

## WATER MAIN AND SERVICE SPECIFICATIONS

- ALL NEW WATER MAINS SHALL BE INSTALLED, CLEANED, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH THE LATEST ANSI/AWWA STANDARDS.
- DUCTILE IRON WATER MAINS 4" OR LARGER SHALL BE CLASS 52. ALL DUCTILE IRON PIPE SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA C151/A21.51-02 AND BE CEMENT LINED AND SEAL COATED PER ANSI/AWWA C104/A21.4-95, UNLESS OTHERWISE NOTED. PVC PIPE 6" OR LARGER SHALL BE DR 18 CONFORMING AWWA C900-97.
- FITTINGS SHALL BE DUCTILE IRON MEETING ANSI/AWWA C153/A21.53-00 SPECIFICATIONS, WITH 250 PSI MINIMUM WORKING PRESSURE. FITTINGS MUST BE CEMENT LINED AND SEAL COATED PER ANSI/AWWA C104/A21.4-95.
- FOR METERS UP TO SIZE 2" THE SERVICE LINE AND SERVICE LINE FITTINGS SHALL BE SCHEDULE 80 PVC. SOLVENT WELD ONLY EXCEPT FOR THREADED NIPPLES AND BUSHINGS AND CONFORM TO THE SPECIFICATIONS AS SET FORTH IN ASTM D-1785 AND ASTM D-2467. FITTINGS MUST ALSO CARRY THE NATIONAL SANITARY FOUNDATION STANDARD 14 APPROVAL FOR POTABLE WATER, AS MANUFACTURED BY SPEARS, R.G. SLOAN, OR APPROVED EQUAL.
- GATE VALVES 4" AND LARGER SHALL BE RESILIENT SEATED OF THE MJ TYPE AND SHALL CONFORM TO THE STANDARDS OF ANSI/AWWA C509-01. ALL RESILIENT SEAT VALVES MUST BE BI-DIRECTIONAL.
- VALVE BOXES SHALL BE OPELIKA No. 19, NO SUBSTITUTIONS.
- TAPPING SLEEVES SHALL BE MUELLER H-615, CLOW F-5205 OR, APPROVED BY THE UTILITIES DEPARTMENT.
- METER COUPLINGS SHALL BE OUTSIDE I.P. THREAD BY METER SWIVEL NUT BRASS COUPLING, MANUFACTURED BY MUELLER #H-10890 FOR 5/8" AND 1" METERS, NO SUBSTITUTIONS.
- CORPORATION STOPS SHALL BE 2" MUELLER #H-10046.
- CURB STOPS SHALL BE BALL VALVE AS MANUFACTURED BY THE FORD METER BOX COMPANY, INC., WABASH, INDIANA, OR APPROVED EQUAL.
  - FOR 5/8" METER CATALOG # BL11-233W-3.75.
  - FOR 1" METER CATALOG # BL11-344W-4.5.
- TAPPING VALVES 4" AND LARGER SHALL BE RESILIENT WEDGE TYPE MEETING ANSI/AWWA C509-87. ALL TAPPING VALVES MUST HAVE A CAST-IN ALIGNMENT RING AND BE CAPABLE OF ACCEPTING A FULL SIZE CUTTER. TAPPING VALVES SHALL BE CLOW OR AMERICAN DARLING ONLY.
- DRESSER COUPLINGS SHALL BE REGULAR BLACK COUPLINGS WITH PLAIN GASKETS FOR GALVANIZED STEEL PIPE AND P.V.C. THEY SHALL BE DRESSER STYLE 90 WITH NO SUBSTITUTIONS.
- THE MINIMUM DEPTH OF COVER OVER WATER MAINS IS 30", EXCEPT IN THE CASE OF PVC PIPE WHICH REQUIRES A MINIMUM COVER OF 36".
- WHEN PVC PIPE IS USED, A METALLIZED MARKER TAPE SHALL BE INSTALLED CONTINUOUSLY 18" ABOVE THE PIPE. THE MARKER TAPE SHOULD BE IMPRINTED WITH A WARNING THAT THERE IS BURIED PIPE BELOW. THE TAPE SHALL BE MAGNA TEC, AS MANUFACTURED BY THOR ENTERPRISES INC. OR APPROVED EQUAL.
- FIRE HYDRANTS SHALL BE TRAFFIC BREAKAWAY MUELLER SUPER CENTURION 200 MODEL No.A-423 OR CLOW MEDALLION F-2546-5B.
- FIRE HYDRANTS SHALL BE INSTALLED WITH THE CENTER OF THE HOSE NOZZLE 18" ABOVE FINISHED GRADE, FACING THE STREET.
- CONTROL GATE VALVE SHALL BE USED FOR 1-1/2" AND 2" METERS INSTEAD OF CURB STOPS AND SHALL BE INSTALLED IN METER BOX. CONTROL GATE VALVE SHALL BE NIBCO-SCOTT T-133 OR T-136 WITH NO SUBSTITUTIONS ALLOWED.
- STANDARD PIPE MARKINGS AS PER FAC 62-555.320(21)(b)3: ALL PIPE FITTINGS SHALL BE COLOR CODED OR MARKED AS FOLLOWS:
  - POTABLE WATER PIPE: BLUE
  - RECLAIMED WATER PIPE: VIOLET
  - SANITARY PIPE: GREEN

## TESTING AND DISINFECTION

- NO CONNECTIONS TO THE EXISTING LINES SHALL BE MADE UNTIL THE PRESSURE AND BACTERIOLOGICAL TESTS HAVE BEEN PERFORMED ON THE PROPOSED WATER MAINS AND THE SYSTEM IS ACCEPTABLE TO THE CITY OF COCONUT CREEK AND BROWARD COUNTY PUBLIC HEALTH UNIT (BCPHU).
- THE PRESSURE TEST SHALL BE FOR 2 HOURS AT 150 PSI AND IN ACCORDANCE WITH ANSI/AWWA STANDARD C600-05. PRESSURE TEST SHALL BE WITNESSED BY THE CITY OF COCONUT CREEK. THE ALLOWABLE LEAKAGE SHALL BE LESS THAN THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FORMULA:
 
$$L = \frac{S D \sqrt{P}}{148,000}$$

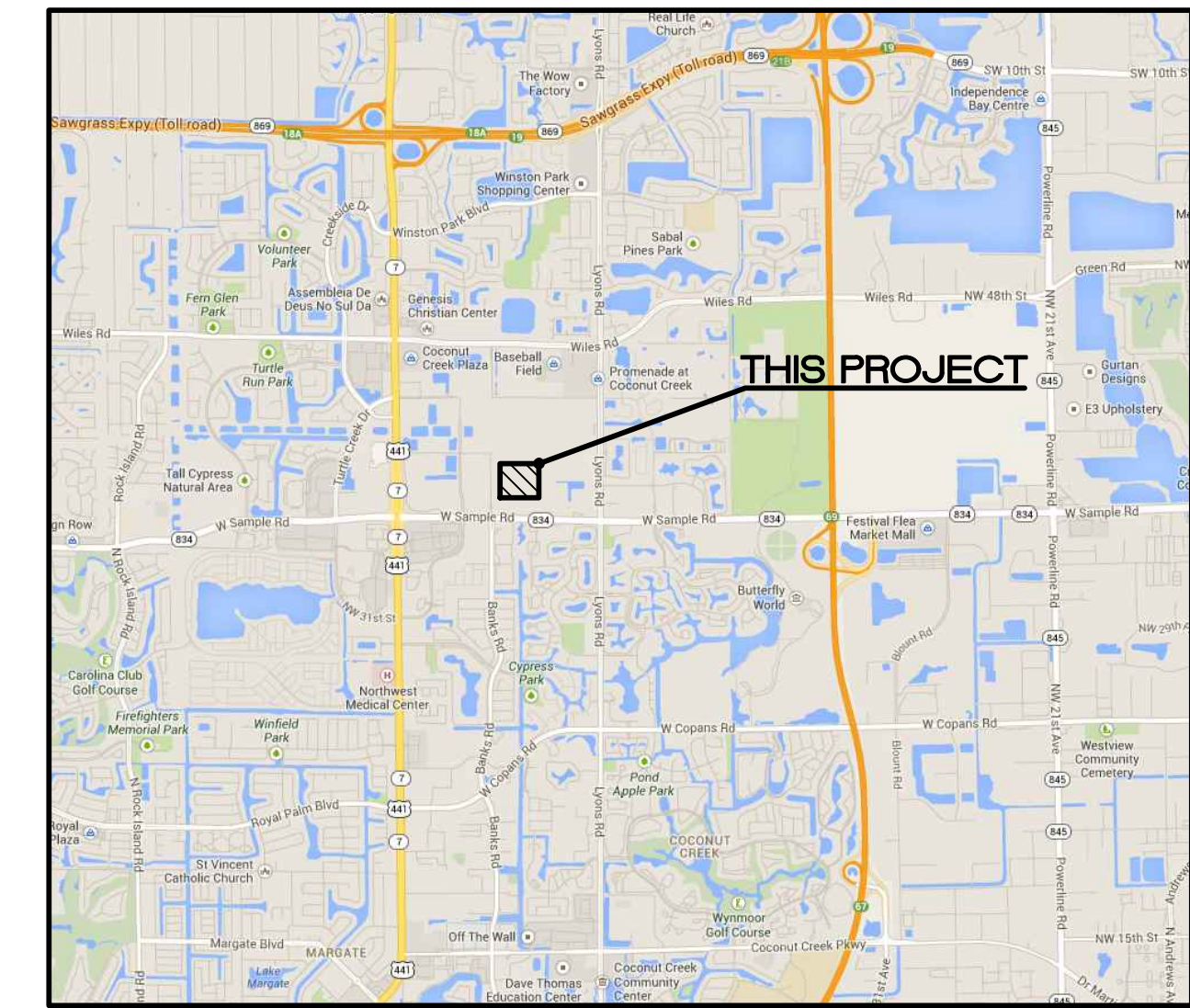
L = THE ALLOWABLE LEAKAGE IN GALLONS PER HOUR.  
 S = THE LENGTH OF PIPE BEING TESTED.  
 D = THE NOMINAL DIAMETER OF THE PIPE BEING TESTED.  
 P = THE AVERAGE TEST PRESSURE IN POUNDS PER SQUARE INCH.
- THE COMPLETE LENGTH OF THE PROPOSED WATER MAIN SHALL BE TESTED, IN LENGTHS NOT TO EXCEED 2,000 FEET PER TEST.
- PROPOSED WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH ANSI/AWWA STANDARD C651-05 AND BACTERIOLOGICALLY TESTED FOR TWO CONSECUTIVE DAYS. THE CITY OF COCONUT CREEK WATER TREATMENT PLANT LABORATORY WILL BE THE SOLE SAMPLER AND WILL PROVIDE BACTERIOLOGICAL TESTING.

## SEPARATION REQUIREMENTS OF F.D.E.P./B.C.H.D.

- SANITARY SEWERS AND FORCE MAINS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS AND FORCE MAINS 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 AND FORCE MAINS MUST CROSS A WATER MAIN, BOTH THE SEWER AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. 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 6 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 VERTICAL CLEARANCE, THE NEW PIPE SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.
- A MINIMUM 10 FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.
- IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10 FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER OR FORCE MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.
- WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 18 INCHES IN A PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SANITARY SEWER OR FORCE MAIN SHALL BE CONSTRUCTED OF DIP 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).
- ALL DIP SHALL BE CLASS 51 OR HIGHER. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN.

## GENERAL NOTES

- ELEVATIONS SHOWN REFER TO THE NATIONAL GEODETIC VERTICAL DATUM (N.G.V.D.).
- HORIZONTAL AND VERTICAL CONTROL SHALL BE PROVIDED BY THE OWNER'S SURVEYOR. LAYOUT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- IT IS THE INTENT OF THESE DRAWINGS TO BE IN ACCORDANCE WITH APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. ANY DISCREPANCIES BETWEEN THESE DRAWINGS AND APPLICABLE CODES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
- EXISTING UTILITIES SHOWN ARE BASED ON INFORMATION SUPPLIED BY OTHERS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MEET WITH ALL APPLICABLE UTILITY COMPANIES TO VERIFY ALL UNDERGROUND FACILITIES PRIOR TO THE START OF CONSTRUCTION. ALL TRENCH EXCAVATION SHALL PROCEED WITH EXTREME CAUTION AT ALL TIMES. IN THE EVENT THAT EXISTING UTILITIES ARE DAMAGED, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE ALL SUCH DAMAGE.
- EXISTING GRADES WERE TAKEN FROM THE BEST AVAILABLE DATA AND MAY NOT ACCURATELY REFLECT PRESENT CONDITIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH CURRENT SITE CONDITIONS, AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO STARTING WORK.
- ALL ELEVATIONS, GRADING AND PREPARATION OF SUBGRADE TO BE APPROVED BY THE CITY OF COCONUT CREEK BEFORE PLACING BASE AND PAVEMENT.
- REFERENCE SHALL BE MADE TO THE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR LOCATIONS, SIZE AND DETAILS OF ALL UTILITY SERVICES TO THE BUILDINGS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR RESETTling ALL DISTURBED EXISTING MANHOLE COVERS, VALVE BOXES, BLOW-OFF RISERS, ETC. TO NEW ELEVATIONS, AS REQUIRED, WHETHER SPECIFICALLY SHOWN ON DRAWINGS OR NOT.
- BOUNDARY AND TOPOGRAPHIC DATA BASED UPON SURVEY PREPARED BY WINNINGHAM & FRADLEY, INC., OAKLAND PARK, FL, DATED MAY 14, 2013, LAST UPDATED JUNE 7, 2013.



SECTION 18 TOWNSHIP 48 SOUTH RANGE 42 EAST

**LOCATION SKETCH**  
SCALE : N.T.S.

## LEGAL DESCRIPTION

PARCEL A AND B TOGETHER WITH BUFFER TRACTS B-1, B-2 AND B-3 TOGETHER WITH RIGHT-OF-WAY TRACT 2 AND THE VACATED RIGHT-OF-WAY LYING BETWEEN PARCELS A AND B INCLUSIVE ACCORDING TO THE PLAT OF THE BERBER PLAT AS RECORDED IN PLAT BOOK 170 PAGE 105 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

SAID LANDS SITUATE, LYING AND BEING IN THE CITY OF COCONUT CREEK, BROWARD COUNTY FLORIDA AND CONTAINING 535,070 SQUARE FEET OR 12.284 ACRES MORE OR LESS.

AVERAGE DAILY WATER AND SEWER DEMANDS			
EXISTING		PROPOSED	
<b>WATER:</b>		<b>WATER:</b>	
DOMESTIC:	VACANT = 0 GPD	DOMESTIC:	308 APARTMENT @ 250 GPD/APT = 77,000 GPD
<b>SEWER:</b>		<b>SEWER:</b>	
	VACANT = 0 GPD	DOMESTIC:	308 APARTMENT @ 250 GPD/APT

REVISIONS	BY
2-19-14	SITE PLAN RESUBMITTAL
4-3-14	SITE PLAN RESUBMITTAL

MIDTOWN RESIDENCES AT  
COCONUT CREEK  
FOR:  
FLORIDA CRYSTALS  
LOCATED AT:  
COCONUT CREEK, FLORIDA

MSA ARCHITECTS, INC.  
MIAMI OFFICE  
7695 SW 104th ST.  
MIAMI, FLORIDA 33156  
(305) 273-9911

**MSA ARCHITECTS**  
ARCHITECTURE & PLANNING

DRAWN \_\_\_\_\_  
CHECKED \_\_\_\_\_  
DATE 12/19/2013  
SCALE AS SHOWN  
JOB NO. \_\_\_\_\_  
SHEET \_\_\_\_\_

**CONSULTING ENGINEERING & SCIENCE, INC.**  
10700 N. KENDALL DRIVE SUITE 400  
MIAMI, FLORIDA 33176 (305)-378-6555  
EB-0003255

FOR THE FIRM:  
RICHARD B. BOCHNOVIC  
PE-19833 (CIVIL)

CES PROJECT NO.: 13075

OF SHEETS