UTILITY NOTES:

1. ALL WATER, SEWER, AND REUSE WORK MUST BE PERFORMED IN ACCORDANCE WITH JEA WATER AND SEWER STANDARDS, DETAILS, AND SPECIFICATIONS AS WELL AS ALL APPLICABLE STATE AND LOCAL REGULATIONS.
2. ALL EQUIPMENT AND MATERIALS SHALL COMPLY WITH THE JEA STANDARDS AND SPECIFICATIONS.
3. WHERE IT IS NOT POSSIBLE FOR WATER AND SEWER (INCLUDING STORM) LINES TO CROSS WITH A MINIMUM OF 18 INCHES OF VERTICAL CLEARANCE, A FULL-UNCUT LENGTH OF WATER QUALITY PIPE (i.e. DR 18 AWWA C-900 FOR NEWLY INSTALLED SEWER & DR 25 AWWA C-900 WATER) WHICH IS USUALLY 20 FEET LONG WILL BE CENTERED ON THE POINT OF CROSSING. THE CONTRACTOR WILL FIELD VERIFY THE VERTICAL SEPARATION. THE MINIMUM VERTICAL SEPARATION BETWEEN WATER AND SEWER (INCLUDING STORM) PIPES WHEN 18 INCHES IS NOT POSSIBLE WILL BE 6 INCHES OUTSIDE DIAMETER TO OUTSIDE DIAMETER. IT IS PREFERABLE TO HAVE THE WATER MAIN ABOVE THE SEWER LINES AND AT LEAST 18 INCHES VERTICAL SEPARATION.
4. A FULL UNCUT LENGTH OF WATER MAIN PIPE (USUALLY 20 FEET) SHALL BE CENTERED AT THE POINT OF CROSSING OF ALL WATER AND SEWER (INCLUDING STORM) LINES AT THE POINT OF CROSSINGS REGARDLESS OF THE VERTICAL SEPARATIONS.
5. IN THE CASE WHERE SOLVENT CONTAMINATION IS FOUND IN TRENCH, WORK WILL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH THE APPROVAL OF THE ST. JOHNS COUNTY HEALTH DEPARTMENT, DUCTILE IRON PIPE, FITTINGS AND APPROVED SOLVENT RESISTANT GASKET MATERIAL SHALL BE USED IN THE CONTAMINATE AREA. THE DUCTILE IRON PIPE WILL EXTEND AT LEAST 100 FEET BEYOND ANY DISCOVERED SOLVENT.
6. IN REGARD TO THE REQUEST FOR A LETTER OF RELEASE TO PLACE THE CONSTRUCTION INTO SERVICE, THE BACTERIOLOGICAL SAMPLE POINTS SHALL BE INDICATED IN RED OR PINK ON THE RECORD OR AS BUILT DRAWINGS. THE SAMPLE NUMBERS WILL CORRESPOND TO THOSE ON THE BACTERIOLOGICAL SAMPLE LAB SHEETS.
7. THE RECORD OR "AS BUILT" DRAWINGS TO BE PREPARED BY THE CONTRACTOR AND SUBMITTED AT THE TIME OF THE REQUEST FOR A LETTER OF RELEASE TO PLACE THE CONSTRUCTION INTO SERVICE WILL CLEARLY DEPICT THE VERTICAL CLEARANCES BETWEEN WATER AND SEWER (INCLUDING STORM) LINES AT ALL CROSSING AND PARALLEL RUNS WHERE THE HORIZONTAL SEPARATION IS LESS THAN 10 FEET. IN ADDITION, THE CENTERING OF UNCUT LENGTHS OF PIPE (USUALLY 20 FEET) AT POINTS OF CROSSINGS WILL BE DOCUMENTED ON THE DRAWINGS AND ALL MITIGATING CONSTRUCTION MEASURES CLEARLY DEPICTED IN CASES WHERE A MINIMUM OF 18 INCHES OF VERTICAL CLEARANCE BETWEEN THE WATER AND SEWER (INCLUDING STORM) LINES IS NOT POSSIBLE.
8. EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED PER THE BEST MEANS AVAILABLE WITHOUT EXCAVATION. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
9. VERTICAL LOCATIONS OF ALL UTILITIES (EXCLUDING EXISTING STORM SEWERS) SHOWN ON PLAN AND PROFILE SHEETS HAVE BEEN ASSUMED. CONTRACTOR SHALL EXERCISE CAUTION DURING EXCAVATION NEAR EXISTING UTILITIES SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF LOCATION DIFFERS FROM THAT SHOWN ON THE PLANS BEFORE CONTINUING WITH CONSTRUCTION.
10. SHOULD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER PRIOR TO CONTINUING CONSTRUCTION.
11. ALL WATER AND SEWER CONSTRUCTION SHALL BE ACCOMPLISHED BY AN UNDERGROUND UTILITY CONTRACTOR LICENSED UNDER THE PROVISIONS OR CHAPTER 489, FLORIDA STATUTES.
12. ALL UNDERGROUND UTILITIES TO BE INSTALLED SHALL BE IN ACCORDANCE WITH THE JEA SPECIFICATIONS AND THE APPROVED SITE PLANS.
13. ALL WATERMAINS AND FORCEMAINS SHALL HAVE A MINIMUM OF 36" COVER FROM FINISHED GRADE. ALL UTILITY PIPELINES ARE DESIGNED TO FINISHED GRADE AND SHALL BE PROTECTED FROM DAMAGE UNTIL WORK IS COMPLETED.
14. UNSUITABLE MATERIALS UNDER WATER AND SEWER MAINS SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL PROPERLY COMPACTED TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557).
15. ALL CURB STOPS ARE TO BE FORD BALL-TYPE WITH LOCKING CAPACITY. 1" MINIMUM.
16. NO CONNECTION TO EXISTING POTABLE WATER SYSTEM SHALL BE ALLOWED UNTIL ALL PROPOSED WATER LINES HAVE BEEN PRESSURE TESTED, DISINFECTED, CLEARED FOR SERVICE AND ACCEPTED FOR MAINTENANCE BY JEA AND FDEP.
17. CONTRACTOR IS RESPONSIBLE FOR PROPER NOTIFICATION OF INSPECTING AUTHORITIES BEFORE AND DURING CONSTRUCTION.
18. MECHANICAL RESTRAINTS ARE REQUIRED WHERE WATER MAINS AND FORCE MAINS ARE TERMINATED AND AT ALL BENDS. ANY VERTICAL CONFLICT CROSSING USING FITTING SHALL BE RODDED THROUGHOUT THE CROSSING. WHERE FORCE MAINS OR WATER MAINS ARE LAID WITHOUT FITTINGS, THE MAXIMUM DEFLECTION SHALL BE AS RECOMMENDED BY THE MANUFACTURER OF THE PIPE USED.
19. FITTINGS SHALL BE USED AT LOCATIONS INDICATED ON THE PLANS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
20. ALL UNDERGROUND VALVES SHALL BE INSTALLED WITH AN ADJUSTABLE CAST IRON VALVE BOX WITH TOP SET TO FINAL GRADE IN ACCORDANCE WITH COUNTY DETAILS AND SPECIFICATIONS.

NOTICE OF PROCEDURE:

21. ALL COMMERCIAL BUILDING PERMITS AND METERS TO BE PROCESSED THROUGH JEA WATER AND SEWER CUSTOMER SERVICE SHALL BE ACCOMPANIED BY A SET OF APPROVED CIVIL DESIGN PLANS.
22. ALL WATER AND SEWER TAPS TO BE PERFORMED BY UTILITY CONTRACTOR OR LICENSED MASTER PLUMBER MUST BE SCHEDULED AT LEAST 48 HOURS IN ADVANCE THROUGH YOUR JEA INSPECTOR. IN ADDITION, IT IS THE ENGINEER OF RECORD'S RESPONSIBILITY TO SECURE APPLICABLE D.E.P./JEA PERMITS IN ACCORDANCE WITH JEA PERMITTING PROCEDURES.
23. METERS TO BE INSTALLED BY JEA FORCES UPON APPLICATION AND PAYMENT BY LICENSED MASTER PLUMBER.
24. WATER AND SEWER CAPACITY FEES SHALL BE REQUIRED AT TIME OF BUILDING PERMIT APPLICATION. FEES WILL BE BASED ON TOTAL NUMBER OF PLUMBING FIXTURE UNITS SHOWN OR LISTED ON BUILDING PLANS.
25. A PRE-CONSTRUCTION CONFERENCE IS REQUIRED AND SHALL BE SCHEDULED 48 HOURS IN ADVANCE THROUGH YOUR JEA PLAN REVIEWER, CHRIS BARRINGTON AT TELEPHONE NUMBER (904) 665-4081.
26. ALL ON-SITE PRIVATE WATER AND SEWER CONSTRUCTION REQUIRES A PLUMBING PERMIT WITH SCHEDULED INSPECTION PRIOR TO INSTALLATION - CONTACT CITY CHIEF PLUMBING INSPECTOR AT (904) 630-1098.

JEA
2434 North Pearl Street
Jacksonville Florida
32206-3518

KIMLEY-HORN AND ASSOCIATES
BRANDON TALALAI
12740 GRAN BAY PARKWAY W, STE 2350
JACKSONVILLE, FL
32258

10/10/2019
Dear Customer,

A flow test was conducted on 10/10/2019 at [illegible]:17 AM at your request.

The flow hydrant location:
PONTE VEDRA BLVD 1,125' S OF CORONA [illegible])

The static residual hydrant location:
PONTE VEDRA BLVD 735' S OF CORONA RD (17[illegible])

Number of ports	2
Diameter of port (inch)	2.5
Pitot Pressure (psi)	18
Static Pressure (psi)	70
Residual Pressure (psi)	[illegible]

The following computational results based on the above variables and NFPA section 291 (2002 edition) are as follows:

Flow at Test (gpm):	**1,432**
Flow at 20 psi (gpm):	**2,414**

These results reflect system conditions at the time of the test. Flow will fluctuate over time in a dynamic system and should be taken into consideration when interpreting or using this data. If you have any questions concerning this matter, contact me via e-mail at: PERRCR@JEA.COM.

Thank you,
Curtis Perrin
Office: 904-665-6419
Cell: 904-720-6625

POTABLE WATER SYSTEM NOTES:

1. NOTIFY JEA 48 HRS. IN ADVANCE OF MAKING THE CONNECTION TO THE EXISTING WATER MAIN STUB. A JEA INSPECTOR SHALL BE PRESENT AT TIME CONNECTION IS MADE.
2. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES AND CONNECTION POINTS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD IMMEDIATELY.
3. ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 36 INCHES OF COVER FROM FINISHED GRADE.
4. ALL WATER MAINS 4" THRU 12" DIAMETER SHALL BE PVC 1120-CLASS 200-DR-14, PVC 1120-CLASS 150-DR-18 WITH PUSH-ON GASKETED JOINTS IN ACCORDANCE WITH JEA SPECIFICATIONS.
5. ALL POTABLE PVC PIPE 3 INCHES IN DIAMETER OR LESS SHALL BE LISTED AS NSF-PW AND SHALL BE SO MARKED.
6. ALL WATER LINES 2" DIAMETER ONLY SHALL BE PVC 1120-PR200-SDR21, PVC 1120-SCHEDULE 40 AND SCHEDULE 80 IN ACCORDANCE WITH JEA SPECIFICATIONS. ALL 2" AND SMALLER WATER SERVICE LINES SHALL BE POLYETHYLENE PIPE.
7. ALL NEW AND RELOCATED WATER MAIN PIPE, FITTINGS, VALVES, AND FIRE HYDRANTS SHALL BE IN CONFORMANCE WITH APPLICABLE AMERICAN WATER WORKS ASSOCIATION (AWWA) AND JEA STANDARDS.
8. ALL NEW AND RELOCATED WATER MAIN PIPE AND FITTINGS WILL COMPLY WITH THE LATEST FDEP AND AWWA STANDARDS FOR LEAD CONTENT.
9. ALL PACKING AND JOINTING MATERIALS USED IN THE JOINTS OF NEW AND RELOCATED WATER MAIN PIPE SHALL BE IN CONFORMANCE WITH APPLICABLE AWWA AND JEA STANDARDS.
10. ALL NEW AND RELOCATED WATER MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH AWWA AND JEA STANDARDS.
11. ALL ROCK AND UNSUITABLY SIZED STONES (AS DESCRIBED IN APPLICABLE AWWA AND JEA STANDARDS AND/OR PIPE MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES) FOUND IN TRENCHES FOR NEW AND RELOCATED WATER MAIN PIPE SHALL BE REMOVED TO A DEPTH OF AT LEAST SIX (6) INCHES BELOW THE BOTTOM OF THE PIPE. CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED FOR NEW AND RELOCATED WATER MAIN PIPE. THE BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND THE NEW AND RELOCATED WATER MAIN PIPE AND TO A SUFFICIENT HEIGHT ABOVE SUCH PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE.
12. ALL TEES, BENDS, PLUGS, AND HYDRANTS IN NEW AND RELOCATED WATER MAINS SHALL USE RESTRAINED JOINTS PER JEA DETAILS TO PREVENT MOVEMENT.
13. ALL NEW AND RELOCATED WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651 AND RULE 62-555.345, F.A.C.
14. ALL NEW AND RELOCATED WATER SERVICES SHALL BE IN CONFORMANCE WITH THE STATE PLUMBING CODE.
15. ALL PIPE AND PIPE FITTINGS FOR NEW AND RELOCATED WATER SERVICES SHALL COMPLY WITH THE LATEST FDEP AND AWWA STANDARDS FOR LEAD CONTENT. ALL SOLDERS AND FLUX FOR NEW AND RELOCATED WATER SERVICES SHALL COMPLY WITH THE LATEST FDEP AND AWWA STANDARDS FOR LEAD CONTENT.
16. THE POTABLE WATER SYSTEM SHALL MAINTAIN THE MINIMUM HORIZONTAL AND VERTICAL CLEARANCES FROM THE SANITARY SEWER SYSTEM. THE MINIMUM HORIZONTAL AND VERTICAL CLEARANCES ARE DESCRIBED IN DETAIL UNDER THE STANDARD WATER/SEWER SEPARATION STATEMENT.

SANITARY SEWER SYSTEM NOTES:

1. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES AND CONNECTION POINTS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD IMMEDIATELY.
2. SANITARY SEWER LINE SHALL BE SDR-26 PVC PIPE, CONFORMING TO ASTM D-3034. SANITARY SEWER LINE SHALL BE COLOR CODED AND CLEARLY MARKED.
3. SANITARY SEWER FORCE MAIN SHALL BE C900 DR18 PVC PIPE CONFORMING TO ASTM D-1784, D-[illegible], D-3139, AND F-477. SANITARY FORCE MAIN SHALL BE COLOR CODED GREEN AND CLEARLY MARKED.
4. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD AND JEA ALL VIDEO LOGS AND DEFLECTION TEST RESULTS FOR REVIEW AND APPROVAL.
5. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD AND JEA ALL EXFILTRATION/INFILTRATION TEST RESULTS FOR REVIEW AND APPROVAL.
6. THE SANITARY SEWER SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE CONSTRUCTION DRAWINGS AND SPECIFICATIONS. ANY DEVIATION FROM THESE CONSTRUCTION DRAWINGS AND SPECIFICATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE ENTITY AUTHORIZING THE DEVIATIONS TO BRING THE SANITARY SEWER SYSTEM INTO COMPLIANCE WITH THESE CONSTRUCTION DOCUMENTS.
7. THE SANITARY SEWER SYSTEM SHALL MAINTAIN THE MINIMUM HORIZONTAL AND VERTICAL CLEARANCES FROM THE POTABLE WATER SYSTEM. THE MINIMUM HORIZONTAL AND VERTICAL CLEARANCES ARE DESCRIBED IN DETAIL UNDER THE STANDARD WATER/SEWER SEPARATION STATEMENT.
8. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONSTRUCTION OF THE SANITARY SEWER SYSTEM WITH THE OTHER UTILITIES BEING INSTALLED IN THE VICINITY.
9. LEAKAGE TESTS SHALL BE CONDUCTED SO THAT THE LEAKAGE EXFILTRATION OR INFLITRATION DOES NOT EXCEED 200 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM. EXFILTRATION OR INFILTRATION TESTS SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET. AIR TESTS, AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828 FOR CLAY PIPE, ASTM C 924 FOR CONCRETE PIPE, ASTM F-1417 FOR PLASTIC PIPE, AND FOR OTHER MATERIALS APPROPRIATE TEST PROCEDURES.

STANDARD WATER/SEWER SEPARATION STATEMENT:

1. SANITARY SEWERS (INCLUDING LATERALS), FORCE MAINS, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS, FORCE MAINS AND STORM SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHENEVER POSSIBLE.

   WHERE SANITARY SEWERS, FORCE MAINS AND STORM SEWERS MUST CROSS A WATER MAIN WITH LESS THAN 18 INCHES VERTICAL DISTANCE, BOTH THE SEWER AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. (DIP IS NOT REQUIRED FOR STORM SEWERS) SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 12 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.

   ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING).

   WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 18 INCHES OF VERTICAL CLEARANCE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWERS AND SANITARY SEWER) AND THE NEW PIPE SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.
2. ALL UNDERGROUND WATERMAINS IN THE PROJECT WILL BE LAID TO PROVIDE A HORIZONTAL SEPARATION OF AT LEAST 3 FEET BETWEEN THE OUTSIDE OF THE WATERMAIN AND OUTSIDE OF ANY VACUUM SANITARY SEWER, STORM SEWER, STORMWATER FORCEMAIN, OR PIPELINE CONVEYING RECLAIMED WATER UNDER PART III OF CHAPTER 62-610, F.A.C. WATERMAIN SHALL BE LAID AT A MINIMUM DISTANCE OF 6 FEET BETWEEN THE OUTSIDE OF THE WATERMAIN AND THE OUTSIDE OF A GRAVITY SANITARY SEWER (3 FEET IF THE WATERMAIN BOTTOM IS LAID ATLEAST 6" ABOVE THE TOP OF THE SEWER). WATERMAIN SHALL BE LAID ATLEAST 6 FEET HORIZONTALLY (OUTSIDE TO OUTSIDE) FROM PRESSURE SANITARY SEWER, SANITARY FORCEMAINS, OR RECLAIMED WATER LINES NOT REGULATED UNDER PART III OF CHAPTER 62-610 F.A.C.

   WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 18 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWERS) WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
3. ALL DUCTILE IRON, HDPE, AND PVC PIPE SHALL MEET JEA STANDARDS AND SPECIFICATIONS.

HYDROSTATIC TESTING NOTES:

1. AFTER ALL PRESSURE PIPES (WATER MAINS, SERVICES, AND FORCE MAINS) ARE INSTALLED, THE JOINTS COMPLETED, AND THE TRENCH BACKFILLED, THE NEWLY LAID PIPE AND APPURTENANCES SHALL BE SUBJECTED TO A HYDROSTATIC TEST OF 150 PSI FOR WATER, [illegible] PSI FOR SANITARY FORCEMAIN, AND 200 PSI FOR FIRE LINE FOR A PERIOD OF AT LEAST TWO HOURS. CONTRACTOR SHALL PERFORM A 24-HOUR (MINIMUM) PRE-TEST OF ALL PRESSURE PIPING PRIOR TO SCHEDULING PRESSURE TESTS WITH JEA AND THE ENGINEER. THE ENGINEER, AND JEA MUST BE NOTIFIED AT LEAST 48 HOURS BEFORE A TEST IS TO BE PERFORMED. TEST SHALL BE AS SET FORTH IN AWWA STANDARD C600. ANY LEAKS DETECTED SHALL BE CORRECTED AND THE SECTION OF PIPELINE RETESTED. THE TWO HOUR TEST PERIOD SHALL BEGIN WHEN ALL JOINTS HAVE BEEN DETERMINED TO BE WATER TIGHT. LEAKAGE SHALL BE LIMITED TO THAT ALLOWANCE SET FORTH IN SECTION 4 OF AWWA STANDARD C600 LATEST EDITION. HYDROSTATIC AND LEAKAGE TEST AND BLOW-DOWN (ZEROING OF GAGE) MUST OCCUR BEFORE SAMPLING FOR BACTERIOLOGICAL TEST. THE MAXIMUM ALLOWABLE PRESSURE LOSS IS 5 PSI REGARDLESS OF THE LENGTH OF PIPE.

AS-BUILT AND TESTING NOTES:

1. SIGNED AND SEALED AS-BUILTS SHALL BE PREPARED BY THE CONTRACTOR ACCORDING TO AGENCY CLEARANCE AND OWNER REQUIREMENTS.
2. TESTING SHALL BE PERFORMED BY THE CONTRACTOR ACCORDING TO ALL APPLICABLE REGULATIONS.
3. IN ADDITION TO THE REQUIREMENTS ABOVE, THE CONTRACTOR SHALL PERFORM THE FOLLOWING TESTS AND PROVIDE RESULTS TO THE OWNER:
   - 3.1 FOR GRAVITY SANITARY SEWER: AIR TESTED BETWEEN MANHOLES AT 3.5 PSI FOR 5 MINUTES PER ASTM F1417 FOR PLASTIC PIPES.
   - 3.2 FOR SANITARY FORCEMAINS: HYDROSTATIC PRESSURE TEST OF 150 PSI FOR 2 HOURS
   - 3.3 FOR WATERMAINS AND SERVICE LATERALS: HYDROSTATIC PRESSURE TEST OF 150 PSI FOR 2 HOURS
   - 3.4 FOR FIRE MAINS: PER FFPC AND NFPA
   - 3.5 FOR LIFT STATIONS: START-UP OBSERVATION REPORT BY PUMP MANUFACTURER.
   - 3.6 FOR CONCRETE PAVEMENT: TEST CYLINDERS (7 DAY AND 28 DAY BREAKS) AT RATE OF 1 PER 100 C.Y.
   - 3.7 FOR ASPHALT PAVEMENT: CORES TAKEN 3 HEAVY DUTY AND 3 LIGHT DUTY PER DAY OF ASPHALT WORK, LOCATIONS AS SPECIFIED BY OWNER. THE CORES SHALL BE TESTED FOR DENSITY AND CONFORMANCE TO THICKNESS REQUIREMENTS. CORES SHALL BE HOT PATCHED BY CONTRACTOR.
   - 3.8 FOR SUBGRADE: DENSITY SNALL BE TESTED BY NUCLEAR METHOD. ASTM D6938. ONE TEST IN EACH LIFT FOR EACH 10,000 SQ. FT.
   - 3.9 FOR BASE: DENSITY SHALL BE TESTED BY NUCLEAR METHOD, ASTM D6938. ONE TEST IN EACH LIFT FOR EACH 20,000 SQ. FT. OF IN-PLACE BASE MATERIAL AREA. THICKNESS SALL BE TESTED ONCE FOR EACH 20,000 SQ. FT. OF IN-PLACE MATERIAL AREA.
   - 3.10 FOR UTILITY TRENCHES: DENSITY TEST EVERY 300', MINIMUM ON BETWEEN EACH STRUCTURE.
4. IN CASE OF CONFLICT OR DUPLICATION, CONTRACTOR SHALL ISSUE BID QUESTION ACCORDING TO BID REQUIREMENTS. IF NO QUESTION IS ASKED, BASE BID SHALL INCLUDE THE CONFLICTING OR DUPLICATE TESTING.
5. OTHER DOCUMENTS TO BE PROVIDED BY CONTRACTOR:

   CONSTRUCTION COST AS MAY BE REQUIRED BY JURISDICTION
   TABULATED CAMS DATA AS MAY BE REQUIRED BY JURISDICTION
   TABULATED NORTHING/EASTING AND GPS DATA AS MAY BE REQUIRED BY JURISDICTION
6. FDEP SANITARY SEWER TESTING REQUIREMENTS:

LEAKAGE TESTS:

1. THE LEAKAGE EXFILTRATION OR INFILTRATION DOES NOT EXCEED 200 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM.
2. EXFILTRATION OR INFILTRATION TESTS BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET
3. AIR TESTS, AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828 FOR CLAY PIPE, ASTM C-924 FOR CONCRETE PIPE, ASTM F-1417 FOR PLASTIC PIPE, AND FOR OTHER MATERIALS APPROPRIATE TEST PROCEDURES. [rswf 33.93, 33.94, AND 33.95]

DEFLECTION TEST FOR ALL FLEXIBLE PIPE:

TESTING IS REQUIRED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM.

1. NO PIPE SHALL EXCEED A DEFLECTION OF 5%
2. A RIGID BALL OR MANDREL FOR THE DEFLECTION TEST WITH A DIAMETER NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE, DEPENDING ON WHICH IS SPECIFIED IN THE ASTM SPECIFICATION, INCLUDING THE APPENDIX TO WHICH THE PIPE IS MANUFACTURED.
3. PERFORM THE TEST WITHOUT PULLING DEVICES. [RSWF 33.85]

ALL PRIVATE WATER SUPPLY PIPING ASSOCIATED WITH FIRE PROTECTION SHALL BE INSTALLED IN ACCORDANCE WITH NFPA-24 (LATEST EDITION) AND CONTRACTOR SHALL HOLD A CONTRACTOR V, FIRE PROTECTION LICENSE WITH THE STATE OF FLORIDA.

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED ON THIS PROJECT. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE.

PROJECT DATUM: NAVD'88

THE SITE CONSTRUCTION STAKEOUT SHALL BE PERFORMED UNDER THE DIRECTION OF A FLORIDA REGISTERED SURVEYOR. AUTOCAD FILES WILL BE FURNISHED TO AID IN THE SITE CONSTRUCTION STAKEOUT. ANY DISCREPANCIES FOUND BETWEEN AUTOCAD FILES AND SITE CONSTRUCTION PLANS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR CLARIFICATION PRIOR TO THAT STAKEOUT.

Always call 811 two full business days before you dig to have underground utilities located and marked.

Sunshine811.com

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2020 KIMLEY-HORN AND ASSOCIATES, INC.
12740 GRAN BAY PARKWAY WEST, SUITE 2350
JACKSONVILLE, FLORIDA 32258
PHONE: 904-828-3900
WWW.KIMLEY-HORN.COM REGISTRY 696

JOSEPH P. MECCA LICENSE No. 53192 STATE OF FLORIDA PROFESSIONAL ENGINEER

LICENSED PROFESSIONAL
JOSEPH P. MECCA, P.E.
FLORIDA LICENSE NUMBER
53192
THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY: JOSEPH P. MECCA, P.E.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES

KHA PROJECT 045538000
DATE MAY 2020
SCALE: AS SHOWN
DESIGNED BY: CDC
DRAWN BY: CDC
CHECKED BY: JPM

UTILITY NOTES

MARRIOTT SAWGRASS CABANA BEACH CLUB
PREPARED FOR
CWI SAWGRASS HOTEL, LLC
ST. JOHNS COUNTY FLORIDA

SHEET NUMBER
C-03