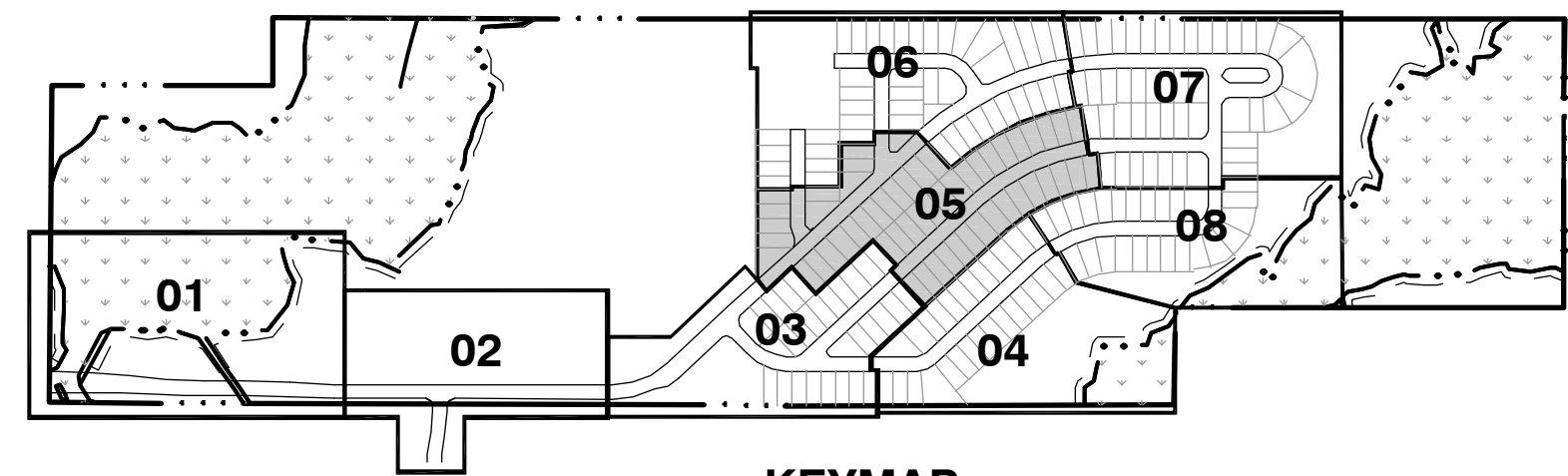
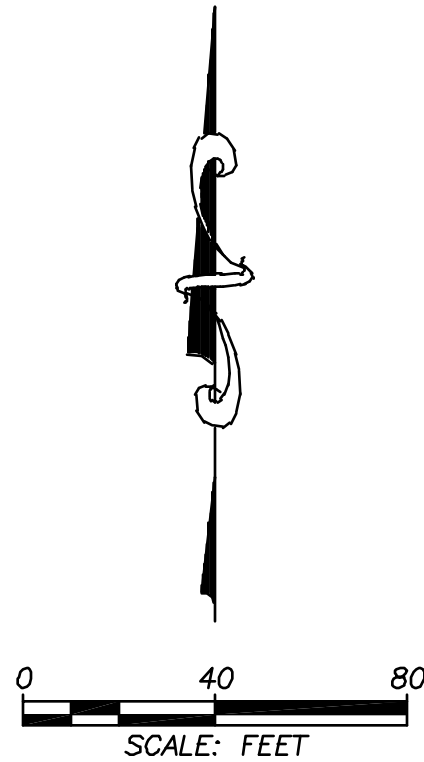
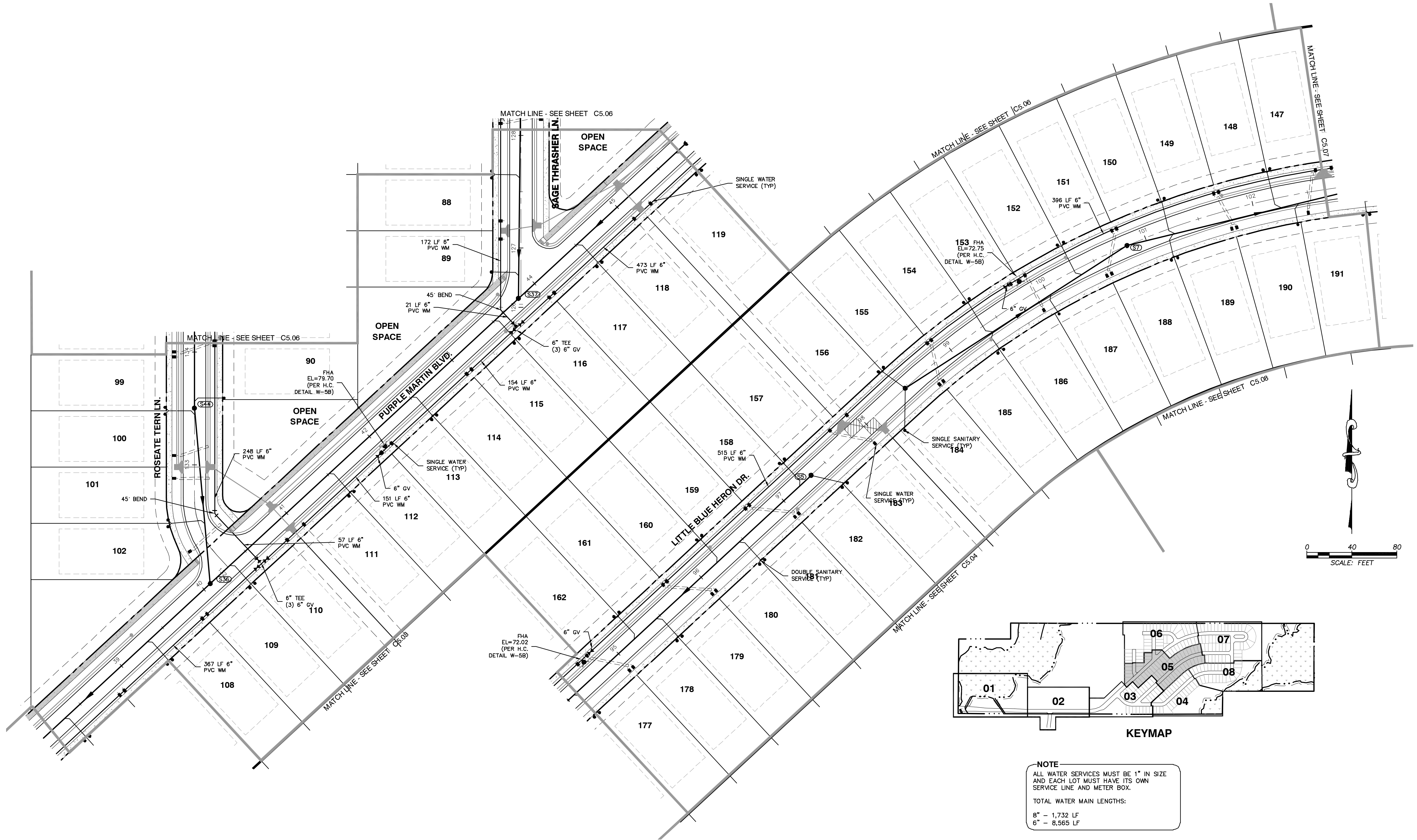
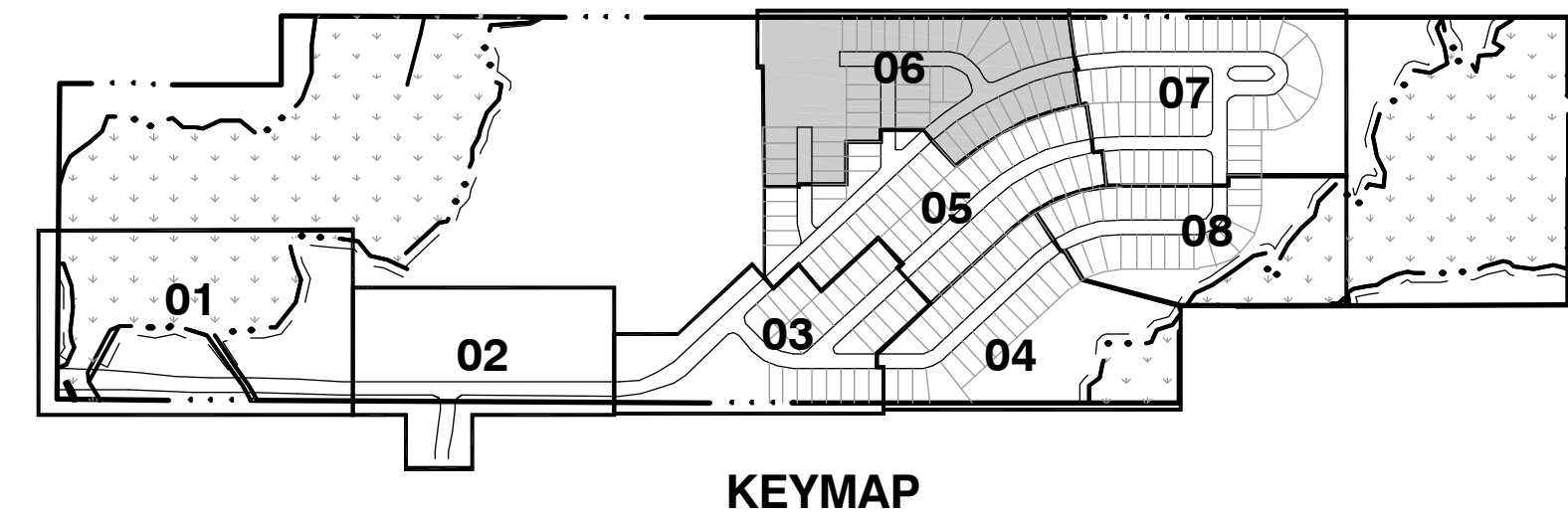


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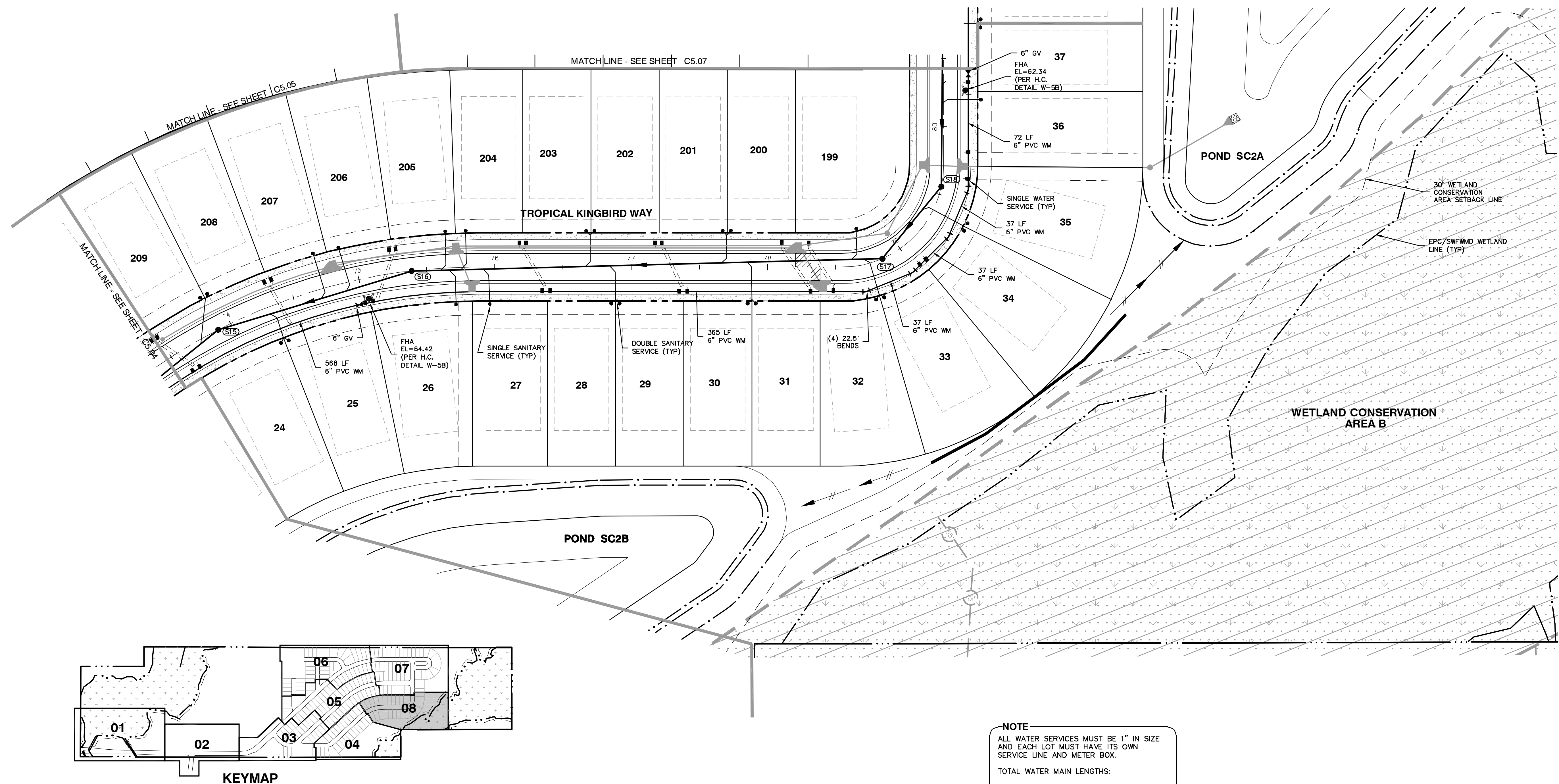
NOTE
ALL WATER SERVICES MUST BE 1" IN SIZE
AND EACH LOT MUST HAVE ITS OWN
SERVICE LINE AND METER BOX.
TOTAL WATER MAIN LENGTHS:
8" - 1,732 LF
6" - 8,565 LF

DESIGNED JLW DRAWN TAM CHECKED TLT D.C. LPR	THE SIGNATURE OF THE QUALITY CONTROL OFFICER IN THIS SPACE INDICATES THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED AND THAT CONSTRUCTION IS AUTHORIZED TO COMMENCE. MSR 10/9/14	4921 Memorial Highway One Memorial Center, Suite 300 Tampa, Florida 33634 Phone 813 880-8881 Fax 813 880-8882 www.kingengineering.com Engineering License #2610	THE OAKS AT SHADY CREEK, PHASE 1 LENNAR HOMES, LLC 4600 WEST CYPRESS ST., SUITE 200 TAMPA, FL 33607	SANITARY SEWER AND WATER DISTRIBUTION PLAN	NO. DATE DESCRIPTION APPROVED BY	JOB NO. 4802-700-001 DATE: 09/13/2013 SCALE: AS SHOWN ISSUED FOR CONSTRUCTION OCTOBER 9, 2014	SHEET NO. C5.05
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JOB NO. 4802-700-001	SHEET NO. C5.06
DATE: 09/13/2013	
SCALE: AS SHOWN	
ISSUED FOR CONSTRUCTION OCTOBER 9, 2014	

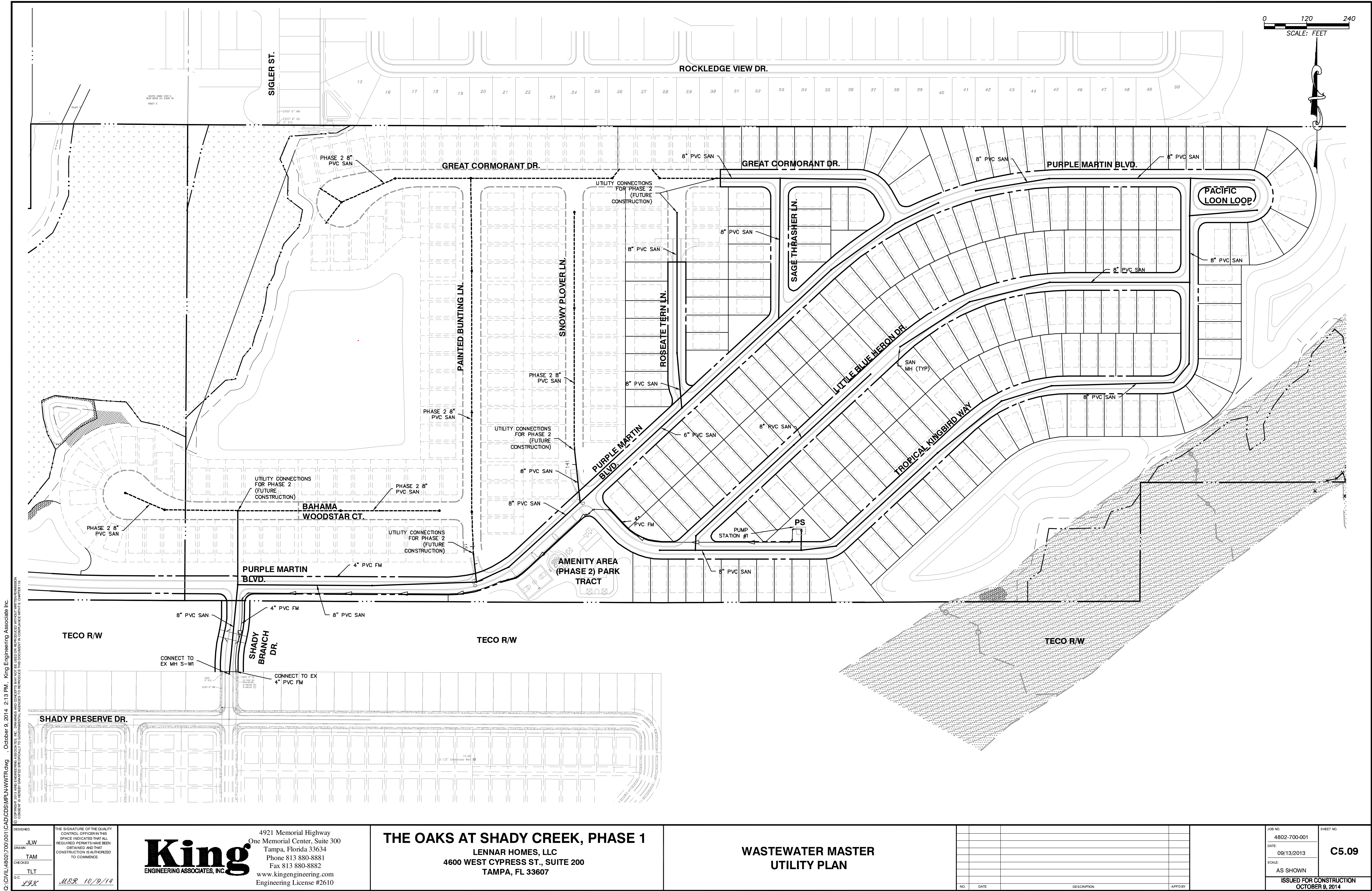


NOTE

ALL WATER SERVICES MUST BE 1" IN SIZE
AND EACH LOT MUST HAVE ITS OWN
SERVICE LINE AND METER BOX.

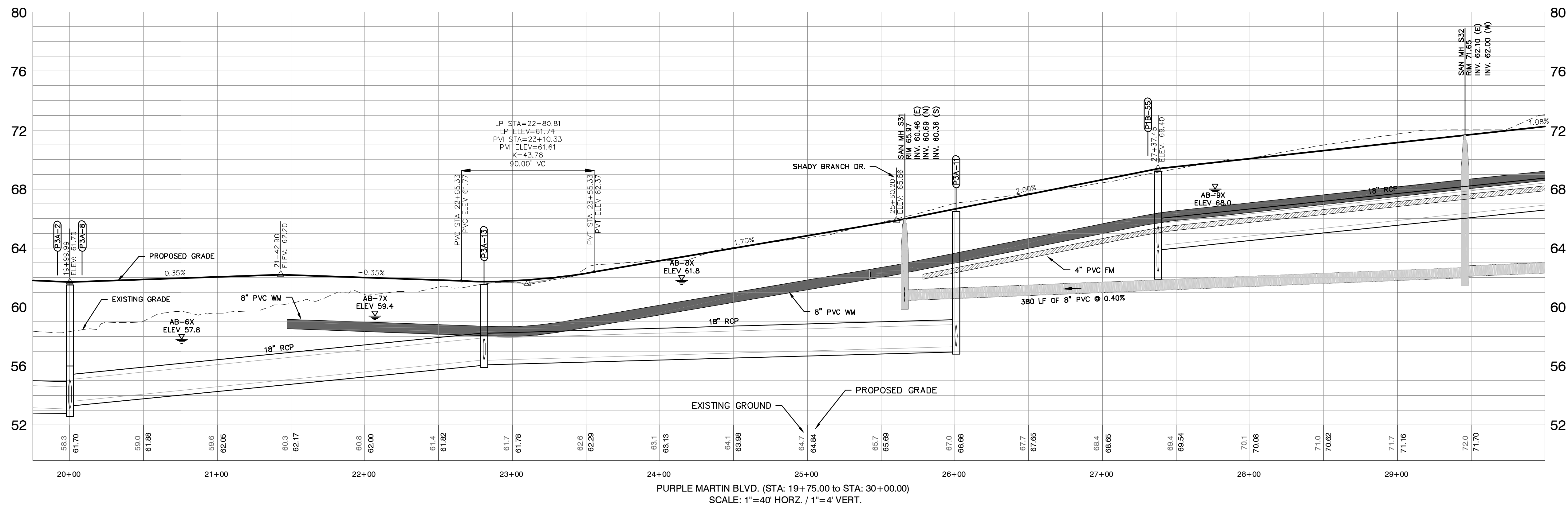
TOTAL WATER MAIN LENGTHS:

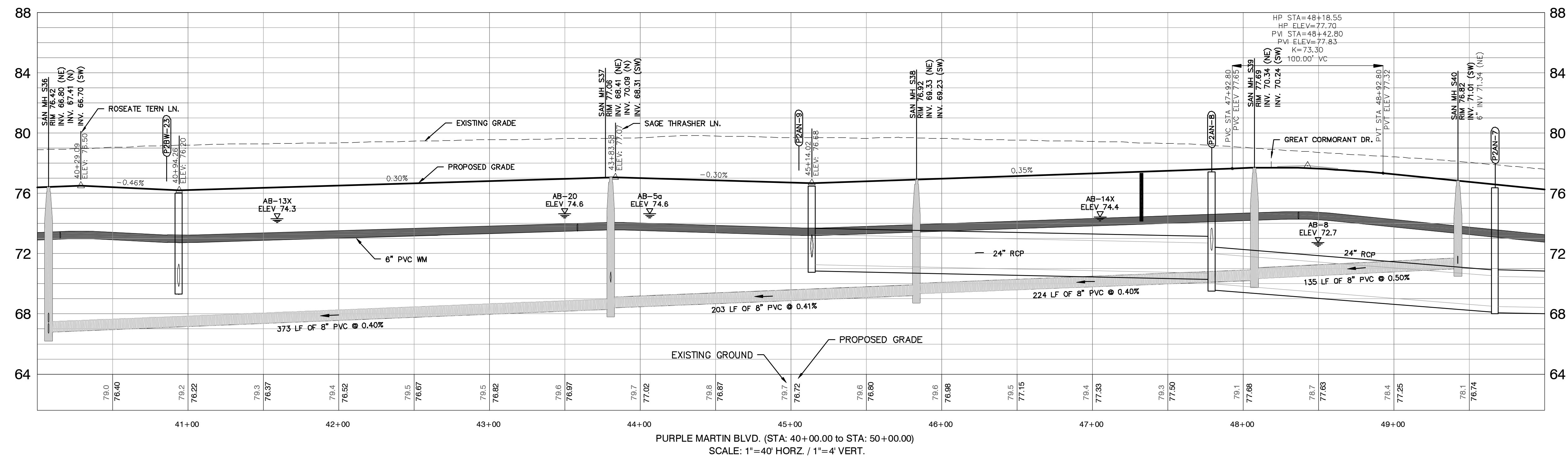
8" - 1,732 LF
6" - 8,565 LF



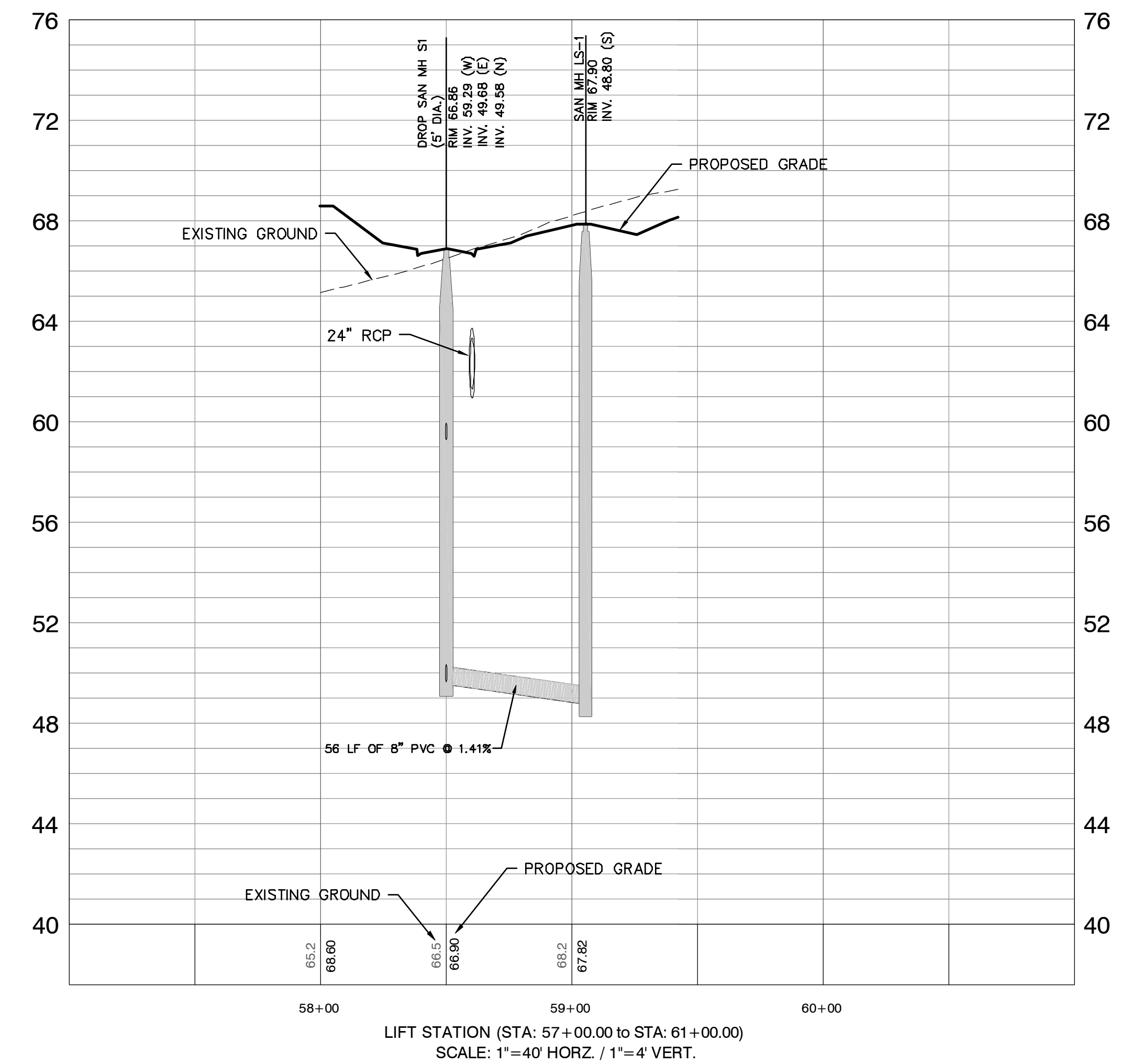
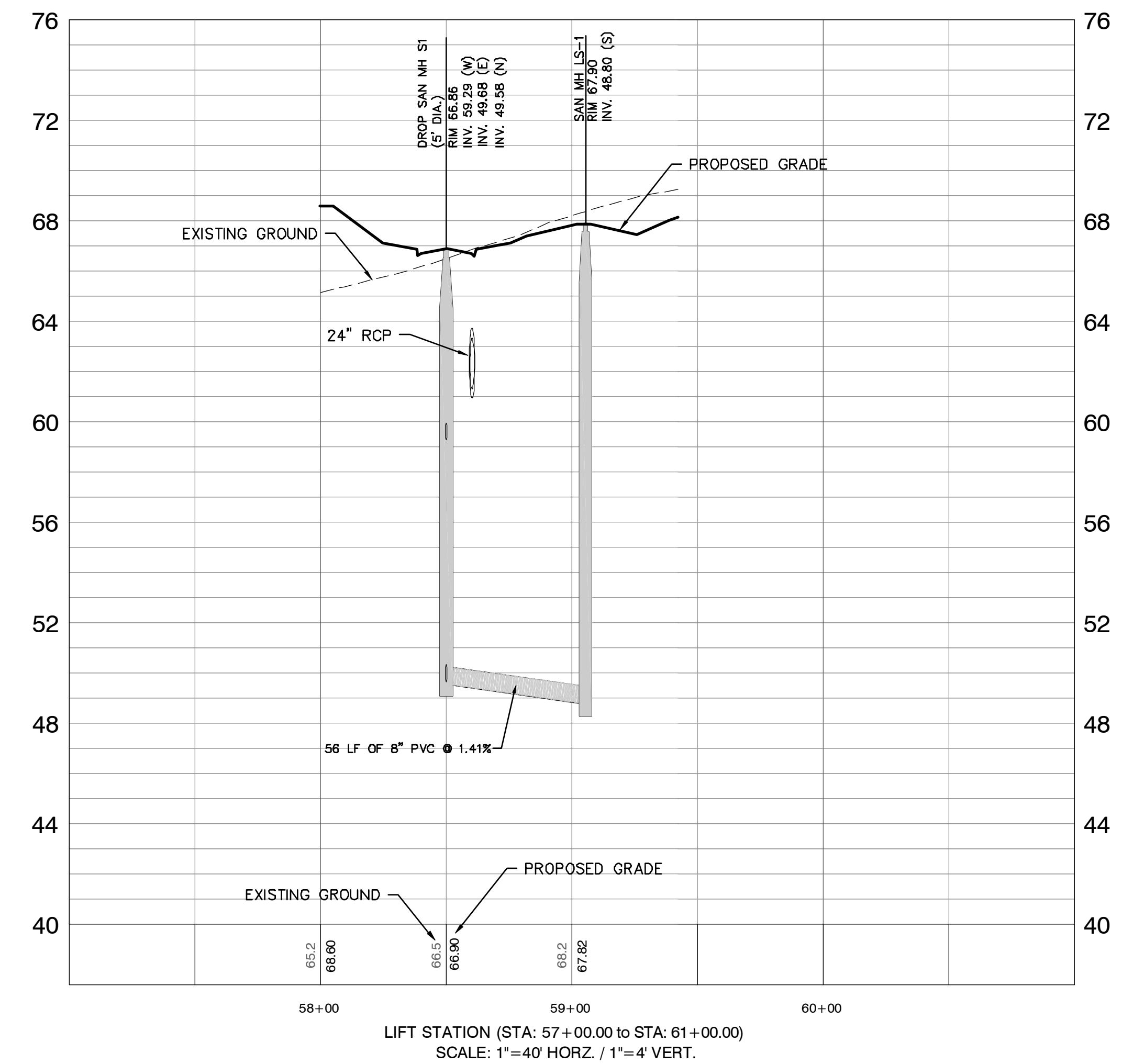
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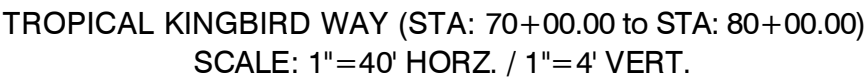
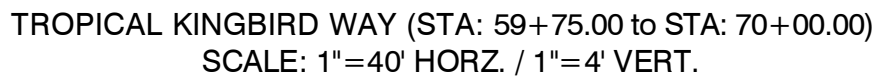
DESIGNED JLW	THE SIGNATURE OF THE QUALITY CONTROL OFFICER IN THIS SPACE INDICATES THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED AND THAT CONSTRUCTION IS AUTHORIZED TO COMMENCE. <i>MSR 10/9/14</i>	4921 Memorial Highway One Memorial Center, Suite 300 Tampa, Florida 33634 Phone 813 880-8881 Fax 813 880-8882 www.kingengineering.com Engineering License #2610	THE OAKS AT SHADY CREEK, PHASE 1 LENNAR HOMES, LLC 4600 WEST CYPRESS ST., SUITE 200 TAMPA, FL 33607	WASTEWATER MASTER UTILITY PLAN	NO. DATE DESCRIPTION APPROVED BY	JOB NO. 4802-700-001 DATE 09/13/2013 SCALE AS SHOWN ISSUED FOR CONSTRUCTION OCTOBER 9, 2014	SHEET NO. C5.09
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JOB NO. 4802-700-001	SHEET NO. C6.02
DATE: 09/13/2013	
SCALE: AS SHOWN	
ISSUED FOR CONSTRUCTION OCTOBER 9, 2014	





DESIGNED
JLW
DRAWN
TAM
CHECKED
TLT
Q.C.
LFR

THE SIGNATURE OF THE QUALITY
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SPACE INDICATES THAT ALL
REQUIRED PERMITS HAVE BEEN
OBTAINED AND THAT
CONSTRUCTION IS AUTHORIZED
TO COMMENCE.

MER 10/9/14

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TAMPA, FL 33607

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JOB NO. 4802-700-001	SHEET NO. C6.04
DATE: 09/13/2013	
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DESIGNED BY: JLW
DRAWN BY: TAM
CHECKED BY: TLT
D.C. BY: LSK

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DATE: 09/13/2013
SCALE: AS SHOWN
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OCTOBER 9, 2014

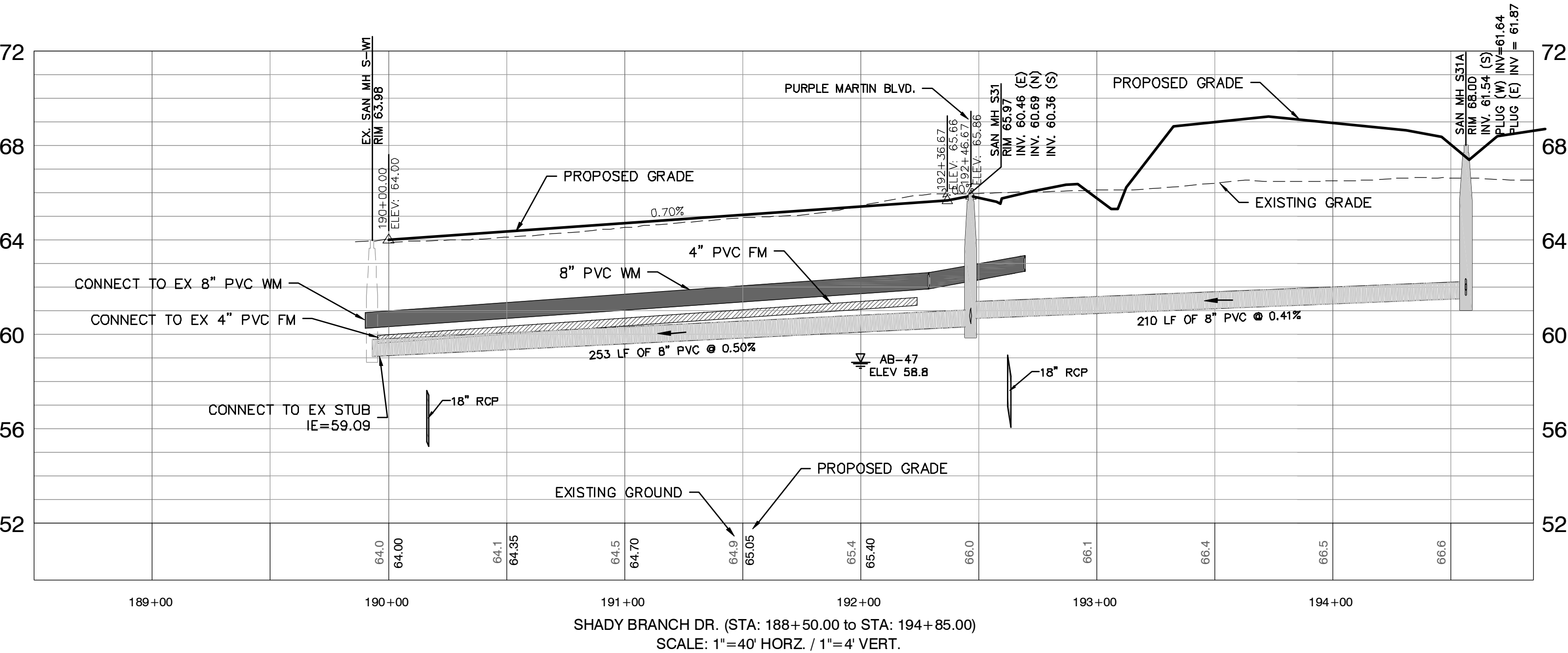
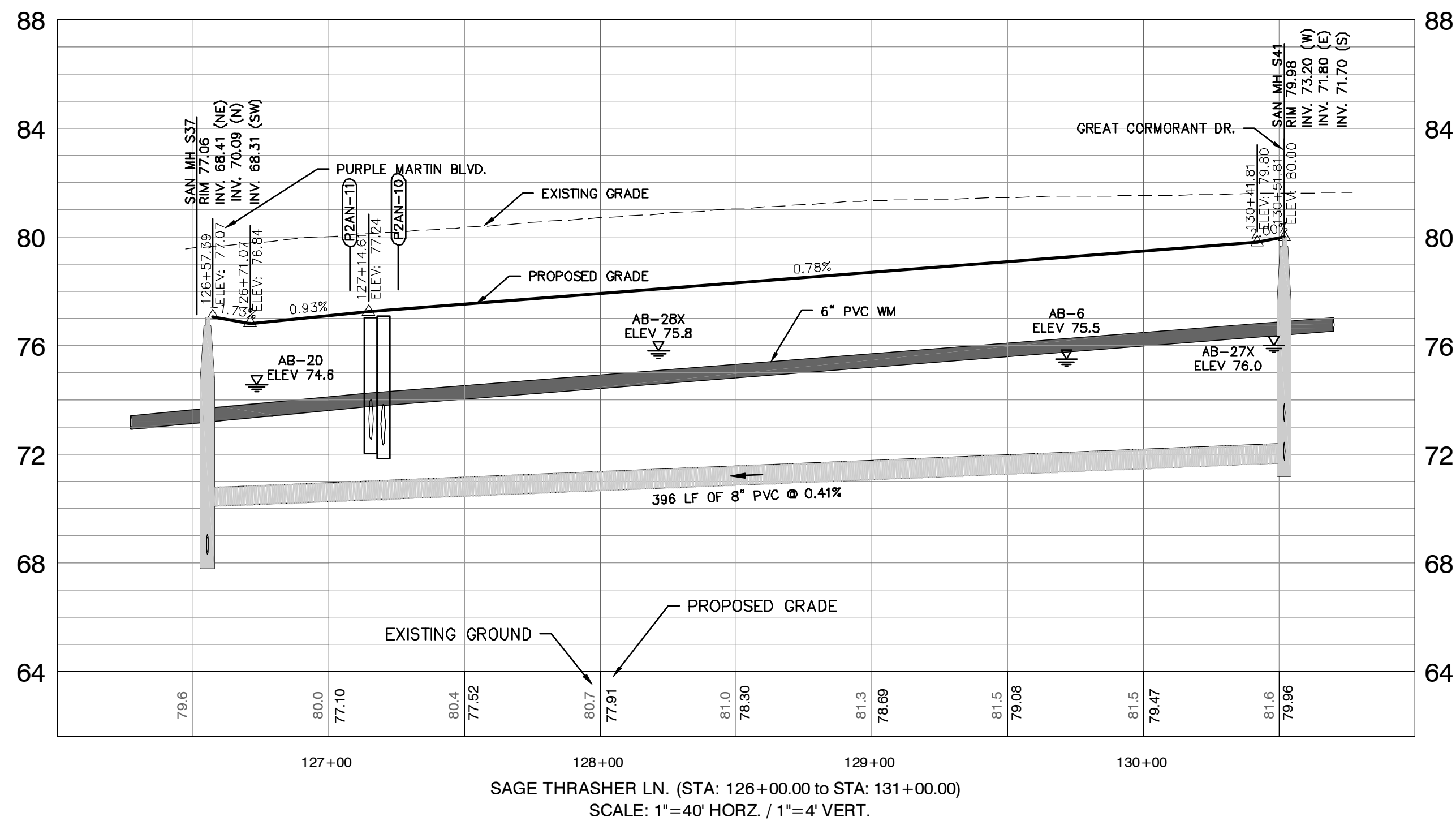
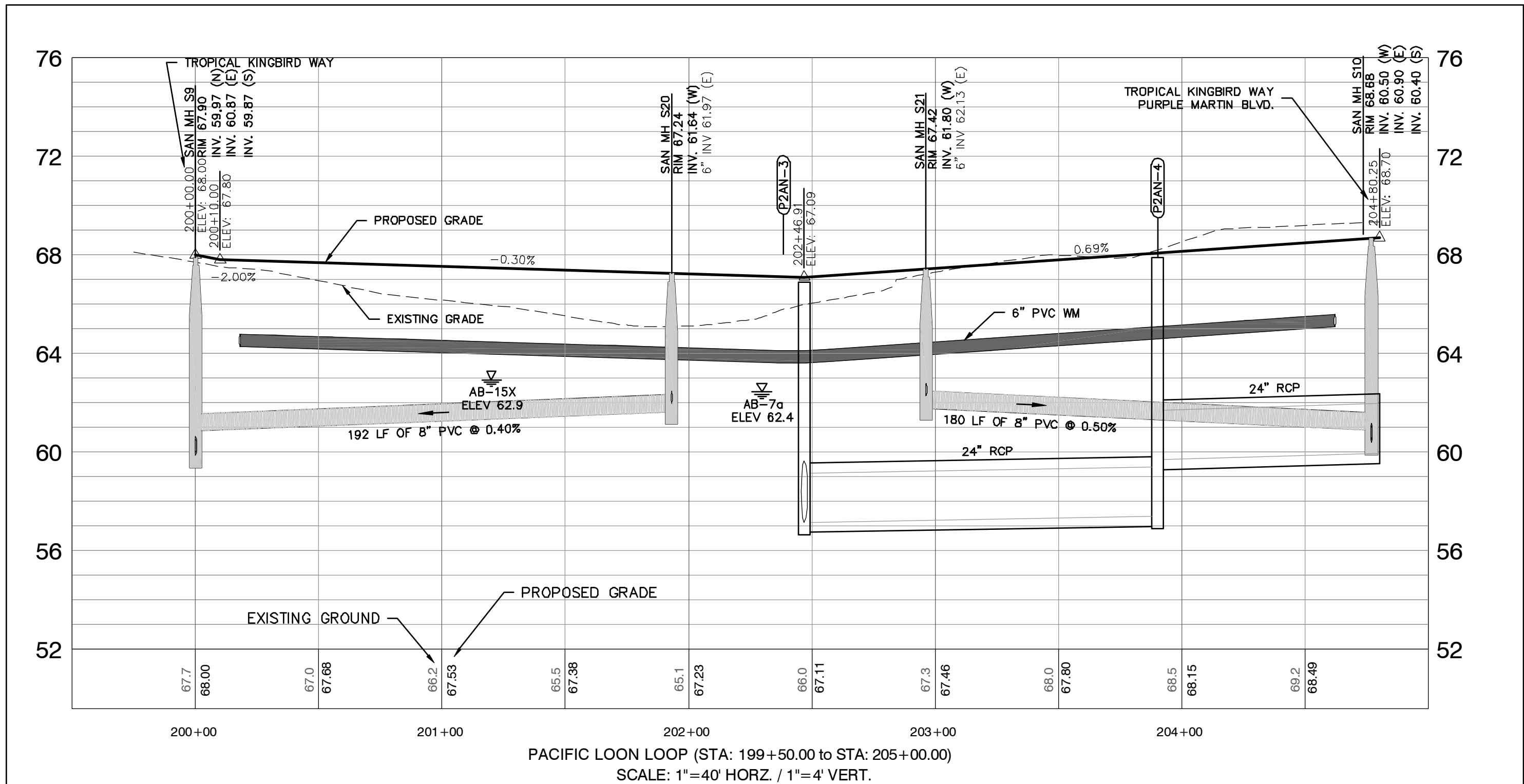
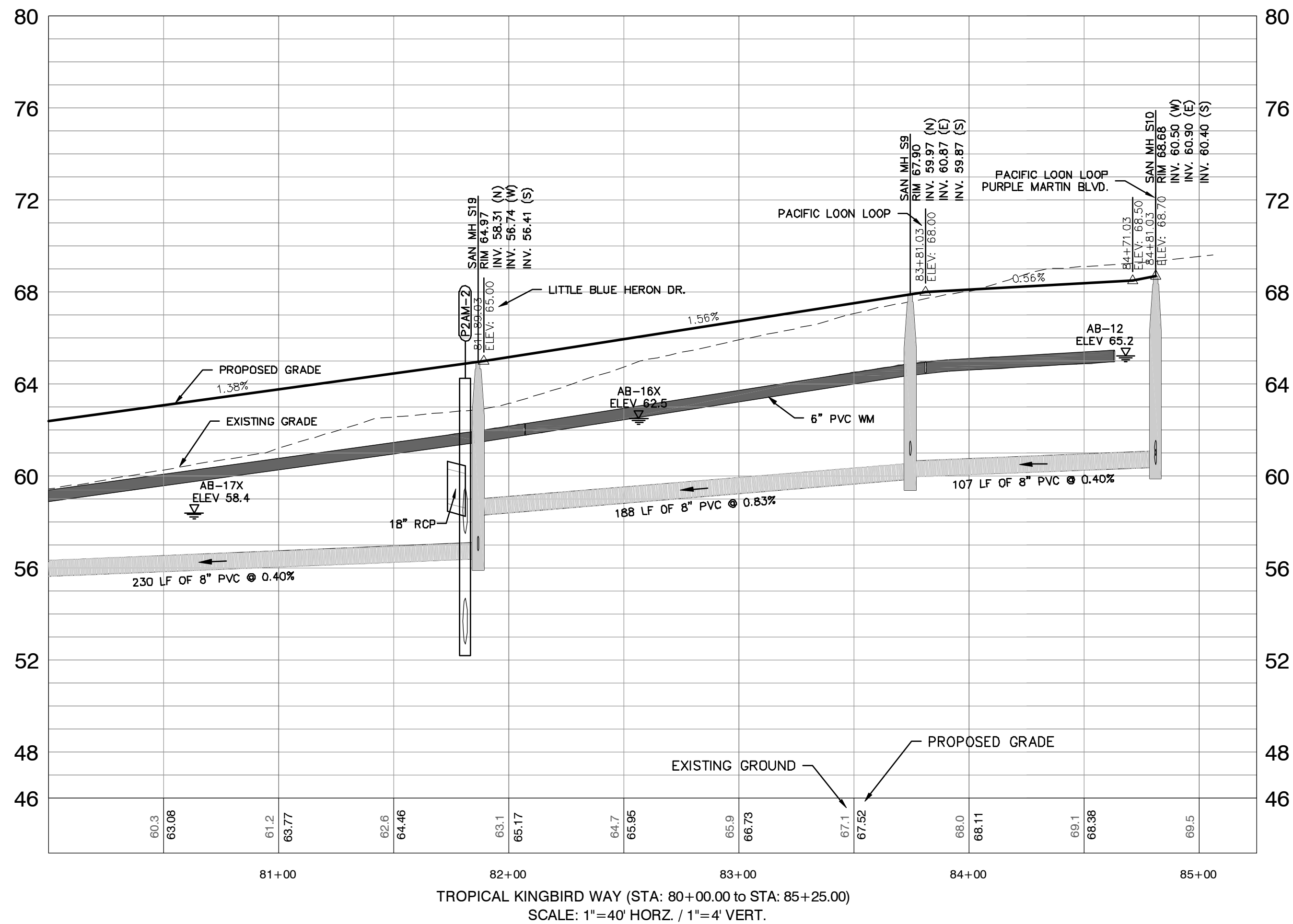
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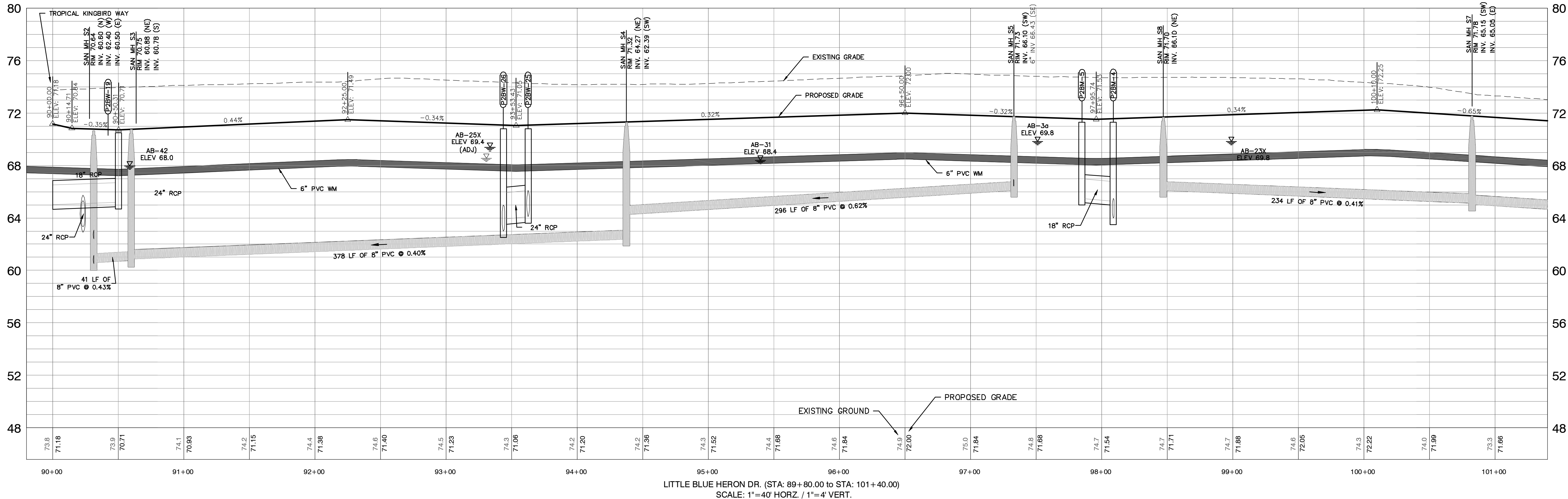
THE OAKS AT SHADY CREEK, PHASE 1

LENNAR HOMES, LLC
4600 WEST CYPRESS ST., SUITE 200
TAMPA, FL 33607

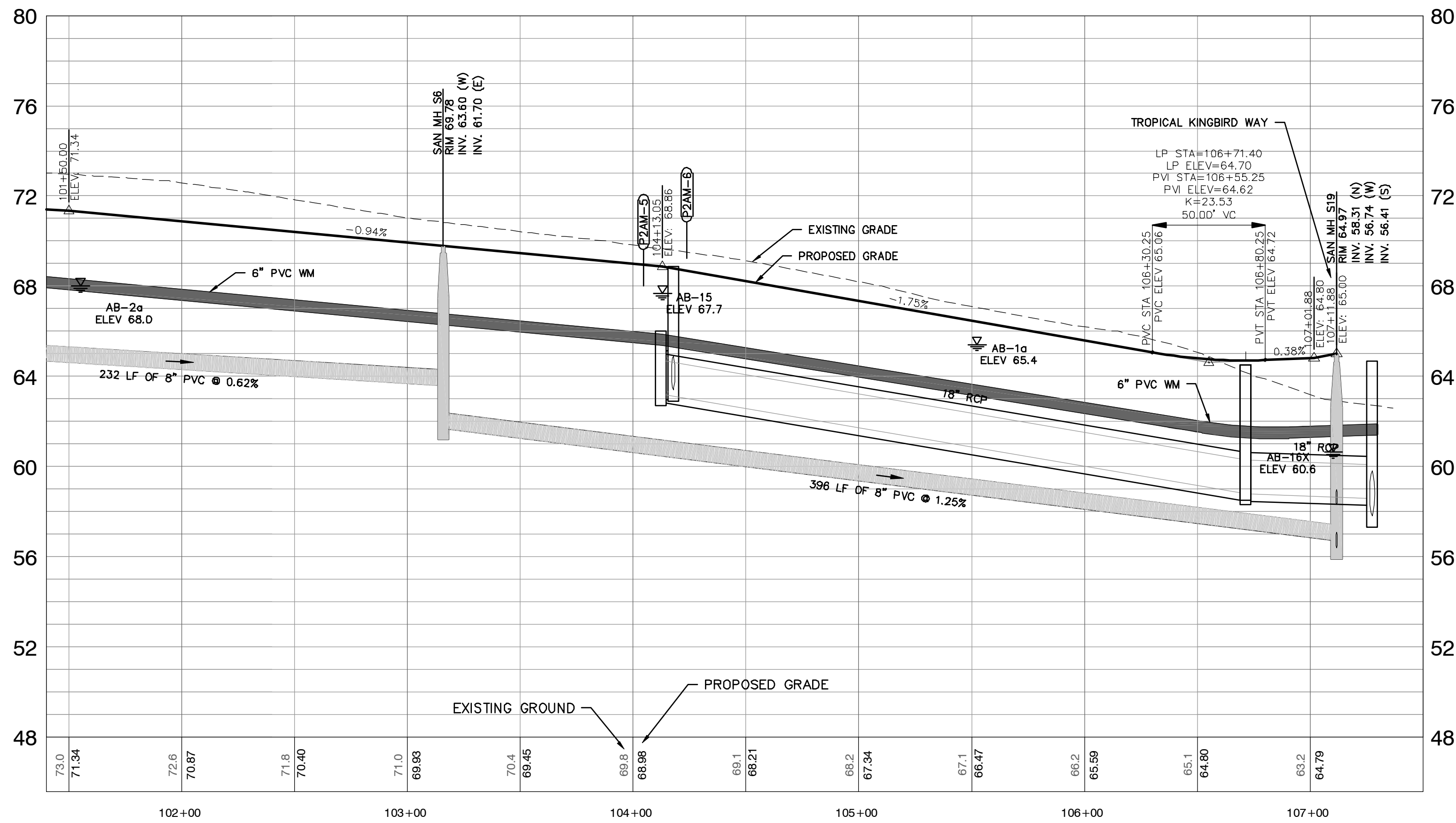
PROFILES



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LITTLE BLUE HERON DR. (STA: 89+80.00 TO STA: 101+40.00)
SCALE: 1"=40' HORIZ. / 1"=4' VERT.



LITTLE BLUE HERON DR. (STA: 101+40.00 TO STA: 107+50.00)
SCALE: 1"=40' HORIZ. / 1"=4' VERT.

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DRAWN	
CHECKED	
O.C.	

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www.kingengineering.com
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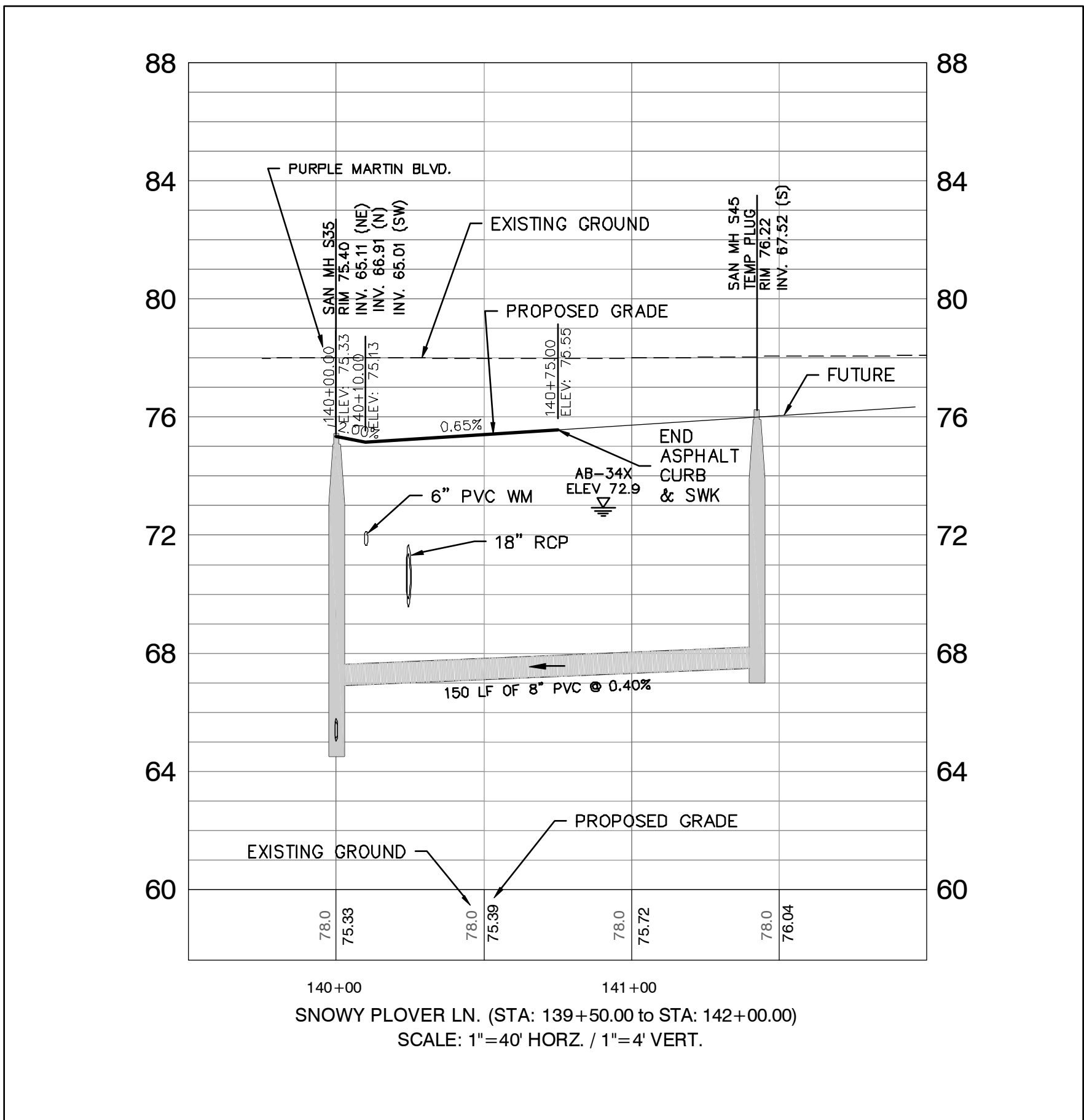
THE OAKS AT SHADY CREEK, PHASE 1

LENNAR HOMES, LLC
4600 WEST CYPRESS ST., SUITE 200
TAMPA, FL 33607

PROFILES

NO.	DATE	DESCRIPTION	APP'D BY

JOB NO. 4802-700-001	SHEET NO. C6.06
DATE 09/13/2013	
SCALE AS SHOWN	
ISSUED FOR CONSTRUCTION OCTOBER 9, 2014	



SIDEWALK / PATH CONSTRUCTION NOTES:

ALL SIDEWALKS TO BE CONSTRUCTED PER H.C. TTM SECTION 2.9, INCLUDING INCREASING SIDEWALK / PATH THICKNESS TO 6" ADJACENT TO RETENTION PONDS.

PURPLE MARTIN BLVD. (US 301 TO STA. 20+50)

ALTERNATIVE PAVEMENT SECTION

- FRICTION COURSE FC-9.5 (1") (RUBBER)
- TYPE SP STRUCTURAL COURSE (1-1/2") (SP12-5)
- OPTIONAL BASE GROUP 6 *
- 12" FDOT TYPE "B" STABILIZED SUBGRADE MIN LBR 40 (COMPACTED TO 98% MOD. PROCTOR MAX DRY DENSITY AS DETERMINED BY AASHTO T-180)

DESIGN STRUCTURAL NUMBER
(1") (0.44) + (1.5") (0.44) + (8") (0.18) + (12") (0.08) = 3.50

NOTES:

- * LIMEROCK BASE SHALL BE EXCLUDED FROM OBG 6

LOCAL URBAN ROAD.

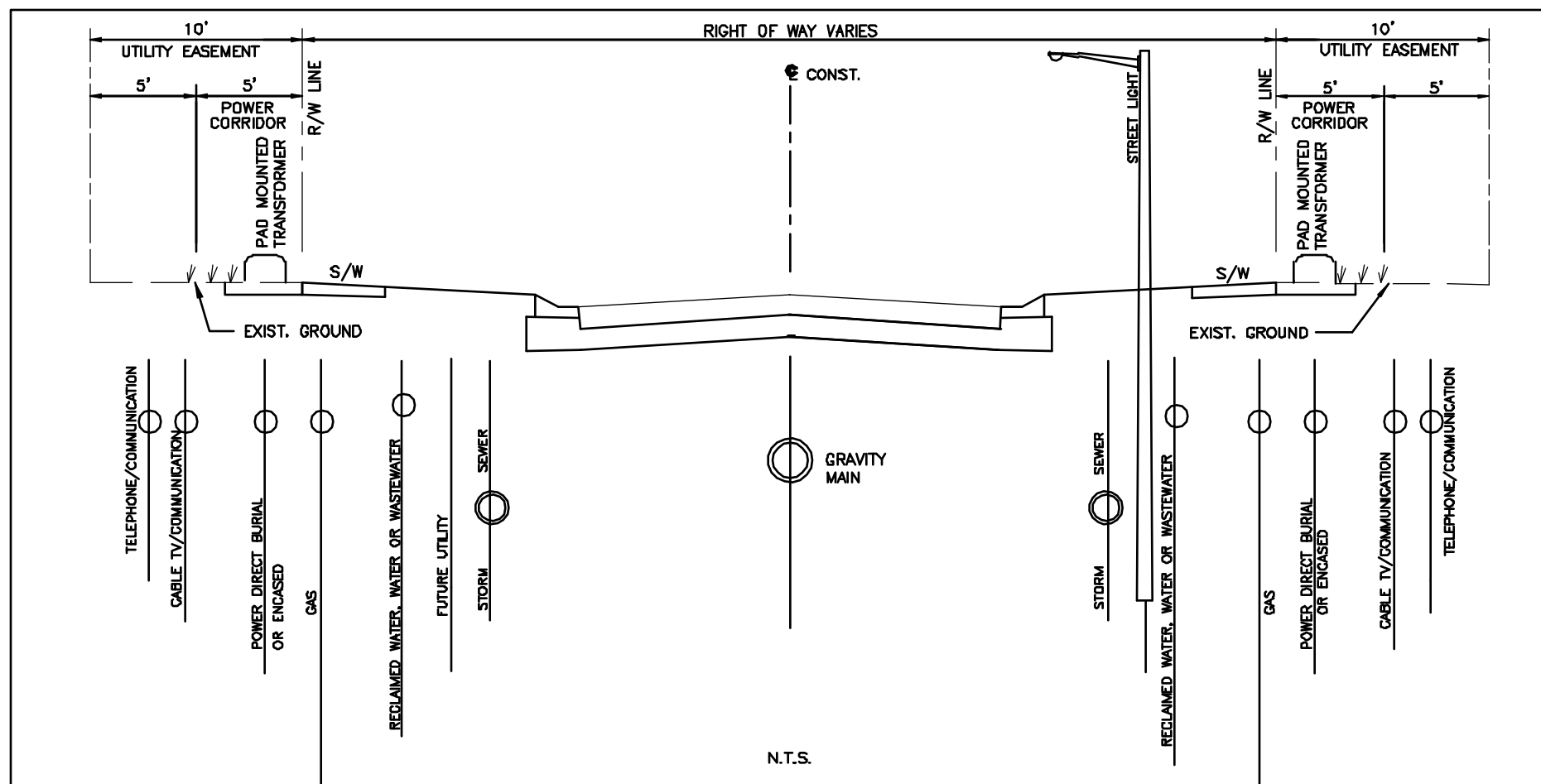
ALTERNATIVE PAVEMENT SECTION

- TYPE SP STRUCTURAL COURSE (1-1/2") (SP12-5)
- OPTIONAL BASE GROUP 4 *
- 8" FDOT TYPE "B" STABILIZED SUBGRADE MIN LBR 40 (COMPACTED TO 98% MOD. PROCTOR MAX DRY DENSITY AS DETERMINED BY AASHTO T-180)

DESIGN STRUCTURAL NUMBER
(1.5") (0.44) + (6") (0.18) + (8") (0.08) = 2.38

NOTES:

- * LIMEROCK BASE SHALL BE EXCLUDED FROM OBG 4



1. RECLAIMED WATER LINE TO BE PLACED ON OPPOSITE SIDE OF ROAD TO THAT OF THE POTABLE WATER LINE.
2. HORIZONTAL DISTANCES AND DEPTH OF COVER FOR EACH UTILITY VARY IN ACCORDANCE WITH THE GUIDELINES OF HILLSBOROUGH COUNTY'S "WATER, WASTEWATER, AND RECLAIMED WATER TECHNICAL MANUAL" AND EACH RESPECTIVE UTILITY.

REVISION DATE :

TRANSPORTATION TECHNICAL
MANUAL



RECOMMENDED UTILITY LOCATIONS
TYPICAL SECTION

DRAWING NO. TS-1

SHEET NO. 1 OF 1

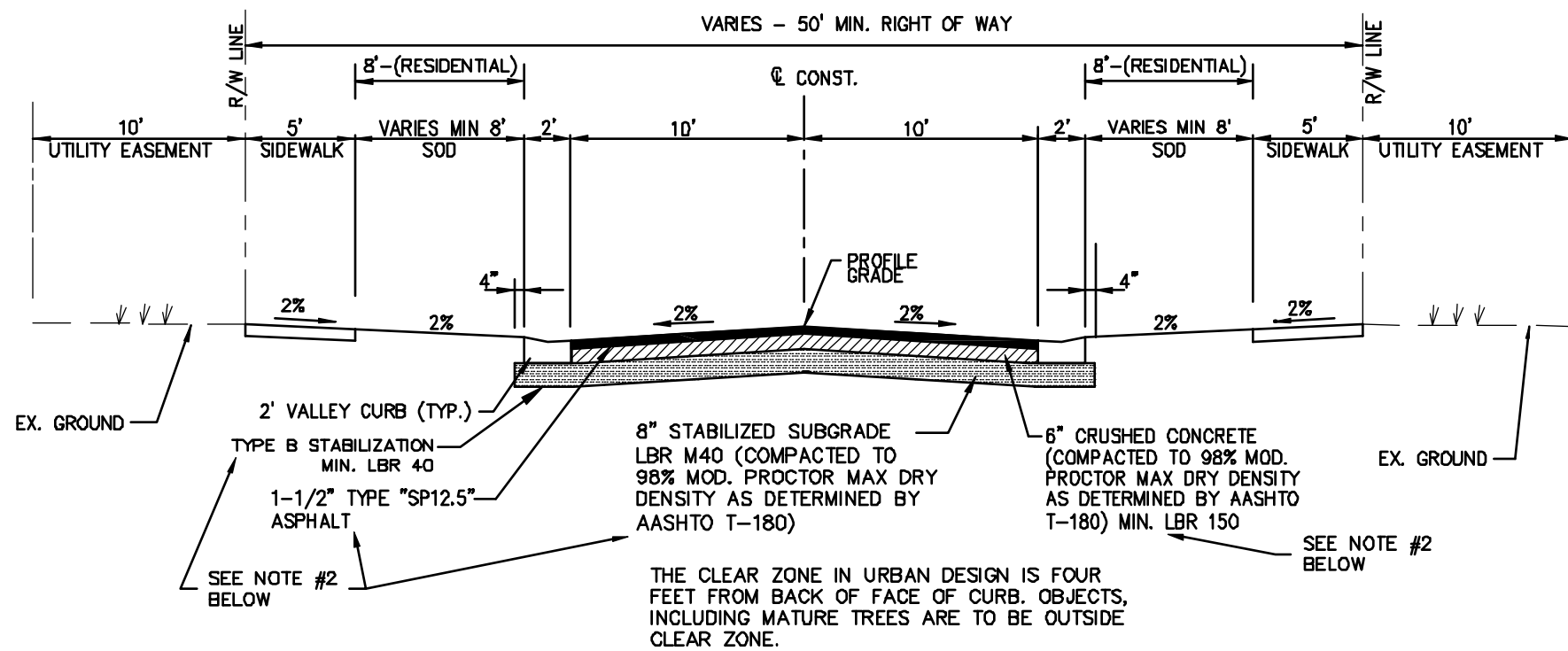
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THE OAKS AT SHADY CREEK, PHASE 1

LENNAR HOMES, LLC
4600 WEST CYPRESS ST., SUITE 200
TAMPA, FL 33607

TYPICAL SECTIONS AND DETAILS



DESIGN PARAMETERS

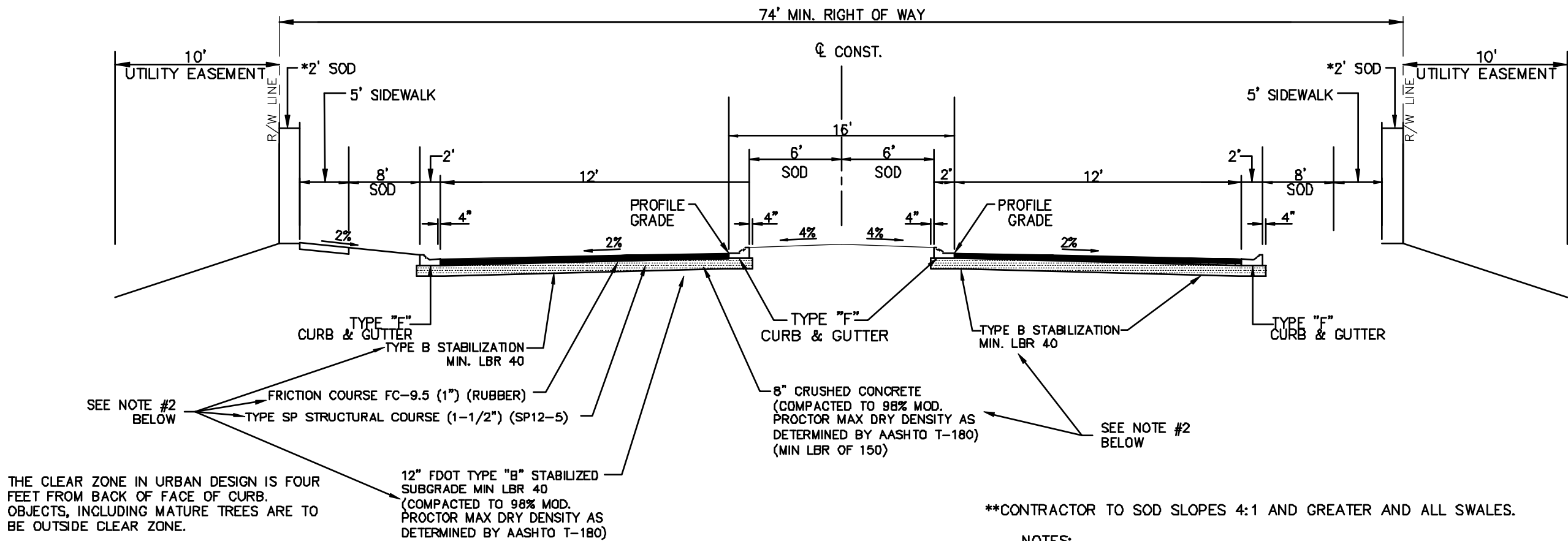
DESIGN SPEED = 30 MPH

DESIGN STRUCTURAL NUMBER
(1.5") (0.44) + (6") (0.18) + (8") (0.08) = 2.38

UNDERDRAIN CRITERIA

WHERE UNDERDRAIN IS SHOWN IN PLANS 0.5' OF SELECT SAND (S) OR SPECIAL SAND SELECT SAND (S+) AS DEFINED IN FDOT INDEX 505 LATEST EDITION SHALL BE PLACED BELOW THE CRUSHED CONCRETE BASE TO PROVIDE POSITIVE DRAINAGE IN ACCORDANCE WITH HC STORMWATER TECH MANUAL TABLE 12-1

LOCAL URBAN ROADWAY SECTION



THE CLEAR ZONE IN URBAN DESIGN IS FOUR FEET FROM BACK OF FACE OF CURB. OBJECTS, INCLUDING MATURE TREES ARE TO BE OUTSIDE CLEAR ZONE.

UNDERDRAIN CRITERIA

WHERE UNDERDRAIN IS SHOWN IN PLANS 0.5' OF SELECT SAND (S) OR SPECIAL SAND SELECT SAND (S+) AS DEFINED IN FDOT INDEX 505 LATEST EDITION SHALL BE PLACED BELOW THE CRUSHED CONCRETE BASE TO PROVIDE POSITIVE DRAINAGE IN ACCORDANCE WITH HC STORMWATER TECH MANUAL TABLE 12-1

DESIGN PARAMETERS

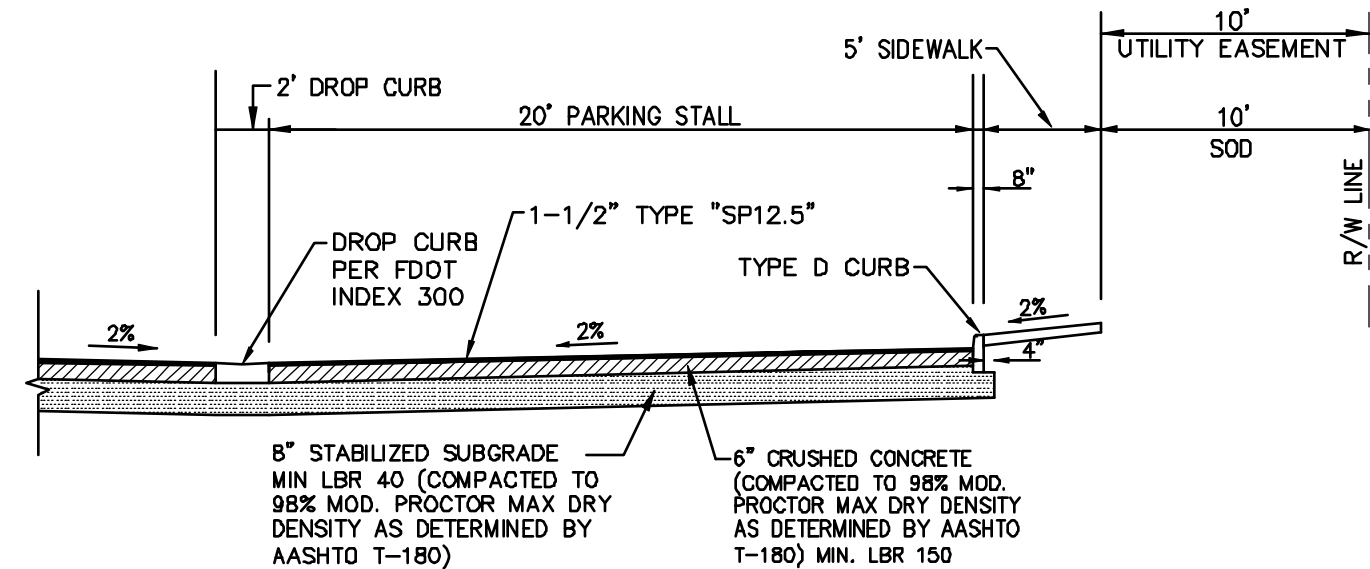
DESIGN SPEED = 30 MPH

DESIGN STRUCTURAL NUMBER
(1") (0.44) + (1.5") (0.44) + (8") (0.18) + (12") (0.08) = 3.50

NOTES:

1. ALL DIMENSIONS SHOWN ARE MINIMUM.
2. SEE APPROPRIATE SECTIONS OF THE FDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PAVEMENT AND STABILIZATION AND THE HC TTM SECTION 8 AND APPENDIX A FOR CRUSHED CONCRETE BASE REQUIREMENTS.
3. PROVIDE 2' MINIMUM CLEARANCE FROM FENCES, WALLS, HEDGES, ABOVEGROUND UTILITIES OR IMPROVEMENTS, DROP OFFS, OR FROM THE TOPS OF BANKS WITH SLOPES STEEPER THAN 1 TO 4, THAT INTERFERE WITH THE SAFE, FUNCTIONAL USE OF THE SIDEWALK. INTERMITTENT ABOVEGROUND UTILITIES, OR MATURE TREES, 2' OR LESS IN DIAMETER MAY BE PLACED IN THIS 2' STRIP AS FAR FROM THE SIDEWALK AS POSSIBLE, IF NOT IN THE CLEAR ZONE.
4. PROFILE GRADE LINE POINT IS LOCATED 11' FROM ROAD CENTERLINE.

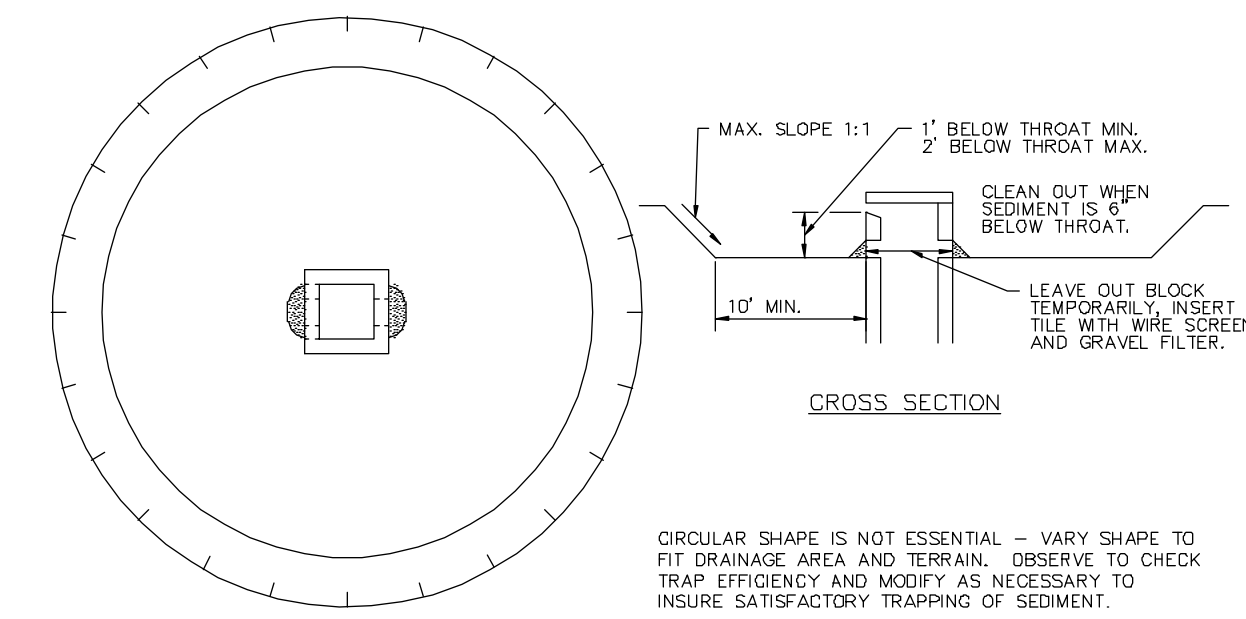
PURPLE MARTIN BLVD. (US 301 TO STA. 25+96)



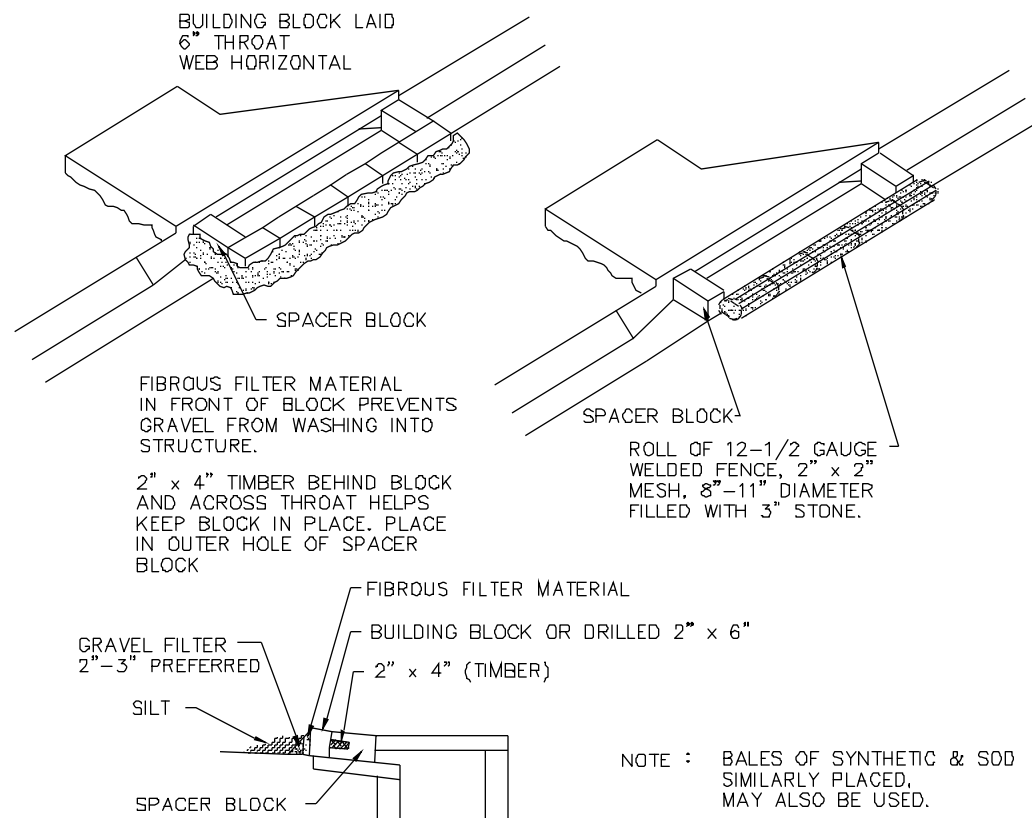
PARKING SECTION

DESIGNED	THE SIGNATURE OF THE QUALITY CONTROL OFFICER IN THIS SPACE INDICATES THAT ALL REQUIRED PERMITS HAVE BEEN OBTAINED AND THAT CONSTRUCTION IS AUTHORIZED TO COMMENCE.	4921 Memorial Highway One Memorial Center, Suite 300 Tampa, Florida 33634 Phone 813 880-8881 Fax 813 880-8882 www.kingengineering.com Engineering License #2610	THE OAKS AT SHADY CREEK, PHASE 1 LENNAR HOMES, LLC 4600 WEST CYPRESS ST., SUITE 200 TAMPA, FL 33607	TYPICAL SECTIONS AND DETAILS	NO.	DATE	DESCRIPTION	APPROVED BY	JOB NO. 4802-700-001 DATE: 09/13/2013 SCALE: AS SHOWN ISSUED FOR CONSTRUCTION OCTOBER 9, 2014	SHEET NO. C7.01
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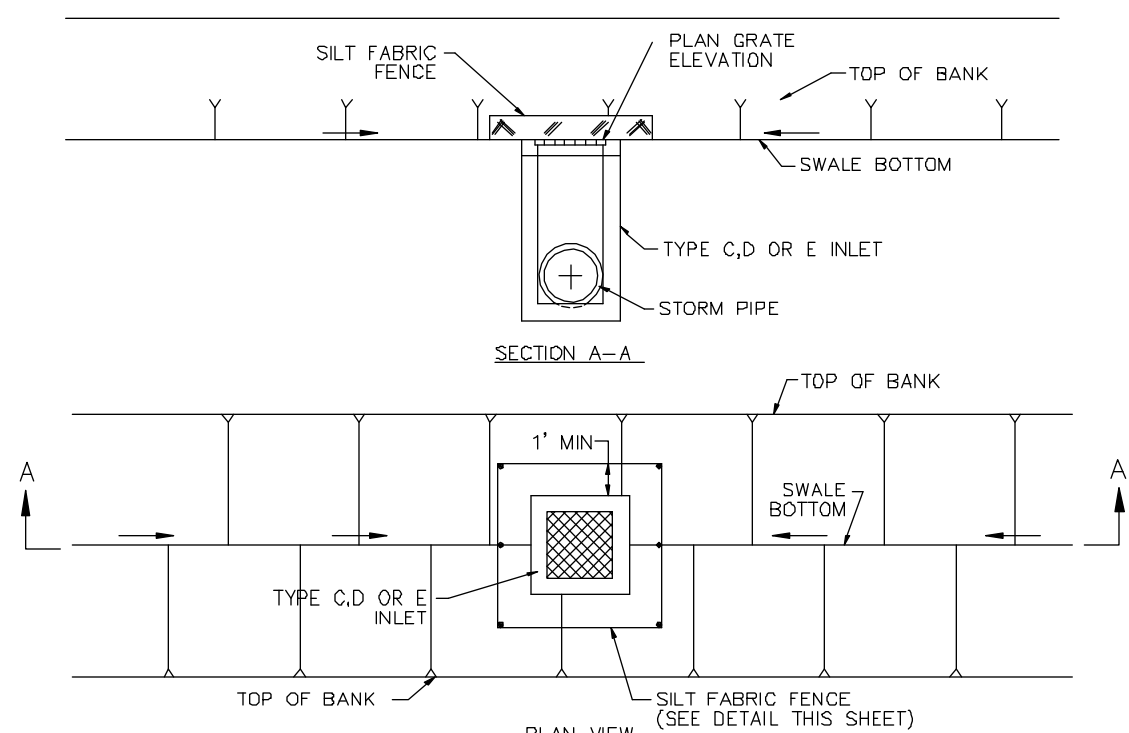
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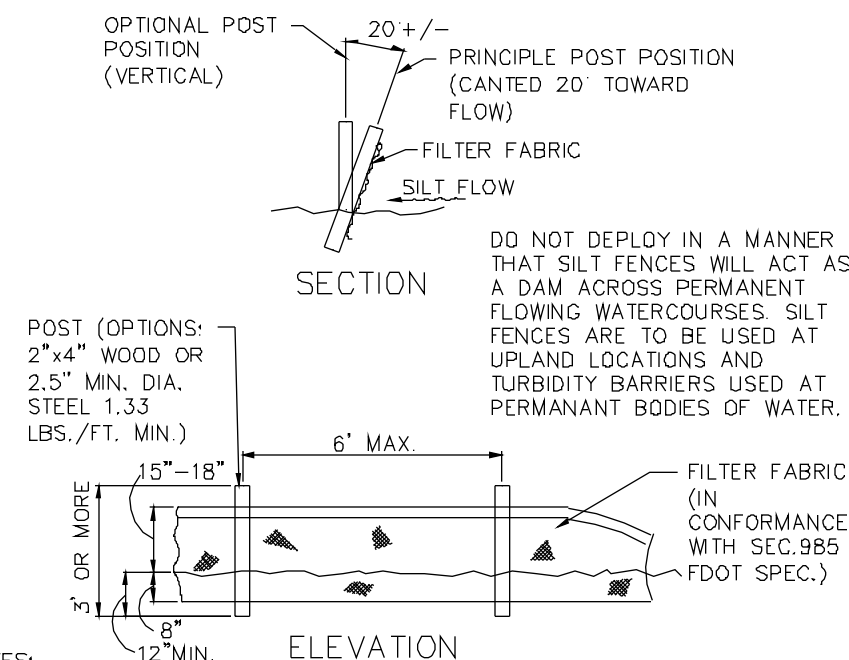
NOTED ON PLAN AS "IPD"
TEMPORARY SEDIMENT TRAP
AT STORM DRAIN INLET
SD1802 N.T.S.



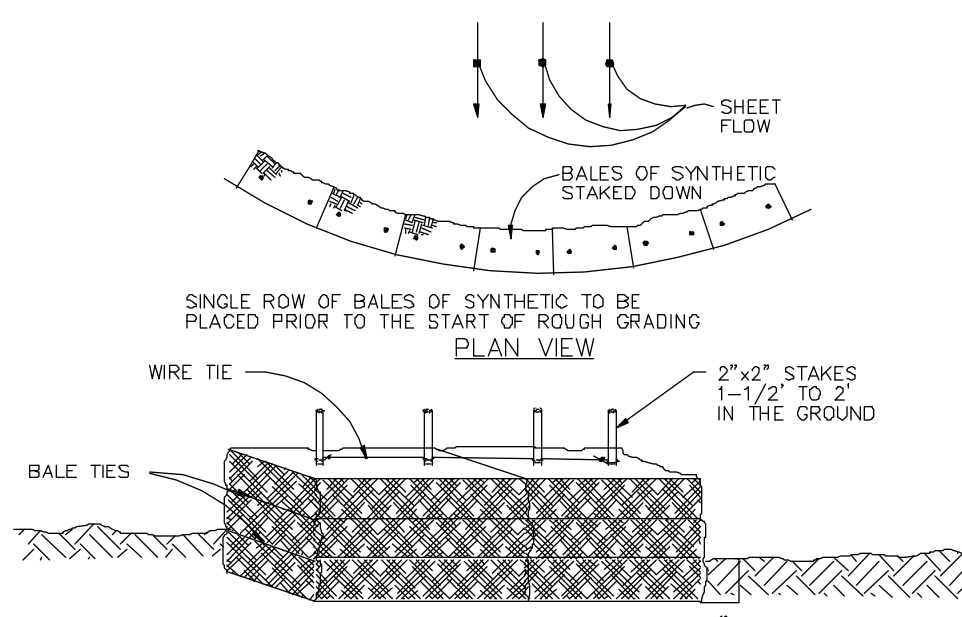
TEMPORARY SEDIMENT TRAP AT CURB INLET
N.T.S.



TEMPORARY SILT FENCE
N.T.S.



TYPE III SILT FENCE
N.T.S.

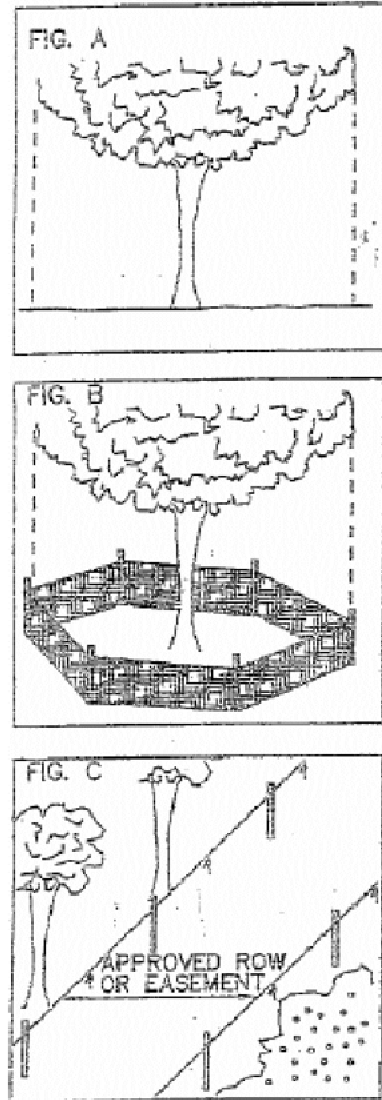


TEMPORARY SYNTHETIC BALE SEDIMENT BARRIER
N.T.S.

PROTECTIVE BARRIER REQUIREMENTS AND SPECIFICATIONS FOR EXISTING TREES TO REMAIN

PROTECTIVE BARRIERS are used during land alteration and construction activities to protect trees and natural areas to be retained on a site.

PROTECTIVE BARRIERS must be erected around TREES to be retained within an area where land alteration and construction activities will occur as well as along NATURAL AREAS where such areas are adjacent to permitted land alteration or construction activities. A PROTECTIVE BARRIER must remain in place until the land alteration and construction activities are completed or until commencement of grade finishing and sodding. No ground disturbance must occur within the barricaded area. The following represents the County's minimum protective barrier specifications.



- TREES** – To restrict access into the area within the CANOPY DRIPLINE of a tree, a physical structure not less than 3 feet in height, comprised of wood or other suitable material, is placed around the tree at the CANOPY DRIPLINE, except where land alteration or construction activities are approved within the CANOPY DRIPLINE.

The CANOPY DRIPLINE of a tree is the imaginary, vertical line that extends downward from the outermost tips of the tree's branches to the ground. Fig. A

BARRIER SPECIFICATIONS FOR TREES:

Four corner upright stakes of no less than 2"x 2" lumber connected by horizontal members of no less than 1"x 4" lumber; or upright stakes spaced at 5' intervals of no less than 2"x 2" lumber connected by silt screen fabric or material of comparable durability. Fig. B

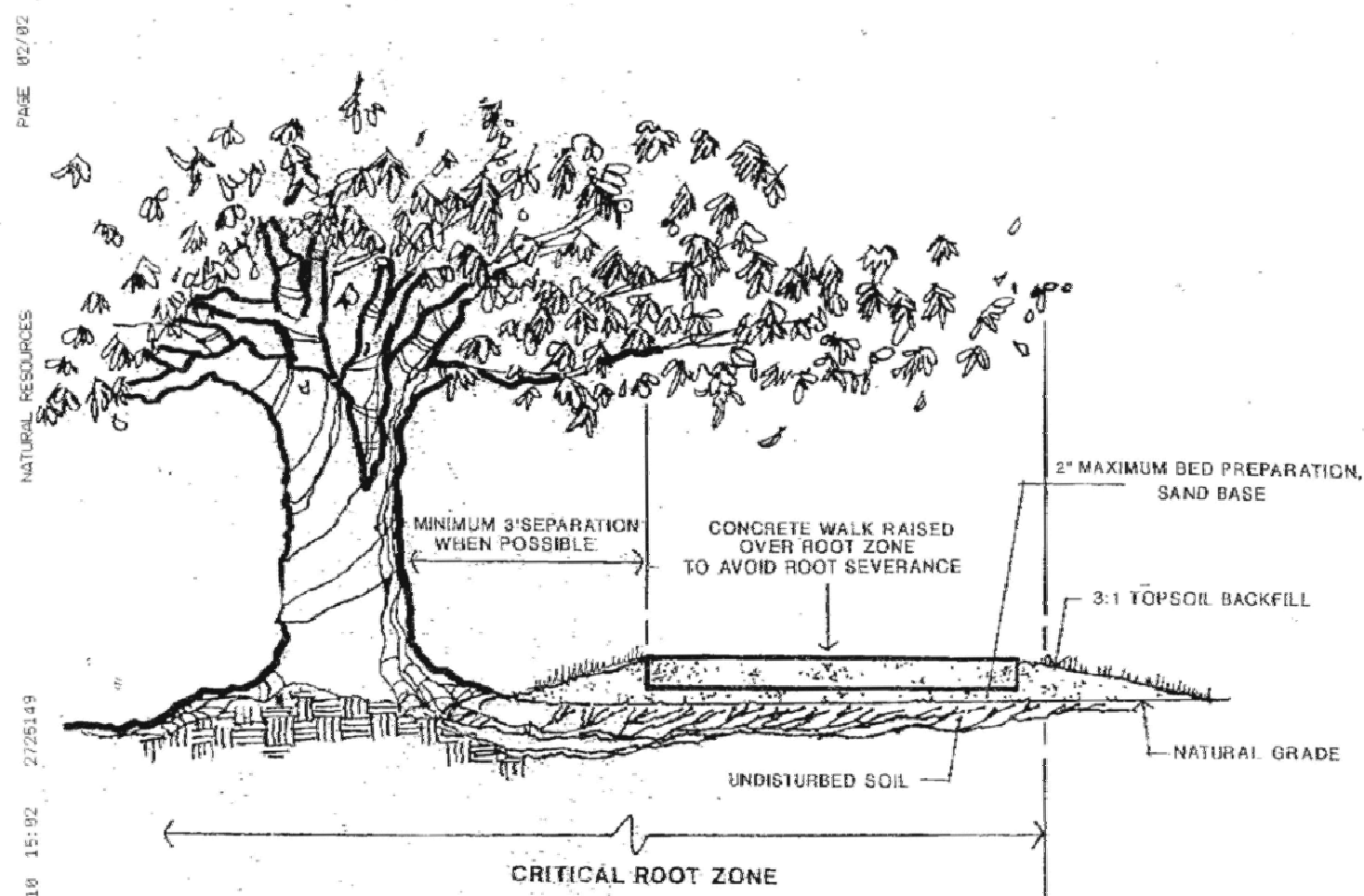
- NATURAL AREAS** – To restrict access into areas where land alteration and construction activities are not authorized a physical structure not less than 3 feet in height is placed along the perimeter of such areas.

BARRIER SPECIFICATIONS FOR NATURAL AREAS:

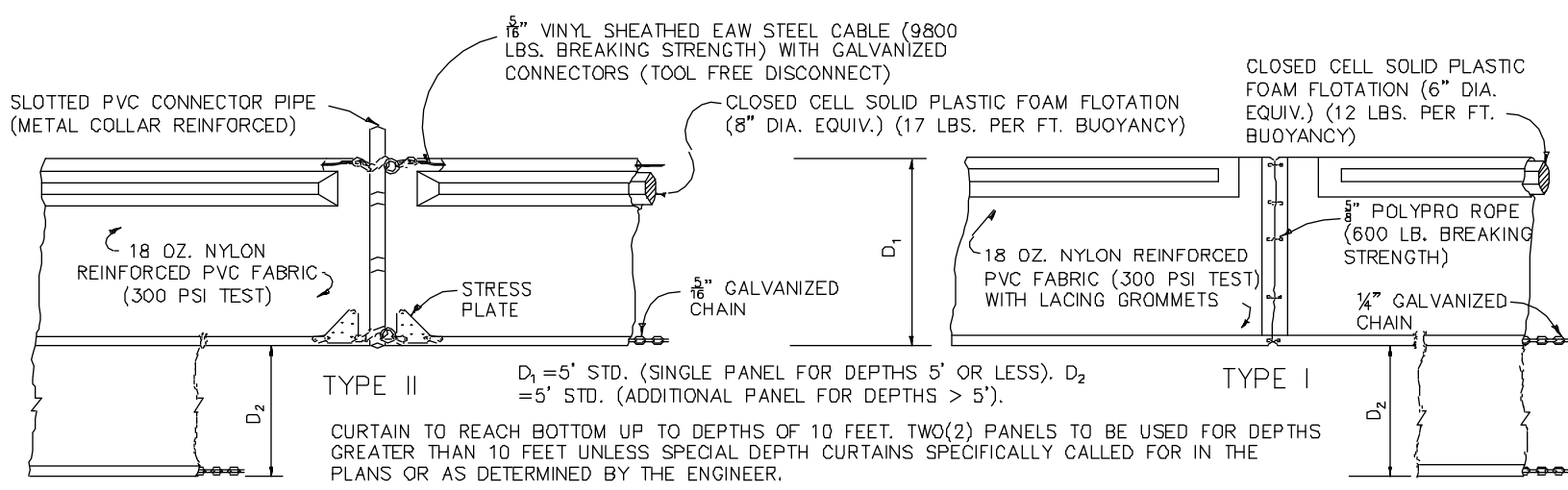
Upright stakes of no less than 2"x 2" lumber spaced no more than 25' apart and connected by twine flagged with plastic surveying tape at regular intervals of 5-10'. Fig. C. Other methods of demarcation will be considered depending upon the characteristics of the site.

WHY A BARRIER

- To protect all above ground portions of trees and other significant vegetation from mechanical damage.
- To protect root systems from compaction.
- To provide awareness of protected areas to equipment operators.



CONCRETE WALK OVER CRITICAL ROOT ZONE DETAIL NO SCALE



FLOATING TURBIDITY BARRIERS
N.T.S.

EROSION AND SEDIMENTATION CONTROL NOTES

- THE INSTALLATION OF TEMPORARY EROSION CONTROL BARRIERS SHALL BE COORDINATED WITH THE CONSTRUCTION OF THE PERMANENT EROSION CONTROL FEATURES TO THE EXTENT NECESSARY TO ASSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS CONTROL OF EROSION AND WATER POLLUTION THROUGHOUT THE LIFE OF THE CONSTRUCTION PHASE.
- THE TYPE OF EROSION CONTROL BARRIERS USED SHALL BE GOVERNED BY THE NATURE OF THE CONSTRUCTION OPERATION AND SOIL TYPE THAT WILL BE EXPOSED. SILTY AND CLAYEY MATERIAL USUALLY REQUIRE SOLID SEDIMENT BARRIERS TO PREVENT TURBID WATER DISCHARGE, WHILE SANDY MATERIAL MAY NEED ONLY SILT SCREENS OR SYNTHETIC BALES TO PREVENT EROSION. FLOATING TURBIDITY CURTAINS SHOULD BE USED IN OPEN WATER SITUATIONS. DIVERSION DITCHES OR SWALES MAY BE REQUIRED TO PREVENT TURBID STORMWATER RUNOFF FROM BEING DISCHARGED TO WETLANDS OR OTHER WATER BODIES. IT MAY BE NECESSARY TO EMPLOY A COMBINATION OF BARRIERS, DITCHES, AND OTHER EROSION/TURBIDITY CONTROL MEASURES IF CONDITIONS WARRANT.
- WHERE PUMPS ARE TO BE USED TO REMOVE TURBID WATERS FROM THE CONSTRUCTION AREA, THE WATER SHALL BE TREATED TO REDUCE TURBIDITY TO STATE WATER QUALITY STANDARDS PRIOR TO DISCHARGE TO THE WETLANDS. TREATMENT METHODS INCLUDE, FOR EXAMPLE, TURBID WATER BEING PUMPED INTO GRASSED SWALES OR APPROPRIATE VEGETATED AREAS (OTHER THAN UPLAND PRESERVATION AREAS AND WETLAND BUFFERS), SEDIMENT BASINS, OR CONFINED BY AN APPROPRIATE ENCLOSURE SUCH AS TURBIDITY BARRIERS, AND KEPT CONFINED UNTIL ITS TURBIDITY LEVEL MEETS STATE WATER QUALITY STANDARDS.
- THE CONTRACTOR SHALL PROVIDE ROUTINE MAINTENANCE OF PERMANENT AND TEMPORARY EROSION CONTROL FEATURES UNTIL THE PROJECT IS COMPLETE AND ALL BARED SOIL STABILIZED. SILTATION ACCUMULATIONS GREATER THAN THE LESSER OF 12 INCHES OR ONE-HALF THE DEPTH OF THE SILTATION CONTROL BARRIER SHALL BE IMMEDIATELY REMOVED AND PLACED IN UPLAND AREAS.
- WATER REMAINING IN THE EXCAVATIONS AFTER CONSTRUCTION MUST BE KEPT CONFINED WITHIN THE EXCAVATIONS PRIOR TO DISCHARGE (IF APPLICABLE), UNTIL THE TURBIDITY LEVEL OF THE POND WATER MEETS STATE WATER QUALITY STANDARDS.
- NO CLAY MATERIAL SHALL BE LEFT EXPOSED IN THE EXCAVATIONS. IF CLAY OR SANDY CLAYS ARE LEFT EXPOSED AT THE PERMITTED DEPTH, THE CONTRACTOR SHALL OVER EXCAVATE THE POND'S BOTTOM AND SIDE SLOPES BY A MINIMUM OF 12 INCHES AND BACKFILL WITH CLEAN SANDS.
- PROVIDE ALL DISTURBED AREAS WITHIN THE LIMITS OF THE WORK WITH TEMPORARY SOIL EROSION CONTROL AND SEDIMENT CONTROL, UTILIZING EARTH DAMS & PONDS, GRADE TO DRAIN SWALES, SETTLING BASINS, SILT FENCES, STONE FILTERS, SYNTHETIC BALE FILTERS, ETC., TREATING ALL SOIL SURFACES WITH SEEDED TOPSOIL AND / OR MULCH AFTER GRADING.
- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND AIR AND WATER POLLUTION WILL BE MINIMIZED. STATE AND LOCAL LAWS SHALL BE COMPLIED WITH AT ALL TIMES.
- TO MINIMIZE SOIL EROSION, PROPOSED LAND ALTERATION ACTIVITIES SHALL NOT UNNECESSARILY REMOVE EXISTING VEGETATION AND ALTER EXISTING TOPOGRAPHY. ADEQUATE PROTECTION MEASURES (I.E. SYNTHETIC BALES, BAFFLES, SODDING AND SANDBAGGING) SHALL BE PROVIDED, AS NECESSARY, TO MINIMIZE EROSION AND DOWNSTREAM SEDIMENTATION CAUSED BY SURFACE WATER RUN-OFF ON EXPOSED LAND SURFACES.
- PERMANENT VEGETATION SHALL BE BY SEEDING OR SODDING ALL EXPOSED AREAS WITHIN THREE DAYS AFTER FINAL GRADING. MULCH SHALL BE USED AS NECESSARY FOR PROTECTION UNTIL 75% GROWTH IS ESTABLISHED. AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL WHICH WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY AS TO PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER.
- ALL NEW EROSION AND SILT CONTROL METHODS AND LOCATIONS INDICATED ON THIS DRAWING ARE FOR START-UP AND GENERAL REFERENCE ONLY AND SHALL BE ADJUSTED, AS REQUIRED, TO SUIT THE PROCESS OF THE CONSTRUCTION.
- ANY AREAS SUBJECT TO EROSION MUST BE ADEQUATELY STABILIZED WITH VEGETATIVE MATERIAL THAT WILL, WITHIN A REASONABLE TIME FRAME, DETER SOIL DISTURBANCE, SODDING, PLUGGING, SPRIGGING, OR SEEDING FOR STABILIZATION; HOWEVER, SODDING MAY BE REQUIRED IN AREAS OF EROSION-PRONE SOILS OR WHERE SLOPES ARE GREATER THAN 5:1. VEGETATION OTHER THAN GRASS IS ACCEPTABLE UNLESS OTHERWISE SPECIFIED.
- FOR COMMERCIAL SITE DEVELOPMENT PROJECTS, NO MORE THAN 50% OF THE LANDSCAPED AREA MAY BE PLANTED WITH SHALLOW-ROOTED (I.E. ST. AUGUSTINE) TURF GRASS VARIETIES. THESE TURF GRASS VARIETIES SHALL BE CONSOLIDATED IN AND LIMITED TO AREAS THAT ARE PROVIDED WITH CENTRAL AUTOMATIC IRRIGATION SYSTEMS. A METHOD OF STABILIZATION MUST BE SHOWN ON THE SITE DEVELOPMENT CONSTRUCTION PLANS.
- SEE PGD PLANS FOR ADDITIONAL EROSION CONTROL LOCATION INFORMATION AND DETAILS.
- CONTRACTOR TO COMPLY WITH ALL REGULATIONS AS SET FORTH BY THE FDEP NPDES STORMWATER REGULATORY PROGRAM.
- CONTRACTOR TO CONSTRUCT PROPOSED STORMWATER PONDS IN EITHER CELLS OR SEQUENCED SO THAT THE FIRST PONDS FUNCTION AS SEDIMENT BASINS TO SEPARATE SUSPENDED SOLIDS FROM PRODUCED GROUNDWATER. ALL PRODUCED GROUNDWATER MUST MEET CRITERIA OF "STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION GENERIC PERMIT FOR THE DISCHARGE OF PRODUCED GROUNDWATER FROM ANY NON-CONTAMINATED SITE ACTIVITY" EFFECTIVE DATE FEBRUARY 14, 2000; DOCUMENT NUMBER 62-621.300(2).
- DURING LAND ALTERATION AND CONSTRUCTION ACTIVITIES, IT SHALL BE UNLAWFUL TO REMOVE VEGETATION BY GRUBBING OR TO PLACE SOIL DEPOSITS, DEBRIS, SOLVENTS, CONSTRUCTION MATERIAL, MACHINERY OR OTHER EQUIPMENT OF ANY KIND WITHIN THE DRIPLINE OF A TREE TO REMAIN ON THE SITE UNLESS OTHERWISE APPROVED BY THE COUNTY.

THE OAKS AT SHADY CREEK, PHASE 1

LENNAR HOMES, LLC
4600 WEST CYPRESS ST., SUITE 200
TAMPA, FL 33607

EROSION CONTROL DETAILS

King
ENGINEERING ASSOCIATES, INC.

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One Memorial Center, Suite 300
Tampa, Florida 33634
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Fax 813 880-8882
www.kingengineering.com
Engineering License #2610

JOB NO:

4802-700-001

DATE:

09/13/2013

SCALE:

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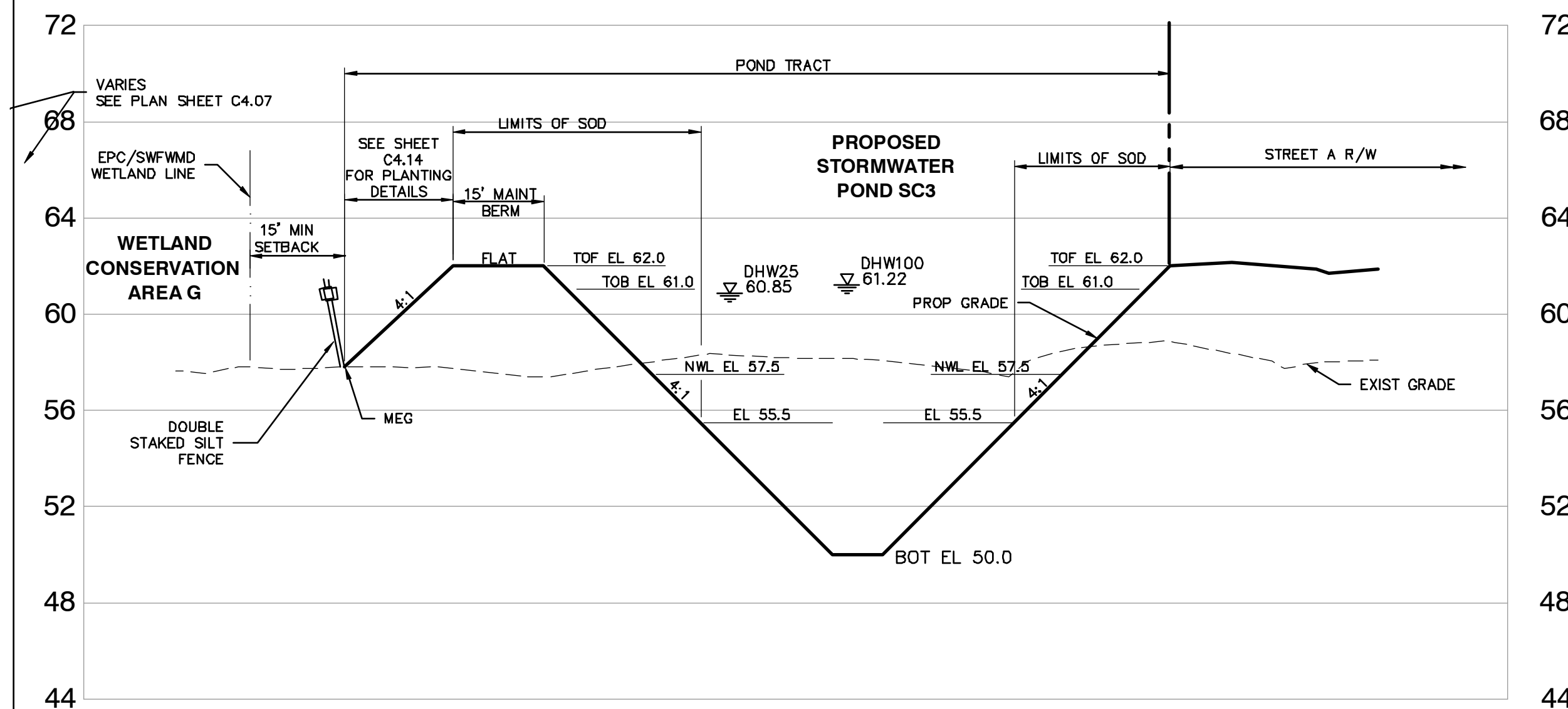
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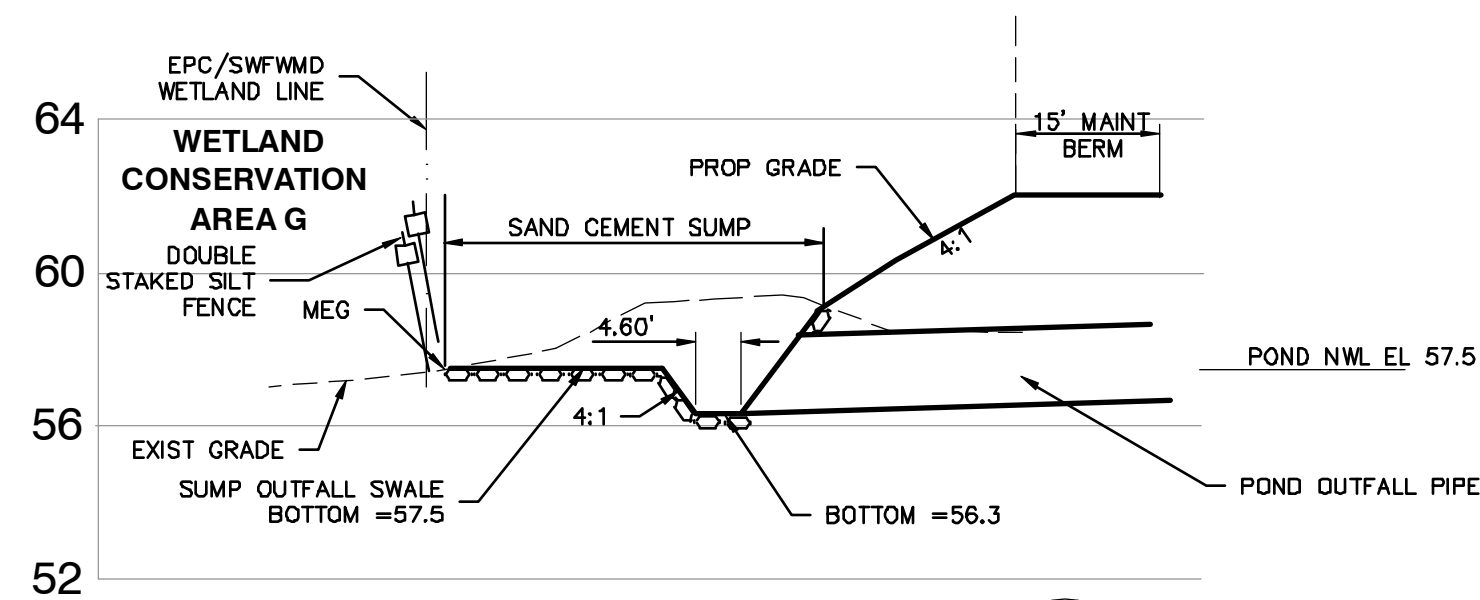


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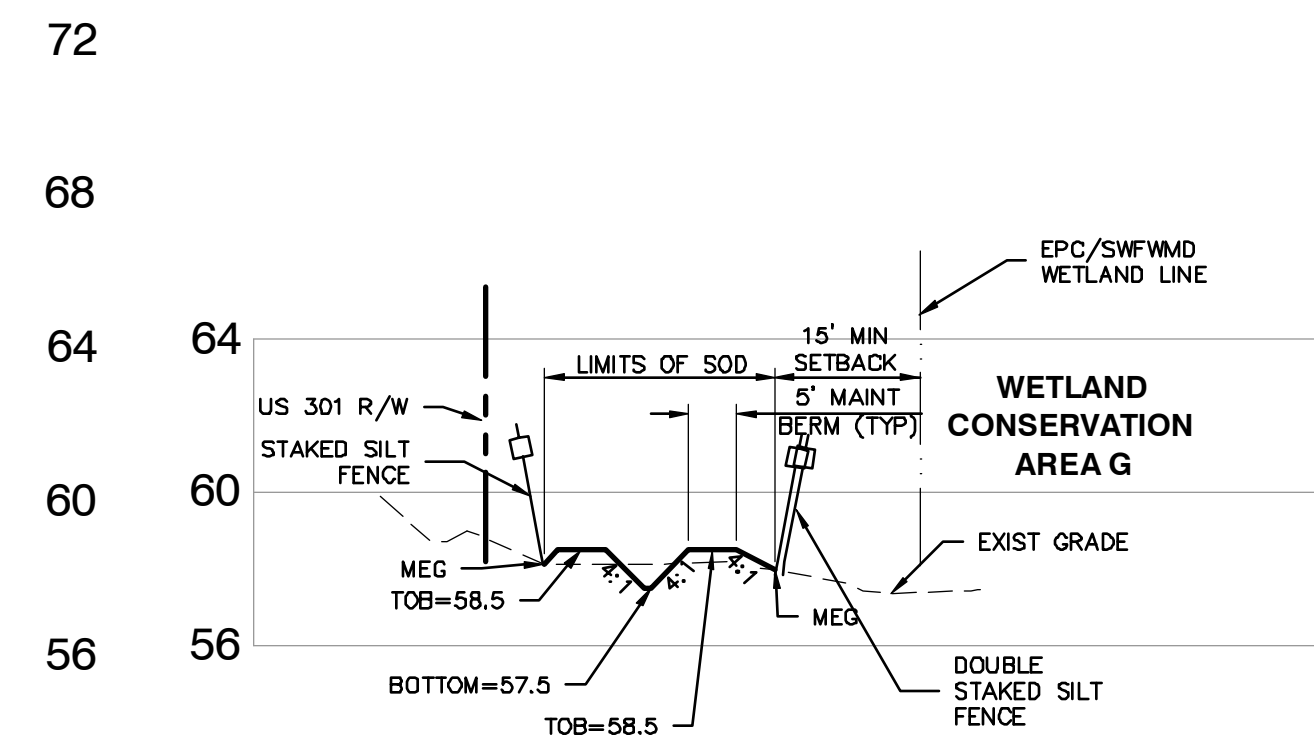


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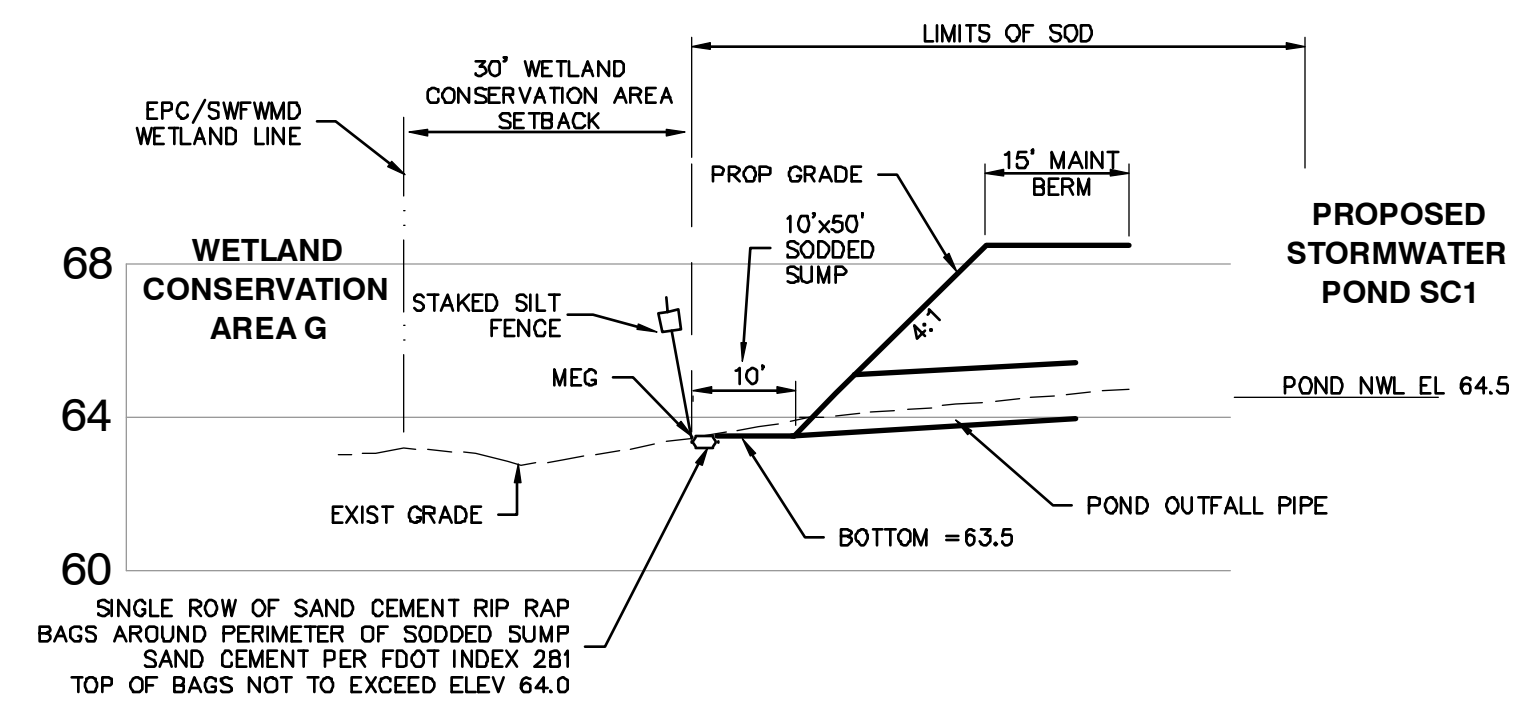


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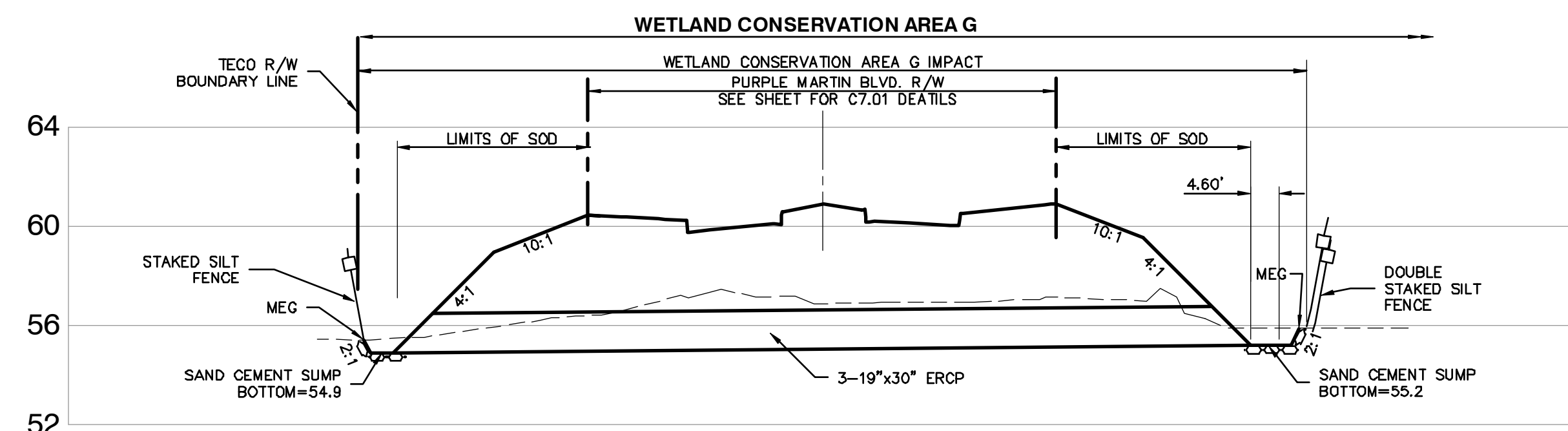


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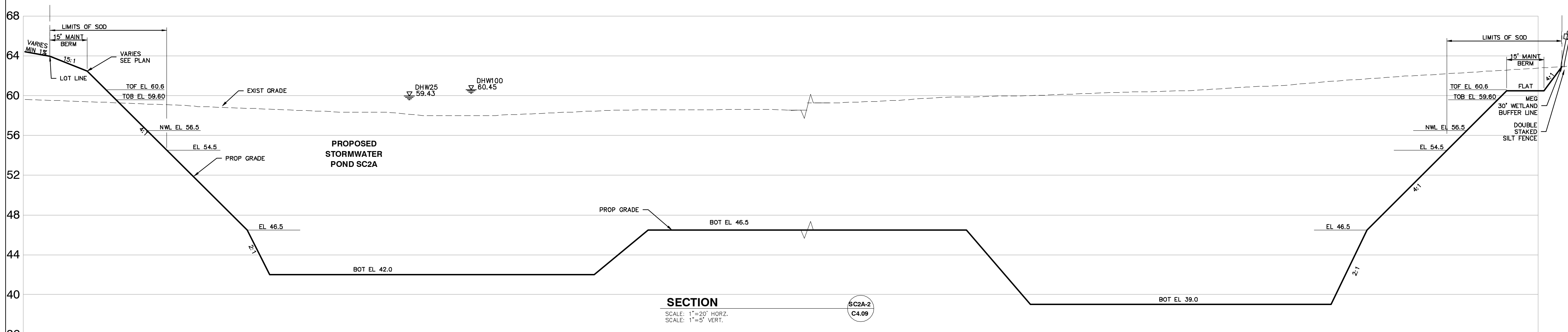


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SC2A-2

C4.09

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THE OAKS AT SHADY CREEK, PHASE 1

LENNAR HOMES, LLC
4600 WEST CYPRESS ST., SUITE 200
TAMPA, FL 33607

GRADING DETAILS

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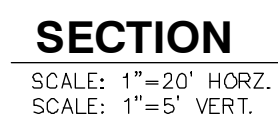
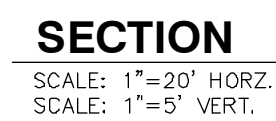
JOB NO.
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OCTOBER 9, 2014



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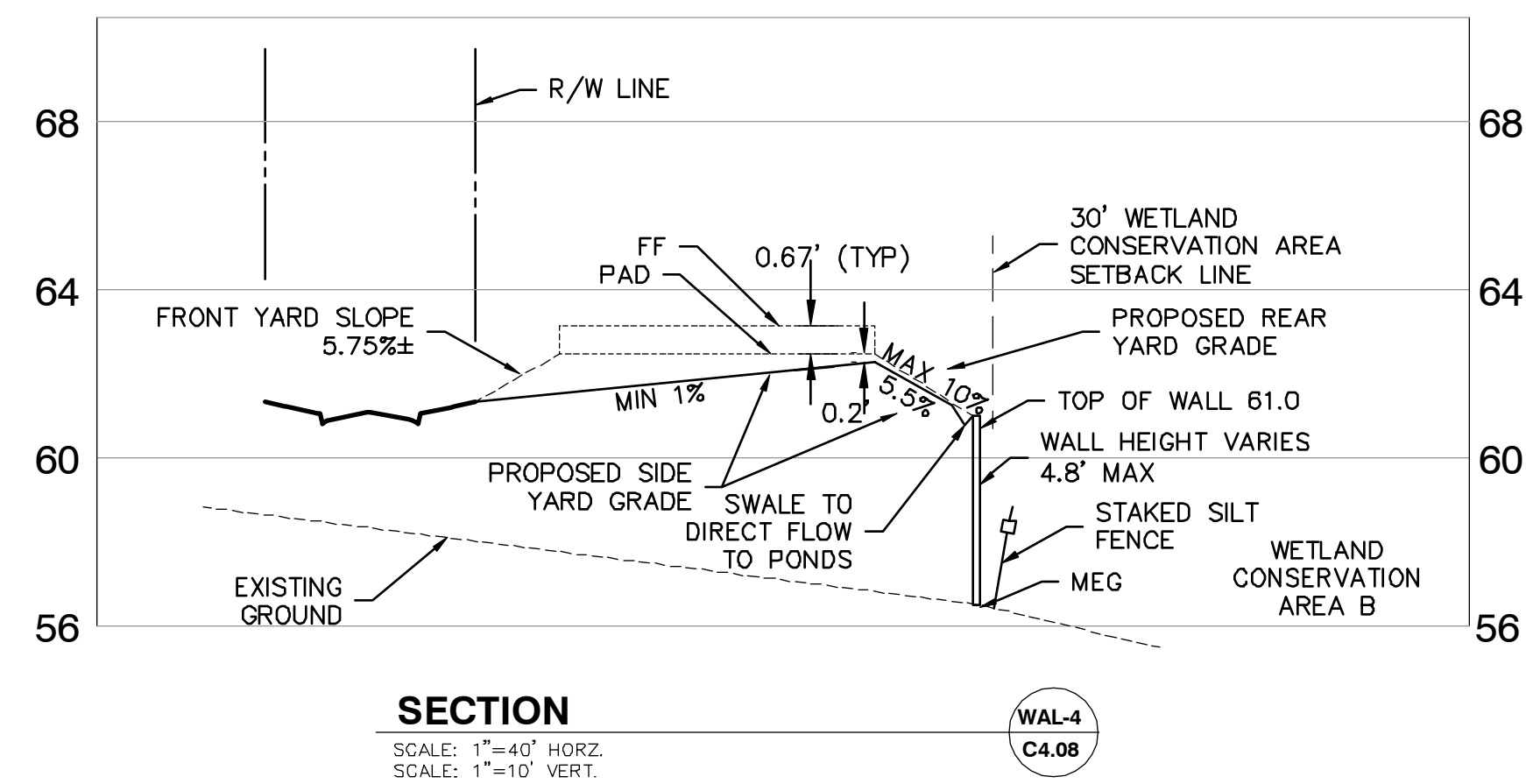
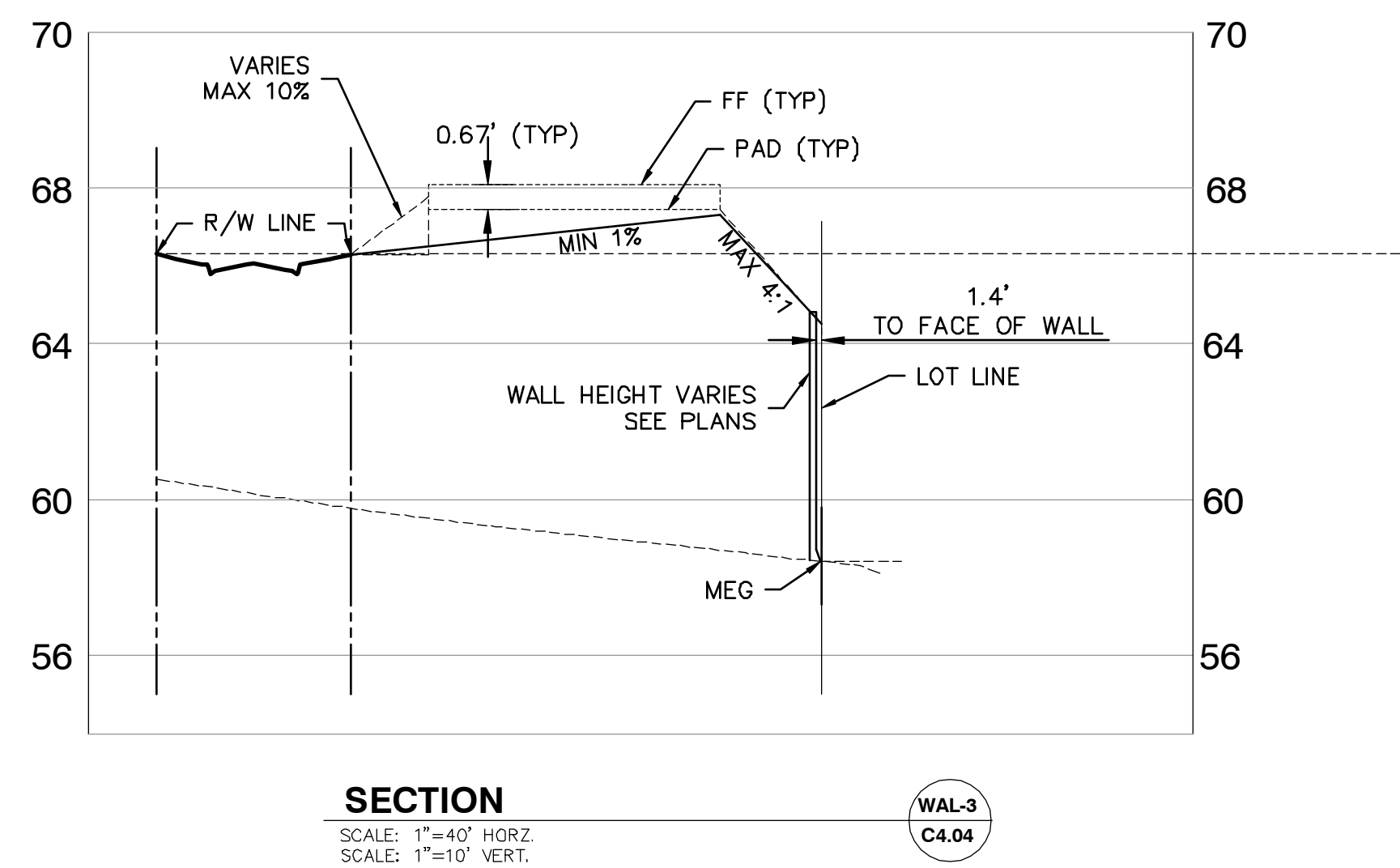
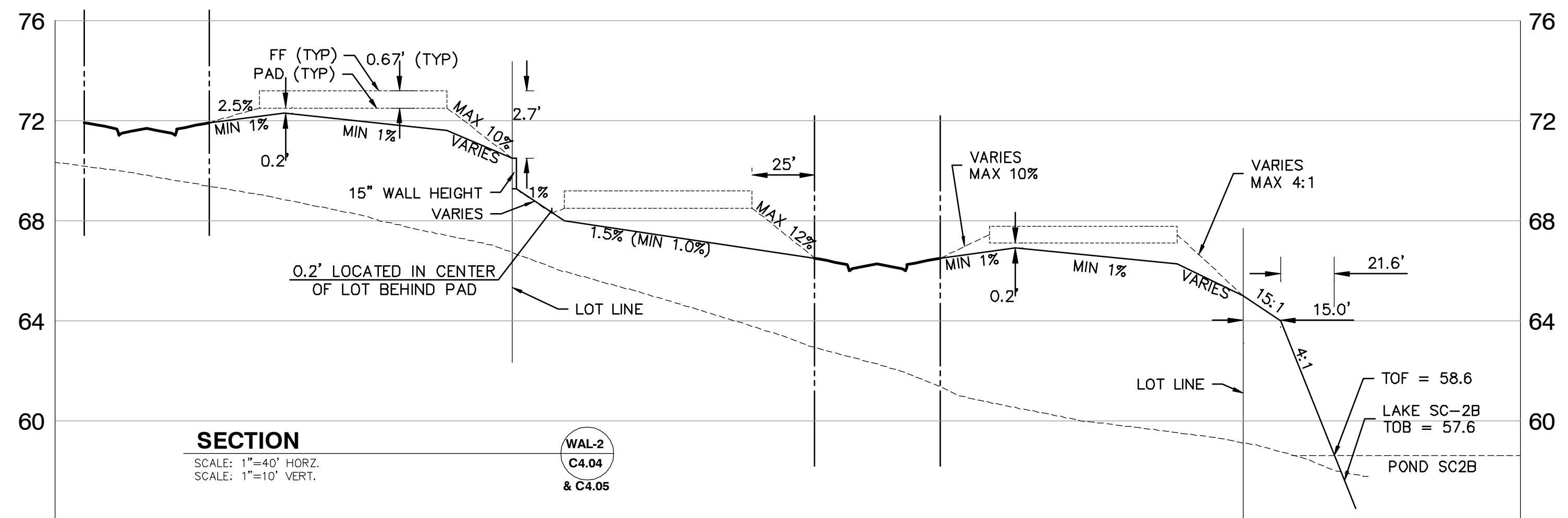
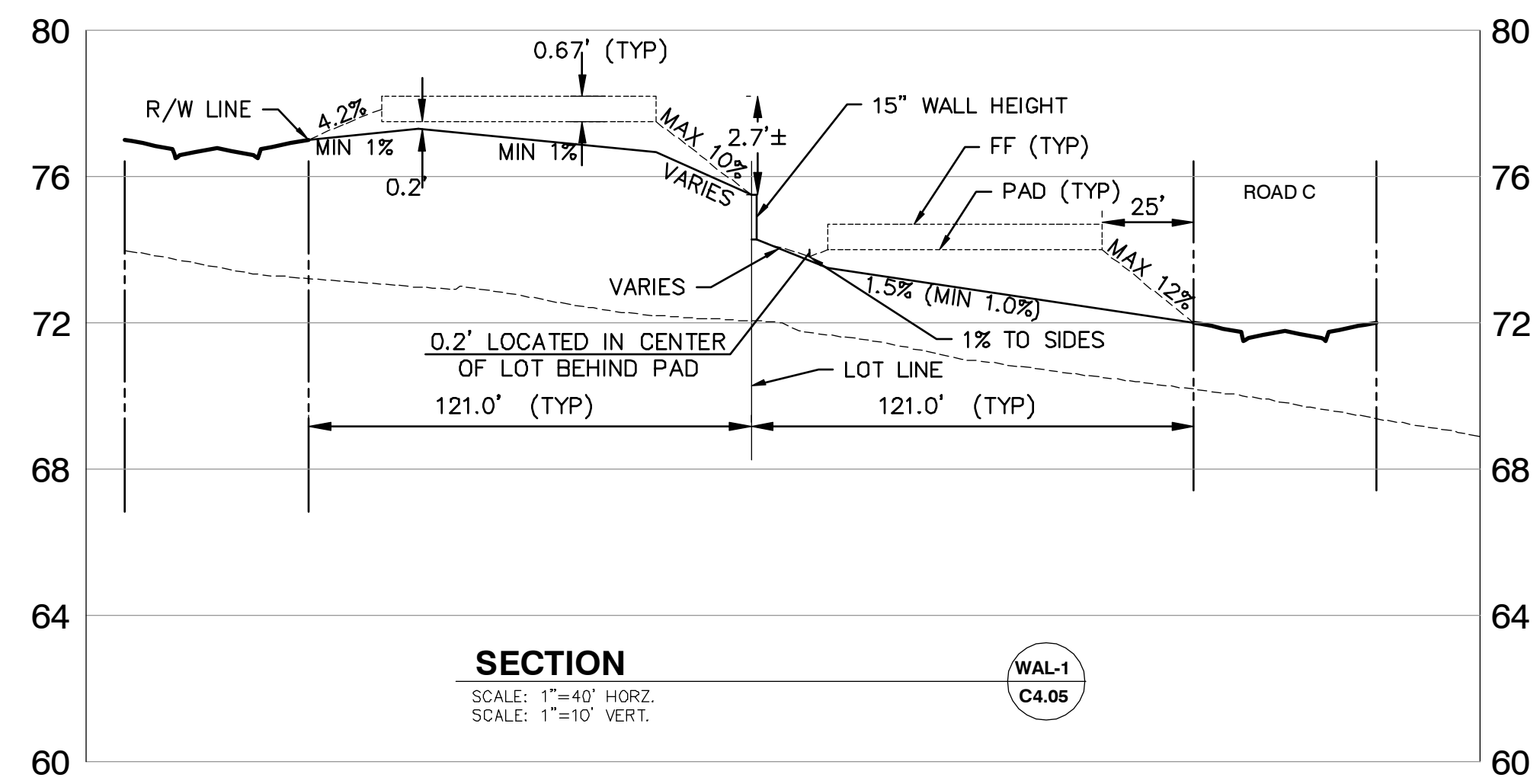
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						JOB NO: 4802-700-001	SHEET NO: C9.03
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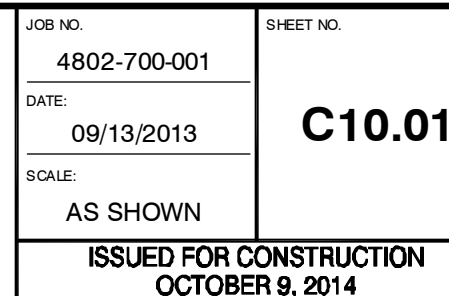
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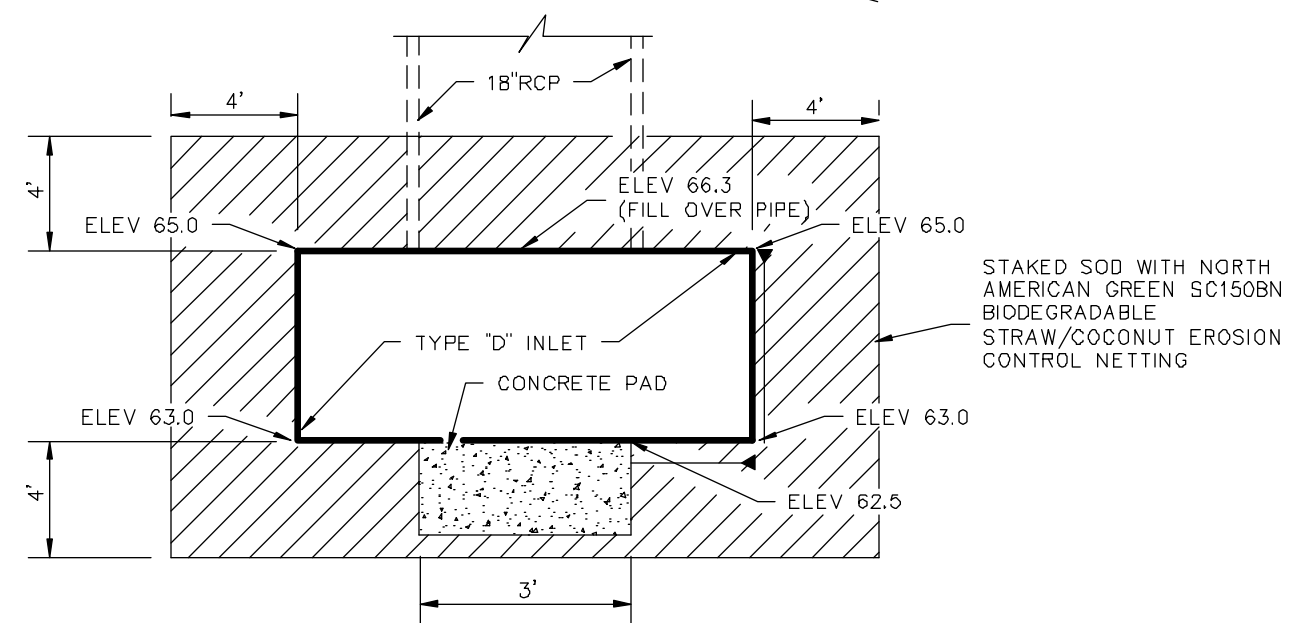
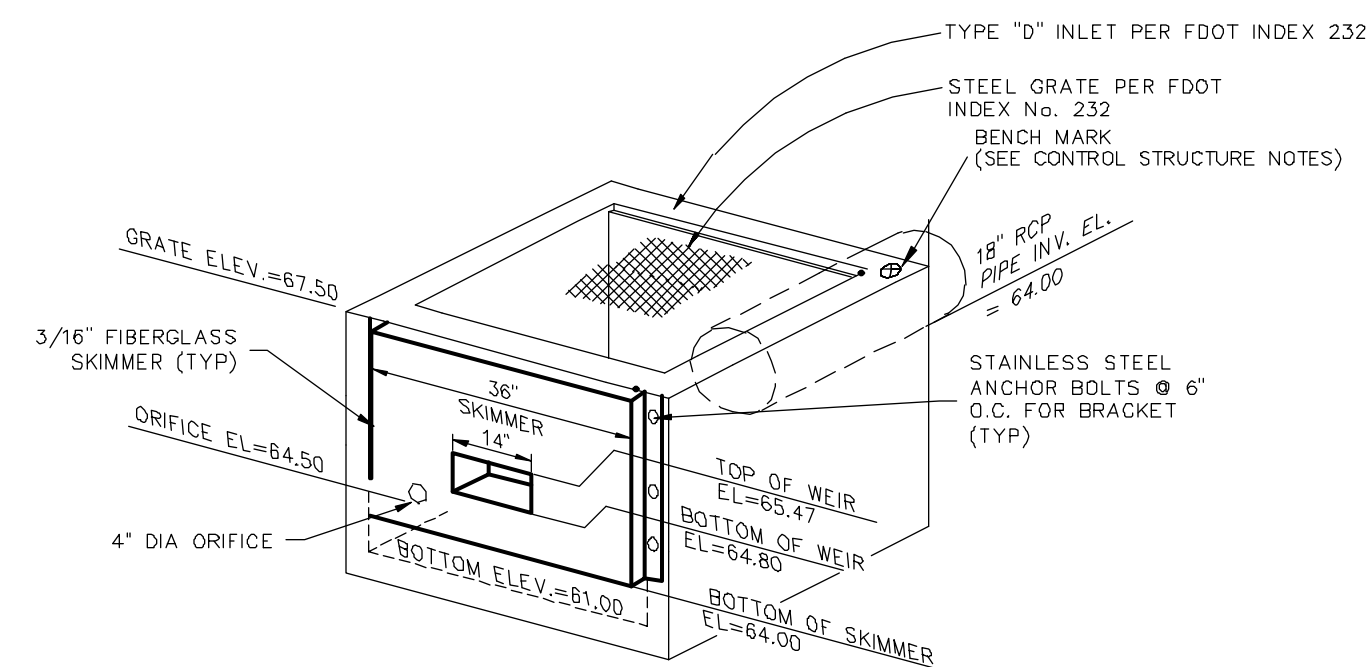
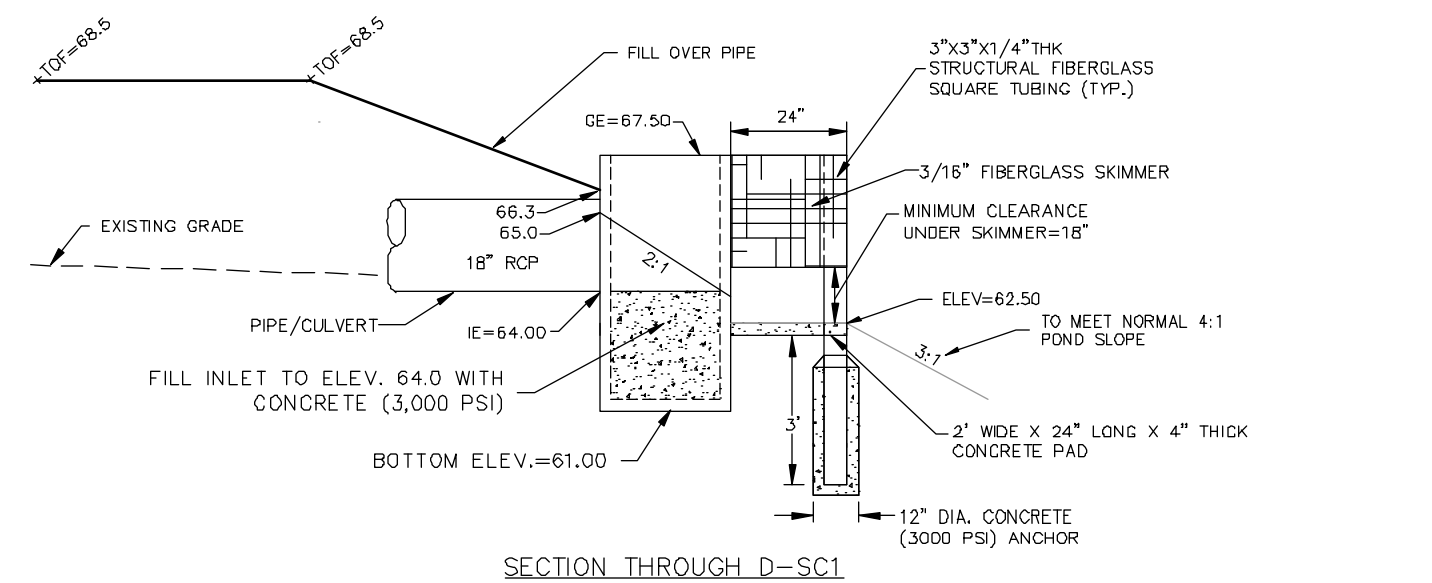
THE OAKS AT SHADY CREEK, PHASE 1

LENNAR HOMES, LLC
4600 WEST CYPRESS ST., SUITE 200
TAMPA, FL 33607

GRADING DETAILS

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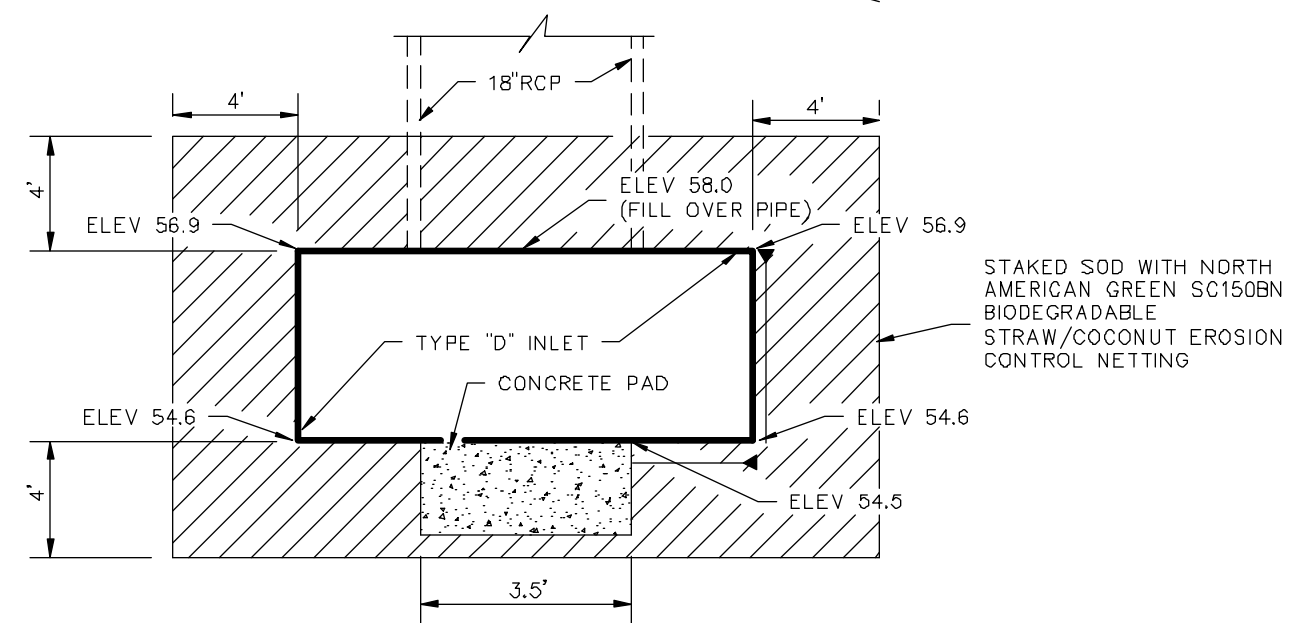
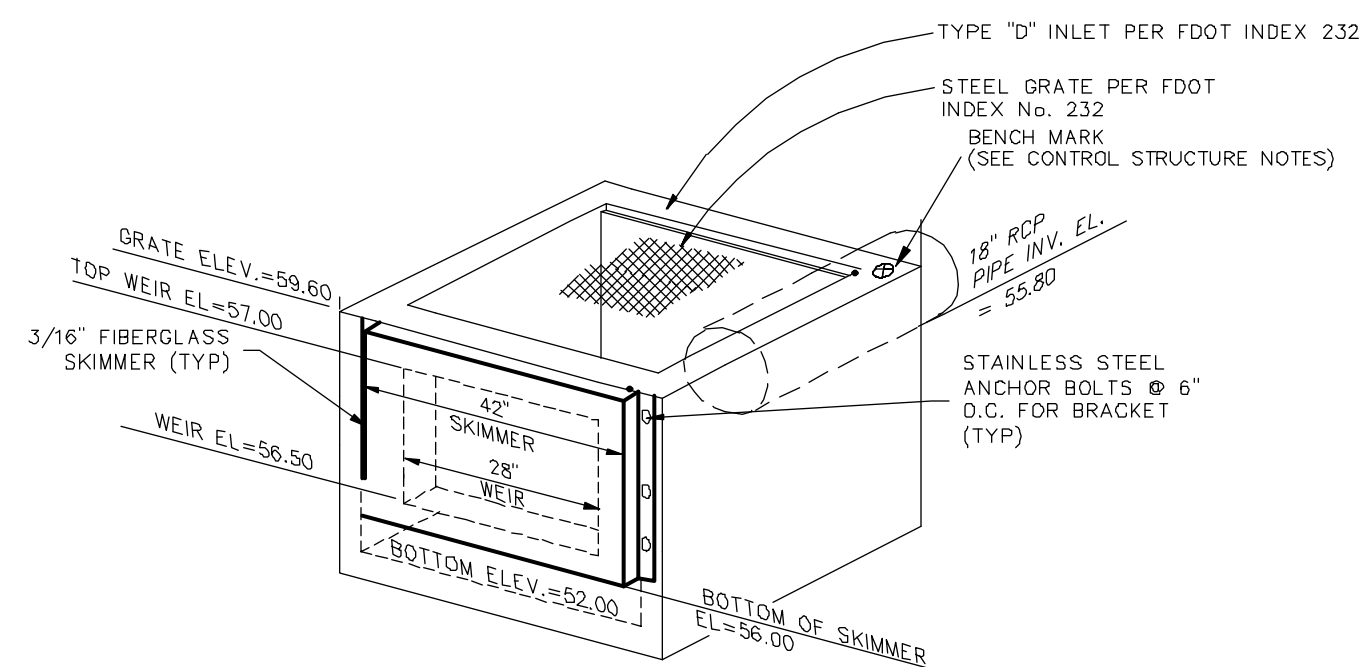
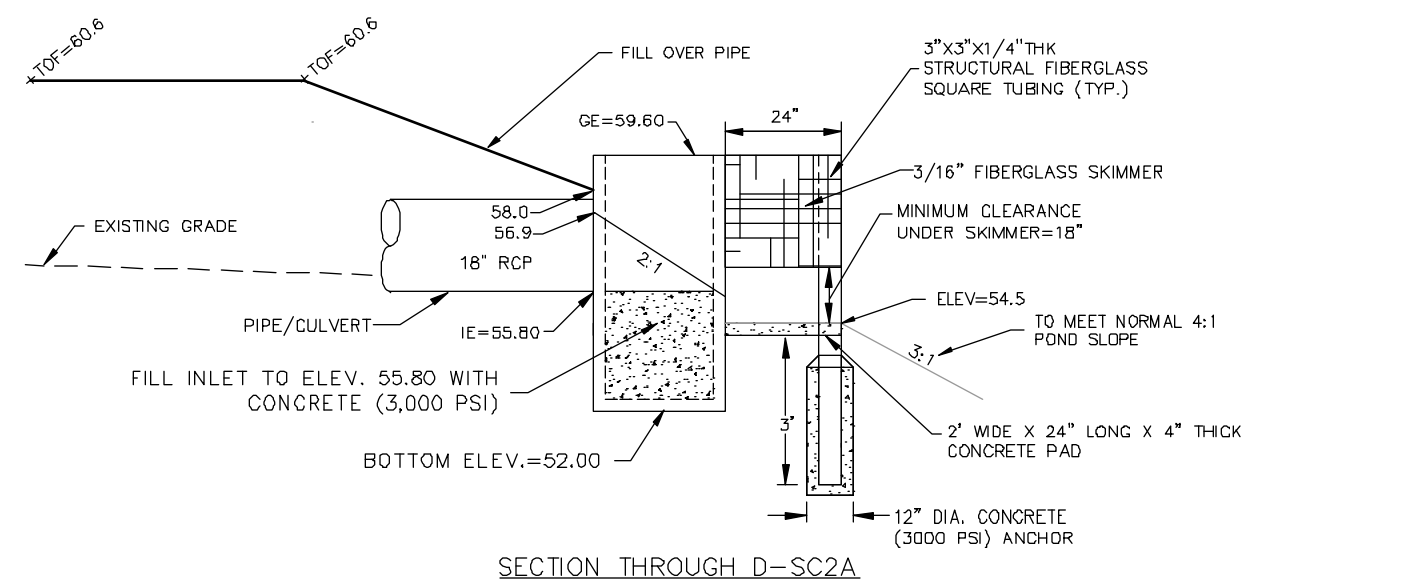


NOTE:

SET A BENCHMARK ELEVATION AT THE GRATE ELEVATION ON EACH STRUCTURE IN THE LOCATION SHOWN WITH A

PROVIDE A LICENSED SURVEYOR'S CERTIFICATION ON THE BENCHMARK ELEVATION NO LESS THAN THREE WEEKS AFTER THE STRUCTURE HAS BEEN SET. GROUND SURFACE BELOW ALL CONTROL STRUCTURES SHALL BE A CONSTRUCTED CONCRETE SLAB THAT WILL DETER ORIGIN GROWTH OF VEGETATION. BROKEN CONCRETE SHOULD NOT BE USED.

DROP STRUCTURE D-SC1 DETAIL - NTS

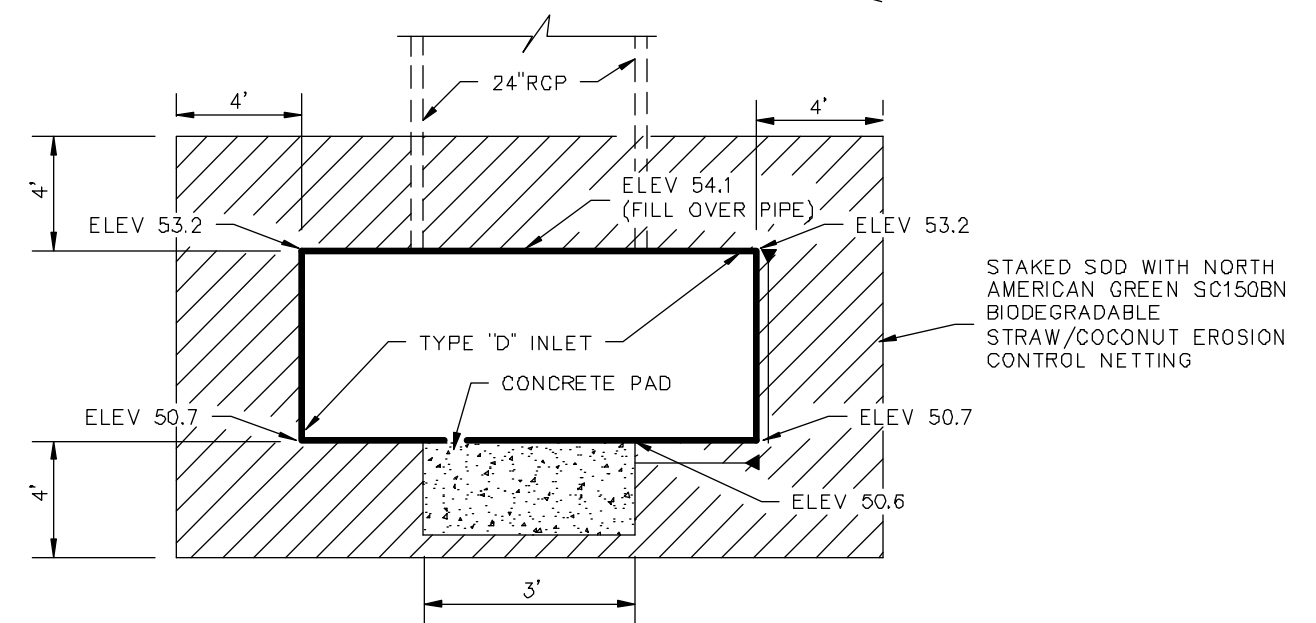
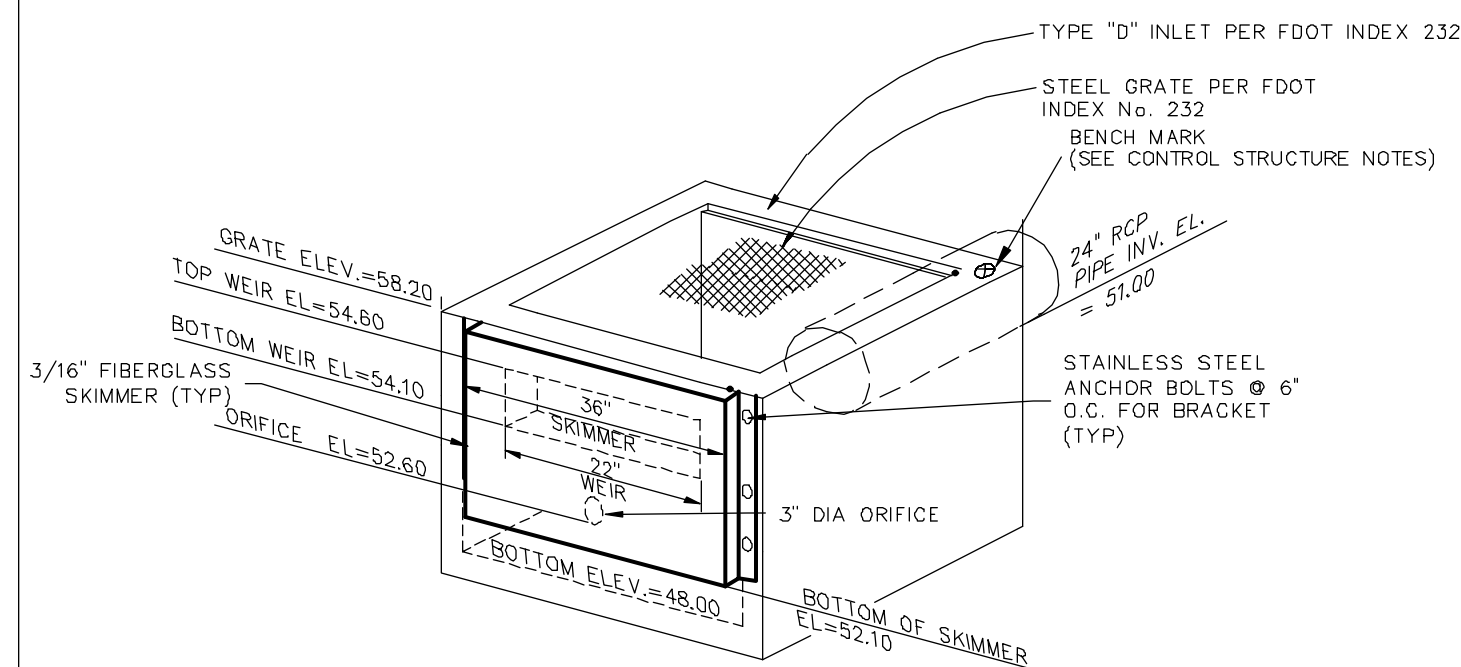
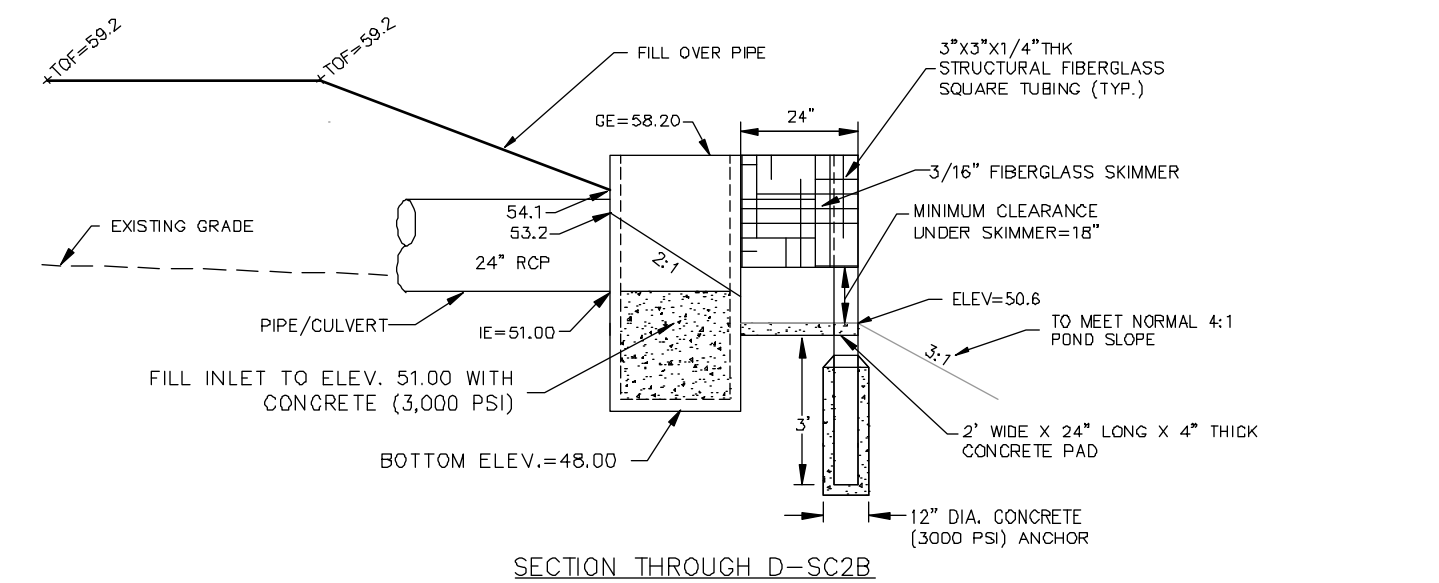


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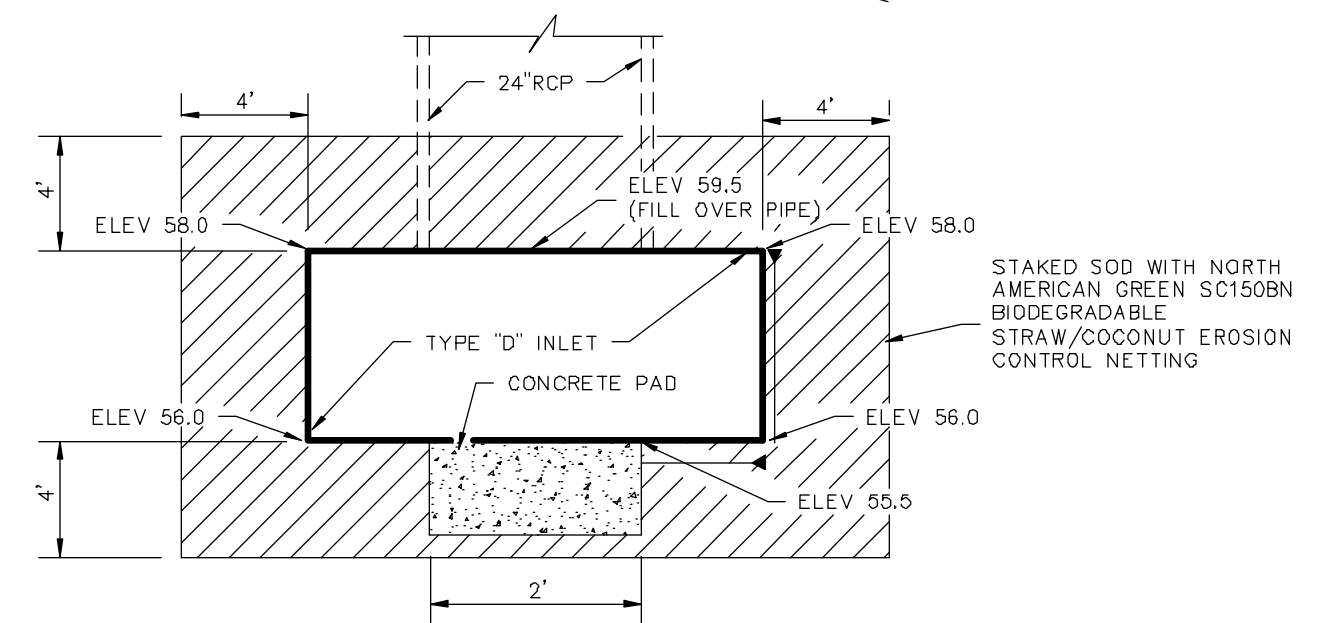
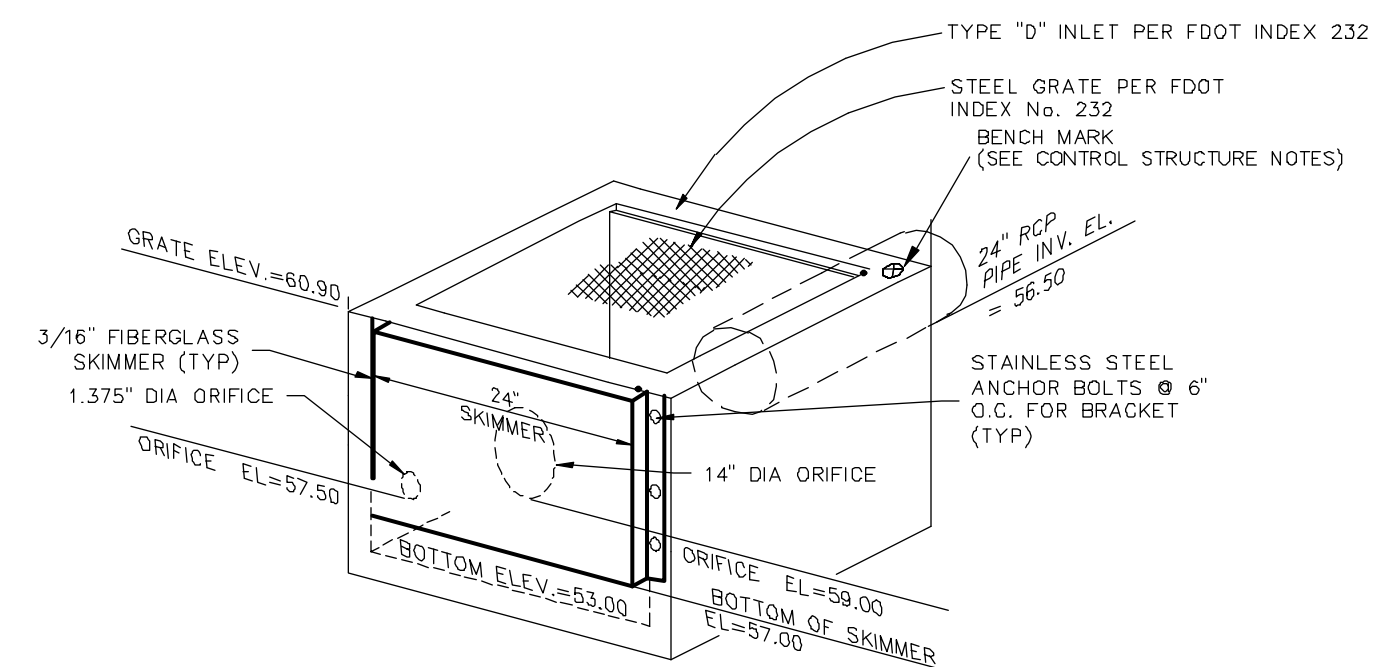
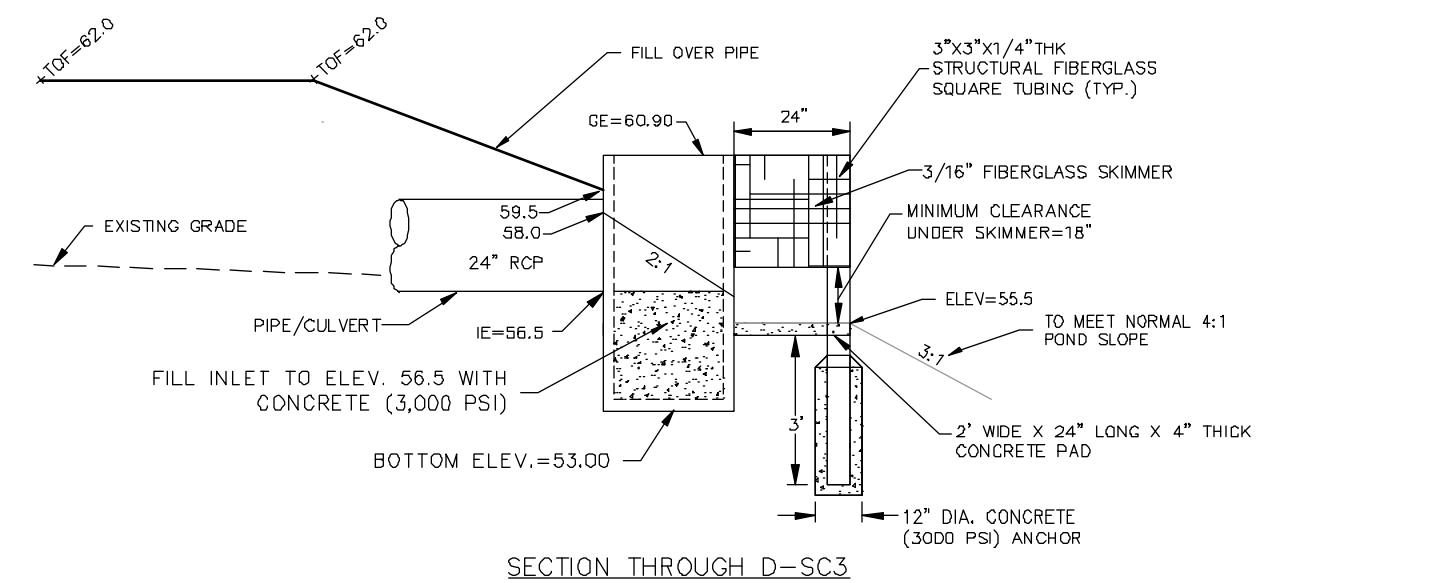


NOTE:

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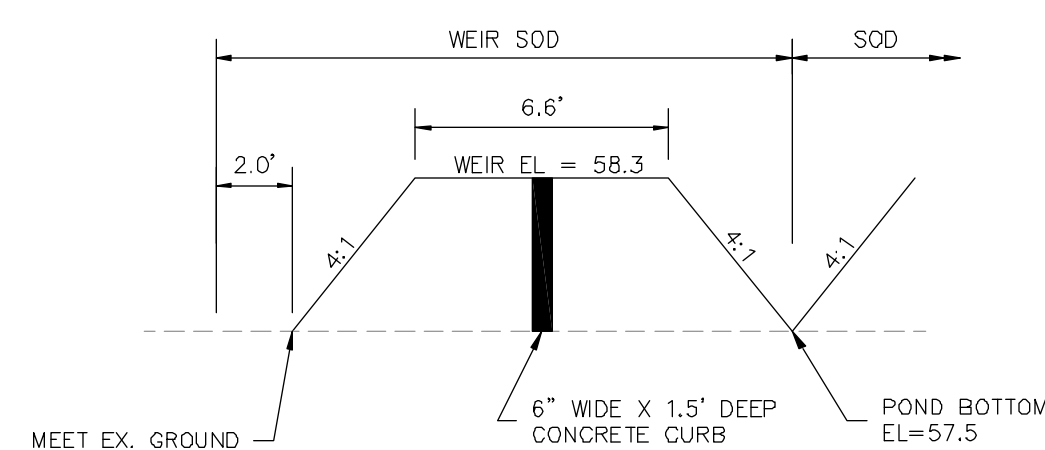
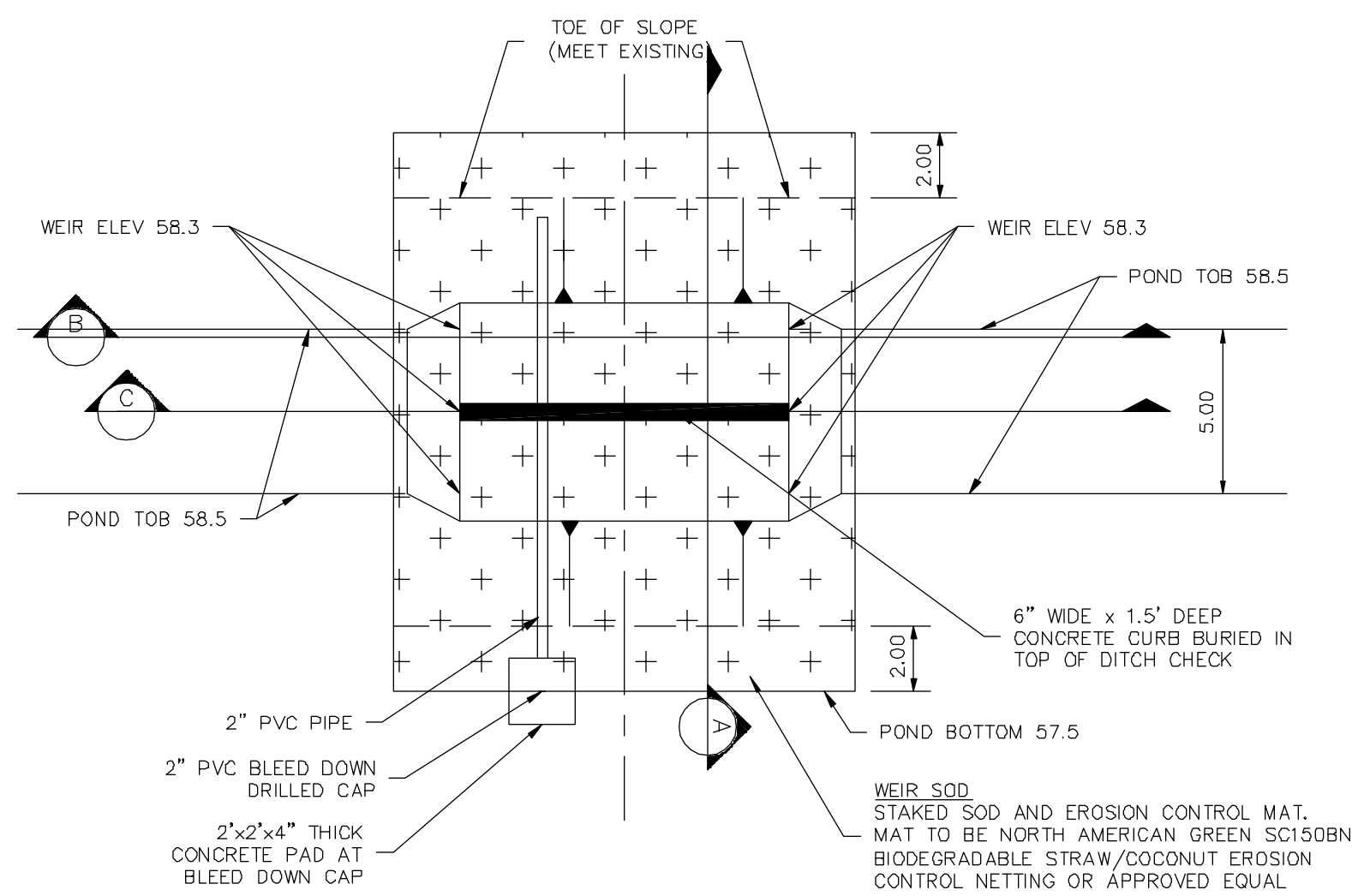


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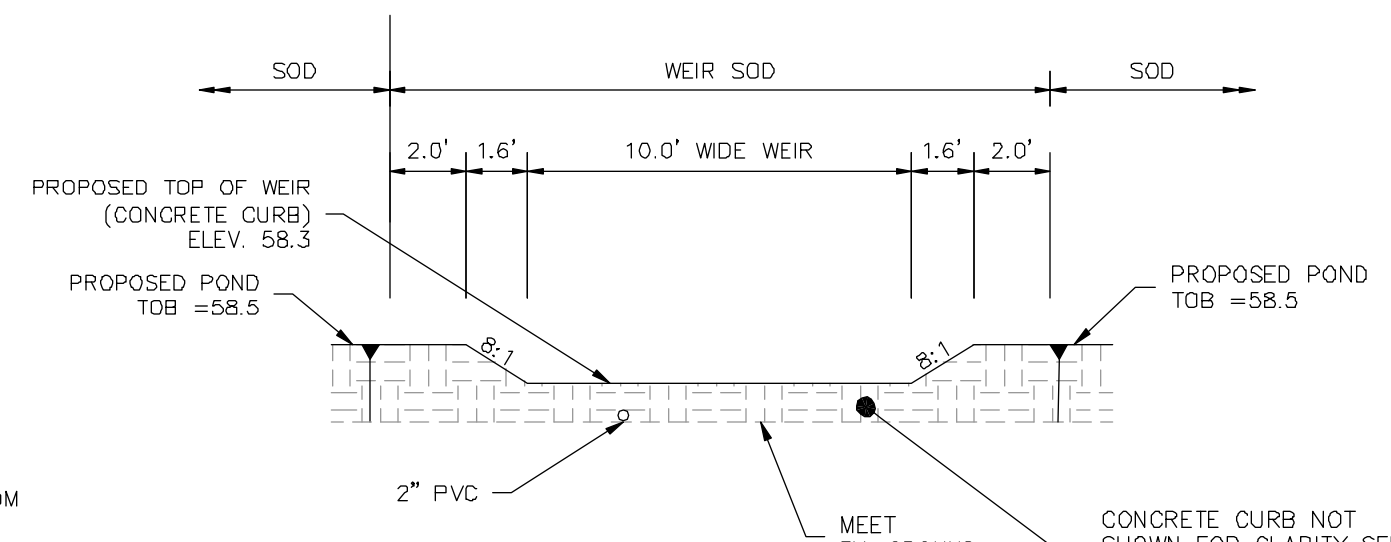
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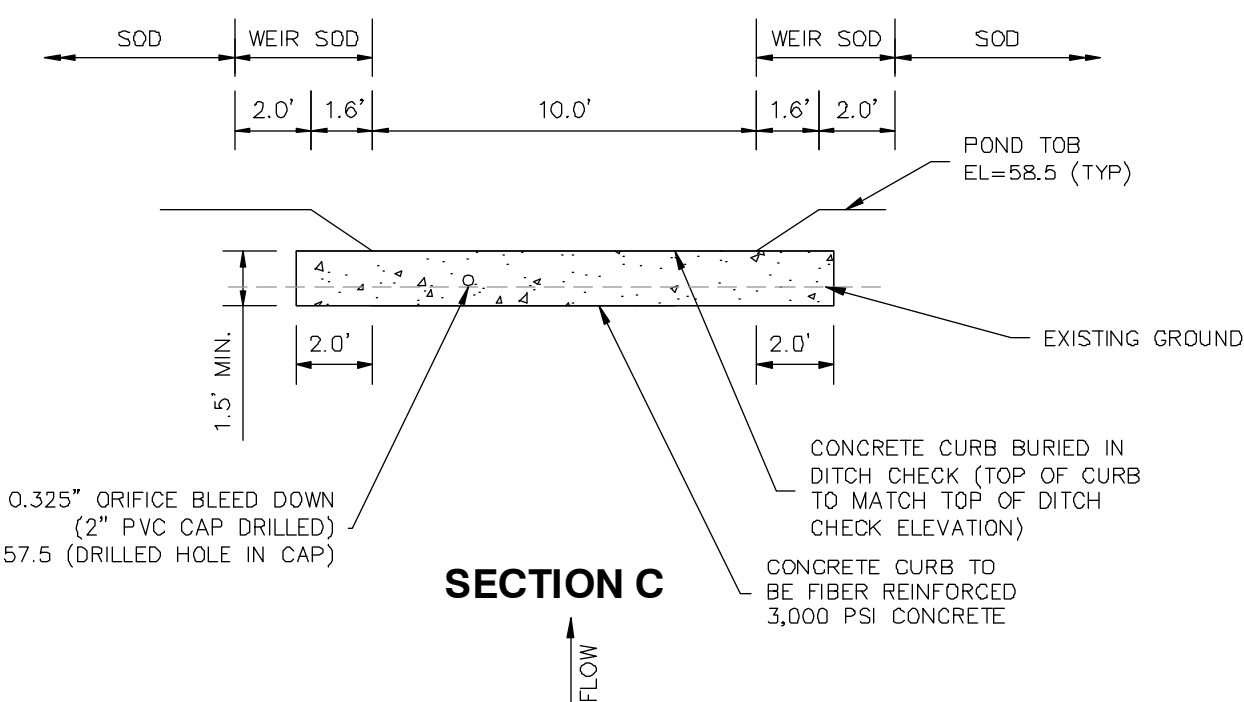
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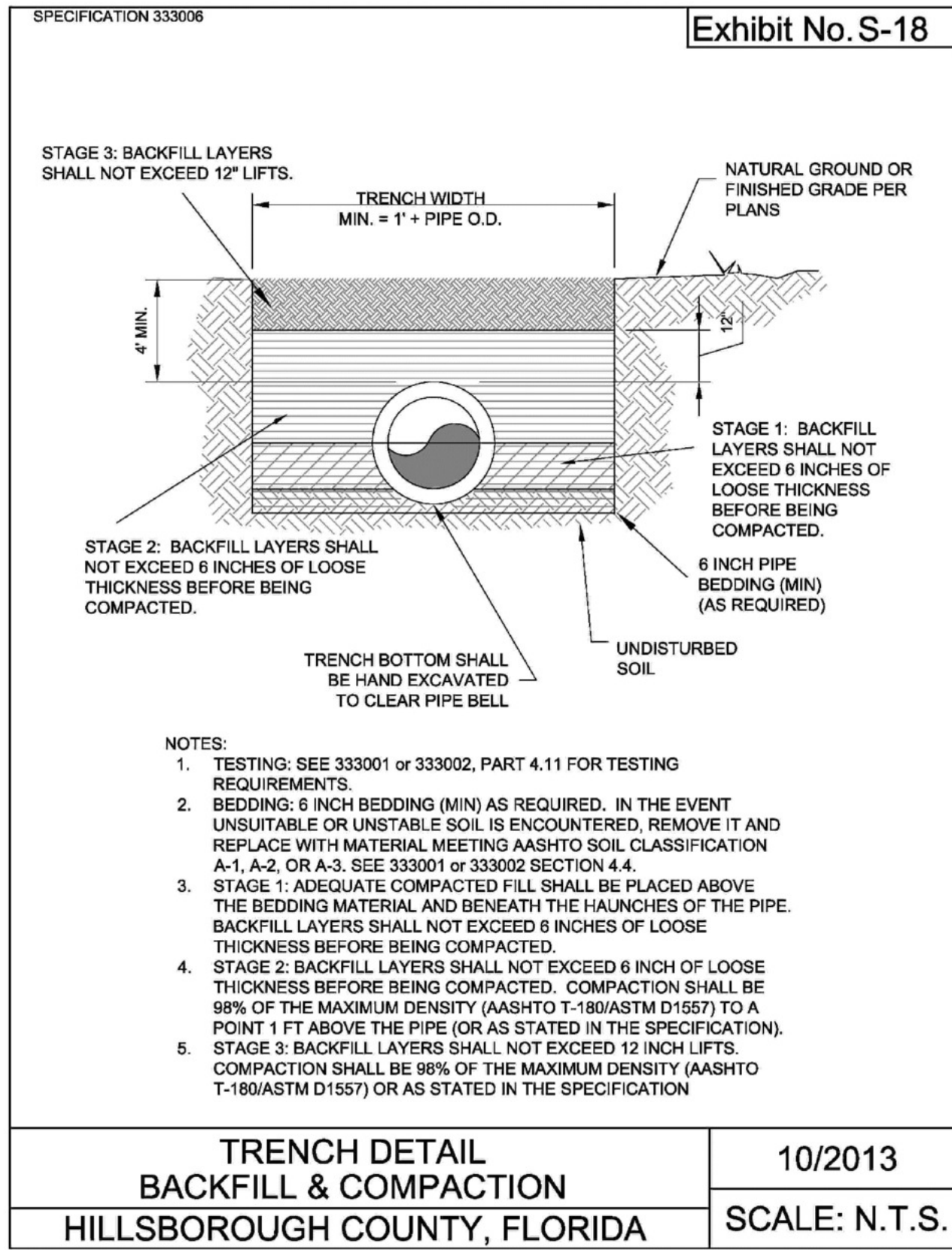
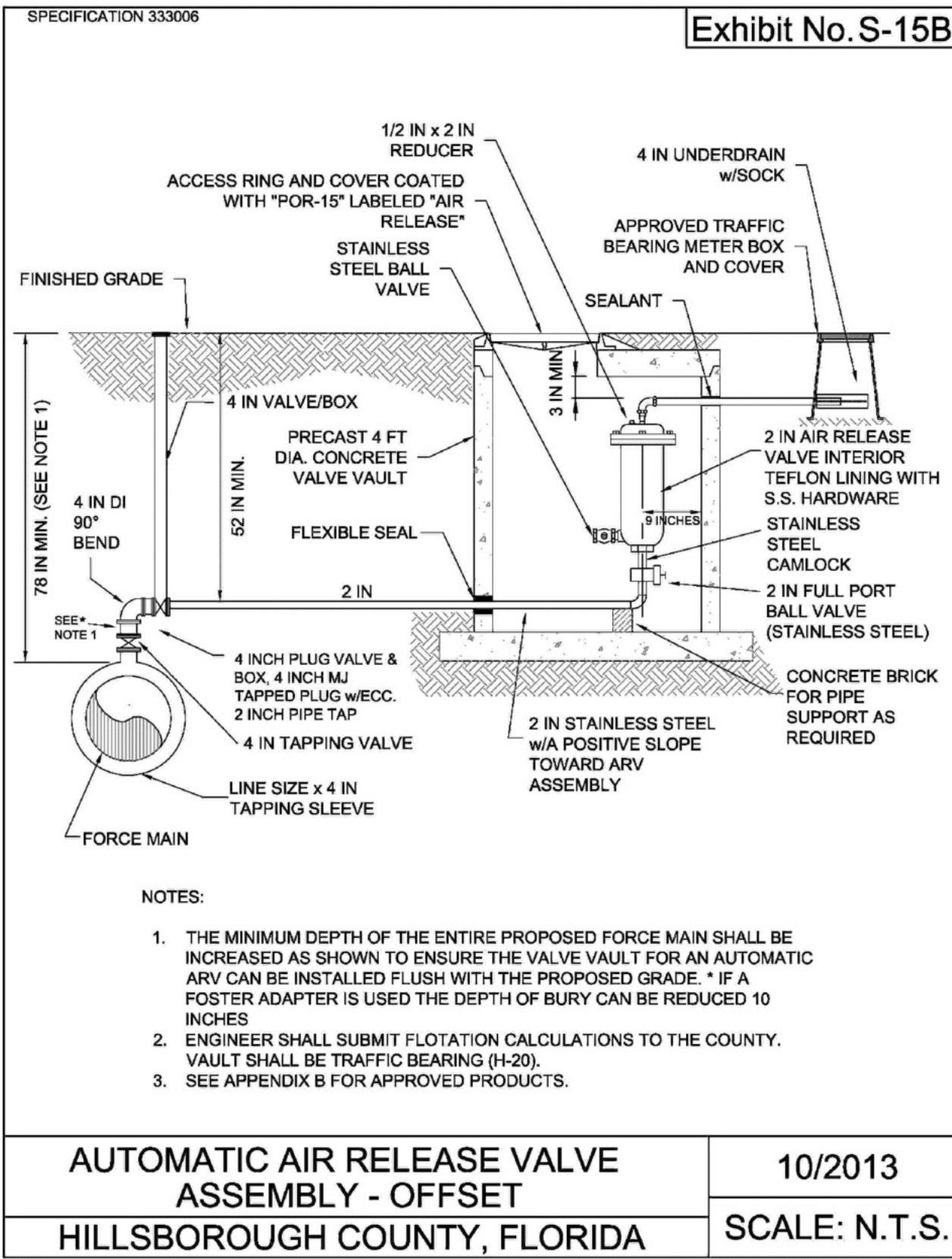
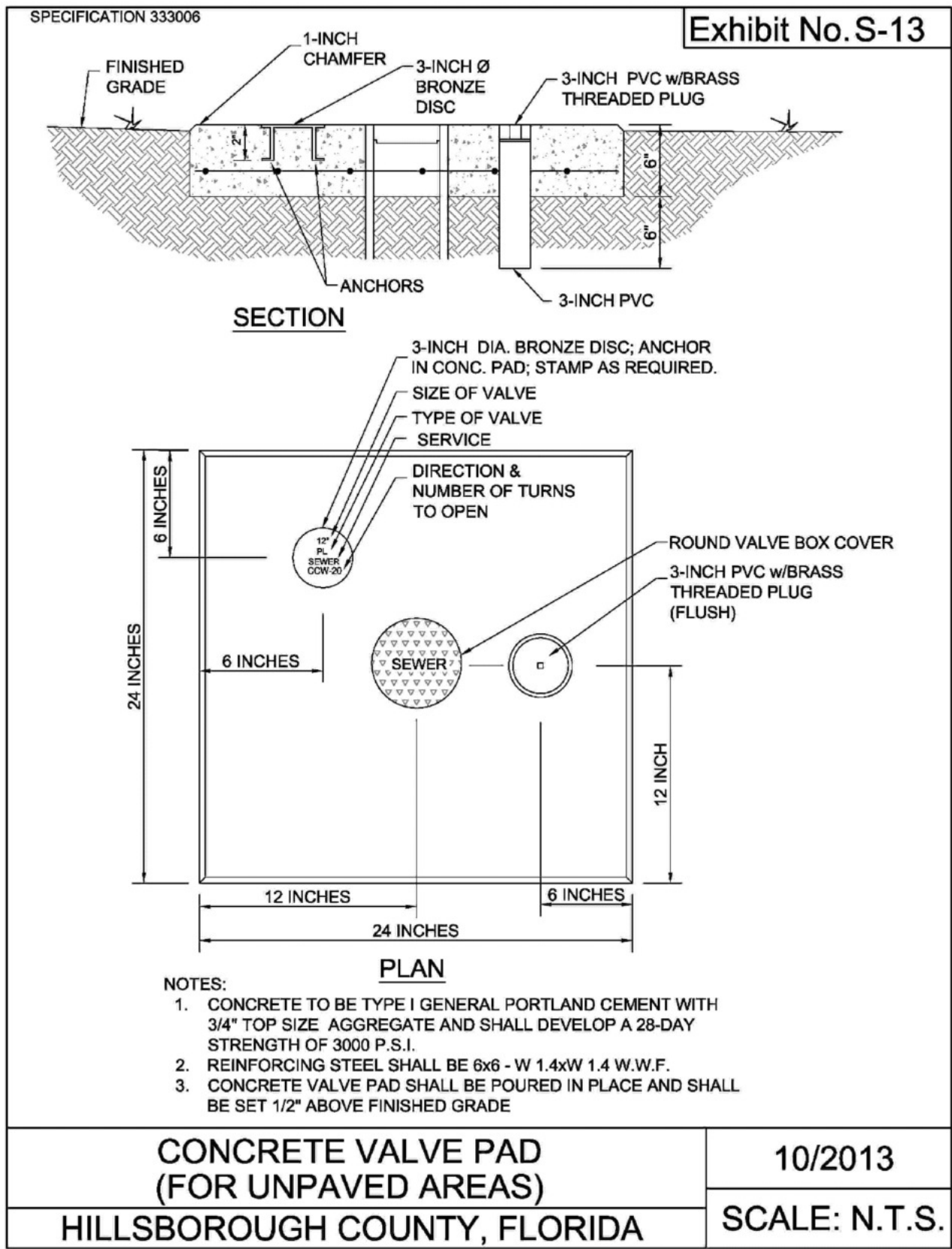
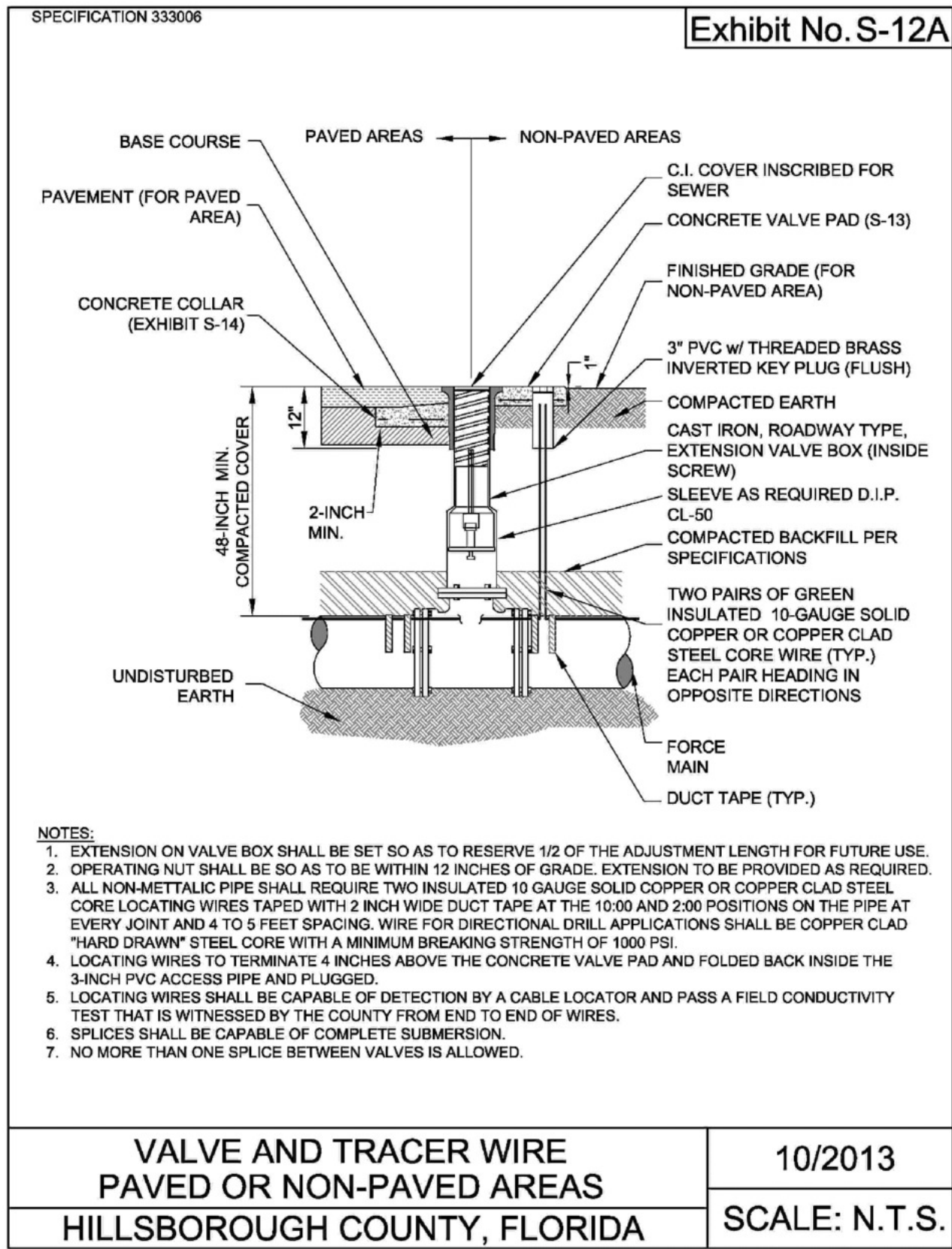
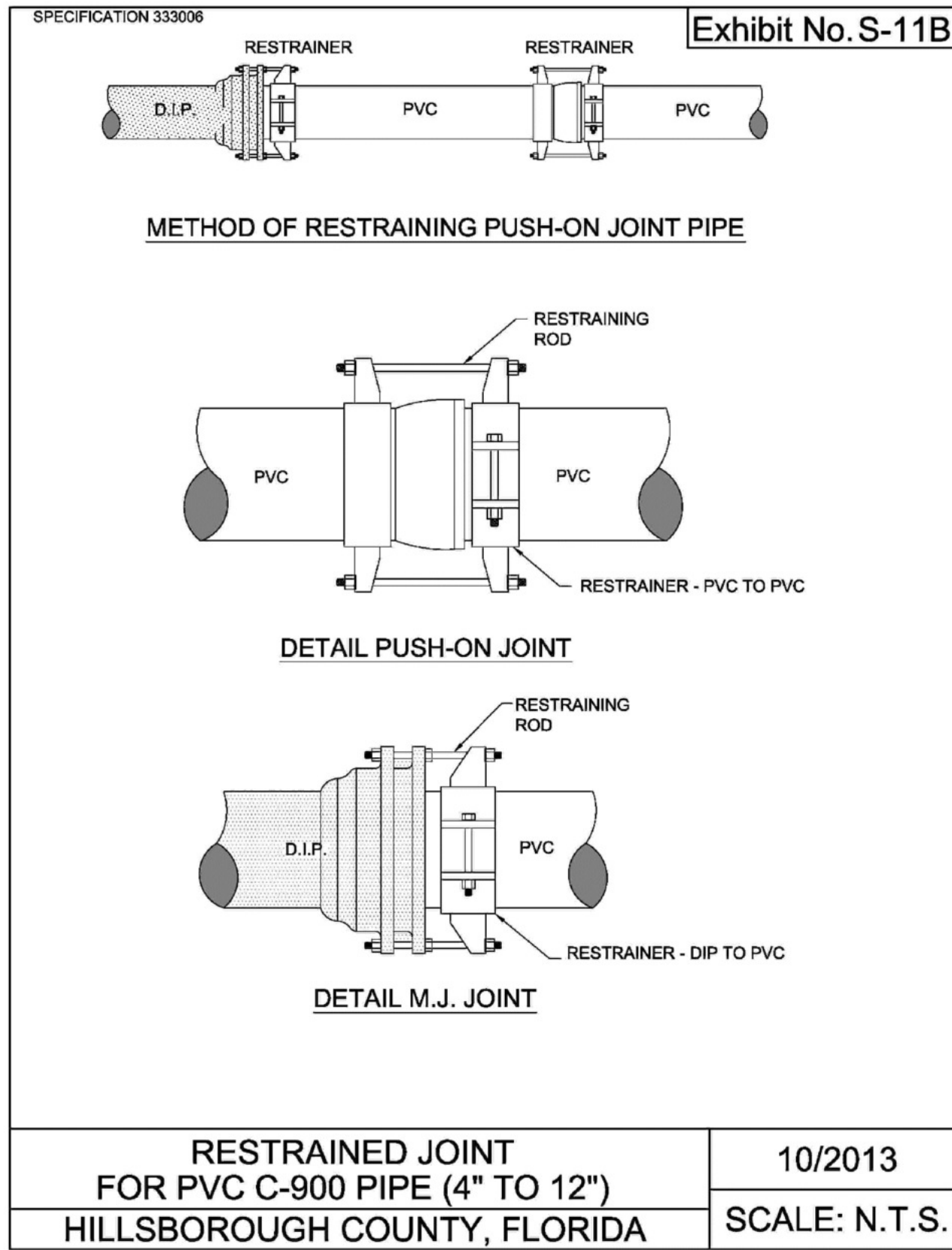
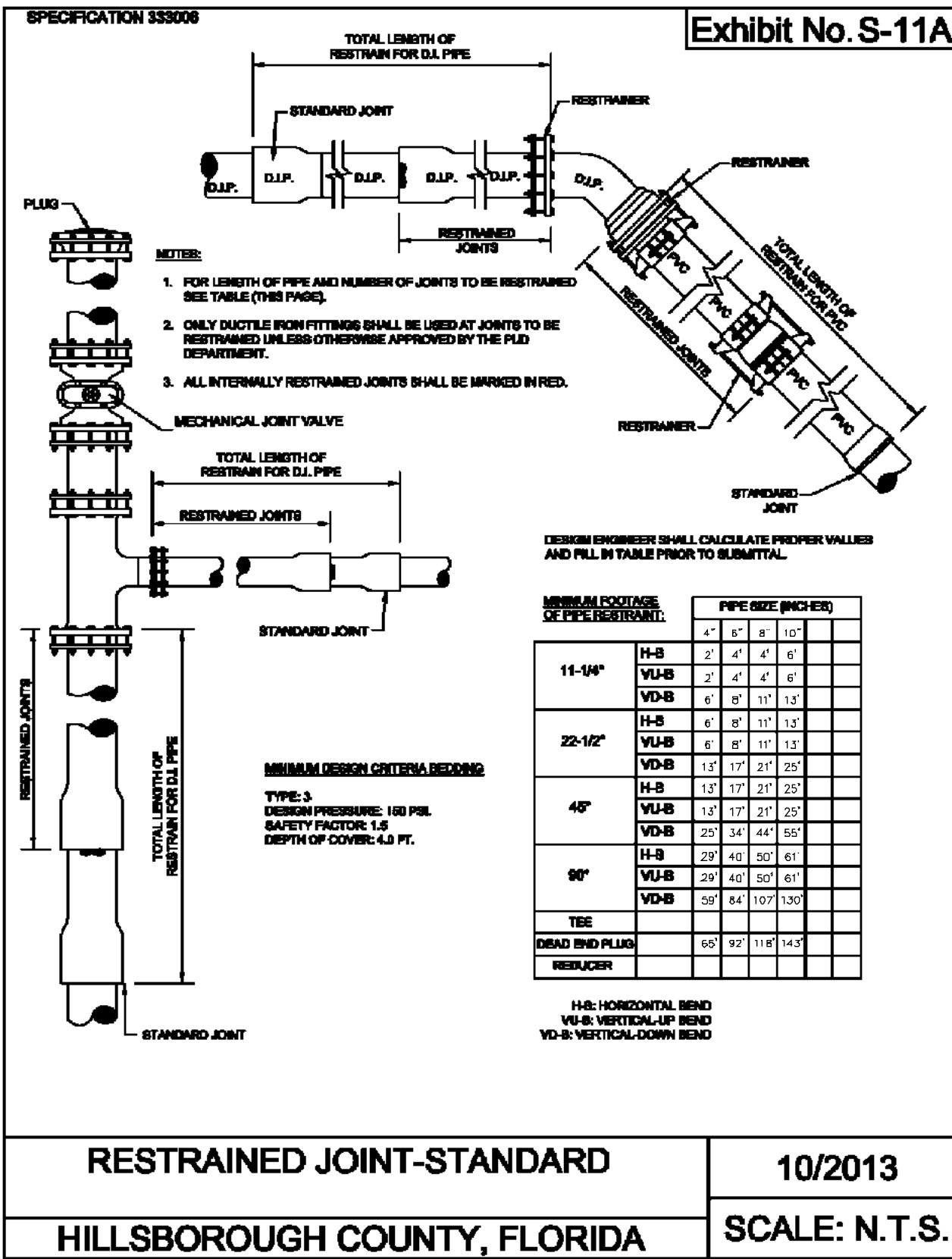
SECTION A



SECTION B



SECTION C



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THE OAKS AT SHADY CREEK, PHASE 1

LENNAR HOMES, LLC
4600 WEST CYPRESS ST., SUITE 200
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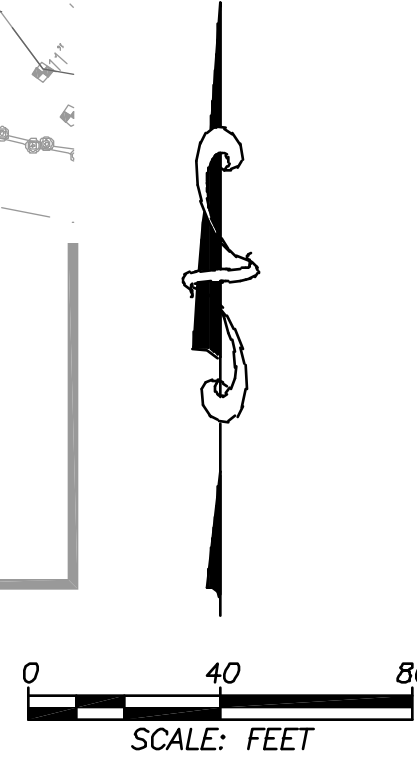
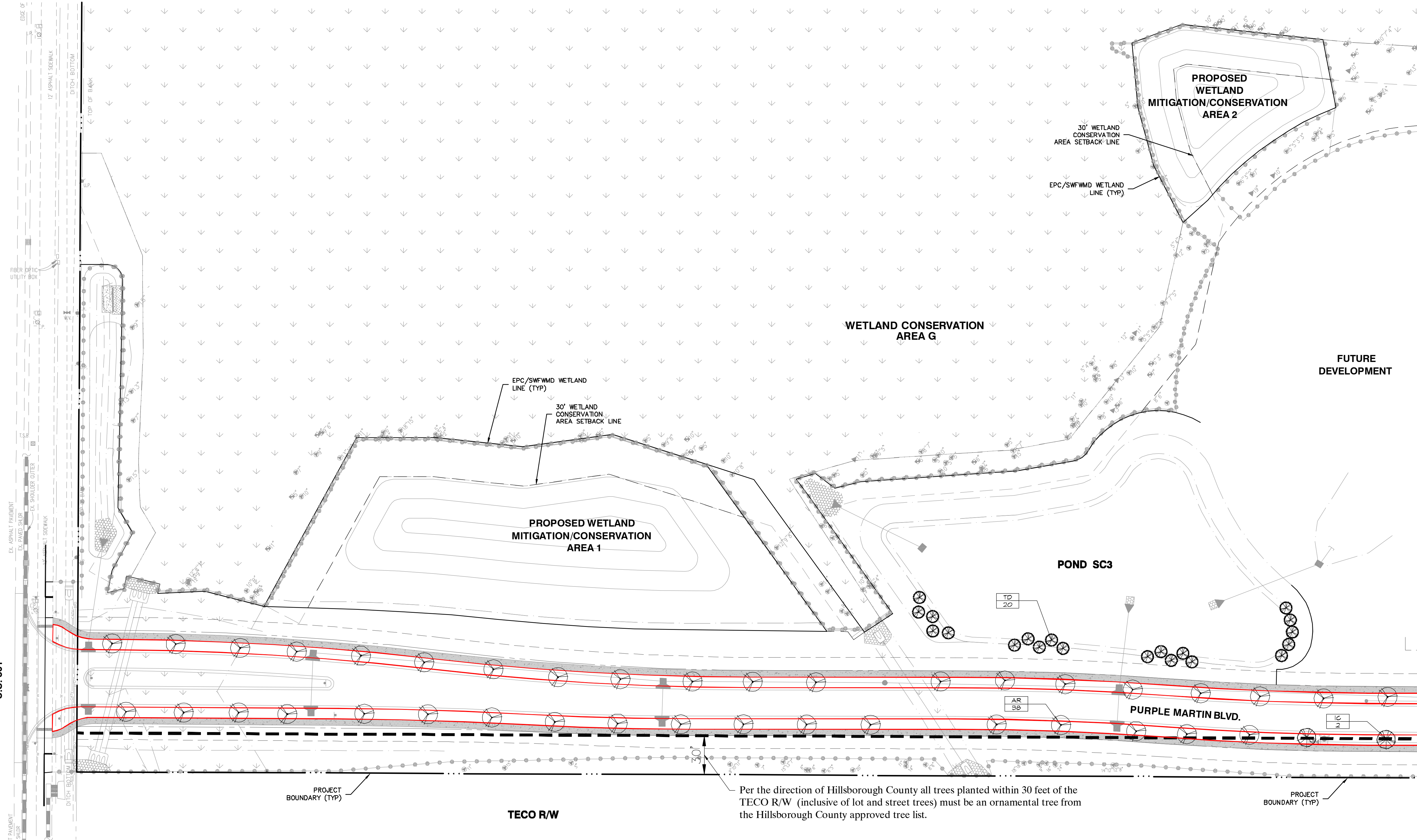
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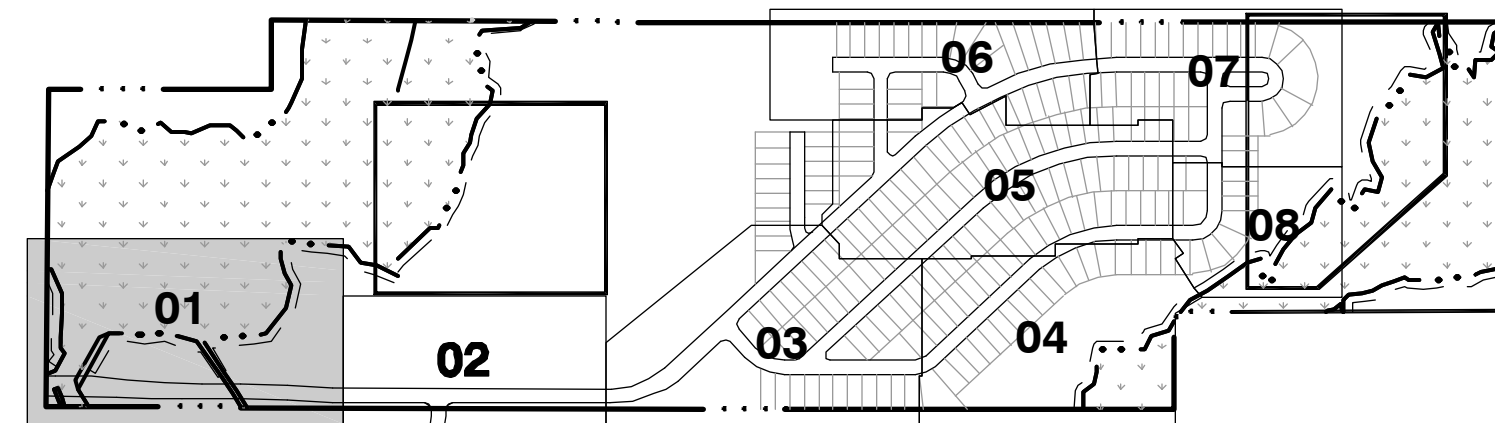
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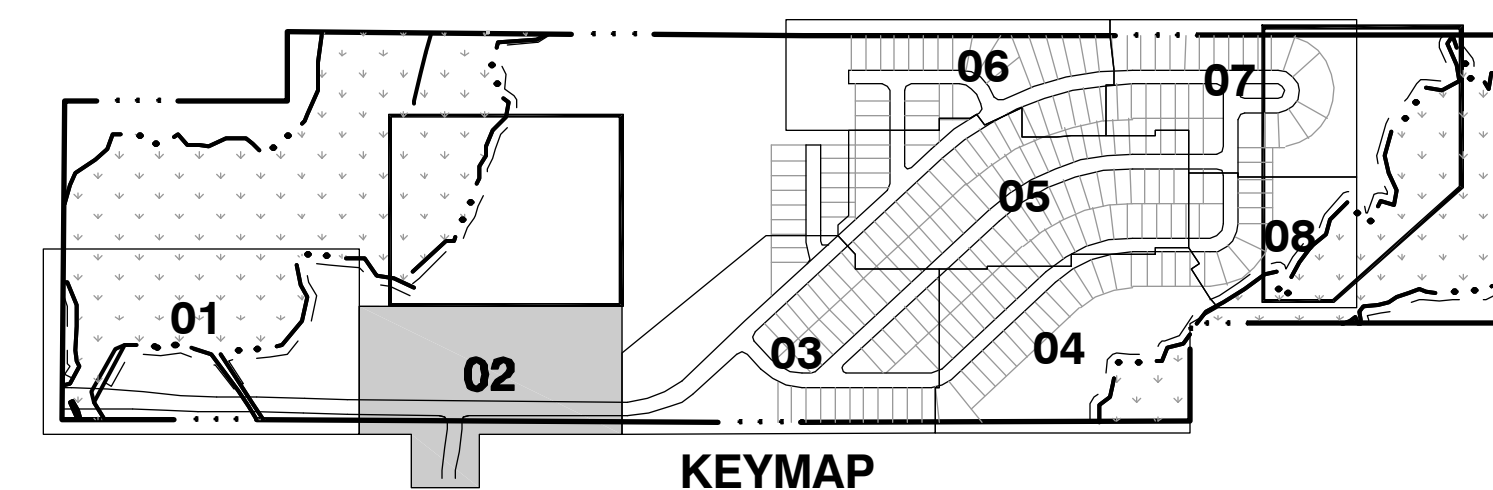
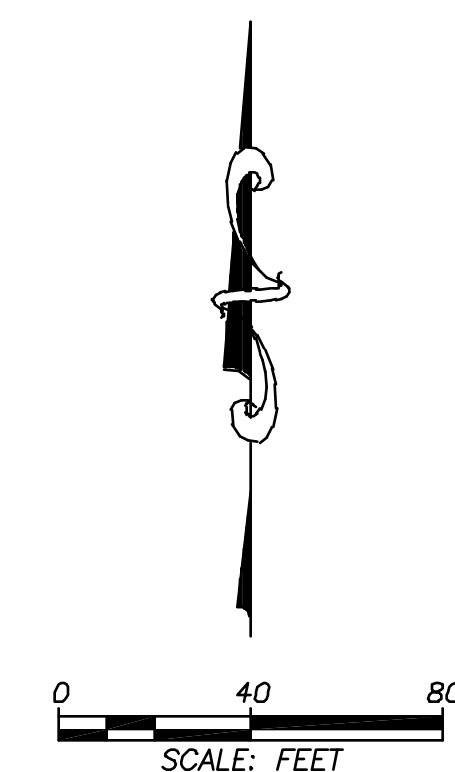


MATCH LINE - SEE SHEET L1.02



KEYMAP

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		<i>MSR 10/9/14</i>									



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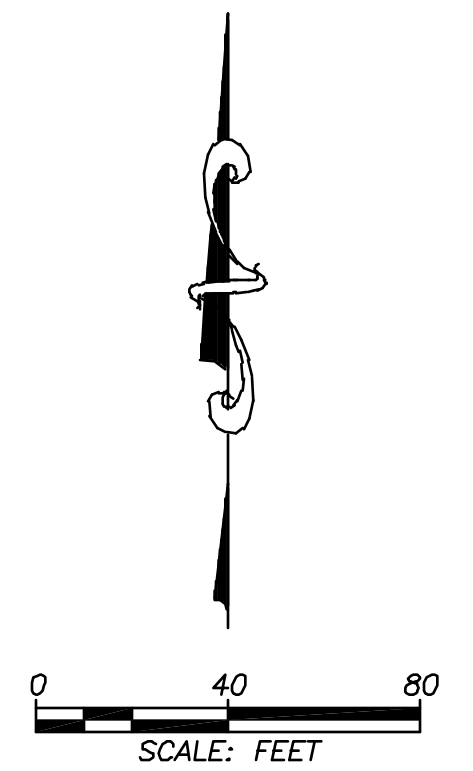
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4600 WEST CYPRESS ST., SUITE 200
TAMPA, FL 33607

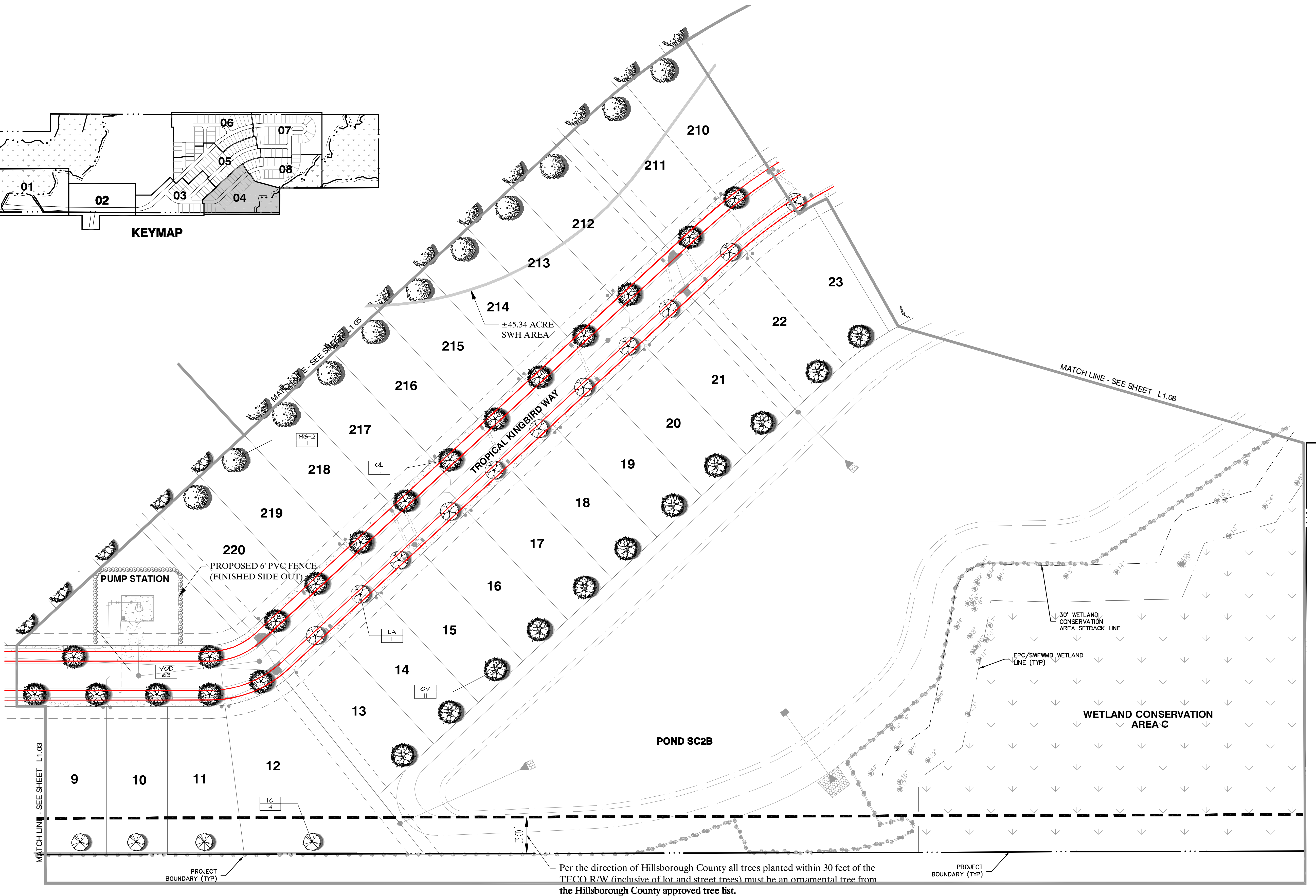
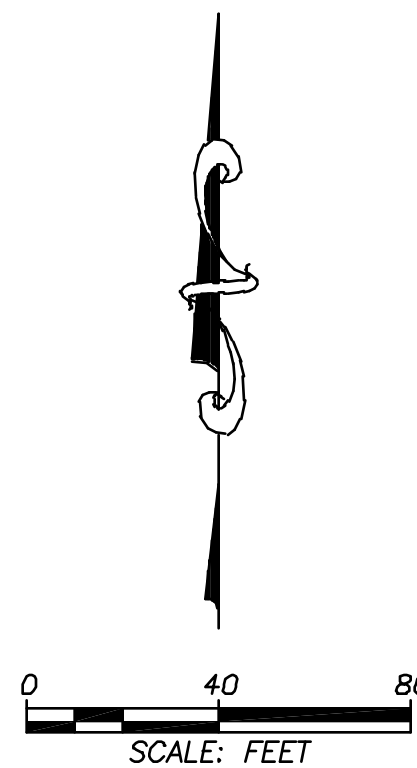
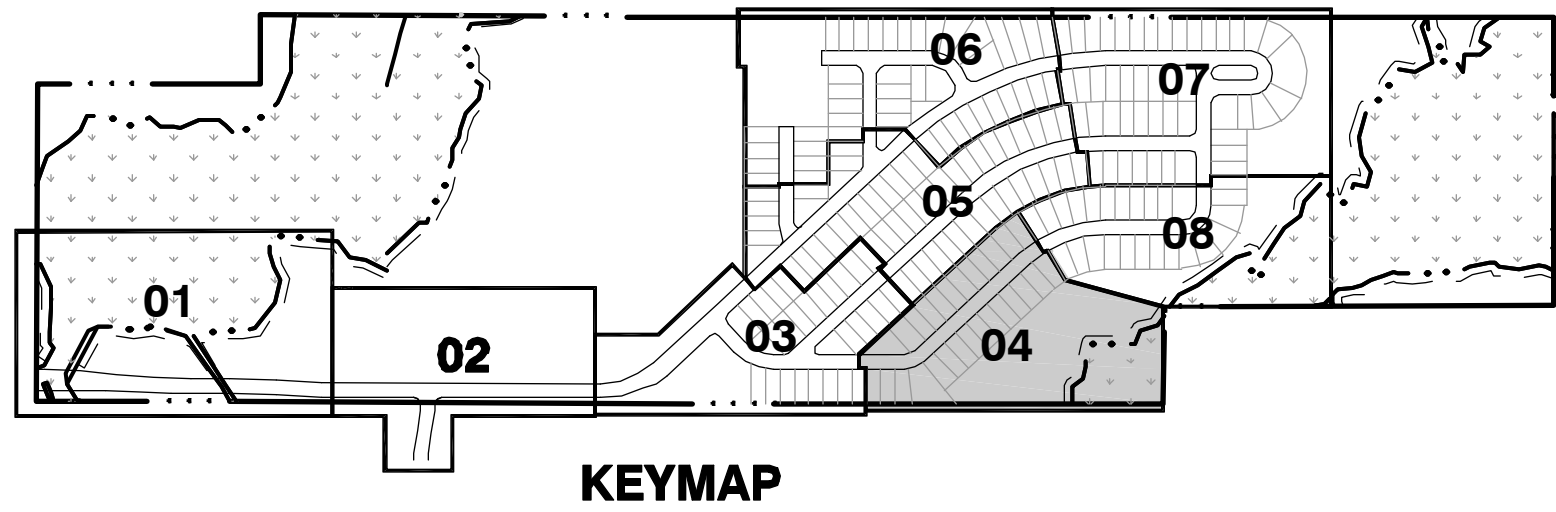
STREET TREE PLAN

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SHEET NO.

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CHECKED	TLT
D.C.	MSR 10/9/14

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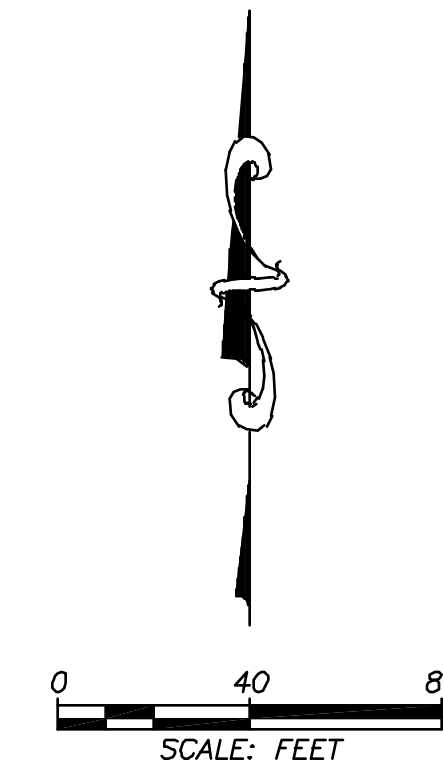
THE OAKS AT SHADY CREEK, PHASE 1

LENNAR HOMES, LLC
4600 WEST CYPRESS ST., SUITE 200
TAMPA, FL 33607

STREET TREE PLAN

NO.	DATE	DESCRIPTION	APPROVED BY

JOB NO. 4802-700-001	SHEET NO. L1.04
DATE 09/13/2013	
SCALE AS SHOWN	
ISSUED FOR CONSTRUCTION OCTOBER 9, 2014	



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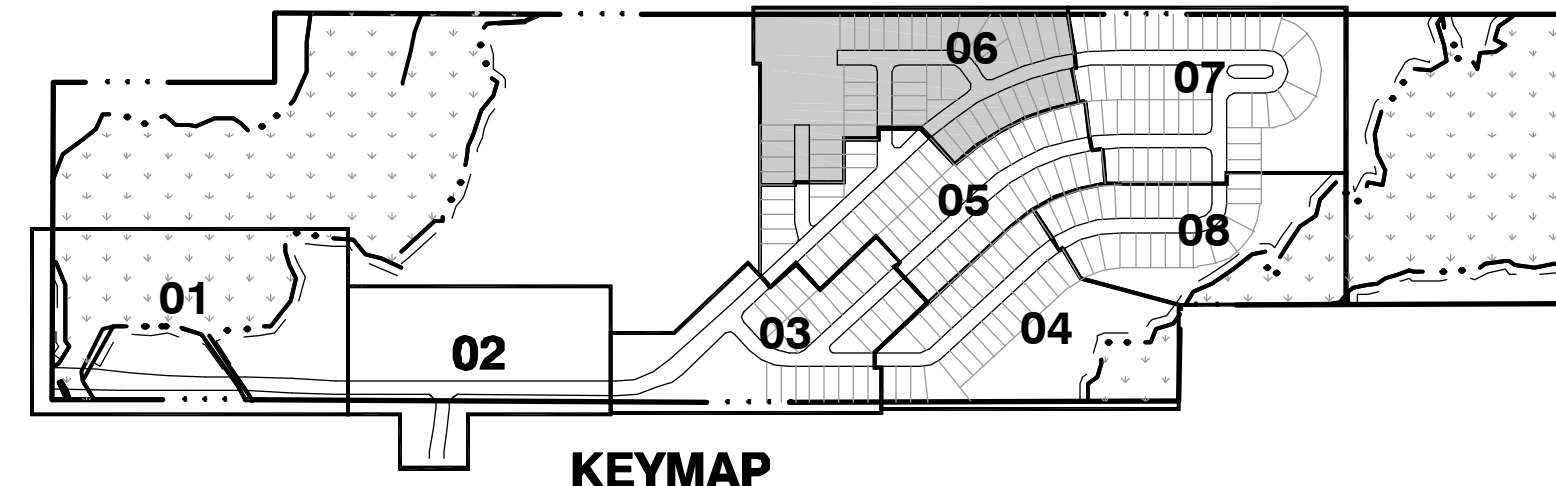
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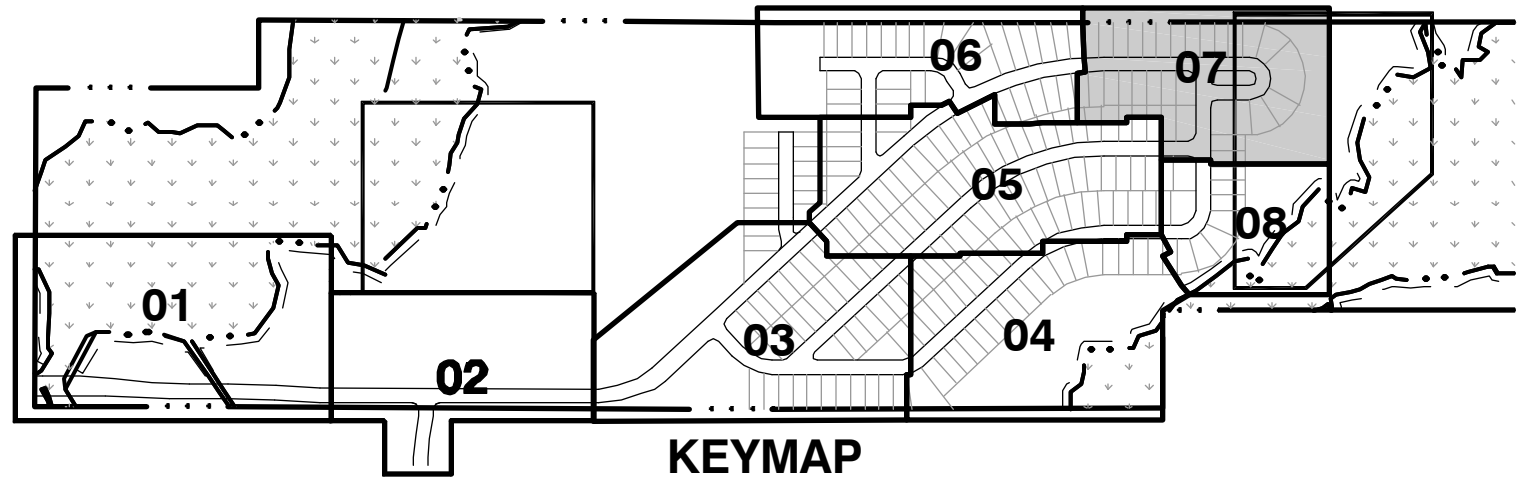
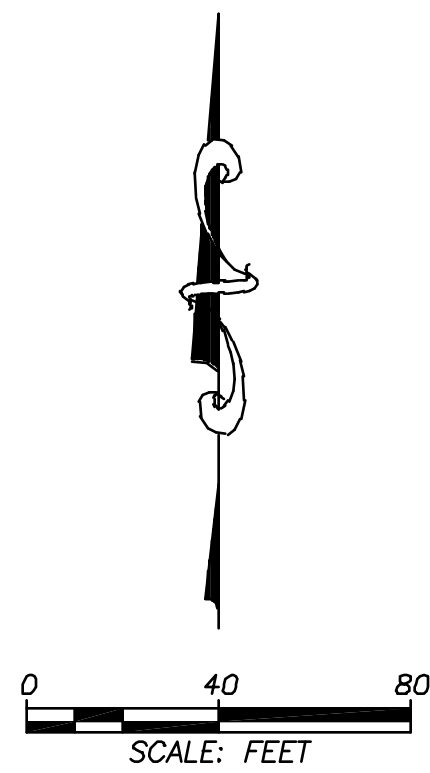
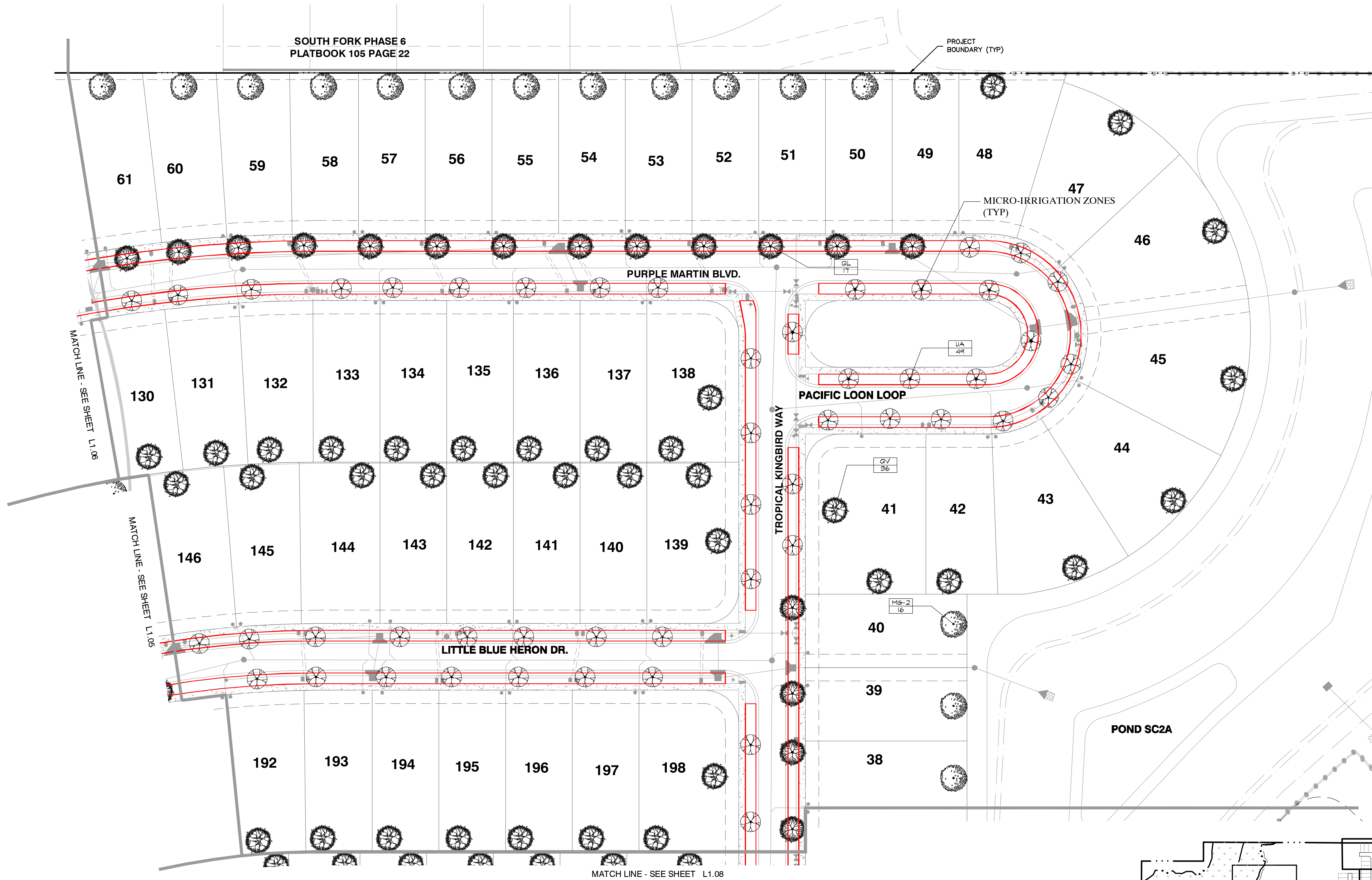
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TAMPA, FL 33607

STREET TREE PLAN

						JOB NO: 4802-700-001	SHEET NO:	L1.05
						DATE: 09/13/2013		
						SCALE:		
						AS SHOWN		
						ISSUED FOR CONSTRUCTION OCTOBER 8, 2014		
NO.	DATE	DESCRIPTION	APP'D BY					

ISSUED FOR CONSTRUCTION
OCTOBER 9, 2014





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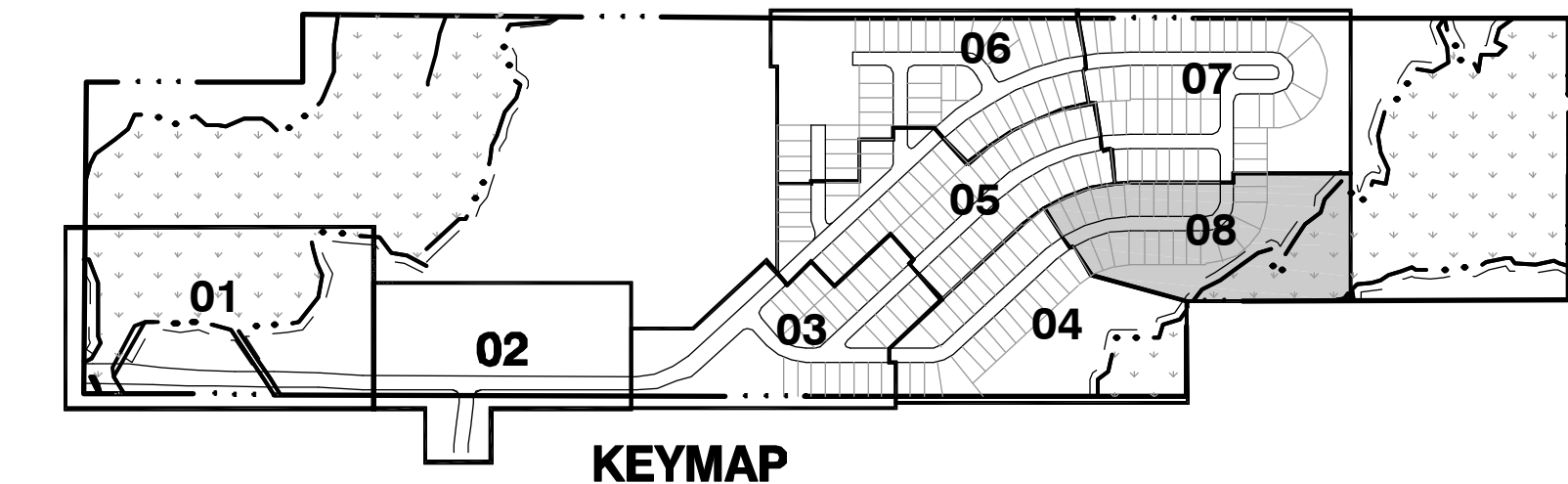
THE OAKS AT SHADY CREEK, PHASE 1

LENNAR HOMES, LLC
4600 WEST CYPRESS ST., SUITE 200
TAMPA, FL 33607

STREET TREE PLAN

NO.	DATE	DESCRIPTION	APP'D BY

JOB NO. 4802-700-001	SHEET NO. L1.07
DATE 09/13/2013	
SCALE AS SHOWN	
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TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	GAL	SIZE
	AR	38	Acer rubrum	Red Maple	45 gal	3'Cal	10'-12' Ht. x 5-6' Spd.
	IC	32	Ilex cassine	Dahoon Holly	30 gal	2'Cal	8'-10' Ht. x 3-4' Spd.
	MG-2	103	Magnolia grandiflora	Southern Magnolia	30 gal	2'Cal	8'-10' Ht. x 4-5' Spd.
	OL	152	Quercus laurifolia	Laurel Oak	45 gal	3'Cal	10'-12' Ht. x 5-6' Spd.
	QV	118	Quercus virginiana	Southern Live Oak	30 gal	2'Cal	8'-10' Ht. x 4-5' Spd.
	TD	20	Taxodium distichum	Bald Cypress	30 gal	2'Cal	10'-12' Ht. x 5-6' Spd.
	UA	169	Ulmus alata	Winged Elm	45 gal	3'Cal	10'-12' Ht. x 5-6' Spd.
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT		SIZE
	IFL	56	Illicium floridanum	Florida Anise	3 gal, 4' OC		18-24" HT x 18-24" SPD.
	PSP	84	Pennisetum setaceum	Purple Fountain Grass	3 gal, 3' OC		18-24" HT x 18-24" SPD.
	PMA-M	35	Podocarpus macrophyllus 'Maki'	Shrubby Yew	7 gal, 4' OC		4-5' HT x 24-30" SPD.
	SML	18	Sabal minor	Dwarf Palmetto	7 gal, 4' OC		4-5 HT x 3-4' SPD
	VOB	96	Viburnum obovatum	Walter's Viburnum	3 gal, 4' OC		36" HT x 24" SPD.

Diagram illustrating the components and installation of a container-grown tree:

- (3) BLACK RUBBER HOSE
- (3) FLAGGING TAPE
- 3" MULCH LAYER
- 4" EARTHEN SAUCER
- FINISH GRADE
- CONTAINER GROWN TREE
- EXISTING SOIL
- (3) DUCKBILL TREE SUPPORT KITS INCLUDING ANCHORS & WIRE SIZES FOR CALIPER
- PREPARED TOPSOIL BACKFILL

N.T.S.

TREE REPLACEMENT REQUIREMENT:	50% OF TREES OVER 24" DBH
DBH OVER 24" PROPOSED FOR REMOVAL:	1,088 DBH
50% REPLACEMENT REQUIRED:	549 DBH
GRAND OAK REPLACEMENT REQUIREMENT:	1:1 FOR 34"-48", 1.5:1 FOR 48"-80", 2:1 FOR 80"+
34"-48" GRAND OAK REMOVAL:	N/A DBH
48"-80" GRAND OAK REMOVAL:	N/A DBH
OVER 80" GRAND OAK REMOVAL:	N/A DBH
GRAND OAK REPLACEMENT:	N/A DBH
TREES REPLACEMENT REQUIRED:	549 DBH
TREES REPLACEMENT PROPOSED:	378 DBH IN PHASE 1 (170 DBH SHALL BE REPLACED IN PHASE 2)

1. THIS PERMIT PLAN MEETS THE MINIMUM CRITERIA AS REQUIRED BY THE LAND DEVELOPMENT CODE. THE OWNER MAY INSTALL ADDITIONAL LANDSCAPING AT HIS DISCRETION.
2. NO TREE REPLACEMENTS ARE REQUIRED WITHIN TRACT M.
3. ALL TREES TO BE LOCATED IN CONFORMANCE WITH THE MORE STRINGENT CLEAR ZONE REQUIREMENTS OF EITHER TABLE 4-12 OF THE FDOT MANUAL OF UNIFORM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREET AND HIGHWAYS (GREEN BOOK) OR SECTION 34 OF THE HILLSBOROUGH COUNTY TRANSPORTATION MANUAL.
4. ALL TREES SHALL BE PLANTED PER DETAIL ON SHEET L&O AND IN ACCORDANCE WITH THIS PLAN. IF THE SPACING CRITERIA CANNOT BE MET, TREES SHALL BE PLANTED WITHIN THE FIRST FEET OF THE FRONT YARD OF THE LOT OR WITHIN 5' OF THE RIGHT-OF-WAY.

ALL TREES SHALL BE FLORIDA GRADE NO. 1 OR BETTER.

NO TREES SHALL BE PLANTED CLOSER THAN 30 FEET TO A STOP SIGN.

STREET TREES SHALL BE PLANTED WITHIN THE ROAD RIGHT-OF-WAY A MINIMUM OF FIVE (5) FEET FROM THE BACK OF CURB AND A MINIMUM OF THREE (3) FEET FROM THE INSIDE EDGE OF A PROPOSED OR EXISTING SIDEWALK. WHEN POSSIBLE, STREET TREES SHOULD BE CENTERED AND EVENLY SPACED IN FRONT OF THE LOT AND EVENLY SPACED ON ROADWAYS NOT FRONTED BY LOTS.

WHEN NOT FEASIBLE TO PLANT TREES IN THE ROAD RIGHT-OF-WAY, AS DETERMINED BY THE ADMINISTRATOR, PLANTINGS SHALL BE PERMITTED ON THE LOT, PROVIDED THE TREES ARE INSTALLED WITHIN FIVE FEET OF THE RIGHT-OF-WAY.

STREET TREES SHALL BE PLANTED A MINIMUM OF TEN FEET FROM ANY ABOVE GROUND UTILITY, SUCH AS TRANSFORMER PADS AND FIRE HYDRANTS.

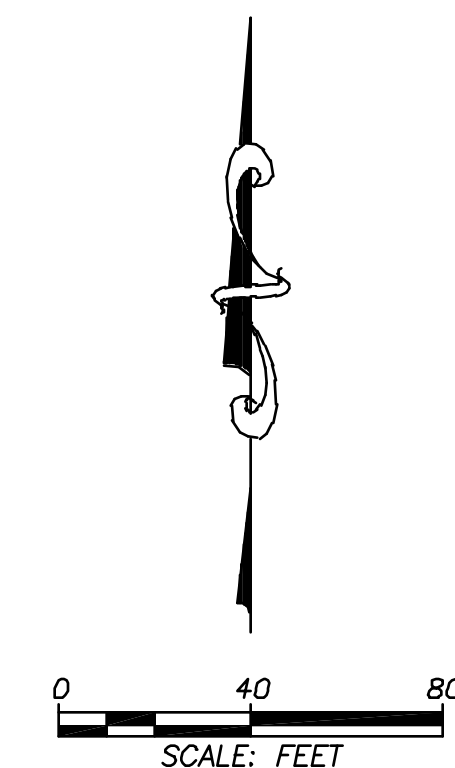
MAXIMUM FLEXIBILITY SHALL BE GIVEN TO THE PLACEMENT OF STREET TREES TO ACCOMMODATE IMPROVEMENTS SUCH AS DRIVEWAYS, UTILITIES, LIGHTING, SITE TRIANGLE VISIONITY, ETC. THE UTILITY NOTIFICATION CENTER SHOULD BE NOTIFIED TO VERIFY THE LOCATION OF UTILITY LINES PRIOR TO PLANTING.

STREET TREE PLANTINGS SHALL BE IN COMPLIANCE WITH THE PLANTING STANDARDS AND ROADWAY LANDSCAPING GUIDELINES DESCRIBED IN GUIDELINES FOR LANDSCAPING HILLSBOROUGH COUNTY ROADWAYS.

ALL STREET TREES SHOWN ON LOT FRONTAGE SHALL BE PLANTED AT TIME OF HOME CONSTRUCTION. ALL TREES SHOWN IN COMMON AREAS SHALL BE PLANTED PRIOR TO INFRASTRUCTURE ACCEPTANCE EXCEPT AS APPROVED BY HILLSBOROUGH COUNTY.

-  = 12' UNKNOWN TYPE TREE
-  = 12" CHERRY LAUREL
-  = 12' WILLOW TREE
-  = 12' ITALY TREE
-  = 12' BIRCH
-  = 12' CHINESE TALLOW TREE
-  = 12" CHERRYBERRY TREE
-  = 12' OAK TREE
-  = 12" KANAKA TREE
-  = 12' MULBERRY TREE
-  = 12' PALM TREE
-  = 12' BAY TREE
-  = 12" MAGNOLIA TREE
-  = 12' CEDAR TREE
-  = 12' PECAN TREE
-  = 12' EUCALYPTUS TREE
-  = 12' CAMPHOR TREE
-  = 12' SYCAMORE TREE
-  = 12' PINE TREE
-  = 12' AUSTRALIAN PINE
-  = 12' CEDAR TREE
-  = 12' ELM TREE
-  = 12' MAPLE TREE
-  = 12' WALNUT TREE
-  = 12' PUNK TREE
-  = 12' CYPRUS TREE
-  = 12' BIRCH TREE
-  = 12' SWEET GUM TREE
-  = 12' BIRCH
-  = 12" HICKORY

-  = 12' TRUNK HAVING ONE TRUNK AT BRACE HEIGHT, 12 IN PERIMETER
-  = 12' TRUNK HAVING MULTIPLE TRUNKS AT BRACE HEIGHT 12", 12" IN PERIMETER
-  = PALM TRANSPARENT
- = TREE SAVE
- = TREE REMOVE



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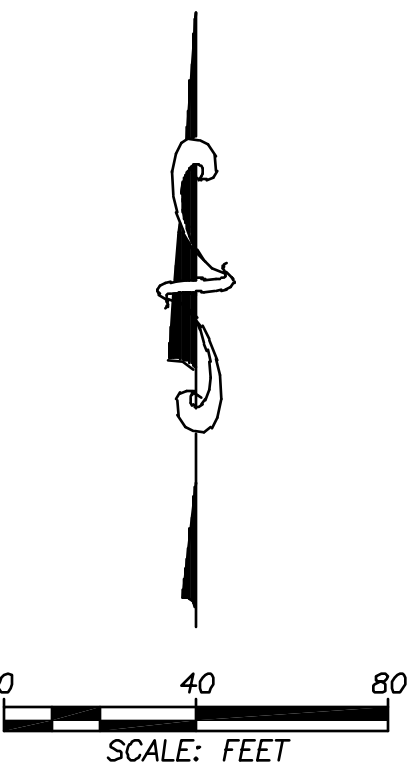
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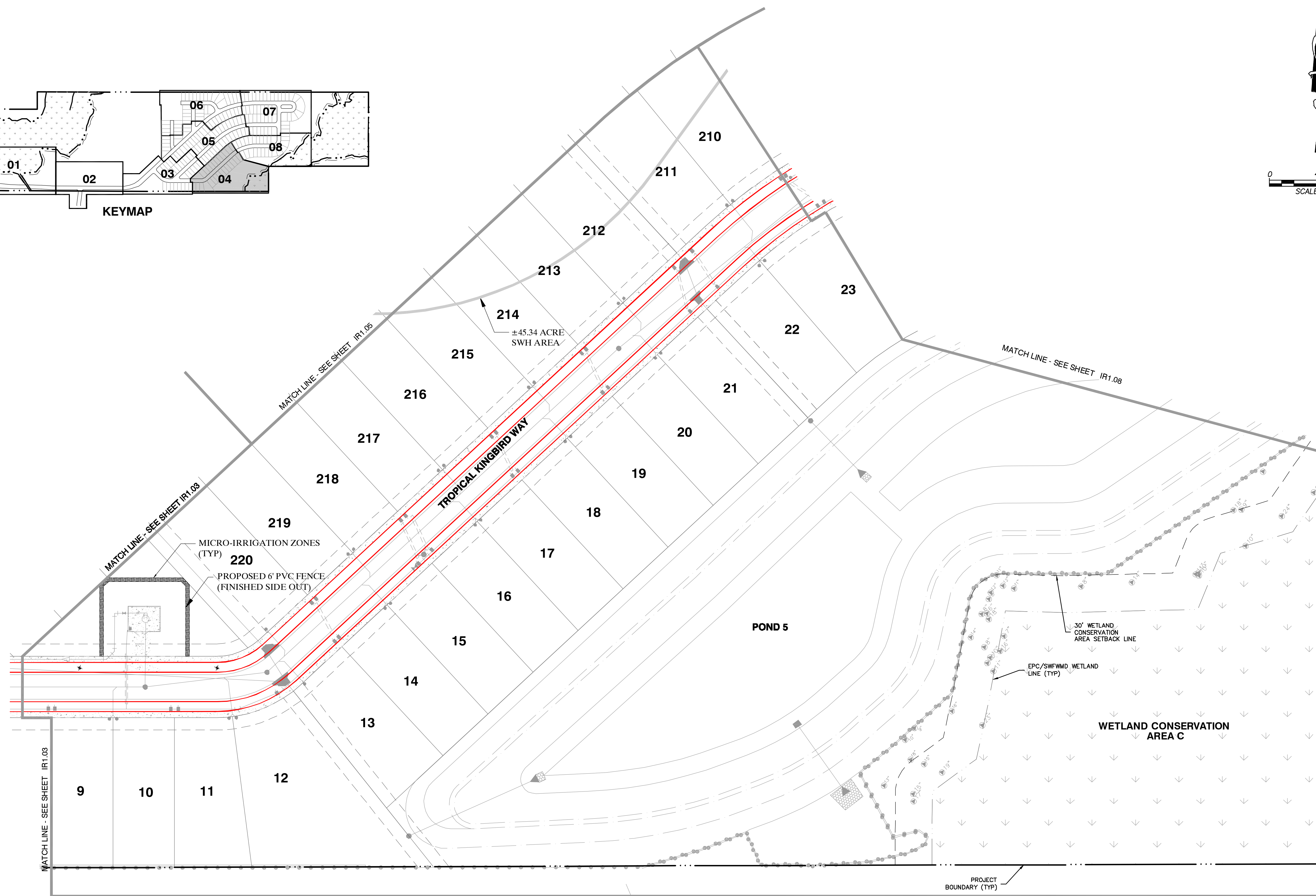
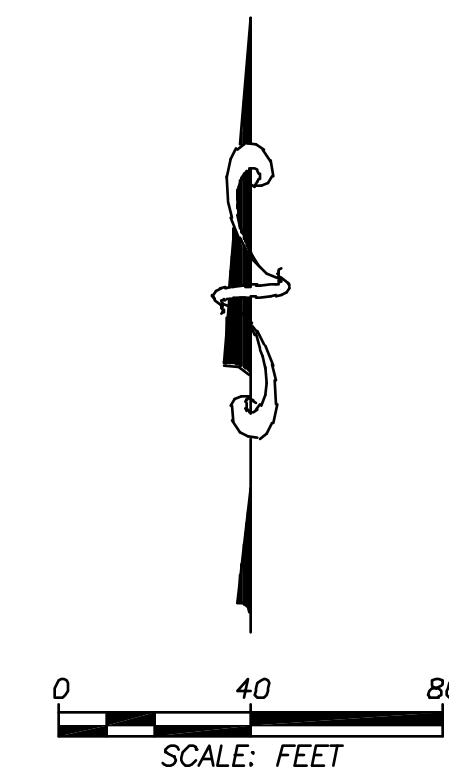
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JOB NO. 4802-700-001	SHEET NO.
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Per the direction of Hillsborough County all trees planted within 30 feet of the TECO R/W (inclusive of lot and street trees) must be an ornamental tree from the Hillsborough County approved tree list.

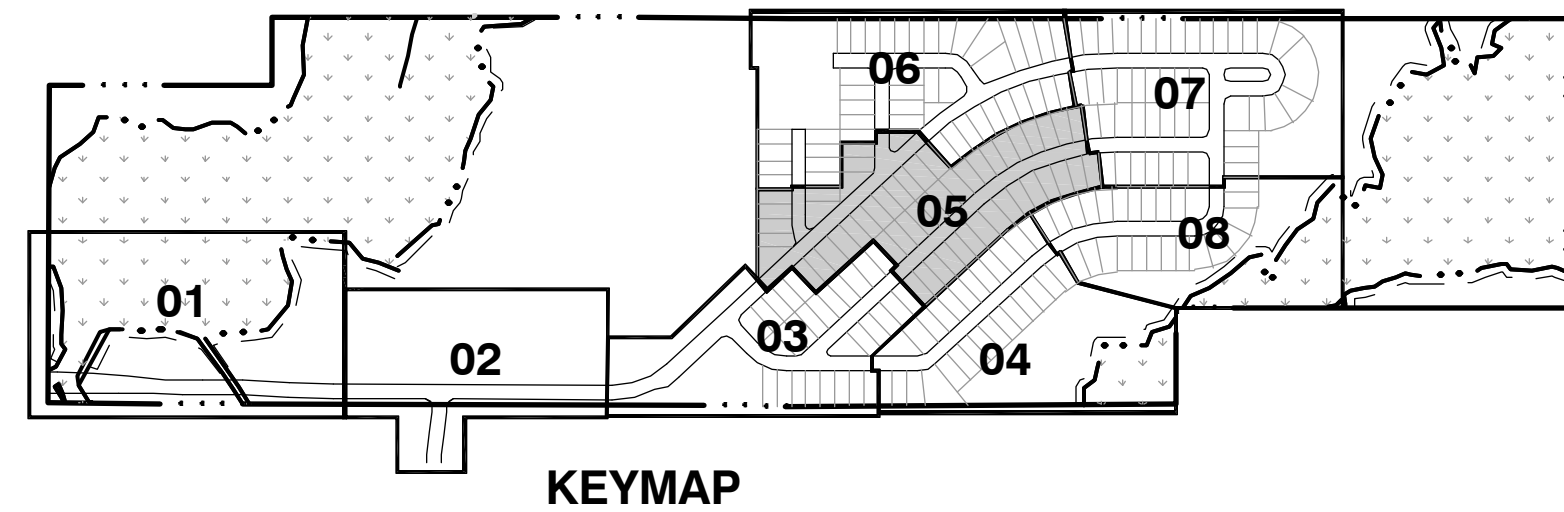
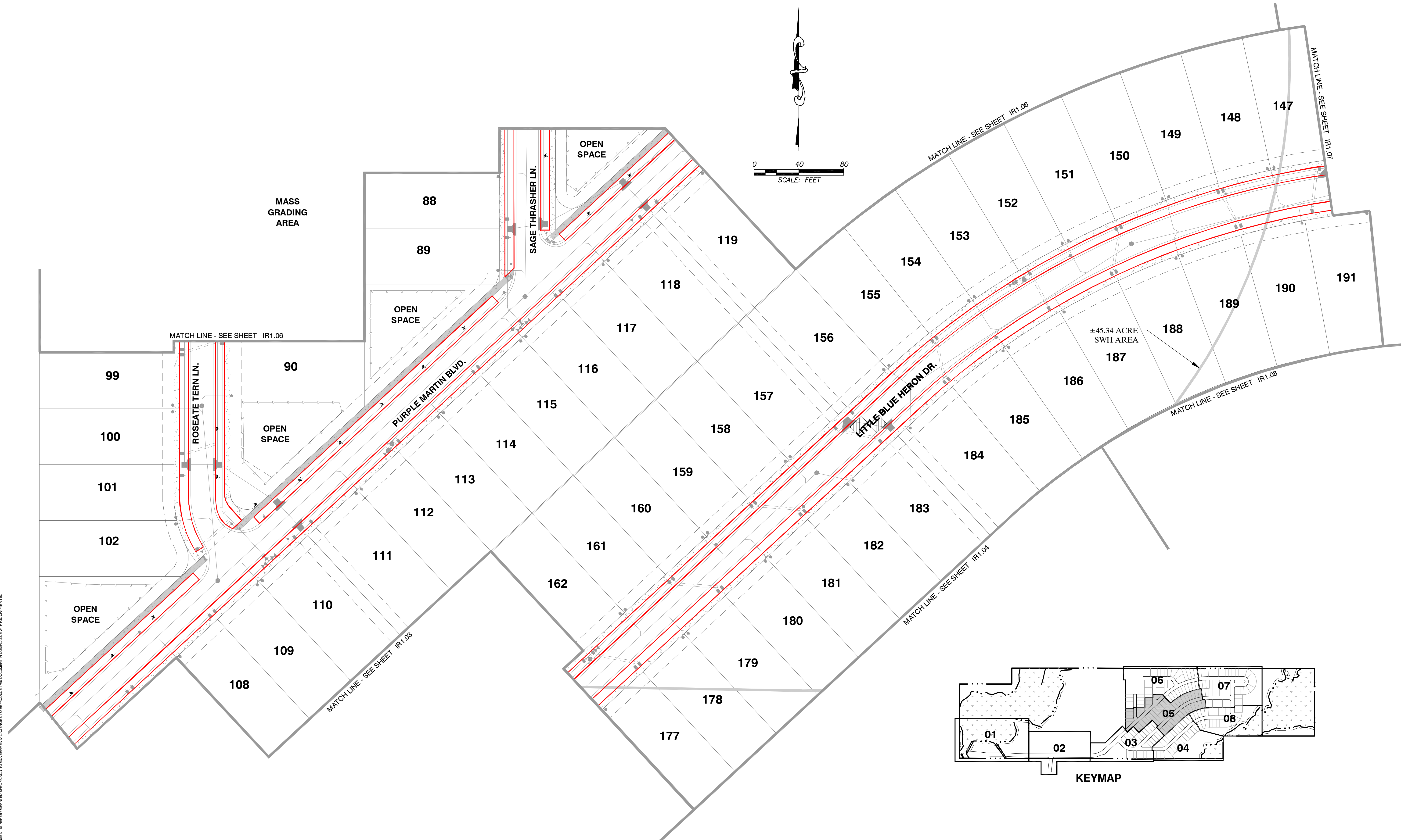
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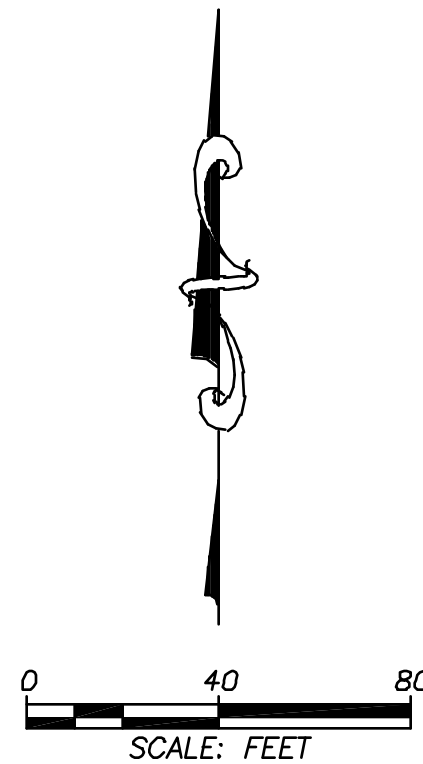
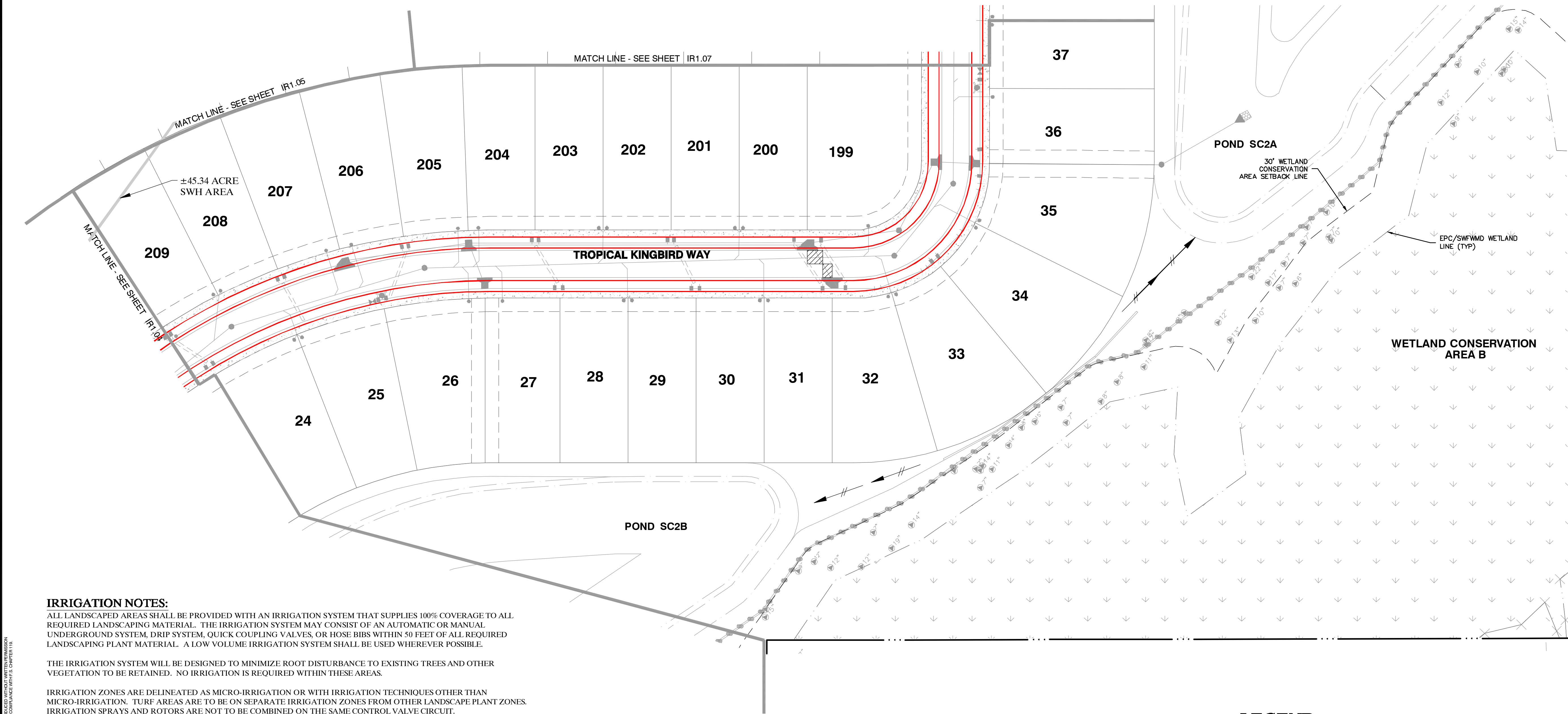
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IRRIGATION NOTES:

ALL LANDSCAPED AREAS SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM THAT SUPPLIES 100% COVERAGE TO ALL REQUIRED LANDSCAPING MATERIAL. THE IRRIGATION SYSTEM MAY CONSIST OF AN AUTOMATIC OR MANUAL UNDERGROUND SYSTEM, DRIP SYSTEM, QUICK COUPLING VALVES, OR HOSE BIBS WITHIN 50 FEET OF ALL REQUIRED LANDSCAPING PLANT MATERIAL. A LOW VOLUME IRRIGATION SYSTEM SHALL BE USED WHEREVER POSSIBLE.

THE IRRIGATION SYSTEM WILL BE DESIGNED TO MINIMIZE ROOT DISTURBANCE TO EXISTING TREES AND OTHER VEGETATION TO BE RETAINED. NO IRRIGATION IS REQUIRED WITHIN THESE AREAS.

IRRIGATION ZONES ARE DELINEATED AS MICRO-IRRIGATION OR WITH IRRIGATION TECHNIQUES OTHER THAN MICRO-IRRIGATION. TURF AREAS ARE TO BE ON SEPARATE IRRIGATION ZONES FROM OTHER LANDSCAPE PLANT ZONES. IRRIGATION SPRAYS AND ROTORS ARE NOT TO BE COMBINED ON THE SAME CONTROL VALVE CIRCUIT.

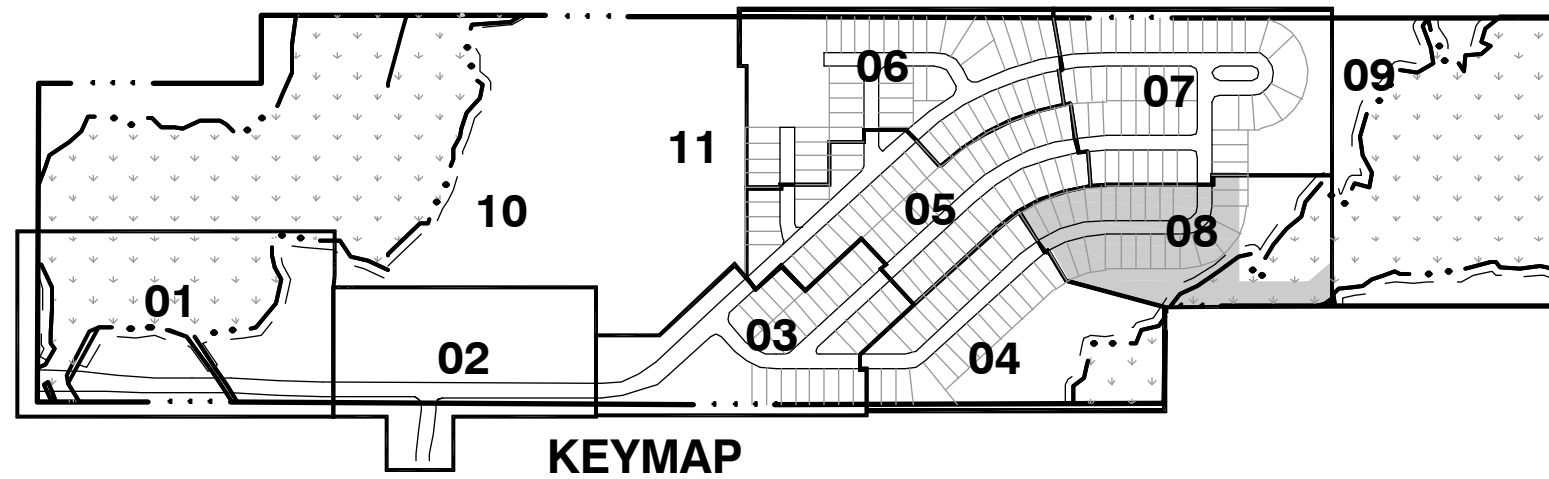
THE IRRIGATION SYSTEM WILL AVOID OVER-SPRAY AND RUNOFF ONTO WALKWAYS, ROADWAYS, STRUCTURES OR OTHER NON-LANDSCAPED AREAS. FOUR FEET WIDE OR LESS LANDSCAPE AREAS SHALL CONTAIN MICRO-IRRIGATION ONLY. SPRINKLER SPACING SHALL NOT EXCEED 55% OF THE SPRINKLER'S DIAMETER OF COVERAGE.

THE IRRIGATION CONTROL EQUIPMENT WILL INCLUDE AN AUTOMATIC IRRIGATION CONTROLLER WITH PROGRAM FLEXIBILITY. UNLESS MECHANICAL, THE AUTOMATIC IRRIGATION CONTROLLER MUST CONTAIN A BATTERY BACKUP TO RETAIN IRRIGATION PROGRAMS. AN OPERABLE RAIN SENSOR DEVICE MUST BE INSTALLED EXPOSED TO UNOBSTRUCTED RAINFALL.

THE IRRIGATION SYSTEM WILL BE DESIGNED TO STANDARDS AND SPECIFICATIONS FOR TURF AND LANDSCAPE IRRIGATION SYSTEMS, FOURTH EDITION, 2000, FLORIDA IRRIGATION SOCIETY.

THE "HILLSBOROUGH COUNTY INSTALLATION CERTIFICATION FOR LANDSCAPE IRRIGATION SYSTEMS ON COMMERCIAL PROPERTIES" SHALL BE FILLED OUT AND SUBMITTED BY THE IRRIGATION CONTRACTOR ASSERTING THAT ALL OF THE ABOVE CONDITIONS HAVE BEEN MET. THIS FORM WILL BE SUBMITTED WITH THE IRRIGATION PLAN BY THE IRRIGATION CONTRACTOR TO THE NATURAL RESOURCE TEAM OF THE PLANNING AND GROWTH MANAGEMENT DEPARTMENT UPON REQUEST FOR A FINAL LANDSCAPE INSPECTION TO OBTAIN A BUILDING CERTIFICATE OF OCCUPANCY.

THE UNDERGROUND IRRIGATION PIPES PROPOSED THAT ARE NEAR EXISTING TREES THAT ARE TO REMAIN MUST BE HAND DUG TO AVOID ROOT DISTURBANCE.

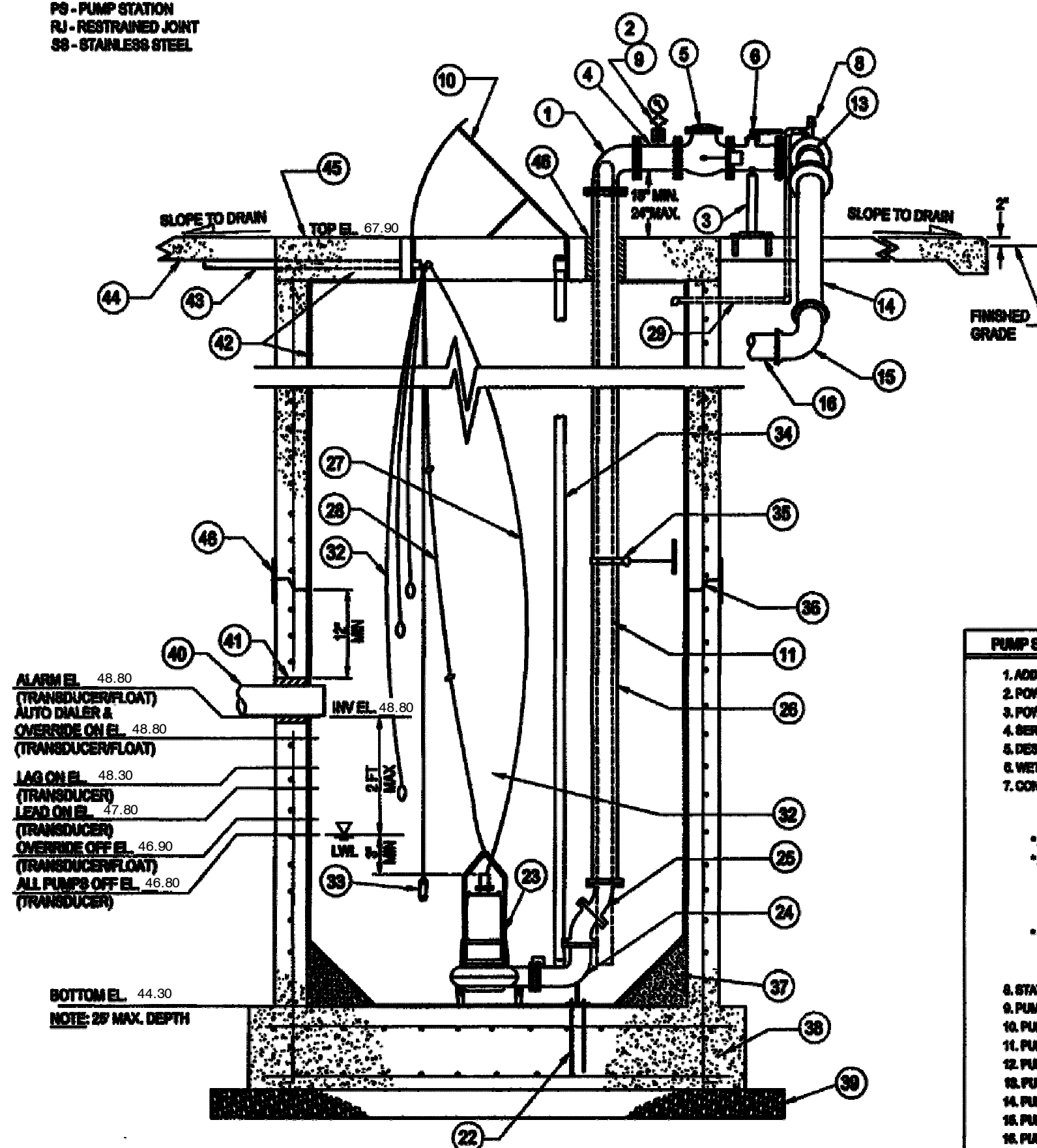
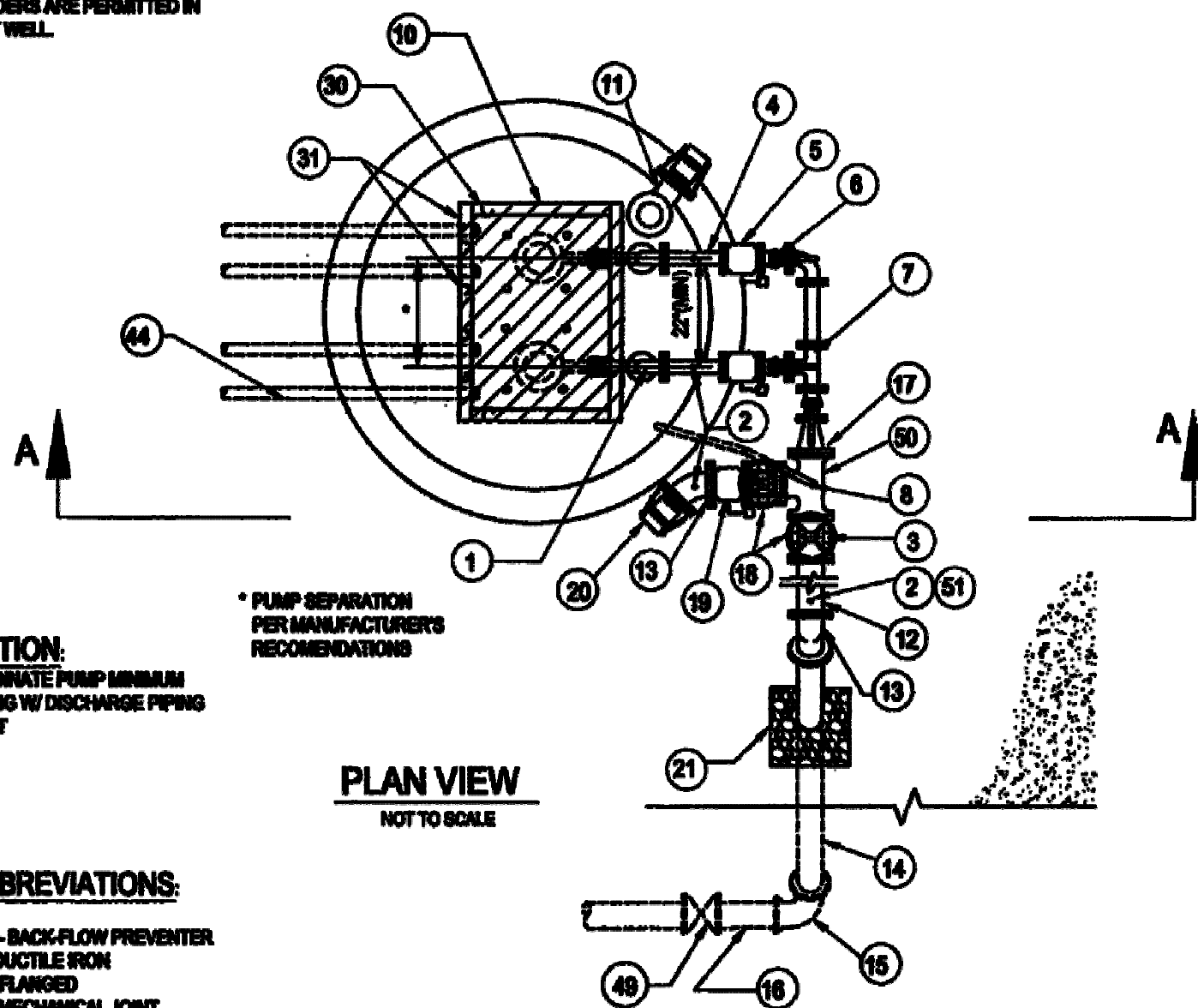


LEGEND:

- MICRO-IRRIGATION ZONES (BUBBLERS)
- MICRO-IRRIGATION ZONES (DRIP IRRIGATION)
- NON MICRO-IRRIGATION ZONES (ALL SOD AREAS)

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					JOB NO: 4802-700-001 DATE: 09/13/2013 SCALE: AS SHOWN		SHEET NO: IR1.08	
					ISSUED FOR CONSTRUCTION OCTOBER 9, 2014			

BFP - BACK-FLOW PREVENTER
DI - DUCTILE IRON
FG - FLANGED
MJ - MECHANICAL JOINT
PE - PLAIN END
PS - PUMP STATION
RJ - RESTRAINED JOINT
SS - STAINLESS STEEL



SECTION A-A
NOT TO SCALE

SCALE	REVISIONS			
As Shown				
	No.	DATE	DESCRIPTION	APPVD.

1. 2" F80 80 BEND (4 REQ.)
2. 12" TAP W/ 12" x 2" 316 SS NIPPLE & 12" LOCKABLE BALL VALVE W/ 60 BALL (3 REQ.)
3. ADJUSTABLE PIPE SUPPORT, SIZED AS REQUIRED (4 REQ.) - SEE DETAIL, DRAWING M8
4. 2" F80 SPECIAL PIGEL LENGTH AS REQUIRED (OF 160')
5. 2" F80 90 BEND CHECK VALVE (2 REQ.)
6. 2" F80 90 LOCKABLE BALL VALVE (6 REQ.)
7. 2" x 2" F80 90 TEE
8. AIR RELEASE ASSEMBLY TO INCLUDE 4" TAP W/ 2" x 2" 316 SS NIPPLE, 1" 88 THREADED TEE, 2" x 12" 88 PUMP BURNING, 12" 88 BALL VALVE W/ 12" F80 THREADED PLUG, AND 1" 88 BALL VALVE W/ 1" PVC UNDERDRAIN - SEE DETAIL, DRAWING M9
9. COMPOUND PRESSURE GAUGE (STAINLESS STEEL, SILICONE FILLED, W/ SILICONE FILLED OPAQUEMAN SEAL), PROVIDE ONE PER STATION
10. ALUMINUM FRAME & SINGLE ACCESS HATCH W/ 30" x 30" MIN. OPENING, HINGED ON DISCHARGE PIPING SIDE AND CAPABLE OF BEING SECURED IN THE OPEN POSITION. CONTRACTOR SHALL DRILL BRIGHT 1/2" DIA. HOLES IN HATCH COVER.
11. REMEDIATION SUCTION PIPE ASSEMBLY - SEE DETAIL, DRAWING M9
12. F80 PUMP STATIONS W/ 4" DIA. WETWELL, MAX. SUCTION PIPE MAY NEED TO BE LOCATED BETWEEN THE DISCHARGE PIPER.
13. 4" F80 DIP LENGTH AS REQUIRED
14. 4" F80 45° BEND (2 REQ.)
15. 4" F80 TEE PIPER, LENGTH AS REQUIRED
16. 4" 80 90° BEND W/ RESTRAINED JOINTS
17. 4" PVC 600 W/ RESTRAINED JOINTS AS REQUIRED (MIN DEPTH OF 40" TO GROUND) OF PIPER
18. 2" x 2" F80 90 REDUCER
19. 4" F80 RESISTANT BEAT GATE VALVE (3 REQ.)
20. 4" F80 BENDING CHECK VALVE PER APP. B
21. BENDING CHECK VALVE W/ 4" CARLOCK MATE COUPLER W/ CAP, THREADED NIPPLE AND FLANGE
22. OPENING IN CONCRETE SLAB, GRAVEL FILL - MINIMUM 4" CLEARANCE ABOVE PIPER
23. 3/4" DIA. 88 ANCHOR BOLTS & NUTS (DOUBLE NUTS) PER PUMP MANUFACTURERS RECOMMENDATIONS, EPOXYED INTO BASE SLAB
24. PUMP - GENERATOR W/ FRONT LOAD PUMP SYSTEM (2 REQ.)
25. MAKE ELUOY TO BE PROVIDED BY PUMP MANUFACTURER (2 REQ.)
26. 2" F80 45° BEND (48 REQUIRED FOR OFFSET IN WETWELL)
27. 2" 316 SS 88 SCHEDULE 40 PLANGED DISCHARGE PIPING, LENGTH AS REQUIRED
28. POWER CABLES TO FLANGE
29. PUMP LIFTING CHASSIS (PMP 316 SS) W/ 4" 316 SS RINGS LOCATED @ 5-FT INTERVALS
30. 1" CABLE FROM ATTY
31. 316 SS POWER CABLE HOODS - SEE DETAIL, DRAWING M2
32. 316 SS CONTROL CABLE HANGER FOR LEVEL TRANSDUCERS AND FLOAT SWITCH CABLES - SEE DETAIL, DRAWING M2
33. LEVEL FLOAT SWITCHES (2 REQ.), TO SERVICE BACKUP LEVEL SENSORS TO PRESSURE TRANSDUCER
34. PRESSURE TRANSDUCER FOR WATER LEVEL CONTROL, SUSPENDED FROM CONTROL CABLE HOOD, SET AT 18 INCHES ABOVE BOTTOM OF 316 SS 88 SCHEDULE 40 SLAB (2 REQ.)
35. 316 SS 88 SCHEDULE 40 SLAB (2 REQ.)
36. 316 SS 88 SCHEDULE 40 SLAB (2 REQ.)
37. 316 SS 88 SCHEDULE 40 SLAB (2 REQ.)
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100. 316 SS 88 SCHEDULE 40 SLAB (2 REQ.)

NOTE: REFER TO TECHNICAL MANUAL AND/OR TECHNICAL SPECIFICATIONS AS APPLICABLE FOR MATERIALS REQUIREMENTS AND THE LIST OF APPROVED PRODUCTS

ELECTRICAL SYSTEM AND CONTROLS SHALL COMPLY WITH THE LATEST HILLSBOROUGH COUNTY DESIGN STANDARDS AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

- A SURGE ARRESTOR;
- A PHASE MONITOR;
- AN EMERGENCY GENERATOR RECEPTACLE (4B-4);
- AN ELAPSED TIME METER FOR EACH PUMP;
- A PUMP ALTERNATOR;
- A GROUND FAULT INTERRUPTIBLE RECEPTACLE;
- LOW MEASUREMENT CAPABILITY;
- HIGH LEVEL ALARM LIGHT AND HORN.

THE CONTRACTOR SHALL PROVIDE ELECTRICAL DRAWINGS IN COMPLIANCE WITH THE LATEST HILLSBOROUGH COUNTY DESIGN STANDARDS, SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER AS PART OF SHOP DRAWING SUBMITTALS.

PUMP STATION DESIGN NOTES (TYP)

1. IN ORDER TO COORDINATE THE MECHANICAL, ELECTRICAL AND STRUCTURAL INSTALLATION, THE DESIGN ENGINEER SHALL SUBMIT TO HILLBOROUGH COUNTY'S MECHANICAL, ELECTRICAL, PLUMBING, AND GAS AND STRUCTURAL DIVISIONS (H&M), AND THE TOWN'S WATER, WASTEWATER & RECREATED WATER DIVISIONS (W&R), THE DESIGN OFFICE'S "LATEST EDITION" OF THE TOWN'S WATER, WASTEWATER & RECREATED WATER TECHNICAL SPECIFICATIONS' LATEST EDITION.
2. THE DESIGN ENGINEER SHALL NOT SHOW THESE DRAWINGS FOR A SPECIFIC SITE INSTALLATION. A DETAILED SITE PLAN SHALL BE SIGNED IN THE BOX PROVIDED ON THIS SHEET, OR ON AN ADJACENT SHEET AS NEEDED. THE SITE PLAN SHALL BE DRAWN TO SCALE AND INCLUDE CRITICAL SITE ELEVATIONS (SUCH AS ROAD, SLAB, FINISH SURFACE, ETC.) AND SURROUNDING AREAS, INCLUDING FINISHED FLOOR OF BUILDING OR ADJACENT LOT, AND DIRECTION, HANDSCAPE ELEMENTS, AND THE PUMP STATION'S RELATIONSHIP TO THE SURROUNDING AREA.
3. THESE DRAWINGS REPRESENT THE STANDARD DESIGN FOR ALL HILLBOROUGH COUNTY WATERWATER PUMPING STATIONS. IT WAS DEVELOPED TO IMPROVE RELIABILITY AND MAINTAINABILITY, MINIMIZE SPARE PARTS AND INCREASE SERVICE LIFE. ALL REQUESTING FOR PROPOSERS FROM THIS STANDARD MUST BE MADE TO THE DESIGN ENGINEER'S OFFICE. THE DESIGN ENGINEER'S OFFICE WILL BE RESPONSIBLE FOR THE DESIGN AND THE PUBLIC UTILITIES DEPARTMENT (PUD) PROJECT MANAGER FOR ALL CAPITAL IMPROVEMENT PROJECTS. WRITTEN APPROVAL FROM PUD PROJECT COORDINATOR & STANDARD DESIGN REVIEW IS REQUIRED BEFORE MODIFICATIONS ARE MADE.
4. THE ENGINEER IS RESPONSIBLE FOR COORDINATING WITH THE PUMP SUPPLIER TO ENSURE THAT PROPER PUMP AND PIPE SPACING IS ACCOMMODATED.
5. PUMP STATION SLAB DIMENSIONS SHALL MEET OR EXCEED MINIMUMS SHOWN.
6. THE ENGINEER IS ADVISED THAT COUNTY APPROVAL OF THE PUMP STATION DESIGN DOES NOT CONSTITUTE A RELEASE FROM PROFESSIONAL LIABILITY BY THE ENGINEER NOR SHIFT RESPONSIBILITY FOR ANY DESIGN OR CONSTRUCTION DEFECTS OR DAMAGES TO THE TOWN OF HILLBOROUGH. THE ENGINEER IS RESPONSIBLE FOR THE FINAL ELECTRICAL, MECHANICAL, AND STRUCTURAL DESIGN.
7. DISCHARGE PIPE SUPPORTS ARE REQUIRED FOR ALL WELLS EXCEPT GREATER THAN 10 FEET.
8. IF INFLUENT WATER ELEVATION IS GREATER THAN 2 FEET ABOVE LOW WATER LEVEL (FWL) A DROP INVERT CONNECTION IS REQUIRED. THE DESIGNER HAS THE RIGHT TO ASK FOR THE LEAD-ON ELEVATION (DROP CONNECTION ELEVATION, DROPPED INVERT).
9. LOW WATER LEVEL MUST BE AT LEAST 5' ABOVE TOP OF PUMP. FWL IN THE FOLLOWING INFORMATION: INSTALLED HEIGHT FROM PUMP (FWL) = 2.5 FT. | (FWL - BOTTOM ELEV. = 2.5 FT)

PUMP STATION DATA:

1. ADDRESS _____

2. POWER CO. METER NO. _____

3. POWER CO. POLE/PAD NO. _____

4. SERVICE AREA SOUTH _____

5. DESIGN CAPACITY 85 GPM _____

6. NET WELL VOLUME 4592 GALLOWS 8 FT. DIA.

7. CONTROL ELIMINATIONS

TOP IEL. 57.80

INVERT IEL. 48.80

ALARM IEL. 48.50

AUTO CHARGER IEL. 48.50

LAG ON IEL. 48.30

D/NP INVERT IEL. N/A (IF REQUIRED)

LEAD ON IEL. 47.80

OVERFLOW OFF IEL. 48.50

PUMPS OFF IEL. 48.50

BOTTOM IEL. 44.30

8. STATIC HEAD 24.40 FT.

9. PUMP MODEL FLTDT MP 302-170

10. PUMP SERIAL NO. _____

11. PUMP DESIGN POINT 81 GPM @ 45 YDS

12. PUMP H.P. _____ PUMPER 3

13. PUMP IMP. DIAMETER 120 mm

14. PUMP SPEED 350 RPM

15. PUMP VOLTS 550 VOLTAGE 7.8

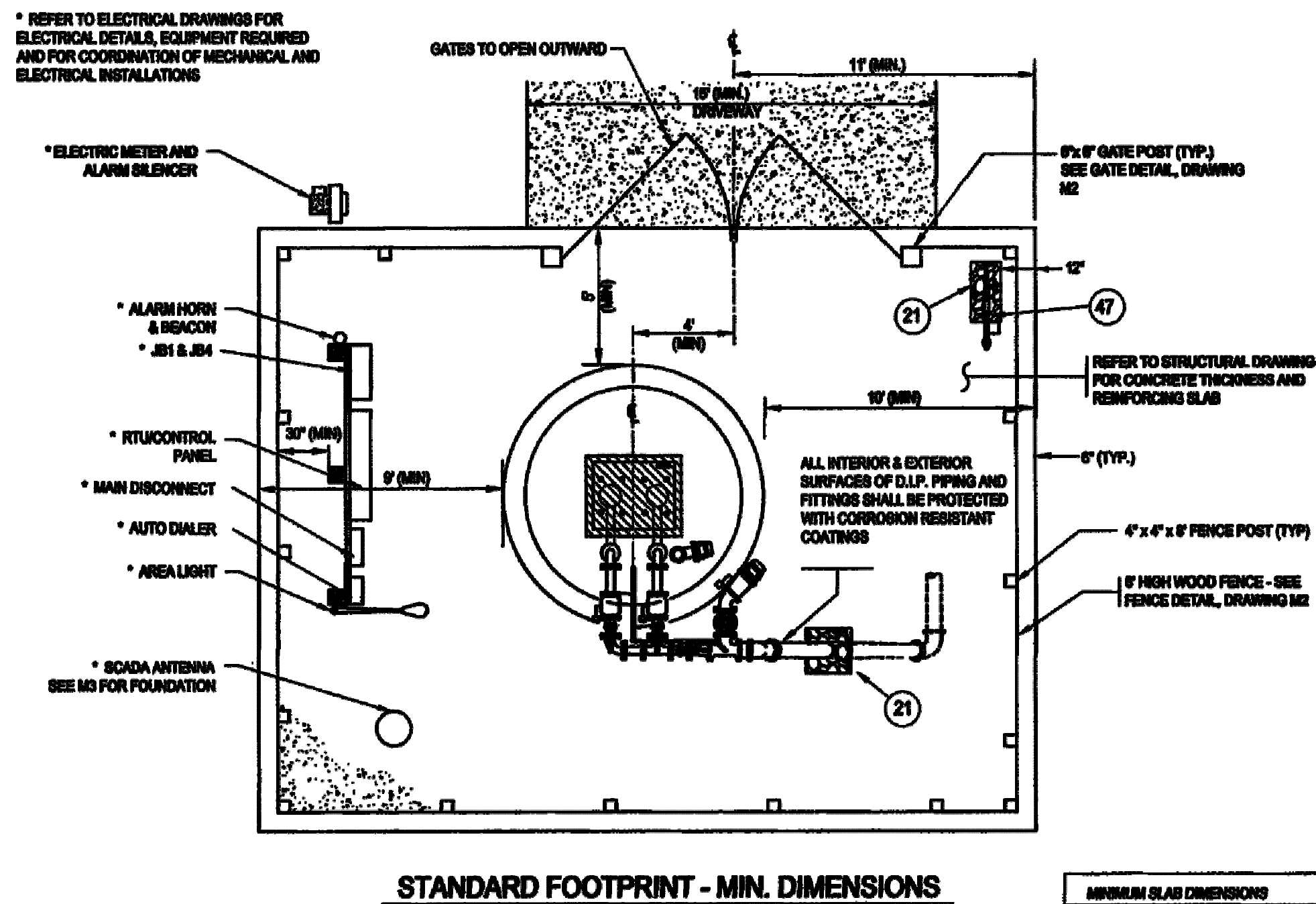
16. PUMP SHAFT OFF HEIGHT 59 FT.

17. PUMP SIZE 3000 SPM

NOTE: FLYGT PUMPS TO BE ORDERED WITH INSTALLED HYDROMATIC DISCHARGE ADAPTOR FLANGES HAVING RUBBER GROMMETS (N/A)



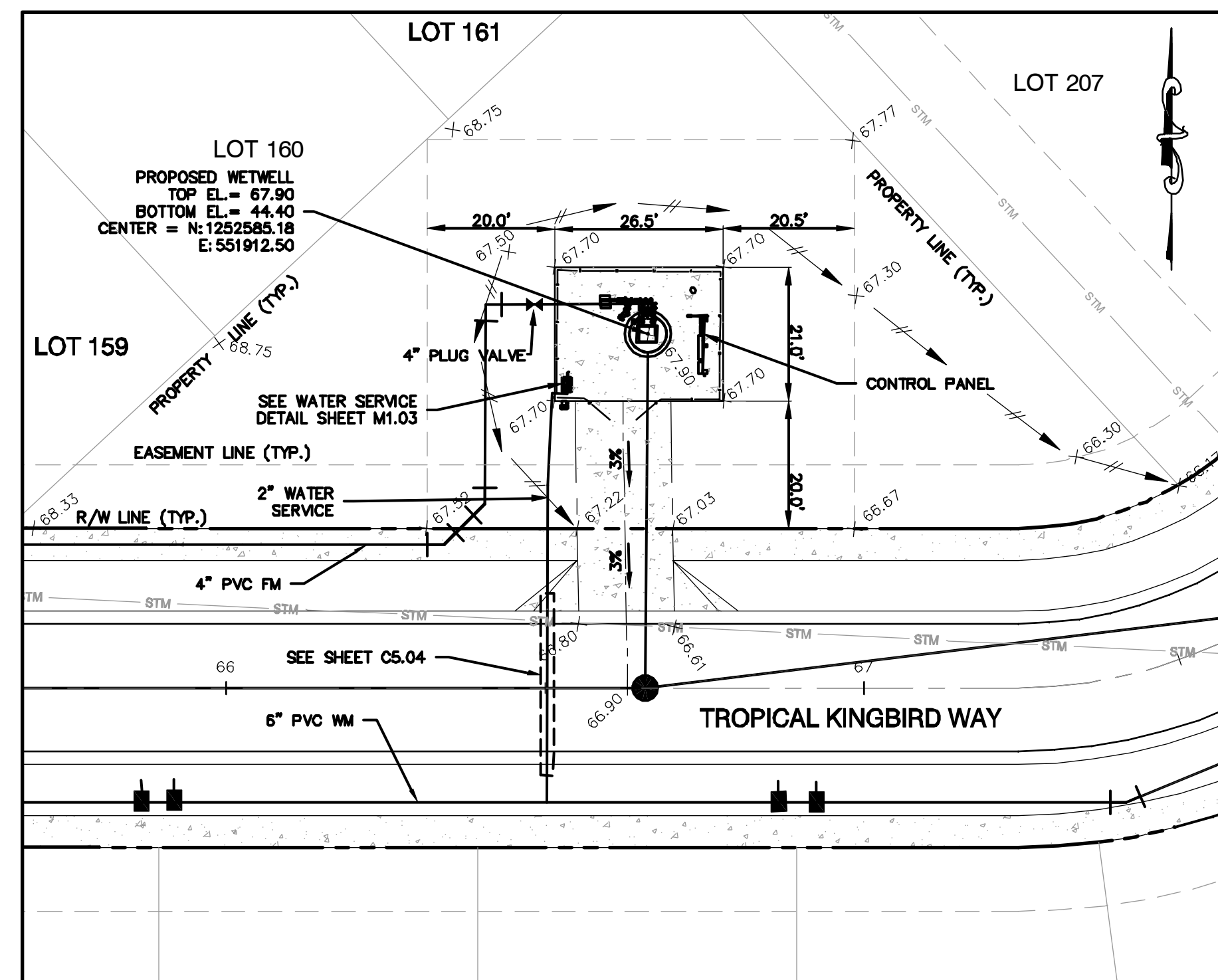
**HILLSBOROUGH COUNTY
PUBLIC UTILITIES DEPARTMENT**
825 E. TWIGGS STREET / TAMPA, FLORIDA 33602



STANDARD FOOTPRINT - MIN. DIMENSIONS

SCALE 1"=40'

MINIMUM SLAB DIMENSIONS	
6" INSIDE DIA. WETWELL ...	21' x 26"
8" INSIDE DIA. WETWELL ...	22' x 26"



DETAILED SITE PLAN
(BY ENGINEER) SCALE: 1" = 20'-0"

PROJECT No.:	<p style="text-align: center;">NOT VALID UNLESS ENDORSED WITH ENGINEER'S SEAL</p> <p>I hereby certify that the work contained herein was prepared under my direct supervision and complies with the requirements of Chapter 471, Florida Statutes and Chapter 61G15, F.A.C.</p> <p>Florida Professional Engineer's Registration Number _____</p> <p>Date _____</p>	<p>MECHANICAL LAYOUT AND SITE PLAN</p> <p>STANDARD WASTEWATER GRINDER PUMP STATION</p>	OCT 2013
FILE No.:			SHEET
DESIGNED BY:			OF
DRAWN BY:			DRAWING M1
CHECKED BY:			
DATE:			
SCALE:			

King

ENGINEERING ASSOCIATES, INC.

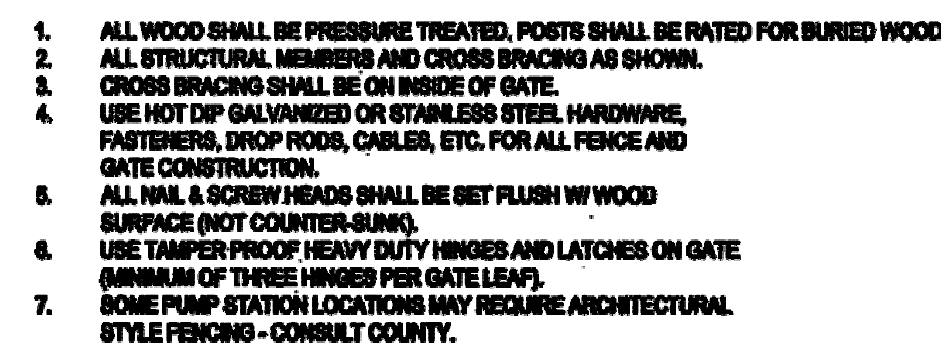
4921 Memorial Highway
One Memorial Center, Suite 300
Tampa, Florida 33634
Phone 813 880-8881
Fax 813 880-8882
www.kingengineering.com
Engineering License #2610

THE OAKS AT SHADY CREEK, PHASE 1
LENNAR HOMES, LLC
4600 WEST CYPRESS ST., SUITE 200
TAMPA, FL 33607

PUMP STATION LAYOUT AND SITE PLAN

[illegible]

JOB NO. 4802-700-001	SHEET NO.
DATE: 09/13/2013	M1.01
SCALE: AS SHOWN	
ISSUED FOR CONSTRUCTION OCTOBER 9, 2014	



DETAILS	OCT 2013
STANDARD WASTEWATER GRINDER PUMP STATION	SHEET
	OF
	DRAWING M2

1. COORDINATION:

CONTRACTOR TO COORDINATE ALL PIPE AND CONDUIT LOCATIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS PRIOR TO PLACING CONCRETE. MECHANICAL CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR EQUIPMENT AND ANCHOR BOLT LOCATIONS.

STRUCTURAL DRAWINGS SHALL BE WORKED TOGETHER WITH MECHANICAL AND ELECTRICAL DRAWINGS TO PROPERLY LOCATE WALL PIPES, PIPE SLEEVES, ANCHOR BOLTS, BLOCKOUTS, ETC. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE COUNTY ENGINEER BEFORE PROCEEDING WITH THE WORK.

2. PRECAUTIONS:

CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT FLOATION OF STRUCTURES FULLY UNTIL CONSTRUCTED AND BACKFILL IS IN PLACE AND COMPACTED.

3. DESIGN CRITERIA AND LOADS:

ACI 350	CONCRETE SANITARY ENGINEERING STRUCTURES
ACI 318	BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE
ASTM C 478	STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS

DESIGN LIVE LOADS:

WET WELL TOP SLAB	AASHTO HS20-44.
SITE PAD - VEHICULAR AREA BEARING	AASHTO HS20-44.
SITE PAD - NON-VEHICULAR AREA BEARING	300 PSF.

NET ALLOWABLE SOIL BEARING CAPACITY: 1500 PSF.

4. CAST-IN-PLACE CONCRETE:

CAST-IN-PLACE CONCRETE SHALL HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:

WET WELL TOP SLAB	4,000 PSI
WET WELL WALLS	4,000 PSI
WET WELL BASE SLAB	4,000 PSI
SLABS ON GRADE	4,000 PSI
PIPE SUPPORTS, PUMPS PADS, ENCASEMENTS	3,000 PSI

5. PRECAST CONCRETE:

PRECAST WET WELL CONCRETE SHALL HAVE MINIMUM 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.

6. REINFORCING STEEL:

REINFORCING STEEL FOR ALL BARS SHALL CONFORM TO ASTM 615, GRADE 60 OF US MANUFACTURE.

WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.

7. REINFORCEMENT CLEARANCE:

CLEARANCE OF REINFORCING STEEL FROM THE FACE OF CONCRETE TO THE OUTERMOST TIE OR BAR SHALL BE 2", UNLESS OTHERWISE NOTED ON THE DRAWINGS.

8. ANCHOR BOLTS:

ANCHOR BOLTS SHALL BE TYPE 316 STAINLESS STEEL. ANCHOR BOLTS TO BE DESIGNED AND DETAILED BY PUMP SUPPLIER.

9. ALUMINUM ACCESS HATCH:

ACCESS HATCH COVER SHALL BE ALUMINUM AND TO BE SIZED AND DETAILED AS PER SPECIFICATIONS.

10. SHOP DRAWINGS:

THE FOLLOWING SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW. FABRICATION SHALL NOT COMMENCE UNTIL ALL REVIEWS ARE COMPLETED.

- REINFORCING STEEL	- ANCHOR BOLTS
- PRECAST CONCRETE	- CONCRETE MIX DESIGNS
- GROUTS	- ACCESS HATCHES AND FRAMES
- WATERPROOF JOINTS	- EXPANSION JOINT MATERIAL

11. FOUNDATIONS:

REMOVE ALL ORGANIC TOPSOIL, SURFACE VEGETATION, DEBRIS, ETC.

A MINIMUM OF 8 INCH LIMEROCK BEDDING COMPACTED TO 98 % RELATIVE DENSITY SHALL BE PLACED UNDER THE WET WELL BASE SLABS.

DEWATER EXCAVATION DURING WET WELL INSTALLATION. ALL WORK TO BE DONE IN THE "DRY".

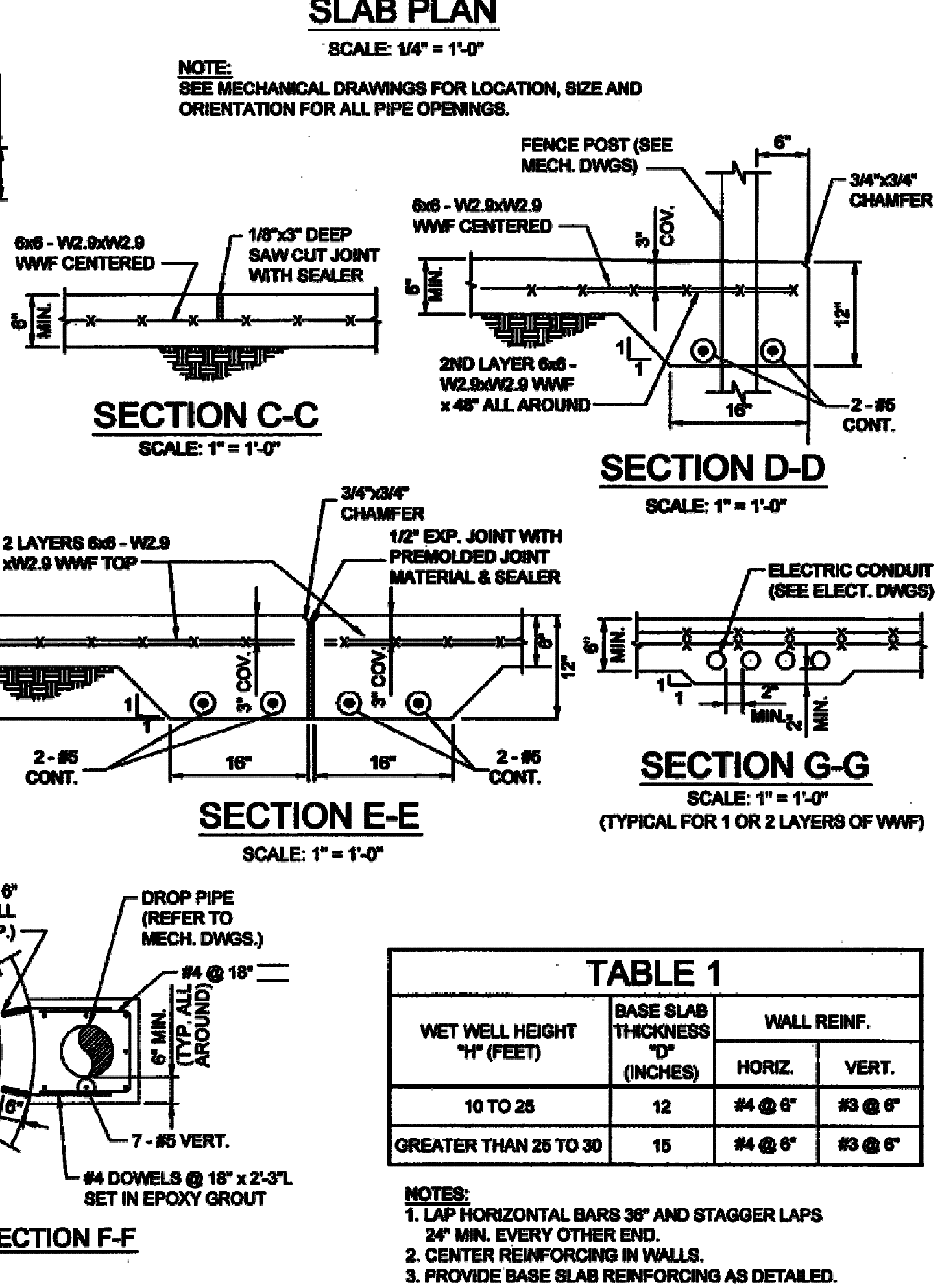
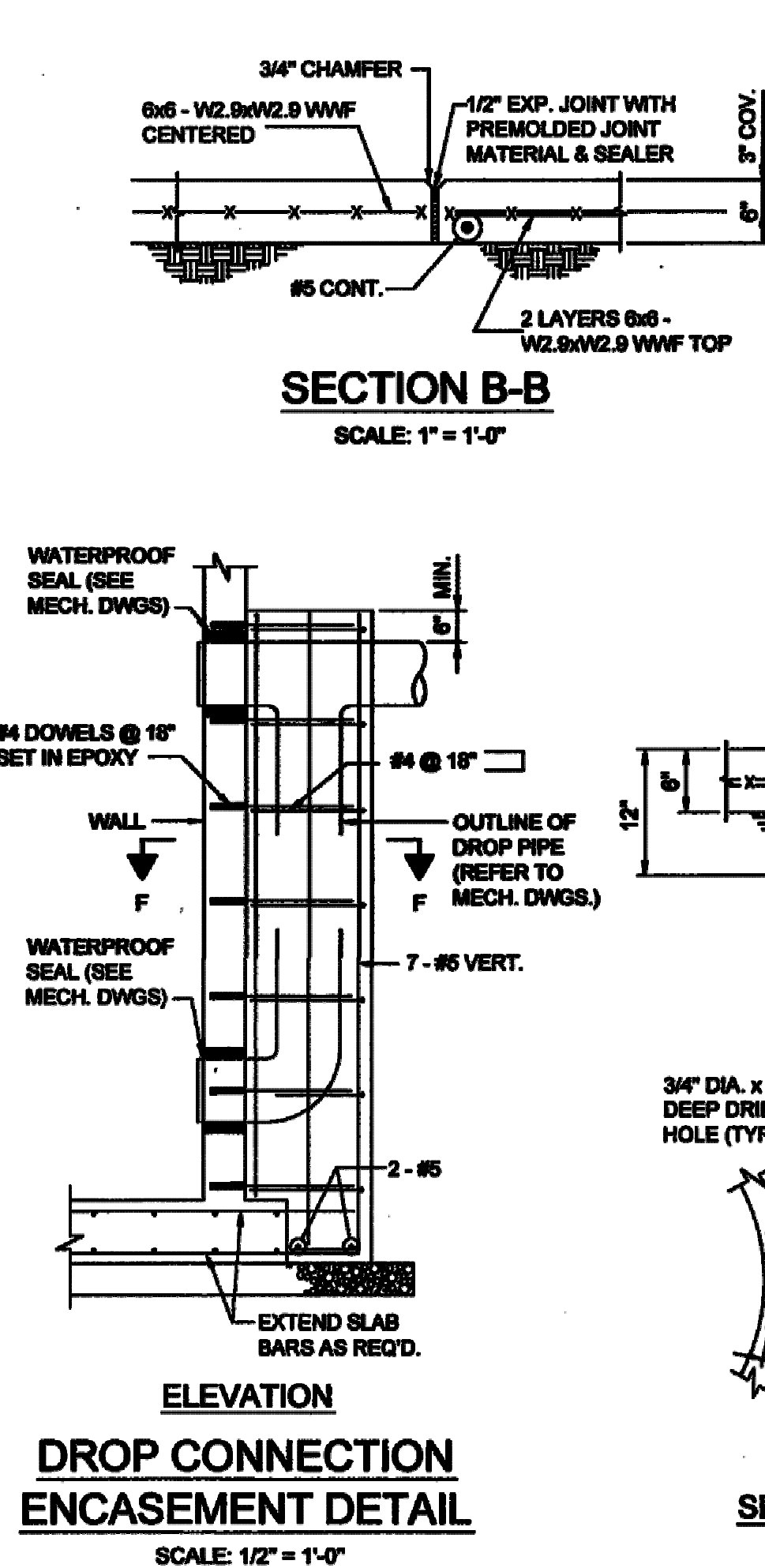
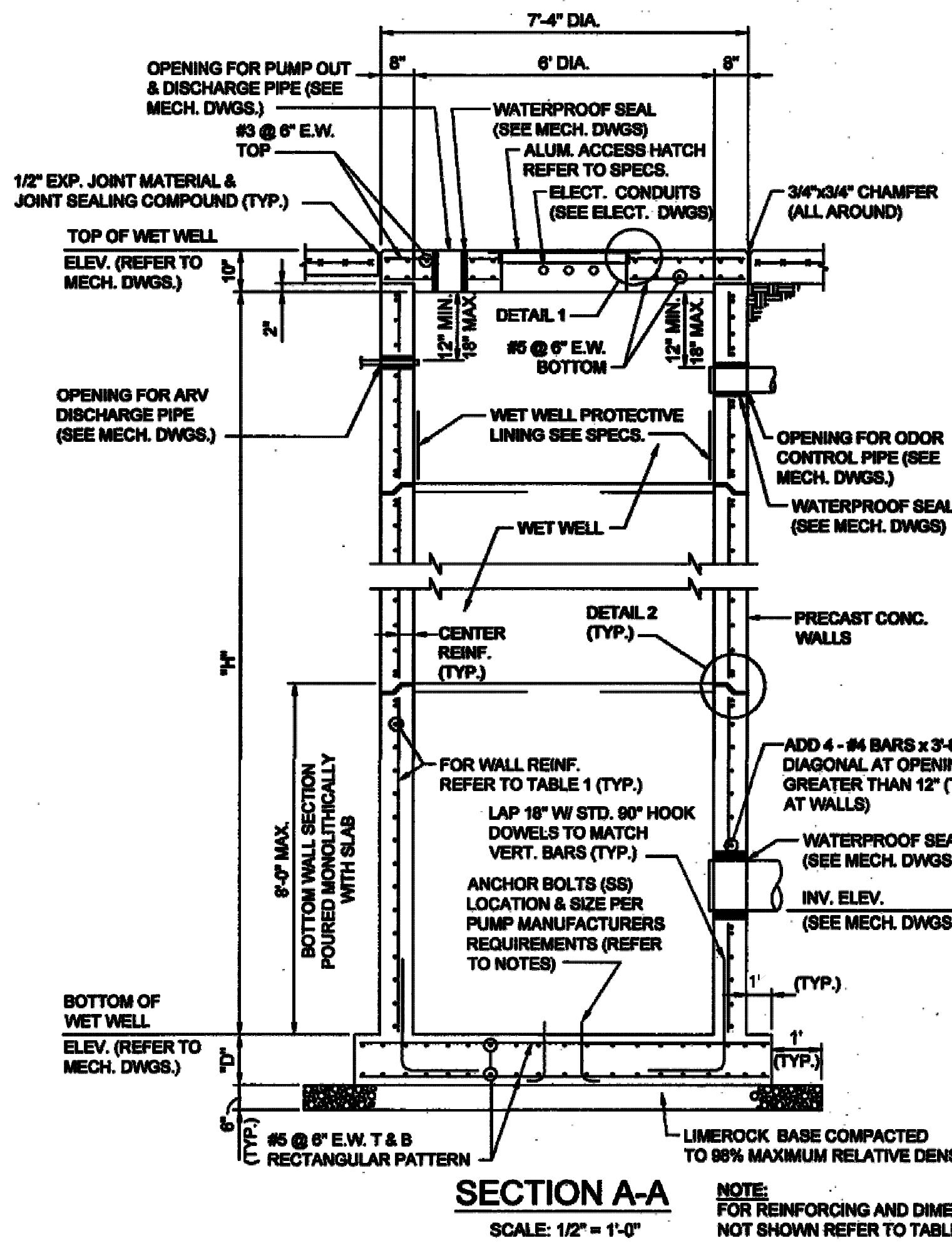
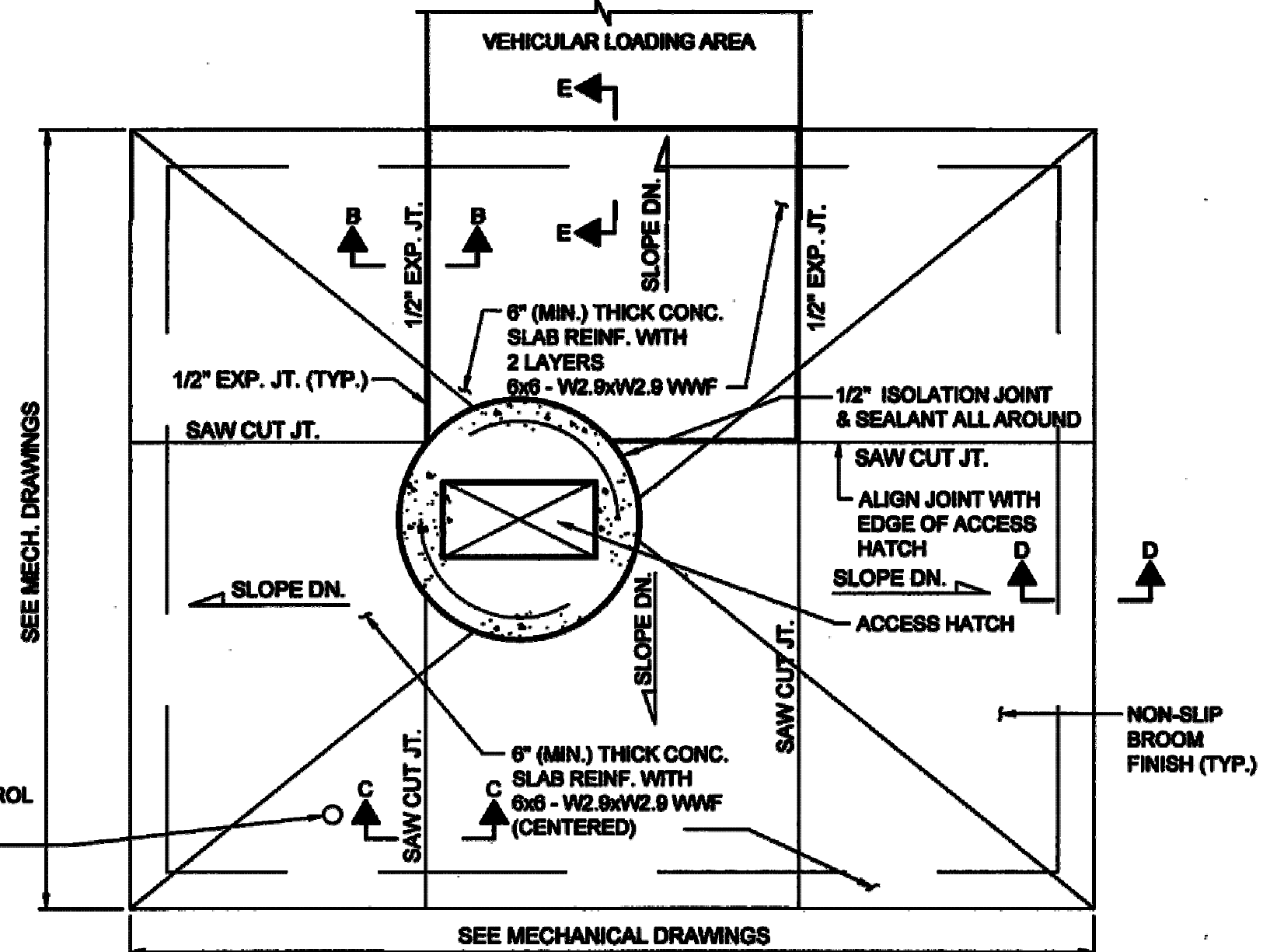
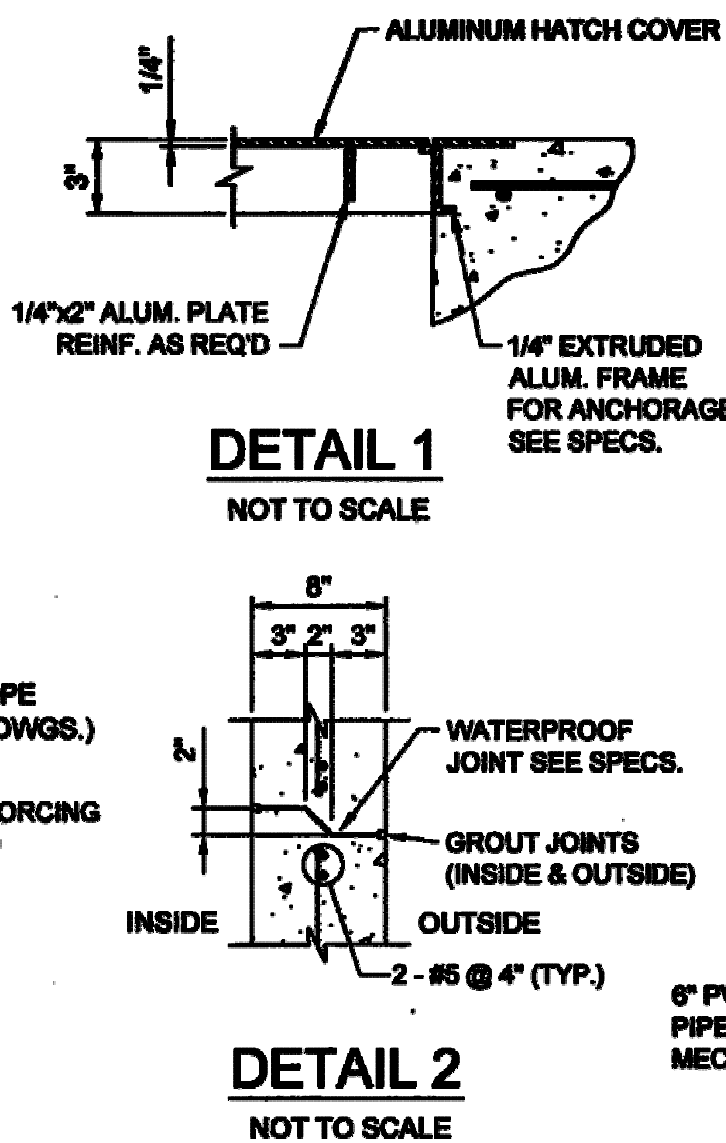
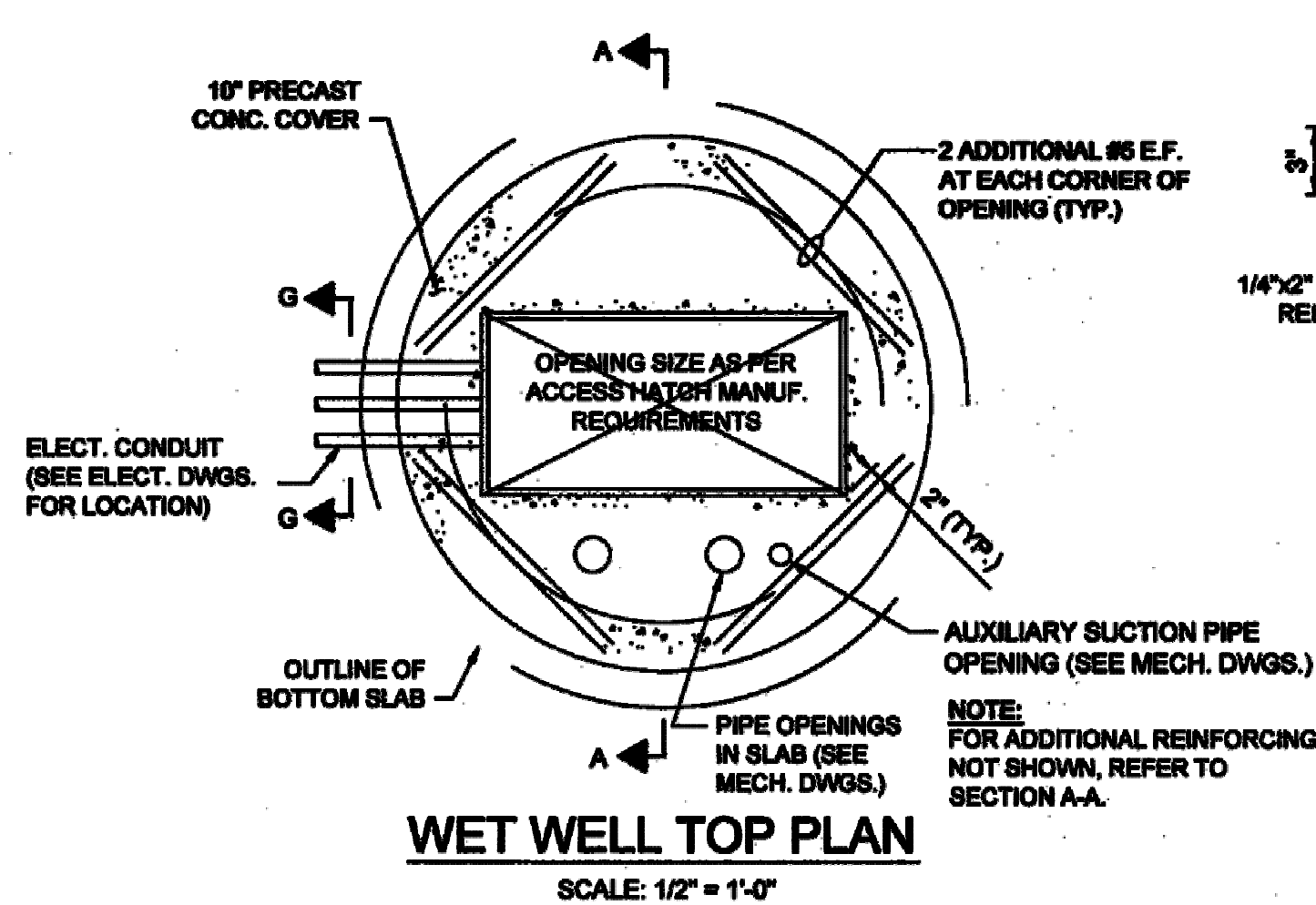


TABLE 1			
WET WELL HEIGHT "H" (FEET)	BASE SLAB THICKNESS "D" (INCHES)	WALL REINF.	
		HORIZ.	VERT.
10 TO 25	12	#4 @ 8"	#3 @ 6"
GREATER THAN 25 TO 30	15	#4 @ 8"	#3 @ 6"

NOTES:
1. LAP HORIZONTAL BARS 36" AND STAGGER LAPS
24" MIN. EVERY OTHER END.
2. CENTER REINFORCING IN WALLS.
3. PROVIDE BASE SLAB REINFORCING AS DETAILED.

WILLIAM P. PITCHER, P.E.
FLORIDA STRUCTURAL ENGINEER #01002
FSPR CERTIFICATION OF AUTHORIZATION NO. 24

SCALE	REVISIONS
AS NOTED	
NONE	
1	11-13-07 REV. WETWELL DIM'S. RGB
No.	DATE DESCRIPTION APPV'D.



PROJECT No.:	
FILE No.:	
DESIGNED BY:	PBS&J
DRAWN BY:	PBS&J
CHECKED BY:	PBS&J
DATE:	MARCH 2008
SCALE:	AS SHOWN

6 FOOT DIAMETER WET WELL PLANS,
SECTIONS, DETAILS and NOTES
STRUCTURAL



SHEET
1 of 1
DRAWING S1



THE OAKS AT SHADY CREEK, PHASE 1
LENNAR HOMES, LLC
4600 WEST CYPRESS ST., SUITE 200
TAMPA, FL 33607

PUMP STATION
STRUCTURAL PLAN

No.	DATE	DESCRIPTION	APP'D BY

JOB NO.	4802-700-001
DATE:	09/13/2013
SCALE:	AS SHOWN
ISSUED FOR CONSTRUCTION	OCTOBER 9, 2014

S1.01