

AERIAL CROSSING DESIGN PHASE II - SITE 3

CITY OF MARGATE, FLORIDA

BID SET PLANS

DATE OF ISSUE: 10/12/2015



Department of Environmental and Engineering Services
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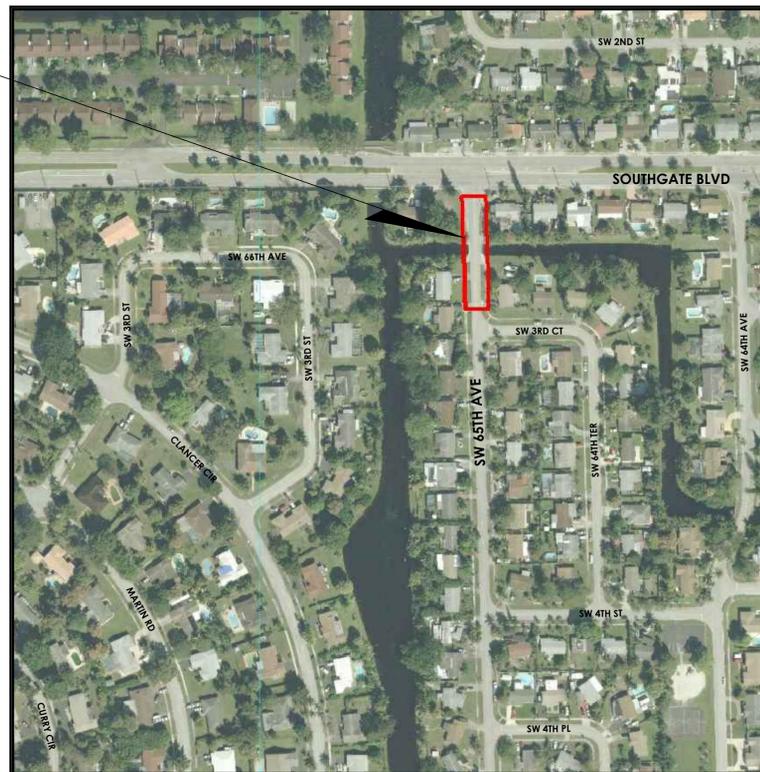
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REDDY CHITEPU, P.E.

PROJECT
 LOCATION



SECTION 01, TOWNSHIP 49, RANGE 41

LOCATION MAP

N.T.S.

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



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CERTIFICATES OF AUTHORIZATION

EB4593 LC26000425

PROJECT NUMBER	318.012
CLIENT PROJECT NUMBER	9331E.10
DRAWING NUMBER	1 OF 10

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE CITY OF MARGATE, WATER AND WASTE WATER SPECIFICATIONS.
- CONTRACTOR SHALL NOTE THAT ASBESTOS CEMENT PIPE IS PRESENT ON SITE. CONTRACTOR SHALL FOLLOW SPECIFICATIONS AND REGULATORY AGENCY MEASUREMENTS FOR HANDLING AND DISPOSAL OF SUCH ELEMENTS.
- VERTICAL INFORMATION IS RELATIVE TO N.A.V.D. 88. HORIZONTAL INFORMATION IS RELATIVE TO STATE PLANE COORDINATES FLORIDA EAST ZONE NORTH AMERICAN DATUM 1983/1990 ADJUSTMENT.
- THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLAN ARE APPROXIMATE, ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXACT LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATION. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION AND THE LOCATIONS AND ELEVATIONS OF EXPOSED FEATURES SHALL BE CAREFULLY NOTED ON THE PROJECT RECORD "AS-BUILT" DRAWINGS. ANY AND ALL CONFLICT OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS MUST BE RESOLVED BY THE CONTRACTOR IN AN APPROVED MANNER.
- CONTRACTOR SHALL PROVIDE A FIVE (5) DAY NOTICE TO CITY AND ENGINEER PRIOR TO ANY CONSTRUCTION ACTIVITY ON SITE WHERE WATER AND/OR FORCE MAIN PIPES NEED TO BE SHUTDOWN. CONTRACTOR TO COORDINATE WITH THE CITY TO ISOLATE WATER OR SEWER MAIN.
- 48 HOURS PRIOR TO DIGGING, CONTRACTOR SHALL COORDINATE WITH ALL UNDERGROUND SERVICE COMPANIES TO VERIFY THE LOCATION OF THEIR FACILITIES. ADDITIONALLY, CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. AT 1-800-432-4770 PRIOR TO DIGGING.
- THE INFORMATION PROVIDED IN THESE PLANS IS TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT ANY INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED. CONTRACTOR IS RESPONSIBLE TO VERIFY DIMENSIONS AND FIELD CONDITIONS PRIOR TO ORDERING ANY PARTS.
- THE CONTRACTOR IS ADVISED TO USE EXTREME CAUTION WHEN CONSTRUCTION IS NEAR OR AROUND ANY ELECTRICAL FACILITIES.
- THE CONTRACTOR SHALL COORDINATE THE UTILITIES TO ARRANGE RELOCATION AND TEMPORARY SUPPORT OF UTILITY FEATURES, ETC., AS NECESSARY TO COMPLETE THE WORK. ANY COST INVOLVED IS TO BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED.
- THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS WITH CURRENT FIELD CHANGES ACCURATELY MARKED AND SHALL DELIVER THESE PLANS TO THE ENGINEER UPON COMPLETION OF CONSTRUCTION. THE CURRENT MARKINGS SHALL BE REVIEWED WITH THE ENGINEER DAILY, OR AS NEEDED, TO ASSURE THAT THEY BOTH AGREE THAT THE MARK-UPS REFLECT THE ACTUAL "AS-BUILT" CONDITIONS. THE CONTRACTOR WILL PREPARE PROJECT RECORD DRAWINGS AT THE CONCLUSION OF THE PROJECT BASED ON THE MARK-UP DRAWINGS AND TIES.
- ANY U.S.G.S., N.G.V.D. OR STATE OF FLORIDA MONUMENT OR BENCH WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND DISTRICT LOCATION SURVEYOR.
- ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED.
- ALL EXISTING UTILITIES ARE TO REMAIN UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS ADVISED THAT ALL PROPERTIES ADJACENT TO THE PROJECT HAVE WATER AND SEWER SERVICES WHICH MAY NOT BE SHOWN IN THE PLANS. THE CONTRACTOR MUST REQUEST THE LOCATION OF THESE LATERAL SERVICES. THE ADDITIONAL COST OF EXCAVATING, INSTALLING, BACKFILLING AND COMPACTING AROUND THESE LATERALS SERVICING SAID PROPERTIES MUST BE INCLUDED IN THE BID ITEMS.
- IF SHEETING, SHORING, DEWATERING INCLUDING WELL POINTS ARE NECESSARY AND UTILIZED, THE CONTRACTOR MUST MONITOR AND CONTROL ALL WORK THAT MAY CAUSE CRACKING TO ANY ADJACENT BUILDING AND THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY ITS OPERATIONS. THE COST OF THIS WORK WILL BE INCLUDED IN THE RELATED BID ITEM FOR THE WORK BEING DONE.
- CONTRACTOR SHALL NOTIFY PROPERTY OWNERS A MINIMUM OF FIFTEEN (15) DAYS, OR EARLIER IF REQUIRED BY THE CITY, PRIOR TO CONSTRUCTION ON THEIR STREET.
- CONTRACTOR SHALL DELIVER WRITTEN NOTIFICATION TO THE CITY, ENGINEER, AND PROPERTY OCCUPANTS OF ALL PLANNED DISRUPTION TO UTILITIES 72 HOURS IN ADVANCE OF DISRUPTION.
- THE CONTRACTOR SHALL MAINTAIN SAFE VEHICULAR ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES AND WILL MAINTAIN ACCOMMODATIONS FOR INTERSECTING AND CROSSING TRAFFIC. NO ROAD OR STREET CROSSING WILL BE BLOCKED OR UNDULY RESTRICTED AS DETERMINED BY THE ENGINEER.
- ANY PAVEMENT MARKINGS OR SIGNS THAT ARE DAMAGED SHALL BE REPAIRED OR REPLACED
- THE CONTRACTOR SHALL USE A STREET SWEEPER (USING WATER) OR OTHER EQUIPMENT CAPABLE OF CONTROLLING AND REMOVING DUST. APPROVAL OF THE USE OF SUCH EQUIPMENT IS CONTINGENT UPON ITS DEMONSTRATED ABILITY TO DO THE WORK.
- RECONSTRUCTION OF SIDEWALKS AND DRIVEWAYS SHALL MEET CITY OF MARGATE MINIMUM STANDARDS.
- THE PERMIT PLAN SET MUST BE ON SITE AT ALL TIMES.
- CONTRACTOR SHALL SAVE ALL COUPONS COLLECTED ON THIS PROJECT AND PROVIDE THEM TO THE CITY.
- ALL NEW ABOVE GROUND PIPE AND FITTINGS TO BE FLANGED AND COATED AS PER TECHNICAL SPECIFICATION FOR THIS PROJECT.
- ALL ACTIVITIES SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH LOCAL RULES AND LEGISLATION REGARDING POLLUTION PREVENTION FOR WATER, SOIL AND AIR. ALSO, ALL APPLICABLE RULES AND LEGISLATION REGARDING PERSONAL HEALTH AND SAFETY SHALL BE OBSERVED.
- CONTRACTOR TO PAVE AT ITS OWN RISK IF INSTALLED WATER MAIN AND/OR FORCE MAIN HAS NOT BEEN CERTIFIED BY THE ENGINEER.
- ALL PIPE, JOINTS, VALVES, AND RELATED APPURTENANCES ARE TO BE RESTRAINED PER CONSTRUCTION DETAILS.
- WATER MAIN PIPE SHALL BE COLOR CODED IN ACCORDANCE WITH F.A.C. 62-555.320(21)(B)(3).
- EXISTING AIR RELEASE VALVE AND FAN GUARDS, INCLUDING ALL RELATED APPURTENANCES, REMOVED FROM SITE SHALL BE SALVAGED AND DELIVERED TO THE CITY OF MARGATE.
- ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 36 INCHES FOR DUCTILE IRON PIPES.

TESTING / WATER SERVICE

- HYDROSTATIC TESTING: HYDROSTATIC TESTING OF WATER SERVICE LINES SHALL BE DONE IN CONJUNCTION WITH THE TESTING OF THE LATERAL OR MAIN LINE. NO ADDITIONAL LEAKAGE ALLOWANCE WILL BE MADE FOR SERVICE LINES.
- STERILIZATION: STERILIZATION OF SERVICE LINES SHALL BE DONE IN CONJUNCTION WITH THE STERILIZATION OF THE LATERAL OR THE MAIN LINE. SUFFICIENT SAMPLING POINTS SHALL BE TAKEN FROM SERVICE LINE CONNECTIONS TO ASSURE UNIFORM RESULTS THROUGHOUT THE SYSTEM BEING TESTED.
- ALL FIRE LINES TO BE INSTALLED AND TESTED PER N.F.P.A. 24 CODE. CONTRACTOR TO TAKE NOTE THAT PRESSURE TEST ON THIS LINE WILL BE AT 250 P.S.I., AND PIPE AND VALVES SHOULD MEET THIS REQUIREMENT.

TESTING / WATER MAIN

- WATER MAINS SHALL BE TESTED IN ACCORDANCE WITH A.N.S.I. / A.W.W.A. STANDARDS C-600-10 HYDROSTATIC TESTS SHALL BE CONDUCTED AS FOLLOWS: AFTER A NEW PRESSURE MAIN HAS BEEN LAID AND BACKFILLED, IT SHALL BE PUMPED TO A PRESSURE OF 150 P.S.I. AND SHALL NOT VARY BY MORE THAN ±5 P.S.I. FOR THE DURATION OF THE TEST. ALL VISIBLE LEAKS SHALL BE STOPPED BY APPROVED METHODS. A LEAKAGE TEST SHALL THEN BE CONDUCTED AT THE ABOVE MENTIONED PRESSURE AND NO INSTALLATION WILL BE ACCEPTABLE BY THE ENGINEER UNTIL THE LEAKAGE IS LESS THAN THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FOLLOWING FORMULA:

$$Q = \frac{LD\sqrt{P}}{148,000} \quad \text{A.N.S.I./A.W.W.A. C600 - 10 STANDARDS}$$

IN WHICH Q EQUAL THE ALLOWABLE LEAKAGE IN GALLONS PER HOUR: L = LENGTH OF LINES IN FEET: D = DIAMETER OF LINES IN INCHES: AND P IS THE AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH. THE TEST SHALL BE MAINTAINED FOR A TWO (2) HOUR DURATION, BUT IT MAY BE CONTINUED FOR ONE (1) ADDITIONAL HOUR IF IT BECOMES APPARENT THAT THE LEAKAGE IS EQUAL TO OR GREATER THAN THE AMOUNT ALLOWABLE. WATER SUPPLIED TO THE MAIN DURING THE TEST TO MAINTAIN THE REQUIRED PRESSURE SHALL BE MEASURED BY A 5/8 INCH METER INSTALLED ON THE DISCHARGE SIDE OF THE TEST PUMP, OR BY PUMPING FROM A CALIBRATED CONTAINER. A HOSE BIBB CONNECTION WILL BE PROVIDED TO ACCEPT THE TEST GAUGE SUPPLIED BY THE CITY OF MARGATE. THE SECTION OF THE MAIN BEING TESTED SHALL BE LIMITED TO A MAXIMUM LENGTH OF 2200 FEET, OR THE DISTANCE BETWEEN THE TWO (2) CLOSEST VALVES. WHICHEVER IS GREATER. WHEN TESTING AGAINST CLOSED METAL-SEATED VALVES, AND ADDITIONAL LEAKAGE PER CLOSED VALVE OF 0.0078 GAL/HR/IN OF NOMINAL VALVE SIZE SHALL BE ALLOWED. ANY QUESTIONS PERTAINING TO PROCEDURES USED DURING THE TEST SHALL BE DIRECTED BY THE ENGINEER.

- STERILIZATION SHALL BE PERFORMED AFTER THE WATER MAINS HAVE SATISFIED THE LEAKAGE REQUIREMENTS. THE WATER MAINS SHALL BE FLUSHED THROUGH OPENINGS OF THE REQUIRED SIZE AS DETAILED IN A.N.S.I. / A.W.W.A. STANDARD C-651-05. THE MAIN SHALL THEN BE STERILIZED IN ACCORDANCE WITH THE PROVISIONS OF THE APPLICABLE SECTIONS OF THE ABOVE NAMED SPECIFICATIONS, ON MAIN BREAKS, CUT-INS, ETC. A LIBERAL APPLICATION OF CALCIUM HYPOCHLORITE SHALL BE MADE. MAINS SHALL NOT BE PUT INTO DOMESTIC SERVICE UNTIL AFTER THE NECESSARY BACTERIOLOGICAL SAMPLES HAVE BEEN APPROVED BY THE APPLICABLE REGULATORY AGENCIES.

NOTES ON WATER - SEWER SEPARATION:

- 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 OR FORCE MAINS 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 (D.I.P.) AT THE CROSSING. SUFFICIENT LENGTHS OF D.I.P. MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN 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 CROSSING.
- ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPE CENTERED ON 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 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 PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF D.I.P. AND THE SANITARY SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF D.I.P. WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
- ALL D.I.P. SHALL BE CLASS 50 OR HIGHER, ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN.

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Revisions			
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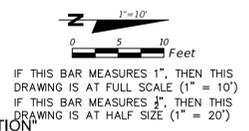
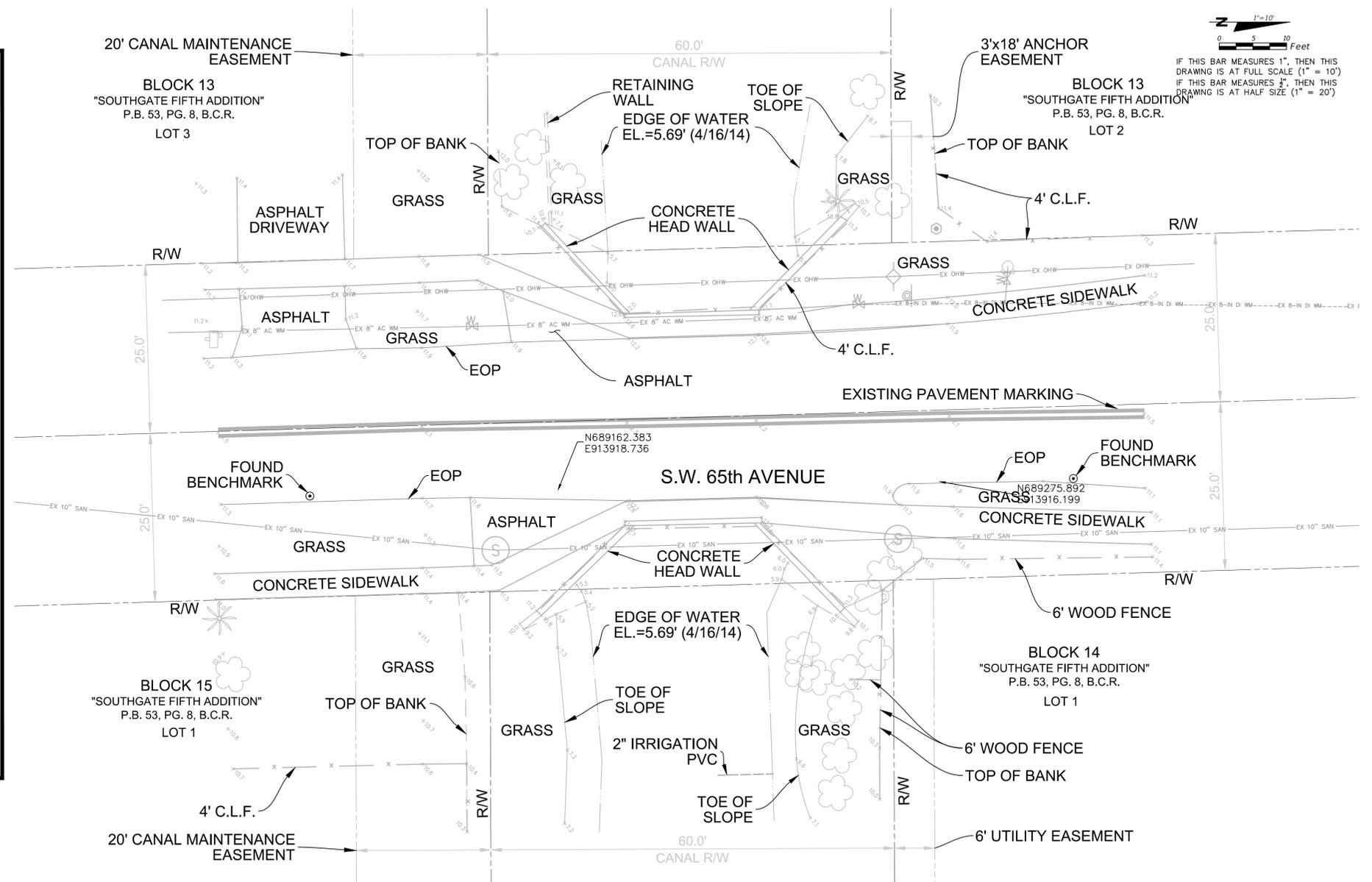
Aerial Crossing Design
Site 3
Bid Set

General Notes 1

Date: 11/06/2015
GN - 1
Sheet 2 of 10

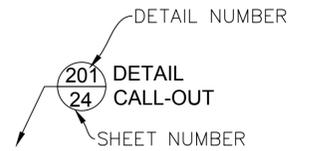
Site 3 Legend

---	CENTERLINE
---	RIGHT-OF-WAY LINE
---	PROP. 8" DIP WM
---	PROP. 8" DIP WATER MAIN
⬄	PROP. AIR RELEASE VALVE
▭	PROP. CONCRETE
▭	PROP. ASPHALT
▭	PROP. SOD
---	EX. FENCE
---	EX. OVER HEAD WIRE
---	EX. 8" AC WM
---	EX. WATER MAIN
---	EX. SANITARY SEWER
⊙	EX. BENCHMARK
⊙	EX. CABLE TV RAISER
⊙	EX. CONC. POWER POLE
⊙	EX. FIRE HYDRANT
⊙	EX. MAIL BOX
⊙	EX. STREET SIGN
⊙	EX. WATER VALVE
⊙	EX. SPOT ELEVATION
⊙	EX. PALM TREE
⊙	EX. TREE



ABBREVIATIONS:

AC	ASBESTOS CEMENT PIPE
ARV	AIR RELEASE VALVE
ASPH.	ASPHALT
B.C.R.	BROWARD COUNTY RECORDS
CATV	CABLE TELEVISION
CIP	CAST IRON PIPE
C.L.F.	CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
C & G	CURB & GUTTER
DIP	DUCTILE IRON PIPE
DWY.	DRIVEWAY
I.E.	INVERT ELEVATION
IRC	IRON ROD AND CAP
EL.	ELEVATION
EX.	EXISTING
FM	FORCE MAIN
FPL	FLORIDA POWER & LIGHT COMPANY
L.B.	LICENSED BUSINESS
MH	MANHOLE
N/D	NAIL AND DISK
NAD	NORTH AMERICAN DATUM
NTS	NOT TO SCALE
N:	NORTHING COORDINATE
E:	EASTING COORDINATE
OHW	OVERHEAD WIRE
P.B.	PLAT BOOK
PCP	PERMANENT CONTROL POINT
PROP.	PROPOSED
PVMNT.	PAVEMENT
R.E.	RIM ELEVATION
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY
SD	STORM DRAINAGE
SDWK.	SIDEWALK
SS	SANITARY SEWER
W.F.	WOOD FENCE
WM	WATER MAIN



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**Aerial Crossing Design
Site 3
Bid Set**

**Site 3: SW 65th Avenue South of Southgate Boulevard
Existing Conditions - 1**

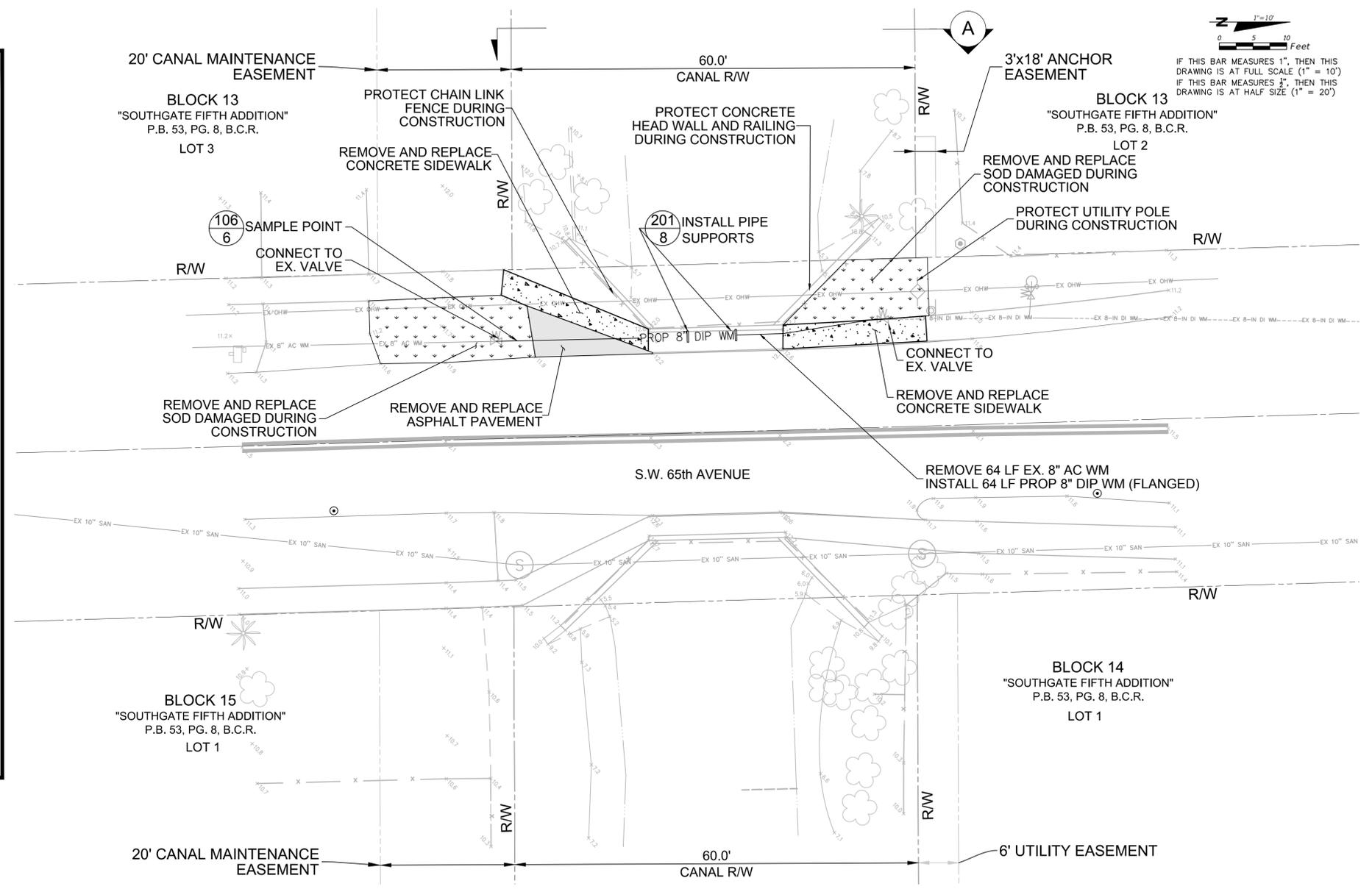
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EC - 1
Sheet 3 of 10

SITE 3 NOTES:

1. IMPLEMENT ASBESTOS ABATEMENT PROCEDURES FOR WATER MAIN UTILITY IN ACCORDANCE WITH CONTRACT DOCUMENTS.
2. PREVENT DEBRIS FROM ENTERING CANAL.
3. PROTECT EXISTING FENCE.
4. NO CONSTRUCTION WORK TO BE PERFORMED ON BRIDGE SIDEWALK.
5. CONTRACTOR SHALL PROTECT SO AS NOT TO DAMAGE STRUCTURAL INTEGRITY OF THE CONCRETE HEADWALL AND BRIDGE STRUCTURE.
6. CONTRACTOR SHALL FIELD VERIFY EXISTING VALVE TYPE AND CONFIGURATION PRIOR TO SCHEDULING SITE ACTIVITIES.
7. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND COORDINATE WITH ENGINEER REGARDING DETAILS OF LOCATION AND CONFIGURATION OF NEW PIPE, FITTINGS, AND PROPOSED CONNECTIONS TO EXISTING WATER MAIN.
8. CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION OF TEMPORARY PIPE RESTRAIN SYSTEM DURING CONSTRUCTION, PRESSURE TESTING AND BRINGING NEW WATER MAIN INTO SERVICE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
9. ALLOWABLE BRIDGE LOAD CAPACITY DURING CONSTRUCTION IS 79 TONS.

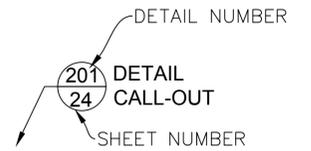
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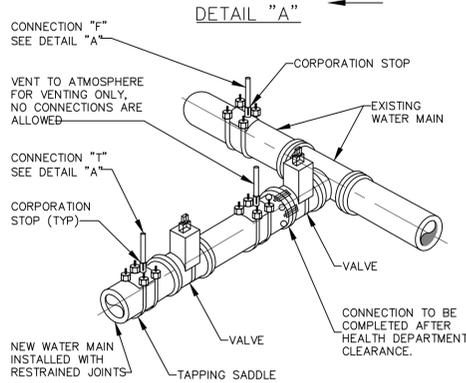
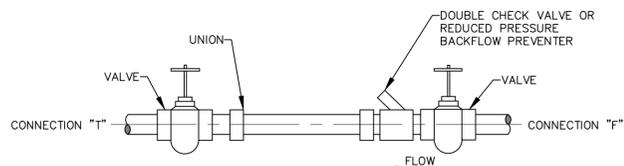
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**Aerial Crossing Design
Site 3
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**Site 3: SW 65th Avenue South of Southgate Boulevard
Plan View
Proposed Utilities - 1**

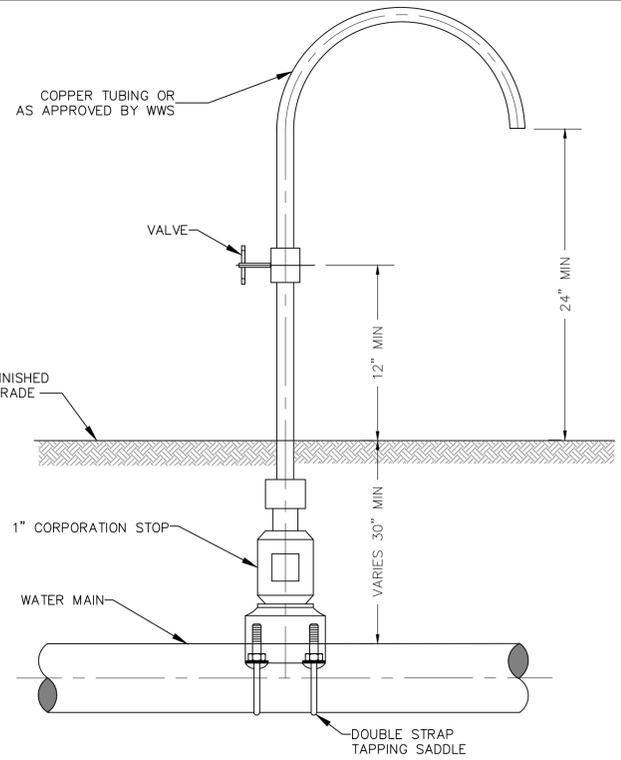
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Sheet 4 of 10

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- NOTES:**
- REMOVE TEMPORARY CONNECTION AT CORPORATION STOP ON EXISTING MAIN AFTER FILLING AND FLUSHING OF NEW LINE.
 - DO NOT REMOVE TEMPORARY CONNECTION AT CORPORATION STOP ON NEW MAIN UNTIL ALL TESTING HAS BEEN CLEARED BY HEALTH DEPARTMENT.
 - CLOSE CORPORATION STOPS AND PLUG/CAP WITH BRASS FITTINGS AFTER SAMPLING IS COMPLETED.

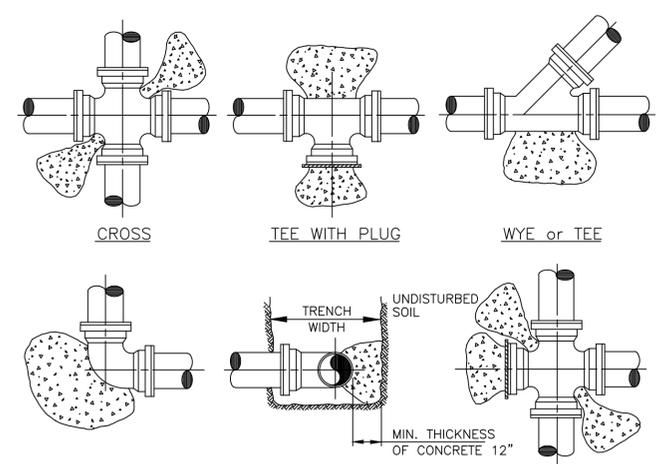
105 - FILLING AND FLUSHING CONNECTION
STANDARD DETAIL
N.T.S.



106 - SAMPLING POINT
STANDARD DETAIL
N.T.S.

- NOTES:**
- SAMPLE POINTS SHALL BE LOCATED AND LATER REMOVED AS REQUIRED BY BROWARD COUNTY HEALTH DEPARTMENT.
 - CORPORATION STOP SHALL BE CLOSED AND PLUGGED/CAPPED WITH A BRASS FITTING AFTER HEALTH DEPARTMENT CLEARANCE.
 - SAMPLING POINTS MAY BE PLACED AT THE ENDS OF WATER SERVICES BEFORE THE METERS AND ON BLOW OFFS FOR TERMINAL WATER MAINS, WHERE SERVICES AND BLOW OFFS ARE REQUIRED BY THE PLANS.

- NOTES:**
- CONCRETE THRUST BLOCKS OR THRUST COLLARS ONLY TO BE USED WITH OWNER'S APPROVAL.
 - CONCRETE THRUST BLOCKS OR THRUST COLLARS MAY BE UTILIZED ONLY IF NECESSARY FOR CONNECTIONS TO AN EXISTING PIPING SYSTEM, OTHERWISE MECHANICAL RESTRAINTS SHALL BE USED. KEEP "T" BOLTS CLEAR OF CONCRETE, WRAPPED IN VISQUEEN FOR FUTURE ACCESS, WITH A MINIMUM OF 1' THICKNESS BETWEEN THE FITTING AND SOIL.
 - BEFORE POURING CONCRETE, PLUGS SHALL BE WRAPPED WITH VISQUEEN AND A BOARD PLACED IN FRONT.
 - CONCRETE SHALL BE 2500 P.S.I. MINIMUM.
 - THE CONTRACTOR SHALL SUBMIT A THRUST BLOCK SIZE CALCULATION FOR TEE CONNECTIONS INTO UNRESTRAINED EXISTING MAINS LARGER THAN 14\"/>



PIPE	THRUST BLOCK AREA REQ'D	REMARKS	NOTE: FOR OTHER FITTINGS USE THE FOLLOWING FACTORS.
4"	2.0 SQ. FT.	VALUES ARE FOR 90° BEND, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. FOR OTHER SOILS & PRESSURES THE AREA REQUIRED IS IN DIRECT PROPORTION	TEE 100% 45° BEND 71% 22 1/2° BEND 39% 11 1/4° BEND 20% DEAD END 100%
6"	4.0 SQ. FT.		
8"	6.6 SQ. FT.		
10"	10.0 SQ. FT.		
12"	14.0 SQ. FT.		
14"	18.6 SQ. FT.		

107 - TYPICAL THRUST BLOCKS FOR PRESSURE PIPING
STANDARD DETAIL
N.T.S.

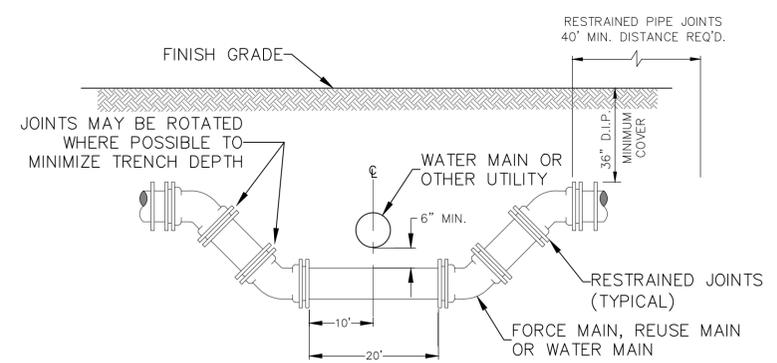
LAYING CONDITION: TYPE 4 (PIPE BEDDED IN SAND, GRAVEL, OR CRUSHED STONE TO THE DEPTH OF 1/8 PIPE DIAMETER, 4 INCHES MINIMUM. BACKFILL COMPACTED TO TOP OF PIPE).
DEPTH OF COVER: 2.5 FEET
WORKING PRESSURE: 150 P.S.I.
SOIL BEARING: 2,000 P.S.F. AGAINST UNDISTURBED SOIL.

PIPE DIA. (IN.)	11.25d (FT)	22.5d (FT)	45d (FT)	90d (FT)	DEAD END (FT)	TEE (FT)	45d VERT. BEND (FT)	22d VERT. BEND (FT)
6	5	9	16	31	60	35	20	12
8	6	11	20	42	80	50	25	14
10	7	14	24	52	100	60	26	18
12	8	16	28	63	120	65	30	20
14	10	18	32	73	130	80	35	23
16	11	20	35	84	140	90	40	26
18	12	22	39	94	150	100	45	28
20	13	24	42	105	180	120	55	32
24	14	27	49	126	220	150	65	35

NOTE THAT IN ACTUAL INSTALLATIONS, THE RESTRAINED LENGTH WILL BE IN MULTIPLES OF LENGTH OF ONE PIECE OF PIPE (NORMALLY 18 TO 20 FEET). THUS, FOR EXAMPLE, IF THE RESTRAINED LENGTH FOR 6 INCH PIPE LEADING UP TO A 90 DEGREE BEND IS 30 FEET, TWO FULL LENGTHS OF RESTRAINED PIPE WILL RESULT IN 36 TO 40 FEET OF RESTRAINT, PROVIDING AN ADDITIONAL SAFETY FACTOR. WHERE SHORT CONNECTING PIECES ARE NEEDED TO POSITION FITTINGS, THEY SHOULD, WHEN POSSIBLE, BE PLACED OUTSIDE THE RESTRAINED SECTION FOR MAXIMUM ECONOMY.

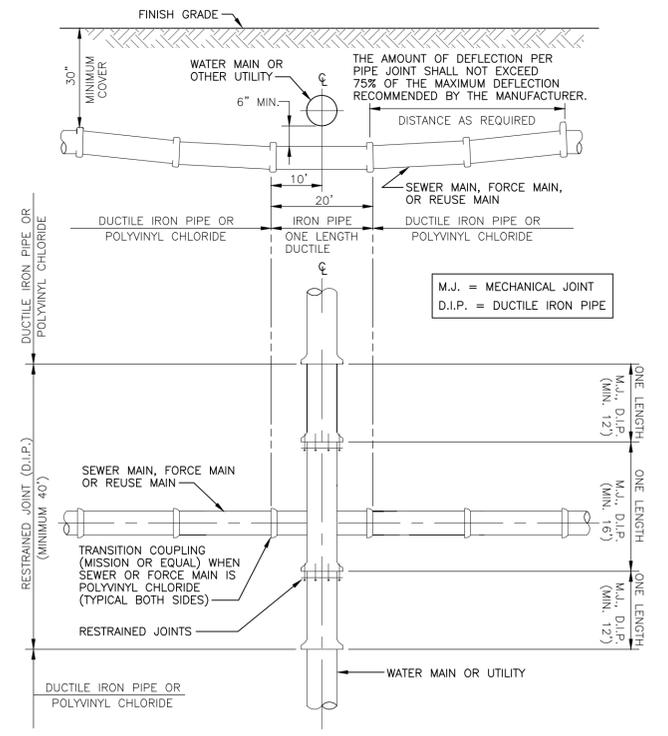
THE ABOVE SCHEDULE IS ONLY A GUIDELINE. THE CONTRACTOR MUST VERIFY AND REVISE CALCULATIONS TO MEET INSTALLATION REQUIREMENTS.

108 - RESTRAINED PIPE JOINT SCHEDULE
STANDARD DETAIL
N.T.S.



- NOTE:**
- WHEREVER POSSIBLE DEFLECTION OF THE PIPE WILL BE USED TO AVOID EXISTING OBSTRUCTIONS. THIS CROSSING SHALL BE USED ONLY WHEN ORDERED BY THE ENGINEER.

109 - SPECIAL UTILITY CROSSING
STANDARD DETAIL
N.T.S.



110 - STANDARD UTILITY CROSSING
STANDARD DETAIL
N.T.S.

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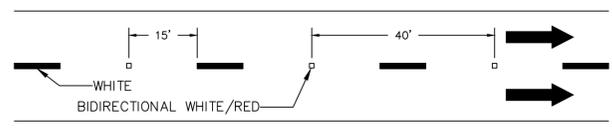
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Site 3
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Utility Details 1

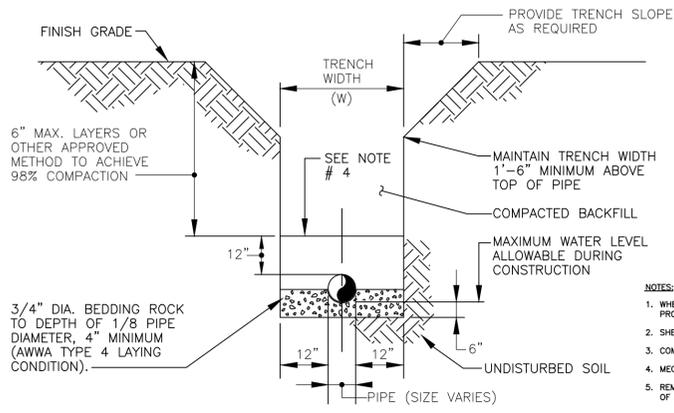
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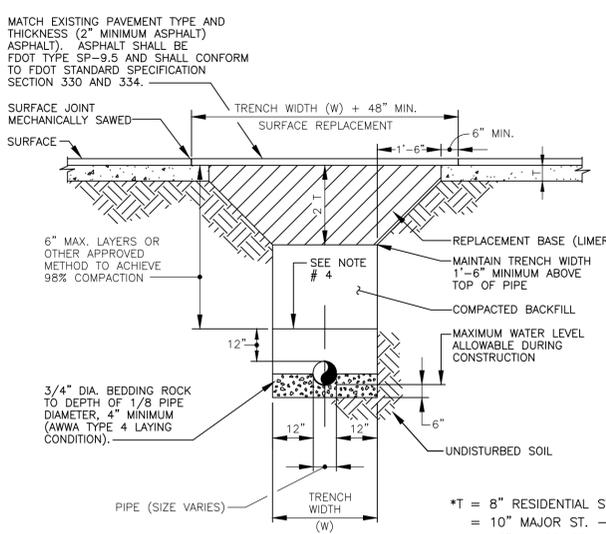
112 - TYPICAL PLACEMENT OF RPM
STANDARD DETAIL
N.T.S.

- NOTE:**
1. REFLECTIVE PAVEMENT MARKERS (RPM) SHALL BE SPACED AT 40' ON ALL SKIP LANE LINES AND SKIP CENTER LINES.
 2. ALL RPM'S SHALL BE CLASS "B"



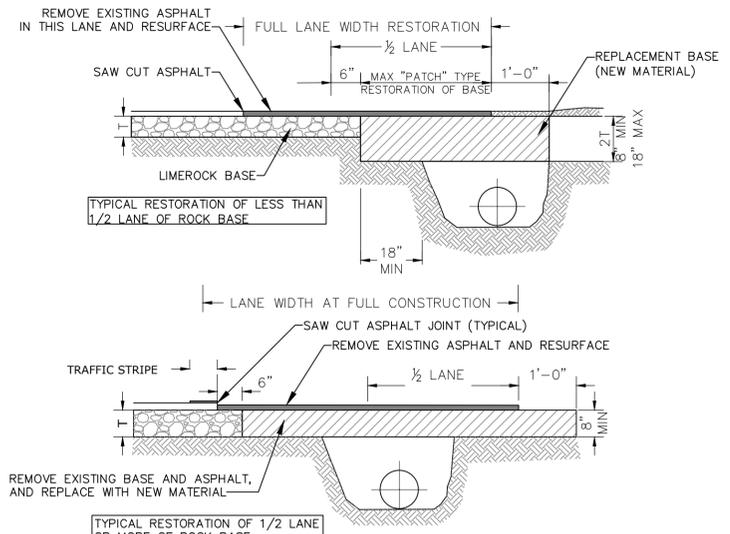
113 - REPLACEMENT OF TRENCH DETAIL
UNPAVED AREAS
STANDARD DETAIL
N.T.S.

- NOTES:**
1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
 2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
 3. COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
 4. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
 5. REMOVE UNSUITABLY SIZED STONES FOUND IN TRENCH TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF PIPE.



114 - TRENCH DETAIL
PAVED AREAS
STANDARD DETAIL
N.T.S.

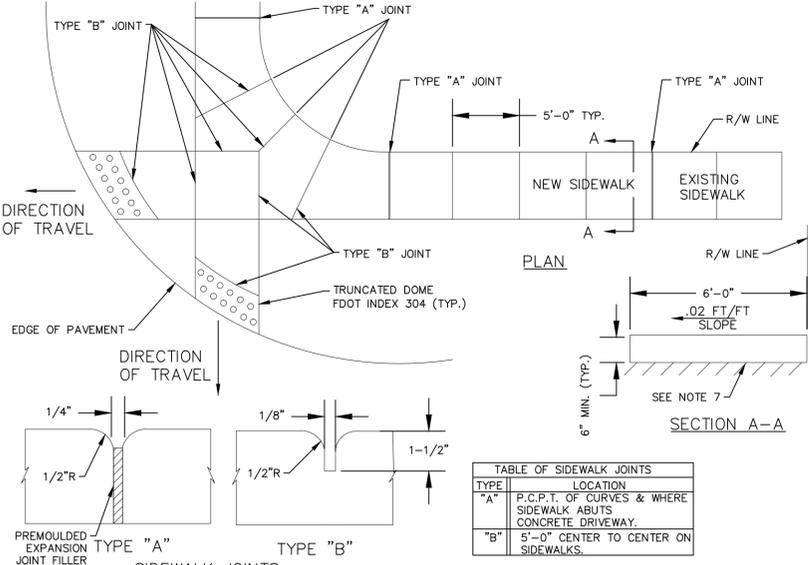
- NOTES:**
1. REPLACED BASE MATERIAL OVER TRENCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE, BUT NO LESS THAN "T" SCHEDULE.
 2. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100.
 3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
 4. MECHANICAL COMPACTION IS NOT ALLOWED BELOW THIS LEVEL.
 5. COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
 6. PERMIT REQUIRED FROM ENGINEERING TO CUT PAVEMENT.
 7. IF TRENCH IS FILLED TEMPORARILY IT SHALL BE COVERED WITH A 2" ASPHALTIC CONC. PATCH UNTIL REPLACED WITH A PERMANENT PATCH.
 8. REMOVE UNSUITABLY SIZED STONES FOUND IN TRENCH TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF PIPE.
- *T = 8" RESIDENTIAL ST.
= 10" MAJOR ST. - 4 LANES
= 12" MAJOR ST. - 6 LANES
SEE NOTE 1
MIN. "W" = 24"



115- RESTORATION OF ROADWAY CUT FOR PARALLEL UTILITY INSTALLATION
STANDARD DETAIL
N.T.S.

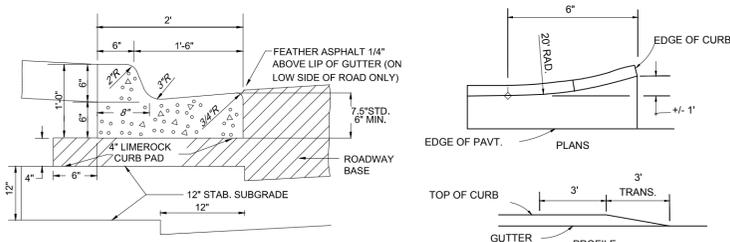
- NOTES:**
1. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 AND A MINIMUM CARBONATE CONTENT OF 70% (60% FOR LOCAL STREETS).
 2. BASE SHALL BE PLACED IN 6" MAXIMUM THICKNESS LAYERS WITH EACH LAYER COMPACTED AS REQUIRED AND TESTED PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYERS.
 3. SUBGRADE MATERIAL SHALL BE GRANULAR AND ANGULAR AND SHALL HAVE A MINIMUM LBR OF 40.
 4. BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LAYERS, BUT TESTING WILL BEGIN 12" ABOVE THE INSTALLED FACILITY.
 5. ALL EDGES OF EXISTING ASPHALT PAVEMENT THAT ABUT RESURFACING SHALL BE SAW CUT IN STRAIGHT LINES PARALLEL TO OR PERPENDICULAR TO THE ROADWAY, PRIOR TO RESURFACING.
 6. RESURFACING MATERIAL SHALL BE CONSISTENT WITH SURROUNDING SURFACE, AND SHALL BE APPLIED IN 2 LIFTS, A MINIMUM OF 3/4 INCH AND A MAXIMUM OF 2" IN THICKNESS.
 7. TRAFFIC STRIPES SHALL NOT BE PLACED DIRECTLY ON TOP OF THE JOINT
 8. FOR STATE ROADS REFER TO FDOT SPECIFICATIONS AND REQUIREMENTS.

- NOTES:**
1. CONCRETE TO BE CLASS 1, 3000 P.S.I.
 2. THE USE OF REINFORCEMENT IS NOT PERMITTED
 3. SIDEWALK SLOPES SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
 4. RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS IN ACCORDANCE WITH FDOT INDEX 304.
 5. THE VERTICAL DEVIATION FOR A NEW SIDEWALK SHALL NOT BE MORE THAN 1/2".
 6. THE VERTICAL DEVIATION FOR A NEW MAINTENANCE ACCESS STRUCTURES COVER SHALL NOT BE MORE THAN 1/4".
 7. SUBGRADE MATERIAL SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY, PER AASHTO T-99.
 8. STAMPED CONCRETE IS NOT ALLOWED IN LIEU OF TRUNCATED DOMES.
 9. SEE HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION APPROVED PRODUCT LIST FOR ACCEPTABLE MATERIALS FOR TRUNCATED DOMES.
 10. WHEN THE REMOVAL OF SIDEWALKS, CURBS OR GUTTERS IS NECESSARY FOR CONSTRUCTION, THEY SHALL BE REMOVED IN FULL SECTIONS OR A MINIMUM OF FIVE (5) FEET IN LENGTH, AND ALL BROKEN EDGES CUT STRAIGHT, CLEAN AND SMOOTH BY APPROPRIATE MEANS. IF THE ROAD PAVEMENT IS DAMAGED DURING SUCH REMOVAL, IT SHALL BE REPAIRED IN ACCORDANCE WITH CHAPTER 25, SECTION 5-6 OF THE BROWARD COUNTY HIGHWAY CONSTRUCTION & ENGINEERING DIVISION MINIMUM STANDARDS.

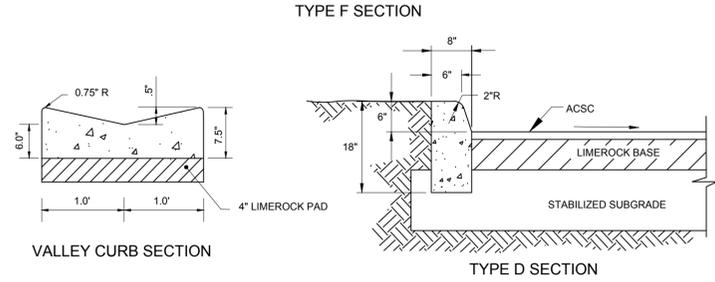


116 - SIDEWALK DETAILS
STANDARD DETAIL
N.T.S.

TYPE	LOCATION
"A"	P.C.P.T. OF CURVES & WHERE SIDEWALK ABUTS CONCRETE DRIVEWAY.
"B"	5'-0" CENTER TO CENTER ON SIDEWALKS.



NOTE: WHEN USED ON HIGH SIDE OF ROADWAYS THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT AND THE THICKNESS OF THE LIP SHALL BE 6" ONSTEAD OF 7 1/2".



117 - CURB & GUTTER RESTORATION
STANDARD DETAIL
N.T.S.

NOTE: CONCRETE STRENGTH SHALL BE MIN. 3000 P.S.I. @ 28 DAYS

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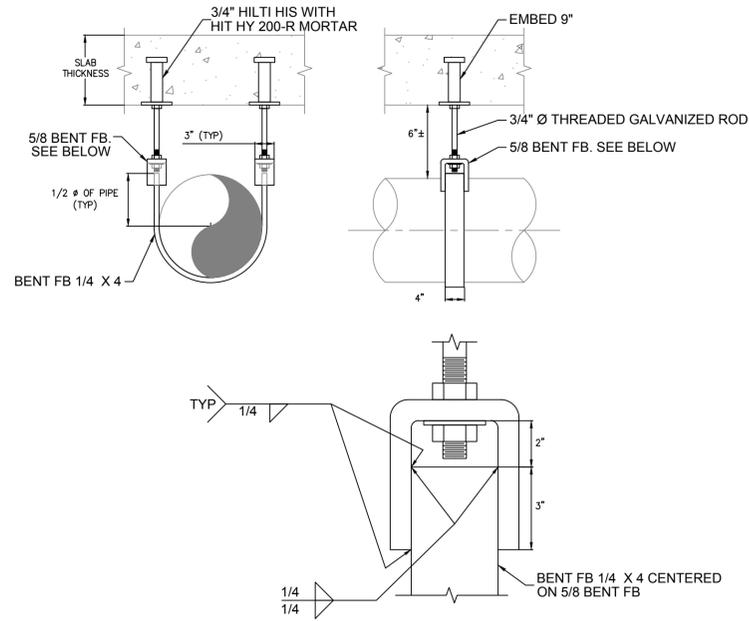
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Site 3
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201 - PIPE SUPPORTS
STANDARD DETAIL
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**Aerial Crossing Design
Site 3
Bid Set**

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1.0 CONTROL

1.A EROSION AND SEDIMENT CONTROLS

THE FOLLOWING DISCUSSION DEFINES GENERAL GUIDELINES FOR THE SEQUENCE OF CONSTRUCTION AND THE USE OF STABILIZATION AND STRUCTURAL PRACTICES. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH CHAPTER 27 ARTICLE V OF THE BROWARD COUNTY CODE OF ORDINANCES. GENERALLY, THE FOLLOWING PROVISIONS APPLY:

CLEARING AND GRUBBING: PRIOR TO CLEARING AND GRUBBING, SILT FENCING SHALL BE INSTALLED ALONG THE PERIMETER OF THE PROPOSED CONSTRUCTION LIMITS AT THE LOCATIONS WHERE WATER COULD FLOW TOWARDS THE RIGHT OF WAY LINE OR WATER BODY. THE CONTRACTOR IS REQUIRED TO MAINTAIN EROSION CONTROL DEVICES THAT WERE INSTALLED DURING THE CLEARING AND GRUBBING PHASE OF THE PROJECT. AFTER FINAL GRADING HAS BEEN CONDUCTED AT ANY NEWLY CONSTRUCTED TRENCH, PERMANENT SODDING WILL BE INSTALLED WITHIN 7 DAYS. THE ENGINEER WILL DETERMINE WHEN AREAS HAVE BEEN PERMANENTLY STABILIZED. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE SILT FENCE AND ANY OTHER TEMPORARY EROSION CONTROL DEVICES ONCE AN AREA IS PERMANENTLY STABILIZED. THE CONTRACTOR WILL BE REQUIRED TO INSTALL FILTER FABRIC UNDER THE GRATING OF EXISTING STRUCTURES UNTIL PERMANENT STABILIZATION HAS OCCURRED.

TEMPORARY EROSION CONTROL PRACTICES WILL INCLUDE TEMPORARY SANDBAGGING, SILT FENCES, ROCK BAGS, GEOHAY, AND RUBBLE RIPRAP TRAPS IN STORM INLETS.

FINAL STABILIZATION: ALL AREAS DISTURBED DURING THE CONSTRUCTION OF THE FACILITIES SHALL BE PERMANENTLY STABILIZED USING ONE OF THE FOLLOWING METHODS: ASPHALT, SODDING AND LANDSCAPING.

STRUCTURAL PRACTICES: SILT FENCES, HAY BALE DITCH CHECKS, CURBS AND GUTTERS AND STORM SEWERS WILL BE USED ALONE OR IN CONJUNCTION WITH STAKED SILT FENCE.

1.B STORM WATER MANAGEMENT

THE DRAINAGE SYSTEM IS PROVIDED BY CANALS, GRASSED SWALES, EXISTING INLETS, AND EXISTING STORM SEWERS.

1.C OTHER CONTROLS

THE CONTRACTOR MAY REVISE THIS PLAN OR ADD OTHER CONTROLS TO THE PLAN BY DOCUMENTING THEM IN THE EROSION CONTROL PLAN THAT IS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL. DURING CONSTRUCTION, OTHER CONTROLS OR SITES MAY BE NECESSARY AS DETERMINED DURING THE INSPECTION PROCESS.

(1) WASTE DISPOSAL: THE CONTRACTOR WILL PROVIDE LITTER CONTROL AND COLLECTION WITHIN THE PROJECT BOUNDARIES DURING CONSTRUCTION ACTIVITIES. ALL FERTILIZER, HYDROCARBON, OR OTHER CHEMICAL CONTAINERS SHALL BE DISPOSED OF BY THE CONTRACTOR ACCORDING TO EPA'S STANDARD PRACTICES AS DETAILED BY THE MANUFACTURER. NO SOLID MATERIALS INCLUDING BUILDING AND CONSTRUCTION MATERIALS SHALL BE DISCHARGED TO WETLANDS, TO SURFACE WATERS OR BURIED ON-SITE. THE CONTRACTOR WILL SUBMIT THIS INFORMATION TO THE ENGINEER IN THE EROSION CONTROL PLAN.

(2) OFF-SITE VEHICLE TRACKING: THE CONTRACTOR SHALL PROVIDE STABILIZED CONSTRUCTION ENTRANCES AT POINTS OF INGRESS AND EGRESS ONTO ANY ROADWAY OPEN TO PUBLIC USE WITHIN THE PROJECT AREA. THESE LOCATIONS AND THE METHOD OF STABILIZATION SHALL BE INCLUDED IN THE EROSION CONTROL PLAN TO BE SUBMITTED. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INCLUDED UNDER PAY ITEM NO. 2 MAINTENANCE OF TRAFFIC. THE CONTRACTOR SHALL ROUTINELY REMOVE EXCESS SEDIMENT FROM THE ROADWAY AND OTHER REQUIRED AREAS PROMPTLY.

(3) SAINITARY WASTE: A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR AS REQUIRED BY STATE REGULATIONS WILL COLLECT ALL SANITARY WASTE FROM THE PORTABLE UNITS. THE CONTRACTOR WILL IDENTIFY THE SANITARY WASTE MANAGEMENT CONTRACTOR IN THE EROSION CONTROL PLAN.

(4) FERTILIZERS AND PESTICIDES: FERTILIZER SHALL BE FS 0-F-241C(1), GRADE A OR B. THE CHEMICAL DESIGNATION SHALL BE 1-8-8, WITH AT LEAST 50% OF THE NITROGEN FROM A NON-WATER-SOLUBLE ORGANIC SOURCE. FERTILIZER SHALL BE APPLIED AT A RATE OF 1 POUND OF ACTUAL NITROGEN PER 1,000 SF OR PER SOD SUPPLIERS SPECIFICATIONS, WHICHEVER IS MORE STRINGENT, TWICE - ONCE AFTER INSTALLATION AND AGAIN AFTER TWO MOWINGS.

1.D PAY ITEMS FOR CONTROL METHODS

THE ABOVE LISTED TEMPORARY CONTROLS WILL BE PAID FOR UNDER THE FOLLOWING PAY ITEMS:.

SOIL TRACKING PREVENTION: INCLUDED IN MAINTENANCE OF TRAFFIC LUMP SUM
 SANDBAGGING, SODDING, INSTALLATION AND MAINTENANCE: INCLUDED IN SODDING UNIT PRICE
 ALL OTHER CONTROLS: INCLUDED IN MOBILIZATION

2.0 MAINTENANCE

THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE AND REPAIRS OF EROSION AND SEDIMENT CONTROL DEVICES AS PER CHAPTER 27 ARTICLE V OF THE BROWARD COUNTY CODE OF ORDINANCES. THE MAINTENANCE OF THESE DEVICES WILL OCCUR UNTIL THE PROJECT ENGINEER HAS DEEMED AN AREA PERMANENTLY STABILIZED. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ONCE THEY HAVE SERVED THEIR PURPOSE.

THE FOLLOWING PRACTICES WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS:

MAINTENANCE AND REPAIR REQUIRED FOR THE CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION SHALL BE INCLUDED IN THE COST MOBILIZATION.

STRUCTURAL PRACTICES CONTROLS: BUILT-UP SEDIMENT WILL BE REMOVED FROM STAKED SILT FENCES AND/OR STAKED TURBIDITY BARRIER WHEN IT REACHES ONE-THIRD THE HEIGHT OF THE BARRIER OR IN THE EVENT WATER FLOW IS IMPEDED.

TEMPORARY AND PERMANENT SEEDING/SODDING WILL BE INSPECTED AND REPAIRED FOR BARE SPOTS, WASHOUTS AND HEALTHY GROWTH AND SHOULD BE INCLUDED IN PAY ITEM FOR SODDING.

3.0 INSPECTION

THE CONTRACTOR SHALL BE REQUIRED TO CONDUCT DAILY VISUAL INSPECTIONS OF ALL TEMPORARY AND PERMANENT STABILIZATION MEASURES ALONG THE PROJECT CORRIDOR. IT IS EXPECTED THAT CONTRACTOR SHALL REPAIR AND/OR REPLACE THESE ITEMS AS NECESSARY.

THE CONTRACTOR SHALL APPOINT AN INSPECTOR TO REVIEW THE PROJECT'S TEMPORARY AND PERMANENT STABILIZATION MEASURES EVERY SEVEN CALENDAR DAYS AND/OR WITHIN 24 HOURS OF THE END OF A STORM THAT DEPOSITS 0.25 INCHES OF RAIN OR GREATER. WRITTEN DOCUMENTATION IS REQUIRED EVERY SEVEN CALENDAR DAYS OR WITHIN 24 HOURS OF THE END OF A STORM THAT DEPOSITS 0.25 INCHES OF RAIN OR GREATER. THE FDOT STORM WATER POLLUTION PREVENTION PLAN CONSTRUCTION INSPECTION REPORT (FORM # 650-040-03) SHALL BE USED TO REPORT THE INSPECTION REQUIRED EVERY SEVEN CALENDAR DAYS OR WITHIN 24 HOURS OF THE END OF A STORM THAT DEPOSITS 0.25 INCHES OF RAIN OR GREATER. THE FDOT STORM WATER POLLUTION PREVENTION PLAN CONSTRUCTION INSPECTION REPORT (FORM # 650-040-03) SHALL BE USED TO REPORT THE INSPECTION FINDINGS TO THE CONTRACTOR AS PER THE ABOVE REFERENCED SCHEDULE. IF CORRECTIVE ACTION IS NECESSARY, IT SHALL BE RECORDED ON THE INSPECTION REPORT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE THE CORRECTIONS IN A TIMELY MANNER.

THE APPOINTED INSPECTOR SHALL BE REQUIRED TO REVIEW THE FOLLOWING THINGS:

- *POINTS OF DISCHARGE TO MUNICIPAL STORM SEWER SYSTEMS
- *DISTURBED AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED
- *AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION
- *STRUCTURAL CONTROLS (I.E. SILT FENCES, TURBIDITY BARRIERS, ROCK BAGS, TEMPORARY OR PERMANENT SUMPS OR OTHER POLLUTION CONTROL STRUCTURES)
- *STORM WATER MANAGEMENT SYSTEMS
- *LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE
- *COMPLIANCE WITH THE ACCEPTED SWPPP
- *PROPER INSTALLATION OF ALL CONTROLS

WHERE SITES HAVE BEEN FINALLY STABILIZED, INSPECTIONS WILL BE CONDUCTED AT LEAST ONCE A MONTH.

THE CONTRACTOR SHALL RETAIN A COPY OF THE SWPPP AND ALL REPORTS, RECORDS, AND DOCUMENTATION REQUIRED BY THE PERMIT AT THE CONSTRUCTION SITE, OR AN APPROPRIATE ALTERNATIVE LOCATION AS SPECIFIED IN THE NOTICE OF INTENT, FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION AS DEFINED IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL RETAIN COPIES OF SWPPP AND ALL REPORTS REQUIRED BY THIS PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THE PERMIT, FOR A PERIOD OF AT LEAST THREE (3) YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED.

4.0 NON-STORM WATER DISCHARGES

IF CONTAMINATED SOIL OR GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR IS TO CEASE OPERATIONS IN THAT AREA. THE CONTRACTOR SHALL CONTACT THE ENGINEER WHO WILL NOTIFY THE BROWARD COUNTY DEPARTMENT OF PLANNING AND ENVIRONMENTAL PROTECTION - POLLUTION PREVENTION AND REMEDIATION DIVISION.

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**Stormwater Pollution
 Prevention Plan 1
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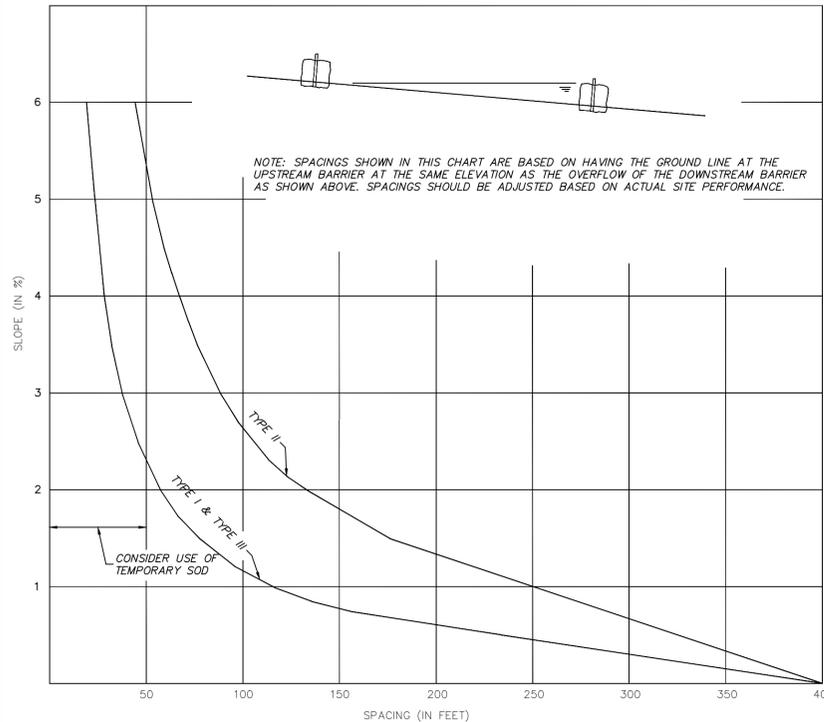
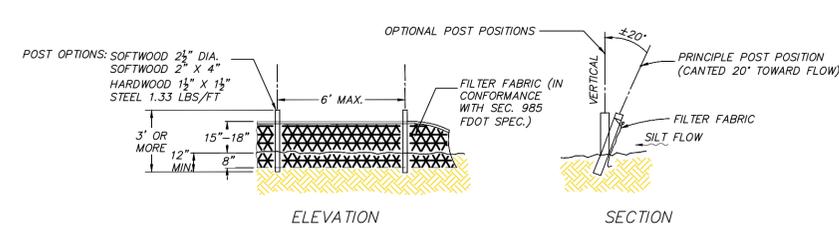
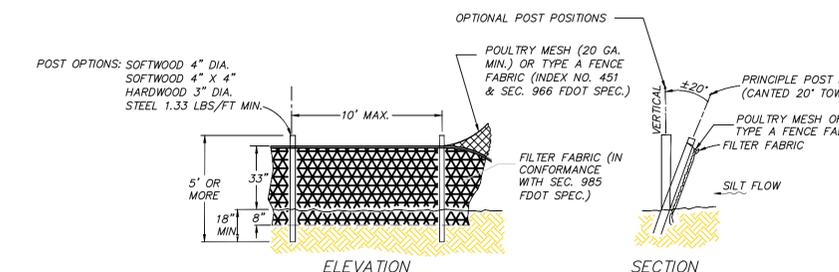


CHART I
RECOMMENDED SPACING FOR BALED HAY BARRIERS AND TYPE III SILT FENCE
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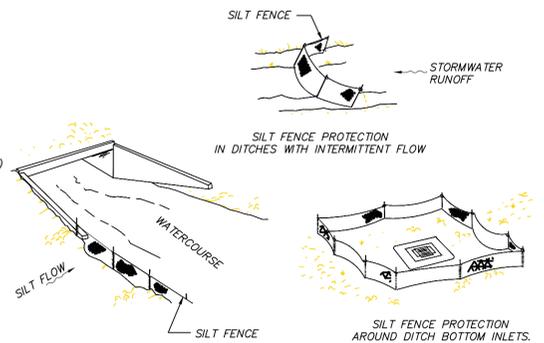


TYPE III SILT FENCE
 N.T.S.



TYPE IV SILT FENCE
 N.T.S.

- GENERAL NOTES**
- TYPE III SILT FENCE TO BE USED AT MOST LOCATIONS. WHERE USED IN DITCHES, THE SPACING FOR TYPE III SILT FENCE SHALL BE IN ACCORDANCE WITH CHART I, SHEET 1.
 - TYPE IV SILT FENCE TO BE USED WHERE LARGE SEDIMENT LOADS ARE ANTICIPATED. SUGGESTED USE IS WHERE FILL SLOPE IS 1:2 OR STEEPER AND LENGTH OF SLOPE EXCEEDS 25 FEET. AVOID USE WHERE THE DETAINED WATER MAY BACK INTO TRAVEL LANES OR OFF THE RIGHT-OF-WAY.
 - DO NOT CONSTRUCT SILT FENCES ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.
 - WHERE USED AS SLOPE PROTECTION, SILT FENCE IS TO BE CONSTRUCTED ON 0% LONGITUDINAL GRADE TO AVOID CHANNELIZING RUNOFF ALONG THE LENGTH OF THE FENCE.



SILT FENCE APPLICATIONS
 N.T.S.

SHEET FLOW APPLICATION: SILT FENCE

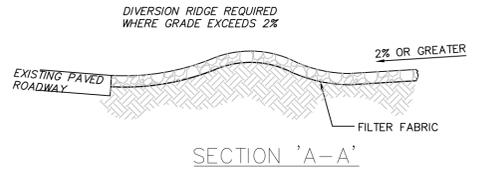
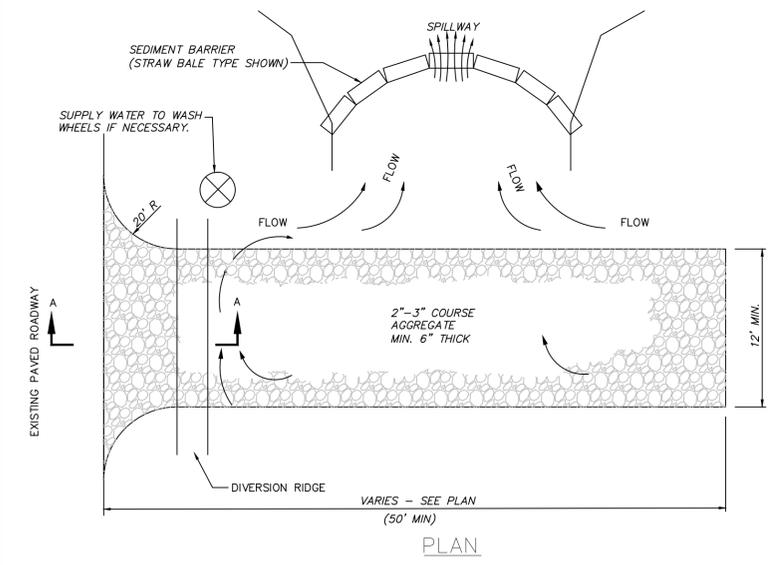
- THIS SEDIMENT BARRIER USES STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS. IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED.
- THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (90 cm). HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.
 - THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPICED AS DESCRIBED IN ITEM NO. 8 BELOW.
 - POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET (3 m) APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES (30 cm). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET (1.8 m).
 - A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES (10cm) WIDE AND 4 INCHES (10 cm) DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
 - WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH (25 mm) LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES (5 cm) AND SHALL NOT EXTEND MORE THAN 36 INCHES (90 cm) ABOVE THE ORIGINAL GROUND SURFACE.
 - THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES (20 cm) OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES (90 cm) ABOVE THE ORIGINAL GROUND SURFACE.
 - WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ITEM NO. 6 APPLYING.
 - WHEN ATTACHING TWO SILT FENCES TOGETHER, PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE. ROTATE BOTH POSTS AT LEAST 180 DEGREES ON A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FILTER FABRIC. DRIVE BOTH POSTS INTO THE GROUND AND BURY THE FLAP.
 - THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
 - THE MOST EFFECTIVE APPLICATION CONSISTS OF A DOUBLE ROW OF SILT FENCES SPACED A MINIMUM OF THREE FEET APART. THE THREE FOOT SEPARATION IS SO THAT IF THE FIRST ROW COLLAPSES IT WILL NOT FALL ON THE SECOND ROW. WIRE OR SYNTHETIC MESH MAY BE USED TO REINFORCE THE FIRST ROW.
 - WHEN USED TO CONTROL SEDIMENTS FROM A STEEP SLOPE, SILT FENCES SHOULD BE PLACED AWAY FROM THE TOE OF THE SLOPE FOR INCREASED HOLDING CAPACITY.
 - SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

CHANNEL FLOW APPLICATIONS

- IF A FILTER BARRIER IS TO BE CONSTRUCTED ACROSS A DITCH LINE OR SWALE, THE BARRIER SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE BOTTOM OF THE END SECTIONS OF THE FENCE ARE HIGHER IN ELEVATION THAN THE TOP OF THE CENTER SECTION TO ELIMINATE END FLOW. THE PLAN CONFIGURATION SHALL RESEMBLE AN ARC OR HORSESHOE WITH THE ENDS ORIENTED UPSLOPE.
- USE FDOT STANDARD INDEX 102, CHART 1 AS A GUIDE FOR SPACING.

MAINTENANCE

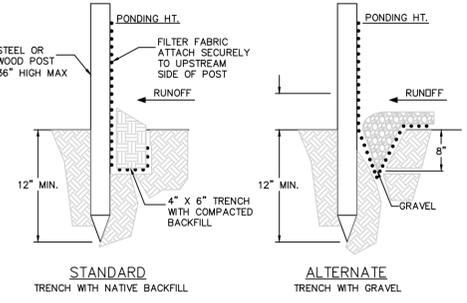
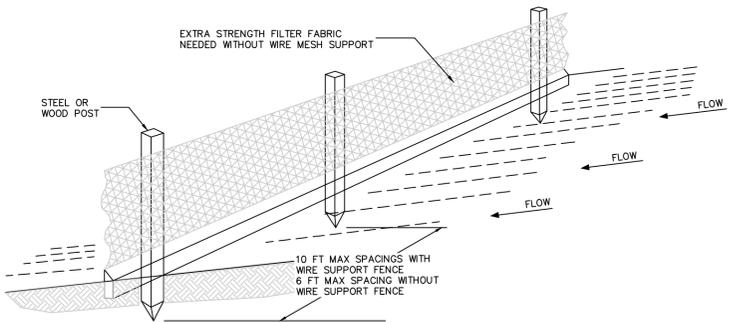
- SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE BEFORE THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.



NOTE:
 USE SANDBAGS, STRAW BALES OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.

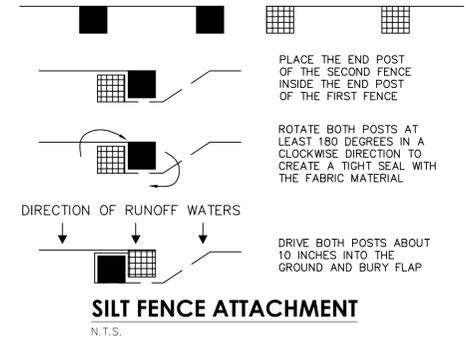
- GENERAL NOTES**
- TEMPORARY ACCESS ROADS AND PARKING AREAS:**
- TEMPORARY ROADS SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE. SLOPES SHOULD NOT EXCEED 10 PERCENT.
 - TEMPORARY PARKING AREAS SHOULD BE LOCATED ON NATURALLY FLAT AREAS TO MINIMIZE GRADING. GRADES SHOULD BE SUFFICIENT TO PROVIDE DRAINAGE BUT SHOULD NOT EXCEED 4 PERCENT.
 - ROADBEDS SHALL BE AT LEAST 14 FEET (5.5 m) WIDE FOR ONE-WAY TRAFFIC AND 20 FEET (8 m) WIDE FOR TWO-WAY TRAFFIC.
 - ALL CUTS AND FILLS SHALL HAVE SIDE SLOPES THAT ARE STABLE FOR THE PARTICULAR SOIL. SLOPES OF 2:1 OR FLATTER ARE RECOMMENDED FOR CLAY SOILS, AND SLOPES OF 3:1 OR FLATTER ARE RECOMMENDED FOR SANDY SOILS.
 - STORMWATER SYSTEM SHALL BE PROVIDED AS NEEDED AND SHALL BE DESIGNED AND CONSTRUCTED ACCORDING TO APPLICABLE REGULATIONS.
 - THE ROADBED OR PARKING SURFACE SHALL BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.
 - A 6 INCH (15 cm) COURSE OF FDOT NO. 1 AGGREGATE SHALL BE APPLIED IMMEDIATELY AFTER GRADING OR THE COMPLETION OF UTILITY INSTALLATION WITHIN THE RIGHT-OF-WAY. FILTER FABRIC MAY BE APPLIED TO THE ROADBED FOR ADDITIONAL STABILITY ACCORDING TO THE FABRIC MANUFACTURER'S SPECIFICATIONS.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
 N.T.S.

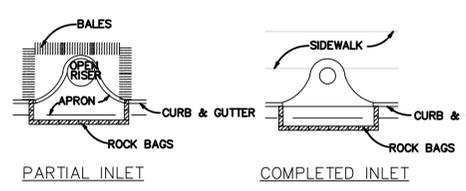


- NOTES**
- INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
 - REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
 - SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

SILT FENCE INSTALLATION
 N.T.S.

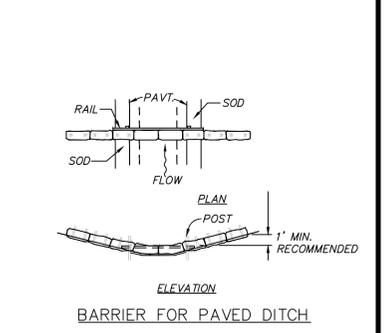


SILT FENCE ATTACHMENT
 N.T.S.

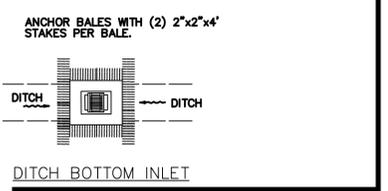


FOR ADDITIONAL INFORMATION REFERENCE FDOT INDEX 102

INLET PROTECTION
 N.T.S.



BARRIER FOR PAVED DITCH



Always call 811 two full business days before you dig



Revisions			
No.	Date	Revision	By
1			
2			
3			
4			
5			

City of Margate
 901 NW 66th Avenue
 Margate, Florida 33063

Carollo Engineers, Inc
 3440 Hollywood Boulevard, Suite 465
 Hollywood, FL 33021

Chen Moore and Associates
 500 Australian Avenue South, Suite 530 West
 Palm Beach, FL 33401

Paula A. Fonseca, P.E.
 Civil Engineer
 P.E. License No. 77711

Aerial Crossing Design
Site 3
Bid Set

Stormwater Pollution
Prevention Plan 2
Details

Date: 11/06/2015
 SWPPP - 2
 Sheet 10 of 10

AERIAL CROSSING DESIGN PHASE II

SITE 7

CITY OF MARGATE, FLORIDA

BID SET PLANS

11/06/2015

BCHCED REF # 150812101
PERMIT SET
MUST BE ON JOBSITE AT ALL
TIMES DURING CONSTRUCTION

NOTICE
INSPECTION REQUIRED
24HRS. PRIOR TO COMMENCING ANY WORK IN
THE PUBLIC RW CONTACT THE BROWARD
COUNTY HIGHWAY CONSTRUCTION AND
ENGINEERING DIVISION AT 954-577-4600
FOR INSPECTION.

NOTE:
APPROVAL OF THIS PLAN DOES NOT
CONSTITUTE A PERMIT FOR CONSTRUCTION
A PERMIT FOR CONSTRUCTION MUST BE
OBTAINED FROM THE BROWARD COUNTY
HIGHWAY CONSTRUCTION AND ENGINEERING
DIVISION PRIOR TO COMMENCING
CONSTRUCTION IN THE PUBLIC RIGHT OF WAY.

ALL MATERIALS USED AND INSTALLATIONS
WITHIN THE PUBLIC RIGHT OF WAY OR
EASEMENTS SHALL BE IN ACCORDANCE
WITH BROWARD COUNTY HIGHWAY
CONSTRUCTION AND ENGINEERING
DIVISION SPECIFICATIONS.

BROWARD COUNTY HIGHWAY CONSTRUCTION
AND ENGINEERING DIVISION

- PLAN CONSISTENT WITH PLAT
REQUIREMENTS
- PUBLIC RIGHT OF WAY APPROVAL FOR
PAVING, GRADING AND DRAINAGE

BY: _____ DATE: _____
DOES NOT INCLUDE APPROVAL
OF PAVEMENT MARKINGS & SIGNS



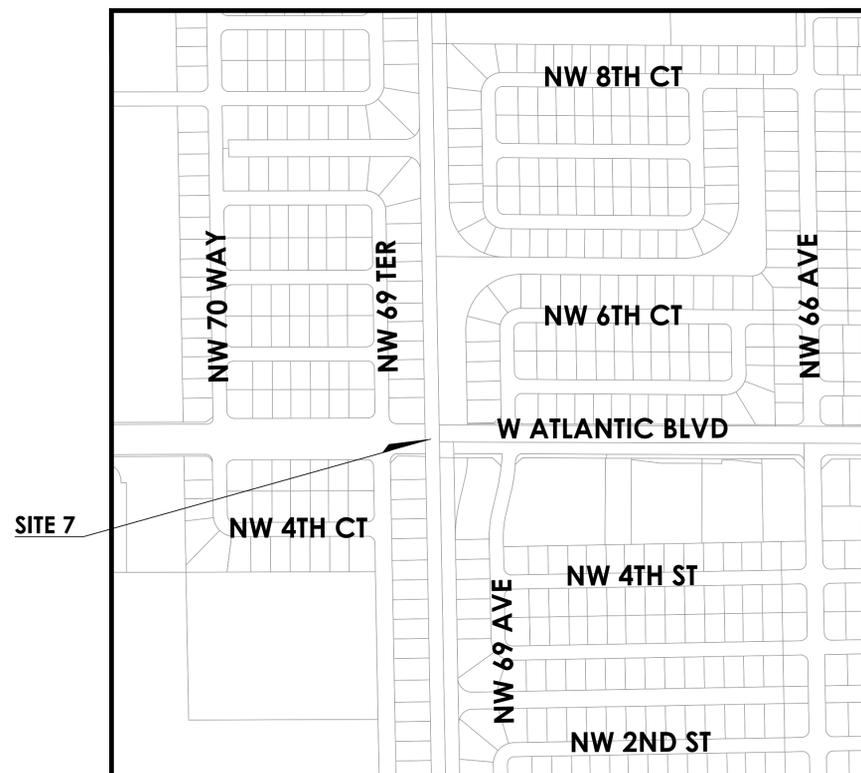
Department of Environmental
and Engineering Services
901 NW 66th Avenue, Suite A
Margate, FL 33063
(954) 972-0828

CITY COMMISSION

Tommy Ruzzano	Mayor
Arlene R. Schwartz	Vice Mayor
Anthony N. Caggiano	Commissioner
Lesa "Le" Peerman	Commissioner
Joanne Simone	Commissioner

ADMINISTRATION

Douglas E. Smith	City Manager
Eugene M. Steinfeld	City Attorney
Joseph J. Kavanagh, CMC	City Clerk
Reddy Chitepu, P.E.	Director of Environmental & Engineering Services



SECTIONS 35 & 36, TOWNSHIP 48S, RANGE 41E

LOCATION MAP

1" = 300'

INDEX OF DRAWINGS

SHT #	DWG #	DESCRIPTION
01	-	COVER SHEET
02	KEY-1	KEY PLAN
03	GN-1	GENERAL NOTES 1
04	GN-2	GENERAL NOTES 2
05	C-1	AERIAL CROSSING PLAN AND PROFILE PLAN
06	D-1	DETAILS 1
07	D-2	DETAILS 2
08	D-3	STRUCTURAL DETAILS



3440 Hollywood Boulevard, Suite 465
Hollywood, FL 33021



& ASSOCIATES

500 West Cypress Creek Road • Suite 630
Fort Lauderdale, FL • 33309
(954) 730-0707

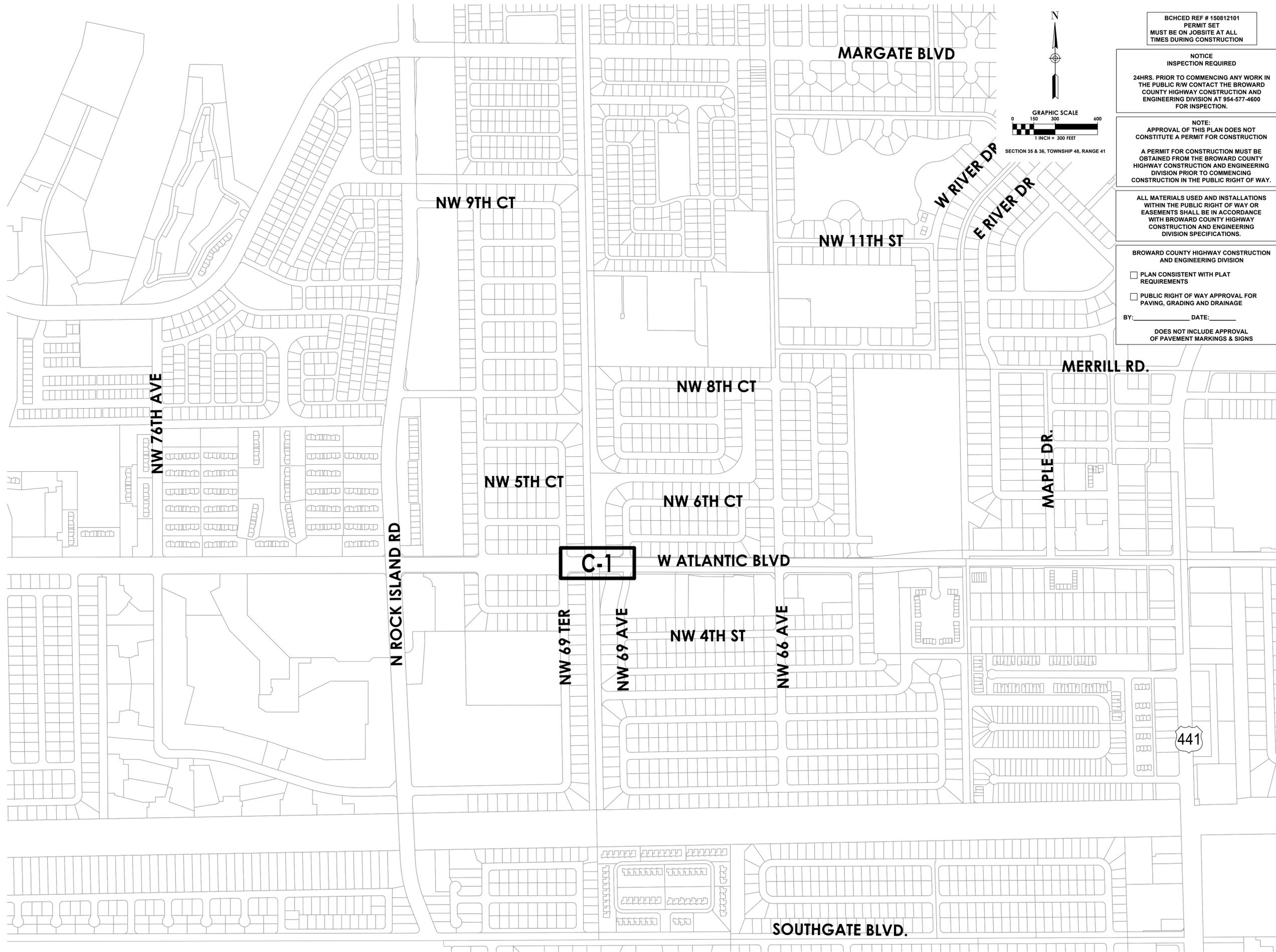
www.chenmoore.com

EB No. 0004593

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



Plot Date: 11/6/2015 2:28:31 PM Username: Pfonseca Layout Name: KEY-1
 Folder Path: V:\Projects\2015\15-138.016 - aerial crossings ph ii\Design\CAD\Site 7 plans Filename: 15-138.016 Site 7 Key Plan.dwg



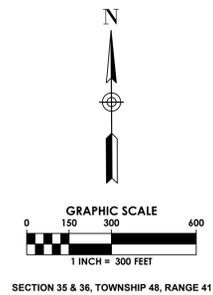
BCHCED REF # 150812101
 PERMIT SET
 MUST BE ON JOBSITE AT ALL
 TIMES DURING CONSTRUCTION

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BROWARD COUNTY HIGHWAY CONSTRUCTION
 AND ENGINEERING DIVISION
 PLAN CONSISTENT WITH PLAT
 REQUIREMENTS
 PUBLIC RIGHT OF WAY APPROVAL FOR
 PAVING, GRADING AND DRAINAGE
 BY: _____ DATE: _____
 DOES NOT INCLUDE APPROVAL
 OF PAVEMENT MARKINGS & SIGNS



GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE CITY OF MARGATE, WATER AND WASTE WATER SPECIFICATIONS.
- VERTICAL INFORMATION IS RELATIVE TO N.A.V.D. 88. HORIZONTAL INFORMATION IS RELATIVE TO STATE PLANE COORDINATES FLORIDA EAST ZONE NORTH AMERICAN DATUM 1983/1990 ADJUSTMENT.
- THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLAN ARE APPROXIMATE, ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXACT LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATION. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION AND THE LOCATIONS AND ELEVATIONS OF EXPOSED FEATURES SHALL BE CAREFULLY NOTED ON THE PROJECT RECORD "AS-BUILT" DRAWINGS. ANY AND ALL CONFLICT OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS MUST BE RESOLVED BY THE CONTRACTOR IN AN APPROVED MANNER. THE COST INVOLVED SHALL BE INCLUDED IN THE PRICE FOR ALL OTHER WORK.
- CONTRACTOR SHALL PROVIDE A FIVE (5) DAY NOTICE TO CITY AND ENGINEER PRIOR TO ANY CONSTRUCTION ACTIVITY ON SITE WHERE WATER AND/OR FORCE MAIN PIPES NEED TO BE SHUTDOWN. CONTRACTOR TO COORDINATE WITH THE CITY TO ISOLATE WATER OR SEWER MAIN.
- 48 HOURS PRIOR TO DIGGING, CONTRACTOR SHALL COORDINATE WITH ALL UNDERGROUND SERVICE COMPANIES TO VERIFY THE LOCATION OF THEIR FACILITIES. ADDITIONALLY, CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. AT 1-800-432-4770 PRIOR TO DIGGING.
- THE INFORMATION PROVIDED IN THESE PLANS IS TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT ANY INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED. CONTRACTOR IS RESPONSIBLE TO VERIFY DIMENSIONS AND FIELD CONDITIONS PRIOR TO ORDERING ANY PARTS.
- THE CONTRACTOR IS ADVISED TO USE EXTREME CAUTION WHEN CONSTRUCTION IS NEAR OR AROUND ANY ELECTRICAL FACILITIES.
- THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO ARRANGE RELOCATION AND TEMPORARY SUPPORT OF UTILITY FEATURES, ETC., AS NECESSARY TO COMPLETE THE WORK.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED.
- THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS WITH CURRENT FIELD CHANGES ACCURATELY MARKED AND SHALL DELIVER THESE PLANS TO THE ENGINEER UPON COMPLETION OF CONSTRUCTION. THE CURRENT MARKINGS SHALL BE REVIEWED WITH THE ENGINEER DAILY, OR AS NEEDED, TO ASSURE THAT THEY BOTH AGREE THAT THE MARK-UPS REFLECT THE ACTUAL "AS-BUILT" CONDITIONS. THE CONTRACTOR WILL PREPARE PROJECT RECORD DRAWINGS AT THE CONCLUSION OF THE PROJECT BASED ON THE MARK-UP DRAWINGS AND TIES.
- ANY U.S.G.S., N.G.V.D. OR STATE OF FLORIDA MONUMENT OR BENCH WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND DISTRICT LOCATION SURVEYOR.
- ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED.
- ALL EXISTING UTILITIES ARE TO REMAIN UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS ADVISED THAT PROPERTIES ADJACENT TO THE PROJECT HAVE WATER AND SEWER SERVICES WHICH MAY NOT BE SHOWN IN THE PLANS. THE CONTRACTOR MUST REQUEST THE LOCATION OF THESE LATERAL SERVICES. THE ADDITIONAL COST OF EXCAVATING, INSTALLING, BACKFILLING AND COMPACTING AROUND THESE LATERALS SERVICING SAID PROPERTIES MUST BE INCLUDED IN THE BID ITEMS.
- IF SHEETING, SHORING, DEWATERING INCLUDING WELL POINTS ARE NECESSARY AND UTILIZED, THE CONTRACTOR MUST MONITOR AND CONTROL ALL WORK THAT MAY CAUSE CRACKING TO ANY ADJACENT BUILDING AND THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY ITS OPERATIONS. THE COST OF THIS WORK WILL BE INCLUDED IN THE RELATED BID ITEM FOR THE WORK BEING DONE.
- CONTRACTOR SHALL NOTIFY PROPERTY OWNERS A MINIMUM OF FIFTEEN (15) DAYS PRIOR TO CONSTRUCTION ON THEIR STREET.
- CONTRACTOR SHALL DELIVER WRITTEN NOTIFICATION TO THE CITY, ENGINEER, AND PROPERTY OCCUPANTS OF ALL PLANNED DISRUPTION TO UTILITIES 72 HOURS IN ADVANCE OF DISRUPTION.
- THE CONTRACTOR SHALL MAINTAIN SAFE VEHICULAR ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES AND WILL MAINTAIN ACCOMMODATIONS FOR INTERSECTING AND CROSSING TRAFFIC. NO ROAD OR STREET CROSSING WILL BE BLOCKED OR UNDULY RESTRICTED AS DETERMINED BY THE ENGINEER.
- ANY PAVEMENT MARKINGS OR SIGNS THAT ARE DAMAGED SHALL BE REPAIRED OR REPLACED WITH THERMOPLAST ACCORDING TO BROWARD COUNTY SPECIFICATIONS.
- THE CONTRACTOR SHALL USE A STREET SWEEPER (USING WATER) OR OTHER EQUIPMENT CAPABLE OF CONTROLLING AND REMOVING DUST. APPROVAL OF THE USE OF SUCH EQUIPMENT IS CONTINGENT UPON ITS DEMONSTRATED ABILITY TO DO THE WORK.
- RECONSTRUCTION OF SIDEWALKS AND DRIVEWAYS SHALL MEET CITY OF MARGATE, BROWARD COUNTY, OR CITY OF COCONUT CREEK (AS APPLICABLE) MINIMUM STANDARDS.
- THE PERMIT PLAN SET MUST BE ON SITE AT ALL TIMES.
- ALL NEW ABOVE GROUND PIPE AND FITTINGS TO BE FLANGED AND COATED AS PER TECHNICAL SPECIFICATION FOR THIS PROJECT.
- ALL ACTIVITIES SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH LOCAL RULES AND LEGISLATION REGARDING POLLUTION PREVENTION FOR WATER, SOIL AND AIR. ALSO, ALL APPLICABLE RULES AND LEGISLATION REGARDING PERSONAL HEALTH AND SAFETY SHALL BE OBSERVED.
- CONTRACTOR TO PAVE OR INSTALL CONCRETE AT ITS OWN RISK IF INSTALLED WATER MAIN AND/OR FORCE MAIN HAS NOT BEEN CERTIFIED BY THE ENGINEER.
- ALL PIPE, JOINTS, VALVES, AND RELATED APPURTENANCES ARE TO BE RESTRAINED PER CONSTRUCTION DETAILS.
- WATER MAIN PIPE SHALL BE COLOR CODED IN ACCORDANCE WITH F.A.C. 62-555.320(21)(B)(3) AND FORCE MAIN SHALL BE COLOR CODED GREEN.
- EXISTING AIR RELEASE VALVE AND FAN GUARDS, INCLUDING ALL RELATED APPURTENANCES, REMOVED FROM SITE SHALL BE SALVAGED AND DELIVERED TO THE CITY OF MARGATE.
- ALL UNDERGROUND WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 30 INCHES FOR DUCTILE IRON PIPES.
- CONTRACTOR TO PROVIDE PRELIMINARY PLANS DEPICTING LOCATION OF PIPE JOINTS.
- DUCTILE IRON PIPE SHALL MEET OR EXCEED AWWA/ANSI C151/A21.51, LATEST REVISIONS. ALL ABOVE GROUND PIPE INSTALLATION IS REQUIRED TO BE FLANGED DUCTILE IRON PIPE AND SHALL CONFORM OR EXCEED AWWA/ANSI C115/A21.15, LATEST REVISION. PIPE AND FITTINGS SHALL BE CEMENT MORTAR LINED AND SEAL-COATED IN ACCORDANCE WITH ANSI/AWWA C104/A21.4.

TESTING / WATER SERVICE

- HYDROSTATIC TESTING: HYDROSTATIC TESTING OF WATER SERVICE LINES SHALL BE DONE IN CONJUNCTION WITH THE TESTING OF THE LATERAL OR MAIN LINE. NO ADDITIONAL LEAKAGE ALLOWANCE WILL BE MADE FOR SERVICE LINES.
- STERILIZATION: STERILIZATION OF SERVICE LINES SHALL BE DONE IN CONJUNCTION WITH THE STERILIZATION OF THE LATERAL OR THE MAIN LINE. SUFFICIENT SAMPLING POINTS SHALL BE TAKEN FROM SERVICE LINE CONNECTIONS TO ASSURE UNIFORM RESULTS THROUGHOUT THE SYSTEM BEING TESTED.
- ALL FIRE LINES TO BE INSTALLED AND TESTED PER N.F.P.A. 24 CODE. CONTRACTOR TO TAKE NOTE THAT PRESSURE TEST ON THIS LINE WILL BE AT 250 P.S.I., AND PIPE AND VALVES SHOULD MEET THIS REQUIREMENT.

TESTING / WATER MAIN

- WATER MAINS SHALL BE TESTED IN ACCORDANCE WITH A.N.S.I. / A.W.W.A. STANDARDS C-600-10 HYDROSTATIC TESTS SHALL BE CONDUCTED AS FOLLOWS: AFTER A NEW PRESSURE MAIN HAS BEEN LAID AND BACKFILLED, IT SHALL BE PUMPED TO A PRESSURE OF 150 P.S.I. AND SHALL NOT VARY BY MORE THAN ± 5 P.S.I. FOR THE DURATION OF THE TEST. ALL VISIBLE LEAKS SHALL BE STOPPED BY APPROVED METHODS. A LEAKAGE TEST SHALL THEN BE CONDUCTED AT THE ABOVE MENTIONED PRESSURE AND NO INSTALLATION WILL BE ACCEPTABLE BY THE ENGINEER UNTIL THE LEAKAGE IS LESS THAN THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FOLLOWING FORMULA:

$$Q = \frac{LD\sqrt{P}}{148,000} \quad \text{A.N.S.I./A.W.W.A. C600 - 10 STANDARDS}$$

IN WHICH Q EQUAL THE ALLOWABLE LEAKAGE IN GALLONS PER HOUR; L = LENGTH OF LINES IN FEET; D = DIAMETER OF LINES IN INCHES; AND P IS THE AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH. THE TEST SHALL BE MAINTAINED FOR A TWO (2) HOUR DURATION, BUT IT MAY BE CONTINUED FOR ONE (1) ADDITIONAL HOUR IF IT BECOMES APPARENT THAT THE LEAKAGE IS EQUAL TO OR GREATER THAN THE AMOUNT ALLOWABLE. WATER SUPPLIED TO THE MAIN DURING THE TEST TO MAINTAIN THE REQUIRED PRESSURE SHALL BE MEASURED BY A 5/8 INCH METER INSTALLED. ON THE DISCHARGE SIDE OF THE TEST PUMP, OR BY PUMPING FROM A CALIBRATED CONTAINER. A HOSE BIBB CONNECTION WILL BE PROVIDED TO ACCEPT THE TEST GAUGE SUPPLIED BY THE CITY OF MARGATE. THE SECTION OF THE MAIN BEING TESTED SHALL BE LIMITED TO A MAXIMUM LENGTH OF 2200 FEET, OR THE DISTANCE BETWEEN THE TWO (2) CLOSEST VALVES, WHICHEVER IS GREATER. WHEN TESTING AGAINST CLOSED METAL-SEATED VALVES, AND ADDITIONAL LEAKAGE PER CLOSED VALVE OF 0.0078 GAL/HR/IN OF NOMINAL VALVE SIZE SHALL BE ALLOWED. ANY QUESTIONS PERTAINING TO PROCEDURES USED DURING THE TEST SHALL BE DIRECTED BY THE ENGINEER.

- STERILIZATION SHALL BE PERFORMED AFTER THE WATER MAINS HAVE SATISFIED THE LEAKAGE REQUIREMENTS. THE WATER MAINS SHALL BE FLUSHED THROUGH OPENINGS OF THE REQUIRED SIZE AS DETAILED IN A.N.S.I. / A.W.W.A. STANDARD C-651-05. THE MAIN SHALL THEN BE STERILIZED IN ACCORDANCE WITH THE PROVISIONS OF THE APPLICABLE SECTIONS OF THE ABOVE NAMED SPECIFICATIONS, ON MAIN BREAKS, CUT-INS, ETC. A LIBERAL APPLICATION OF CALCIUM HYPROCHLORITE SHALL BE MADE. MAINS SHALL NOT BE PUT INTO DOMESTIC SERVICE UNTIL AFTER THE NECESSARY BACTERIOLOGICAL SAMPLES HAVE BEEN APPROVED BY THE APPLICABLE REGULATORY AGENCIES.

NOTES ON WATER - SEWER SEPARATION:

- 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 OR FORCE MAINS 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 (D.I.P.) AT THE CROSSING. SUFFICIENT LENGTHS OF D.I.P. MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN 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 CROSSING.
- ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPE CENTERED ON 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 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 PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF D.I.P. AND THE SANITARY SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF D.I.P. WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
- ALL D.I.P. SHALL BE PRESSURE CLASS 350 FOR 4" TO 24" PIPE MINIMUM, ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN.

BCHCED REF # 150812101
PERMIT SET
MUST BE ON JOBSITE AT ALL
TIMES DURING CONSTRUCTION

NOTICE
INSPECTION REQUIRED

24HRS. PRIOR TO COMMENCING ANY WORK IN THE PUBLIC R/W CONTACT THE BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION AT 954-577-4600 FOR INSPECTION.

NOTE:
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BROWARD COUNTY HIGHWAY CONSTRUCTION
AND ENGINEERING DIVISION

PLAN CONSISTENT WITH PLAT
REQUIREMENTS

PUBLIC RIGHT OF WAY APPROVAL FOR
PAVING, GRADING AND DRAINAGE

BY: _____ DATE: _____

DOES NOT INCLUDE APPROVAL
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CHEN-MOORE

& ASSOCIATES

500 West Cypress Creek Road
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954.730.0707
www.chenmoore.com

CERTIFICATES OF AUTHORIZATION
EB0004593 LC26000425

REGISTRATION

PAULA A. FONSECA, P.E.
REGISTRATION NO. 77711
DATE: _____

OWNER



CITY OF
MARGATE
Together We Make It Great

CLIENT

carollo

3440 HOLLYWOOD BOULEVARD
SUITE 465
HOLLYWOOD, FL 33021

PROJECT INFORMATION

**AERIAL
CROSSING
DESIGN PHASE II
SITE 7**

CITY OF MARGATE,
FLORIDA

PROJECT NUMBER
15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES

0 1"

IF NOT ONE INCH ON THIS SHEET,
ADJUST SCALES ACCORDINGLY

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DRAWING TITLE

GENERAL NOTES

1

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GN-1
03 OF 8

Always call 811 two full business days before you dig to
have underground utilities located and marked.
Sunshine811.com

BID SET PLANS

EXISTING CONDITIONS:

- EXISTING CONDITIONS PRESENTED ARE BASED ON A TOPOGRAPHIC SURVEY PROVIDED BY STONER & ASSOCIATES, INC., PROJECT 15-8196 ON 4/29/2015. ADDITIONAL INFORMATION WAS OBTAINED FROM AS-BUILTS AND RECORD DRAWINGS PROVIDED BY UTILITY COMPANIES, G.I.S. INFORMATION AND FIELD VISITS.
- BOUNDARY LINES AND RIGHT-OF-WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE BASED ON PLATS AND/OR RIGHT-OF-WAY MAPS OF RECORD. THIS SKETCH OF SURVEY DOES NOT REPRESENT A SURVEY OF THE BOUNDARY OR RIGHT OF WAY LINES.
- CONTRACTOR IS TO PROTECT ALL EXISTING TREES, SIGNS, AND ABOVE GROUND UTILITIES NOT IMPACTED BY THIS PLAN.
- COORDINATES SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATES, EAST ZONE, NORTH AMERICAN DATUM (NAD) OF 1983(90). CONTROL POINTS COORDINATES WERE ESTABLISHED BY GLOBAL POSITIONING SYSTEM - REAL TIME KINEMATICS METHOD OBSERVATIONS, HAVING AS POINT OF ORIGIN THE EASTERN BROWARD COUNTY HORIZONTAL GPS COUNTY NETWORK CONTROL POINTS:
 - A10, A PK NAIL AND WASHER STAMPED "BCED GPS A10". N: 700828.192; E: 917824.876
 - A11, A PK NAIL AND WASHER STAMPED "BCED GPS A11". N: 697701.630; E: 917881.545
 - A15, A PK NAIL AND WASHER STAMPED "BCED GPS A15". N: 690247.865; E: 916894.500
 - C13, A RAILROAD SPIKE WITH PUNCH HOLE. N: 693007.020; E: 923680.821
- THE ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88) ESTABLISHED FROM BROWARD COUNTY ENGINEERING DEPARTMENT BENCHMARKS:
 - BM 1569. "X" CUT ON THE NORTHWEST CORNER OF A BUILDING SLAB OF CUMBERLAND FARMS STORE AT 6900 WEST ATLANTIC BOULEVARD, ELEVATION: 12.974' (N.A.V.D. 88)
 - BM 2740. S.B.C. STAMPED BM# 150 AT CENTER OF NORTH CONCRETE WALL OF BRIDGE, SUNSHINE WAY, BETWEEN SUNSHINE DRIVE AND LAKE DRIVE. ELEVATION=15.976' (N.A.V.D. 88)
 - BM 3008."X" CUT IN THE NORTH EDGE OF THE SOUTHERN BELL MANHOLE ON THE WEST SIDE OF STATE ROAD 7, AT THE END OF COCONUT CREEK PARKWAY, ELEVATION: 11.769' (N.A.V.D. 88)
 - BM 3063. "X" CUT IN THE SOUTH EDGE OF THE SIDEWALK ON THE NORTH SIDE OF THE MARGATE BRIDGE WEST OF N.W. 69th AVENUE. ELEVATION=14.463' (N.A.V.D. 88)
- HEDGES, GROUND COVER, OTHER LANDSCAPE FEATURES, AND IRRIGATION FEATURES, SUCH AS SPRINKLERS, ARE NOT SHOWN HEREON, UNLESS OTHERWISE NOTED.

BROWARD COUNTY TRAFFIC ENGINEERING DIVISION COMMUNICATIONS NOTES

- THE AGENCY RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC SIGNALS AND RELATED EQUIPMENT IS BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (BCTED). ALL SYSTEM COMMUNICATIONS EQUIPMENT, CABLING AND RELATED MATERIAL SHALL COMPLY WITH BROWARD COUNTY'S LATEST EDITION OF THE MINIMUM STANDARDS AS EXPRESSED IN THE "STANDARDS AND SPECIFICATIONS - COMMUNICATIONS INFRASTRUCTURE" DOCUMENT. PLEASE REFER TO (BCTED's) COMMUNICATIONS POLICIES AND PROCEDURES FOR ADDITIONAL INFORMATION. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION WILL NOT ACCEPT ANY PROJECTS THAT DO NOT MEET THESE STANDARDS AND SPECIFICATIONS. IF FIBER OPTIC PULL BOXES ALREADY EXIST AT AN INTERSECTION, NO ADDITIONAL FIBER OPTIC PULL BOXES WILL NEED TO BE INSTALLED. FOR A COPY OF THESE STANDARDS REFER TO THE BROWARD COUNTY WEB SITE AT WWW.BROWARD.ORG/TRAFFIC UNDER PUBLICATIONS.
- IF THERE ARE COPPER INTERCONNECT CABLE/S WITHIN YOUR PROJECT LIMITS OR WITHIN 1,500 FEET OF YOUR PROJECT LIMITS, CONTACT THE COMMUNICATIONS SUPERVISOR AT TECOMMUNICATIONS@BROWARD.ORG OR 954-847-2761.
- IF THERE ARE FIBER OPTIC CABLE/S WITHIN YOU PROJECT LIMITS OR WITHIN 1,500 FEET OF YOUR PROJECT LIMITS, CONTACT THE COMMUNICATIONS MANAGER AT TECOMMUNICATIONS@BROWARD.ORG OR 954-847-2745.
- IF THERE ARE CELLULAR COMMUNICATIONS WITHIN YOUR PROJECT LIMITS, CONTACT THE COMMUNICATIONS MANAGER AT TECOMMUNICATIONS@BROWARD.ORG OR 954-847-2745.
- ALL BCTED COMMUNICATIONS CABLES/CONDUIT SHALL BE LOCATED A MINIMUM OF 48 HOURS IN ADVANCE.
- COOPER INTERCONNECT CABLE NOTIFICATION CONTACT PERSON:
 WHEN COMMUNICATIONS TO AN INTERSECTION MUST BE DISRUPTED BY A CONTRACTOR TO PERFORM WORK, THE CONTRACTOR SHALL PROVIDE TWO DAY ADVANCE NOTICE IN WRITING TO THE BROWARD COUNTY TRAFFIC ENGINEERING DIVISION. THIS NOTIFICATION SHALL BE CONVEYED VIA ELECTRONIC MAIL (EMAIL) TO THE TRAFFIC SIGNAL TECHNICIAN III AT TECOMMUNICATIONS@BROWARD.ORG. NOTIFICATION SHALL INCLUDE CONTACT PERSON, TELEPHONE NUMBER, PURPOSE, LOCATION AND DURATION. THE DISRUPTION SHALL LAST FOR NO MORE THAN 3 CONSECUTIVE BUSINESS DAYS. WHERE POSSIBLE, THE DISRUPTION SHALL BE DURING OFF PEAK HOURS BEGINNING AT 9:00 AM AND ENDING AT 3:00 PM.
- FIBER OPTIC CABLE NOTIFICATION CONTACT PERSON:
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- INCLUDE THE FOLLOWING IN ANY NOTICE OF UTILITY OWNERSHIP OR WITHIN A "UTILITY OWNERS/CONTACT PERSON" TABLE:
 - COPPER INTERCONNECT CABLE - (TIM MILLER) BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (BCTED) 954-847-2761
 - FIBER OPTIC CABLE - (ROBERT BLOUNT) BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (BCTED) 954-847-2745

MAINTENANCE OF TRAFFIC SCHOOL/PEDESTRIAN

- PROVIDE AT LEAST ONE SAFE, WALKABLE PATH THROUGHOUT THE CONSTRUCTION ZONE. IF THE EXISTING CURRENT WALKING SURFACES CANNOT BE MAINTAINED, THEN A TEMPORARY PATH, A MINIMUM OF 4 FOOT WIDE, SHALL BE PROVIDED AND DELINEATED. TEMPORARY PATHS SHALL BE DELINEATED BY A 4 FOOT HIGH ORANGE CONSTRUCTION FENCE FOR THE ENTIRE LENGTH OF THE TEMPORARY WALK PATH. THE PATH SHALL MEET ALL ADA REQUIREMENTS. THE CONTRACTOR SHALL ALSO INSTALL OR MODIFY ANY ADDITIONAL PAVEMENT, SIGNING, MARKINGS OR PEDESTRIAN SIGNALS AS NEEDED IN CONJUNCTION WITH THE TEMPORARY PATH.
- ON DAYS THAT SCHOOL IS IN SESSION, THE CONTRACTOR'S WORK SCHEDULE WITHIN THE SCHOOL ZONE MAY BE REDUCED BASED ON ACTUAL WORK ACTIVITIES IN THE SCHOOL ZONE. SEE MAINTENANCE OF TRAFFIC PLANS FOR DETAILS ON THE WORK ZONE RESTRICTIONS, IF WARRANTED. ANY CHANGES IN THE MAINTENANCE OF TRAFFIC WORK SCHEDULES WITHIN SCHOOL ZONES SHOULD BE DISCUSSED DURING THE MANDATORY RECONSTRUCTION - SCHOOL SAFETY MEETING.
- ALL WORK REQUIRED AT DESIGNATED SCHOOL CROSSINGS AND PEDESTRIAN CROSSINGS SHALL BE RESTORED TO A SAFE WALKABLE PATH BETWEEN THE HOURS NOTED IN No. 2 ABOVE.
- THIRTY (30) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE SPECIAL PROJECTS COORDINATOR AT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2671, TO ARRANGE A PRE-CONSTRUCTION - SCHOOL SAFETY MEETING.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE BROWARD COUNTY SCHOOL BOARD PUPIL TRANSPORTATION DEPARTMENT TO ARRANGE A PRE-CONSTRUCTION SCHOOL BUS ROUTE MEETING AT THE FOLLOWING:

5.1. RUTH MASTERS	ROUTING	(754) 321-4400 EXT. # 2309
	RUTH.MASTERS@BROWARD.SCHOOLS.COM	
5.2. VINCENT HARRELL	STUDENT TRANSPORTATION & FLEET SERVICE	(754) 321-4472
	VINVENT.HARRELL@BROWARDSCHOOLS.COM	
5.3. MARY TOCHTERMANN	STUDENT TRANSPORTATION & FLEET SERVICE	(754) 321-4400 EXT. # 2006
	MARY.TOCHTERMANN@BROWARDSCHOOLS.COM	

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- PLAN CONSISTENT WITH PLAT REQUIREMENTS
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BY: _____ DATE: _____

DOES NOT INCLUDE APPROVAL OF PAVEMENT MARKINGS & SIGNS



CERTIFICATES OF AUTHORIZATION
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REGISTRATION
 PAULA A. FONSECA, P.E.
 REGISTRATION NO. 77711
 DATE: _____

OWNER



CLIENT



PROJECT INFORMATION

AERIAL CROSSING DESIGN PHASE II SITE 7

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
 15-138.016

CLIENT PROJECT NUMBER

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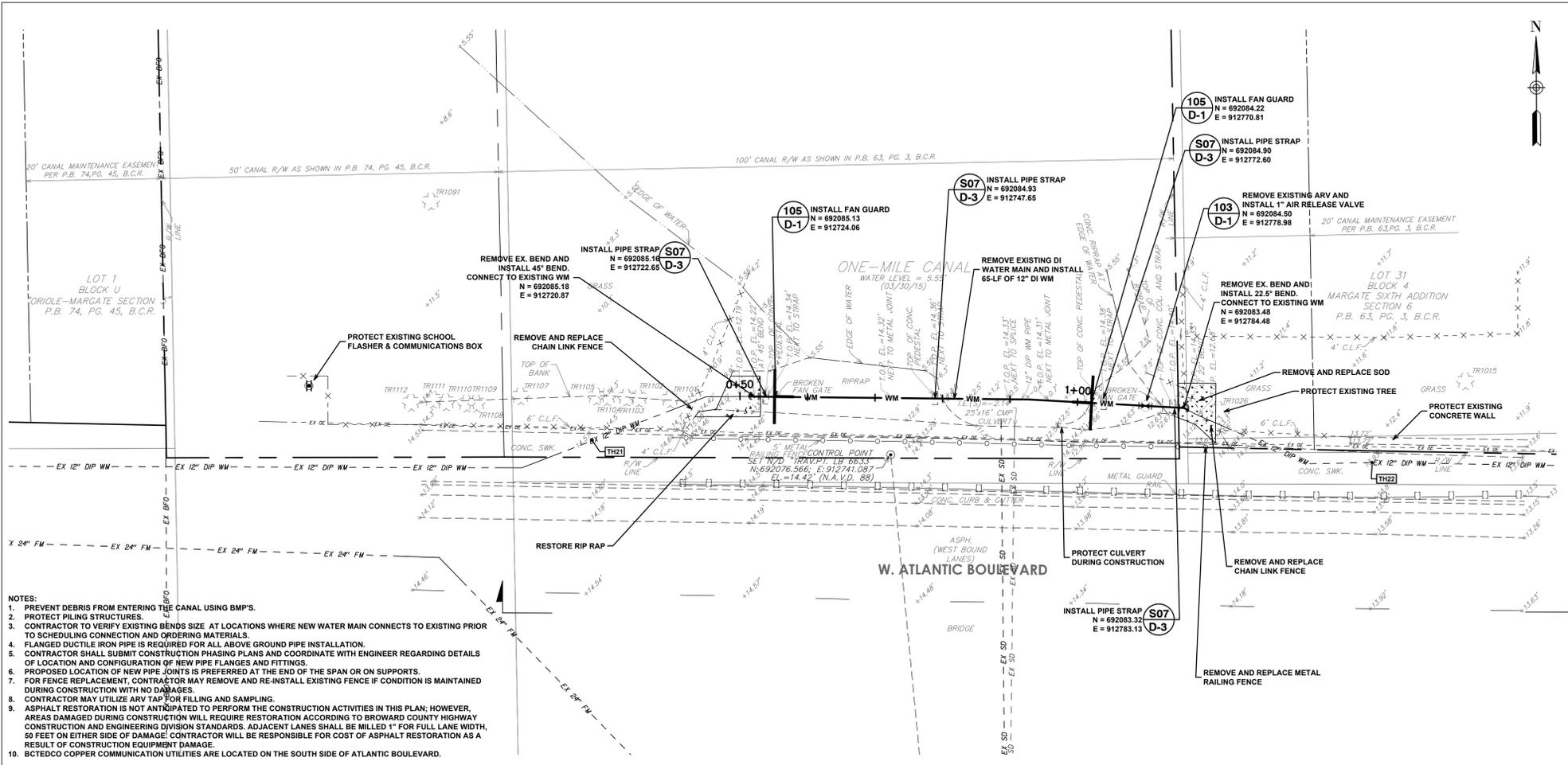
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GENERAL NOTES
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DRAWING NUMBER
GN-2
 04 OF 8



Plot Date: 11/6/2015 2:29:42 PM Username: Pfonseca Layout Name: C-1
 Folder Path: V:\Projects\2015\15-138.016 - aerial crossings\ph ii\Design\CAD\site 7 plans
 Filename: 15-138.016 Site 7 Aerial Crossing Plan and Profile.dwg



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PLAN CONSISTENT WITH PLAT REQUIREMENTS

PUBLIC RIGHT OF WAY APPROVAL FOR PAVING, GRADING AND DRAINAGE

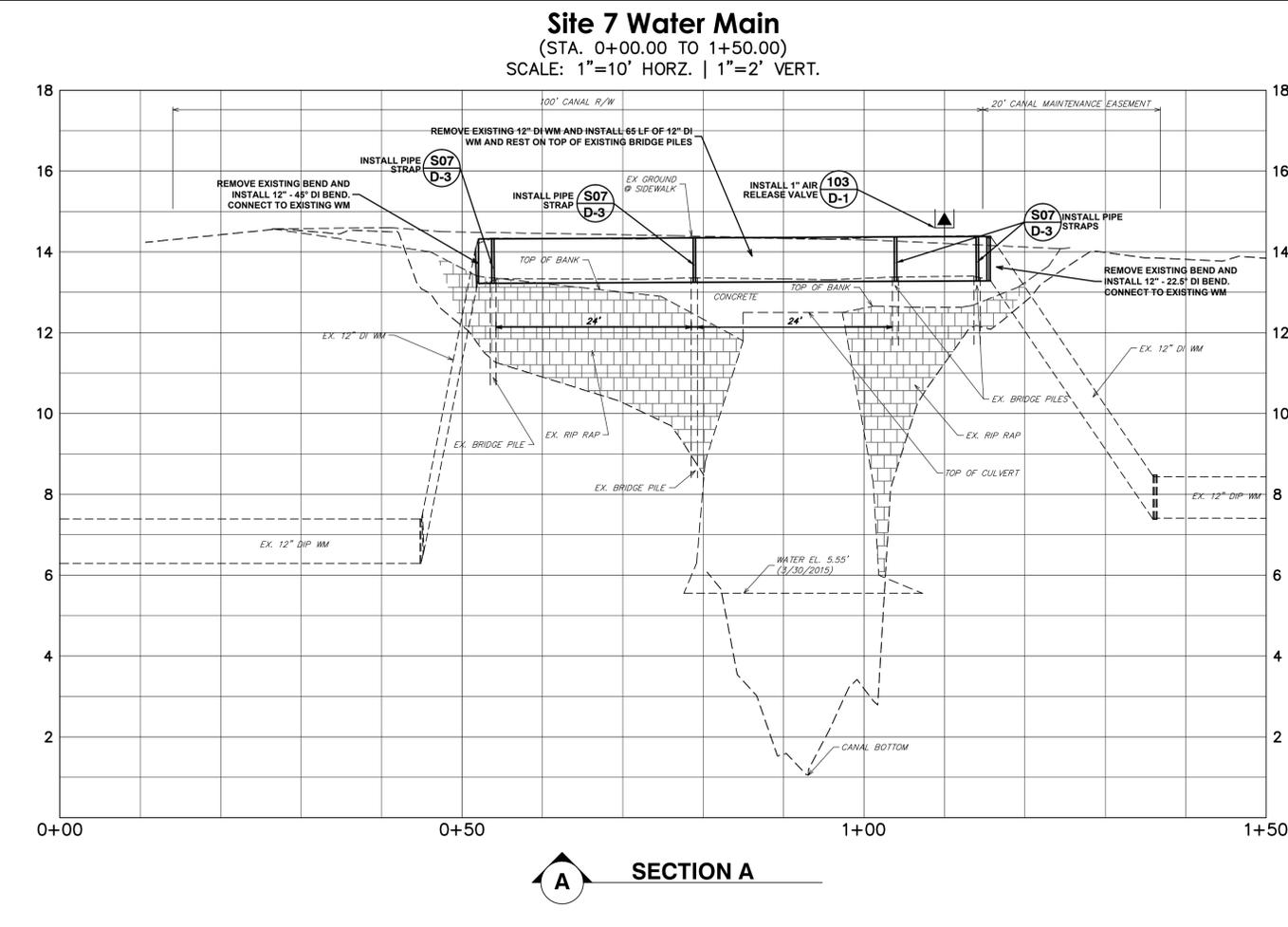
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LEGEND:

- ANCHOR
- AIR RELEASE VALVE
- BACK FLOW PREVENTER
- CATCH BASIN
- CONCRETE LIGHT POLE
- CONCRETE POST
- SANITARY SEWER MANHOLE
- SIGN ON POST
- STORM DRAINAGE MANHOLE
- WATER VALVE
- SPOT ELEVATION
- TREE No. 201 (SEE TREE TABLE)
- TREE No. 203 (SEE TREE TABLE)
- TREE No. 204 (SEE TREE TABLE)
- SCHOOL FLASHER
- TEST HOLE NUMBER AND LOCATION
- PROP. CONCRETE AND/OR RIPRAP
- PROP. SOD
- CENTER LINE
- RIGHT-OF-WAY LINE
- PROPERTY LINE
- EASEMENT LINE
- OVERHEAD ELECTRIC LINES
- STORM DRAINAGE PIPES
- SANITARY SEWER PIPES
- GAS LINES
- EX. FENCE
- EX. FORCE MAIN
- EX. DRAINAGE
- EX. WATER MAIN
- PROPOSED WATER MAIN

201 DETAIL CALL-OUT
24 SHEET NUMBER



SUMMARY OF VERIFIED UTILITIES

TH#	TYPE OF UTILITY	SIZE & MATERIAL	UTILITY DIRECTION	COVER	NOTES
21	WATER	SEE NOTE / DUCTILE IRON	E/W	7.27	UNABLE TO OBTAIN SIZE DUE TO SOIL CONDITION ENCOUNTERED IN TEST HOLE. PLANS INDICATE A 12" WATER AT THIS LOCATION. CHS "X" SET OVER TOP OF UTILITY.
22	WATER	12" DUCTILE IRON	E/W	5.45	TEST HOLE EXCAVATED AT REQUESTED LOCATION AND REVEALED A PROTECTIVE CONCRETE OVER UTILITY WITH COVER = 4.42'. TEST HOLE MOVED 15' EAST OF REQUESTED LOCATION.

TREE TABLE

TREE ID#	DESCRIPTION	TRUNK DBH
1015	MANGO	24"
1026	UNKNOWN	36"
1091	UNKNOWN	20"
1101	FICUS	24"
1102	FICUS	12"
1103	FICUS	12"
1104	FICUS	24"
1105	FICUS	12"
1107	BOUGAINVILLEA	24"
1108	FICUS	8"
1109	FICUS	8"
1110	FICUS	8"
1111	FICUS	8"
1112	FICUS	8"

ABBREVIATIONS:

- AC ASBESTOS-CEMENT
- ARV AIR RELEASE VALVE
- ASPH. ASPHALT
- B.C.R. BROWARD COUNTY RECORDS
- B.O.P. BOTTOM OF PIPE
- CI CAST IRON
- C CENTERLINE
- C.L.F. CHAIN LINK FENCE
- CMP CORRUGATED METAL PIPE
- COL. COLUMN
- CONC. CONCRETE
- DIP. DUCTILE IRON PIPE
- DWY. DRIVEWAY
- E. EASTING COORDINATES
- EL. ELEVATION
- FM. FORCE MAIN
- HUB & TACK TEST HOLE MARKER
- I.E. INVERT ELEVATION
- IRC. IRON ROD AND CAP
- LB. LICENSED BUSINESS
- M.H. MANHOLE
- N. NORTHING COORDINATES
- N.A.V.D. 88 NORTH AMERICAN VERTICAL DATUM OF 1988
- N/D. NAIL AND DISC
- P.B. PLAT BOOK
- PG. PAGE
- PK. PK NAIL TEST HOLE MARKER
- PRD. POLLUTANT RETARDANT DEVICE (BAFFLE)
- RCP. REINFORCED CONCRETE PIPE
- PVRS. PAVERS
- R.E. RIM ELEVATION
- R/W. RIGHT-OF-WAY
- SAN. SANITARY
- STRUCT. STRUCTURE
- SPK. SPIKE TEST HOLE MARKER
- STL. PIN STEEL PIN TEST HOLE MARKER
- SWK. SIDEWALK
- T.O.P. TOP OF PIPE
- WM. WATER MAIN

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carollo
 3440 HOLLYWOOD BOULEVARD
 SUITE 465
 HOLLYWOOD, FL 33021

PROJECT INFORMATION

AERIAL CROSSING DESIGN PHASE II SITE 7

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
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AERIAL CROSSING PLAN AND PROFILE PLAN

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BID SET PLANS

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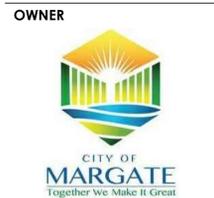
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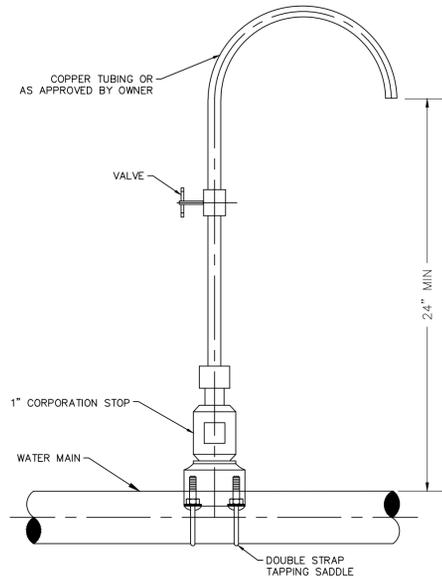
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DETAILS 1

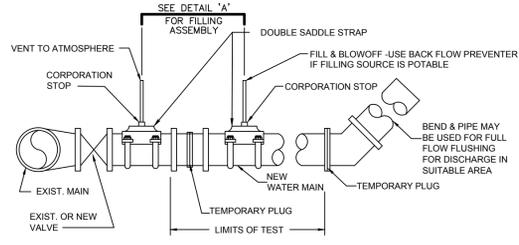
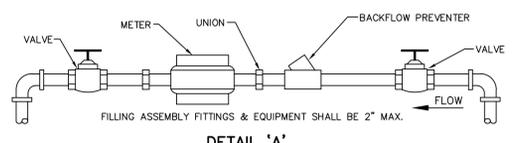
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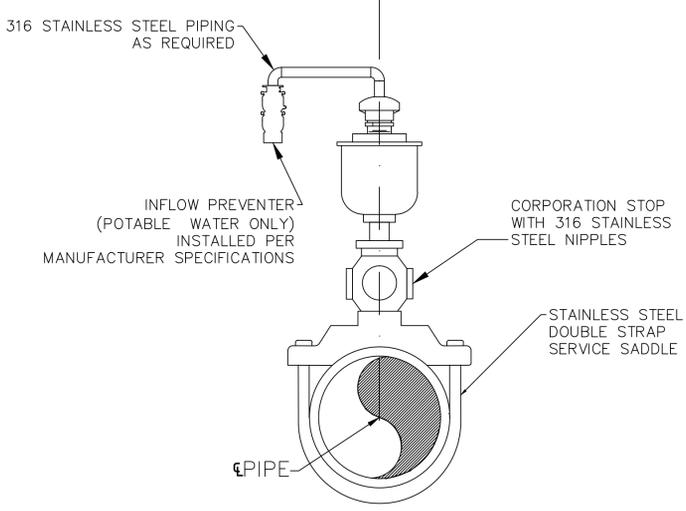
- NOTES:**
- SAMPLE POINTS SHALL BE LOCATED AND LATER REMOVED AS REQUIRED BY BROWARD COUNTY HEALTH DEPARTMENT.
 - CORPORATION STOP SHALL BE UTILIZED FOR AIR RELEASE VALVE ASSEMBLY AFTER HEALTH DEPARTMENT CLEARANCE.

101 SAMPLING POINT
 N.T.S.



- NOTES:**
- TEMPORARY CONNECTION ON THE NEW MAIN SHALL BE AT THE PROPOSED AIR RELIEF VALVE TAP LOCATION, OTHERWISE REMOVE TEMPORARY CONNECTION AT CORPORATION STOPS ON NEW MAIN AFTER FILLING AND FLUSHING HAS BEEN COMPLETED.
 - COMPLY WITH ALL H.R.S. BROWARD COUNTY PUBLIC HEALTH UNIT REGULATIONS.
 - PROVIDE ALL NECESSARY THRUST BLOCKS OR OTHER RESTRAINTS.
 - INJECT CHLORINE ON PROJECT SIDE OF BACKFLOW PREVENTER (POTABLE WATER MAINS ONLY).
 - FILLING & FLUSHING LOCATION SHALL BE DETERMINED BY THE CONTRACTOR, ENGINEER AND THE CITY.

102 FILLING AND FLUSHING CONNECTION
 N.T.S.



- NOTES:**
- FOR ALL INSTALLATIONS UP TO & INCLUDING 2", PIPE MATERIAL SHALL BE STAINLESS STEEL ABOVE GROUND. FOR LARGER INSTALLATIONS THE DESIGN SHALL BE ON A CASE BY CASE BASIS.
 - CONTRACTOR SHALL FIELD VERIFY EACH LOCATION WHERE NEW AIR RELEASE VALVES ARE TO BE INSTALLED AND SUBMIT SITE SPECIFIC SHOP DRAWINGS WITH MANUFACTURER DETAILS DEMONSTRATING CONFORMANCE TO THE REQUIREMENTS ALONG WITH A BASIC DIMENSIONAL SKETCH OF PROPOSED INSTALLATION, GEOMETRY AND LOCATION FOR ENGINEER APPROVAL.

103 AIR RELEASE VALVE ASSEMBLY ON TOP OF PIPE
 N.T.S.

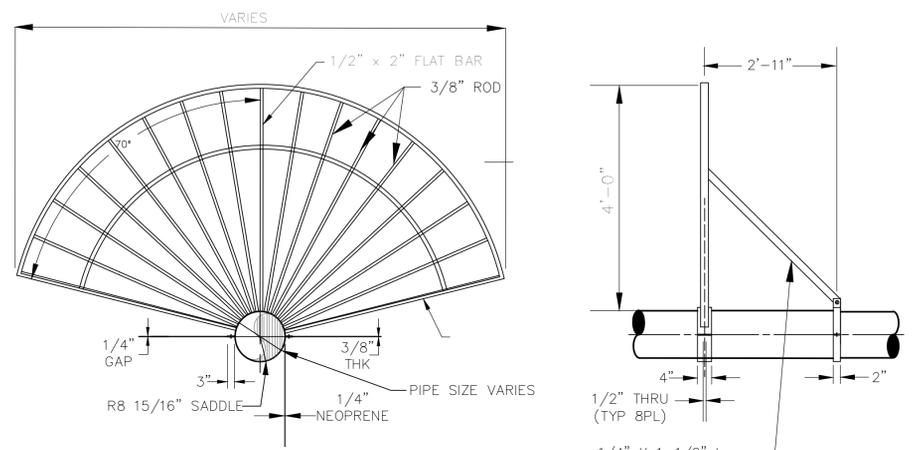
LAYING CONDITION: TYPE 4 (PIPE BEDDED IN SAND, GRAVEL, OR CRUSHED STONE TO THE DEPTH OF 1/8" PIPE DIAMETER, 4 INCHES MINIMUM. BACKFILL COMPACTED TO TOP OF PIPE).
 DEPTH OF COVER: 2.5 FEET
 WORKING PRESSURE: 150 P.S.I.
 SOIL BEARING: 2,000 P.S.F. AGAINST UNDISTURBED SOIL.

PIPE DIA. (IN.)	11.25d (FT)	22.5d (FT)	45d (FT)	90d (FT)	DEAD END (FT)	TEE (FT)	45d VERT. BEND (FT)	22d VERT. BEND (FT)
6	5	9	16	31	60	35	20	12
8	6	11	20	42	80	50	25	14
10	7	14	24	52	100	60	26	18
12	8	16	28	63	120	65	30	20
14	10	18	32	73	130	80	35	23
16	11	20	35	84	140	90	40	26
18	12	22	39	94	150	100	45	28
20	13	24	42	105	180	120	55	32
24	14	27	49	126	220	150	65	35

NOTE THAT IN ACTUAL INSTALLATIONS, THE RESTRAINED LENGTH WILL BE IN MULTIPLES OF LENGTH OF ONE PIECE OF PIPE (NORMALLY 18 TO 20 FEET). THUS, FOR EXAMPLE, IF THE RESTRAINED LENGTH FOR 6 INCH PIPE LEADING UP TO A 90 DEGREE BEND IS 30 FEET, TWO FULL LENGTHS OF RESTRAINED PIPE WILL RESULT IN 36 TO 40 FEET OF RESTRAINT, PROVIDING AN ADDITIONAL SAFETY FACTOR. WHERE SHORT CONNECTING PIECES ARE NEEDED TO POSITION FITTINGS, THEY SHOULD, WHEN POSSIBLE, BE PLACED OUTSIDE THE RESTRAINED SECTION FOR MAXIMUM ECONOMY.

THE ABOVE SCHEDULE IS ONLY A GUIDELINE. THE CONTRACTOR MUST VERIFY AND REVISE CALCULATIONS TO MEET INSTALLATION REQUIREMENTS.

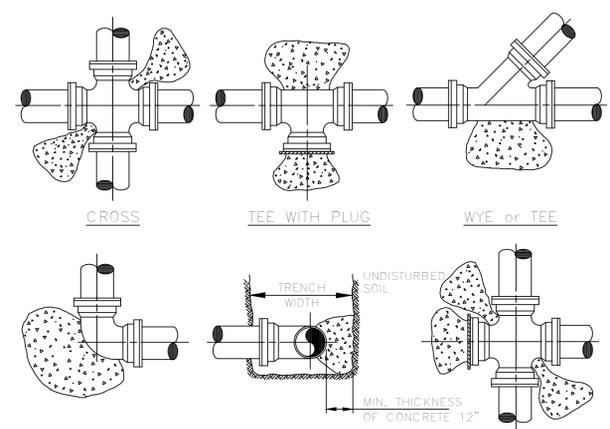
104 RESTRAINED PIPE JOINT SCHEDULE
 N.T.S.



- NOTES:**
- MATERIAL: CARBON STEEL, HOT DIPPED GALVANIZED.
 - CONTRACTOR SHALL FIELD VERIFY EACH LOCATION WHERE NEW FAN GUARDS ARE TO BE INSTALLED AND SUBMIT SITE SPECIFIC SHOP DRAWINGS WITH MANUFACTURER DETAILS DEMONSTRATING CONFORMANCE TO THE REQUIREMENTS ALONG WITH A BASIC DIMENSIONAL SKETCH OF PROPOSED INSTALLATION GEOMETRY AND LOCATION FOR ENGINEER APPROVAL.
 - ALL HARDWARE AND EQUIPMENT FROM EXISTING FAN GUARDS IS NOT TO BE RE-USED.
 - NEW FAN GUARD CONNECTIONS AND SUPPORTS ARE TO BE SELECTED APPROPRIATELY FOR THEIR INTENDED APPLICATION TO PREVENT PREMATURE BREAKAGE AND ARE TO BE INSTALLED SO AS NOT TO DAMAGE THE NEWLY APPLIED COATING SYSTEM WHICH WILL REQUIRE REPAIR AT CONTRACTOR'S EXPENSE.

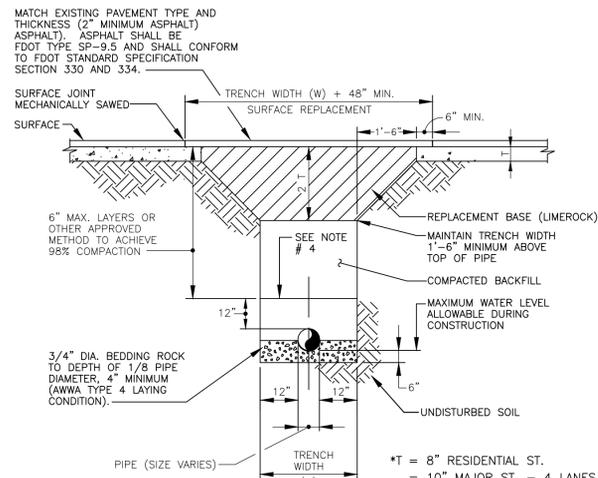
105 FAN GUARD WITHOUT ACCESS GATE
 N.T.S.

- NOTES:**
- CONCRETE THRUST BLOCKS OR THRUST COLLARS ONLY TO BE USED WITH OWNER'S APPROVAL.
 - CONCRETE THRUST BLOCKS OR THRUST COLLARS MAY BE UTILIZED ONLY IF NECESSARY FOR CONNECTIONS TO AN EXISTING PIPING SYSTEM, OTHERWISE MECHANICAL RESTRAINTS SHALL BE USED. KEEP "T" BOLTS CLEAR OF CONCRETE, WRAPPED IN VISQUEEN FOR FUTURE ACCESS, WITH A MINIMUM OF 1" THICKNESS BETWEEN THE FITTING AND SOIL.
 - BEFORE POURING CONCRETE, PLUGS SHALL BE WRAPPED WITH VISQUEEN AND A BOARD PLACED IN FRONT.
 - CONCRETE SHALL BE 2500 P.S.I. MINIMUM.
 - THE CONTRACTOR SHALL SUBMIT A THRUST BLOCK SIZE CALCULATION FOR TEE CONNECTIONS INTO UNRESTRAINED EXISTING MAINS LARGER THAN 14".
 - THE CONTRACTOR SHALL SUBMIT A PIPE RESTRAINT DESIGN FOR IN-LINE EXTENSIONS OF A EXISTING UNRESTRAINED MAIN IF MECHANICAL JOINT RESTRAINT CAN NOT BE INSTALLED ON THE EXISTING MAIN.



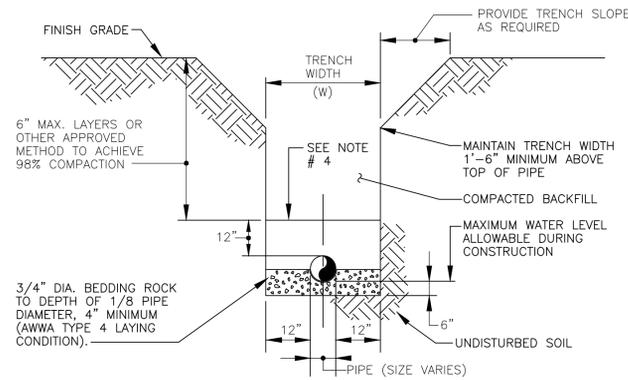
PIPE	THRUST BLOCK AREA REQ'D	REMARKS	NOTE:
4"	2.0 SQ. FT.	VALUES ARE FOR 90° BEND, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. FOR OTHER SOILS & PRESSURES THE AREA REQUIRED IS IN DIRECT PROPORTION	FOR OTHER FITTINGS USE THE FOLLOWING FACTORS: TEE 100% 45° BEND 71% 22 1/2° BEND 39% 11 1/4° BEND 20% DEAD END 100%
6"	4.0 SQ. FT.		
8"	6.6 SQ. FT.		
10"	10.0 SQ. FT.		
12"	14.0 SQ. FT.		
14"	18.6 SQ. FT.		

106 TYPICAL THRUST BLOCKS FOR PRESSURE PIPING
 N.T.S.



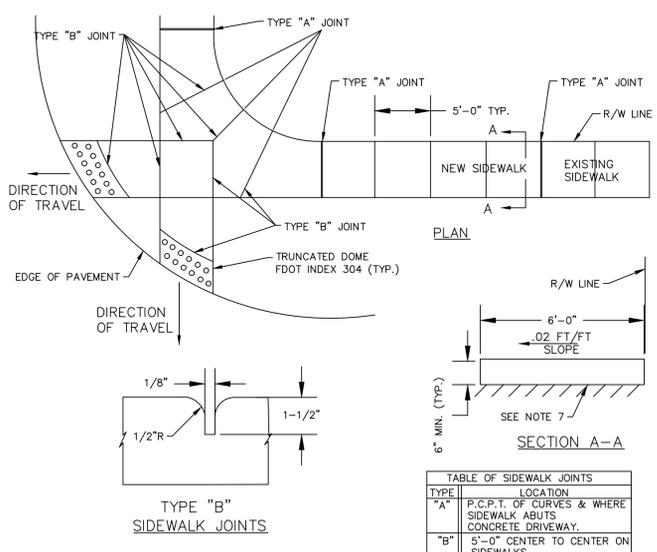
- NOTES:**
1. REPLACED BASE MATERIAL OVER TRENCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE, BUT NO LESS THAN 1\"/>
 - 2. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100.
 - 3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
 - 4. MECHANICAL COMPACTION IS NOT ALLOWED BELOW THIS LEVEL.
 - 5. COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
 - 6. PERMIT REQUIRED FROM ENGINEERING TO CUT PAVEMENT.
 - 7. IF TRENCH IS FILLED TEMPORARILY IT SHALL BE COVERED WITH A 2\"/>
 - 8. REMOVE UNSUITABLY SIZED STONES FOUND IN TRENCH TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF PIPE.

107 TRENCH IN PAVED AREAS DETAIL
N.T.S.



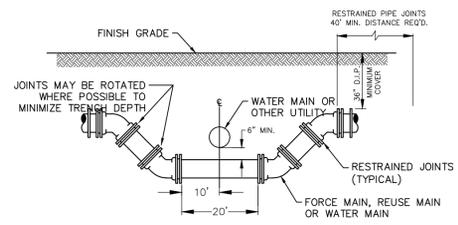
- NOTES:**
1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
 2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
 3. COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
 4. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
 5. REMOVE UNSUITABLY SIZED STONES FOUND IN TRENCH TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF PIPE.

108 REPLACEMENT OF TRENCH IN UNPAVED AREAS DETAIL
N.T.S.



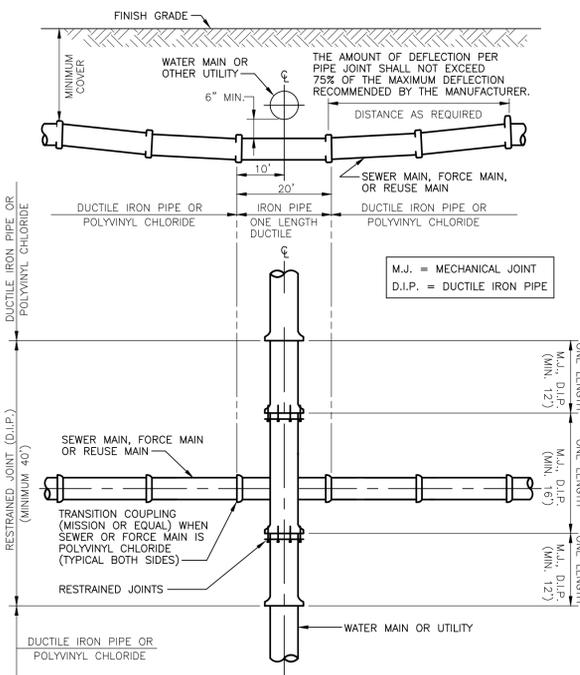
TYPE	LOCATION
"A"	P.C.P.T. OF CURVES & WHERE SIDEWALK ABUTS CONCRETE DRIVEWAY.
"B"	5'-0" CENTER TO CENTER ON SIDEWALKS.

109 SIDEWALK DETAILS
N.T.S.

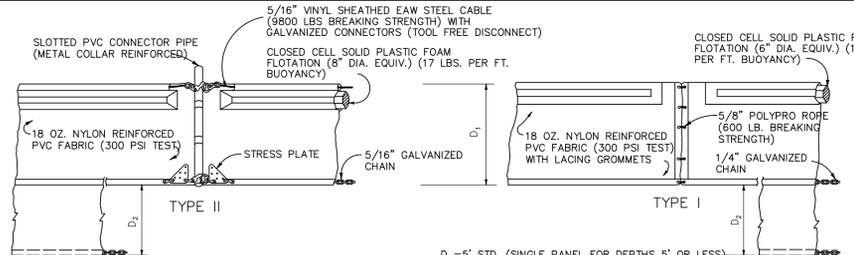


NOTE:
WHEREVER POSSIBLE DEFLECTION OF THE PIPE WILL BE USED TO AVOID EXISTING OBSTRUCTIONS, THIS CROSSING SHALL BE USED ONLY WHEN ORDERED BY THE ENGINEER.

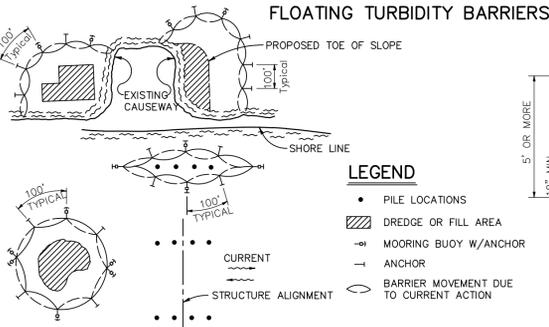
110 SPECIAL UTILITY CROSSING
N.T.S.



111 STANDARD UTILITY CROSSING
N.T.S.



NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.



- NOTES:**
1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
 2. TURBIDITY BARRIERS SHALL BE OF SUFFICIENT LENGTH & DEPTH & SUFFICIENTLY STABILIZED IN ORDER TO MINIMIZE TURBIDITY.
 3. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
 4. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
 5. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
 6. FOR ADDITIONAL INFORMATION SEE SECTION 104 OF THE STANDARD SPECIFICATIONS.

TURBIDITY BARRIER APPLICATIONS WATER QUALITY

1. PRIOR TO CONSTRUCTION AND DURING ALL OPERATIONS THAT MAY DEGRADE WATER QUALITY, THE CONTRACTOR SHALL PRACTISE TURBIDITY CONTROLS TO PREVENT VIOLATIONS OF THE WATER QUALITY STANDARDS AS OUTLINED IN CHAPTER 62-302, F.A.C.

112 TURBIDITY BARRIER
N.T.S.

BCHCED REF # 150812101
PERMIT SET
MUST BE ON JOBSITE AT ALL TIMES DURING CONSTRUCTION

NOTICE
INSPECTION REQUIRED
24HRS. PRIOR TO COMMENCING ANY WORK IN THE PUBLIC R/W CONTACT THE BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION AT 954-577-4600 FOR INSPECTION.

NOTE:
APPROVAL OF THIS PLAN DOES NOT CONSTITUTE A PERMIT FOR CONSTRUCTION
A PERMIT FOR CONSTRUCTION MUST BE OBTAINED FROM THE BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION PRIOR TO COMMENCING CONSTRUCTION IN THE PUBLIC RIGHT OF WAY.

ALL MATERIALS USED AND INSTALLATIONS WITHIN THE PUBLIC RIGHT OF WAY OR EASEMENTS SHALL BE IN ACCORDANCE WITH BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION SPECIFICATIONS.

BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION
 PLAN CONSISTENT WITH PLAT REQUIREMENTS
 PUBLIC RIGHT OF WAY APPROVAL FOR PAVING, GRADING AND DRAINAGE
BY: _____ DATE: _____
DOES NOT INCLUDE APPROVAL OF PAVEMENT MARKINGS & SIGNS

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



CERTIFICATES OF AUTHORIZATION
EB0004593 LC26000425

REGISTRATION
PAULA A. FONSECA, P.E.
REGISTRATION NO. 77711
DATE: _____



CLIENT
carollo
3440 HOLLYWOOD BOULEVARD
SUITE 465
HOLLYWOOD, FL 33021

PROJECT INFORMATION

AERIAL CROSSING DESIGN PHASE II SITE 7

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

DATE OF ISSUE
11/06/2015

DESIGNED BY

DRAWN BY

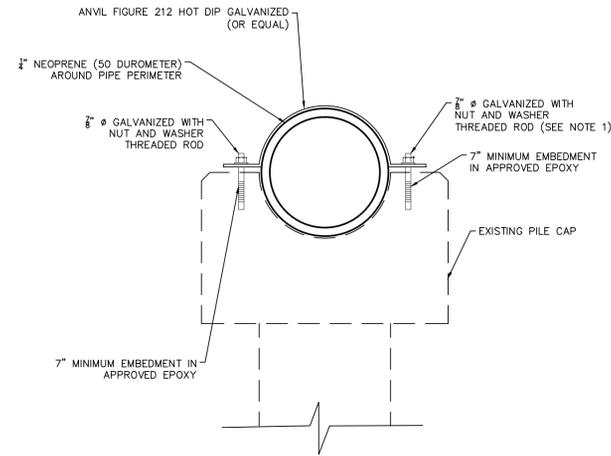
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DRAWING TITLE

DETAILS 2

DRAWING NUMBER
D-2
07 OF 8

Plot Date: 11/6/2015 2:30:10 PM Username: Pfonseca Layout Name: D-3
 Folder Path: V:\Projects\2015\15-138.016 -aerial crossings ph ii\Design\CAD\Site 7 plans Filename: 15-138.016 Site 7 Details.dwg



NOTES:

1. WASHERS ARE 1 1/8 INCH INSIDE DIAMETER, 2 1/4 INCH OUTSIDE DIAMETER AND 1/8 INCH THICK. WASHERS MATERIAL IS ASTM F436.

S07 PIPE STRAP
 N.T.S.

BCHCED REF # 150812101
 PERMIT SET
 MUST BE ON JOBSITE AT ALL
 TIMES DURING CONSTRUCTION

**NOTICE
 INSPECTION REQUIRED**

24HRS. PRIOR TO COMMENCING ANY WORK IN THE PUBLIC R/W CONTACT THE BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION AT 954-577-4600 FOR INSPECTION.

NOTE:
 APPROVAL OF THIS PLAN DOES NOT CONSTITUTE A PERMIT FOR CONSTRUCTION

A PERMIT FOR CONSTRUCTION MUST BE OBTAINED FROM THE BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION PRIOR TO COMMENCING CONSTRUCTION IN THE PUBLIC RIGHT OF WAY.

ALL MATERIALS USED AND INSTALLATIONS WITHIN THE PUBLIC RIGHT OF WAY OR EASEMENTS SHALL BE IN ACCORDANCE WITH BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION SPECIFICATIONS.

BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION

- PLAN CONSISTENT WITH PLAT REQUIREMENTS
- PUBLIC RIGHT OF WAY APPROVAL FOR PAVING, GRADING AND DRAINAGE

BY: _____ DATE: _____

DOES NOT INCLUDE APPROVAL OF PAVEMENT MARKINGS & SIGNS

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



CHEN-MOORE

& ASSOCIATES

500 West Cypress Creek Road
 Ft. Lauderdale, FL 33309
 954.730.0707
 www.chenmoore.com

CERTIFICATES OF AUTHORIZATION
 EB0004593 LC26000425

REGISTRATION

JOEL SMASON, P.E.
 REGISTRATION NO. 58434
 DATE: _____

OWNER



CITY OF MARGATE
 Together We Make It Great

CLIENT

carollo
 3440 HOLLYWOOD BOULEVARD
 SUITE 465
 HOLLYWOOD, FL 33021

PROJECT INFORMATION

AERIAL CROSSING DESIGN PHASE II SITE 7

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
 15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES



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DATE OF ISSUE
 11/06/2015

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STRUCTURAL DETAILS

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D-3
 08 OF 8

BID SET PLANS

AERIAL CROSSING DESIGN PHASE II

SITE 10

CITY OF MARGATE, FLORIDA

BID SET PLANS

11/06/2015



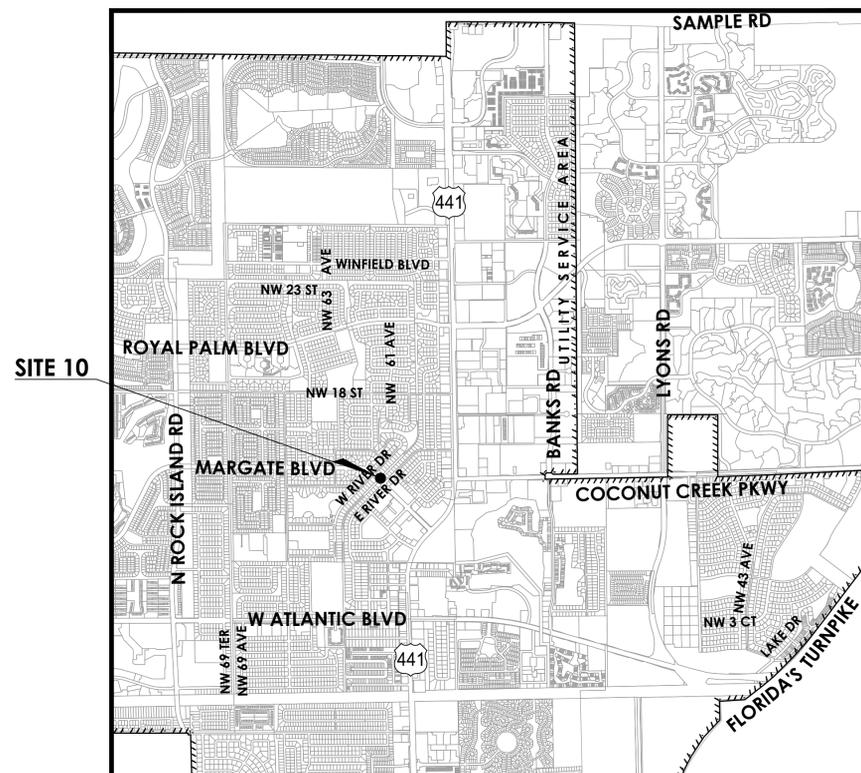
Department of Environmental
and Engineering Services
901 NW 66th Avenue, Suite A
Margate, FL 33063
(954) 972-0828

CITY COMMISSION

Tommy Ruzzano	Mayor
Arlene R. Schwartz	Vice Mayor
Anthony N. Caggiano	Commissioner
Lesa "Le" Peerman	Commissioner
Joanne Simone	Commissioner

ADMINISTRATION

Douglas E. Smith	City Manager
Eugene M. Steinfeld	City Attorney
Joseph J. Kavanagh, CMC	City Clerk
Reddy Chitepu, P.E.	Director of Environmental & Engineering Services



SECTIONS 25 & 36, TOWNSHIP 48S, RANGE 41E
& SECTION 32, TOWNSHIP 48S, RANGE 42E

LOCATION MAP

N.T.S.

INDEX OF DRAWINGS

SHT #	DWG #	DESCRIPTION
01	-	COVER SHEET
02	KEY-1	KEY PLAN
03	GN-1	GENERAL NOTES 1
04	GN-2	GENERAL NOTES 2
05	C-1	AERIAL CROSSING PLAN AND PROFILE PLAN
06	D-1	DETAILS 1
07	D-2	DETAILS 2
08	D-3	DETAILS 3



3440 Hollywood Boulevard, Suite 465
Hollywood, FL 33021



& ASSOCIATES

500 West Cypress Creek Road • Suite 630
Fort Lauderdale, FL • 33309
(954) 730-0707

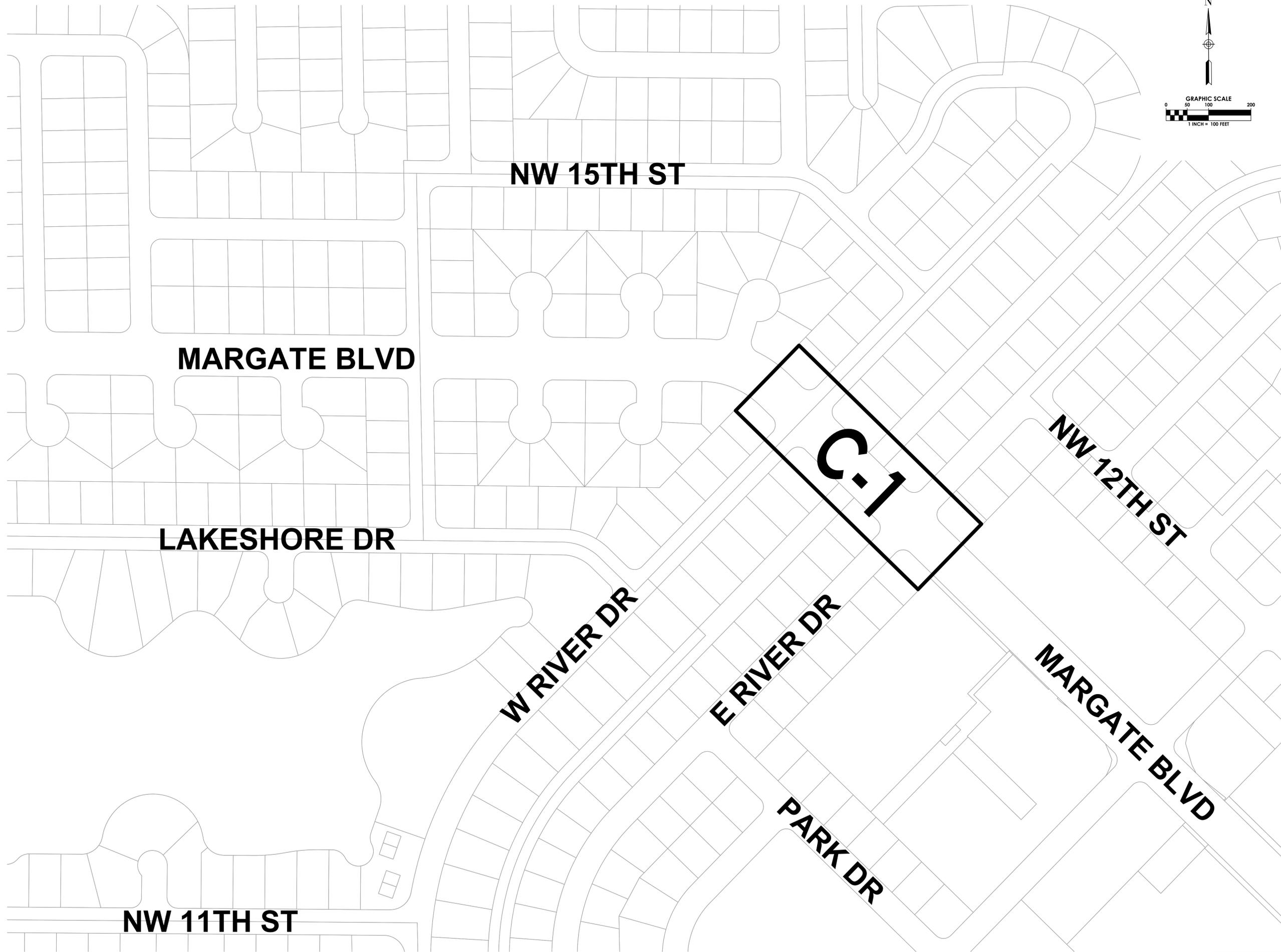
www.chenmoore.com

EB No. 0004593

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



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Folder Path: V:\Projects\2015\15-138.016 - Aerial Crossings th \Design\CAD\Site 10 Plans Filename: 15-138.016 Site 10 Key Plan.dwg



OWNER



CLIENT



PROJECT INFORMATION

AERIAL CROSSING DESIGN PHASE II SITE 10

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
 15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES
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DATE OF ISSUE
 11/06/2015

DESIGNED BY

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DRAWING TITLE

GENERAL NOTES
 2

DRAWING NUMBER
GN-2
 04 OF 8

EXISTING CONDITIONS:

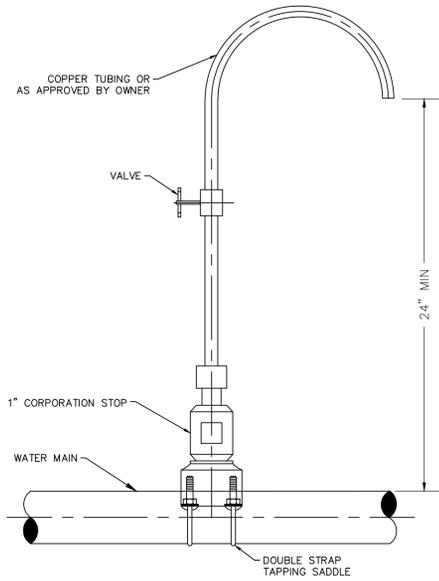
1. EXISTING CONDITIONS PRESENTED ARE BASED ON A TOPOGRAPHIC SURVEY PROVIDED BY STONER & ASSOCIATES, INC., PROJECT 15-8196 ON 4/29/2015. ADDITIONAL INFORMATION WAS OBTAINED FROM AS-BUILTS AND RECORD DRAWINGS PROVIDED BY UTILITY COMPANIES, G.I.S. INFORMATION AND FIELD VISITS.
2. BOUNDARY LINES AND RIGHT-OF-WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE BASED ON PLATS AND/OR RIGHT-OF-WAY MAPS OF RECORD. THIS SKETCH OF SURVEY DOES NOT REPRESENT A SURVEY OF THE BOUNDARY OR RIGHT OF WAY LINES.
3. CONTRACTOR IS TO PROTECT ALL EXISTING TREES, SIGNS, AND ABOVE GROUND UTILITIES NOT IMPACTED BY THIS PLAN.
4. COORDINATES SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATES, EAST ZONE, NORTH AMERICAN DATUM (NAD) OF 1983(90). CONTROL POINTS COORDINATES WERE ESTABLISHED BY GLOBAL POSITIONING SYSTEM - REAL TIME KINEMATICS METHOD OBSERVATIONS, HAVING AS POINT OF ORIGIN THE EASTERN BROWARD COUNTY HORIZONTAL GPS COUNTY NETWORK CONTROL POINTS:
 - a. A10, A PK NAIL AND WASHER STAMPED "BCED GPS A10". N: 700828.192; E: 917824.876
 - b. A11, A PK NAIL AND WASHER STAMPED "BCED GPS A11". N: 697701.630; E: 917881.545
 - c. A15, A PK NAIL AND WASHER STAMPED "BCED GPS A15". N: 690247.865; E: 916894.500
 - d. C13, A RAILROAD SPIKE WITH PUNCH HOLE. N: 693007.020; E: 923680.821
5. THE ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88) ESTABLISHED FROM BROWARD COUNTY ENGINEERING DEPARTMENT BENCHMARKS:
 - a. BM 1569. "X" CUT ON THE NORTHWEST CORNER OF A BUILDING SLAB OF CUMBERLAND FARMS STORE AT 6900 WEST ATLANTIC BOULEVARD, ELEVATION: 12.974' (N.A.V.D. 88)
 - b. BM 2740. S.B.C. STAMPED BM# 150 AT CENTER OF NORTH CONCRETE WALL OF BRIDGE, SUNSHINE WAY, BETWEEN SUNSHINE DRIVE AND LAKE DRIVE. ELEVATION=15.976' (N.A.V.D. 88)
 - c. BM 3008. "X" CUT IN THE NORTH EDGE OF THE SOUTHERN BELL MANHOLE ON THE WEST SIDE OF STATE ROAD 7, AT THE END OF COCONUT CREEK PARKWAY, ELEVATION: 11.769' (N.A.V.D. 88)
 - d. BM 3063. "X" CUT IN THE SOUTH EDGE OF THE SIDEWALK ON THE NORTH SIDE OF THE MARGATE BRIDGE WEST OF N.W. 69th AVENUE. ELEVATION=14.463' (N.A.V.D. 88)
6. HEDGES, GROUND COVER, OTHER LANDSCAPE FEATURES, AND IRRIGATION FEATURES, SUCH AS SPRINKLERS, ARE NOT SHOWN HEREON, UNLESS OTHERWISE NOTED.

MAINTENANCE OF TRAFFIC SCHOOL/PEDESTRIAN

1. PROVIDE AT LEAST ONE SAFE, WALKABLE PATH THROUGHOUT THE CONSTRUCTION ZONE. IF THE EXISTING CURRENT WALKING SURFACES CANNOT BE MAINTAINED, THEN A TEMPORARY PATH, A MINIMUM OF 4 FOOT WIDE, SHALL BE PROVIDED AND DELINEATED. TEMPORARY PATHS SHALL BE DELINEATED BY A 4 FOOT HIGH ORANGE CONSTRUCTION FENCE FOR THE ENTIRE LENGTH OF THE TEMPORARY WALK PATH. THE PATH SHALL MEET ALL ADA REQUIREMENTS. THE CONTRACTOR SHALL ALSO INSTALL OR MODIFY ANY ADDITIONAL PAVEMENT, SIGNING, MARKINGS OR PEDESTRIAN SIGNALS AS NEEDED IN CONJUNCTION WITH THE TEMPORARY PATH.
2. ON DAYS THAT SCHOOL IS IN SESSION, THE CONTRACTOR'S WORK SCHEDULE WITHIN THE SCHOOL ZONE MAY BE REDUCED BASED ON ACTUAL WORK ACTIVITIES IN THE SCHOOL ZONE. SEE MAINTENANCE OF TRAFFIC PLANS FOR DETAILS ON THE WORK ZONE RESTRICTIONS, IF WARRANTED. ANY CHANGES IN THE MAINTENANCE OF TRAFFIC WORK SCHEDULES WITHIN SCHOOL ZONES SHOULD BE DISCUSSED DURING THE MANDATORY RECONSTRUCTION - SCHOOL SAFETY MEETING.
3. ALL WORK REQUIRED AT DESIGNATED SCHOOL CROSSINGS AND PEDESTRIAN CROSSINGS SHALL BE RESTORED TO A SAFE WALKABLE PATH BETWEEN THE HOURS NOTED IN No. 2 ABOVE.
4. THIRTY (30) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE SPECIAL PROJECTS COORDINATOR AT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2671, TO ARRANGE A PRE-CONSTRUCTION - SCHOOL SAFETY MEETING.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE BROWARD COUNTY SCHOOL BOARD PUPIL TRANSPORTATION DEPARTMENT TO ARRANGE A PRE-CONSTRUCTION SCHOOL BUS ROUTE MEETING AT THE FOLLOWING:

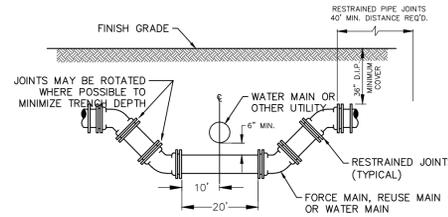
5.1.	RUTH MASTERS ROUTING	(754) 321-4400 EXT. # 2309
	RUTH.MASTERS@BROWARD.SCHOOLS.COM	
5.2.	VINCENT HARRELL STUDENT TRANSPORTATION & FLEET SERVICE	(754) 321-4472
	VINVENT.HARRELL@BROWARDSCHOOLS.COM	
5.3.	MARY TOCHTERMANN STUDENT TRANSPORTATION & FLEET SERVICE	(754) 321-4400 EXT. # 2006
	MARY.TOCHTERMANN@BROWARDSCHOOLS.COM	





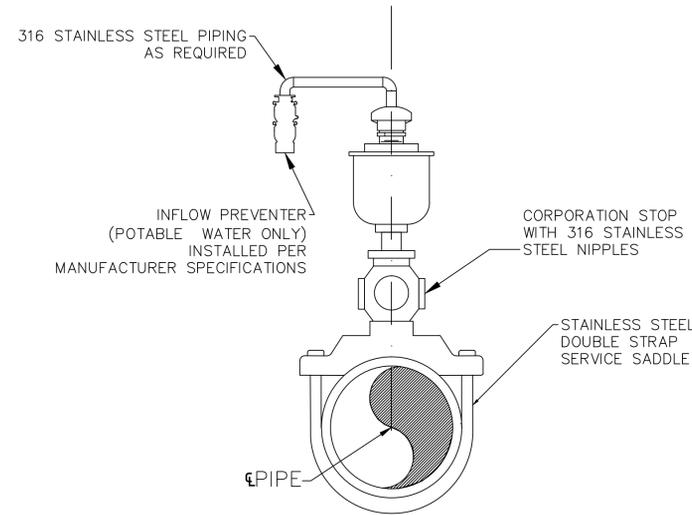
- NOTES:
1. SAMPLE POINTS SHALL BE LOCATED AND LATER REMOVED AS REQUIRED BY BROWARD COUNTY HEALTH DEPARTMENT.
 2. CORPORATION STOP SHALL BE UTILIZED FOR AIR RELEASE VALVE ASSEMBLY AFTER HEALTH DEPARTMENT CLEARANCE.

101 SAMPLING POINT
N.T.S.



NOTE:
WHEREVER POSSIBLE DEFLECTION OF THE PIPE WILL BE USED TO AVOID EXISTING OBSTRUCTIONS. THIS CROSSING SHALL BE USED ONLY WHEN ORDERED BY THE ENGINEER.

102 SPECIAL UTILITY CROSSING
N.T.S.



- NOTES:
1. FOR ALL INSTALLATIONS UP TO & INCLUDING 2", PIPE MATERIAL SHALL BE STAINLESS STEEL ABOVE GROUND. FOR LARGER INSTALLATIONS THE DESIGN SHALL BE ON A CASE BY CASE BASIS.
 2. CONTRACTOR SHALL FIELD VERIFY EACH LOCATION WHERE NEW AIR RELEASE VALVES ARE TO BE INSTALLED AND SUBMIT SITE SPECIFIC SHOP DRAWINGS WITH MANUFACTURER DETAILS DEMONSTRATING CONFORMANCE TO THE REQUIREMENTS ALONG WITH A BASIC DIMENSIONAL SKETCH OF PROPOSED INSTALLATION, GEOMETRY AND LOCATION FOR ENGINEER APPROVAL.

103 AIR RELEASE VALVE ASSEMBLY ON TOP OF PIPE
N.T.S.

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

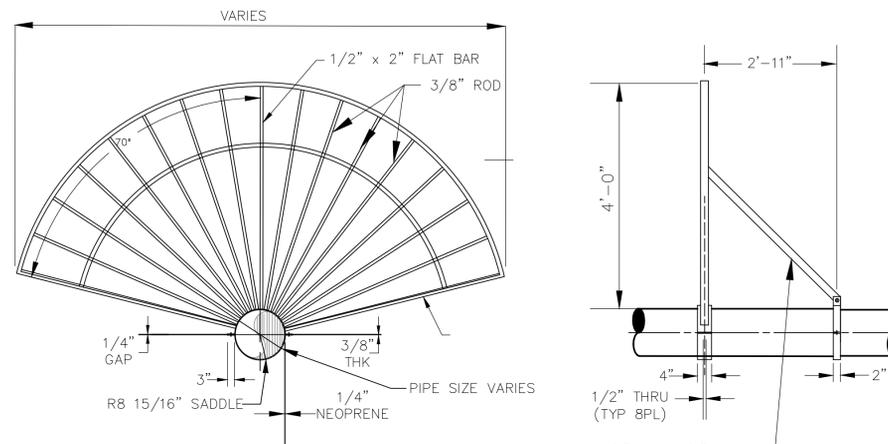
LAYING CONDITION: TYPE 4 (PIPE BEDDED IN SAND, GRAVEL, OR CRUSHED STONE TO THE DEPTH OF 1/8" PIPE DIAMETER, 4 INCHES MINIMUM. BACKFILL COMPACTED TO TOP OF PIPE).
 DEPTH OF COVER: 2.5 FEET
 WORKING PRESSURE: 150 P.S.I.
 SOIL BEARING: 2,000 P.S.F. AGAINST UNDISTURBED SOIL.

PIPE DIA. (IN.)	11.25d (FT)	22.5d (FT)	45d (FT)	90d (FT)	DEAD END (FT)	TEE (FT)	45d VERT. BEND (FT)	22d VERT. BEND (FT)
6	5	9	16	31	60	35	20	12
8	6	11	20	42	80	50	25	14
10	7	14	24	52	100	60	26	18
12	8	16	28	63	120	65	30	20
14	10	18	32	73	130	80	35	23
16	11	20	35	84	140	90	40	26
18	12	22	39	94	150	100	45	28
20	13	24	42	105	180	120	55	32
24	14	27	49	126	220	150	65	35

NOTE THAT IN ACTUAL INSTALLATIONS, THE RESTRAINED LENGTH WILL BE IN MULTIPLES OF LENGTH OF ONE PIECE OF PIPE (NORMALLY 18 TO 20 FEET). THUS, FOR EXAMPLE, IF THE RESTRAINED LENGTH FOR 6 INCH PIPE LEADING UP TO A 90 DEGREE BEND IS 30 FEET, TWO FULL LENGTHS OF RESTRAINED PIPE WILL RESULT IN 36 TO 40 FEET OF RESTRAINT, PROVIDING AN ADDITIONAL SAFETY FACTOR. WHERE SHORT CONNECTING PIECES ARE NEEDED TO POSITION FITTINGS, THEY SHOULD, WHEN POSSIBLE, BE PLACED OUTSIDE THE RESTRAINED SECTION FOR MAXIMUM ECONOMY.

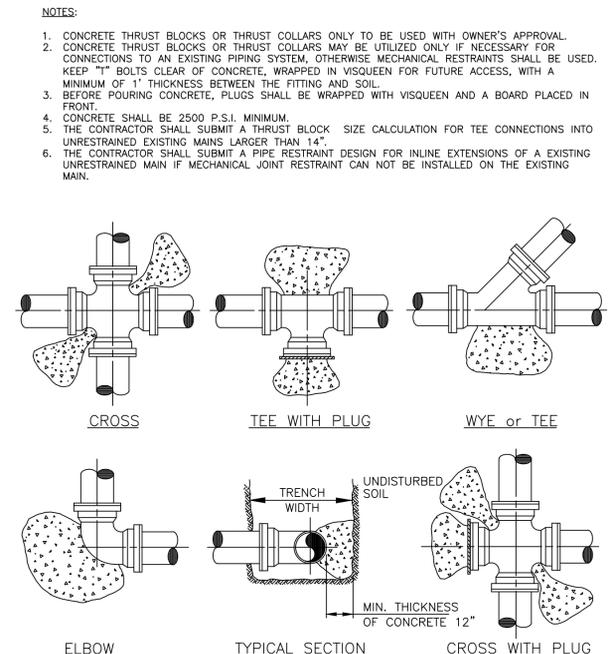
THE ABOVE SCHEDULE IS ONLY A GUIDELINE. THE CONTRACTOR MUST VERIFY AND REVISE CALCULATIONS TO MEET INSTALLATION REQUIREMENTS.

104 RESTRAINED PIPE JOINT SCHEDULE
N.T.S.



- NOTES:
1. MATERIAL: CARBON STEEL, HOT DIPPED GALVANIZED.
 2. CONTRACTOR SHALL FIELD VERIFY EACH LOCATION WHERE NEW FAN GUARDS ARE TO BE INSTALLED AND SUBMIT SITE SPECIFIC SHOP DRAWINGS WITH MANUFACTURER DETAILS DEMONSTRATING CONFORMANCE TO THE REQUIREMENTS ALONG WITH A BASIC DIMENSIONAL SKETCH OF PROPOSED INSTALLATION GEOMETRY AND LOCATION FOR ENGINEER APPROVAL.
 3. ALL HARDWARE AND EQUIPMENT FROM EXISTING FAN GUARDS IS NOT TO BE RE-USED.
 4. NEW FAN GUARD CONNECTIONS AND SUPPORTS ARE TO BE SELECTED APPROPRIATELY FOR THEIR INTENDED APPLICATION TO PREVENT PREMATURE BREAKAGE AND ARE TO BE INSTALLED SO AS NOT TO DAMAGE THE NEWLY APPLIED COATING SYSTEM WHICH WILL REQUIRE REPAIR AT CONTRACTOR'S EXPENSE.

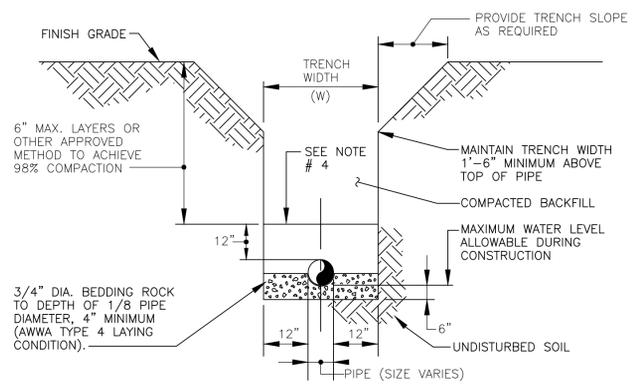
105 FAN GUARD WITHOUT ACCESS GATE
N.T.S.



PIPE	THRUST BLOCK AREA REQ'D	REMARKS	NOTE:
4"	2.0 SQ. FT.	VALUES ARE FOR 90° BEND, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. FOR OTHER SOILS & PRESSURES THE AREA REQUIRED IS IN DIRECT PROPORTION	FOR OTHER FITTINGS USE THE FOLLOWING FACTORS: TEE 100% 45° BEND 71% 22 1/2° BEND 39% 11 1/4° BEND 20% DEAD END 100%
6"	4.0 SQ. FT.		
8"	6.6 SQ. FT.		
10"	10.0 SQ. FT.		
12"	14.0 SQ. FT.		
14"	18.6 SQ. FT.		

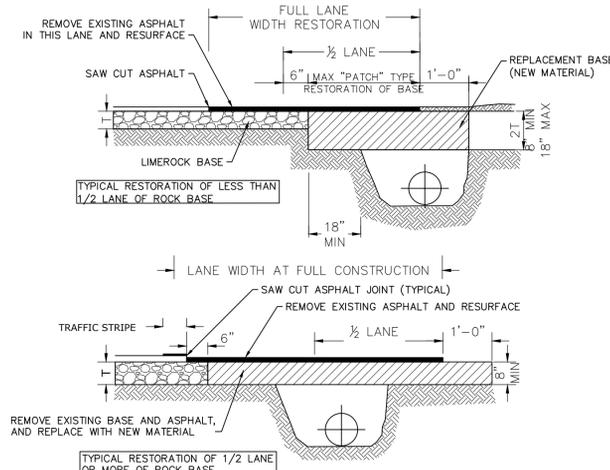
106 TYPICAL THRUST BLOCKS FOR PRESSURE PIPING
N.T.S.

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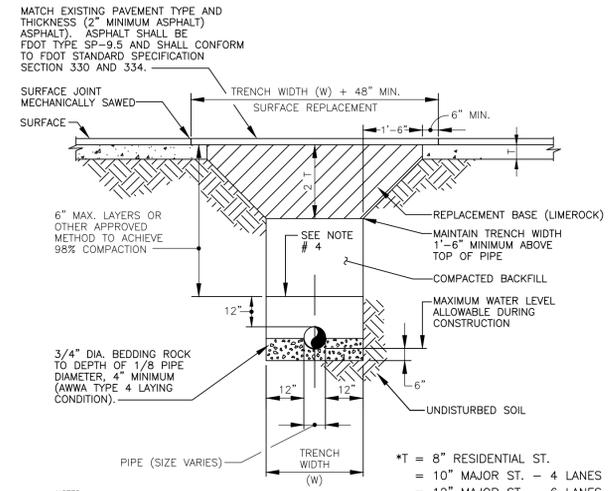
- NOTES:
- WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
 - SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
 - COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
 - MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
 - REMOVE UNSUITABLY SIZED STONES FOUND IN TRENCH TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF PIPE.

109 REPLACEMENT OF TRENCH IN UNPAVED AREAS DETAIL
 N.T.S.



- NOTES:
- BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 AND A MINIMUM CARBONATE CONTENT OF 70% (60% FOR LOCAL STREETS).
 - BASE SHALL BE PLACED IN 6" MAXIMUM THICKNESS LAYERS WITH EACH LAYER COMPACTED AS REQUIRED AND TESTED PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYERS.
 - SUBGRADE MATERIAL SHALL BE GRANULAR AND ANGULAR AND SHALL HAVE MINIMUM LBR OF 40.
 - BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LAYERS, BUT TESTING WILL BEGIN 12" ABOVE THE INSTALLED FACILITY.
 - ALL EDGES OF EXISTING ASPHALT PAVEMENT THAT ABUT RESURFACING SHALL BE SAW CUT IN STRAIGHT LINES PARALLEL TO THE ROADWAY, PRIOR TO RESURFACING.
 - RESURFACING MATERIAL SHALL BE CONSISTENT WITH SURROUNDING SURFACE, AND SHALL BE APPLIED IN 2 LIFTS, A MINIMUM OF 3/8" INCH AND A MAXIMUM OF 2" IN THICKNESS.
 - TRAFFIC STRIPES SHALL NOT BE PLACED DIRECTLY ON TOP OF THE JOINT.
 - FOR STATE ROADS REFER TO FDOT SPECIFICATIONS AND REQUIREMENTS.

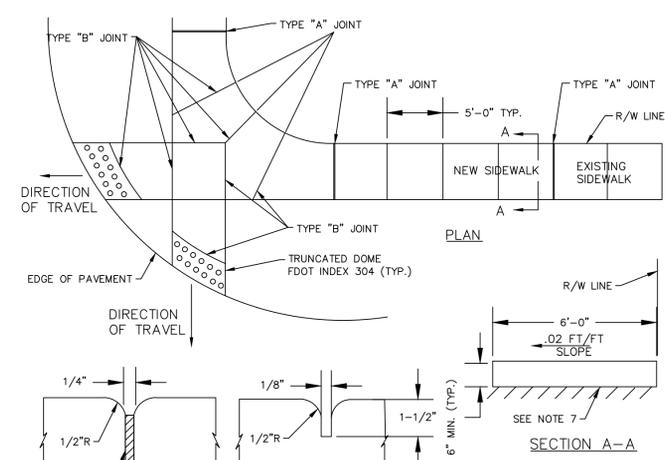
108 RESTORATION OF ROADWAY CUT FOR PARALLEL UTILITY INSTALLATION
 N.T.S.



- NOTES:
- REPLACED BASE MATERIAL OVER TRENCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE, BUT NO LESS THAN 1" SCHEDULE.
 - BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100.
 - ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SADED.
 - MECHANICAL COMPACTION IS NOT ALLOWED BELOW THIS LEVEL.
 - COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
 - PERMIT REQUIRED FROM ENGINEERING TO CUT PAVEMENT.
 - IF TRENCH IS FILLED TEMPORARILY IT SHALL BE COVERED WITH A 2" ASPHALT CONC. PATCH UNTIL REPLACED WITH A PERMANENT PATCH.
 - REMOVE UNSUITABLY SIZED STONES FOUND IN TRENCH TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF PIPE.

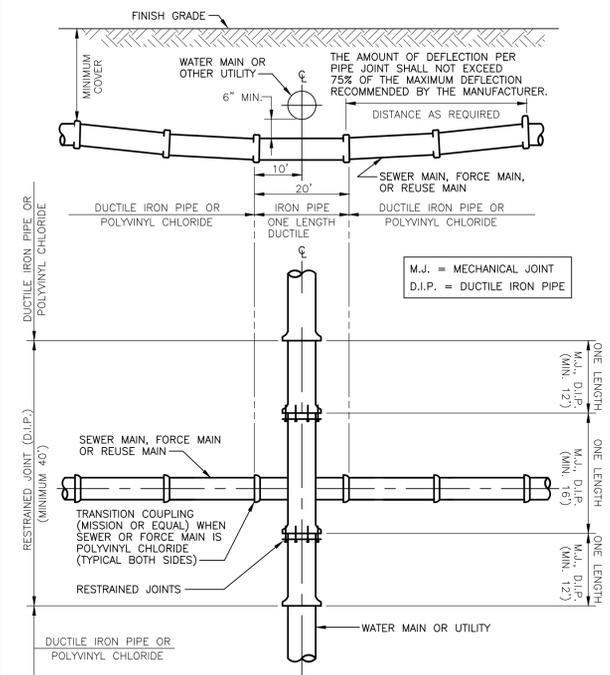
107 TRENCH IN PAVED AREAS DETAIL
 N.T.S.

- NOTES:
- CONCRETE TO BE CLASS 1, 3000 P.S.I.
 - THE USE OF REINFORCEMENT IS NOT PERMITTED.
 - SIDEWALK SLOPES SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
 - RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS IN ACCORDANCE WITH FDOT INDEX 304.
 - THE VERTICAL DEVIATION FOR A NEW SIDEWALK SHALL NOT BE MORE THAN 1/2".
 - THE VERTICAL DEVIATION FOR A NEW MAINTENANCE ACCESS STRUCTURES COVER SHALL NOT BE MORE THAN 1/4".
 - SUBGRADE MATERIAL SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY, PER AASHTO T-99.
 - STAMPED CONCRETE IS NOT ALLOWED IN LIEU OF TRUNCATED DOMES.
 - SEE HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION APPROVED PRODUCT LIST FOR ACCEPTABLE MATERIALS FOR TRUNCATED DOMES.
 - WHEN THE REMOVAL OF SIDEWALKS, CURBS OR GUTTERS IS NECESSARY FOR CONSTRUCTION, THEY SHALL BE REMOVED IN FULL SECTIONS OR A MINIMUM OF FIVE (5) FEET IN LENGTH, AND ALL BROKEN EDGES CUT STRAIGHT, CLEAN AND SMOOTH BY APPROPRIATE MEANS. IF THE ROAD PAVEMENT IS DAMAGED DURING SUCH REMOVAL, IT SHALL BE REPAIRED IN ACCORDANCE WITH CHAPTER 25, SECTION 5-6 OF THE BROWARD COUNTY HIGHWAY CONSTRUCTION & ENGINEERING DIVISION MINIMUM STANDARDS.

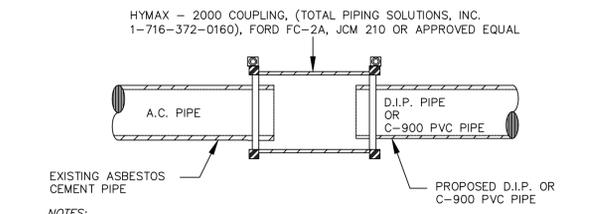


TYPE	LOCATION
"A"	P.C.P.T. OF CURVES & WHERE SIDEWALK ABUTS CONCRETE DRIVEWAY.
"B"	5'-0" CENTER TO CENTER ON SIDEWALKS.

112 SIDEWALK DETAILS
 N.T.S.



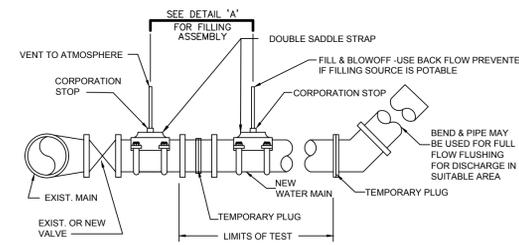
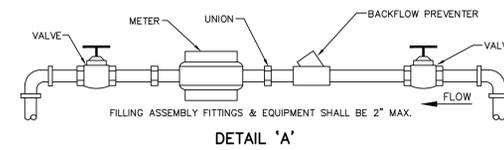
111 STANDARD UTILITY CROSSING
 N.T.S.



- NOTES:
- PREPARE THE PIPE ENDS TO A DISTANCE OF AT LEAST 3 INCHES BEYOND THE LENGTH OF THE COUPLING. PIPE PREPARATION WILL CONSIST OF CLEANING AND DE-SCALING EACH PIPE END, REMOVING ANY DEBRIS OR BUILD UP ON THE PIPE ENDS AND CLEAN THE OUTER PIPE SURFACE WITH SOAPY WATER.
 - THE END GAP IS LEFT BETWEEN THE PIPE ENDS. A PIPE END GAP OF AT LEAST 2 INCHES IS REQUIRED BETWEEN THE PIPE ENDS TO PREVENT CENTERING PIN AND PIPE INTERFACE.
 - USE OF A TORQUE WRENCH IS MANDATORY ACCORDING TO MANUFACTURER RECOMMENDATIONS.

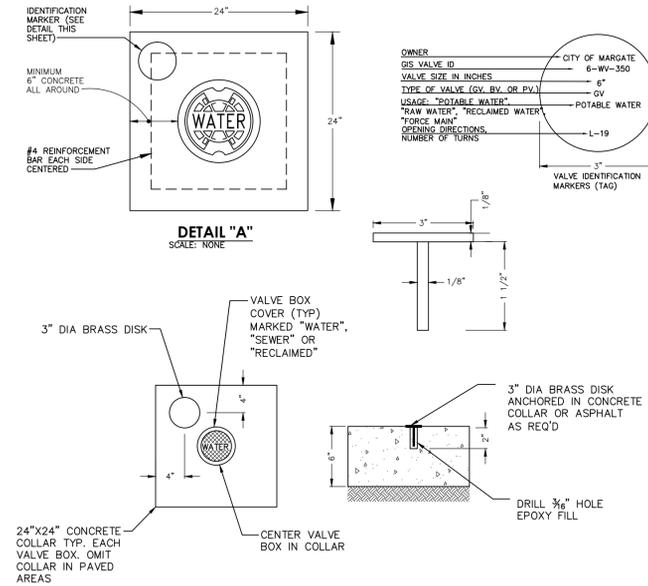
110 A.C. CONNECTION DETAIL
 N.T.S.

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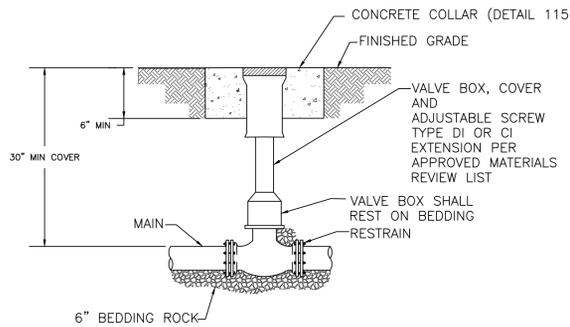
- NOTES:
- TEMPORARY CONNECTION ON THE NEW MAIN SHALL BE AT THE PROPOSED AIR RELIEF VALVE TAP LOCATION, OTHERWISE REMOVE TEMPORARY CONNECTION AT CORPORATION STOPS ON NEW MAIN AFTER FILLING AND FLUSHING HAS BEEN COMPLETED.
 - COMPLY WITH ALL H.R.S. BROWARD COUNTY PUBLIC HEALTH UNIT REGULATIONS.
 - PROVIDE ALL NECESSARY THRUST BLOCKS OR OTHER RESTRAINTS.
 - INJECT CHLORINE ON PROJECT SIDE OF BACKFLOW PREVENTER (POTABLE WATER MAINS ONLY).
 - FILLING & FLUSHING LOCATION SHALL BE DETERMINED BY THE CONTRACTOR, ENGINEER AND THE CITY.

116 VALVE BOX
N.T.S.



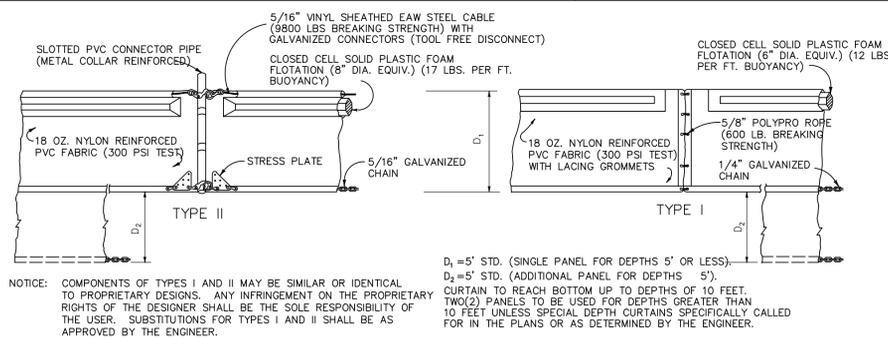
- NOTES:
- VALVE BOX, COVER AND EXTENSION PER APPROVED MATERIALS LIST.
 - VALVE BOX AND COVER IN PUBLIC RIGHT-OF-WAY SHALL BE OF TRAFFIC BEARING DESIGN CAPABLE OF SUPPORTING AN AASHTO H-20 LOADING.

115 VALVE COLLAR AND IDENTIFICATION MARKER
N.T.S.



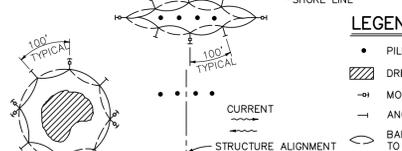
- NOTES:
- WHEN VALVE IS NOT LOCATED IN PAVEMENT, PLACE A BLUE (WATER) OR GREEN (SEWER) PAVEMENT REFLECTOR MARKER IN THE DRIVE LANE, ADJACENT TO THE VALVE.
 - OPERATOR EXTENSION SHAFT SHALL BE PROVIDED WHEN OPERATING NUT IS MORE THAN 12" BELOW TOP OF VALVE BOX.
 - PVC OR DUCTILE IRON PIPE IS NOT ACCEPTABLE FOR VALVE BOX RISER.
 - THE STEMS OF ALL BURIED VALVES SHALL BE NOT LESS THAN FOUR (4) INCHES, OR MORE THAN TWELVE (12) INCHES, BELOW THE FINISHED GRADE UNLESS OTHERWISE APPROVED. VALVE STEM EXTENSIONS SHALL BE USED TO BRING THE OPERATING NUT WITHIN 12" OF FINISHED GRADE.
 - VALVE BOX AND COVER IN PUBLIC RIGHT-OF-WAY SHALL BE OF TRAFFIC BEARING DESIGN CAPABLE OF SUPPORTING AN AASHTO H-20 LOADING.

114 VALVE BOX
N.T.S.



NOTE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

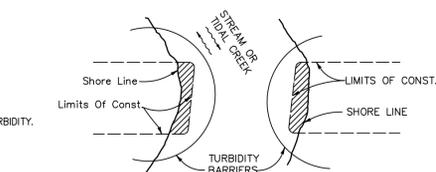
FLOATING TURBIDITY BARRIERS



LEGEND

- PILE LOCATIONS
- ▨ DREDGE OR FILL AREA
- MOORING BUOY W/ANCHOR
- ANCHOR
- BARRIER MOVEMENT DUE TO CURRENT ACTION

STAKED TURBIDITY BARRIER



NOTE: TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTORS OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS, HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIER AND/OR STAKED TURBIDITY BARRIER. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

- NOTES:
- TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
 - TURBIDITY BARRIERS SHALL BE OF SUFFICIENT LENGTH & DEPTH & SUFFICIENTLY STABILIZED IN ORDER TO MINIMIZE TURBIDITY.
 - NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
 - DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
 - NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
 - FOR ADDITIONAL INFORMATION SEE SECTION 104 OF THE STANDARD SPECIFICATIONS.

TURBIDITY BARRIER APPLICATIONS WATER QUALITY

- PRIOR TO CONSTRUCTION AND DURING ALL OPERATIONS THAT MAY DEGRADE WATER QUALITY, THE CONTRACTOR SHALL PRACTISE TURBIDITY CONTROLS TO PREVENT VIOLATIONS TO THE WATER QUALITY STANDARDS AS OUTLINED IN CHAPTER 62-302, F.A.C.

117 TURBIDITY BARRIER
N.T.S.

AERIAL CROSSING DESIGN PHASE II

SITE 11

CITY OF MARGATE, FLORIDA

BID SET PLANS

11/06/2015



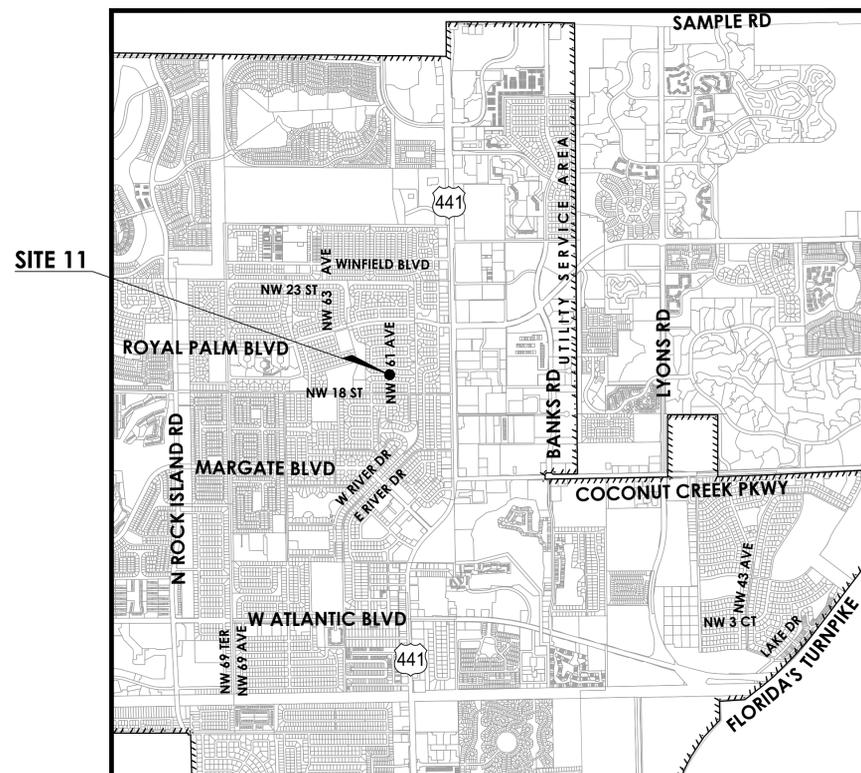
Department of Environmental
and Engineering Services
901 NW 66th Avenue, Suite A
Margate, FL 33063
(954) 972-0828

CITY COMMISSION

Tommy Ruzzano	Mayor
Arlene R. Schwartz	Vice Mayor
Anthony N. Caggiano	Commissioner
Lesa "Le" Peerman	Commissioner
Joanne Simone	Commissioner

ADMINISTRATION

Douglas E. Smith	City Manager
Eugene M. Steinfeld	City Attorney
Joseph J. Kavanagh, CMC	City Clerk
Reddy Chitepu, P.E.	Director of Environmental & Engineering Services



SECTIONS 25 & 36, TOWNSHIP 48S, RANGE 41E
& SECTION 32, TOWNSHIP 48S, RANGE 42E

LOCATION MAP

N.T.S

INDEX OF DRAWINGS

SHT #	DWG #	DESCRIPTION
01	-	COVER SHEET
02	KEY-1	KEY PLAN
03	GN-1	GENERAL NOTES 1
04	GN-2	GENERAL NOTES 2
05	C-1	AERIAL CROSSING PLAN AND PROFILE PLAN
06	D-1	DETAILS 1
07	D-2	DETAILS 2
08	D-3	STRUCTURAL DETAILS



3440 Hollywood Boulevard, Suite 465
Hollywood, FL 33021



& ASSOCIATES

500 West Cypress Creek Road • Suite 630
Fort Lauderdale, FL • 33309
(954) 730-0707

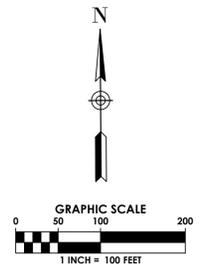
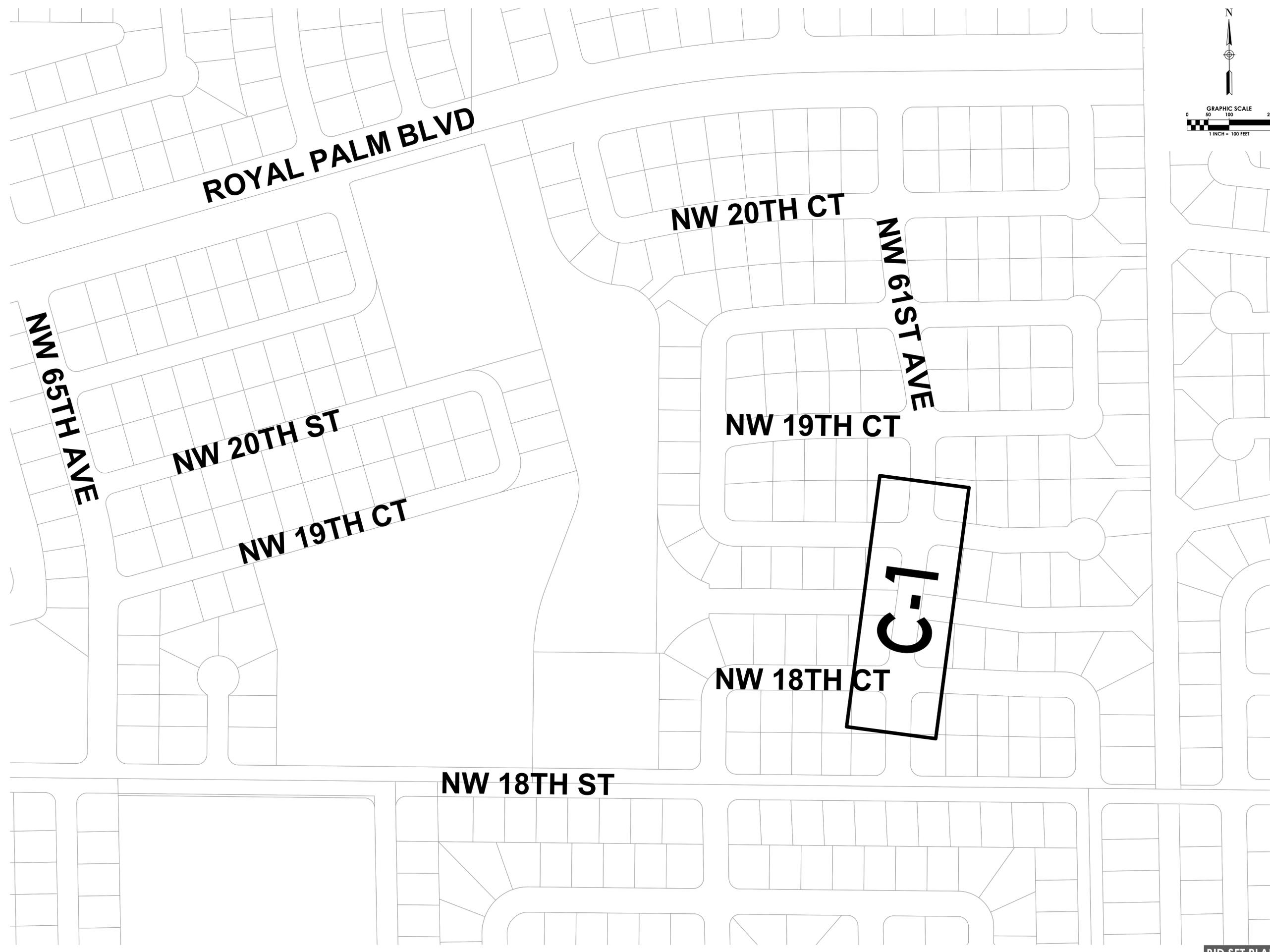
www.chenmoore.com

EB No. 0004593

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



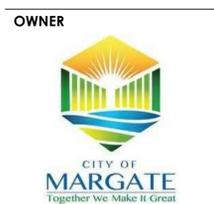
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CHEN MOORE
& ASSOCIATES
500 West Cypress Creek Road
Ft. Lauderdale, FL 33309
954.730.0707
www.chenmoore.com

CERTIFICATES OF AUTHORIZATION
EB0004593 LC26000425

REGISTRATION
PAULA A. FONSECA, P.E.
REGISTRATION NO. 77711
DATE: _____



CLIENT

3440 HOLLYWOOD BOULEVARD
SUITE 465
HOLLYWOOD, FL 33021

PROJECT INFORMATION

AERIAL CROSSING DESIGN PHASE II SITE 11

CITY OF MARGATE, FLORIDA

PROJECT NUMBER 15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

DATE OF ISSUE 11/06/2015

DESIGNED BY

DRAWN BY

CHECKED BY

DRAWING TITLE

KEY PLAN

DRAWING NUMBER
KEY-1
02 OF 8

BID SET PLANS

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE CITY OF MARGATE, WATER AND WASTE WATER SPECIFICATIONS.
- CONTRACTOR SHALL NOTE THAT ASBESTOS CEMENT PIPE IS PRESENT ON THIS SITE. CONTRACTOR SHALL FOLLOW SPECIFICATIONS AND REGULATORY AGENCY MEASUREMENTS FOR HANDLING AND DISPOSAL OF SUCH ELEMENTS.
- VERTICAL INFORMATION IS RELATIVE TO N.A.V.D. 88. HORIZONTAL INFORMATION IS RELATIVE TO STATE PLANE COORDINATES FLORIDA EAST ZONE NORTH AMERICAN DATUM 1983/1990 ADJUSTMENT.
- THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLAN ARE APPROXIMATE, ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXACT LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATION. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION AND THE LOCATIONS AND ELEVATIONS OF EXPOSED FEATURES SHALL BE CAREFULLY NOTED ON THE PROJECT RECORD "AS-BUILT" DRAWINGS. ANY AND ALL CONFLICT OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS MUST BE RESOLVED BY THE CONTRACTOR IN AN APPROVED MANNER. THE COST INVOLVED SHALL BE INCLUDED IN THE PRICE FOR ALL OTHER WORK.
- CONTRACTOR SHALL PROVIDE A FIVE (5) DAY NOTICE TO CITY AND ENGINEER PRIOR TO ANY CONSTRUCTION ACTIVITY ON SITE WHERE WATER AND/OR FORCE MAIN PIPES NEED TO BE SHUTDOWN. CONTRACTOR TO COORDINATE WITH THE CITY TO ISOLATE WATER OR SEWER MAIN.
- 48 HOURS PRIOR TO DIGGING, CONTRACTOR SHALL COORDINATE WITH ALL UNDERGROUND SERVICE COMPANIES TO VERIFY THE LOCATION OF THEIR FACILITIES. ADDITIONALLY, CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. AT 1-800-432-4770 PRIOR TO DIGGING.
- THE INFORMATION PROVIDED IN THESE PLANS IS TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT ANY INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED. CONTRACTOR IS RESPONSIBLE TO VERIFY DIMENSIONS AND FIELD CONDITIONS PRIOR TO ORDERING ANY PARTS.
- THE CONTRACTOR IS ADVISED TO USE EXTREME CAUTION WHEN CONSTRUCTION IS NEAR OR AROUND ANY ELECTRICAL FACILITIES.
- THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO ARRANGE RELOCATION AND TEMPORARY SUPPORT OF UTILITY FEATURES, ETC., AS NECESSARY TO COMPLETE THE WORK.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED.
- THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS WITH CURRENT FIELD CHANGES ACCURATELY MARKED AND SHALL DELIVER THESE PLANS TO THE ENGINEER UPON COMPLETION OF CONSTRUCTION. THE CURRENT MARKINGS SHALL BE REVIEWED WITH THE ENGINEER DAILY, OR AS NEEDED, TO ASSURE THAT THEY BOTH AGREE THAT THE MARK-UPS REFLECT THE ACTUAL "AS-BUILT" CONDITIONS. THE CONTRACTOR WILL PREPARE PROJECT RECORD DRAWINGS AT THE CONCLUSION OF THE PROJECT BASED ON THE MARK-UP DRAWINGS AND TIES.
- ANY U.S.G.S., N.G.V.D. OR STATE OF FLORIDA MONUMENT OR BENCH WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND DISTRICT LOCATION SURVEYOR.
- ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED.
- ALL EXISTING UTILITIES ARE TO REMAIN UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS ADVISED THAT PROPERTIES ADJACENT TO THE PROJECT HAVE WATER AND SEWER SERVICES WHICH MAY NOT BE SHOWN IN THE PLANS. THE CONTRACTOR MUST REQUEST THE LOCATION OF THESE LATERAL SERVICES. THE ADDITIONAL COST OF EXCAVATING, INSTALLING, BACKFILLING AND COMPACTING AROUND THESE LATERALS SERVICING SAID PROPERTIES MUST BE INCLUDED IN THE BID ITEMS.
- IF SHEETING, SHORING, DEWATERING INCLUDING WELL POINTS ARE NECESSARY AND UTILIZED, THE CONTRACTOR MUST MONITOR AND CONTROL ALL WORK THAT MAY CAUSE CRACKING TO ANY ADJACENT BUILDING AND THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY ITS OPERATIONS. THE COST OF THIS WORK WILL BE INCLUDED IN THE RELATED BID ITEM FOR THE WORK BEING DONE.
- CONTRACTOR SHALL NOTIFY PROPERTY OWNERS A MINIMUM OF FIFTEEN (15) DAYS PRIOR TO CONSTRUCTION ON THEIR STREET.
- CONTRACTOR SHALL DELIVER WRITTEN NOTIFICATION TO THE CITY, ENGINEER, AND PROPERTY OCCUPANTS OF ALL PLANNED DISRUPTION TO UTILITIES 72 HOURS IN ADVANCE OF DISRUPTION.
- THE CONTRACTOR SHALL MAINTAIN SAFE VEHICULAR ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES AND WILL MAINTAIN ACCOMMODATIONS FOR INTERSECTING AND CROSSING TRAFFIC. NO ROAD OR STREET CROSSING WILL BE BLOCKED OR UNDULY RESTRICTED AS DETERMINED BY THE ENGINEER.
- ANY PAVEMENT MARKINGS OR SIGNS THAT ARE DAMAGED SHALL BE REPAIRED OR REPLACED WITH THERMOPLAST ACCORDING TO BROWARD COUNTY SPECIFICATIONS.
- THE CONTRACTOR SHALL USE A STREET SWEEPER (USING WATER) OR OTHER EQUIPMENT CAPABLE OF CONTROLLING AND REMOVING DUST. APPROVAL OF THE USE OF SUCH EQUIPMENT IS CONTINGENT UPON ITS DEMONSTRATED ABILITY TO DO THE WORK.
- RECONSTRUCTION OF SIDEWALKS AND DRIVEWAYS SHALL MEET CITY OF MARGATE, BROWARD COUNTY, OR CITY OF COCONUT CREEK (AS APPLICABLE) MINIMUM STANDARDS.
- THE PERMIT PLAN SET MUST BE ON SITE AT ALL TIMES.
- ALL NEW ABOVE GROUND PIPE AND FITTINGS TO BE FLANGED AND COATED AS PER TECHNICAL SPECIFICATION FOR THIS PROJECT.
- ALL ACTIVITIES SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH LOCAL RULES AND LEGISLATION REGARDING POLLUTION PREVENTION FOR WATER, SOIL AND AIR. ALSO, ALL APPLICABLE RULES AND LEGISLATION REGARDING PERSONAL HEALTH AND SAFETY SHALL BE OBSERVED.
- CONTRACTOR TO PAVE OR INSTALL CONCRETE AT ITS OWN RISK IF INSTALLED WATER MAIN AND/OR FORCE MAIN HAS NOT BEEN CERTIFIED BY THE ENGINEER.
- ALL PIPE, JOINTS, VALVES, AND RELATED APPURTENANCES ARE TO BE RESTRAINED PER CONSTRUCTION DETAILS.
- WATER MAIN PIPE SHALL BE COLOR CODED IN ACCORDANCE WITH F.A.C. 62-555.320(21)(B)(3) AND FORCE MAIN BELOW GROUND SHALL BE COLOR CODED GREEN.
- EXISTING AIR RELEASE VALVE AND FAN GUARDS, INCLUDING ALL RELATED APPURTENANCES, REMOVED FROM SITE SHALL BE SALVAGED AND DELIVERED TO THE CITY OF MARGATE.
- ALL UNDERGROUND WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 30 INCHES FOR DUCTILE IRON PIPES.
- CONTRACTOR TO PROVIDE PRELIMINARY PLANS DEPICTING LOCATION OF PIPE JOINTS.
- DUCTILE IRON PIPE SHALL MEET OR EXCEED AWWA/ANSI C151/A21.51, LATEST REVISIONS. ALL ABOVE GROUND PIPE INSTALLATION IS REQUIRED TO BE FLANGED DUCTILE IRON PIPE AND SHALL CONFORM OR EXCEED AWWA/ANSI C115/A21.15, LATEST REVISION. PIPE AND FITTINGS SHALL BE CEMENT MORTAR LINED AND SEAL-COATED IN ACCORDANCE WITH ANSI/AWWA C104/A21.4.

TESTING / WATER SERVICE

- HYDROSTATIC TESTING: HYDROSTATIC TESTING OF WATER SERVICE LINES SHALL BE DONE IN CONJUNCTION WITH THE TESTING OF THE LATERAL OR MAIN LINE. NO ADDITIONAL LEAKAGE ALLOWANCE WILL BE MADE FOR SERVICE LINES.
- STERILIZATION: STERILIZATION OF SERVICE LINES SHALL BE DONE IN CONJUNCTION WITH THE STERILIZATION OF THE LATERAL OR THE MAIN LINE. SUFFICIENT SAMPLING POINTS SHALL BE TAKEN FROM SERVICE LINE CONNECTIONS TO ASSURE UNIFORM RESULTS THROUGHOUT THE SYSTEM BEING TESTED.
- ALL FIRE LINES TO BE INSTALLED AND TESTED PER N.F.P.A. 24 CODE. CONTRACTOR TO TAKE NOTE THAT PRESSURE TEST ON THIS LINE WILL BE AT 250 P.S.I., AND PIPE AND VALVES SHOULD MEET THIS REQUIREMENT.

TESTING / WATER MAIN

- WATER MAINS SHALL BE TESTED IN ACCORDANCE WITH A.N.S.I. / A.W.W.A. STANDARDS C-600-10 HYDROSTATIC TESTS SHALL BE CONDUCTED AS FOLLOWS: AFTER A NEW PRESSURE MAIN HAS BEEN LAID AND BACKFILLED, IT SHALL BE PUMPED TO A PRESSURE OF 150 P.S.I. AND SHALL NOT VARY BY MORE THAN ± 5 P.S.I. FOR THE DURATION OF THE TEST. ALL VISIBLE LEAKS SHALL BE STOPPED BY APPROVED METHODS. A LEAKAGE TEST SHALL THEN BE CONDUCTED AT THE ABOVE MENTIONED PRESSURE AND NO INSTALLATION WILL BE ACCEPTABLE BY THE ENGINEER UNTIL THE LEAKAGE IS LESS THAN THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FOLLOWING FORMULA:

$$Q = \frac{LD\sqrt{P}}{148,000} \quad \text{A.N.S.I./A.W.W.A. C600 - 10 STANDARDS}$$

IN WHICH Q EQUAL THE ALLOWABLE LEAKAGE IN GALLONS PER HOUR; L = LENGTH OF LINES IN FEET; D = DIAMETER OF LINES IN INCHES; AND P IS THE AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH. THE TEST SHALL BE MAINTAINED FOR A TWO (2) HOUR DURATION, BUT IT MAY BE CONTINUED FOR ONE (1) ADDITIONAL HOUR IF IT BECOMES APPARENT THAT THE LEAKAGE IS EQUAL TO OR GREATER THAN THE AMOUNT ALLOWABLE. WATER SUPPLIED TO THE MAIN DURING THE TEST TO MAINTAIN THE REQUIRED PRESSURE SHALL BE MEASURED BY A 5/8 INCH METER INSTALLED ON THE DISCHARGE SIDE OF THE TEST PUMP, OR BY PUMPING FROM A CALIBRATED CONTAINER. A HOSE BIBB CONNECTION WILL BE PROVIDED TO ACCEPT THE TEST GAUGE SUPPLIED BY THE CITY OF MARGATE. THE SECTION OF THE MAIN BEING TESTED SHALL BE LIMITED TO A MAXIMUM LENGTH OF 2200 FEET, OR THE DISTANCE BETWEEN THE TWO (2) CLOSEST VALVES, WHICHEVER IS GREATER. WHEN TESTING AGAINST CLOSED METAL-SEATED VALVES, AND ADDITIONAL LEAKAGE PER CLOSED VALVE OF 0.0078 GAL/HR/IN OF NOMINAL VALVE SIZE SHALL BE ALLOWED. ANY QUESTIONS PERTAINING TO PROCEDURES USED DURING THE TEST SHALL BE DIRECTED BY THE ENGINEER.

- STERILIZATION SHALL BE PERFORMED AFTER THE WATER MAINS HAVE SATISFIED THE LEAKAGE REQUIREMENTS. THE WATER MAINS SHALL BE FLUSHED THROUGH OPENINGS OF THE REQUIRED SIZE AS DETAILED IN A.N.S.I. / A.W.W.A. STANDARD C-651-05. THE MAIN SHALL THEN BE STERILIZED IN ACCORDANCE WITH THE PROVISIONS OF THE APPLICABLE SECTIONS OF THE ABOVE NAMED SPECIFICATIONS, ON MAIN BREAKS, CUT-INS, ETC. A LIBERAL APPLICATION OF CALCIUM HYPROCHLORITE SHALL BE MADE. MAINS SHALL NOT BE PUT INTO DOMESTIC SERVICE UNTIL AFTER THE NECESSARY BACTERIOLOGICAL SAMPLES HAVE BEEN APPROVED BY THE APPLICABLE REGULATORY AGENCIES.

NOTES ON WATER - SEWER SEPARATION:

- 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 OR FORCE MAINS 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 (D.I.P.) AT THE CROSSING. SUFFICIENT LENGTHS OF D.I.P. MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN 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 CROSSING.
- ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPE CENTERED ON 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 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 PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF D.I.P. AND THE SANITARY SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF D.I.P. WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
- ALL D.I.P. SHALL BE PRESSURE CLASS 350 FOR 4" TO 24" PIPE MINIMUM, ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN.

CHEN-MOORE

&ASSOCIATES

500 West Cypress Creek Road
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www.chenmoore.com

CERTIFICATES OF AUTHORIZATION
EB0004593 LC26000425

REGISTRATION

PAULA A. FONSECA, P.E.
REGISTRATION NO. 77711
DATE: _____

OWNER



CITY OF
MARGATE
Together We Make It Great

CLIENT

carollo

3440 HOLLYWOOD BOULEVARD
SUITE 465
HOLLYWOOD, FL 33021

PROJECT INFORMATION

**AERIAL
CROSSING
DESIGN PHASE II
SITE 11**

CITY OF MARGATE,
FLORIDA

PROJECT NUMBER
15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES

0 1"

IF NOT ONE INCH ON THIS SHEET,
ADJUST SCALES ACCORDINGLY

REVISIONS

DATE OF ISSUE

11/06/2015

DESIGNED BY

DRAWN BY

CHECKED BY

DRAWING TITLE

GENERAL NOTES

1

DRAWING NUMBER

GN-1

03 OF 8

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

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BID SET PLANS

OWNER



CLIENT



PROJECT INFORMATION

**AERIAL
CROSSING
DESIGN PHASE II
SITE 11**CITY OF MARGATE,
FLORIDAPROJECT NUMBER
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CHECKED BY

DRAWING TITLE

GENERAL NOTES
2DRAWING NUMBER
GN-2
04 OF 8**EXISTING CONDITIONS:**

- EXISTING CONDITIONS PRESENTED ARE BASED ON A TOPOGRAPHIC SURVEY PROVIDED BY STONER & ASSOCIATES, INC., PROJECT 15-8196 ON 4/29/2015. ADDITIONAL INFORMATION WAS OBTAINED FROM AS-BUILTS AND RECORD DRAWINGS PROVIDED BY UTILITY COMPANIES, G.I.S. INFORMATION AND FIELD VISITS.
- BOUNDARY LINES AND RIGHT-OF-WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE BASED ON PLATS AND/OR RIGHT-OF-WAY MAPS OF RECORD. THIS SKETCH OF SURVEY DOES NOT REPRESENT A SURVEY OF THE BOUNDARY OR RIGHT OF WAY LINES.
- CONTRACTOR IS TO PROTECT ALL EXISTING TREES, SIGNS, AND ABOVE GROUND UTILITIES NOT IMPACTED BY THIS PLAN.
- COORDINATES SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATES, EAST ZONE, NORTH AMERICAN DATUM (NAD) OF 1983(90). CONTROL POINTS COORDINATES WERE ESTABLISHED BY GLOBAL POSITIONING SYSTEM - REAL TIME KINEMATICS METHOD OBSERVATIONS, HAVING AS POINT OF ORIGIN THE EASTERN BROWARD COUNTY HORIZONTAL GPS COUNTY NETWORK CONTROL POINTS:
 - A10, A PK NAIL AND WASHER STAMPED "BCED GPS A10". N: 700828.192; E: 917824.876
 - A11, A PK NAIL AND WASHER STAMPED "BCED GPS A11". N: 697701.630; E: 917881.545
 - A15, A PK NAIL AND WASHER STAMPED "BCED GPS A15". N: 690247.865; E: 916894.500
 - C13, A RAILROAD SPIKE WITH PUNCH HOLE. N: 693007.020; E: 923680.821
- THE ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88) ESTABLISHED FROM BROWARD COUNTY ENGINEERING DEPARTMENT BENCHMARKS:
 - BM 1569. "X" CUT ON THE NORTHWEST CORNER OF A BUILDING SLAB OF CUMBERLAND FARMS STORE AT 6900 WEST ATLANTIC BOULEVARD, ELEVATION: 12.974' (N.A.V.D. 88)
 - BM 2740. S.B.C. STAMPED BM# 150 AT CENTER OF NORTH CONCRETE WALL OF BRIDGE, SUNSHINE WAY, BETWEEN SUNSHINE DRIVE AND LAKE DRIVE. ELEVATION=15.976' (N.A.V.D. 88)
 - BM 3008."X" CUT IN THE NORTH EDGE OF THE SOUTHERN BELL MANHOLE ON THE WEST SIDE OF STATE ROAD 7, AT THE END OF COCONUT CREEK PARKWAY, ELEVATION: 11.769' (N.A.V.D. 88)
 - BM 3063. "X" CUT IN THE SOUTH EDGE OF THE SIDEWALK ON THE NORTH SIDE OF THE MARGATE BRIDGE WEST OF N.W. 69th AVENUE. ELEVATION=14.463' (N.A.V.D. 88)
- HEDGES, GROUND COVER, OTHER LANDSCAPE FEATURES, AND IRRIGATION FEATURES, SUCH AS SPRINKLERS, ARE NOT SHOWN HEREON, UNLESS OTHERWISE NOTED.

MAINTENANCE OF TRAFFIC SCHOOL/PEDESTRIAN

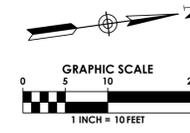
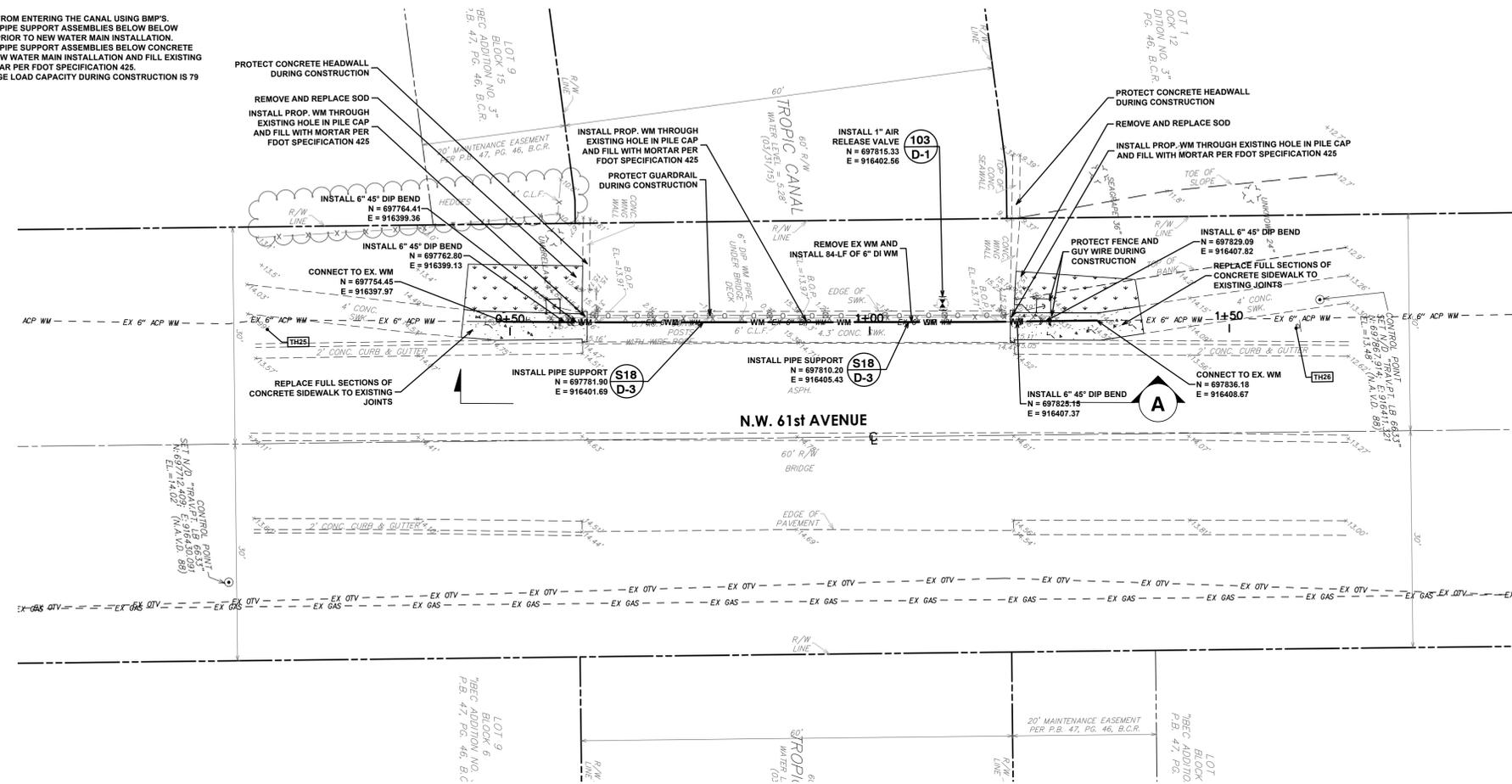
- PROVIDE AT LEAST ONE SAFE, WALKABLE PATH THROUGHOUT THE CONSTRUCTION ZONE. IF THE EXISTING CURRENT WALKING SURFACES CANNOT BE MAINTAINED, THEN A TEMPORARY PATH, A MINIMUM OF 4 FOOT WIDE, SHALL BE PROVIDED AND DELINEATED. TEMPORARY PATHS SHALL BE DELINEATED BY A 4 FOOT HIGH ORANGE CONSTRUCTION FENCE FOR THE ENTIRE LENGTH OF THE TEMPORARY WALK PATH. THE PATH SHALL MEET ALL ADA REQUIREMENTS. THE CONTRACTOR SHALL ALSO INSTALL OR MODIFY ANY ADDITIONAL PAVEMENT, SIGNING, MARKINGS OR PEDESTRIAN SIGNALS AS NEEDED IN CONJUNCTION WITH THE TEMPORARY PATH.
- ON DAYS THAT SCHOOL IS IN SESSION, THE CONTRACTOR'S WORK SCHEDULE WITHIN THE SCHOOL ZONE MAY BE REDUCED BASED ON ACTUAL WORK ACTIVITIES IN THE SCHOOL ZONE. SEE MAINTENANCE OF TRAFFIC PLANS FOR DETAILS ON THE WORK ZONE RESTRICTIONS, IF WARRANTED. ANY CHANGES IN THE MAINTENANCE OF TRAFFIC WORK SCHEDULES WITHIN SCHOOL ZONES SHOULD BE DISCUSSED DURING THE MANDATORY RECONSTRUCTION - SCHOOL SAFETY MEETING.
- ALL WORK REQUIRED AT DESIGNATED SCHOOL CROSSINGS AND PEDESTRIAN CROSSINGS SHALL BE RESTORED TO A SAFE WALKABLE PATH BETWEEN THE HOURS NOTED IN No. 2 ABOVE.
- THIRTY (30) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE SPECIAL PROJECTS COORDINATOR AT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2671, TO ARRANGE A PRE-CONSTRUCTION - SCHOOL SAFETY MEETING.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE BROWARD COUNTY SCHOOL BOARD PUPIL TRANSPORTATION DEPARTMENT TO ARRANGE A PRE-CONSTRUCTION SCHOOL BUS ROUTE MEETING AT THE FOLLOWING:

5.1.	RUTH MASTERS	ROUTING	(754) 321-4400 EXT. # 2309
	RUTH.MASTERS@BROWARD.SCHOOLS.COM		
5.2.	VINCENT HARRELL	STUDENT TRANSPORTATION & FLEET SERVICE	(754) 321-4472
	VINVENT.HARRELL@BROWARDSCHOOLS.COM		
5.3.	MARY TOCHTERMANN	STUDENT TRANSPORTATION & FLEET SERVICE	(754) 321-4400 EXT. # 2006
	MARY.TOCHTERMANN@BROWARDSCHOOLS.COM		

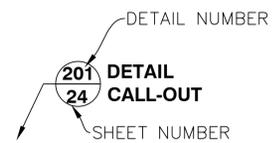


Always call 811 two full business days before you dig to have underground utilities located and marked.

- NOTES:
1. PREVENT DEBRIS FROM ENTERING THE CANAL USING BMP'S.
 2. REMOVE EXISTING PIPE SUPPORT ASSEMBLIES BELOW BELOW CONCRETE DECK PRIOR TO NEW WATER MAIN INSTALLATION.
 3. REMOVE EXISTING PIPE SUPPORT ASSEMBLIES BELOW CONCRETE DECK PRIOR TO NEW WATER MAIN INSTALLATION AND FILL EXISTING HOLES WITH MORTAR PER FDOT SPECIFICATION 425.
 4. ALLOWABLE BRIDGE LOAD CAPACITY DURING CONSTRUCTION IS 79 TONS.



- LEGEND:
- ANCHOR
 - AIR RELEASE VALVE
 - BACK FLOW PREVENTER
 - CATCH BASIN
 - CONCRETE LIGHT POLE
 - CONCRETE POST
 - SANITARY SEWER MANHOLE
 - SIGN ON POST
 - STORM DRAINAGE MANHOLE
 - WATER VALVE
 - SPOT ELEVATION
 - TEST HOLE NUMBER AND LOCATION
 - PROP. CONCRETE
 - PROP. SOD
 - CENTER LINE
 - RIGHT-OF-WAY LINE
 - PROPERTY LINE
 - EASEMENT LINE
 - EX. FENCE
 - EX. WATER MAIN
 - PROPOSED WATER MAIN



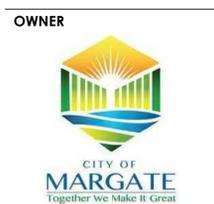
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CERTIFICATES OF AUTHORIZATION
 EB0004593 LC26000425

REGISTRATION
 PAULA A. FONSECA, P.E.
 REGISTRATION NO. 77711
 DATE:



CLIENT
carollo
 3440 HOLLYWOOD BOULEVARD
 SUITE 465
 HOLLYWOOD, FL 33021

PROJECT INFORMATION
AERIAL CROSSING DESIGN PHASE II SITE 11

CITY OF MARGATE, FLORIDA
 PROJECT NUMBER 15-138.016
 CLIENT PROJECT NUMBER

VERIFY SCALES
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

DATE OF ISSUE 11/06/2015
 DESIGNED BY

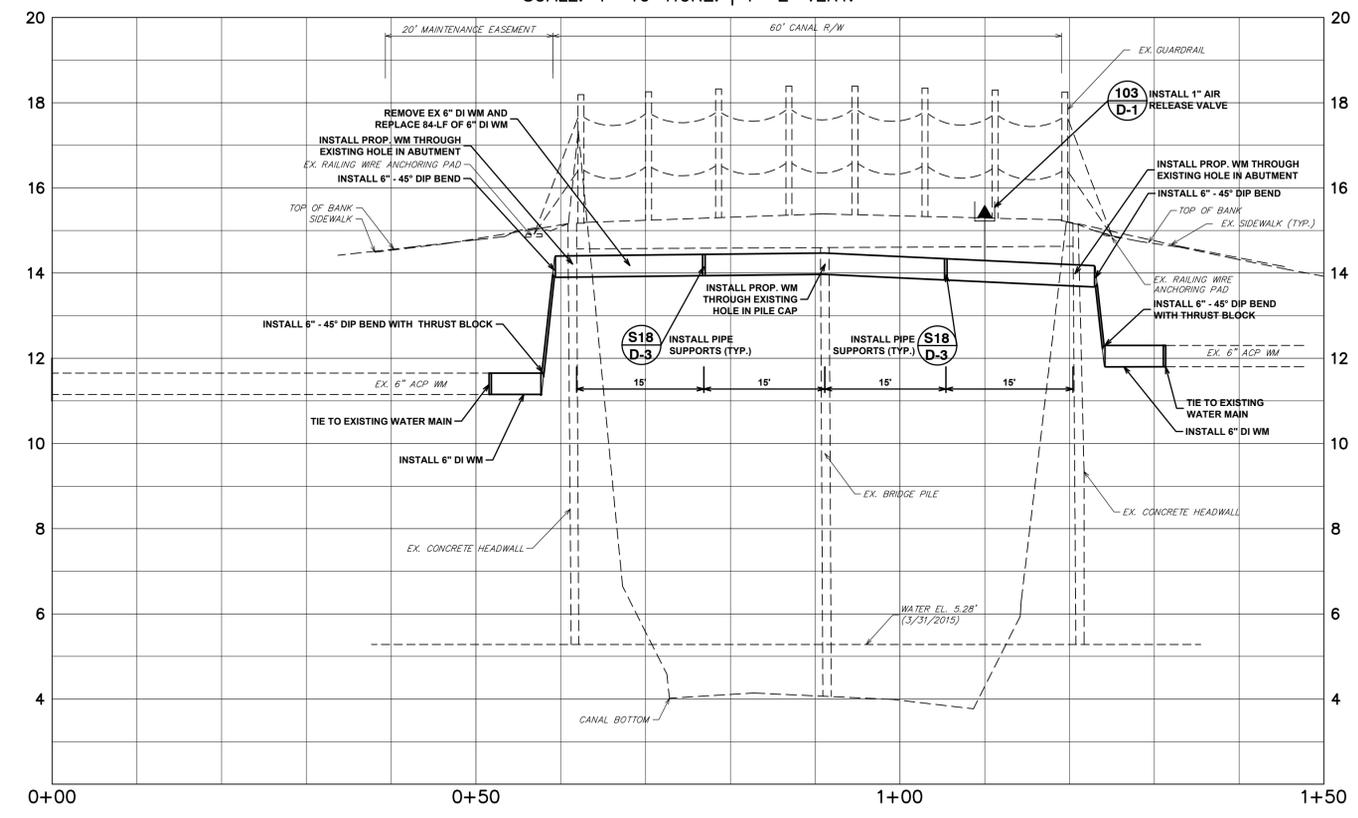
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DRAWING TITLE
AERIAL CROSSING PLAN AND PROFILE PLAN

DRAWING NUMBER
C-1
 05 OF 8

Site 11 Water Main
 (STA. 0+00.00 TO 1+50.00)
 SCALE: 1"=10' HORZ. | 1"=2' VERT.



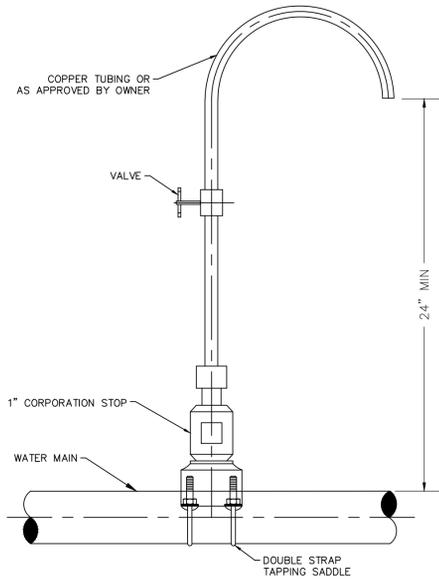
- ABBREVIATIONS:
- AC ASBESTOS-CEMENT
 - ARV AIR RELEASE VALVE
 - ASPH. ASPHALT
 - B.C.R. BROWARD COUNTY RECORDS
 - B.O.P. BOTTOM OF PIPE
 - CI CAST IRON
 - C CENTERLINE
 - C.L.F. CHAIN LINK FENCE
 - CMP CORRUGATED METAL PIPE
 - COL COLUMN
 - CONC. CONCRETE
 - DIP DUCTILE IRON PIPE
 - DWY. DRIVEWAY
 - E EASTING COORDINATES
 - EL ELEVATION
 - FM FORCE MAIN
 - H/T HUB & TACK TEST HOLE MARKER
 - I.E. INVERT ELEVATION
 - IRC IRON ROD AND CAP
 - LB LICENSED BUSINESS
 - MH. MANHOLE
 - N. NORTHING COORDINATES
 - N.A.V.D. 88 NORTH AMERICAN VERTICAL DATUM OF 1988
 - N/D NAIL AND DISC
 - P.B. PLAT BOOK
 - PG. PAGE
 - PK PK NAIL TEST HOLE MARKER
 - PRD POLLUTANT RETARDANT DEVICE (BAFFLE)
 - RCP REINFORCED CONCRETE PIPE
 - P.V.R.S. PAVERS
 - R.E. RM ELEVATION
 - R/W RIGHT-OF-WAY
 - SAN SANITARY
 - STRUCT. STRUCTURE
 - SPK SPIKE TEST HOLE MARKER
 - STL PN STEEL PIN TEST HOLE MARKER
 - SWK SIDEWALK
 - T.O.P. TOP OF PIPE
 - WM WATER MAIN

SUMMARY OF VERIFIED UTILITIES

TH#	TYPE OF UTILITY	SIZE & MATERIAL	UTILITY DIRECTION	COVER	NOTES
25	WATER	6" ASBESTOS CEMENT	N/S	2.33	H/T CROWN
26	WATER	6" ASBESTOS CEMENT	N/S	1.15	SPK CROWN

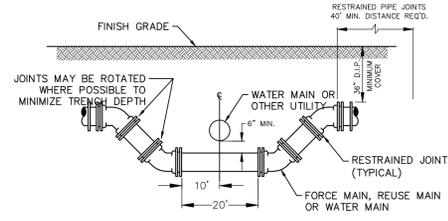
Plot Date: 11/16/2016 8:26:39 PM Username: Pfonseca Layout Name: C-1
 Folder Path: C:\Users\Pfonseca\Desktop\Projects\2015\15-138.016 - Aerial Crossings Ph II\Design\CAD\Site 11 Plans Filename: 15-138.016 Site 11 Aerial Crossing Plan and Profile.dwg

BID SET PLANS



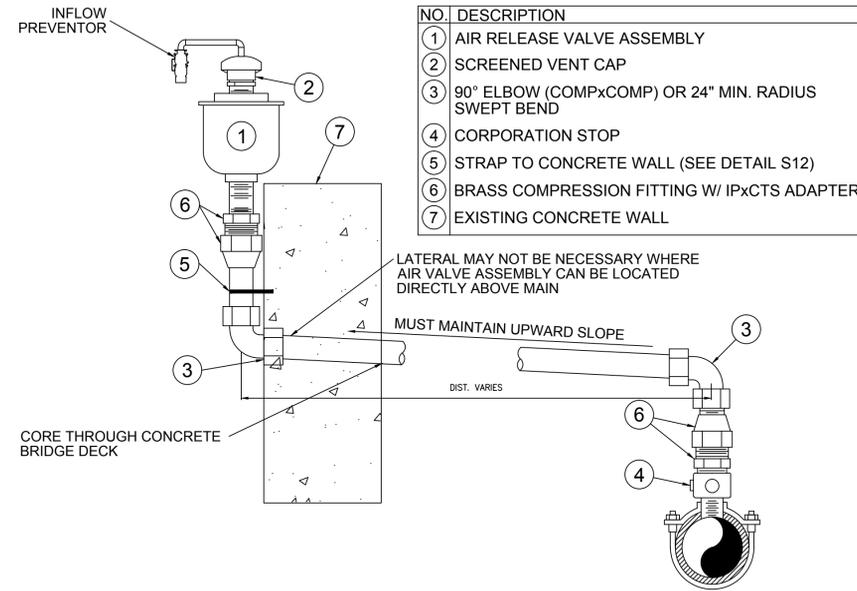
- NOTES:
1. SAMPLE POINTS SHALL BE LOCATED AND LATER REMOVED AS REQUIRED BY BROWARD COUNTY HEALTH DEPARTMENT.
 2. CORPORATION STOP SHALL BE UTILIZED FOR AIR RELEASE VALVE ASSEMBLY AFTER HEALTH DEPARTMENT CLEARANCE.

101 SAMPLING POINT
N.T.S.



NOTE:
WHEREVER POSSIBLE DEFLECTION OF THE PIPE WILL BE USED TO AVOID EXISTING OBSTRUCTIONS. THIS CROSSING SHALL BE USED ONLY WHEN ORDERED BY THE ENGINEER.

102 SPECIAL UTILITY CROSSING
N.T.S.



- | NO. | DESCRIPTION |
|-----|---|
| 1 | AIR RELEASE VALVE ASSEMBLY |
| 2 | SCREENED VENT CAP |
| 3 | 90° ELBOW (COMPxCOMP) OR 24" MIN. RADIUS SWEEP BEND |
| 4 | CORPORATION STOP |
| 5 | STRAP TO CONCRETE WALL (SEE DETAIL S12) |
| 6 | BRASS COMPRESSION FITTING W/ IPxCTS ADAPTER |
| 7 | EXISTING CONCRETE WALL |

- NOTES:
1. FOR ALL INSTALLATIONS UP TO & INCLUDING 2" PIPE MATERIAL SHALL BE STAINLESS STEEL ABOVE GROUND. FOR LARGER INSTALLATIONS THE DESIGN SHALL BE ON A CASE BY CASE BASIS.
 2. CONTRACTOR SHALL FIELD VERIFY EACH LOCATION WHERE NEW AIR RELEASE VALVES ARE TO BE INSTALLED AND SUBMIT SITE SPECIFIC SHOP DRAWINGS WITH MANUFACTURER DETAILS DEMONSTRATING CONFORMANCE TO THE REQUIREMENTS ALONG WITH A BASIC DIMENSIONAL SKETCH OF PROPOSED INSTALLATION, GEOMETRY AND LOCATION FOR ENGINEER APPROVAL.

103 AIR RELEASE VALVE ASSEMBLY ON THE SIDE OF THE BRIDGE
N.T.S.

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LAYING CONDITION: TYPE 4 (PIPE BEDDED IN SAND, GRAVEL, OR CRUSHED STONE TO THE DEPTH OF 1/8 PIPE DIAMETER, 4 INCHES MINIMUM. BACKFILL COMPACTED TO TOP OF PIPE).

DEPTH OF COVER: 2.5 FEET

WORKING PRESSURE: 150 P.S.I.

SOIL BEARING: 2,000 P.S.F. AGAINST UNDISTURBED SOIL.

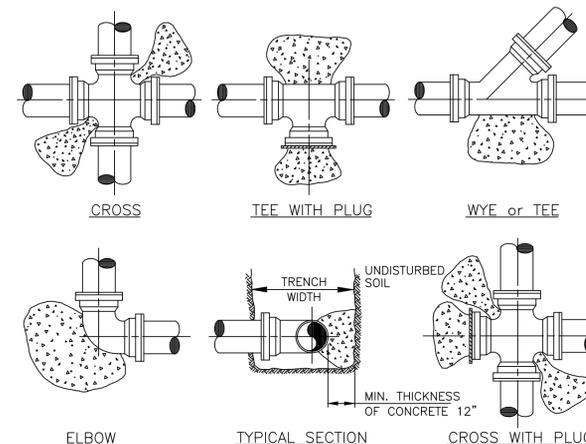
PIPE DIA. (IN.)	11.25d (FT)	22.5d (FT)	45d (FT)	90d (FT)	DEAD END (FT)	TEE (FT)	45d VERT. BEND (FT)	22d VERT. BEND (FT)
6	5	9	16	31	60	35	20	12
8	6	11	20	42	80	50	25	14
10	7	14	24	52	100	60	26	18
12	8	16	28	63	120	65	30	20
14	10	18	32	73	130	80	35	23
16	11	20	35	84	140	90	40	26
18	12	22	39	94	150	100	45	28
20	13	24	42	105	180	120	55	32
24	14	27	49	126	220	150	65	35

NOTE THAT IN ACTUAL INSTALLATIONS, THE RESTRAINED LENGTH WILL BE IN MULTIPLES OF LENGTH OF ONE PIECE OF PIPE (NORMALLY 18 TO 20 FEET). THUS, FOR EXAMPLE, IF THE RESTRAINED LENGTH FOR 6 INCH PIPE LEADING UP TO A 90 DEGREE BEND IS 30 FEET, TWO FULL LENGTHS OF RESTRAINED PIPE WILL RESULT IN 36 TO 40 FEET OF RESTRAINT, PROVIDING AN ADDITIONAL SAFETY FACTOR. WHERE SHORT CONNECTING PIECES ARE NEEDED TO POSITION FITTINGS, THEY SHOULD, WHEN POSSIBLE, BE PLACED OUTSIDE THE RESTRAINED SECTION FOR MAXIMUM ECONOMY.

THE ABOVE SCHEDULE IS ONLY A GUIDELINE. THE CONTRACTOR MUST VERIFY AND REVISE CALCULATIONS TO MEET INSTALLATION REQUIREMENTS.

104 RESTRAINED PIPE JOINT SCHEDULE
N.T.S.

- NOTES:
1. CONCRETE THRUST BLOCKS OR THRUST COLLARS ONLY TO BE USED WITH OWNER'S APPROVAL.
 2. CONCRETE THRUST BLOCKS OR THRUST COLLARS MAY BE UTILIZED ONLY IF NECESSARY FOR CONNECTIONS TO AN EXISTING PIPING SYSTEM, OTHERWISE MECHANICAL RESTRAINTS SHALL BE USED. KEEP "T" BOLTS CLEAR OF CONCRETE, WRAPPED IN VISQUEEN FOR FUTURE ACCESS, WITH A MINIMUM OF 1" THICKNESS BETWEEN THE FITTING AND SOIL.
 3. BEFORE POURING CONCRETE, PLUGS SHALL BE WRAPPED WITH VISQUEEN AND A BOARD PLACED IN FRONT.
 4. CONCRETE SHALL BE 2500 P.S.I. MINIMUM.
 5. THE CONTRACTOR SHALL SUBMIT A THRUST BLOCK SIZE CALCULATION FOR TEE CONNECTIONS INTO UNRESTRAINED EXISTING MAINS LARGER THAN 14".
 6. THE CONTRACTOR SHALL SUBMIT A PIPE RESTRAINT DESIGN FOR INLINE EXTENSIONS OF AN EXISTING UNRESTRAINED MAIN IF MECHANICAL JOINT RESTRAINT CAN NOT BE INSTALLED ON THE EXISTING MAIN.



PIPE	THRUST BLOCK AREA REQ'D	REMARKS	NOTE:
4"	2.0 SQ. FT.	VALUES ARE FOR 90° BEND, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. FOR OTHER SOILS & PRESSURES THE AREA REQUIRED IS IN DIRECT PROPORTION	NOTE: FOR OTHER FITTINGS USE THE FOLLOWING FACTORS: TEE 100% 45° BEND 71% 22 1/2° BEND 39% 11 1/4° BEND 20% DEAD END 100%
6"	4.0 SQ. FT.		
8"	6.6 SQ. FT.		
10"	10.0 SQ. FT.		
12"	14.0 SQ. FT.		
14"	18.6 SQ. FT.		

106 TYPICAL THRUST BLOCKS FOR PRESSURE PIPING
N.T.S.

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CHEN-MOORE & ASSOCIATES
500 West Cypress Creek Road
Ft. Lauderdale, FL 33309
954.730.0707
www.chenmoore.com

CERTIFICATES OF AUTHORIZATION
EB0004593 LC26000425

REGISTRATION
PAULA A. FONSECA, P.E.
REGISTRATION NO. 77711
DATE:

OWNER
CITY OF MARGATE
Together We Make It Great

CLIENT
carollo
3440 HOLLYWOOD BOULEVARD
SUITE 465
HOLLYWOOD, FL 33021

PROJECT INFORMATION
AERIAL CROSSING DESIGN PHASE II SITE 11

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

DATE OF ISSUE
11/06/2015

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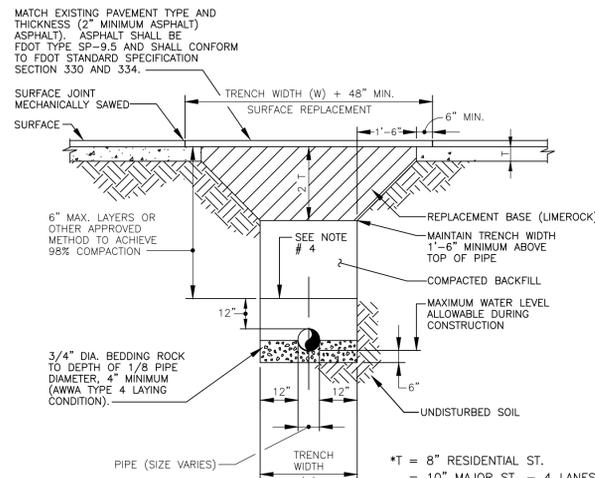
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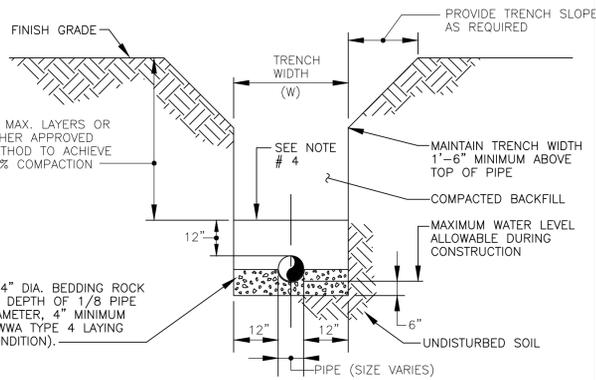
DETAILS 1

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D-1
06 OF 8



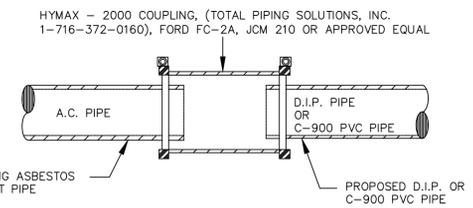
- NOTES:**
1. REPLACED BASE MATERIAL OVER TRENCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE, BUT NO LESS THAN 1\"/>
 - 2. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100.
 - 3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SEALED.
 - 4. MECHANICAL COMPACTION IS NOT ALLOWED BELOW THIS LEVEL.
 - 5. COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
 - 6. PERMIT REQUIRED FROM ENGINEERING TO CUT PAVEMENT.
 - 7. IF TRENCH IS FILLED TEMPORARILY IT SHALL BE COVERED WITH A 2\"/>
 - 8. REMOVE UNSUITABLY SIZED STONES FOUND IN TRENCH TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF PIPE.

107 TRENCH IN PAVED AREAS DETAIL
N.T.S.



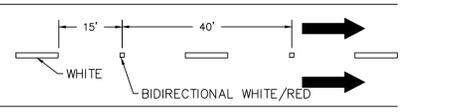
- NOTES:**
1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
 2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
 3. COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
 4. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
 5. REMOVE UNSUITABLY SIZED STONES FOUND IN TRENCH TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF PIPE.

108 REPLACEMENT OF TRENCH IN UNPAVED AREAS DETAIL
N.T.S.



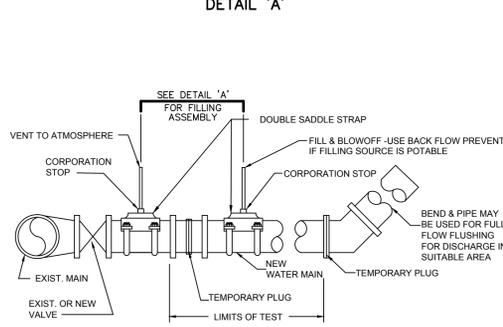
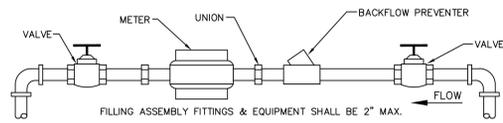
- NOTES:**
1. PREPARE THE PIPE ENDS TO A DISTANCE OF AT LEAST 3 INCHES BEYOND THE LENGTH OF THE COUPLING. PIPE PREPARATION WILL CONSIST OF CLEANING AND DE-SCALING EACH PIPE END, REMOVING ANY DEBRIS OR BUILD UP ON THE PIPE ENDS AND CLEAN THE OUTER PIPE SURFACE WITH SOAPY WATER.
 2. THE END GAP IS LEFT BETWEEN THE PIPE ENDS. A PIPE END GAP OF AT LEAST 2 INCHES IS REQUIRED BETWEEN THE PIPE ENDS TO PREVENT CENTERING PIN AND PIPE INTERFACE.
 3. USE OF A TORQUE WRENCH IS MANDATORY ACCORDING TO MANUFACTURER RECOMMENDATIONS.

110 A.C. CONNECTION DETAIL
N.T.S.



- NOTE:**
1. REFLECTIVE PAVEMENT MARKERS (RPM) SHALL BE SPACED AT 40' ON ALL SKIP LANE LINES AND SKIP CENTER LINES.
 2. ALL RPM'S SHALL BE CLASS "B"

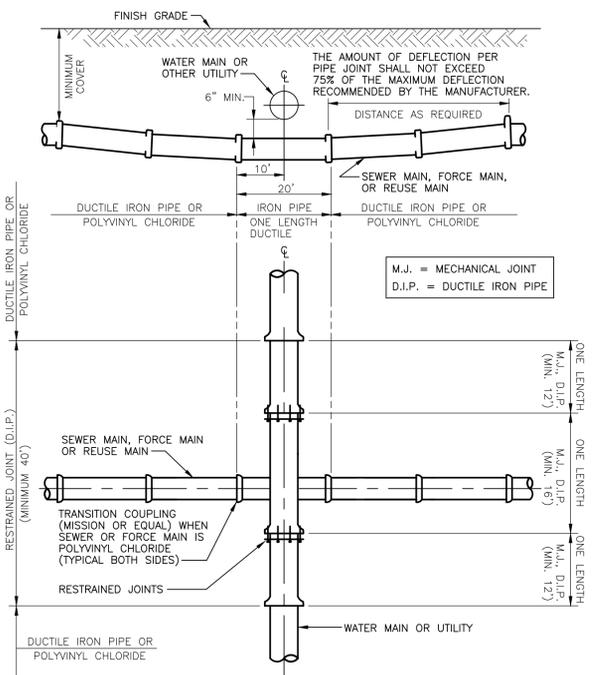
109 TYPICAL PLACEMENT OF RPM
N.T.S.



- NOTES:**
1. TEMPORARY CONNECTION ON THE NEW MAIN SHALL BE AT THE PROPOSED AIR RELIEF VALVE TAP LOCATION. OTHERWISE REMOVE TEMPORARY CONNECTION AT CORPORATION STOPS ON NEW MAIN AFTER FILLING AND FLUSHING HAS BEEN COMPLETED.
 2. COMPLY WITH ALL H.R.S. BROWARD COUNTY PUBLIC HEALTH UNIT REGULATIONS.
 3. PROVIDE ALL NECESSARY THRUST BLOCKS OR OTHER RESTRAINTS.
 4. INJECT CHLORINE ON PROJECT SIDE OF BACKFLOW PREVENTER (POTABLE WATER MAINS ONLY).
 5. FILLING & FLUSHING LOCATION SHALL BE DETERMINED BY THE CONTRACTOR, ENGINEER AND THE CITY.

111 FILLING AND FLUSHING CONNECTION
N.T.S.

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



112 STANDARD UTILITY CROSSING
N.T.S.

- NOTES:**
1. CONCRETE TO BE CLASS 1, 3000 P.S.I.
 2. THE USE OF REINFORCEMENT IS NOT PERMITTED.
 3. SIDEWALK SLOPES SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
 4. RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS IN ACCORDANCE WITH FDOT INDEX 304.
 5. THE VERTICAL DEVIATION FOR A NEW SIDEWALK SHALL NOT BE MORE THAN 1/2\"/>
 - 6. THE VERTICAL DEVIATION FOR A NEW MAINTENANCE ACCESS STRUCTURES COVER SHALL NOT BE MORE THAN 1/4\"/>
 - 7. SUBGRADE MATERIAL SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY, PER AASHTO T-99.
 - 8. STAMPED CONCRETE IS NOT ALLOWED IN LIEU OF TRUNCATED DOMES.
 - 9. SEE HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION APPROVED PRODUCT LIST FOR ACCEPTABLE MATERIALS FOR TRUNCATED DOMES.
 - 10. WHEN THE REMOVAL OF SIDEWALKS, CURBS OR GUTTERS IS NECESSARY FOR CONSTRUCTION, THEY SHALL BE REMOVED IN FULL SECTIONS OR A MINIMUM OF FIVE (5) FEET IN LENGTH, AND ALL BROKEN EDGES CUT STRAIGHT, CLEAN AND SMOOTH BY APPROPRIATE MEANS. IF THE ROAD PAVEMENT IS DAMAGED DURING SUCH REMOVAL, IT SHALL BE REPAIRED IN ACCORDANCE WITH CHAPTER 25, SECTION 5-6 OF THE BROWARD COUNTY HIGHWAY CONSTRUCTION & ENGINEERING DIVISION MINIMUM STANDARDS.

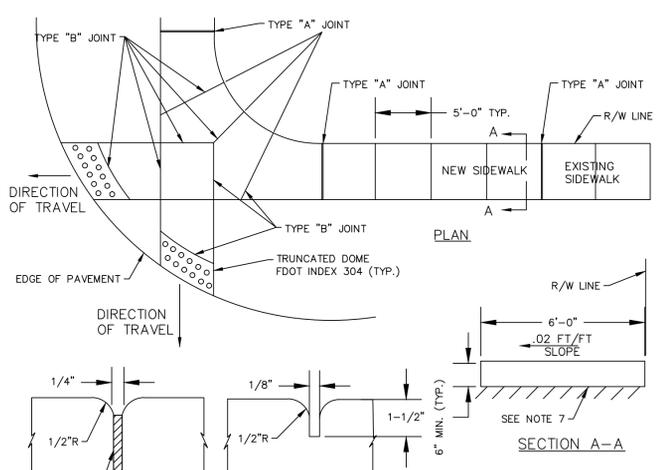
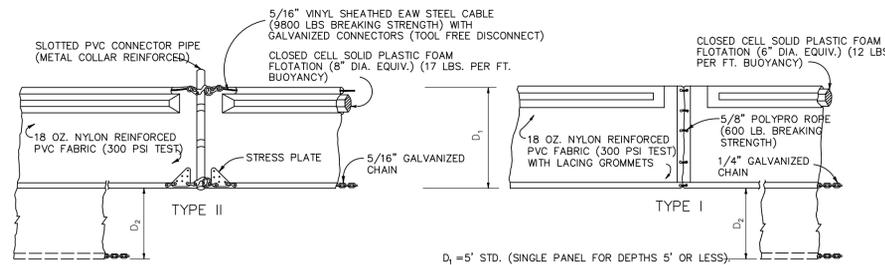
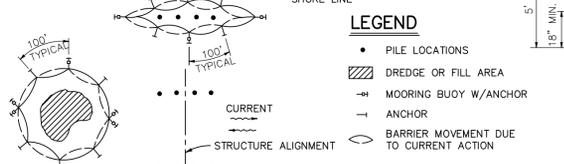
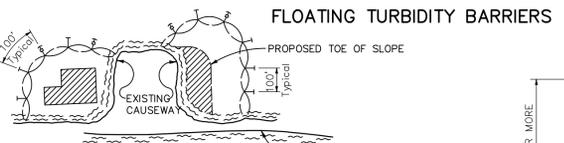


TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
"A"	P.C.P.T. OF CURVES & WHERE SIDEWALK ABUTS CONCRETE DRIVEWAY.
"B"	5'-0" CENTER TO CENTER ON SIDEWALKS.

113 SIDEWALK DETAILS
N.T.S.



- NOTICE:** COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

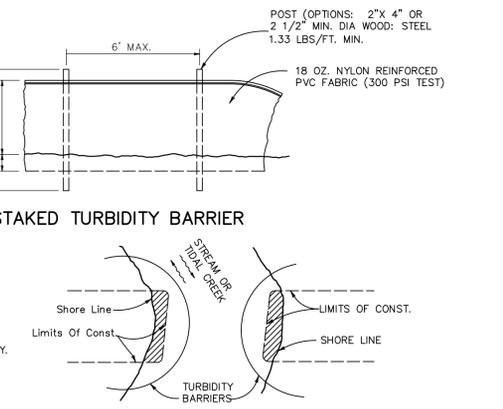


- NOTES:**
1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
 2. TURBIDITY BARRIERS SHALL BE OF SUFFICIENT LENGTH & DEPTH & SUFFICIENTLY STABILIZED IN ORDER TO MINIMIZE TURBIDITY.
 3. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
 4. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
 5. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
 6. FOR ADDITIONAL INFORMATION SEE SECTION 104 OF THE STANDARD SPECIFICATIONS.

TURBIDITY BARRIER APPLICATIONS WATER QUALITY

1. PRIOR TO CONSTRUCTION AND DURING ALL OPERATIONS THAT MAY DEGRADE WATER QUALITY, THE CONTRACTOR SHALL PRACTISE TURBIDITY CONTROLS TO PREVENT VIOLATIONS FOR THE WATER QUALITY STANDARDS AS OUTLINED IN CHAPTER 62-302, F.A.C.

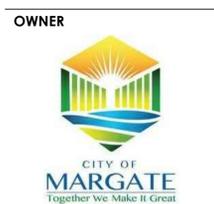
114 TURBIDITY BARRIER
N.T.S.



- NOTES:**
- TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTORS OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS. HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIER AND/OR STAKED TURBIDITY BARRIER. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

CERTIFICATES OF AUTHORIZATION
EB0004593 LC26000425

REGISTRATION
PAULA A. FONSECA, P.E.
REGISTRATION NO. 77711
DATE:



CLIENT

carollo
3440 HOLLYWOOD BOULEVARD
SUITE 465
HOLLYWOOD, FL 33021

PROJECT INFORMATION

AERIAL CROSSING DESIGN PHASE II SITE 11

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES
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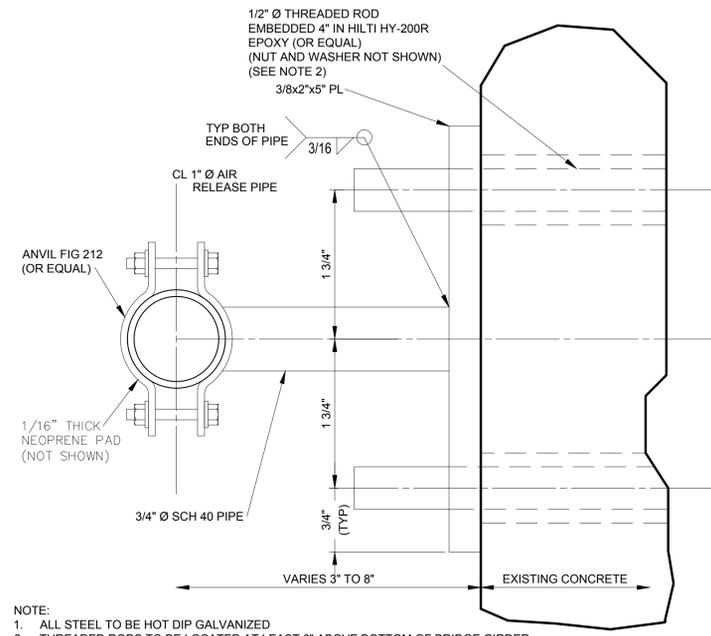
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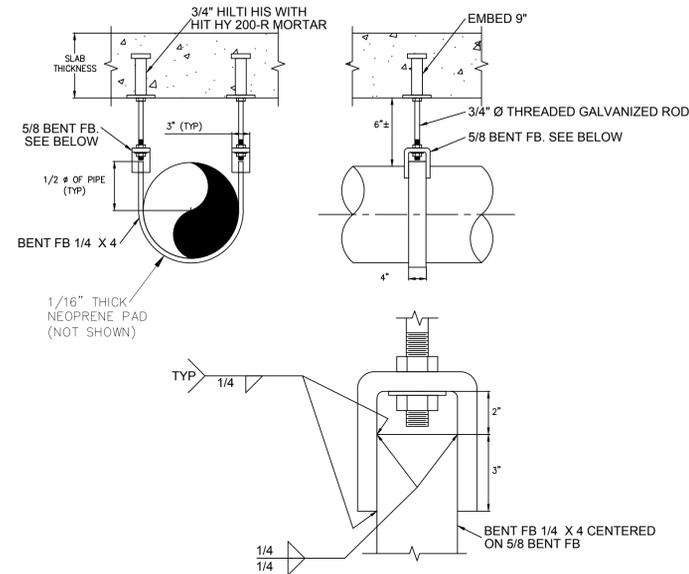
DETAILS 2

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D-2



- NOTE:
 1. ALL STEEL TO BE HOT DIP GALVANIZED
 2. THREADED RODS TO BE LOCATED AT LEAST 6" ABOVE BOTTOM OF BRIDGE GIRDER.

S12 AIR RELEASE VALVE PIPE SUPPORT
 N.T.S.



S18 PIPE SUPPORTS
 N.T.S.

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AERIAL CROSSING DESIGN PHASE II

SITE 13

CITY OF MARGATE, FLORIDA

BID SET PLANS

11/06/2015



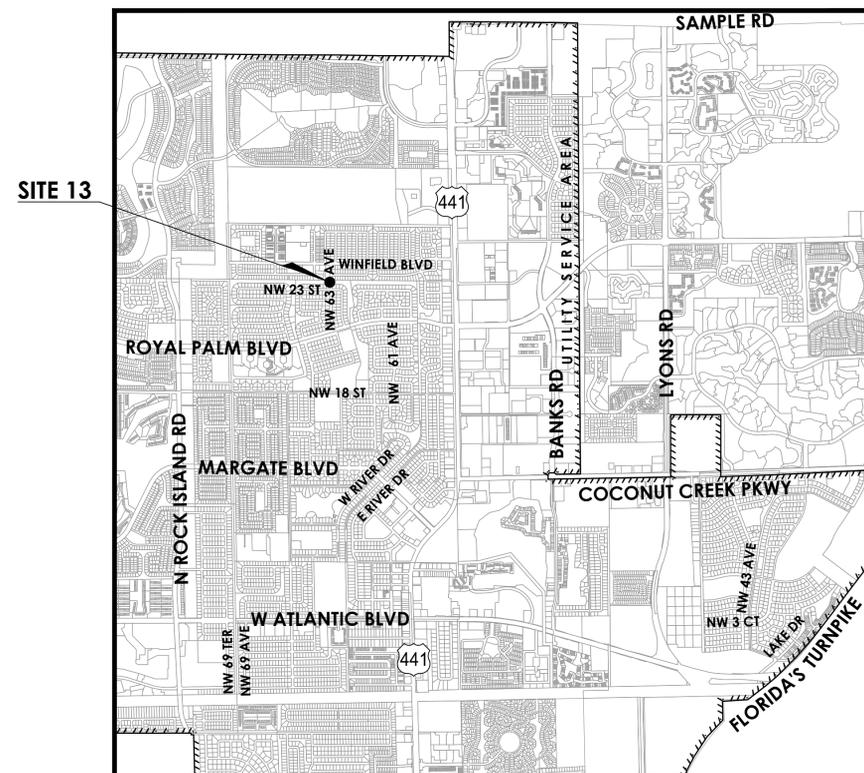
Department of Environmental
and Engineering Services
901 NW 66th Avenue, Suite A
Margate, FL 33063
(954) 972-0828

CITY COMMISSION

Tommy Ruzzano	Mayor
Arlene R. Schwartz	Vice Mayor
Anthony N. Caggiano	Commissioner
Lesa "Le" Peerman	Commissioner
Joanne Simone	Commissioner

ADMINISTRATION

Douglas E. Smith	City Manager
Eugene M. Steinfeld	City Attorney
Joseph J. Kavanagh, CMC	City Clerk
Reddy Chitepu, P.E.	Director of Environmental & Engineering Services



SECTIONS 25 & 36, TOWNSHIP 48S, RANGE 41E
& SECTION 32, TOWNSHIP 48S, RANGE 42E

LOCATION MAP

N.T.S.

INDEX OF DRAWINGS

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09	D-3	DETAILS 3
10	D-4	STRUCTURAL DETAILS



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& ASSOCIATES

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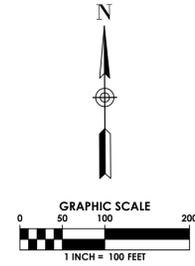
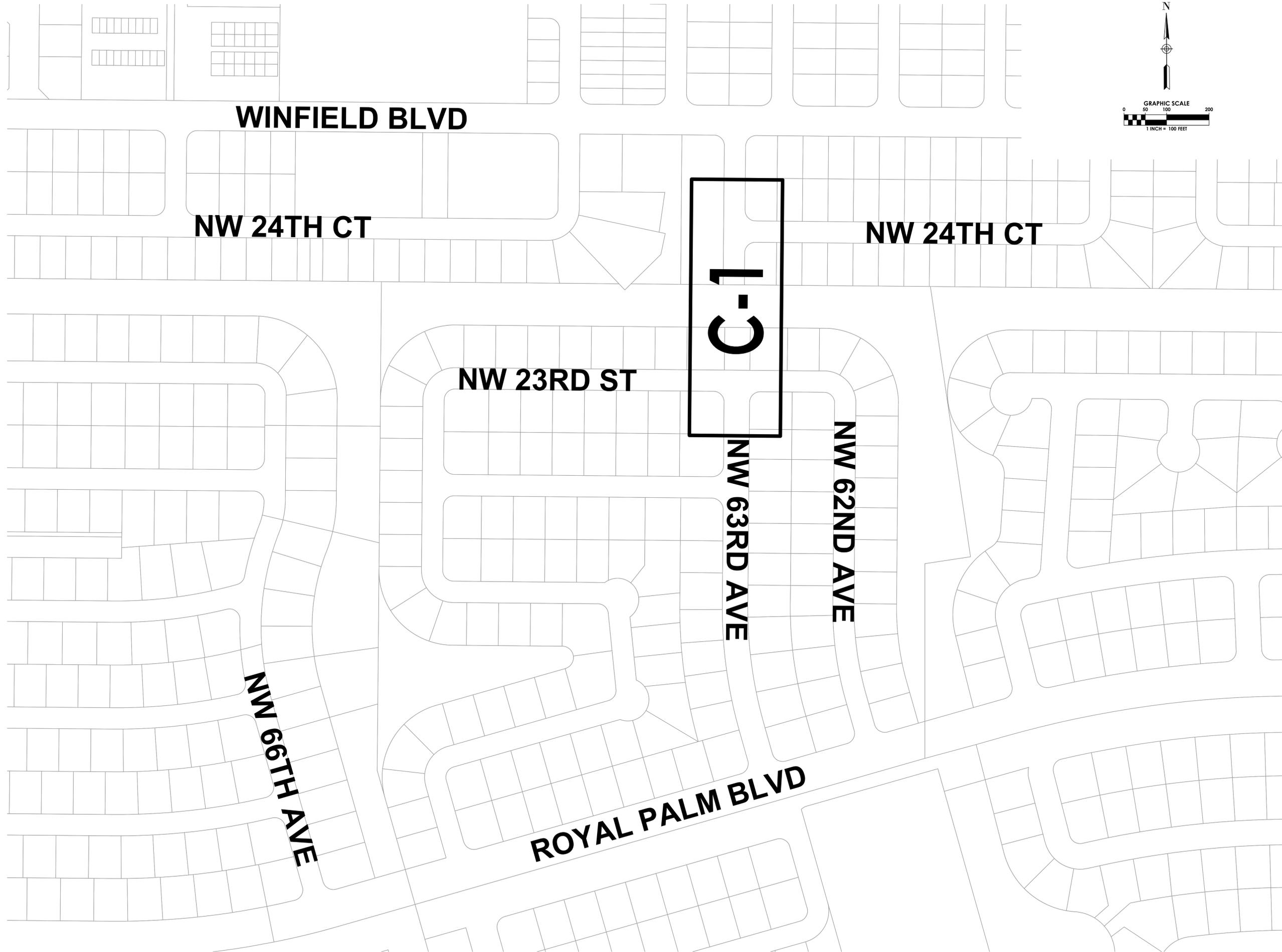
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3440 HOLLYWOOD BOULEVARD
SUITE 465
HOLLYWOOD, FL 33021

PROJECT INFORMATION
**AERIAL
CROSSING
DESIGN PHASE II
SITE 13**
CITY OF MARGATE,
FLORIDA
PROJECT NUMBER
15-138.016
CLIENT PROJECT NUMBER

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KEY PLAN

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KEY-1
02 OF 10

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE CITY OF MARGATE, WATER AND WASTE WATER SPECIFICATIONS.
- CONTRACTOR SHALL NOTE THAT ASBESTOS CEMENT PIPE AND EXISTING PIPE COATING CONTAINING ASBESTOS AND/OR LEAD ARE PRESENT ON THIS SITE. CONTRACTOR SHALL FOLLOW SPECIFICATIONS AND REGULATORY AGENCY MEASUREMENTS FOR HANDLING AND DISPOSAL OF SUCH ELEMENTS.
- VERTICAL INFORMATION IS RELATIVE TO N.A.V.D. 88. HORIZONTAL INFORMATION IS RELATIVE TO STATE PLANE COORDINATES FLORIDA EAST ZONE NORTH AMERICAN DATUM 1983/1990 ADJUSTMENT.
- THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLAN ARE APPROXIMATE, ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXACT LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATION. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION AND THE LOCATIONS AND ELEVATIONS OF EXPOSED FEATURES SHALL BE CAREFULLY NOTED ON THE PROJECT RECORD "AS-BUILT" DRAWINGS. ANY AND ALL CONFLICT OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS MUST BE RESOLVED BY THE CONTRACTOR IN AN APPROVED MANNER. THE COST INVOLVED SHALL BE INCLUDED IN THE PRICE FOR ALL OTHER WORK.
- CONTRACTOR SHALL PROVIDE A FIVE (5) DAY NOTICE TO CITY AND ENGINEER PRIOR TO ANY CONSTRUCTION ACTIVITY ON SITE WHERE WATER AND/OR FORCE MAIN PIPES NEED TO BE SHUTDOWN. CONTRACTOR TO COORDINATE WITH THE CITY TO ISOLATE WATER OR SEWER MAIN.
- 48 HOURS PRIOR TO DIGGING, CONTRACTOR SHALL COORDINATE WITH ALL UNDERGROUND SERVICE COMPANIES TO VERIFY THE LOCATION OF THEIR FACILITIES. ADDITIONALLY, CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. AT 1-800-432-4770 PRIOR TO DIGGING.
- THE INFORMATION PROVIDED IN THESE PLANS IS TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT ANY INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED. CONTRACTOR IS RESPONSIBLE TO VERIFY DIMENSIONS AND FIELD CONDITIONS PRIOR TO ORDERING ANY PARTS.
- THE CONTRACTOR IS ADVISED TO USE EXTREME CAUTION WHEN CONSTRUCTION IS NEAR OR AROUND ANY ELECTRICAL FACILITIES.
- THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO ARRANGE RELOCATION AND TEMPORARY SUPPORT OF UTILITY FEATURES, ETC., AS NECESSARY TO COMPLETE THE WORK.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED.
- THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS WITH CURRENT FIELD CHANGES ACCURATELY MARKED AND SHALL DELIVER THESE PLANS TO THE ENGINEER UPON COMPLETION OF CONSTRUCTION. THE CURRENT MARKINGS SHALL BE REVIEWED WITH THE ENGINEER DAILY, OR AS NEEDED, TO ASSURE THAT THEY BOTH AGREE THAT THE MARK-UPS REFLECT THE ACTUAL "AS-BUILT" CONDITIONS. THE CONTRACTOR WILL PREPARE PROJECT RECORD DRAWINGS AT THE CONCLUSION OF THE PROJECT BASED ON THE MARK-UP DRAWINGS AND TIES.
- ANY U.S.G.S., N.G.V.D. OR STATE OF FLORIDA MONUMENT OR BENCH WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND DISTRICT LOCATION SURVEYOR.
- ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED.
- ALL EXISTING UTILITIES ARE TO REMAIN UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS ADVISED THAT PROPERTIES ADJACENT TO THE PROJECT HAVE WATER AND SEWER SERVICES WHICH MAY NOT BE SHOWN IN THE PLANS. THE CONTRACTOR MUST REQUEST THE LOCATION OF THESE LATERAL SERVICES. THE ADDITIONAL COST OF EXCAVATING, INSTALLING, BACKFILLING AND COMPACTING AROUND THESE LATERALS SERVICING SAID PROPERTIES MUST BE INCLUDED IN THE BID ITEMS.
- IF SHEETING, SHORING, DEWATERING INCLUDING WELL POINTS ARE NECESSARY AND UTILIZED, THE CONTRACTOR MUST MONITOR AND CONTROL ALL WORK THAT MAY CAUSE CRACKING TO ANY ADJACENT BUILDING AND THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY ITS OPERATIONS. THE COST OF THIS WORK WILL BE INCLUDED IN THE RELATED BID ITEM FOR THE WORK BEING DONE.
- CONTRACTOR SHALL NOTIFY PROPERTY OWNERS A MINIMUM OF FIFTEEN (15) DAYS PRIOR TO CONSTRUCTION ON THEIR STREET.
- CONTRACTOR SHALL DELIVER WRITTEN NOTIFICATION TO THE CITY, ENGINEER, AND PROPERTY OCCUPANTS OF ALL PLANNED DISRUPTION TO UTILITIES 72 HOURS IN ADVANCE OF DISRUPTION.
- THE CONTRACTOR SHALL MAINTAIN SAFE VEHICULAR ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES AND WILL MAINTAIN ACCOMMODATIONS FOR INTERSECTING AND CROSSING TRAFFIC. NO ROAD OR STREET CROSSING WILL BE BLOCKED OR UNDULY RESTRICTED AS DETERMINED BY THE ENGINEER.
- ANY PAVEMENT MARKINGS OR SIGNS THAT ARE DAMAGED SHALL BE REPAIRED OR REPLACED WITH THERMOPLAST ACCORDING TO BROWARD COUNTY SPECIFICATIONS.
- THE CONTRACTOR SHALL USE A STREET SWEEPER (USING WATER) OR OTHER EQUIPMENT CAPABLE OF CONTROLLING AND REMOVING DUST. APPROVAL OF THE USE OF SUCH EQUIPMENT IS CONTINGENT UPON ITS DEMONSTRATED ABILITY TO DO THE WORK.
- RECONSTRUCTION OF SIDEWALKS AND DRIVEWAYS SHALL MEET CITY OF MARGATE, BROWARD COUNTY, OR CITY OF COCONUT CREEK (AS APPLICABLE) MINIMUM STANDARDS.
- THE PERMIT PLAN SET MUST BE ON SITE AT ALL TIMES.
- ALL NEW ABOVE GROUND PIPE AND FITTINGS TO BE FLANGED AND COATED AS PER TECHNICAL SPECIFICATION FOR THIS PROJECT.
- ALL ACTIVITIES SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH LOCAL RULES AND LEGISLATION REGARDING POLLUTION PREVENTION FOR WATER, SOIL AND AIR. ALSO, ALL APPLICABLE RULES AND LEGISLATION REGARDING PERSONAL HEALTH AND SAFETY SHALL BE OBSERVED.
- CONTRACTOR TO PAVE OR INSTALL CONCRETE AT ITS OWN RISK IF INSTALLED WATER MAIN AND/OR FORCE MAIN HAS NOT BEEN CERTIFIED BY THE ENGINEER.
- ALL PIPE, JOINTS, VALVES, AND RELATED APPURTENANCES ARE TO BE RESTRAINED PER CONSTRUCTION DETAILS.
- WATER MAIN PIPE SHALL BE COLOR CODED IN ACCORDANCE WITH F.A.C. 62-555.320(21)(B)(3) AND FORCE MAIN BELOW GROUND SHALL BE COLOR CODED GREEN.
- EXISTING AIR RELEASE VALVE AND FAN GUARDS, INCLUDING ALL RELATED APPURTENANCES, REMOVED FROM SITE SHALL BE SALVAGED AND DELIVERED TO THE CITY OF MARGATE.
- ALL UNDERGROUND WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 30 INCHES FOR DUCTILE IRON PIPES.
- CONTRACTOR TO PROVIDE PRELIMINARY PLANS DEPICTING LOCATION OF PIPE JOINTS.
- DUCTILE IRON PIPE SHALL MEET OR EXCEED AWWA/ANSI C151/A21.51, LATEST REVISIONS. ALL ABOVE GROUND PIPE INSTALLATION IS REQUIRED TO BE FLANGED DUCTILE IRON PIPE AND SHALL CONFORM OR EXCEED AWWA/ANSI C115/A21.15, LATEST REVISION.

TESTING / WATER SERVICE

- HYDROSTATIC TESTING: HYDROSTATIC TESTING OF WATER SERVICE LINES SHALL BE DONE IN CONJUNCTION WITH THE TESTING OF THE LATERAL OR MAIN LINE. NO ADDITIONAL LEAKAGE ALLOWANCE WILL BE MADE FOR SERVICE LINES.
- STERILIZATION: STERILIZATION OF SERVICE LINES SHALL BE DONE IN CONJUNCTION WITH THE STERILIZATION OF THE LATERAL OR THE MAIN LINE. SUFFICIENT SAMPLING POINTS SHALL BE TAKEN FROM SERVICE LINE CONNECTIONS TO ASSURE UNIFORM RESULTS THROUGHOUT THE SYSTEM BEING TESTED.
- ALL FIRE LINES TO BE INSTALLED AND TESTED PER N.F.P.A. 24 CODE. CONTRACTOR TO TAKE NOTE THAT PRESSURE TEST ON THIS LINE WILL BE AT 250 P.S.I., AND PIPE AND VALVES SHOULD MEET THIS REQUIREMENT.

TESTING / WATER MAIN

- WATER MAINS SHALL BE TESTED IN ACCORDANCE WITH A.N.S.I. / A.W.W.A. STANDARDS C-600-10 HYDROSTATIC TESTS SHALL BE CONDUCTED AS FOLLOWS: AFTER A NEW PRESSURE MAIN HAS BEEN LAID AND BACKFILLED, IT SHALL BE PUMPED TO A PRESSURE OF 150 P.S.I. AND SHALL NOT VARY BY MORE THAN ± 5 P.S.I. FOR THE DURATION OF THE TEST. ALL VISIBLE LEAKS SHALL BE STOPPED BY APPROVED METHODS. A LEAKAGE TEST SHALL THEN BE CONDUCTED AT THE ABOVE MENTIONED PRESSURE AND NO INSTALLATION WILL BE ACCEPTABLE BY THE ENGINEER UNTIL THE LEAKAGE IS LESS THAN THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FOLLOWING FORMULA:

$$Q = \frac{LD\sqrt{P}}{148,000} \quad \text{A.N.S.I./A.W.W.A. C600 - 10 STANDARDS}$$

IN WHICH Q EQUAL THE ALLOWABLE LEAKAGE IN GALLONS PER HOUR; L = LENGTH OF LINES IN FEET; D = DIAMETER OF LINES IN INCHES; AND P IS THE AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH. THE TEST SHALL BE MAINTAINED FOR A TWO (2) HOUR DURATION, BUT IT MAY BE CONTINUED FOR ONE (1) ADDITIONAL HOUR IF IT BECOMES APPARENT THAT THE LEAKAGE IS EQUAL TO OR GREATER THAN THE AMOUNT ALLOWABLE. WATER SUPPLIED TO THE MAIN DURING THE TEST TO MAINTAIN THE REQUIRED PRESSURE SHALL BE MEASURED BY A 5/8 INCH METER INSTALLED. ON THE DISCHARGE SIDE OF THE TEST PUMP, OR BY PUMPING FROM A CALIBRATED CONTAINER. A HOSE BIBB CONNECTION WILL BE PROVIDED TO ACCEPT THE TEST GAUGE SUPPLIED BY THE CITY OF MARGATE. THE SECTION OF THE MAIN BEING TESTED SHALL BE LIMITED TO A MAXIMUM LENGTH OF 2200 FEET, OR THE DISTANCE BETWEEN THE TWO (2) CLOSEST VALVES, WHICHEVER IS GREATER. WHEN TESTING AGAINST CLOSED METAL-SEATED VALVES, AND ADDITIONAL LEAKAGE PER CLOSED VALVE OF 0.0078 GAL/HR/IN OF NOMINAL VALVE SIZE SHALL BE ALLOWED. ANY QUESTIONS PERTAINING TO PROCEDURES USED DURING THE TEST SHALL BE DIRECTED BY THE ENGINEER.

- STERILIZATION SHALL BE PERFORMED AFTER THE WATER MAINS HAVE SATISFIED THE LEAKAGE REQUIREMENTS. THE WATER MAINS SHALL BE FLUSHED THROUGH OPENINGS OF THE REQUIRED SIZE AS DETAILED IN A.N.S.I. / A.W.W.A. STANDARD C-651-05. THE MAIN SHALL THEN BE STERILIZED IN ACCORDANCE WITH THE PROVISIONS OF THE APPLICABLE SECTIONS OF THE ABOVE NAMED SPECIFICATIONS, ON MAIN BREAKS, CUT-INS, ETC. A LIBERAL APPLICATION OF CALCIUM HYPROCHLORITE SHALL BE MADE. MAINS SHALL NOT BE PUT INTO DOMESTIC SERVICE UNTIL AFTER THE NECESSARY BACTERIOLOGICAL SAMPLES HAVE BEEN APPROVED BY THE APPLICABLE REGULATORY AGENCIES.

NOTES ON WATER - SEWER SEPARATION:

- 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 OR FORCE MAINS 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 (D.I.P.) AT THE CROSSING. SUFFICIENT LENGTHS OF D.I.P. MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN 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 CROSSING.
- ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPE CENTERED ON 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 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 PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF D.I.P. AND THE SANITARY SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF D.I.P. WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
- ALL D.I.P. SHALL BE PRESSURE CLASS 350 FOR 4" TO 24" PIPE MINIMUM, ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN.

CHEN-MOORE

&ASSOCIATES

500 West Cypress Creek Road
Ft. Lauderdale, FL 33309
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www.chenmoore.com

CERTIFICATES OF AUTHORIZATION
EB0004593 LC26000425

REGISTRATION

PAULA A. FONSECA, P.E.
REGISTRATION NO. 77711
DATE:

OWNER



CITY OF
MARGATE
Together We Make It Great

CLIENT

carollo

3440 HOLLYWOOD BOULEVARD
SUITE 465
HOLLYWOOD, FL 33021

PROJECT INFORMATION

**AERIAL
CROSSING
DESIGN PHASE II
SITE 13**

CITY OF MARGATE,
FLORIDA

PROJECT NUMBER
15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES

0 1"

IF NOT ONE INCH ON THIS SHEET,
ADJUST SCALES ACCORDINGLY

REVISIONS

DATE OF ISSUE

11/06/2015

DESIGNED BY

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DRAWING TITLE

GENERAL NOTES

1

DRAWING NUMBER

GN-1

03 OF 10

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BID SET PLANS

Plot Date: 11/6/2015 2:55:02 PM Username: Pfonseca Layout Name: GN-2
Folder Path: V:\Projects\2015\15-138.016 - Aerial Crossings Ph II\Design\CAD\Site 13 Plans Filename: 15-138.016 Site 13 General Notes.dwg

EXISTING CONDITIONS:

- EXISTING CONDITIONS PRESENTED ARE BASED ON A TOPOGRAPHIC SURVEY PROVIDED BY STONER & ASSOCIATES, INC., PROJECT 15-8196 ON 4/29/2015. ADDITIONAL INFORMATION WAS OBTAINED FROM AS-BUILTS AND RECORD DRAWINGS PROVIDED BY UTILITY COMPANIES, G.I.S. INFORMATION AND FIELD VISITS.
- BOUNDARY LINES AND RIGHT-OF-WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE BASED ON PLATS AND/OR RIGHT-OF-WAY MAPS OF RECORD. THIS SKETCH OF SURVEY DOES NOT REPRESENT A SURVEY OF THE BOUNDARY OR RIGHT OF WAY LINES.
- CONTRACTOR IS TO PROTECT ALL EXISTING TREES, SIGNS, AND ABOVE GROUND UTILITIES NOT IMPACTED BY THIS PLAN.
- COORDINATES SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATES, EAST ZONE, NORTH AMERICAN DATUM (NAD) OF 1983(90). CONTROL POINTS COORDINATES WERE ESTABLISHED BY GLOBAL POSITIONING SYSTEM - REAL TIME KINEMATICS METHOD OBSERVATIONS, HAVING AS POINT OF ORIGIN THE EASTERN BROWARD COUNTY HORIZONTAL GPS COUNTY NETWORK CONTROL POINTS:
 - A10, A PK NAIL AND WASHER STAMPED "BCED GPS A10". N: 700828.192; E: 917824.876
 - A11, A PK NAIL AND WASHER STAMPED "BCED GPS A11". N: 697701.630; E: 917881.545
 - A15, A PK NAIL AND WASHER STAMPED "BCED GPS A15". N: 690247.865; E: 916894.500
 - C13, A RAILROAD SPIKE WITH PUNCH HOLE. N: 693007.020; E: 923680.821
- THE ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88) ESTABLISHED FROM BROWARD COUNTY ENGINEERING DEPARTMENT BENCHMARKS:
 - BM 1569. "X" CUT ON THE NORTHWEST CORNER OF A BUILDING SLAB OF CUMBERLAND FARMS STORE AT 6900 WEST ATLANTIC BOULEVARD, ELEVATION: 12.974' (N.A.V.D. 88)
 - BM 2740. S.B.C. STAMPED BM# 150 AT CENTER OF NORTH CONCRETE WALL OF BRIDGE, SUNSHINE WAY, BETWEEN SUNSHINE DRIVE AND LAKE DRIVE. ELEVATION=15.976' (N.A.V.D. 88)
 - BM 3008. "X" CUT IN THE NORTH EDGE OF THE SOUTHERN BELL MANHOLE ON THE WEST SIDE OF STATE ROAD 7, AT THE END OF COCONUT CREEK PARKWAY, ELEVATION: 11.769' (N.A.V.D. 88)
 - BM 3063. "X" CUT IN THE SOUTH EDGE OF THE SIDEWALK ON THE NORTH SIDE OF THE MARGATE BRIDGE WEST OF N.W. 69th AVENUE. ELEVATION=14.463' (N.A.V.D. 88)
- HEDGES, GROUND COVER, OTHER LANDSCAPE FEATURES, AND IRRIGATION FEATURES, SUCH AS SPRINKLERS, ARE NOT SHOWN HEREON, UNLESS OTHERWISE NOTED.

MAINTENANCE OF TRAFFIC SCHOOL/PEDESTRIAN

- PROVIDE AT LEAST ONE SAFE, WALKABLE PATH THROUGHOUT THE CONSTRUCTION ZONE. IF THE EXISTING CURRENT WALKING SURFACES CANNOT BE MAINTAINED, THEN A TEMPORARY PATH, A MINIMUM OF 4 FOOT WIDE, SHALL BE PROVIDED AND DELINEATED. TEMPORARY PATHS SHALL BE DELINEATED BY A 4 FOOT HIGH ORANGE CONSTRUCTION FENCE FOR THE ENTIRE LENGTH OF THE TEMPORARY WALK PATH. THE PATH SHALL MEET ALL ADA REQUIREMENTS. THE CONTRACTOR SHALL ALSO INSTALL OR MODIFY ANY ADDITIONAL PAVEMENT, SIGNING, MARKINGS OR PEDESTRIAN SIGNALS AS NEEDED IN CONJUNCTION WITH THE TEMPORARY PATH.
- ON DAYS THAT SCHOOL IS IN SESSION, THE CONTRACTOR'S WORK SCHEDULE WITHIN THE SCHOOL ZONE MAY BE REDUCED BASED ON ACTUAL WORK ACTIVITIES IN THE SCHOOL ZONE. SEE MAINTENANCE OF TRAFFIC PLANS FOR DETAILS ON THE WORK ZONE RESTRICTIONS, IF WARRANTED. ANY CHANGES IN THE MAINTENANCE OF TRAFFIC WORK SCHEDULES WITHIN SCHOOL ZONES SHOULD BE DISCUSSED DURING THE MANDATORY RECONSTRUCTION - SCHOOL SAFETY MEETING.
- ALL WORK REQUIRED AT DESIGNATED SCHOOL CROSSINGS AND PEDESTRIAN CROSSINGS SHALL BE RESTORED TO A SAFE WALKABLE PATH BETWEEN THE HOURS NOTED IN No. 2 ABOVE.
- THIRTY (30) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE SPECIAL PROJECTS COORDINATOR AT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2671, TO ARRANGE A PRE-CONSTRUCTION - SCHOOL SAFETY MEETING.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE BROWARD COUNTY SCHOOL BOARD PUPIL TRANSPORTATION DEPARTMENT TO ARRANGE A PRE-CONSTRUCTION SCHOOL BUS ROUTE MEETING AT THE FOLLOWING:

5.1. RUTH MASTERS ROUTING	(754) 321-4400 EXT. # 2309
RUTH.MASTERS@BROWARD.SCHOOLS.COM	
5.2. VINCENT HARRELL STUDENT TRANSPORTATION & FLEET SERVICE	(754) 321-4472
VINVENT.HARRELL@BROWARDSCHOOLS.COM	
5.3. MARY TOCHTERMANN STUDENT TRANSPORTATION & FLEET SERVICE	(754) 321-4400 EXT. # 2006
MARY.TOCHTERMANN@BROWARDSCHOOLS.COM	



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CLIENT

3440 HOLLYWOOD BOULEVARD
SUITE 465
HOLLYWOOD, FL 33021

PROJECT INFORMATION

**AERIAL
CROSSING
DESIGN PHASE II
SITE 13**

CITY OF MARGATE,
FLORIDA

PROJECT NUMBER
15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES

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REVISIONS

DATE OF ISSUE

11/06/2015

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GENERAL NOTES
2

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GN-2
04 OF 10

BID SET PLANS



AERIAL CROSSING DESIGN PHASE II SITE 13

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
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REVISIONS

DATE OF ISSUE
11/06/2015

DESIGNED BY

DRAWN BY

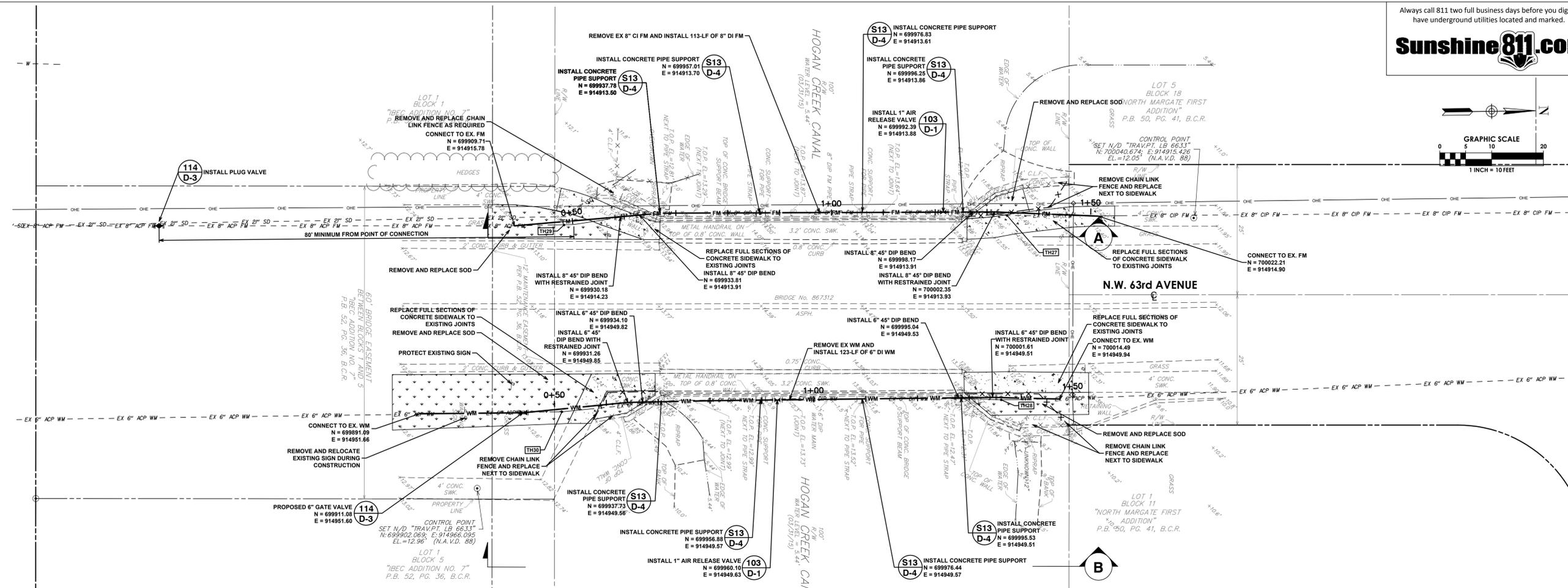
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DRAWING TITLE

AERIAL CROSSING PLAN

DRAWING NUMBER

C-1
05 OF 10



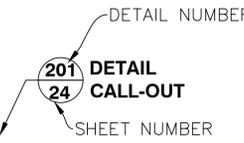
- NOTES:
- CONTRACTOR SHALL NOTE THAT EXISTING PIPE COATING CONTAINING ASBESTOS AND/OR LEAD ARE PRESENT ON THIS SITE. CONTRACTOR SHALL FOLLOW SPECIFICATIONS AND REGULATORY AGENCY MEASUREMENTS FOR HANDLING AND DISPOSAL OF SUCH ELEMENTS.
 - PREVENT DEBRIS FROM ENTERING CANAL USING BMP'S.
 - PROTECT BRIDGE STRUCTURE.
 - CONTRACTOR MAY UTILIZE ARV TAP FOR FILLING AND SAMPLING.
 - FORCE MAIN AND WATER MAIN SHUTDOWN TO BE COORDINATED WITH THE CITY OF MARGATE.
 - CONTRACTOR SHALL NOTE THAT FORCE MAIN CONSTRUCTION ACTIVITIES REQUIRE SEWAGE BYPASS. FORCE MAIN ESTIMATED AVERAGE DAILY FLOW RATE IS 175,000 GALLONS.
 - ALLOWABLE BRIDGE LOAD CAPACITY DURING CONSTRUCTION IS 79 TONS.

SUMMARY OF VERIFIED UTILITIES

TH#	TYPE OF UTILITY	SIZE & MATERIAL	UTILITY DIRECTION	COVER	NOTES
27	SANITARY FORCE MAIN	8" ASBESTOS CEMENT	N/S	4.36	X CROWN
28	WATER	6" ASBESTOS CEMENT	N/S	4.34	SPK CROWN
29	SANITARY FORCE MAIN	8" ASBESTOS CEMENT	N/S	4.23	SPK CROWN
30	WATER	6" ASBESTOS CEMENT	N/S	2.58	HT CROWN

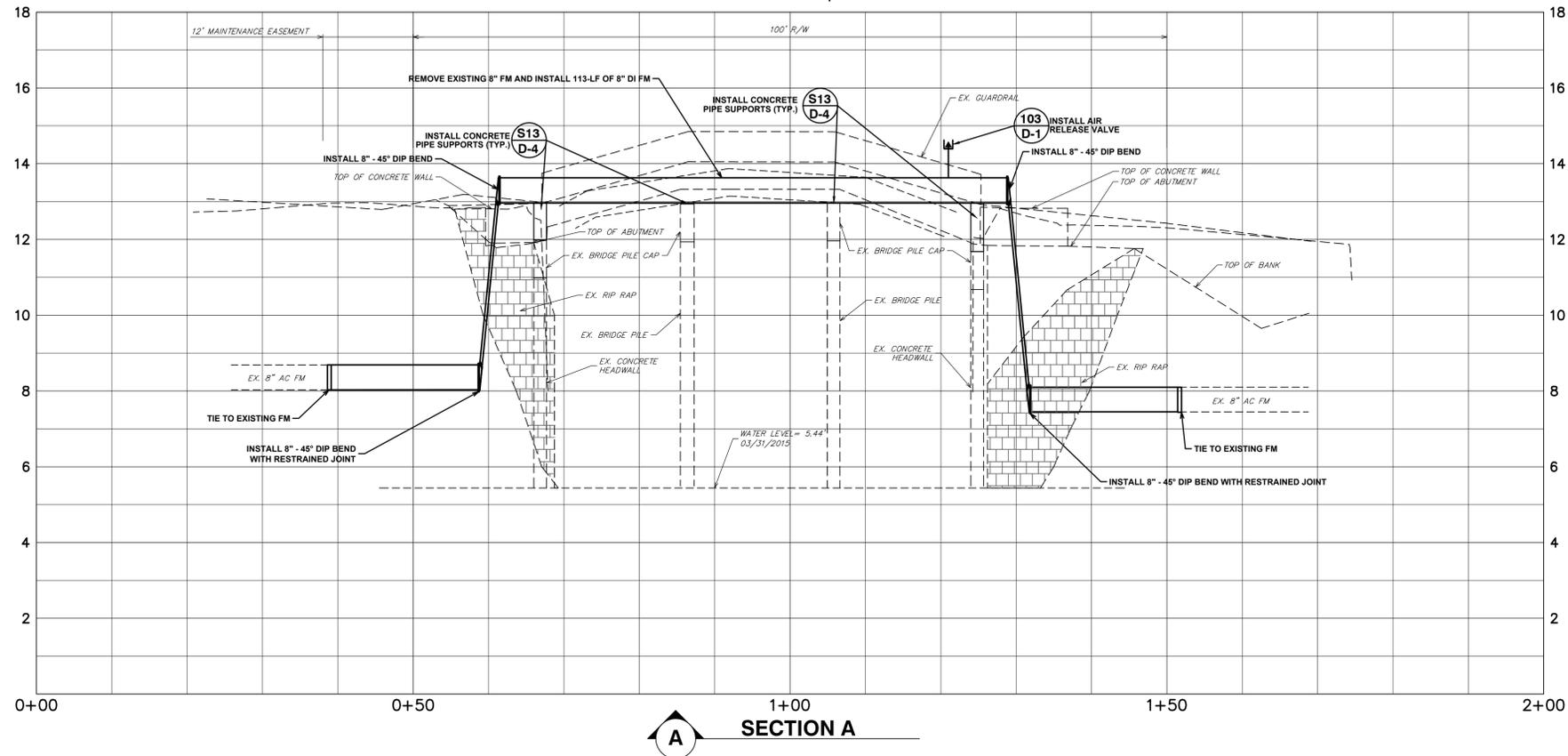
- LEGEND:
- ANCHOR
 - AIR RELEASE VALVE
 - BACK FLOW PREVENTER
 - CATCH BASIN
 - CONCRETE LIGHT POLE
 - CONCRETE POST
 - SANITARY SEWER MANHOLE
 - SIGN ON POST
 - STORM DRAINAGE MANHOLE
 - WATER VALVE
 - SPOT ELEVATION
 - TEST HOLE NUMBER AND LOCATION
 - PROP. CONCRETE
 - PROP. SOD
 - CENTER LINE
 - RIGHT-OF-WAY LINE
 - PROPERTY LINE
 - EASEMENT LINE
 - OVERHEAD ELECTRIC LINES
 - STORM DRAINAGE PIPES
 - SANITARY SEWER PIPES
 - GAS LINES
 - EX. FENCE
 - PROP. FENCE
 - EX. WATER MAIN
 - EX. FORCE MAIN
 - PROPOSED WATER MAIN
 - PROPOSED FORCE MAIN

- ABBREVIATIONS:
- AC - ASBESTOS-CEMENT
 - ARV - AIR RELEASE VALVE
 - ASPH. - ASPHALT
 - B.C.R. - BROWARD COUNTY RECORDS
 - B.O.P. - BOTTOM OF PIPE
 - CI - CAST IRON
 - C - CENTERLINE
 - C.L.F. - CHAIN LINK FENCE
 - CMP - CORRUGATED METAL PIPE
 - COL - COLUMN
 - CONC. - CONCRETE
 - DIP - DUCTILE IRON PIPE
 - DWY. - DRIVEWAY
 - E - EASTING COORDINATES
 - EL - ELEVATION
 - FM - FORCE MAIN
 - H/T. - HUB & TACK TEST HOLE MARKER
 - I.E. - INVERT ELEVATION
 - IRC. - IRON ROD AND CAP
 - LB - LICENSED BUSINESS
 - M.H. - MANHOLE
 - N. - NORTHING COORDINATES
 - N.A.V.D. 88 - NORTH AMERICAN VERTICAL DATUM OF 1988
 - N/D - NAIL AND DISC
 - P.B. - PLAT BOOK
 - PG. - PAGE
 - PK - PK NAIL TEST HOLE MARKER
 - PRD - POLLUTANT RETARDANT DEVICE (BAFFLE)
 - RCP - REINFORCED CONCRETE PIPE
 - PVRS. - PAVERS
 - R.E. - RIM ELEVATION
 - R/W - RIGHT-OF-WAY
 - SAN. - SANITARY
 - STRUCT. - STRUCTURE
 - SPK. - SPIKE TEST HOLE MARKER
 - STL. PN. - STEEL PIN TEST HOLE MARKER
 - SWK. - SIDEWALK
 - T.O.P. - TOP OF PIPE
 - WM - WATER MAIN

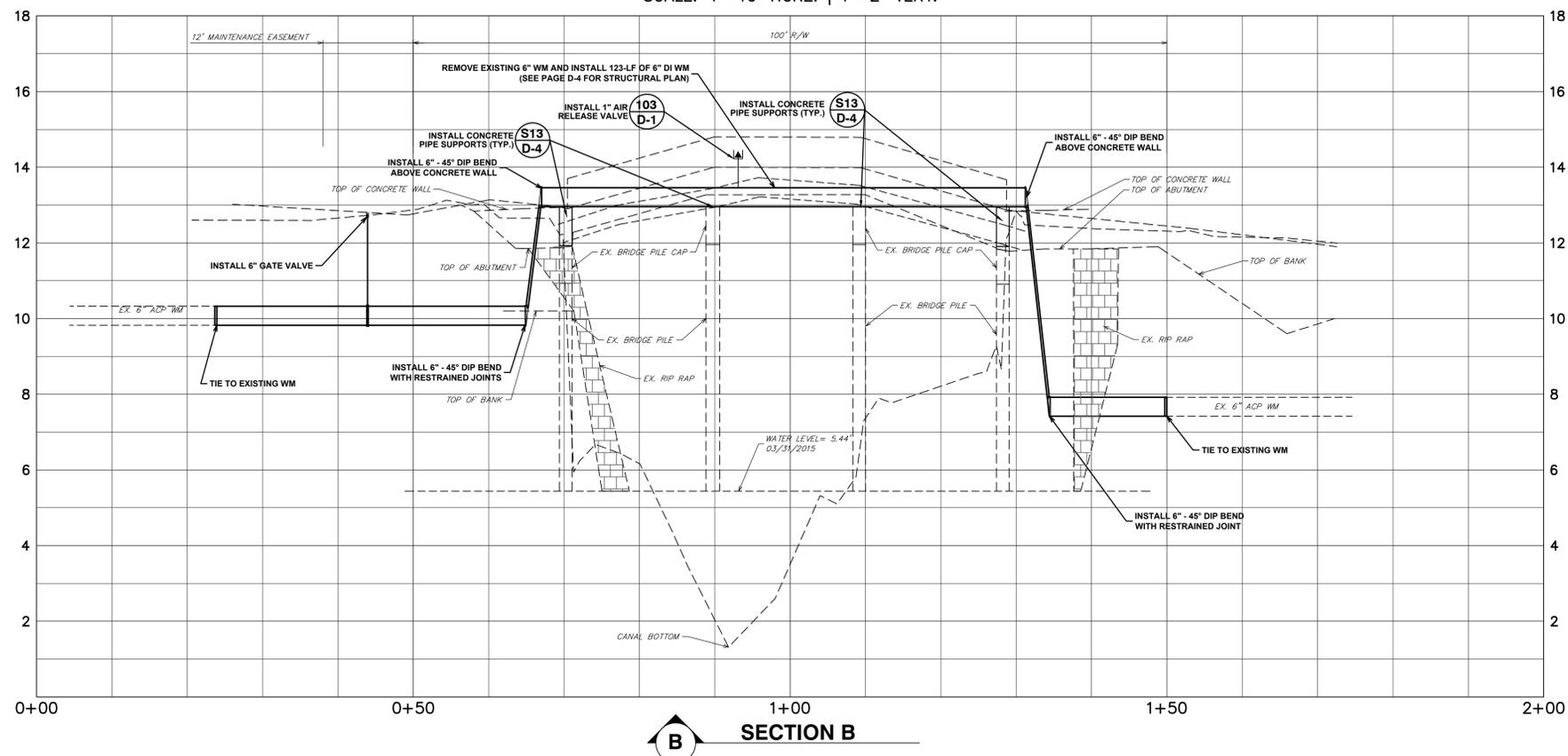




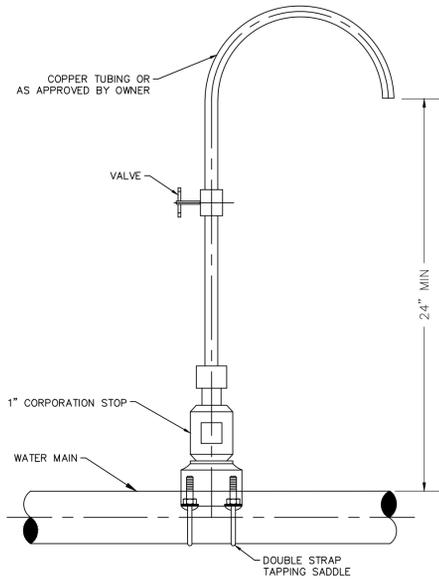
Site 13 Force Main
(STA. 0+00.00 TO 2+00.00)
SCALE: 1"=10' HORZ. | 1"=2' VERT.



Site 13 Water Main
(STA. 0+00.00 TO 2+00.00)
SCALE: 1"=10' HORZ. | 1"=2' VERT.

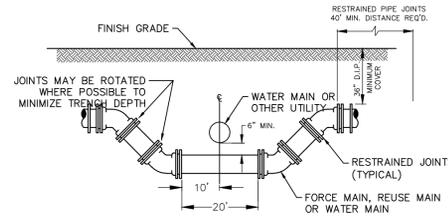


Plot Date: 11/14/2016 9:24:19 AM Username: pfonseca Layout Name: C-2
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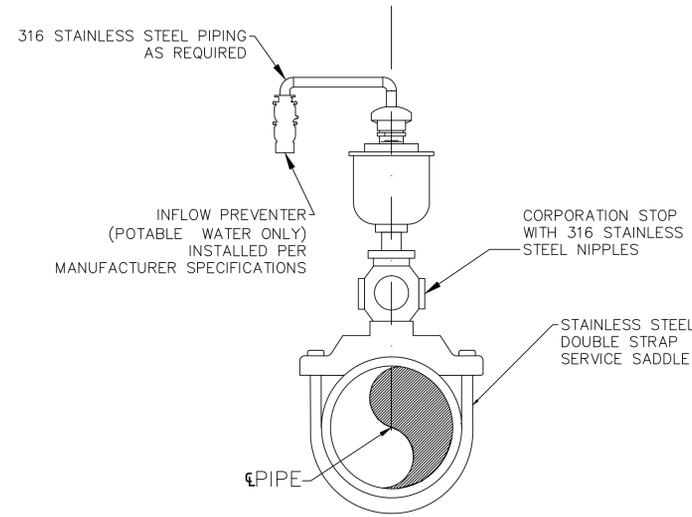
- NOTES:
1. SAMPLE POINTS SHALL BE LOCATED AND LATER REMOVED AS REQUIRED BY BROWARD COUNTY HEALTH DEPARTMENT.
 2. CORPORATION STOP SHALL BE UTILIZED FOR AIR RELEASE VALVE ASSEMBLY AFTER HEALTH DEPARTMENT CLEARANCE.

101 SAMPLING POINT
N.T.S.



NOTE:
WHEREVER POSSIBLE DEFLECTION OF THE PIPE WILL BE USED TO AVOID EXISTING OBSTRUCTIONS. THIS CROSSING SHALL BE USED ONLY WHEN ORDERED BY THE ENGINEER.

102 SPECIAL UTILITY CROSSING
N.T.S.



- NOTES:
1. FOR ALL INSTALLATIONS UP TO & INCLUDING 2", PIPE MATERIAL SHALL BE STAINLESS STEEL ABOVE GROUND. FOR LARGER INSTALLATIONS THE DESIGN SHALL BE ON A CASE BY CASE BASIS.
 2. CONTRACTOR SHALL FIELD VERIFY EACH LOCATION WHERE NEW AIR RELEASE VALVES ARE TO BE INSTALLED AND SUBMIT SITE SPECIFIC SHOP DRAWINGS WITH MANUFACTURER DETAILS DEMONSTRATING CONFORMANCE TO THE REQUIREMENTS ALONG WITH A BASIC DIMENSIONAL SKETCH OF PROPOSED INSTALLATION, GEOMETRY AND LOCATION FOR ENGINEER APPROVAL.

103 AIR RELEASE VALVE ASSEMBLY ON TOP OF PIPE
N.T.S.

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

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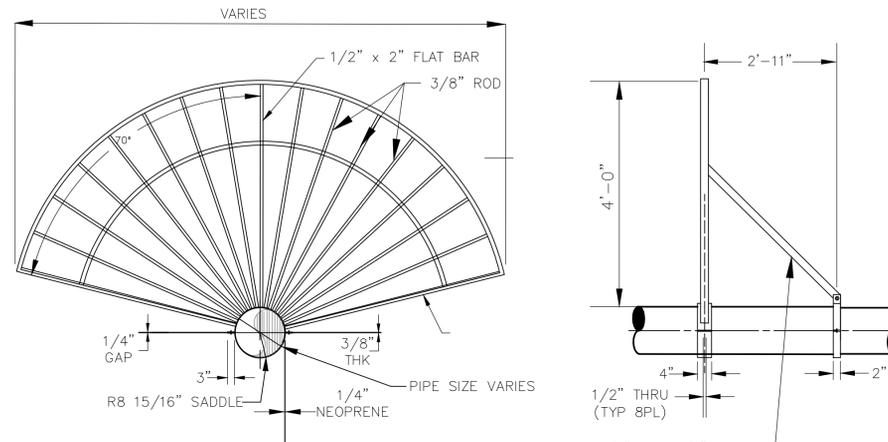
LAYING CONDITION: TYPE 4 (PIPE BEDDED IN SAND, GRAVEL, OR CRUSHED STONE TO THE DEPTH OF 1/8" PIPE DIAMETER, 4 INCHES MINIMUM. BACKFILL COMPACTED TO TOP OF PIPE).
 DEPTH OF COVER: 2.5 FEET
 WORKING PRESSURE: 150 P.S.I.
 SOIL BEARING: 2,000 P.S.F. AGAINST UNDISTURBED SOIL.

PIPE DIA. (IN.)	11.25d (FT)	22.5d (FT)	45d (FT)	90d (FT)	DEAD END (FT)	TEE (FT)	45d VERT. BEND (FT)	22d VERT. BEND (FT)
6	5	9	16	31	60	35	20	12
8	6	11	20	42	80	50	25	14
10	7	14	24	52	100	60	26	18
12	8	16	28	63	120	65	30	20
14	10	18	32	73	130	80	35	23
16	11	20	35	84	140	90	40	26
18	12	22	39	94	150	100	45	28
20	13	24	42	105	180	120	55	32
24	14	27	49	126	220	150	65	35

NOTE THAT IN ACTUAL INSTALLATIONS, THE RESTRAINED LENGTH WILL BE IN MULTIPLES OF LENGTH OF ONE PIECE OF PIPE (NORMALLY 18 TO 20 FEET). THUS, FOR EXAMPLE, IF THE RESTRAINED LENGTH FOR 6 INCH PIPE LEADING UP TO A 90 DEGREE BEND IS 30 FEET, TWO FULL LENGTHS OF RESTRAINED PIPE WILL RESULT IN 36 TO 40 FEET OF RESTRAINT, PROVIDING AN ADDITIONAL SAFETY FACTOR. WHERE SHORT CONNECTING PIECES ARE NEEDED TO POSITION FITTINGS, THEY SHOULD, WHEN POSSIBLE, BE PLACED OUTSIDE THE RESTRAINED SECTION FOR MAXIMUM ECONOMY.

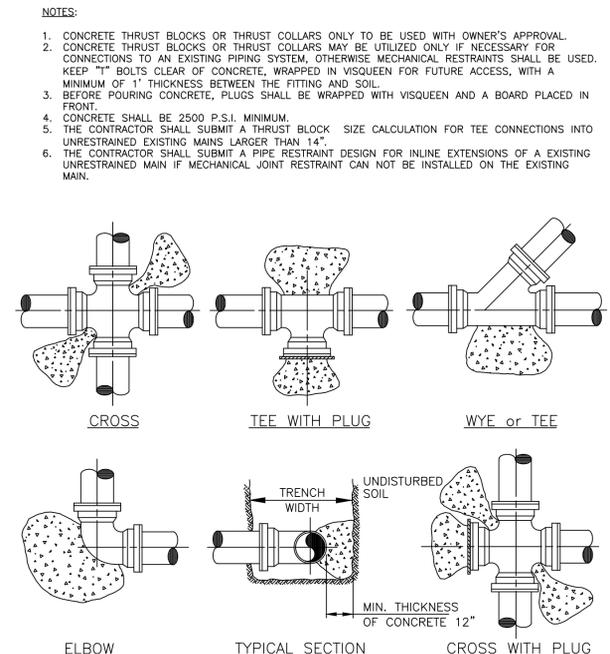
THE ABOVE SCHEDULE IS ONLY A GUIDELINE. THE CONTRACTOR MUST VERIFY AND REVISE CALCULATIONS TO MEET INSTALLATION REQUIREMENTS.

104 RESTRAINED PIPE JOINT SCHEDULE
N.T.S.



- NOTES:
1. MATERIAL: CARBON STEEL, HOT DIPPED GALVANIZED.
 2. CONTRACTOR SHALL FIELD VERIFY EACH LOCATION WHERE NEW FAN GUARDS ARE TO BE INSTALLED AND SUBMIT SITE SPECIFIC SHOP DRAWINGS WITH MANUFACTURER DETAILS DEMONSTRATING CONFORMANCE TO THE REQUIREMENTS ALONG WITH A BASIC DIMENSIONAL SKETCH OF PROPOSED INSTALLATION GEOMETRY AND LOCATION FOR ENGINEER APPROVAL.
 3. ALL HARDWARE AND EQUIPMENT FROM EXISTING FAN GUARDS IS NOT TO BE RE-USED.
 4. NEW FAN GUARD CONNECTIONS AND SUPPORTS ARE TO BE SELECTED APPROPRIATELY FOR THEIR INTENDED APPLICATION TO PREVENT PREMATURE BREAKAGE AND ARE TO BE INSTALLED SO AS NOT TO DAMAGE THE NEWLY APPLIED COATING SYSTEM WHICH WILL REQUIRE REPAIR AT CONTRACTOR'S EXPENSE.

105 FAN GUARD WITHOUT ACCESS GATE
N.T.S.



PIPE	THRUST BLOCK AREA REQ'D	REMARKS	NOTE:
4"	2.0 SQ. FT.	VALUES ARE FOR 90° BEND, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. FOR OTHER SOILS & PRESSURES THE AREA REQUIRED IS IN DIRECT PROPORTION	FOR OTHER FITTINGS USE THE FOLLOWING FACTORS: TEE 100% 45° BEND 71% 22 1/2° BEND 39% 11 1/4° BEND 20% DEAD END 100%
6"	4.0 SQ. FT.		
8"	6.6 SQ. FT.		
10"	10.0 SQ. FT.		
12"	14.0 SQ. FT.		
14"	18.6 SQ. FT.		

106 TYPICAL THRUST BLOCKS FOR PRESSURE PIPING
N.T.S.

Plot Date: 11/6/2015 2:56:03 PM Username: Pfonseca Layout Name: D-1 Folder Path: V:\Projects\2015\15-138.016 - Aerial Crossings\15-138.016 Site 13 Plans Filename: 15-138.016 Site 13 Details.dwg

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 954.730.0707
 www.chenmoore.com

CERTIFICATES OF AUTHORIZATION
 EB0004593 LC26000425

REGISTRATION
 PAULA A. FONSECA, P.E.
 REGISTRATION NO. 77711
 DATE: _____

OWNER

 CITY OF MARGATE
 Together We Make It Great

CLIENT

 3440 HOLLYWOOD BOULEVARD
 SUITE 465
 HOLLYWOOD, FL 33021

PROJECT INFORMATION
AERIAL CROSSING DESIGN PHASE II SITE 13
 CITY OF MARGATE, FLORIDA
 PROJECT NUMBER 15-138.016
 CLIENT PROJECT NUMBER

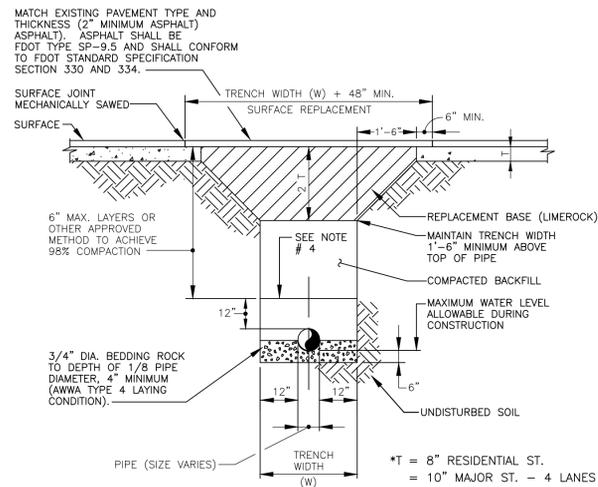
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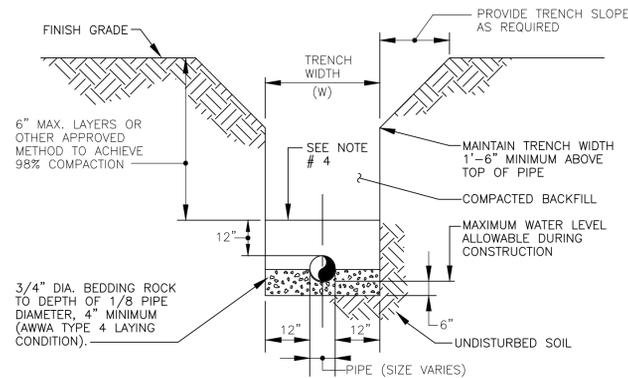
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DETAILS 1
 DRAWING NUMBER
D-1
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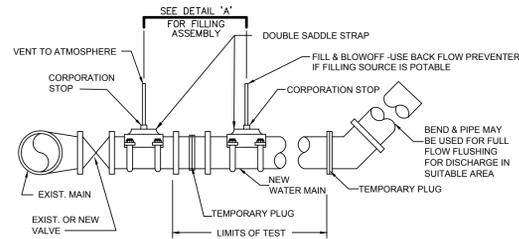
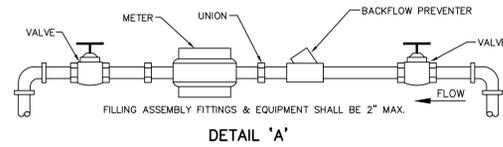
- NOTES:**
1. REPLACED BASE MATERIAL OVER TRENCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE, BUT NO LESS THAN 1\"/>
 - 2. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100.
 - 3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
 - 4. MECHANICAL COMPACTION IS NOT ALLOWED BELOW THIS LEVEL.
 - 5. COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
 - 6. PERMIT REQUIRED FROM ENGINEERING TO CUT PAVEMENT.
 - 7. IF TRENCH IS FILLED TEMPORARILY IT SHALL BE COVERED WITH A 2\"/>
 - 8. REMOVE UNSUITABLY SIZED STONES FOUND IN TRENCH TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF PIPE.

107 TRENCH IN PAVED AREAS DETAIL
N.T.S.



- NOTES:**
1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED METHOD OF CONSTRUCTION.
 2. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
 3. COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
 4. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL.
 5. REMOVE UNSUITABLY SIZED STONES FOUND IN TRENCH TO A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF PIPE.

108 REPLACEMENT OF TRENCH IN UNPAVED AREAS DETAIL
N.T.S.

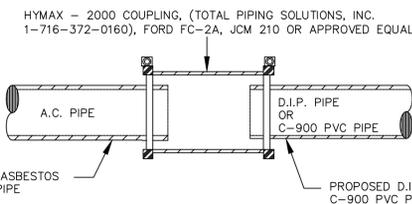


- NOTES:**
1. TEMPORARY CONNECTION ON THE NEW MAIN SHALL BE AT THE PROPOSED AIR RELIEF VALVE TAP LOCATION. OTHERWISE REMOVE TEMPORARY CONNECTION AT CORPORATION STOPS ON NEW MAIN AFTER FILLING AND FLUSHING HAS BEEN COMPLETED.
 2. COMPLY WITH ALL H.R.S., BROWARD COUNTY PUBLIC HEALTH UNIT REGULATIONS.
 3. PROVIDE ALL NECESSARY THRUST BLOCKS OR OTHER RESTRAINTS.
 4. INJECT CHLORINE ON PROJECT SIDE OF BACKFLOW PREVENTER (POTABLE WATER MAINS ONLY).
 5. FILLING & FLUSHING LOCATION SHALL BE DETERMINED BY THE CONTRACTOR, ENGINEER AND THE CITY.

109 FILLING AND FLUSHING CONNECTION
N.T.S.

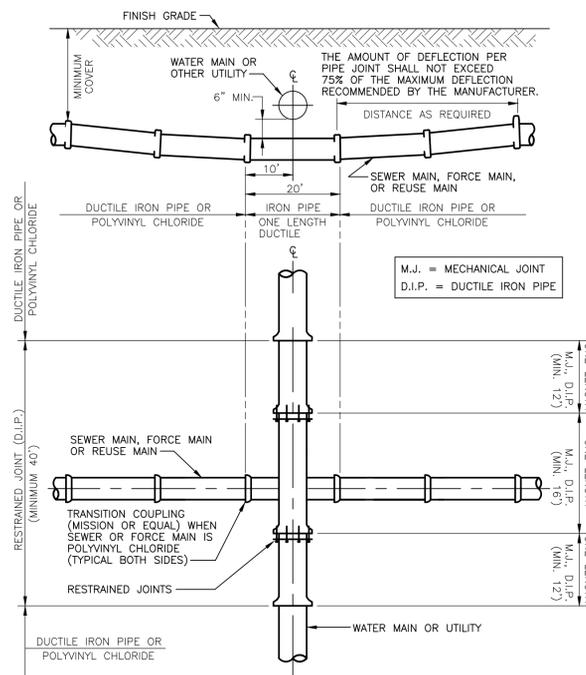
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- NOTES:**
1. PREPARE THE PIPE ENDS TO A DISTANCE OF AT LEAST 3 INCHES BEYOND THE LENGTH OF THE COUPLING. PIPE PREPARATION WILL CONSIST OF CLEANING AND DE-SCALING EACH PIPE END, REMOVING ANY DEBRIS OR BUILD UP ON THE PIPE ENDS AND CLEAN THE OUTER PIPE SURFACE WITH SOAPY WATER.
 2. THE END GAP IS LEFT BETWEEN THE PIPE ENDS. A PIPE END GAP OF AT LEAST 2 INCHES IS REQUIRED BETWEEN THE PIPE ENDS TO PREVENT CENTERING PIN AND PIPE INTERFACE.
 3. USE OF A TORQUE WRENCH IS MANDATORY ACCORDING TO MANUFACTURER RECOMMENDATIONS.

110 A.C. CONNECTION DETAIL
N.T.S.



111 STANDARD UTILITY CROSSING
N.T.S.

- NOTES:**
1. CONCRETE TO BE CLASS 1, 3000 P.S.I.
 2. THE USE OF REINFORCEMENT IS NOT PERMITTED.
 3. SIDEWALK SLOPES SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
 4. RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS IN ACCORDANCE WITH FDOT INDEX 304.
 5. THE VERTICAL DEVIATION FOR A NEW SIDEWALK SHALL NOT BE MORE THAN 1/2\"/>
 - 6. THE VERTICAL DEVIATION FOR A NEW MAINTENANCE ACCESS STRUCTURES COVER SHALL NOT BE MORE THAN 1/4\"/>
 - 7. SUBGRADE MATERIAL SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY, PER AASHTO T-99.
 - 8. STAMPED CONCRETE IS NOT ALLOWED IN LIEU OF TRUNCATED DOMES.
 - 9. SEE HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION APPROVED PRODUCT LIST FOR ACCEPTABLE MATERIALS FOR TRUNCATED DOMES.
 - 10. WHEN THE REMOVAL OF SIDEWALKS, CURBS OR GUTTERS IS NECESSARY FOR CONSTRUCTION, THEY SHALL BE REMOVED IN FULL SECTIONS OR A MINIMUM OF FIVE (5) FEET IN LENGTH, AND ALL BROKEN EDGES CUT STRAIGHT, CLEAN AND SMOOTH BY APPROPRIATE MEANS. IF THE ROAD PAVEMENT IS DAMAGED DURING SUCH REMOVAL, IT SHALL BE REPAIRED IN ACCORDANCE WITH CHAPTER 25, SECTION 5-6 OF THE BROWARD COUNTY HIGHWAY CONSTRUCTION & ENGINEERING DIVISION MINIMUM STANDARDS.

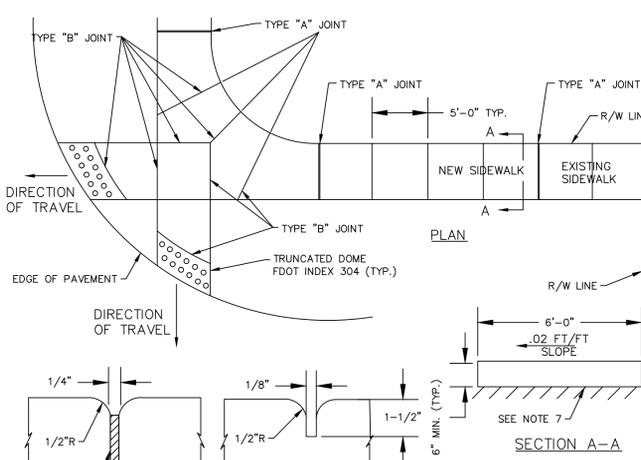
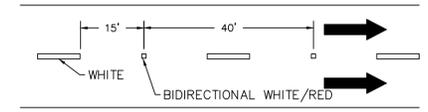


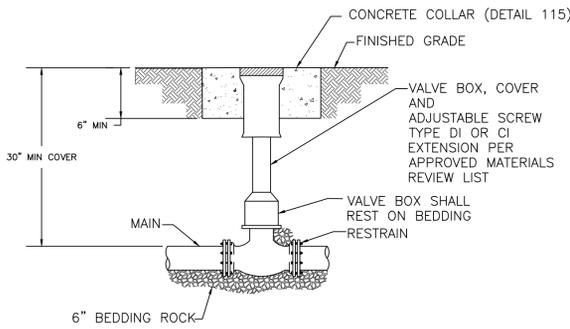
TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
"A"	P.C.P.T. OF CURVES & WHERE SIDEWALK ABUTS CONCRETE DRIVEWAY.
"B"	5'-0" CENTER TO CENTER ON SIDEWALKS.

112 SIDEWALK DETAILS
N.T.S.



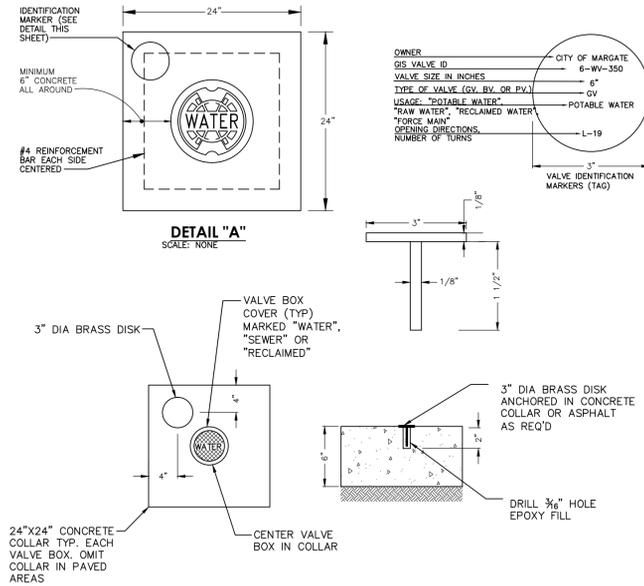
- NOTE:**
1. REFLECTIVE PAVEMENT MARKERS (RPM) SHALL BE SPACED AT 40' ON ALL SKIP LANE LINES AND SKIP CENTER LINES.
 2. ALL RPM'S SHALL BE CLASS "B"

113 TYPICAL PLACEMENT OF RPM
N.T.S.



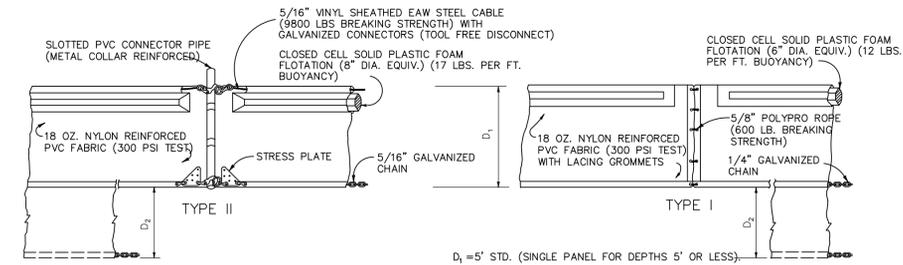
- NOTES:**
1. WHEN VALVE IS NOT LOCATED IN PAVEMENT, PLACE A BLUE (WATER) OR GREEN (SEWER) PAVEMENT REFLECTOR MARKER IN THE DRIVE LANE, ADJACENT TO THE VALVE.
 2. OPERATOR EXTENSION SHAFT SHALL BE PROVIDED WHEN OPERATING NUT IS MORE THAN 12" BELOW TOP OF VALVE BOX.
 3. PVC OR DUCTILE IRON PIPE IS NOT ACCEPTABLE FOR VALVE BOX RISER.
 4. THE STEMS OF ALL BURIED VALVES SHALL BE NOT LESS THAN FOUR (4) INCHES, OR MORE THAN TWELVE (12) INCHES, BELOW THE FINISHED GRADE UNLESS OTHERWISE APPROVED. VALVE STEM EXTENSIONS SHALL BE USED TO BRING THE OPERATING NUT WITHIN 12" OF FINISHED GRADE.
 5. VALVE BOX AND COVER IN PUBLIC RIGHT-OF-WAY SHALL BE OF TRAFFIC BEARING DESIGN CAPABLE OF SUPPORTING AN AASHTO H-20 LOADING.

114 VALVE BOX
N.T.S.



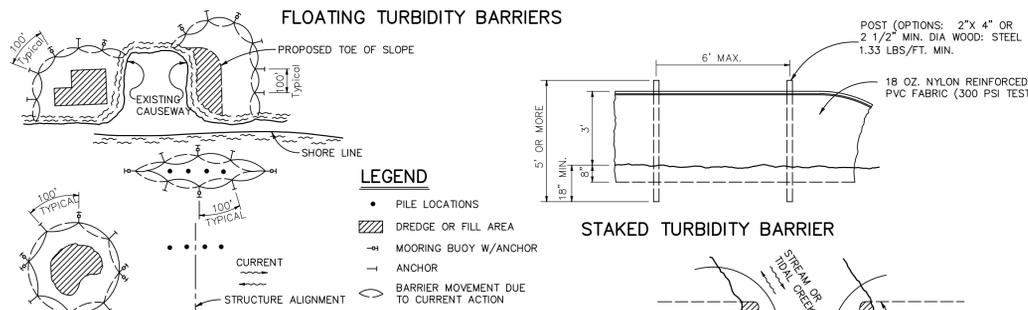
- NOTES:**
1. VALVE BOX, COVER AND EXTENSION PER APPROVED MATERIALS LIST.
 2. VALVE BOX AND COVER IN PUBLIC RIGHT-OF-WAY SHALL BE OF TRAFFIC BEARING DESIGN CAPABLE OF SUPPORTING AN AASHTO H-20 LOADING.

115 VALVE COLLAR AND IDENTIFICATION MARKER
N.T.S.



NOTE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

D₁ = 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS).
D₂ = 5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5').
CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET.
TWO(2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.



- NOTES:**
1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
 2. TURBIDITY BARRIERS SHALL BE OF SUFFICIENT LENGTH & DEPTH & SUFFICIENTLY STABILIZED IN ORDER TO MINIMIZE TURBIDITY.
 3. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
 4. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
 5. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
 6. FOR ADDITIONAL INFORMATION SEE SECTION 104 OF THE STANDARD SPECIFICATIONS.

TURBIDITY BARRIER APPLICATIONS WATER QUALITY

1. PRIOR TO CONSTRUCTION AND DURING ALL OPERATIONS THAT MAY DEGRADE WATER QUALITY, THE CONTRACTOR SHALL PRACTISE TURBIDITY CONTROLS TO PREVENT VIOLATIONS OF THE WATER QUALITY STANDARDS AS OUTLINED IN CHAPTER 62-302, F.A.C

116 TURBIDITY BARRIER
N.T.S.

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Filename: 15-138.016 Site 13 Details.dwg

CERTIFICATES OF AUTHORIZATION
EB0004593 LC26000425

REGISTRATION
PAULA A. FONSECA, P.E.
REGISTRATION NO. 77711
DATE:

OWNER



CLIENT

carollo
3440 HOLLYWOOD BOULEVARD
SUITE 465
HOLLYWOOD, FL 33021

PROJECT INFORMATION

AERIAL CROSSING DESIGN PHASE II SITE 13

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES
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D-3
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AERIAL CROSSING DESIGN PHASE II SITE 13

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
15-138.016

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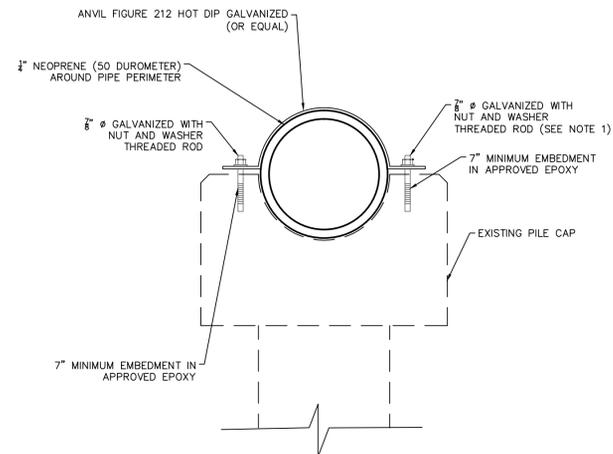
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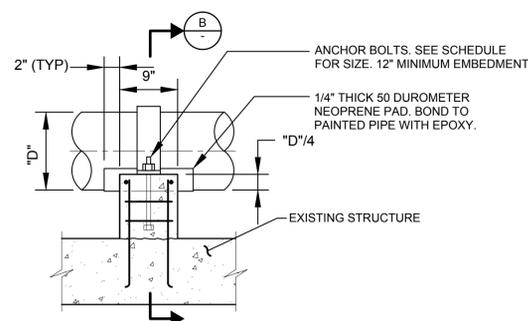
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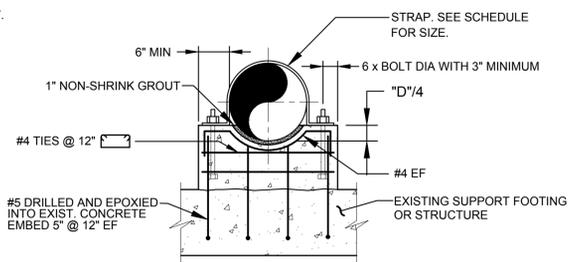
NOTES:

1. WASHERS ARE 1/8 INCH INSIDE DIAMETER, 2 1/2 INCH OUTSIDE DIAMETER AND 1/8 INCH THICK. WASHERS MATERIAL IS ASTM F436.

S07 PIPE STRAP
N.T.S.



A SECTION-SUPPORT AT STRUCTURE



B SECTION

SCHEDULE		
PIPE SIZE	STRAP SIZE	ANCHOR BOLT DIA
8" - 12"	FB 1/4" x 4"	1/2"
14" - 24"	FB 5/16" x 4"	5/8"
26" - 36"	FB 3/8" x 4"	3/4"

NOTES:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

S13 CONCRETE PIPE SUPPORT
N.T.S.

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AERIAL CROSSING DESIGN PHASE II

SITE 18

CITY OF MARGATE, FLORIDA

BID SET PLAN

11/06/2015



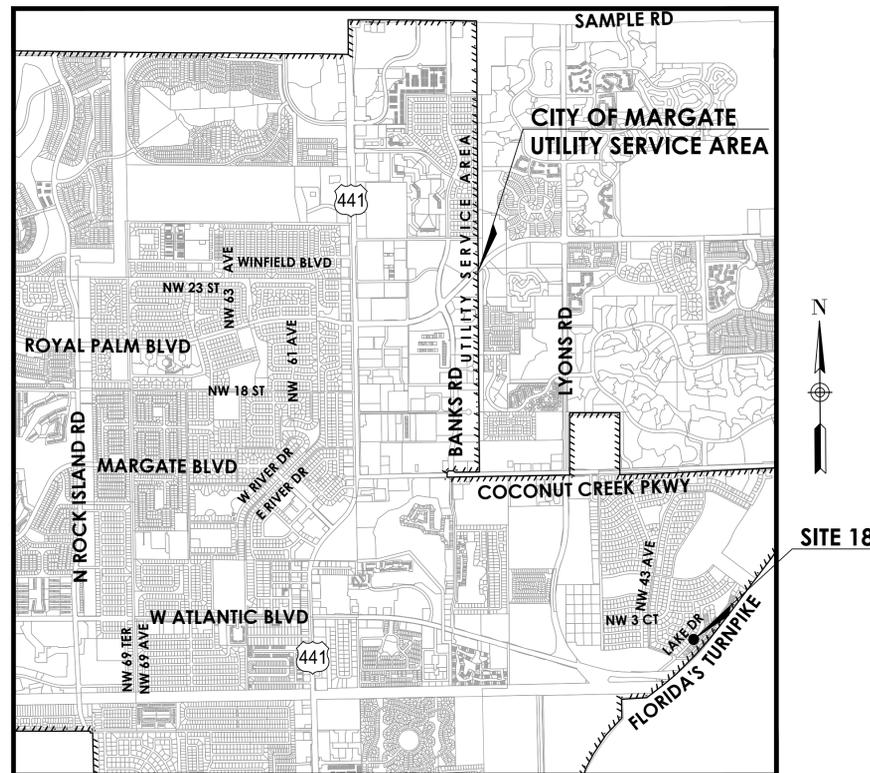
Department of Environmental
and Engineering Services
901 NW 66th Avenue, Suite A
Margate, FL 33063
(954) 972-0828

CITY COMMISSION

Tommy Ruzzano	Mayor
Arlene R. Schwartz	Vice Mayor
Anthony N. Caggiano	Commissioner
Lesa "Le" Peerman	Commissioner
Joanne Simone	Commissioner

ADMINISTRATION

Douglas E. Smith	City Manager
Eugene M. Steinfeld	City Attorney
Joseph J. Kavanagh, CMC	City Clerk
Reddy Chitepu, P.E.	Director of Environmental & Engineering Services



SECTIONS 25 & 36, TOWNSHIP 48S, RANGE 41E
& SECTION 32, TOWNSHIP 48S, RANGE 42E

LOCATION MAP

N.T.S.

INDEX OF DRAWINGS

SHT #	DWG #	DESCRIPTION
01	-	COVER SHEET
02	KEY-1	KEY PLAN
03	GN-1	GENERAL NOTES 1 AND VERIFIED UTILITIES
04	GN-2	GENERAL NOTES 2, ABBREVIATION LEGEND AND TREE TABLE
05	C-1.18	EXISTING & PROPOSED CONDITIONS - PLAN VIEW
06	C-1.18A	AERIAL CROSSING PROFILES
07	D-1	DETAILS 1
08	D-2	DETAILS 2
09	D-3	STRUCTURAL DETAILS



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& ASSOCIATES

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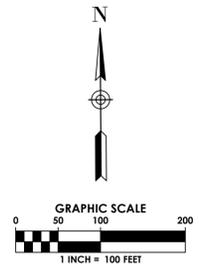
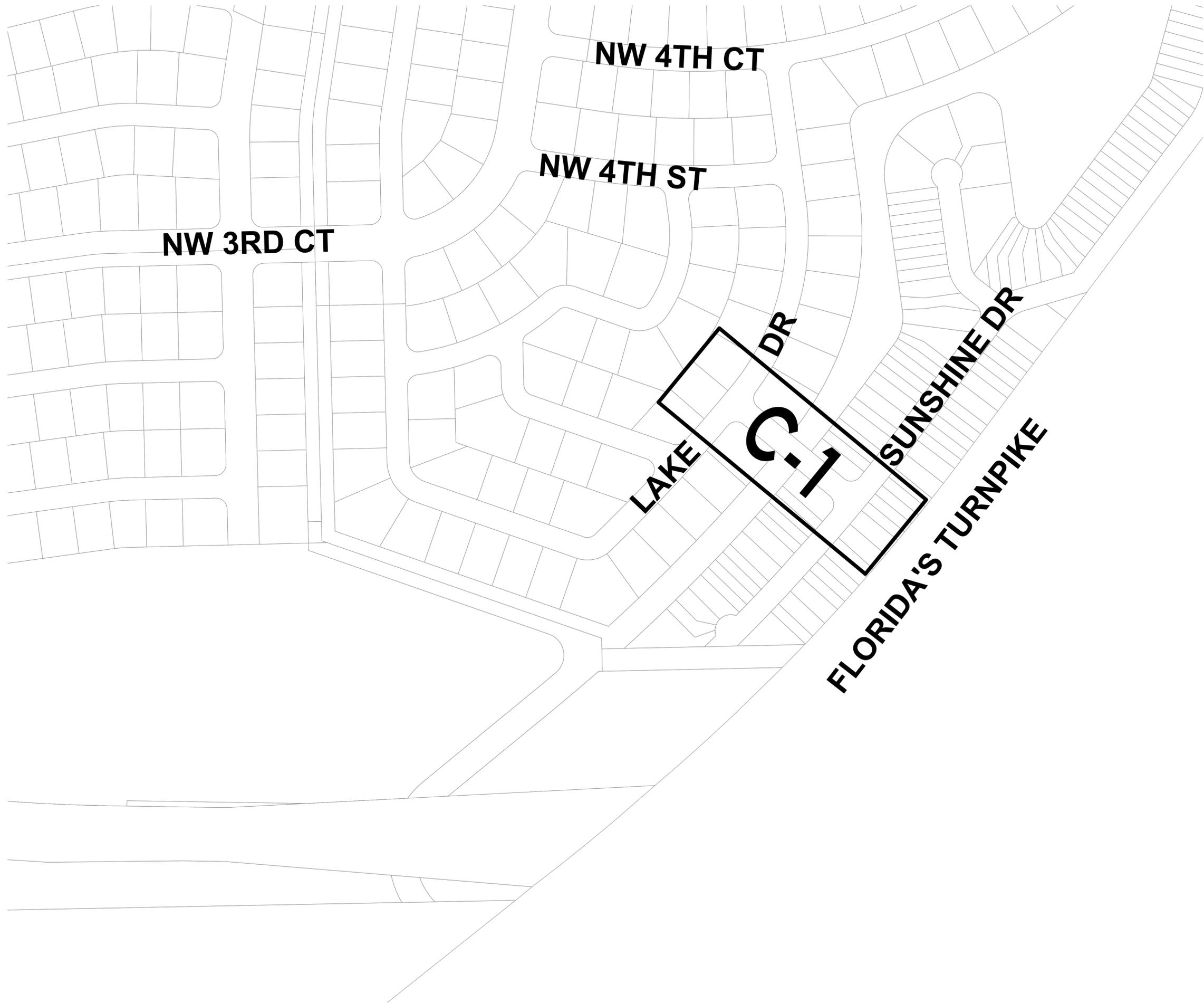
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PAULA A. FONSECA, P.E.
REGISTRATION NO. 77711
DATE: _____



CLIENT

carollo
3440 HOLLYWOOD BOULEVARD
SUITE 465
HOLLYWOOD, FL 33021

PROJECT INFORMATION

**AERIAL CROSSING
DESIGN PHASE II
SITE 18**

CITY OF MARGATE,
FLORIDA

PROJECT NUMBER
15-138.016

CLIENT PROJECT NUMBER

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KEY PLAN

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KEY-1
02 OF 09

BID SET PLAN

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE CITY OF MARGATE, WATER AND WASTE WATER SPECIFICATIONS.
- CONTRACTOR SHALL NOTE THAT ASBESTOS CEMENT PIPE IS PRESENT ON THIS SITE. CONTRACTOR SHALL FOLLOW SPECIFICATIONS AND REGULATORY AGENCY MEASUREMENTS FOR HANDLING AND DISPOSAL OF SUCH ELEMENTS.
- VERTICAL INFORMATION IS RELATIVE TO N.A.V.D. 88. HORIZONTAL INFORMATION IS RELATIVE TO STATE PLANE COORDINATES FLORIDA EAST ZONE NORTH AMERICAN DATUM 1983/1990 ADJUSTMENT.
- THE LOCATION, SIZE AND MATERIAL OF ALL EXISTING UTILITIES SHOWN ON THE PLAN ARE APPROXIMATE, ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXACT LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATION. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION AND THE LOCATIONS AND ELEVATIONS OF EXPOSED FEATURES SHALL BE CAREFULLY NOTED ON THE PROJECT RECORD "AS-BUILT" DRAWINGS. ANY AND ALL CONFLICT OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS MUST BE RESOLVED BY THE CONTRACTOR IN AN APPROVED MANNER. THE CONTRACTOR SHALL VERIFY PIPE SIZE AND MATERIAL BEFORE TYING INTO EXISTING MAINS. THE COST INVOLVED SHALL BE INCLUDED IN THE PRICE FOR ALL OTHER WORK.
- CONTRACTOR SHALL PROVIDE A FIVE (5) DAY NOTICE TO CITY AND ENGINEER PRIOR TO ANY CONSTRUCTION ACTIVITY ON SITE WHERE WATER AND/OR FORCE MAIN PIPES NEED TO BE SHUTDOWN. CONTRACTOR TO COORDINATE WITH THE CITY TO ISOLATE WATER OR SEWER MAIN.
- 48 HOURS PRIOR TO DIGGING, CONTRACTOR SHALL COORDINATE WITH ALL UNDERGROUND SERVICE COMPANIES TO VERIFY THE LOCATION OF THEIR FACILITIES. ADDITIONALLY, CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. AT 1-800-432-4770 PRIOR TO DIGGING.
- THE INFORMATION PROVIDED IN THESE PLANS IS TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. ALL CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT ANY INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH THEIR BIDS WILL BE BASED. CONTRACTOR IS RESPONSIBLE TO VERIFY DIMENSIONS AND FIELD CONDITIONS PRIOR TO ORDERING ANY PARTS.
- THE CONTRACTOR IS ADVISED TO USE EXTREME CAUTION WHEN CONSTRUCTION IS NEAR OR AROUND ANY ELECTRICAL FACILITIES.
- THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO ARRANGE RELOCATION AND TEMPORARY SUPPORT OF UTILITY FEATURES, ETC., AS NECESSARY TO COMPLETE THE WORK.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS AND ACTUAL CONDITIONS ARE DISCOVERED.
- THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS WITH CURRENT FIELD CHANGES ACCURATELY MARKED AND SHALL DELIVER THESE PLANS TO THE ENGINEER UPON COMPLETION OF CONSTRUCTION. THE CURRENT MARKINGS SHALL BE REVIEWED WITH THE ENGINEER DAILY, OR AS NEEDED, TO ASSURE THAT THEY BOTH AGREE THAT THE MARK-UPS REFLECT THE ACTUAL "AS-BUILT" CONDITIONS. THE CONTRACTOR WILL PREPARE PROJECT RECORD DRAWINGS AT THE CONCLUSION OF THE PROJECT BASED ON THE MARK-UP DRAWINGS AND TIES.
- ANY U.S.G.S., N.G.V.D. OR STATE OF FLORIDA MONUMENT OR BENCH WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND DISTRICT LOCATION SURVEYOR.
- ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED.
- ALL EXISTING UTILITIES ARE TO REMAIN UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS ADVISED THAT PROPERTIES ADJACENT TO THE PROJECT HAVE WATER AND SEWER SERVICES WHICH MAY NOT BE SHOWN IN THE PLANS. THE CONTRACTOR MUST REQUEST THE LOCATION OF THESE LATERAL SERVICES. THE ADDITIONAL COST OF EXCAVATING, INSTALLING, BACKFILLING AND COMPACTING AROUND THESE LATERALS SERVICING SAID PROPERTIES MUST BE INCLUDED IN THE BID ITEMS.
- IF SHEETING, SHORING, DEWATERING INCLUDING WELL POINTS ARE NECESSARY AND UTILIZED, THE CONTRACTOR MUST MONITOR AND CONTROL ALL WORK THAT MAY CAUSE CRACKING TO ANY ADJACENT BUILDING AND THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY ITS OPERATIONS. THE COST OF THIS WORK WILL BE INCLUDED IN THE RELATED BID ITEM FOR THE WORK BEING DONE.
- CONTRACTOR SHALL NOTIFY PROPERTY OWNERS A MINIMUM OF FIFTEEN (15) DAYS PRIOR TO CONSTRUCTION ON THEIR STREET.
- CONTRACTOR SHALL DELIVER WRITTEN NOTIFICATION TO THE CITY, ENGINEER, AND PROPERTY OCCUPANTS OF ALL PLANNED DISRUPTION TO UTILITIES 72 HOURS IN ADVANCE OF DISRUPTION.
- THE CONTRACTOR SHALL MAINTAIN SAFE VEHICULAR ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES AND WILL MAINTAIN ACCOMMODATIONS FOR INTERSECTING AND CROSSING TRAFFIC. NO ROAD OR STREET CROSSING WILL BE BLOCKED OR UNDULY RESTRICTED AS DETERMINED BY THE ENGINEER.
- ANY PAVEMENT MARKINGS OR SIGNS THAT ARE DAMAGED SHALL BE REPAIRED OR REPLACED WITH THERMOPLAST ACCORDING TO BROWARD COUNTY SPECIFICATIONS.
- THE CONTRACTOR SHALL USE A STREET SWEEPER (USING WATER) OR OTHER EQUIPMENT CAPABLE OF CONTROLLING AND REMOVING DUST. APPROVAL OF THE USE OF SUCH EQUIPMENT IS CONTINGENT UPON ITS DEMONSTRATED ABILITY TO DO THE WORK.
- RECONSTRUCTION OF SIDEWALKS AND DRIVEWAYS SHALL MEET CITY OF MARGATE, BROWARD COUNTY, OR CITY OF COCONUT CREEK (AS APPLICABLE) MINIMUM STANDARDS.
- THE PERMIT PLAN SET MUST BE ON SITE AT ALL TIMES.
- ALL NEW ABOVE GROUND PIPE AND FITTINGS TO BE FLANGED AND COATED AS PER TECHNICAL SPECIFICATION FOR THIS PROJECT.
- ALL ACTIVITIES SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH LOCAL RULES AND LEGISLATION REGARDING POLLUTION PREVENTION FOR WATER, SOIL AND AIR. ALSO, ALL APPLICABLE RULES AND LEGISLATION REGARDING PERSONAL HEALTH AND SAFETY SHALL BE OBSERVED.
- CONTRACTOR TO PAVE OR INSTALL CONCRETE AT ITS OWN RISK IF INSTALLED WATER MAIN AND/OR FORCE MAIN HAS NOT BEEN CERTIFIED BY THE ENGINEER.
- ALL PIPE, JOINTS, VALVES, AND RELATED APPURTENANCES ARE TO BE RESTRAINED PER CONSTRUCTION DETAILS.
- WATER MAIN PIPE SHALL BE COLOR CODED IN ACCORDANCE WITH F.A.C. 62-555.320(21)(B)(3) AND FORCE MAIN BELOW GROUND SHALL BE COLOR CODED GREEN.
- EXISTING AIR RELEASE VALVE AND FAN GUARDS, INCLUDING ALL RELATED APPURTENANCES, REMOVED FROM SITE SHALL BE SALVAGED AND DELIVERED TO THE CITY OF MARGATE.
- ALL UNDERGROUND WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 30 INCHES FOR DUCTILE IRON PIPES.
- CONTRACTOR TO PROVIDE PRELIMINARY PLANS DEPICTING LOCATION OF PIPE JOINTS.
- DUCTILE IRON PIPE SHALL MEET OR EXCEED AWWA/ANSI C151/A21.51, LATEST REVISIONS. ALL ABOVE GROUND PIPE INSTALLATION IS REQUIRED TO BE FLANGED DUCTILE IRON PIPE AND SHALL CONFORM OR EXCEED AWWA/ANSI C115/A21.15, LATEST REVISION.

TESTING / WATER SERVICE

- HYDROSTATIC TESTING: HYDROSTATIC TESTING OF WATER SERVICE LINES SHALL BE DONE IN CONJUNCTION WITH THE TESTING OF THE LATERAL OR MAIN LINE. NO ADDITIONAL LEAKAGE ALLOWANCE WILL BE MADE FOR SERVICE LINES.
- STERILIZATION: STERILIZATION OF SERVICE LINES SHALL BE DONE IN CONJUNCTION WITH THE STERILIZATION OF THE LATERAL OR THE MAIN LINE. SUFFICIENT SAMPLING POINTS SHALL BE TAKEN FROM SERVICE LINE CONNECTIONS TO ASSURE UNIFORM RESULTS THROUGHOUT THE SYSTEM BEING TESTED.
- ALL FIRE LINES TO BE INSTALLED AND TESTED PER N.F.P.A. 24 CODE. CONTRACTOR TO TAKE NOTE THAT PRESSURE TEST ON THIS LINE WILL BE AT 250 P.S.I., AND PIPE AND VALVES SHOULD MEET THIS REQUIREMENT.

TESTING / WATER MAIN

- WATER MAINS SHALL BE TESTED IN ACCORDANCE WITH A.N.S.I. / A.W.W.A. STANDARDS C-600-10 HYDROSTATIC TESTS SHALL BE CONDUCTED AS FOLLOWS: AFTER A NEW PRESSURE MAIN HAS BEEN LAID AND BACKFILLED, IT SHALL BE PUMPED TO A PRESSURE OF 150 P.S.I. AND SHALL NOT VARY BY MORE THAN ±5 P.S.I. FOR THE DURATION OF THE TEST. ALL VISIBLE LEAKS SHALL BE STOPPED BY APPROVED METHODS. A LEAKAGE TEST SHALL THEN BE CONDUCTED AT THE ABOVE MENTIONED PRESSURE AND NO INSTALLATION WILL BE ACCEPTABLE BY THE ENGINEER UNTIL THE LEAKAGE IS LESS THAN THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FOLLOWING FORMULA:

$$Q = \frac{LD\sqrt{P}}{148,000} \quad \text{A.N.S.I./A.W.W.A. C600 - 10 STANDARDS}$$

IN WHICH Q EQUAL THE ALLOWABLE LEAKAGE IN GALLONS PER HOUR; L = LENGTH OF LINES IN FEET; D = DIAMETER OF LINES IN INCHES; AND P IS THE AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST, IN POUNDS PER SQUARE INCH. THE TEST SHALL BE MAINTAINED FOR A TWO (2) HOUR DURATION, BUT IT MAY BE CONTINUED FOR ONE (1) ADDITIONAL HOUR IF IT BECOMES APPARENT THAT THE LEAKAGE IS EQUAL TO OR GREATER THAN THE AMOUNT ALLOWABLE. WATER SUPPLIED TO THE MAIN DURING THE TEST TO MAINTAIN THE REQUIRED PRESSURE SHALL BE MEASURED BY A 5/8 INCH METER INSTALLED. ON THE DISCHARGE SIDE OF THE TEST PUMP, OR BY PUMPING FROM A CALIBRATED CONTAINER. A HOSE BIBB CONNECTION WILL BE PROVIDED TO ACCEPT THE TEST GAUGE SUPPLIED BY THE CITY OF MARGATE. THE SECTION OF THE MAIN BEING TESTED SHALL BE LIMITED TO A MAXIMUM LENGTH OF 2200 FEET, OR THE DISTANCE BETWEEN THE TWO (2) CLOSEST VALVES, WHICHEVER IS GREATER. WHEN TESTING AGAINST CLOSED METAL-SEATED VALVES, AND ADDITIONAL LEAKAGE PER CLOSED VALVE OF 0.0078 GAL/HR/IN OF NOMINAL VALVE SIZE SHALL BE ALLOWED. ANY QUESTIONS PERTAINING TO PROCEDURES USED DURING THE TEST SHALL BE DIRECTED BY THE ENGINEER.

- STERILIZATION SHALL BE PERFORMED AFTER THE WATER MAINS HAVE SATISFIED THE LEAKAGE REQUIREMENTS. THE WATER MAINS SHALL BE FLUSHED THROUGH OPENINGS OF THE REQUIRED SIZE AS DETAILED IN A.N.S.I. / A.W.W.A. STANDARD C-651-05. THE MAIN SHALL THEN BE STERILIZED IN ACCORDANCE WITH THE PROVISIONS OF THE APPLICABLE SECTIONS OF THE ABOVE NAMED SPECIFICATIONS, ON MAIN BREAKS, CUT-INS, ETC. A LIBERAL APPLICATION OF CALCIUM HYPROCHLORITE SHALL BE MADE. MAINS SHALL NOT BE PUT INTO DOMESTIC SERVICE UNTIL AFTER THE NECESSARY BACTERIOLOGICAL SAMPLES HAVE BEEN APPROVED BY THE APPLICABLE REGULATORY AGENCIES.

NOTES ON WATER - SEWER SEPARATION:

- 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 OR FORCE MAINS 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 (D.I.P.) AT THE CROSSING. SUFFICIENT LENGTHS OF D.I.P. MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN 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 CROSSING.
- ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPE CENTERED ON 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 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 PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF D.I.P. AND THE SANITARY SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF D.I.P. WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
- ALL D.I.P. SHALL BE PRESSURE CLASS 350 FOR 4" TO 24" PIPE MINIMUM, ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN.

SUMMARY OF VERIFIED UTILITIES

TH#	TYPE OF UTILITY	SIZE & MATERIAL	UTILITY DIRECTION	COVER	NOTES
31	SANITARY FORCE MAIN	6" CAST IRON	E/W	4.01	TEST HOLE ALSO REVEALED A 1.5" DIRECT BURIED UNKNOWN (POSSIBLE ATT) CABLE, RUNNING EAST-WEST, 0.40 SOUTH OF HUB. COVER = 1.98. HUB SET OVER CROWN OF 8" SANITARY FORCE MAIN.
32	SANITARY FORCE MAIN	6" CAST IRON	E/W	5.58	X CROWN
33	WATER	6" CAST IRON	E/W	4.04	PK CROWN
34	WATER	6" CAST IRON	E/W	3.83	PK CROWN

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



CERTIFICATES OF AUTHORIZATION
EB0004593 LC26000425

REGISTRATION
PAULA A. FONSECA, P.E.
REGISTRATION NO. 77711
DATE:



CLIENT
 3440 HOLLYWOOD BOULEVARD SUITE 465 HOLLYWOOD, FL 33021

PROJECT INFORMATION

AERIAL CROSSING DESIGN PHASE II SITE 18

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES
0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

DATE OF ISSUE
11/06/2015

DESIGNED BY

DRAWN BY

CHECKED BY

DRAWING TITLE
GENERAL NOTES 1 AND VERIFIED UTILITIES

DRAWING NUMBER
GN-1
03 OF 09

OWNER



CLIENT



PROJECT INFORMATION

AERIAL CROSSING DESIGN PHASE II SITE 18

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES
0 1" = 100'
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

DATE OF ISSUE
11/06/2015

DESIGNED BY

DRAWN BY

CHECKED BY

DRAWING TITLE
GENERAL NOTES 2, ABBREVIATION LEGEND AND TREE TABLE

DRAWING NUMBER
GN-2
04 OF 09

EXISTING CONDITIONS:

- EXISTING CONDITIONS PRESENTED ARE BASED ON A TOPOGRAPHIC SURVEY PROVIDED BY STONER & ASSOCIATES, INC., PROJECT 15-8196 ON 4/29/2015. ADDITIONAL INFORMATION WAS OBTAINED FROM AS-BUILTS AND RECORD DRAWINGS PROVIDED BY UTILITY COMPANIES, G.I.S. INFORMATION AND FIELD VISITS.
- BOUNDARY LINES AND RIGHT-OF-WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE BASED ON PLATS AND/OR RIGHT-OF-WAY MAPS OF RECORD. THIS SKETCH OF SURVEY DOES NOT REPRESENT A SURVEY OF THE BOUNDARY OR RIGHT OF WAY LINES.
- CONTRACTOR IS TO PROTECT ALL EXISTING TREES, SIGNS, AND ABOVE GROUND UTILITIES NOT IMPACTED BY THIS PLAN.
- COORDINATES SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATES, EAST ZONE, NORTH AMERICAN DATUM (NAD) OF 1983(90). CONTROL POINTS COORDINATES WERE ESTABLISHED BY GLOBAL POSITIONING SYSTEM - REAL TIME KINEMATICS METHOD OBSERVATIONS, HAVING AS POINT OF ORIGIN THE EASTERN BROWARD COUNTY HORIZONTAL GPS COUNTY NETWORK CONTROL POINTS:
 - A10, A PK NAIL AND WASHER STAMPED "BCED GPS A10". N: 700828.192; E: 917824.876
 - A11, A PK NAIL AND WASHER STAMPED "BCED GPS A11". N: 697701.630; E: 917881.545
 - A15, A PK NAIL AND WASHER STAMPED "BCED GPS A15". N: 690247.865; E: 916894.500
 - C13, A RAILROAD SPIKE WITH PUNCH HOLE. N: 693007.020; E: 923680.821
- THE ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88) ESTABLISHED FROM BROWARD COUNTY ENGINEERING DEPARTMENT BENCHMARKS:
 - BM 1569. "X" CUT ON THE NORTHWEST CORNER OF A BUILDING SLAB OF CUMBERLAND FARMS STORE AT 6900 WEST ATLANTIC BOULEVARD, ELEVATION: 12.974' (N.A.V.D. 88)
 - BM 2740. S.B.C. STAMPED BM# 150 AT CENTER OF NORTH CONCRETE WALL OF BRIDGE, SUNSHINE WAY, BETWEEN SUNSHINE DRIVE AND LAKE DRIVE. ELEVATION=15.976' (N.A.V.D. 88)
 - BM 3008. "X" CUT IN THE NORTH EDGE OF THE SOUTHERN BELL MANHOLE ON THE WEST SIDE OF STATE ROAD 7, AT THE END OF COCONUT CREEK PARKWAY, ELEVATION: 11.769' (N.A.V.D. 88)
 - BM 3063. "X" CUT IN THE SOUTH EDGE OF THE SIDEWALK ON THE NORTH SIDE OF THE MARGATE BRIDGE WEST OF N.W. 69th AVENUE. ELEVATION=14.463' (N.A.V.D. 88)
- HEDGES, GROUND COVER, OTHER LANDSCAPE FEATURES, AND IRRIGATION FEATURES, SUCH AS SPRINKLERS, ARE NOT SHOWN HEREON, UNLESS OTHERWISE NOTED.

MAINTENANCE OF TRAFFIC SCHOOL/PEDESTRIAN

- PROVIDE AT LEAST ONE SAFE, WALKABLE PATH THROUGHOUT THE CONSTRUCTION ZONE. IF THE EXISTING CURRENT WALKING SURFACES CANNOT BE MAINTAINED, THEN A TEMPORARY PATH, A MINIMUM OF 4 FOOT WIDE, SHALL BE PROVIDED AND DELINEATED. TEMPORARY PATHS SHALL BE DELINEATED BY A 4 FOOT HIGH ORANGE CONSTRUCTION FENCE FOR THE ENTIRE LENGTH OF THE TEMPORARY WALK PATH. THE PATH SHALL MEET ALL ADA REQUIREMENTS. THE CONTRACTOR SHALL ALSO INSTALL OR MODIFY ANY ADDITIONAL PAVEMENT, SIGNING, MARKINGS OR PEDESTRIAN SIGNALS AS NEEDED IN CONJUNCTION WITH THE TEMPORARY PATH.
- ON DAYS THAT SCHOOL IS IN SESSION, THE CONTRACTOR'S WORK SCHEDULE WITHIN THE SCHOOL ZONE MAY BE REDUCED BASED ON ACTUAL WORK ACTIVITIES IN THE SCHOOL ZONE. SEE MAINTENANCE OF TRAFFIC PLANS FOR DETAILS ON THE WORK ZONE RESTRICTIONS, IF WARRANTED. ANY CHANGES IN THE MAINTENANCE OF TRAFFIC WORK SCHEDULES WITHIN SCHOOL ZONES SHOULD BE DISCUSSED DURING THE MANDATORY RECONSTRUCTION - SCHOOL SAFETY MEETING.
- ALL WORK REQUIRED AT DESIGNATED SCHOOL CROSSINGS AND PEDESTRIAN CROSSINGS SHALL BE RESTORED TO A SAFE WALKABLE PATH BETWEEN THE HOURS NOTED IN No. 2 ABOVE.
- THIRTY (30) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE SPECIAL PROJECTS COORDINATOR AT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2671, TO ARRANGE A PRE-CONSTRUCTION - SCHOOL SAFETY MEETING.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE BROWARD COUNTY SCHOOL BOARD PUPIL TRANSPORTATION DEPARTMENT TO ARRANGE A PRE-CONSTRUCTION SCHOOL BUS ROUTE MEETING AT THE FOLLOWING:
 - RUTH MASTERS ROUTING (754) 321-4400 EXT. # 2309
RUTH.MASTERS@BROWARD.SCHOOLS.COM
 - VINCENT HARRELL STUDENT TRANSPORTATION & FLEET SERVICE (754) 321-4472
VINVENT.HARRELL@BROWARDSCHOOLS.COM
 - MARY TOCHTERMANN STUDENT TRANSPORTATION & FLEET SERVICE (754) 321-4400 EXT. # 2006
MARY.TOCHTERMANN@BROWARDSCHOOLS.COM

ABBREVIATIONS:

- AC ASBESTOS-CEMENT
- ASPH. ASPHALT
- B.C.R. BROWARD COUNTY RECORDS
- B.O.P. BOTTOM OF PIPE
- DI. DUCTILE IRON
- CI. CAST IRON
- C. CENTERLINE
- C.L.F. CHAIN LINK FENCE
- CMP. CORRUGATED METAL PIPE
- COL. COLUMN
- CONC. CONCRETE
- DIP. DUCTILE IRON PIPE
- DWY. DRIVEWAY
- E. EASTING COORDINATES
- EL. ELEVATION
- EX. EXISTING
- FM FORCE MAIN
- I.E. INVERT ELEVATION
- IRC. IRON ROD AND CAP
- LB. LICENSED BUSINESS
- MH. MANHOLE
- N. NORTHING COORDINATES
- N.A.V.D. 88. NORTH AMERICAN VERTICAL DATUM OF 1988
- N/D. NAIL AND DISC
- P.B. PLAT BOOK
- PG. PAGE
- PK. PK NAIL TEST HOLE MARKER
- PRD. POLLUTANT RETARDANT DEVICE (BAFFLE)
- PVRS. PAVERS
- RCP. REINFORCED CONCRETE PIPE
- R.E. RIGHT-OF-WAY
- R/W. RIM ELEVATION
- SAN. SANITARY
- STRUCT. STRUCTURE
- SWK. SIDEWALK
- T.O.P. TOP OF PIPE
- WM WATER MAIN
- X. CHIS "X" TEST HOLES MARKER

LEGEND:

- ANCHOR
- AIR RELEASE VALVE
- BACK FLOW PREVENTER
- CATCH BASIN
- DUCTILE IRON
- CONCRETE LIGHT POLE
- CONCRETE POST
- SANITARY SEWER MANHOLE
- SIGN ON POST
- STORM DRAINAGE MANHOLE
- WATER VALVE
- SPOT ELEVATION
- TR201 TREE No. 201 (SEE TREE TABLE)
- TR203 PALM No. 203 (SEE TREE TABLE)
- TR204 PALM CLUSTER No. 204 (SEE TREE TABLE)
- TH22 TEST HOLE NUMBER AND LOCATION
- PROP. CONCRETE
- PROP. SOD
- PROP. ASPHALT
- CENTER LINE
- RIGHT-OF-WAY LINE
- PROPERTY LINE
- EASEMENT LINE
- EX. PIPE TO BE REMOVED
- EX. PIPE TO BE GROUTED
- EX. WATER MAIN
- EX. FORCE MAIN
- PROPOSED WATER MAIN
- PROPOSED FORCE MAIN

TREE TABLE

TREE ID#	DESCRIPTION	TRUNK DBH
845	PALM CLUSTER (36" DIAMETER)	N/A
847	PALM CLUSTER (36" DIAMETER)	N/A
848	PALM CLUSTER (36" DIAMETER)	N/A
849	PALM CLUSTER (36" DIAMETER)	N/A
850	PALM CLUSTER (36" DIAMETER)	N/A
851	PALM CLUSTER (36" DIAMETER)	N/A
852	PALM CLUSTER (24" DIAMETER)	N/A
904	UMBRELLA	24"
905	UNKNOWN	24"
918	UNKNOWN	36"
1238	GUMBO LIMBO	12"
1243	UNKNOWN (STUMP)	36"
1257	UNKNOWN	8"
1258	BOUGAINVILLEA CLUSTER (36" DIAMETER)	N/A
1266	SEA GRAPE	24"



PIPES AS-BUILTS								
LOCATION	T.O.P. EL.	COMMENTS	LOCATION	T.O.P. EL.	COMMENTS	LOCATION	T.O.P. EL.	COMMENTS
A1	13.96	2" GALVANIZED PIPE	B1	14.08	3" GALVANIZED PIPE	C1	14.04	4" GALVANIZED PIPE
A2	14.32	2" GALVANIZED PIPE	B2	15.01	3" GALVANIZED PIPE	C2	14.58	4" GALVANIZED PIPE
A3	14.00	2" GALVANIZED PIPE	B3	14.92	3" GALVANIZED PIPE	C3	14.42	4" GALVANIZED PIPE
A4	14.35	2" GALVANIZED PIPE	B4	14.89	3" GALVANIZED PIPE	C4	14.47	4" GALVANIZED PIPE
A5	13.59	2" GALVANIZED PIPE	B5	13.71	3" GALVANIZED PIPE	C5	13.84	4" GALVANIZED PIPE

SITE 18 - EXISTING CONDITIONS

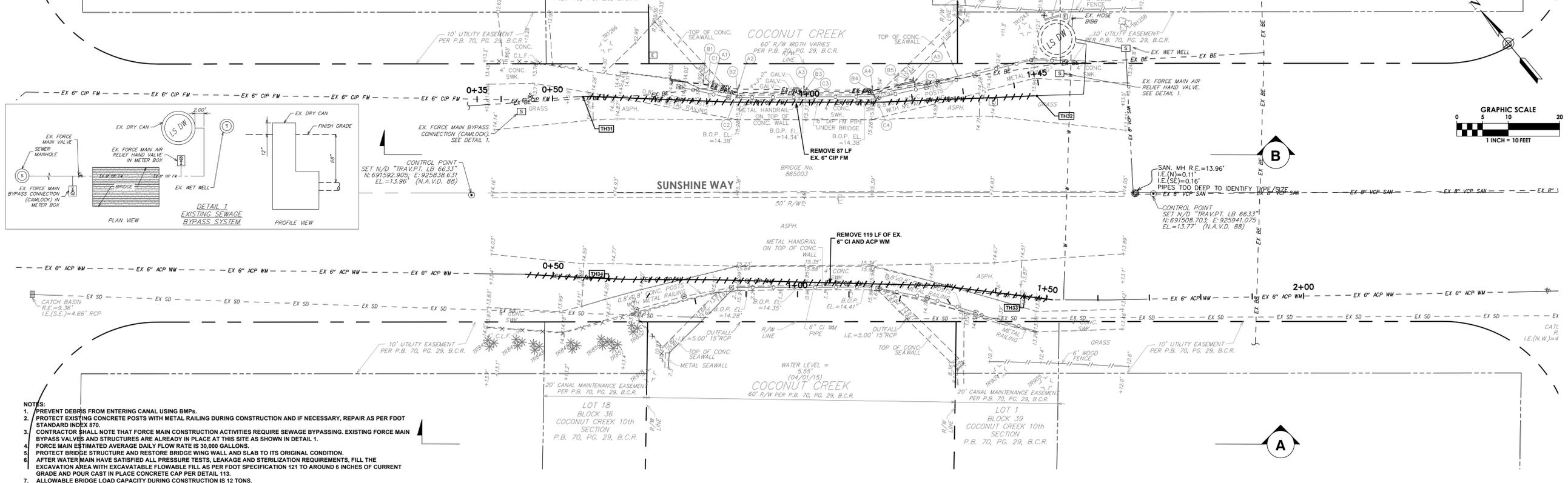
Always call 811 two full business days before you dig to have underground utilities located and marked.



CHEN-MOORE & ASSOCIATES
 500 West Cypress Creek Road
 Ft. Lauderdale, FL 33309
 954.730.0707
 www.chenmoore.com

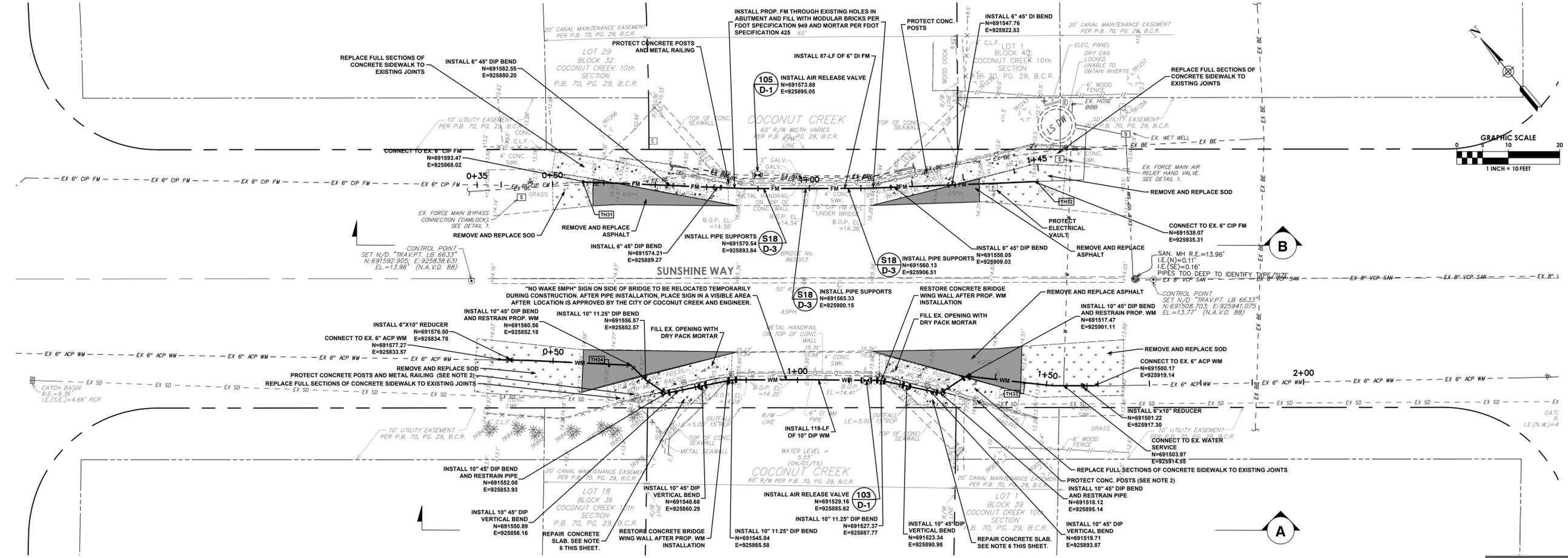
CERTIFICATES OF AUTHORIZATION
 EB0004593 LC26000425

REGISTRATION
 PAULA A. FONSECA, P.E.
 REGISTRATION NO. 77711
 DATE:



- NOTES:**
1. PREVENT DEBRIS FROM ENTERING CANAL USING BMPs.
 2. PROTECT EXISTING CONCRETE POSTS WITH METAL RAILING DURING CONSTRUCTION AND IF NECESSARY, REPAIR AS PER FDOT STANDARD INDEX 870.
 3. CONTRACTOR SHALL NOTE THAT FORCE MAIN CONSTRUCTION ACTIVITIES REQUIRE SEWAGE BYPASSING. EXISTING FORCE MAIN BYPASS VALVES AND STRUCTURES ARE ALREADY IN PLACE AT THIS SITE AS SHOWN IN DETAIL 1.
 4. FORCE MAIN ESTIMATED AVERAGE DAILY FLOW RATE IS 30,000 GALLONS.
 5. PROTECT BRIDGE STRUCTURE AND RESTORE BRIDGE WING WALL AND SLAB TO ITS ORIGINAL CONDITION.
 6. AFTER WATER MAIN HAVE SATISFIED ALL PRESSURE TESTS, LEAKAGE AND STERILIZATION REQUIREMENTS, FILL THE EXCAVATION AREA WITH EXCAVATABLE FLOWABLE FILL AS PER FDOT SPECIFICATION 121 TO AROUND 6 INCHES OF CURRENT GRADE AND POUR CAST IN PLACE CONCRETE CAP PER DETAIL 113.
 7. ALLOWABLE BRIDGE LOAD CAPACITY DURING CONSTRUCTION IS 12 TONS.

SITE 18 - PROPOSED CONDITIONS



Plot Date: 11/16/2016 10:02:27 PM Username: Pfonseca Layout Name: C-1
 Folder Path: V:\Projects\2015\15-138.016 - Aerial Crossings\ph\Design\CAD\Site 18 Plans
 Filename: 15-138.016 Site 18 Aerial Crossing Plan.dwg

CITY OF MARGATE
 Together We Make It Great

CLIENT
carollo
 3440 HOLLYWOOD BOULEVARD
 SUITE 465
 HOLLYWOOD, FL 33021

PROJECT INFORMATION

AERIAL CROSSING DESIGN PHASE II

CITY OF MARGATE, FLORIDA
 PROJECT NUMBER 15-138.016
 CLIENT PROJECT NUMBER

VERIFY SCALES
 0 1" = 10'
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

DATE OF ISSUE 10/12/2015
 DESIGNED BY
 DRAWN BY
 CHECKED BY

DRAWING TITLE EXISTING & PROPOSED CONDITIONS - PLAN VIEW

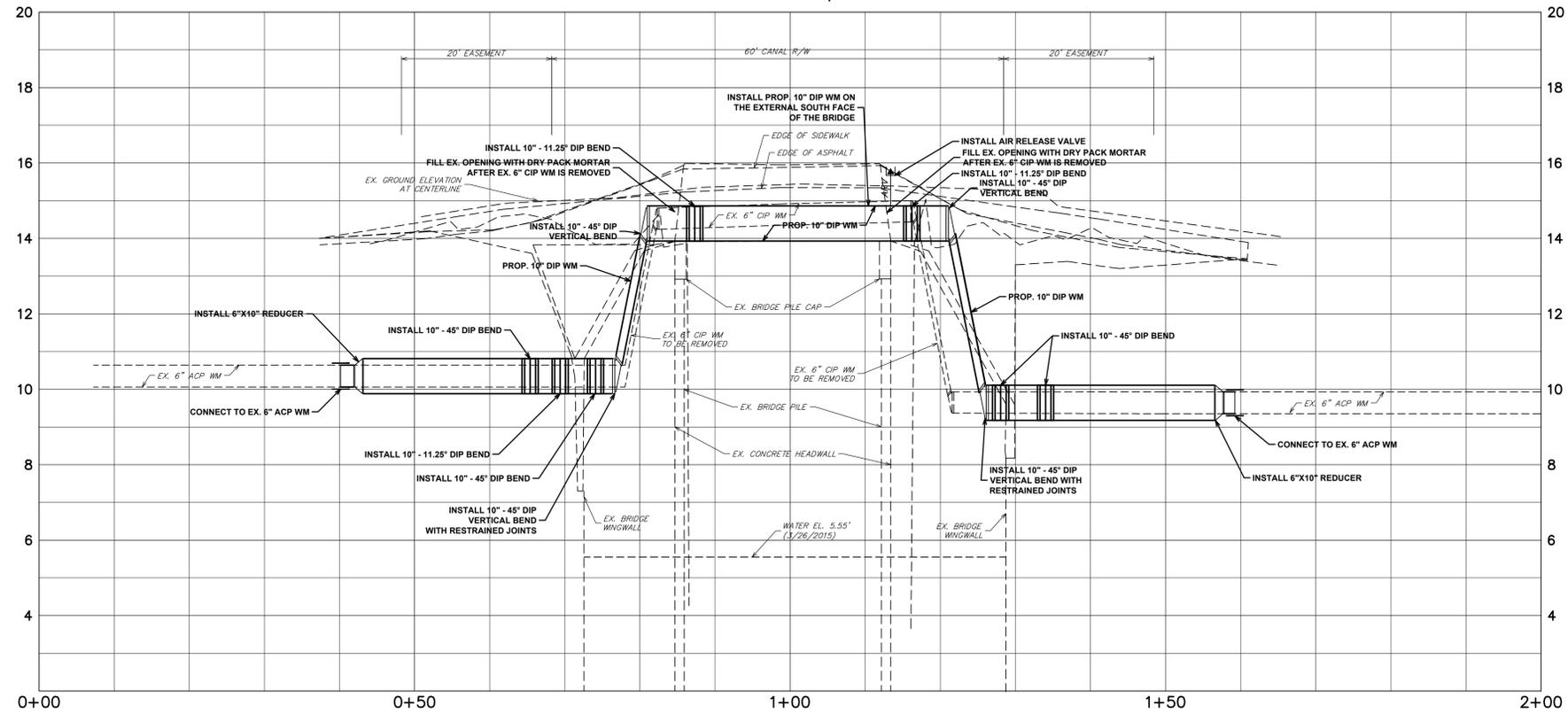
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C-1
 05 OF 09

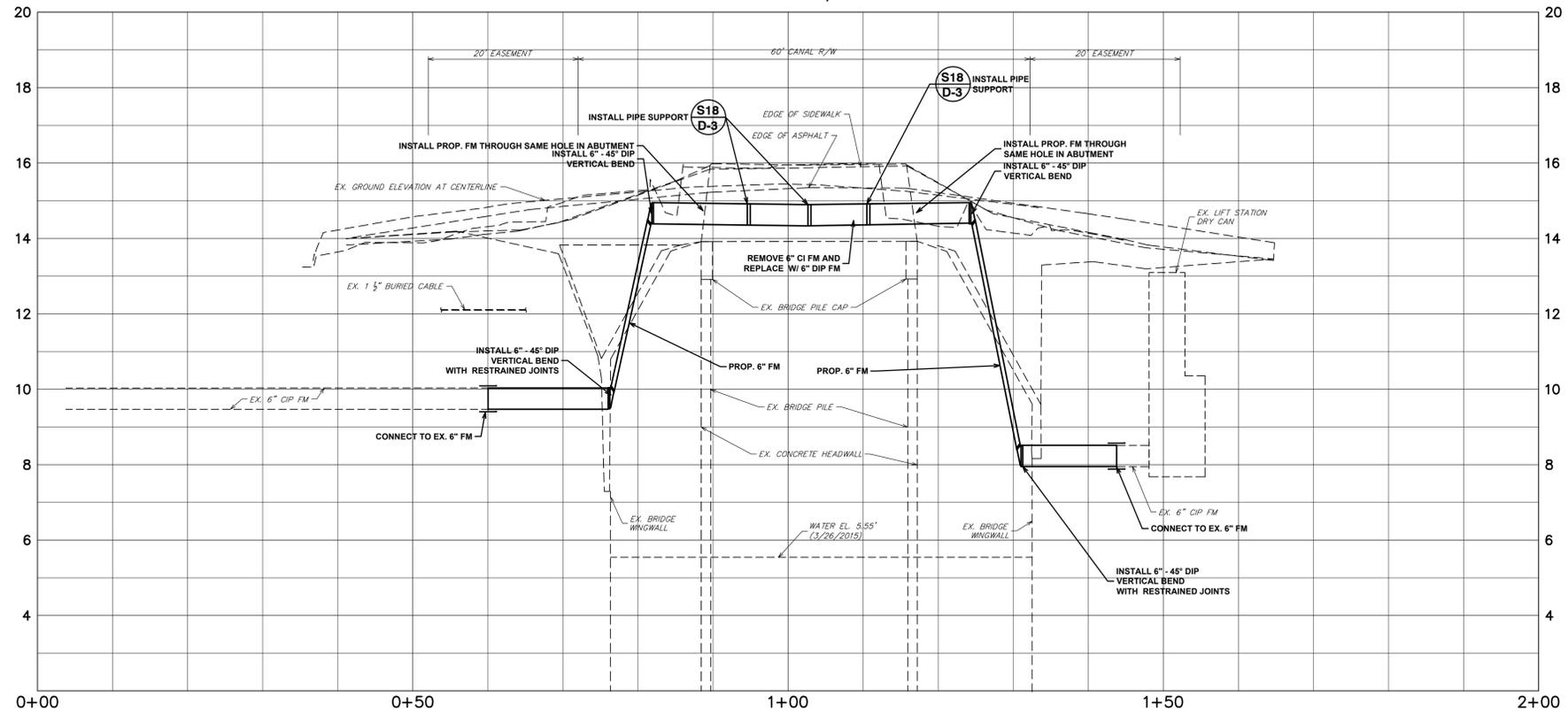
BID SET PLAN

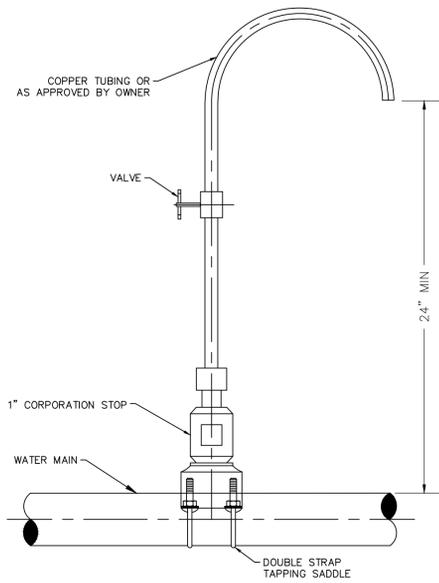


A SECTION A - SOUTH FACE OF THE BRIDGE Site 18 Water Main
 (STA. 0+00.00 TO 2+00.00)
 SCALE: 1"=10' HORZ. | 1"=2' VERT.



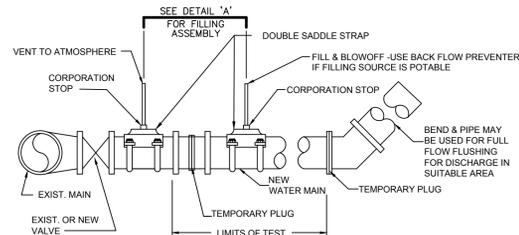
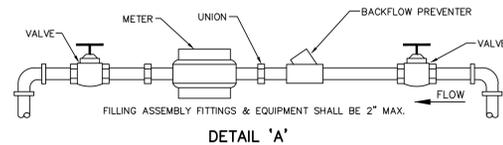
B SECTION B - NORTH FACE OF THE BRIDGE Site 18 Force Main
 (STA. 0+00.00 TO 2+00.00)
 SCALE: 1"=10' HORZ. | 1"=2' VERT.





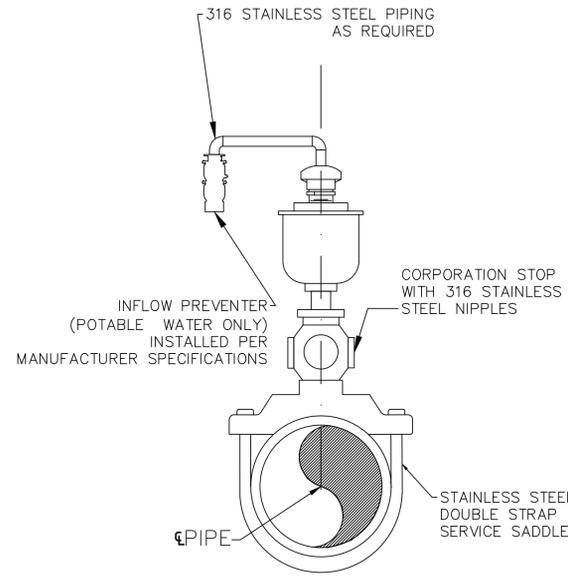
- NOTES:
1. SAMPLE POINTS SHALL BE LOCATED AND LATER REMOVED AS REQUIRED BY BROWARD COUNTY HEALTH DEPARTMENT.
 2. CORPORATION STOP SHALL BE UTILIZED FOR AIR RELEASE VALVE ASSEMBLY AFTER HEALTH DEPARTMENT CLEARANCE.

101 SAMPLING POINT
N.T.S.



- NOTES:
1. TEMPORARY CONNECTION ON THE NEW MAIN SHALL BE AT THE PROPOSED AIR RELIEF VALVE TAP LOCATION, OTHERWISE REMOVE TEMPORARY CONNECTION AT CORPORATION STOPS ON NEW MAIN AFTER FILLING AND FLUSHING HAS BEEN COMPLETED.
 2. COMPLY WITH ALL H.R.S. BROWARD COUNTY PUBLIC HEALTH UNIT REGULATIONS.
 3. PROVIDE ALL NECESSARY THRUST BLOCKS OR OTHER RESTRAINTS.
 4. INJECT CHLORINE ON PROJECT SIDE OF BACKFLOW PREVENTER (POTABLE WATER MAINS ONLY).
 5. FILLING & FLUSHING LOCATION SHALL BE DETERMINED BY THE CONTRACTOR, ENGINEER AND THE CITY.

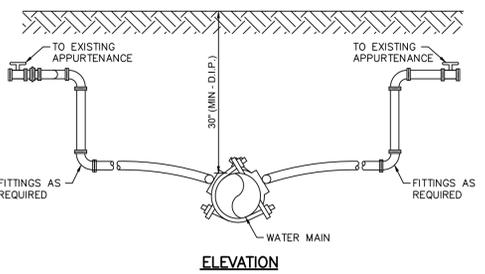
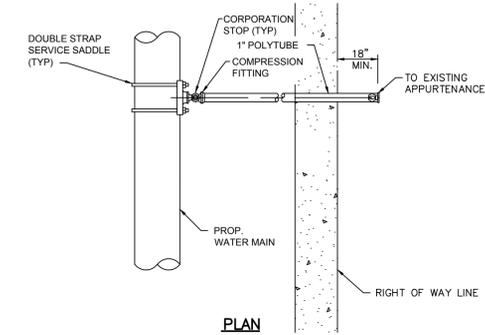
102 FILLING AND FLUSHING CONNECTION
N.T.S.



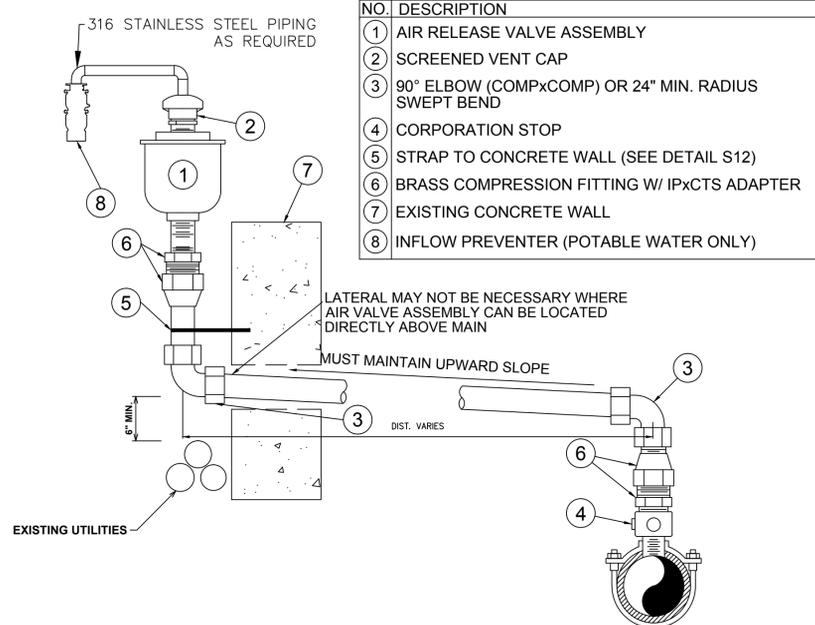
- NOTES:
1. FOR ALL INSTALLATIONS UP TO & INCLUDING 2" PIPE MATERIAL SHALL BE STAINLESS STEEL ABOVE GROUND. FOR LARGER INSTALLATIONS THE DESIGN SHALL BE ON A CASE BY CASE BASIS.
 2. CONTRACTOR SHALL FIELD VERIFY EACH LOCATION WHERE NEW AIR RELEASE VALVES ARE TO BE INSTALLED AND SUBMIT SITE SPECIFIC SHOP DRAWINGS WITH MANUFACTURER DETAILS DEMONSTRATING CONFORMANCE TO THE REQUIREMENTS ALONG WITH A BASIC DIMENSIONAL SKETCH OF PROPOSED INSTALLATION, GEOMETRY AND LOCATION FOR ENGINEER APPROVAL.

103 AIR RELEASE VALVE ASSEMBLY ON TOP OF PIPE
N.T.S.

- NOTES:
1. COVER OVER WATER SERVICE LINES TO BE 18" MINIMUM, 24" MAXIMUM BELOW FINISHED GRADE, AND 24" UNDER PAVEMENT.
 2. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED NOT LESS THAN 18" ON CENTER.
 3. SERVICE PIPE SHALL BE SAME SIZE AS THE EXISTING SERVICE USED EXCEPT THAT NO SERVICE PIPE SHALL BE SMALLER THAN 1".
 4. APPROVED TYPE COPPER TUBING MAY BE USED IN PLACE OF PLASTIC.
 5. THE MINIMUM RADIUS SHALL BE 14" FOR 1" SERVICE LINES.



104 WATER SERVICE CONNECTION
N.T.S.



- NOTES:
1. FOR ALL INSTALLATIONS UP TO & INCLUDING 2" PIPE MATERIAL SHALL BE STAINLESS STEEL ABOVE GROUND. FOR LARGER INSTALLATIONS THE DESIGN SHALL BE ON A CASE BY CASE BASIS.
 2. CONTRACTOR SHALL FIELD VERIFY EACH LOCATION WHERE NEW AIR RELEASE VALVES ARE TO BE INSTALLED AND SUBMIT SITE SPECIFIC SHOP DRAWINGS WITH MANUFACTURER DETAILS DEMONSTRATING CONFORMANCE TO THE REQUIREMENTS ALONG WITH A BASIC DIMENSIONAL SKETCH OF PROPOSED INSTALLATION, GEOMETRY AND LOCATION FOR ENGINEER APPROVAL.
 3. MAINTAIN MINIMUM VERTICAL CLEARANCE OF 6" BETWEEN PROPOSED AIR RELEASE VALVE AND EXISTING UTILITIES ON THE SIDE OF THE BRIDGE

105 AIR RELEASE VALVE ASSEMBLY ON THE SIDE OF THE BRIDGE
N.T.S.

LAYING CONDITION: TYPE 4 (PIPE BEDDED IN SAND, GRAVEL, OR CRUSHED STONE TO THE DEPTH OF 1/8 PIPE DIAMETER, 4 INCHES MINIMUM. BACKFILL COMPACTED TO TOP OF PIPE).

DEPTH OF COVER: 2.5 FEET

WORKING PRESSURE: 150 P.S.I.

SOIL BEARING: 2,000 P.S.F. AGAINST UNDISTURBED SOIL.

PIPE DIA. (IN.)	11.25d (FT)	22.5d (FT)	45d (FT)	90d (FT)	DEAD END (FT)	TEE (FT)	45d VERT. BEND (FT)	22d VERT. BEND (FT)
6	5	9	16	31	60	35	20	12
8	6	11	20	42	80	50	25	14
10	7	14	24	52	100	60	26	18
12	8	16	28	63	120	65	30	20
14	10	18	32	73	130	80	35	23
16	11	20	35	84	140	90	40	26
18	12	22	39	94	150	100	45	28
20	13	24	42	105	180	120	55	32
24	14	27	49	126	220	150	65	35

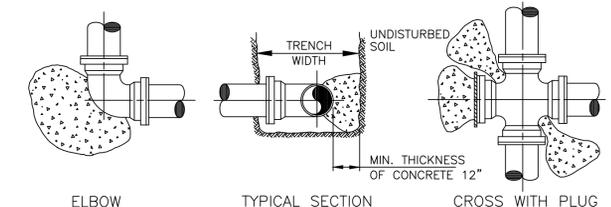
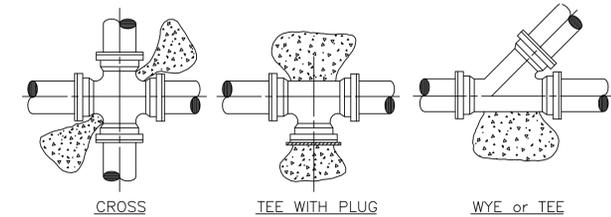
NOTE THAT IN ACTUAL INSTALLATIONS, THE RESTRAINED LENGTH WILL BE IN MULTIPLES OF LENGTH OF ONE PIECE OF PIPE (NORMALLY 18 TO 20 FEET). THUS, FOR EXAMPLE, IF THE RESTRAINED LENGTH FOR 6 INCH PIPE LEADING UP TO A 90 DEGREE BEND IS 30 FEET, TWO FULL LENGTHS OF RESTRAINED PIPE WILL RESULT IN 36 TO 40 FEET OF RESTRAINT, PROVIDING AN ADDITIONAL SAFETY FACTOR. WHERE SHORT CONNECTING PIECES ARE NEEDED TO POSITION FITTINGS, THEY SHOULD, WHEN POSSIBLE, BE PLACED OUTSIDE THE RESTRAINED SECTION FOR MAXIMUM ECONOMY.

THE ABOVE SCHEDULE IS ONLY A GUIDELINE. THE CONTRACTOR MUST VERIFY AND REVISE CALCULATIONS TO MEET INSTALLATION REQUIREMENTS.

106 RESTRAINED PIPE JOINT SCHEDULE
N.T.S.

NOTES:

1. CONCRETE THRUST BLOCKS OR THRUST COLLARS ONLY TO BE USED WITH OWNER'S APPROVAL.
2. CONCRETE THRUST BLOCKS OR THRUST COLLARS MAY BE UTILIZED ONLY IF NECESSARY FOR CONNECTIONS TO AN EXISTING PIPING SYSTEM, OTHERWISE MECHANICAL RESTRAINTS SHALL BE USED. KEEP "T" BOLTS CLEAR OF CONCRETE, WRAPPED IN VISQUEEN FOR FUTURE ACCESS, WITH A MINIMUM OF 1" THICKNESS BETWEEN THE FITTING AND SOIL.
3. BEFORE POURING CONCRETE, PLUGS SHALL BE WRAPPED WITH VISQUEEN AND A BOARD PLACED IN FRONT.
4. CONCRETE SHALL BE 2500 P.S.I. MINIMUM.
5. THE CONTRACTOR SHALL SUBMIT A THRUST BLOCK SIZE CALCULATION FOR TEE CONNECTIONS INTO UNRESTRAINED EXISTING MAINS LARGER THAN 14".
6. THE CONTRACTOR SHALL SUBMIT A PIPE RESTRAINT DESIGN FOR INLINE EXTENSIONS OF AN EXISTING UNRESTRAINED MAIN IF MECHANICAL JOINT RESTRAINT CAN NOT BE INSTALLED ON THE EXISTING MAIN.



PIPE	THRUST BLOCK AREA REQ'D	REMARKS	NOTE:
4"	2.0 SQ. FT.	VALUES ARE FOR 90° BEND, BASED ON 2000 P.S.F. SAFE BEARING LOAD AND PIPE PRESSURE OF 150 P.S.I. FOR OTHER SOILS & PRESSURES THE AREA REQUIRED IS IN DIRECT PROPORTION	NOTE: FOR OTHER FITTINGS USE THE FOLLOWING FACTORS: TEE 100% 45° BEND 71% 22 1/2° BEND 39% 11 1/4° BEND 20% DEAD END 100%
6"	4.0 SQ. FT.		
8"	6.6 SQ. FT.		
10"	10.0 SQ. FT.		
12"	14.0 SQ. FT.		
14"	18.6 SQ. FT.		

107 TYPICAL THRUST BLOCKS FOR PRESSURE PIPING
N.T.S.



CERTIFICATES OF AUTHORIZATION
EB0004593 LC26000425

REGISTRATION
PAULA A. FONSECA, P.E.
REGISTRATION NO. 77711
DATE:



CLIENT



PROJECT INFORMATION

AERIAL CROSSING DESIGN PHASE II SITE 18

CITY OF MARGATE, FLORIDA

PROJECT NUMBER
15-138.016

CLIENT PROJECT NUMBER

VERIFY SCALES
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

DATE OF ISSUE
11/06/2015

DESIGNED BY

DRAWN BY

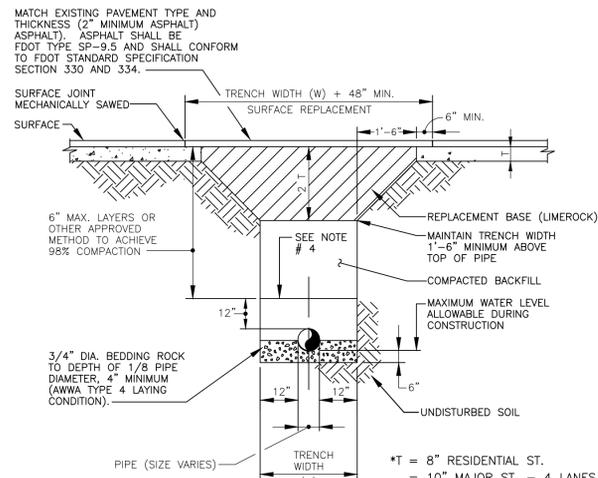
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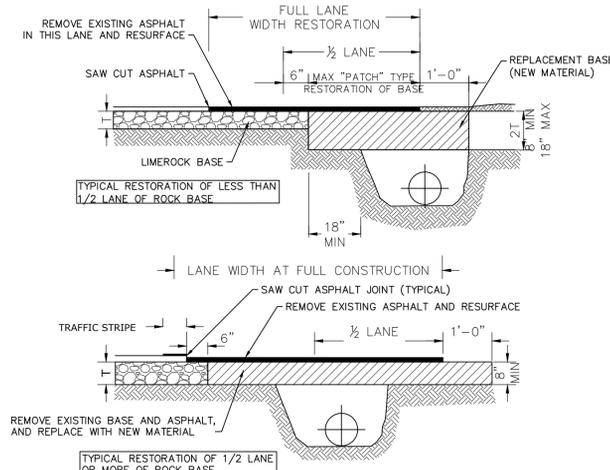
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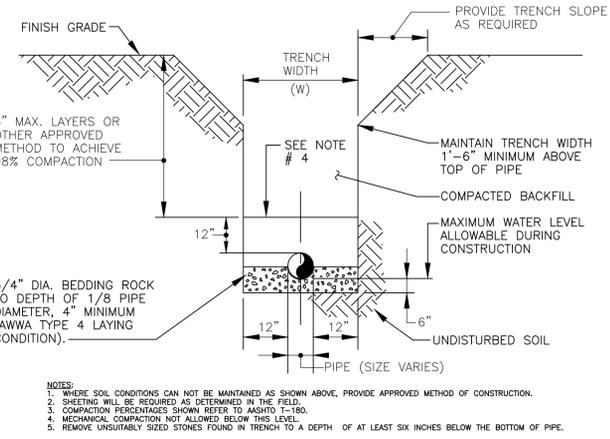
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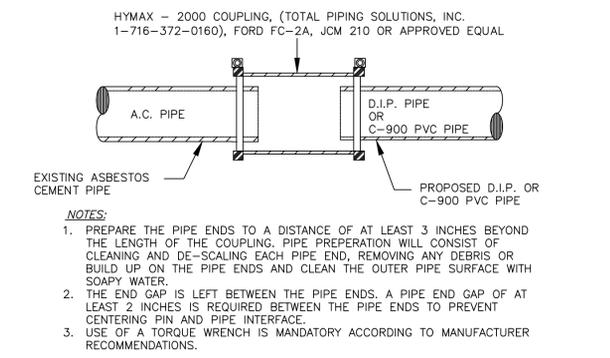
108 TRENCH IN PAVED AREAS DETAIL
N.T.S.



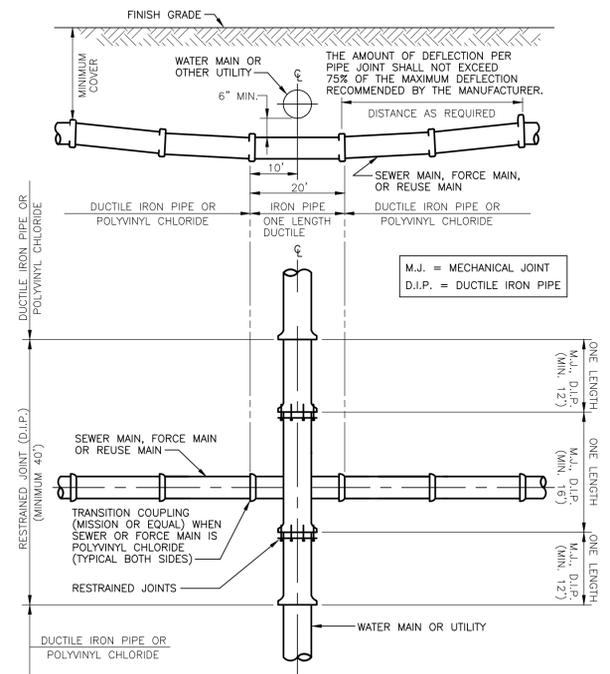
109 RESTORATION OF ROADWAY CUT FOR PARALLEL UTILITY INSTALLATION
N.T.S.



110 REPLACEMENT OF TRENCH IN UNPAVED AREAS DETAIL
N.T.S.

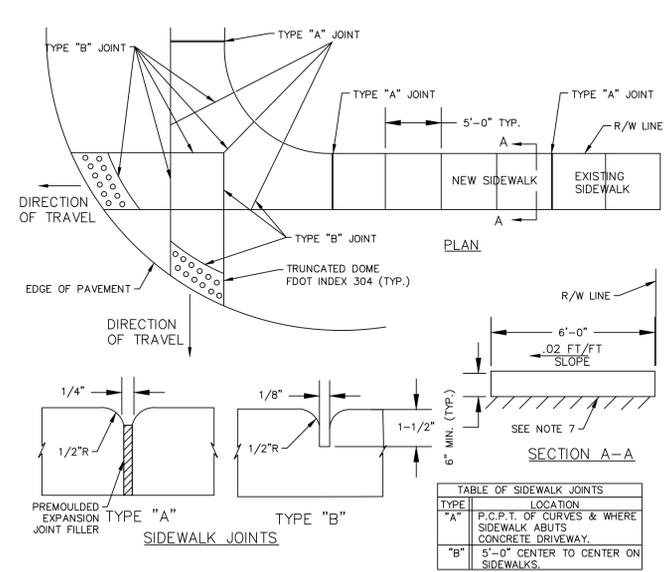


111 A.C. CONNECTION DETAIL
N.T.S.

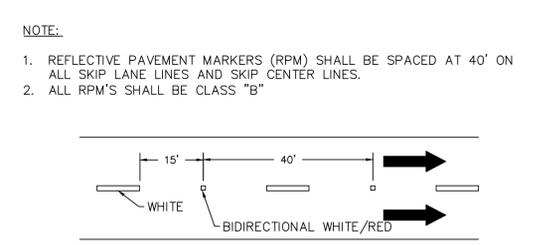


112 STANDARD UTILITY CROSSING
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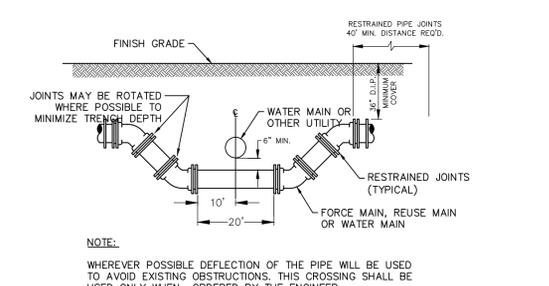
- NOTES:**
- CONCRETE TO BE CLASS 1, 3000 P.S.I.
 - THE USE OF REINFORCEMENT IS NOT PERMITTED
 - SIDEWALK SLOPES SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.
 - RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS IN ACCORDANCE WITH FOOT INDEX 304.
 - THE VERTICAL DEVIATION FOR A NEW SIDEWALK SHALL NOT BE MORE THAN 1/2\".
 - THE VERTICAL DEVIATION FOR A NEW MAINTENANCE ACCESS STRUCTURES COVER SHALL NOT BE MORE THAN 1/4\".
 - SUBGRADE MATERIAL SHALL BE COMPACTED TO 100% OF MAXIMUM DENSITY, PER AASHTO T-99.
 - STAMPED CONCRETE IS NOT ALLOWED IN LIEU OF TRUNCATED DOMES.
 - SEE HIGHWAY MAINTENANCE AND ENGINEERING DIVISION APPROVED PRODUCT LIST FOR ACCEPTABLE MATERIALS FOR TRUNCATED DOMES.
 - WHEN THE REMOVAL OF SIDEWALKS, CURBS OR GUTTERS IS NECESSARY FOR CONSTRUCTION, THEY SHALL BE REMOVED IN FULL SECTIONS OR A MINIMUM OF FIVE (5) FEET IN LENGTH, AND ALL BROKEN EDGES CUT STRAIGHT, CLEAN AND SMOOTH BY APPROPRIATE MEANS. IF THE ROAD PAVEMENT IS DAMAGED DURING SUCH REMOVAL, IT SHALL BE REPAIRED IN ACCORDANCE WITH CHAPTER 25, SECTION 5-6 OF THE BROWARD COUNTY HIGHWAY CONSTRUCTION & ENGINEERING DIVISION MINIMUM STANDARDS.



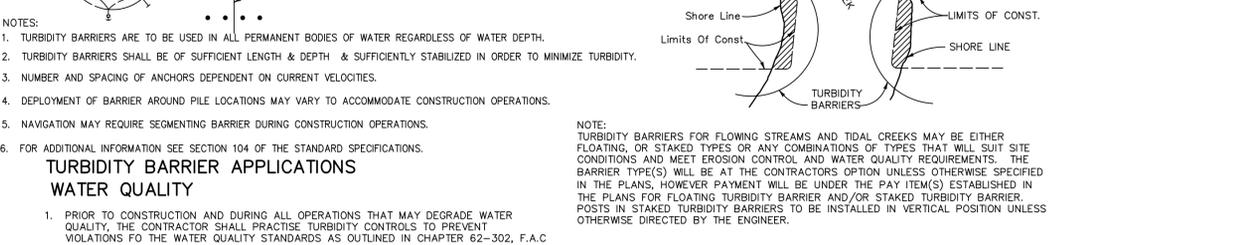
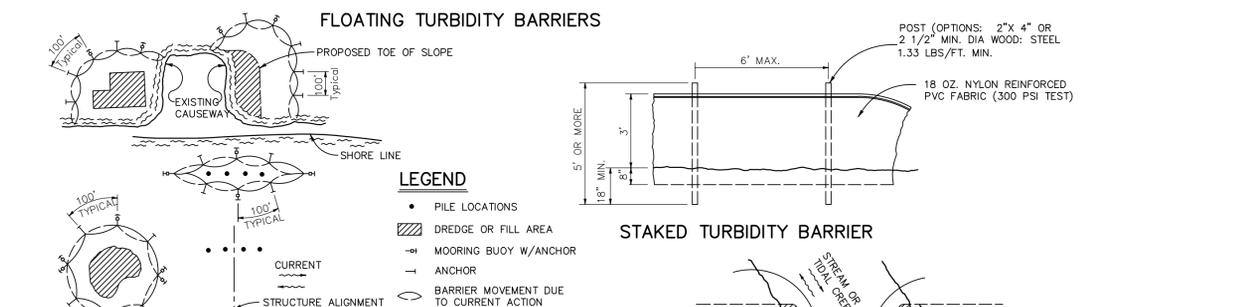
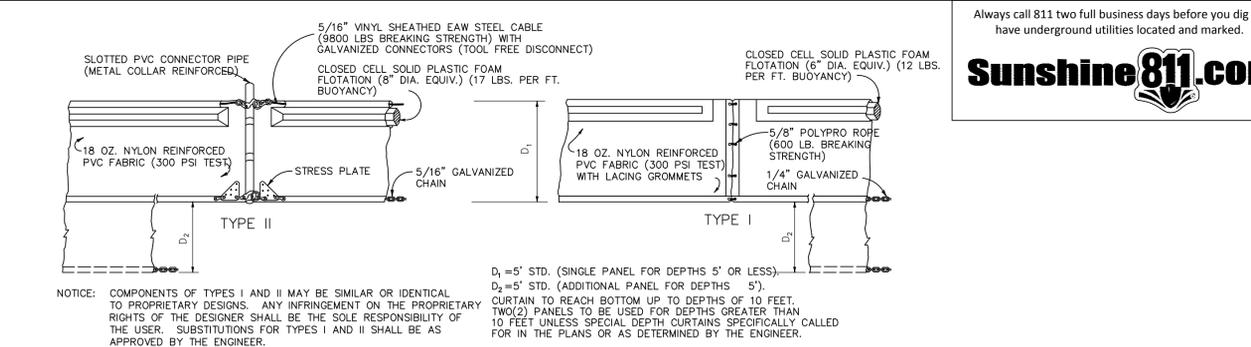
113 SIDEWALK DETAILS
N.T.S.



114 TYPICAL PLACEMENT OF RPM
N.T.S.



115 SPECIAL UTILITY CROSSING
N.T.S.



116 TURBIDITY BARRIER
N.T.S.

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

Sunshine 811.com

CHEN-MOORE & ASSOCIATES
500 West Cypress Creek Road
Ft. Lauderdale, FL 33309
954.730.0707
www.chenmoore.com

CERTIFICATES OF AUTHORIZATION
EB0004593 LC26000425

REGISTRATION
PAULA A. FONSECA, P.E.
REGISTRATION NO. 77711
DATE:

OWNER
CITY OF MARGATE
Together We Make It Great

CLIENT
carollo
3440 HOLLYWOOD BOULEVARD
SUITE 465
HOLLYWOOD, FL 33021

PROJECT INFORMATION
AERIAL CROSSING DESIGN PHASE II SITE 18
CITY OF MARGATE, FLORIDA
PROJECT NUMBER 15-138.016
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VERIFY SCALES
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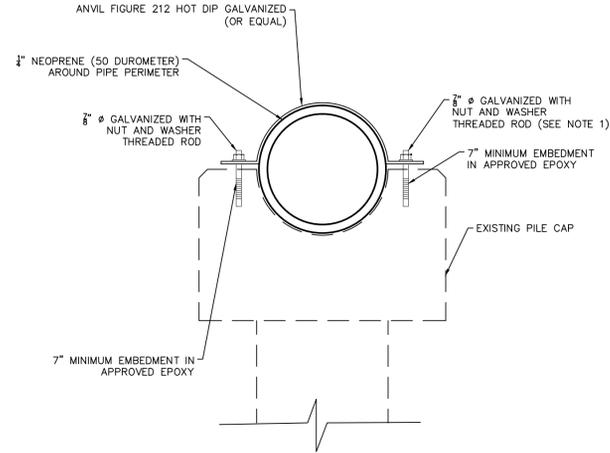
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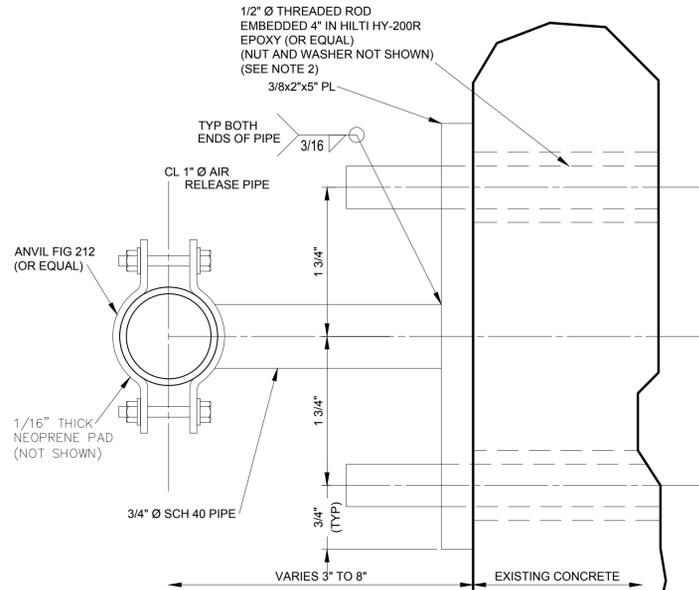
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08 OF 09



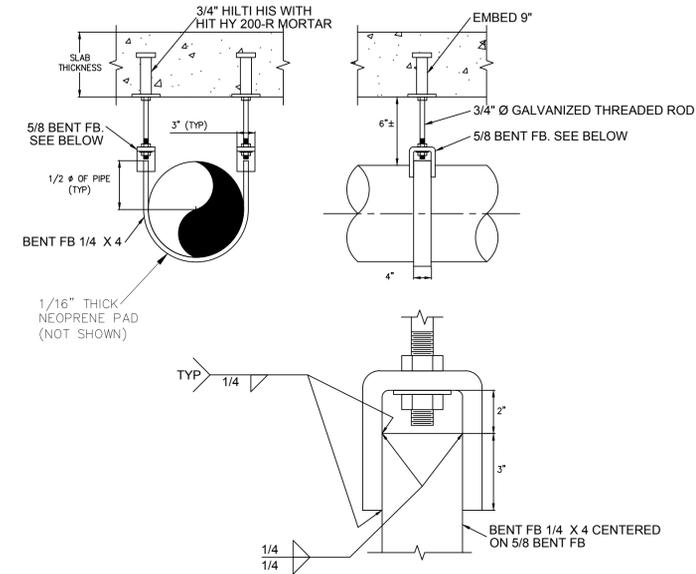
- NOTES:
1. WASHERS ARE $\frac{1}{8}$ INCH INSIDE DIAMETER, 2 $\frac{1}{4}$ INCH OUTSIDE DIAMETER AND $\frac{1}{8}$ INCH THICK. WASHERS MATERIAL IS ASTM F436.

S07 PIPE STRAP
N.T.S.



- NOTE:
1. ALL STEEL TO BE HOT DIP GALVANIZED
 2. THREADED RODS TO BE LOCATED AT LEAST 6" ABOVE BOTTOM OF BRIDGE GIRDER.

S12 AIR RELEASE VALVE PIPE SUPPORT
N.T.S.



S18 PIPE SUPPORTS
N.T.S.

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