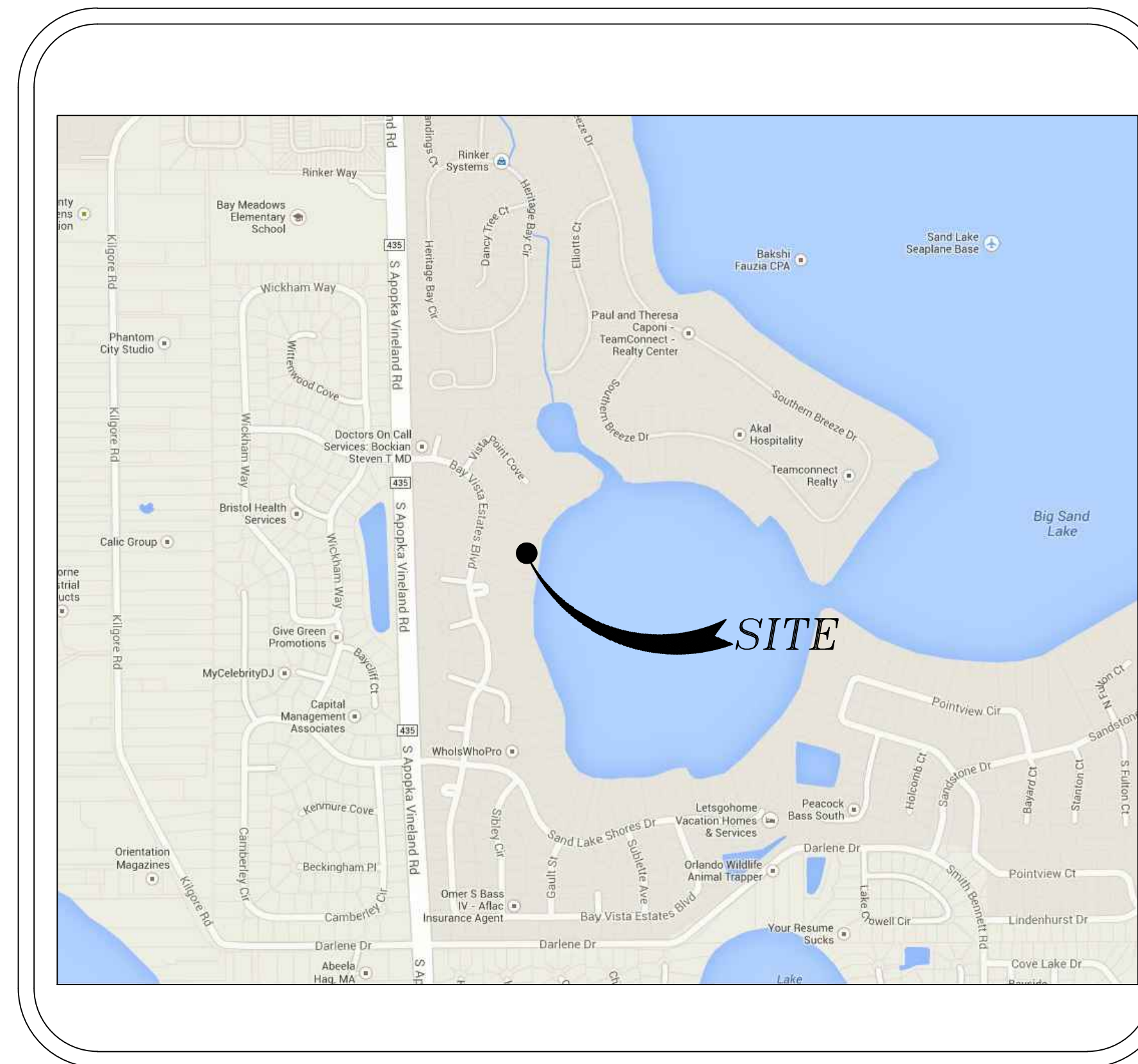
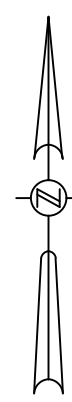




# TECHNICAL PLANS AND SPECIFICATIONS FOR LAKE SERENE (DW-005) DRAINAGE WELL REPLACEMENT

SITE VICINITY MAP



NOT TO SCALE

PLAN INDEX

1. COVER SHEET
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6. PROPOSED DRAINAGE WELL REPLACEMENT PLAN
7. DRAINAGE WELL DETAILS
8. SECTION & DETAILS

MAYOR  
TERESA JACOBS

BOARD OF COUNTY COMMISIONERS  
S. SCOTT BOYD  
FRED BRUMMER  
PETE CLARKE  
JENNIFER THOMPSON  
TED EDWARDS  
TIFFANY MOORE RUSSELL

DISTRICT 1  
DISTRICT 2  
DISTRICT 3  
DISTRICT 4  
DISTRICT 5  
DISTRICT 6

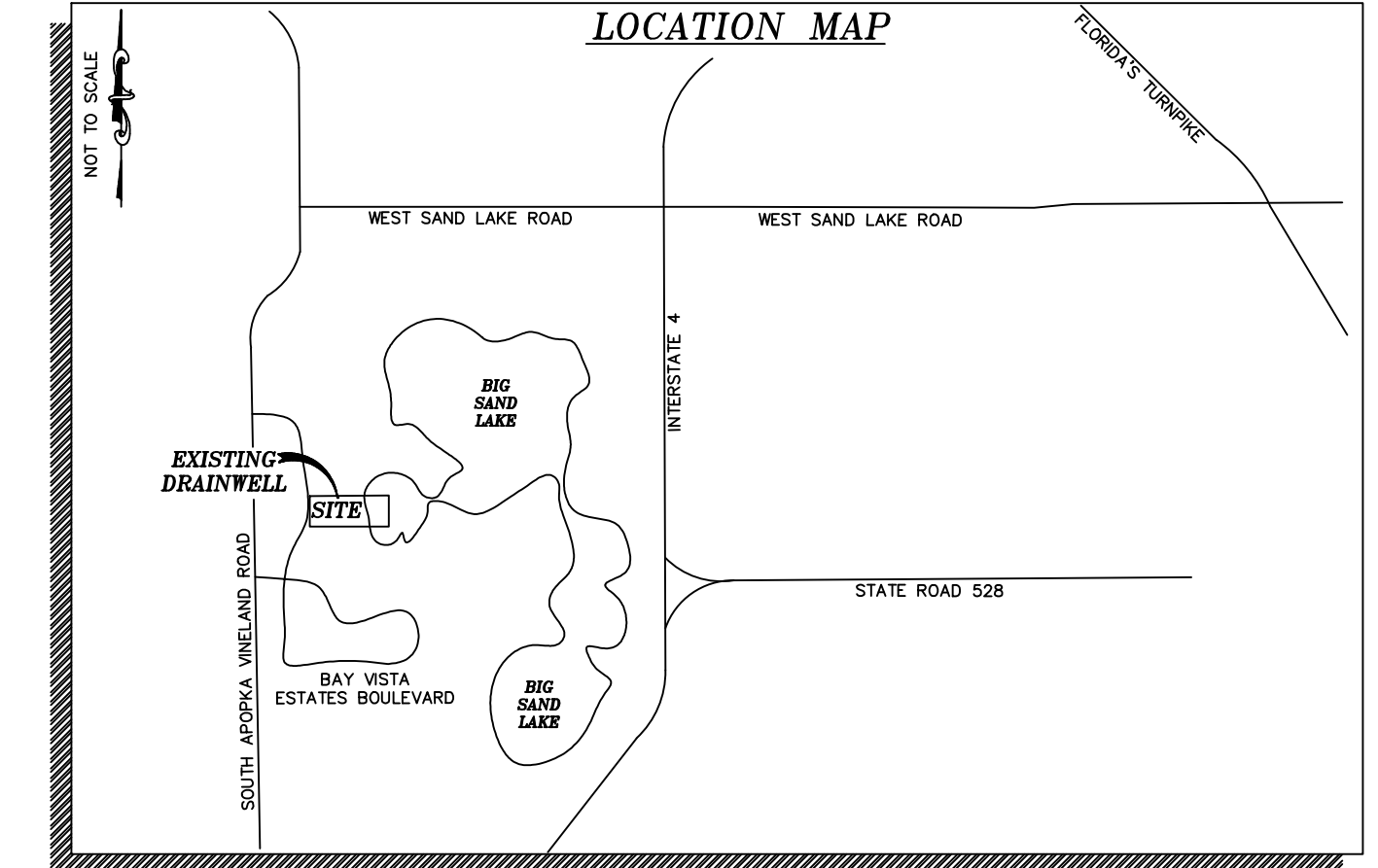
**JULY 2014**  
100% SUBMITTAL  
FOR CONSTRUCTION





# TOPOGRAPHIC SURVEY - LAKE SERENE DRAINWELL REPLACEMENT PROJECT

LYING IN SECTION 03, TOWNSHIP 24 SOUTH, RANGE 28 EAST  
ORANGE COUNTY, FLORIDA



## SURVEYOR'S REPORT

1. THE PURPOSE OF THIS SURVEY IS TO ESTABLISH THE SOUTH LINE OF THE COUNTY POND PARCEL LYING BETWEEN BAY VISTA ESTATES BOULEVARD AND BIG SAND LAKE LYING NORTH OF LOTS 57 AND 58 OF BAY VISTA ESTATES, UNIT 1, RECORDED IN PLAT BOOK 12, PAGES 70 AND 71, FURTHER DESCRIBED IN OFFICIAL RECORDS BOOK 4826, PAGE 4746 OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA BY ESTABLISHING OR RE-ESTABLISHING CORNERS, MONUMENTS AND BOUNDARY LINES, AND TO ESTABLISH THE HORIZONTAL AND VERTICAL SPATIAL RELATIONSHIP OF THE NATURAL OR MANMADE FEATURES LYING WITHIN THE DEFINED TOPOGRAPHIC SURVEY LIMITS NOTED BELOW.

THE LIMITS OF THE TOPOGRAPHIC SURVEY INCLUDES THE EXISTING DRAINAGE WELL SITE LOCATED ON THE SOUTH SIDE OF THE EXISTING ORANGE COUNTY RETENTION POND PARCEL AND COVERING THE SOUTHERLY ONE HUNDRED FEET MORE OR LESS OF THE COUNTY PARCEL NOTED ABOVE, ALONG WITH TWENTY FIVE FEET OF OVERLAP ONTO THE ADJOINING PARCELS WHERE ACCESSIBLE.

2. BEARINGS AND COORDINATES SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983/2007 ADJUSTMENT (NAD83/07), ZONE 901, FLORIDA EAST, WITH THE EASTERLY RIGHT-OF-WAY LINE OF BAY VISTA ESTATES BOULEVARD, BEING THE WESTERLY LINE OF LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 4826, PAGE 4746, OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA HAVING A BEARING OF NORTH 13°44'12" EAST.

3. ELEVATIONS SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AS ESTABLISHED FROM THE FOLLOWING ORANGE COUNTY BENCHMARKS:

C1391012  
FOUND A 3 1/2" ALUMINUM ORANGE COUNTY PUBLIC WORKS DISK IN THE TOP OF A CURB INLET AT THE NORTHWEST CORNER OF BAY VISTA ESTATES BOULEVARD AND VISTA POINT COVE  
PUBLISHED ELEVATION = 105.712 FEET (NAVD88)

C1391010  
FOUND A 3 1/2" ALUMINUM ORANGE COUNTY PUBLIC WORKS DISK IN THE SOUTHWEST CORNER OF A CONCRETE BOAT RAMP AT BAY VISTA ESTATES, 280 FEET ± EAST OF BAY VISTA ESTATES BOULEVARD  
PUBLISHED ELEVATION = 98.630 FEET (NAVD88)

4. NATIONAL GEODETIC VERTICAL DATUM OF 1929 IS ON AVERAGE 0.88 FEET HIGHER THAN THE NORTH AMERICAN VERTICAL DATUM OF 1988 FOR THE PROJECT SITE. THIS IS BASED ON PUBLISHED ELEVATIONS OF ORANGE COUNTY BENCHMARKS C1391012, C1391010 AND SITE BENCHMARKS.

5. THE SURVEYOR HAS NOT ABSTRACTED THE LANDS SHOWN HEREON FOR EASEMENTS AND/OR RIGHT-OF-WAY RECORDS. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT.

6. THE LOCATION OF UNDERGROUND UTILITY LINES SHOWN HEREON WERE DETERMINED BY A COMBINATION OF PHYSICAL MARKINGS MADE BY THE UTILITY COMPANIES IN RESPONSE TO CALL SUNSHINE LOCATE REQUEST, TICKET NUMBER 3331647 AND BY EXAMINATION OF SURFACE APPURTENANCES OF SAID UTILITIES. NO UNDERGROUND INSTALLATIONS OR IMPROVEMENTS HAVE BEEN LOCATED EXCEPT AS SHOWN.

7. ALL RECORDING REFERENCES SHOWN ON THIS SURVEY REFER TO THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA, UNLESS OTHERWISE NOTED.

8. UNLESS IT BEARS THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER THIS DRAWING, SKETCH, PLAT, OR MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID.

9. ACCORDING TO THE FLOOD INSURANCE RATE MAP (FIRM), DATED SEPTEMBER 25, 2009 THE SURVEY LIMITS SHOWN HEREON APPEAR TO LIE IN FLOOD ZONE "AE" (BASE FLOOD ELEVATION OF 100.5 FEET, NORTH AMERICAN VERTICAL DATUM OF 1988) AND FLOOD ZONE "X" (SHADED), AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD, LOCATED ON COMMUNITY PANEL NO. 120179-0395-F, MAP NUMBER 12095C0395F.

10. TEST WELL SHOWN HEREON WAS DESIGNATED BY DEVO ENGINEERING AND FIELD LOCATED BY THIS FIRM.

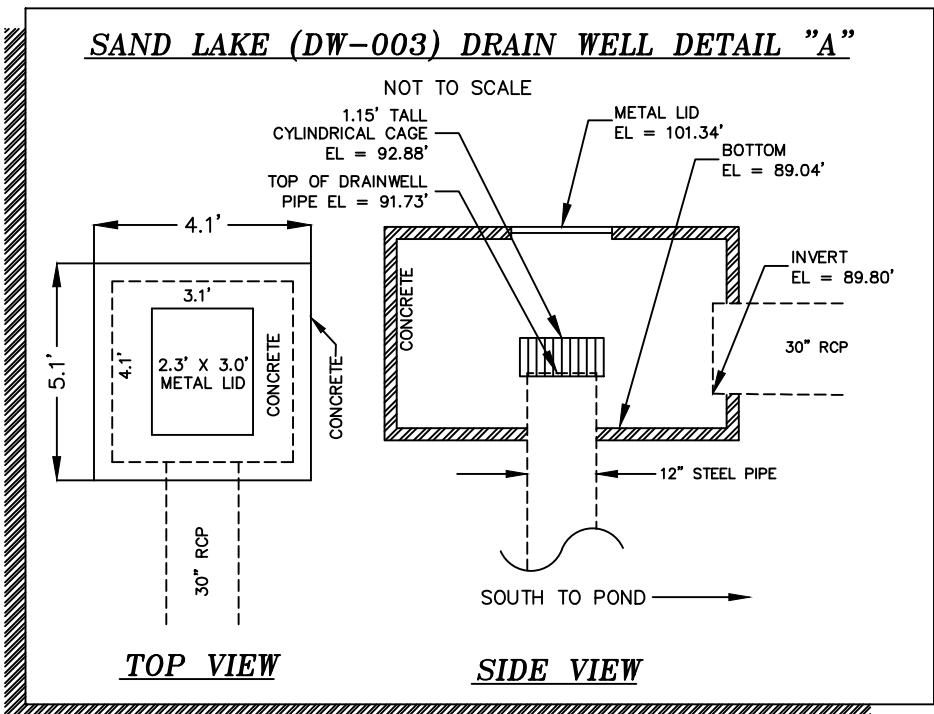
PREPARED FOR:  
**INWOOD CONSULTING ENGINEERS**  
ORANGE COUNTY PUBLIC WORKS  
ROADS AND DRAINAGE DIVISION

**SURVEYOR'S CERTIFICATION**  
I HEREBY CERTIFY THAT A SURVEY OF THE PROPERTY SHOWN HEREON WAS MADE UNDER MY SUPERVISION AND THAT THE SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 54-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO CHAPTER 422.02 OF THE FLORIDA STATUTES AND THAT THE SKETCH HEREON IS A TRUE AND ACCURATE REPRESENTATION THEREOF TO THE BEST OF MY KNOWLEDGE AND BELIEF. SUBJECT TO NOTES AND NOTATIONS SHOWN  
THIS DAY OF 20

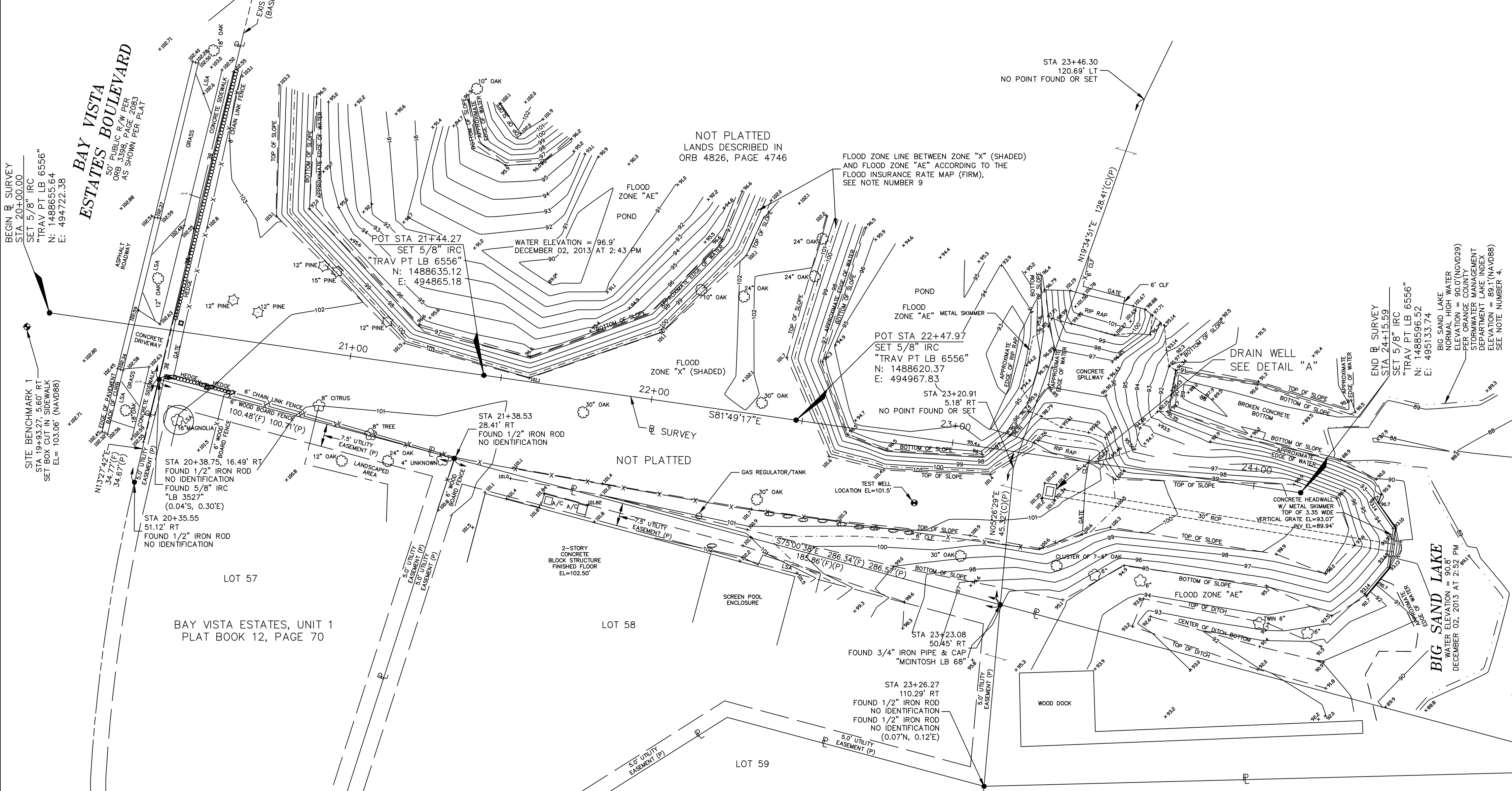
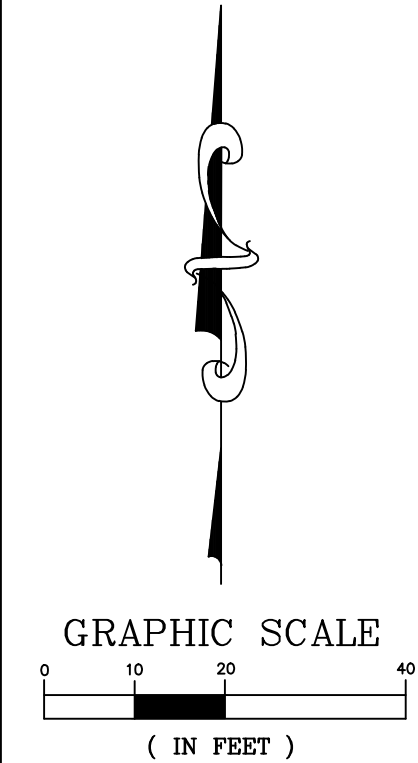
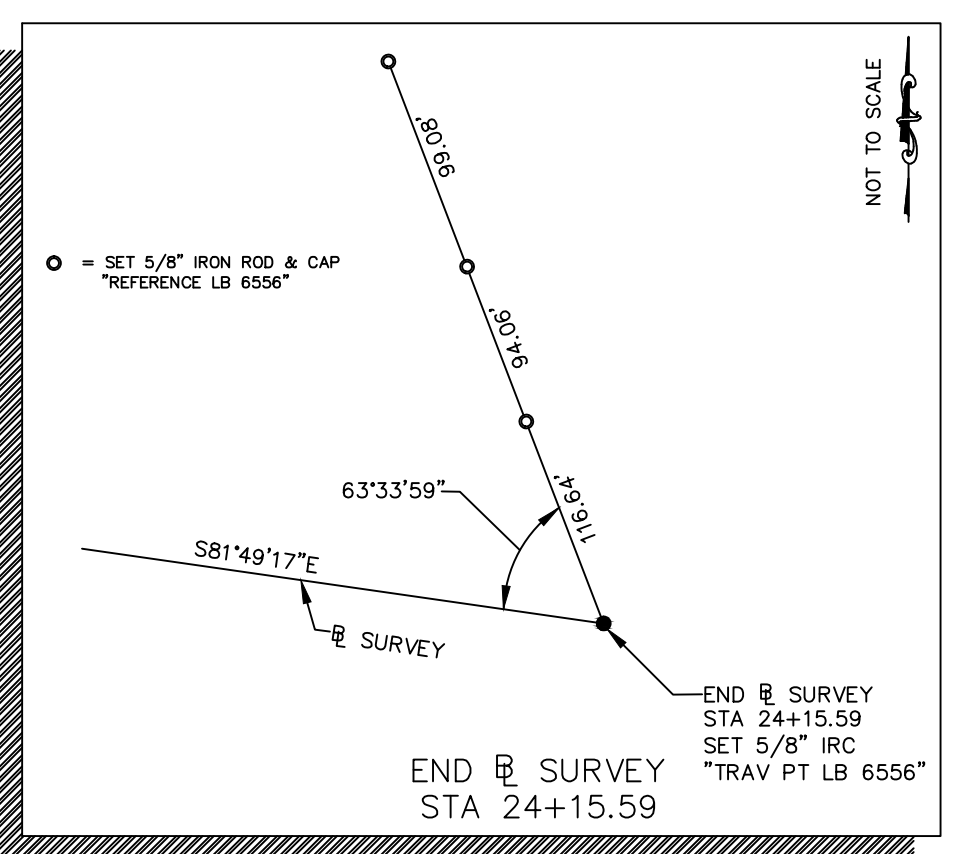
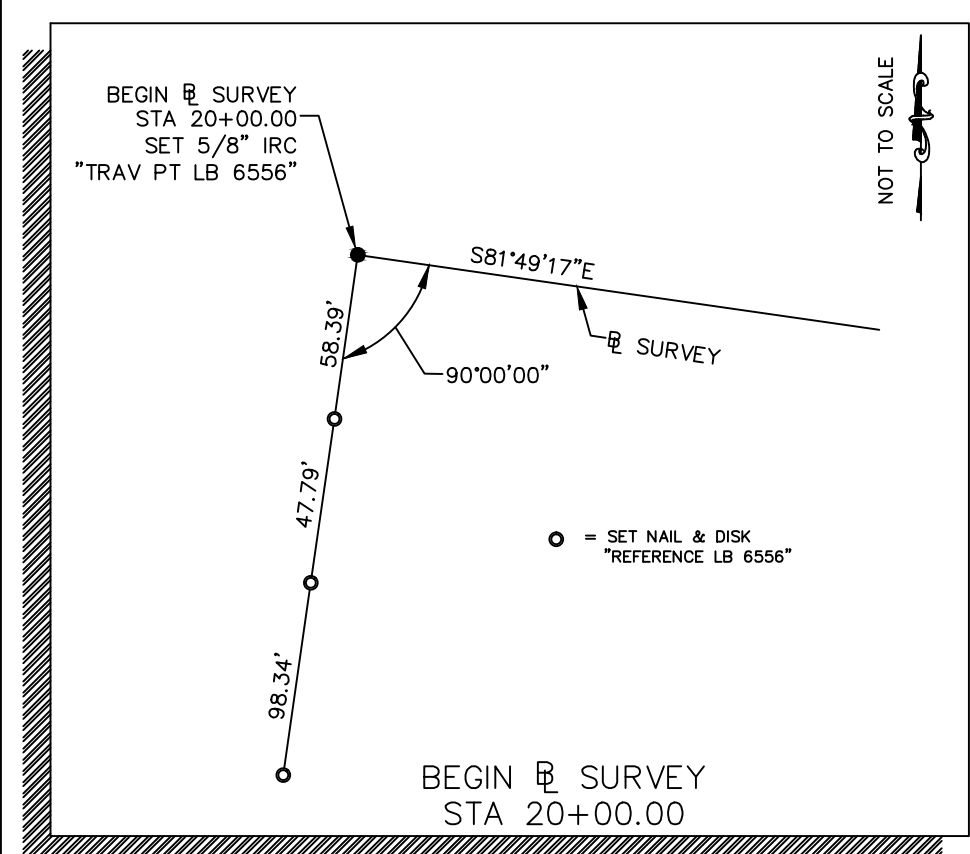
H. Paul delVera, Professional Land Surveyor No. 4990  
Land Surveyor Business License No. 6556  
VALID ONLY WITH SIGNATURE AND EMBOSSED SEAL

<b>GEODATA CONSULTANTS, INC.</b> SURVEYING & MAPPING 2700 WESTHALL LANE SUITE 137 MAITLAND, FLORIDA 32751 VOICE: (407) 680-2322 FAX: 680-8223		DRAWN BY: DPW CHECKED BY: RJH/JMS
		DATE OF FIELD SURVEY 12/09/2013 FIELD BOOK 13-24, PAGES 10-21 SEC. 03, TWP. 24 SOUTH, RGE. 28 EAST ORANGE COUNTY, FLORIDA
No.      DATE      REVISION	DATE: DEC. 17, 2013 PROJECT No. 103-53	SCALE: 1" = 20' SHEET OF 8 <b>2</b>

- ### LEGEND AND ABBREVIATIONS
- A/C = AIR CONDITIONER
  - B = BASELINE
  - BM = BENCHMARK
  - (C) = CALCULATED
  - CLF = CHAIN LINK FENCE
  - E = EASTING
  - EL = ELEVATION
  - (F) = FIELD
  - FND = FOUND
  - INV = INVERT
  - IRC = IRON ROD AND CAP
  - LSA = LANDSCAPED AREA
  - LT = LEFT
  - NGVD29 = NATIONAL GEODETIC VERTICAL DATUM OF 1929
  - N = NORTHING
  - NAVD88 = NORTH AMERICAN VERTICAL DATUM OF 1988
  - ORB = OFFICIAL RECORDS BOOK
  - (P) = PLAT
  - POT = POINT ON TANGENT
  - RGE. = RANGE
  - RCP = REINFORCED CONCRETE PIPE
  - RT = RIGHT
  - R/W = RIGHT OF WAY
  - SEC. = SECTION
  - STA = STATION
  - TWP. = TOWNSHIP
  - W/ = WITH
  - = OAK TREE
  - = UNKNOWN TREE (UNLESS OTHERWISE NOTED)
  - = PINE TREE
  - = 1.45" BRICK COLUMN
  - = LIGHT POLE
  - = SHRUB
  - = ELEVATION SPOT SHOT
  - = PROPERTY LINE
  - = COMMON OWNERSHIP LINE
  - BE — = BURIED ELECTRIC



SITE BENCHMARK 2  
ORANGE COUNTY BM C1391010  
STA 23+13.52, 210.32' LT  
END 3 1/2" ALUMINUM  
ORANGE COUNTY PUBLIC WORKS  
DISK IN SOUTHWEST CORNER OF  
CONCRETE ON BOAT RAMP AT BAY  
VISTA ESTATES  
PUBLISHED EL = 98.630' (NAVD88)



<b>"Summary of Quantities" Lake Serene (DW-005) Drainage Well</b>				
<b>Item No.</b>	<b>O.C. TP or Spec #</b>	<b>Item Description</b>	<b>Estimated Quantity</b>	<b>Unit</b>
<b>General</b>				
DW-005-1	101-1	Mobilization (Not to exceed 5% of the total for items DW-005-2 thru DW-005-21)	1	LS
DW-005-2	101-2	Utility notification, protection of utilities, site maintenance and benchmark survey verification	1	LS
DW-005-3	7-1	Record Drawing Preparation 7 Sets ("As-Builts")	1	LS
DW-005-4	7-2	Site elevation survey to verify design elevations	1	LS
DW-005-5	7-3	Permits	1	LS
DW-005-6	7-4	Indemnification	1	LS
DW-005-7	102-1	Maintenance of Traffic (signage)	1	LS
<b>Site Preparation</b>				
DW-005-8	104-1	Staked Silt Fence Type III as Shown on the Plans and Details	600	LF
DW-005-9	104-A1	Dewatering / Flow Diversion	1	LS
DW-005-10	120-1	Fill (including additional trench backfill) and re-grade Work Area	25	CY
DW-005-11	425-1	Furnish and Install Well Head Structure (Modified FDOT Type J Inlet - Index 200) with all attachments	1	EA
DW-005-12	430-1	Furnish and Install Inlet Pipe (Class III 18" diameter R.C.P)	24	LF
DW-005-13	522-1	6" thick fiber mesh reinforced concrete Sidewalk/Driveway	25	SY
DW-005-14	570-1	Sodding Non-Pinned (Match Existing)	585	SY
<b>Construction of Replacement Drainage Well</b>				
DW-005-15	COD-1	Furnish and install by driving, 18-inch diameter steel surface casing to 100 feet depth for DW-005	100	LF
DW-005-16	COD-2	Furnish, install and cement 12-inch diameter steel casing to 150 feet depth for DW-005 using rotary drilling method (18-inch diameter borehole)	150	LF
DW-005-17	COD-3	Drill nominal 12-inch diameter open borehole from 150 feet depth to 430 feet depth for DW-005	280	LF
DW-005-18	COD-4	Furnish, install and operate well development pumping and piping, equipment, complete	1	LS
DW-005-19	COD-5	Conduct geophysical and video logging (includes: caliper, resistivity, gamma, spontaneous potential & video)	1	LS
DW-005-20	COD-6	Furnish and setup pump, piping and equipment to perform recharge test on new replacement well	1	LS
DW-005-21	COD-7	Conduct recharge test [one (1) 2-hour test]	1	LS
<b>NOTES:</b>				
Refer to Engineer's Additional Specifications.				

NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK

DATE	REVISIONS	BY	CHECKED

LAKE SERENE DW-005  
DRAINAGE WELL REPLACEMENT  
ORANGE COUNTY, FLORIDA



SUMMARY OF QUANTITIES

DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
SJS	VP	SJS/DS	DS

PROJECT NO.	14-015
SCALE	N.T.S
DATE	JUNE 5, 2014
SHEET NO.	3
SHEET	3 OF 8

*Devo Seereram*  
DEVO SEERERAM, Ph.D., P.E.  
REGISTRATION NO. 48303



## GENERAL NOTES:

- THESE GENERAL NOTES APPLY TO ALL WORK IN THIS SET OF DRAWINGS.
- IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR(S) TO ENSURE THAT ALL REQUIRED PERMITS ARE OBTAINED AND ARE IN HAND AT THE JOB SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL ABIDE BY ALL CONDITIONS CONTAINED THEREIN.
- THE SPECIFICATIONS, NOTES AND PLANS CALL ATTENTION TO CERTAIN REQUIRED FEATURES OF THE CONSTRUCTION BUT DO NOT PURPORT TO COVER ALL DETAILS OF DESIGN AND CONSTRUCTION. HOWEVER, THE CONTRACTOR SHALL FURNISH AND INSTALL THE WORK IN ALL DETAILS AND READY FOR OPERATION.
- ALL EQUIPMENT SHALL BE HANDLED, STORED, INSTALLED, TESTED AND OPERATED IN STRICT ACCORDANCE WITH THE APPLICABLE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ALL WORK SHALL BE ACCOMPLISHED TO THE HIGHEST QUALITY CRAFTSMANSHIP STANDARDS AS APPROVED BY THE PROJECT ENGINEER.
- ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES AND REGULATIONS.
- APPARENT ERRORS, DISCREPANCIES OR OMISSIONS ON THE DRAWINGS SHALL BE BROUGHT TO THE PROJECT ENGINEER'S ATTENTION BEFORE BIDDING.
- AFTER COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL PERFORM SITE CLEAN-UP OPERATION FOR REMOVAL OF ALL TRASH, DEBRIS, EXCESS MATERIAL AND EQUIPMENT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESENT THE PROJECT SITE CLEAN AND IN GOOD ORDER AT THE TIME OF FINAL ACCEPTANCE.
- THE CONTRACTOR SHALL COMPLY WITH ALL RULES, REGULATIONS, AND SPECIFICATIONS OF ORANGE COUNTY AND THE FLORIDA DEPARTMENT OF TRANSPORTATION FOR SITE IMPROVEMENT IN THE ABSENCE OF A PARTICULAR REQUIREMENT.
- FLORIDA LAW (F.S. 553.851) PROTECTION OF UNDERGROUND PIPELINES MANDATES THAT "NO EXCAVATOR SHALL COMMENCE OR PERFORM ANY EXCAVATION IN ANY PUBLIC OR PRIVATE STREET, ALLEY, RIGHT-OF-WAY DEDICATED TO THE PUBLIC USE, OR GAS UTILITY EASEMENT WITHOUT FIRST OBTAINING INFORMATION CONCERNING THE POSSIBLE LOCATION OF GAS PIPELINES IN THE AREA OF THE PROPOSED EXCAVATION." THIS INCLUDES ANY OPERATION UTILIZING HAND TOOLS OR POWER TOOLS WHICH MOVES OR REMOVES ANY STRUCTURE, EARTH, ROCK, OR OTHER MASS OF MATERIAL BY SUCH METHODS AS DIGGING, BACK FILLING, DEMOLITION, GRADING, DITCHING, DRILLING, BORING AND CABLE PLOWING. THE EXCAVATOR MUST NOTIFY THE GAS UTILITY A MINIMUM OF 48 HOURS AND A MAXIMUM OF 5 DAYS PRIOR TO EXCAVATING (EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS).
- CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITY COMPANIES OF PROPOSED START OF WORK IN ACCORDANCE WITH THEIR STANDARD REQUIREMENTS; INCLUDING BUT NOT LIMITED TO WATER, SEWER, POWER, TELEPHONE, GAS, AND CABLE TV COMPANIES.
- ANY DIFFERING SITE CONDITIONS FROM THOSE WHICH ARE REPRESENTED HEREON, WHETHER ABOVE, ON OR BELOW THE SURFACE OF THE GROUND, SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND OWNER IN WRITING. NO CLAIM FOR EXPENSES INCURRED BY THE CONTRACTOR DUE TO DIFFERING SITE CONDITIONS WILL BE ALLOWED IF CONTRACTOR FAILS TO PROVIDE THE REQUIRED WRITTEN NOTIFICATION OF SUCH CONDITIONS FOR REVIEW BY THE PROJECT ENGINEER AND OWNER.
- THE CONTRACTOR SHALL FURNISH OWNER WITH ACCURATE RECORD DRAWINGS SHOWING AS-CONSTRUCTED HORIZONTAL AND VERTICAL DIMENSIONING OF THE WORK. THE SUBMITTAL COPY OF THE RECORD DRAWINGS WILL NOT BE RETURNED. THE RECORD DRAWING OR A REPRODUCIBLE COPY PREPARED BY THE ENGINEER SHALL BE CERTIFIED BY THE CONTRACTOR AS CORRECT. ALL INFORMATION WHICH IS UNCHANGED AND CURRENT SHALL BE NOTED BY CHECKING OFF OR CIRCLING. ALL REVISED INFORMATION SHALL BE CROSSED THROUGH AND NEW DATA ADDED.
- ALL PRIVATE AND PUBLIC PROPERTIES AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTED UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. THE COST FOR SUCH RESTORATION SHALL BE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION WILL BE ALLOWED.
- IN THE EVENT THERE IS A CONFLICT BETWEEN THE PLANS AND ORANGE COUNTY TECHNICAL PROVISIONS, THE ORANGE COUNTY TECHNICAL PROVISIONS SHALL SUPERSEDE, UNLESS OTHERWISE DETERMINED BY THE ENGINEER.

## GEOMETRY & SURVEY NOTES:

- THE PROPOSED DRAINAGE WELL DESIGN PLANS ARE BASED ON A SURVEY PREPARED FOR THE OWNER BY GEODATA CONSULTANTS, INC. SURVEYING & MAPPING DATED 12/17/2013.
- REFER TO THE SURVEY SHEET AND SURVEYOR'S NOTES FOR REFERENCED BENCHMARKS.
- CONTRACTOR SHALL STAKE ALL IMPROVEMENTS USING THE GEOMETRIC DATA PROVIDED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO COMPLETELY STAKE AND CHECK ALL IMPROVEMENTS TO ENSURE ADEQUATE POSITIONING, BOTH HORIZONTAL AND VERTICAL, PRIOR TO THE INSTALLATION OF ANY IMPROVEMENTS. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IF ANY APPARENT DISCREPANCIES ARE FOUND.
- FOLLOWING CONSTRUCTION OF THE NEW WELL, THE CONTRACTOR SHALL PROVIDE THE LATITUDE & LONGITUDE COORDINATES AND OTHER PERTINENT INFORMATION FOR THE WELL ON THE AS-BUILT DRAWINGS.
- ALL (P.R.M.'s) IRONS AND MONUMENTS SHOWN ON PLANS, OR FOUND, SHALL BE PRESERVED.
- PUBLIC LAND CORNERS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED OR DISTURBED, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE COUNTY SURVEYOR, WITHOUT DELAY, BY TELEPHONE. THE CONTRACTOR SHALL PROVIDE WRITTEN FOLLOW-UP CONFIRMATION WITHIN 48 HOURS OF TELEPHONE NOTIFICATION.

## EROSION CONTROL NOTES:

- THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND REGULATIONS GOVERNING POLLUTION OF THE ENVIRONMENT AND SHALL IMPLEMENT ALL MEASURES NEEDED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL DURING THE ENTIRE DURATION OF CONSTRUCTION. EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO ORANGE COUNTY, SOUTH FLORIDA WATER MANAGEMENT DISTRICT, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, AND FLORIDA DEPARTMENT OF TRANSPORTATION REQUIREMENTS. INSTALLATION OF SILT FENCES AND TURBIDITY BARRIERS SHALL BE IN ACCORDANCE WITH F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
- EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CONSTRUCTION. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE APPLIED AS A PERIMETER DEFENSE AGAINST THE TRANSPORTATION OF SILT AND SEDIMENTS OFF THE PROJECT SITE OR INTO ADJACENT WATER BODIES OR WETLANDS.
- THE CONTRACTOR SHALL PREPARE AND IMPLEMENT AN EROSION CONTROL PLAN AS PART OF THE SCOPE OF WORK COVERED BY THESE PLANS. THE CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES IN CONTROLLING EROSION AND SEDIMENT TRANSPORT DURING CONSTRUCTION. THE FLORIDA DEVELOPMENT MANUAL "A GUIDE TO SOUND LAND & WATER MANAGEMENT" MAY BE USED AS REFERENCE FOR RECOMMENDED BEST MANAGEMENT PRACTICES RELATED TO EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL SUBMIT THE EROSION CONTROL PLAN TO THE OWNER FOR APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING.
- ALL EROSION AND SEDIMENT CONTROL MEASURES WHICH ARE NECESSARY TO LIMIT THE TRANSPORT OF SILTS AND SEDIMENTS TO OUTSIDE THE LIMITS OF THE WORK AREA OR TO WATER BODIES OR WETLANDS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE BEST MANAGEMENT PRACTICES AND IMPLEMENT STRUCTURAL MEASURES AS NEEDED TO PREVENT EROSION AND SEDIMENT TRANSPORT FROM THE WORK AREAS. THE FOLLOWING ARE MINIMUM RECOMMENDED GUIDELINES TO BE IMPLEMENTED DURING CONSTRUCTION AS PART OF THE EROSION AND SEDIMENT CONTROL PLAN:
  - STOCKPILING OF MATERIAL**  
NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE OR INTO ANY ADJACENT WATER BODY OR STORMWATER COLLECTION FACILITY.
  - EXPOSED AREA LIMITATION & PROTECTION**  
THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL BE LIMITED AS NEEDED TO MINIMIZE THE POTENTIAL OF OFF-SITE SEDIMENT TRANSPORT. ALL EXPOSED AREAS SHALL BE PROTECTED BY INSTALLING EFFECTIVE EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILT SCREENS, SYNTHETIC HAY BALES, TURBIDITY BARRIERS, SWALES, OR A COMBINATION OF THESE AND OTHER MEASURES AS WARRANTED.
  - INLET PROTECTION**  
INLETS AND CATCH BASINS SHALL BE PROTECTED DURING CONSTRUCTION FROM SEDIMENT LADEN STORMWATER RUNOFF BY PROVIDING A COMBINATION OF SILT SCREENS, SYNTHETIC HAY BALES, FILTER FABRIC COVERS OR OTHER MEASURES AS NECESSARY TO CONTROL THE TRANSPORT OF SEDIMENT.
  - TEMPORARY GRASSING**  
AREAS OPENED BY CONSTRUCTION OPERATIONS THAT ARE NOT ANTICIPATED TO BE DRESSED OR RECEIVE FINAL GRASSING TREATMENT WITHIN THIRTY DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED. TEMPORARY SEEDING SHALL BE CONTROLLED AS TO NOT ALTER OR COMPETE WITH PERMANENT GRASSING. SLOPES STEEPER THAN 6:1 SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES OF LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA TO A DEPTH OF 4 INCHES. THE SEEDED OR SEEDED AND MULCHED AREAS SHALL BE ROLLED AND WATERED AS NEEDED TO ENSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. IF AFTER 14 DAYS, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75% OF GOOD GRASS COVER, THE AREAS WILL BE REWORKED AND ADDITIONAL SEED APPLIED TO ESTABLISH THE DESIRED VEGETATION COVER.
  - MAINTENANCE**  
EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED DURING THE ENTIRE DURATION OF CONSTRUCTION. THE CONTRACTOR SHALL INSPECT THE EROSION AND CONTROL MEASURES ON A ROUTINE BASIS AND FOLLOWING RAINFALL EVENTS AND IMMEDIATELY REPAIR ANY OBSERVED DAMAGED CONTROLS. ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED AS TO FUNCTION PROPERLY WITHOUT THE TRANSPORT OF SEDIMENTS OUTSIDE THE LIMITS OF THE PROJECT.

## EARTHWORK ACTIVITIES:

- THE DISPOSAL OF EXCESS EARTHWORK MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. APPROVALS OF DISPOSAL SITES SHALL BE OBTAINED FROM THE ORANGE COUNTY AND JURISDICTIONAL REGULATORY AGENCIES PRIOR TO DISPOSAL. ALL EXCESS MATERIAL IS THE PROPERTY AND RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL MAKE NECESSARY ARRANGEMENTS WITH UTILITY SUPPLIERS FOR LOCATING, PROTECTING, AND/OR REMOVING THEIR FACILITIES, LINES AND EQUIPMENT. ANY DAMAGE TO KNOWN UTILITY LINES DURING CONSTRUCTION SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE BY CONTRACTOR'S FORCES IN A MANNER ACCEPTABLE TO THE OWNER AND UTILITY COMPANY AT NO COST TO THE OWNER. SHOULD UNCHARTED OR INCORRECTLY CHARTED PIPING OR OTHER UTILITIES BE ENCOUNTERED DURING EXCAVATION, THE CONTRACTOR SHALL CONSULT WITH UTILITY OWNER AND PROJECT ENGINEER IMMEDIATELY FOR DIRECTIONS. THE CONTRACTOR SHALL COOPERATE WITH OWNER AND UTILITY COMPANIES IN KEEPING RESPECTIVE SERVICES AND FACILITIES IN OPERATION.
- CONTRACTOR SHALL MAINTAIN ADEQUATE SUPERVISION AND CONTROL TO ENSURE THAT STABILITY OF EXCAVATED AND CONSTRUCTED SLOPES ARE NOT ADVERSELY AFFECTED BY RAIN WATER.
- CONTRACTOR SHALL MAINTAIN ADEQUATE SUPERVISION AND CONTROL TO ENSURE THAT EROSION IS CONTROLLED AND FLOODING OF EXCAVATION OR DAMAGE TO STRUCTURES DOES NOT OCCUR.
- CONTRACTOR SHALL PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS CREATED BY EARTHWORK OPERATIONS.

## EARTHWORK ACTIVITIES CONT'D.:

- THE CONTRACTOR SHALL SLOPE SIDE SLOPES TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES AND REGULATIONS HAVING JURISDICTION. THE CONTRACTOR SHALL SLOPE AND BRACE WHERE SLOPING IS NOT POSSIBLE BECAUSE OF SPACE RESTRICTIONS OR STABILITY OF MATERIAL EXCAVATED. THE CONTRACTOR SHALL MAINTAIN STABILITY OF MATERIAL EXCAVATED IN A SAFE CONDITION UNTIL COMPLETION OF BACK FILLING.
- ALL FILL MATERIAL IN IMPROVEMENT AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS AND REQUIREMENTS AND AS SHOWN ON THESE PLANS.
- UNLESS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER AND PRIOR TO THE PLACEMENT OF FILL, THE AREA TO BE FILLED WILL BE PROOF ROLLED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER. ANY AREA SHOWING SIGNS OF PUMPING, WEAVING OR OTHER FORMS OF INSTABILITY SHALL BE SELECTIVELY REMOVED AND REPLACED WITH COMPACTED SELECT FILL.
- ALL DISTURBED AREAS MUST BE SODDED UNLESS OTHERWISE NOTED ON THE PLANS. ALL SODDING MUST BE DONE IN ACCORDANCE WITH SECTION 570 OF THE FLORIDA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
- ALL SOD ON SLOPES EXCEEDING 3:1 MUST BE PINNED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL NEWLY PLANTED GRASSES AND VEGETATION UNTIL THE WORK HAS BEEN ACCEPTED BY THE OWNER.

## DRAINAGE NOTES:

- ALL DRAINAGE WORKS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE ORANGE COUNTY CONSTRUCTION SPECIFICATIONS AND OTHER COUNTY GENERAL AND SPECIAL SPECIFICATIONS AND THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, UNLESS STATED OTHERWISE IN THE SPECIFICATIONS OR ON THE PLANS.
- THE LOCATIONS OF EXISTING UTILITIES AND STORM DRAINAGE SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR INACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ARRANGEMENTS FOR FIELD LOCATIONS AND FOR ANY RELOCATIONS OF THE VARIOUS EXISTING UTILITIES WITH THE UTILITY OWNERS, WHICH SHALL BE DONE IN A TIMELY FASHION TO MINIMIZE IMPACT ON THE CONSTRUCTION SCHEDULE. ANY DELAY OR INCONVENIENCE CAUSED THE CONTRACTOR BY THE RELOCATION OF THE VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED.
- CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER OF ANY PROBLEMS REQUIRING DEVIATION FROM THESE PLANS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS OF ALL MAJOR ITEMS PROPOSED FOR THIS PROJECT TO THE ENGINEER PRIOR TO ORDERING ANY OF THE ITEMS. UPON THE CONTRACTOR'S RECEIPT OF APPROVED SHOP DRAWINGS FROM THE PROJECT ENGINEER, THE CONTRACTOR MAY PROCEED WITH THE WORK.
- STORM DRAINS SHALL BE REINFORCED CONCRETE PIPE, PER ASTM C-76 CLASS III, UNLESS OTHERWISE SPECIFIED. LIFTING HOLES ARE PROHIBITED.
- PIPE BEDDING SHALL BE IN ACCORDANCE WITH F.D.O.T. ROADWAY TRAFFIC AND DESIGN STANDARDS INDEX NO. 205.
- ALL STORM STRUCTURES SHALL CONFORM WITH FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS. INLETS SHALL HAVE TRAFFIC BEARING FRAMES AND COVERS OR GRATES MEETING HS-20 LOADING REQUIREMENTS.
- ALL MANHOLE COVERS SHALL INCLUDE THE ORANGE COUNTY LOGO AND BE IDENTIFIED AS "ORANGE COUNTY STORM", "ORANGE COUNTY WATER", OR "ORANGE COUNTY SANITARY" AS APPLICABLE.
- ALL MATERIALS, INSTALLATION AND TESTING SHALL BE IN ACCORDANCE WITH THE ORANGE COUNTY AND THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. WHERE THE SPECIFICATIONS CONFLICT, THE MAXIMUM REQUIREMENTS OF EITHER SPECIFICATION SHALL APPLY.
- THE PROJECT ENGINEER SHALL BE CONSULTED FOR ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS AND TO GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS.

## MAINTENANCE OF TRAFFIC NOTES:

- THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL NECESSARY TRAFFIC CONTROL AND SAFETY DEVICES IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE LATEST FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN STANDARDS.

## GEOTECHNICAL AND TESTING NOTES:

- THE CONTRACTOR SHALL ENSURE THAT PROPER SOIL DENSITIES ARE ACHIEVED FOR THE PLACEMENT OF ALL STRUCTURES OR COMPACTED EARTH. SOIL TESTING SHALL BE PROVIDED BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER'S CONSULTANT FOR SCHEDULING ALL TESTING AND SHALL PROVIDE SUFFICIENT NOTICE FOR TESTING WORK.
- ALL SOIL STRIPPINGS, DELETERIOUS AND UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR UNLESS OTHERWISE DIRECTED BY THE OWNER OR SPECIFIED ELSEWHERE IN THE PLANS FOR SELECT DISPOSAL. IN NO CASE WILL BURIAL OF DISPOSABLE MATERIAL BE ALLOWED.

## MISCELLANEOUS NOTES:

- THE CONTRACTOR SHALL USE EXTREME CAUTION AND CARE TO ENSURE THAT THEIR WORK AREA IS PROTECTED AT ALL TIMES. THE CONTRACTOR SHALL SECURE THEIR WORK AREA AND MATERIALS DURING CONSTRUCTION AND AT THE END OF THE EACH WORK DAY TO PROVIDE FOR THE SAFETY OF ALL PERSONS.

NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK					
DATE	REVISIONS	BY	CHECKED		

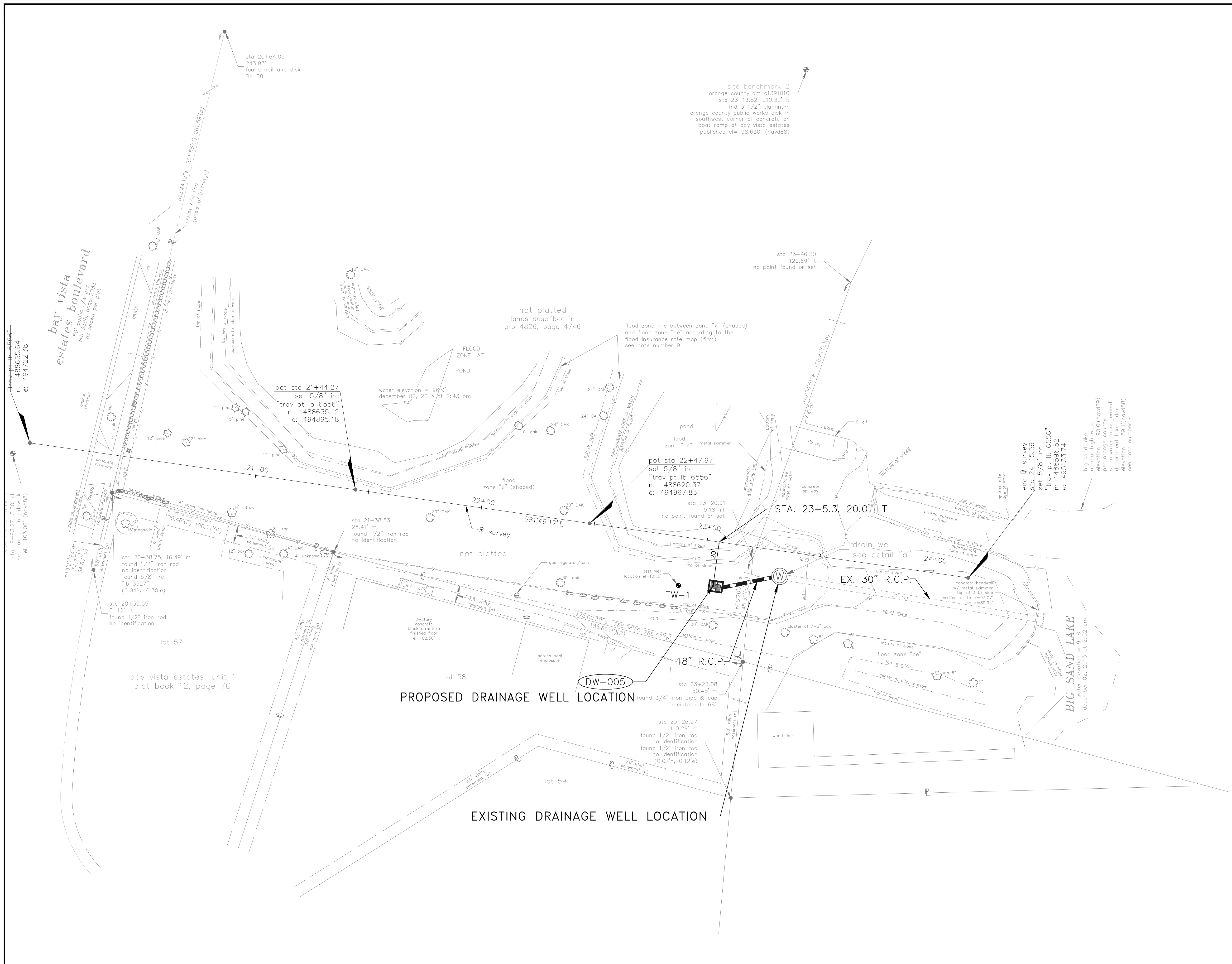
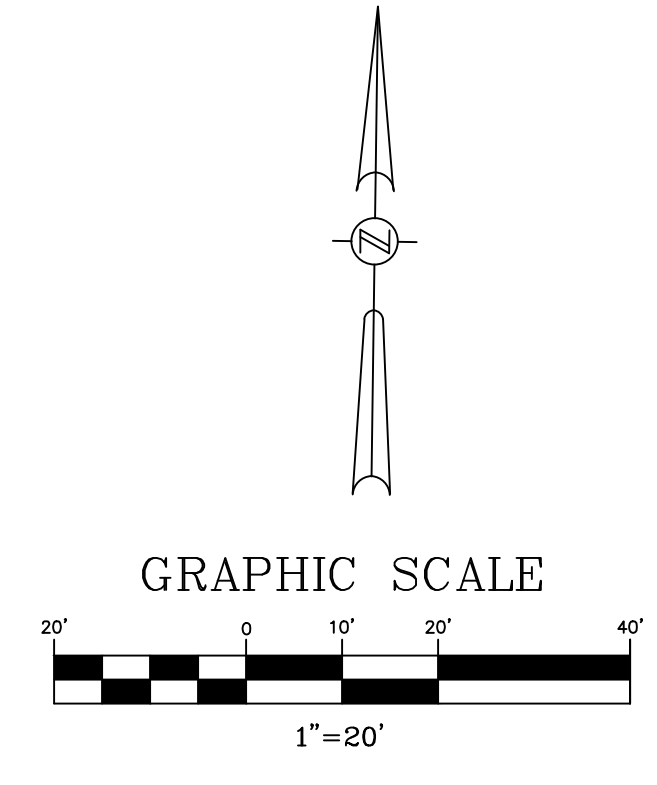
LAKE SERENE DW-005  
DRAINAGE WELL REPLACEMENT  
ORANGE COUNTY, FLORIDA



NOTES & SPECIFICATIONS				PROJECT NO.	14-015
				SCALE	N/A
				DATE	JUNE 5, 2014
				SHEET NO.	4
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	SHEET	4 OF 8
SJS	VP	SJS/DS	DS		

*Devo Seereram*  
DEVO SEERERAM, Ph.D., P.E.  
REGISTRATION NO. 48303





**LEGEND**

- DW-005 PROPOSED DRAINAGE WELL STRUCTURE
- W EXISTING DRAINAGE WELL STRUCTURE
- TW-1 TEST WELL LOCATION

**NOTE:**  
ALL DIMENSIONS ARE PERPENDICULAR TO THE SURVEY BASE LINE HAVING A BEARING OF S81°49'17" E, UNLESS DENOTED BY AN "★".

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DATE	REVISIONS	BY	CHECKED

**LAKE SERENE DW-005  
DRAINAGE WELL REPLACEMENT  
ORANGE COUNTY, FLORIDA**



<b>PROPOSED DRAINAGE WELL SITE LOCATION PLAN</b>			
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
SJS	VP	SJS/DS	DS

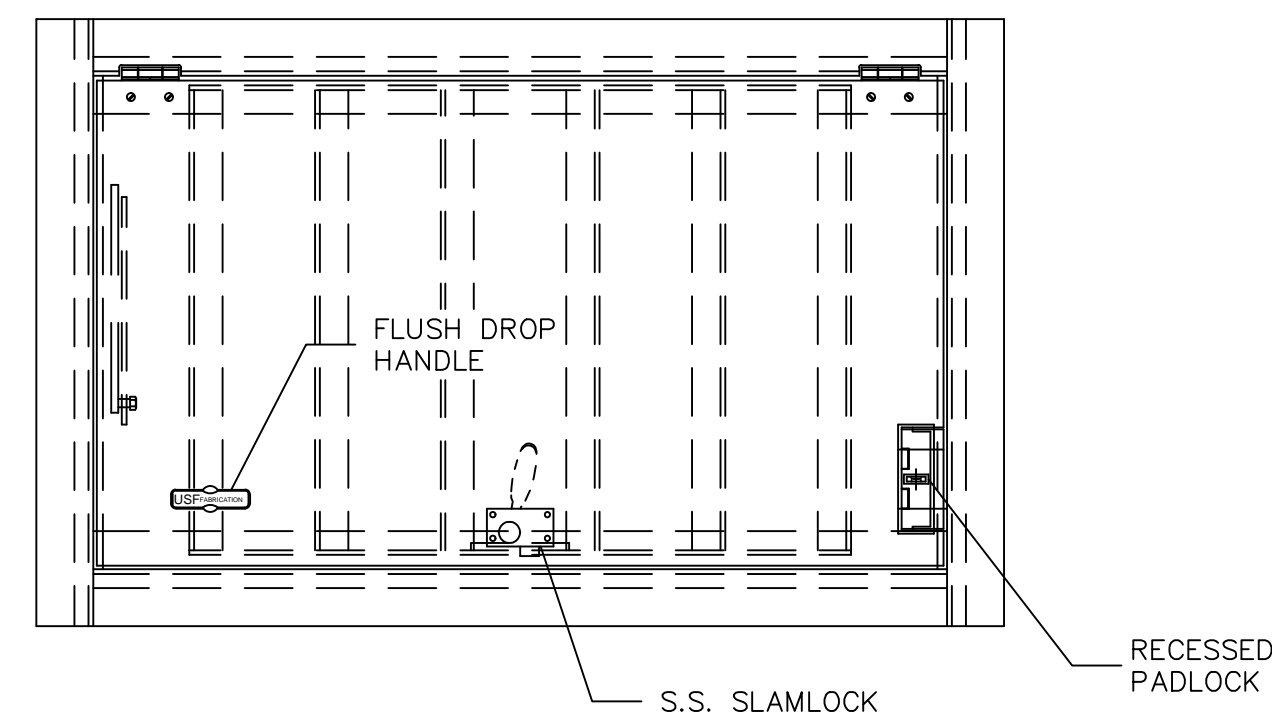
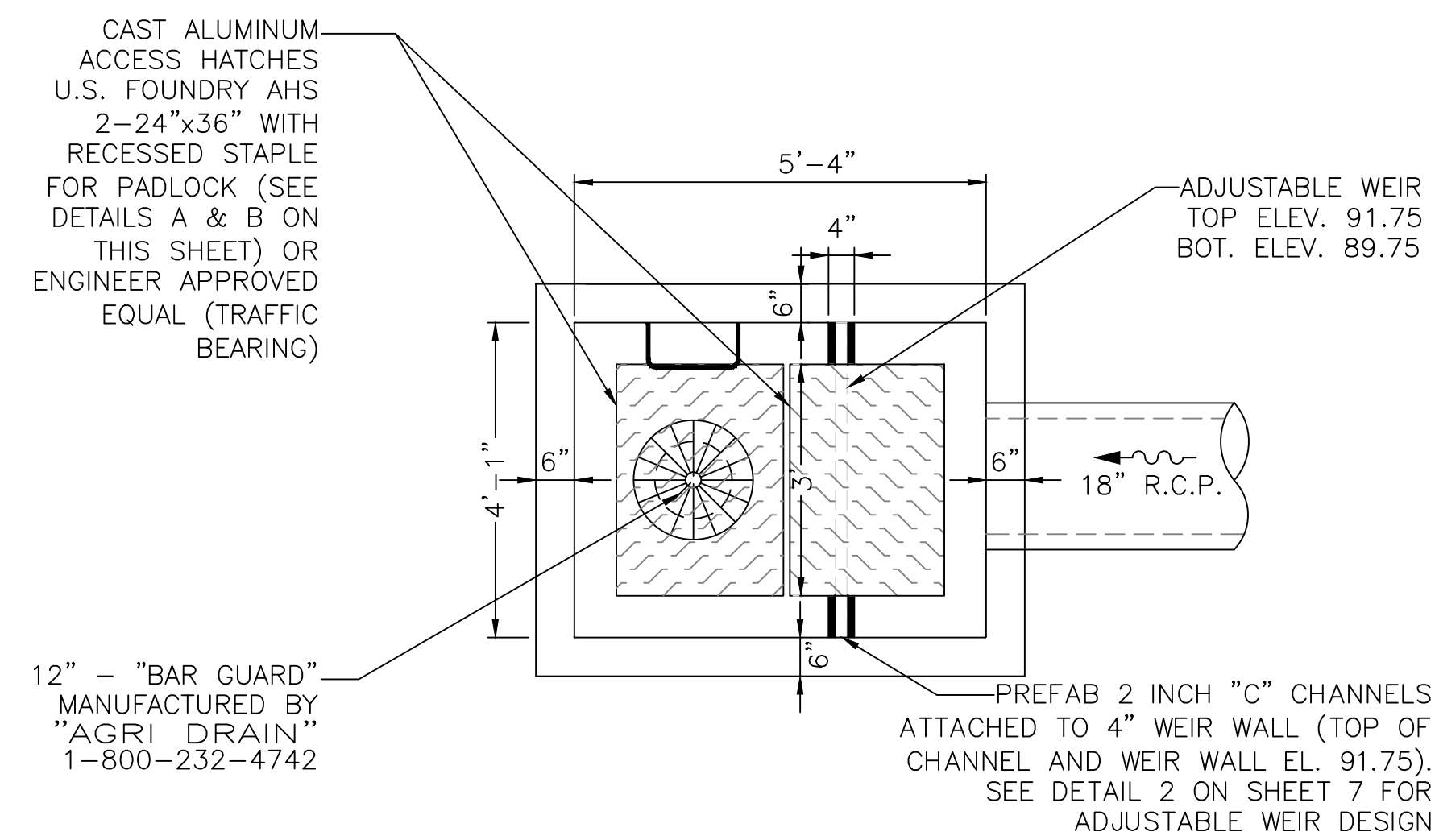
PROJECT NO.	14-015
SCALE	1" = 20'
DATE	JUNE 5, 2014
SHEET NO.	5
SHEET	5 OF 8

*Devo Seereeram*  
DEVO SEEREERAM, Ph.D., P.E.  
REGISTRATION NO. 48303

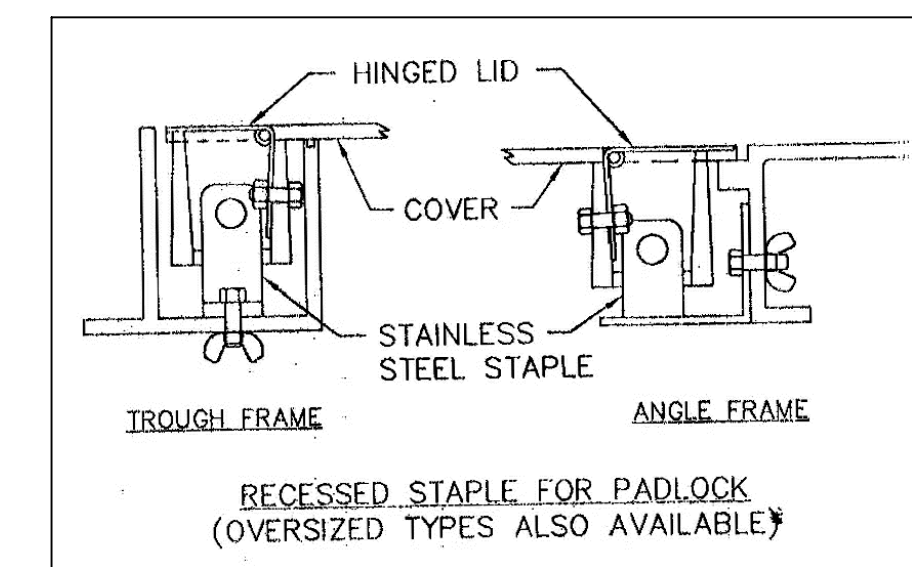








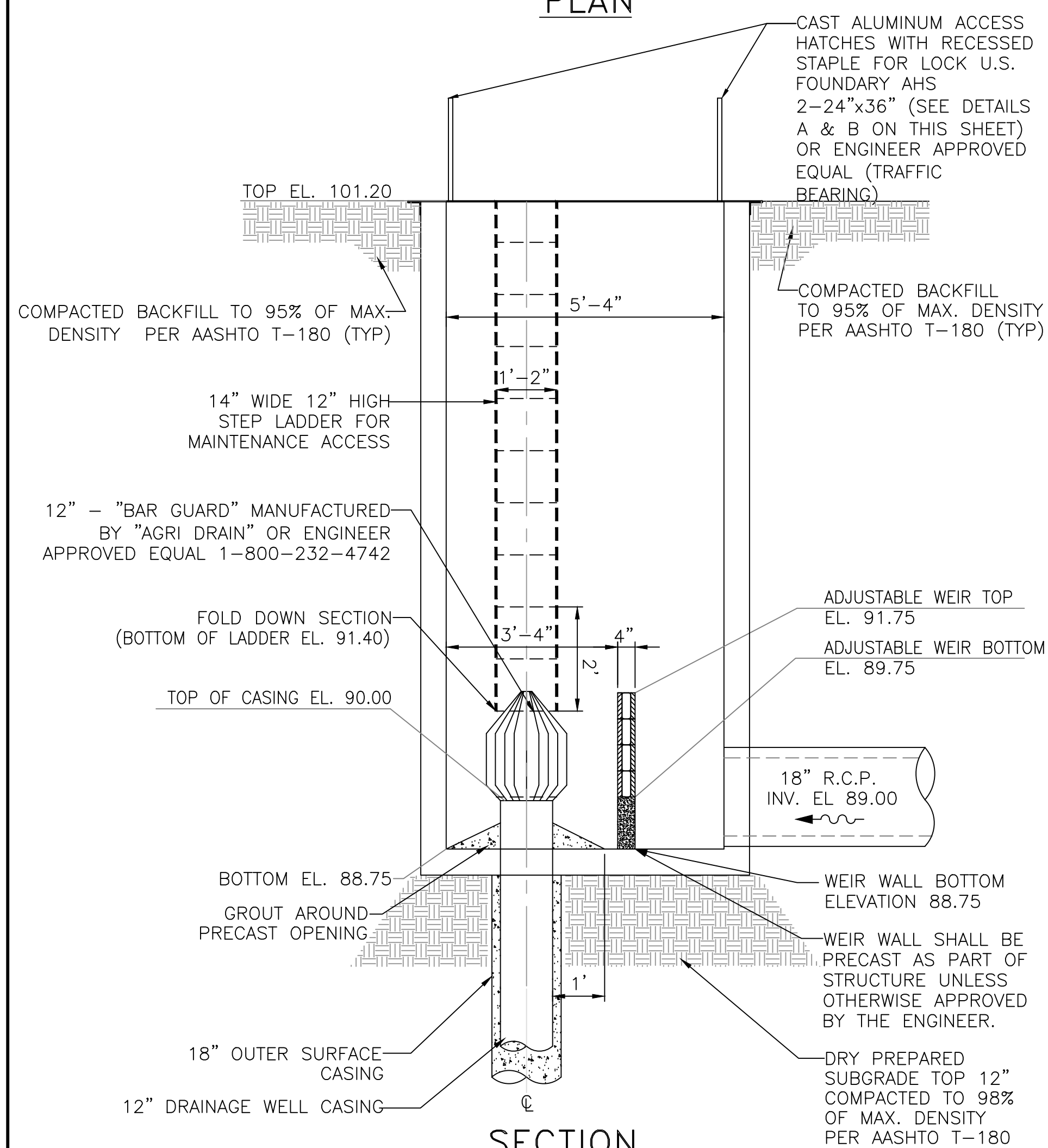
DETAIL A



DETAIL B

NOTE:  
ONLY RECESSED STAPLE FOR PADLOCK WILL BE ACCEPTED

PLAN

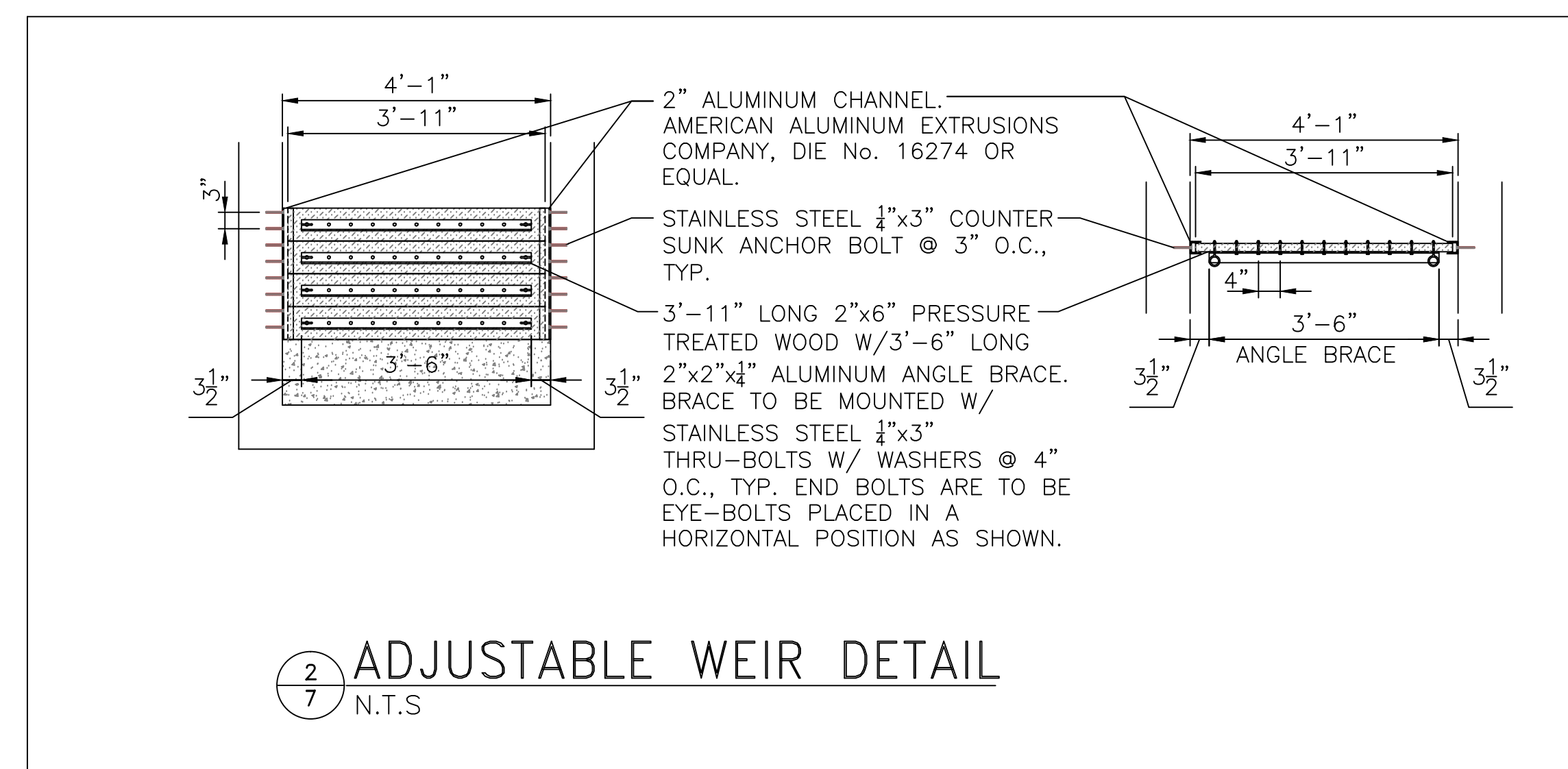


SECTION

STRUCTURE SHALL BE PRECAST

DW-005- 4'-1"x5'-4" F.D.O.T. MODIFIED TYPE "J" REPLACEMENT DRAINAGE WELL STRUCTURE DETAIL

1/7 NOT TO SCALE



NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK			
DATE	REVISIONS	BY	CHECKED

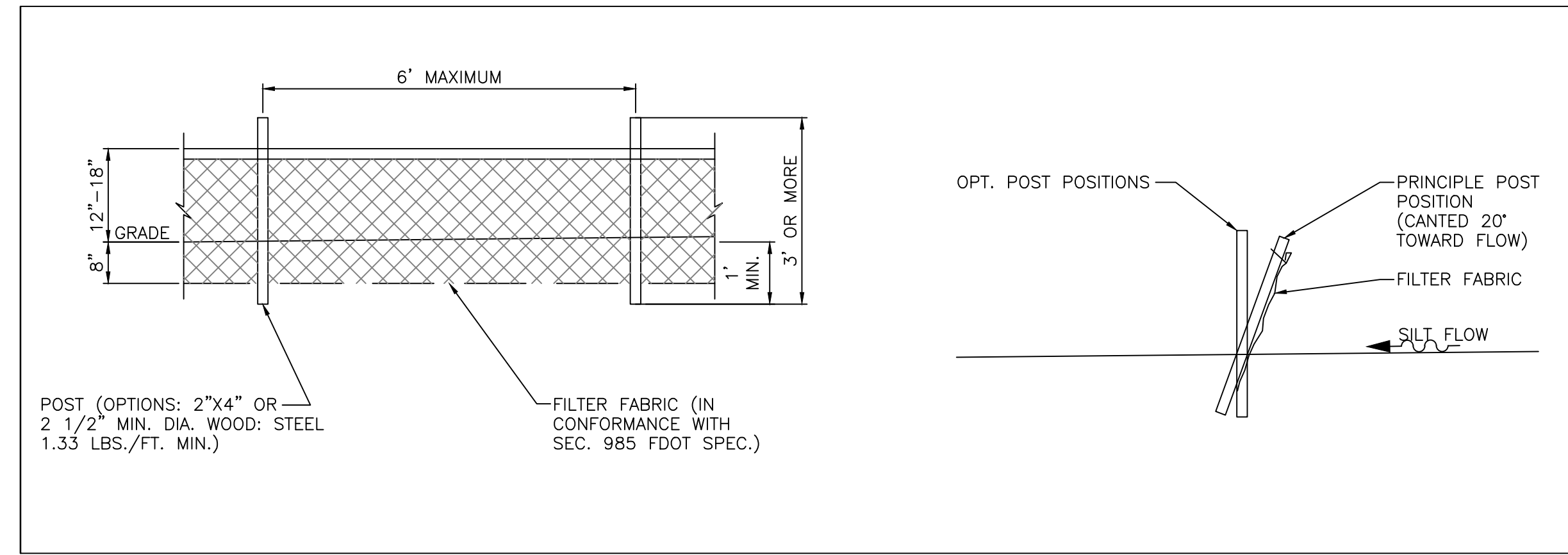
LAKE SERENE DW-005  
DRAINAGE WELL REPLACEMENT  
ORANGE COUNTY, FLORIDA

DRAINAGE WELL DETAILS

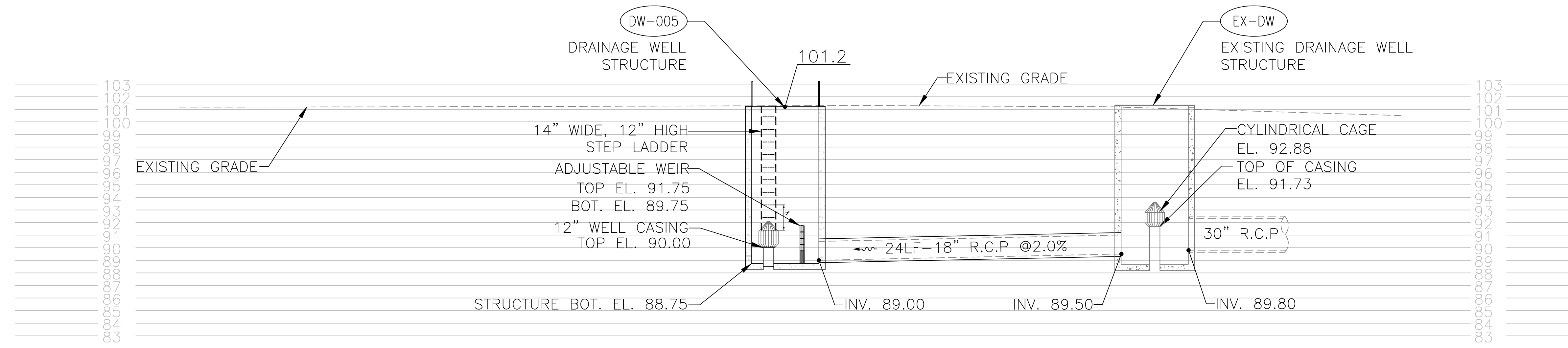
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
SJS	VP	SJS/DS	DS

PROJECT NO.	14-015
SCALE	N.T.S.
DATE	JUNE 5, 2014
SHEET NO.	7
SHEET	7 OF 8

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REGISTRATION NO. 48303



1  
8 TYPE III SILT FENCE  
SCALE 1" = 2'



2  
8 SECTION A-A  
SCALE: 1" = 10'

NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK				
	DATE	REVISIONS	BY	CHECKED

LAKE SERENE DW-005  
DRAINAGE WELL REPLACEMENT  
ORANGE COUNTY, FLORIDA



SECTION & DETAILS			
DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
SJS	VP	SJS/DS	DS

PROJECT NO.	14-015
SCALE	AS SHOWN
DATE	JUNE 5, 2014
SHEET NO.	8
SHEET	8 OF 8

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