

# TERRA BELLA

## SENIOR HOUSING COMMUNITY

### LIVINGSTON ROAD, LAND O LAKES, FLORIDA

**Owner/Developer:**

KRG TERRA BELLA, LLC.  
 406 Eden Bay Drive  
 Naples, Florida 34110  
 (239) 571-9148

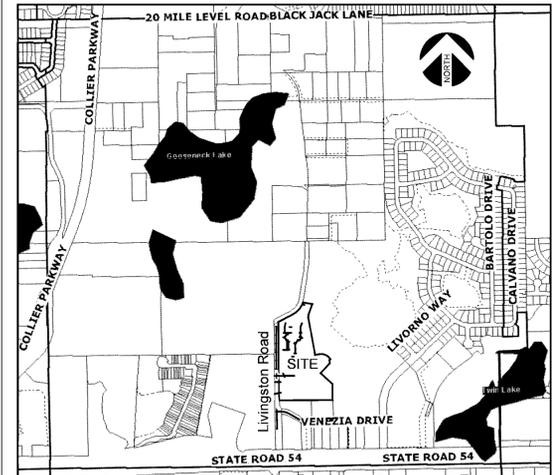
**Architect/Engineer:**

SPRING ENGINEERING, INC.  
 3014 U.S. Highway 19  
 Holiday, Florida 34691  
 (727) 938-1516  
 Roland P. Dove, P.E.  
 Arthur Pollard (sei2@verizon.net)

**Surveyor:**

DAVRIS, INC.  
 5830 Nebraska Avenue  
 New Port Richey, Fl. 34652  
 (727) 232-3800  
 Christopher Chittum (c3@darvisinc.com)

**Location Map:**



SECTION 29, TOWNSHIP 26 SOUTH, RANGE 19 EAST  
 (Lat. 28° 11' 19" N, Lon. 82° 25' 37" W)

**Aerial:**



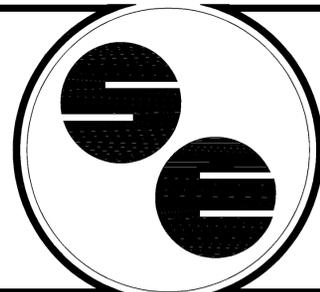
SECTION 29, TOWNSHIP 26 SOUTH, RANGE 19 EAST  
 (Lat. 28° 11' 19" N, Lon. 82° 25' 37" W)

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Drainage plan based on the existing field conditions of the abutting property.

## Simultaneous Preliminary/Construction Submittal



**SPRING ENGINEERING, INC.**  
 ARCHITECTURE - ENGINEERING - LAND PLANNING  
 3014 U.S. HWY. 19, HOLIDAY, FL. (727) 938-1516

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 CONSTRUCTION DRAWINGS  
 ISSUE DATE: 2.1.16

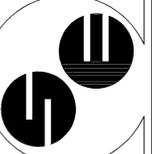
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WITHOUT SIGNATURE  
 AND CROSS  
 ROLAND P. DOVE, P.E.  
 P.E. NO. 36933  
 DATE

**TERRA BELLA**  
 Senior Housing Community  
 Land O Lakes, Florida

CONTRACT DATE:  
 September 2015

**SPRING ENGINEERING, INC.**  
 ENGINEERING • LAND PLANNING • ARCHITECTURE  
 3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
 FL COA. NO. 00005158 & LICENSE NO. AM-0001747



TITLE SHEET

DESIGNED BY: ATP  
 DRAWN BY: ATP  
 CHECKED BY: RPD

JOB NO. 2015-13  
 SHEET NO.

**T1**

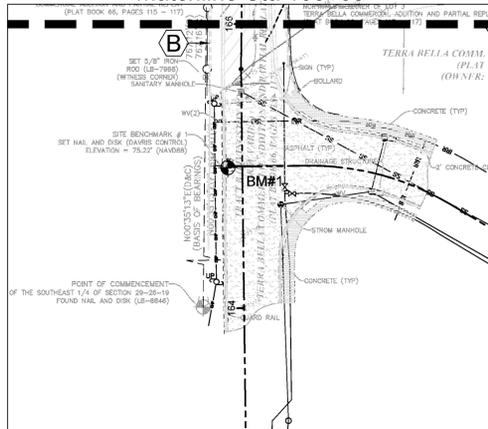
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MAP NUMBER 1210104089, EFFECTIVE DATE OF SEPTEMBER 26, 2014, FOR PASCO COUNTY, FLORIDA. THE PASCO COUNTY BUILDING DEPARTMENT SHALL BE CONSULTED FOR ANY CHANGES TO THIS DRAWING.

O.R. BOOK 8896,  
PAGE 3093

O.R. BOOK 9112,  
PAGE 3479

matchline Sta 166+00



LESS-OUT LINE TABLE

LINE	LENGTH	BEARING
L&D	11.22'	N83°14'27"E
L&D	10.99'	N64°22'25"E

LESS-OUT CURVE TABLE

CURVE	LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH	DELTA
C4(D)	50.33'	150.00'	N53°37'31"E	50.10'	197°3'31"
C4(F)	50.31'	150.00'	N53°34'54"E	50.08'	197°3'04"

O.R. BOOK 9112,  
PAGE 3479

**TREES TO BE REMOVED (10" AND LARGER)**

EXISTING TREE (QUANTITY) TOTAL DBH

12" Palm	(3)	(36)
14" Palm	(1)	(14)
Total (Palms)	(4)	(50)

EXISTING TREE (QUANTITY) TOTAL DBH

10" Pine	(41)	(410)
11" Pine	(53)	(583)
12" Pine	(58)	(696)
13" Pine	(33)	(429)
14" Pine	(26)	(364)
15" Pine	(18)	(270)
16" Pine	(15)	(240)
17" Pine	(2)	(34)
18" Pine	(4)	(72)
19" Pine	(2)	(38)
20" Pine	(1)	(20)
Total (Pine)	(253)	(3156)

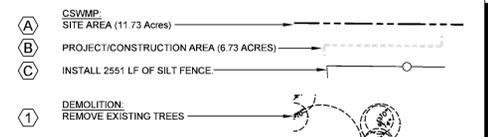
EXISTING TREE (QUANTITY) TOTAL DBH

12" Bay	1	12
10" Gum	2	20
11" Gum	3	33
12" Gum	3	36
13" Gum	3	39
14" Gum	3	42
15" Gum	3	45
Total (non-Oak)	18	227

EXISTING TREE (QUANTITY) TOTAL DBH

10" Oak	6	60
11" Oak	2	22
12" Oak	4	48
13" Oak	2	26
14" Oak	4	56
15" Oak	3	45
16" Oak	5	80
17" Oak	2	34
18" Oak	3	54
20" Oak	1	20
21" Oak	2	42
22" Oak	2	44
23" Oak	1	23
24" Oak	2	48
25" Oak	2	50
29" Oak	1	29
32" Oak	1	32
Total (Oak)	43	669

**KEY NOTES AND LEGEND**



All bidders must visit the site to verify conditions before submitting bids.

BASIS OF BEARINGS: DEED BEARING OF N00°35'13"E, ALONG THE WEST LINE OF THE SOUTHEAST 1/4 OF SECTION 29-26-19, AS SHOWN HEREON.

THE PROPERTY SHOWN HEREON APPEARS TO LIE IN FLOOD ZONE 'AE' WITH A BASE FLOOD ELEVATION OF 68.6 (NAVD 1988) AND FLOOD ZONE 'X' AND FLOOD ZONE 'A' ACCORDING TO THE FLOOD INSURANCE RATE MAP NUMBER 1210104089, EFFECTIVE DATE OF SEPTEMBER 26, 2014, FOR PASCO COUNTY, FLORIDA. (PRIOR TO ANY NEW DEVELOPMENT OR CONSTRUCTION ON THIS SITE, THE PASCO COUNTY BUILDING DEPARTMENT SHALL BE CONSULTED.)

SUBJECT PARCEL ACREAGE = 11.73 ACRES MORE OR LESS.

ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.

CONTROL BENCHMARK: FOUND CONCRETE MONUMENT WITH DISK, STAMPED N669 2006, LOCATED 122.5' NORTH OF THE APPROXIMATE CENTERLINE OF STATE ROAD 54 WESTBOUND LINES, 54.0' WEST OF THE APPROXIMATE CENTERLINE OF 20 MILE LEVEL ROAD AND 2.0' EAST OF A CARSONITE WITNESS POST. PUBLISHED ELEVATION = 67.71' (NAVD88).

SITE BENCHMARK #1: SET NAIL AND DISK (DAVIS CONTROL), LOCATED 1.3' EAST OF THE WEST EDGE OF PAVEMENT OF LIVINGSTON ROAD AND 45.6' NORTHWEST OF A STORM MANHOLE. ELEVATION = 75.22' (NAVD88).

SITE BENCHMARK #2: SET 5/8" IRON ROD (DAVIS CONTROL), LOCATED 56.7' WEST OF THE NORTHEAST BOUNDARY CORNER OF THE SUBJECT PARCEL AND 64.3' SOUTHEAST OF THE MOST NORTHERLY BOUNDARY CORNER OF THE SUBJECT PARCEL. ELEVATION = 63.22' (NAVD88).

**LEGAL DESCRIPTION**

A PARCEL OF LAND LOCATED IN SECTION 29, TOWNSHIP 26 SOUTH, RANGE 19 EAST, PASCO COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE SE 1/4 OF SAID SECTION 29; THENCE N00°35'13"E ALONG THE WEST LINE OF THE SE 1/4 OF SAID SECTION 29 A DISTANCE OF 767.12 FEET TO THE POINT OF BEGINNING, SAID POINT BEING THE NORTHWEST CORNER OF TERRA BELLA COMMERCIAL ADDITION AND PARTIAL REPLAT, RECORDED IN PLAT BOOK 66, PAGES 115-117, OF THE PUBLIC RECORDS OF PASCO COUNTY, FLORIDA;

THENCE CONTINUE N00°35'13"E ALONG SAID WEST LINE OF THE SE 1/4, A DISTANCE OF 885.21 FEET TO A POINT; THENCE LEAVING SAID WEST LINE OF THE SE 1/4 NORTHEASTERLY ALONG THE ARC OF A NON-TANGENT CURVE TO THE RIGHT (SAID CURVE HAVING A RADIUS OF 150.00 FEET, A CENTRAL ANGLE OF 19°12'06", AND A CHORD BEARING AND DISTANCE OF N53°38'40"E, 50.04 FEET) FOR AN ARC DISTANCE OF 50.27 FEET TO A POINT; THENCE N63°14'43"E A DISTANCE OF 204.30 FEET TO A POINT; THENCE NORTHEASTERLY ALONG THE ARC OF A TANGENT CURVE TO THE LEFT (SAID CURVE HAVING A RADIUS OF 250.00 FEET, A CENTRAL ANGLE OF 42°56'20", AND A CHORD BEARING AND DISTANCE OF N41°46'24"E, 183.00 FEET) FOR AN ARC DISTANCE OF 187.36 FEET TO A POINT; THENCE S80°30'00"E A DISTANCE OF 110.88 FEET TO A POINT; THENCE S00°30'00"W A DISTANCE OF 135.66 FEET TO A POINT; THENCE S05°30'00"W A DISTANCE OF 28.95 FEET TO A POINT; THENCE S09°30'00"E A DISTANCE OF 449.17 FEET TO A POINT; THENCE N80°30'00"E A DISTANCE OF 49.69 FEET TO A POINT; THENCE SOUTHEASTERLY ALONG THE ARC OF A TANGENT CURVE TO THE RIGHT (SAID CURVE HAVING A RADIUS OF 127.50 FEET, A CENTRAL ANGLE OF 68°29'10", AND A CHORD BEARING AND DISTANCE OF S65°15'25"E, 143.49 FEET) FOR AN ARC DISTANCE OF 152.40 FEET TO A POINT; THENCE S43°30'00"W A DISTANCE OF 15.60 FEET TO A POINT; THENCE S01°30'00"E A DISTANCE OF 39.00 FEET TO A POINT; THENCE S43°30'00"W A DISTANCE OF 155.52 FEET TO A POINT; THENCE S46°30'00"E A DISTANCE OF 188.59 FEET TO A POINT; THENCE S00°32'15"W A DISTANCE OF 187.72 FEET TO A POINT; THENCE N89°27'45"W A DISTANCE OF 684.54 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE WEST 50.00 FEET CONVEYED TO PASCO COUNTY IN OFFICIAL RECORDS BOOK 8613, PAGE 3032 PUBLIC RECORDS OF PASCO COUNTY, FLORIDA AND DESCRIBED AS FOLLOWS:

BEGIN AT THE NORTHWEST CORNER OF LOT 3 OF TERRA BELLA COMMERCIAL ADDITION AND PARTIAL REPLAT, PLAT BOOK 66, PAGES 115-117, OF THE PUBLIC RECORDS OF PASCO COUNTY, FLORIDA; THENCE WITH THE NORTH LINE OF SAID PLAT N89°27'59"W, A DISTANCE OF 56.10 FEET TO THE WEST LINE OF SAID SOUTHEAST 1/4 OF SECTION 29; THENCE WITH THE WEST LINE OF SAID SOUTHEAST 1/4, N00°34'55"E, A DISTANCE OF 885.17 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 20 MILE LEVEL ROAD (50' RIGHT-OF-WAY); THENCE WITH SAID SOUTH RIGHT-OF-WAY LINE THE FOLLOWING TWO (2) COURSES: 1) WITH THE ARC OF A NON-TANGENT CURVE TO THE RIGHT (SAID CURVE HAVING A RADIUS OF 150.00 FEET, A CENTRAL ANGLE OF 19°13'31", AND A CHORD BEARING AND DISTANCE OF N53°37'31"E, 50.10 FEET) FOR AN ARC DISTANCE OF 50.33 FEET TO A POINT OF TANGENCY; 2) N63°14'17"E, A DISTANCE OF 11.22 FEET; THENCE LEAVING SAID SOUTH RIGHT-OF-WAY LINE AND WITH A LINE BEING 90 EAST OF AND PARALLEL WITH THE WEST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 29, S00°34'55"W, A DISTANCE OF 800.85 FEET TO AN ANGLE POINT HEREIN; THENCE S02°55'16"E, A DISTANCE OF 99.75 FEET TO THE POINT OF BEGINNING.

TIM LIRAS  
MONUMENT WITH DISK, STAMPED N669 2006, AT THE CENTERLINE OF STATE ROAD 54 WESTBOUND CONTIGUOUS TO 20 MILE LEVEL ROAD AND 2.0' BUSHED ELEVATION = 67.71' (NAVD88)

(DAVIS CONTROL), LOCATED 1.3' EAST OF THE ROAD AND 45.6' NORTHWEST OF A STORM

(DAVIS CONTROL), LOCATED 56.7' WEST OF THE SUBJECT PARCEL AND 64.3' SOUTHWEST OF THE SUBJECT PARCEL.

PORTION OF SECTION 29-26-19  
(O.R. BOOK 8896, PAGE 3093)  
(OWNER: ACADAMY AT THE LAKES, INC.)

PORTION OF SECTION 29-26-19  
(O.R. BOOK 9112, PAGE 3479)  
(OWNER: ALTA TERRA BELLA, LP)  
(UNDER CONSTRUCTION)

O.R. BOOK 8896,  
PAGE 3093

EXISTING WET  
POND AND  
WETLAND  
(3.29 acres)

**Demolition Plan**



O.R. BOOK 9112,  
PAGE 3479

matchline Sta 166+00

O.R. BOOK 3642,  
PAGE 765

CONSTRUCTION DRAWINGS - 1 FEB 2016

100%  
CONSTRUCTION DRAWINGS  
ISSUE DATE: 2.1.16

REVISIONS

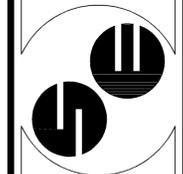
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DATE: \_\_\_\_\_  
AND EMBROIDERED  
ROLAND P. DOVE, P.E.  
P.E. NO. 36933

TERRA BELLA  
Senior Housing Community  
Land O Lakes, Florida

CONTRACT DATE:  
September 2015

SPRING ENGINEERING, INC.  
ENGINEERING • LAND PLANNING • ARCHITECTURE  
3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
FL COA NO. 00005158 & LICENSE NO. AM-0001747



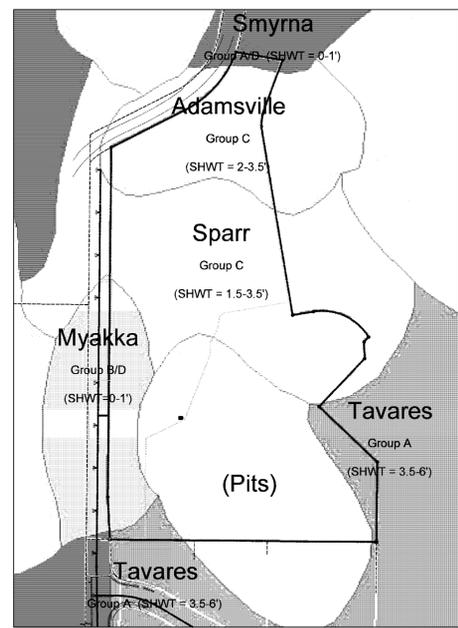
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JOB NO.  
2015-13

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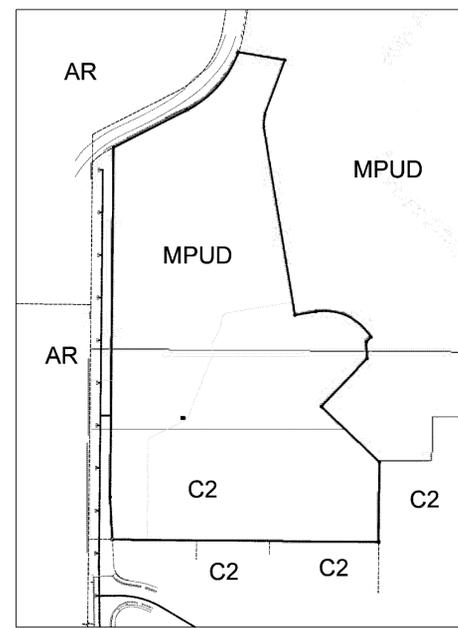
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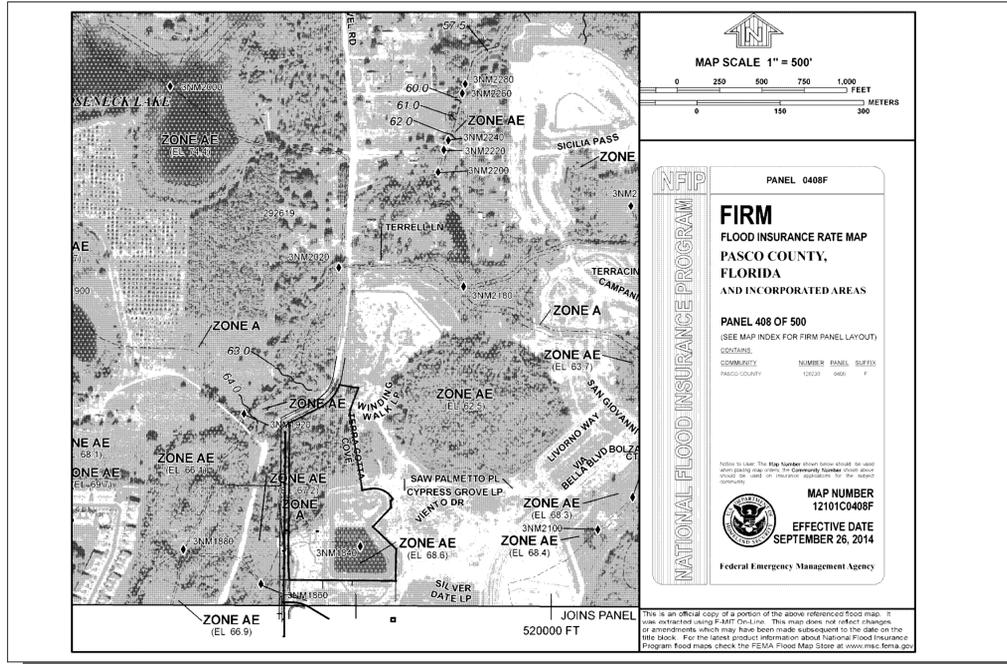
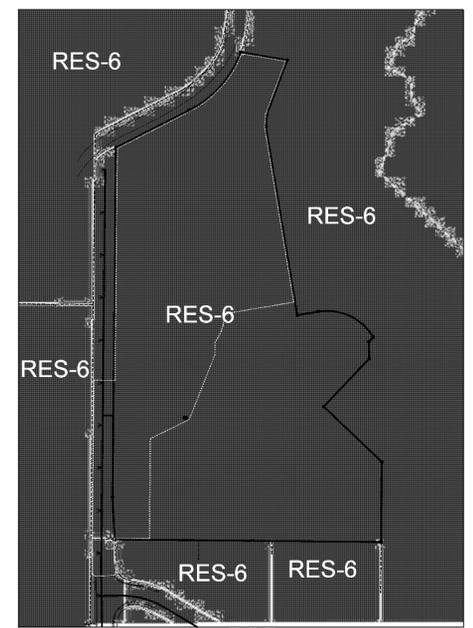
**SOILS**



**ZONING**



**FUTURE LAND USE**



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**TERRA BELLA**  
Senior Housing Community  
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3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
FL COA NO. 00005158 & LICENSE NO. AM-0001747



**AERIAL, SOIL,  
ZONING & LAND  
USE**

DESIGNED BY: ATP  
DRAWN BY: ATP  
CHECKED BY: RPD  
JOB NO.

2015-13  
SHEET NO.  
**C1.1**

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# Surface Water Pollution Prevention Plan

## NPDES SOIL EROSION CONTROL AND POLLUTION PREVENTION NOTES

ALL EROSION CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL STANDARDS. AN EPA EQUIVALENT NOTICE OF INTENT LETTER SHALL BE POSTED IN THE JOB TRAILER AT ALL TIMES. THIS SITE SHALL BE PROTECTED BY MEANS DESCRIBED IN THE ACCOMPANYING PLANS. IF THERE ARE ANY QUESTIONS REGARDING EROSION CONTROL MEASURES, THE CIVIL ENGINEER OF RECORD MUST BE CONTACTED.

A COPY OF THIS SHEET AND THE EROSION CONTROL PLAN MUST BE KEPT ON-SITE THROUGH THE DURATION OF CONSTRUCTION ACTIVITY. ANY CHANGES MADE TO THIS PLAN MUST BE NOTED, DATED, AND INITIALED BY THE GENERAL CONTRACTOR.

**I. GENERAL**  
THE INTENT OF THIS PLAN IS TO CONTROL EROSION AND RESULTING SILT TRANSPORTATION OFF-SITE. THE ITEMS INDICATED ARE THE ENGINEER'S BEST ESTIMATE OF REQUIREMENTS. MORE CONTROL MAY BE NEEDED DEPENDING ON SITE CONDITIONS, SEASON, ETC. CONTRACTOR SHALL INSTALL ADDITIONAL MEASURES AS NECESSARY TO COMPLY WITH THIS INTENT. ALL CHANGES TO THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) MUST BE NOTED.

**A. BEST MANAGEMENT PRACTICES PLAN WITH ALL SEDIMENT AND EROSION CONTROL PLANS SHALL BE KEPT ON-SITE WITH COPIES OF ALL INSPECTION REPORTS.**

**B. EXISTING TOPOGRAPHY AND PROPOSED TOPOGRAPHY ARE SHOWN ON THE GRADING PLAN.**

**C. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE CONSTRUCTED PRIOR TO ANY LAND DISTURBING ACTIVITY TAKING PLACE.**

**D. OTHER LOCAL, STATE OR FEDERAL STATUTES OR REQUIREMENTS THAT MAY AFFECT THE PERMIT REQUIREMENTS FOR THIS SITE:**

1. NPDES CONSTRUCTION STORM WATER MANAGEMENT DISCHARGE CRITERION
2. THE STATE UTILITY PROTECTION SERVICE TO VERIFY LOCATION OF ANY EXISTING UTILITIES
3. LOCAL SEDIMENT CONTROL ORDINANCES
4. HAZARDOUS WASTE CONCERNS
5. PROTECTED SPECIES, HISTORICAL PRESERVATION, ETC.

**E. MATERIAL NEEDS AFFECTING ENVIRONMENTAL ASPECTS OF THE SITE**

1. HAIL, INHAUL-OFF
2. TOPSOIL SPOIL OR HAUL-IN

**F. PLANNED PHASES OF CONSTRUCTION**

1. FLAG ALL WORK LIMITS
2. THE STATE UTILITY PROTECTION SERVICE TO VERIFY LOCATION OF ANY EXISTING UTILITIES
3. TWO (2) WORKING DAYS PRIOR TO START OF CONSTRUCTION
4. NOTIFY SEDIMENT CONTROL INSPECTOR TWENTY-FOUR (24) HOURS PRIOR TO START OF CONSTRUCTION
5. IDENTIFY AND PROTECT ALL EXISTING VEGETATION TO REMAIN
6. PERFORM CLEARING AND GRADING REQUIRED FOR INSTALLATION OF PERIMETER CONTROLS
7. INSTALL PERIMETER RUNOFF CONTROLS. NOTIFY SEDIMENT CONTROL INSPECTOR AND OBTAIN APPROVAL BEFORE PROCEEDING FURTHER
8. INSTALL STORM DRAINAGE PROTECTION
9. CLEAR AND STABILIZE CONSTRUCTION ACCESS
10. COMPLETE ALL REQUIRED STOCKPILING, SITE CLEARING AND GRADING
11. APPLY TEMPORARY OR PERMANENT STABILIZATION MEASURE IMMEDIATELY ON ALL DISTURBED AREAS WHERE WORK MAY BE DELAYED OR IS COMPLETE. DO NOT LEAVE LARGE AREAS UNPROTECTED FOR MORE THAN SEVEN (7) DAYS
12. CONSTRUCT PARKING LOT BASE, BUILDING FOUNDATION AND INSTALL SITE UTILITIES
13. WEATHER-IN BUILDING
14. COMPLETE PARKING LOT CONSTRUCTION
15. COMPLETE FINAL GRADING, STABILIZATION AND LANDSCAPING
16. NOTIFY SEDIMENT CONTROL INSPECTOR AND OBTAIN APPROVAL TO REMOVE SEDIMENT AND EROSION CONTROL MEASURES

**II. IMPLEMENTATION**  
PLANNED CONSTRUCTION PHASING AND SPECIFIC REQUIRED SEDIMENT AND EROSION CONTROL MEASURES

**A. PHASE 1: TOPSOIL STRIPPING AND STOCKPILING - THIS IS THE PHASE AFTER ALL DEBRIS REMOVAL TOPSOIL WILL BE STRIPPED AND STOCKPILED ON THE SITE. THE FOLLOWING REQUIREMENTS WILL APPLY DURING THIS PHASE OF CONSTRUCTION.**

1. CONSTRUCTION OF AN FDOT SOIL TRACKING PREVENTION DEVICE TYPE A INDEX 106 SHALL BE COMPLETED TO PREVENT SILT FROM BEING DEPOSITED ON ROADWAYS
2. SILT FENCES AND/OR DIVERSIONS DIRECTING RUNOFF TO TEMPORARY SEDIMENT BASINS SHALL BE PLACED ON THE DOWNHILL SIDE OF WHEREVER DIRT HAS BEEN DISTURBED BY GRADING TO PREVENT SILT FROM LEAVING THE SITE. SPECIFIC ATTENTION SHOULD BE PAID TO CULVERTS AND CONSTRUCTION ENTRANCES
3. ALL DEBRIS SHALL BE KEPT AWAY FROM DITCHES AND STREAMS TO PREVENT RUNOFF ACCUMULATION AND TO CARRY DEBRIS DOWNSTREAM FROM STRUCTURES
4. SILT FENCES OR DOUBLE SILT FENCES SHALL BE INSTALLED ALONG THE LOW SIDE OF THE SITE WHERE RUN OFF FROM THE WORK AREA WILL LEAVE THE SITE OR ENTER A DITCH
5. SILT TRAPS AND SEDIMENT BASINS SHALL BE INSTALLED WHERE/IF SHOWN ON THE PLANS IN ACCORDANCE WITH DETAILS SHOWN TO CATCH AND FILTER RUN-OFF PRIOR TO DISCHARGE FROM THE SITE
6. ADDITIONAL SILT FENCING AROUND THE STOCKPILE AREA SHOULD BE INSTALLED TO PREVENT SILT WASH OFF FROM THE SITE

**B. PHASE 2: GRADING OPERATIONS - THIS PHASE IS THAT TIME WHEN EARTH IS BEING MOVED FROM ONE PORTION OF THE SITE TO ANOTHER OR IS BEING HAULLED INTO OR HAULLED OFF FROM THE SITE. THIS IS A CRITICAL TIME WHEN SEDIMENT CONTROL FACILITIES MUST BE CONTINUALLY CHECKED TO ENSURE EFFECTIVENESS. MEASURES SHOULD BE CHANGED OUT AS OFTEN AS REQUIRED TO MEET DEMANDS OF CURRENT SITE CONDITIONS. THE FOLLOWING WILL APPLY TO THIS STAGE OF CONSTRUCTION.**

1. ALL SEDIMENT CONTROL FACILITIES REQUIRED AND INSTALLED DURING PHASE 1 SHALL BE LEFT IN PLACE AND MAINTAINED AS APPROPRIATE
2. WHENEVER A SILT CONTROL FACILITY IS REMOVED BECAUSE OF CHANGING SITE CONDITIONS IT SHALL BE IMMEDIATELY REPLACED WITH ANOTHER MEASURE OF EQUAL OR GREATER EFFECTIVENESS THAT WILL CONTRIBUTE TO THE PROGRAM OF SILT AND EROSION CONTROL
3. CUT SLOPES SHALL BE PROTECTED BY CONSTRUCTING SWALES AT THE TOP OF CUT SLOPES TO INTERCEPT RUN-OFF SWALES WILL BE CONSTRUCTED WITH RIP-RAP CHECK DAMS OR SILT FENCES AS NECESSARY TO PREVENT EROSION AND SILTATION
4. FILL SLOPES SHALL BE PROTECTED BY THE CONSTRUCTION OF BERMS AT THE TOP OF ALL FILL SLOPES TO PREVENT UNCONTROLLED RUN-OFF DRAINING DOWN FACE OF SLOPES
5. WHEN SHOWN ON PLAN, RUN-OFF DIRECTING BERMS FOR UPGRADE RUN-OFF SHALL BE CONSTRUCTED ALONG SLOPE TO DRAINS THAT WILL CARRY RUN-OFF DOWN THE SLOPE. SLOPE DRAINS SHALL HAVE INLET SILT PROTECTION TYPICAL OF OTHER SITE STORM INLET PROTECTION
6. SILT FENCES SHALL BE IN PLACE AT THE TOE OF ALL FILL SLOPES
7. TERRACES, BERMS AND SWALES SHALL BE CONSTRUCTED AT INTERMEDIATE LOCATIONS THROUGHOUT THE SITE AS NECESSARY TO CONTROL EROSION AND SEDIMENT TRANSPORT. THESE DIVERSION FACILITIES SHALL BE SUPPLEMENTED AS APPROPRIATE WITH SILT FENCES AND RIP-RAP FILTER BERMS TO FILTER ACCUMULATED SEDIMENT FROM RUN-OFF PRIOR TO DISCHARGE FROM THE SITE
8. SLOPES (CUT AND FILL) THAT ARE CONSTRUCTED IN THE FINAL CONFIGURATION SHALL BE COVERED WITH FOUR INCHES (4") OF TOPSOIL AND GRASSED AND MULCHED AS SOON AS GRADING IS COMPLETED. THIS GROWING VEGETATION WILL PROVIDE PROTECTION TO THE SLOPE
9. PORTIONS OF THE SITE THAT ARE GRADED TO FINAL GRADE AND ARE NOT TO RECEIVE PAVEMENT OR BUILDINGS SHOULD HAVE FOUR INCHES (4") OF TOPSOIL SPREAD OVER THE SURFACE AND GRASSED AS SOON AS POSSIBLE IN CONSTRUCTION PROCESS. THIS PHASE OF CONSTRUCTION IS CRITICAL IN THE EROSION AND SEDIMENT CONTROL PROCESS
10. STORM SEWERS SHOULD BE INSTALLED AS SOON AS POSSIBLE IN THE CONSTRUCTION PROCESS AND CONCURRENT TO GRADING OPERATIONS WHENEVER POSSIBLE TO ENSURE A SUCCESSFUL PROGRAM. CONSTRUCTION RUN-OFF SHALL BE DIRECTED TO STORM SEWER SYSTEM AS SOON AS POSSIBLE

**C. PHASE 3: STORM DRAINAGE AND UTILITY INSTALLATION PLAN - THIS PHASE WILL BE COMPLETED AFTER OR CONCURRENT WITH THE GRADING PHASE. THE FOLLOWING WILL APPLY TO THIS PHASE OF CONSTRUCTION.**

1. ALL ASPECTS OF THE PREVIOUS PHASES SHALL BE MAINTAINED AS APPLICABLE
2. STORM SEWERS THAT ARE INSTALLED SHALL BE PUT INTO SERVICE IMMEDIATELY. THE INLETS OF ALL STORM SEWERS SHALL BE PROTECTED WITH SILT TRAPS THAT PREVENT SEDIMENT FROM ENTERING PIPE. THIS PROTECTION CAN BE SILT FENCE OR RIP-RAP FILTER BERMS AS APPLICABLE AND SHOWN ON THE PLANS
3. RIP-RAP AS SHOWN ON THE PLANS AND AS REQUIRED ON THE SITE WILL BE INSTALLED AT EMERGENCY SPILLWAYS TO PREVENT EROSION DUE TO OUTFLOW WATER VELOCITY. RIP-RAP SHALL BE EXTENDED DOWNSTREAM AS NEEDED TO PREVENT EROSION
4. ADDITIONAL SILT FENCING SHALL BE INSTALLED AS NECESSARY TO PREVENT EROSION AND SILTATION RESULTING FROM STOCKPILED EXCAVATION MATERIAL. FROM UTILITY INSTALLATION OPERATIONS

**D. PHASE 4: FINISH GRADING, CURB AND PAVEMENT INSTALLATION, LANDSCAPING - THIS IS THE WRAP-UP STAGE WHEN ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WILL BE PHASED OUT. THE FOLLOWING WILL APPLY TO THIS PHASE.**

1. ALL FACILITIES WILL BE MAINTAINED, MODIFIED OR REMOVED WHEN APPROPRIATE
2. SILT TRAPS AROUND DRAINAGE INLETS WILL BE MAINTAINED, MODIFIED AS NECESSARY AND REMOVED WHEN APPROPRIATE
3. ALL AREAS NOT RECEIVING PAVEMENT OR BUILDINGS SHALL HAVE FOUR INCHES (4") OF TOPSOIL SPREAD OVER THE AREA AND GRASSED, OR HAVE LANDSCAPING, MULCHING AND/OR SOO INSTALLED PER THE PLANS
4. CONTRACTOR MAY TEMPORARILY COVER SOME AREAS WITH 2.5" THICK GRADED AGGREGATE IN LIEU OF GRASSING FOR TEMPORARY EROSION CONTROL

**E. LANDSCAPING / SEEDING**

1. REFER TO LANDSCAPING PLAN FOR ACTUAL REQUIREMENTS FOR THE INSTALLATION OF LIME, FERTILIZER, SEED AND MULCH. GRASSING OPERATIONS SHALL BE COMPLETED THROUGHOUT CONSTRUCTION PROCESS AT THOSE TIMES WHEN PORTIONS OF THE SITE ARE FINISHED AND READY FOR PERMANENT GROUND COVER. THIS WILL REQUIRE MULTIPLE EFFORTS BY THE GRASSING SUBCONTRACTOR TO STABILIZE ALL IMPACTED AREAS OF THE SITE IN AN ORDERLY FASHION. NO AREA OF THE SITE THAT RECEIVES FINAL GRADE SHALL BE LEFT FOR MORE THAN SEVEN (7) DAYS WITHOUT THE APPLICATION OF SEED AND MULCH

**F. MAINTENANCE AND MAINTENANCE INSTRUCTIONS**

THE FOLLOWING WILL APPLY TO MAINTAINING EROSION AND SEDIMENT CONTROL FACILITIES:

1. ALL EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE INSPECTED REGULARLY TO ENSURE THEY ARE EFFECTIVE. THE FREQUENCY OF RAINFALL MEASURES SHALL BE INSPECTED ONCE A WEEK (MINIMUM) AND WITHIN TWENTY-FOUR (24) HOURS AFTER EACH RAINFALL EVENT THAT IS 0.5" INCHES OR GREATER. ANY DAMAGED OR NONFUNCTIONAL FACILITY SHALL BE REPAIRED OR REPLACED IMMEDIATELY. INSPECTION REPORTS SHALL BE KEPT ON FILE IN THE CONSTRUCTION TRAILER. REQUEST A COPY OF AN ACCEPTABLE INSPECTION FORM FROM THE ENGINEER OF RECORD
2. SEDIMENT TRAPS SHALL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF OF THE DESIGN VOLUME OF THE TRAP. SEDIMENT REMOVED FROM THE TRAP SHALL BE DEPOSITED IN SUITABLE AREAS AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE CONTINUED SEDIMENTATION PROBLEMS
3. GRAVEL OUTLETS AND CHECK DAMS SHALL BE INSPECTED REGULARLY FOR SEDIMENT BUILDUP WHICH WILL PREVENT DRAINAGE. IF THE GRAVEL IS OBSTRUCTED BY SEDIMENT, IT SHALL BE REMOVED AND CLEANED OR REPLACED
4. SILT FENCE BARRIERS SHALL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF DEPOSIT REACHES ONE-THIRD THE HEIGHT OF THE BARRIER
5. SEEDED AREAS SHALL BE CHECKED REGULARLY TO ENSURE A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RE-SEEDED AS NECESSARY
6. IF ANY FACILITY IS DAMAGED DURING MAINTENANCE OR OTHERWISE, THE DAMAGED PORTION SHALL BE REMOVED AND REPLACED ACCORDING TO THE ASSOCIATED DETAIL
7. IF SILT HAS OBSTRUCTED THE SEDIMENT CONTROL FACILITY TO THE POINT OF ELIMINATING ALL FILTERING EFFECTIVENESS, THE STRUCTURE SHALL BE REMOVED AND REPLACED WITH A NEW STRUCTURE IN ACCORDANCE WITH THE ASSOCIATED DETAIL
8. CONSTRUCTION STAGING AREA SHALL HAVE ADDITIONAL STONE ADDED AS MUD COVERS STONE, UNDER WET SOIL CONDITIONS, TIRES SHALL BE WASHED PRIOR TO ENTERING A PAVED ROADWAY
9. 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 AT LEAST ONCE EVERY 7 CALENDAR DAYS OR 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

**G. MAINTAINING EFFECTIVENESS**

CONTRACTOR SHALL INSPECT OVERALL PERFORMANCE OF EROSION AND SEDIMENT CONTROL FACILITIES AND REPORT TO THE ENGINEER OF RECORD. IF SILT IS OBSERVED DOWNSTREAM, SOME FAILURE HAS OCCURRED. IF SEDIMENT IS OBSERVED DOWNSTREAM NOTIFY THE CIVIL ENGINEER, THE CIVIL ENGINEER WILL INSPECT THE CONDITION AND AFTER INSPECTION, DIRECT THE REMOVAL OF ACCUMULATED SEDIMENT DOWNSTREAM AND ADD ADDITIONAL STRUCTURAL MEASURES AS NECESSARY. CONTRACTOR SHALL IMPLEMENT RECOMMENDED SOLUTIONS TO PROBLEM AREAS AS RECOMMENDED.

**III. COMPLETION**

**A. PROJECT CLOSE OUT:**

THE FOLLOWING SHALL BE DONE AT THE END OF THE PROJECT:

1. INSPECT SITE TO ENSURE THAT GROUND COVER IS COMPLETE AND ADEQUATE. ALL AREAS SHOULD BE EROSION FREE AND HAVE SUFFICIENT GROUND COVER (MINIMUM 80% VEGETATIVE COVER) WITH NO APPARENT EROSION
2. WHEN GROUND COVER INSPECTION IS MADE AND APPROVED, ALL STRUCTURAL EROSION CONTROL FACILITIES SHALL BE REMOVED ALONG WITH ANY ACCUMULATED SILT AND DEBRIS. AREAS DISTURBED BY STRUCTURE REMOVAL SHALL BE FINE GRADED, GRASSED, AND MULCHED AS REQUIRED
3. IF GROUND COVER INSPECTION IS MADE AND PROBLEMS DISCOVERED, PERFORM APPROPRIATE REPAIR MEASURES AND RE-INSPECT PRIOR TO STRUCTURE REMOVAL
4. ALL CONSTRUCTED AND EXISTING STORM SEWERS SHALL BE INSPECTED UPON REMOVAL OF INLET PROTECTION STRUCTURES CONTAINING SEDIMENT AND/OR CONSTRUCTION DEBRIS SHALL BE VACUUM CLEANED PRIOR TO FILING NOTICE OF TERMINATION WITH ENVIRONMENTAL PROTECTION AGENCY OR LOCAL

**B. MISCELLANEOUS ISSUES**

1. NO FUEL OR OIL SHALL BE STORED ON SITE WITHOUT PROPER CONTAINMENT
2. NO OILS OR GAS SHALL BE DUMPED ON SITE
3. LOCATION OF TRAILER AND PORTABLE RESTROOM FACILITY SHALL BE FIELD DETERMINED TO AVOID CONSTRUCTION ACTIVITIES. LOCATION SHALL CHANGE DURING CONSTRUCTION AS NECESSARY
4. DE-WATERING OPERATIONS ARE NOT REQUIRED ON THIS PROJECT. IF REQUIRED, PUMPED GROUND WATER SHALL BE ROUTED THROUGH SILT CONTROL FACILITY TO FILTER WATER PRIOR TO DISCHARGE
5. PROJECT SITE SHALL BE KEPT AS CLEAR OF ALL TRASH AND CONSTRUCTION DEBRIS. CONTRACTOR SHALL HAVE TRASH COLLECTED WEEKLY AND PLACED IN DUMPSTER TO BE HAULLED OFF-SITE
6. ALL WATER SUPPLY WILL BE PROVIDED FROM PUBLIC WATER SUPPLY
7. ALL HUMAN WASTE SHALL BE COLLECTED IN A PORTABLE RESTROOM FACILITY. WASTES SHALL BE DISPOSED OF BY A LICENSED VENDOR
8. ANY SPILLS OF OIL, GAS, ETC. RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE CONTAINED AND CLEANED IMMEDIATELY. CONTAMINATED SOILS SHALL BE DISPOSED OF IN AN APPROVED MANNER AT A LICENSED LANDFILL
9. DUST SUPPRESSION OPERATIONS SHALL BE PERFORMED BY MEANS OF A WATER TRUCK DISTRIBUTE A FINE MIST OF WATER ON THE SITE SURFACE. CONCENTRATE STREAMS OF WATER SPRAY SHOULD BE AVOIDED
10. A DESIGNATED CONCRETE SPOILS AREA SHALL BE IDENTIFIED ON THE SITE. ALL AFFECTED SOILS AND CONCRETE SPOILS IN THIS AREA SHALL BE REMOVED FROM THE SITE UPON COMPLETION OF CONCRETE PLACEMENT ACTIVITIES
11. ANY NON-STORM DISCHARGES SUCH AS, BUT NOT LIMITED TO, FIRE HYDRANT FLUSHINGS, WASH WATERS, DUST CONTROL, IRRIGATION DRAINAGE, ETC. THAT DO NOT CONTAIN HAZARDOUS MATERIALS SHALL BE PREVENTED FROM ALLOWING SEDIMENT TRANSPORT INTO STORM SEWERS. FLUSHINGS THAT CONTAIN HAZARDOUS MATERIALS SHALL BE PREVENTED FROM ENTERING THE STORM SEWERS AND SHALL BE COLLECTED AND DISPOSED OF IN AN APPROVED MANNER
12. ALL EROSION CONTROL MEASURES (SILT BARRIERS) MUST BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND REMAIN IN PLACE THROUGHOUT CONSTRUCTION. ENCROACHMENT OR FAILURE TO MAINTAIN THESE BARRICADES COULD RESULT IN ENFORCEMENT ACTION WHICH MAY INCLUDE CITATIONS AND/OR PERMIT REVOCATION. SILTATION BARRIERS SHALL BE MAINTAINED AND REPAIRED AT THE END OF EACH WORKING DAY. HAY BALES SHALL BE INSTALLED ONCE PERIMETER GRADING IS COMPLETED. STORMWATER FACILITIES SHALL HAVE HAY BALES PLACED AROUND THEIR ENTRANCES TO PREVENT SEDIMENT FROM BEING TRANSPORTED INTO THE STORMWATER SYSTEM. HAY BALES SHALL BE PLACED ALONG THE PERIMETER OF ALL DOWNSTREAM BOUNDARIES TO PROVIDE FILTRATION OF RUNOFF DURING CONSTRUCTION. THE HAY BALES SHALL REMAIN IN PLACE UNTIL THE ENGINEER HAS APPROVED THE VEGETATIVE COVER ALONG EMBANKMENTS PROVIDING RUNOFF TO THE PERIMETER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPAIR THEM. THE CONTRACTOR IS EXPECTED, AT THE END OF EACH DAY, TO HAVE THE SITE GRADED IN SUCH A WAY THAT ADJACENT PROPERTIES ARE NOT ADVERSELY IMPACTED BY EROSION OR SEDIMENT LEAVING THE SITE. CLEARED AREAS SHALL BE STABILIZED EARLY IN THE CONSTRUCTION PROCESS AND IF NATURAL PRECIPITATION DOES NOT PROVIDE PERIODIC WETTING OF THE SITE, THEN THE CONTRACTOR SHALL PROVIDE A METHOD OF SPRAYING THE SITE TO PREVENT WIND EROSION

**CONTROLS FOR OTHER POTENTIAL POLLUTANTS:**

ALL CONSTRUCTION MATERIALS AND DEBRIS WILL BE PLACED IN A DUMPSTER AND HAULLED OFF-SITE TO A LANDFILL OR OTHER DISPOSAL SITE. NO MATERIALS WILL BE BURED ON-SITE. FERTILIZERS AND PESTICIDES WILL BE USED AT A MINIMUM AND IN ACCORDANCE WITH THE MANUFACTURER'S SUGGESTED APPLICATION RATES.

**NON-STORMWATER DISCHARGES:**

IT IS EXPECTED THAT THE FOLLOWING NON-STORMWATER DISCHARGES MAY OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD: WATER FROM WATER LINE FLUSHING, PAVEMENT WASH WATER (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED), AND UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION). IF SAID DISCHARGES DO OCCUR, THEY WILL BE DIRECTED TO THE RETENTION POND PRIOR TO DISCHARGE. TURBID WATER FROM THE STORMWATER POND SHALL NOT BE PUMPED DIRECTLY INTO THE REGIONAL DITCH. ANY PUMPED WATER FROM THE STORMWATER POND SHALL BE TREATED SO AS TO NOT ALLOW A DISCHARGE OF POLLUTED STORMWATER. TREATMENT CAN INCLUDE SILT FENCES, SETTLING PONDS, THE PROPER USE OF FLOCCULATING AGENTS OR OTHER APPROPRIATE MEANS.

### PRE-INSPECTION NOTICE

A PRE-INSPECTION MEETING IS REQUIRED TO CHECK THAT THE STORMWATER POLLUTION PREVENTION PLANS (SWPPP) AND BEST MANAGEMENT PRACTICES (BMP) ARE INSTALLED AS REQUIRED AND THAT THE NOTICE OF INTENTION (NOI) HAS BEEN SUBMITTED TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP). A PRE-INSPECTION CAN BE OBTAINED BY CALLING THE STORMWATER MANAGEMENT DIVISION AT 727-834-3611 AT LEAST 48 HOURS BEFORE CONSTRUCTION COMMENCES

### KEY NOTES

- (A) CSWMP SITE AREA (11.73 Acres)
- (B) PROJECT/CONSTRUCTION AREA (6.73 Acres)
- (C) INSTALL 2,551 LF OF SILT FENCE

All bidders must visit the site to verify conditions before submitting bids.

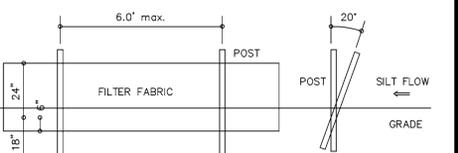
## EROSION CONTROL

TREE BARRICADES AND EROSION CONTROL: ALL EROSION CONTROL MEASURES (SILT BARRIERS) AND TREE BARRICADES MUST BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND REMAIN IN PLACE THROUGHOUT CONSTRUCTION. ENCROACHMENT OR FAILURE TO MAINTAIN THESE BARRICADES COULD RESULT IN ENFORCEMENT ACTION WHICH MAY INCLUDE CITATIONS AND/OR PERMIT REVOCATION. SILTATION BARRIERS SHALL BE MAINTAINED AND REPAIRED AT THE END OF EACH WORKING DAY. HAY BALES SHALL BE INSTALLED ONCE PERIMETER GRADING IS COMPLETED. STORMWATER FACILITIES SHALL HAVE HAY BALES PLACED AROUND THEIR ENTRANCES TO PREVENT SEDIMENT FROM BEING TRANSPORTED INTO THE STORMWATER SYSTEM. HAY BALES SHALL BE PLACED ALONG THE PERIMETER OF ALL DOWNSTREAM BOUNDARIES TO PROVIDE FILTRATION OF RUNOFF DURING CONSTRUCTION. THE HAY BALES SHALL REMAIN IN PLACE UNTIL THE ENGINEER HAS APPROVED THE VEGETATIVE COVER ALONG EMBANKMENTS PROVIDING RUNOFF TO THE PERIMETER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN SOIL EROSION CONTROL DEVICES. IF AT ANY TIME DRAINAGE STRUCTURES OR EROSION CONTROL DEVICES BECOME DAMAGED OR INOPERABLE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPAIR THEM.

THE CONTRACTOR IS EXPECTED, AT THE END OF EACH DAY, TO HAVE THE SITE GRADED IN SUCH A WAY THAT ADJACENT PROPERTIES ARE NOT ADVERSELY IMPACTED BY EROSION OR SEDIMENT LEAVING THE SITE. CLEARED AREAS SHALL BE STABILIZED EARLY IN THE CONSTRUCTION PROCESS AND IF NATURAL PRECIPITATION DOES NOT PROVIDE PERIODIC WETTING OF THE SITE, THEN THE CONTRACTOR SHALL PROVIDE A METHOD OF SPRAYING THE SITE TO PREVENT WIND EROSION. CONTRACTOR SHALL CLEAR ONLY THAT AREA SHOWN TO BE CLEARED ON THE PLAN. CARE SHALL BE TAKEN TO DISTURB THE EXISTING VEGETATION IN ONLY THOSE AREAS UNDER CONSTRUCTION AT THAT TIME.

ALL CLEAR SITE AREAS SHALL BE KEPT FREE OF ANY SIGNAGE, PLANTINGS, TREES, ETC. IN EXCESS OF THREE AND A HALF (3 1/2) FEET IN HEIGHT, DURING LAND ALTERATION AND CONSTRUCTION ACTIVITIES. IT SHALL BE UNLAWFUL TO REMOVE VEGETATION BY GRUBBING OR TO PLACE SOILS, DEBRIS, SOLVENTS, CONSTRUCTION MATERIAL, MACHINERY OR OTHER EQUIPMENT OF ANY KIND WITHIN THE DRIFPILE OF A TREE TO REMAIN ON THE SITE UNLESS OTHERWISE APPROVED BY THE LOCAL GOVERNMENT. ALL TREE ROOTS EXISTING WITHIN APPROVED IMPROVEMENT AREAS AND ORIGINATING FROM A PROTECTED TREE SHALL BE SEVERED CLEAN AT THE LIMITS OF THE PRESERVED AREA. ALL TRIMMING UNDERTAKEN ON A TREE PROTECTED BY THE PROVISIONS OF THE LAND DEVELOPMENT CODE SHALL BE PRUNED IN ACCORDANCE WITH THE NATIONAL ARBORIST ASSOCIATION (NAA) PRUNING STANDARDS.

## SILT FENCE



1. FILTER FABRIC TO CONFORM WITH F.D.O.T. SPECIFICATIONS (SEC. 985)
2. POSTS TO BE 2"x4" WOOD POST OR 1.3 LB/FT STEEL POST
3. POST POSITION TO BE GANTED (20") OR VERTICAL (90")
4. DO NOT DEPLOY IN A MANNER THAT SILT FENCE WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES.

## LEGAL DESCRIPTION

CONTRACTOR / SUBCONTRACTOR / OWNER / PERMITEE 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 ITS STORMWATER POLLUTION PREVENTION PLAN PREPARED THEREUNDER."

CONTRACTOR SUPERVISOR, TITLE \_\_\_\_\_ OWNER / PERMITEE \_\_\_\_\_

STANDARD PERMIT CONDITIONS:

"I CERTIFY UNDER PENALTY OF LAW THAT THIS 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."

ROLAND P. DOVE, P.E.  
SPRING ENGINEERING, INC.  
(ENGINEER)

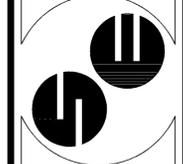
## SIGNATURES

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REV	DATE	DESCRIPTION
0	2.1.16	Phase Co Initial Submitter

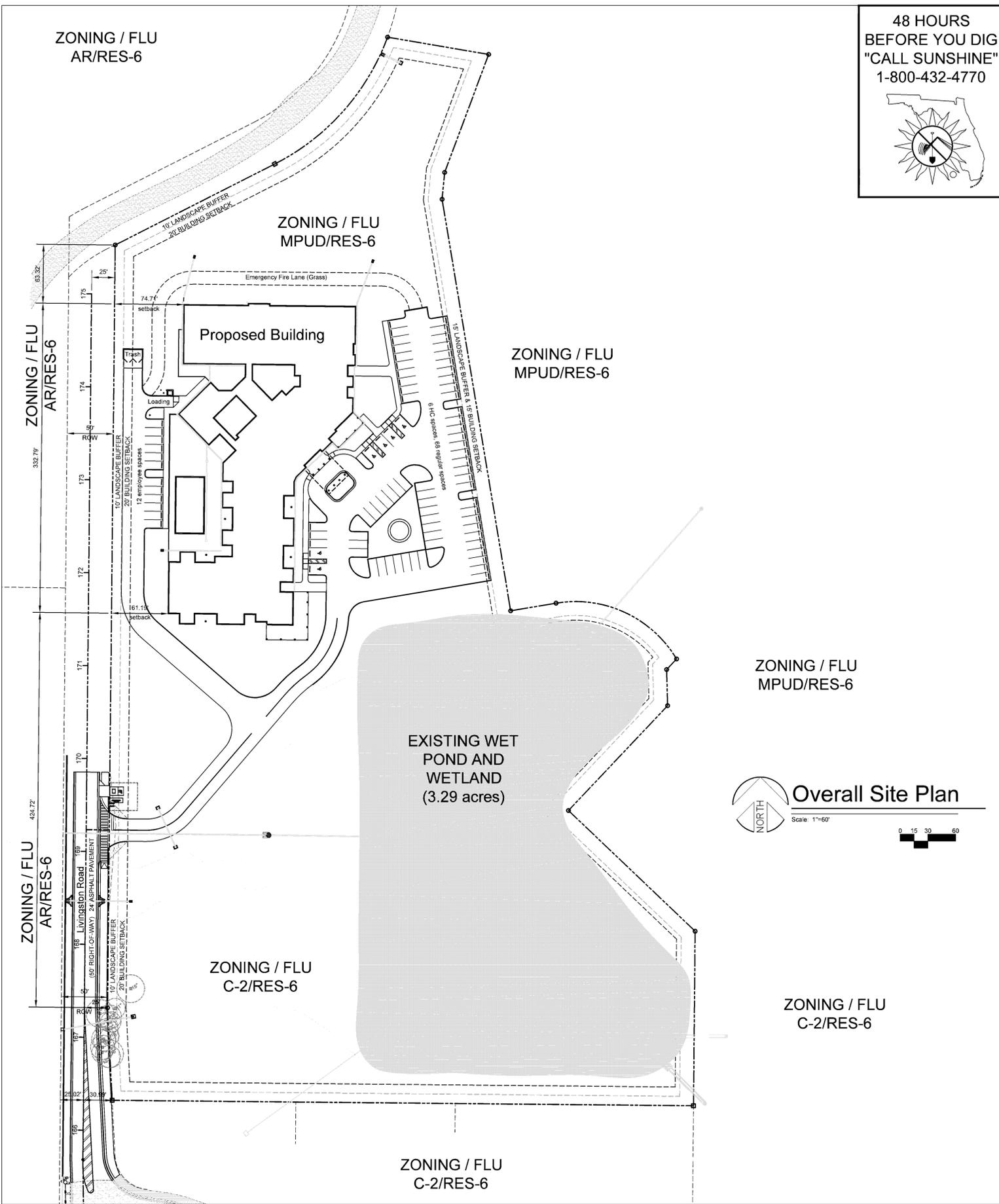
TERRA BELLA  
Senior Housing Community  
Land O Lakes, Florida

SPRING ENGINEERING, INC.  
ENGINEERING • LAND PLANNING • ARCHITECTURE  
3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
FL COA NO. 00005158 & LICENSE NO. AM-0001747



SURFACE WATER  
POLLUTION  
PREVENTION PLAN

DESIGNED BY: ATP  
DRAWN BY: ATP  
CHECKED BY: RPD  
JOB NO. \_\_\_\_\_



**48 HOURS BEFORE YOU DIG "CALL SUNSHINE" 1-800-432-4770**

**SITE DATA**

PARCEL ID: 29-26-19-0000-00100-0040  
 ZONING DISTRICT: IMPUD (TERRA BELLA) FUTURE LAND USE: RES-6  
 CURRENT ZONING ACTION ON SITE: RZ 6956 (2-2011); RZ 7087 (2-2014)  
 CURRENT USE: VACANT COMMISSION DISTRICT: 2 (MOORE)  
 PROPOSED DEVELOPMENT: 146,440 SF (140 UNIT/200 BED) ASSISTED LIVING FACILITY  
 SETBACKS: FRONT: 20' SIDES: 15' REAR: 10'  
 F.A.R.: N/A (MPUD) MAX. (0.29 PROPOSED) 8% OF LOT COVERAGE: 50% MAXIMUM  
 ABUTTING ZONING / FLU: NORTH: AR/MPUD/RES-6 EAST: MPUD/RES-6  
 WEST: AR/RES-6 SOUTH: C-2/RES-6

IMPACT FEES: To Be Determined  
 PARKING REQUIREMENTS: 200 BEDS x 1/24 = 50 SPACES REG. (PLUS 1 SPACE PER EMPLOYEE)  
 NEW SPACES = 80 REGULAR (9x20) & 6 HANDICAPPED (12x20) PROVIDED  
 BICYCLE SPACES: NONE REQUIRED OR PROVIDED FOR ALF.

**LANDSCAPING BUFFERING (TABLE 905.5.D):**  
 (NORTH): TYPE A 10'  
 (SOUTH): TYPE A 10'  
 (EAST): TYPE B 15'  
 (WEST): TYPE A 10'

NEIGHBORHOOD PARK: NO  
 VEHICLE USE AREA: TERMINAL ISLAND EACH 10 SPACES (15 provided)  
 WETLANDS: NO IMPACTS (CAT 1 = 0.321%, CAT 2 = 37.386%, CAT 3 = N/A)  
 GOPHER HABITAT: YES LISTED SPECIES: NOT SIGNIFICANT  
 DRAINAGE ZONE: CYPRESS CREEK BASIN  
 FLOOD ZONE: "X" "A" & "AE" (PANEL No. 12101C-0408 F. 9-26-14) BFE= 68.6 & 67.2  
 (FLOOD ZONE IMPACTS COMPENSATED IN PREVIOUS MASTER PERMITTING)

**LEGAL DESCRIPTION**

A PARCEL OF LAND LOCATED IN SECTION 29, TOWNSHIP 26 SOUTH, RANGE 19 EAST, PASCO COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE SE 1/4 OF SAID SECTION 29; THENCE N00°35'13"E ALONG THE WEST LINE OF THE SE 1/4 OF SAID SECTION 29 A DISTANCE OF 767.12 FEET TO THE POINT OF BEGINNING, SAID POINT BEING THE NORTHWEST CORNER OF TERRA BELLA COMMERCIAL ADDITION AND PARTIAL REPLAT, RECORDED IN PLAT BOOK 66, PAGES 115-117, OF THE PUBLIC RECORDS OF PASCO COUNTY, FLORIDA.

THENCE CONTINUE N00°35'13"E ALONG SAID WEST LINE OF THE SE 1/4, A DISTANCE OF 885.21 FEET TO A POINT; THENCE LEAVING SAID WEST LINE OF THE SE 1/4 NORTHEASTERLY ALONG THE ARC OF A NON-TANGENT CURVE TO THE RIGHT (SAID CURVE HAVING A RADIUS OF 150.00 FEET, A CENTRAL ANGLE OF 19°12'06", AND A CHORD BEARING AND DISTANCE OF N53°38'40"E, 50.04 FEET) FOR AN ARC DISTANCE OF 50.27 FEET TO A POINT; THENCE N63°14'43"E A DISTANCE OF 204.30 FEET TO A POINT; THENCE NORTHEASTERLY ALONG THE ARC OF A TANGENT CURVE TO THE LEFT (SAID CURVE HAVING A RADIUS OF 250.00 FEET, A CENTRAL ANGLE OF 42°56'20", AND A CHORD BEARING AND DISTANCE OF N41°46'24"E, 183.00 FEET) FOR AN ARC DISTANCE OF 187.36 FEET TO A POINT; THENCE S80°30'00"E A DISTANCE OF 110.88 FEET TO A POINT; THENCE S20°30'00"W A DISTANCE OF 135.66 FEET TO A POINT; THENCE S05°30'00"W A DISTANCE OF 28.95 FEET TO A POINT; THENCE S09°30'00"E A DISTANCE OF 449.17 FEET TO A POINT; THENCE N80°30'00"E A DISTANCE OF 49.89 FEET TO A POINT; THENCE SOUTHEASTERLY ALONG THE ARC OF A TANGENT CURVE TO THE RIGHT (SAID CURVE HAVING A RADIUS OF 127.50 FEET, A CENTRAL ANGLE OF 68°29'10", AND A CHORD BEARING AND DISTANCE OF S85°15'25"E, 143.48 FEET) FOR AN ARC DISTANCE OF 152.40 FEET TO A POINT; THENCE S43°30'00"W A DISTANCE OF 15.60 FEET TO A POINT; THENCE S01°30'00"E A DISTANCE OF 39.00 FEET TO A POINT; THENCE S43°30'00"W A DISTANCE OF 155.52 FEET TO A POINT; THENCE S46°30'00"E A DISTANCE OF 188.59 FEET TO A POINT; THENCE S00°32'15"W A DISTANCE OF 187.72 FEET TO A POINT; THENCE N89°27'45"W A DISTANCE OF 684.54 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE WEST 60.00 FEET CONVEYED TO PASCO COUNTY IN OFFICIAL RECORDS BOOK 8613, PAGE 3032 PUBLIC RECORDS OF PASCO COUNTY, FLORIDA AND DESCRIBED AS FOLLOWS:

BEGIN AT THE NORTHWEST CORNER OF LOT 3 OF TERRA BELLA COMMERCIAL ADDITION AND PARTIAL REPLAT, PLAT BOOK 66, PAGES 115-117, OF THE PUBLIC RECORDS OF PASCO COUNTY, FLORIDA; THENCE WITH THE NORTH LINE OF SAID PLAT N89°27'59"W, A DISTANCE OF 56.10 FEET TO THE WEST LINE OF SAID SOUTHEAST 1/4 OF SECTION 29; THENCE WITH THE WEST LINE OF SAID SOUTHEAST 1/4, N00°34'55"E, A DISTANCE OF 885.17 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 20 MILE LEVEL ROAD (50' RIGHT-OF-WAY); THENCE WITH SAID SOUTH RIGHT-OF-WAY LINE THE FOLLOWING TWO (2) COURSES: 1) WITH THE ARC OF A NON-TANGENT CURVE TO THE RIGHT (SAID CURVE HAVING A RADIUS OF 150.00 FEET, A CENTRAL ANGLE OF 19°13'31", AND A CHORD BEARING AND DISTANCE OF N63°37'31"E, 50.10 FEET) FOR AN ARC DISTANCE OF 50.33 FEET TO A POINT OF TANGENCY; 2) N63°14'17"E, A DISTANCE OF 11.22 FEET; THENCE LEAVING SAID SOUTH RIGHT-OF-WAY LINE WITH A LINE BEING 50 EAST OF AND PARALLEL WITH THE WEST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 29, S00°34'55"W, A DISTANCE OF 820.83 FEET TO AN ANGLE POINT HEREIN; THENCE S02°55'16"E, A DISTANCE OF 99.75 FEET TO THE POINT OF BEGINNING.

**Overall Site Plan**  
 Scale: 1"=60'

**PASCO STD SITE PLAN NOTES**

- All utility construction shall comply with the Pasco County Standards for Design and Construction of Water and Wastewater Facilities Specifications, latest edition.
- All on-site water and sewer facilities shall be owned and maintained by the owner-developer.
- Installation of fuel storage tanks requires review and approval by the Fire Marshal and the issuance of a separate building permit. Approval of the site plan does not constitute approval of the location of the fuel tanks.
- All proposed signs must be applied for, approved, and permitted on an individual basis apart from any ultimately-approved site plan. Approval of this site plan does not constitute approval of any sign age.
- Handicap parking spaces will be properly signed and striped in accordance with Florida Statute 316, the Manual on Uniform Traffic Control Devices, or other applicable standards.
- The architect-engineer certifies that the site has been designed in accordance with the Americans with Disabilities Act.
- All on-site parking spaces will be striped and signed in accordance with the manual on Uniform Traffic Control Devices, latest edition. Parking spaces, directional arrows, and stop bars shall be striped in WHITE. It shall be the owner/developers' responsibility to properly sign and stripe the site in accordance with applicable standards.
- The owner/developer acknowledges that this approval does not include any work in County right-of-way. All right-of-way work shall be a function of an approved Pasco County Right-of-Way Use Permit.
- All clear-sight areas shall be kept free of any sign age, plantings, trees, etc. in excess of three-and-a-half (3.5) feet in height.
- No irrigation system or landscaping shall be installed in any County or State right-of-way without issuance of appropriate right-of-way Use Permit.
- The owner/developer acknowledges that the site and its subsequent building permits shall comply with all rezoning/MPUD/PUD conditions.
- All structures, including buffer walls, retaining walls, signage, lighting or lighting plan, etc. require separate building permits.

**LDC 907.1.d.9**  
 Wheel stops or other design features, such as curbing, shall be used so that parked vehicles do not extend more than two (2) feet into any landscape or buffer area nor reduce an abutting sidewalk width to less than five (5) feet.

**Comp plan-2025, ch.3, policy con 1.1.2**  
 "if during construction activities any evidence of the presence of state and federally protected plant and/or animal species is discovered, work shall come to an immediate stop and pasco county shall be notified within two working days of the plant and/or animal species found on the site."

**LDC 306.3.c.24 & comp plan-2025, ch.2, policy flu 1.2.14**  
 "if during construction activities any evidence of historic resources, including but not limited to aboriginal or historic pottery, prehistoric stone tools, bone or shell tools, historic trash pits, or historic building foundation, are discovered, work shall come to an immediate stop and the florida department of historic resources (state historic preservation officer) and pasco county shall be notified within two working days of resources found on the site."

**FS 316.0745**  
 All traffic control signing and markings on private property opened to the general public shall be in conformance with the manual on uniform traffic control devices and fdot standards.  
 All parking spaces, pavement arrows and stop bars shall be striped in white per the manual on uniform traffic control devices.  
 All handicapped parking spaces shall be signed and marked in accordance with florida department of transportation standard index.

**STANDARD FIRE PROTECTION NOTES**

- All projects must comply with Pasco County Fire Hydrant Ordinance No. 46-51.
- Fire hydrants shall be installed and in service prior to the accumulation of combustibles.
- Per the National Fire Protection Association, NFPA-1, 16.4.3.1.3: Where underground water mains and hydrants are to be provided, they shall be installed, completed, and in service prior to construction work.
- Per NFPA-1, 18.3.4.1: Clearances of 7 1/2 feet in front of and to the sides of the fire hydrant with a 4-foot clearance to the rear must be maintained at all times.
- Gated entries require a Siren Operating System or a 3M Opticom system for emergency access.

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100%  
 CONSTRUCTION DRAWINGS  
 ISSUE DATE: 2.1.16

REV	DATE	DESCRIPTION
0	2.1.16	Pasco Co Initial Submittal

REVISIONS

WITHOUT SIGNATURE

ROLAND P. DOVE, P.E.  
 P.E. NO. 36933

DATE: \_\_\_\_\_

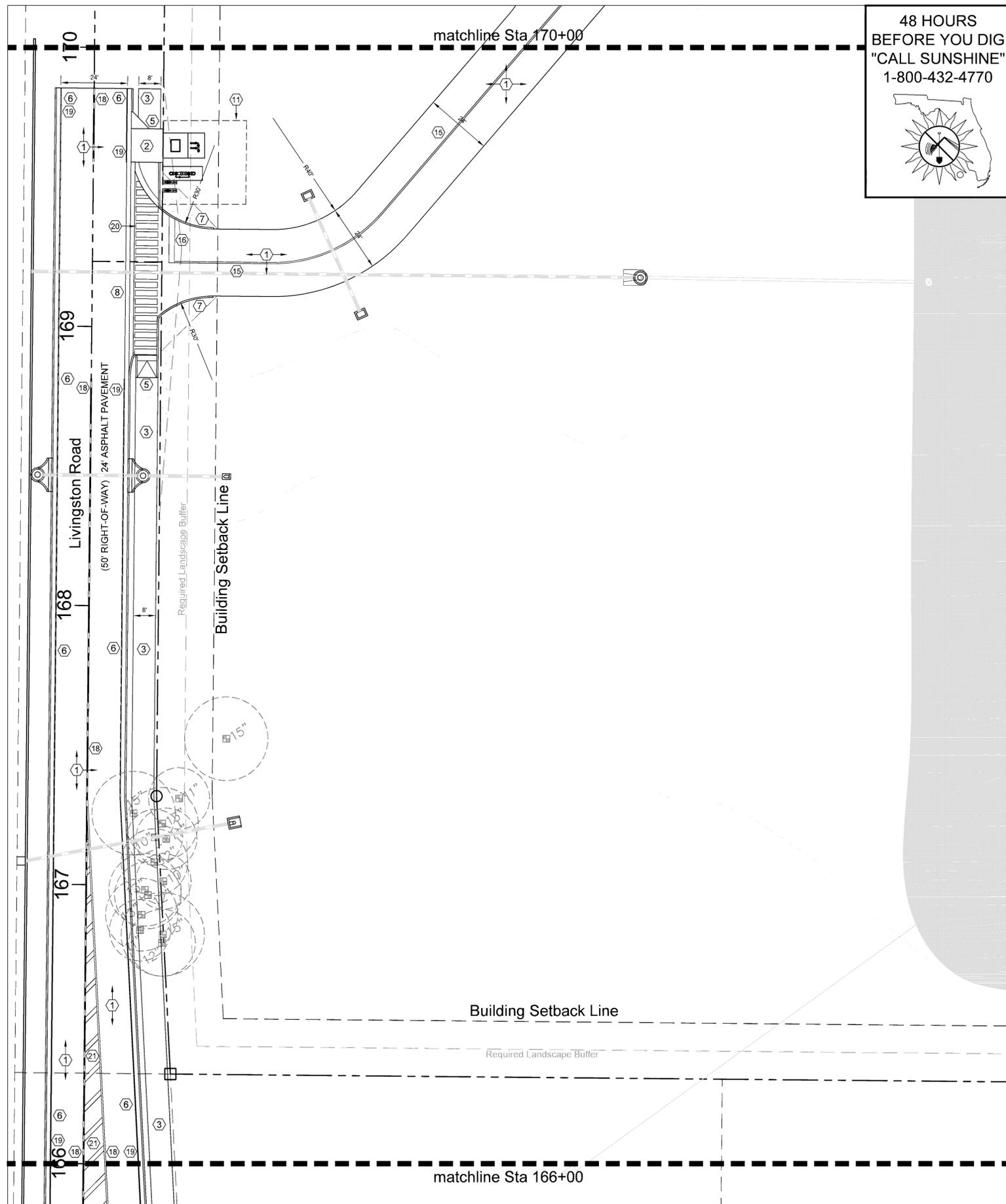
TERRA BELLA  
 Senior Housing Community  
 Land O Lakes, Florida

CONTRACT DATE: September 2015

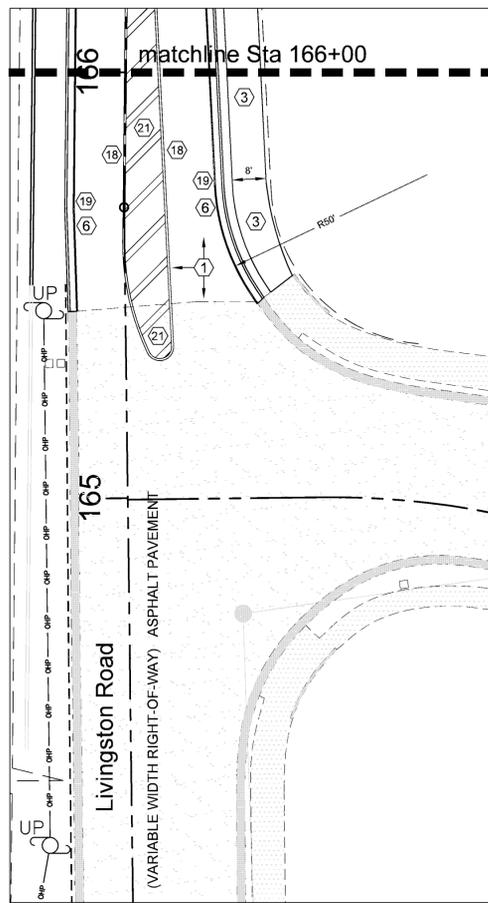
SPRING ENGINEERING, INC.  
 ENGINEERING • LAND PLANNING • ARCHITECTURE  
 3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
 FL COA NO. 00005158 & LICENSE NO. AH-0001747

SITE PLAN

DESIGNED BY: ATP  
 DRAWN BY: ATP  
 CHECKED BY: RPD  
 JOB NO. 2015-13  
 SHEET NO. C2



48 HOURS  
BEFORE YOU DIG  
"CALL SUNSHINE"  
1-800-432-4770

- ### SITE KEY NOTES
- 1 NEW ASPHALT PAVEMENT (See Paving, Grading & Drainage Plan).
  - 2 NEW CONCRETE PAVEMENT
  - 3 NEW CONCRETE SIDEWALK (6" THICK)
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  - 12 NEW CMU DUMPSTER ENCLOSURE.
  - 13 NEW CONCRETE WHEELSTOPS
  - 14 NEW HANDICAPPED PARKING SPACES
  - 15 NEW 6" DOUBLE YELLOW PAINTED STRIPES (On-site Only)
  - 16 NEW 24" WHITE PAINTED STOP BAR WITH 30" STOP SIGN (On-Site Only)
  - 17 NEW 6" WHITE PAINTED STRIPE FOR PARKING SPACE (On-Site Only)
  - 18 NEW 6" DOUBLE YELLOW THERMOPLASTIC STRIPES (ROW Only) [570 LF]
  - 19 NEW 6" WHITE THERMOPLASTIC STRIPE (ROW Only) [810 LF]
  - 20 NEW THERMOPLASTIC SPECIAL EMPHASIS CROSSWALK (WHITE) FDOT INDEX 17346 - (USE 2008 DESIGN STANDARDS FOR THIS ITEM ONLY. ALL OTHER ROADWAY ITEMS SHALL USE 2014 DESIGN STANDARDS) [155 LF x 24" WIDE]
  - 21 NEW 18" YELLOW THERMOPLASTIC STRIPING (45' AT 10' SPACING) [142 LF]



All bidders must visit the site to verify conditions before submitting bids.

### SITE GENERAL NOTES

S1. STRIPING: HANDICAPPED PARKING SPACES WILL BE PROPERLY SIGNED AND STRIPED IN ACCORDANCE WITH FLORIDA STATUTE 316, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, OR OTHER APPLICABLE STANDARDS. ALL ON-SITE PARKING SPACES SHALL BE STRIPED AND SIGNED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, PARKING SPACES, DIRECTIONAL ARROWS, AND STOP BARS SHALL BE STRIPED IN WHITE. IT SHALL BE THE OWNER/DEVELOPER'S RESPONSIBILITY TO PROPERLY SIGN AND STRIPE THE SITE IN ACCORDANCE WITH APPLICABLE STANDARDS.

S2. CONCRETE: CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. PORTLAND CEMENT SHALL CONFORM TO ASTM C150. AGGREGATE SHALL CONFORM TO ASTM C33. WIRE FABRIC SHALL CONFORM TO ASTM A185. READY MIXED CONCRETE SHALL CONFORM TO ASTM C-94. SIX INCH MESH: 10 GAUGE WIRE FABRIC SHALL BE USED IN SLABS THICKER THAN FOUR INCHES. STANDARD THICKNESS SHALL BE FOUR INCHES, EXCEPT AT DRIVEWAYS WHERE THE THICKNESS SHALL BE SIX INCHES. SURFACES SHALL BE FREE FROM TROWEL OR MACHINE MARKS. SURFACE VARIATIONS SHALL NOT EXCEED 1/4 INCH UNDER A 10 FOOT STRAIGHTEDGE. EDGE OF SLABS SHALL HAVE A SMOOTH FINISH. SIDEWALKS SHALL HAVE A BROOM FINISH.

P1. PAVING: ALL PAVING SURFACES IN INTERSECTIONS AND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY IN THE DIRECTION SHOWN BY THE FLOW ARROWS ON THE PLANS AND TO PROVIDE A SMOOTH TRANSITION WITH NO BREAKS IN GRADE AND NO STEP OR REVERSE CROSS SLOPES. AT APPROACHES TO AND INTERSECTIONS WITH EXISTING GRADES, IT MAY BE NECESSARY AND ADVISABLE TO MAKE MINOR LOCAL FIELD ADJUSTMENTS TO ACCOMPLISH THE PURPOSES OUTLINED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE POSITIVE DRAINAGE AND SEI SHALL BE CONSULTED SO THAT HE MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS. ASPHALTIC CONCRETE SHALL CONFORM TO THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. FOR MATERIALS AND METHOD OF CONSTRUCTION, ALL ROADWAY BASES SHALL BE PRIMED AND, IF REQUIRED, A TACK COAT SHALL BE APPLIED. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. TEST REPORTS FOR SUBGRADE, BASE, ASPHALT AND BASE CORE AND CONCRETE SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL. SEE SPECIFICATIONS FOR SPECIFIC TESTING REQUIREMENTS.

P2. GRADING AND BACKFILL: THE GRADING SHOWN ON THESE PLANS IS INTENDED TO EXPRESS THE GENERAL GRADING INTENT OF THE PROJECT. THE CONTRACTOR IS EXPECTED TO GRADE THE ENTIRE SITE TO PROVIDE POSITIVE DRAINAGE IN ALL AREAS THROUGHOUT THE SITE. SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CONTOURS OR SPOT ELEVATIONS AS SHOWN ON THE PLANS TO ACCOMPLISH THE GRADING INTENT. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED. CONTRACTOR TO GRADE PROPERLY SO THAT GRADING MEETS ADJACENT PROPERTY AND RIGHT-OF-WAY ELEVATIONS. CONTRACTOR SHALL NOTIFY THE OWNER AND SEI PRIOR TO DEMOLITION OF GRADING EQUIPMENT TO DETERMINE THAT THE GRADING INTENT HAS BEEN ACHIEVED. ALL FILL MATERIAL SHALL BE SOIL OR SOIL/ROCK MIXTURE WHICH IS FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCE. IT SHALL BE PREDOMINATELY GRANULAR WITH A MAXIMUM PARTICLE SIZE OF TWO INCHES AND A PLASTICITY INDEX OF 12 OR LESS. ALL BACKFILL WITHIN THE ROADWAY, OVER ANY PIPE THAT IS TO BE INSTALLED UNDER THE ROADWAY OR WITHIN EMBANKMENTS, ETC. IS TO BE COMPACTED TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO AND PER F.D.O.T. SPECIFICATIONS, SECTION 125.8.3, LATEST EDITION.

P3. DRAINAGE: ALL DRAINAGE STRUCTURES MUST BE CONSTRUCTED PER FLORIDA DEPARTMENT OF TRANSPORTATION ROAD DESIGN STANDARDS. MITERED END SECTION AS PER D.O.T. INDEX NO. 272 AND NO. 273. ALL PIPE LENGTHS ARE PLUS OR MINUS AND MEASUREMENTS ARE TO THE CENTER OF STRUCTURES. OWNER SHALL MAINTAIN RETENTION AREAS.

U1. UTILITIES: ALL UNDERGROUND UTILITIES MUST BE INSTALLED BEFORE BASE AND SURFACE COURSES ARE CONSTRUCTED. SITE CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL UTILITIES IN ACCORDANCE WITH LOCAL CODES, WHETHER INDICATED ON THE PLANS OR NOT. CHECK WITH THE LOCAL GOVERNMENT PRIOR TO BID SUBMISSION. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MINIMIZE INTERRUPTIONS OF EXISTING UTILITY SERVICE DURING CONSTRUCTION AND CONNECTION OF PROPOSED SERVICE LINES. CONFLICTS BETWEEN WATER LINES AND SANITARY SEWER SYSTEMS ARE TO BE RESOLVED BY ADJUSTING WATER LINES AS NECESSARY. CONTRACTOR SHALL MAINTAIN A MINIMUM OF TEN FOOT (10') HORIZONTAL SEPARATION OR 18" VERTICAL SEPARATION WHERE UNDERGROUND SERVICES CONFLICT. PIPE MEASUREMENTS ARE TO CENTER OF STRUCTURES AND ALL LENGTHS ARE PLUS OR MINUS.

### LEGAL DESCRIPTION

A PARCEL OF LAND LOCATED IN SECTION 29, TOWNSHIP 26 SOUTH, RANGE 19 EAST, PASCO COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE SE 1/4 OF SAID SECTION 29; THENCE N00°35'13"E ALONG THE WEST LINE OF THE SE 1/4 OF SAID SECTION 29 A DISTANCE OF 767.12 FEET TO THE POINT OF BEGINNING, SAID POINT BEING THE NORTHWEST CORNER OF TERRA BELLA COMMERCIAL ADDITION AND PARTIAL REPLAT, RECORDED IN PLAT BOOK 66, PAGES 115-117, OF THE PUBLIC RECORDS OF PASCO COUNTY, FLORIDA;

THENCE CONTINUE N00°35'13"E ALONG SAID WEST LINE OF THE SE 1/4, A DISTANCE OF 885.21 FEET TO A POINT; THENCE LEAVING SAID WEST LINE OF THE SE 1/4 NORTHEASTERLY ALONG THE ARC OF A NON-TANGENT CURVE TO THE RIGHT (SAID CURVE HAVING A RADIUS OF 150.00 FEET, A CENTRAL ANGLE OF 19°12'06", AND A CHORD BEARING AND DISTANCE OF N53°38'40"E, 50.04 FEET) FOR AN ARC DISTANCE OF 50.27 FEET TO A POINT; THENCE N63°14'43"E A DISTANCE OF 204.39 FEET TO A POINT; THENCE N00°30'00"E ALONG THE ARC OF A TANGENT CURVE TO THE LEFT (SAID CURVE HAVING A RADIUS OF 250.00 FEET, A CENTRAL ANGLE OF 42°56'20", AND A CHORD BEARING AND DISTANCE OF N41°46'24"E, 183.00 FEET) FOR AN ARC DISTANCE OF 181.36 FEET TO A POINT; THENCE S80°30'00"E A DISTANCE OF 110.88 FEET TO A POINT; THENCE S00°30'00"W A DISTANCE OF 136.66 FEET TO A POINT; THENCE S05°30'00"W A DISTANCE OF 28.95 FEET TO A POINT; THENCE S09°30'00"E A DISTANCE OF 449.17 FEET TO A POINT; THENCE N80°30'00"E A DISTANCE OF 49.69 FEET TO A POINT; THENCE SOUTHEASTERLY ALONG THE ARC OF A TANGENT CURVE TO THE RIGHT (SAID CURVE HAVING A RADIUS OF 127.50 FEET, A CENTRAL ANGLE OF 68°29'10", AND A CHORD BEARING AND DISTANCE OF S65°15'25"E, 143.49 FEET) FOR AN ARC DISTANCE OF 152.40 FEET TO A POINT; THENCE S43°30'00"W A DISTANCE OF 15.80 FEET TO A POINT; THENCE S01°30'00"E A DISTANCE OF 39.00 FEET TO A POINT; THENCE S43°30'00"W A DISTANCE OF 155.32 FEET TO A POINT; THENCE S46°30'00"E A DISTANCE OF 188.59 FEET TO A POINT; THENCE S00°32'15"W A DISTANCE OF 187.72 FEET TO A POINT; THENCE N89°27'45"W A DISTANCE OF 684.54 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT THE WEST 50.00 FEET CONVEYED TO PASCO COUNTY IN OFFICIAL RECORDS BOOK 8613, PAGE 3032 PUBLIC RECORDS OF PASCO COUNTY, FLORIDA AND DESCRIBED AS FOLLOWS:

BEGIN AT THE NORTHWEST CORNER OF LOT 3 OF TERRA BELLA COMMERCIAL ADDITION AND PARTIAL REPLAT, PLAT BOOK 66, PAGES 115-117, OF THE PUBLIC RECORDS OF PASCO COUNTY, FLORIDA; THENCE WITH THE NORTH LINE OF SAID PLAT N89°27'59"W, A DISTANCE OF 56.10 FEET TO THE WEST LINE OF SAID SOUTHEAST 1/4 OF SECTION 29; THENCE WITH THE WEST LINE OF SAID SOUTHEAST 1/4, N00°34'55"E, A DISTANCE OF 885.17 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 20 MILE LEVEL ROAD (50' RIGHT-OF-WAY); THENCE WITH SAID SOUTH RIGHT-OF-WAY LINE THE FOLLOWING TWO (2) COURSES: 1) WITH THE ARC OF A NON-TANGENT CURVE TO THE RIGHT (SAID CURVE HAVING A RADIUS OF 150.00 FEET, A CENTRAL ANGLE OF 19°13'11" AND A CHORD BEARING AND DISTANCE OF N53°37'31"E, 50.00 FEET) FOR AN ARC DISTANCE OF 50.33 FEET TO A POINT OF TANGENCY; 2) N63°14'17"E, A DISTANCE OF 11.22 FEET; THENCE LEAVING SAID SOUTH RIGHT-OF-WAY LINE AND WITH A LINE BEING 50 FEET EAST AND PARALLEL WITH THE WEST LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 29; S00°34'55"W, A DISTANCE OF 820.83 FEET TO AN ANGLE POINT HEREIN; THENCE S02°55'16"E, A DISTANCE OF 99.75 FEET TO THE POINT OF BEGINNING.

### ENGINEER'S CERTIFICATION

THIS IS TO CERTIFY THAT THE PUBLIC ROADWAY SYSTEM (LIVINGSTON ROAD) IS IN SUBSTANTIAL CONFORMANCE WITH THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE OF STREETS AND HIGHWAYS, STATE OF FLORIDA, LATEST EDITION.

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100%  
CONSTRUCTION DRAWINGS  
ISSUE DATE: 2.1.16

REV	DATE	DESCRIPTION
0	2.1.16	Issue Co Initial Submitted

REVISIONS

WITHOUT SIGNATURE

ROLAND P. DOVE, P.E.  
P.E. NO. 36933

DATE

AND EMBROIDER

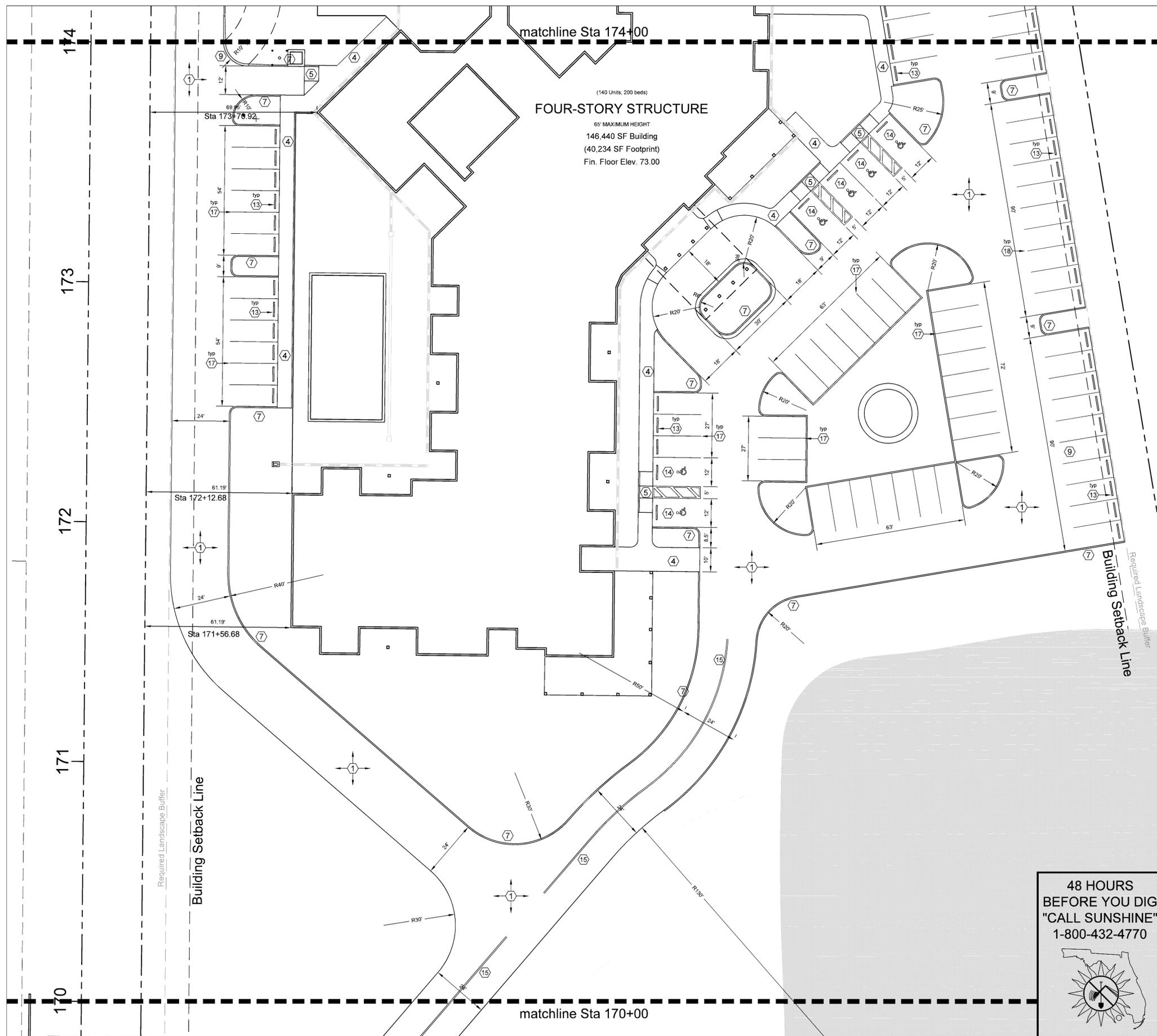
TERRA BELLA  
Senior Housing Community  
Land O Lakes, Florida

CONTRACT DATE:  
September 2015

SPRING ENGINEERING, INC.  
ENGINEERING • LAND PLANNING • ARCHITECTURE  
3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
FL COA NO. 00005158 & LICENSE NO. AM-0001747

ENLARGED SITE PLAN

DESIGNED BY: ATP  
DRAWN BY: ATP  
CHECKED BY: RPD  
JOB NO. 2015-13  
SHEET NO. C2.1



### SITE KEY NOTES

- 1 NEW ASPHALT PAVEMENT (See Paving, Grading & Drainage Plan).
- 2 NEW CONCRETE PAVEMENT
- 3 NEW CONCRETE SIDEWALK (6" THICK)
- 4 NEW CONCRETE SIDEWALK (4" THICK)
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- 21 NEW 18" YELLOW THERMOPLASTIC STRIPING (45' AT 10' SPACING).

**48 HOURS BEFORE YOU DIG "CALL SUNSHINE" 1-800-432-4770**

**Enlarged Site Plan**  
 Scale: 1"=20'

All bidders must visit the site to verify conditions before submitting bids.

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100%  
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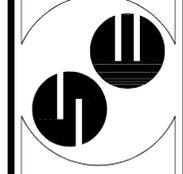
REV	DATE	DESCRIPTION	Prep Co Initial	Submitter
0	2.1.16			

WITHOUT SIGNATURE  
 DIVISION  
 ROLAND P. DOWE, P.E.  
 P.E. NO. 36933  
 DATE  
 AND EMBROIDER

**TERRA BELLA**  
 Senior Housing Community  
 Land O Lakes, Florida

CONTRACT DATE:  
 September 2015

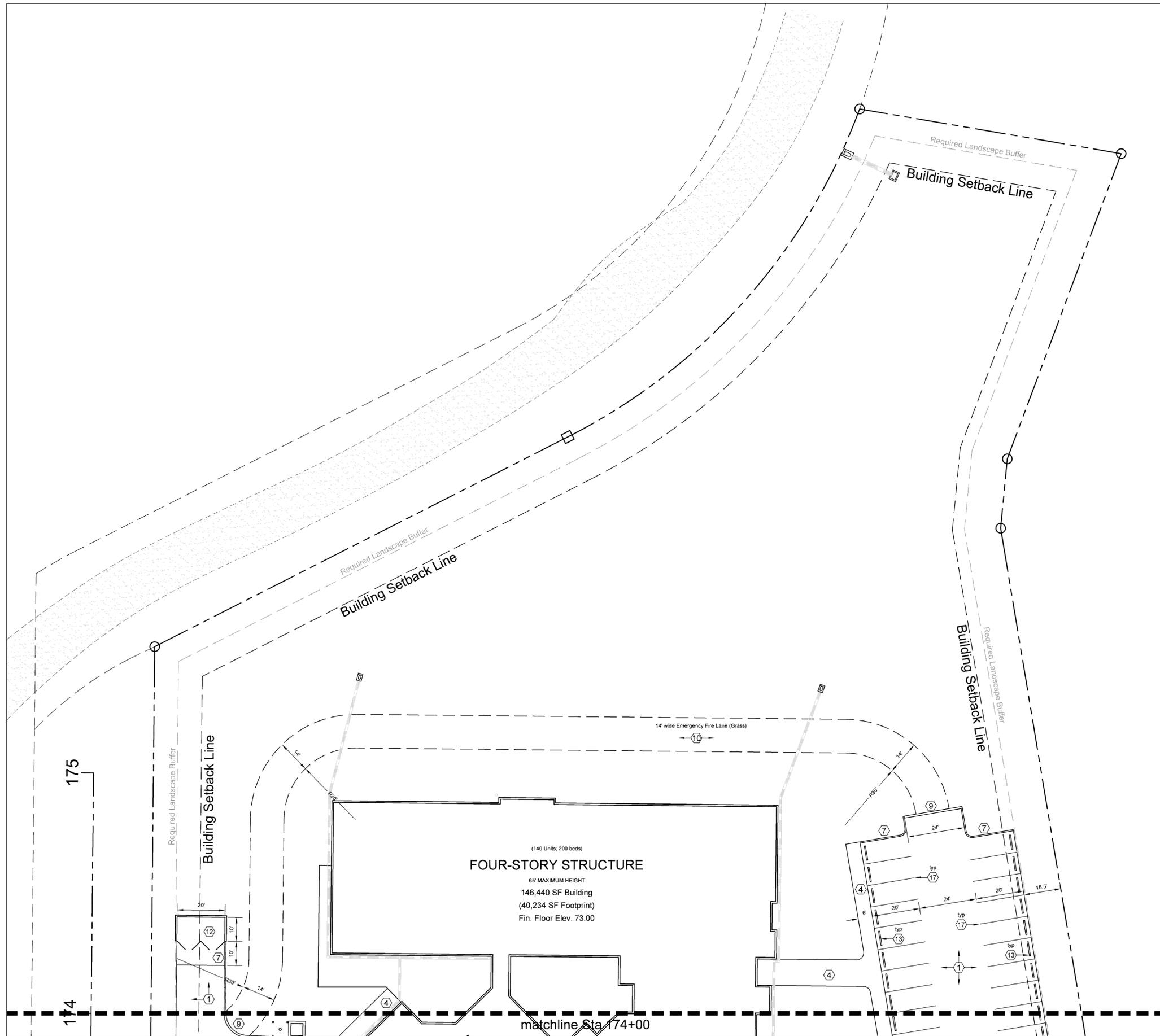
**SPRING ENGINEERING, INC.**  
 ENGINEERING • LAND PLANNING • ARCHITECTURE  
 3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
 FL COA NO. 00005158 & LICENSE NO. AM-0001747



ENLARGED SITE PLAN

DESIGNED BY: ATP  
 DRAWN BY: ATP  
 CHECKED BY: RPD  
 JOB NO. 2015-13

SHEET NO.  
**C2.2**



**SITE KEY NOTES**

- ① NEW ASPHALT PAVEMENT (See Paving, Grading & Drainage Plan).
- ② NEW CONCRETE PAVEMENT
- ③ NEW CONCRETE SIDEWALK (6" THICK)
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- ⑳ NEW THERMOPLASTIC SPECIAL EMPHASIS CROSSWALK (WHITE) (FDOT INDEX 17346 - USE 2008 DESIGN STANDARDS FOR THIS ITEM ONLY. ALL OTHER ROADWAY ITEMS SHALL USE 2014 DESIGN STANDARDS)
- ㉑ NEW 18" YELLOW THERMOPLASTIC STRIPING (45' AT 10' SPACING).



**Enlarged Site Plan**



All bidders must visit the site to verify conditions before submitting bids.

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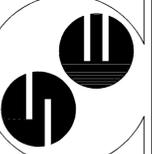
REV	DATE	DESCRIPTION	Prep'd By	Initial	Submitted
0	2.1.16				

WITHOUT SIGNATURE  
AND CROSS  
ROLAND P. DOVE, P.E.  
P.E. NO. 36933  
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**TERRA BELLA**  
**Senior Housing Community**  
Land O Lakes, Florida

CONTRACT DATE:  
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ENLARGED SITE PLAN

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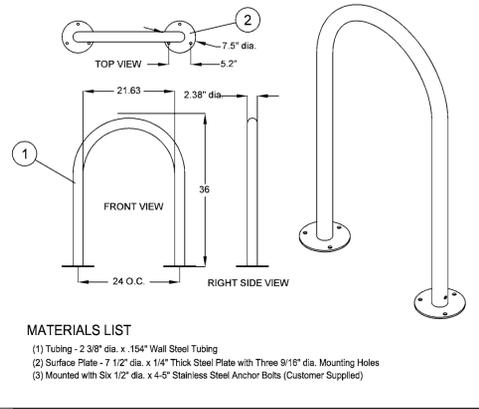
2015-13  
SHEET NO.  
**C2.3**

### TESTING SCHEDULE GUIDE FOR FLORIDA

ITEM	TEST TYPE	TEST I.D.	REQUIREMENTS	FREQUENCY
EMBANKMENT	MAXIMUM DENSITY OPTIMUM MOISTURE FIELD DENSITY	AASHTO T180 ASTM D1557	N/A	PER SOIL TYPE
		AASHTO T191, T204, T238 ASTM D1556, D2937, D2922	95% OF MAXIMUM DENSITY	ONE PER 2,500 S.F. HORIZONTALLY * ALTERNATING LIFTS (12")
UTILITY TRENCH BACKFILL UNDER ROADWAYS AND STRUCTURES	MAXIMUM DENSITY OPTIMUM MOISTURE FIELD DENSITY	AASHTO T180 ASTM D1557	N/A	PER SOIL TYPE
		AASHTO T191, T204, T238 ASTM D1556, D2937, D2922	95% OF MAXIMUM DENSITY	ONE PER 2,500 S.F. HORIZONTALLY * EVERY 2" VERTICALLY D2922 - AT LEAST ONE FOR EACH PIPE RUN
BACKFILL OF STRUCTURES	MAXIMUM DENSITY OPTIMUM MOISTURE FIELD DENSITY	AASHTO T180 ASTM D1557	N/A	PER SOIL TYPE
		AASHTO T191, T204, T238 ASTM D1556, D2937, D2922	95% OF MAXIMUM DENSITY	ONE PER 2,500 S.F. EVERY 2" VERTICALLY
SUBGRADE	BEARING VALUES	LBR - FLA. D.O.T.	LBR = 40 MIN.	ONE PER SOIL TYPE CHECK POINT LBR AT 500 L.F. HORIZONTALLY
		AASHTO T180 ASTM D1557	N/A	ONE PER SOIL TYPE
BASE	BEARING VALUES	LBR - FLA. D.O.T.	LBR = 100 MIN.	ONE PER SOURCE OR AS MATERIAL CHANGES CHECK POINT LBR AT 500 L.F. HORIZONTALLY
		AASHTO T180 ASTM D1557	N/A	ONE PER SOURCE
SOIL CEMENT BASE MIX DESIGN	PORTLAND CEMENT ASSOC. SPECIFICATIONS (TO BE USED IF SEPARATION BETWEEN SHWT AND BOTTOM OF BASE IS < 1.5")	AASHTO T191, T238 ASTM D1556, D2922	98% OF MAXIMUM DENSITY	ONE PER 2,500 S.F. HORIZONTALLY
		AASHTO T191, T238 ASTM D1556, D2922	98% OF MAXIMUM DENSITY	ONE PER 2,500 S.F. HORIZONTALLY
ASPHALTIC CONCRETE	MATERIALS QUALITY BITUMEN CONTENT GRADATION FIELD DENSITY	AASHTO T164 ASTM D2172	PER SPECIFICATIONS 95% OF LAB DENSITY	ONE PER DAY ONE PER 2,500 S.F. HORIZONTALLY
		AASHTO T96-77 ASTM C131-81 N/A	PER SPECIFICATIONS	ONE PER SOURCE ONE PER 2,500 S.F.

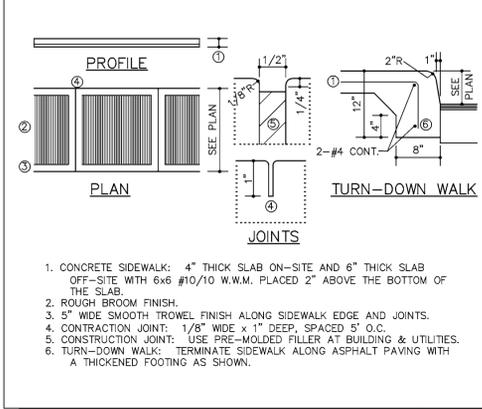
NOTES:  
 \* THE CONTRACTOR SHALL NOT PAVE OVER SOIL CEMENT BASE UNTIL A 30-DAY CURING HAS ELAPSED.  
 \*\* MAXIMUM STRENGTH LIMITS, AS ESTABLISHED BY SOILS TESTING COMPANY, SHALL NOT BE EXCEEDED.  
 \*\*\* SHOULD ANY OF THE INFORMATION PROVIDED HEREIN CONFLICT WITH EITHER THE RECOMMENDATION OF THE GEOTECHNICAL ENGINEER, AND/OR THE GEOTECHNICAL REPORT, THEN THE AFOREMENTED RECOMMENDATIONS WILL SUPERCEDE THIS "TESTING SCHEDULE GUIDE".

### Bike Rack Detail



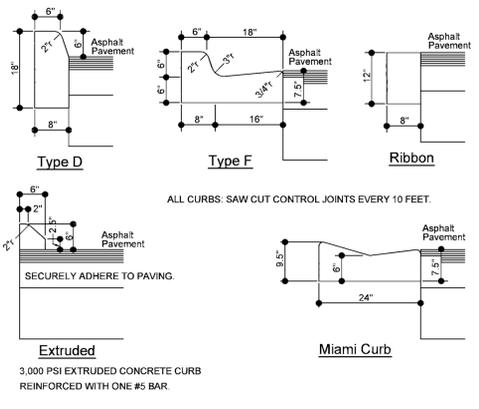
- MATERIALS LIST**  
 (1) Tubing - 2.38" dia. x .154" Wall Steel Tubing  
 (2) Surface Plate - 7 1/2" dia. x 1/4" Thick Steel Plate with Three 9/16" dia. Mounting Holes  
 (3) Mounted with Six 1/2" dia. x 4-5" Stainless Steel Anchor Bolts (Customer Supplied)

### SIDEWALK DETAIL



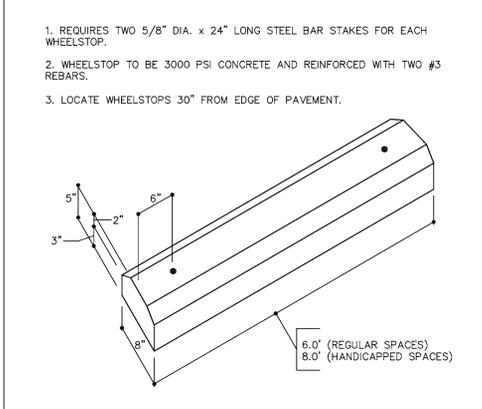
- CONCRETE SIDEWALK: 4" THICK SLAB ON-SITE AND 6" THICK SLAB OFF-SITE WITH 6x6 #10/10 W.W.M. PLACED 2" ABOVE THE BOTTOM OF THE SLAB.
- ROUGH BROOM FINISH.
- 5" WIDE SMOOTH TROWEL FINISH ALONG SIDEWALK EDGE AND JOINTS.
- CONSTRUCTION JOINT: 1/8" WIDE x 1" DEEP, SPACED 5' O.C.
- CONSTRUCTION JOINT: USE PRE-MOLDED FILLER AT BUILDING & UTILITIES.
- TURN-DOWN WALK: TERMINATE SIDEWALK ALONG ASPHALT PAVING WITH A THICKENED FOOTING AS SHOWN.

### CURB DETAIL



- ALL CURBS: SAW CUT CONTROL JOINTS EVERY 10 FEET.  
 3,000 PSI EXTRUDED CONCRETE CURB REINFORCED WITH ONE #5 BAR

### WHEEL STOP DETAIL



- REQUIRES TWO 5/8" DIA. x 24" LONG STEEL BAR STAKES FOR EACH WHEELSTOP.
- WHEELSTOP TO BE 3000 PSI CONCRETE AND REINFORCED WITH TWO #3 REBARS.
- LOCATE WHEELSTOPS 30" FROM EDGE OF PAVEMENT.

### ASPHALT PAVING

**ASPHALT PAVING**  
 (A) HOT MIX ASPHALT SURFACE COURSE COMPACTED TO MINIMUM 96% OF MARSHALL MAXIMUM LAB UNIT WEIGHT  
 (B) BASE COURSE COMPACTED TO MINIMUM 98% MAXIMUM MODIFIED PROCTOR DRY DENSITY (ASTM D-1557) & MINIMUM LBR-100  
 (C) SUBGRADE COMPACTED TO MINIMUM 98% MAXIMUM MODIFIED PROCTOR DRY DENSITY (ASTM D-1557) & MIN. LBR-40

Item	Material Description	Minimum Thickness	Design Thickness	Structural Coefficient per inch	Structural Number	Heavy Duty
A	SP-9.5 Fine Mix	1"	1.5"	0.44	0.66	
	SP-12.5 Fine Mix	1.5"		0.44		
	SP-19.0 Fine Mix	2"		0.44		
	S-1 Asphalt Mix (FDOT 2000)	1.5"		0.44		
B	Limerock	6"	6"	0.18	1.08	
	Crushed Concrete	6"		0.18		
	Bank Run Shell	6"		0.18		
C	Subgrade - Existing on-site soil stabilized as necessary to achieve min. LBR-40	9"	12"	0.08	0.96	
	Total SN Provided				2.70	-
	Minimum SN Required				2.70	3.28

Crushed Concrete approved as inch per inch alternate to Limerock.

### ASPHALT PAVING

**ASPHALT PAVING**  
 (A) HOT MIX ASPHALT SURFACE COURSE COMPACTED TO MINIMUM 96% OF MARSHALL MAXIMUM LAB UNIT WEIGHT  
 (B) BASE COURSE COMPACTED TO MINIMUM 98% MAXIMUM MODIFIED PROCTOR DRY DENSITY (ASTM D-1557) & MINIMUM LBR-100  
 (C) SUBGRADE COMPACTED TO MINIMUM 98% MAXIMUM MODIFIED PROCTOR DRY DENSITY (ASTM D-1557) & MIN. LBR-40

Item	Material Description	Minimum Thickness	Design Thickness	Structural Coefficient per inch	Structural Number	Light Duty	Roadway
A	SP-9.5 Fine Mix	1"	2"	0.44	0.88		
	SP-12.5 Fine Mix	1.5"		0.44			
	SP-19.0 Fine Mix	2"		0.44			
	S-1 Asphalt Mix (FDOT 2000)	1.5"		0.44			
B	Limerock	6"	10"	0.18	1.80		
	Crushed Concrete	6"		0.18			
	Bank Run Shell	6"		0.18			
C	Subgrade - Existing on-site soil stabilized as necessary to achieve min. LBR-40	9"	12"	0.08	0.96		
	Total SN Provided				3.64		
	Minimum SN Required				2.70	3.28	

Crushed Concrete approved as inch per inch alternate to Limerock.

### ASPHALT PAVING

**ASPHALT PAVING**  
 (A) HOT MIX ASPHALT SURFACE COURSE COMPACTED TO MINIMUM 96% OF MARSHALL MAXIMUM LAB UNIT WEIGHT  
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	SP-12.5 Fine Mix	1.5"		0.44			
	SP-19.0 Fine Mix	2"		0.44			
	S-1 Asphalt Mix (FDOT 2000)	1.5"		0.44			
B	Limerock	6"	8"	0.18	1.44		
	Crushed Concrete	6"		0.18			
	Bank Run Shell	6"		0.18			
C	Subgrade - Existing on-site soil stabilized as necessary to achieve min. LBR-40	9"	12"	0.08	0.96		
	Total SN Provided				3.28		
	Minimum SN Required				2.70	3.28	

Crushed Concrete approved as inch per inch alternate to Limerock.

### CONCRETE PAVING

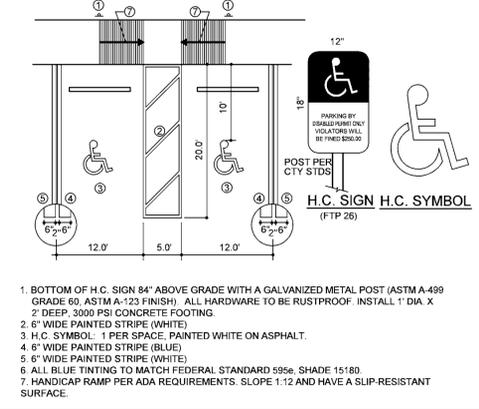
**CONCRETE PAVING IS AUTHORIZED AS AN APPROVED ALTERNATIVE TO ASPHALT PAVING PER THE FOLLOWING SPECIFICATIONS:**

ON-SITE CONCRETE PAVEMENT (STANDARD DUTY) SHALL BE 6" PORTLAND CEMENT CONCRETE (3,000 PSI) WITH CONSTRUCTION JOINTS 12" ON CENTER (MINIMUM). APPLY LIQUID ASPHALT AT ALL JOINTS BETWEEN CONCRETE AND ASPHALT.

OFF-SITE CONCRETE PAVEMENT (HEAVY DUTY) SHALL BE 8" PORTLAND CEMENT CONCRETE (3,000 PSI) WITH CONSTRUCTION JOINTS 12" ON CENTER (MINIMUM). APPLY LIQUID ASPHALT AT ALL JOINTS BETWEEN CONCRETE AND ASPHALT.

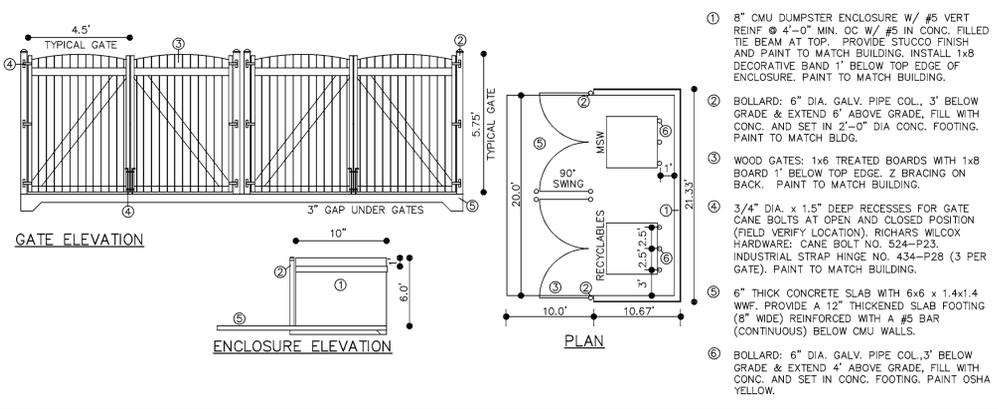
6" SUBGRADE COMPACTED TO MINIMUM 90% MAXIMUM MODIFIED PROCTOR DRY DENSITY (ASTM D-1557) & MINIMUM LBR-20.

### HANDICAPPED PARKING DETAIL



- BOTTOM OF H.C. SIGN 84" ABOVE GRADE WITH A GALVANIZED METAL POST (ASTM A-499 GRADE 90, ASTM A-123 FINISH). ALL HARDWARE TO BE RUSTPROOF. INSTALL 1" DIA. X 2" DEEP, 3000 PSI CONCRETE FOOTING.
- 6" WIDE PAINTED STRIPE (WHITE)
- H.C. SYMBOL: 1 PER SPACE. PAINTED WHITE ON ASPHALT.
- 6" WIDE PAINTED STRIPE (BLUE)
- 6" WIDE PAINTED STRIPE (WHITE)
- ALL BLUE TINTING TO MATCH FEDERAL STANDARD 595e, SHADE 151/80.
- HANDICAP RAMP PER ADA REQUIREMENTS. SLOPE 1:12 AND HAVE A SLIP-RESISTANT SURFACE.

### DOUBLE DUMPSTER ENCLOSURE



- 8" CMU DUMPSTER ENCLOSURE W/ #5 VERT REINF @ 4'-0" MIN. OC W/ #5 IN CONC. FILLED TIE BEAM AT TOP. PROVIDE STUCCO FINISH AND PAINT TO MATCH BUILDING. INSTALL 1x8 DECORATIVE BAND 1" BELOW TOP EDGE OF ENCLOSURE. PAINT TO MATCH BUILDING.
- BOLLARD: 6" DIA. GALV. PIPE COL., 3' BELOW GRADE & EXTEND 6" ABOVE GRADE, FILL WITH CONC. AND SET IN 2'-0" DIA CONC. FOOTING. PAINT TO MATCH BLDG.
- WOOD GATES: 1x6 TREATED BOARDS WITH 1x8 BOARD 1" BELOW TOP EDGE. Z BRACING ON BACK. PAINT TO MATCH BUILDING.
- 3/4" DIA. x 1.5" DEEP RECESSES FOR GATE CANE BOLTS AT OPEN AND CLOSED POSITION (FIELD VERIFY LOCATION). RICHARDS WILCOX HARDWARE: CANE BOLT NO. 524-P23. INDUSTRIAL STRAP HINGE NO. 434-P28 (3 PER GATE). PAINT TO MATCH BUILDING.
- 6" THICK CONCRETE SLAB WITH 6x6 x 1.4x1.4 WWF. PROVIDE A 12" THICKENED SLAB FOOTING (8" WIDE) REINFORCED WITH A #5 BAR (CONTINUOUS) BELOW CMU WALLS.
- BOLLARD: 6" DIA. GALV. PIPE COL., 3' BELOW GRADE & EXTEND 4" ABOVE GRADE, FILL WITH CONC. AND SET IN CONC. FOOTING. PAINT OSHA YELLOW.

100%  
CONSTRUCTION DRAWINGS  
ISSUE DATE: 2.1.16

REV	DATE	DESCRIPTION
0	2.1.16	Issue Co Initial Submitted

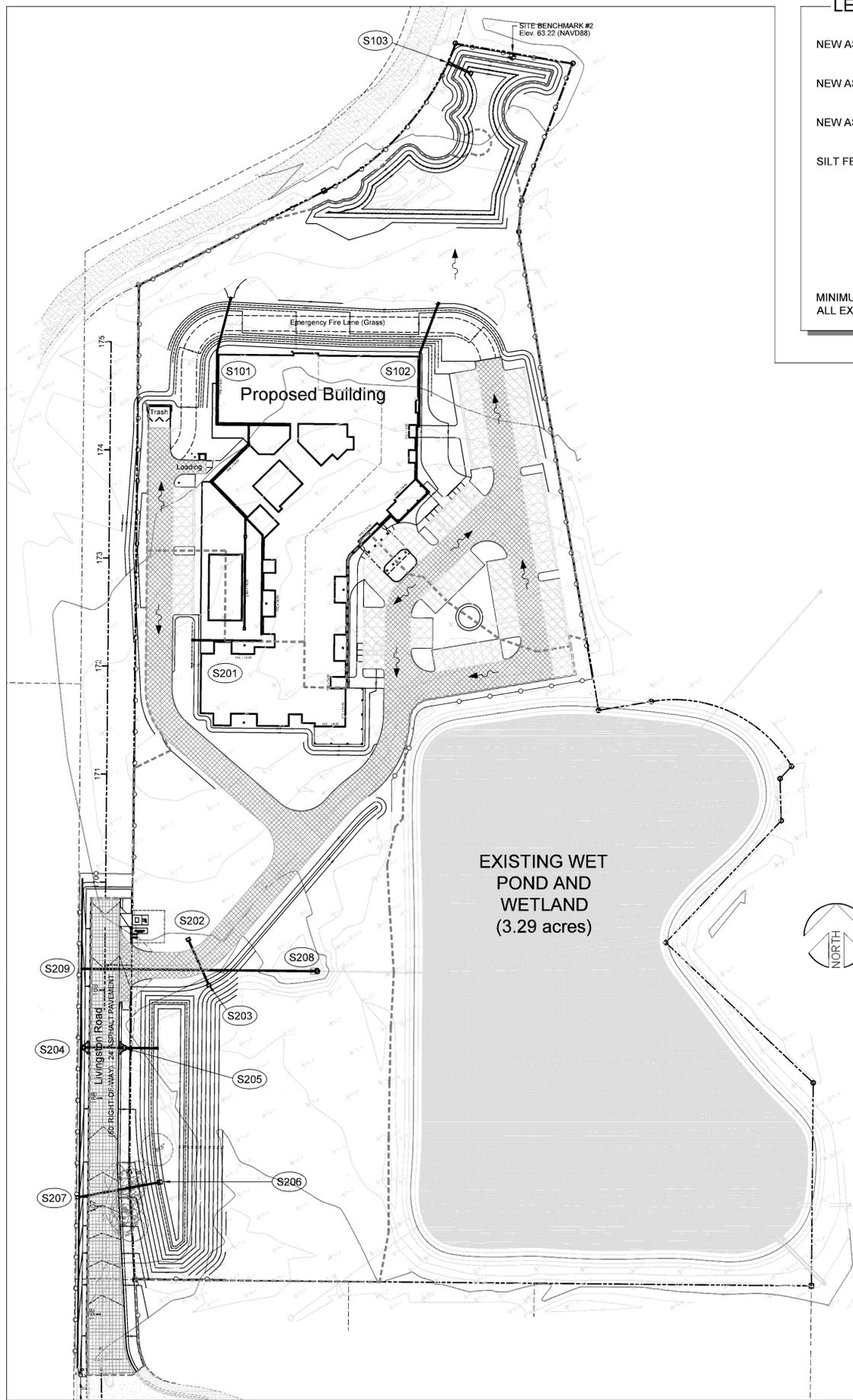
TERRA BELLA  
Senior Housing Community  
Land O Lakes, Florida

CONTRACT DATE:  
September 2015

SPRING ENGINEERING, INC.  
ENGINEERING • LAND PLANNING • ARCHITECTURE  
3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
FL COA NO. 00005158 & LICENSE NO. AM-0001747

SE  
DETAILS  
DESIGNED BY: ATP  
DRAWN BY: ATP  
CHECKED BY: RPD  
JOB NO.  
2015-13  
SHEET NO.  
C2.4

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### LEGEND

- NEW ASPHALT PAVEMENT (HEAVY DUTY) [Symbol]
- NEW ASPHALT PAVEMENT (LIGHT DUTY) [Symbol]
- NEW ASPHALT PAVEMENT (OFF-SITE) [Symbol]
- SILT FENCE (2387 LF) [Symbol]

MINIMUM PROPOSED CUT WITH NET FILL.  
ALL EXCAVATION TO BE RETAINED ON SITE AND USED AS FILL.

**48 HOURS BEFORE YOU DIG "CALL SUNSHINE" 1-800-432-4770**

### CALCULATIONS FOR STORM SEWER DESIGN

FROM PIPE INLET			TO PIPE INLET			Tc	Q = C x I x A			Q	Q full	PIPE SIZE	SLOPE	LENGTH	VELOCITY
ID	TOP	FLOW	ID	TOP	FLOW	(min)	C	I	A	(cfs)	(cfs)	(n = 0.013)		(feet)	(ft/s)
S101	var	71.80	MES	-	68.00	10	0.90	7.5	0.587	4.4	6.4	15"Ø	1.0%	378'	5.2
S102	var	72.11	MES	-	68.00	10	0.90	7.5	0.342	2.3	3.5	12"Ø	1.0%	407'	4.5
S103	65.50	63.66	MES	-	63.40	-	OCS (POND 100)			11.3	-	18"Ø	1.2%	22'	6.8
10-YEAR STORM (FDOT Zone 6)															
S201	var	73.15	MES	-	72.50	10	0.90	7.5	0.089	0.6	3.5	12"Ø	1.0%	64'	4.5
S202	69.80	66.80	S203	69.00	66.35	10	0.40	7.5	0.465	1.4	3.5	12"Ø	1.0%	45'	4.5
S204	69.72	66.22	S205	69.72	65.84	10	0.9	7.5	0.135	0.9	3.5	12"Ø	1.0%	38'	4.5
S205	69.72	65.84	MES	-	65.53	10	0.9	7.5	0.278	1.9+9	3.5	12"Ø	1.0%	31'	4.5
S206	-	66.44	S207	-	64.00	-	OCS (POND 200)			6.7	-	12"Ø	3.2%	76'	6.2
S208	70.00	66.20	S209	-	64.00	10	(EX. WET POND)			<20	24	24"Ø	1.0%	220'	7.2

- ### DRAINAGE KEY NOTES
- S-101: INSTALL 415 LF OF 15" ADS HDPE HIGHWAY PIPE TO COLLECT RUNOFF FROM THE ROOF DRAINS OF THE NEW BUILDING AND DIRECT IT TO MES S-101. COORDINATE WITH ARCHITECTURAL PLANS AND OWNER TO ACCEPT RUNOFF FROM COURTYARD DRAINS (NOT SHOWN ON CIVIL PLANS).
  - S-101a: INSTALL 84 LF OF ADS DURASLOT SURFACE DRAIN (0860DS), OR APPROVED EQUAL WITH 8" DRAIN TO S-101.
  - S-102: INSTALL 407 LF OF 12" ADS HDPE HIGHWAY PIPE TO COLLECT RUNOFF FROM THE ROOF DRAINS OF THE NEW BUILDING AND DIRECT IT TO MES S-102.
  - S-103: OUTFALL CONTROL STRUCTURE: INSTALL MODIFIED FDOT TYPE C INLET (GRATE=65.50, INV.=63.66, SUMP=62.50) WITH (2) 2' WIDE WEIRS @ EL. 63.66 WITH SKIMMERS; 22 LF OF 18" PIPE; 18" MES (PER FDOT INDEX 272).
  - S-201: INSTALL 64 LF OF 12" ADS HDPE HIGHWAY PIPE TO COLLECT RUNOFF FROM THE ROOF DRAINS OF THE NEW BUILDING AND DIRECT IT TO MES S-201.
  - S-202: INSTALL FDOT TYPE C INLET (GRATE=69.80, INV.=66.80), 45 LF OF 12" RCP TO S-203.
  - S-203: INSTALL FDOT TYPE C INLET (GRATE=69.00, INV.=66.35, SUMP=65.00).
  - S-204: INSTALL FDOT TYPE 4 CURB INLET (RIM=69.72, INV.=66.22), 38 LF OF 12" RCP TO S-205.
  - S-205: INSTALL FDOT TYPE 4 CURB INLET (RIM=69.72, INV.=65.84), 31 LF OF 12" RCP TO MES S-205 (INV.=65.53).
  - S-206: OUTFALL CONTROL STRUCTURE: INSTALL MODIFIED FDOT U-TYPE WINGED ENDWALL (PER FDOT INDEX 266) WITH 12" DIP (INV.=66.44) AND 90° BEND EXTENDING BEYOND ENDWALL TO ACT AS SKIMMER AND ORIFICE; 76 LF OF 12" PVC TO S-206.
  - S-207: INSTALL FDOT STRAIGHT ENDWALL PER FDOT INDEX 266 (INV.=64.00); 3'x3'x4" THICK CONCRETE SPLASH PAD FOR EROSION CONTROL.
  - S-208: REMOVE EXISTING MES AND INSTALL FDOT MANHOLE (RIM=70.00, E.IE.=66.56, W.IE.=66.20, SUMP=65.00); 220 LF OF 24" PIPE TO S-207.
  - S-209: INSTALL FDOT STRAIGHT ENDWALL PER FDOT INDEX 266 (INV.=64.00); 3'x3'x4" THICK CONCRETE SPLASH PAD FOR EROSION CONTROL.

### EXISTING DRAINAGE BASINS

**BASIN 10 (3.4987 Acres)**  
DRAINS TO NORTHWEST SWALE ALONG TWENTY MILE LEVEL ROAD, THEN NORTHEAST TO WETLANDS AND CYPRESS CREEK.  
PERVIOUS AREA = 152,402 SF = 3.4987 ACRES = 100% @CN=72  
SWFWMD 25Y-24H STORM = 11.49 CFS PEAK DISCHARGE

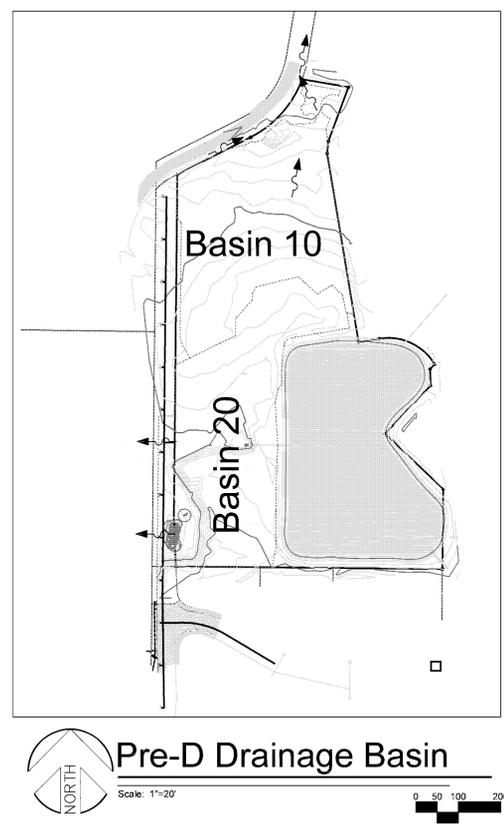
**BASIN 20 (3.9684 Acres)**  
DRAINS WEST TO WETLANDS, THEN TO SWALE ALONG TWENTY MILE LEVEL ROAD, THEN NORTHEAST TO WETLANDS AND CYPRESS CREEK.  
PERVIOUS AREA = 172,865 SF = 3.9684 ACRES = 100% @CN=72  
SWFWMD 25Y-24H STORM = 12.21 CFS PEAK DISCHARGE

### SOIL DATA

PER NRCS SOIL SURVEY OF PASCO COUNTY, THE VAST MAJORITY OF THE SITE IS LOCATED WITHIN AN AREA OF ADAMSVILLE (GROUP C) AND SPARR (GROUP C) SOILS, WITH A SMALL SLIVER OF SMYRNA (GROUP A/D) ALONG THE NORTHERNMOST PROPERTY LINE AND A SMALL POCKET OF MYAKKA (GROUP B/D) LOCATED ALONG THE SOUTHERN PORTION OF THE WESTERN PROPERTY LINE. THE SOUTHERN PORTION OF THE SITE CONTAINS THE REMAINS OF A PIT IN AN AREA OF TAVARES (GROUP A) SOIL.

DATA FROM THE NRCS SOIL SURVEY AND A 2015 GEOTECHNICAL REPORT FOR THIS SITE (BY UNIVERSAL) INDICATES A SOIL PROFILE WITH THE FOLLOWING DESIGN VALUES:

VERTICAL PERMEABILITY: 12 FEET/DAY (from NRCS)  
HORIZONTAL CONDUCTIVITY: 18 FEET/DAY (1.5 x Vertical)  
HYDROLOGIC GROUP: C (CN FOR FOREST/GRASS = 72)  
ESTIMATED SHWT: ELEV. 62 NAVD(POND 100)  
ESTIMATED SHWT: ELEV. 64 NAVD(POND 200)  
LIMEROCK HARDPAN: ELEV. 35 (NAVD) (based on Borings)



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100% CONSTRUCTION DRAWINGS  
ISSUE DATE: 2.1.16

REVISIONS

REV	DATE	DESCRIPTION
0	2.1.16	Issue Co Initial Submitter

ROLAND P. DOVE, P.E.  
P.E. NO. 36933

DATE: \_\_\_\_\_

WITHOUT SIGNATURE AND CROSS

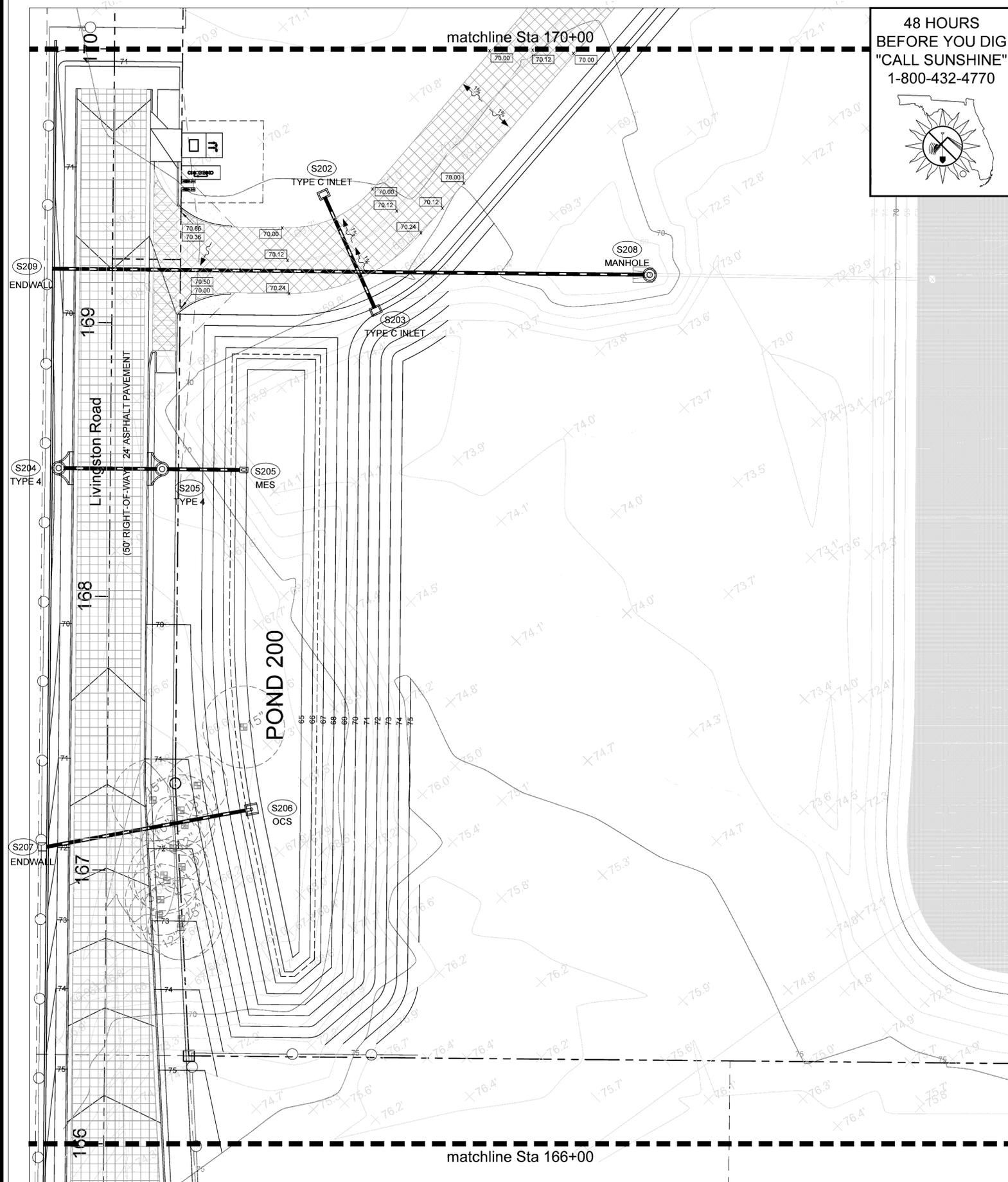
TERRA BELLA Senior Housing Community  
Land O Lakes, Florida

CONTRACT DATE: September 2015

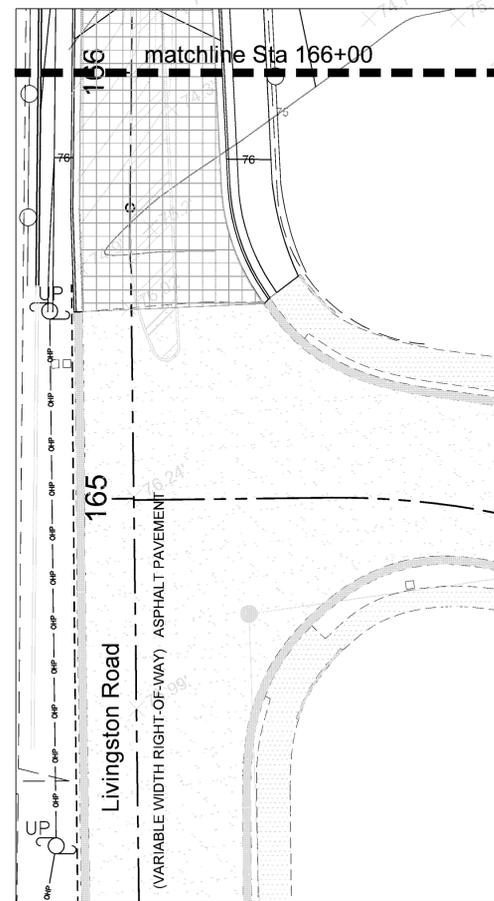
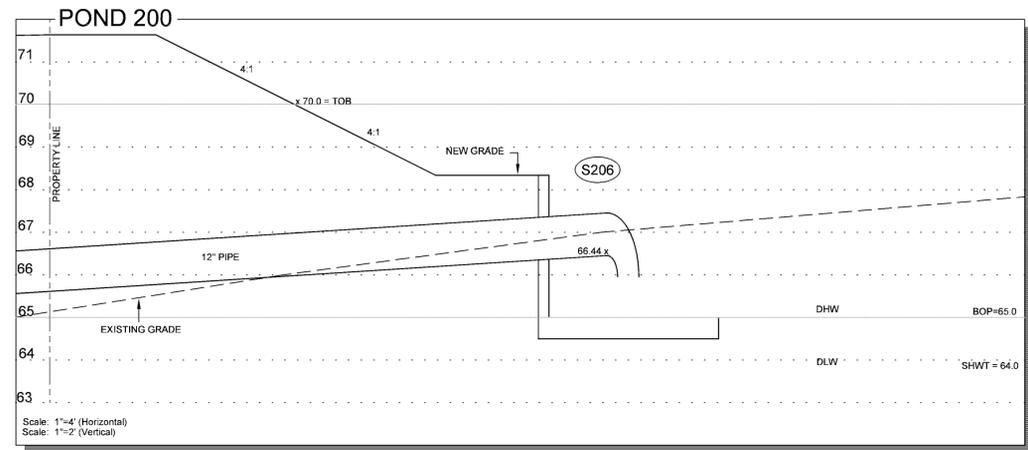
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FL COA NO. 00005158 & LICENSE NO. AM-0001747

OVERALL PAVING, GRADING & DRAINAGE PLAN

DESIGNED BY: ATP  
DRAWN BY: ATP  
CHECKED BY: RPD  
JOB NO. 2015-13  
SHEET NO. C3



48 HOURS BEFORE YOU DIG  
"CALL SUNSHINE"  
1-800-432-4770



**LEGEND**

- EXISTING ELEVATION
- PROPOSED ELEVATIONS: 11.10 (TOC), 12.00 (EOP)
- SLOPE & DIRECTION OF FLOW: 2%
- SILT FENCE
- NEW ASPHALT PAVEMENT (HEAVY DUTY)
- NEW ASPHALT PAVEMENT (LIGHT DUTY)
- NEW ASPHALT PAVEMENT (OFF-SITE)

**PROPOSED DRAINAGE BASINS**  
**BASIN 200 (4.1033 Acres)**

DRAINS TO DRY RETENTION POND WITH DISCHARGE TO WEST TO WETLANDS, THEN TO SWALE ALONG TWENTY MILE LEVEL ROAD, THEN NORTHEAST TO WETLANDS AND CYPRESS CREEK.

IMPERVIOUS AREA = 59,454 SF = 1.3649 ACRES = 33% DCIA  
 POND AREA (DLW) = 6,356 SF = 0.1459 ACRES = 4% DCIA  
 PERVIOUS AREA = 112,930 SF = 2.5925 ACRES = 63% @CN=72  
 Q-allowable (from Pre-Development Basin 20) = 12.21 CFS  
 SWFWMD 25Y-24H STORM = 7.1 CFS PEAK @ EL. 68.37

**POND 200**  
 PERIMETER = 1080 LF @ EL 70.0  
 AREA = 16,674 SF @ EL 70.0  
 SOLVE FOR LENGTH AND WIDTH:  
 [Eq1] 540 = L + W [1080 = 2L + 2W; DIVIDE BY 2]  
 [Eq2] 540W = LW + W^2 [MULTIPLY Eq1 BY W]  
 [Eq3] 16,674 = LW [AREA]  
 [Eq4] 540W - 16,674 = W^2 [Eq2 - Eq3]  
 SOLVE QUADRATIC Eq4: W^2 - 540W + 16,674  
**EFFECTIVE LENGTH = 507.1202 = 507.1 FEET**  
**EFFECTIVE WIDTH = 32.8798 = 32.9 FEET**  
 CHECK RESULTS:  
 1080 LF = PERIMETER = 2 x 507.1 + 2 x 32.9 = 1080 LF [OK]  
 16,674 SF = AREA = 507.1202 x 32.8798 = 16,674 SF [OK]

STAGE	AREA	VOLUME	DESCRIPTION
70.0	16,674 SF	45,247 CF	TOP BANK
69.0	12,408 SF	30,706 CF	
68.0	9,637 SF	19,684 CF	
67.0	7,520 SF	11,105 CF	
66.0	5,522 SF	4,584 CF	
65.0	3,646 SF	0 CF	BOP

**Enlarged Paving, Grading & Drainage Plan**

Scale: 1"=20'

All bidders must visit the site to verify conditions before submitting bids.

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REVISIONS

REV	DATE	DESCRIPTION
0	2.1.16	Place Co Initial Submitter

WITHOUT SIGNATURE

ROLAND P. DOVE, P.E.  
P.E. NO. 36933

DATE

AND CROSS

**TERRA BELLA**  
**Senior Housing Community**  
Land O Lakes, Florida

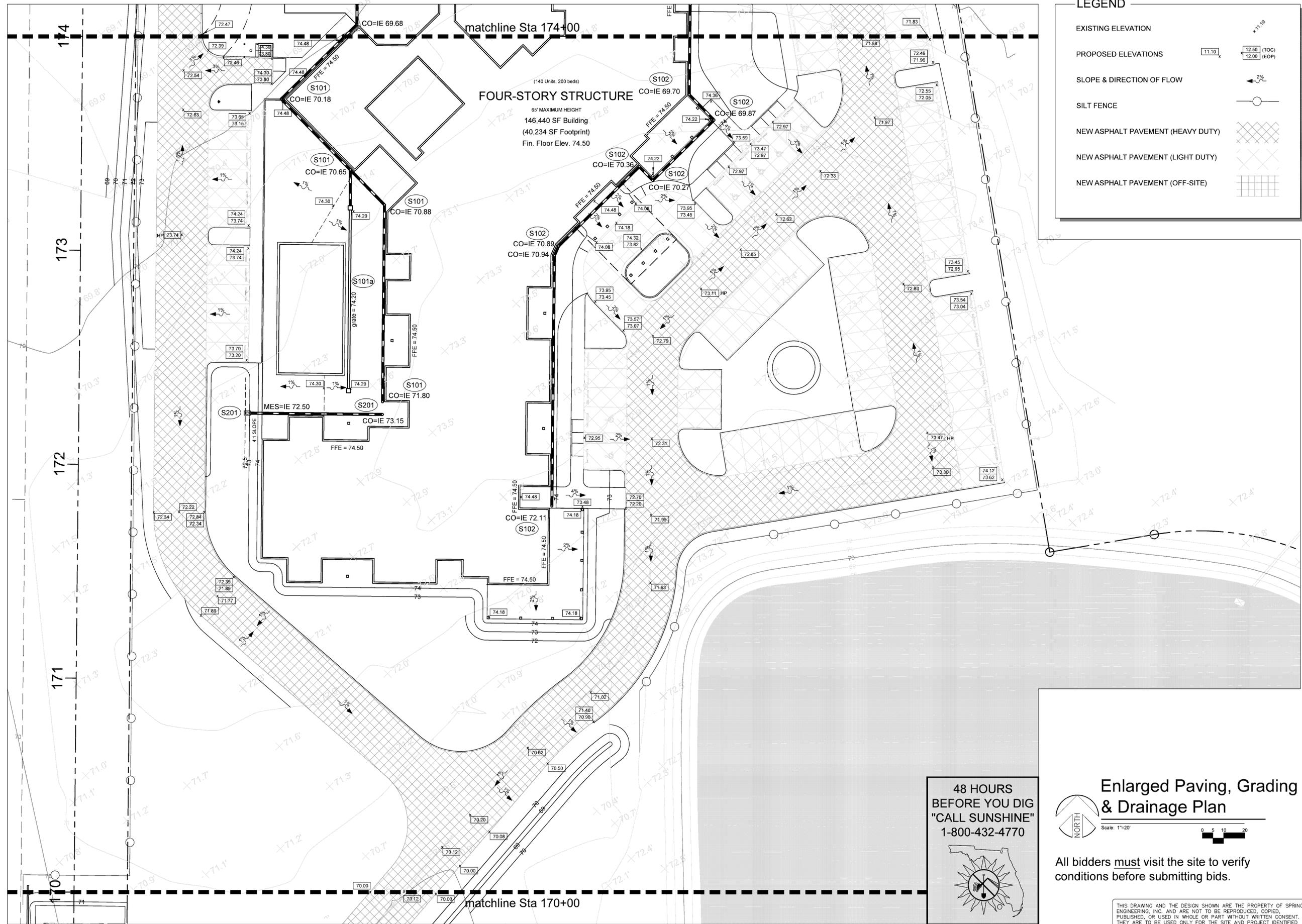
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FL COA NO. 00005158 & LICENSE NO. AM-0001747



**ENLARGED PAVING, GRADING & DRAINAGE PLAN**

DESIGNED BY: ATP  
DRAWN BY: ATP  
CHECKED BY: RPD  
JOB NO. 2015-13



**LEGEND**

- EXISTING ELEVATION
- PROPOSED ELEVATIONS
- SLOPE & DIRECTION OF FLOW
- SILT FENCE
- NEW ASPHALT PAVEMENT (HEAVY DUTY)
- NEW ASPHALT PAVEMENT (LIGHT DUTY)
- NEW ASPHALT PAVEMENT (OFF-SITE)

matchline Sta 174+00

**FOUR-STORY STRUCTURE**  
 (140 Units; 200 beds)  
 65' MAXIMUM HEIGHT  
 146,440 SF Building  
 (40,234 SF Footprint)  
 Fin. Floor Elev. 74.50

matchline Sta 170+00

48 HOURS BEFORE YOU DIG  
 "CALL SUNSHINE"  
 1-800-432-4770

**Enlarged Paving, Grading & Drainage Plan**

Scale: 1"=20'

All bidders must visit the site to verify conditions before submitting bids.

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 ISSUE DATE: 2.1.16

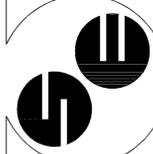
REV	DATE	DESCRIPTION
0	2.1.16	Place Co Initial Submitted

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 ROLAND P. DOVE, P.E.  
 P.E. NO. 36933  
 DATE

**TERRA BELLA**  
 Senior Housing Community  
 Land O Lakes, Florida

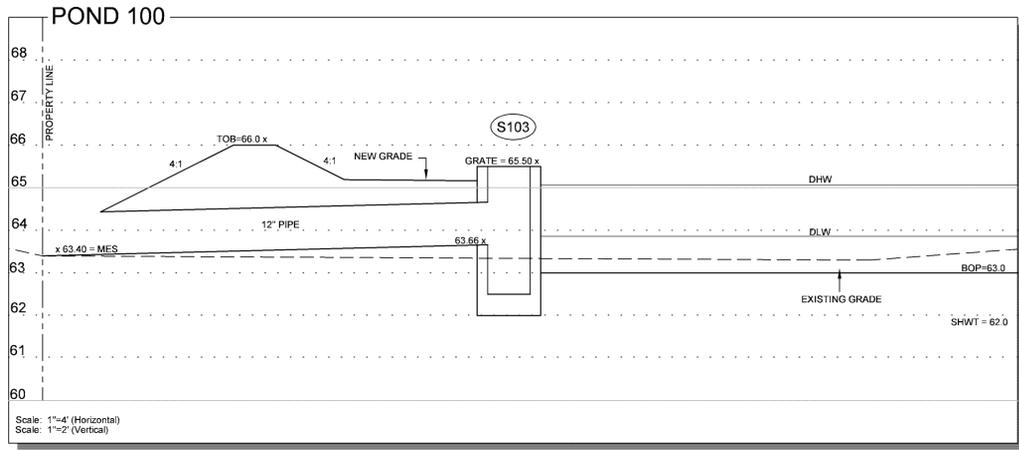
CONTRACT DATE:  
 September 2015

**SPRING ENGINEERING, INC.**  
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 3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
 FL COA NO. 00005158 & LICENSE NO. AM-0001747



**ENLARGED PAVING, GRADING & DRAINAGE PLAN**  
 DESIGNED BY: ATP  
 DRAWN BY: ATP  
 CHECKED BY: RPD  
 JOB NO. 2015-13

SHEET NO.  
**C3.2**



**LEGEND**

- EXISTING ELEVATION
- PROPOSED ELEVATIONS
- SLOPE & DIRECTION OF FLOW
- SILT FENCE
- NEW ASPHALT PAVEMENT (HEAVY DUTY)
- NEW ASPHALT PAVEMENT (LIGHT DUTY)
- NEW ASPHALT PAVEMENT (OFF-SITE)

**PROPOSED DRAINAGE BASINS**

**BASIN 100 (3.3639 Acres)**

DRAINS TO DRY RETENTION POND WITH DISCHARGE TO NORTHWEST SWALE ALONG TWENTY MILE LEVEL ROAD, THEN NORTHEAST TO WETLANDS AND CYPRESS CREEK.

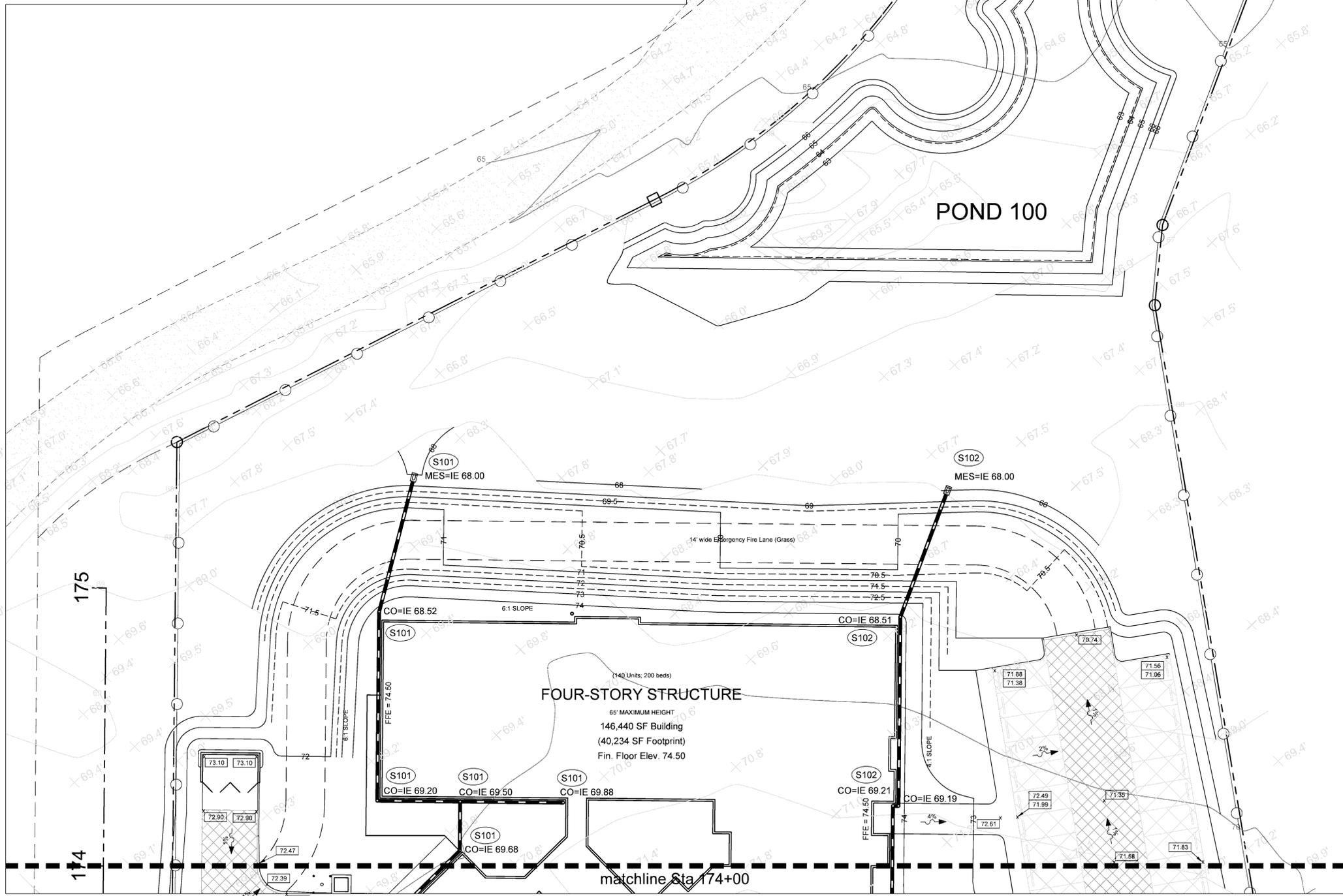
IMPERVIOUS AREA = 78,039 SF = 1.7915 ACRES = 53% DCIA  
 POND AREA (DLW) = 8,037 SF = 0.1845 ACRES = 5% DCIA  
 PERVIOUS AREA = 60,457 SF = 1.3879 ACRES = 42% @CN=72  
 Q-allowable (from Pre-Development Basin 10) = 11.49 CFS  
 SWFWMD 25Y-24H STORM = 11.49 CFS PEAK @ EL. 65.08

**POND 100**

PERIMETER = 738 LF @ EL 66.0  
 AREA = 14,489 SF @ EL 66.0  
 SOLVE FOR LENGTH AND WIDTH:  
 [Eq1] 369 = L + W [738 = 2L + 2W, DIVIDE BY 2]  
 [Eq2] 369W = LW + W<sup>2</sup> [MULTIPLY Eq1 BY W]  
 [Eq3] 13,767 = LW [AREA]  
 [Eq4] 369W - 14,489 = W<sup>2</sup> [Eq2 - Eq3]  
 SOLVE QUADRATIC Eq4: W<sup>2</sup> - 369W + 14,489  
**EFFECTIVE LENGTH = 324.3258 = 324.3 FEET**  
**EFFECTIVE WIDTH = 44.6742 = 44.7 FEET**

CHECK RESULTS:  
 738 LF = PERIMETER = 2 x 324.3 + 2 x 44.7 = 738 LF [OK]  
 14,489 SF = AREA = 324.3258 x 44.6742 = 14,489 SF [OK]

STAGE	AREA	CUMULATIVE VOLUME	DESCRIPTION
66.0	14,489 SF	29,676 CF	TOP OF BERM
65.0	10,958 SF	16,952 CF	
64.0	8,371 SF	7,287 CF	
63.0	6,203 SF	0 CF	BOP



**Enlarged Paving, Grading & Drainage Plan**

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P.E. NO. 36933

DATE: \_\_\_\_\_

TERRA BELLA  
Senior Housing Community  
Land O Lakes, Florida

CONTRACT DATE: September 2015

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FL COA NO. 00005158 & LICENSE NO. AM-0001747

ENLARGED PAVING, GRADING & DRAINAGE PLAN

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JOB NO.: 2015-13  
SHEET NO.: C3.3

CONSTRUCTION DRAWINGS - 1 FEB 2016

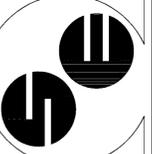
REV	DATE	DESCRIPTION
0	2.1.16	Pasco Co Initial Submittal

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AND EMBROIDERY  
ROLAND P. DOWE, P.E.  
P.E. NO. 36933  
DATE

TERRA BELLA  
Senior Housing Community  
Land O Lakes, Florida

CONTRACT DATE:  
September 2015

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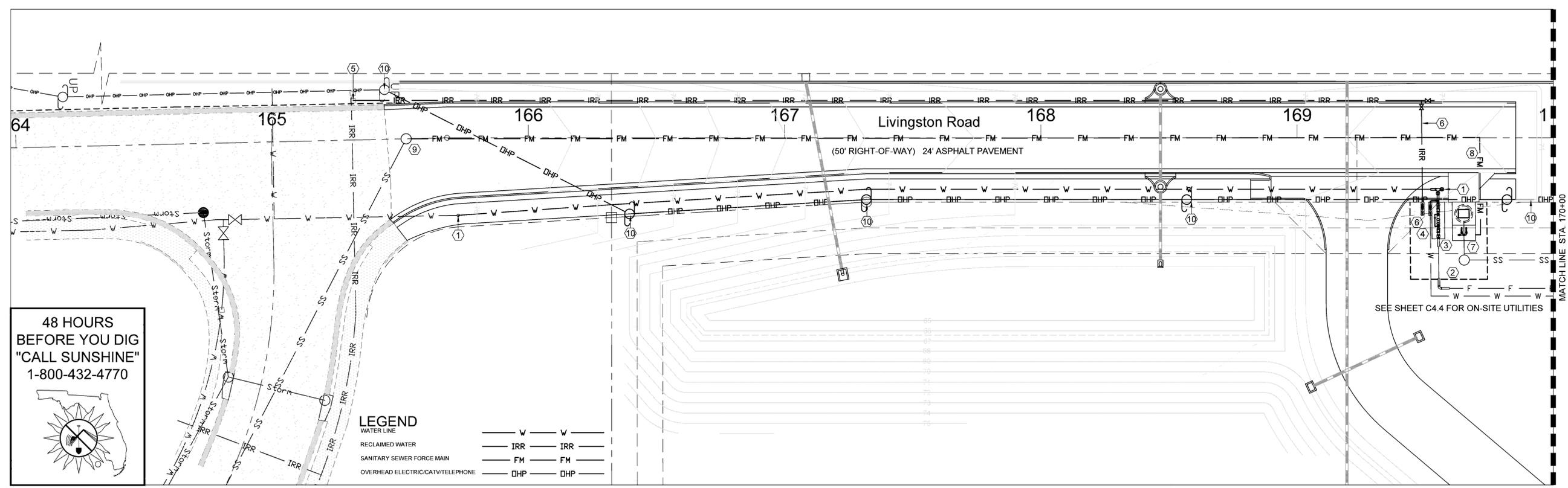


OFF-SITE UTILITIES

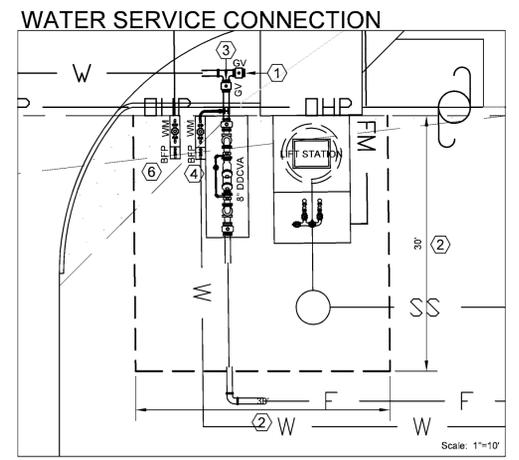
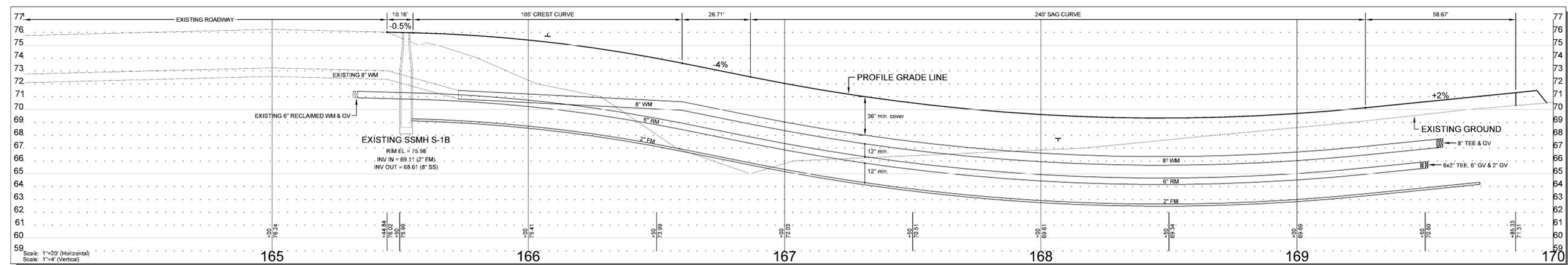
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CHECKED BY: RPD  
JOB NO.

2015-13

SHEET NO.  
C4.0



**Utility Plan - Profile**  
Scale: 1"=20'



- UTILITY KEY NOTES**
- 1 WATER (FGUA): REMOVE 2" WM BLOWOFF ASSEMBLY AND CONNECT TO EXISTING 8" WATER MAIN; INSTALL 362 LF OF 8" PVC (C900 DR14) WATER MAIN, 8"x8" TEE, 8" GATE VALVE; RELOCATE EXISTING 2" WM BLOWOFF ASSEMBLY.
  - 2 NEW 30' x 30' UTILITY EASEMENT (WATER AND SEWER)
  - 3 FIRE SERVICE CONNECTION: CONNECT TO NEW 8" TEE WITH 8" GATE VALVE AND CHLORINATION SAMPLE POINT. COORDINATE WITH UTILITIES. INSTALL 4 LF OF 8" 8" PVC (C900 DR14) FIRE LINE (FIELD VERIFY LENGTH); 8" DOUBLE-DETECTOR CHECK VALVE ASSEMBLY AND CONCRETE SLAB (PER PASCO COUNTY DETAIL 10).
  - 4 POTABLE WATER SERVICE: CONNECT TO 8" FIRE LINE WITH 8"x2" TAPPING SLEEVE, 2" GATE VALVE, 3 LF OF 2" HDPE WATER LINE (FIELD VERIFY LENGTH); 2" METER AND 2" REDUCED PRESSURE BACKFLOW PREVENTER (PER PASCO COUNTY DETAIL 12).
  - 5 REMOVE 2" RECLAIMED WATER MAIN BLOWOFF ASSEMBLY AND CONNECT TO EXISTING 6" RECLAIMED WATER MAIN; INSTALL 416 LF OF 6" PVC RECLAIMED WATER MAIN; 6"x2" TEE, 6" GATE VALVE; RELOCATE EXISTING 2" WM BLOWOFF ASSEMBLY.
  - 6 RECLAIMED WATER SERVICE CONNECTION: CONNECT TO NEW 8"x2" TEE WITH 2" GATE VALVE; INSTALL 40 LF OF 2" PVC RECLAIMED WATER LINE (FIELD VERIFY LENGTH); 2"x1" REDUCER, 1" METER AND 1" REDUCED PRESSURE BACKFLOW PREVENTER (PER PASCO COUNTY DETAIL 12).

- UTILITY KEY NOTES**
- 7 SANITARY (FGUA): NEW SANITARY LIFT STATION
  - 8 SANITARY FORCE MAIN: INSTALL 643 LF OF
  - 9 EXISTING MAN-HOLE (S-1B); RIM EL. = 75.98 (FIELD ADJUST); IE = 69.11 (2" FM); IE = 68.61 (6" SS) (FIELD VERIFY).
  - 10 ELECTRIC/CABLE/PHONE: UTILITY SERVICE PROVIDER SHALL CONNECT TO EXISTING OVERHEAD SERVICE UTILITY POLE NEAR STATION 165+43.88 LT AND EXTEND OVERHEAD UTILITY LINES ALONG ROW AS REQUIRED TO SERVE PROPOSED BUILDING.
- WATER AND SEWER BY FGUA  
FIRE PROTECTION BY PASCO COUNTY M.S.T.U.  
ELECTRIC BY PROGRESS ENERGY

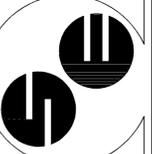
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 P.E. NO. 36933  
 DATE \_\_\_\_\_  
 AND EMBROIDER

CONTRACT DATE:  
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 FL COA NO. 0000158 & LICENSE NO. AM-0001747



UTILITY DETAILS

DESIGNED BY: ATP  
DRAWN BY: ATP  
CHECKED BY: RPD  
JOB NO.

2015-13  
SHEET NO.  
**C4.1**

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**MATERIALS**

ITEM	QUANTITY	DESCRIPTION
1	1	3/4" DIA. CURB STOP
2	1	3/4" DIA. CURB STOP BALL
3	1	3/4" DIA. CURB STOP W/ LOCK WINGS (TOP & BOTTOM)
4	1	3/4" DIA. CURB STOP W/ LOCK WINGS (TOP & BOTTOM)
5	1	3/4" DIA. CURB STOP W/ LOCK WINGS (TOP & BOTTOM)
6	1	3/4" DIA. CURB STOP W/ LOCK WINGS (TOP & BOTTOM)
7	1	3/4" DIA. CURB STOP W/ LOCK WINGS (TOP & BOTTOM)
8	1	3/4" DIA. CURB STOP W/ LOCK WINGS (TOP & BOTTOM)
9	1	3/4" DIA. CURB STOP W/ LOCK WINGS (TOP & BOTTOM)

**NOTES:**

- ALL FITTINGS FOR POLY-ETHYLENE TUBING ARE BRASS COMPRESSION TYPE.
- A VALVE BOX MAY BE PROVIDED AS SPECIFIED BY THE ENGINEER.
- CURB STOP TO TERMINATE 24" ABOVE GROUND AT R/W LINE.
- REUSE CURB STOPS = 1" / WATER CURB STOPS = 3/4"
- TUBING TO BE PARALLEL TO OR EQUAL.
- SADDLES 2" - 3" TO BE BRASS BALL GATE TYPE.
- SADDLES 4" AND LARGER TO BE C.I. STRAP TYPE.
- CURB STOPS TO BE TIED TO MARKER STAKE.
- SADDLE MAY BE INSTALLED AT ANGLE (WITHIN 45° OF HORIZONTAL).
- MARKER STAKES PAINTED SAFETY BLUE FOR WATER, PURPLE FOR REUSE.

CREATED: 02/24/13  
REVISED: \_\_\_\_\_  
PASCO COUNTY UTILITIES  
DETAIL 17

**MATERIALS**

ITEM	QUANTITY	DESCRIPTION
1	1	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
2	1	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
3	1	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
4	1	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
5	1	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
6	1	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
7	1	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
8	1	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
9	1	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY

**NOTES:**

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

CREATED: 02/24/13  
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PASCO COUNTY UTILITIES  
DETAIL 12

**MATERIALS**

ITEM	QUANTITY	DESCRIPTION
1	1	3" DIA. DOUBLE DETECTOR CHECK VALVE/BFP ASSEMBLY
2	1	3" DIA. DOUBLE DETECTOR CHECK VALVE/BFP ASSEMBLY
3	1	3" DIA. DOUBLE DETECTOR CHECK VALVE/BFP ASSEMBLY
4	1	3" DIA. DOUBLE DETECTOR CHECK VALVE/BFP ASSEMBLY
5	1	3" DIA. DOUBLE DETECTOR CHECK VALVE/BFP ASSEMBLY
6	1	3" DIA. DOUBLE DETECTOR CHECK VALVE/BFP ASSEMBLY
7	1	3" DIA. DOUBLE DETECTOR CHECK VALVE/BFP ASSEMBLY
8	1	3" DIA. DOUBLE DETECTOR CHECK VALVE/BFP ASSEMBLY
9	1	3" DIA. DOUBLE DETECTOR CHECK VALVE/BFP ASSEMBLY

**NOTES:**

- NO TEES OR EYE BOLT RETAINERS PERMITTED ABOVE GROUND.
- BFP ASSEMBLY TO BE INSTALLED LEVEL & PLUMB.
- MINIMUM CLEARANCE OF 36" TO BE MAINTAINED AROUND ENTIRE DEVICE FOR TESTING.
- ENTIRE ASSEMBLY TO BE PAINTED SAFETY BLUE.
- DETECTOR BY-PASS ASSEMBLY TO BE FACTORY INSTALLED AND CERTIFIED.
- ALL MECHANICAL JOINTS SHALL BE RESTRAINED WITH NUTS/LOCKS OR APPROVED EQUAL.
- BELL JOINT RESTRAINERS SHALL BE PROVIDED ON ALL UNDERGROUND PIPING AS SPECIFIED IN JOINT RESTRAINT TABLE DETAIL.
- ALL ABOVE GROUND PIPING SHALL BE FLANGED DUCTILE IRON PIPE (NO GALVANIZED OR PVC).
- ITEM 3 SHALL BE FIELD CUT TO PROPER LENGTH TO ACHIEVE DESIGNATED GROUND CLEARANCE.
- IF SO SPECIFIED, ENTIRE ASSEMBLY TO BE ENCLOSED IN 6" CHAIN LINK FENCE.
- BFP DEVICE MUST BE LISTED WITH THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH.

CREATED: 02/24/13  
REVISED: \_\_\_\_\_  
PASCO COUNTY UTILITIES  
DETAIL 10

**MATERIALS**

ITEM	DESCRIPTION
1	CHAIN LINK
2	4" DIA. POST AS SPECIFIED BY COUNTY
3	9 GAUGE
4	2-1/2" DIA. - 0.035 WALL THICKNESS (MINIMUM)
5	1-5/8" DIA. - 0.035 WALL THICKNESS (MINIMUM)
6	4" x 4" SQUARE PIPE 30" DIA. - 0.035 WALL THICKNESS (MINIMUM)
7	FRAMING (LOCATED AS INDICATED ON METER SPEC SHEET)
8	POST - TYPE - PAOLOCO - COMPATIBLE

CREATED: 02/24/13  
REVISED: \_\_\_\_\_  
PASCO COUNTY UTILITIES  
DETAIL 04

**TYPICAL CONCRETE VALVE PAD**

VALVE TYPE: G.V. CLOW  
SIZE: 8"  
TURNS TO OPEN: 27 TURNS (L TO OPEN)  
OPENING DIRECTION: [Diagram showing opening direction]

CREATED: 02/24/13  
REVISED: \_\_\_\_\_  
PASCO COUNTY UTILITIES  
DETAIL 30

**VALVE EXTENSION RODS**

NOTE: ALL VALVE BOXES SHALL INCLUDE CONCRETE PAD W/ 1/4" TAG

CREATED: 02/24/13  
REVISED: \_\_\_\_\_  
PASCO COUNTY UTILITIES  
DETAIL 29

**PERMANENT BLOW-OFF DETAIL**

CREATED: 02/24/13  
REVISED: \_\_\_\_\_  
PASCO COUNTY UTILITIES  
DETAIL 28

**WATER AND REUSE LATERAL SERVICE**

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

**MATERIALS**

ITEM	QUANTITY	DESCRIPTION
1	1	BOX, VALVE CAST IRON SLIP TYPE
2	1	1/2" DIA. CURB STOP BALL VALVE W/ LOCK WINGS (TOP & BOTTOM)
3	1	1/2" DIA. CURB STOP BALL VALVE W/ LOCK WINGS (TOP & BOTTOM)
4	1	1/2" DIA. CURB STOP BALL VALVE W/ LOCK WINGS (TOP & BOTTOM)
5	1	1/2" DIA. CURB STOP BALL VALVE W/ LOCK WINGS (TOP & BOTTOM)
6	1	1/2" DIA. CURB STOP BALL VALVE W/ LOCK WINGS (TOP & BOTTOM)
7	1	1/2" DIA. CURB STOP BALL VALVE W/ LOCK WINGS (TOP & BOTTOM)
8	1	1/2" DIA. CURB STOP BALL VALVE W/ LOCK WINGS (TOP & BOTTOM)
9	1	1/2" DIA. CURB STOP BALL VALVE W/ LOCK WINGS (TOP & BOTTOM)
10	1	1/2" DIA. CURB STOP BALL VALVE W/ LOCK WINGS (TOP & BOTTOM)
11	1	1/2" DIA. CURB STOP BALL VALVE W/ LOCK WINGS (TOP & BOTTOM)
12	1	1/2" DIA. CURB STOP BALL VALVE W/ LOCK WINGS (TOP & BOTTOM)
13	1	1/2" DIA. CURB STOP BALL VALVE W/ LOCK WINGS (TOP & BOTTOM)

**NOTES:**

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

CREATED: 02/24/13  
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PASCO COUNTY UTILITIES  
DETAIL 21

REV	DATE	DESCRIPTION
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TERRA BELLA  
Senior Housing Community  
Land O Lakes, Florida

CONTRACT DATE:  
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### PIPE LAYING CONDITIONS STANDARD EXISTING PAVED AREAS & ROADWAYS

NOTES:  
- SELECT MATERIAL TO MATCH EXISTING PAVED SURFACE AND BASE TO BE CUT SQUARE WITH CONCRETE SAW.  
- TRENCH FREE OF ROCKS AND FOREIGN MATERIAL.  
- COMPACT TO TOP OF FILL TO BE APPROXIMATELY 90% STANDARD PROCTOR, 2.5 TO 1.5 IN.  
- EXISTING CONCRETE/ASPHALT PAVED SURFACE AND BASE TO BE CUT SQUARE WITH CONCRETE SAW.

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REVISED		

### PIPE LAYING CONDITIONS STANDARD UNPAVED AREAS

NOTES:  
- LOOSE SOIL OR SELECT MATERIAL TO MATCH EXISTING SOIL EXCAVATED FROM THE TRENCH FREE OF ROCKS AND FOREIGN MATERIAL.  
- COMMON FILL TO BE PLACED AND COMPACTED IN 12" LAYERS. ROLLING EQUIPMENT SHALL NOT BE USED FOR COMPACTION UNTIL A MINIMUM OF 4" OF COMMON FILL HAS BEEN PLACED AND COMPACTED OVER THE PIPE. THREE FEET OF 3/4" SHALL BE PLACED BEFORE A HYDROHAMMER MAY BE USED FOR COMPACTION.

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### PIPE RESTRAINT LENGTHS IN FEET TEES (BRANCH SIDE)

RUN SIZE	WATER MAINS - TEST PRESSURE 150 PSI									
	BRANCH SIZE									
3"	6"	14'	30'	—	—	—	—	—	—	—
4"	2'	11'	28'	44'	—	—	—	—	—	—
6"	1'	2'	22'	40'	52'	—	—	—	—	—
8"	1'	1'	16'	35'	48'	62'	—	—	—	—
10"	1'	1'	10'	30'	44'	58'	83'	—	—	—
12"	1'	1'	3'	25'	40'	55'	80'	103'	—	—
16"	1'	1'	1'	14'	31'	48'	75'	98'	119'	—
20"	1'	1'	1'	2'	22'	40'	69'	94'	116'	—
24"	1'	1'	1'	1'	11'	31'	63'	89'	111'	—

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

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### PIPE RESTRAINT LENGTHS IN FEET COMMON FITTINGS

PIPE SIZE	WATER MAINS - TEST PRESSURE 150 PSI				
	FITTING TYPE				
	11-1/4"	22-1/2"	45°	90°	DEAD END
4"	2'	4'	8'	20'	45'
6"	3'	6'	12'	28'	63'
8"	4'	7'	15'	36'	82'
10"	4'	9'	18'	43'	98'
12"	5'	10'	21'	50'	116'
16"	6'	13'	26'	63'	148'
20"	7'	15'	31'	76'	179'
24"	9'	17'	36'	87'	208'

PIPE SIZE	FORCE MAINS - TEST PRESSURE 100 PSI				
	FITTING TYPE				
	11-1/4"	22-1/2"	45°	90°	DEAD END
4"	1'	3'	6'	13'	30'
6"	2'	4'	8'	19'	42'
8"	2'	5'	10'	24'	55'
10"	3'	6'	12'	29'	66'
12"	3'	7'	14'	34'	77'
16"	4'	8'	18'	42'	99'
20"	5'	10'	21'	50'	119'
24"	6'	11'	24'	58'	139'

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

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### PUMP STATION (DUPEX) SITE PLAN & ACCESS

EXISTING STATE/COUNTY ROAD RW  
EXISTING STATE/COUNTY ROAD

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### STANDARD MANHOLE (BENCH AND INVERTS)

NOTE: PRECAST CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4,000 p.s.i. AT 28 DAYS.

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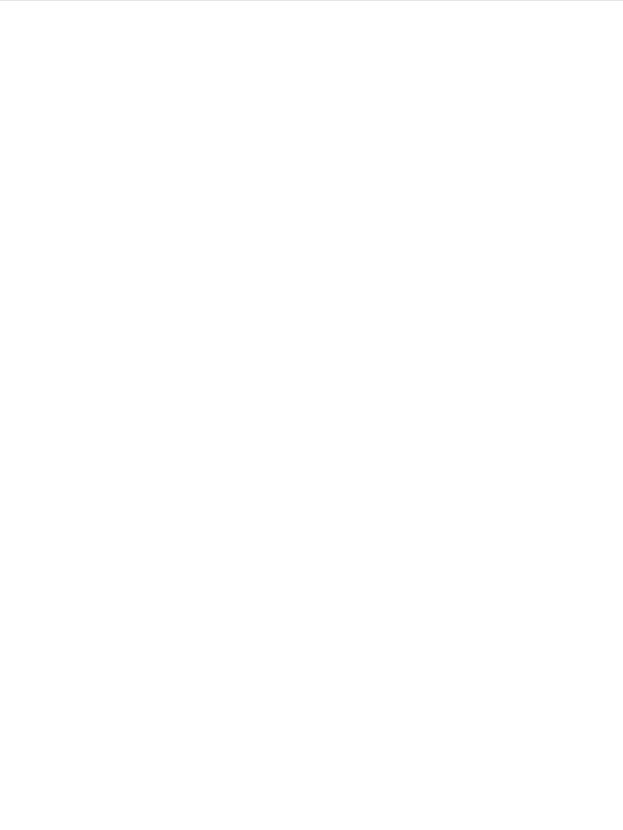
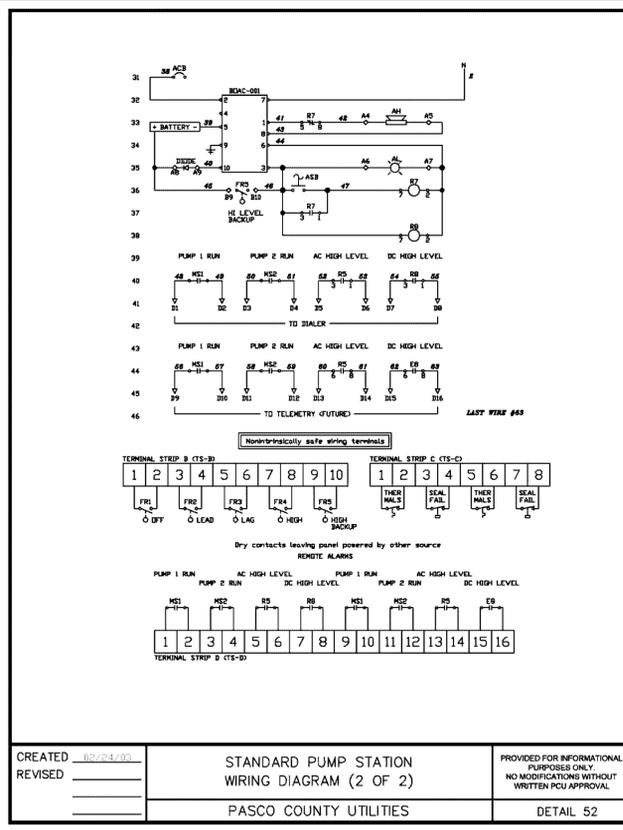
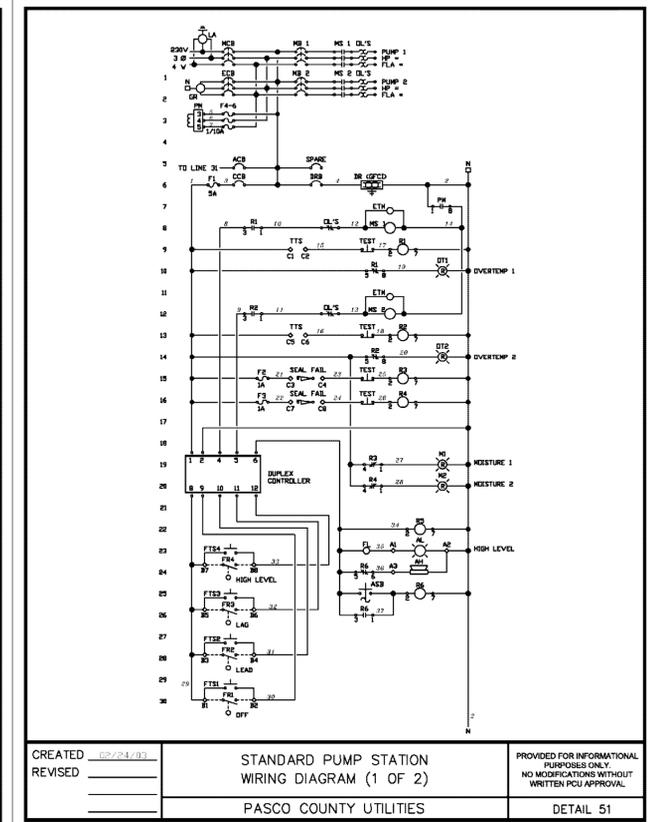
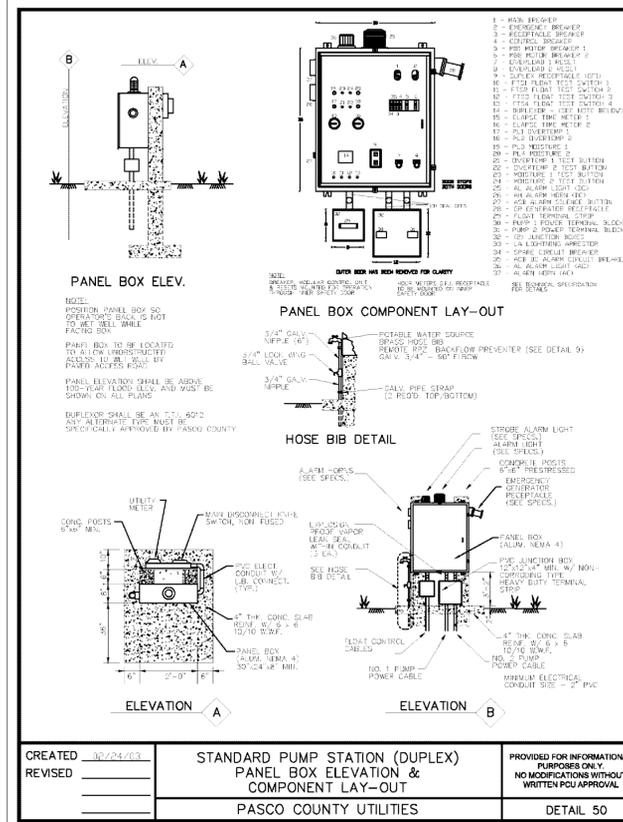
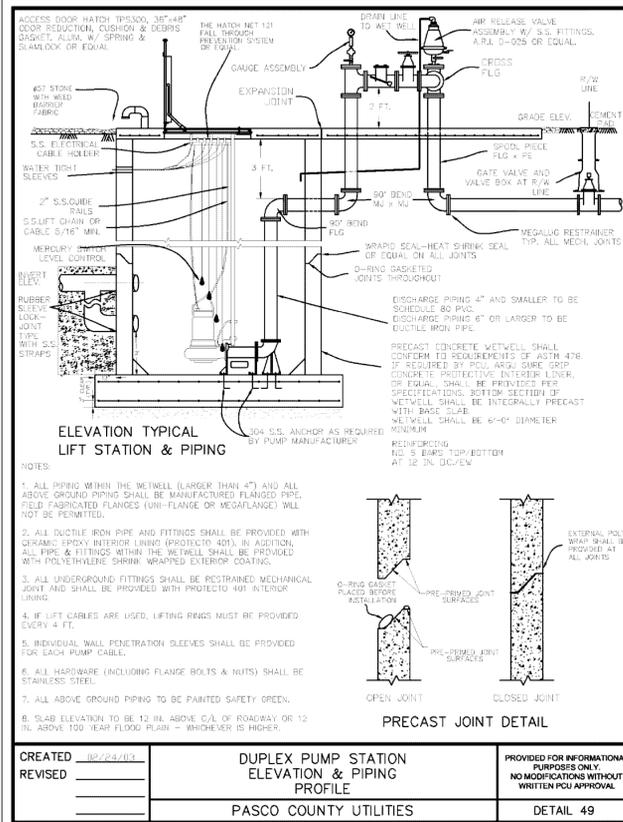
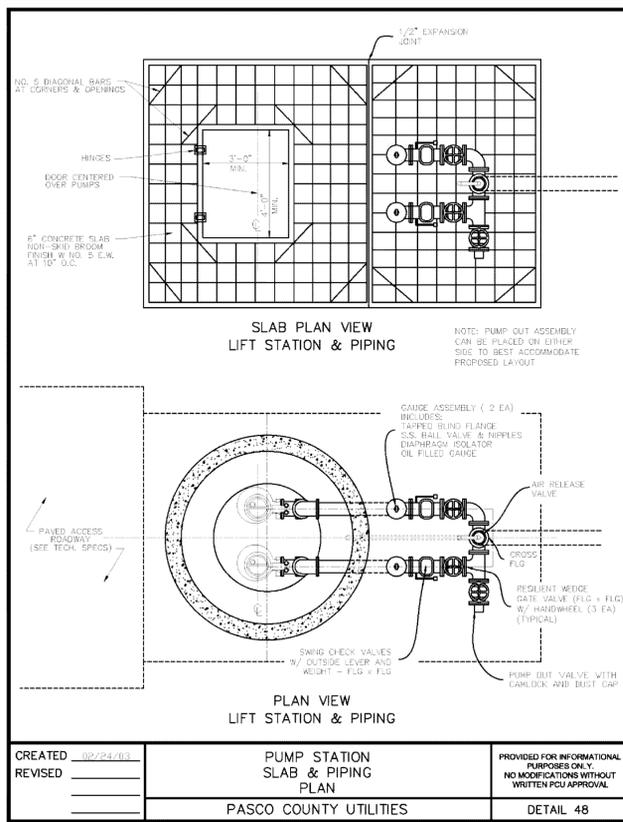
### WATER, REUSE, AND FORCE MAIN TAPPING DETAIL W/ VALVE LOCATION

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

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### STANDARD MANHOLE (BENCH AND INVERTS)

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REVISED		



**TERRA BELLA  
Senior Housing Community**  
Land O Lakes, Florida

CONTRACT DATE:  
September 2015

DESIGNED BY: ATP  
DRAWN BY: ATP  
CHECKED BY: RPD  
JOB NO. 2015-13  
SHEET NO. C4.3

**SPRING ENGINEERING, INC.**  
ENGINEERING • LAND PLANNING • ARCHITECTURE  
3014 U.S. HWY 19, HOLIDAY, FL 32701 938-1516  
FL COA. NO. 00005158 & LICENSE NO. AM-0001747

UTILITY DETAILS

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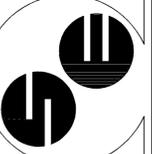
REV	DATE	DESCRIPTION
0	2.1.16	Issue for Submittal

ROLAND P. DOVE, P.E.  
P.E. NO. 36933  
DATE: \_\_\_\_\_  
AND CROSS

**TERRA BELLA**  
**Senior Housing Community**  
Land O Lakes, Florida

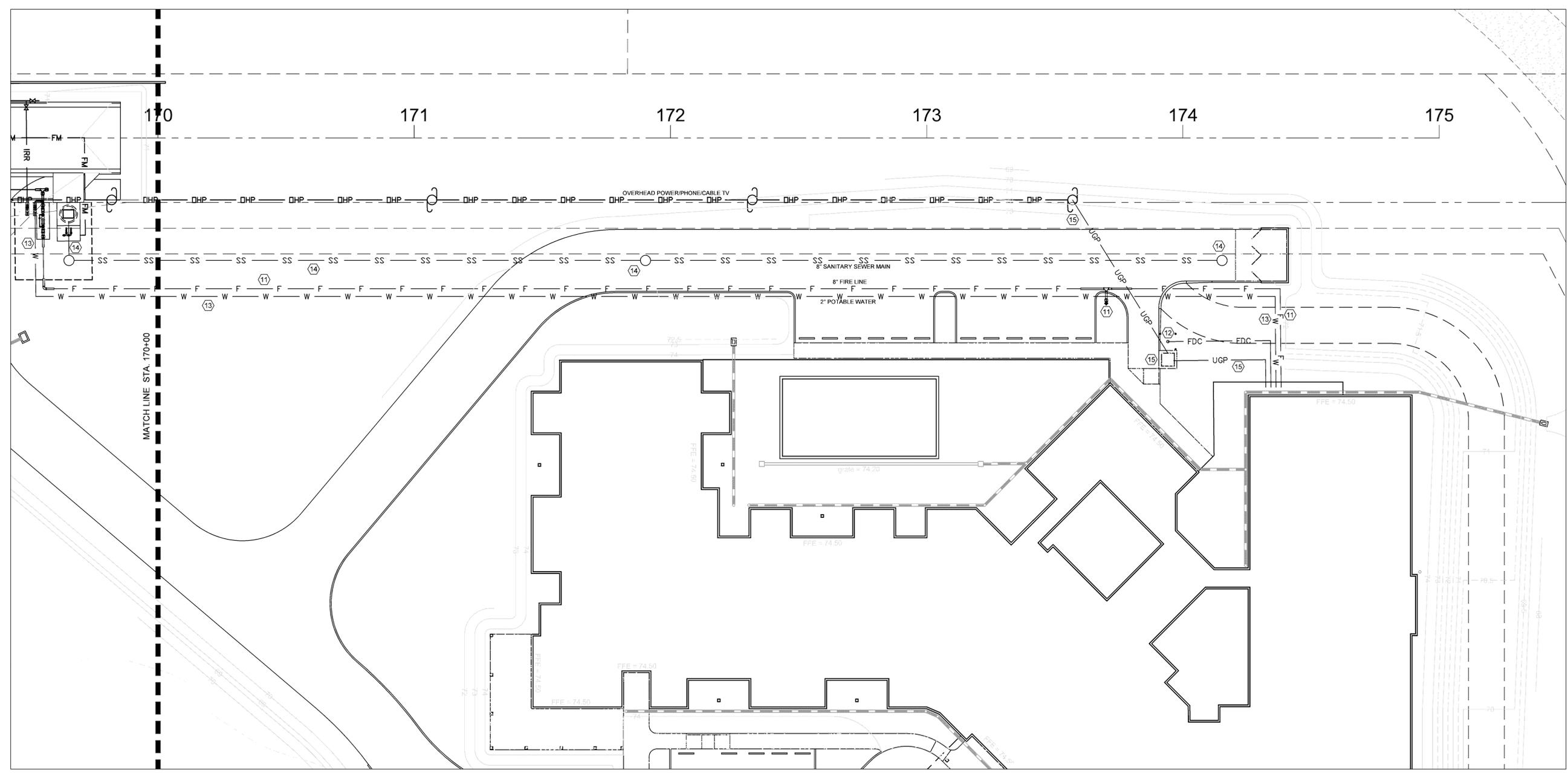
CONTRACT DATE:  
September 2015

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3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
FL COA NO. 00005158 & LICENSE NO. AM-0001747



**ON-SITE UTILITIES**  
DESIGNED BY: ATP  
DRAWN BY: ATP  
CHECKED BY: RPD  
JOB NO. 2015-13

SHEET NO.  
**C4.4**

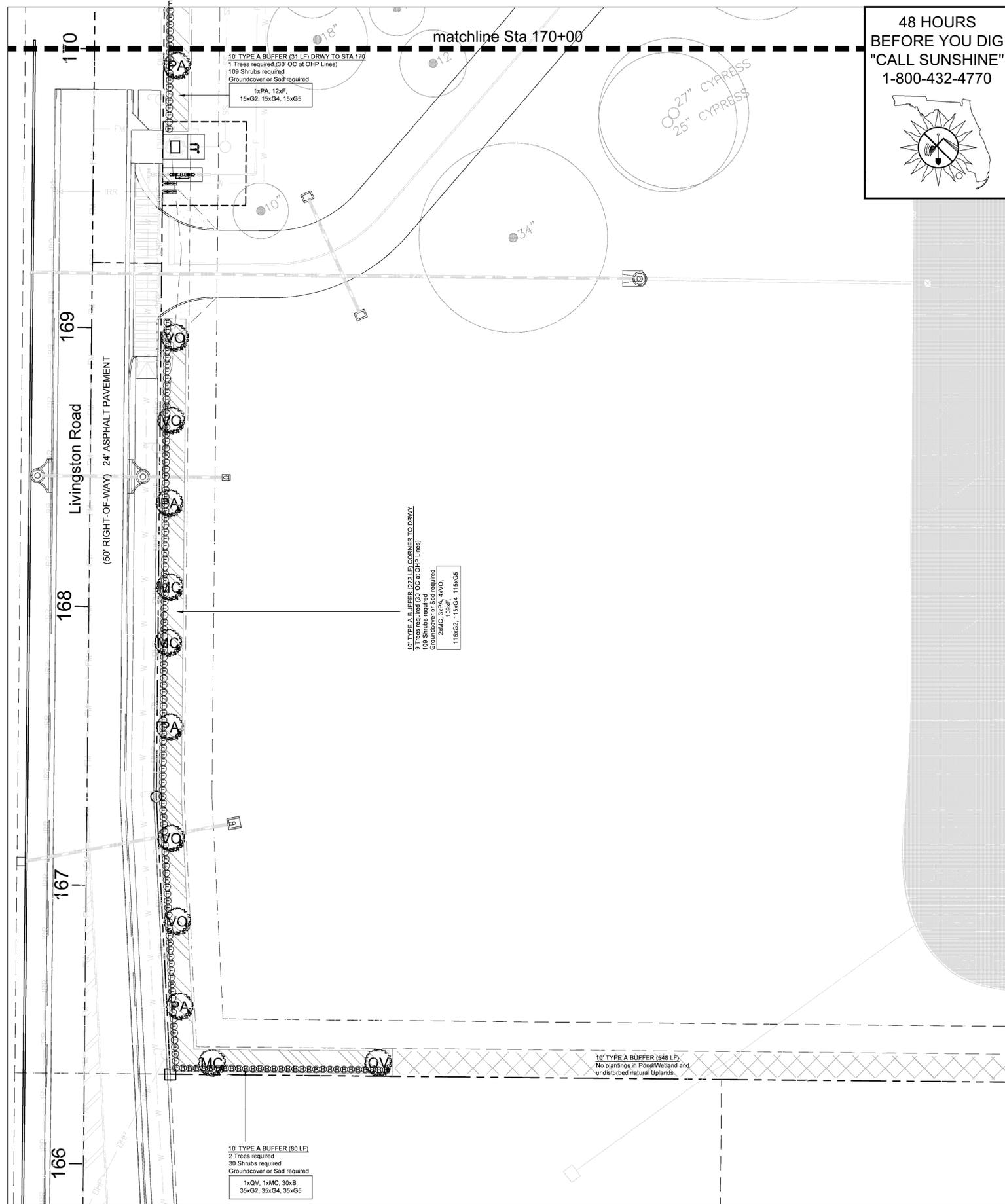


**Utility Plan - Profile**  
Scale: 1"=20'

- UTILITY KEY NOTES**
- 11 **WATER (FGUA):**  
FIRE SERVICE CONNECTION: INSTALL 433 LF OF 8" PVC (C900 DR14) FIRE LINE: 8" BEND, 8" TEE, 8" CV AND FRA. INSTALL 6" REDUCER AND 130 LF OF 6" PVC (C900 DR14) FIRE LINE TO NEW BUILDING FIRE SPRINKLER RISER. COORDINATE WITH FIRE SPRINKLER ENGINEER.
  - 12 **FDC:** INSTALL 50 LF OF 6" PVC (C900 DR14) FIRE LINE TO NEW POLE MOUNTED FDC (4" STORZ) AS INDICATED AND PER FIRE MARSHAL. CONNECT LINE ABOVE FIRE SPRINKLER CHECK VALVE. COORDINATE WITH FIRE SPRINKLER ENGINEER.
  - 13 **POTABLE WATER SERVICE:** INSTALL 550 LF OF 2" PVC (SCH 40) WATER LINE TO NEW BUILDING.
  - 14 **SANITARY (FGUA):**  
NEW SANITARY MAIN: CONNECT TO NEW SANITARY LIFT STATION WITH 460 LF OF 8" PVC (SDR 35) SANITARY MAIN AT 0.4% MINIMUM SLOPE. INSTALL (3) MANHOLES PER PASCO COUNTY STANDARD DETAILS.
  - 15 **ELECTRIC:**  
NEW ELECTRIC SERVICE: TIE IN TO NEW 3 PHASE POWER POLE (VERIFY EXACT LOCATION). CONTRACTOR TO INSTALL 640 LF (2 x 320 LF) OF 4" ELECTRIC CONDUIT (SCH 40, GREY) FROM UTILITY POLE TO NEW TRANSFORMER. PROPOSED TRANSFORMER ON 6x6x4" CONCRETE SLAB.

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48 HOURS BEFORE YOU DIG "CALL SUNSHINE" 1-800-432-4770

**Enlarged Landscape Plan**  
 Scale: 1"=20'

All bidders must visit the site to verify conditions before submitting bids.

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REV	DATE	DESCRIPTION	Prep Co Initial	Submitter
0	2.1.16			

WITHOUT SIGNATURE AND CROSS  
 ROLAND P. DOWE, P.E.  
 P.E. NO. 36933  
 DATE

**TERRA BELLA**  
 Senior Housing Community  
 Land O Lakes, Florida

CONTRACT DATE:  
 September 2015

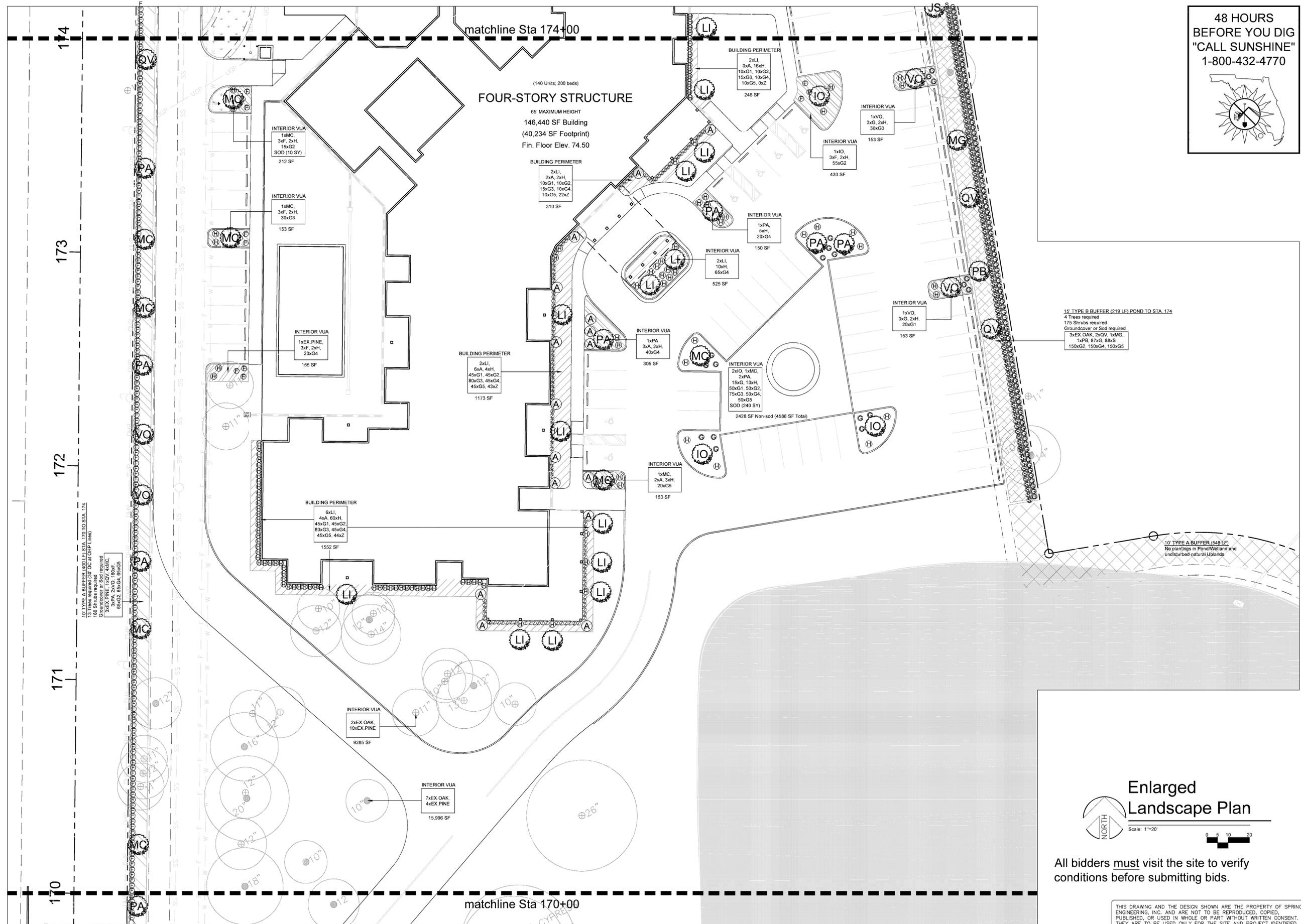
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 3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
 FL COA NO. 00005158 & LICENSE NO. AM-0001747



ENLARGED LANDSCAPE PLAN

DESIGNED BY: ATP  
 DRAWN BY: ATP  
 CHECKED BY: RPD  
 JOB NO. 2015-13

SHEET NO.  
**C5.1**



48 HOURS  
BEFORE YOU DIG  
"CALL SUNSHINE"  
1-800-432-4770

100%  
CONSTRUCTION DRAWINGS  
ISSUE DATE: 2.1.16

REV	DATE	DESCRIPTION
0	2.1.16	Issue Co Initial Submission

WITHOUT SIGNATURE  
DATE  
AND CROSS  
ROLAND P. DOVE, P.E.  
P.E. NO. 36933

TERRA BELLA  
Senior Housing Community  
Land O Lakes, Florida

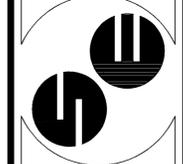
CONTRACT DATE:  
September 2015

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3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
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Enlarged  
Landscape Plan  
Scale: 1"=20'

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ENLARGED  
LANDSCAPE  
PLAN  
DESIGNED BY: ATP  
DRAWN BY: ATP  
CHECKED BY: RPD  
JOB NO. 2015-13  
SHEET NO.

C5.2



## OVERALL GENERAL NOTES

A. THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING HIS WORK PRIOR TO BIDDING AND DETERMINE THE EXACT LOCATION OF THE UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY SUNSHINE @ (800)432-4770 AND THE UTILITY COMPANIES IN THE AREA AT LEAST 48 HOURS BEFORE COMMENCING WORK. REPAIR AND REPLACEMENT OF ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTED BEFORE COMMENCING CONSTRUCTION UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. COST TO BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION TO BE ALLOWED. THE INFORMATION CONTAINED ON THIS EXISTING CONDITIONS PLAN WAS PROVIDED BY THE SURVEYOR - SPRING ENGINEERING, INC. ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY OR COMPLETENESS.

B. ALL WORK SHALL BE LEFT IN SUCH A MANNER THAT IT IS SAFE TO THE PUBLIC. THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES. SIGNS AND BARRICADES TO BE ACCORDING TO F.D.O.T. MANUAL OF SAFE PRACTICES, REFERENCE F.D.O.T. INDEXES 500 THROUGH 550 AND 7700 PER ROADWAY AND TRAFFIC DESIGN STANDARDS LATEST EDITION OF D.C. INDEXES 100 THROUGH 116. THERE WILL BE NO ON-SITE BURNING.

C. THE CONTRACTOR SHALL REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL CONTROL AND SCOPE OF WORK. THE CONTRACTOR SHALL PROVIDE SPRING ENGINEERING, INC. WITH AS-BUILT DRAWINGS AND SURVEYS UPON COMPLETION OF ALL WORK.

D. THE CONTRACTOR IS REQUIRED TO HAVE A LICENSED PROFESSIONAL SURVEYOR DO ALL BUILDING LAYOUT, CURB & ROADWAY, AND GRADE STAKING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO STARTING ANY WORK. THE CONTRACTOR SHALL CONTACT THE ENGINEER'S OFFICE IMMEDIATELY ON ANY CONFLICTS ARISING DURING CONSTRUCTION OF ANY IMPROVEMENTS SHOWN ON THESE DRAWINGS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONSULT WITH THE ENGINEER FOR MAKING ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS. HOWEVER, THIS IN NO WAY RELIEVES THE CONTRACTOR OF HIS RESPONSIBILITY FOR CONSTRUCTING THE PROJECT TO ACCOMPLISH THE INTENT OF THE PLANS. ALL ELEVATIONS REFER TO NORTH AMERICAN VERTICAL DATUM OF 1988.

E. PERMITS: NO CONSTRUCTION SHALL COMMENCE UNTIL ALL APPLICABLE PERMITS HAVE BEEN APPROVED. A RIGHT-OF-WAY USE PERMIT IS REQUIRED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY WITHIN THE RIGHT-OF-WAY, AND NO IRRIGATION SYSTEM OR LANDSCAPING SHALL BE INSTALLED IN ANY PUBLIC RIGHT-OF-WAY WITHOUT ISSUANCE OF APPROPRIATE PERMIT. ALL PROPOSED SIGNS MUST BE APPLIED FOR, APPROVED AND PERMITTED ON AN INDIVIDUAL BASIS APART FROM ANY ULTIMATELY APPROVED SITE PLAN. APPROVAL OF THIS SITE PLAN DOES NOT CONSTITUTE APPROVAL OF ANY SIGN.

## SITE GENERAL NOTES

S1. STRIPING: HANDICAPPED PARKING SPACES WILL BE PROPERLY SIGNED AND STRIPED IN ACCORDANCE WITH FLORIDA STATUTE 316, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, OR OTHER APPLICABLE STANDARDS. ALL ON-SITE PARKING SPACES SHALL BE STRIPED AND SIGNED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. PARKING SPACES, DIRECTIONAL ARROWS, AND STOP BARS SHALL BE STRIPED IN WHITE. IT SHALL BE THE OWNER/DEVELOPER'S RESPONSIBILITY TO PROPERLY SIGN AND STRIPE THE SITE IN ACCORDANCE WITH APPLICABLE STANDARDS.

S2. CONCRETE: CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. PORTLAND CEMENT SHALL CONFORM TO ASTM C150. AGGREGATE SHALL CONFORM TO ASTM C33. WIRE FABRIC SHALL CONFORM TO ASTM A185. READY MIXED CONCRETE SHALL CONFORM TO ASTM C-94. SIX INCHES, 10 GAUGE WIRE FABRIC SHALL BE USED IN SLABS THICKER THAN FOUR INCHES. STANDARD THICKNESS SHALL BE FOUR INCHES, EXCEPT AT DRIVEWAYS WHERE THE THICKNESS SHALL BE SIX INCHES. SURFACES SHALL BE FREE FROM TROWEL OR MACHINE MARKS. SURFACE VARIATIONS SHALL NOT EXCEED 1/4 INCH UNDER A 10 FOOT STRAIGHTEDGE. EDGE OF SLABS SHALL HAVE A SMOOTH FINISH. SIDEWALKS SHALL HAVE A BROOM FINISH.

## P, G & D GENERAL NOTES

P1. PAVING: ALL PAVING SURFACES IN INTERSECTIONS AND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY IN THE DIRECTION SHOWN BY THE FLOW ARROWS ON THE PLANS AND TO PROVIDE A SMOOTH TRANSITION WITH NO BREAKS IN GRADE AND NO STEEP OR REVERSE CROSS SLOPES. AT APPROACHES TO AND INTERSECTIONS WITH EXISTING GRADES, IT MAY BE NECESSARY AND ADVISABLE TO MAKE MINOR LOCAL FIELD ADJUSTMENTS TO ACCOMPLISH THE PURPOSES OUTLINED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE POSITIVE DRAINAGE AND SEE THAT WE MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS. ASPHALTIC CONCRETE SHALL CONFORM TO THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION. FOR MATERIALS AND METHOD OF CONSTRUCTION. ALL ROADWAY BASES SHALL BE PRIMED AND, IF REQUIRED, A TACK COAT SHALL BE APPLIED. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION. TEST REPORTS FOR SUBGRADE, BASE, ASPHALT AND BASE CORE AND CONCRETE SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL. SEE SPECIFICATIONS FOR SPECIFIC TESTING REQUIREMENTS.

P2. GRADING AND BACKFILL: THE GRADING SHOWN ON THESE PLANS IS INTENDED TO EXPRESS THE GENERAL GRADING INTENT OF THE PROJECT. THE CONTRACTOR IS EXPECTED TO GRADE THE ENTIRE SITE TO PROVIDE POSITIVE DRAINAGE IN ALL AREAS THROUGHOUT THE SITE. SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CONTOURS OR SPOT ELEVATIONS AS SHOWN ON THE PLANS TO ACCOMPLISH THE GRADING INTENT. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED. CONTRACTOR TO GRADE PROPERTY SO THAT GRADING MEETS ADJACENT PROPERTY AND RIGHT-OF-WAY ELEVATIONS. CONTRACTOR SHALL NOTIFY THE OWNER AND SET PRIOR TO DEMOBILIZATION OF GRADING EQUIPMENT TO DETERMINE THAT THE GRADING INTENT HAS BEEN ACHIEVED. ALL FILL MATERIAL SHALL BE SOIL OR SOIL/ROCK MIXTURE WHICH IS FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCE. IT SHALL BE PREDOMINATELY GRANULAR WITH A MAXIMUM PARTICLE SIZE OF TWO INCHES AND A PLASTICITY INDEX OF 12 OR LESS. ALL BACKFILL WITHIN THE ROADWAY, OVER ANY PIPE THAT IS TO BE INSTALLED UNDER THE ROADWAY OR WITH EMBANKMENTS, ETC. IS TO BE COMPACTED TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO AND PER F.D.O.T. SPECIFICATIONS, SECTION 125.8.3, LATEST EDITION.

P3. DRAINAGE: ALL DRAINAGE STRUCTURES MUST BE CONSTRUCTED PER FLORIDA DEPARTMENT OF TRANSPORTATION ROAD DESIGN STANDARDS, MITERED END SECTION AS PER D.O.T. INDEX NO. 272 AND NO. 273. ALL PIPE LENGTHS ARE PLUS OR MINUS AND MEASUREMENTS ARE TO THE CENTER OF STRUCTURES. OWNER SHALL MAINTAIN RETENTION AREAS.

## UTILITY GENERAL NOTES

U1. UTILITIES: ALL UNDERGROUND UTILITIES MUST BE INSTALLED BEFORE BASE AND SURFACE COURSES ARE CONSTRUCTED. SITE CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL UTILITIES IN ACCORDANCE WITH LOCAL CODES, WHETHER INDICATED ON THE PLANS OR NOT. CHECK WITH THE LOCAL GOVERNMENT PRIOR TO BID SUBMISSION. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO MINIMIZE INTERRUPTIONS OF EXISTING UTILITY SERVICE DURING CONSTRUCTION AND CONNECTION OF PROPOSED SERVICE LINES. CONFLICTS BETWEEN WATER LINES AND STORM/SANITARY SEWER SYSTEMS ARE TO BE RESOLVED BY ADJUSTING WATER LINES AS NECESSARY. CONTRACTOR SHALL MAINTAIN A MINIMUM OF TEN FOOT (10') HORIZONTAL SEPARATION OR 18" VERTICAL SEPARATION WHERE UNDERGROUND SERVICES CONFLICT. PIPE MEASUREMENTS ARE TO CENTER OF STRUCTURES AND ALL LENGTHS ARE PLUS OR MINUS.

U2. WATERMAINS: ALL NEW WATERMAINS, PIPES, FITTINGS, VALVES, PACKING AND JOINTING MATERIALS SHALL CONFORM WITH ALL APPLICABLE AWWA STANDARDS AND THE STATE PLUMBING CODE AND SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS AND/OR THE MANUFACTURER'S RECOMMENDED PROCEDURES. ALL WATER MAIN PIPES AND FITTINGS SHALL CONTAIN NO MORE THAN EIGHT PERCENT LEAD. ALL STONES FOUND IN WATER MAIN TRENCHES SHALL BE REMOVED TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF THE PIPE. CONTINUOUS AND UNIFORM BEDDING TO BE PROVIDED AND BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND THE PIPE AND FITTINGS AND TWELVE INCHES (12") ABOVE THE TOP OF THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE. ALL NEW WATER MAINS SHALL BE PRESSURE AND LEAK TESTED PER AWWA STANDARD 9003 AND DISINFECTED PER AWWA STANDARD C651 AND RULE 62.555.345 F.A.C. ALL FOUR INCH (4") AND LARGER WATER MAINS TO BE C-900 P.V.C. AND ALL THREE INCH (3") AND SMALLER WATER MAINS TO BE SCHEDULE 40 P.V.C. WATER MAIN TO BE 3' (MIN.) BELOW PROPOSED GRADE.

U3. SANITARY SEWERS: ALL SANITARY SEWER MAINS TO BE PVC (SDR-35).

U4. WATER AND SEWER CONFLICTS

CASE 1: WATER MAIN AND SANITARY SEWER LINES PARALLEL  
 1. ALL WATER LINES THAT ARE PARALLEL TO SANITARY SEWER LINES SHALL BE SEPARATED BY A MINIMUM CLEARANCE OF 10 FEET.  
 2. ALL WATER LINES THAT ARE PARALLEL TO SANITARY SEWER LINES AND ARE SEPARATED BY A DISTANCE OF LESS THAN 10 FEET SHALL BE CONSTRUCTED ACCORDING TO EITHER OPTION A, B OR C BELOW.  
 OPTION A - CONSTRUCT WATER LINE A MINIMUM OF 18" ABOVE THE SEWER AND TO ONE SIDE. WATER LINES AND SEWER LINES SHALL BE MADE OF DUCTILE IRON PIPE AND ALL JOINTS SHALL BE STAGGERED.  
 OPTION B - CASE THE WATER MAINS IN STEEL CASING.  
 OPTION C - CASE THE WATER MAINS IN CONCRETE.

CASE 2: WATER MAINS AND SEWER LINES CROSSING  
 1. A MINIMUM COVER OF 3' SHALL BE USED ON ALL WATER MAINS.  
 2. A MINIMUM VERTICAL SEPARATION OF 18" SHALL BE REQUIRED BETWEEN CROSSING WATER MAINS AND SANITARY SEWER LINES.  
 3. WHEN A VERTICAL SEPARATION OF 18" IS NOT POSSIBLE, THE WATER MAIN SHALL EITHER BE CASED IN STEEL OR CASED IN CONCRETE OR CENTER A LENGTH OF PIPE TO PREVENT WATER MAIN JOINTS FROM BEING WITHIN 10 FEET OF THE SANITARY SEWER LINE.

## LANDSCAPE GENERAL NOTES

ALL PLANT MATERIALS USED SHALL CONFORM TO THE STANDARDS FOR FLORIDA NO. 1 OR BETTER AS GIVEN IN GRADES AND STANDARDS FOR NURSERY PLANTS, PART 1, 1963 AND PART II, STATE OF FLORIDA DEPT. OF AGRICULTURE, TALLAHASSEE. ALL PLANT MATERIAL WILL BE GUARANTEED FOR ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE BY ARCHITECT. PLANTS AND TREES LOCATED BY SCALING OFF PLANS. INSTALLER SHALL INSPECT SITE PRIOR TO BEGINNING PLANTING OPERATIONS AND NOTIFY ARCHITECT OF ANY DISCREPANCIES. INSTALLER SHALL IMMEDIATELY NOTIFY ARCHITECT IF ANY CONFLICTS OCCUR BETWEEN PROPOSED LOCATION OF TREES CALLED FOR ON THE PLANS AND ANY UNDERGROUND UTILITIES OR SUBSURFACE STRUCTURES. INSTALLER SHALL NOTIFY ARCHITECT OF ANY CONDITION THAT WOULD PREVENT THE HEALTHY GROWTH OF PLANT SPECIES CALLED FOR ON THESE PLANS PRIOR TO CONTRACT AWARD. ALL LANDSCAPE AREAS AND GRADED SWALES ARE TO BE SODDED WITH BAHIA UNLESS NOTED OTHERWISE. THE GROUND IS TO BE PROPERLY PREPARED AND FERTILIZED PRIOR TO LAYING SOD. THERE SHALL BE A CRISP LINE SEPARATING PLANT BEDS FROM ALL SOD AREAS. SOD TO BE STAKED AS NECESSARY TO PREVENT EROSION. CONTRACTOR TO SOD ALL DISTURBED AREAS DUE TO PROPOSED CONSTRUCTION.

- ALL PALMS AND TREES SHALL HAVE STRAIGHT TRUNKS WITH NO TWISTS, KNOTTING OR OTHER DEFECTIVE CHARACTERISTICS.
- SOD SHALL BE 95% WEED FREE BAHIA, INSTALLED WITH TIGHT JOINTS.
- ALL DIMENSIONS SHALL BE FIELD CHECKED BY THE LANDSCAPE CONTRACTOR PRIOR TO CONSTRUCTION WITH ANY DISCREPANCIES REPORTED TO THE ARCHITECT.
- ALL MATERIALS SHALL BE AS SPECIFIED ON THE PLANS. IF MATERIALS, LABOR OR INSTALLATION TECHNIQUES DO NOT ADHERE TO THE SPECIFICATIONS, THEY WILL BE REJECTED BY THE ARCHITECT WITH SPECIFIED MATERIALS AND INSTALLATION CARRIED OUT BY THE LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST.
- NO SUBSTITUTIONS OF MATERIALS OR CHANGES TO THE DRAWINGS OR SPECIFICATIONS SHALL BE MADE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ITEMS AS SHOWN OR DESCRIBED ON THIS PLAN AND SPECIFICATIONS.
- ALL PROPOSED LANDSCAPE AND SOD AREAS CONTAINING TURF OR WEEDS SHALL BE TREATED WITH "ROUND-UP" PER MANUFACTURER'S SPECIFICATIONS.
- LANDSCAPE CONTRACTOR SHALL PROVIDE ALL NECESSARY SITE PREPARATION REQUIRED TO READY THE SITE FOR PLANTING AS SPECIFIED. REPORT ANY HORTICULTURAL UNSUITABLE SOIL CONDITIONS TO ARCHITECT FOR REVIEW WITH OWNER AND GC.
- THE LANDSCAPE CONTRACTOR SHALL WARRANT AND GUARANTEE ALL MATERIALS AND LABOR FOR A PERIOD OF 1 YEAR FOR SHRUBS AND GROUNDCOVER, PALMS AND TREES. WARRANTY AND GUARANTEE PERIOD SHALL BEGIN UPON DATE OF COMPLETION.
- ALL REPAIRS AND/OR REPLACEMENTS SHALL BE MADE BY THE LANDSCAPE CONTRACTOR WITHIN 10 WORKING DAYS UPON NOTIFICATION OF ANY DEFICIENCIES BY THE OWNER OR THEIR REPRESENTATIVE.
- ALL QUESTIONS REGARDING THE LANDSCAPE PLANS AND SPECIFICATIONS SHALL BE DIRECTED TO THE ARCHITECT AT (727) 938-1516.

**PLANTING SOILS:**  
 ALL PLANTING PITS SHALL BE BACKFILLED WITH TOPSOIL MIX CONSISTING OF FIFTY (50) PERCENT SAND, FORTY (40) PERCENT MUCK AND TEN (10) PERCENT HUMUS OR PEAT. BY VOLUME, WELL MIXED WITH APPROPRIATE FERTILIZER MIXED. CONTRACTOR SHALL INSPECT AND TEST SOILS PRIOR TO INSTALLATION OF PLANT MATERIALS TO DETERMINE SOIL QUALITY IN REGARDS TO PH, DRAINAGE, NUTRIENTS AND TEXTURE. CONTRACTOR SHALL MODIFY EXISTING SOILS TO PROVIDE A GROWING MEDIA SUITABLE FOR PROPER HORTICULTURAL PLANT GROWTH. ADDITIONAL SOIL AMENDMENTS, FERTILIZATION, PH ADJUSTMENTS, AND PROPER DRAINAGE SHALL BE PROVIDED PRIOR TO INSTALLATION OF ANY MATERIALS.

**MULCH:**  
 ALL EXPOSED AREAS IN PLANTING BEDS, INCLUDING HEDGE ROWS, SHALL BE KEPT WEED FREE AND MULCHED TO A MINIMUM OF THREE (3) INCHES DEPTH, EXCEPT THAT TWO (2) INCHES SHALL BE REQUIRED IN ANNUAL BEDS. MULCH SHALL BE REPLISHED, AS NEEDED, TO MEET THIS REQUIREMENT. MULCH SHALL BE 100% PINE BARK.

**FERTILIZATION:**  
 ALL TREES AND SHRUBS SHALL HAVE AN APPLICATION OF 20-15-5 SLOW RELEASE FERTILIZER AT TIME OF PLANTING AND PRIOR TO INSTALLATION OF PLANT PIT BACKFILL. FERTILIZER SHALL BE PLACED UNIFORMLY AROUND THE ROOT BALL AT A DEPTH THAT IS BETWEEN THE MIDDLE AND BOTTOM OF THE ROOT BALL. FOLLOW MANUFACTURER RECOMMENDATIONS FOR APPLICATION RATES.

**TREE PROTECTION/MAINTENANCE NOTES**  
 PROTECTIVE BARRIERS AND THE USE OF OTHER MEASURES TO PREVENT TREE DAMAGE (PESTICIDE APPLICATION, ROOT PRUNING, INTENSIVE MULCHING TO REDUCE SOIL COMPACTING, ET CETERA) WILL BE REQUIRED AS NECESSARY. ANY STACKING OF SOILS, DEBRIS, CONSTRUCTION MATERIALS, VEHICLES, AND ET CETERA WITHIN THE REQUIRED BARRICADES IS STRICTLY PROHIBITED. ANY TREE LOSSES INCURRED DURING CONSTRUCTION MAY BE SUBJECT TO REPLACEMENT PENALTIES. TREES SHALL BE TRIMMED BY PERFORMING PROPER PRUNING CUTS TO ANSI A300 STANDARDS PRIOR TO BUILDING PERMIT. TREES SHALL BE TRIMMED OR PRUNED IN SUCH A MANNER SO AS NOT TO ALTER THEIR NATURAL FORM, GROWTH HABIT OR CHARACTER AND SHALL NOT BE PRUNED INTO UNNATURAL SHAPES, INCLUDING CIRCLES, OVALS, SQUARES AND OTHER HARD-EDGED GEOMETRIC SHAPES. NOT MORE THAN ONE-THIRD OF THE TREE CANOPY SHALL BE TRIMMED OR PRUNED IN ANY YEAR UNLESS IT IS DEAD. TREE TOPPING IS NOT ALLOWED UNDER ANY CIRCUMSTANCE. HAND CLEAR EXISTING VEGETATION TO BE REMOVED UNDER THE CANOPIES OF EXISTING TREES PRIOR TO BUILDING PERMIT.

**EXOTIC SPECIES REMOVAL**  
 ALL EXOTIC SPECIES, I.E., BRAZILIAN PEPPER (SCHINUS TEREBINTHIFOLIUS), PUNK TREES (MELALEUCA QUINQUENERVA) AND CHINESE TALLOW (SAPINUS SIBIFERRUM) MUST BE REMOVED OVER THE ENTIRE PROPERTY OWNERSHIP AS A CONDITION OF SITE DEVELOPMENT. WHERE NECESSARY DUE TO THEIR PROXIMITY TO PROTECTED PLANT MATERIAL, HAND REMOVAL WILL BE REQUIRED. SHOULD THIS REMOVAL BE TO A DEGREE THAT A POTENTIAL FOR EROSION IS CREATED, THE AREA MUST BE RE-STABILIZED WITH SUITABLE MATERIAL.

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 CONSTRUCTION DRAWINGS  
 ISSUE DATE: 2.1.16

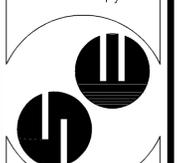
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WITHOUT SIGNATURE  
 ROLAND P. DOVE, P.E.  
 P.E. NO. 36933  
 DATE: \_\_\_\_\_  
 AND EMBROIDER

TERRA BELLA  
 Senior Housing Community  
 Land O Lakes, Florida

CONTRACT DATE:  
 September 2015

SPRING ENGINEERING, INC.  
 ENGINEERING • LAND PLANNING • ARCHITECTURE  
 3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
 FL COA NO. 00005158 & LICENSE NO. AM-0001747

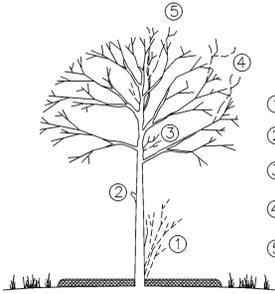


GENERAL NOTES  
 DESIGNED BY: ATP  
 DRAWN BY: ATP  
 CHECKED BY: RPD  
 JOB NO.  
 2015-13

SHEET NO.  
**C6**

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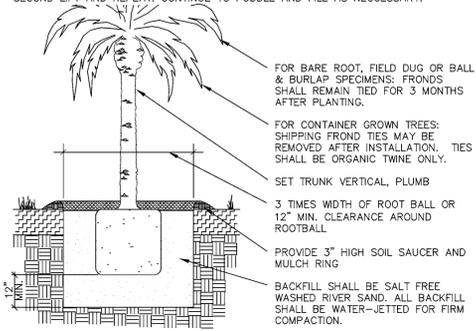
DASHED LINES ILLUSTRATE BRANCHES AND STUMPS THAT ARE TO BE REMOVED. DO NOT REMOVE THE LEADER.



- 1 REMOVE SUCKERS & SHOOTS AT BASE OF TREE
- 2 MAKE CLEAN CUTS ON OLD STUBS, IF PRESENT
- 3 REMOVE ENTIRE SUPPLY OF TWIGS & BUDS ON TRUNK
- 4 SHAPE TREE BY REMOVING DAMAGED & MISSHAPEN BRANCHES
- 5 REMOVE CROSS BRANCHES & THOSE DEVELOPING INTO SECONDARY LEADERS

**1** DECIDUOUS TREE PRUNING

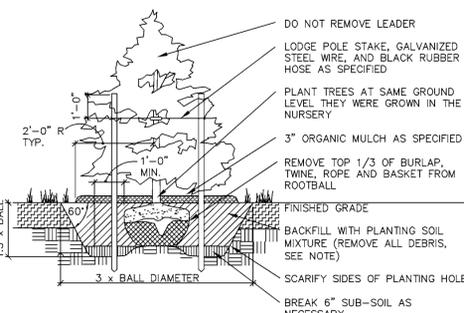
IF ROOTBALL IS WRAPPED IN NON-BIODEGRADABLE BURLAP, REMOVE ENTIRE WRAP AFTER IT IS PLACED IN PIT. WHEN BACKFILLING, PLACE PLANTING SOIL IN TWO LIFTS. AFTER FIRST LIFT, PUDDLE SOIL IN WITH WATER TO REMOVE ALL AIR POCKETS. PLACE SECOND LIFT AND REPEAT. CONTINUE TO PUDDLE AND FILL AS NECESSARY.



- FOR BARE ROOT, FIELD DUG OR BALL & BURLAP SPECIMENS: FRONDS SHALL REMAIN TIED FOR 3 MONTHS AFTER PLANTING.
- FOR CONTAINER GROWN TREES: SHIPPING FROND TIES MAY BE REMOVED AFTER INSTALLATION. TIES SHALL BE ORGANIC TWINE ONLY.
- SET TRUNK VERTICAL, PLUMB
- 3 TIMES WIDTH OF ROOT BALL OR 12" MIN. CLEARANCE AROUND ROOTBALL.
- PROVIDE 3" HIGH SOIL SAUCER AND MULCH RING
- BACKFILL SHALL BE SALT FREE WASHED RIVER SAND. ALL BACKFILL SHALL BE WATER-JETTED FOR FIRM COMPACTION.

**5** PALM TREE PLANTING DETAIL

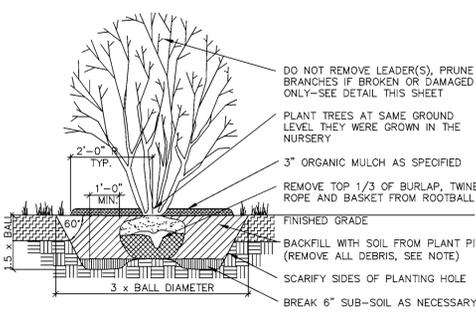
IF ROOTBALL IS WRAPPED IN NON-BIODEGRADABLE BURLAP, REMOVE ENTIRE WRAP AFTER IT IS PLACED IN PIT. WHEN BACKFILLING, PLACE PLANTING SOIL IN TWO LIFTS. AFTER FIRST LIFT, PUDDLE SOIL IN WITH WATER TO REMOVE ALL AIR POCKETS. PLACE SECOND LIFT AND REPEAT. CONTINUE TO PUDDLE AND FILL AS NECESSARY.



- DO NOT REMOVE LEADER
- LODGE POLE STAKE, GALVANIZED STEEL WIRE, AND BLACK RUBBER HOSE AS SPECIFIED
- PLANT TREES AT SAME GROUND LEVEL THEY WERE GROWN IN THE NURSERY
- 3" ORGANIC MULCH AS SPECIFIED
- REMOVE TOP 1/3 OF BURLAP, TWINE, ROPE AND BASKET FROM ROOTBALL
- FINISHED GRADE
- BACKFILL WITH PLANTING SOIL MIXTURE (REMOVE ALL DEBRIS, SEE NOTE)
- SCARIFY SIDES OF PLANTING HOLE
- BREAK 6" SUB-SOIL AS NECESSARY

**2** EVERGREEN TREE PLANTING DETAIL

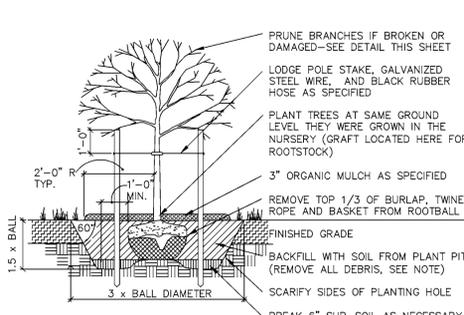
IF ROOTBALL IS WRAPPED IN NON-BIODEGRADABLE BURLAP, REMOVE ENTIRE WRAP AFTER IT IS PLACED IN PIT. WHEN BACKFILLING, PLACE PLANTING SOIL IN TWO LIFTS. AFTER FIRST LIFT, PUDDLE SOIL IN WITH WATER TO REMOVE ALL AIR POCKETS. PLACE SECOND LIFT AND REPEAT. CONTINUE TO PUDDLE AND FILL AS NECESSARY.



- DO NOT REMOVE LEADER(S). PRUNE BRANCHES IF BROKEN OR DAMAGED ONLY-SEE DETAIL THIS SHEET
- PLANT TREES AT SAME GROUND LEVEL THEY WERE GROWN IN THE NURSERY
- 3" ORGANIC MULCH AS SPECIFIED
- REMOVE TOP 1/3 OF BURLAP, TWINE, ROPE AND BASKET FROM ROOTBALL
- FINISHED GRADE
- BACKFILL WITH SOIL FROM PLANT PIT (REMOVE ALL DEBRIS, SEE NOTE)
- SCARIFY SIDES OF PLANTING HOLE
- BREAK 6" SUB-SOIL AS NECESSARY

**6** MULTI-STEMMED TREE DETAIL

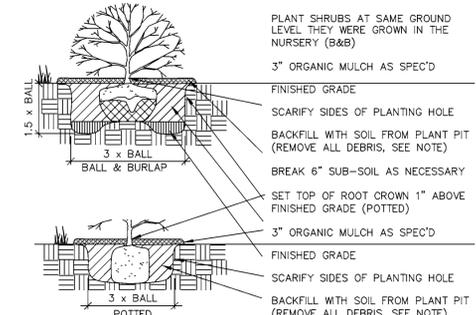
IF ROOTBALL IS WRAPPED IN NON-BIODEGRADABLE BURLAP, REMOVE ENTIRE WRAP AFTER IT IS PLACED IN PIT. WHEN BACKFILLING, PLACE PLANTING SOIL IN TWO LIFTS. AFTER FIRST LIFT, PUDDLE SOIL IN WITH WATER TO REMOVE ALL AIR POCKETS. PLACE SECOND LIFT AND REPEAT. CONTINUE TO PUDDLE AND FILL AS NECESSARY.



- PRUNE BRANCHES IF BROKEN OR DAMAGED-SEE DETAIL THIS SHEET
- LODGE POLE STAKE, GALVANIZED STEEL WIRE, AND BLACK RUBBER HOSE AS SPECIFIED
- PLANT TREES AT SAME GROUND LEVEL THEY WERE GROWN IN THE NURSERY (GRAFT LOCATED HERE FOR ROOTSTOCK)
- 3" ORGANIC MULCH AS SPECIFIED
- REMOVE TOP 1/3 OF BURLAP, TWINE, ROPE AND BASKET FROM ROOTBALL
- FINISHED GRADE
- BACKFILL WITH SOIL FROM PLANT PIT (REMOVE ALL DEBRIS, SEE NOTE)
- SCARIFY SIDES OF PLANTING HOLE
- BREAK 6" SUB-SOIL AS NECESSARY

**3** CANOPY TREE (2" or less) DETAIL

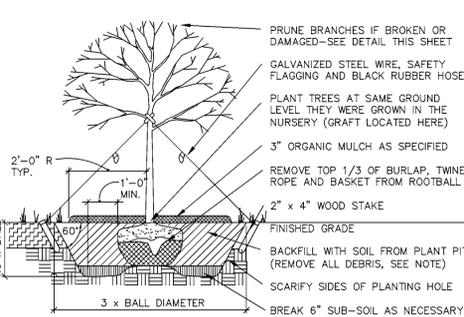
REMOVE ALL CONTAINERS AND BURLAP, TWINE, ROPE AND BASKET. PRUNE ROOTS IF BALL IS ROOTBOUND. WHEN BACKFILLING PLANT PIT, PLACE PLANTING SOIL IN TWO LIFTS. AFTER FIRST LIFT, PUDDLE SOIL IN WITH WATER TO REMOVE ALL AIR POCKETS. PLACE SECOND LIFT AND REPEAT. CONTINUE TO PUDDLE AND FILL AS NECESSARY.



- PLANT SHRUBS AT SAME GROUND LEVEL THEY WERE GROWN IN THE NURSERY (B&B)
- 3" ORGANIC MULCH AS SPEC'D
- FINISHED GRADE
- SCARIFY SIDES OF PLANTING HOLE
- BACKFILL WITH SOIL FROM PLANT PIT (REMOVE ALL DEBRIS, SEE NOTE)
- BREAK 6" SUB-SOIL AS NECESSARY
- SET TOP OF ROOT CROWN 1" ABOVE FINISHED GRADE (POTTED)
- 3" ORGANIC MULCH AS SPEC'D
- FINISHED GRADE
- SCARIFY SIDES OF PLANTING HOLE
- BACKFILL WITH SOIL FROM PLANT PIT (REMOVE ALL DEBRIS, SEE NOTE)

**7** SHRUB PLANTING DETAIL

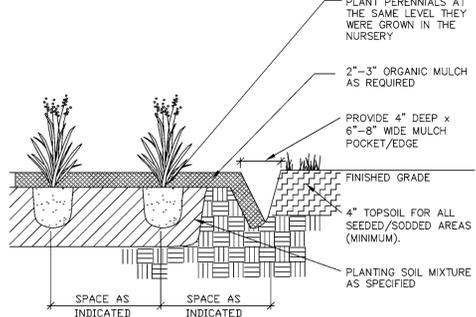
IF ROOTBALL IS WRAPPED IN NON-BIODEGRADABLE BURLAP, REMOVE ENTIRE WRAP AFTER IT IS PLACED IN PIT. WHEN BACKFILLING, PLACE PLANTING SOIL IN TWO LIFTS. AFTER FIRST LIFT, PUDDLE SOIL IN WITH WATER TO REMOVE ALL AIR POCKETS. PLACE SECOND LIFT AND REPEAT. CONTINUE TO PUDDLE AND FILL AS NECESSARY.



- PRUNE BRANCHES IF BROKEN OR DAMAGED-SEE DETAIL THIS SHEET
- GALVANIZED STEEL WIRE, SAFETY FLAGGING AND BLACK RUBBER HOSE
- PLANT TREES AT SAME GROUND LEVEL THEY WERE GROWN IN THE NURSERY (GRAFT LOCATED HERE)
- 3" ORGANIC MULCH AS SPECIFIED
- REMOVE TOP 1/3 OF BURLAP, TWINE, ROPE AND BASKET FROM ROOTBALL
- FINISHED GRADE
- BACKFILL WITH SOIL FROM PLANT PIT (REMOVE ALL DEBRIS, SEE NOTE)
- SCARIFY SIDES OF PLANTING HOLE
- BREAK 6" SUB-SOIL AS NECESSARY

**4** CANOPY TREE (2"+ cal.) DETAIL

PLANT PERENNIALS AT THE SAME LEVEL THEY WERE GROWN IN THE NURSERY



- 2"-3" ORGANIC MULCH AS REQUIRED
- PROVIDE 4" DEEP x 8"-8" WIDE MULCH POCKET/EDGE
- FINISHED GRADE
- 4" TOPSOIL FOR ALL SEEDED/SODDED AREAS (MINIMUM)
- PLANTING SOIL MIXTURE AS SPECIFIED
- SPACE AS INDICATED

**8** GROUNDCOVER PLANTING DETAIL

**IRRIGATION GENERAL NOTES**

11. PLAN IS DIAGRAMMATIC ONLY. FINAL LOCATION OF LINES AND HEADS SHALL BE DETERMINED IN THE FIELD AND APPROVED BY THE ARCHITECT. LINES SHALL BE IN A COMMON TRENCH WHEREVER POSSIBLE. THE POINT OF CONNECTION SHALL BE AS INDICATED ON THE PLANS.
12. THE CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS AND ENSURE THAT ALL LOCAL CODES ARE MET.
13. THE CONTRACTOR SHALL APPLY AND PAY FOR ALL PERMITS REQUIRED FOR INSTALLATION OF THE IRRIGATION SYSTEM AS DEPICTED IN THESE PLANS.
14. CONTRACTOR SHALL VERIFY AVAILABLE FLOW AND PRESSURE DOWNSTREAM FROM THE POINT-OF-CONNECTION PRIOR TO SYSTEM INSTALLATION. CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY IF AVAILABLE FLOW IS LESS THAN REQUIRED TO RUN THE LARGEST ZONE. CONTRACTOR SHALL NOT PROCEED ANY FURTHER WITH INSTALLATION OF THE SYSTEM UNTIL NECESSARY REVISIONS HAVE BEEN DETERMINED BY THE ARCHITECT.
15. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR DIFFERENCES IN DIMENSIONS EXIST THAT MIGHT HAVE BEEN UNKNOWN DURING ENGINEERING. SUCH OBSTRUCTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY AT NO COST TO THE OWNER.
16. ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
17. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL SPRINKLER MATERIALS, INCLUDING PIPE, WITH THE LANDSCAPE DRAWINGS TO AVOID INTERFERING WITH THE PLANTING OF TREES, SHRUBS OR OTHER PLANTS.
18. IT IS THE INTENT OF THESE DRAWINGS TO INDICATE A COMPLETE IRRIGATION SYSTEM INSTALLED AND READY FOR USE WITHOUT FURTHER COST TO THE OWNER.
19. ALL VALVES ARE TO BE LOCATED IN PLANTING AREAS WHEREVER POSSIBLE AND IN LOCKABLE VALVE BOXES.
20. ALL ELECTRICAL WIRE FROM CONTROLLER TO VALVES SHALL BE 12 GAUGE UL DIRECT BURIAL OR LARGER AS REQUIRED BY LENGTH PER MANUFACTURER'S SPECIFICATIONS.
21. BACKFILL FOR TRENCHING SHALL BE COMPACTED TO A DRY DENSITY EQUAL TO THE UNDISTURBED ADJACENT SOIL AND SHALL CONFORM TO ADJACENT GRADES WITHOUT DIPS, HUMPS OR OTHER IRREGULARITIES.
22. A MINIMUM OF TWO WORKING DAYS PRIOR TO PERFORMING ANY DIGGING, CALL SUNSHINE AT 1-800-432-4770 FOR INFORMATION ON THE LOCATION OF NATURAL GAS LINES, ELECTRICAL CABLES, TELEPHONE CABLES, ETC.
23. CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.
24. INSTALL PIPE AND CONTROL WIRES IN LANDSCAPE BEDS AND COMMON TRENCHES WHERE POSSIBLE.
25. INSTALL ALL PIPE AND CONTROL WIRE, WHICH RUNS UNDER PAVING, WITHIN SCH 40 PVC SLEEVES 2" DIA. MINIMUM SIZE AS REQUIRED TO ALLOW INSTALLATION WITHOUT BINDING. PROVIDE (1) SLEEVE PER PIPE. PROVIDE SEPARATE SLEEVES FOR CONTROL WIRE.
26. SCHEDULE 40 PVC IS REQUIRED FOR ALL PRESSURE LINES AND UNDER ALL PAVED AREAS. PIPING MUST BE INSTALLED A MIN. OF 12" UNDERGROUND FOR NON PRESSURE IRRIGATION LINES AND 18" UNDERGROUND FOR CONSTANT PRESSURE IRRIGATION LINES.
27. ALL IRRIGATION MATERIALS AND INSTALLATION SHALL COMPLY WITH THE UNIFORM PLUMBING CODE.

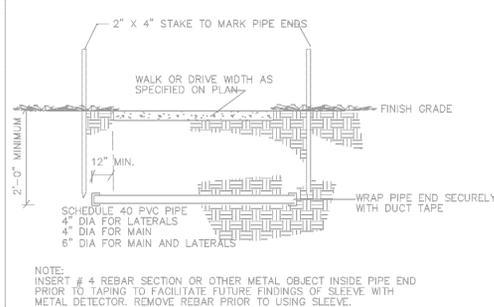
- FLUSHING AND TESTING**
18. PIPING SHALL BE COMPLETELY FLUSHED OF FOREIGN PARTICLES BEFORE ATTACHING IRRIGATION COMPONENTS AND DRAIN VALVES.
  19. AFTER FLUSHING, AND WHEN ALL VALVES AND QUICK COUPLERS ARE IN PLACE, ALL MAIN SUPPLY LINES SHALL BE TESTED AT 100 POUNDS PER SQUARE INCH (100 PSI) WITH VALVES CLOSED. MAINTAIN PRESSURE FOR A PERIOD OF NOT LESS THAN (4) CONSECUTIVE HOURS. ALL JOINTS SHOWING LEAKS SHALL BE CLEANED, REMADE AND TESTED.
  20. AFTER FLUSHING, LATERAL PIPES SHALL BE TESTED WITH RISERS CAPPED AND DRAIN VALVES CLOSED. THE TEST SHALL BE MADE AT MAXIMUM OPERATING PRESSURE FOR A PERIOD OF NOT LESS THAN (1) HOUR. ALL JOINTS SHOWING LEAKS SHALL BE CLEANED, REMADE AND TESTED. ALL TESTING SHALL BE DONE IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE PRIOR TO BACKFILLING OVER PIPING.
  21. OPERATIONAL TESTING: PERFORM OPERATIONAL TESTING AFTER HYDROSTATIC TESTING IS COMPLETED. DEMONSTRATE TO THE ARCHITECT THAT THE SYSTEM MEETS COVERAGE REQUIREMENTS (100%) AND THAT AUTOMATIC CONTROLS FUNCTION PROPERLY.

**SUBMITTALS**

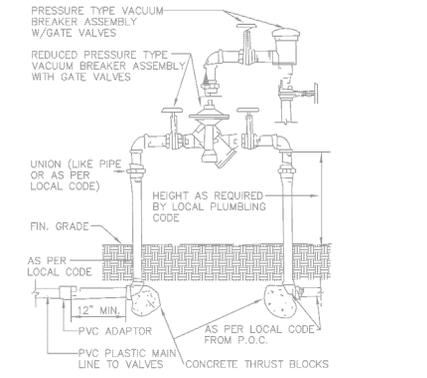
22. COMPLETE WARRANTY CARDS FOR AUTOMATIC CONTROLLER AND OTHER IRRIGATION MATERIAL (CONTROLLER KEYS, ETC.) SHALL BE DELIVERED TO OWNER.
23. CONTRACTOR SHALL PREPARE AND ISSUE TO THE OWNER (AT COMPLETION OF THE INSTALLATION) AN ANNUAL CHART INDICATING LOCATION, OPERATING DATES, CYCLES, AND TIME FOR EACH ZONE.

**GUARANTEE/FINAL ACCEPTANCE**

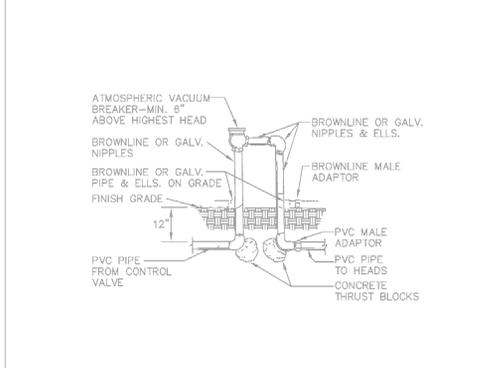
24. CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE THE IRRIGATION SYSTEM FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. MANUFACTURER WARRANTIES SHALL ONLY EXCEED THIS GUARANTEE AND CONTRACTOR SHALL BE LIABLE FOR REPAIR/REPLACEMENT OF FAILED MATERIAL/WORKMANSHIP.



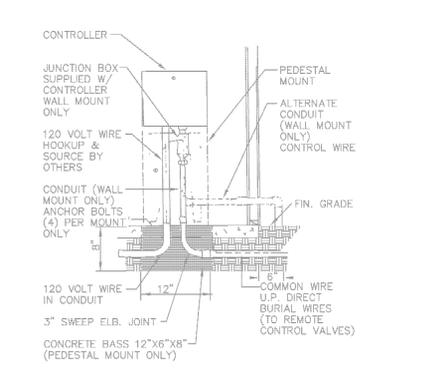
**13** SLEEVE UNDER WALK OR ROAD



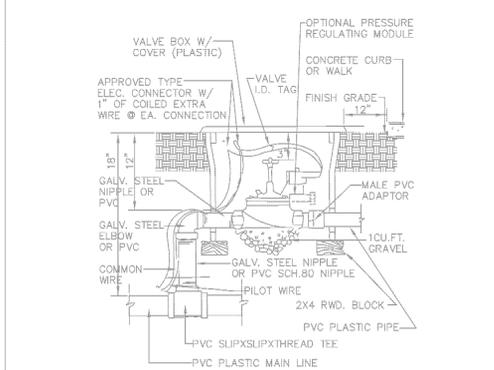
**17** RP/PRESSURE TYPE VAC. BREAKER



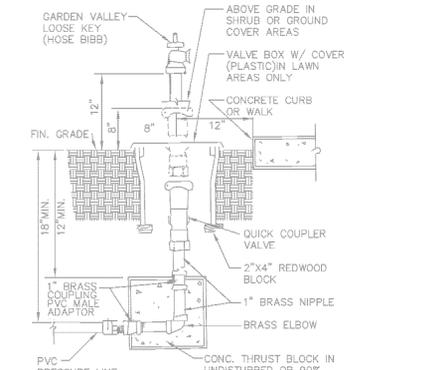
**14** ATMOSPHERIC VACUUM BREAKER



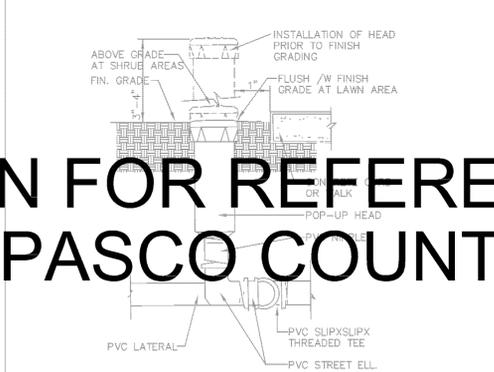
**18** CONTROLLER DETAIL



**15** REMOTE CONTROL VALVE DETAIL



**19** QUICK COUPLER /HOSE BIBB DETAIL



**16** 4" & 6" POP-UP LAWN/SHRUB HEAD

**IRRIGATION FOR REFERENCE ONLY  
NOT FOR PASCO COUNTY PERMIT**

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CONSTRUCTION DRAWINGS - 1 FEB 2016

100%  
CONSTRUCTION DRAWINGS  
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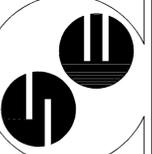
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WITHOUT SIGNATURE  
DATE  
AND CROSS  
ROLAND P. DOVE, P.E.  
P.E. NO. 36933

**TERRA BELLA**  
Senior Housing Community  
Land O Lakes, Florida

CONTRACT DATE:  
September 2015

**SPRING ENGINEERING, INC.**  
ENGINEERING • LAND PLANNING • ARCHITECTURE  
3014 U.S. HWY 19, HOLIDAY, FL (727) 938-1516  
FL COA NO. 00005158 & LICENSE NO. AM-0001747



PLANTING AND IRRIGATION DETAILS

DESIGNED BY: ATP  
DRAWN BY: ATP  
CHECKED BY: RPD  
JOB NO.

2015-13  
SHEET NO.

**C7**