE SO THAT WATER AND FORCE MAINS CROSS ABOVE DRAINAGE LINES WITH ADEQUATE COVER AND SEPARATION. IF THIS IS NOT POSSIBLE, IT SHALL BE INDICATED ON THE PLANS.
6. A FIVE (5) FOOT LATERAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER/SEWER LINES AND OBSTRUCTIONS (I.E., CATCH BASINS, CONCRETE POLES, ETC.), TEN (10) FEET FROM TREES.
7. THE MAXIMUM DEPTH TO THE BOTTOM OF THE PRESSURE MAIN INSTALLED SHALL NOT EXCEED SIX (6) FEET UNLESS APPROVED BY THE CITY OF PORT ST. LUCIE ENGINEERING DIVISION.
8. RESTRAINED JOINTS SHALL BE USED, IN LIEU OF CONCRETE THRUST BLOCKS, AT ALL CHANGES IN DIRECTION OF WATER MAINS, SEWAGE FORCE MAINS AND ELSEWHERE AS INDICATED ON THE DRAWINGS. RESTRAIN ALL PIPE JOINTS WITHIN THE DISTANCES ON EACH SIDE OF FITTINGS AS REQUIRED TO PROPERLY RESTRAIN AND SUPPORT BENDS, TEES, VALVES, DEAD ENDS AN OTHER SUCH FITTINGS WITH THE EXCEPTION OF FIRE HYDRANTS.
9. A MINIMUM HORIZONTAL SEPARATION OF TEN (10) IS TO BE MAINTAINED IF GRAVITY SEWER, FORCE MAIN, OR RECLAIMED WATER IS TO BE INSTALLED PARALLEL TO A DRAINAGE PIPE. A GREATER SEPARATION MAY BE REQUIRED FOR DRAINAGE PIPES LARGER THAN 48" IN DIAMETER.

B. MATERIALS:

- 1. PIPE:
THE WATER MAIN AND/OR SEWAGE FORCE MAIN SHALL BE EITHER POLYVINYL CHLORIDE (PVC) OR HIGH DENSITY POLYETHYLENE (HDPE) AND SHALL BE DESIGNED FOR A MINIMUM WORKING PRESSURE OF 150 PSI.
A. PVC PIPE SHALL BE ASTM 1120 PRESSURE PIPE WITH IRON O.D., CLASS 150 (DR 18), CONFORMING TO ANSI/AWWA C900-97 OR C905-97 AND SHALL HAVE PUSH RUBBER GASKET JOINTS.
2. VALVES:
A. VALVES SHALL BE GATE VALVES FOR WATER (4"-12" SIZE), GATE VALVES FOR FOR WATER (16" AND UP SIZE) OR PLUG VALVES FOR FORCE MAIN (ALL SIZES).
I. GATE VALVES SHALL BE IRON BODY, FULLY RESILIENT SEAT, BRONZE MOUNTED NON-RISING STEM, DOUBLE DISC, RATED AT 200 PSI AND CONFORMING TO ANSI/AWWA C509-01 OR LATEST REVISION. EXPOSED VALVES SHALL BE OUTSIDE SCREW AND YOKE TYPE.
II. BUTTERFLY VALVES AND OPERATORS SHALL CONFORM TO ANSI/AWWA C504-00 STANDARD FOR RUBBER SEATED BUTTERFLY VALVES, OR LATEST REVISIONS. VALVES SHALL BE CLASS 150 A OR B ONLY AT THE DISCRETION OF PSLUSD.
III. PLUG VALVES SHALL BE SEMI-STEEL BODY, NON-LUBRICATED, ECCENTRIC TYPE, WITH RESILIENT FACED PLUGS, AND CAPABLE OF DRIP-TIGHT SHUT OFF AT THE RATED PRESSURE IF APPLIED AT EITHER PORT. VALVES ARE TO BE EQUIPPED WITH ACTUATING NUTS, CAST IRON HANDWHEELS OR CHAIN OPERATORS, WITH GALVANIZED STEEL CHAINS, AS APPROPRIATE FOR THE INSTALLATION AND TYPE OF OPERATOR ONLY AT THE DISCRETION OF PSLUSD.
B. AIR RELEASE VALVES
I. SEWER FORCE MAIN AIR RELEASE VALVES - SYSTEM SHALL BE A COMBINATION OF ONE SEWAGE AIR RELEASE VALVE AND ONE SEWAGE AIR/VACUUM VALVE WITH DUAL ISOLATION PLUG VALVES. BOTH VALVE BODIES AND COVERS SHALL BE OF CAST IRON CONSTRUCTION, ASTM A126-B. ALL INTERNAL PARTS SHALL BE STAINLESS STEEL, ASTM A-240 - TYPE 304 AND ASTM A276 - TYPE 303. THE VENTING ORIFICE SHALL BE 5/16" IN DIAMETER WITH STAINLESS STEEL SEAT. THE INLET OPENINGS SHALL BE A MINIMUM OF 2" NPT SCREWED CONNECTION FOR BOTH VALVES. THE VALVES SHALL FULLY CAPABLE OF OPERATION IN SEWAGE FORCE MAIN. BOTH VALVES SHALL INCLUDE A BACK-FLUSHING FEATURE FOR PERIODIC CLEANING OF THE INTERNAL MECHANISM. THE OVERALL HEIGHT SHALL NOT EXCEED 22-1/2 INCHES.

- II. WATER MAIN AIR RELEASE VALVES - VALVE BODY AND COVER SHALL BE OF CAST IRON CONSTRUCTION, ASTM A126-B. ALL INTERNAL WORKING PARTS SHALL BE OF STAINLESS STEEL ASTM A240, TYPE 303 FOR THE FLOAT AND ASTM A296 - TYPE 316 FOR THE LINKAGE. THE VENTING ORIFICE SHALL BE 3/16" IN DIAMETER WITH BRASS SEAT. THE INLET OPENING SHALL BE A 2" NPT SCREWED CONNECTION. THE OVERALL HEIGHT SHALL NOT EXCEED 13 INCHES.
C. A REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE NEAREST LANE OF ROAD PAVEMENT ADJACENT TO ALL VALVE LOCATIONS OUTSIDE THE ROAD PAVEMENT. WATER MARKERS SHALL BE BLUE, SEWER MARKERS SHALL BE GREEN.
4. FIRE HYDRANTS:
A. FIRE HYDRANTS SHALL HAVE A MINIMUM 5 1/4" VALVE OPENING AND SHALL OPEN AGAINST THE PRESSURE AND CLOSE WITH THE FLOW. HYDRANTS SHALL MEET OR EXCEED ANSI/AWWA C502-94, C503-97 OR LATEST REVISION, AND SHALL COMPLY WITH FACTORY MUTUAL RESEARCH CORPORATION AND UNDERWRITERS LABORATORIES UL246 STANDARD.
B. A BLUE REFLECTIVE PAVEMENT MARKER SHALL BE PROVIDED IN THE CENTER OF THE NEAREST LANES OF ROAD PAVEMENT ADJACENT TO ALL FIRE HYDRANT LOCATIONS.
5. DETECTOR TAPE:
DETECTOR TAPE SHALL BE 3" WIDE BLUE TAPE FOR WATER MAIN AND BROWN TAPE FOR FORCE MAIN, WITH A METALLIZED FOIL CORE LAMINATED BETWEEN 2 LAYERS OF PLASTIC FILM. THE WORDS "CAUTION WATER LINE BURIED BELOW" OR "CAUTION FORCE MAIN BURIED BELOW" SHALL BE PRINTED AT 30" INTERVALS ALONG THE TAPE. TAPE SHALL BE PLACED 18" BELOW GRADE ABOVE ALL PVC MAINS AND SERVICES OR AS RECOMMENDED BY MANUFACTURER. ALL WATER MAIN INSTALLATIONS SHALL COMPLY WITH THE COLOR CODING REQUIREMENTS OF CHAPTER 62-555.320, FAC.
6. SERVICE CONNECTIONS:
A. SERVICE SADDLES SHALL BE PVC. SADDLES SHALL BE DOUBLE STRAP, STAINLESS STEEL OR SINGLE WIDE STRAP. SADDLES SHALL CONFORM TO ANSI/AWWA C111/21.11-00 AND ASTM A-588 OR LATEST REVISION.
B. SERVICE LINES SHALL BE POLYETHYLENE (PE) TUBING AS DESCRIBED IN ANSI/AWWA C901-02 OR LATEST REVISION, WITH A WORKING PRESSURE OF 200 PSI (OR 9") PIPE JOINTS SHALL BE OF THE COMPRESSION TYPE TOTALLY CONFINED GRIP SEAL AND COUPLING NUT. POLYETHYLENE SHALL BE EXTRUDED FROM PE 3408 HIGH MOLECULAR WEIGHT MATERIAL AND MUST CONFORM TO ASTM D-2737.
C. CORPORATION STOPS SHALL BE MANUFACTURED OF BRASS ALLOY IN ACCORDANCE ASTM B-62 WITH THREADED ENDS.
D. METER STOPS SHALL BE THE 90 DEGREE LOCKING TYPE AND SHALL BE OF BRONZE CONSTRUCTION IN ACCORDANCE WITH ASTM B-62. METER STOPS SHALL BE CLOSED BUTTON DESIGN AND RESILIENT "O" RING SEALED AGAINST EXTERNAL LEAKAGE AT THE TOP. STOPS SHALL BE EQUIPPED WITH A METER COUPLING NUT ON THE OUTLET SIDES.
E. METER AND METER BOXES 2" OR LESS ARE SUPPLIED BY THE CITY OF PORT ST. LUCIE AT THE OWNER'S EXPENSE.
7. TAPPING SLEEVES:
TAPPING SLEEVES SHALL BE SPLIT-TYPE STAINLESS STEEL OR MILD WITH FLANGED OUT FOR CONNECTION TO TAPPING VALVE.
8. VALVE BOXES:
A. VALVE BOXES FOR WATER MAINS AND SEWER FORCE MAINS SHALL BE ADJUSTABLE SCREW TYPE WITH 5-1/4" SHAFT, 18 TO 24 INCH EXTENSION, CAST IRON ASTM-A48 CLASS 30 MARKED "WATER" OR "SEWER".
B. VALVE BOXES FOR BLOW-OFF ASSEMBLY SHALL BE CAST IRON ASTM A-48 CLASS 30 MARKED "W".
9. DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY:
THE ASSEMBLY SHALL CONFORM TO ANSI/AWWA C510-97, OR LATEST REVISION, AND CAPABLE OF WITHSTANDING A WORKING PRESSURE OF AT LEAST 150 PSI WITHOUT DAMAGE TO WORKING PARTS OR IMPAIRMENT OF FUNCTION. IT SHALL CONSIST OF TWO INTERNALLY LOADED, INDEPENDENTLY OPERATING CHECK VALVES LOCATED BETWEEN TWO TIGHTLY CLOSING RESILIENT-SEALED SHUT OFF VALVES, WITH FOUR PROPERLY PLACED RESILIENT-SEALED TEST COCKS.
C. INSTALLATION:
1. GENERAL:
CONNECTION OF ALL NEW SYSTEMS TO EXISTING MAINS SHALL BE DONE USING ONE OF THE THREE FOLLOWING METHODS:
A. METHOD "A", WHICH INVOLVES A REDUCED SIZE TEMPORARY CONNECTION BETWEEN THE EXISTING MAIN AND THE NEW MAIN.
B. METHOD "B", WHICH INVOLVES A DIRECT CONNECTION BETWEEN THE NEW AND EXISTING MAINS USING TWO GATE VALVES SEPARATED BY A SLEEVE WITH A VENT PIPE.
C. METHOD "C", WHICH INVOLVES A TAP WITH ONE GATE VALVE REQUIRING DISINFECTION OF THE NEW SYSTEM PRIOR TO CONDUCTING THE PRESSURE TEST.
2. BEDDING:
BEDDING AND INITIAL BACKFILL (12 INCHES ABOVE PIPE) FOR ALL PIPES SHALL BE SAND WITH NO ROCK LARGER THAN 1/2" IN DIAMETER. PEA ROCK OR 3/4" WASHED ROCK WILL BE IN WATER OR WHERE UNSUITABLE BEDDING EXISTS AT THE DISCRETION OF THE CITY OF PORT ST. LUCIE. ALL OTHER FILL SHALL NOT HAVE ROCK LARGER THAN 6" IN DIAMETER.
3. PVC PIPE:
A. PVC PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE UNI-BELL PLASTIC PIPE ASSOCIATION'S GUIDE FOR INSTALLATION OF PVC PRESSURE PIPE FOR MUNICIPAL WATER DISTRIBUTION SYSTEMS.
B. PVC PIPE SHALL BE INSTALLED WITH A MINIMUM OF 36" COVER.
C. DETECTOR TAPE SHALL BE INSTALLED THE FULL LENGTH OF ALL PVC MAINS APPROXIMATELY 18" BELOW GRADE, COLOR SIDE UP.
4. VALVES:
A. ALL VALVES SHALL BE INSTALLED WITH ADJUSTABLE CAST IRON VALVE BOXES WITH THE WORD "WATER" OR "SEWER" CAST IN THE COVER.
B. MAIN VALVES SHALL BE LOCATED ON AN EXTENSION OF THE RIGHT-OF-WAY LINE UNLESS DIMENSIONED OTHERWISE.
C. MAIN VALVES SHALL BE INSTALLED AWAY FROM PARKING AREAS. IF THIS IS UNAVOIDABLE, PROPER MEASURES SHALL BE TAKEN TO AVOID THE PARKING OF VEHICLES OVER THE VALVES. HYDRANT VALVES SHALL BE INSTALLED AS CLOSE TO THE MAIN AS POSSIBLE. VALVES LOCATED IN NON-PAVED AREAS OR IN PARKING STALLS REQUIRE A REFLECTIVE PAVEMENT MARKER ON THE CENTER OF THE NEAREST LANE OF ROAD PAVEMENT. BLUE REFLECTORS FOR WATER MAIN VALVES, GREEN REFLECTORS FOR FORCE MAIN VALVES.
D. THE DISTANCE FROM THE TOP OF THE VALVE ACTUATOR NUT TO FINAL GRADE SHALL BE A MINIMUM OF 12 INCHES AND A MAXIMUM OF 18 INCHES.
5. SERVICE:
A. COVER OVER SERVICE LINES SHALL BE 18 INCHES MINIMUM, 24 INCHES MAXIMUM BELOW FINISHED GRADE AND 24 INCHES UNDER PAVEMENT.
B. POLYETHYLENE SHALL BE BEDDED IN BACKFILL OF SAND WITH NO ROCK GREATER THAN 1 INCH IN DIAMETER.
C. METER STOPS SHALL HAVE 12 INCHES COVER OR AS REQUIRED FOR PROPER METER/BOX INSTALLATION.
D. WATER SERVICES UNDER PAVEMENT SHALL BE ENCASED IN A SCHEDULE 80 PVC SLEEVE FOR THE FULL LENGTH OF THE PAVEMENT AND FOR 2 FEET BEYOND THE EDGE.
E. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2" X 4" TREATED STAKE, PAINTED BLUE, EXTENDING 18 INCHES (MINIMUM) ABOVE GRADE UNLESS INDICATED OTHERWISE.

D. TESTING:

- 1. THE PHYSICAL CONNECTION OF THE NEW SYSTEM TO THE EXISTING SYSTEM SHALL BE DONE IN ACCORDANCE WITH SECTION "G-1" (THIS DOCUMENT) WHICH WILL DICTATE THE ORDER OF THE PRESSURE TESTING AND DISINFECTION.
2. THE COMPLETE WATER SYSTEM SHALL BE PRESSURE TESTED AND DISINFECTED. THE PRESSURE TEST SHALL BE FOR TWO HOURS AT 150 PSI MINIMUM TEST PRESSURE IN ACCORDANCE WITH ANSI/AWWA C600-05 OR LATEST REVISION. THE PRESSURE TEST SHALL NOT VARY MORE THAN 5 PSI DURING THE TEST. LEAKAGE ALLOWANCES WILL NOT BE MADE FOR FITTINGS OR VALVES.
3. ALLOWABLE LEAKAGE SHALL NOT EXCEED THE FORMULA OF:
L (GALLONS PER HOUR) = (S D (P) 0.5) / 148,000
L = ALLOWABLE LEAKAGE IN GALS/HR (NO ALLOWABLE LEAKAGE FOR VALVES)
S = LENGTH OF PIPE TESTED IN FEET
D = NOMINAL DIAMETER OF PIPE IN INCHES
P = AVERAGE TEST PRESSURE DURING TEST IN LBS/SQ. IN.
4. THE PRESSURE TEST SHALL BE WITNESSED BY A REPRESENTATIVE OF THE CITY OF PORT ST. LUCIE UTILITY SYSTEMS DIVISION AND THE ENGINEER OF RECORD.
5. SAMPLING POINTS SHALL BE PROVIDED AT THE LOCATIONS SHOWN ON THE PLANS. IF NOT SPECIFIED, SAMPLING POINTS SHALL BE PROVIDED AT INTERVALS OF 1200 FEET MAXIMUM FOR GREATER THAN 1200 FEET IN LENGTH. PROVIDE A MINIMUM OF TWO SAMPLING POINTS FOR ALL OTHER TEST SEGMENTS.
6. BEFORE ACCEPTANCE FOR OPERATION, THE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH ANSI/AWWA C651-05 OR LATEST REVISION WITH APPROVED BACTERIOLOGICAL SAMPLES. COLLECTION OF SAMPLES IS THE CONTRACTOR'S RESPONSIBILITY AND WILL BE WITNESSED BY A CITY OF PORT ST. LUCIE UTILITY SYSTEMS DIVISION REPRESENTATIVE.

VIII. GRAVITY SEWAGE COLLECTION SYSTEM

A. MATERIALS:

- 1. SEWER PIPE AND FITTINGS:
A. PVC SEWER PIPE AND FITTINGS SHALL BE NON-PRESSURE POLYVINYL CHLORIDE PIPE CONFORMING TO ASTM D-3034, SDR 35, WITH PUSH-ON RUBBER GASKET JOINTS UNLESS OTHERWISE NOTED.
B. ALL FITTINGS AND ACCESSORIES SHALL BE AS MANUFACTURED OR SUPPLIED BY THE PIPE MANUFACTURER.
2. MANHOLES:
A. MANHOLES SHALL BE PRECAST PER ASTM C-478 TYPE II WITH 4000 PSI CONCRETE AND GRADE 60 STEEL. MONOLITHICALLY POURED BASES ONLY.
B. MANHOLE OPENINGS ARE TO BE SEALED WITH ANTI-HYDRO CEMENT OR APPROVED EQUAL. NO MOLDING PLASTER WILL BE ALLOWED.
C. MANHOLE JOINTS SHALL BE SEALED WITH "RAMNEK" GASKETS OR APPROVED EQUAL AND WITH ANTI-HYDRO CEMENT ON THE INSIDE AND OUTSIDE.

INSTALLATION

- 1. PIPE AND FITTINGS:
A. SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D-2321, AND THE UNI-BELL PLASTIC PIPE ASSOCIATION'S RECOMMENDED PRACTICE FOR THE INSTALLATION OF PVC SEWER PIPE".
B. DIP SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C600-93, OR LATEST REVISION.
C. BEDDING AND INITIAL BACKFILL 12 INCHES OVER SEWER MAINS AND SERVICES SHALL BE SAND WITH NO ROCK LARGER THAN 1 INCH IN DIAMETER. PEA ROCK OR 3/4" WASHED ROCK WILL BE USED IN WATER OR WHERE UNSUITABLE BEDDING EXISTS AT THE DISCRETION OF THE CITY OF PORT ST. LUCIE. ALL OTHER FILL SHALL NOT HAVE ROCK LARGER THAN 6 INCH IN DIAMETER.
D. GRAVITY SEWER MAINS INSTALLED DEEPER THAN TWELVE (12) FEET SHALL BE D.I.P. AND SHALL BE INSTALLED IN ACCORDANCE WITH ANSI/AWWA C600-93 OR LATEST REVISION.
2. MANHOLES:
A. MANHOLES SHALL BE SET PLUMB TO LINE AND GRADE ON FIRM CLEAN SUBGRADE PROVIDING UNIFORM BEARING UNDER THE BASE.
B. ALL OPENINGS AND JOINTS SHALL BE SEALED WATER-TIGHT.
C. THE ENTIRE INSIDE OF THE MANHOLES SHALL BE PAINTED WITH TWO COATS (8 MILS EACH, DRY) OF KOPPER'S 300-M BITUMASTIC COATING, OR APPROVED EQUAL. FIRST COAT RED, SECOND COAT BLACK. THE OUTSIDE OF EACH MANHOLE REQUIRES ONLY ONE COAT (8 MILS, DRY) OF THE SAME TYPE OF COATING.
D. MANHOLES SHALL BE INSTALLED AWAY FROM PARKING AREAS ON THE CENTERLINE OF THE ROADWAY IF THIS IS UNAVOIDABLE, PROPER MEASURES SHALL BE TAKEN TO PROHIBIT THE PARKING OF VEHICLES OVER MANHOLES.
E. ORANGE REFLECTIVE PAVEMENT MARKERS SHALL BE PROVIDED ON THE CENTER OF THE NEAREST LANE OF ROAD PAVEMENT ADJACENT TO ALL MANHOLE LOCATIONS OUTSIDE THE ROAD PAVEMENT.
F. ALL LIDS SHALL BE PROVIDED WITH A POLYETHYLENE WATER TIGHT MANHOLE INSERT. THE COVER BODY SHALL BE MANUFACTURED TO THE DIMENSIONS AS SHOWN ON THE CONTRACT DRAWINGS TO ALLOW EASY INSTALLATION IN THE MANHOLE. FROM THE INSERT SHALL BE PROVIDED WITH A LIFT STRAP ATTACHED TO THE COVER BODY.

3. SERVICE:

- A. MINIMUM SLOPE OF ALL SERVICE LINES SHALL BE AS INDICATED IN THE "SOUTH FLORIDA BUILDING CODE".
B. SERVICE LATERALS SHALL TERMINATE AT A DEPTH 48" BELOW FINISHED GRADE.
C. EACH SERVICE CONNECTION SHALL BE PLUGGED WATERTIGHT WITH AN APPROVED PLUG.
D. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2" X 4" TREATED STAKE PAINTED RED, EXTENDING 18 INCHES (MINIMUM) ABOVE GRADE.
E. CONTRACTOR SHALL ROUGH IN RISER TO 1 FOOT ABOVE FINISHED GRADE AND PLUG AT PROJECT COMPLETION, CUT BACK TO FINISHED GRADE.
F. CONNECTION OF SERVICES TO BUILDING'S PLUMBING SHALL BE COORDINATED WITH THE CITY'S BUILDING AND ZONING DEPARTMENT, PLUMBING SECTION.

C. TESTING:

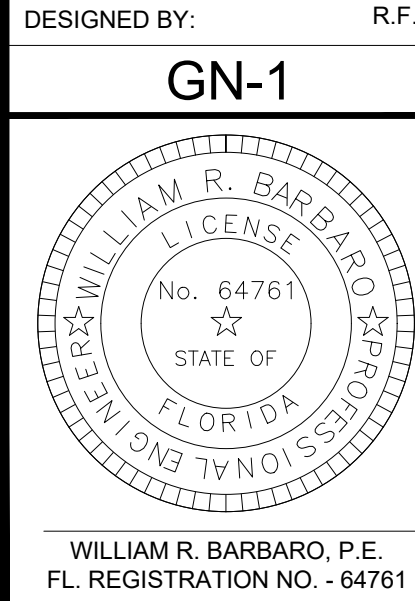
- 1. AFTER CONSTRUCTION OF THE SEWER SYSTEM, THE ENTIRE SYSTEM SHALL BE LAMPED. SEWER LAMPING SHALL BE WITNESSED BY THE ENGINEER OF RECORD AND A REPRESENTATIVE FROM THE CITY OF PORT ST. LUCIE ENGINEERING DIVISION.
2. AFTER CONSTRUCTION OF THE SEWER SYSTEM, THE CITY OF PORT ST. LUCIE OR THE ENGINEER OF RECORD MAY REQUIRE A VISUAL INFILTRATION AND/OR EXFILTRATION TEST TO BE PERFORMED ON THE ENTIRE SYSTEM OR ANY PART THEREOF.
3. AN AIR TEST MAY BE SUBSTITUTED FOR THE WATER EXFILTRATION TEST, UPON APPROVAL OF THE CITY OF PORT ST. LUCIE.
4. MANHOLE EXFILTRATION LEAKAGE SHALL NOT EXCEED 4 GALLONS PER DAY PER UNIT.
5. SEWER PIPE EXFILTRATION LEAKAGE SHALL NOT EXCEED 10 GALLONS PER DAY PER INCH DIAMETER PER MILE IN A TWO HOUR TEST PERIOD FOR ANY SECTION TESTED.
6. VISIBLE MANHOLE AND SEWER PIPE INFILTRATION LEAKAGE SHALL NOT BE PERMITTED.
7. SANITARY SEWER SHALL BE TELEVISED, AT DEVELOPER'S EXPENSE, PRIOR TO FINAL APPROVAL OF CONSTRUCTION. VIDEO TAPE AND REPORT SHALL BE EXAMINED BY THE CITY OF PORT ST. LUCIE ENGINEERING DIVISION. OWNER / CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING OF ANY DEFICIENCIES PRIOR TO THE CITY'S CERTIFICATION OF COMPLETION TO ANY AGENCY.

BELTERRA PHASE 1 AT SOUTHERN GROVE PORT ST. LUCIE COUNTY, FL

GENERAL NOTES & SPECIFICATIONS



Table with 2 columns: Field Name and Value. SCALE: N.T.S. DATE: 12/08/21 DRAWN BY: R.P. CHECKED BY: W.R.B. DESIGNED BY: R.F.



Vertical table with 4 columns: REVISIONS, APPROV, BY, DATE, NO.

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X. EARTHWORK AND COMPACTION

A. GENERAL

1. NONE OF THE EXISTING MATERIAL IS TO BE INCORPORATED IN THE LIMEROCK BASE.
2. ALL SUBGRADE UNDER PAVED AREAS SHALL HAVE A MINIMUM LBR VALUE OF 40 AND SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
3. ALL FILL MATERIAL IN AREAS NOT TO BE PAVED SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
4. A 2" BLANKET OF TOP SOIL SHALL BE PLACED OVER ALL AREAS TO BE SODDED.
5. SOD SHALL BE ST. AUGUSTINE, BITTER BLUE OR FLORATAM AND SHALL BE PLACED ON THE GRADED TOP SOIL AND WATERED TO INSURE SATISFACTORY CONDITION UPON FINAL ACCEPTANCE OF THE PROJECT.
6. WHEN WORKING IN AND AROUND EXISTING DRAINAGE CANALS OR LAKES, APPROPRIATE SILT BARRIERS SHALL BE INSTALLED.

A. ON-SITE:

1. ALL ORGANIC AND OTHER UNSUITABLE MATERIAL WITHIN THREE FEET OF AREAS TO BE PAVED SHALL BE REMOVED.
2. SUITABLE BACKFILL SHALL BE MINIMUM LBR 40 MATERIAL COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 FOR THREE (3) FEET BEYOND THE PERIMETER OF THE PAVING.

XI. STORM DRAINAGE

A. CONTRACTOR MAY UTILIZE ONE OF THE FOLLOWING MATERIALS.

1. ALUMINUM:

- A. PIPE SHALL BE ALUMINUM, MANUFACTURED IN CONFORMANCE WITH ASTM B209.
- B. PIPE SHALL BE SPIRAL RIB DRAINAGE PIPE WITH 3/4" BY 3/4" RIBS, APPROXIMATELY 7-1/2" ON CENTER. GAUGE THICKNESS SHALL MEET FDOT STANDARD 945-1.
- C. PIPE COUPLING BANDS SHALL BE 12" WIDE STANDARD SPLIT BANDS OF THE SAME ALLOY AS THE PIPE AND MAY BE ONE GAUGE LIGHTER THAN THE PIPE.
- D. POLYURETHANE OR OTHER SEALANT SHALL BE USED WITH COUPLING BANDS ON ALL NON-PERFORATED PIPE.

2. REINFORCED CONCRETE PIPE (RCP):

CONCRETE PIPE FOR STORM SEWERS SHALL CONFORM TO ASTM L70-79, TABLE III, WALL B, OR LATEST REVISION. ALL PIPE SHALL HAVE MODIFIED TONGUE AND GROOVE JOINTS, AND HAVE RUBBER GASKETS, UNLESS OTHERWISE SPECIFIED.

3. POLYPROPYLENE PIPE (PPP):

POLYPROPYLENE PIPE SHALL HAVE A SMOOTH INTERIOR AND ANNULAR EXTERIOR CORRUGATIONS. MANNING'S "N" VALUE FOR USE IN DESIGN SHALL BE 0.012. POLYPROPYLENE PIPE MEETS OR EXCEEDS AASHTO M330 OR ASTM F2881 (12"-60"). PIPE SHALL BE JOINED BY WATERTIGHT, GASKETED INTEGRAL BELL, REINFORCED BY A POLYMER COMPOSITE BAND & SPIGOT. THE JOINT SHALL BE WATERTIGHT ACCORDING TO THE REQUIREMENTS OF ASTM D3212. POLYPROPYLENE COMPOUND SHALL BE IMPACT MODIFIED COPOLYMER MEETING AASHTO M330 OR ASTM F2881 (12"-60"). INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321.

4. MISCELLANEOUS:

- A. BEDDING AND INITIAL BACKFILL OVER DRAINAGE PIPES SHALL BE SAND WITH NO ROCK LARGER THAN 1" DIAMETER.
- B. BACKFILL MATERIAL UNDER PAVED AREAS SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
- C. BACKFILL MATERIAL UNDER AREAS NOT TO BE PAVED SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180.
- D. CATCH BASINS SHALL BE PRECAST MINIMUM 3000 PSI CONCRETE AND GRADE 40 REINFORCED STEEL.

5. INSTALLATION:

- A. PIPE SHALL BE PLACED ON STABLE GRANULAR MATERIAL FREE OF ROCK FORMATION OTHER FOREIGN FORMATIONS, AND CONSTRUCTED TO UNIFORM GRADE AND LINE.
- B. BACKFILL MATERIAL SHALL BE WELL GRADED GRANULAR MATERIAL WELL TAMPED IN LAYERS NOT TO EXCEED SIX INCHES (6").
- C. PROVIDE A MINIMUM PROTECTIVE COVER OF 18 INCHES OVER STORM SEWER AND AVOID UNNECESSARY CROSSING BY HEAVY CONSTRUCTION VEHICLES DURING CONSTRUCTION.
- D. THE CONTRACTOR SHALL NOTIFY THE LOCAL WATER CONTROL DISTRICT AT LEAST 24 HOURS PRIOR TO THE START OF THE CONSTRUCTION AND INSPECTION.

XII. STORM DRAINAGE PRE-TREATMENT/EXFILTRATION SYSTEM

- A. ANY CONFLICT WITH EXISTING OR PROPOSED UTILITIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER. ANY IMPERMEABLE MATERIAL ENCOUNTERED IN THE EXCAVATION FOR THE DRAIN FIELD SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
- B. THE TRENCH LINER SHALL BE TYPAR SPUN BONDED POLYPROPYLENE FILTER FABRIC AS MANUFACTURED BY THE DUPONT COMPANY, OR APPROVED EQUAL. IT SHALL BE USED ON THE SIDES AND TOP OF DRAIN FIELD DITCH. THE TOP SECTION OF THE MATERIAL SHALL BE LAPPED A MINIMUM OF 24 INCHES AND THE CONTRACTOR SHALL TAKE EXTREME CARE IN BACKFILLING TO AVOID BUNCHING OF THE FABRIC.
- C. PERFORATED PIPE WITHIN THE DRAIN FIELD SHALL HAVE 3/8 INCH PERFORATIONS 360° AROUND THE PIPE WITH APPROXIMATELY 120 PERFORATIONS PER FOOT OF PIPE.
- D. PERFORATED PIPE SHALL TERMINATE FIVE FEET (5') FROM THE DRAINAGE STRUCTURE. THE REMAINING FIVE FEET (5') SHALL BE NON-PERFORATED PIPE.
- E. PIPES SHALL TERMINATE TWO FEET (2') FROM THE END OF THE TRENCH OR CONNECT TO ADDITIONAL CATCH BASINS.

XIII. PAVING

A. GENERAL:

1. ALL UNDERGROUND UTILITIES SHALL BE COMPLETED PRIOR TO THE CONSTRUCTION OF LIMEROCK BASE AND PRIOR TO PLACEMENT OF THE PAVEMENT.
2. ALL EXISTING PAVEMENT CUT OR DAMAGED BY CONSTRUCTION SHALL BE PROPERLY RESTORED AT THE CONTRACTOR'S EXPENSE.
3. WHERE PROPOSED PAVEMENT IS TO BE CONNECTED TO EXISTING PAVEMENT, THE EXISTING EDGE OF PAVEMENT SHALL BE SAW CUT.
4. ALL STREET CORNER PAVEMENT RADII SHALL BE 40 FEET UNLESS OTHERWISE NOTED ON THE PLANS.
5. UPON COMPLETION OF DRAINAGE IMPROVEMENTS AND LIMEROCK BASE CONSTRUCTION (AND BEFORE PLACING ASPHALT PAVEMENT) THE CONTRACTOR SHALL FURNISH THE ENGINEER OF RECORD AND THE CITY OF PORT ST. LUCIE "AS-BUILT" PLANS FOR THESE IMPROVEMENTS, SHOWING THE LOCATIONS AND THE PERTINENT GRADES OF ALL DRAINAGE INSTALLATIONS AND THE FINISHED ROCK GRADES OF THE ROAD CROWN AND EDGE OF PAVEMENT AT 50 FEET INTERVALS. THESE "AS-BUILTS" SHALL BE APPROVED BY THE CITY PRIOR TO THE PLACEMENT OF ASPHALT.

B. MATERIALS:

1. BASE COURSE SHALL BE CRUSHED LIMEROCK MIAMI OOLITE WITH A MINIMUM OF 70% CARBONATES OF CALCIUM AND MAGNESIUM (60% FOR LOCAL STREETS AND PARKING AREAS) AND A MINIMUM LIMEROCK BEARING RATIO 100.
2. PRIME COAT AND TACK COAT SHALL MEET F.D.O.T. STANDARDS.
3. SURFACE COURSE SHALL BE EQUAL TO F.D.O.T. SP 9.5 ASPHALT.
4. REINFORCED CONCRETE SLABS SHALL BE CONSTRUCTED OF CLASS I CONCRETE WITH A MINIMUM STRENGTH OF 3,000 PSI AND SHALL BE REINFORCED WITH A 6" X 6" NO. 6 GAUGE WIRE MESH.

C. INSTALLATION:

1. LIMEROCK BASE MATERIAL SHALL BE 8 INCHES THICK AND SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY AASHTO T180-C.
2. LIMEROCK BASE MATERIAL SHALL BE PLACED IN MAXIMUM 6" LIFTS. BASES GREATER THAN 6" SHALL BE PLACED IN TWO OR MORE EQUAL LIFTS.
3. ASPHALTIC CONCRETE SHALL BE A MINIMUM OF 1" THICK AND SHALL BE PLACED TWO 1" LIFTS. (NOTE: SECOND LIFT TO BE PLACED AFTER A MINIMUM OF 80% OF THE HOUSES HAVE BEEN COMPLETED OR AS DIRECTED BY THE CITY ENGINEER..)
4. PRIME COAT SHALL BE PLACED ON ALL LIMEROCK BASES IN ACCORDANCE WITH F.D.O.T. STANDARDS.
5. TACK COAT SHALL BE PLACED AS REQUIRED IN ACCORDANCE WITH F.D.O.T. STANDARDS.

D. TESTING:

- ALL SUBGRADE, LIMEROCK AND ASPHALT TESTS REQUIRED SHALL BE TAKEN AT THE DIRECTION OF THE ENGINEER AND/OR THE CITY OF PORT ST. LUCIE.
1. THE FINISHED SURFACE OF THE BASE COURSE AND THAT OF THE WEARING SURFACE SHALL NOT VARY MORE THAN 1/4" FROM THE TEMPLATE. ANY IRREGULARITIES EXCEEDING THIS LIMIT SHALL BE CORRECTED.
 2. DENSITY TESTS SHALL BE TAKEN BY AN INDEPENDENT TESTING LABORATORY, CERTIFIED BY THE STATE OF FLORIDA, AND TAKEN AS DIRECTED BY THE ENGINEER AND THE CITY OF PORT ST. LUCIE.
 3. ALL TESTING COSTS (PAVING) SHALL BE PAID FOR BY THE OWNER EXCEPT THOSE TESTS FAILING TO MEET THE SPECIFIED REQUIREMENTS, WHICH ARE TO BE PAID BY THE CONTRACTOR.

XIV. SIGNING AND MARKING

- A. ALL STRIPING AND SIGNAGE SHALL BE IN ACCORDANCE WITH FDOT AND LATEST EDITION OF MUTCD.

					REVISIONS
					APRV
					BY
					DATE
					NO

BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

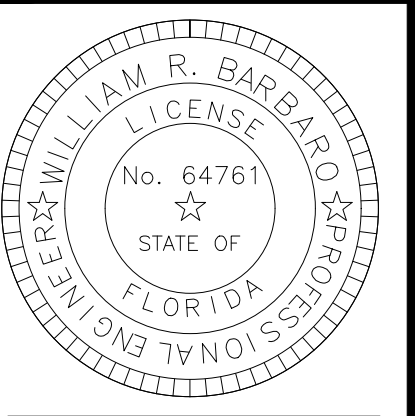
GENERAL NOTES & SPECIFICATIONS



CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
PHONE: (954) 972-3859 FAX: (954) 972-4178
FILE NO. 190214
CPC AUTH. NO. 00002936

SCALE:	N.T.S.
DATE:	12/08/21
DRAWN BY:	R.P.
CHECKED BY:	W.R.B
DESIGNED BY:	R.F.

GN-2



SITE DATA	
TOTAL SITE AREA	2,953,723 sf (67.81ac)
FUTURE LAND USE	NCD
CURRENT ZONING	MPUD
PROPOSED ZONING	MPUD
PARCEL ID	4315-700-0032-000-1
TOTAL LOTS IN PHASE I	150** units
62'X140' LOTS	76** units (50.67%)
72'X140' LOTS	74 units (49.33%)
DENSITY	2.21** DU/ac
BUILDING SETBACK	
FRONT BUILDING SETBACK	18'
SIDE BUILDING SETBACK	6'
REAR BUILDING SETBACK	10'

**DUE TO A TEMPORARY ACCESS TO THE SITE, THIS LOT WILL NOT BE DEVELOPED DURING THIS PROJECT PHASE. LOT WILL BE DEVELOPED UPON COMPLETION OF PHASE 2 OF THE PROJECT WHEN A PERMANENT SECONDARY ENTRANCE WILL BE AVAILABLE FOR EMERGENCY ACCESS.

LAND USE TABLE	Phase 1								
	GHO HOMES			BECKER ROAD			TOTAL (GHO HOMES + BECKER ROAD)		
AREA DESIGNATION	S.F.	ACRE	PERCENT	S.F.	ACRE	PERCENT	S.F.	ACRE	PERCENT
GROSS SITE AREA	2,953,723	67.81	100.00 %	409,028	9.39	100.00 %	3,362,751	77.20	100.00 %
PERVIOUS AREA	1,326,402	30.45	44.91 %	142,877	3.28	34.93 %	1,469,279	33.73	43.69 %
IMPERVIOUS AREA *	1,087,693	24.97	36.82 %	265,716	6.10	64.96 %	1,353,409	31.07	40.25 %
BUILDING	670,388	15.39	22.70 %	0	0.00	0.00 %	670,388	15.39	19.94 %
PAVEMENT	417,305	9.58	14.13 %	265,716	6.10	64.96 %	683,021	15.68	20.31 %
WATER MANAGEMENT	539,708	12.39	18.27 %	0	0.00	0.00 %	539,708	12.39	16.05 %
PERVIOUS / IMPERVIOUS RATIO	1.22			0.54			1.09		

* DOES NOT INCLUDE STORMWATER MANAGEMENT PONDS.

DESCRIPTION	FOUND (YES/NO)	AGENCY CONTACT INFORMATION	MANAGEMENT PLAN (YES/NO)	RELOCATION PLAN (YES/NO)
WETLANDS	NO	N/A	N/A	N/A
RARE HABITAT	NO	N/A	N/A </td <td>N/A</td>	N/A
THREATENED SPECIES	NO	N/A	N/A	N/A
ENDANGERED SPECIES	NO	N/A	N/A	N/A
SPECIES OF SPECIAL CONCERN	NO	N/A	N/A	N/A
INVASIVE/EXOTIC VEGETATION	YES	N/A	N/A	N/A

ENVIRONMENTAL SITE ASSESSMENT

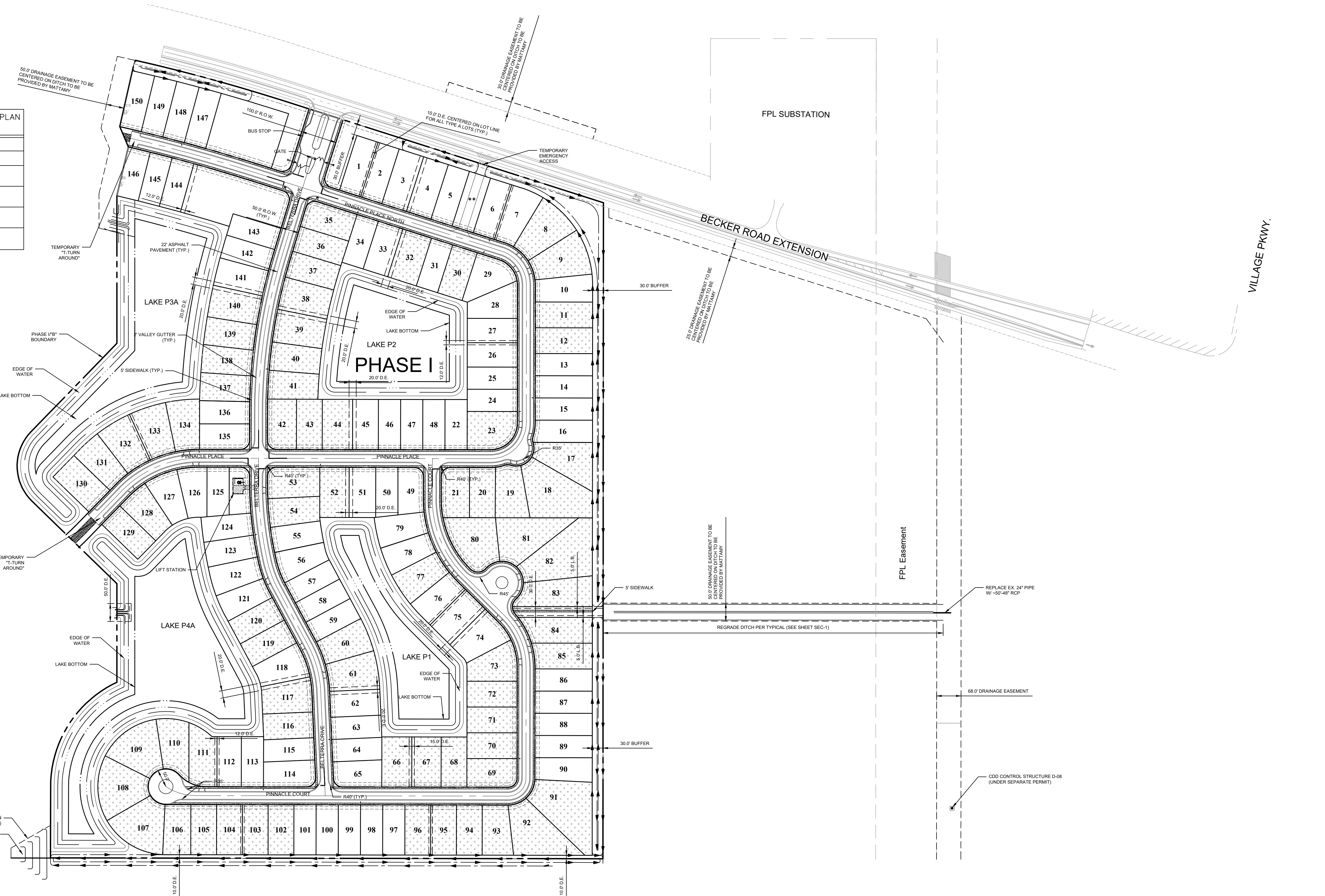
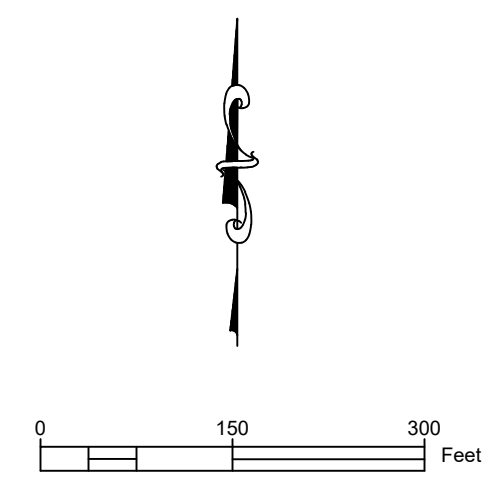
LISTED SPECIES WERE NOT OBSERVED DURING THIS EVENT, HOWEVER BASED ON THE HABITAT BEING PRESENT AND THE CRESTED CARACARA CONSULTATION AREA, IT IS RECOMMENDED THAT A SURVEY FOR THIS SPECIES BE CONDUCTED DURING THE ACTIVE NESTING SEASON (JANUARY - APRIL). NO NATIVE HABITAT WAS OBSERVED ON SITE.

NOTES:

- EACH LOT TO HAVE WATER AND SEWER SERVICES.
- THE PROPERTY OWNER, CONTRACTOR, AND AUTHORIZED REPRESENTATIVES SHALL PROVIDE PICKUP, REMOVAL, AND DISPOSAL OF LITTER WITHIN THE PROJECT LIMITS AND SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE AREA FROM THE EDGE OF PAVEMENT TO THE PROPERTY LINE WITHIN THE CITY'S RIGHT-OF-WAY IN ACCORDANCE WITH CITY CODE, SECTION 41.08 (G).

Legend

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- 62' x 140' LOTS
- 72' x 140' LOTS
- D.E. DRAINAGE EASEMENT
- L.B. LANDSCAPE BUFFER



FUTURE PHASE II

BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

SITE PLAN



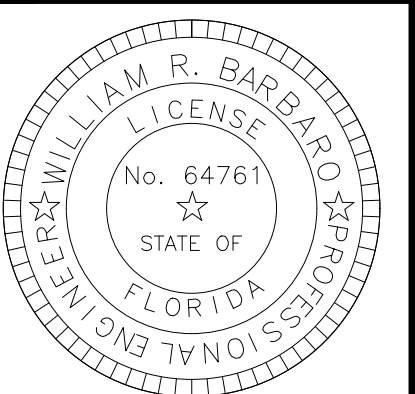
CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
PHONE: (954) 972-3859 FAX: (954) 972-4178

FILE NO. 190214

CPC AUTH. NO. 000202936

SCALE: AS SHOWN
DATE: 12/08/21
DRAWN BY: R.P.
CHECKED BY: W.R.B.
DESIGNED BY: R.F.

SP-1



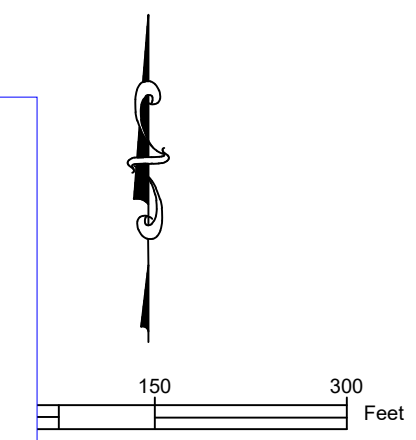
CITY OF PORT ST. LUCIE
PROJECT NO. P23-147
PSLUSD FILE NO. 5336

WILLIAM R. BARBARO, P.E.
FL. REGISTRATION NO. - 64761

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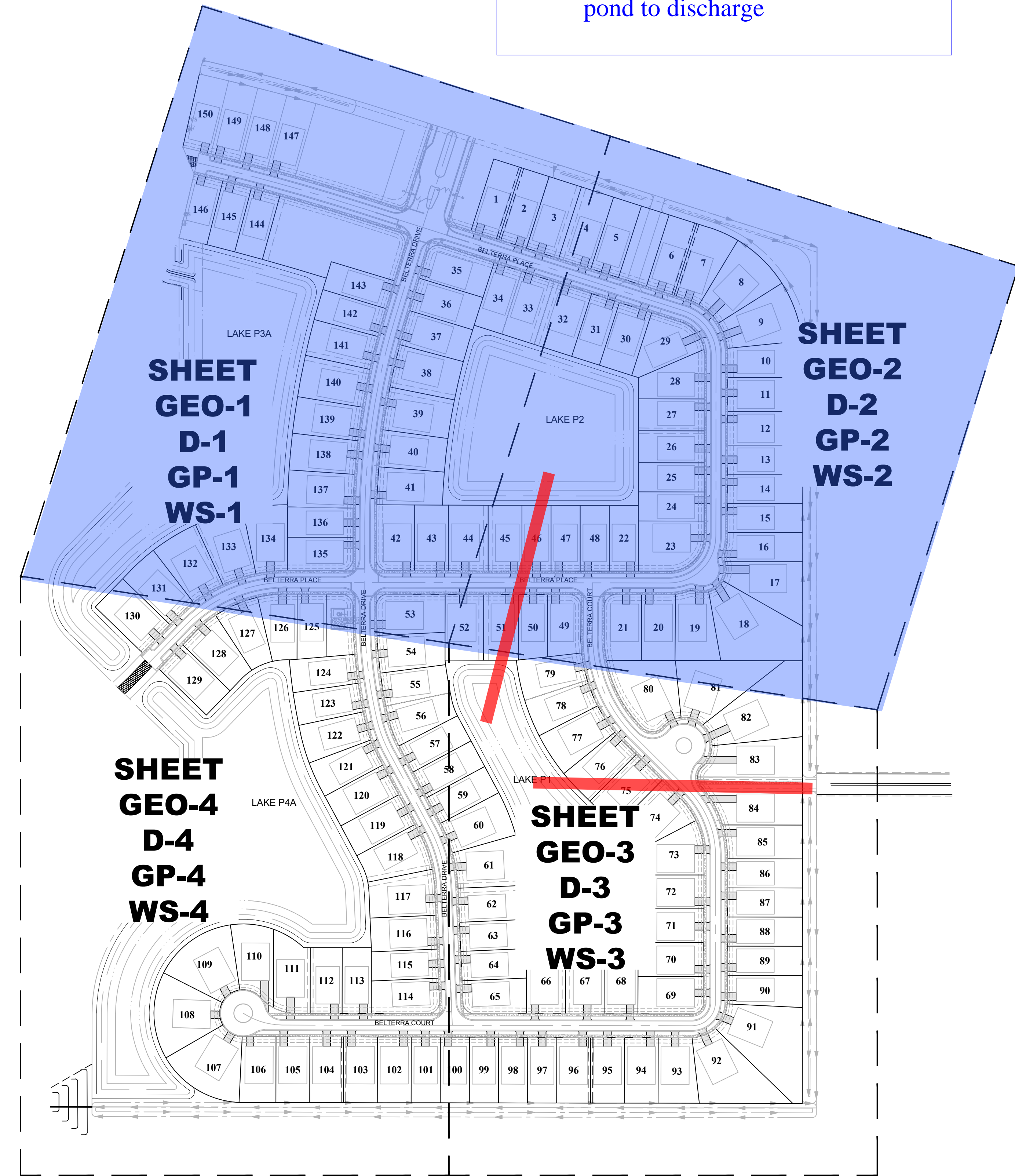
Legend:

- Sheets of Phase 1
- Outfall/interconnect Stormwater route from the model area pond to discharge



Legend		Legend	
Exist.	Prop.	Exist.	Prop.
	PROPERTY LINE		CONCRETE PAVEMENT
	PROJECT LIMIT LINE		HEAVY DUTY PAVEMENT
	RIGHT-OF-WAY/PROPERTY LINE		RIPRAP
	EASEMENT		CONSTRUCTION ENTRANCE
	BUILDING SETBACK		TOP & BOTTOM OF CURB ELEVATION
	BASELINE		SPOT ELEVATION
	CONSTRUCTION LAYOUT		TOP & BOTTOM OF WALL ELEVATION
	ZONING LINE		BORING LOCATION
	TOWN LINE		TEST PIT LOCATION
	LIMIT OF DISTURBANCE		MONITORING WELL
	WETLAND LINE WITH FLAG		UNDERDRAIN
	FLOODPLAIN		OVERFLOW DRAIN
	BORDERING LAND SUBJECT TO FLOODING		DRAINAGE LINE
	WETLAND BUFFER ZONE		ROOF DRAIN
	NO DISTURB ZONE		SEWER LINE
	200' RIVERFRONT AREA		OVERHEAD WIRE
	GRAVEL ROAD		WATER LINE
	EDGE OF PAVEMENT		FIRE PROTECTION LINE
	BITUMINOUS CURB		DOMESTIC WATER LINE
	CONCRETE CURB		GAS LINE
	CAPE COD BERM		UNDERGROUND ELECTRIC
	EXTRUDED CONCRETE CURB		TELEPHONE LINE
	MONOLITHIC CONCRETE CURB		FIRE ALARM
	PRECAST CONC. CURB		CABLE TV
	SLOPED GRAN. EDGING		CATCH BASIN
	VERT. GRAN. CURB		DOUBLE CATCH BASIN
	LIMIT OF CURB TYPE		GUTTER INLET
	SAWCUT		DRAIN MANHOLE
	BUILDING		TRENCH DRAIN
	BUILDING ENTRANCE		PLUG OR STUB
	LOADING DOCK		FLARED END SECTION
	BOLLARD		HEADWALL
	DUMPSTER PAD		SEWER MANHOLE
	SIGN		CURB STOP
	DOUBLE SIGN		WATER GATE
	STEEL GUARDRAIL		TAPPING SLEEVE & VALVE
	WOOD GUARDRAIL (SQUARE POST)		SIAMESE CONNECTION
	WOOD GUARDRAIL (ROUND POST)		FIRE HYDRANT
	PATH		WATER METER
	TREE LINE		POST INDICATOR VALVE
	WIRE FENCE		WATER WELL
	CHAIN LINK FENCE		GAS GATE
	POST AND RAIL FENCE		GAS METER
	STOCKADE FENCE		ELECTRIC MANHOLE
	STONE WALL		ELECTRIC METER
	RETAINING WALL		LIGHT POLE
	STREAM / POND / WATER COURSE		TELEPHONE MANHOLE
	DETENTION BASIN		TRANSFORMER PAD
	HAY BALES		UTILITY POLE
	SILT FENCE		GUY POLE
	MINOR CONTOUR		GUY WIRE & ANCHOR
	MAJOR CONTOUR		WOOD POWER POLE
	PARKING COUNT		CONCRETE POWER POLE
	COMPACT PARKING STALLS		METAL POWER POLE
	DOUBLE YELLOW LINE		HAND HOLE
	STOP LINE		PULL BOX
	CROSSWALK		
	ACCESSIBLE CURB RAMP		
	HANDICAP PARKING		
	VAN-ACCESSIBLE HANDICAP PARKING		
Matchline - See Plan		MATCHLINE	

Abbreviations	
General	
ABAN	ABANDON
ACR	ACCESSIBLE CURB RAMP
ADJ	ADJUST
APPROX	APPROXIMATE
BIT	BITUMINOUS
BS	BOTTOM OF SLOPE
CONC	CONCRETE
EL	ELEVATION
ELEV	ELEVATION
EXIST	EXISTING
F&I	FURNISH AND INSTALL
FDN	FOUNDATION
FG	FINISH GRADE
GRAN	GRANITE
GTD	GRADE TO DRAIN
LA	LANDSCAPE AREA
MAX	MAXIMUM
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PERF	PERFORATED
PROP	PROPOSED
REM	REMOVE
RET	RETAIN
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
TS	TOP OF SLOPE
TYP	TYPICAL
Utility	
ACOMP	ASPHALT COATED CORRUGATED METAL PIPE
B.O.	BLOWOFF
CAP	CORRUGATED ALUMINUM PIPE
C&C	CUT AND CAPPED
CIP	CAST IRON PIPE
CIT	CHANGE IN TYPE
COND	CONDUIT
DI	DUCTILE IRON PIPE
FES	FLARED END SECTION
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
GT	GREASE TRAP
HH	ELECTRIC HANDHOLE
HW	HEADWALL
HYD	HYDRANT
INV	INVERT ELEVATION
I=	INVERT ELEVATION
PWW	PAVED WATER WAY
PVC	POLYVINYLCHLORIDE PIPE
P.U.E.	PUBLIC UTILITY EASEMENT
P.O.S.	POINT OF SERVICE
RCP	REINFORCED CONCRETE PIPE
R=	RIM ELEVATION
SEP.	SEPARATION
TSV	TAPPING SLEEVE, VALVE AND BOX
U.E.	UTILITY EASEMENT
UP	UTILITY POLE



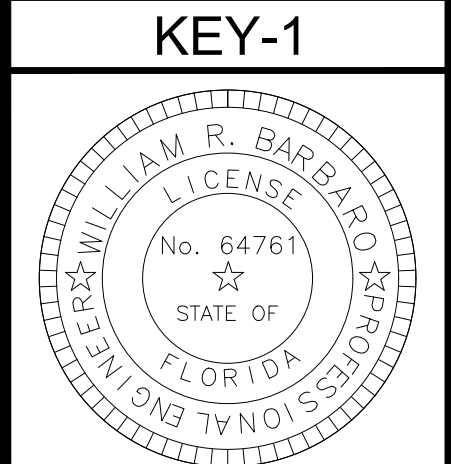
BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

LEGEND, ABBREVIATIONS & KEY
SHEET



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PHONE: (954) 972-3859 FAX: (954) 972-4178
CPCG AUTH. NO. 000029398

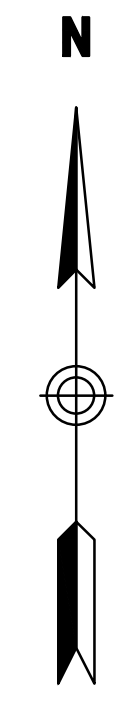
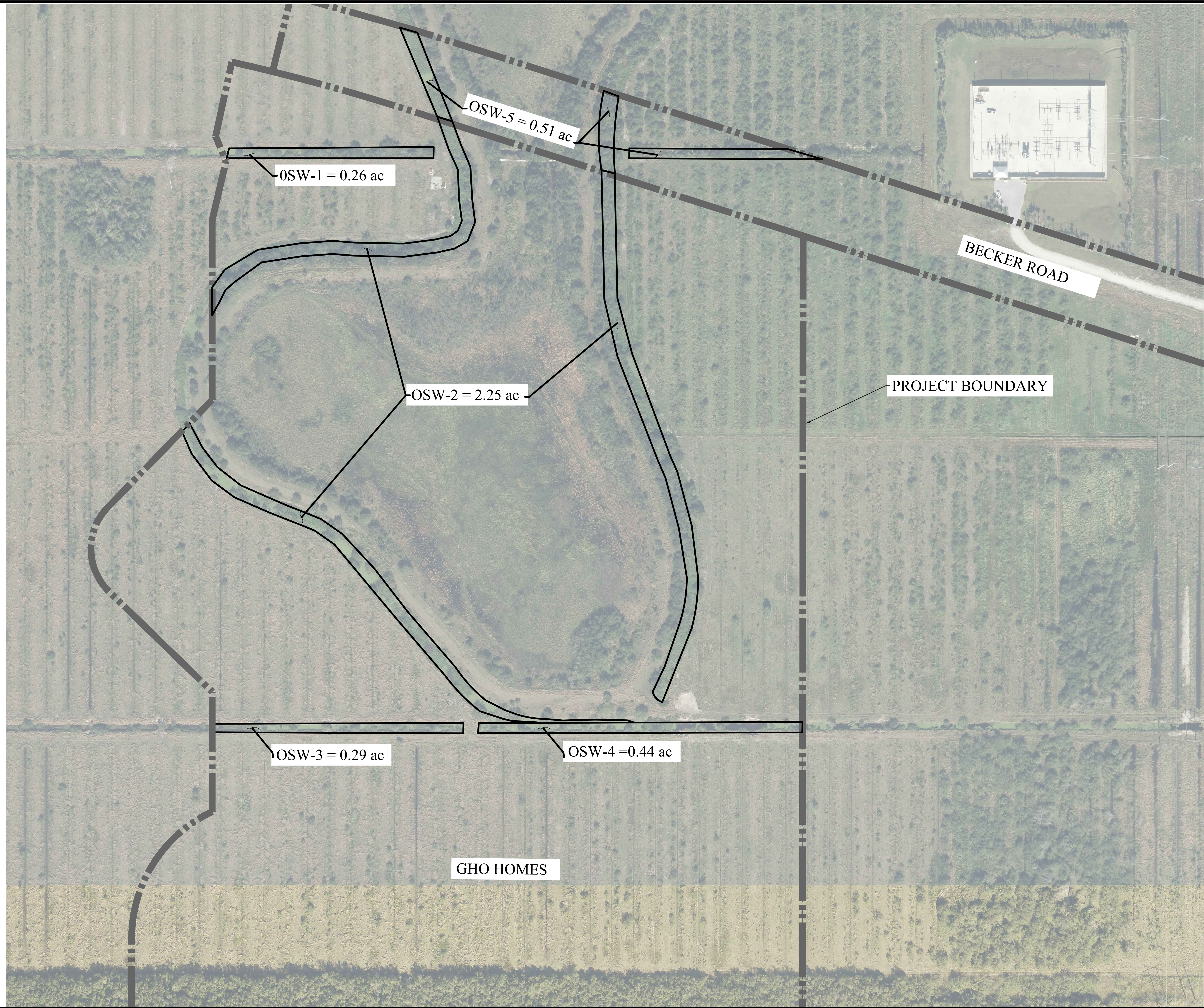
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DATE:	12/08/21
DRAWN BY:	R.P.
CHECKED BY:	W.R.B
DESIGNED BY:	R.F.



WILLIAM R. BARBARO, P.E.
FL. REGISTRATION NO. - 64761

CITY OF PORT ST. LUCIE
PROJECT NO. P23-147
PSLUSD FILE NO. 5336

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GHO HOMES	
OSW-1	0.26 ac
OSW-2	2.25 ac
OSW-3	0.29 ac
OSW-4	0.44 ac
Total	3.24 ac

BECKER ROAD	
OSW-5	0.51 ac
Total	0.51 ac



NO	DATE	BY	REVISIONS

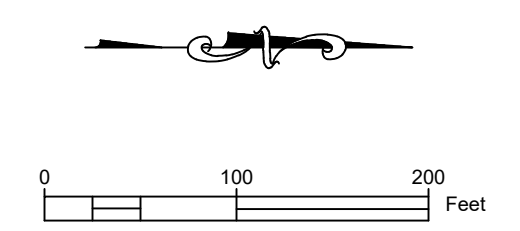
BELTERRA PHASE 1 AT SOUTHERN GROVE
 PORT ST. LUCIE COUNTY, FL
ENVIRONMENTAL CONSIDERATION PLAN

SCALE:
 DATE: 12/08/21
 DRAWN BY: R.P.
 CHECKED BY: W.R.B.
 DESIGNED BY: R.F.

ECP-1

WILLIAM R. BARBARO, P.E.
 FL. REGISTRATION NO. - 64761

2/09/21 P:\Projects_2019\Deerfield Shore\Southern Grove\cod\ld\Pionset\190214-EC.dwg



Legend

- PROPERTY LINE
- SF SILT FENCE
- IP INLET PROTECTION
- TB FLOATING TURBIDITY BARRIER
- CE CONSTRUCTION ENTRANCE/ SOIL TRACKING PREVENTION

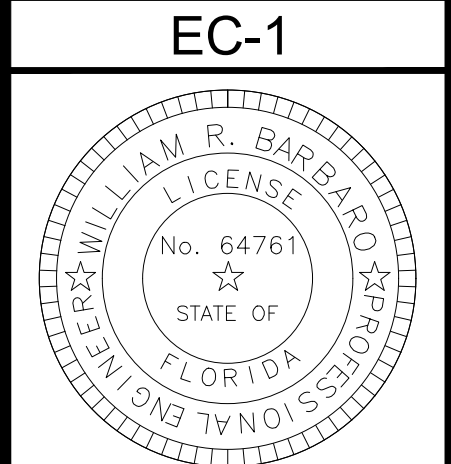
NO	DATE	BY	APRV	REVISIONS

**BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL**

EROSION & SEDIMENT CONTROL PLAN

CARNAHAN PROCTOR & CROSS
 CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
 814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
 PHONE: (954) 972-3859 FAX: (954) 972-4178
 CPG AUTH. NO. 00002936

SCALE:	AS SHOWN
DATE:	12/08/21
DRAWN BY:	R.P.
CHECKED BY:	W.R.B
DESIGNED BY:	R.F.



Section 1	Project Name and location information:	GHO Homes at Southern Grove Located at the south west intersection of Becker Road and Village Parkway in the City of Port St. Lucie.
Section 2	Describe the nature of the construction activity:	Construction activity consists of a new development located west of the intersection of Becker Road and SW Village Pkwy Dr. in Port St. Lucie, St. Lucie County, Florida.
Section 3	Describe the intended sequence of major soil disturbing activities:	1. Placement of all erosion control devices. 2. Clearing and grubbing, earthwork. 3. Storm sewer construction. 4. Water and wastewater utility construction. 5. Earthwork associated with roadway, curb, subgrade, base and pavement. 6. Landscaping
Section 4	Total area of the site:	67.80 acres
Section 5	Total area of the site to be disturbed:	67.80 acres
Section 6	Existing data describing the soil or quality of any stormwater discharge from the site:	Before Construction - Agricultural Use: C=0.3 During Construction - Disturbed Uplands & Partial Construction: C = 0.3-0.7 After Construction: C=0.7-0.9
Section 7	Estimate the drainage area size for each discharge point:	The drainage area size is 67.80 acres shown from the single discharge point shown on the plans.
Section 8	Latitude and longitude of each discharge point and identify the receiving water or MS4 for each discharge point:	The ultimate receiving water for stormwater runoff is the South Florida Water Management District (SFWMD) C-23 Canal. There is one discharge point for the project. It is located at Lat. 27°12'22.8" N, Long. 80°24'55.3" W.
Section 9	Give a detailed description of all controls, Best Management Practices (BMPs) and measures that will be implemented at the construction site for each activity identified in the intended sequence of major soil disturbing activities section. Provide time frames in which the controls will be implemented. NOTE: All controls shall be consistent with performance standards for erosion and sediment control and stormwater treatment set forth in s. 62-40.432, F.A.C., the applicable Stormwater or Environmental Resource Permitting requirements of the Department or a Water Management District, and the guidelines contained in the State of Florida Erosion and Sediment Control Designer and Reviewer Manual, FDOT, FDEP, and any subsequent amendments.	The following defines general quantities for the sequence of construction and the use of stabilization and structural practices. The contractor is also responsible for documenting this portion of the SWPPP. The construction of this project is expected to start in February 2020 and end February 2021. Install stabilized construction entrances at all common areas where construction vehicles will be entering and exiting the construction site. The driveways shall be constructed per the Florida Sediment and Erosion Control Manual. Install silt fences, Type III, around all ditch bottom inlets on the project, and the project perimeter. Filter cloth under the grates on catch basins may be used in lieu of a silt fence. Install floating turbidity barriers at the locations as indicated in the Paving and Drainage Plan (discharge points).
Section 10	Describe all temporary and permanent stabilization practices. Stabilization practices include temporary seeding, mulching, permanent seeding, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, vegetative preservations, etc. Temporary: Seed and mulch, and sod. Permanent: All stabilization practices shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily ceased. The contractor is also responsible for documenting this portion of the SWPPP.	
Section 11	Describe all structural controls to be implemented to divert stormwater flow from exposed soils and structural practices to store flows, retain sediment on-site or in any other way limit stormwater runoff. These controls include silt fences, earth dikes, diversions, swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, coagulating agents and temporary or permanent sediment basins. Temporary: Silt Fence in accordance with the Florida Sediment and Erosion Control Manual. Floating turbidity barrier in accordance with the Florida Sediment and Erosion Control Manual. Soil tracking prevention device in accordance with the Florida Sediment and Erosion Control Manual. A stabilized construction entrance to be constructed per the Florida Sediment and Erosion Control Manual. All sediment controls shall be in place prior to any soil disturbing activity upstream of the control.	
Section 12	Describe all sediment basins to be implemented for areas that will disturb 10 or more acres at one time. The sediment basins (or an equivalent alternative) should be able to provide 3,600 cubic feet of storage for each acre drained. Temporary sediment basins (or an equivalent alternative) are recommended for drainage areas under 10 acres. Temporary swales shall be used in construction to provide storage. The pollution prevention plan is a minimum guideline only. Additional BMP's may be necessary at contractor's expense.	
Section 13	Describe all permanent stormwater management controls such as, but not limited to, detention or retention systems or vegetated swales that will be installed during the construction process.	
Section 14	Waste disposal, this may include construction debris, chemicals, litter, and sanitary wastes:	All construction materials and debris will be placed in a dumpster and hauled off site to a landfill or other proper disposal site. No materials will be buried on site.
Section 15	Offsite vehicle tracking from construction entrances/exits:	Off site vehicle tracking of sediments and dust generation will be minimized via a rock construction entrance, street sweeping and the use of water to keep dust down.
Section 16	The proper application rates of all fertilizers, herbicides and pesticides used at the construction site:	Florida-friendly fertilizers and pesticides will be used at a minimum and in accordance with the manufacturer's suggested application rates.

Section 17	The storage, application, generation and migration of all toxic substances:	All paints and other chemicals will be stored in a locked covered shed.
Section 18	Other:	

Section 19	Provide a detailed description of the maintenance plan for all structural and non-structural controls to assure that they remain in good and effective operating condition. Contractor shall provide routine maintenance of permanent and temporary sediment and erosion control features in accordance with the technical specifications or as follows, whichever is more stringent: • Silt fence shall be inspected at least weekly. Any required repairs shall be made immediately. Sediment deposits shall be removed when they reach approximately one-half the height of the barrier. • Maintenance shall be performed on the rock entrance when any void spaces are full of sediment. • Inlet(s)/outfalls shall be inspected immediately after each rain event and any required repairs to the filter inlets, silt fence, or filter fabric shall be performed immediately. • Bare areas of the site that were previously seeded shall be reseeded per manufacturers' instructions. • Mulch and sod that has been washed out shall be replaced immediately. • Maintain all other areas of the site with proper controls as necessary.
Section 20	Inspections: Describe the inspection and inspection documentation procedures, as required by the FDEP NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities. Qualified personnel will inspect all points of discharges, all disturbed areas of construction that have not been stabilized, constructed areas and locations where vehicles enter and exit the site, and all BMPs at least once every 7 calendar days and within 24 hours of the end of a rainfall event that is 0.5 inches or greater. Where sites have been finally stabilized, said inspections shall be conducted at least once every month until the Notice of Termination is filed.
Section 21	Identify and describe all sources of non-stormwater discharges as allowed by the FDEP NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities. The contractor is required to submit a dewatering plan to SFWMD for approval prior to commencement of any construction activities that require dewatering. This plan shall include any stockpile areas and excavation areas. The contractor is responsible for documenting this portion of the SWPPP. If contaminated soil or groundwater is encountered, contact the District Hazardous Materials Coordinator.
Section 22	All contractor(s) and subcontractor(s) identified in the SWPPP must sign the following certification: "I certify under penalty of law that I understand, and shall comply with, the terms and conditions of the State of Florida Generic Permit for Stormwater Discharge from Large and Small Construction Activities and this Stormwater Pollution Prevention Plan prepared thereunder. The document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." Name (Operator and/or Responsible Authority) _____ Date _____

Section 21	Name	Title	Company Name, Address and Phone Number	Date

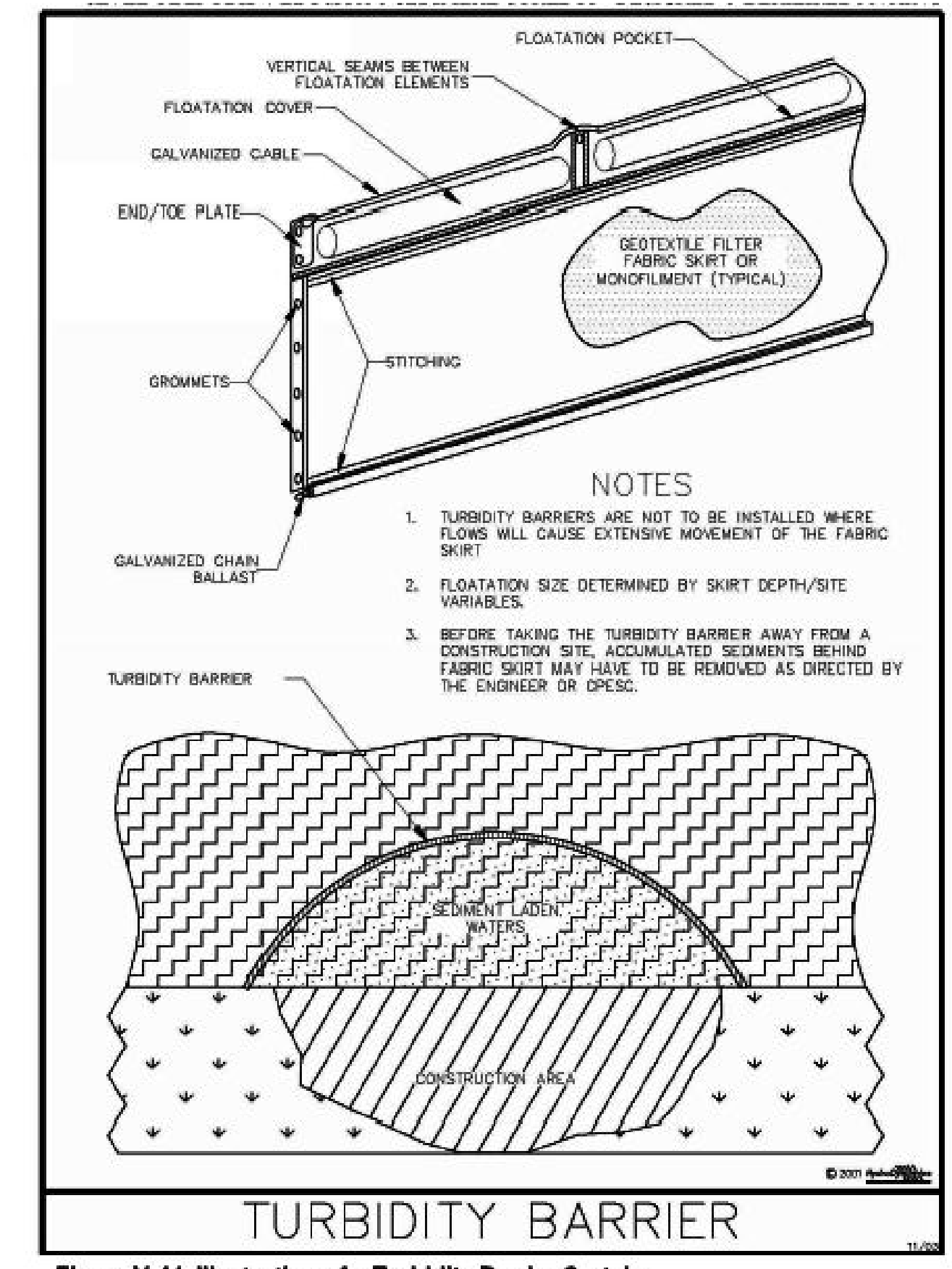


Figure V-44: Illustration of a Turbidity Barrier Curtain
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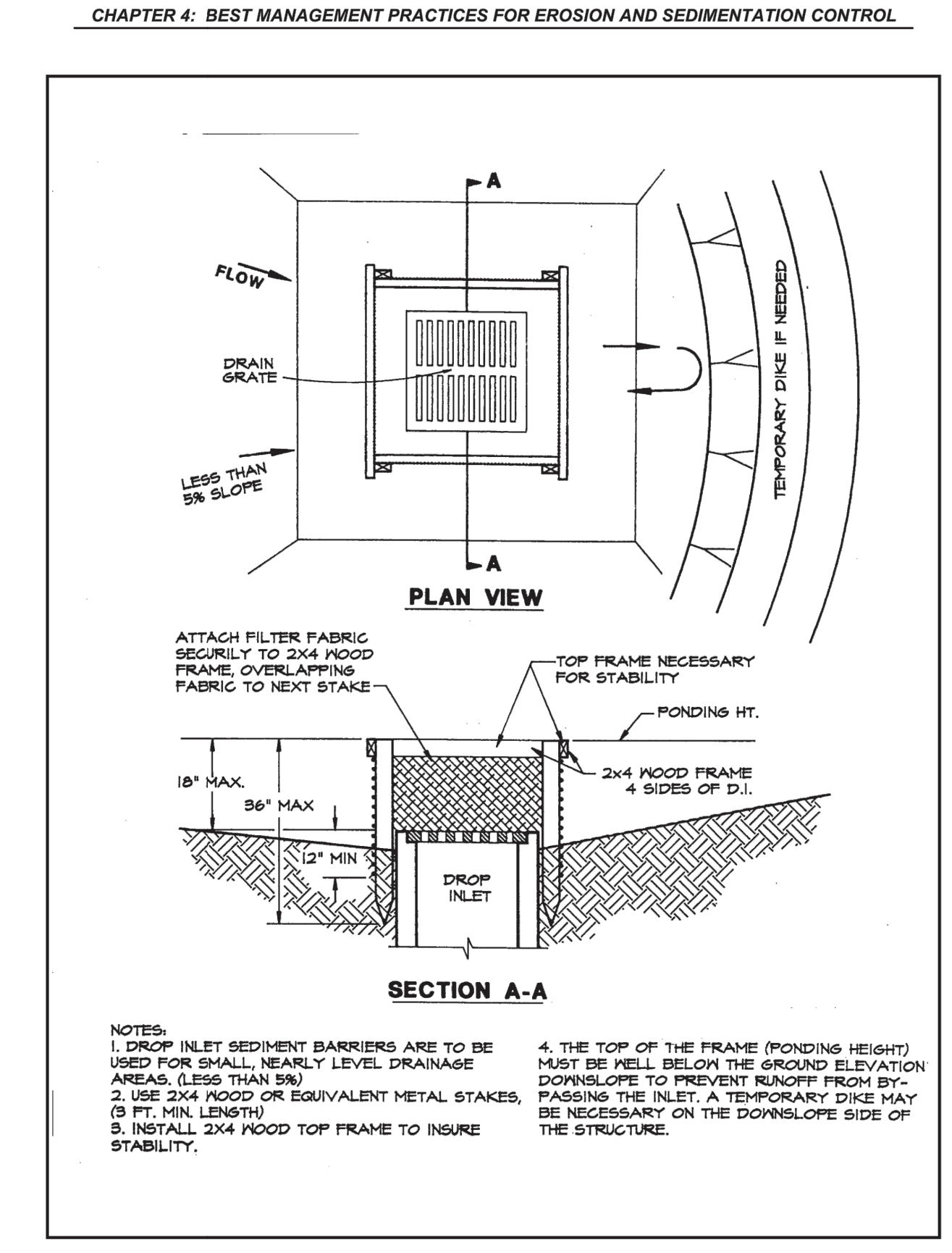


Figure 4.5a: Silt Fence Drop Inlet Sediment Barrier
Source: Erosion Draw

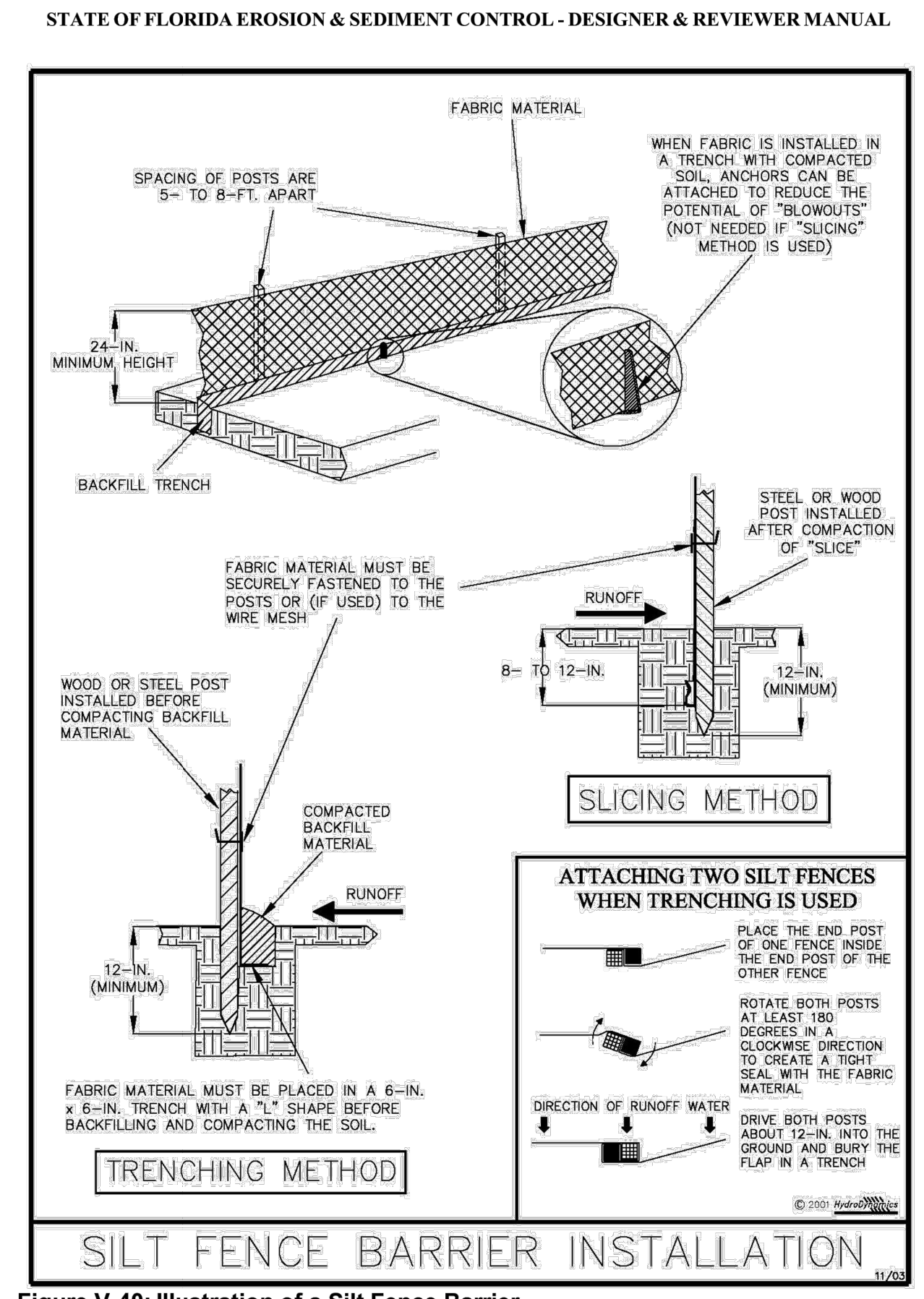


Figure V-40: Illustration of a Silt Fence Barrier
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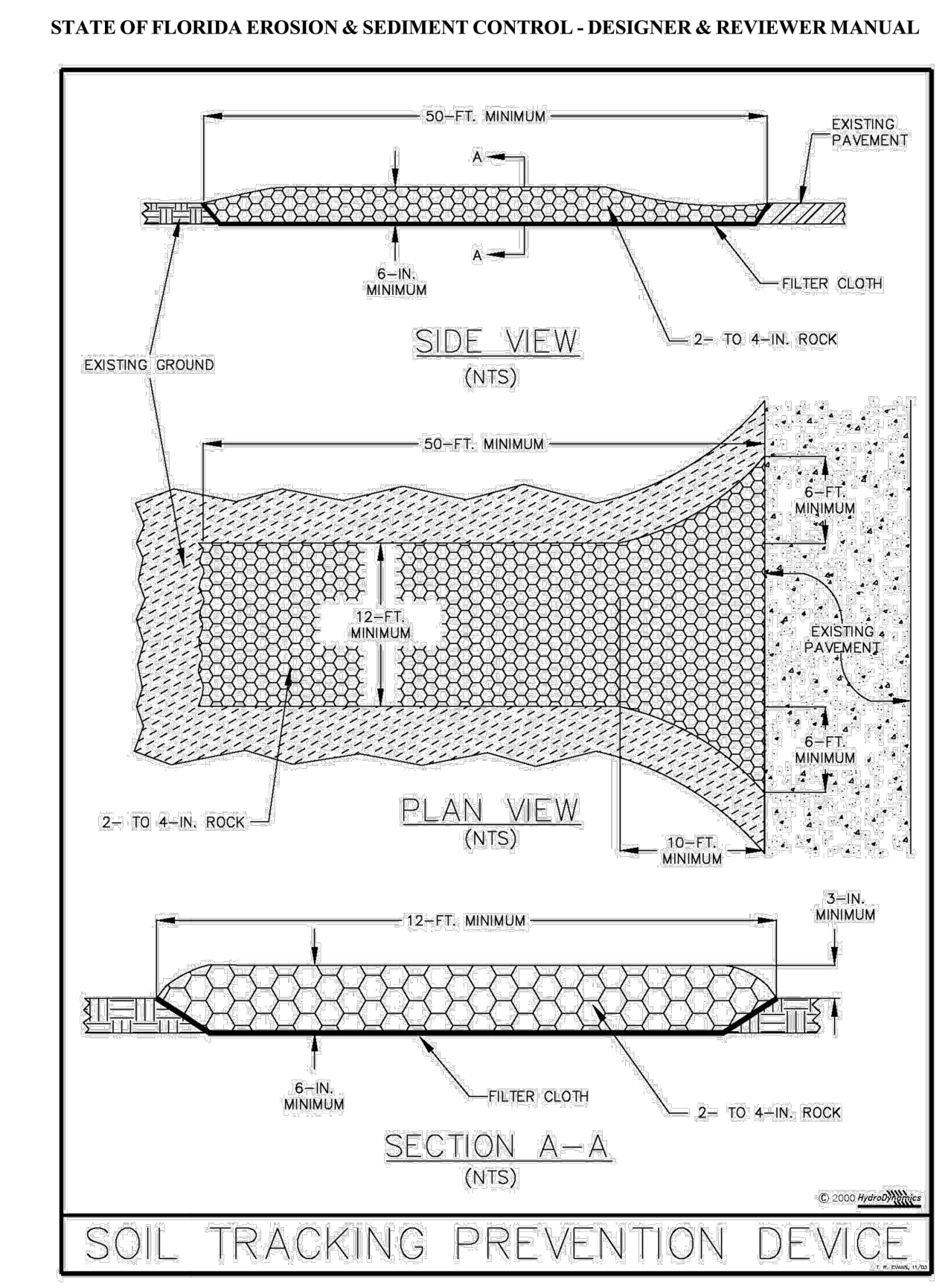


Figure V-52: Illustration of a Soil Tracking Prevention Device
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REVISIONS	APPROVED	DATE	NO.

BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

EROSION & SEDIMENT CONTROL DETAILS

CARNAHAN PROCTOR & CROSS
CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
PHONE: (954) 972-3659 FAX: (954) 972-4178
CPC AUTH. NO. 00020936

SCALE: AS SHOWN
DATE: 12/08/21
DRAWN BY: R.P.
CHECKED BY: W.R.B.
DESIGNED BY: R.F.

EC-2

WILLIAM R. BARBARO, P.E.
LICENSE NO. 64761
STATE OF FLORIDA
PROFESSIONAL ENGINEER

CITY OF PORT ST. LUCIE
PROJECT NO. P23-147
PLSUD FILE NO. 5336

WILLIAM R. BARBARO, P.E.
FL REGISTRATION NO. - 64761

2/09/21 p:\projects_2019\deerfield_shore\southern_grove\cod\190214-PCD.dwg

STRUCTURES TABLE			
NAME/STATION	TYPE	EP	INVERTS
CB #1 STA.102+13.97 OFF:-11.00	GUTTER INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	23.18 (N) 24" 23.18 (S) 30"
CB #2 STA.102+13.94 OFF:-11.00	GUTTER INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	23.28 (S) 24"
CB #3 STA.5+35.09 OFF:11.00	GUTTER INLET TYPE J (5' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.20	22.28 (SE) 36" 20.30 (W) 36"
CB #4 STA.5+62.77 OFF:-11.00	GUTTER INLET TYPE J (5' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.20	22.18 (NW) 36" 20.06 (E) 36"
CB #5 STA.127+12.87 OFF:-11.00	GUTTER INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	23.18 (SE) 24" 23.18 (NW) 24"
CB #6 STA.127+12.87 OFF:-11.00	GUTTER INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	23.28 (NW) 24"
CB #7 STA.108+20.66 OFF:11.00	GUTTER INLET TYPE J (6' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.26	17.10 (N) 42" 17.10 (S) 48"
CB #8 STA.108+14.90 OFF:-11.00	GUTTER INLET TYPE J (5' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	17.20 (S) 42" 18.97 (N) 36"
CB #32 STA.0+12.00 OFF:35.50	CURB INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	29.38	19.70 (E) 18"
CB #33 STA.0+12.38 OFF:-35.51	CURB INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	30.00	19.56 (W) 18" 19.56 (E) 24"

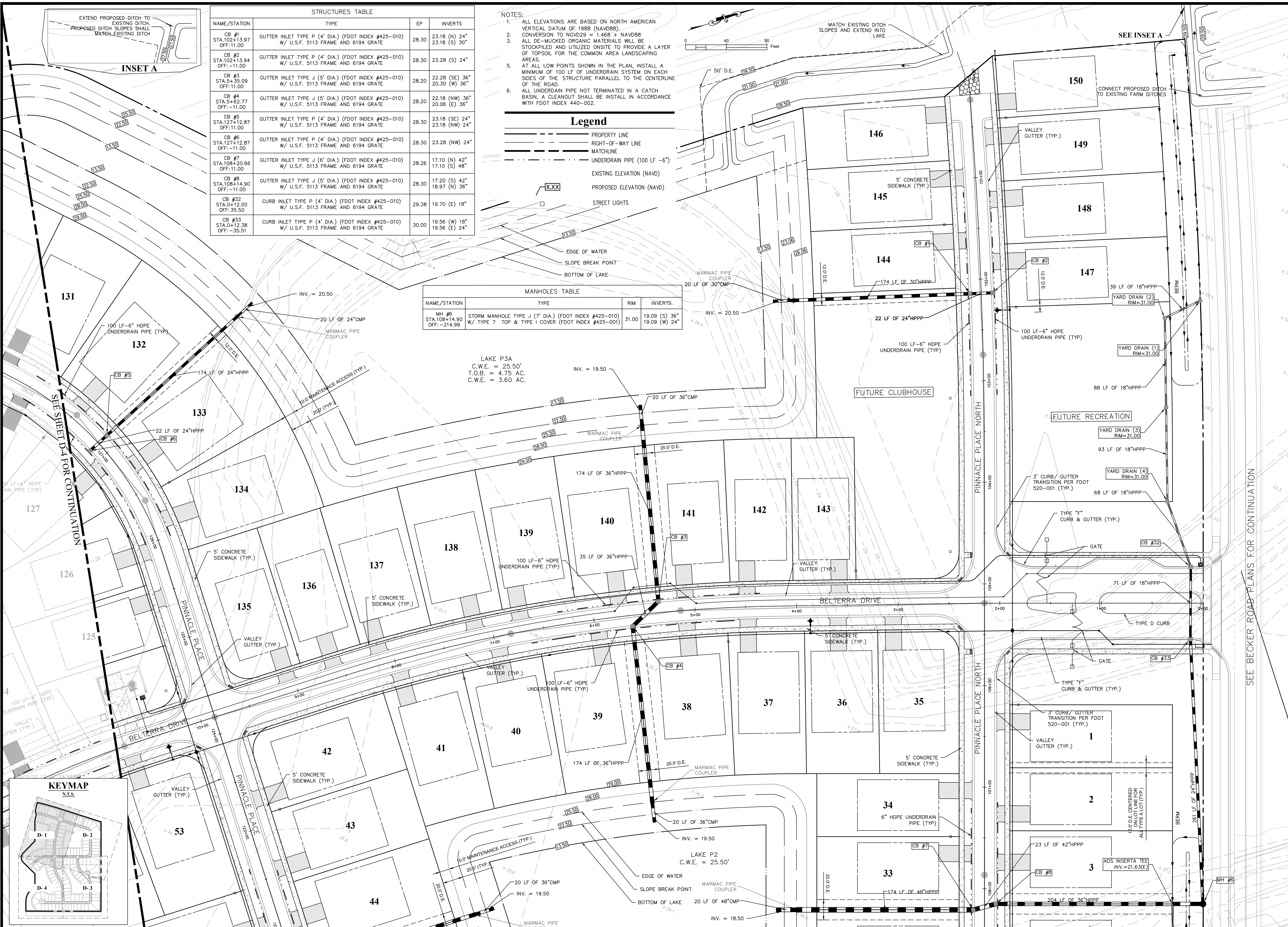
- NOTES:
- ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 - CONVERSION TO NGVD29 = 1.468 + NAVD88
 - ALL DE-MUCKED ORGANIC MATERIALS WILL BE STOCKPILED AND UTILIZED ONSITE TO PROVIDE A LAYER OF TOPSOIL FOR THE COMMON AREA LANDSCAPING AREAS.
 - AT ALL LOW POINTS SHOWN IN THE PLAN, INSTALL A MINIMUM OF 100 LF OF UNDERDRAIN SYSTEM ON EACH SIDES OF THE STRUCTURE PARALLEL TO THE CENTERLINE OF THE ROAD.
 - ALL UNDERDRAIN PIPE NOT TERMINATED IN A CATCH BASIN, A CLEANOUT SHALL BE INSTALL IN ACCORDANCE WITH FDOT INDEX 440-002.

Legend

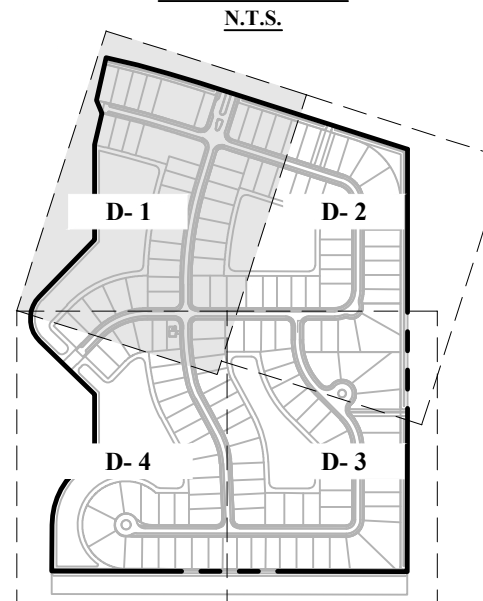
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- MATCHLINE
- UNDERDRAIN PIPE (100 LF -6")
- EXISTING ELEVATION (NAVD)
- PROPOSED ELEVATION (NAVD)
- STREET LIGHTS

MANHOLES TABLE			
NAME/STATION	TYPE	RIM	INVERTS
MH #6 STA.108+14.90 OFF:-214.99	STORM MANHOLE TYPE J (7' DIA.) (FDOT INDEX #425-010) W/ TYPE 7 TOP & TYPE 1 COVER (FDOT INDEX #425-001)	31.00	19.09 (S) 36" 19.09 (W) 24"

LAKE P3A
C.W.E. = 25.50'
T.O.B. = 4.75 AC.
C.W.E. = 3.60 AC.



KEYMAP



SEE SHEET D-2 FOR CONTINUATION

SEE BECKER ROAD PLANS FOR CONTINUATION

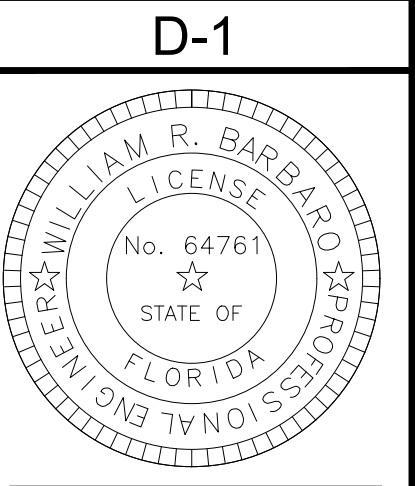
**BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL**

DRAINAGE PLAN



CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
PHONE: (954) 972-3859 FAX: (954) 972-4178
CPC AUTH. NO. 000029398

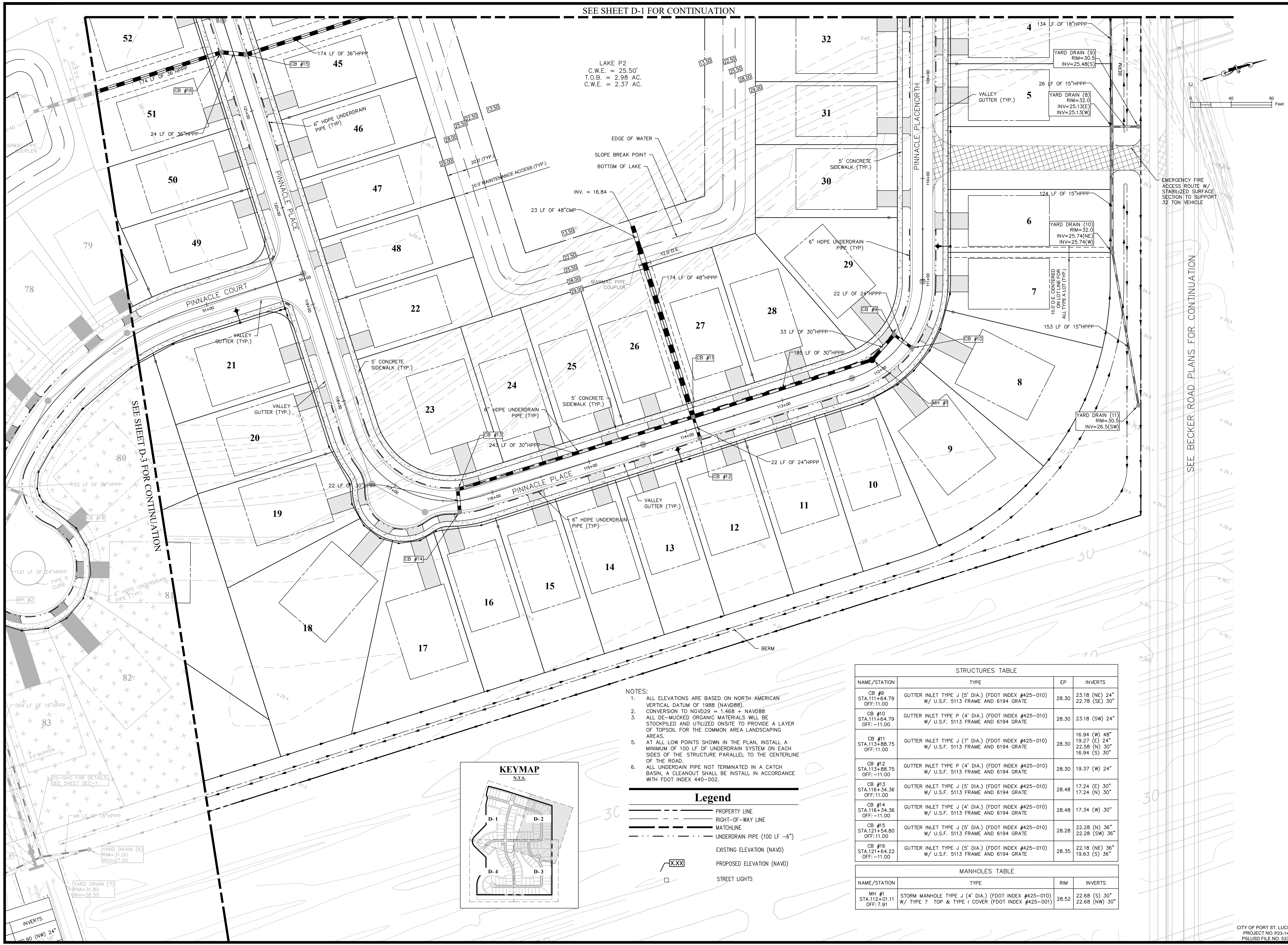
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DATE: 12/08/21
DRAWN BY: R.P.
CHECKED BY: W.R.B.
DESIGNED BY: R.F.



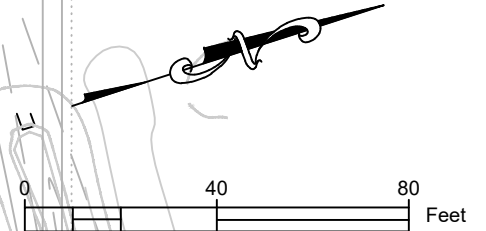
CITY OF PORT ST. LUCIE
PROJECT NO. P23-147
PSLUD FILE NO. 5336

WILLIAM R. BARBARO, P.E.
FL. REGISTRATION NO. - 64761

NO	DATE	BY	APPR	REVISIONS
02/15/22		RP	WRB	REVISED PER PSL COMMENTS



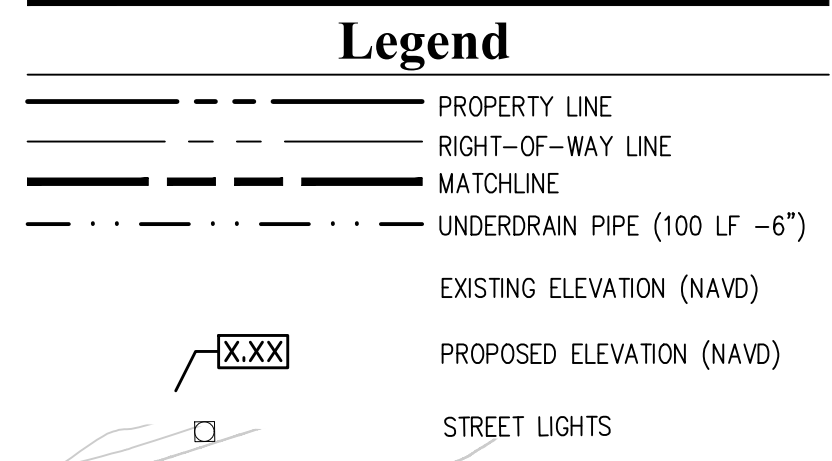
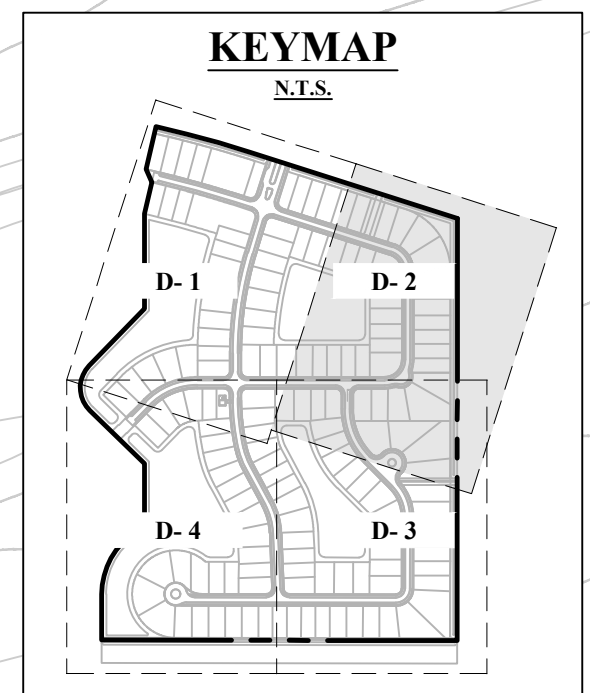
LAKE P2
C.W.E. = 25.50'
T.O.B. = 2.98 AC.
C.W.E. = 2.37 AC.



SEE SHEET D-3 FOR CONTINUATION

SEE BECKER ROAD PLANS FOR CONTINUATION

- NOTES:
1. ALL ELEVATIONS ARE BASED ON NORTH-AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 2. CONVERSION TO NGVD29 = 1.468 + NAVD88
 3. ALL DE-MULCHED ORGANIC MATERIALS WILL BE STOCKPILED AND UTILIZED ON-SITE TO PROVIDE A LAYER OF TOPSOIL FOR THE COMMON AREA LANDSCAPING AREAS.
 5. AT ALL LOW POINTS SHOWN IN THE PLAN, INSTALL A MINIMUM OF 100 LF OF UNDERDRAIN SYSTEM ON EACH SIDES OF THE STRUCTURE PARALLEL TO THE CENTERLINE OF THE ROAD.
 6. ALL UNDERDRAIN PIPE NOT TERMINATED IN A CATCH BASIN, A CLEANOUT SHALL BE INSTALL IN ACCORDANCE WITH FDOT INDEX 440-002.



STRUCTURES TABLE			
NAME/STATION	TYPE	EP	INVERTS
CB #9 STA.111+64.79 OFF:11.00	GUTTER INLET TYPE J (5' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	23.18 (NE) 24" 22.78 (SE) 30"
CB #10 STA.111+64.79 OFF:-11.00	GUTTER INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	23.18 (SW) 24"
CB #11 STA.113+88.75 OFF:11.00	GUTTER INLET TYPE J (7' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	16.94 (W) 48" 19.27 (E) 24" 22.58 (N) 30" 16.94 (S) 30"
CB #12 STA.113+88.75 OFF:-11.00	GUTTER INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	19.37 (W) 24"
CB #13 STA.116+34.36 OFF:11.00	GUTTER INLET TYPE J (5' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.48	17.24 (E) 30" 17.24 (N) 30"
CB #14 STA.116+34.36 OFF:-11.00	GUTTER INLET TYPE J (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.48	17.34 (W) 30"
CB #15 STA.121+54.80 OFF:11.00	GUTTER INLET TYPE J (5' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.28	22.28 (N) 36" 22.28 (SW) 36"
CB #16 STA.121+64.22 OFF:-11.00	GUTTER INLET TYPE J (5' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.35	22.18 (NE) 36" 19.63 (S) 36"

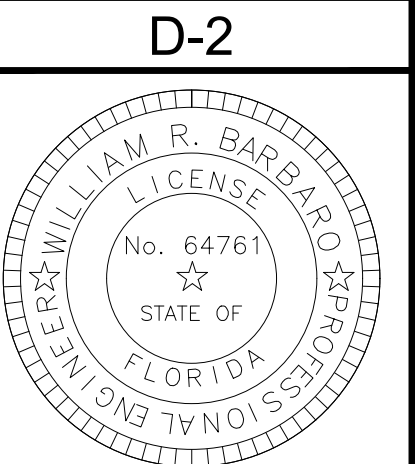
MANHOLES TABLE			
NAME/STATION	TYPE	RIM	INVERTS
MH #1 STA.112+01.11 OFF:7.91	STORM MANHOLE TYPE J (4' DIA.) (FDOT INDEX #425-010) W/ TYPE 7 TOP & TYPE I COVER (FDOT INDEX #425-001)	28.52	22.68 (S) 30" 22.68 (NW) 30"

BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

DRAINAGE PLAN



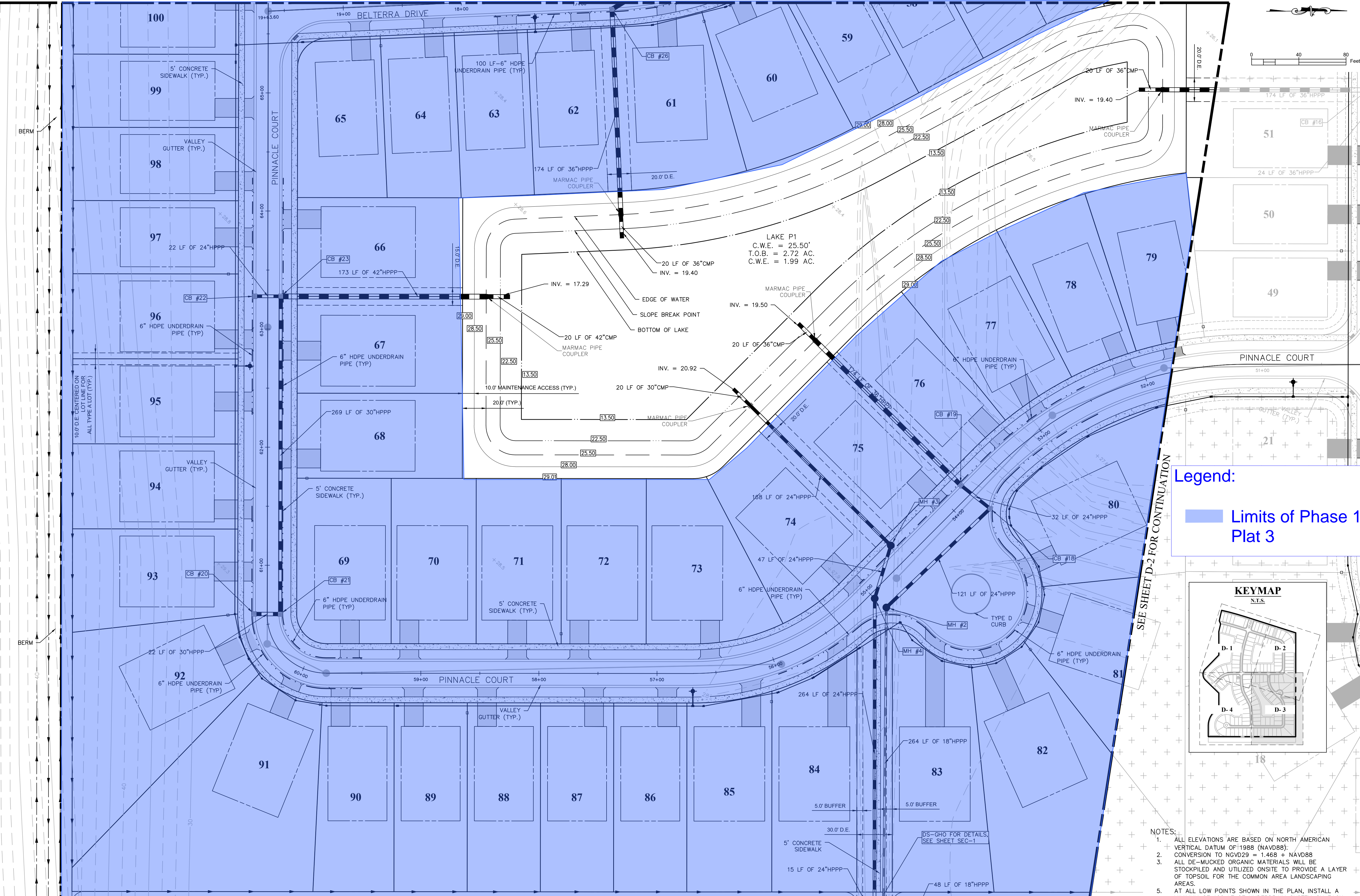
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DRAWN BY: R.P.
CHECKED BY: W.R.B.
DESIGNED BY: R.F.



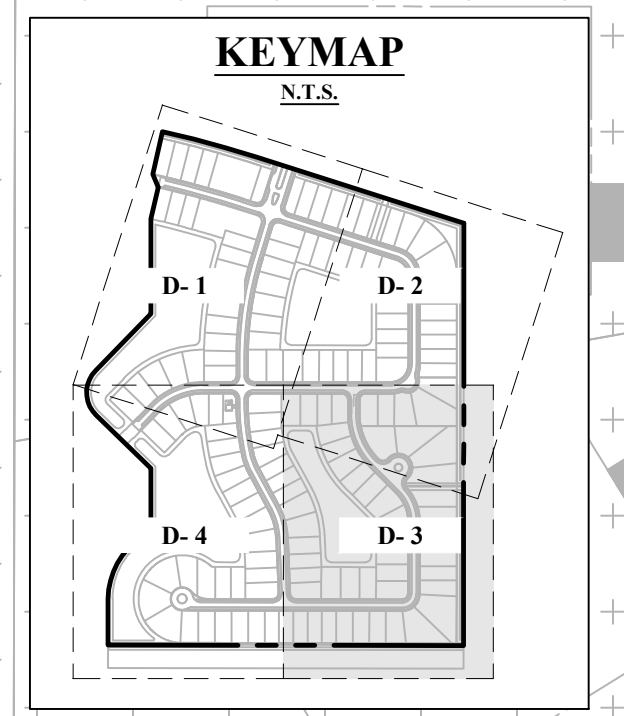
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CPC AUTH. NO. 00029398

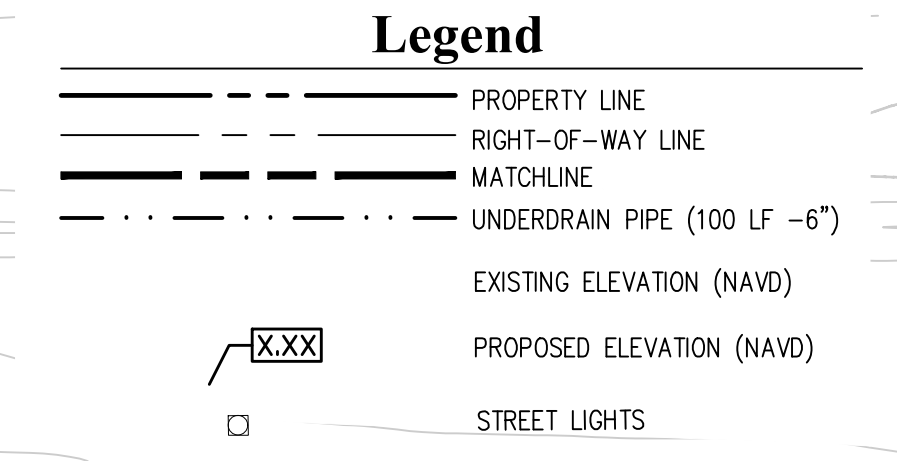
SEE SHEET D-4 FOR CONTINUATION



Legend:
 Limits of Phase 1 Plat 3



- NOTES:**
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NAME/STATION	TYPE	EP	INVERTS
CB #18 STA.53+77.05 OFF:-20.53	GUTTER INLET TYPE P (5' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.25	20.30 (SE) 24" 19.85 (SW) 24"
CB #19 STA.53+80.54 OFF:11.00	GUTTER INLET TYPE J (5' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	19.75 (NE) 24" 19.75 (SW) 36"
CB #20 STA.60+58.69 OFF:-11.00	GUTTER INLET TYPE J (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	18.17 (N) 30"
CB #21 STA.60+58.69 OFF:-11.00	GUTTER INLET TYPE J (5' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	18.07 (W) 30" 18.07 (S) 30"
CB #22 STA.63+27.79 OFF:-11.00	GUTTER INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.32	17.58 (N) 24"
CB #23 STA.63+27.79 OFF:11.00	GUTTER INLET TYPE J (7' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.32	17.48 (N) 42" 17.48 (S) 24" 17.48 (E) 30"

NAME/STATION	TYPE	EP	INVERTS
CB #26 STA.16+72.64 OFF:-11.00	GUTTER INLET TYPE J (6' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.16	22.60 (NW) 36" 19.53 (E) 36"
DS-GHO STA.55+95.82 OFF:-228.44	STORM MANHOLE TYPE J (7' DIA.) (FDOT INDEX #425-010) W/ TYPE 7 TOP & TYPE I COVER (FDOT INDEX #425-001)	SEE SHEET SEC-1	SEE SHEET SEC-1
MH #1 STA.55+98.25 OFF:-242.48	STRAIGHT CONC. ENDWALL (FDOT INDEX #430-030)	20.00	(W) 24"

NAME/STATION	TYPE	RIM	INVERTS
MH #2 STA.54+98.39 OFF:-17.33	STORM MANHOLE TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ TYPE 7 TOP & TYPE I COVER (FDOT INDEX #425-001)	29.05	20.90 (NW) 24" 20.90 (E) 18"
MH #3 STA.54+58.54 OFF:17.00	STORM MANHOLE TYPE J (7' DIA.) (FDOT INDEX #425-010) W/ TYPE 7 TOP & TYPE I COVER (FDOT INDEX #425-001)	29.02	21.20 (SW) 24" 21.20 (E) 24"
MH #4 STA.54+98.94 OFF:-5.00	STORM MANHOLE TYPE J (7' DIA.) (FDOT INDEX #425-010) W/ TYPE 7 TOP & TYPE I COVER (FDOT INDEX #425-001)	29.00	21.30 (W) 24" 21.30 (E) 24"

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NO	DATE	BY	APPR	REVISIONS

BELTERRA PHASE 1 AT SOUTHERN GROVE
 PORT ST. LUCIE COUNTY, FL

DRAINAGE PLAN



CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
 814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
 PHONE: (954) 972-3859 FAX: (954) 972-4178
 CPCS AUTH. NO. 00020936

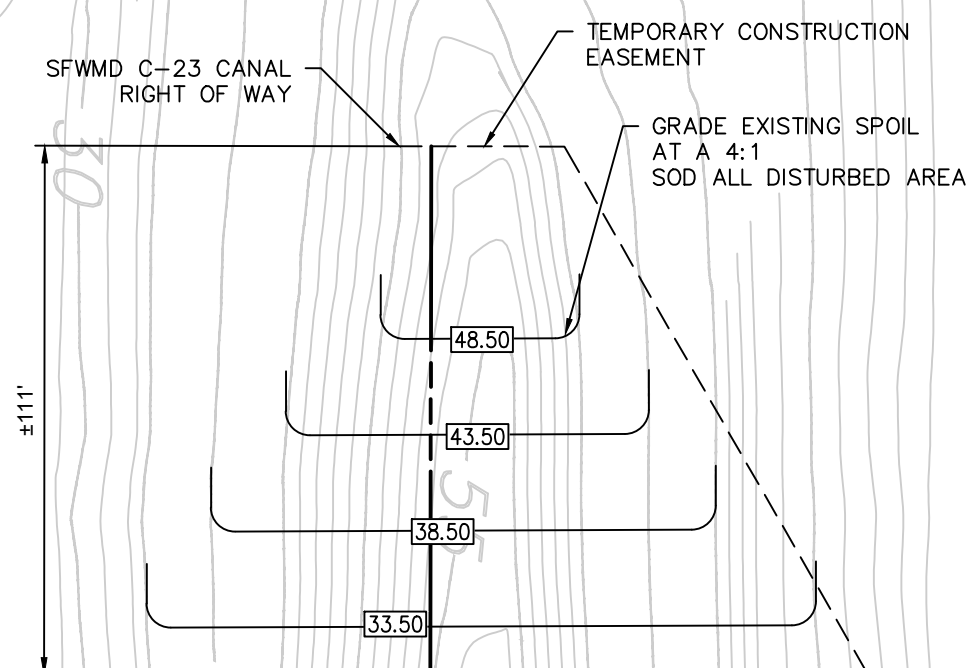
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 DRAWN BY: R.P.
 CHECKED BY: W.R.B.
 DESIGNED BY: R.F.

D-3

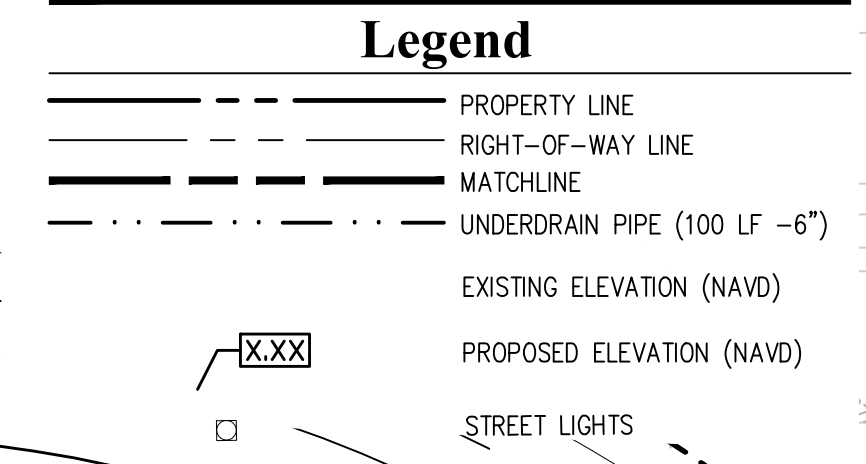
WILLIAM R. BARBARO, P.E.
 FL. REGISTRATION NO. - 64761

CITY OF PORT ST. LUCIE
 PROJECT NO. P23-147
 PLSUD FILE NO. 5336

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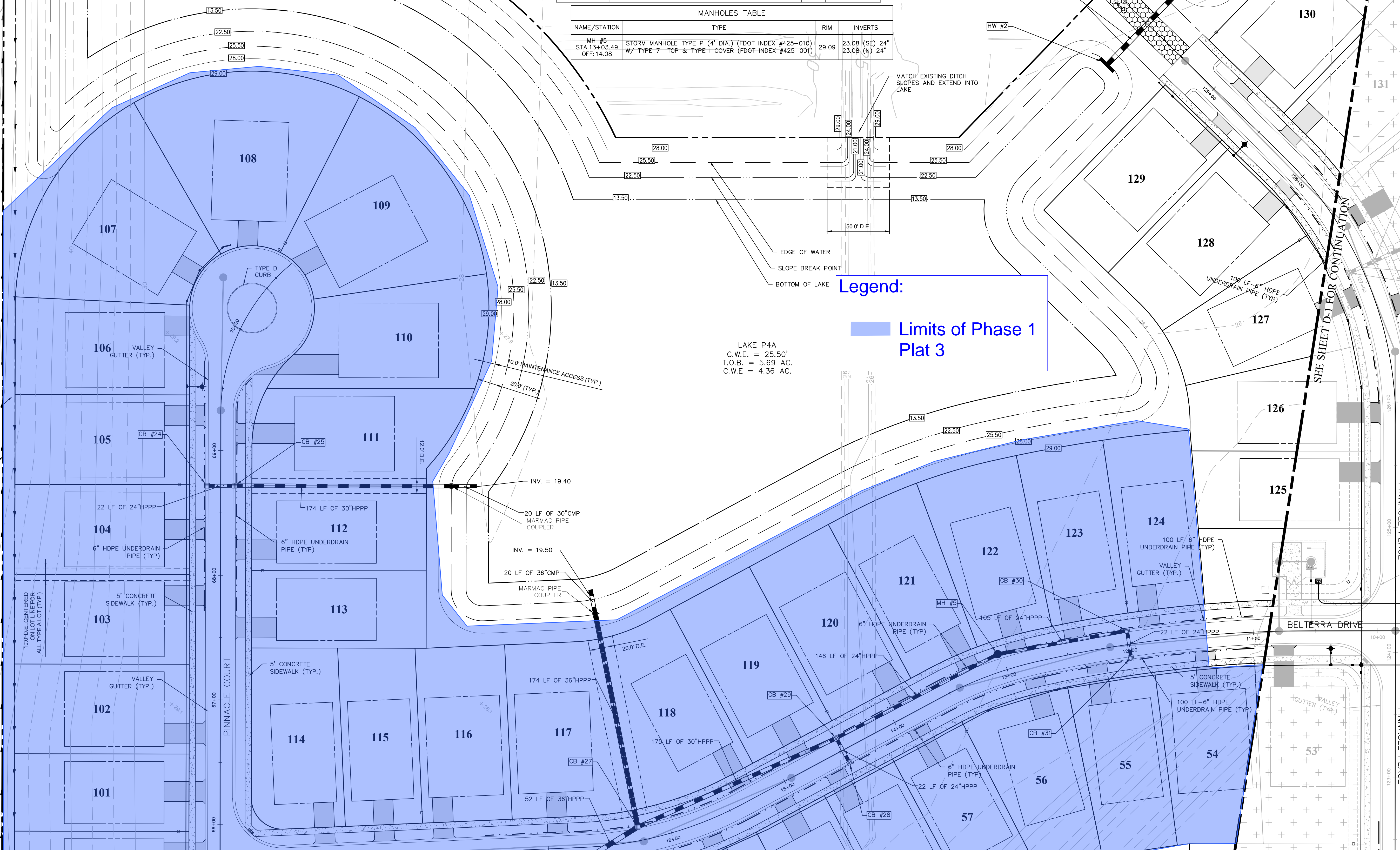
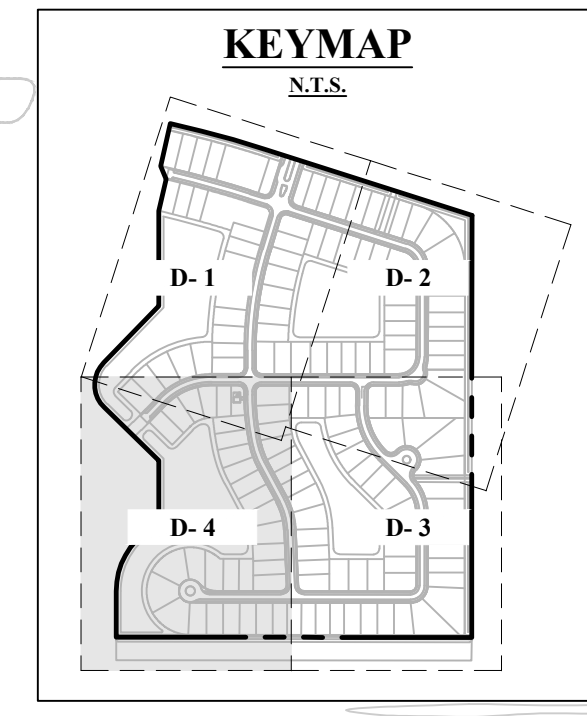


STRUCTURES TABLE

NAME/STATION	TYPE	EP	INVERTS
CB #24 STA.68+71.78 OFF:-11.00	GUTTER INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	19.70 (N) 24" 19.60 (S) 24"
CB #25 STA.68+71.78 OFF:11.00	GUTTER INLET TYPE J (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	22.60 (SE) 36" 22.28 (W) 36" 22.68 (NW) 30"
CB #27 STA.16+25.70 OFF:11.00	GUTTER INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	23.18 (SW) 24"
CB #28 STA.14+47.14 OFF:-11.00	GUTTER INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	23.18 (NE) 24" 22.78 (SE) 30" 22.98 (NW) 24"
CB #29 STA.14+47.14 OFF:11.00	GUTTER INLET TYPE J (5' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	23.18 (S) 24" 23.18 (E) 24"
CB #30 STA.12+00.10 OFF:11.00	GUTTER INLET TYPE P (5' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	23.18 (W) 24"
CB #31 STA.12+03.49 OFF:-11.00	GUTTER INLET TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ U.S.F. 5113 FRAME AND 6194 GRATE	28.30	22.28 (NW) 36"
HW #2 STA.129+74.83 OFF:-45.00	STRAIGHT CONC. ENDWALL (FDOT INDEX #430-030)	22.28	(NW) 36"
HW #3 STA.129+74.55 OFF:45.00	STRAIGHT CONC. ENDWALL (FDOT INDEX #430-030)	22.28	(SE) 36"

MANHOLES TABLE

NAME/STATION	TYPE	RIM	INVERTS
MH #5 STA.13+03.49 OFF:14.08	STORM MANHOLE TYPE P (4' DIA.) (FDOT INDEX #425-010) W/ TYPE 7 TOP & TYPE 1 COVER (FDOT INDEX #425-001)	29.09	23.08 (SE) 24" 23.08 (N) 24"



Legend:

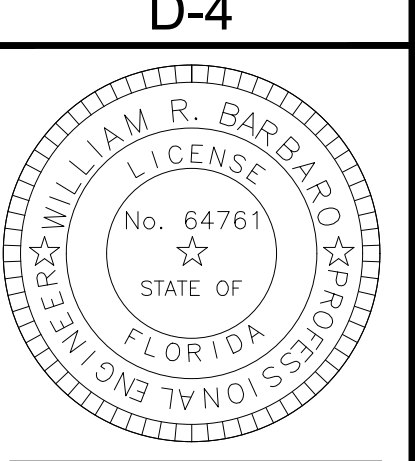
■ Limits of Phase 1 Plat 3

BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

DRAINAGE PLAN



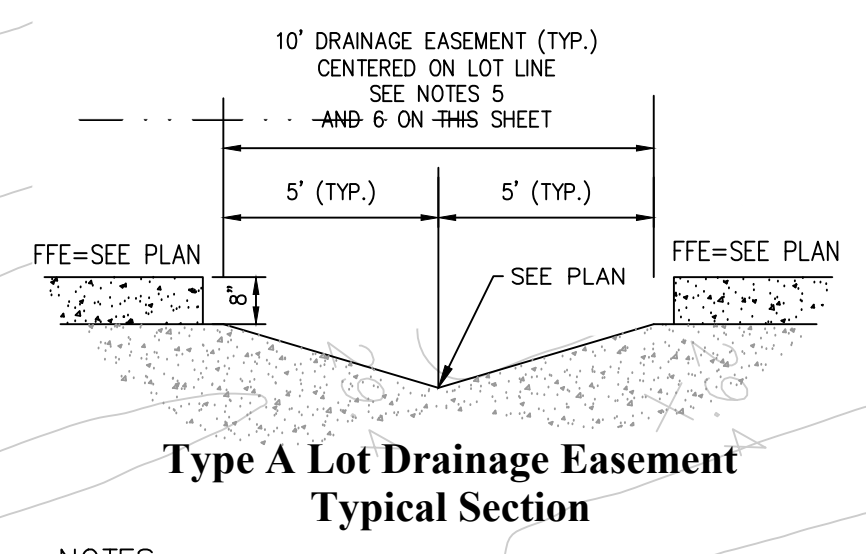
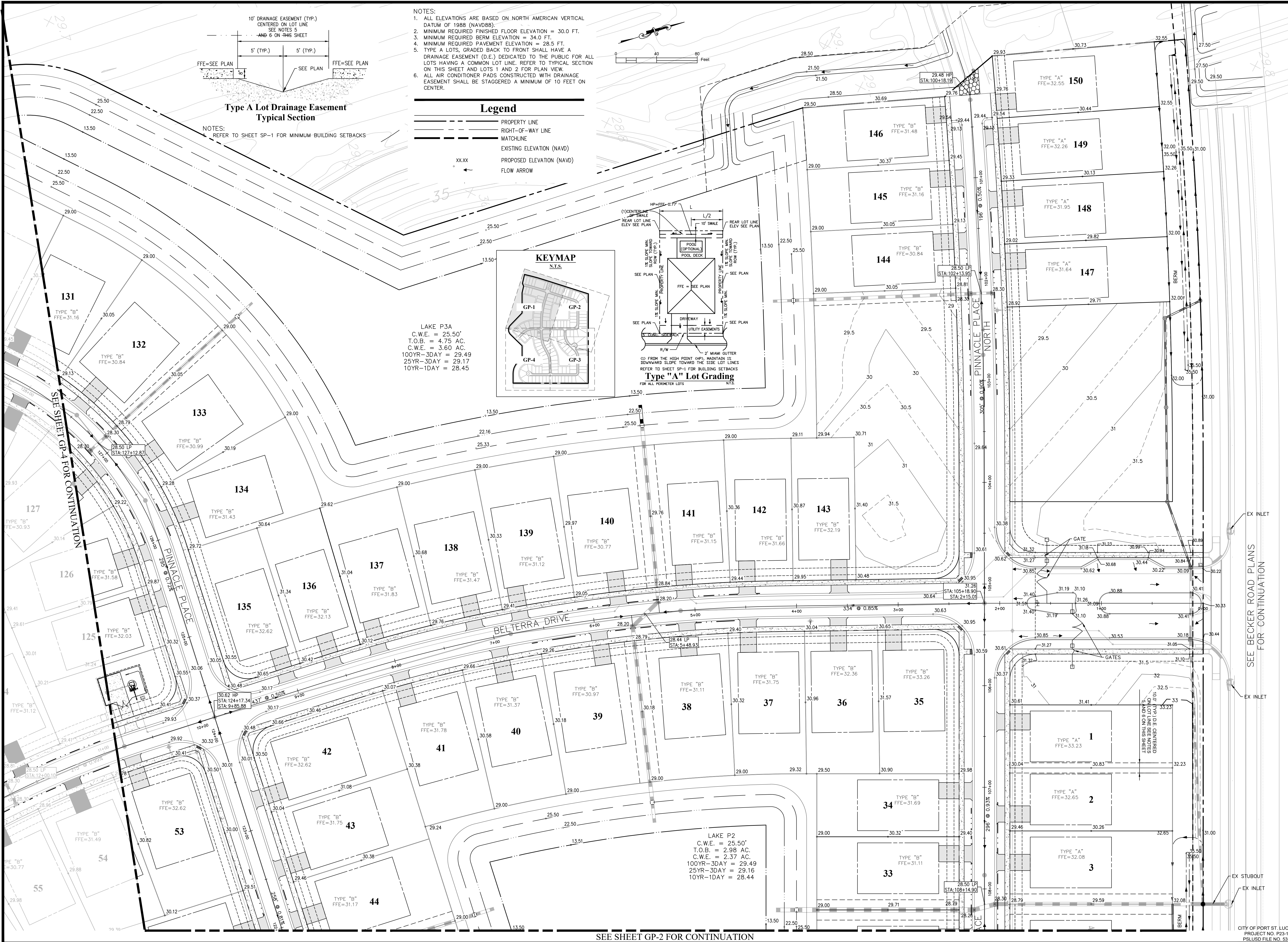
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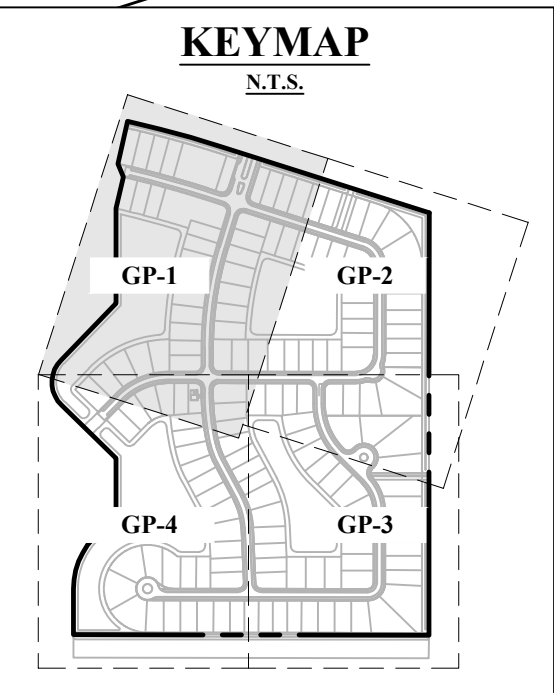
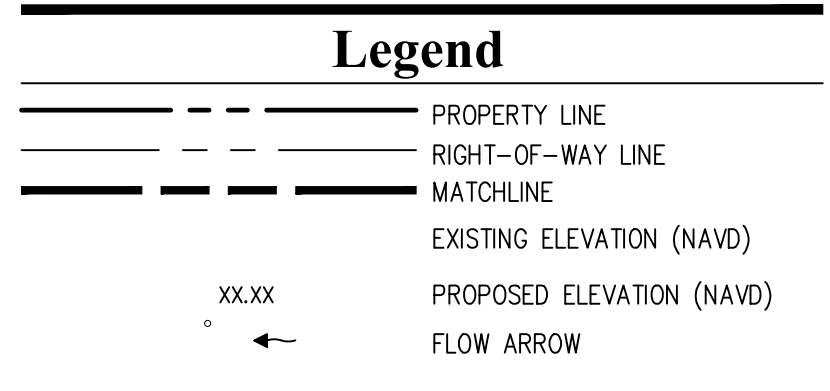
SEE SHEET D-3 FOR CONTINUATION

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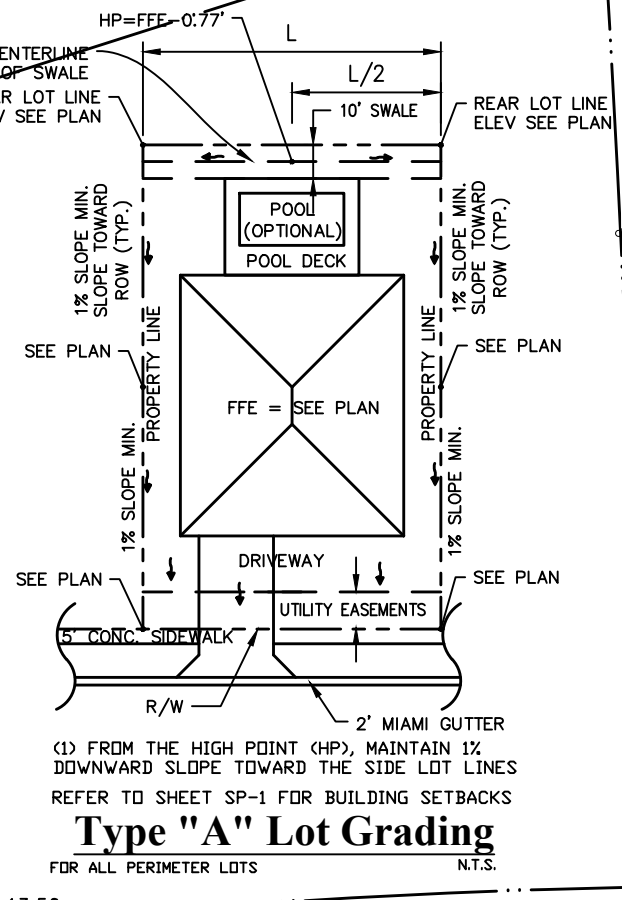


NOTES:
REFER TO SHEET SP-1 FOR MINIMUM BUILDING SETBACKS

- NOTES:
1. ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 2. MINIMUM REQUIRED FINISHED FLOOR ELEVATION = 30.0 FT.
 3. MINIMUM REQUIRED BERM ELEVATION = 34.0 FT.
 4. MINIMUM REQUIRED PAVEMENT ELEVATION = 28.5 FT.
 5. TYPE A LOTS, GRADED BACK TO FRONT SHALL HAVE A DRAINAGE EASEMENT (D.E.) DEDICATED TO THE PUBLIC FOR ALL LOTS HAVING A COMMON LOT LINE. REFER TO TYPICAL SECTION ON THIS SHEET AND LOTS 1 AND 2 FOR PLAN VIEW.
 6. ALL AIR CONDITIONER PADS CONSTRUCTED WITH DRAINAGE EASEMENT SHALL BE STAGGERED A MINIMUM OF 10 FEET ON CENTER.



LAKE P3A
C.W.E. = 25.50'
T.O.B. = 4.75 AC.
C.W.E. = 3.60 AC.
100YR-3DAY = 29.49
25YR-3DAY = 29.17
10YR-1DAY = 28.45



SEE SHEET GP-4 FOR CONTINUATION

SEE BECKER ROAD PLANS FOR CONTINUATION

SEE SHEET GP-2 FOR CONTINUATION

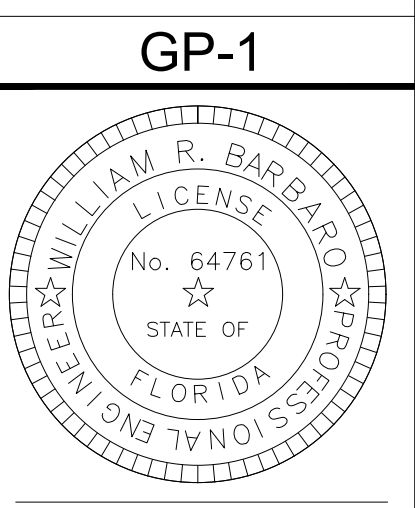
BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

GRADING PLAN



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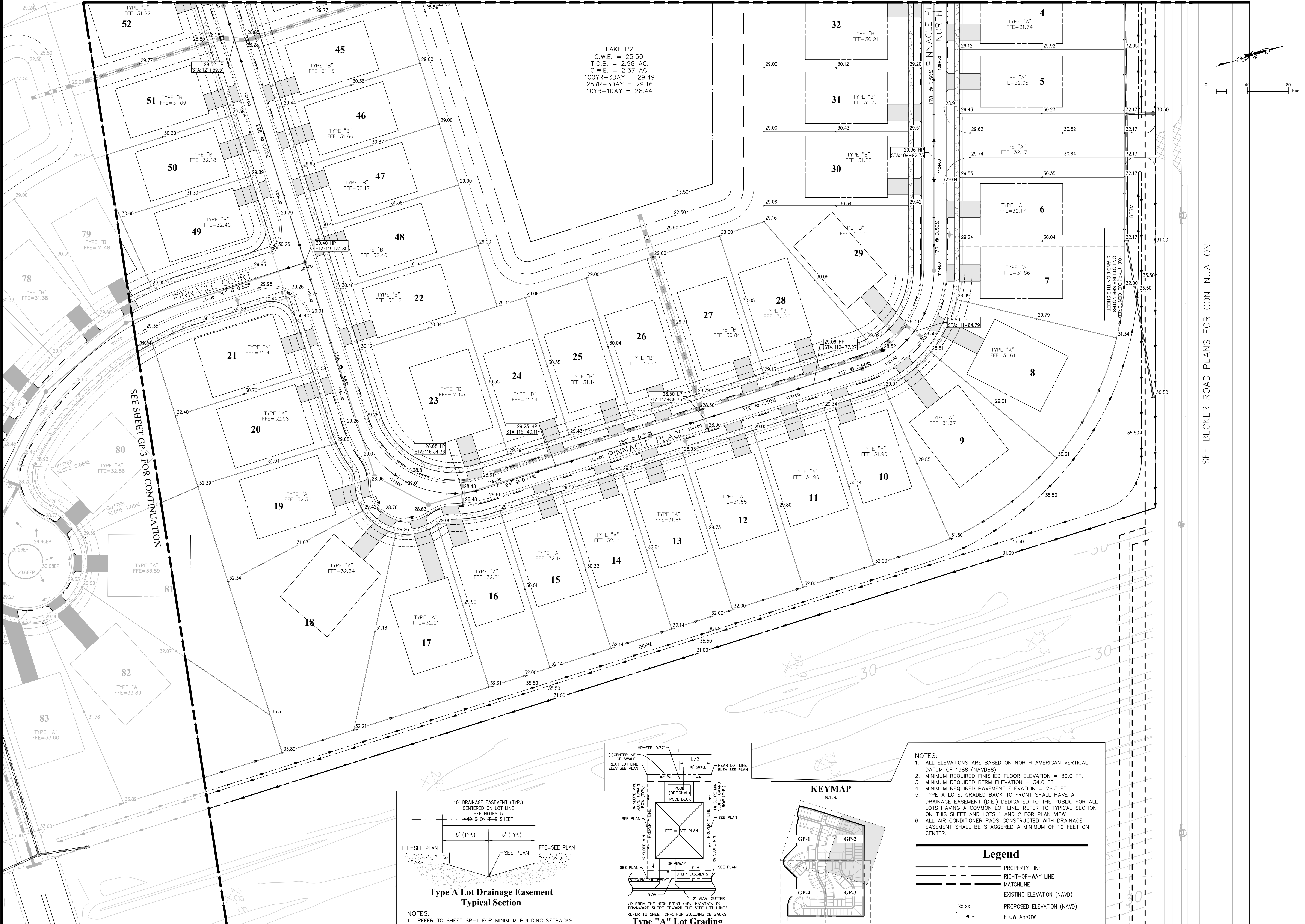
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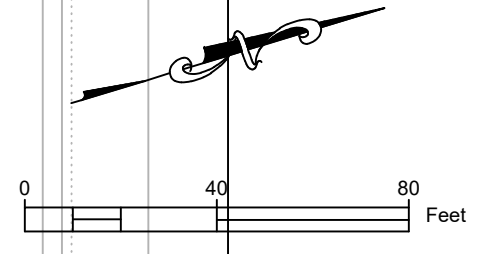
CITY OF PORT ST. LUCIE
PROJECT NO. P23-147
PLUSD FILE NO. 5336

WILLIAM R. BARBARO, P.E.
FL REGISTRATION NO. - 64761

NO	DATE	BY	APRV	REVISIONS



LAKE P2
 C.W.E. = 25.50'
 T.O.B. = 2.98 AC.
 C.W.E. = 2.37 AC.
 100YR-3DAY = 29.49
 25YR-3DAY = 29.16
 10YR-1DAY = 28.44



SEE SHEET GP-3 FOR CONTINUATION

SEE BECKER ROAD PLANS FOR CONTINUATION

BELTERRA PHASE 1 AT SOUTHERN GROVE
 PORT ST. LUCIE COUNTY, FL

GRADING PLAN

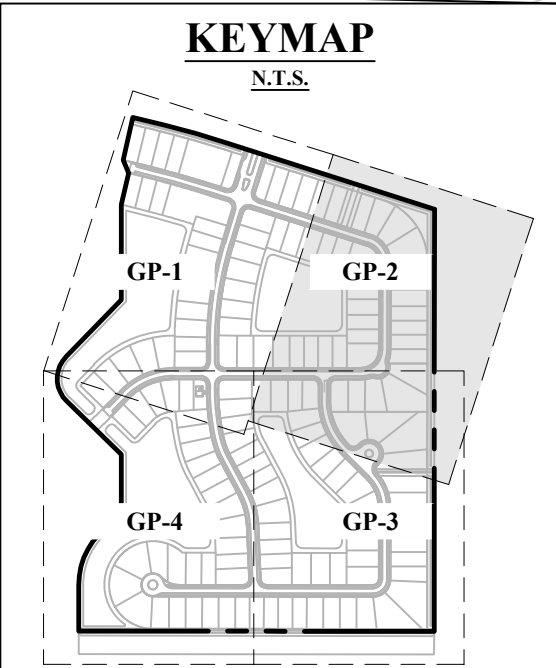
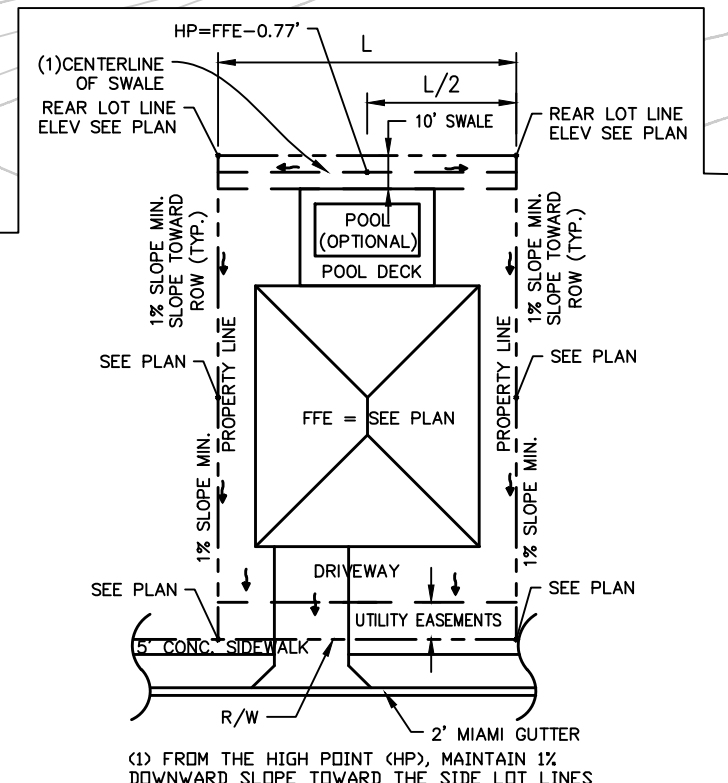
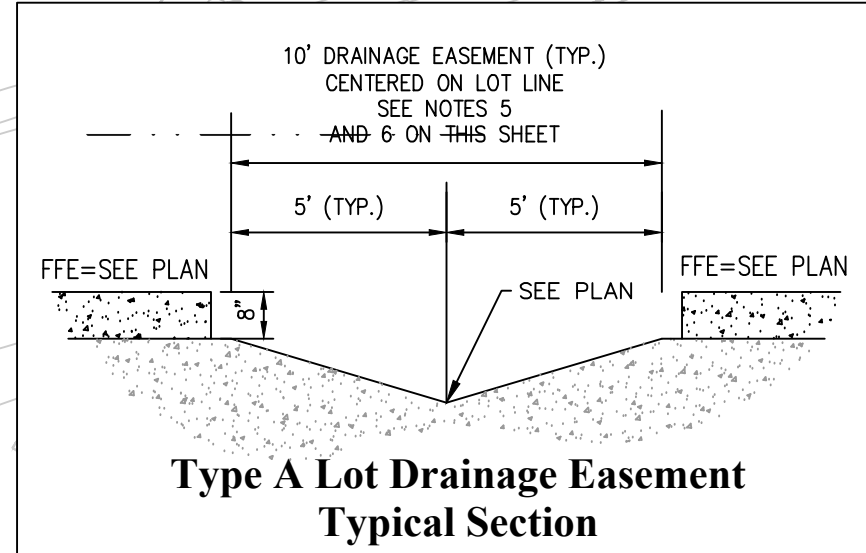
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SCALE: AS SHOWN
 DATE: 12/08/21
 DRAWN BY: R.P.
 CHECKED BY: W.R.B.
 DESIGNED BY: R.F.

GP-2

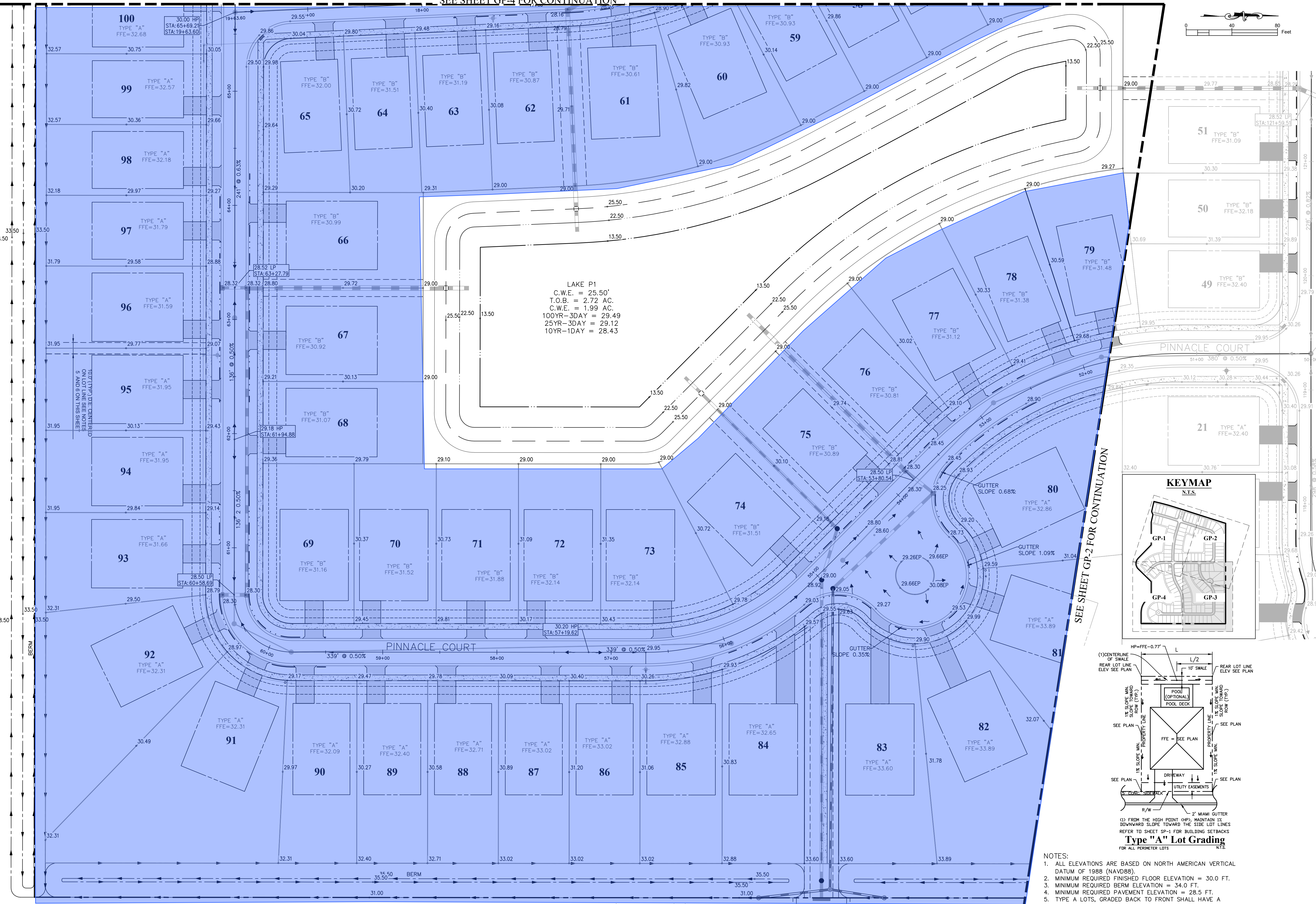
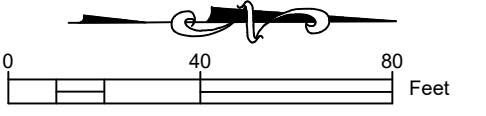
WILLIAM R. BARBARO, P.E.
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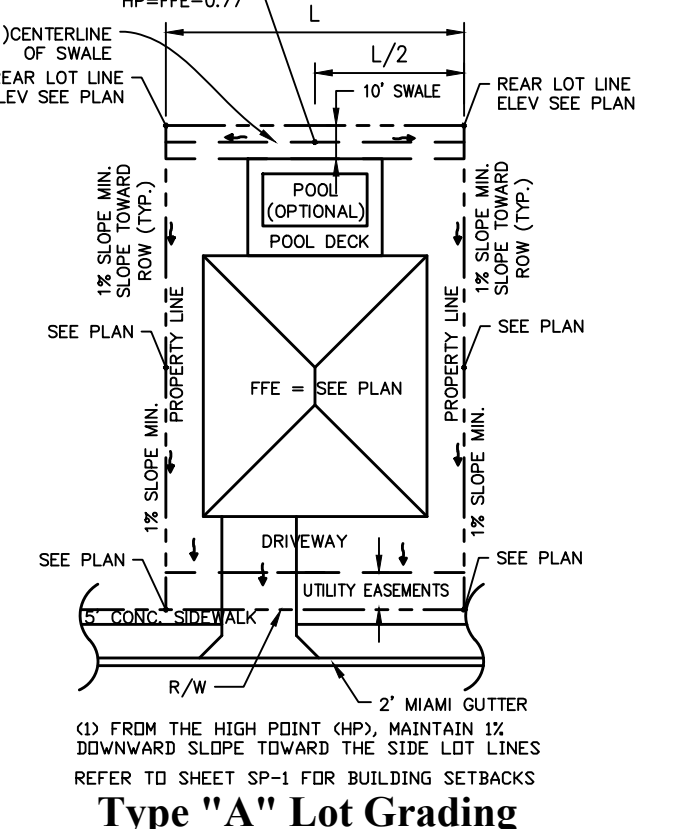
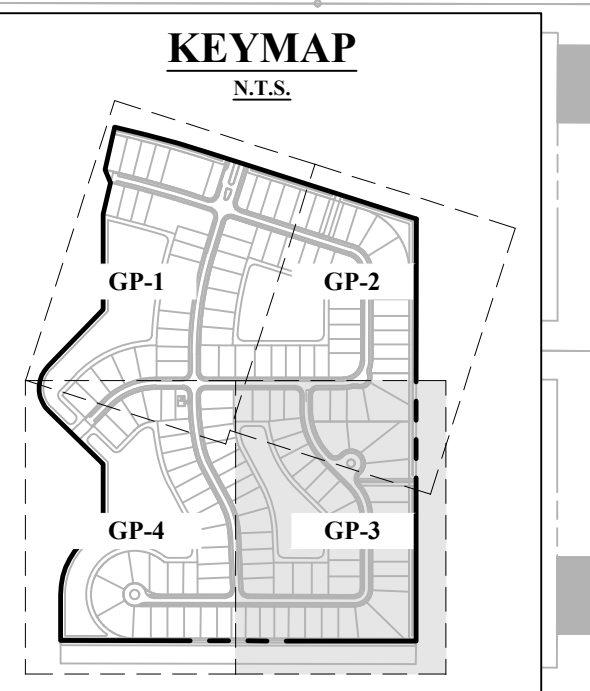
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- Legend**
- PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - MATCHLINE
 - EXISTING ELEVATION (NAVD)
 - PROPOSED ELEVATION (NAVD)
 - FLOW ARROW

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SEE SHEET GP-4 FOR CONTINUATION



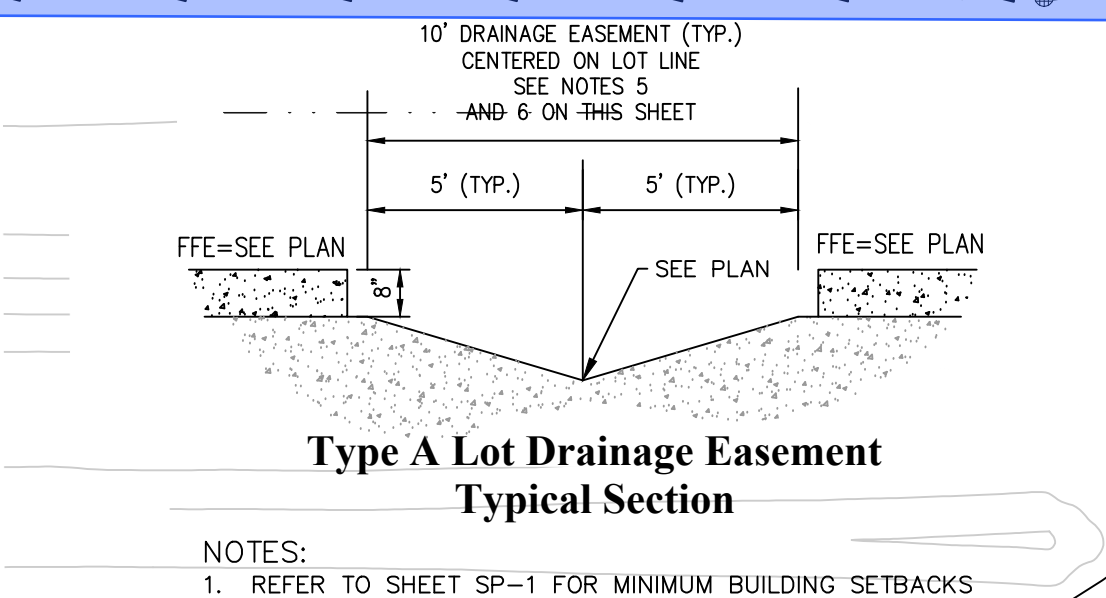
LAKE P1
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T.O.B. = 2.72 AC.
C.W.E. = 1.99 AC.
100YR-3DAY = 29.49
25YR-3DAY = 29.12
10YR-1DAY = 28.43



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Legend

---	PROPERTY LINE
---	RIGHT-OF-WAY LINE
---	MATCHLINE
---	EXISTING ELEVATION (NAVD)
---	PROPOSED ELEVATION (NAVD)
---	FLOW ARROW



Legend:

■ Limits of Phase 1 Plat 3

BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

GRADING PLAN



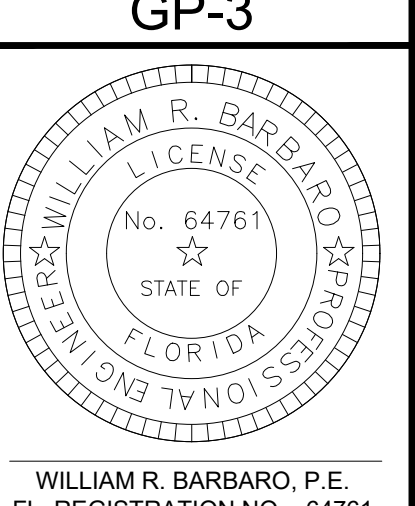
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DATE: 12/08/21

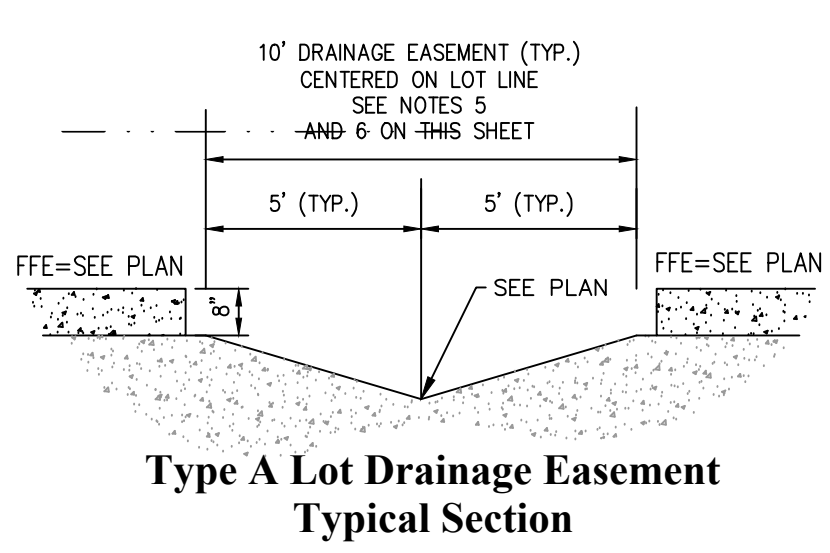
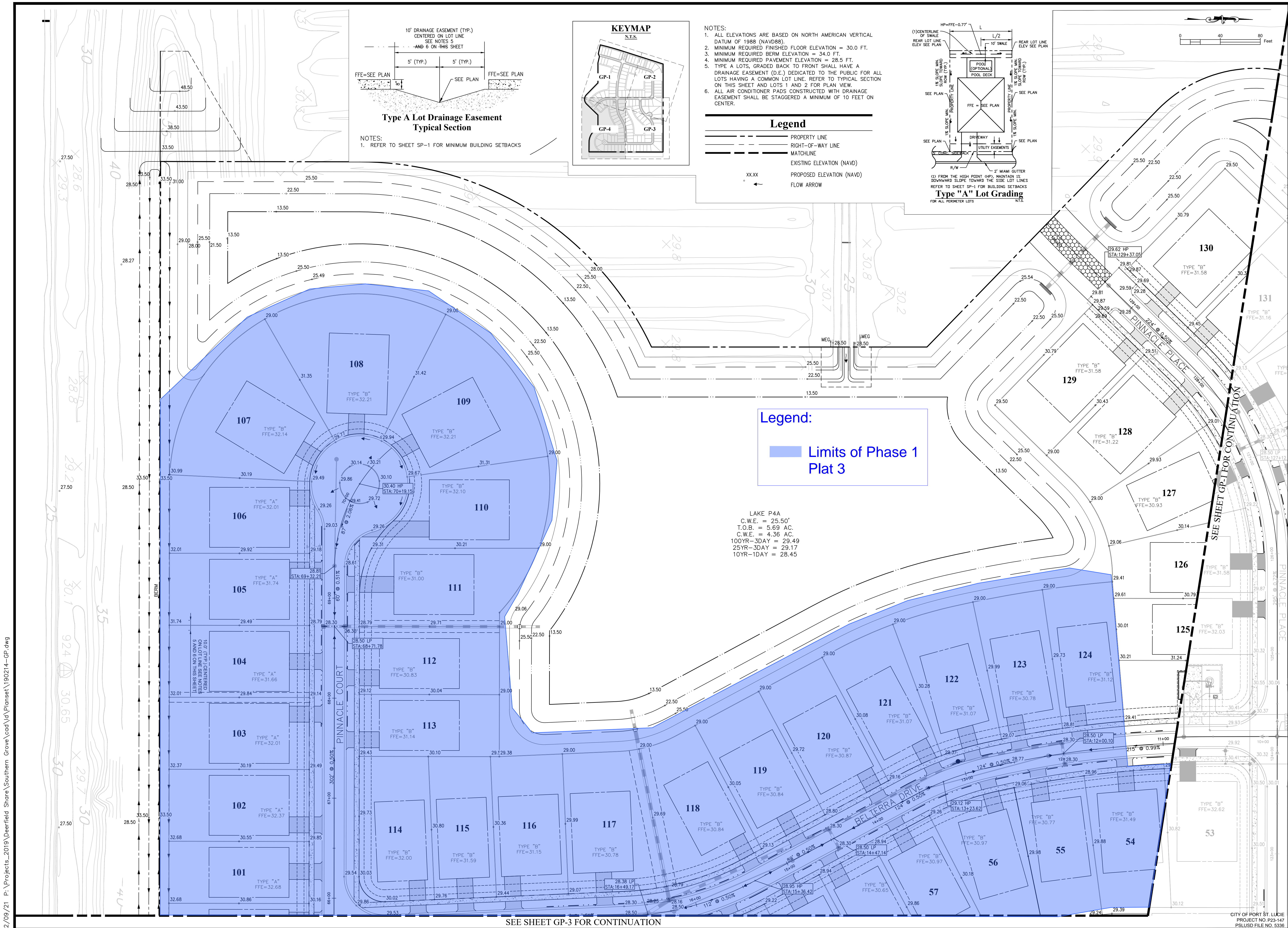
DRAWN BY: R.P.

CHECKED BY: W.R.B.

DESIGNED BY: R.F.

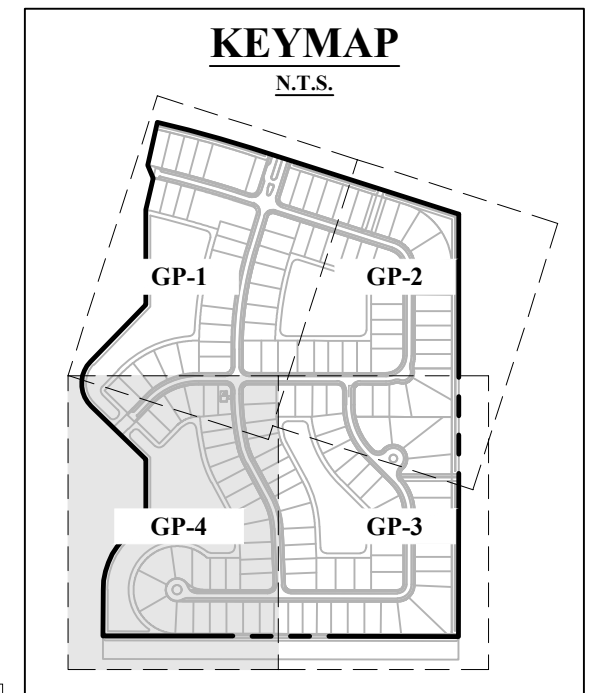


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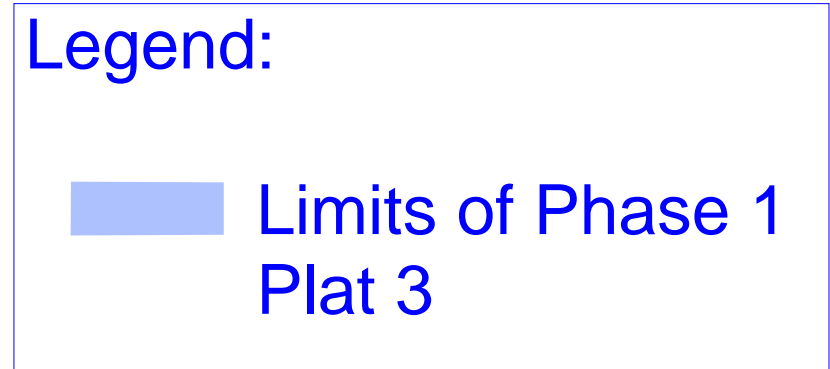
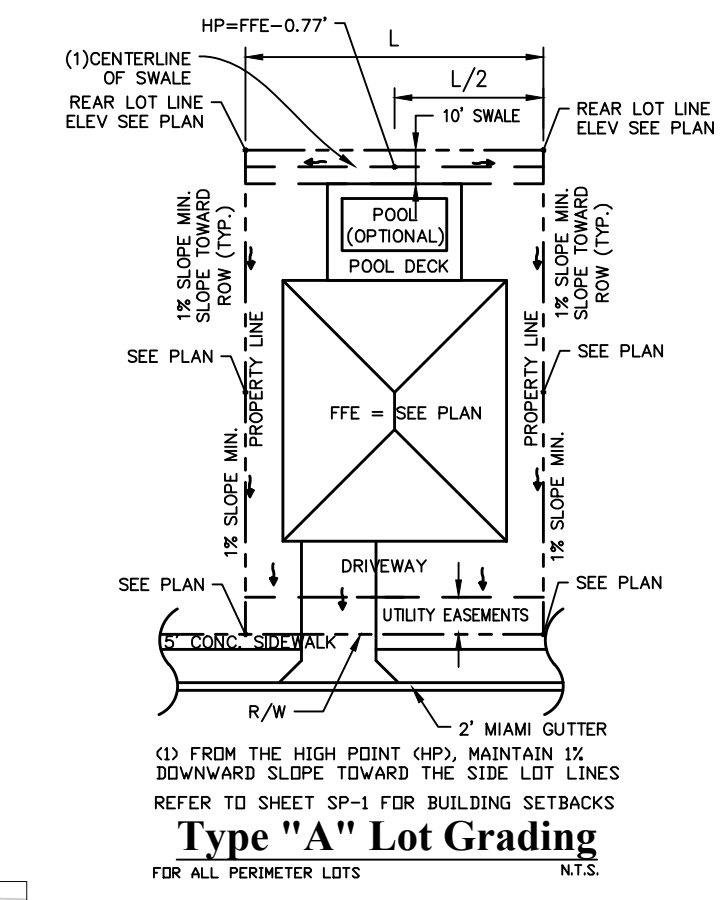
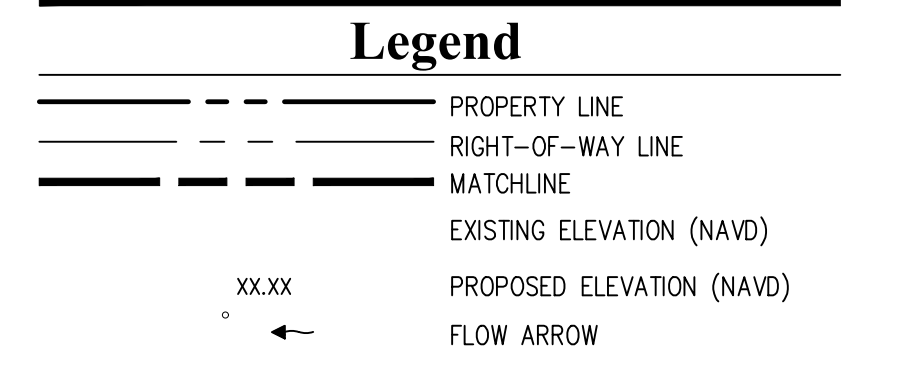


Type A Lot Drainage Easement Typical Section

NOTES:
1. REFER TO SHEET SP-1 FOR MINIMUM BUILDING SETBACKS



- NOTES:
1. ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 2. MINIMUM REQUIRED FINISHED FLOOR ELEVATION = 30.0 FT.
 3. MINIMUM REQUIRED BERM ELEVATION = 34.0 FT.
 4. MINIMUM REQUIRED PAVEMENT ELEVATION = 28.5 FT.
 5. TYPE A LOTS, GRADED BACK TO FRONT SHALL HAVE A DRAINAGE EASEMENT (D.E.) DEDICATED TO THE PUBLIC FOR ALL LOTS HAVING A COMMON LOT LINE. REFER TO TYPICAL SECTION ON THIS SHEET AND LOTS 1 AND 2 FOR PLAN VIEW.
 6. ALL AIR CONDITIONER PADS CONSTRUCTED WITH DRAINAGE EASEMENT SHALL BE STAGGERED A MINIMUM OF 10 FEET ON CENTER.



LAKE P4A
C.W.E. = 25.50'
T.O.B. = 5.89 AC.
C.W.E. = 4.36 AC.
100YR-3DAY = 29.49
25YR-3DAY = 29.17
10YR-1DAY = 28.45

NO	DATE	BY	APPROV	REVISIONS

BELLERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

GRADING PLAN

CPC
CARNAHAN PROCTOR & CROSS

CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
PHONE: (954) 972-3859 FAX: (954) 972-4178
CPC AUTH. NO. 00002939

SCALE: AS SHOWN
DATE: 12/08/21
DRAWN BY: R.P.
CHECKED BY: W.R.B.
DESIGNED BY: R.F.

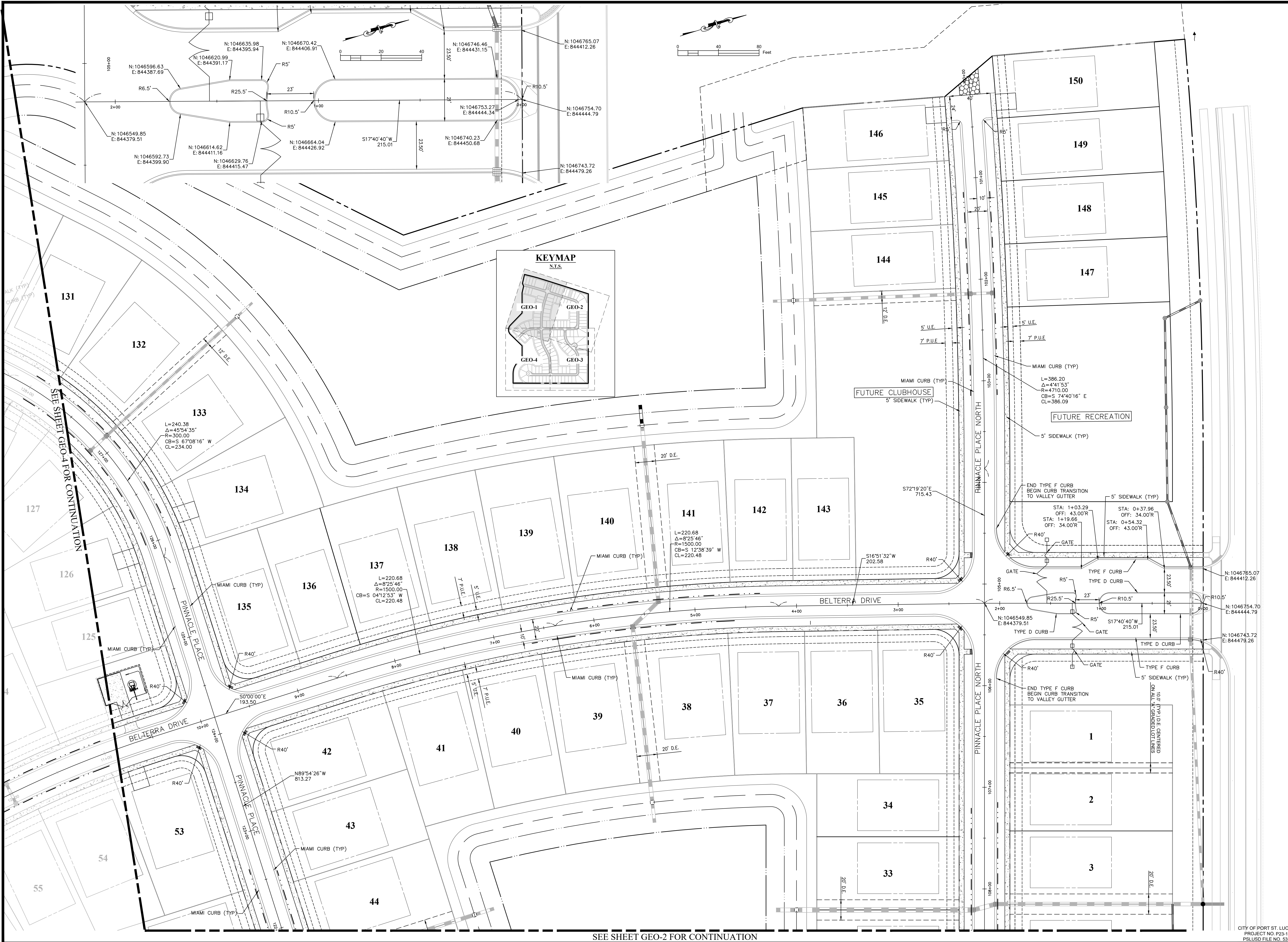
GP-4

WILLIAM R. BARBARO, P.E.
LICENSED PROFESSIONAL ENGINEER
STATE OF FLORIDA
No. 64761
FL REGISTRATION NO. - 64761

SEE SHEET GP-3 FOR CONTINUATION

CITY OF PORT ST. LUCIE
PROJECT NO. P23-147
PLSUD FILE NO. 5336

2/09/21 p:\projects_2019\deerfield_shore\southern_grove\cod\vid\planset\190214-GEO.dwg



SEE SHEET GEO-2 FOR CONTINUATION

NO	DATE	BY	APRV	REVISIONS

**BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL**

GEOMETRY PLAN



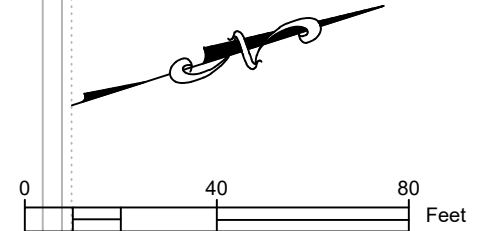
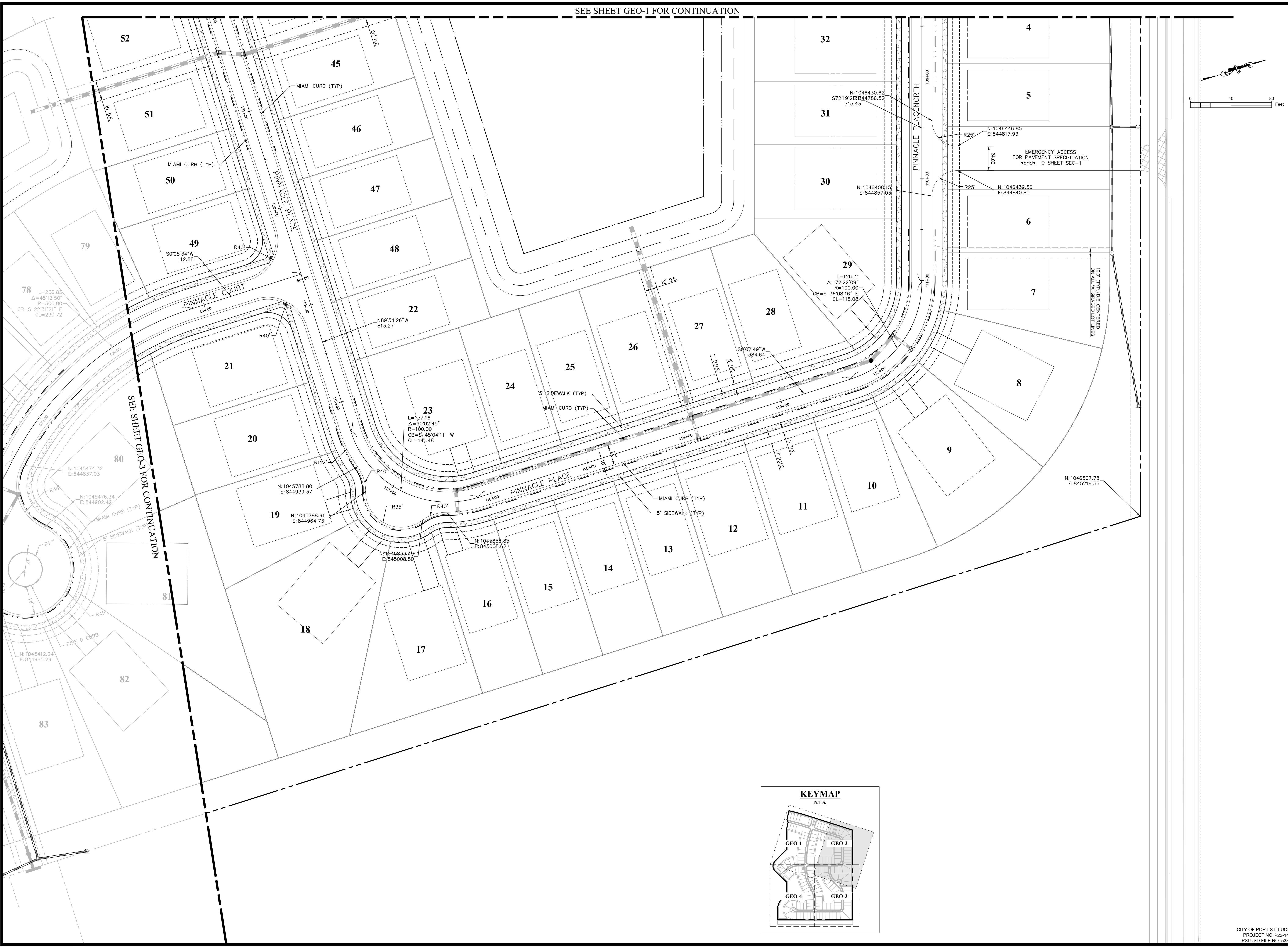
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DRAWN BY:	R.P.
CHECKED BY:	W.R.B.
DESIGNED BY:	R.F.

GEO-1

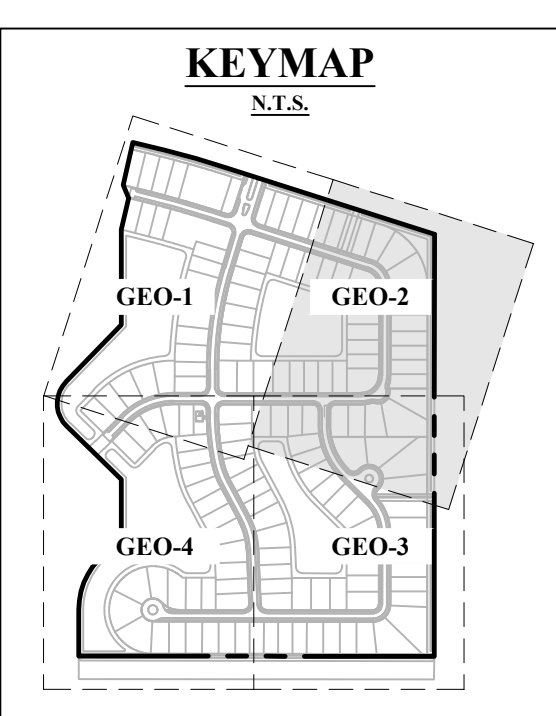
WILLIAM R. BARBARO, P.E.
FL. REGISTRATION NO. - 64761

CITY OF PORT ST. LUCIE
PROJECT NO. P23-147
PSLUSD FILE NO. 5336

SEE SHEET GEO-1 FOR CONTINUATION



SEE SHEET GEO-3 FOR CONTINUATION



NO	DATE	BY	APRV	REVISIONS

BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

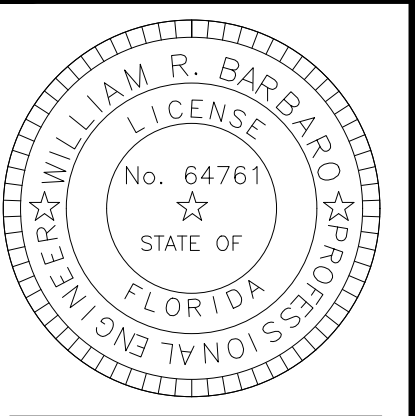
GEOMETRY PLAN



CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
PHONE: (954) 972-3859 FAX: (954) 972-4178
CPC AUTH. NO. 00002936

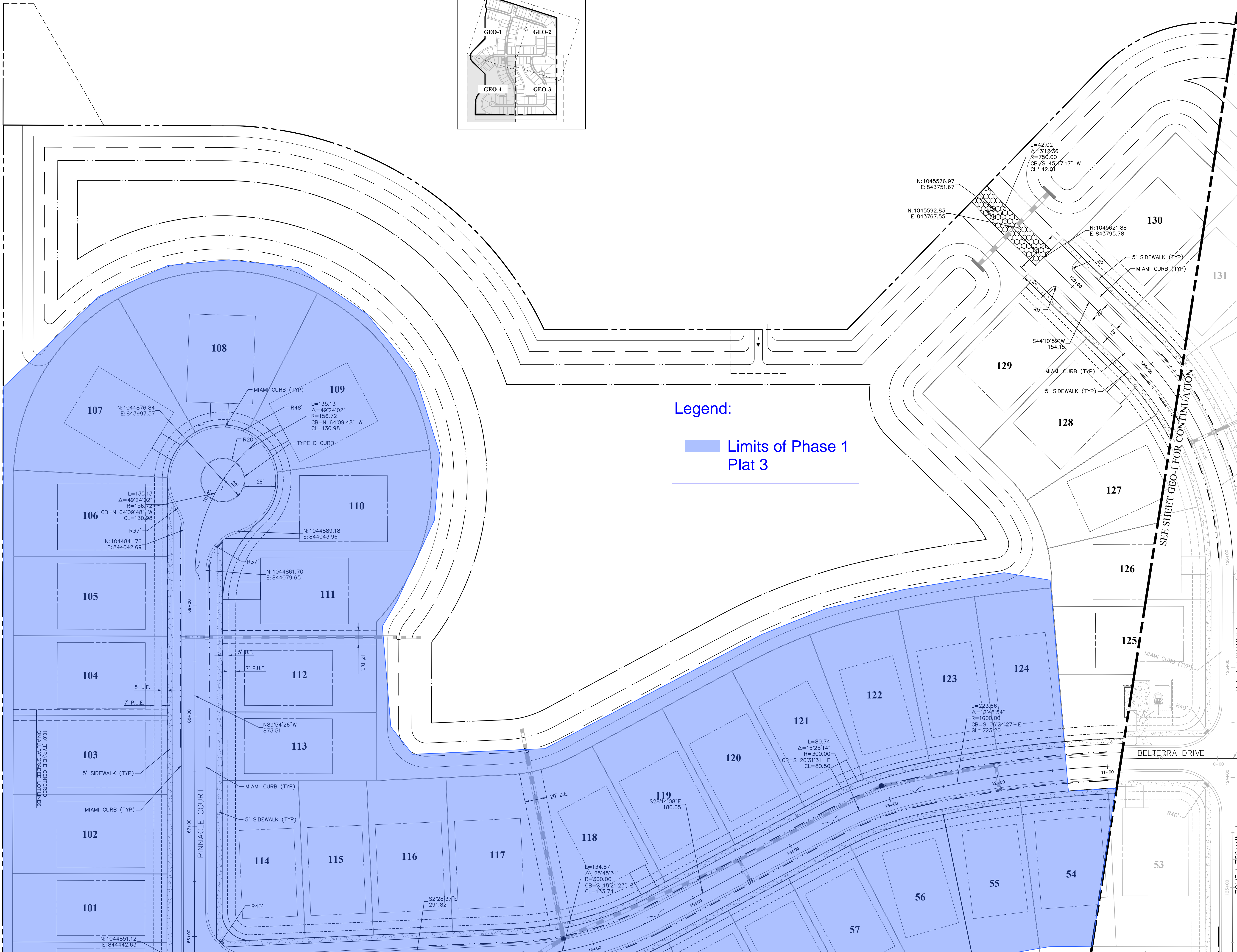
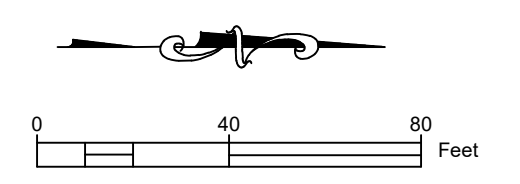
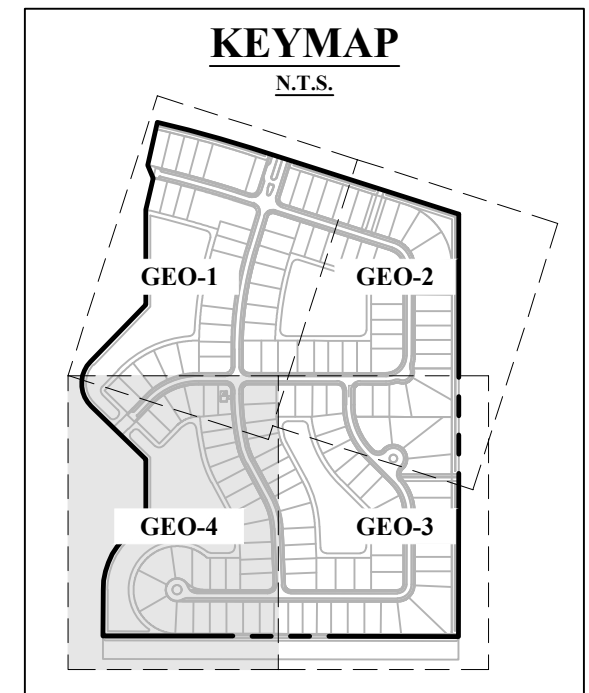
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DATE: 12/08/21
DRAWN BY: R.P.
CHECKED BY: W.R.B.
DESIGNED BY: R.F.

GEO-2



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Legend:
■ Limits of Phase 1 Plat 3

SEE SHEET GEO-1 FOR CONTINUATION

SEE SHEET GEO-3 FOR CONTINUATION

NO	DATE	BY	APRV	REVISIONS

BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

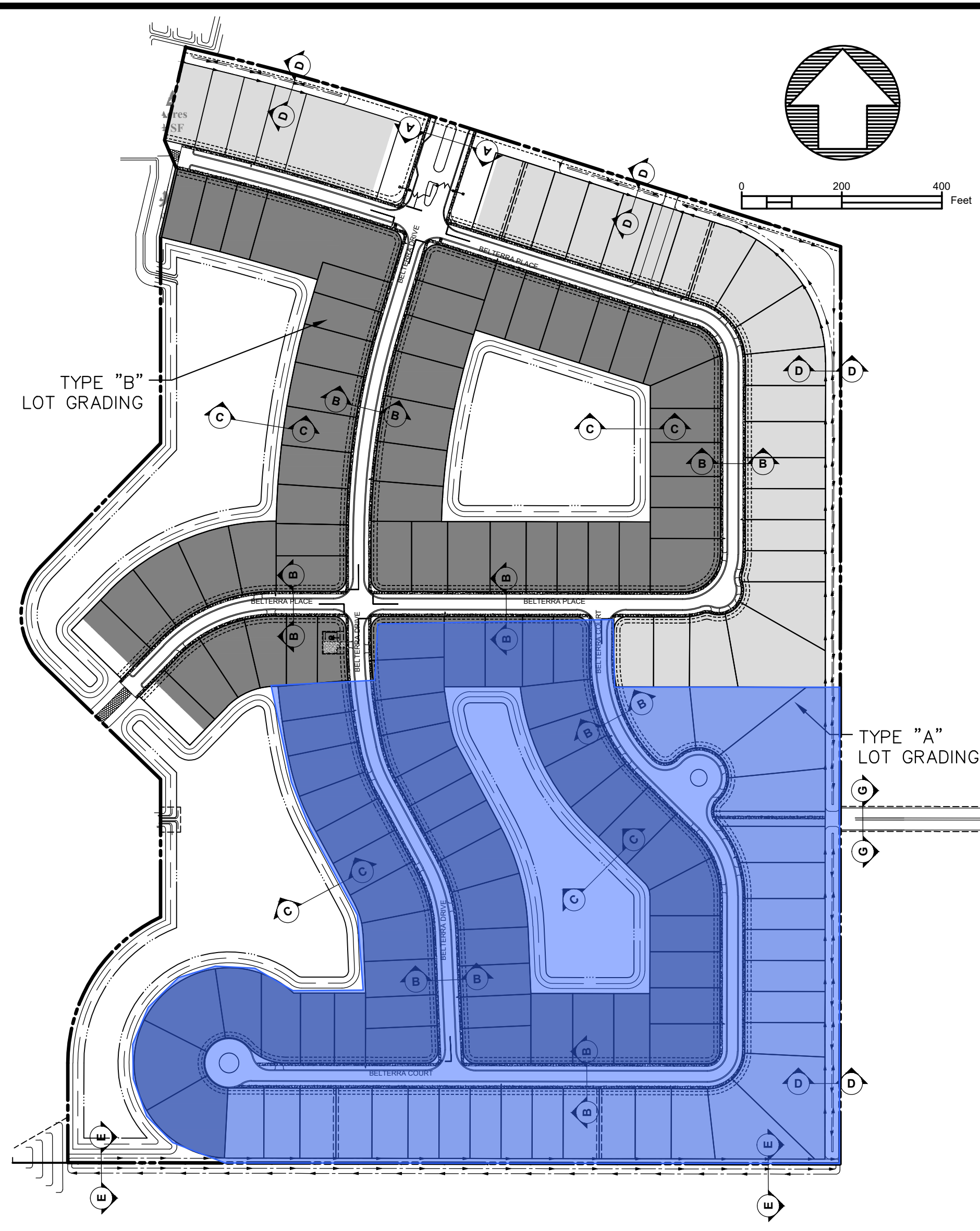
GEOMETRY PLAN

CARNAHAN PROCTOR & CROSS
CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
PHONE: (954) 972-3859 FAX: (954) 972-4178
CPC AUTH. NO. 00029398 FILE NO. 190214

SCALE: AS SHOWN
DATE: 12/08/21
DRAWN BY: R.P.
CHECKED BY: W.R.B.
DESIGNED BY: R.F.

GEO-4

WILLIAM R. BARBARO, P.E.
FL. REGISTRATION NO. - 64761



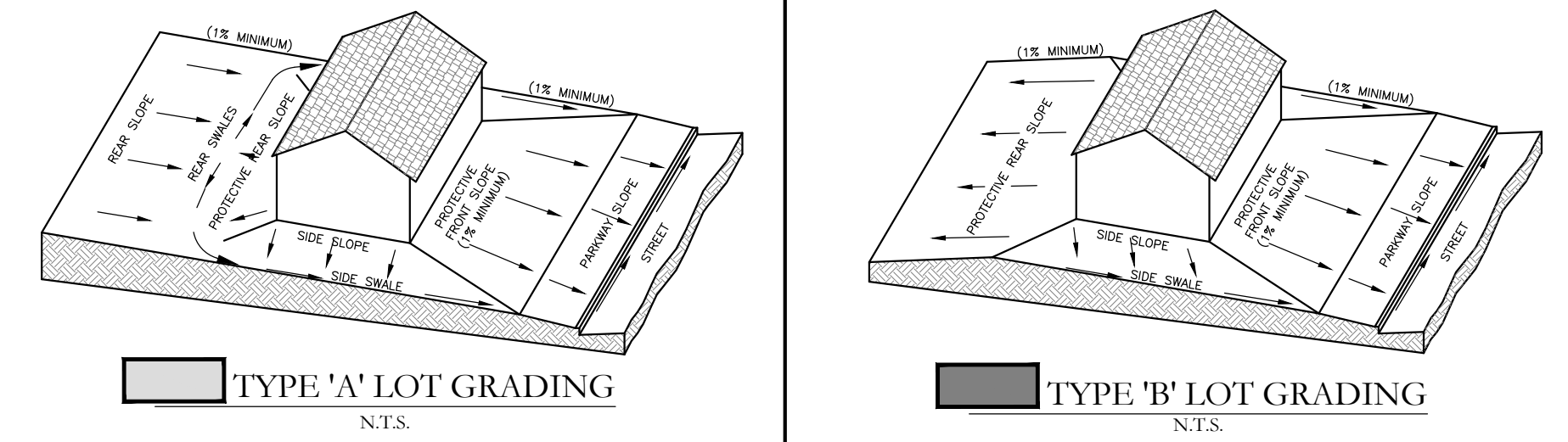
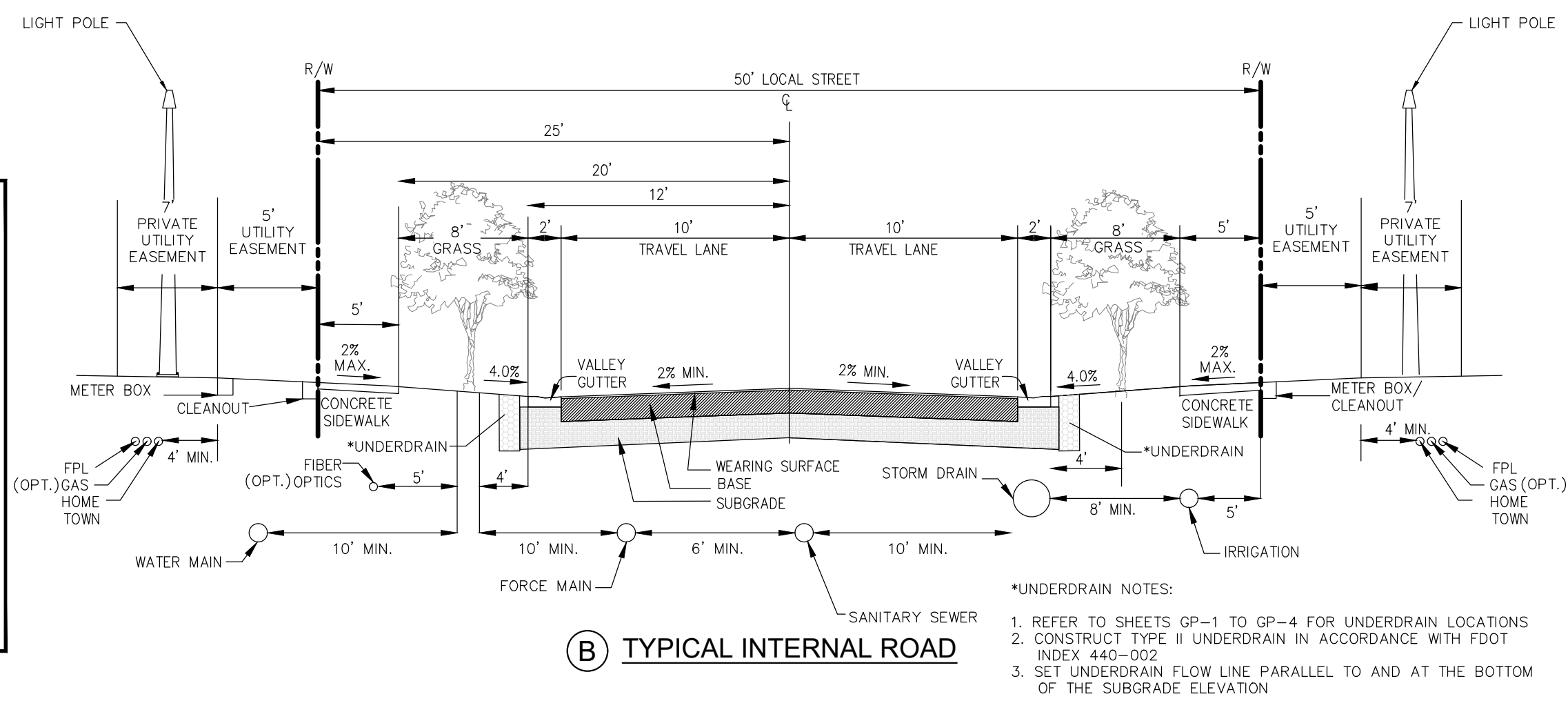
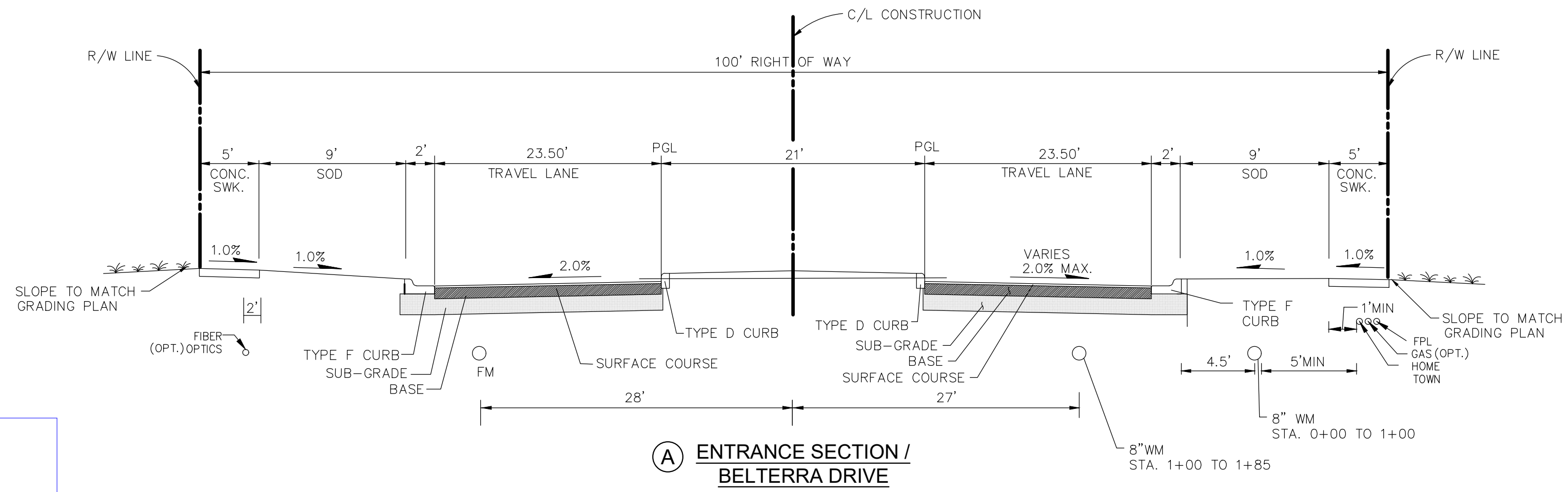
Legend:
 Limits of Phase 1 Plat 3

PAVEMENT STRUCTURE – INTERNAL ROADS/ PARKING LOT
 SURFACE COURSE: 2 INCHES OF FDOT TYPE SP 9.5 ASPHALTIC CONCRETE MIX (FDOT SPEC. SECTION 334)
 BASE: 8" LIMEROCK BASE MIN. LBR 100, 98% MAX. DENSITY PER AASHTO T-180.
 SUB-GRADE: 12" STABILIZED SUBGRADE COMPACTED TO MIN 98% OF THE SOILS MODIFIED PROCTOR MAXIMUM DRY DENSITY (AASHTO T-180) VALUE. SUBGRADE SHALL HAVE AN LBR GREATER OR EQUAL TO 40.

1 – SURFACE COURSE	2"	0.44/in.	0.88
2 – BASE	8"	0.18/in.	1.44
3 – SUB-GRADE	12"	0.08/in.	0.96

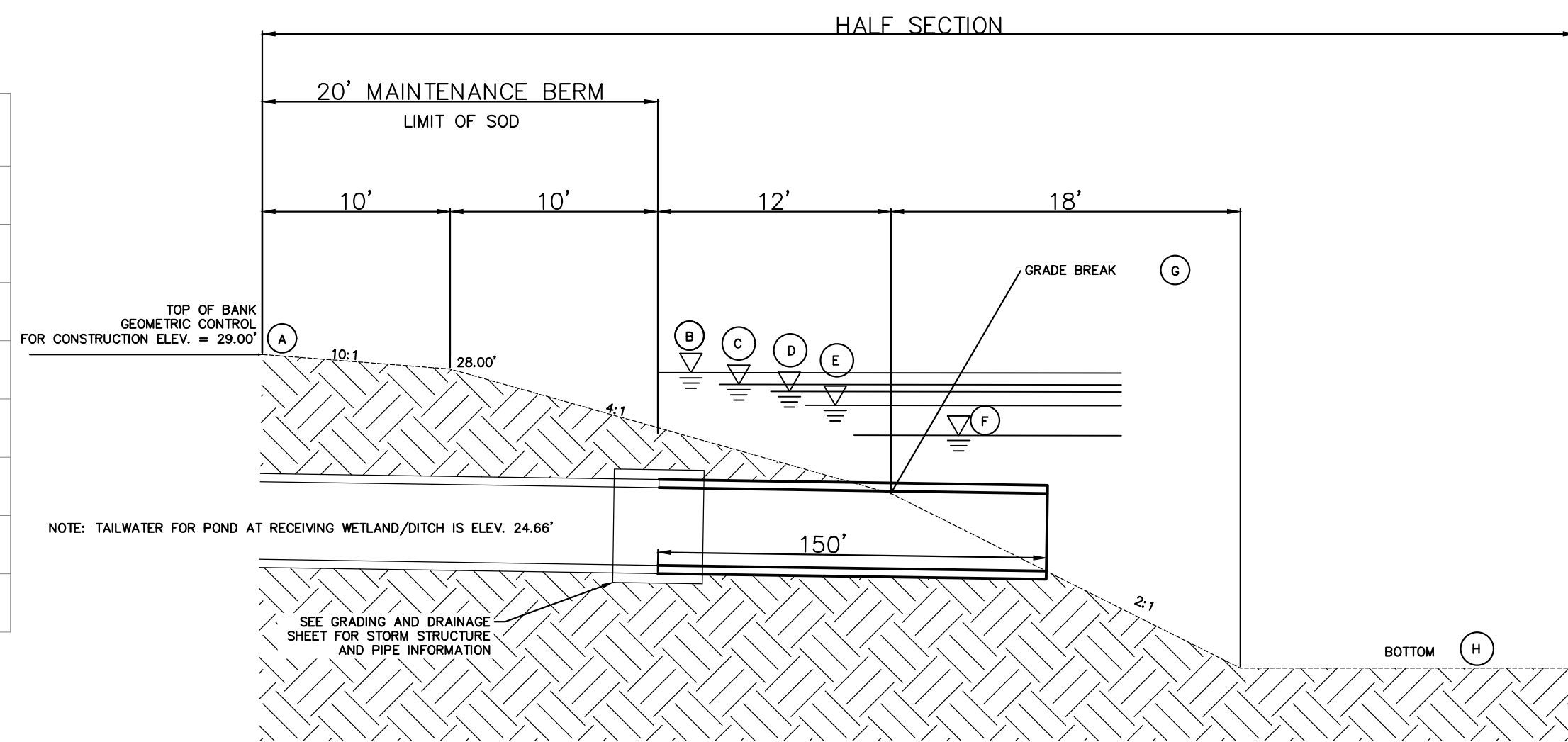
STRUCTURE NUMBER = 1 3.28

NOTES:
 1. ALL SWALES & NON PAVED AREAS TO BE SODDED UNLESS OTHERWISE NOTED.

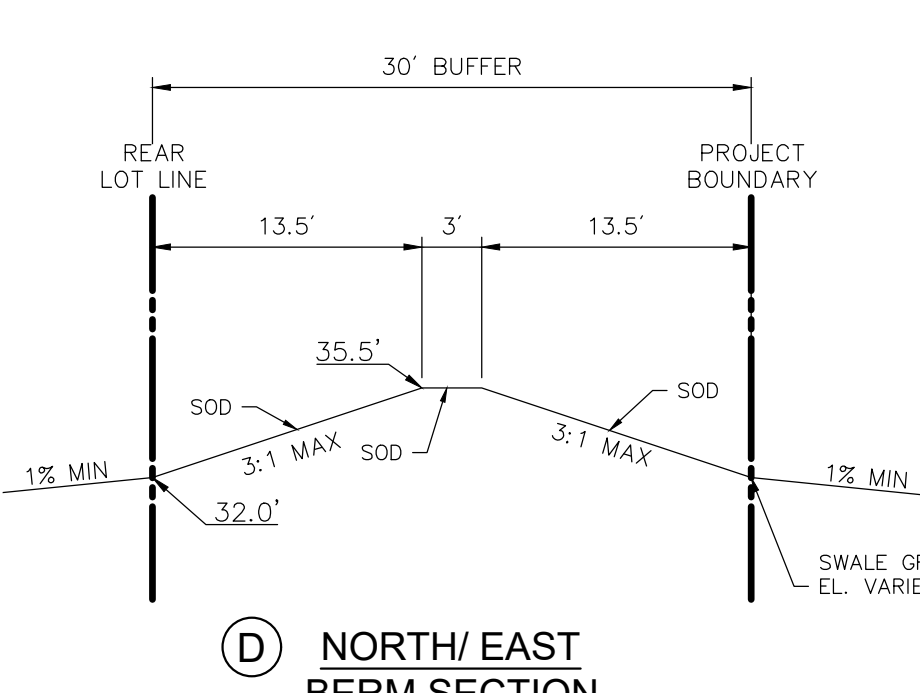
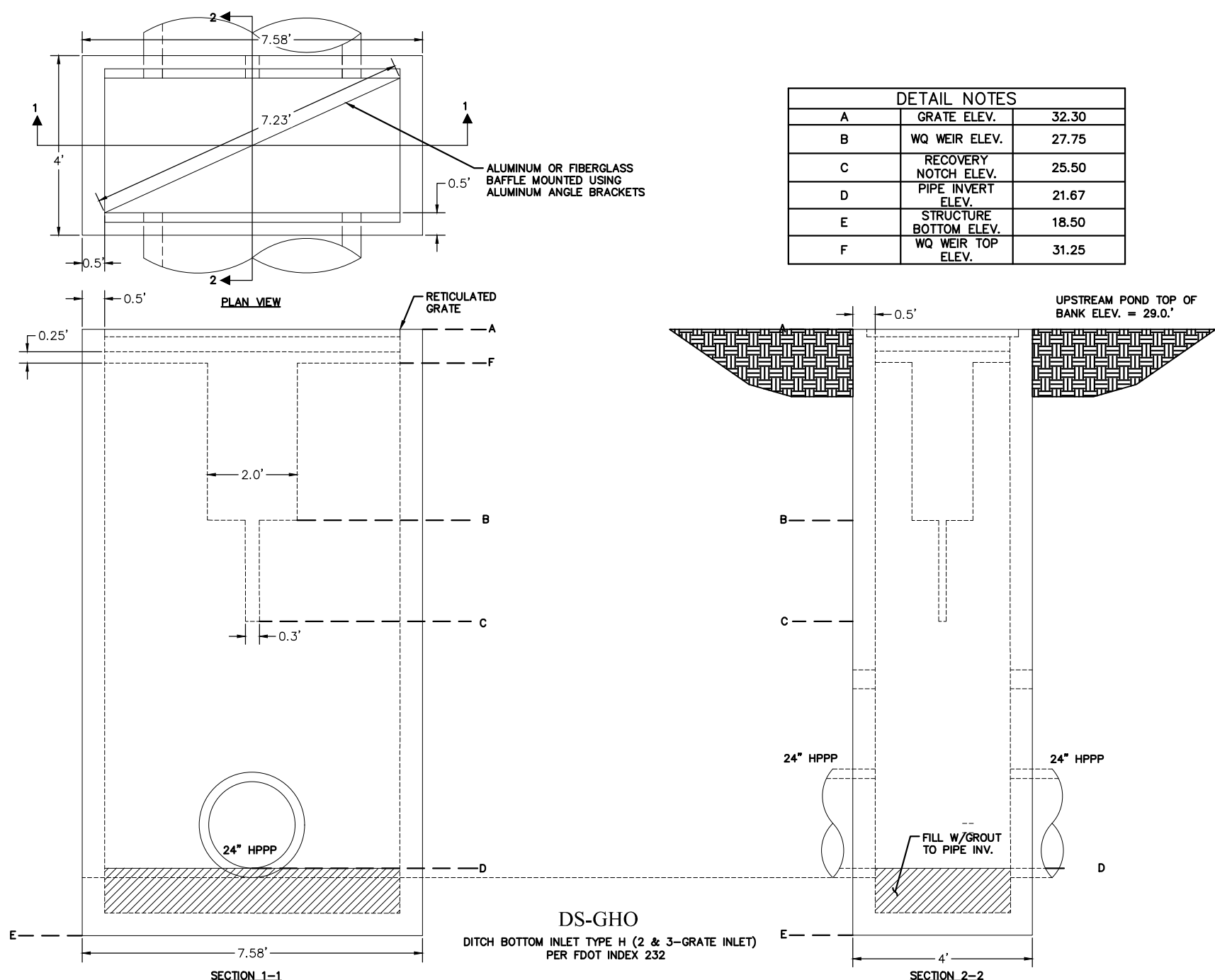


TYPICAL LOT GRADING

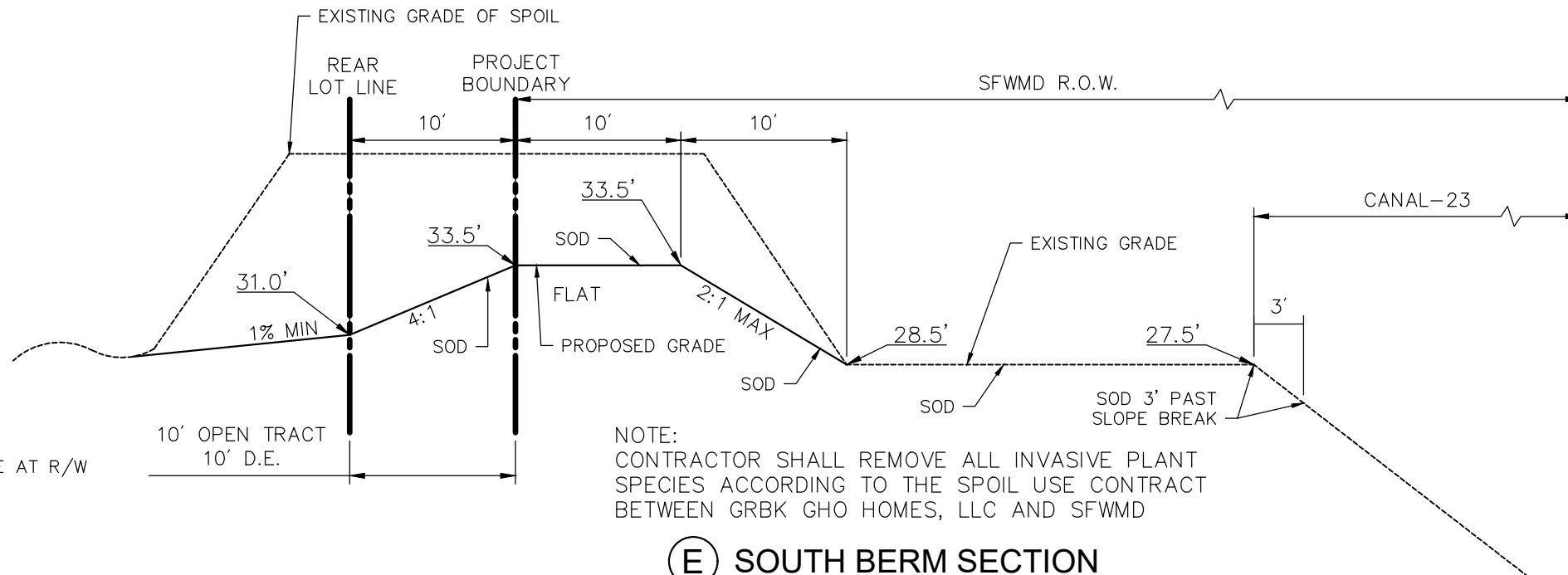
LOCATION	IDENTIFICATION	ELEVATION
(A)	TOP OF BANK ELEV.	29.00'
(B)	100YR-72HR POND PEAK STAGE	29.49'
(C)	25YR-72HR PEAK STAGE	29.17'
(D)	10YR-72HR POND PEAK STAGE	28.87'
(E)	10YR-24HR PEAK STAGE	28.45'
(F)	NWL ELEVATION	25.50'
(G)	GRADE BREAK ELEV.	22.50'
(H)	BOTTOM ELEV.	13.50'



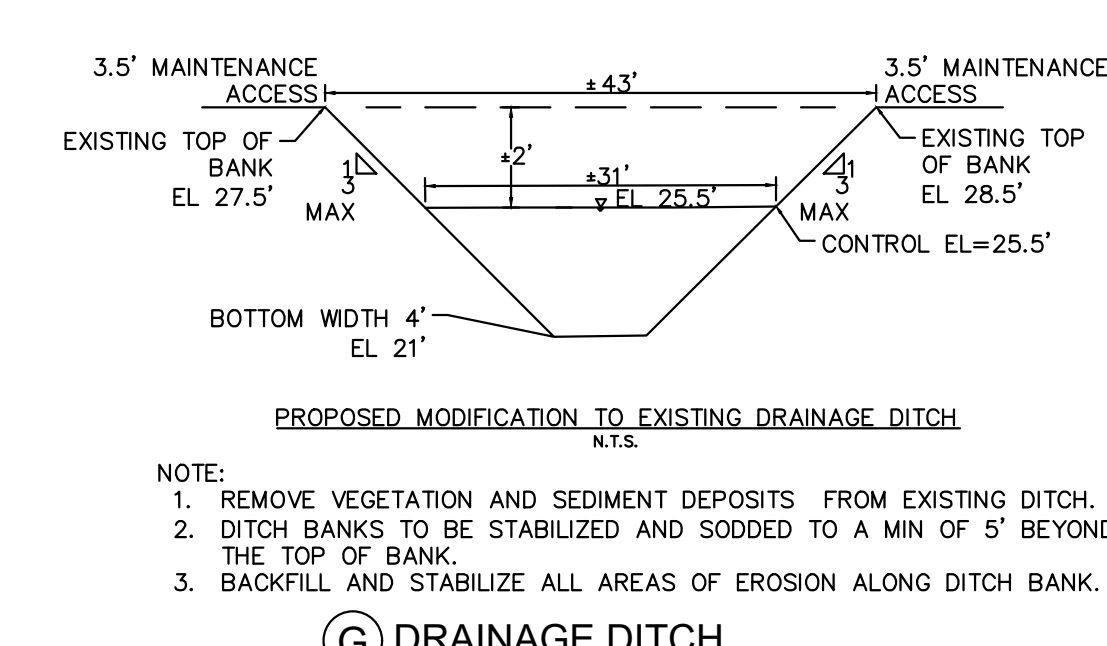
(C) LAKE SECTION



(D) NORTH/EAST BERM SECTION



(E) SOUTH BERM SECTION



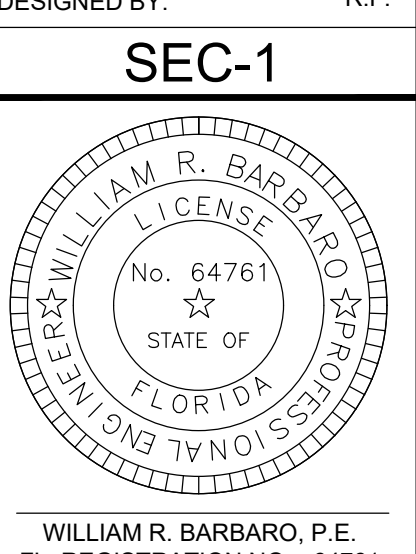
(G) DRAINAGE DITCH

BELTERRA PHASE 1 AT SOUTHERN GROVE
 PORT ST. LUCIE COUNTY, FL

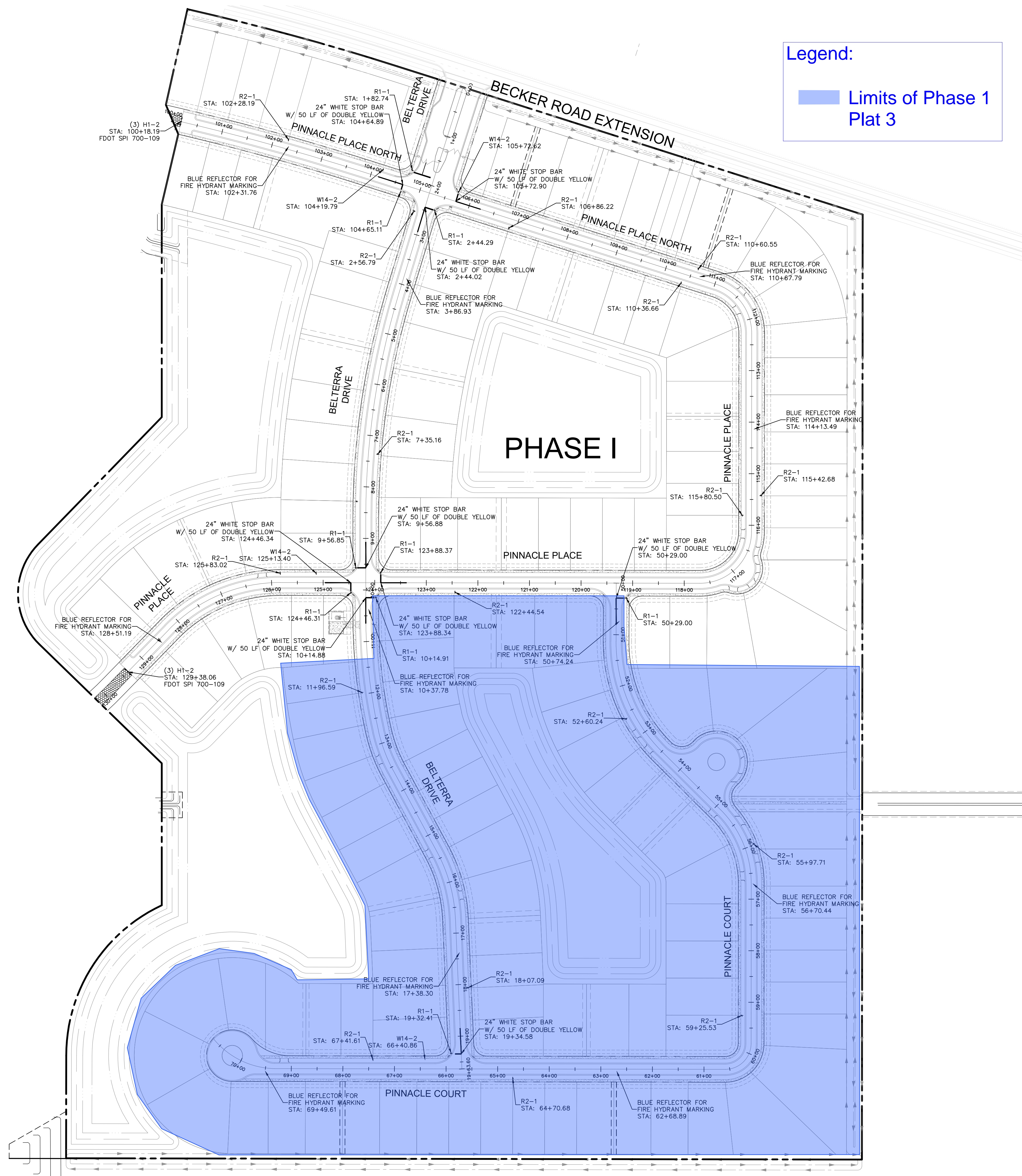
TYPICAL CROSS SECTIONS



SCALE: N.T.S.
 DATE: 12/08/21
 DRAWN BY: R.P.
 CHECKED BY: W.R.B.
 DESIGNED BY: R.F.

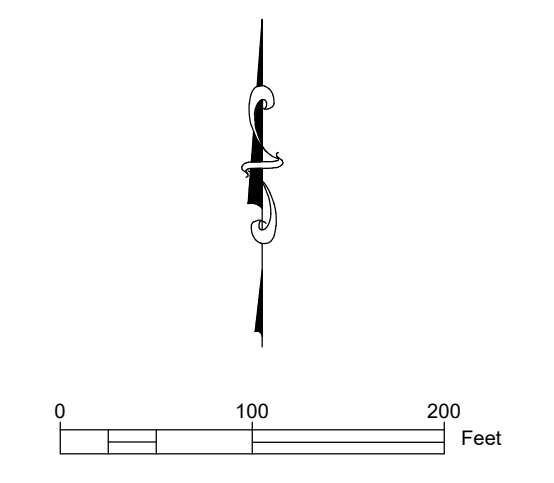


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Legend:
 Limits of Phase 1 Plat 3

Legend
 - - - - - PROPERTY LINE
 - - - - - RIGHT-OF-WAY LINE



GENERAL NOTES:

- ALL SIGNS SHALL MEET FDOT AND MUTCD SPECIFICATIONS, LATEST EDITION, FOR FACE OF SIGN, LOCATION AND POLE MOUNTING HEIGHT.
- PRIOR TO FABRICATION THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER AND THE CITY OF PORT ST. LUCIE FOR APPROVAL.
- ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AND FULLY RETROREFLECTORIZED.
- ALL PAVEMENT MARKINGS, REFLECTORS, AND SIGNING SHALL BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION AND "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), LATEST EDITION.
- ALL TRAFFIC CONTROL SIGNS SHALL BE PLACED OUTSIDE OF THE REQUIRED CLEAR ZONE.
- ALL STOP BARS TO BE A MINIMUM OF 4 FEET BEHIND CROSSWALK OR SIDEWALK.

Sign Summary			
M.U.T.C.D. Number	Specification	Desc.	
Number	Width	Height	
R1-1	30"	30"	
R2-1	24"	30"	
H1-2	18"	18"	
W14-2	30"	30"	

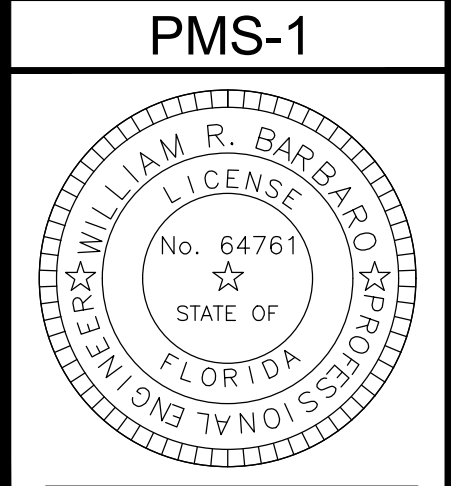
BELTERRA PHASE 1 AT SOUTHERN GROVE
 PORT ST. LUCIE COUNTY, FL

PAVEMENT MARKINGS & SIGNAGE



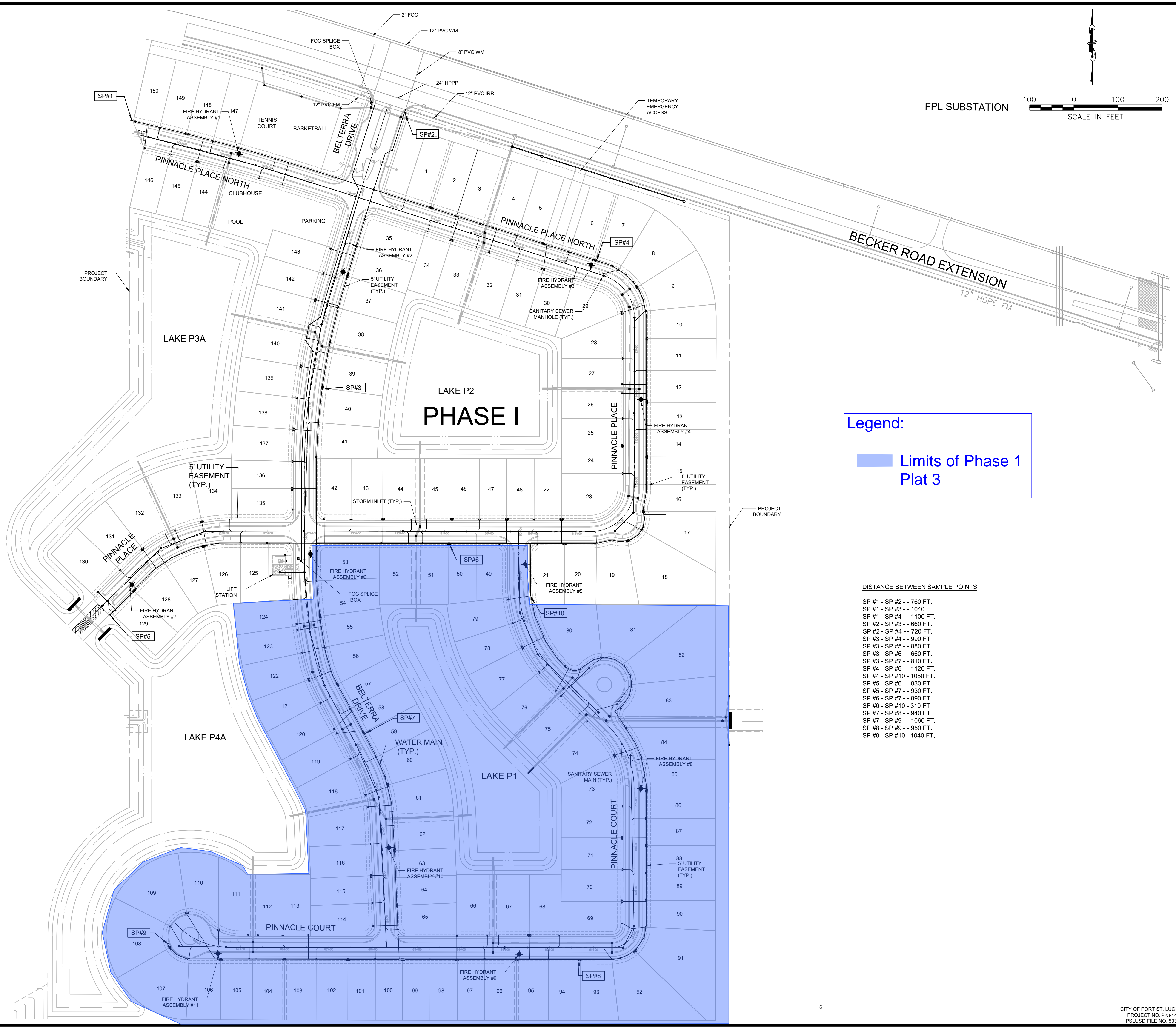
CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
 814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
 PHONE: (954) 972-3859 FAX: (954) 972-4178
 CPG AUTH. NO. 000202936

SCALE: AS SHOWN
 DATE: 12/08/21
 DRAWN BY: R.P.
 CHECKED BY: W.R.B.
 DESIGNED BY: R.F.



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FUTURE
PHASE II



Legend:
 Limits of Phase 1 Plat 3

DISTANCE BETWEEN SAMPLE POINTS

- SP #1 - SP #2 -- 760 FT.
- SP #1 - SP #3 -- 1040 FT.
- SP #1 - SP #4 -- 1100 FT.
- SP #2 - SP #3 -- 660 FT.
- SP #2 - SP #4 -- 720 FT.
- SP #3 - SP #4 -- 990 FT.
- SP #3 - SP #5 -- 880 FT.
- SP #3 - SP #6 -- 660 FT.
- SP #3 - SP #7 -- 810 FT.
- SP #4 - SP #6 -- 1120 FT.
- SP #4 - SP #10 - 1050 FT.
- SP #5 - SP #6 -- 830 FT.
- SP #5 - SP #7 -- 930 FT.
- SP #6 - SP #7 -- 890 FT.
- SP #6 - SP #10 - 310 FT.
- SP #7 - SP #9 -- 940 FT.
- SP #7 - SP #9 -- 1060 FT.
- SP #8 - SP #9 -- 950 FT.
- SP #8 - SP #10 - 1040 FT.

NO	DATE	BY	APRV	REVISIONS

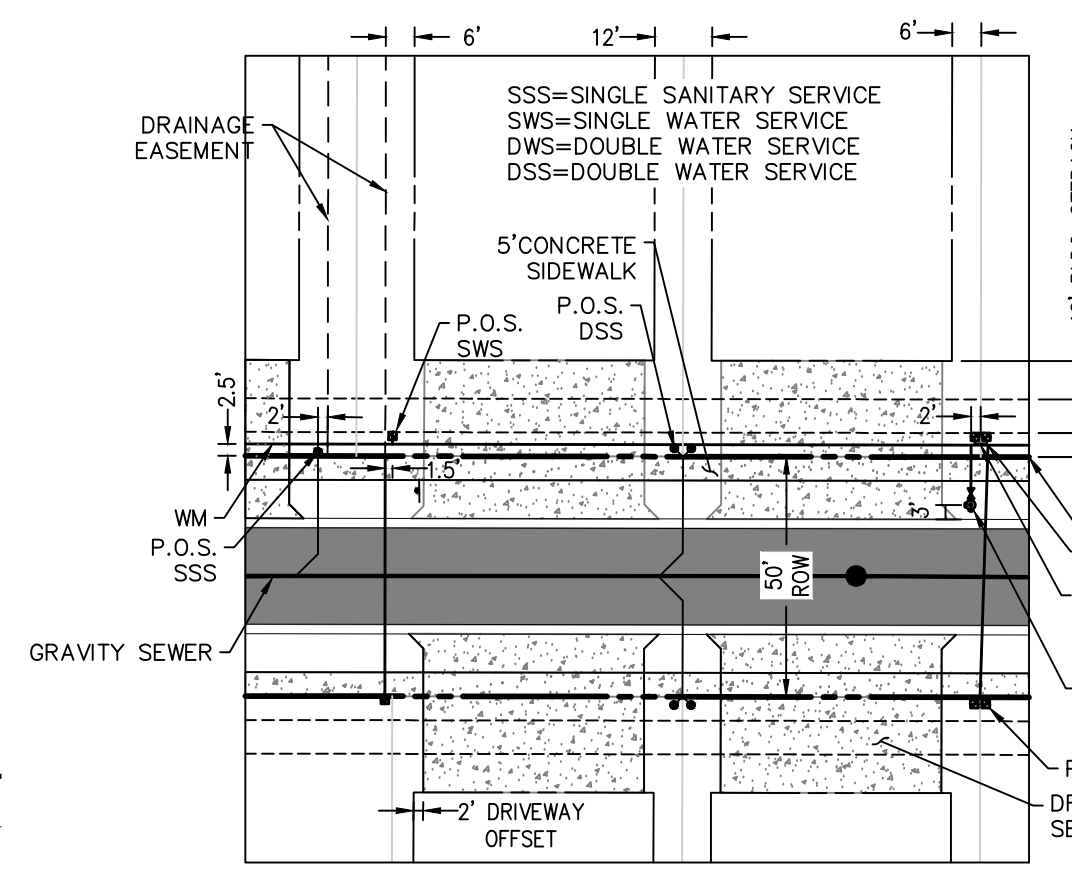
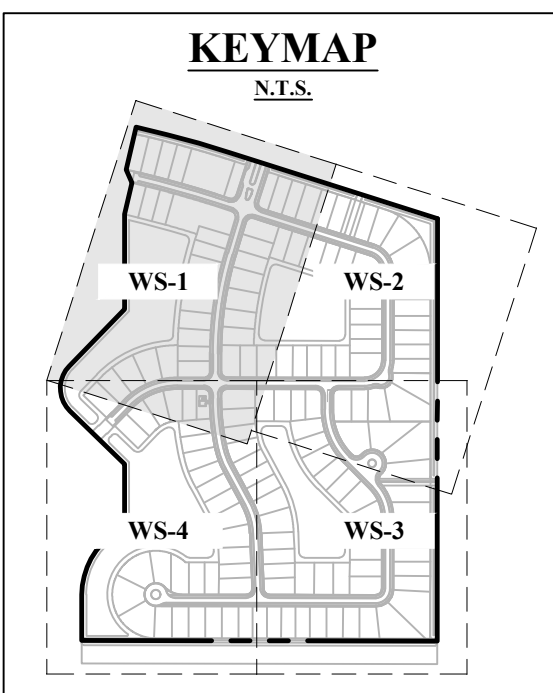
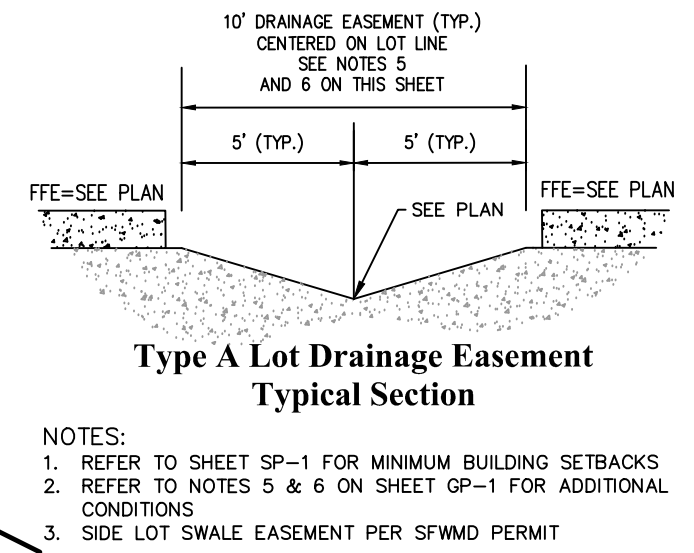
**BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL**

MASTER UTILITY PLAN

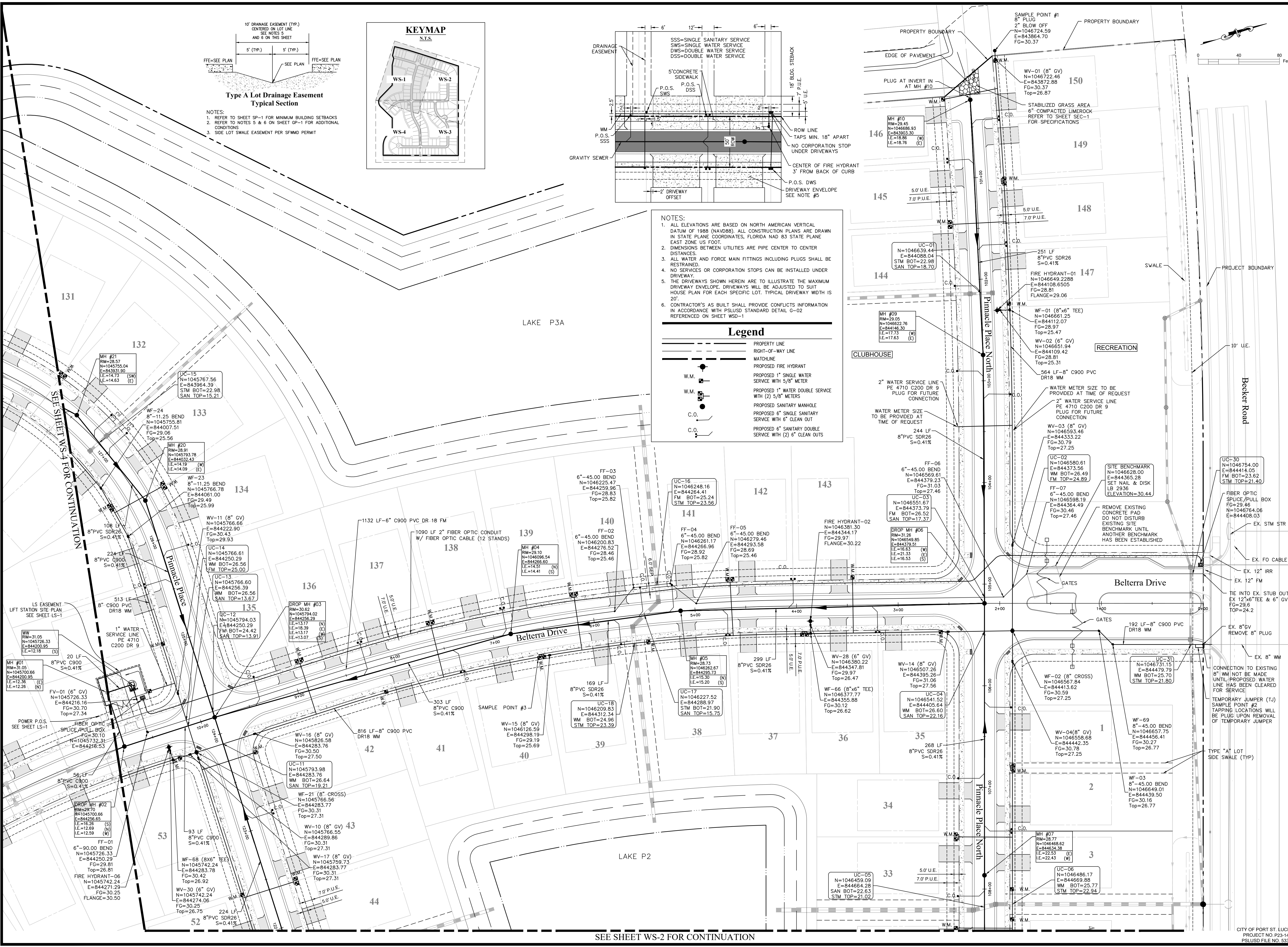
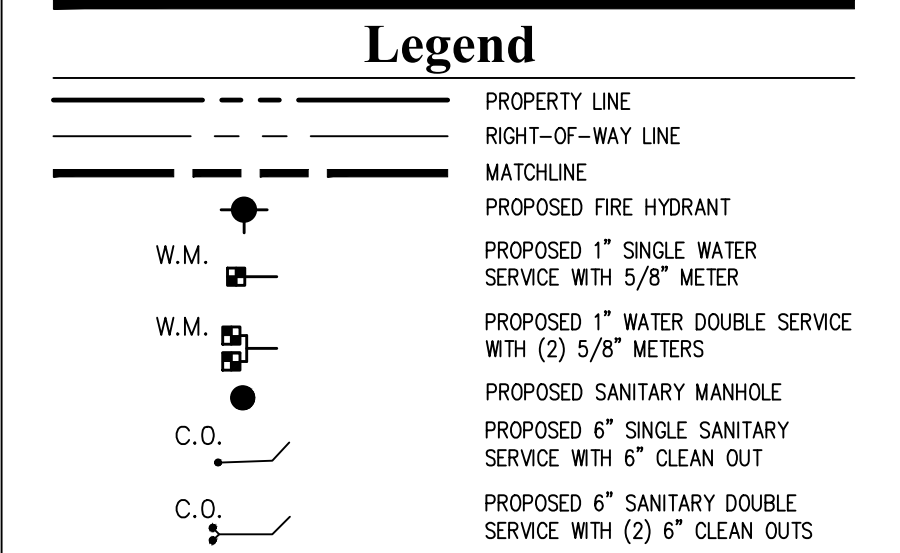
CARNAHAN PROCTOR & CROSS
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 814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
 PHONE: (954) 972-3559 FAX: (954) 972-4178
 CPCS AUTH. NO. 00002936

SCALE: AS SHOWN
 DATE: 12/08/21
 DRAWN BY: R.P.
 CHECKED BY: W.R.B.
 DESIGNED BY: R.F.

MU-1



- NOTES:
- ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). ALL CONSTRUCTION PLANS ARE DRAWN IN STATE PLANE COORDINATES, FLORIDA NAD 83 STATE PLANE EAST ZONE US FOOT.
 - DIMENSIONS BETWEEN UTILITIES ARE PIPE CENTER TO CENTER DISTANCES.
 - ALL WATER AND FORCE MAIN FITTINGS INCLUDING PLUGS SHALL BE RESTRAINED.
 - NO SERVICES OR CORPORATION STOPS CAN BE INSTALLED UNDER DRIVEWAY.
 - THE DRIVEWAYS SHOWN HEREIN ARE TO ILLUSTRATE THE MAXIMUM DRIVEWAY ENVELOPE. DRIVEWAYS WILL BE ADJUSTED TO SUIT HOUSE PLAN FOR EACH SPECIFIC LOT. TYPICAL DRIVEWAY WIDTH IS 20'.
 - CONTRACTOR'S AS BUILT SHALL PROVIDE CONFLICTS INFORMATION IN ACCORDANCE WITH PLUSUD STANDARD DETAIL G-02 REFERENCED ON SHEET WSD-1



NO.	DATE	BY	RP	WRB	REVISIONS
1	12/15/21				

**BELTERRA PHASE 1 AT SOUTHERN GROVE
 PORT ST. LUCIE COUNTY, FL**

WATER & SEWER PLAN

FILE NO. 190214

CARNAHAN PROCTOR & CROSS
 CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
 814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
 PHONE: (954) 972-3959 FAX: (954) 972-4178
 CPC AUTH. NO. 00020939

SCALE: AS SHOWN
 DATE: 12/08/21
 DRAWN BY: R.P.
 CHECKED BY: W.R.B.
 DESIGNED BY: R.F.

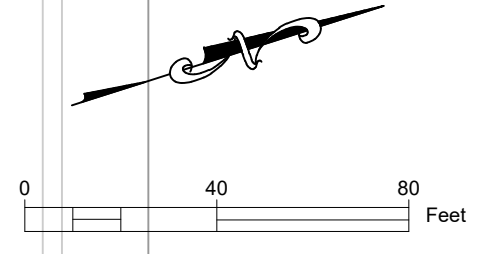
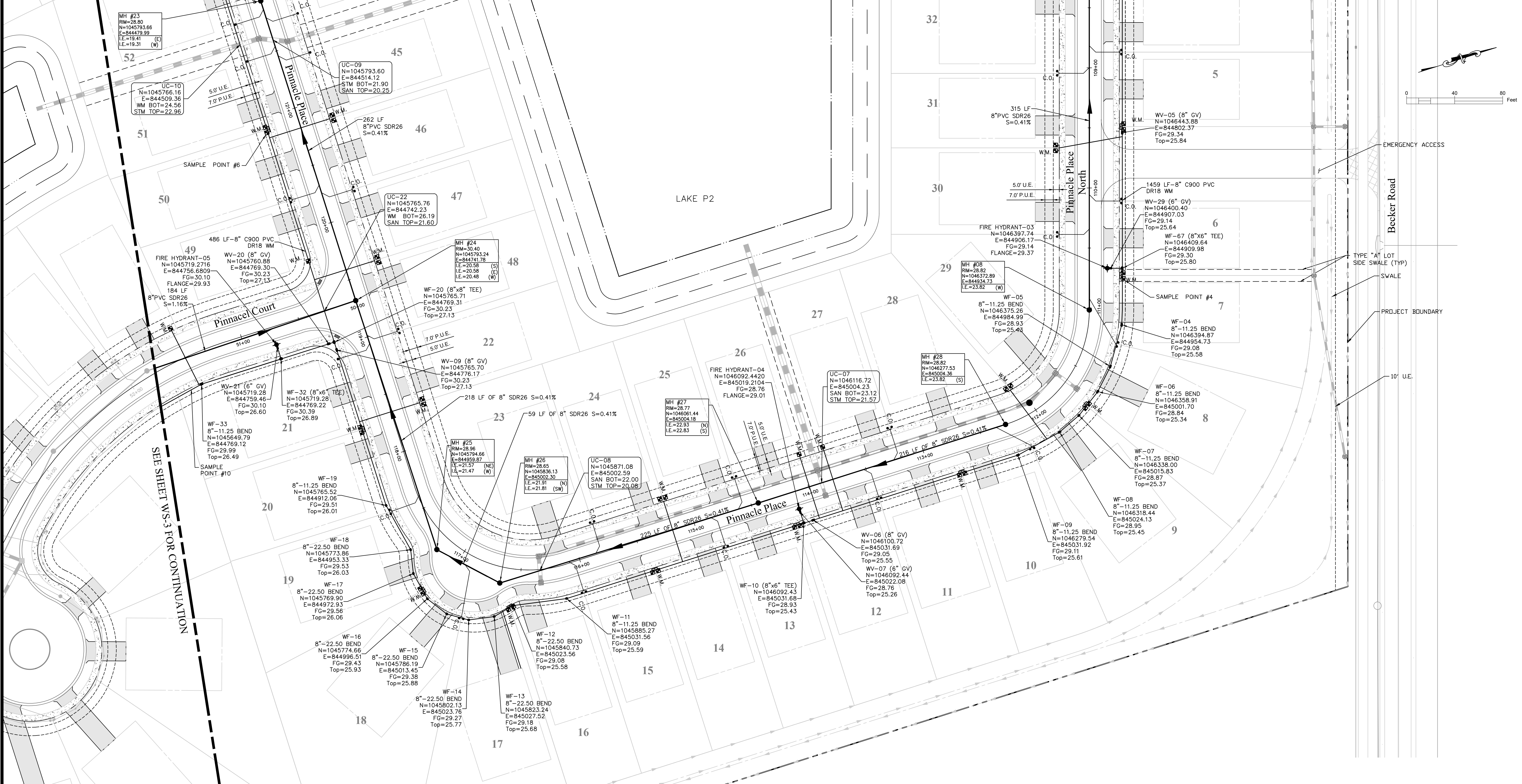
WS-1

CITY OF PORT ST. LUCIE
 PROJECT NO. P23-147
 PLUSUD FILE NO. 5336

WILLIAM R. BARBARO, P.E.
 FL. REGISTRATION NO. - 64761

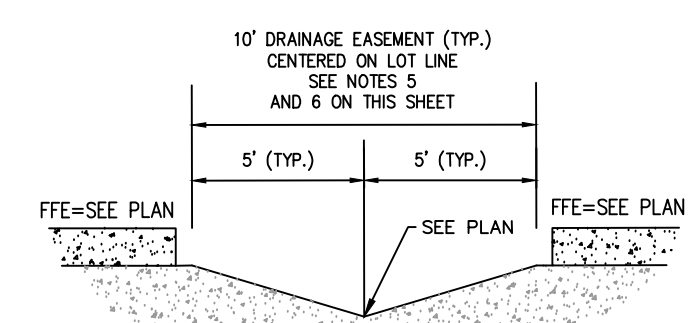
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SEE SHEET WS-2 FOR CONTINUATION



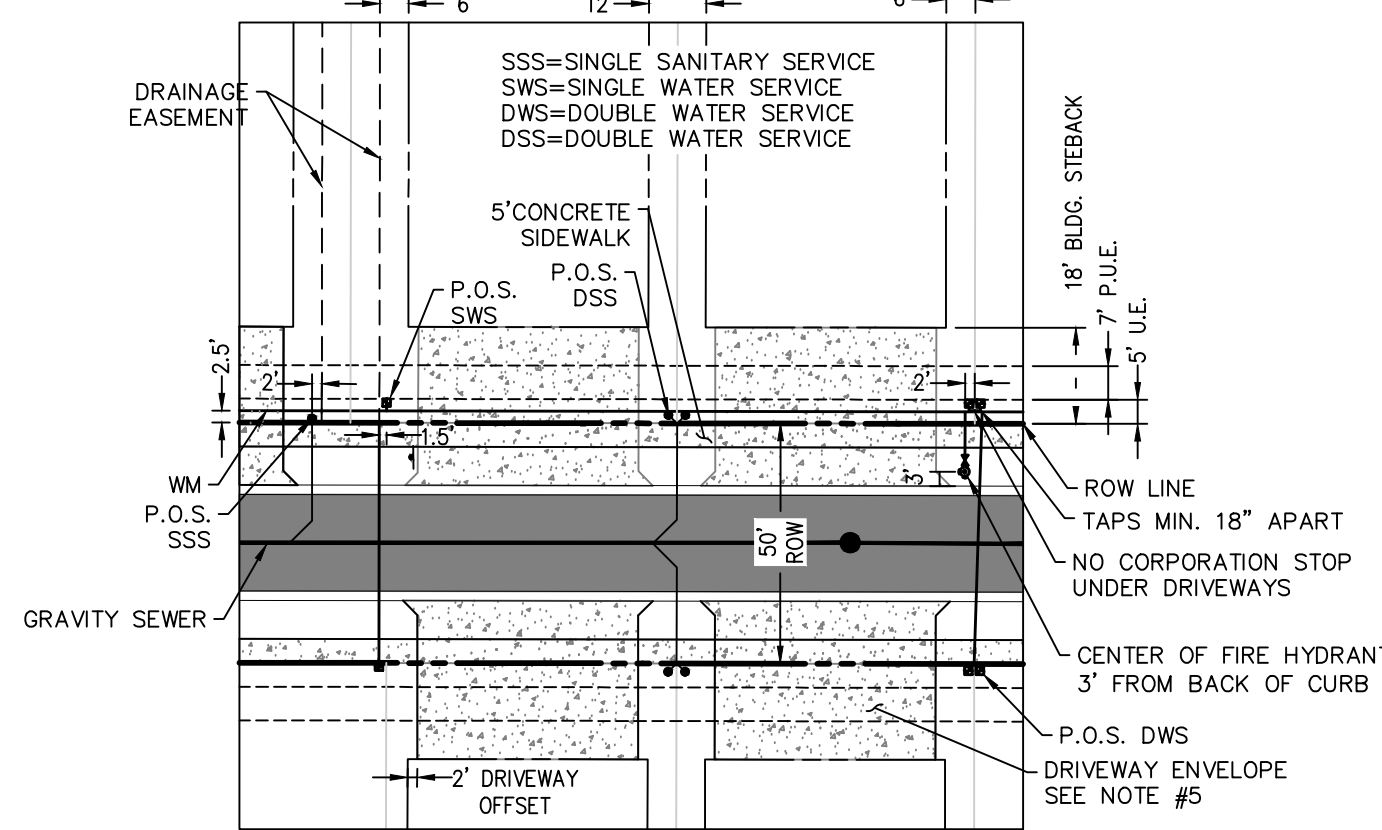
SEE SHEET WS-3 FOR CONTINUATION

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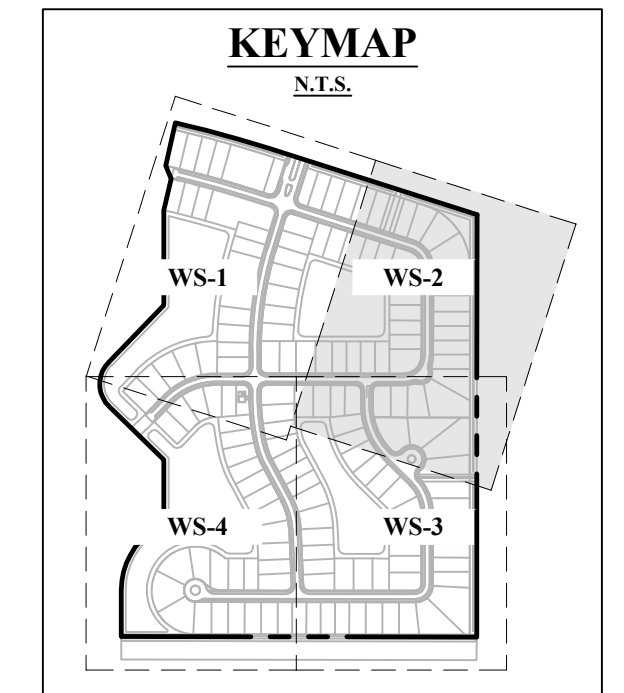
Type A Lot Drainage Easement Typical Section

NOTES:
 1. REFER TO SHEET SP-1 FOR MINIMUM BUILDING SETBACKS.
 2. REFER TO NOTES 5 & 6 ON SHEET SP-1 FOR ADDITIONAL CONDITIONS.
 3. SIDE LOT SWALE EASEMENT PER SFWM PERMIT



- NOTES:**
1. ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). ALL CONSTRUCTION PLANS ARE DRAWN IN STATE PLANE COORDINATES, FLORIDA NAD 83 STATE PLANE EAST ZONE US FOOT.
 2. DIMENSIONS BETWEEN UTILITIES ARE PIPE CENTER TO CENTER DISTANCES.
 3. ALL WATER AND FORCE MAIN FITTINGS INCLUDING PLUGS SHALL BE RESTRAINED.
 4. NO SERVICES OR CORPORATION STOPS CAN BE INSTALLED UNDER DRIVEWAY.
 5. THE DRIVEWAYS SHOWN HEREIN ARE TO ILLUSTRATE THE MAXIMUM DRIVEWAY ENVELOPE. DRIVEWAYS WILL BE ADJUSTED TO SUIT HOUSE PLAN FOR EACH SPECIFIC LOT. TYPICAL DRIVEWAY WIDTH IS 20'.
 6. CONTRACTOR'S AS BUILT SHALL PROVIDE CONFLICTS INFORMATION IN ACCORDANCE WITH PLUSD STANDARD DETAIL G-02 REFERENCED ON SHEET WSD-1

- Legend**
- PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - MATCHLINE
 - PROPOSED FIRE HYDRANT
 - PROPOSED 1" SINGLE WATER SERVICE WITH 5/8" METER
 - PROPOSED 1" WATER DOUBLE SERVICE WITH (2) 5/8" METERS
 - PROPOSED SANITARY MANHOLE
 - PROPOSED 6" SINGLE SANITARY SERVICE WITH 6" CLEAN OUT
 - PROPOSED 6" SANITARY DOUBLE SERVICE WITH (2) 6" CLEAN OUTS



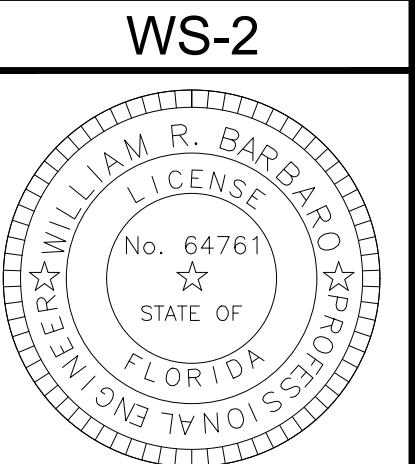
**BELTERRA PHASE 1 AT SOUTHERN GROVE
 PORT ST. LUCIE COUNTY, FL**

WATER & SEWER PLAN

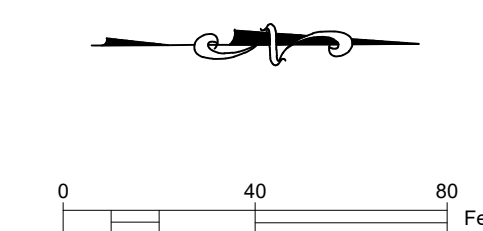
NO	DATE	BY	APRV	REVISIONS
1	12/15/21	RP		REVISED PER PSL COMMENTS

CARNAHAN PROCTOR & CROSS
 CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
 814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
 PHONE: (954) 972-3959 FAX: (954) 972-4178
 CPC AUTH. NO. 00002936

SCALE: AS SHOWN
 DATE: 12/08/21
 DRAWN BY: R.P.
 CHECKED BY: W.R.B.
 DESIGNED BY: R.F.



SEE SHEET WS-4 FOR CONTINUATION



TYPE "A" LOT SIDE SWALE (TYP)

SEE SHEET WS-2 FOR CONTINUATION

Legend:
Limits of Phase 1 Plat 3

NOTES:
1. ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)...

Legend:
PROPERTY LINE, RIGHT-OF-WAY LINE, MATCHLINE, PROPOSED FIRE HYDRANT...

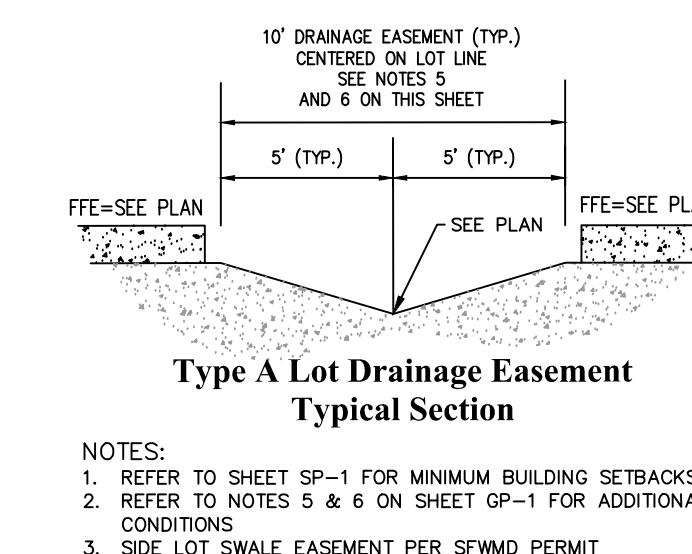
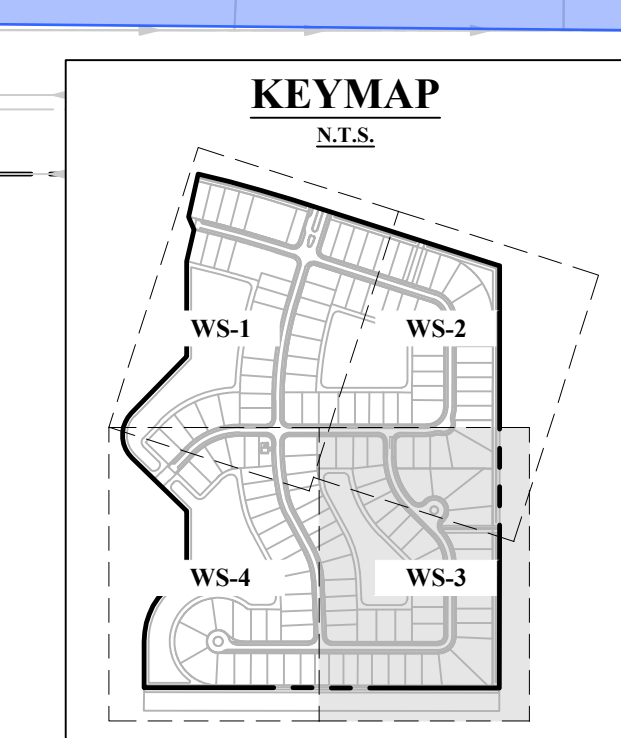
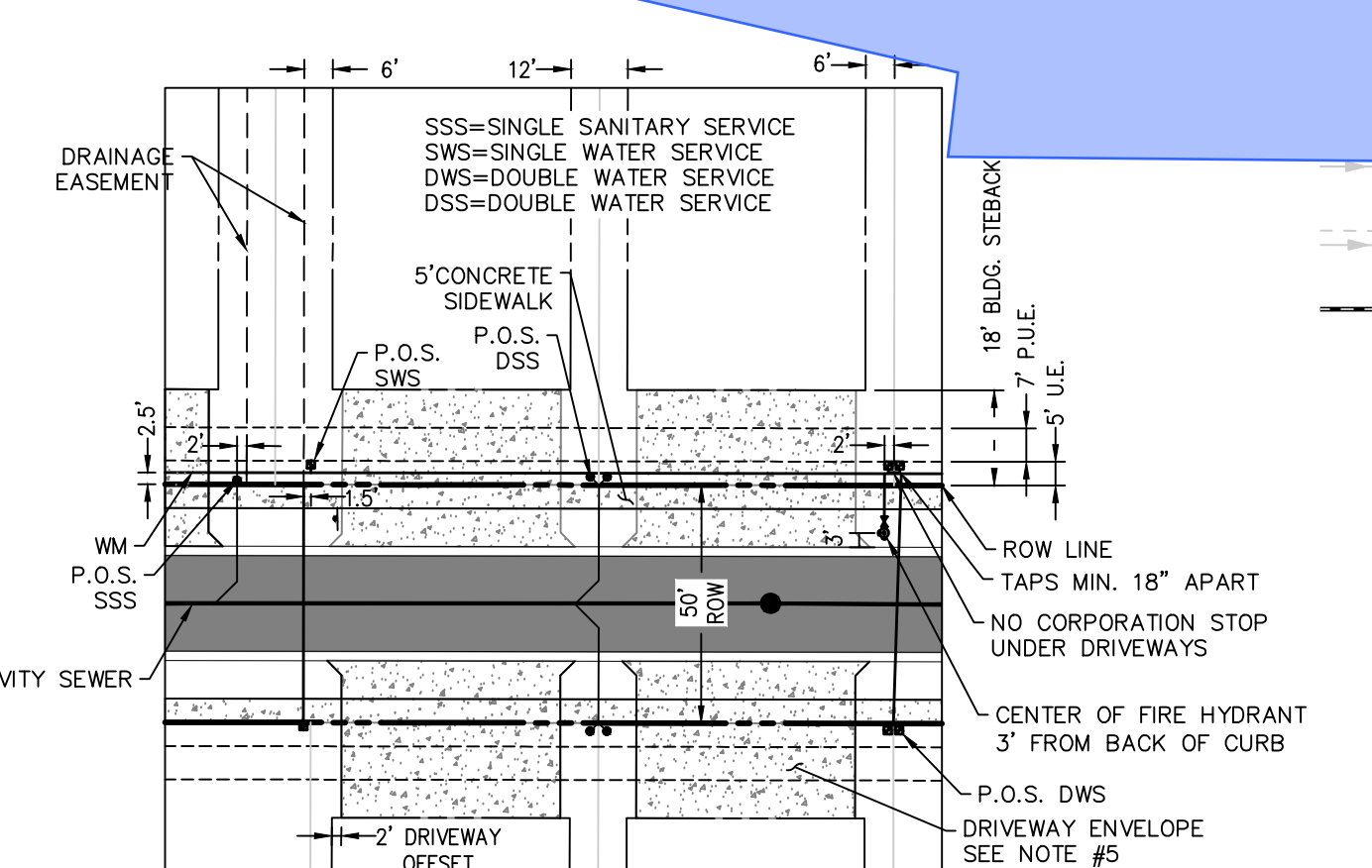


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BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL
WATER & SEWER PLAN

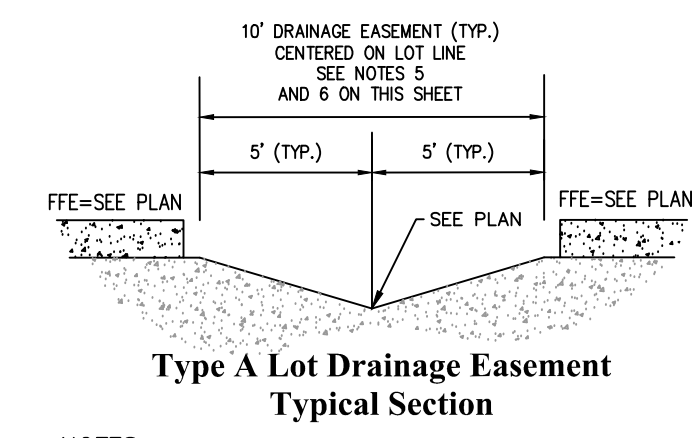


SCALE: AS SHOWN
DATE: 12/08/21
DRAWN BY: R.P.
CHECKED BY: W.R.B.
DESIGNED BY: R.F.

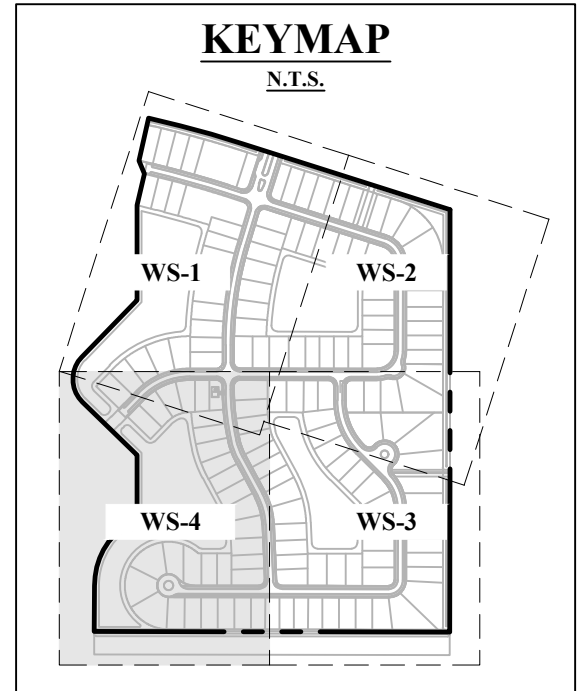
Professional Engineer seal for William R. Barbaro, P.E., License No. 64761, State of Florida.

2/09/21 p:\projects\2019\deerfield_shore\southern_grove\cod\plan\190214-WS.dwg

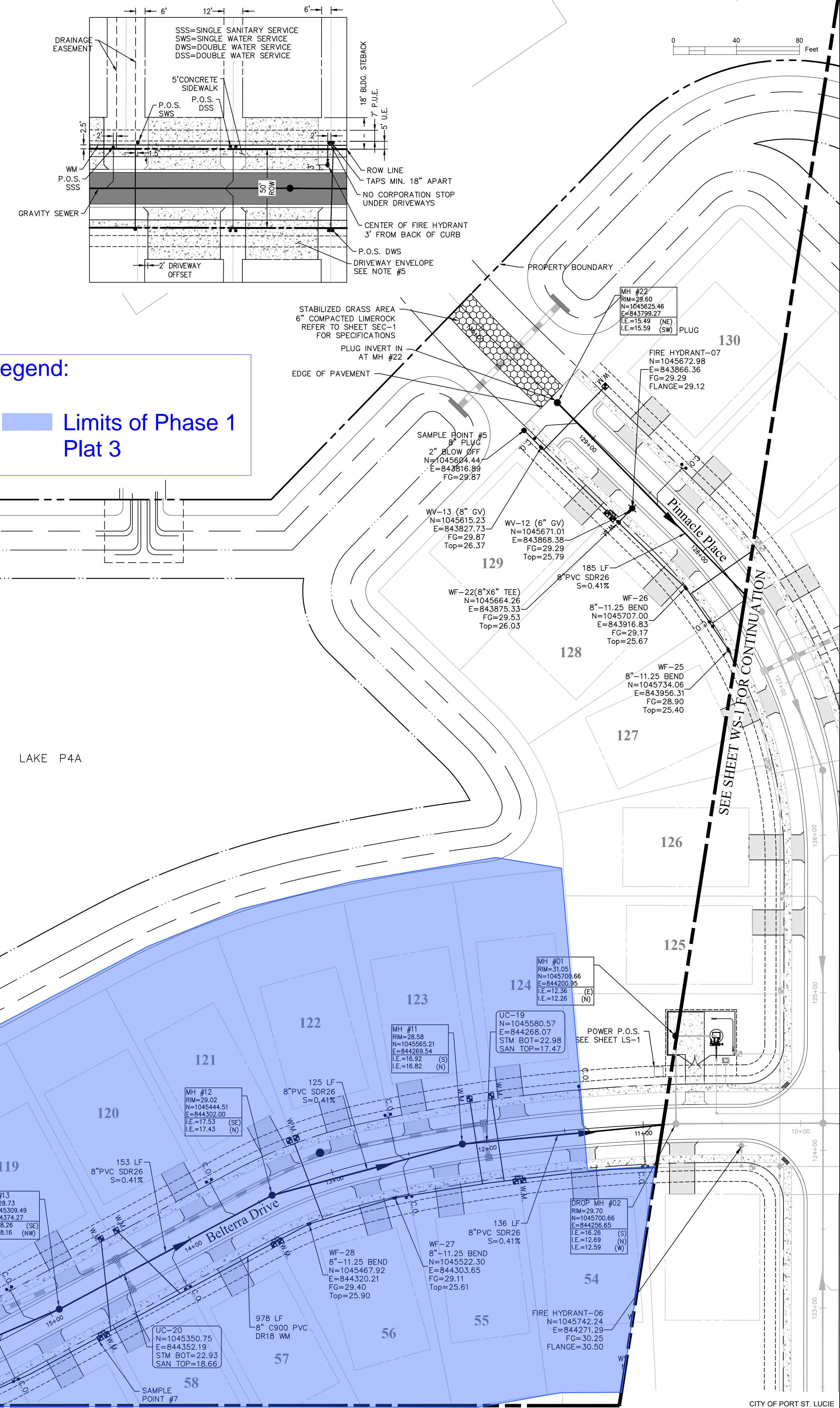
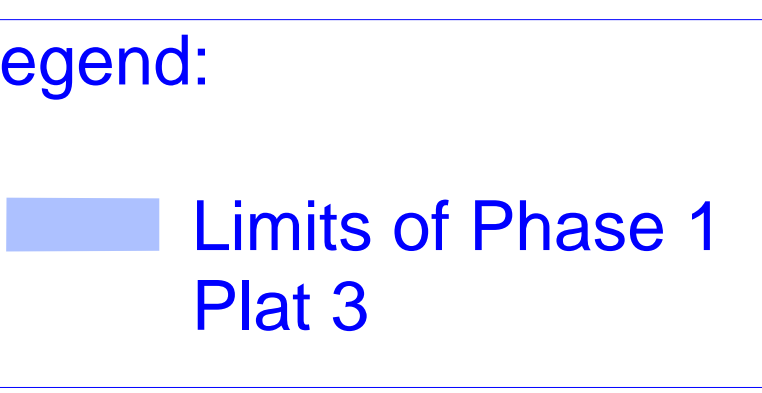
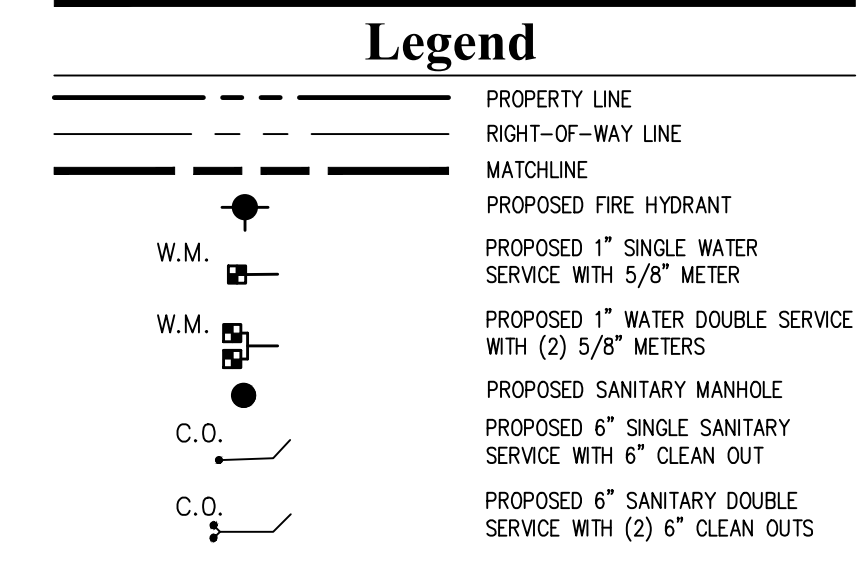
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Type A Lot Drainage Easement Typical Section
NOTES:
1. REFER TO SHEET SP-1 FOR MINIMUM BUILDING SETBACKS
2. REFER TO NOTES 5 & 6 ON SHEET GP-1 FOR ADDITIONAL CONDITIONS
3. SIDE LOT SWALE EASEMENT PER SFMWD PERMIT



- NOTES:
1. ALL ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). ALL CONSTRUCTION PLANS ARE DRAWN IN STATE PLANE COORDINATES, FLORIDA NAD 83 STATE PLANE EAST ZONE US FOOT.
 2. DIMENSIONS BETWEEN UTILITIES ARE PIPE CENTER TO CENTER DISTANCES.
 3. ALL WATER AND FORCE MAIN FITTINGS INCLUDING PLUGS SHALL BE RESTRAINED.
 4. NO SERVICES OR CORPORATION STOPS CAN BE INSTALLED UNDER DRIVEWAYS.
 5. THE DRIVEWAYS SHOWN HEREIN ARE TO ILLUSTRATE THE MAXIMUM DRIVEWAY ENVELOPE. DRIVEWAYS WILL BE ADJUSTED TO SUIT HOUSE PLAN FOR EACH SPECIFIC LOT. TYPICAL DRIVEWAY WIDTH IS 20'.
 6. CONTRACTOR'S AS BUILT SHALL PROVIDE CONFLICTS INFORMATION IN ACCORDANCE WITH PLSUD STANDARD DETAIL G-02 REFERENCED ON SHEET WSD-1



NO.	DATE	BY	APPROV.	REVISIONS
1	12/15/21	RP	WRB	REVISED PER PSL COMMENTS

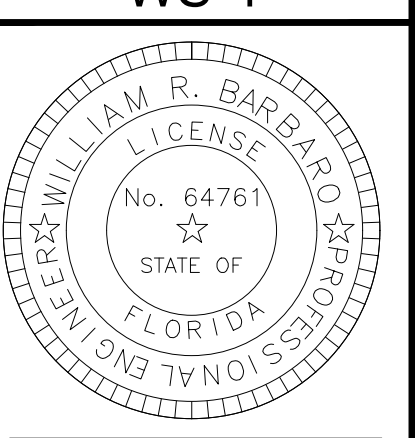
BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

WATER & SEWER PLAN



SCALE: AS SHOWN
DATE: 12/08/21
DRAWN BY: R.P.
CHECKED BY: W.R.B.
DESIGNED BY: R.F.

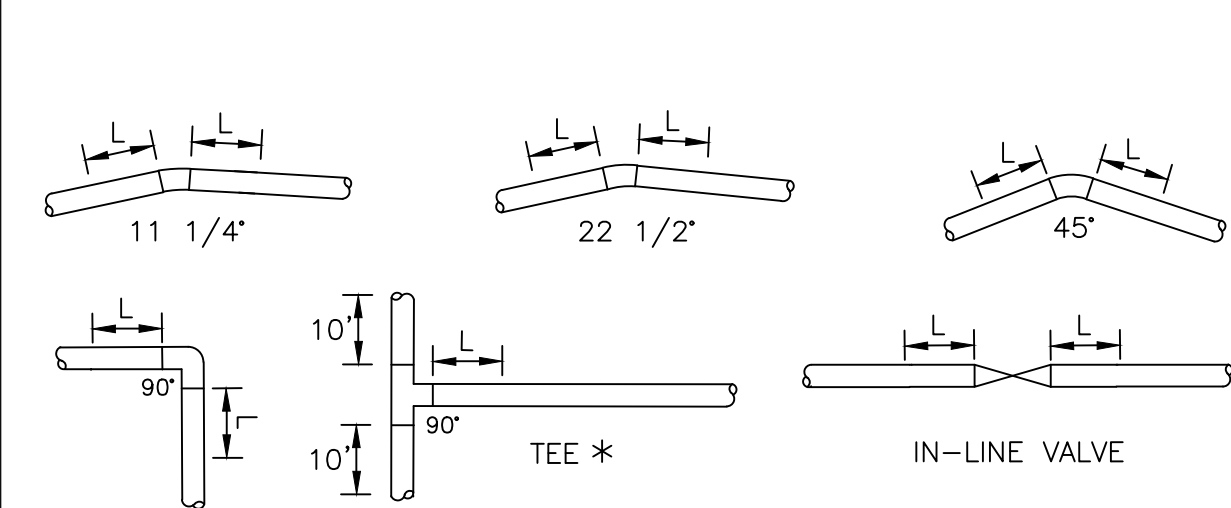
WS-4



CITY OF PORT ST. LUCIE
PROJECT NO. P23-147
PLSUD FILE NO. 5336

WILLIAM R. BARBARO, P.E.
FL REGISTRATION NO. - 64761

HORIZONTAL BENDS



DIAMETER	HORIZONTAL - L (FEET)				VALVES OR (BRANCH) DEAD END
	11-1/4°	22-1/2°	45°	90°	
4"	2	4	8	18	20
6"	3	6	11	25	36
8"	4	7	14	33	52
10"	4	8	16	39	65
12"	5	9	19	45	80
14"	5	11	21	51	93
16"	6	12	24	57	107
18"	7	13	26	63	120
20"	7	14	29	68	133
24"	8	16	33	79	157
30"	10	19	39	93	192
36"	11	21	44	106	225
42"	12	24	49	117	254
48"	13	26	53	128	283

NOTES:

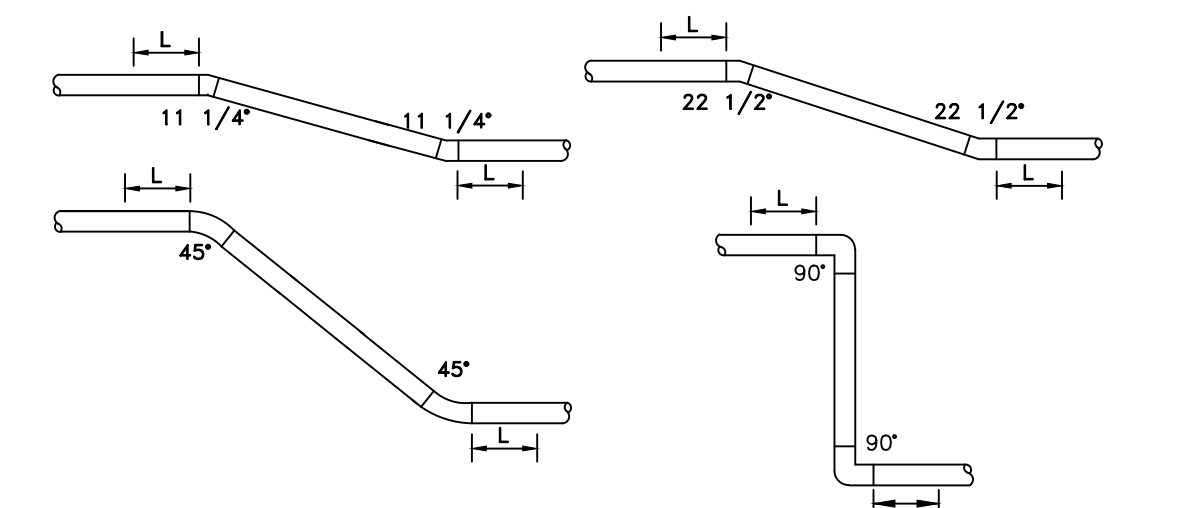
- THE REQUIREMENTS SET FORTH ABOVE WERE CALCULATED FOR PVC PIPE BASED UPON THE FOLLOWING ASSUMPTIONS:
 - SOIL CONDITIONS: SILTY SAND (SM)
 - TRENCH TYPE: 3 (PIPE BEDDED IN 4" MINIMUM OF LOOSE SOIL WITH BACKFILL LIGHTLY COMPACTED)
 - MINIMUM COVER: 3 FT
 - SAFETY FACTOR: 1.5
 - TEST PRESSURE: 150 PSI
 - * SIZE ON SIZE TEE & 5' LENGTH ALONG RUN
- IF FIELD CONDITIONS DIFFER FROM THE ABOVE, THE ENGINEER-OF-RECORD (EOR) SHALL SUBMIT CALCULATIONS BASED ON THE FIELD CONDITION FOR REVIEW AND APPROVAL OF PLSUSD.

MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE
 900 S.E. OGDEN LANE
 PORT ST. LUCIE, FL 34983
 PHONE (772) 873-6400 FAX (772) 873-6433

PIPELINE RESTRAINT REQUIREMENTS (HORIZONTAL)

DATE: 2019
 SCALE: N.T.S.
 SHEET: 1 OF 3

VERTICAL BENDS



DIAMETER	VERTICAL OFFSET - L (FEET)			
	11-1/4°		22-1/2°	
4"	2	4	8	18
6"	3	6	11	25
8"	4	7	14	33
10"	4	8	16	39
12"	5	9	19	45
14"	5	11	21	51
16"	6	12	24	57
18"	7	13	26	63
20"	7	14	29	68
24"	8	16	33	79
30"	10	19	39	93
36"	11	21	44	106
42"	12	24	49	117
48"	13	26	53	128

NOTES:

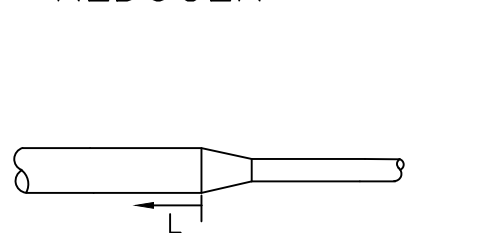
- THE REQUIREMENTS SET FORTH ABOVE WERE CALCULATED FOR PVC PIPE BASED UPON THE FOLLOWING ASSUMPTIONS:
 - SOIL CONDITIONS: SILTY SAND (SM)
 - TRENCH TYPE: 3 (PIPE BEDDED IN 4" MINIMUM OF LOOSE SOIL WITH BACKFILL LIGHTLY COMPACTED)
 - UPPER SIDE MINIMUM COVER: 3 FT
 - LOWER SIDE MINIMUM COVER: 5 FT
 - SAFETY FACTOR: 1.5
 - TEST PRESSURE: 150 PSI
- WHEN CONDITIONS DIFFER FROM THE ABOVE, THE ENGINEER-OF-RECORD (EOR) SHALL SUBMIT CALCULATIONS FOR REVIEW AND APPROVAL OF PLSUSD.
- ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.

MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE
 900 S.E. OGDEN LANE
 PORT ST. LUCIE, FL 34983
 PHONE (772) 873-6400 FAX (772) 873-6433

PIPELINE RESTRAINT REQUIREMENTS (VERTICAL)

DATE: 2019
 SCALE: N.T.S.
 SHEET: 2 OF 3

REDUCER



L = RETAINED LENGTH AT LARGER SIZE OF REDUCER (FEET)

DIAMETER	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	42"	48"
4"	29	52	71	89	105	121	136	151	179	217	253	285	318	
6"	31	53	74	93	111	127	143	172	211	249	282	315		
8"	29	54	76	96	114	131	163	204	243	277	310			
10"														
12"														
14"														
16"														
18"														
20"														
24"														
30"														
36"														
42"														
48"														

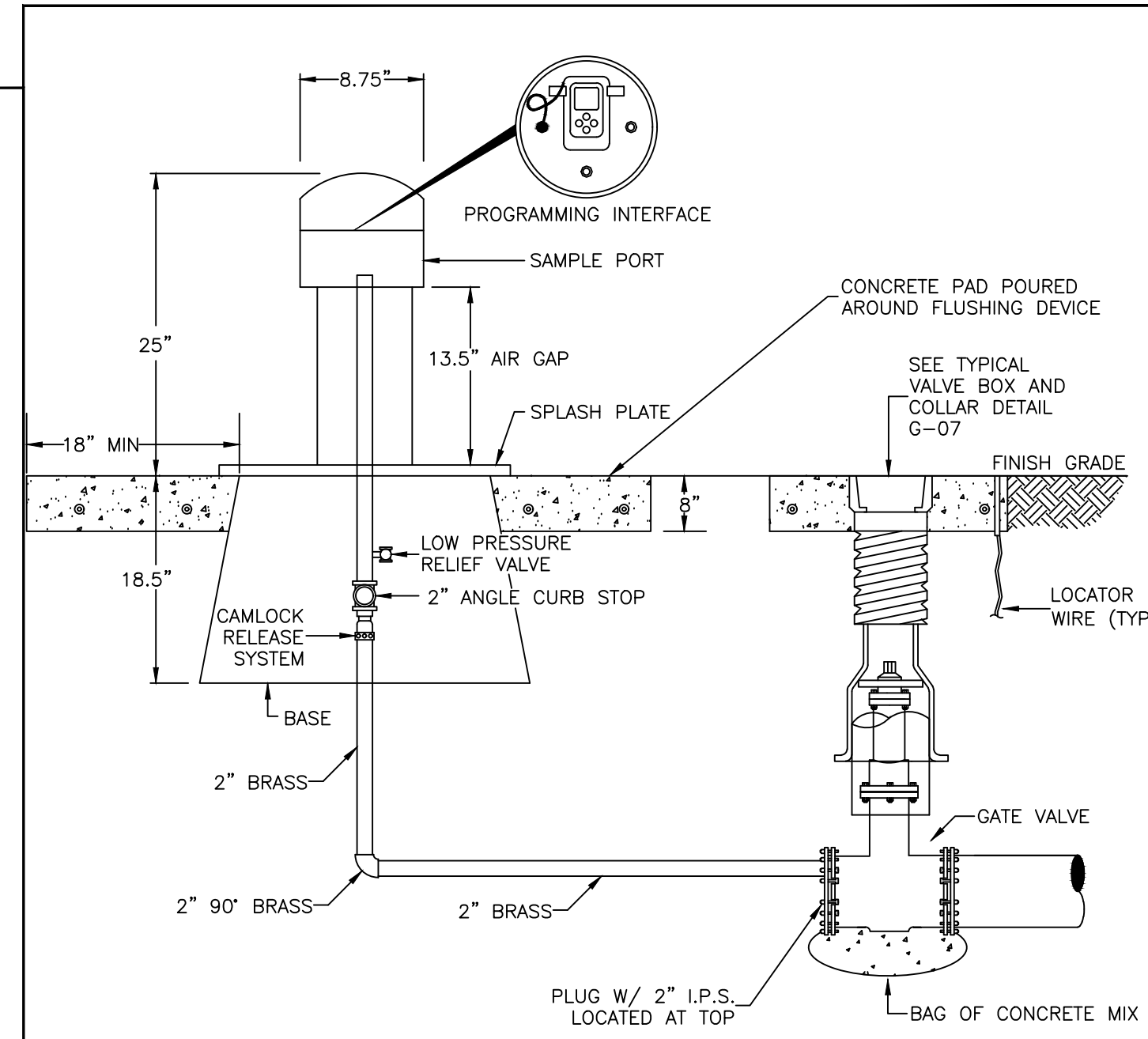
NOTES:

- THE REQUIREMENTS SET FORTH ABOVE WERE CALCULATED FOR PVC PIPE BASED UPON THE FOLLOWING ASSUMPTIONS:
 - SOIL CONDITIONS: SILTY SAND (SM)
 - TRENCH TYPE: 3 (PIPE BEDDED IN 4" MINIMUM OF LOOSE SOIL WITH BACKFILL LIGHTLY COMPACTED)
 - MINIMUM COVER: 3 FT
 - SAFETY FACTOR: 1.5
 - TEST PRESSURE: 150 PSI
- IF FIELD CONDITIONS DIFFER FROM THE ABOVE, THE ENGINEER-OF-RECORD (EOR) SHALL SUBMIT CALCULATIONS BASED ON THE FIELD CONDITION FOR REVIEW AND APPROVAL OF PLSUSD.

MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE
 900 S.E. OGDEN LANE
 PORT ST. LUCIE, FL 34983
 PHONE (772) 873-6400 FAX (772) 873-6433

PIPELINE RESTRAINT REQUIREMENTS (REDUCER)

DATE: 2019
 SCALE: N.T.S.
 SHEET: 3 OF 3



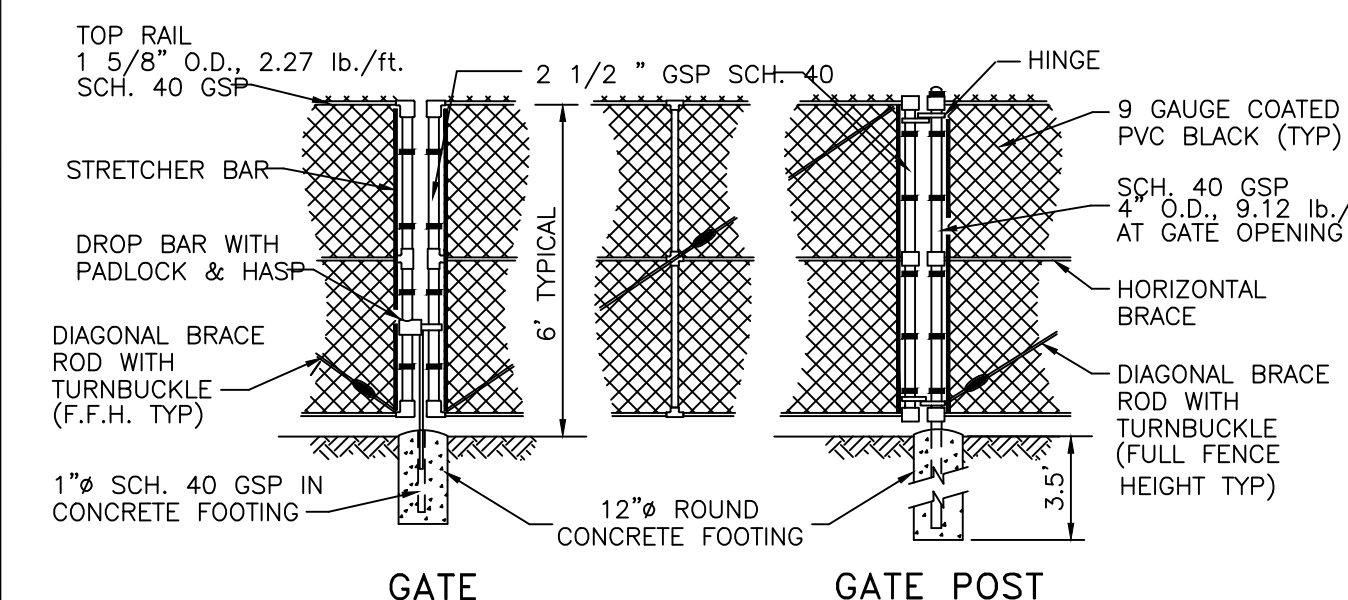
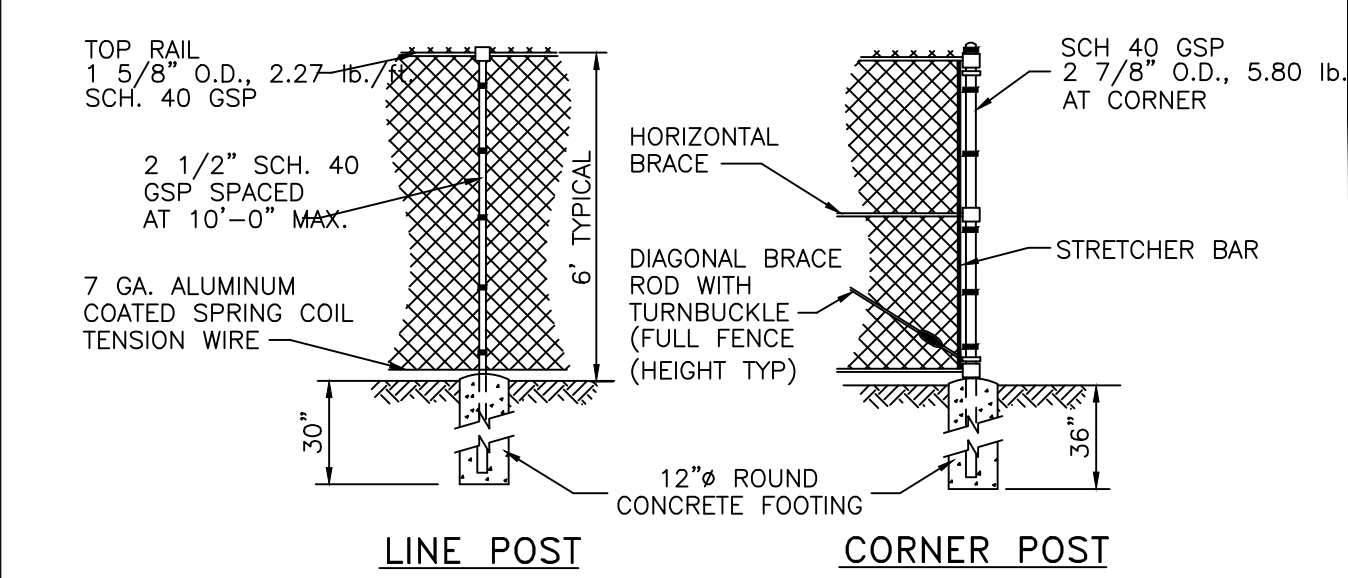
NOTES:

- AUTOMATIC FLUSHING VALVES SHALL BE PROVIDED AT ALL DEAD ENDS UNLESS OTHERWISE APPROVED IN WRITING BY THE PLSUSD.
- AT THE DIRECTION OF THE PLSUSD, BOLLARDS MAY BE REQUIRED TO PREVENT DAMAGE FROM ACCIDENTS. REFER TO DETAIL G-14 FOR BOLLARD INSTALLATION.
- UPON WRITTEN REQUEST BY PLSUSD A RESIDENTIAL TYPE WATER METER MAY BE REQUIRED.

MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE
 900 S.E. OGDEN LANE
 PORT ST. LUCIE, FL 34983
 PHONE (772) 873-6400 FAX (772) 873-6433

AUTOMATIC FLUSHING VALVE FOR WATER MAINS

DATE: 2019
 SCALE: N.T.S.
 SHEET: 1 OF 1



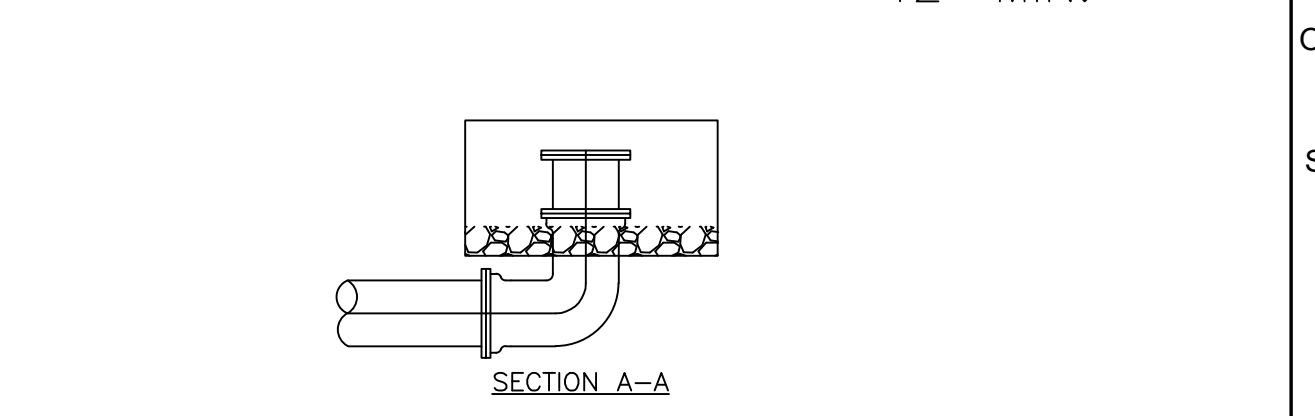
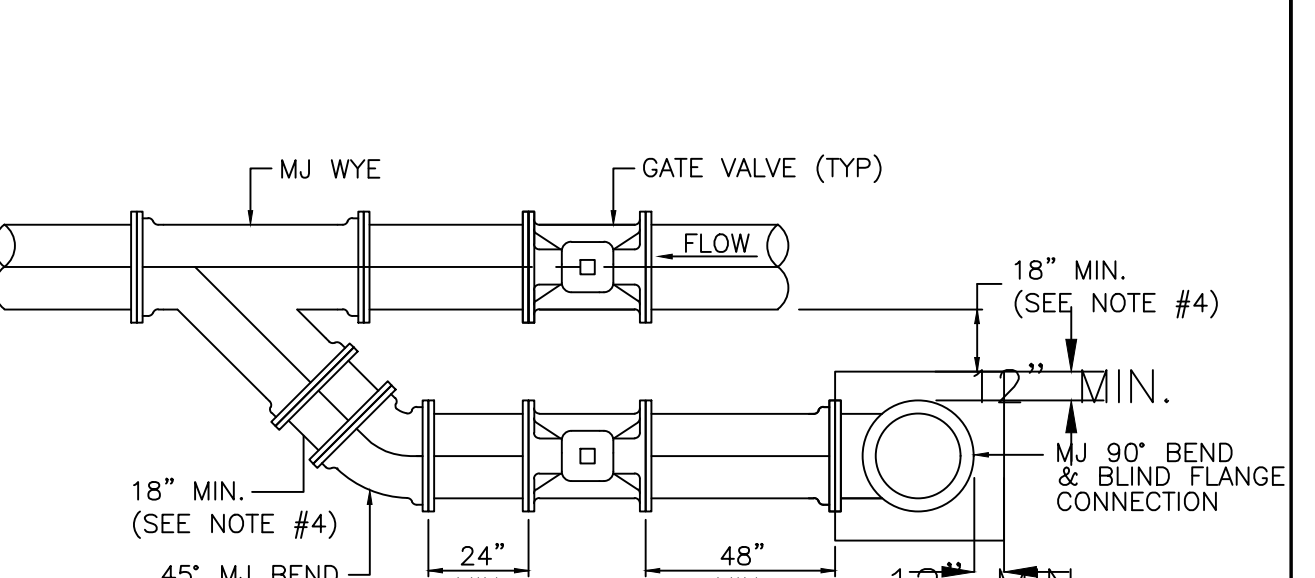
NOTES:

- A CHAIN LINK FENCE, AT LEAST 6' HIGH SHALL BE PROVIDED.
- VINYL COATED STEEL WOVEN WIRE FABRIC SHALL BE STRETCHED TAUT WITH STRETCHER BARS AND STRAPS. FASTENED TOP & BOTTOM AT LINE POSTS WITH GALVANIZED PIG RING TIES.
- THE GATE SHALL BE SEMI-TRANSPARENT TO ALLOW FOR VISUAL INSPECTION BY PLSUSD.
- GATES TO BE SECURED OPEN WITH GATE STOP SET IN CONCRETE.
- ALL MATERIAL SHALL BE BLACK IN COLOR.

MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE
 900 S.E. OGDEN LANE
 PORT ST. LUCIE, FL 34983
 PHONE (772) 873-6400 FAX (772) 873-6433

FENCE DETAILS

DATE: 2019
 SCALE: N.T.S.
 SHEET: 1 OF 1



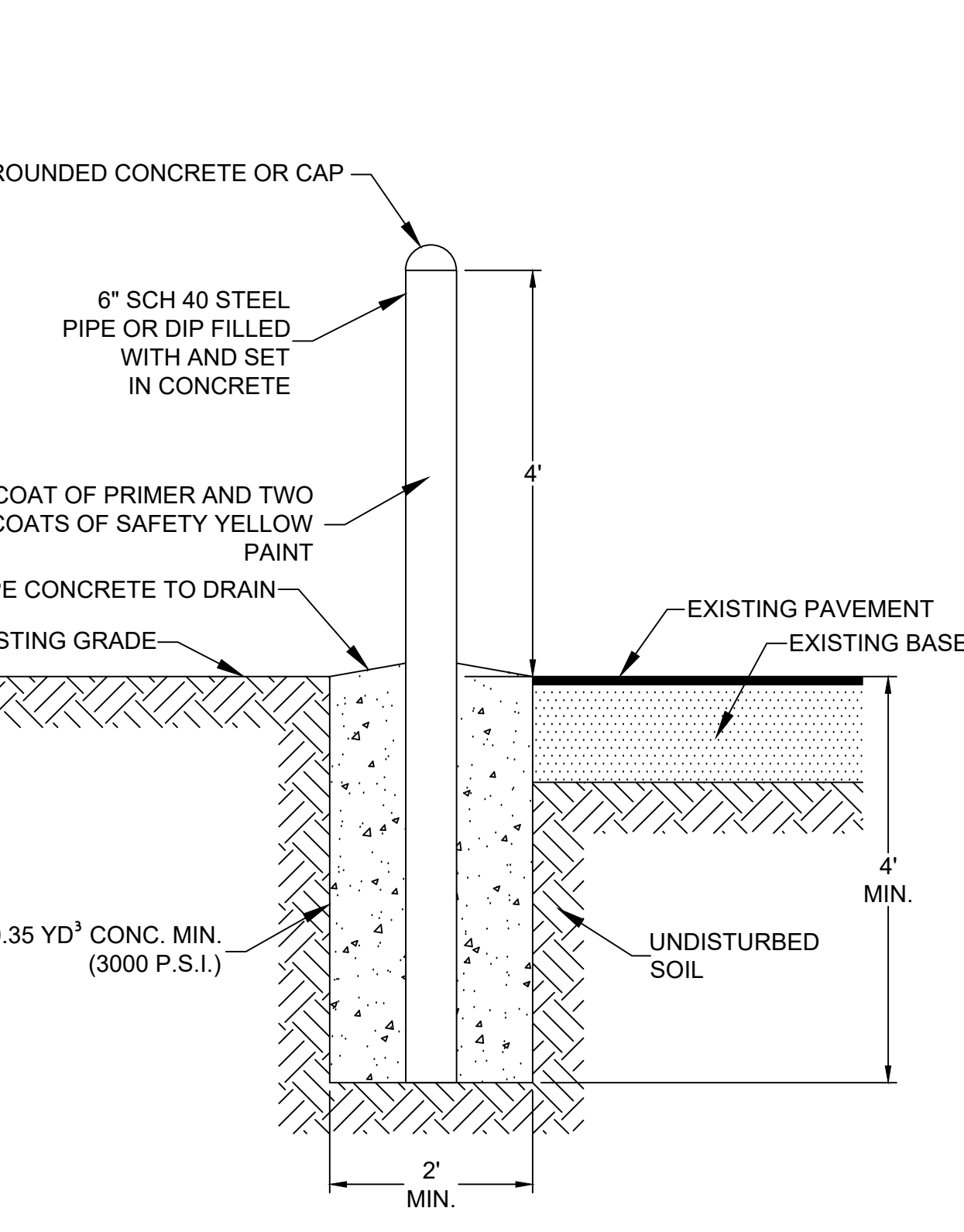
NOTES:

- THE ABOVE DETAIL IS FOR A TYPICAL PIG LAUNCHING / RECOVERY STATION. THE ENGINEER-OF-RECORD SHALL SUBMIT DRAWING DETAILS FOR THE PIG LAUNCHING STATION WITH DIMENSIONS FOR THE CONTAINMENT BOX, PIPE SIZES & LENGTH, AND SPECIFICATIONS FOR ALL COMPONENTS AND FITTINGS.
- PIG RECOVERY STATION WILL BE REVERSE TO FLOW.
- CONTAINMENT BOX SIZE VARIES TO ALLOW ACCESSIBILITY TO BOLTS OF PLUG. PER QUALIFIED PRODUCT LIST.
- VARIES WITH MAIN SIZE IN ORDER TO OFFSET CONTAINMENT BOX FROM MAIN LINE.
- THE BOTTOM OF CONTAINMENT BOX SHALL BE COVERED WITH 8 INCHES OF #57 STONE OVER FILTER FABRIC.
- ALL FITTINGS BELOW-GROUND SHALL BE MECHANICAL JOINT.

MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE
 900 S.E. OGDEN LANE
 PORT ST. LUCIE, FL 34983
 PHONE (772) 873-6400 FAX (772) 873-6433

PIG LAUNCHING / RECOVERY STATION

DATE: 2019
 SCALE: N.T.S.
 SHEET: 1 OF 1



MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE
 900 S.E. OGDEN LANE
 PORT ST. LUCIE, FL 34983
 PHONE (772) 873-6400 FAX (772) 873-6433

BOLLARD DETAIL

FILE NAME: G-15
 DATE: 2019
 SCALE: N.T.S.
 SHEET: 1 OF 1

BELTERRA PHASE 1 AT SOUTHERN GROVE
 PORT ST. LUCIE COUNTY, FL

WATER & SEWER DETAILS

CPS
 CARNAHAN PROCTOR & CROSS
 CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
 814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
 PHONE: (954) 972-3959 FAX: (954) 972-4178
 CPC AUTH. NO. 00002939

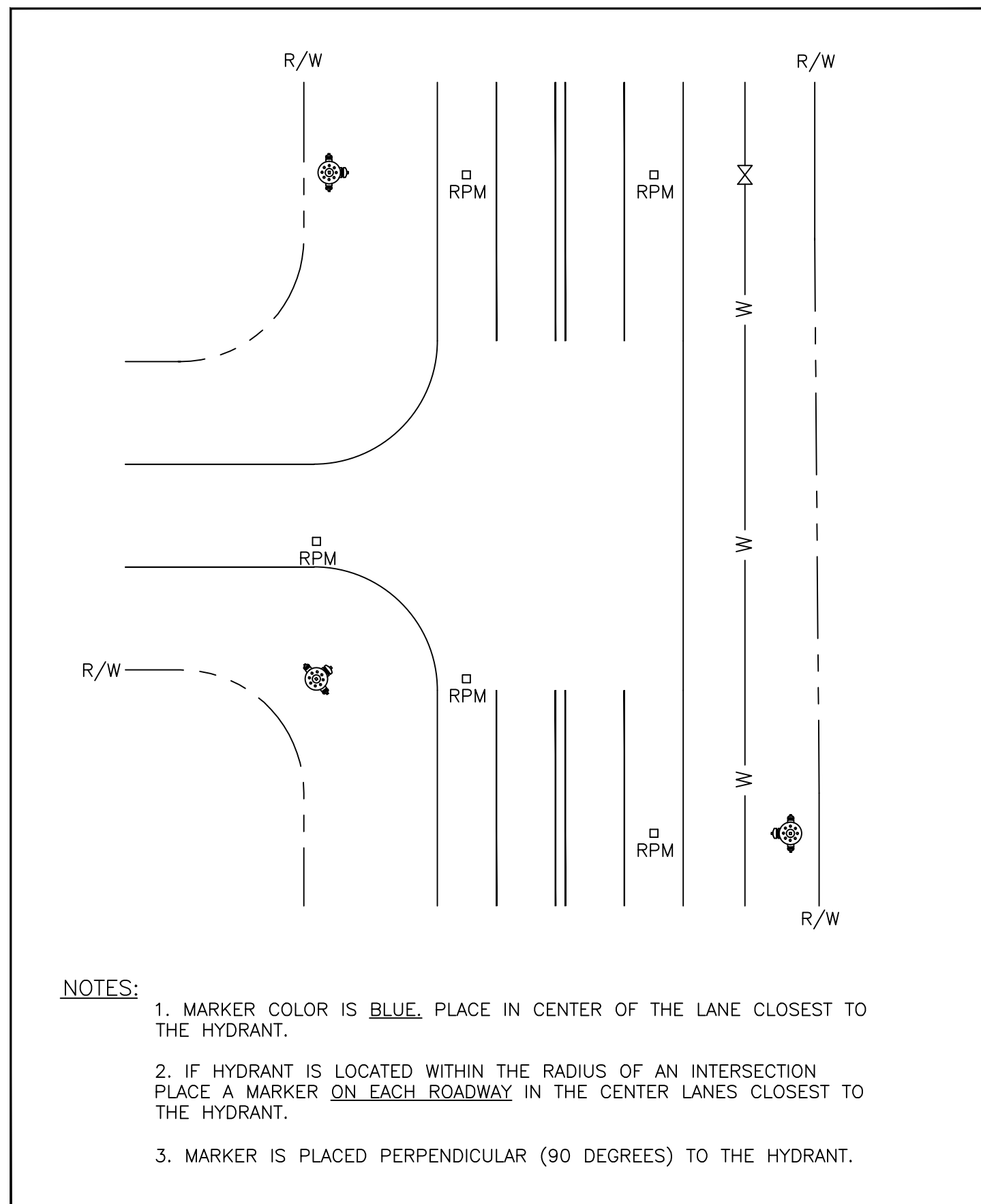
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 DRAWN BY: R.P.
 CHECKED BY: W.R.B
 DESIGNED BY: R.F.

WSD-2

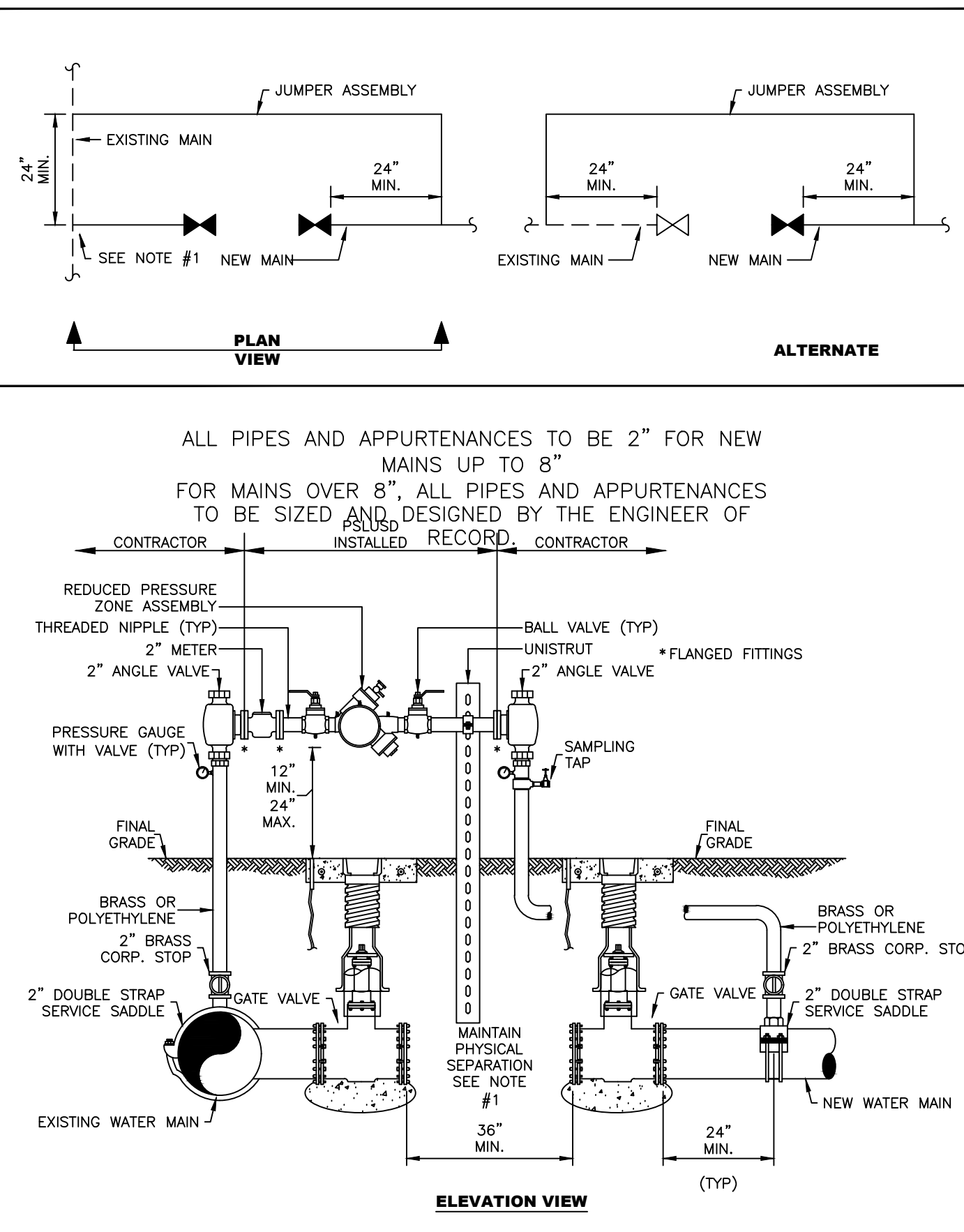
WILLIAM R. BARBARO
 LICENSE
 No. 64761
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

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- NOTES:**
1. MARKER COLOR IS BLUE. PLACE IN CENTER OF THE LANE CLOSEST TO THE HYDRANT.
 2. IF HYDRANT IS LOCATED WITHIN THE RADIUS OF AN INTERSECTION PLACE A MARKER ON EACH ROADWAY IN THE CENTER LANES CLOSEST TO THE HYDRANT.
 3. MARKER IS PLACED PERPENDICULAR (90 DEGREES) TO THE HYDRANT.



- NOTES:**
1. A TEMPORARY JUMPER CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE PSLUD WATER MAINS AND PROPOSED NEW WATER MAINS. A PHYSICAL SEPARATION SHALL BE MAINTAINED, EXCEPT AS NOTED IN #5 BELOW. THE PROCEDURES ARE APPLICABLE WHEN CONNECTING TO AN EXISTING PSLUD WATER MAIN, WHETHER BY TAPPING TEE AND VALVE OR BY CONTINUATION OF A PLUGGED STUB OUT WITH AN EXISTING GATE VALVE.
 2. THE CONTRACTOR SHALL CONTACT THE PSLUD REGARDING SCHEDULING OF REQUIRED INSPECTIONS RELATING TO THE CONNECTION. PSLUD INSPECTIONS ARE SPECIFICALLY REQUIRED FOR TIE-INS OR WET TAPS TO EXISTING WATER MAINS. JUMPER INSTALLATION, FLUSHING, PRESSURE TESTING, DISINFECTION, SAMPLING, PLUGGING OF SAMPLING POINTS AND PERMANENT CONNECTION OF THE NEW WATER MAIN. THE CONTRACTOR SHALL FOLLOW ALL PROCEDURES STRICTLY IN ACCORDANCE WITH THE PSLUD UTILITY STANDARDS MANUAL.
 3. THE TEMPORARY JUMPER ASSEMBLY (FLANGE TO FLANGE) WILL BE SUPPLIED, INSTALLED AND TESTED BY THE PSLUD, IN COORDINATION WITH THE ENGINEER OF RECORD AND CONTRACTOR. OTHER MATERIALS AND INSTALLATION REQUIRED FOR THE CONNECTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE UNDERGROUND FITTINGS SHALL BE RESTRAINED MECHANICAL JOINT TYPE. ALL MATERIALS SHALL BE PER THE PSLUD APPROVED QUALIFIED PRODUCTS LIST. THE JUMPER CONNECTION SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL THE ASSEMBLY IS REMOVED BY THE PSLUD.
 4. ALL NEW WATER MAINS SHALL BE DOUBLE-PIGGED, FLUSHED, PRESSURE TESTED AND DISINFECTED. NEW MAIN SHALL NOT BE PLACED INTO SERVICE UNTIL THE BACTERIOLOGICAL TEST RESULTS ARE SATISFACTORY AND A WRITTEN APPROVAL HAS BEEN OBTAINED FROM THE PSLUD.
 5. A PHYSICAL SEPARATION SHALL BE MAINTAINED BETWEEN THE EXISTING MAIN AND NEW MAIN, EXCEPT AS NOTED HEREIN. IF THE NEW MAIN IS OF A SIZE OR LENGTH THAT PIGGING/FLUSHING CANNOT BE EFFECTIVELY ACCOMPLISHED WITH THE JUMPER CONNECTION, MORE THAN ONE JUMPER MAY BE USED AS DETERMINED BY THE EOR OR, THE PSLUD MAY ALLOW A PHYSICAL CONNECTION UNDER CONTROLLED CONDITIONS AS FOLLOWS:
 - a. THE PROCEDURE WILL BE CONDUCTED BY THE CONTRACTOR IN THE PRESENCE OF A PSLUD INSPECTOR AND THE ENGINEER-OF-RECORD (EOR) OR REPRESENTATIVE.
 - b. THE NEW VALVE(S) SHOWN IN THIS DETAIL SHALL BE PRESSURE/LEAKAGE TESTED AND REPLACED IF LEAKAGE IS OBSERVED. THE VALVES WILL BE KEPT CLOSED BY THE PSLUD AND SHALL NOT BE OPERATED BY ANY ONE OTHER THAN PSLUD PERSONNEL.
 - c. THE JUMPER CONNECTION SHALL BE USED TO FILL THE NEW MAIN.
 - d. THE CONTRACTOR SHALL DISINFECT THE PIPE AND FITTINGS USED TO MAKE THE CONNECTION BY SPRAYING AND SWABBING WITH CHLORINE.
 - e. ALL VALVES IN THE NEW SYSTEM DOWNSTREAM OF THE JUMPER SHALL BE OPENED BY THE CONTRACTOR PRIOR TO FLUSHING. THE VALVES SHOWN IN THIS DETAIL SHALL BE OPENED BY PSLUD PERSONNEL ONLY.
 - f. THE PIGGING AND FLUSHING SHALL BE PERFORMED BY THE CONTRACTOR IN THE PRESENCE OF A PSLUD INSPECTOR. THE VALVES WILL BE CLOSED BY PSLUD PERSONNEL AFTER THE MAIN HAS BEEN FLUSHED.
 6. THE WATER MAINS SHALL BE PRESSURE TESTED AFTER FLUSHING AND PRIOR TO DISINFECTION. ALL VALVES SHALL REMAIN CLOSED DURING THE PRESSURE TEST AND WILL NOT BE OPENED UNTIL THE RESULTS OF PRESSURE TESTING AND BACTERIOLOGICAL TESTING ARE SATISFACTORY AND THE SYSTEM HAS BEEN ACCEPTED FOR OPERATION BY THE PSLUD.
 7. DISINFECTION SHALL BE CONDUCTED IN ACCORDANCE WITH AWWA C651. A MINIMUM PRESSURE OF 20 PSI SHALL BE MAINTAINED IN THE NEW MAIN AFTER DISINFECTION.
 8. CONNECTION TO EXISTING MAINS SHALL NOT BE MADE PRIOR TO BACTERIOLOGICAL CLEARANCE AND UNTIL APPROVED BY THE PSLUD.
 9. UPON WRITTEN ACCEPTANCE OF BACTERIOLOGICAL CLEARANCE BY THE PSLUD, THE SAMPLING POINTS CAN BE REMOVED AND PLUGGED BY THE CONTRACTOR. THE CONTRACTOR SHALL MAKE THE PERMANENT CONNECTION IN THE PRESENCE OF A PSLUD INSPECTOR, UNLESS THE CONNECTION WAS PREVIOUSLY MADE AS INDICATED IN NOTE 5D; THE PIPE AND FITTINGS FOR CONNECTION SHALL BE DISINFECTED BY SPRAYING AND SWABBING WITH CHLORINE. ONCE APPROVAL TO PLACE THE WATER SYSTEM INTO OPERATION HAS BEEN RECEIVED, THE JUMPER ASSEMBLY (FLANGE TO FLANGE) WILL BE REMOVED BY THE PSLUD IN COORDINATION WITH THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE REST OF THE JUMPER CONNECTION PIPING AND PLUG THE CORPORATION STOP VALVES.
 10. ABANDONED TAP LOCATIONS TO BE SHOWN ON THE AS-BUILTS.

MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34883 PHONE (772) 873-6400 FAX (772) 873-6433

FIRE HYDRANT REFLECTIVE PAVEMENT MARKER PLACEMENT GUIDELINE
 DETAIL: W-08
 DATE: 2019
 SCALE: N.T.S.
 SHEET: 1 OF 1

MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34883 PHONE (772) 873-6400 FAX (772) 873-6433

TEMPORARY JUMPER CONNECTION (UP TO 8" PIPE)
 DETAIL: W-09
 DATE: 2019
 SCALE: N.T.S.
 SHEET: 1 OF 2

MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34883 PHONE (772) 873-6400 FAX (772) 873-6433

TEMPORARY JUMPER CONNECTION
 DETAIL: W-09
 DATE: 2019
 SCALE: N.T.S.
 SHEET: 2 OF 2

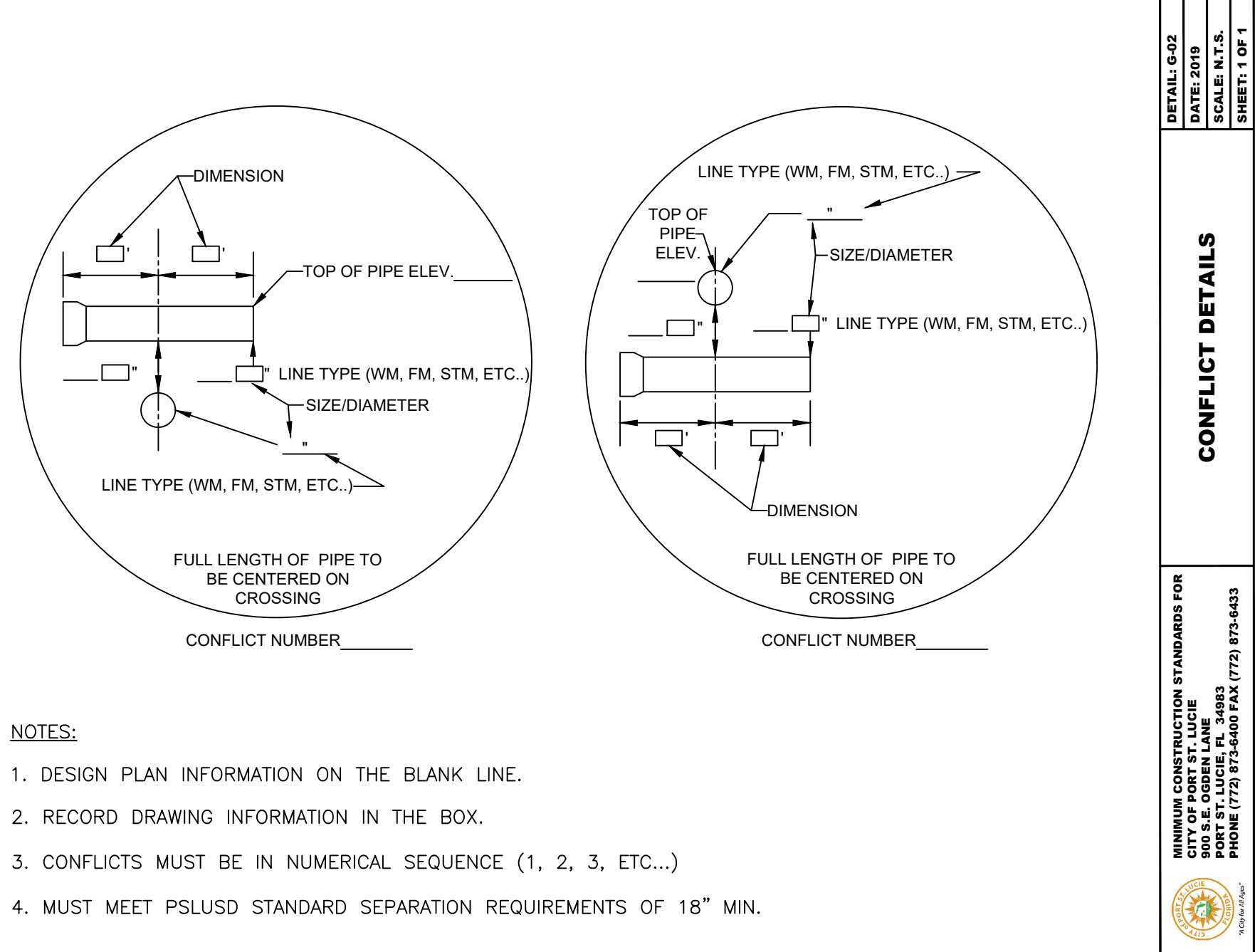
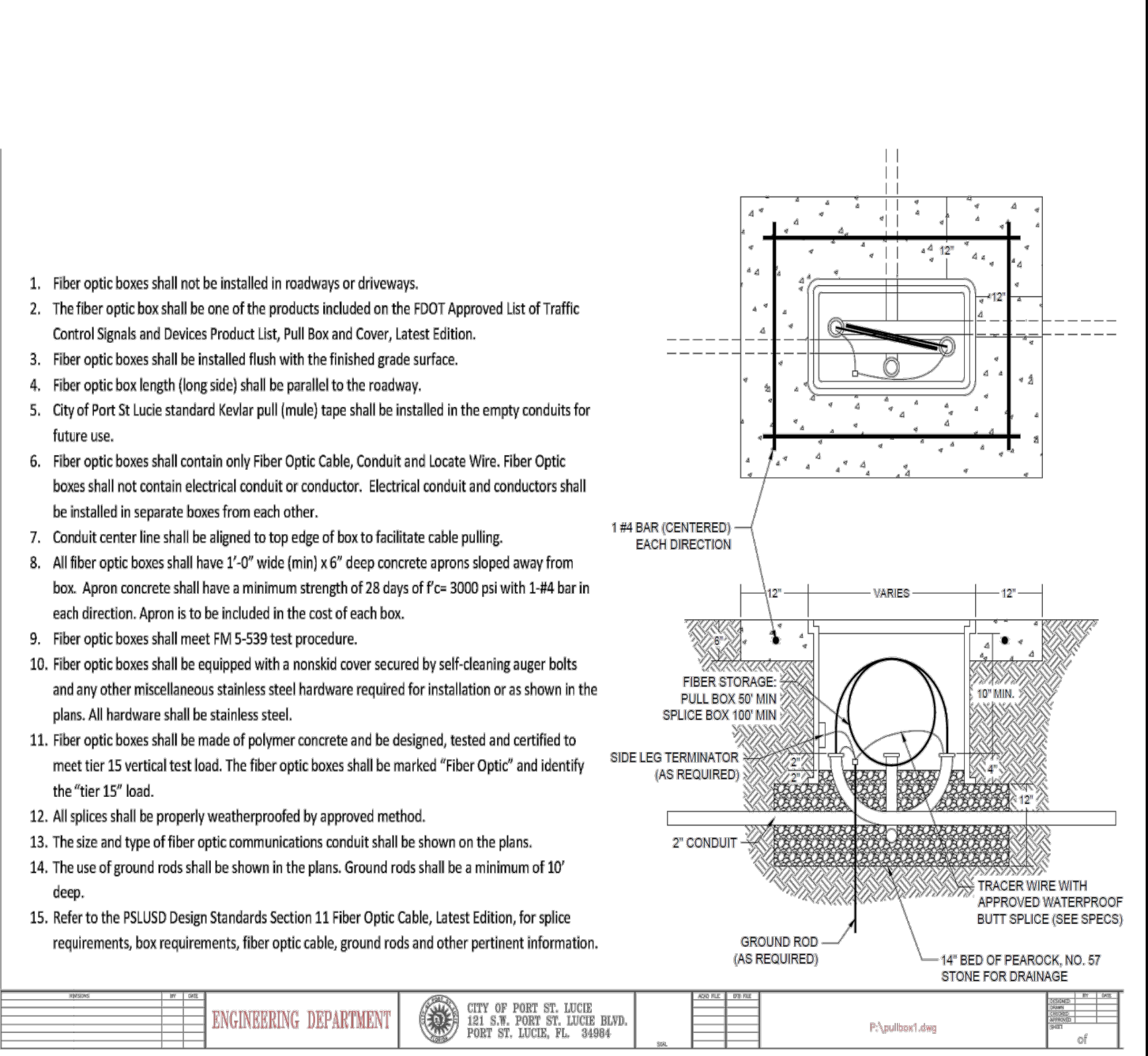
MINIMUM SEPARATION BETWEEN PSLUD FACILITIES AND OTHER UTILITIES

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY SEWER FORCE MAIN, RECLAIMED WATER (2), (3), VACUUM SANITARY SERVICE, STORM SEWER, STORM SEWER FORCE MAIN	WATER MAIN 10' MINIMUM	WATER MAIN 18" MINIMUM	18" MINIMUM WATER MAIN
ALL OTHER FACILITIES, INCLUDING BUT NOT LIMITED TO: TELEPHONE, CABLE TV, POWER, ETC.	PSLUD FACILITY (4) 5' MINIMUM	PSLUD FACILITY (4) 18" MINIMUM	3' MINIMUM WATER MAIN
ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM	10' MINIMUM	*****	*****

(1) WATER MAIN SHOULD CROSS OVER OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 18".
 (2) RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
 (3) RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
 (4) A PSLUD FACILITY INCLUDES MAINS AND STRUCTURES FOR POTABLE WATER, WASTEWATER AND RECLAIMED WATER.

MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34883 PHONE (772) 873-6400 FAX (772) 873-6433

STANDARD SEPARATION REQUIREMENTS
 DETAIL: G-01
 DATE: 2019
 SCALE: N.T.S.
 SHEET: 1 OF 1



- NOTES:**
1. DESIGN PLAN INFORMATION ON THE BLANK LINE.
 2. RECORD DRAWING INFORMATION IN THE BOX.
 3. CONFLICTS MUST BE IN NUMERICAL SEQUENCE (1, 2, 3, ETC...)
 4. MUST MEET PSLUD STANDARD SEPARATION REQUIREMENTS OF 18" MIN.

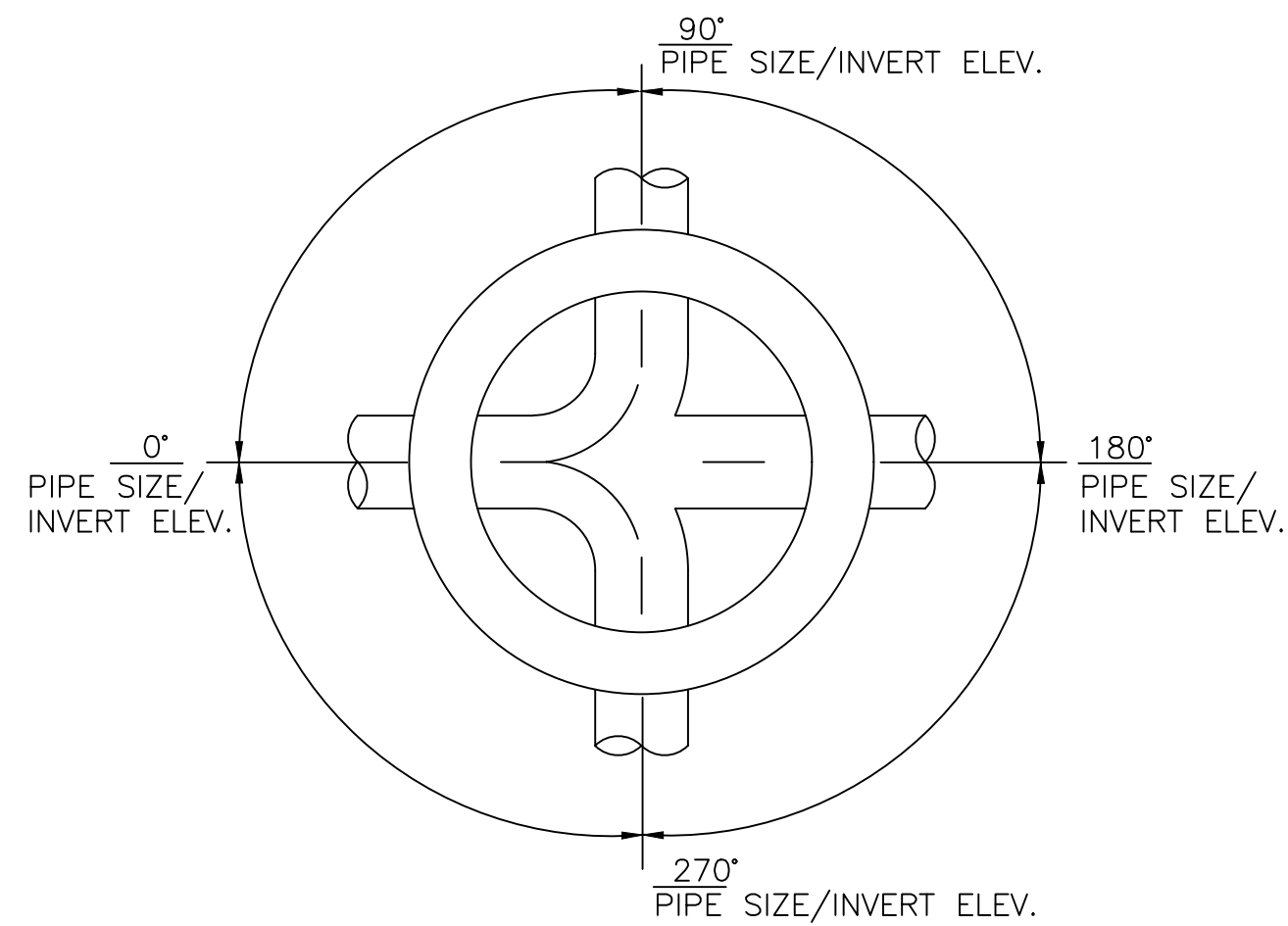
BELTERRA PHASE 1 AT SOUTHERN GROVE
 PORT ST. LUCIE COUNTY, FL

WATER & SEWER DETAILS



SCALE: AS SHOWN
 DATE: 12/08/21
 DRAWN BY: R.P.
 CHECKED BY: W.R.B.
 DESIGNED BY: R.F.

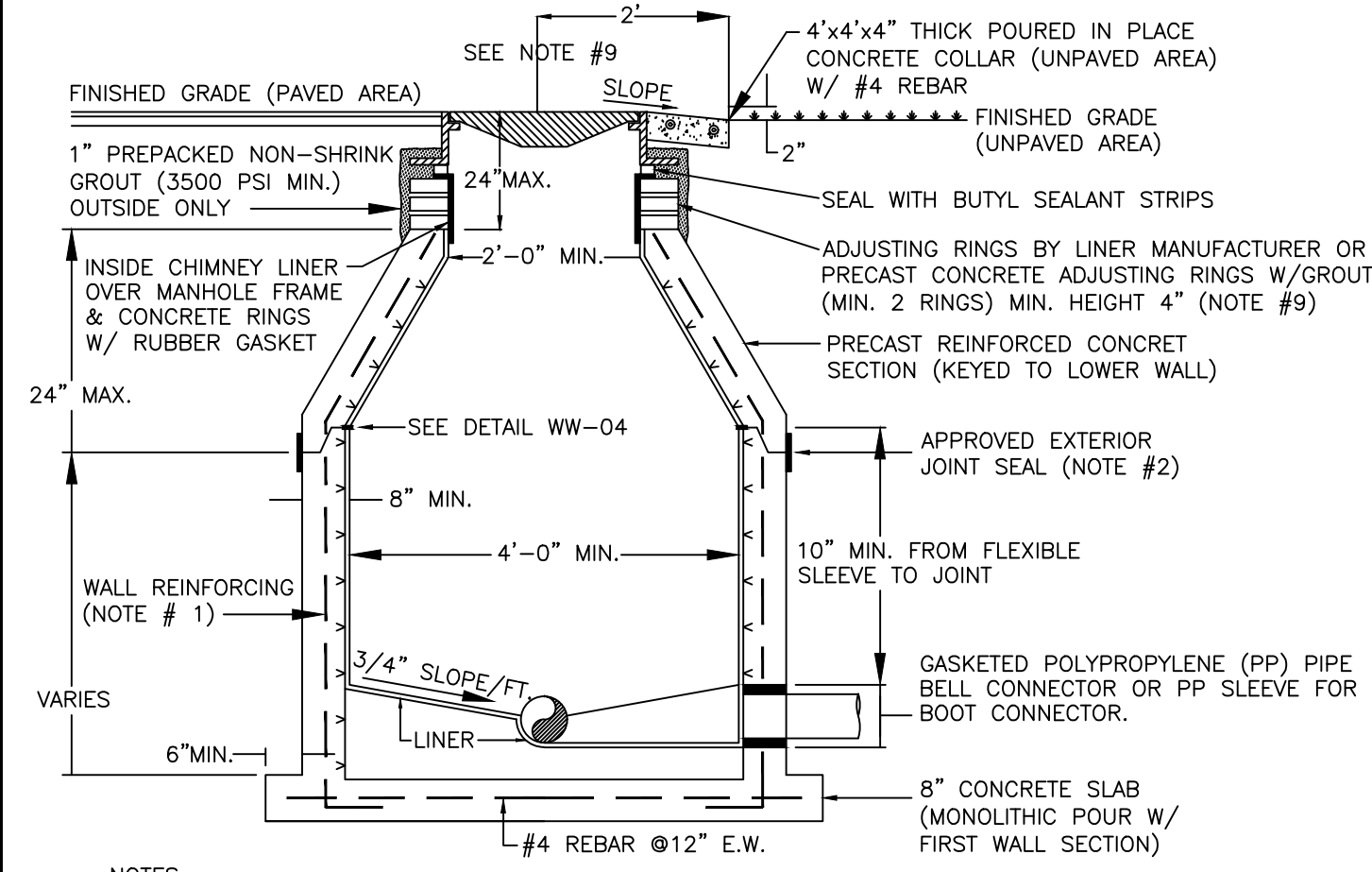




PLAN VIEW

NOTES:

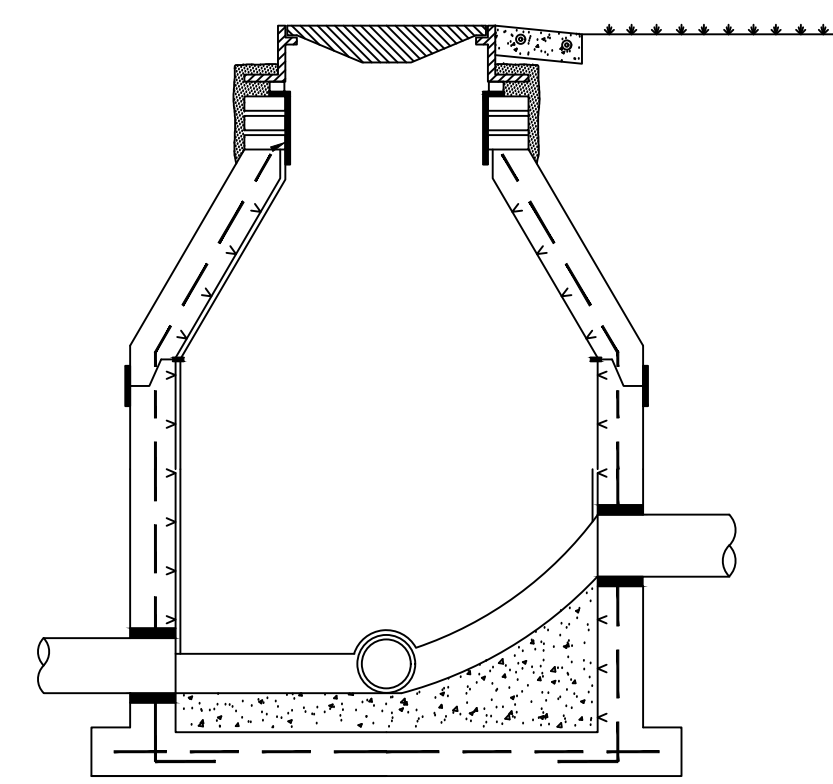
1. THE ENGINEER-OF-RECORD SHALL SUBMIT TO PSLUSD THE SHOP DRAWINGS FOR EACH STRUCTURE, PROVIDING THE DIAMETER OF EACH PIPE, INVERT ELEVATION OF EACH PIPE, RIM ELEVATION AND THE NUMBER OF DEGREES BETWEEN PIPES. (15 DEGREE INCREMENTS IF POSSIBLE)
2. MANHOLE INTERIOR SHALL BE LINED UTILIZING A CORROSION BARRIER SYSTEM. LISTED ON THE PSLUSD QUALIFIED PRODUCT LIST.
3. MANHOLE EXTERIOR SHALL BE COATED WITH A PRIMER AND TWO COATS OF A WATER BASED EPOXY 3-5 MILS EACH PER THE PSLUSD SPECIFICATIONS. APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.



NOTES:

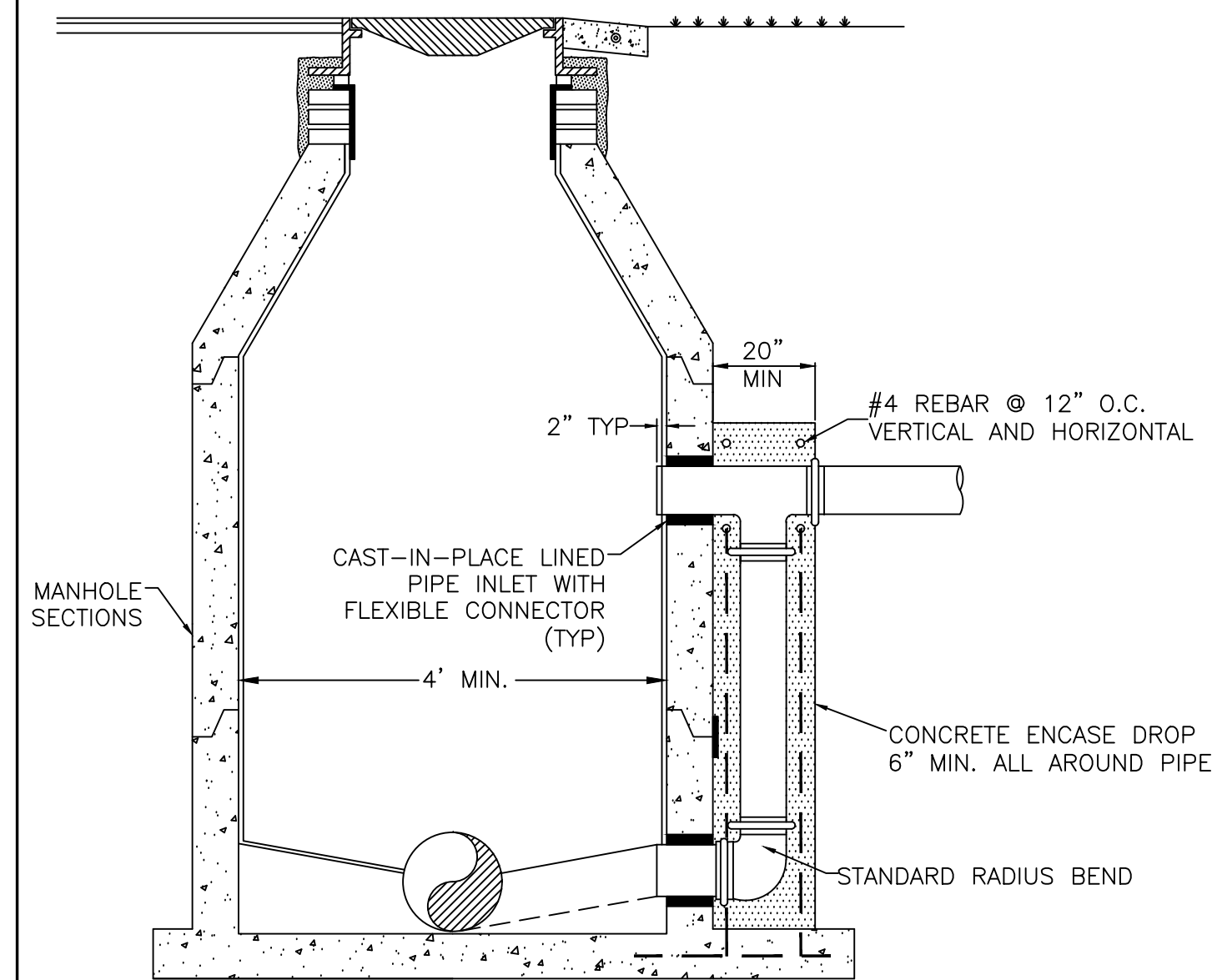
1. MANHOLE FABRICATION SHALL BE IN ACCORDANCE W/ ASTM C-478, LATEST REVISION.
2. SEALANT SHALL BE APPLIED PER MANUFACTURER'S SPECIFICATION BETWEEN MANHOLE SECTIONS & AT ALL JOINTS (SEE DETAIL WW-04). ALSO AN APPROVED EXTERNAL JOINT SEAL MAY BE APPLIED AT THE JOINTS. (EXTERNAL JOINT SEAL IS OPTIONAL)
3. ALL PIPE OPENINGS SHALL BE GAS AND WATER TIGHT WITH NO EXPOSED CONCRETE SURFACES.
4. CAST OPENINGS SHALL BE MANUFACTURED WITH PRECAST HOLE W/ CAST-IN LINER SLEEVE SIZED FOR APPROPRIATE PIPE AND FLEXIBLE CONNECTOR. APPROVED FLEXIBLE MANHOLE CONNECTORS SHALL BE USED AT PIPE CONNECTIONS. HOLE SIZE PER BOOT MANUFACTURER'S SPECIFICATIONS. DOUBLE STAINLESS STEEL PIPE CLAMPS MUST BE INSTALLED ON THE FLEXIBLE SLEEVES WHERE REQUIRED BY BOOT MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. FLOW CHANNELS SHALL BE CONSTRUCTED TO DIRECT FLOW INTO FLOW STREAM (SEE DETAIL WW-01).
6. LIFT HOLES ARE PERMITTED BUT MUST BE GROUTED ONCE MANHOLE IS IN PLACE.
7. MANHOLE AND BASE WILL BE LINED INSIDE WITH AN APPROVED LINER SYSTEM.
8. AN APPROVED COVER & FRAME SHALL BE PROVIDED. APPROVED INSIDE MANHOLE CHIMNEY SEALANT SHALL BE APPLIED OVER THE MANHOLE FRAME, CONCRETE RINGS, AND LINER SECTION IN ACCORDANCE WITH THE SPECIFICATIONS.
9. MAXIMUM HEIGHT OF CHIMNEY SHALL NOT EXCEED 24 INCHES INCLUDING FRAME CASTING.

CONT. ON SHEET 2 OF 2



NOTES:

10. EXCAVATION, DEWATERING, BACKFILL & COMPACTION SHALL BE CONDUCTED IN ACCORDANCE W/ THE PSLUSD UTILITY STANDARDS. DENSITY TESTS SHALL BE PERFORMED AND SUBMITTED AS REQUIRED.
11. THE MANHOLE BASE SHALL BE CONSTRUCTED AS SHOWN IN THIS DETAIL WHERE THE DROP IN INVERT EXCEEDS 0.1' BUT IS LESS THAN 2'. FOR DROPS 2' OR GREATER A DROP CONNECTION PER DETAIL WW-03 SHALL BE USED.
12. THE MANHOLE SHALL BE CONSTRUCTED AS SHOWN IN THIS DETAIL WHERE THE DROP IN INVERT EXCEEDS 0.1' BUT IS LESS THAN 2'. FOR DROPS 2' OR GREATER A DROP CONNECTION PER DETAIL WW-03 SHALL BE USED.



NOTES:

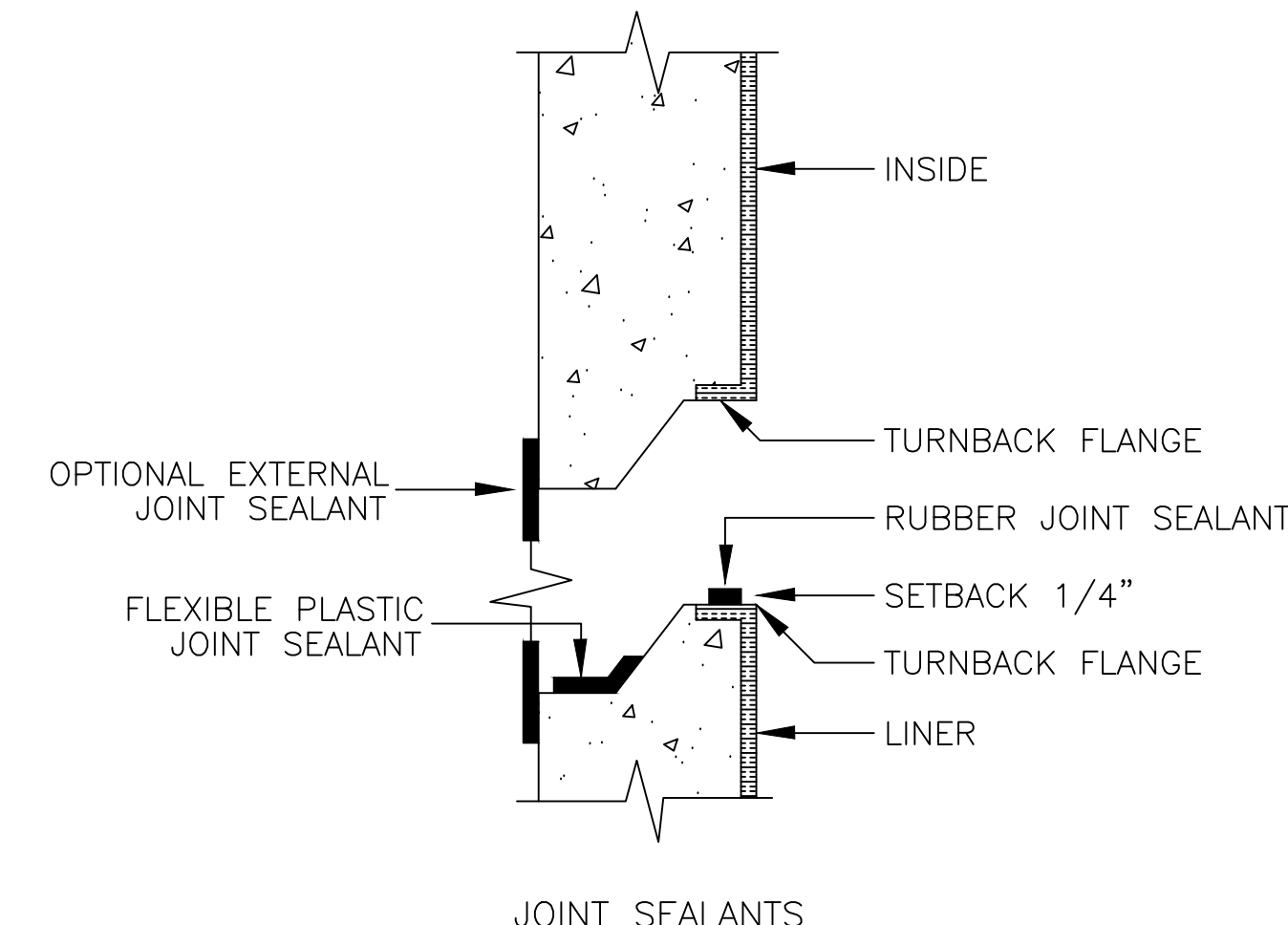
1. A DROP CONNECTION IS REQUIRED WHENEVER AN INFLUENT INVERT IS LOCATED 2' OR HIGHER THAN THE DOWNSTREAM INVERT CHANNEL. MANHOLES WITH A DROP 2.0 FEET OR LESS SHALL BE IN ACCORDANCE WITH DETAIL WW-02.
2. MANHOLE CONSTRUCTION SHALL BE IN ACCORDANCE WITH DETAIL WW-02.
3. PVC SDR 26 PIPE WITH PVC SDR 26 FITTINGS SHALL BE UTILIZED IN THE DROP ASSEMBLY.

	MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34983 PHONE (772) 873-6400 FAX (772) 873-6433	INVERT FLOW CHANNELS FOR MANHOLES	DETAIL: WW-01 DATE: 2019 SCALE: N.T.S. SHEET: 1 OF 1
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	MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34983 PHONE (772) 873-6400 FAX (772) 873-6433	STANDARD PRECAST MANHOLE	DETAIL: WW-02 DATE: 2019 SCALE: N.T.S. SHEET: 1 OF 2
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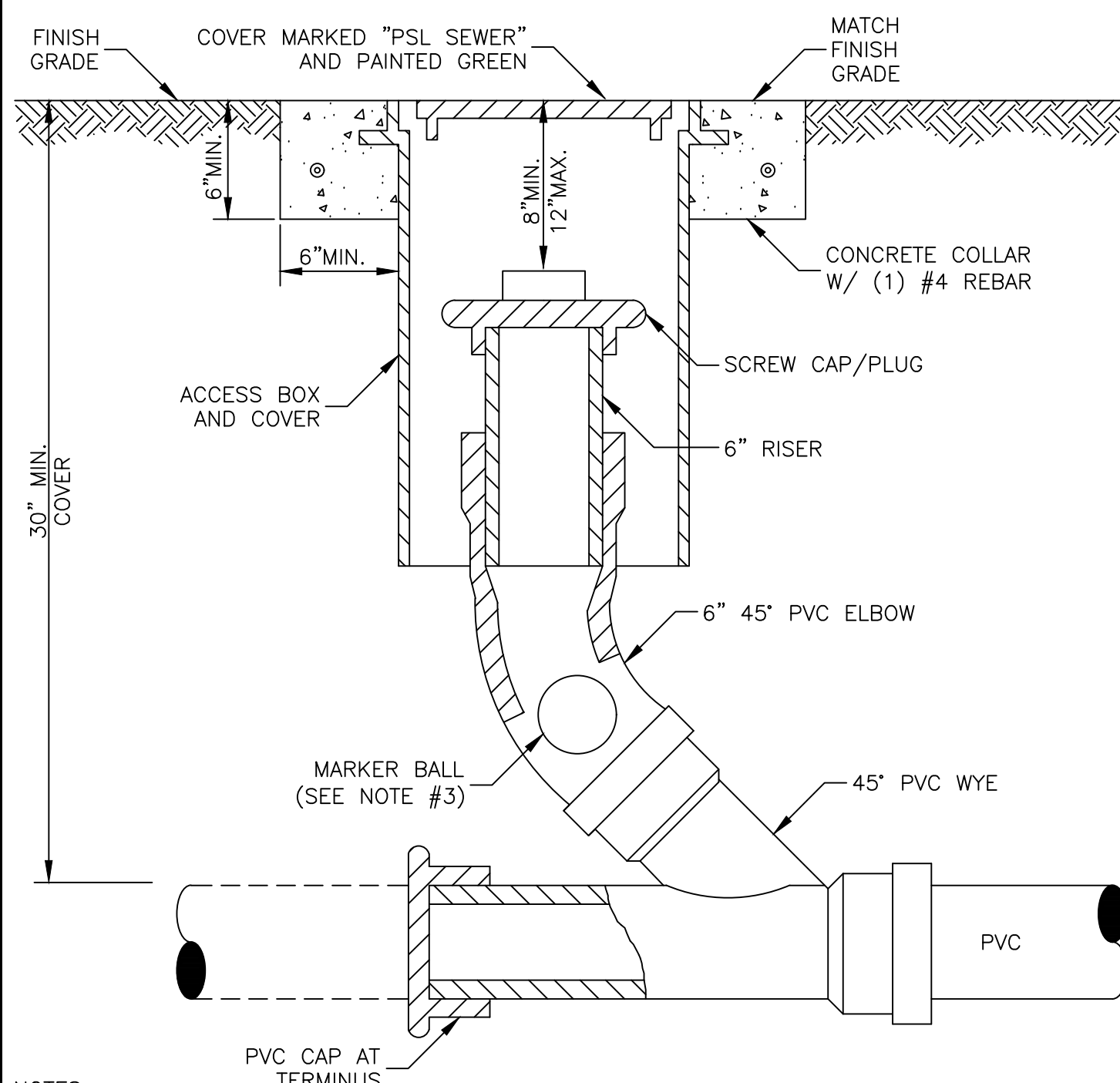
	MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34983 PHONE (772) 873-6400 FAX (772) 873-6433	STANDARD PRECAST MANHOLE (DROP)	DETAIL: WW-02 DATE: 2019 SCALE: N.T.S. SHEET: 2 OF 2
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	MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34983 PHONE (772) 873-6400 FAX (772) 873-6433	OUTSIDE DROP MANHOLE	DETAIL: WW-03 DATE: 2019 SCALE: N.T.S. SHEET: 1 OF 1
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NOTES:

1. APPROVED JOINT SEALANTS SHALL BE USED.
2. WELDED CAP STRIPS AT JOINTS OR WELDED JOINTS MAY BE ACCEPTABLE IF APPROVED IN WRITING BY PSLUSD.

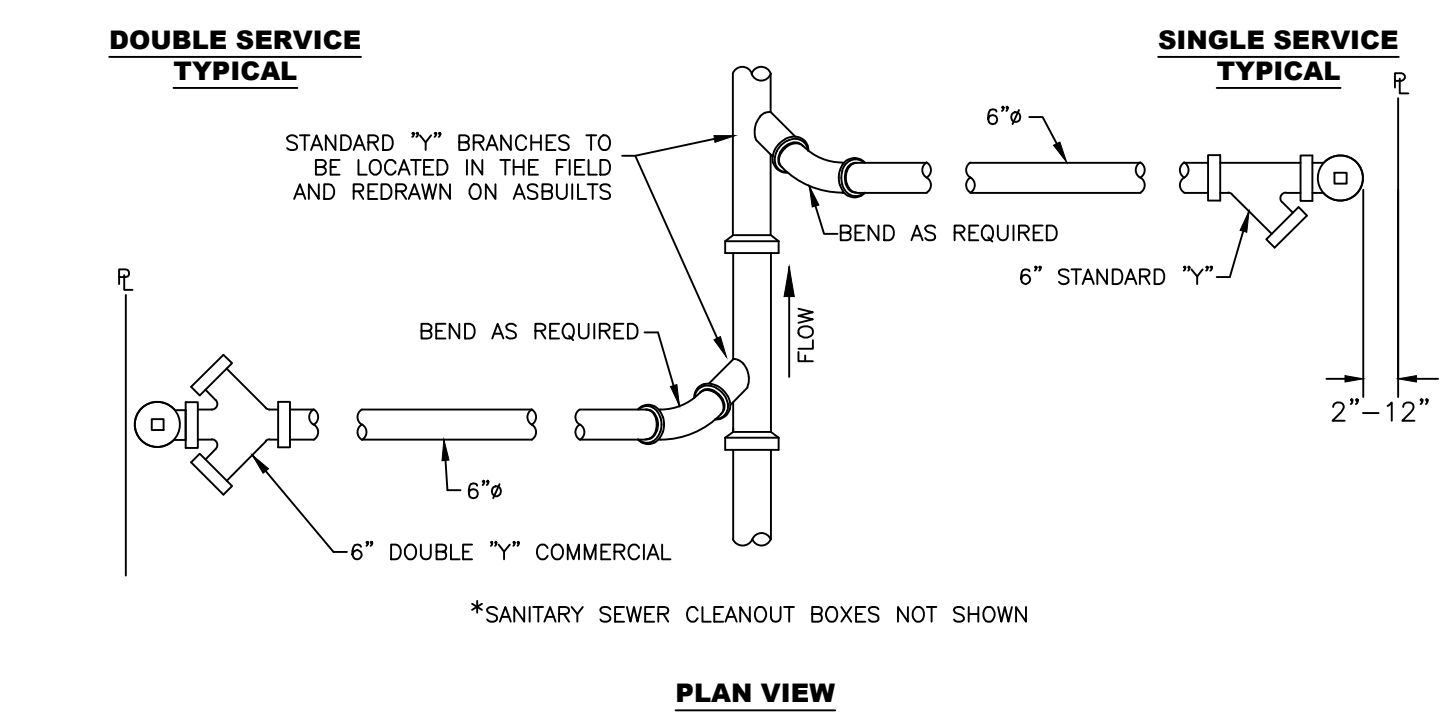
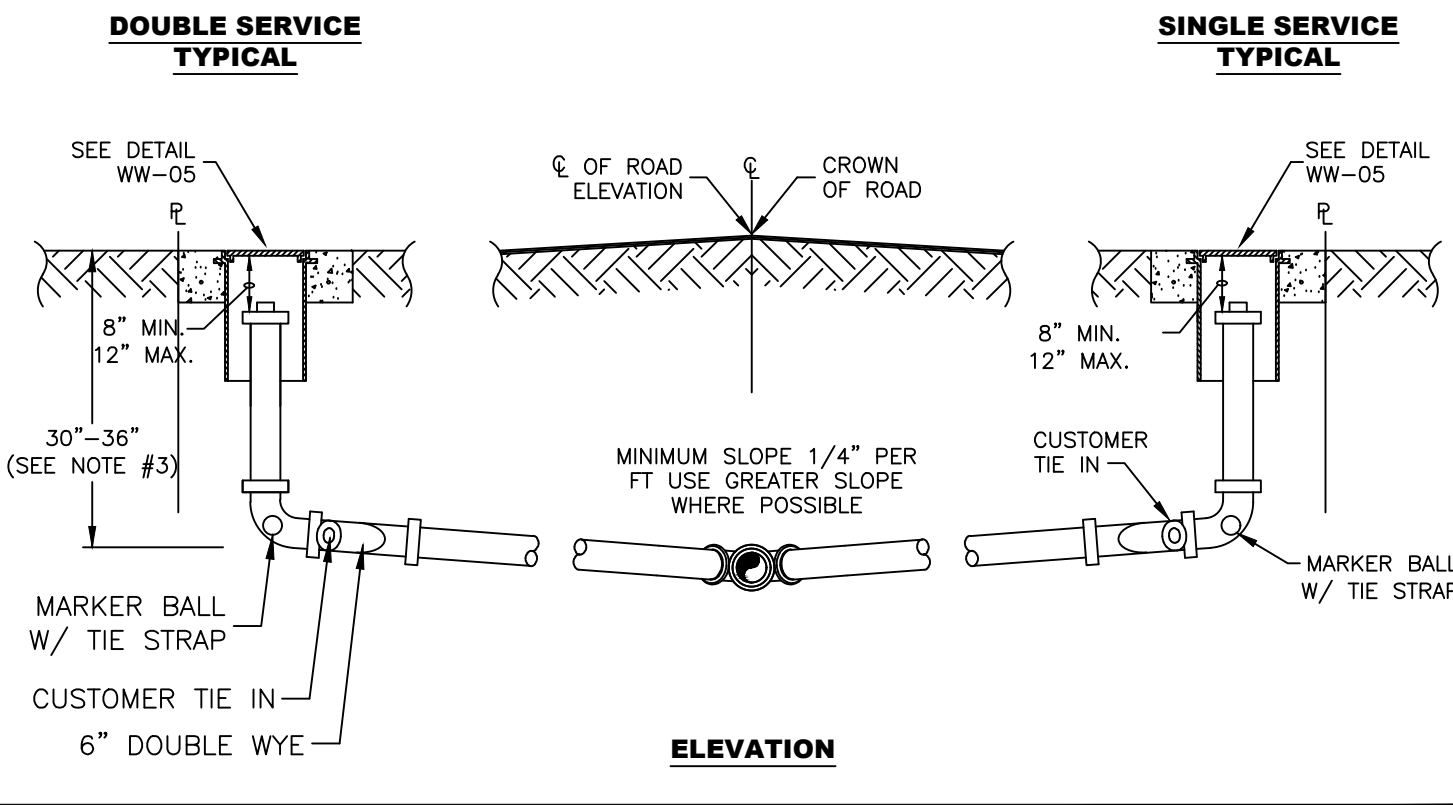


NOTES:

1. AN ACCESS BOX AND COVER SHALL BE USED.
2. CLEANOUT ASSEMBLY SHALL BE INSTALLED AT A MAXIMUM 75' INTERVALS AND AT TERMINAL POINT OF THE PSLUSD RESPONSIBILITY. THE LOCATION SHALL BE IN ACCORDANCE WITH THE PSLUSD UTILITY STANDARDS.
3. MARKER BALL SHALL BE STRAPPED TO THE ELBOW.

	MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34983 PHONE (772) 873-6400 FAX (772) 873-6433	MANHOLE / WETWELL JOINT DETAIL	DETAIL: WW-04 DATE: 2019 SCALE: N.T.S. SHEET: 1 OF 1
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	MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34983 PHONE (772) 873-6400 FAX (772) 873-6433	SANITARY SEWER CLEANOUT	DETAIL: WW-05 DATE: 2019 SCALE: N.T.S. SHEET: 1 OF 1
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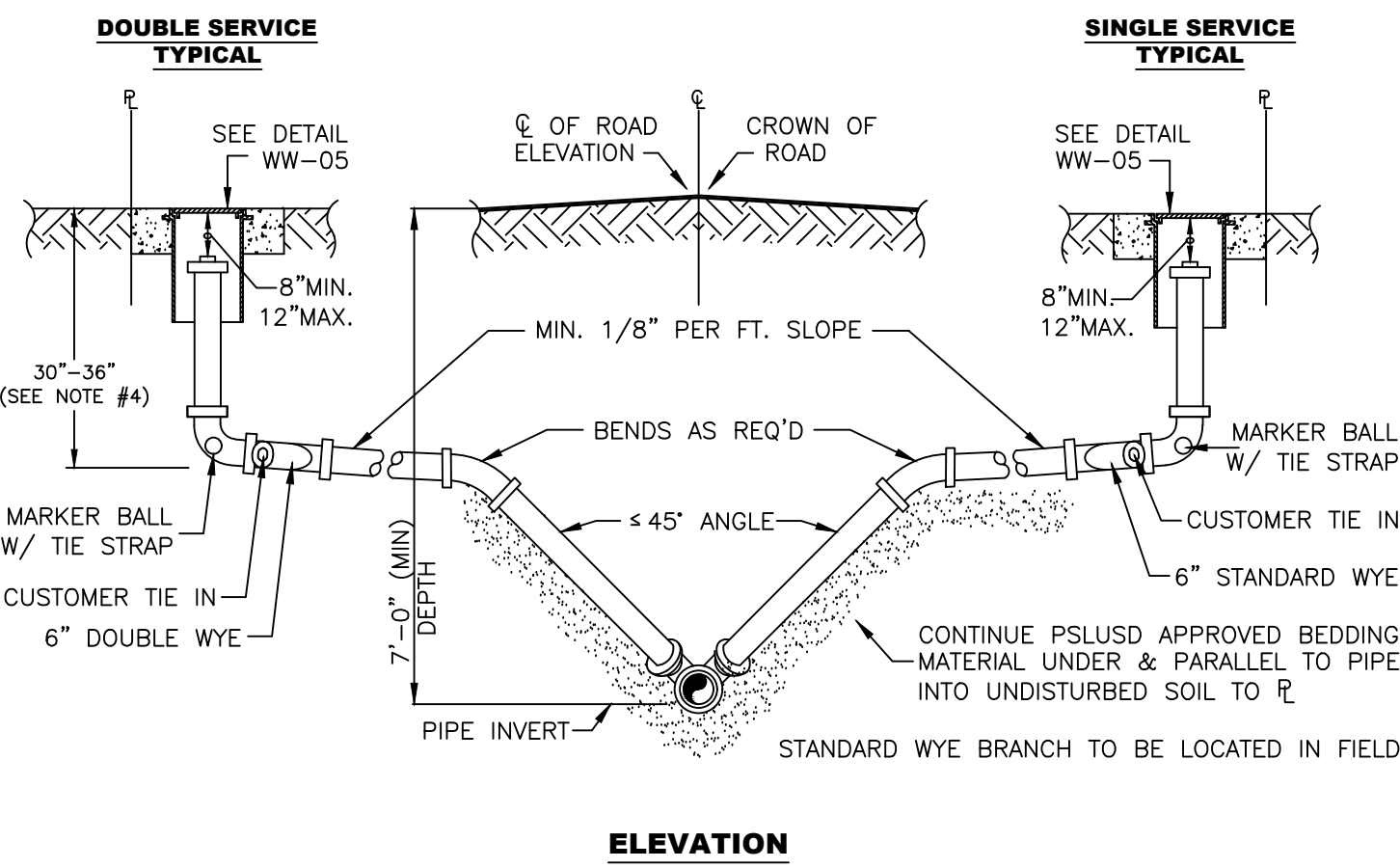
NOTES:

1. SANITARY SEWER LATERALS SHALL BE 6" IN DIAMETER.
2. THE ENGINEER OF RECORD SHALL ENSURE THAT THE PROPOSED PLUMBING STUB-OUT ELEVATION FOR EACH BUILDING WILL ALLOW FOR A GRAVITY CONNECTION TO THE SANITARY SEWER LATERAL WITH THE REQUIRED SLOPE. HORIZONTAL AND VERTICAL SEPARATION SHALL BE MAINTAINED AS REQUIRED IN THE UTILITY STANDARDS MANUAL.

	MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34983 PHONE (772) 873-6400 FAX (772) 873-6433	MANHOLE / WETWELL JOINT DETAIL	DETAIL: WW-04 DATE: 2019 SCALE: N.T.S. SHEET: 1 OF 1
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	MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34983 PHONE (772) 873-6400 FAX (772) 873-6433	SANITARY SEWER LATERAL (SHALLOW)	DETAIL: WW-06 DATE: 2019 SCALE: N.T.S. SHEET: 1 OF 1
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	MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34983 PHONE (772) 873-6400 FAX (772) 873-6433	SANITARY SEWER LATERAL (DEEP)	DETAIL: WW-07 DATE: 2019 SCALE: N.T.S. SHEET: 1 OF 1
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NOTES:

1. PSLUSD APPROVED BEDDING MATERIAL SHALL BE USED FOR EXCAVATION BACK FILL.
2. LOCATE MARKER BALL WITH TIE STRAPS TO BE ATTACHED TO 6" ELBOW.
3. THE ENGINEER OF RECORD SHALL ENSURE THAT THE PROPOSED PLUMBING STUB-OUT ELEVATION FOR EACH BUILDING WILL ALLOW FOR A GRAVITY CONNECTION TO THE SANITARY SEWER LATERAL WITH THE REQUIRED SLOPE. HORIZONTAL AND VERTICAL SEPARATION SHALL BE MAINTAINED AS REQUIRED IN THE UTILITY STANDARDS MANUAL.

	MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34983 PHONE (772) 873-6400 FAX (772) 873-6433	MANHOLE / WETWELL JOINT DETAIL	DETAIL: WW-04 DATE: 2019 SCALE: N.T.S. SHEET: 1 OF 1
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	MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34983 PHONE (772) 873-6400 FAX (772) 873-6433	SANITARY SEWER LATERAL (SHALLOW)	DETAIL: WW-06 DATE: 2019 SCALE: N.T.S. SHEET: 1 OF 1
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	MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. OGDEN LANE PORT ST. LUCIE, FL 34983 PHONE (772) 873-6400 FAX (772) 873-6433	SANITARY SEWER LATERAL (DEEP)	DETAIL: WW-07 DATE: 2019 SCALE: N.T.S. SHEET: 1 OF 1
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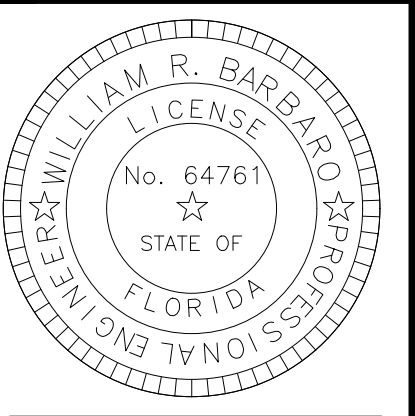
BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

WATER & SEWER DETAILS



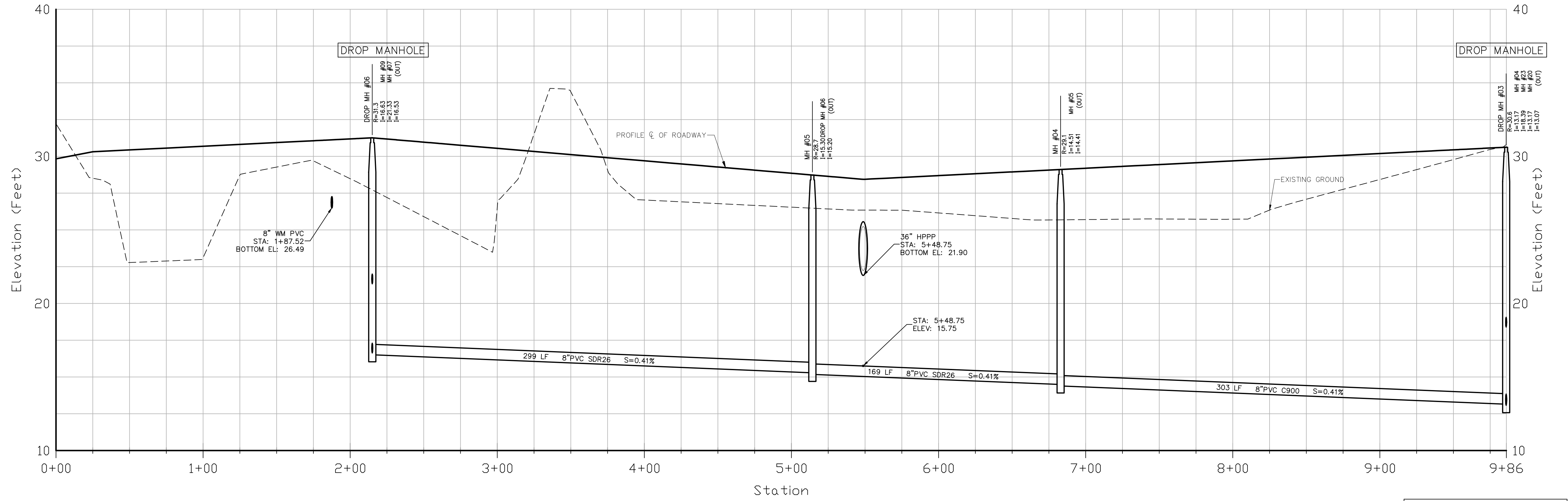
SCALE:	AS SHOWN
DATE:	12/08/21
DRAWN BY:	R.P.
CHECKED BY:	W.R.B.
DESIGNED BY:	R.F.

WSD-4



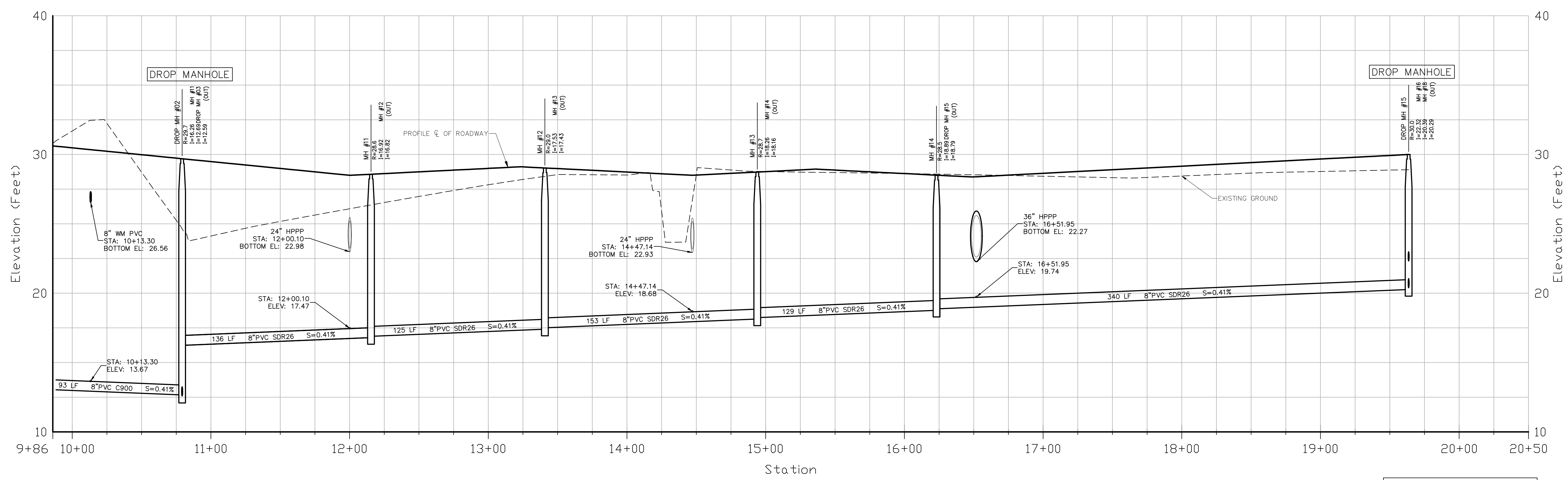
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2/09/21 P:\Projects_2019\Deerfield Shore\cod\id\PlanSet\190214-SS.dwg



BELTERRA DRIVE
STA. 00+00 TO STA. 9+86

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



BELTERRA DRIVE
STA. 9+86 TO STA. 20+50

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

NO	DATE	BY	APPRV	REVISIONS

BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

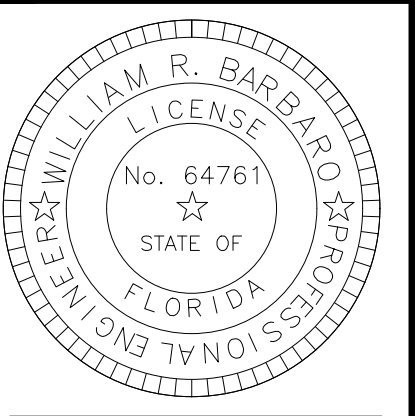
SANITARY SEWER PROFILE



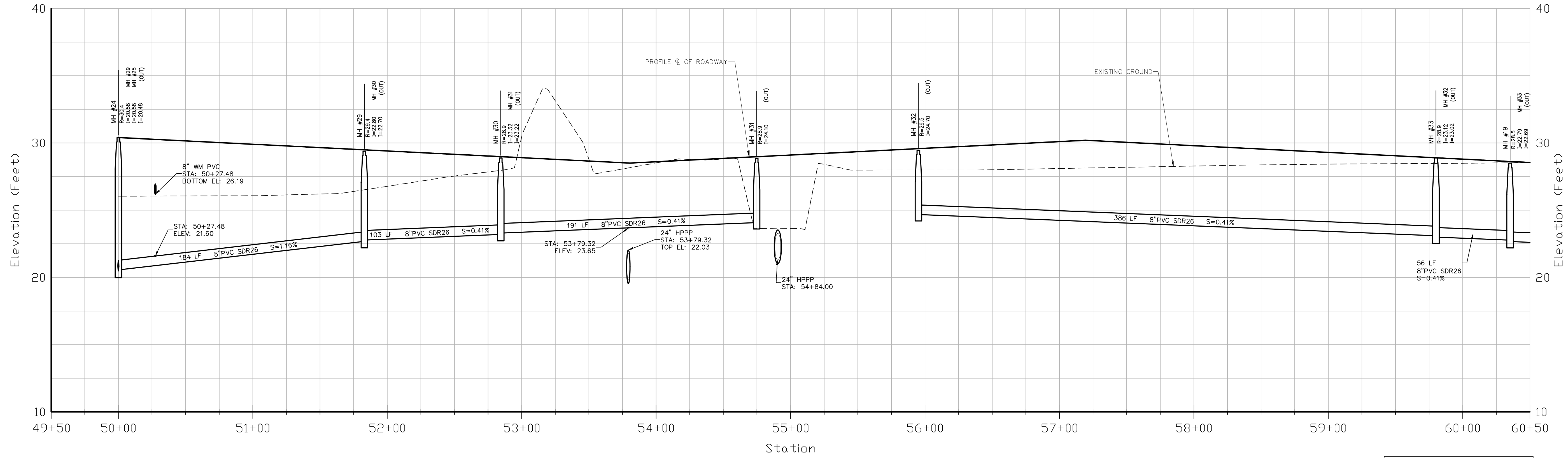
CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
PHONE: (954) 972-3859 FAX: (954) 972-4178
CPC AUTH. NO. 00002936 FILE NO. 190214

SCALE: AS SHOWN
DATE: 12/08/21
DRAWN BY: R.P.
CHECKED BY: W.R.B.
DESIGNED BY: R.F.

SS-1

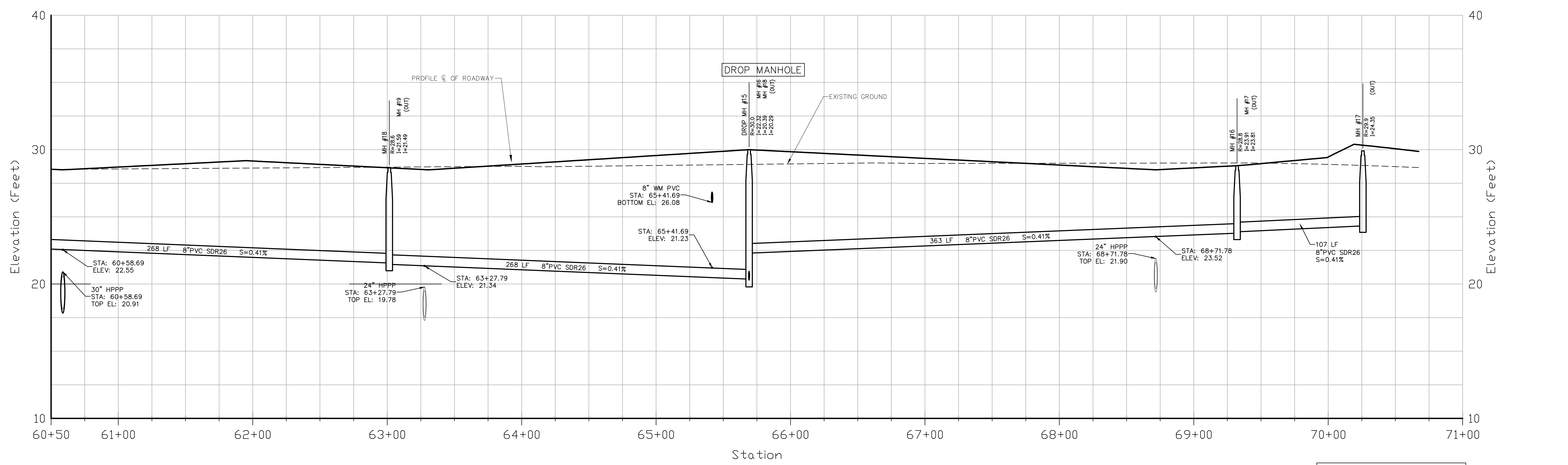


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PINNACLE COURT
STA. 49+50 TO STA. 60+50

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



PINNACLE COURT
STA. 60+50 TO STA. 71+00

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

SANITARY SEWER PROFILE

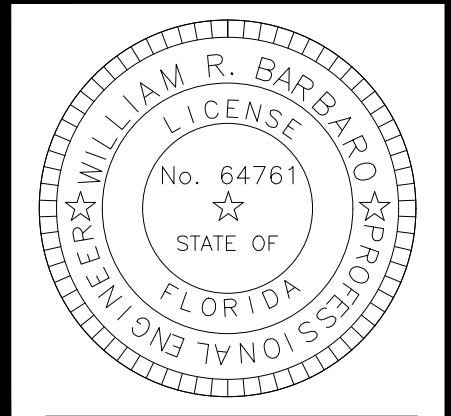
NO	DATE	BY	APPROV	REVISIONS
1	12/15/21	RP	WRB	REVISED PER PSL COMMENTS



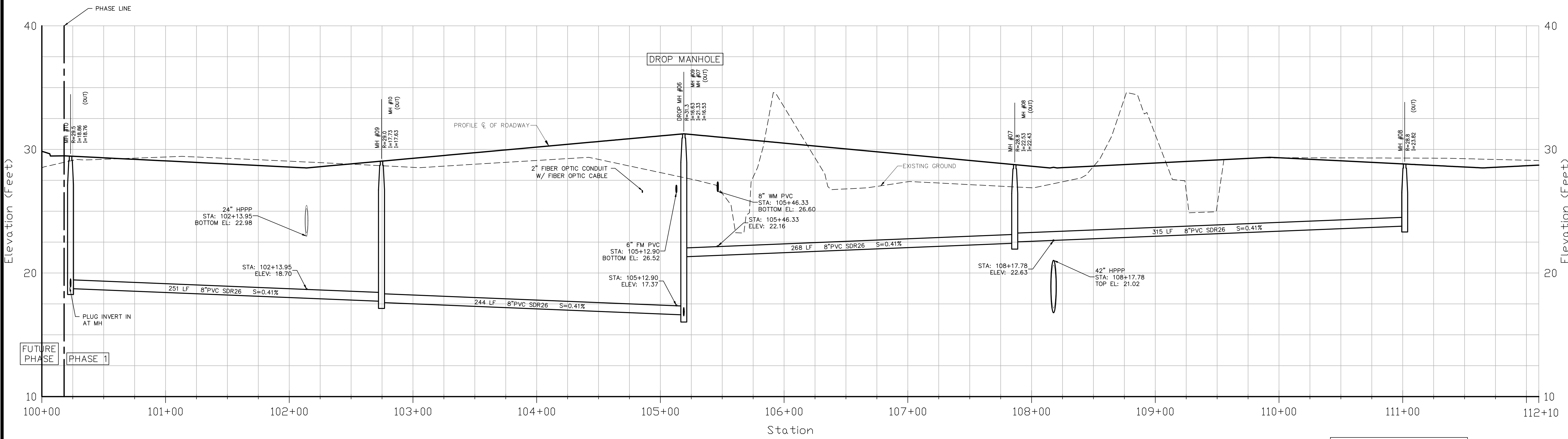
CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
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PHONE: (954) 972-3859 FAX: (954) 972-4178
CPC AUTH. NO. 00002936

SCALE:	AS SHOWN
DATE:	12/08/21
DRAWN BY:	R.P.
CHECKED BY:	W.R.B
DESIGNED BY:	R.F.

SS-2

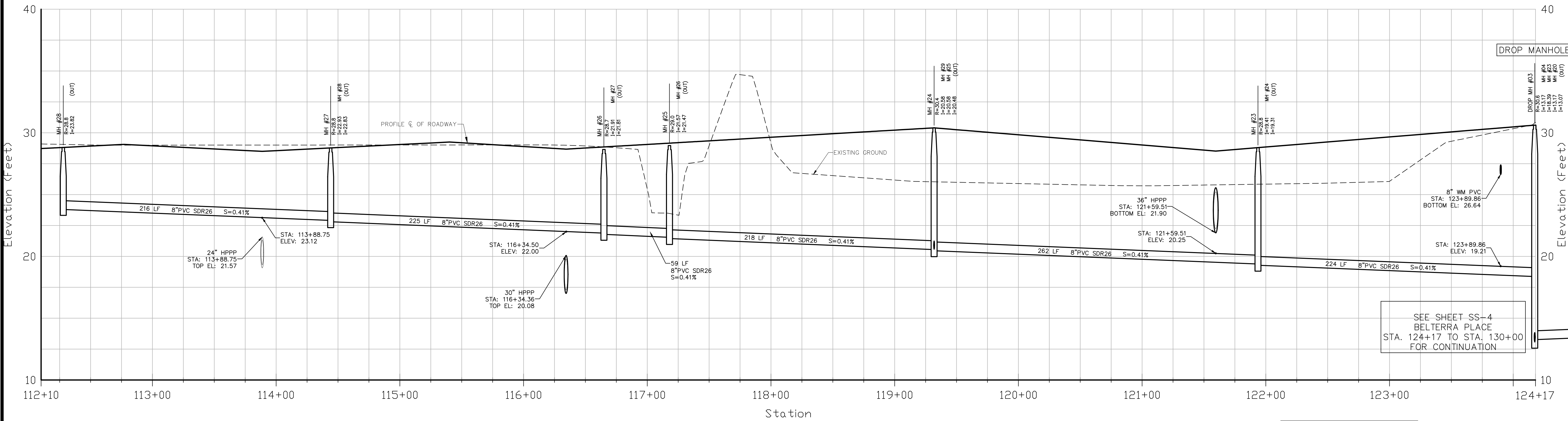


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PINNACLE PLACE NORTH
STA. 100+00 TO STA. 112+10

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



PINNACLE PLACE
STA. 112+10 TO STA. 124+17

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

SEE SHEET SS-4
BELTERRA PLACE
STA. 124+17 TO STA. 130+00
FOR CONTINUATION

NO	DATE	BY	APPROV	REVISIONS

BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

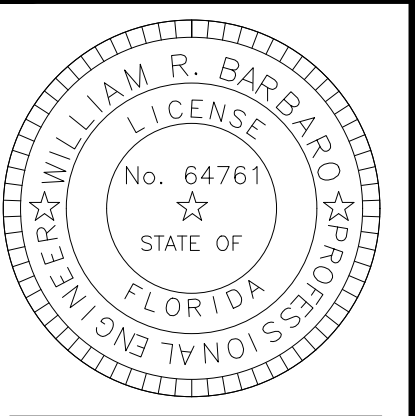
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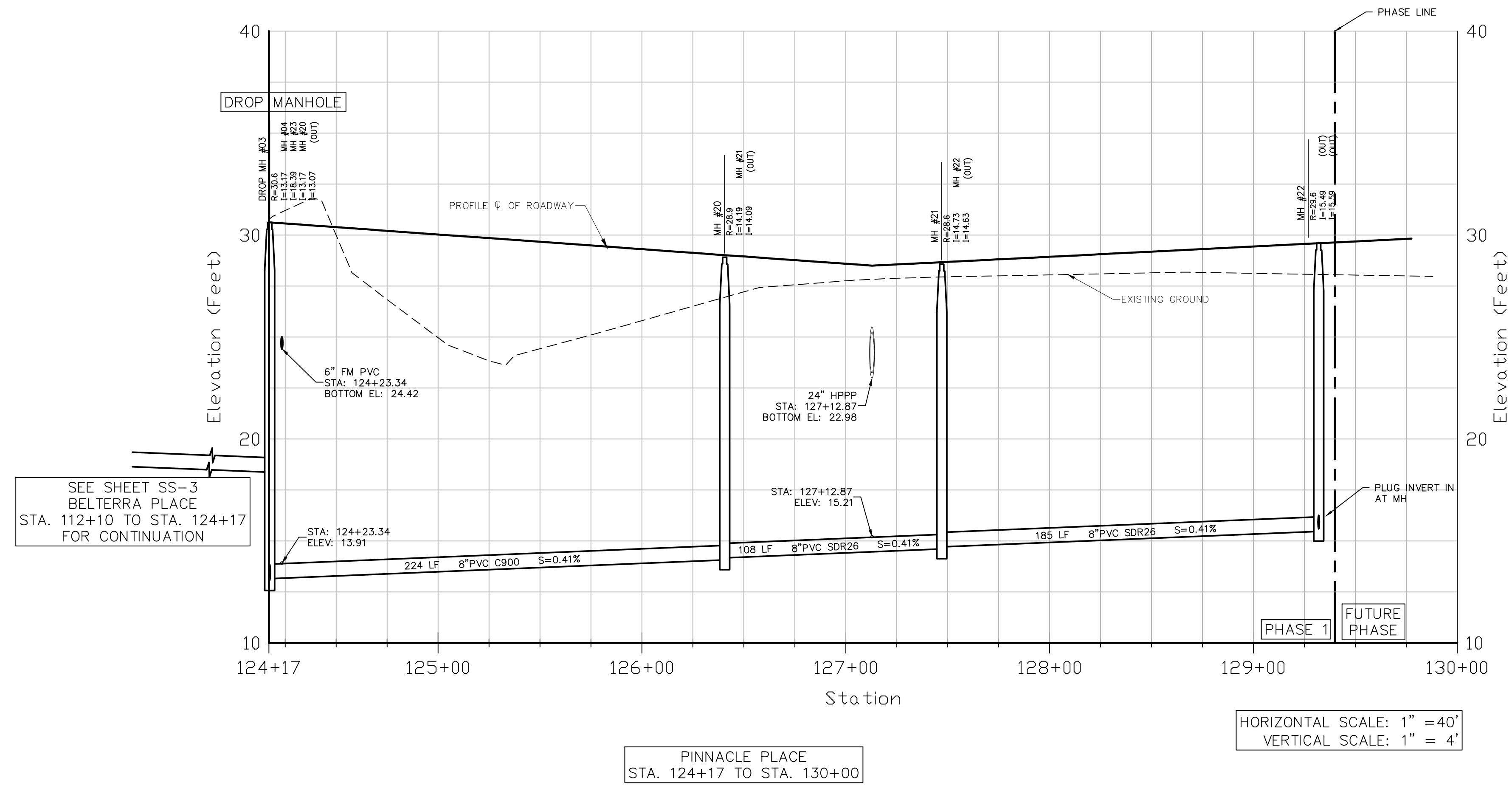
CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
PHONE: (954) 972-3859 FAX: (954) 972-4178
CPC AUTH. NO. 00002936

SCALE: AS SHOWN
DATE: 12/08/21
DRAWN BY: R.P.
CHECKED BY: W.R.B.
DESIGNED BY: R.F.

SS-3

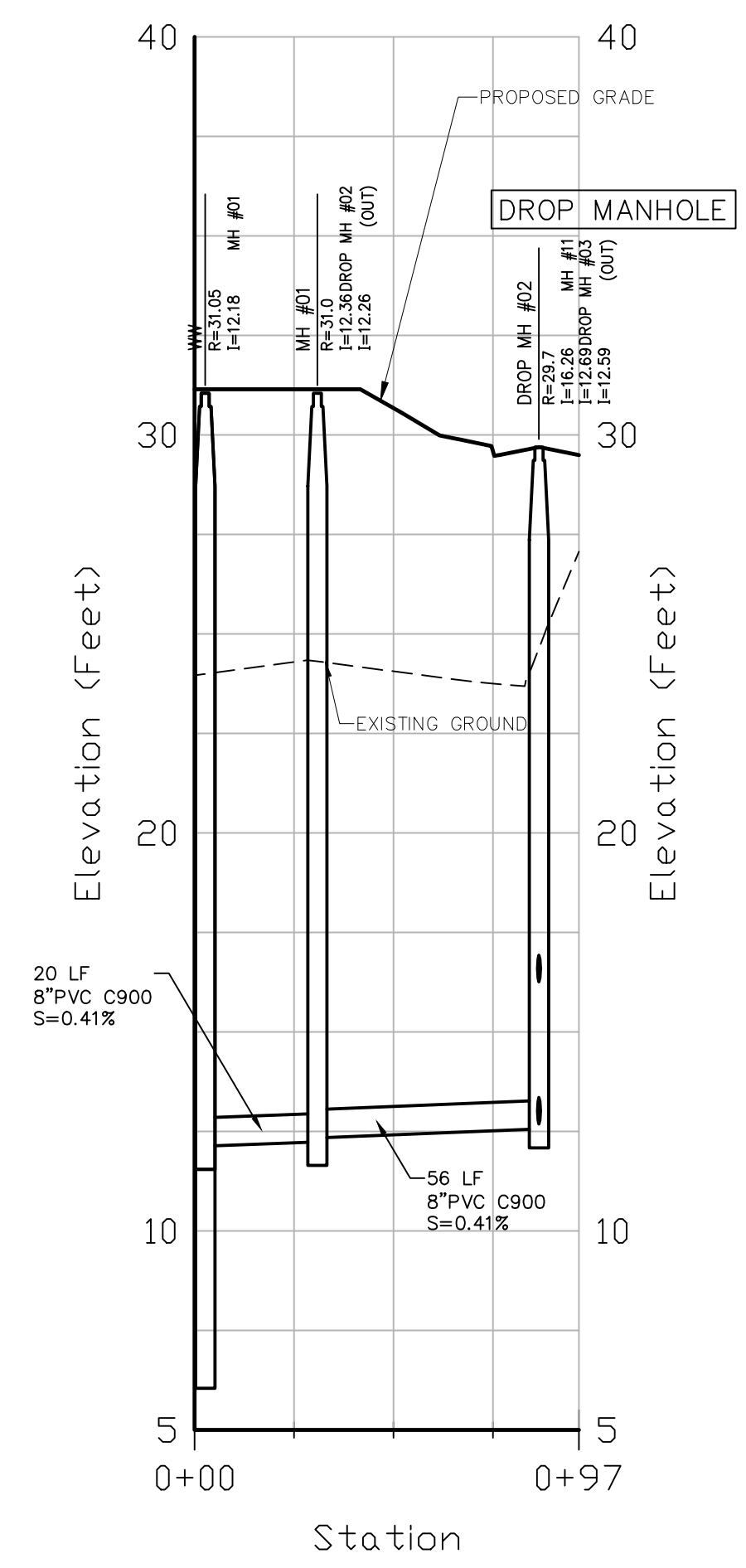


CITY OF PORT ST. LUCIE
PROJECT NO. P23-147
PLSUD FILE NO. 5336
WILLIAM R. BARBARO, P.E.
FL. REGISTRATION NO. - 64761



SEE SHEET SS-3
BELTERRA PLACE
STA. 112+10 TO STA. 124+17
FOR CONTINUATION

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



PROFILE AT ϕ OF LIFT STATION
STA. 0+00 TO STA. 0+97

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

BELTERRA PHASE 1 AT SOUTHERN GROVE
PORT ST. LUCIE COUNTY, FL

SANITARY SEWER PROFILE

NO	DATE	BY	APRV	REVISIONS

SCALE:	AS SHOWN
DATE:	12/08/21
DRAWN BY:	R.P.
CHECKED BY:	W.R.B
DESIGNED BY:	R.F.

SS-4

NOTES:

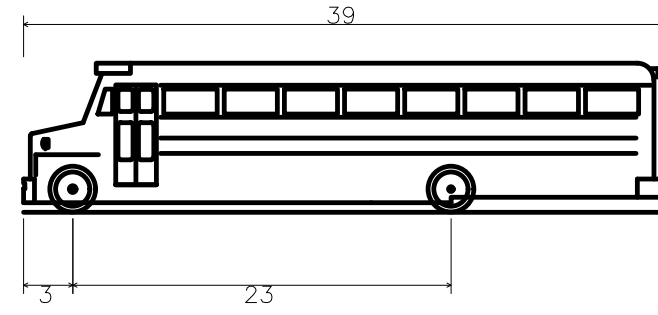
1. THE FIRE TRUCK UTILIZED IN THIS SIMULATION WAS BASED ON THE SPECIFICATIONS PROVIDED BY THE ST. LUCIE COUNTY FIRE DISTRICT:
 - 1.1. WEIGHT 77,000 POUNDS (38 TON)
 - 1.2. WHEEL BASE 21.5'
 - 1.3. TURNING RADIUS 41.5'
2. A SCHOOL BUS WAS UTILIZED IN THIS ANALYSIS AT THE ENTRANCE TURNAROUND, TO DEMONSTRATE THAT A BUS CAN ENTER/EXIT THE DEVELOPMENT WITHOUT BACKING UP AT A CLOSED GATE.

Legend

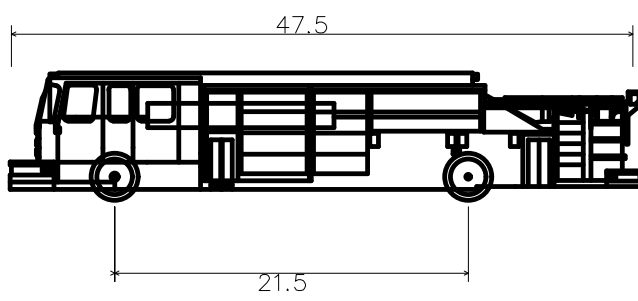
PROPERTY LINE

Legend:

Limits of Phase 1 Plat 3



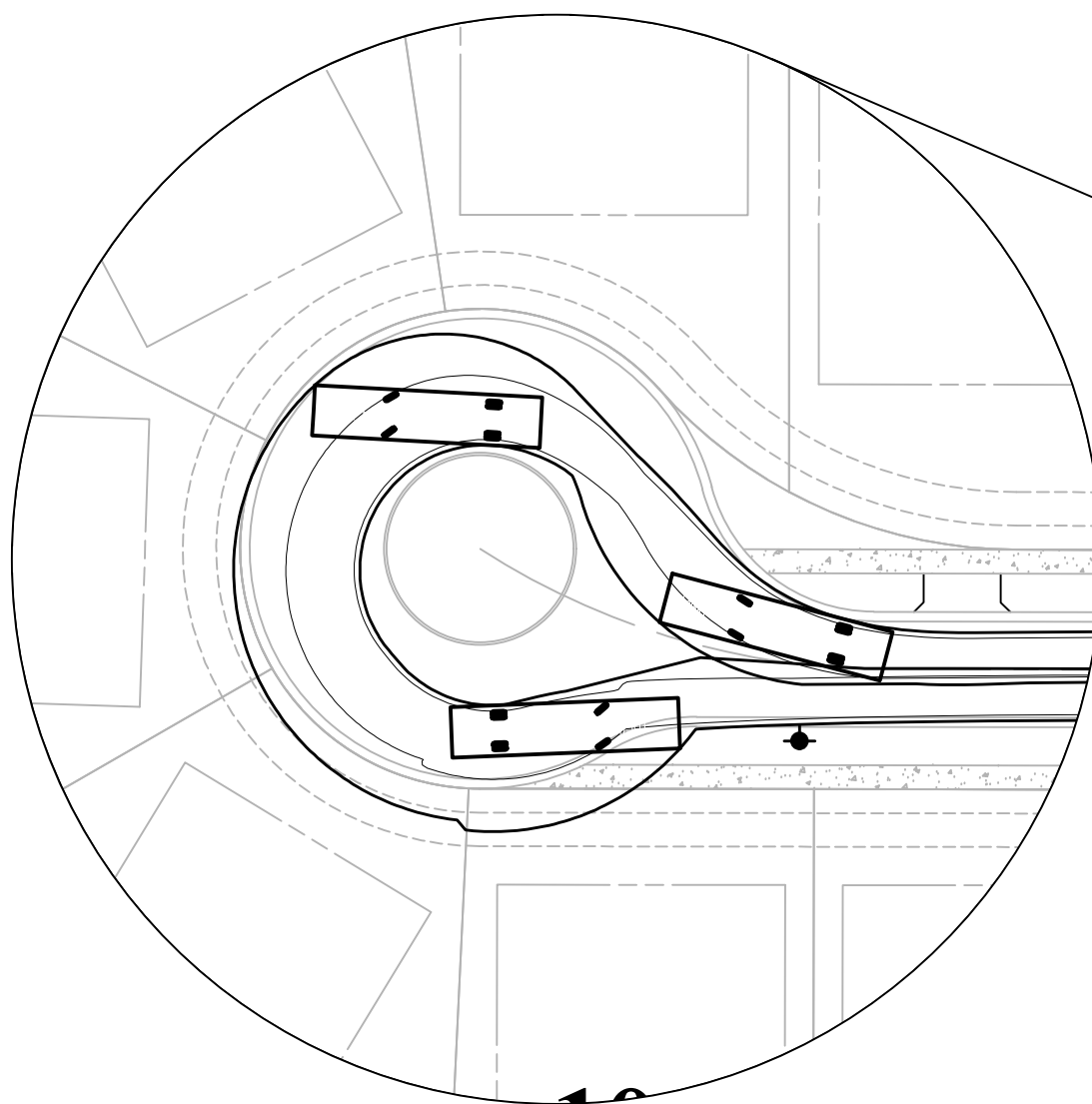
School Bus
 Overall Length 39.000ft
 Overall Width 8.063ft
 Overall Body Height 9.063ft
 Min Body Ground Clearance 0.583ft
 Track Width 5.000ft
 Lock-to-lock time 5.00s
 Curb to Curb Turning Radius 38.600ft



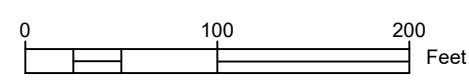
Ladder Fire Truck Port St. Lucie (47.5ft)
 Overall Length 47.500ft
 Overall Width 10.500ft
 Overall Body Height 7.745ft
 Min Body Ground Clearance 0.656ft
 Track Width 8.167ft
 Lock-to-lock time 5.00s
 Curb to Curb Turning Radius 41.500ft

Fire Flow Calculation:

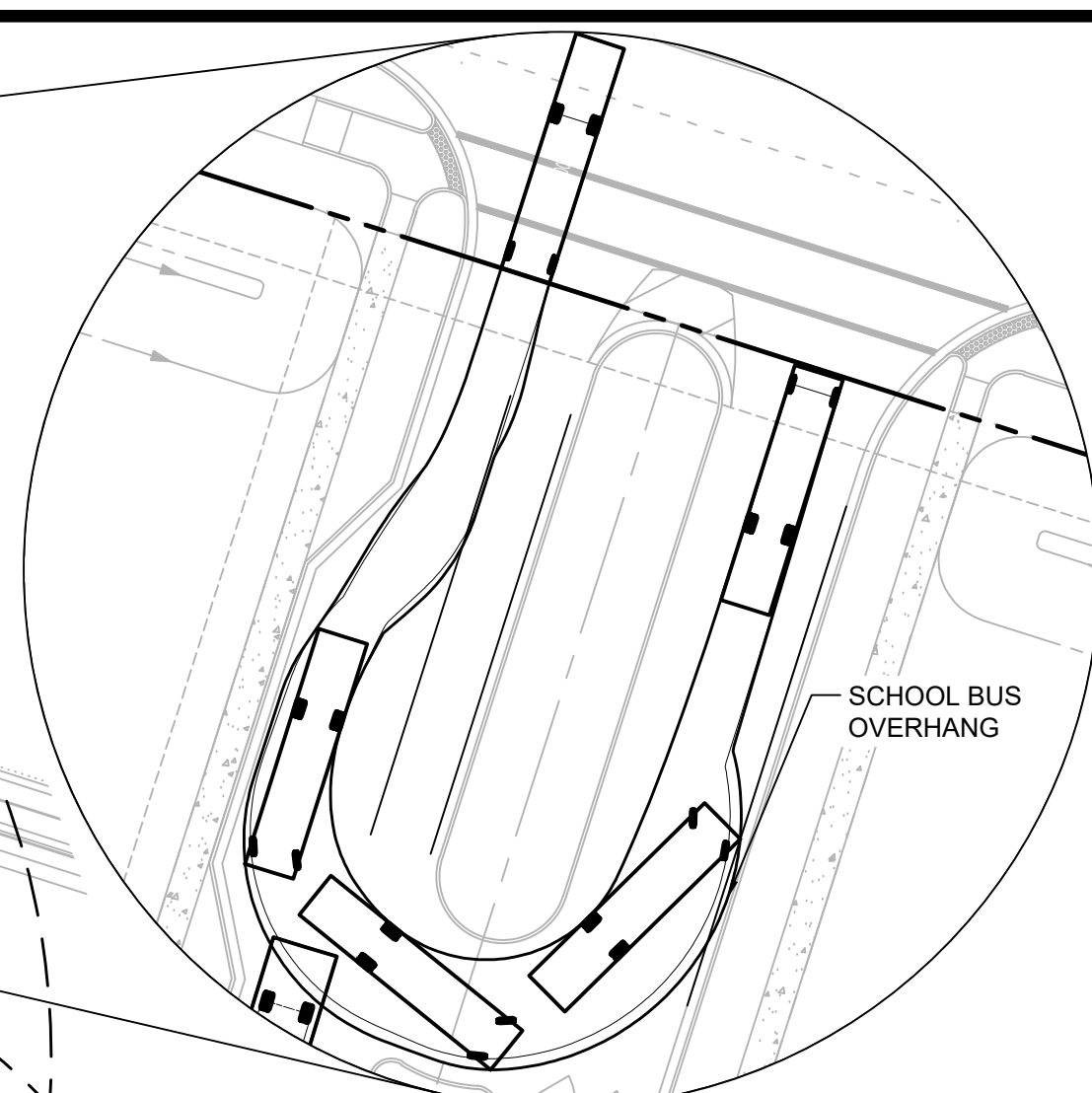
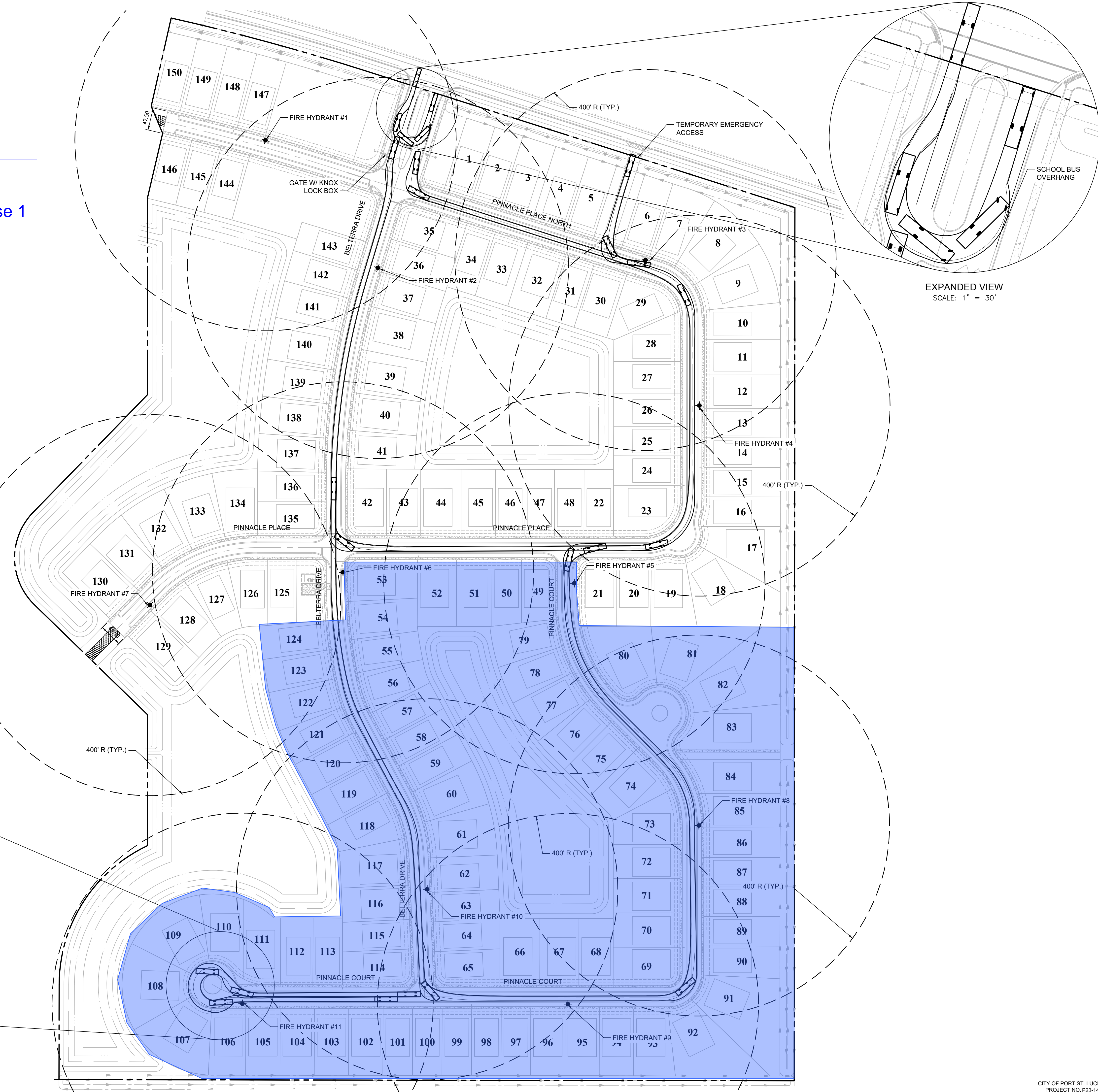
1. PER NFPA 18.4.5.1.2 FFPC 5TH EDITION, THE MINIMUM FIRE FLOW AND FLOW DURATION REQUIREMENTS FOR ONE- AND TWO- FAMILY DWELLINGS HAVING A FIRE FLOW AREA THAT DOES NOT EXCEED 5000 SQUARE FEET SHALL BE 1000 GPM FOR 1 HOUR. ALL HOMES CONSTRUCTED IN SAID SUBDIVISION SHALL BE UNDER 5000 SQUARE FEET.
2. PER NFPA 18.4.5.2 FFPC 5TH EDITION, THE MINIMUM FIRE FLOW AND FLOW DURATION REQUIREMENTS FOR A TYPE VB BUILDING HAVING A FIRE FLOW AREA OF 4800 SQUARE FEET SHALL BE 1750 GPM FOR 2 HOURS.



EXPANDED VIEW
 SCALE: 1" = 40'



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EXPANDED VIEW
 SCALE: 1" = 30'

NO	DATE	BY	APRV	REVISIONS

BELTERRA PHASE 1 AT SOUTHERN GROVE
 PORT ST. LUCIE COUNTY, FL

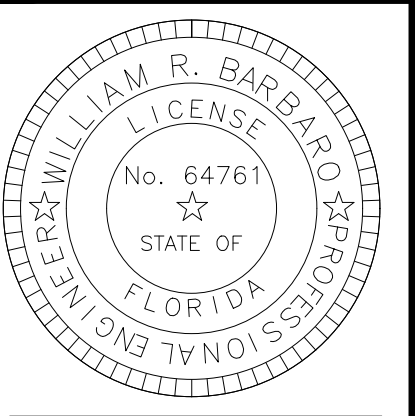
FIRE ACCESS PLAN

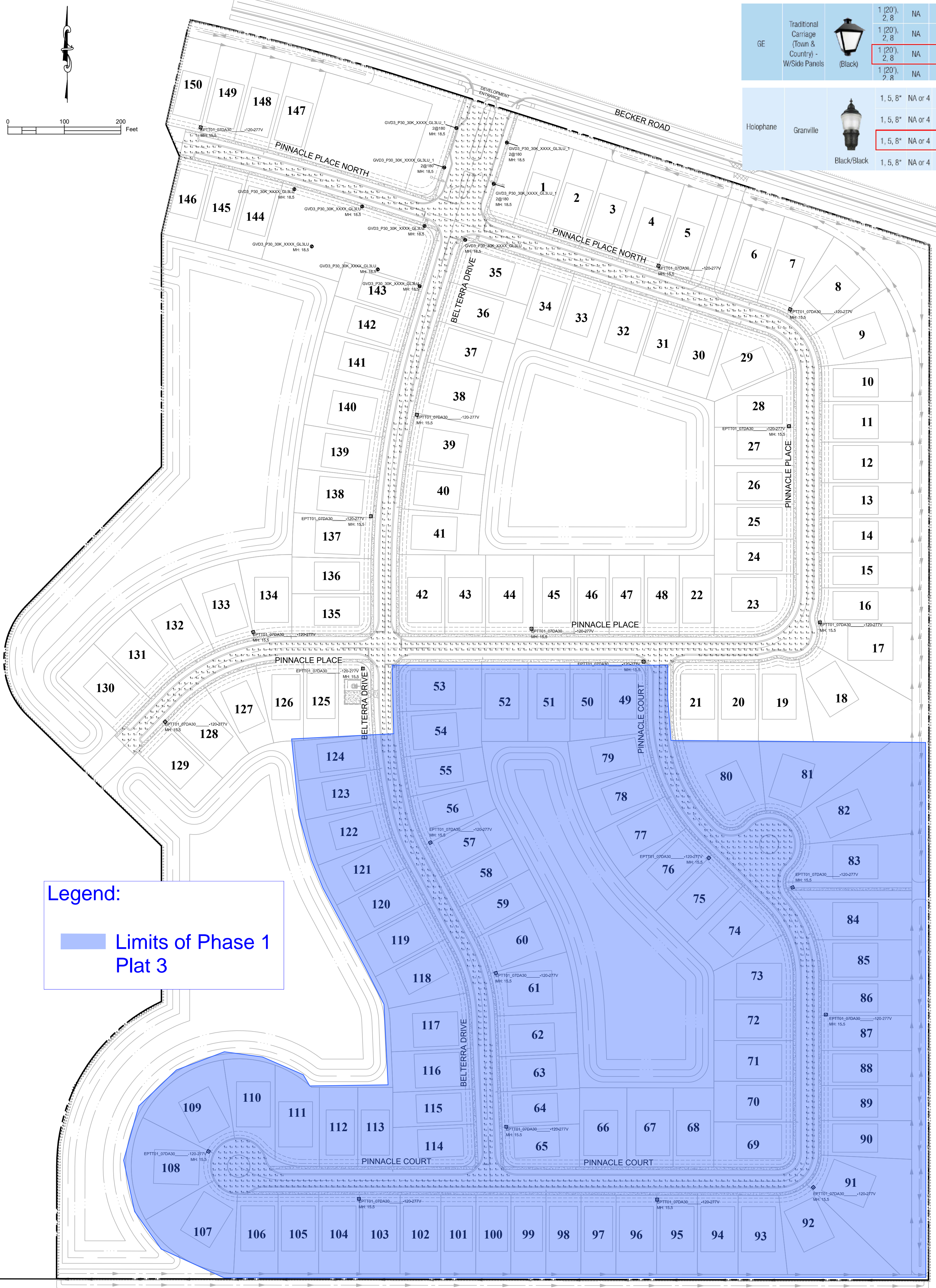


CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMATICS
 814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
 PHONE: (954) 972-3859 FAX: (954) 972-4178
 FILE NO. 190214

SCALE: AS SHOWN
 DATE: 12/08/21
 DRAWN BY: R.P.
 CHECKED BY: W.R.B.
 DESIGNED BY: R.F.

FA-1





Legend:
 Limits of Phase 1 Plat 3

GE	Traditional Carriage (Town & Country) - W/Side Panels	Color	Quantity	Notes	Height	Power	Temp	Beam	Model	Notes	
		(Black)	1 (20'), 2.8	NA	3	39/40	3000K	3,500	B1-U3-G3	EPTT01_F4BA30 -120-277V/IES	C2
		(Black)	1 (20'), 2.8	NA	3	39/40	4000K	3,600	B1-U3-G3	EPTT01_F4BA40 -120-277V/IES	C2
		(Black)	1 (20'), 2.8	NA	3	73/70	3000K	6,450	B1-U4-G3	EPTT01_F7DA30 -120-277V/IES	E2
		(Black)	1 (20'), 2.8	NA	3	73/70	4000K	6,750	B1-U4-G3	EPTT01_F7DA40 -120-277V/IES	E2

GE	Holophane	Color	Quantity	Notes	Height	Power	Temp	Beam	Model	Notes	
		Black/Black	1, 5, 8"	NA or 4	3	37/40	3000K	4,704	B2-U3-G4	ISF 193553P6 GVD3 P20 30K XXXX GL3LU.ies	C5
		Black/Black	1, 5, 8"	NA or 4	3	37/40	5000K	5,075	B2-U3-G4	ISF 193553P8 GVD3 P20 50K XXXX GL3LU.ies	C5
		Black/Black	1, 5, 8"	NA or 4	3	51/50	3000K	7,216	B2-U4-G5	ISF 193553P10 GVD3 P30 30K XXXX GL3LU.ies	D5
		Black/Black	1, 5, 8"	NA or 4	3	51/50	5000K	7,484	B2-U4-G5	ISF 193553P12 GVD3 P30 50K XXXX GL3LU.ies	D5



- NOTE:
- ALL LED LUMINAIRES WILL INCLUDE A HOUSE SIDE BACKSHIELD TO AVOID DISCOMFORTING GLARE TO RESIDENTS.
 - LIGHT POLES, CONDUITS, CONDUCTORS, CIRCUITRY AND LIGHTING SYSTEM TO BE INSTALLED AND MAINTAINED BY FLORIDA POWER AND LIGHT (FPL). FPL IS RESPONSIBLE FOR ALL LIGHT POLE/LUMINAIRE PLACEMENTS/ORIENTATIONS, AVOID PLACEMENT IN THE MIDDLE OF SIDEWALKS, MEET 4" ADA CLEARANCE, ADJUSTMENTS WITH REGARDS TO UNDERGROUND UTILITIES, GEOTECH, ELECTRICAL CALCULATIONS, ETC., FOR A COMPLETE AND ACCEPTABLE LIGHTING INSTALLATION.



Performance Package	Distribution	Input Watts	27K (2700K CCT, 70 CRI)					30K (3000K CCT, 70 CRI)					40K (4000K CCT, 70 CRI)					50K (5000K CCT, 70 CRI)				
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P10	GL3	23	3,052	133	1	3	3	3,464	151	1	3	3	3,528	153	1	3	3	3,593	156	1	3	3
	GL5		3,051	133	2	3	2	3,464	151	2	4	2	3,528	153	2	4	3	3,593	156	2	4	3
	GL3LU		2,782	121	1	3	2	3,158	137	1	3	2	3,216	140	1	3	2	3,275	142	1	3	2

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Property Line	illumiance	Fc	0.00	0.0	0.0	N.A.	N.A.
Roadway	illumiance	Fc	0.31	4.5	0.0	N.A.	N.A.

GVD3	P30	30K	MVOLT	LS
Series	LED Performance Package	LED Color temperature	Voltage	Housing Style
GVD3	Granville Classic Utility LED3	P10 3,500 nominal lumens P20 5,800 nominal lumens P30 8,900 nominal lumens P40 11,500 nominal lumens P50 13,900 nominal lumens	27K 2700K CCT 30K 3000K CCT 40K 4000K CCT 50K 5000K CCT	MS Modern Style Swing Open Design LS Leaf Style Swing Open Design

Housing Color	GL3	Trim	Final	TBK
BK Black	GL3 Type III	[Blank] No Trim	[Blank] No Final	TBK Black
BZ Bronze	GL5 Type V	RB Ribs & Band	BL Ball	TBZ Bronze
GH Graphite	GL3LU Type III Lunar Optics	SY Stylus	CL Clear	TGL Clear
GN Green	GL5LU Type V Lunar Optics		EG Eagle	TGN Graphite
GR Grey			FL Flower	TGR Green
PP Prime Paint			PN Pawn	TGR Grey
WH White			CR Cross	TPP Prime Paint
CMC CustomMatchColor Finish			ST Standard	TWH White
XX STD Finish, TBD			RM Roman Cross	TCMC CustomMatchColor Finish
RAL RAL Specified				TRAL RAL Color
				TXX STD Finish, TBD

PR7 FC FPD90
Options: Option Compatibility Matrix on page 3 of 4
CONTROLS OPTIONS
AO Field Adjustable Output
DE RDAM 0-10 Volt Dimming Controls
FR3 NEMA twistlock photocontrol receptacle - 3 pin
PR7 Dimming photocontrol receptacle - 7 pin
FR7E Dimming photocontrol receptacle - 7 Pin (Under Glass)
PCLL Long Life DTL Twistlock Photocontrol for Solid State, MVOLT
P34 Long Life DTL Twistlock Photocontrol for Solid State, 340V
P48 Long Life DTL Twistlock Photocontrol for Solid State, 480V
SH Shorting Cap
RSB06 rLight Motion Sensing Photocontrols
NLAIR2 rLight RIO 2.0 Antenna
DRIVER ELECTRICAL OPTIONS
FPDX Factory Programmed Driver
20KV Extreme surge protection 20KV/10KA, fail off with indicator light

FPDX DATA OPTIONS	P10 27K	P10 30K	P10 40K	P10 50K
FPDX Setting	Wattage	GL3 GL5 GL3LU GL5LU	GL3 GL5 GL3LU GL5LU	GL3 GL5 GL3LU GL5LU
Standard	23	3,052 3,051 2,782 2,658	3,464 3,464 3,158 3,018	3,528 3,528 3,275 3,120
FPD95	22	2,908 2,910 2,650 2,533	3,300 3,303 3,000 2,875	3,362 3,364 3,064 2,928
FPD90	21	2,763 2,765 2,519 2,407	3,136 3,138 2,859 2,732	3,194 3,196 2,912 2,783

FPDX Setting	Wattage	P20 27K	P20 30K	P20 40K	P20 50K
Standard	37	5,018 5,021 4,574 4,371	5,695 5,699 5,192 4,961	5,801 5,805 5,288 5,053	5,906 5,910 5,384 5,145
FPD95	35	4,782 4,785 4,359 4,166	5,428 5,432 4,948 4,729	5,529 5,532 5,040 4,816	5,630 5,633 5,132 4,904
FPD90	34	4,546 4,549 4,144 3,960	5,160 5,163 4,704 4,495	5,256 5,259 4,791 4,578	5,351 5,355 4,878 4,661
FPD85	32	4,308 4,311 3,927 3,753	4,890 4,893 4,458 4,260	4,981 4,984 4,540 4,339	5,072 5,075 4,623 4,418
FPD80	30	4,070 4,072 3,710 3,545	4,619 4,622 4,211 4,024	4,705 4,708 4,289 4,098	4,790 4,793 4,367 4,173
FPD75	28	3,830 3,832 3,491 3,336	4,347 4,350 3,962 3,786	4,427 4,430 4,036 3,857	4,508 4,511 4,109 3,927
FPD70	26	3,588 3,591 3,271 3,126	4,073 4,076 3,713 3,548	4,149 4,151 3,782 3,614	4,224 4,227 3,850 3,679

FPDX Setting	Wattage	P30 27K	P30 30K	P30 40K	P30 50K
Standard	57	7,679 7,684 7,000 6,689	8,717 8,722 7,945 7,593	8,878 8,884 8,093 7,733	9,040 9,045 8,240 7,874
FPD95	54	7,328 7,333 6,680 6,384	8,318 8,324 7,582 7,246	8,472 8,478 7,723 7,380	8,627 8,632 7,863 7,514
FPD90	51	6,974 6,979 6,357 6,075	7,916 7,921 7,216 6,896	8,063 8,068 7,350 7,024	8,210 8,215 7,484 7,151
FPD85	48	6,617 6,621 6,032 5,764	7,511 7,516 6,847 6,543	7,650 7,655 6,973 6,664	7,789 7,794 7,100 6,785
FPD80	45	6,113 6,117 5,572 5,325	6,938 6,943 6,325 6,044	7,067 7,071 6,442 6,156	7,196 7,200 6,559 6,268
FPD75	43	5,695 5,699 5,191 4,961	6,464 6,468 5,892 5,631	6,584 6,588 6,002 5,735	6,704 6,708 6,111 5,840
FPD70	40	5,315 5,319 4,845 4,630	6,033 6,037 5,500 5,255	6,145 6,149 5,601 5,353	6,257 6,261 5,703 5,450

BELTERRA PHASE 1 AT SOUTHERN GROVE
 PORT ST. LUCIE COUNTY, FL

LIGHTING AND PHOTOMETRICS PLAN

CPC
 CARNAHAN PROCTOR & CROSS
 CIVIL ENGINEERING | CONSTRUCTION SERVICES | GEOMETRICS
 814 S. MILITARY TRAIL, DEERFIELD BEACH, FLORIDA 33442
 PHONE: (954) 972-3859 FAX: (954) 972-4178
 CPC AUTH. NO. 00002938

SCALE: AS SHOWN
 DATE: 12/08/21
 DRAWN BY: R.P.
 CHECKED BY: W.R.B.
 DESIGNED BY: R.F.

LPP-1

WILLIAM R. BARBARO, P.E.
 LICENSE NO. 64761
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

CITY OF PORT ST. LUCIE
 PROJECT NO. P23-147
 PLSUD FILE NO. 5336

WILLIAM R. BARBARO, P.E.
 FL REGISTRATION NO. - 64761