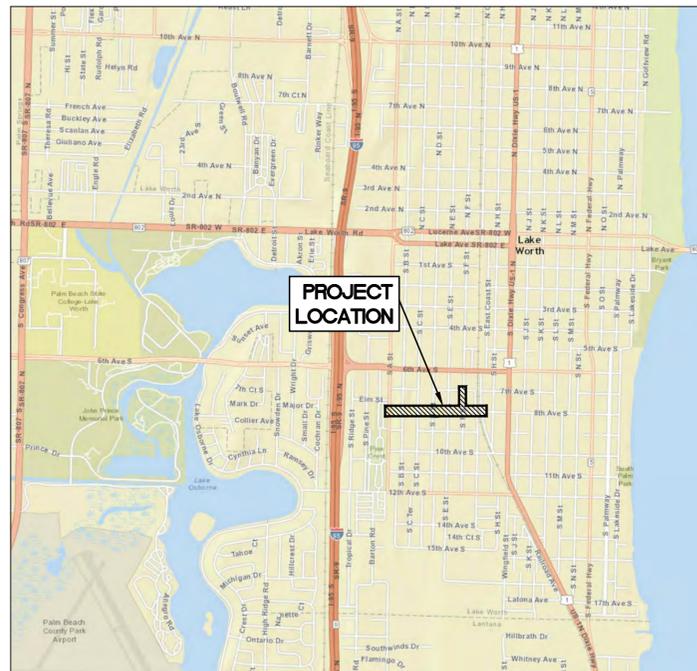


CITY OF LAKE WORTH 8TH AVENUE SOUTH AND SOUTH F STREET WATER MAIN INSTALLATION PALM BEACH COUNTY, FLORIDA

BID # IFB 16-113
FINANCE PROJECT # MP 0401



LOCATION MAP
NT8



CITY COMMISSION
PAM TRIOLO, MAYOR
SCOTT MAXWELL, VICE MAYOR
CHRISTOPHER MCVOY
ANDY AMOROSO
RYAN MAIER

CITY MANAGER
MICHAEL BORNSTEIN

UTILITY DIRECTOR
BRIAN SHIELDS, P.E.

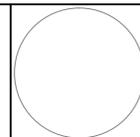
ASSISTANT UTILITY DIRECTOR
JULIE PARHAM, P.E.

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C400	ROAD CROSSING RESTORATION DETAILS

BID SET



7800 CONGRESS AVENUE, SUITE 200
BOCA RATON, FLORIDA 33487-1350
PHONE: (561) 994-6500
FAX: (561) 994-6524
CERT. OF AUTHORIZATION NO. 0002



DATE: _____
ENGINEER OF RECORD:
ANA C. DEMELO, P.E.
FL. REG. NUMBER: 57420

#	Date	Revision	Description



CITY OF LAKE WORTH
8TH AVE. SOUTH AND SOUTH F STREET
WATER MAIN INSTALLATION
PALM BEACH COUNTY, FLORIDA

COVER SHEET AND LOCATION PLAN	
DWN: MH	DSN: ACD
CHK: FN	SCALE: AS SHOWN
APV: ACD	DATE: 04/01/2016

SHEET
C001

I. CITY OF LAKE WORTH PUBLIC SERVICES DEPARTMENT - GENERAL NOTES

- SAFETY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH THE PROVISIONS OF THE FLORIDA TRENCH SAFETY ACT, THE FLORIDA UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT, AND ALL APPLICABLE O.S.H.A. REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING ALL NECESSARY PRECAUTIONS WHEN WORKING IN THE VICINITY OF OVERHEAD ELECTRIC LINES.
- ACCESS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SAFE VEHICULAR AND PEDESTRIAN ACCESS AT ALL TIMES.
- WARRANTY. ALL WORK, MATERIALS, OR EQUIPMENT SHALL BE WARRANTED FOR A MINIMUM OF ONE YEAR, FROM THE DATE OF FINAL ACCEPTANCE BY THE CITY OF LAKE WORTH, AGAINST DEFECTIVE MATERIALS AND/OR WORKMANSHIP. ALL WORK FOUND TO BE DEFECTIVE WILL BE REPLACED BY THE CONTRACTOR AT NO EXPENSE TO THE CITY OF LAKE WORTH.
- FIELD REVIEWS. THE CONTRACTOR SHALL PROVIDE NOTIFICATION, 48 HOURS (MIN.), PRIOR TO ANY REQUIRED FIELD REVIEWS OR INSPECTIONS AND SHALL SUPPLY ALL NECESSARY EQUIPMENT, LABOR, AND MATERIALS FOR INSPECTION AND/OR TEST. ALL WORK SHALL BE OPEN AND SUBJECT TO REVIEW AND/OR INSPECTION BY AUTHORIZED PERSONNEL OF THE CITY OF LAKE WORTH AND THE ENGINEER OF RECORD.
- DENSITY TESTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY TESTING TO ENSURE THAT THE PROPER COMPACTION HAS BEEN ACHIEVED FOR ALL SUBGRADE, BASE MATERIAL, PIPE BASE MATERIAL, BACKFILL, & ALL OTHER AREAS WHERE COMPACTION REQUIREMENTS ARE SPECIFIED. ALL TEST RESULTS SHALL BE SIGNED & SEALED BY A FLORIDA LICENSED PROFESSIONAL ENGINEER AND COPIES SHALL BE PROVIDED TO THE ENGINEER OF RECORD AND THE CITY OF LAKE WORTH.
- PERMITS. THE CONTRACTOR SHALL NOT COMMENCE CONSTRUCTION PRIOR TO RECEIPT OF ALL APPLICABLE PERMITS AND APPROVALS INCLUDING AN APPROVED MAINTENANCE OF TRAFFIC PLAN. THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE REQUIREMENTS OF THE PERMITS AND AGENCY APPROVALS.
- EROSION CONTROL. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH FDOT INDICES 102, 103 AND 106, THE FDEP NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT (IF APPLICABLE), AND THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). FILTER FABRIC, HAY BALES, OR ROCK BAGS SHALL BE INSTALLED IN EACH INLET THROUGHOUT THE CONSTRUCTION PERIOD. A SOIL TRACKING PREVENTION DEVICE (STPD) SHALL BE CONSTRUCTED AT ALL UNSTABILIZED CONSTRUCTION ACCESS POINTS, PER FDOT INDEX NO. 106.
- DEWATERING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ANY DEWATERING PERMITS AND/OR APPROVALS NECESSARY FOR CONSTRUCTION. NO WATER FROM DEWATERING MEASURES SHALL BE DISCHARGED OFF-SITE. ALL DISCHARGE SHALL BE CONTAINED IN ON-SITE SEDIMENT BASINS.
- SIDEWALKS. ALL SIDEWALKS SHALL BE CONSTRUCTED TO MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, CHAPTER 11 - FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION. ALL CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT STANDARD INDEX NO. 304 AND THE REQUIREMENTS OF THE FLORIDA BUILDING CODE. ALL WALKWAYS CROSSING VEHICULAR AREAS SHALL HAVE A DETECTABLE WARNING SURFACE (TRUNCATED DOMES) IN ACCORDANCE WITH FDOT STANDARD INDEX NO. 304 AND THE FLORIDA BUILDING CODE, CHAPTER 11 - ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION. ALL SIDEWALKS SHALL BE BROOM FINISHED WITH AN EVEN, DUSTLESS SURFACE AND SHALL BE FREE OF CRACKS AT TIME OF FINAL ACCEPTANCE BY THE CITY OF LAKE WORTH.

II. GENERAL NOTES - ADDITIONAL

- THE CITY OF LAKE WORTH WILL PROVIDE THE CONTRACTOR WITH THE HEALTH DEPARTMENT PERMIT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY ADDITIONAL PERMITS REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT.
- NO CONNECTIONS FOR THE PURPOSE OF OBTAINING WATER SUPPLY DURING CONSTRUCTION SHALL BE MADE TO ANY FIRE HYDRANT OR BLOW OFF STRUCTURE WITHOUT FIRST OBTAINING PERMISSION AND A TEMPORARY CONSTRUCTION METER FROM THE CITY OF LAKE WORTH CUSTOMER SERVICE.
- SEWER AND WATER SERVICES SHALL BE MAINTAINED DURING ENTIRE CONSTRUCTION PERIOD OR TEMPORARY FACILITIES PROVIDED. DAMAGED SERVICES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, IN ACCORDANCE WITH THE CITY OF LAKE WORTH UTILITY MANUAL.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING, MOVING, AND RELOCATING OR REPLACING ALL WATER SERVICES OR SEWER LATERALS WHICH ARE ENCOUNTERED DURING EXCAVATION. THE CONTRACTOR SHALL SUBMIT A WRITTEN PLAN TO PREVENT WATER SERVICE AND WASTE WATER SERVICE DISRUPTION FOR APPROVAL 14 (FOURTEEN) CALENDAR DAYS PRIOR TO THE ANTICIPATED SHUT DOWN. THE CONTRACTOR SHALL SUBMIT THE CITY OF LAKE WORTH STANDARD SHUT DOWN FORM AND NOTIFY THE PROPERTY OWNERS 48 HOURS IN ADVANCE OF ANY WORK ON THEIR SERVICES. THIS WORK SHALL BE CONSIDERED INCIDENTAL.
- ALL CONSTRUCTION WITHIN CITY R/W MUST CONFORM TO THE CITY OF LAKE WORTH UTILITIES AND PUBLIC WORKS DEPARTMENT STANDARDS.
- CONTRACTOR SHALL COMPLY WITH ALL LOCAL CITY, COUNTY, AND STATE REGULATIONS PERTAINING TO THE CLOSING OF PUBLIC STREETS FOR USE OF TRAFFIC DURING CONSTRUCTION.
- CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE EXISTING RIGHT-OF-WAY OR CITY EASEMENT IF PROPOSED WORK FALLS WITHIN CITY EASMENT, COPIES OF EASEMENT SHALL BE PROVIDED BY THE CITY OF LAKE WORTH PROJECT MANAGER.
- CONTRACTOR SHALL PREPARE AND SUBMIT MAINTENANCE OF TRAFFIC (MOT) PLANS TO CITY OF LAKE WORTH CONSTRUCTION MANAGERS FOR WORK TO BE DONE WITHIN THEIR R/W IN ACCORDANCE WITH FDOT STANDARDS AND M.U.T.C.D.
- THE CONTRACTOR SHALL PROVIDE NEW TRAFFIC MARKINGS IN KIND WHERE EXISTING TRAFFIC MARKING ARE DAMAGED OR REMOVED DURING CONSTRUCTION OUTSIDE OF THE WORK AREA. THIS WORK SHALL BE CONSIDERED INCIDENTAL.
- EXITING TRAFFIC SIGNS TO BE RESET UPON COMPLETION PER COUNTY, CITY, AND FDOT STANDARDS. COST SHALL BE CONSIDERED INCIDENTAL.
- CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES.
- STATIONS SHOWN IN THE DRAWINGS ARE STATIONS BASED ON THE ESTABLISHED BASE LINE AND SHALL NOT BE CONSIDERED AS DISTANCES OR AS A MEASURE OF THE LINEAR FOOTAGE OF PIPE TO BE INSTALLED.
- ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAY OR WALKWAY SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
- NO TRENCHES OR HOLES NEAR WALKWAY, IN ROADS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS.
- CONTRACTOR SHALL PROMPTLY REPAIR AND RESTORE EXISTING PAVEMENT, SIDEWALKS, CURBS, DRIVEWAYS, PIPES, RESIDENTIAL AND COMMERCIAL SPRINKLERS LINES, CONDUITS, CABLES, ETC. AND LANDSCAPE AREAS DAMAGED AS A RESULT OF THE CONSTRUCTION ACTIVITIES OUTSIDE OF THE PROJECT LIMITS OR THAT ARE NOT INCLUDED IN OTHER PAY ITEMS. THIS WORK SHALL BE CONSIDERED INCIDENTAL. ALL SIDEWALKS REPAIRS AND RESTORATIONS SHALL BE CONSTRUCTED PER THE FLORIDA ACCESSIBILITY CODE.

- THE CONTRACTOR SHALL PROVIDE THE CITY OF LAKE WORTH CONSTRUCTION MANAGER WITH THE LOCATION OF ANY UNMARKED UTILITIES FOUND DURING CONSTRUCTION. THESE ITEMS SHALL BE INCORPORATED INTO THE AS-BUILT DRAWINGS
- THE CONTRACTOR SHALL COORDINATE ANY VEGETATION OR TREE REMOVAL WITHIN THE R/W WITH THE CITY OF LAKE WORTH PROJECT MANAGER PRIOR TO CONSTRUCTION. CONSTRUCTION OF SWALES SHALL AVOID AND PROTECT EXISTING SIGNIFICANT VEGETATION (4" DIAMETER TREE OR GREATER THAN 6 FEET TALL). SMALLER PLANTING SHOULD BE REPLACED IN KIND.
- CONTRACTOR SHALL PROVIDE/IMPROVE SWALE AREAS OF THE PROJECT SITE. SWALE AREAS CONSIST OF THE EDGE OF ASPHALT PAVEMENT TO THE EDGE OF CONCRETE SIDEWALK ON BOTH SIDES OF THE ROAD.
- MINIMUM DEPTH OF COVER FOR PROPOSED WATER MAIN IS 36 INCHES.
- REMOVE AND REPLACE ALL MAILBOXES, POST, FENCES, LAWN ORNAMENTS, ETC. THAT MAY BE IMPACTED BY SWALE CONSTRUCTION AT NO ADDITIONAL COST.
- WHEN NECESSARY CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ABANDONED ASBESTOS CEMENT PIPE.
- NO EXCAVATED MATERIAL SHALL BE CAST ON THE STREETS OR ADJACENT SIDEWALKS. EXCAVATED MATERIAL SHALL BE PLACED IN A DUMP TRUCK AND HAULED AWAY.
- IN GENERAL, EXISTING STRUCTURES AND UTILITIES ARE NOTED AS EXISTING AND/OR SHOWN IN LIGHT LINE WEIGHT. NEW CONSTRUCTION IS SHOWN IN HEAVY LINE.

III. LOCATION OF UTILITIES

- UNDERGROUND UTILITIES SHOWN IN THESE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION PROVIDED TO THE ENGINEER. CONTRACTOR SHALL CALL 811, 48 HOURS BEFORE DIGGING OR TRENCHING OPERATIONS BEGIN.
- THE CONTRACTOR SHALL ACCURATELY LOCATE AND UNCOVER ALL EXISTING UTILITIES BEFORE CONSTRUCTION.
- ANY DAMAGE RESULTING FROM THE CONTRACTORS OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S SOLE EXPENSE. NOTIFY CONSTRUCTION MANAGER IF CONFLICTS ARE PRESENT.
- FLORIDA POWER AND LIGHT, TELEPHONE, COMCAST, GAS, CABLE TV, ETC., ARE TAKEN FROM FIELD INSPECTIONS AND ARE SHOWN FOR CONVENIENCE ONLY.
- UTILITIES:

FPL - FIBERNET LLC
4200 W FLAGLER STREET
MIAMI, FLORIDA 33174
(800) 868-9554

COMCAST CABLE
2021 SOUTH MILITARY TRAIL
WEST PALM BEACH, FLORIDA 33345
(561) 478-5866

FLORIDA PUBLIC UTILITIES COMPANY
208 SAPODILLA AVENUE
WEST PALM BEACH, FLORIDA 33401
ATTENTION: JASON ZELINSKI, DIVISION ENGINEER
(561) 838-1787

CITY OF LAKE WORTH - ELECTRICAL DEPARTMENT
1900 2ND AVENUE NORTH
LAKE WORTH, FLORIDA, 33461
(561) 533-7384

AT&T DISTRIBUTION
2021 SOUTH MILITARY TRAIL
WEST PALM BEACH, FLORIDA, 33415
(561) 357-6615

- CONTRACTOR SHALL EMPLOY AN UNDERGROUND UTILITY LOCATOR SUCH AS "INFRAMAP" FOR THE LOCATION OF ALL UTILITIES WITHIN THE PROJECT LIMITS PRIOR TO THE START OF CONSTRUCTION.
- SHOULD CONFLICTS RISE BETWEEN THE PROPOSED IMPROVEMENTS SHOWN AND THE LOCATION OF EXISTING UTILITIES, THE CONTRACTOR SHALL CONTACT THE CONSTRUCTION MANAGER FOR RESOLUTION PRIOR TO INSTALLATION.
- CONTRACTOR SHALL PROVIDE ALL SHEETING AND SHORING AS REQUIRED DU TO CONSTRUCTION ACTIVITIES TO PROTECT EXISTING UTILITIES, POWER POLES, ETC.

IV. SURVEY NOTES

- LOCATION OF EXISTING FACILITIES AS SHOWN ON DRAWINGS ARE DRAWN FROM AVAILABLE RECORDS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR NEITHER THE ACCURACY OF THE FACILITIES SHOWN NOR FOR ANY FACILITY NOT SHOWN.
- SURVEY CONTROL AND PREPARATION OF THE BASE MAP DRAWINGS WERE DONE BY WHIDDEN SURVEYING & MAPPING INC., 9200 BELVEDERE ROAD, SUITE 114, ROYAL PALM BEACH, FLORIDA, 33411.
- NO TITLE OPINION OR ABSTRACT OF THE SUBJECT PROPERTY HAS BEEN PROVIDED. IT IS POSSIBLE THAT THERE ARE DEEDS, EASEMENTS, OR OTHER INSTRUMENTS (RECORDED OR UNRECORDED) WHICH MAY AFFECT THE SUBJECT PROPERTY. NO SEARCH OF THE PUBLIC RECORDS HAS BEEN MADE BY THE SURVEYOR.
- BENCHMARK DATE IS NATIONAL AMERICAN VERTICAL DATUM OF 1988 (NAVD-88).
- ANY NAVD-88 MONUMENT WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF DAMAGED, THE CONTRACTOR SHOULD NOTIFY:
GEODETIC INFORMATION CENTER
ATTENTION: MARK MAINTENANCE SECTION
ATTENTION: N/CG-162
6001 EXECUTIVE BOULEVARD
ROCKVILLE, MARYLAND 20852
TELEPHONE NO: (301) 443-8319

- EXISTING SECTION CORNERS, QUARTER SECTION CORNER, AND COUNTY SURVEY CONTROL MONUMENTS LOCATED WITHIN THE PROPOSED CONSTRUCTION AREAS TO BE REFERENCED PRIOR TO CONSTRUCTION AND RESET IF DISTURBED AFTER CONSTRUCTION BY A PROFESSIONAL LAND SURVEYOR AND MAPPER.

V. APPLICABLE CODES

- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF LAKE WORTH AND ALL OTHER LOCAL, STATE AND NATIONAL CODES WHERE APPLICABLE. IN THE EVENT OF A CONFLICT, CITY OF LAKE WORTH SPECIFICATIONS WILL GOVERN.
 - ALL CONSTRUCTION WILL BE DONE IN A SAFE MANNER AND IN STRICT COMPLIANCE WITH ALL THE REQUIREMENTS OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AND ALL STATE AND LOCAL SAFETY AND HEALTH REGULATIONS.
 - ALL ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE BASED ON THE NATIONAL AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D.), UNLESS OTHERWISE NOTED.
 - ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE CITY OF LAKE WORTH SPECIFICATIONS.
- VI. PRE CONSTRUCTION RESPONSIBILITIES**
- UPON THE RECEIPT OF THE "NOTICE TO PROCEED", THE CONTRACTOR SHALL CONTACT THE OWNER AND ARRANGE A PRE CONSTRUCTION CONFERENCE TO INCLUDE ALL INVOLVED GOVERNMENTAL AGENCIES, UTILITY OWNERS AND THE OWNER.
 - THE CONTRACTOR SHALL OBTAIN A SUNSHINE STATE ONE CALL OF FLORIDA, INC. CERTIFICATION NUMBER AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION. CALL 1-800-432-4770.

- LOCATION OF EXISTING FACILITIES AS SHOWN ON CONSTRUCTION DRAWINGS ARE DRAWN FROM AVAILABLE RECORDS PROVIDED BY THE SURVEYOR (WHIDDEN SURVEYING AND MAPPING INC). THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE FACILITIES SHOWN OR FOR ANY FACILITY THAT IS NOT SHOWN. THE CONTRACTOR SHALL VERIFY, IF POSSIBLE, THE ELEVATIONS AND LOCATIONS OF EXISTING FACILITIES PRIOR TO CONSTRUCTION. IF AN EXISTING FACILITY IS FOUND TO CONFLICT WITH THE PROPOSED CONSTRUCTION UPON EXCAVATION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF RECORD SO THAT APPROPRIATE MEASURES CAN BE TAKEN TO RESOLVE THE PROBLEM.

VII. INSPECTIONS

- THE CONTRACTOR SHALL NOTIFY THE CITY OF LAKE WORTH ENGINEERING DEPARTMENT, THE CONSTRUCTION MANAGER, AND ANY OTHER GOVERNMENTAL AGENCIES HAVING JURISDICTION AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO THE INSPECTION OF THE FOLLOWING ITEMS, WHERE APPLICABLE:

- CLEARING AND FILLING
- STORM DRAINAGE SYSTEM
- SANITARY SEWER SYSTEM
- WATER DISTRIBUTION SYSTEM
- SUBGRADE
- LIMEROCK BASE
- ASPHALTIC CONCRETE
- SIDEWALK
- FINAL INSPECTION

VIII. TEMPORARY FACILITIES

- TEMPORARY FACILITIES:
 - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY.
 - TRAFFIC REGULATIONS:
 - MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHTS-OF-WAY SHALL BE IN ACCORDANCE WITH 2003 M.U.T.C.D. AND 2010 FDOT DESIGN STANDARDS OR LATEST EDITION
 - ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR SIDEWALKS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
 - NO HOLES OR TRENCHES NEAR SIDEWALKS, IN ROADWAYS OR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS.
 - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR ANY NECESSARY CONSTRUCTION, PAVEMENT MARKING AND SIGNAGE OR PEDESTRIAN SIGNALIZATION AND/OR SIGNAL MODIFICATION TO ACCOMMODATE AN ALTERNATE, SAFE TRAVEL ROUTE.

TREE LEGEND

- = PALM TREE
- = OAK TREE

SURVEY LEGEND

- | | |
|--|--|
| CMP = CORRUGATED METAL PIPE | (C) = CALCULATED |
| COE = ARMY CORPS OF ENGINEERS | (P) = PLAT DIMENSION |
| P.B. = PLAT BOOK | R = RADIUS |
| PC = PAGE | L = ARC LENGTH |
| OHW = OVERHEAD WIRES | D = CENTRAL ANGLE |
| O.R.B. = OFFICIAL RECORD BOOK OF PALM BEACH COUNTY | P.I. = POINT OF INTERSECTION |
| | CL = CENTERLINE |
| = WOOD UTILITY POLE | = SANITARY SEWER MANHOLE |
| = SPRINKLER HEAD | = DRAINAGE MANHOLE |
| = LIGHT POLE | AT&T = AMERICAN TELEPHONE & TELEGRAPH |
| = SIGN | P.I.D. = PERMANENT IDENTIFICATION NUMBER |
| HDPE = CORRUGATED PLASTIC PIPE | = LANDSCAPE LIGHTS |
| PVC = POLY VINYL CHLORIDE | W.C. = WITNESS CORNER |
| ENCR. = ENCROACHING | = CATCH BASIN |
| CORS = CONTINUOUS OPERATING REFERENCE STATION | = CURB INLET |
| R/W = RIGHT OF WAY | = TEST HOLE |
| | = BENCHMARK |
| | = TELECOMMUNICATION MANHOLE |



LEGEND

- = PROPOSED WATERMAIN
- = PROPOSED SANITARY CLEANOUT
- = PROPOSED FIRE HYDRANT ASSEMBLY
- = PROPOSED GATE VALVE
- = PROPOSED TEE
- = PROPOSED REDUCER
- = PROPOSED 90° BEND
- = PROPOSED 45° BEND
- = PROPOSED 22.5° BEND
- = PROPOSED 11.25° BEND
- = PROPOSED CAP
- = EXISTING ROW LINE
- = EXISTING WATERMAIN
- = EXISTING SANITARY SEWER
- = EXISTING SANITARY SEWER MANHOLE
- = EXISTING SWALE
- = EXISTING STORM PIPE
- = EXISTING TOP OF BANK
- = EXISTING TOE OF SLOPE
- = EXISTING FORCE MAIN
- = EXISTING RIGHT OF WAY
- = EXISTING PLAT LINES
- = EXISTING OVERHEAD WIRE
- = EXISTING FENCE LINE
- = EXISTING EASEMENT
- = EXISTING CENTERLINE
- = EXISTING WATER METER
- = TO BE REPLACED
- = ROADWAY RECONSTRUCTION
- = ROADWAY MILLING
- = NON-PAVED RESTORATION

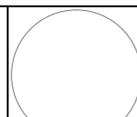
ABBREVIATIONS

- | | |
|----------|-----------------------------------|
| A.R.V. = | AIR RELEASE VALVE |
| A.V.C. = | ATMOSPHERIC VENT CONNECTION |
| ABDN = | ABANDON |
| ACP = | ASBESTOS CEMENT PIPE |
| B.O.P. = | BOTTOM OF PIPE |
| C.I.P. = | CAST IRON PIPE |
| C.L.W. = | CITY OF LAKE WORTH |
| CMP = | CORRUGATED METAL PIPE |
| CONC = | CONCRETE |
| DIAM. = | DIAMETER |
| D.I.P. = | DUCTILE IRON PIPE |
| E = | EAST |
| ELEV = | ELEVATION |
| EPG = | EDGE OF PAVEMENT |
| EXST = | EXISTING |
| FH = | FIRE HYDRANT |
| FM = | FORCEMAIN |
| FNPT = | FEMALE NATIONAL PIPE THREAD TAPER |
| G.V. = | GATE VALVE |
| HORIZ = | HORIZONTAL |
| HDPE = | HIGH DENSITY POLYETHYLENE |
| INV = | INVERT |
| I.E. = | INVERT ELEVATION |
| RIM = | MANHOLE RIM |
| N = | NORTH |
| MNPT = | MALE NATIONAL PIPE THREAD TAPER |
| PROP. = | PROPOSED |
| PVC = | POLYVINYL CHLORINE |
| POLY = | POLYETHYLENE |
| RED = | REDUCER |
| S = | SOUTH |
| SP = | SAMPLE POINT |
| S/W = | SIDEWALK |
| T.O.P. = | TOP OF PIPE |
| V.C.P. = | VITRIFIED CLAY PIPE |
| VERT = | VERTICAL |
| WM = | WATER MAIN |

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PHONE: (561) 994-6500
FAX: (561) 994-6524
CERT. OF AUTHORIZATION NO. 0002



DATE: _____
ENGINEER OF RECORD:
ANA C. DEMELO, P.E.
FL. REG. NUMBER: 57420

#	Date	Revision	Description



CITY OF LAKE WORTH
8TH AVE. SOUTH AND SOUTH F STREET
WATER MAIN INSTALLATION
PALM BEACH COUNTY, FLORIDA

GENERAL NOTES, LEGEND AND ABBREVIATIONS	
DWN: MH	DSN: ACD
CHK: FN	SCALE: AS SHOWN
APV: ACD	DATE: 04/01/2016

SHEET
C002

GENERAL NOTES (CONTINUED)

IX. WATER DISTRIBUTION SYSTEM

A. WATER, RECLAIMED WATER SEWER AND STORM WATER SEPARATION STATEMENT:

HORIZONTAL SEPARATION BETWEEN UNDERGROUND WATERMANS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCE MAINS, RECLAIMED WATER PIPELINES AND ON SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS.

1. NEW OR RELOCATED UNDERGROUND WATERMANS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATERMAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED SEWER, STORMWATER FORCEMAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 2-610, F.A.C.
2. NEW OR RELOCATED UNDERGROUND WATERMANS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATERMAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.
3. NEW OR RELOCATED UNDERGROUND WATERMANS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATERMAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE TYPE SANITARY SEWER, WASTEWATER FORCEMAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION BETWEEN WATERMANS AND GRAVITY TYPE SANITARY SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATERMAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.
4. NEW OR RELOCATED UNDERGROUND WATERMANS SHALL BE LAID TO PROVIDE A MINIMUM HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATERMAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED 'ON SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM' AS DEFINED IN SECTION 381.0065(2), F.S. AND RULE 64E-6.002, F.A.C.

VERTICAL SEPARATION BETWEEN UNDERGROUND WATERMANS AND SANITARY OR STORM SEWERS, WASTEWATER OR STORMWATER FORCEMANS, AND RECLAIMED WATER PIPELINES.

1. NEW OR RELOCATED UNDERGROUND WATERMANS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM TYPE SANITARY OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATERMAIN IS AT LEAST SIX INCHES, AND PREFERABLY TWELVE INCHES ABOVE, OR AT LEAST TWELVE INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATERMAIN ABOVE THE OTHER PIPELINE.
2. NEW OR RELOCATED UNDERGROUND WATERMANS CROSSING ANY EXISTING OR PROPOSED PRESSURE TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPE LINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATERMAIN IS AT LEAST TWELVE INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATERMAIN ABOVE THE OTHER PIPELINE.
3. AT THE UTILITY CROSSING DESCRIBED IN PARAGRAPH 1 AND 2 ABOVE, ONE FULL LENGTH OF WATERMAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATERMAIN JOINTS SHALL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATERMAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM TYPE SANITARY SEWER, STORM SEWERS, STORMWATER FORCEMANS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE TYPE SANITARY SEWERS, WASTEWATER FORCEMANS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER III 62-610, F.A.C.

X. PAVING:

A. GENERAL:

1. ALL MUCK AND YIELDING MATERIAL WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH CLEAN FILL MATERIAL, WHICH SHALL BE COMPACTED AND SHAPED TO CONFORM TO THE REQUIRED SECTION. COMPACTED AREAS, AS SHOWN ON THE PLANS AND/OR AS DETERMINED BY THE ENGINEER, SHALL BE COMPACTED TO NOT LESS THAN 98% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE, AS DETERMINED BY AASHTO T-180, LATEST REVISION. AREAS TO BE STABILIZED, AS DETERMINED BY THE ENGINEER, SHALL HAVE A MINIMUM LBR-40.
2. ALL UNDERGROUND UTILITIES SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF LIMEROCK BASE.
3. ALL EXISTING PAVEMENT OUTSIDE OF THE PROJECT LIMITS, CUT OR DAMAGED BY CONSTRUCTION, SHALL BE PROPERLY RESTORED AT THE CONTRACTOR'S EXPENSE.
4. WHERE ANY PROPOSED PAVEMENT IS TO BE CONNECTED TO EXISTING PAVEMENT, THE EXISTING EDGE OF PAVEMENT SHALL BE SAW CUT.

B. MATERIALS:

1. BASE COURSE SHALL BE CRUSHED LIMEROCK WITH A MINIMUM OF 70% CARBONATES OF CALCIUM AND MAGNESIUM.
2. MINIMUM SIDEWALK CONSTRUCTION SHALL BE 4 INCH THICK CONCRETE (6" DEEP IN DRIVEWAYS) WITH MINIMUM 3,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. SAW CUT CONSTRUCTION JOINTS 5 FOOT ON CENTER WITHIN 48 HOURS OF PLACING AND EXPANSION JOINTS SHALL BE 20 FOOT ON CENTER.
3. CURBS: CONCRETE 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. SAWCUT CONSTRUCTION JOINTS 10 FOOT ON CENTER WITHIN 48 HOURS OF PLACING.
4. ASPHALT RESTORATION SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL 20 AND 21, SHEET C400.

C. INSTALLATION:

1. SUBGRADE FOR PAVEMENT AREAS SHALL BE COMPACTED TO A MINIMUM OF 98% OF THE MAXIMUM DENSITY AS PER AASHTO T-180, AND SHALL HAVE A MINIMUM LBR-40.
2. BASE COURSE MATERIAL FOR PAVED AREAS SHALL BE AS SHOWN ON PLANS FOR VARIOUS LOCATIONS.
3. BASE COURSE MATERIAL FOR CURBS AND GUTTERS SHALL BE A MINIMUM THICKNESS OF 6 INCHES.
4. BASE COURSE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS PER AASHTO T-180 AND SHALL HAVE A MINIMUM LBR-100.

5. INSTALLATION OF THE WEARING SURFACE SHALL CONFORM WITH THE REQUIREMENTS OF THE F.D.O.T. STANDARD SPECIFICATIONS FOR TYPE S-3 ASPHALTIC CONCRETE.

D. TESTING:

1. THE FINISHED SURFACE OF THE BASE COURSE AND THAT OF THE WARNING SURFACE SHALL NOT VARY MORE THAN 1/4" FROM THE TEMPLATE. ANY IRREGULARITIES EXCEEDING THIS LIMIT SHALL BE CORRECTED.
2. DENSITY TESTS SHALL BE TAKEN BY AN INDEPENDENT TESTING LABORATORY CERTIFIED BY THE STATE OF FLORIDA, WHERE DIRECTED BY THE ENGINEER.
3. ALL TESTING COSTS (PAVING) SHALL BE PAID FOR BY THE CONTRACTOR.
4. DENSITY TESTS ON THE STABILIZED SUBGRADE SHALL BE SUPPLIED TO THE CONSTRUCTION MANAGER AND APPROVED BEFORE ANY LIMEROCK BASE IS CONSTRUCTED.
5. SUBGRADE COMPACTION TESTING: THE FREQUENCY OF DENSITY VERIFICATION TESTING SHALL BE 3 TESTS (USUALLY EDGE OF ROADWAY - CROW/CENTER - EDGE OF ROADWAY) EVERY 100 LINEAR FEET AND 1 TEST FOR EVERY 100 LINEAR FEET OF CURB.
6. DENSITY TESTS AND AS-BUILTS ON THE FINISHED LIMEROCK BASE SHALL BE SUPPLIED TO THE CONSTRUCTION MANAGER, AND APPROVED BEFORE ANY ASPHALT PAVEMENT IS CONSTRUCTED.
7. LIMEROCK BASE COMPACTION TESTING: THE FREQUENCY OF DENSITY VERIFICATION TESTING SHALL BE 3 TESTS (USUALLY EDGE OF ROADWAY - CROWN/CENTER - EDGE OF ROADWAY) EVERY 100 LINEAR FEET AND 1 TEST FOR EVERY 100 LINEAR FEET OF CURB.

XI. PAVEMENT MARKING AND SIGNAGE

1. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, LATEST EDITION; AND PALM BEACH COUNTY TRAFFIC ENGINEERING STANDARDS.

XII. PROJECT CLOSEOUT

A. CLEANING UP:

1. DURING CONSTRUCTION, THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER, AND UPON FINAL CLEAN-UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH. THE PAVED AREAS SHALL BE SWEEPED BROOM CLEAN.
2. THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED, ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY HIS WORK, EQUIPMENT, OR EMPLOYEES, TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS. TO THAT END, THE CONTRACTOR SHALL DO, AS REQUIRED, ALL NECESSARY HIGHWAY, DRIVEWAY, SIDEWALK AND LANDSCAPING WORK. SUITABLE MATERIALS AND METHODS SHALL BE USED FOR SUCH RESTORATION.
3. WHERE MATERIAL OR DEBRIS HAS WASHED, FLOWED INTO OR HAS BEEN PLACED IN WATER COURSES, DITCHES, DRAINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED AND SATISFACTORILY DISPOSED OF DURING THE PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION.
- B. ALL PROPERTY MONUMENTS OR PERMANENT REFERENCES, REMOVED OR DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION, SHALL BE RESTORED BY A STATE OF FLORIDA REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
- C. ALL UNPAVED SURFACES DISTURBED AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED BEFORE CONSTRUCTION.
- D. SPECIAL CONSIDERATION SHALL BE TAKEN BY THE CONTRACTOR TO RESTORE THE PROPOSED STAGING AREA BACK TO ITS ORIGINAL CONDITION OR BETTER. RESTORATION OF STAGING AREA SHALL INCLUDE RESTORATION OF ALL DAMAGED GRASS AND LANDSCAPING.
- E. PROJECT RECORD DOCUMENTS:

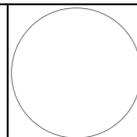
1. DURING THE DAILY PROGRESS OF THE JOB, THE CONTRACTOR SHALL RECORD ON HIS SET OF CONSTRUCTION DRAWINGS THE EXACT LOCATION, LENGTH, MATERIAL AND ELEVATION OF ANY FACILITY NOT BUILT EXACTLY ACCORDING TO PLANS.
2. UPON COMPLETION OF UTILITY IMPROVEMENTS AND LIMEROCK BASE CONSTRUCTION (AND BEFORE PLACING ASPHALT PAVEMENT) THE CONTRACTOR SHALL FURNISH THE CONSTRUCTION MANAGER "AS-BUILT" PLANS FOR THESE IMPROVEMENTS THE "AS-BUILT" PLANS SHALL SHOW THE LOCATIONS AND PERTINENT GRADES OF ALL WATER AND SEWER INSTALLATIONS AND THE FINISHED ROCK GRADES OF THE ROAD CROWN AND EDGES OF PAVEMENT AT 50 FOOT INTERVALS, INCLUDING LOCATIONS AND ELEVATIONS OF ALL HIGH AND LOW POINTS.
3. UPON COMPLETION OF THE WATER AND SEWER SYSTEMS AND PRIOR TO FINAL PAYMENT, THE CONTRACTOR SHALL SUBMIT TO THE CONSTRUCTION MANAGER ONE COMPLETE SET OF ALL "AS-BUILT" CONTRACT DRAWINGS FOR REVIEW AND APPROVAL. THESE DRAWINGS SHALL BE MARKED TO SHOW "AS-BUILT" CONSTRUCTION CHANGES AND DIMENSIONS, LOCATIONS, AND ELEVATIONS OF ALL IMPROVEMENTS.
4. "AS-BUILT" INFORMATION OF GRAVITY SEWERS MUST CONTAIN LOCATION OF SERVICE LATERALS AND INVERT ELEVATIONS. STATIONING OF THE WYE, CLEAN-OUTS, AND THE SERVICE END MUST ALSO BE INCLUDED.
5. ALL "AS-BUILT" INFORMATION SHALL BE CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR.
6. WATER & SEWER AS-BUILTS MUST MEET CITY OF LAKE WORTH REQUIREMENTS. PLEASE REFER TO CITY OF LAKE WORTH RECORD DRAWINGS SUBMITTAL GUIDELINES.



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7800 CONGRESS AVENUE, SUITE 200
BOCA RATON, FLORIDA 33487-1350
PHONE: (561) 994-6500
FAX: (561) 994-6524
CERT. OF AUTHORIZATION NO. 0002

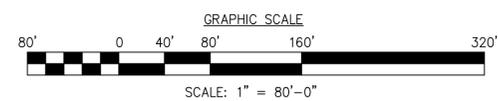
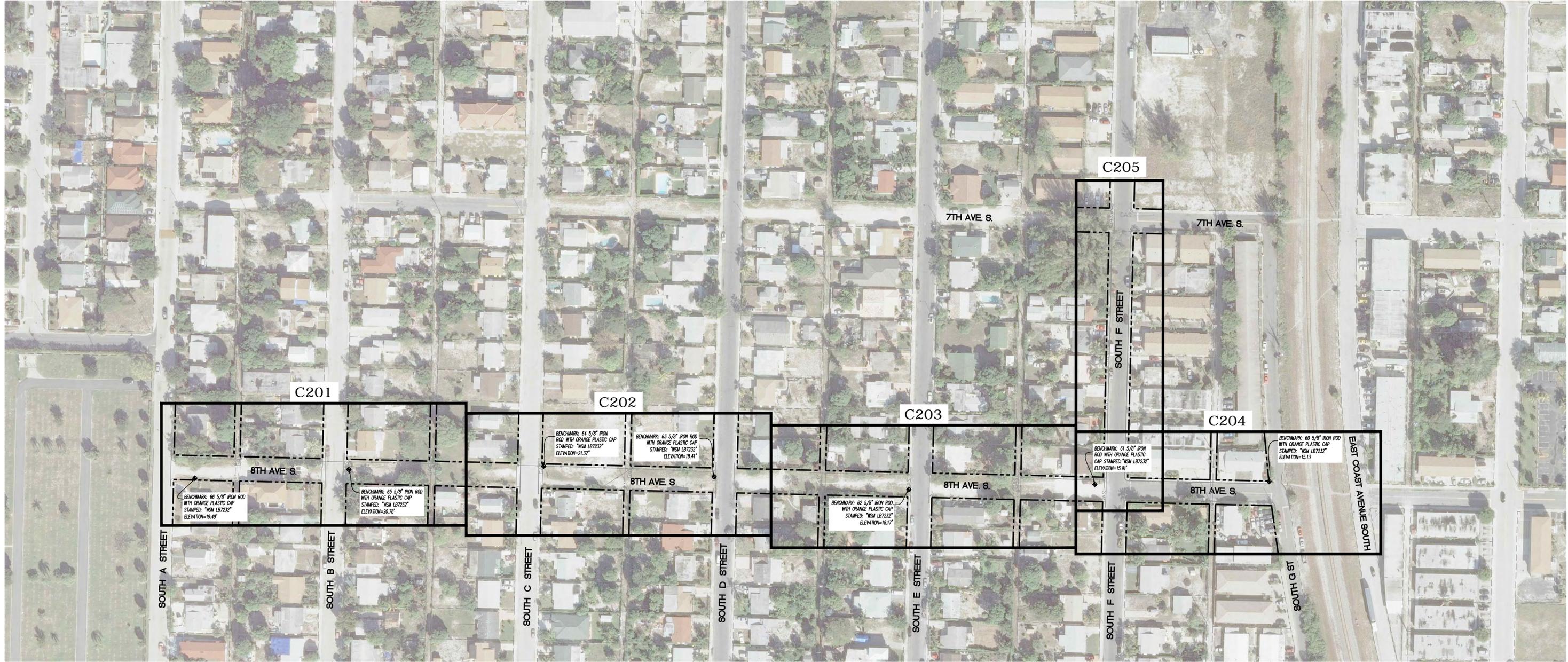
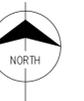


DATE: _____
ENGINEER OF RECORD:
ANA C. DEMELO, P.E.
FL. REG. NUMBER: 57420

#	Date	Revision	Description

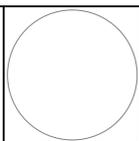


CITY OF LAKE WORTH 8TH AVE. SOUTH AND SOUTH F STREET WATER MAIN INSTALLATION PALM BEACH COUNTY, FLORIDA		GENERAL NOTES (CONTINUED)	SHEET C003
DWN: MH	DSN: ACD	CHK: FN	SCALE: AS SHOWN
APV: ACD	DATE: 04/01/2016		



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URS
 7800 CONGRESS AVENUE, SUITE 200
 BOCA RATON, FLORIDA 33487-1350
 PHONE: (561) 994-6500
 FAX: (561) 994-6524
 CERT. OF AUTHORIZATION NO. 0002



DATE: _____
 ENGINEER OF RECORD:
 ANA C. DEMELO, P.E.
 FL. REG. NUMBER: 57420

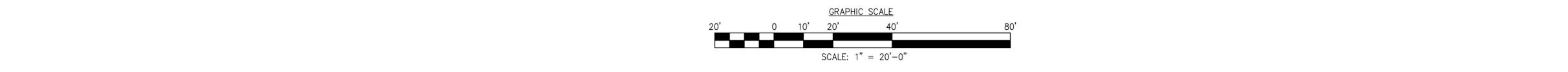
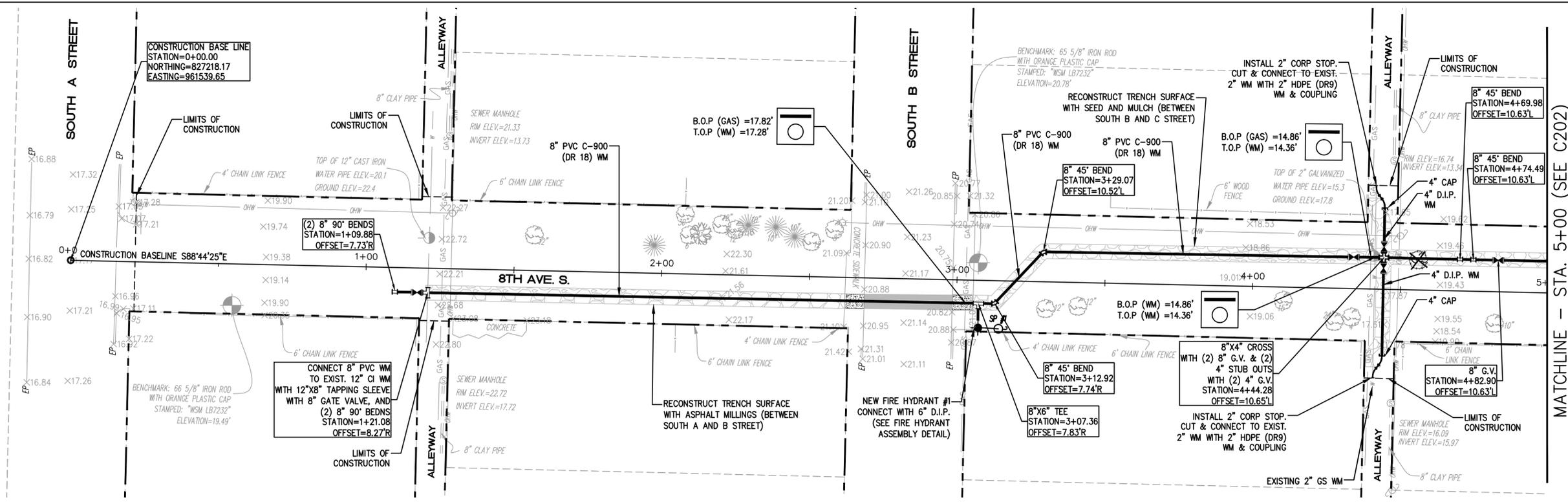
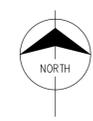
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**CITY OF LAKE WORTH
 8TH AVE. SOUTH AND SOUTH F STREET
 WATER MAIN INSTALLATION
 PALM BEACH COUNTY, FLORIDA**

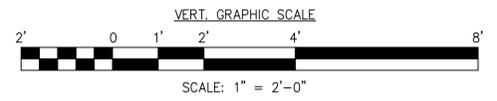
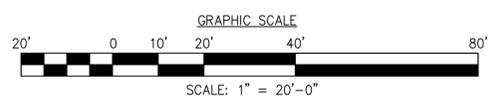
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DWN: MH	DSN: ACD
CHK: FN	SCALE: AS SHOWN
APV: ACD	DATE: 04/01/2016

SHEET
C200



- LEGEND:**
- WATER**
- PROPOSED WATER MAIN
 - EXISTING WATERMAIN
- PAVING**
- CONCRETE DRIVEWAY/ SIDEWALK TO BE REPLACED
 - MILL 3/4" AND RESURFACE ROAD WITH 3/4" TYPE S-3 ASPHALTIC CONCRETE
 - ROADWAY TRENCH RECONSTRUCTION
 - NON-PAVED TRENCH RECONSTRUCTION
 - TREE TO BE REMOVED
- PROFILE**
- D.I.P. (THICKNESS CALSS 52) WM COLOR CODED AS PER F.A.C. 62-555.320(21)(b)3.)
- ROW**
- ROW LINE
 - LIMITS OF CONSTRUCTION

- NOTES:**
- CONTRACTOR TO EXERCISE CAUTION WHEN DIGGING IN THE VICINITY OF THE EXISTING 2" GS WM AND OTHER EXISTING UTILITIES. HAND-DIG AS NECESSARY TO AVOID DAMAGE TO EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY DAMAGED UTILITY DUE TO CONSTRUCTION ACTIVITIES.
 - CONTRACTOR TO EXERCISE CAUTION WHEN WORKING IN THE PROXIMITY OF POWER POLES, LOW OVERHANGING WIRES, GUY WIRES AND ANCHORS. IF GUY WIRE AND ANCHOR CONFLICTS WITH TRENCH EXCAVATION, CONTRACTOR SHALL SUPPORT THE POWER POLE DURING CONSTRUCTION ACTIVITIES, REMOVE AND REINSTALL GUY WIRE AND ANCHOR.



URS

7800 CONGRESS AVENUE, SUITE 200
BOCA RATON, FLORIDA 33487-1350
PHONE: (561) 994-6500
FAX: (561) 994-6524
CERT. OF AUTHORIZATION NO. 0002

DATE: _____

ENGINEER OF RECORD:
ANA C. DEMELO, P.E.
FL. REG. NUMBER: 57420

#	Date	Revision Description



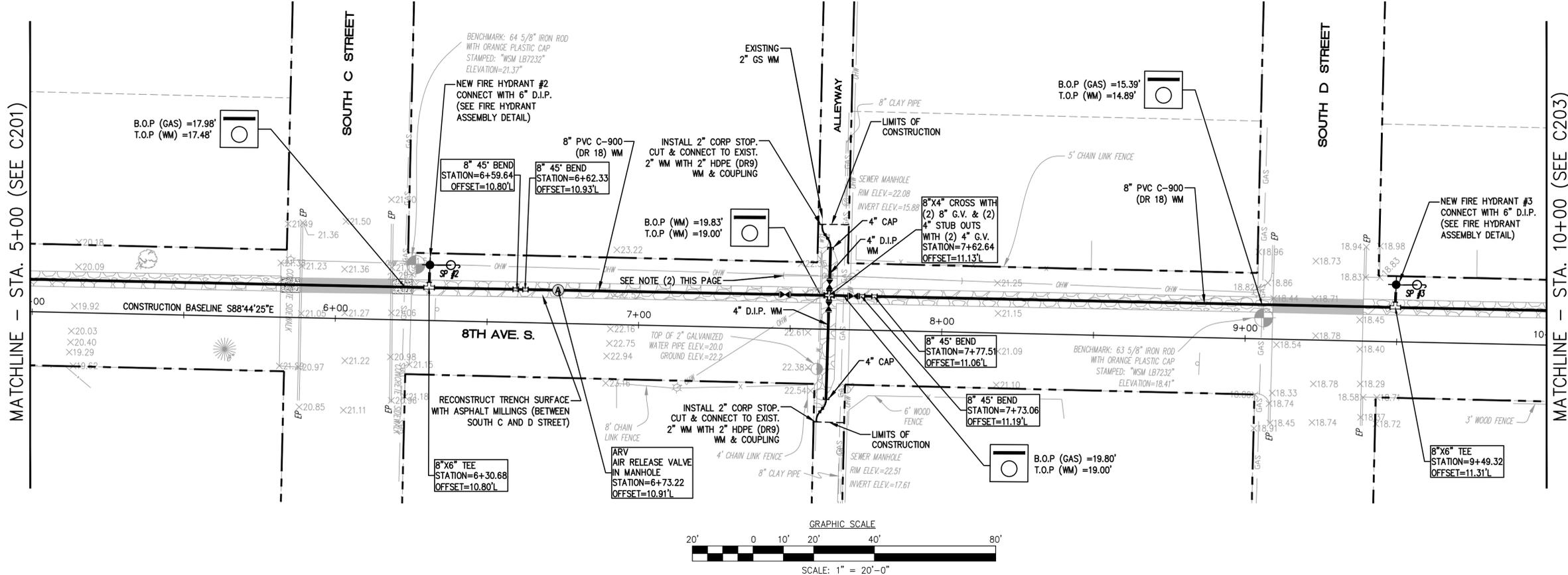
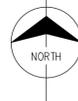
CITY OF LAKE WORTH
8TH AVE. SOUTH AND SOUTH F STREET
WATER MAIN INSTALLATION
PALM BEACH COUNTY, FLORIDA

8TH AVE S. PLAN AND PROFILES STA 0+00 TO 5+00

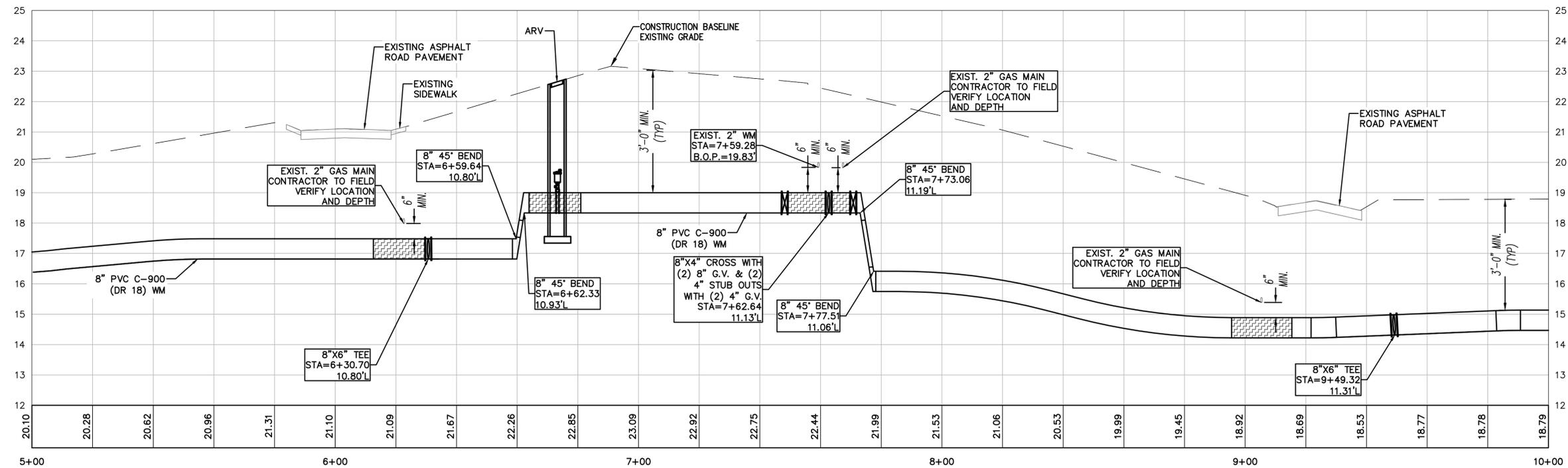
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CHK: FN	SCALE: AS SHOWN
APV: ACD	DATE: 04/01/2016

SHEET
C201

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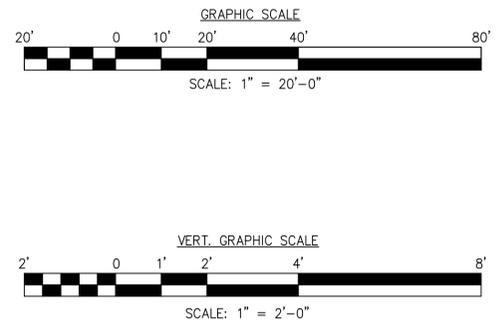


STA. 5+00.00 TO 10+00.00



- LEGEND:**
- WATER**
- PROPOSED WATER MAIN
 - EXISTING WATERMAIN
- PAVING**
- CONCRETE DRIVEWAY/ SIDEWALK TO BE REPLACED
 - MILL 3/4" AND RESURFACE ROAD WITH 3/4" TYPE S-3 ASPHALTIC CONCRETE
 - ROADWAY TRENCH RECONSTRUCTION
 - NON-PAVED TRENCH RECONSTRUCTION
 - TREE TO BE REMOVED
- PROFILE**
- D.I.P. (THICKNESS CALSS 52) WM COLOR CODED AS PER F.A.C. 62-555.320(21)(b)3.)
- ROW**
- ROW LINE
 - LIMITS OF CONSTRUCTION

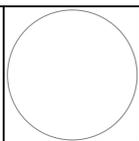
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 - CONTRACTOR TO EXERCISE CAUTION WHEN WORKING IN THE PROXIMITY OF POWER POLES, LOW OVERHANGING WIRES, GUY WIRES AND ANCHORS. IF GUY WIRE AND ANCHOR CONFLICTS WITH TRENCH EXCAVATION, CONTRACTOR SHALL SUPPORT THE POWER POLE DURING CONSTRUCTION ACTIVITIES, REMOVE AND REINSTALL GUY WIRE AND ANCHOR.



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7800 CONGRESS AVENUE, SUITE 200
BOCA RATON, FLORIDA 33487-1350
PHONE: (561) 994-6500
FAX: (561) 994-6524
CERT. OF AUTHORIZATION NO. 0002



DATE: _____
ENGINEER OF RECORD:
ANA C. DEMELO, P.E.
FL. REG. NUMBER: 57420

#	Date	Revision Description

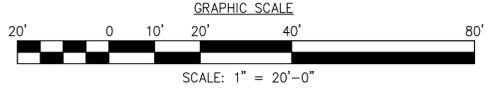
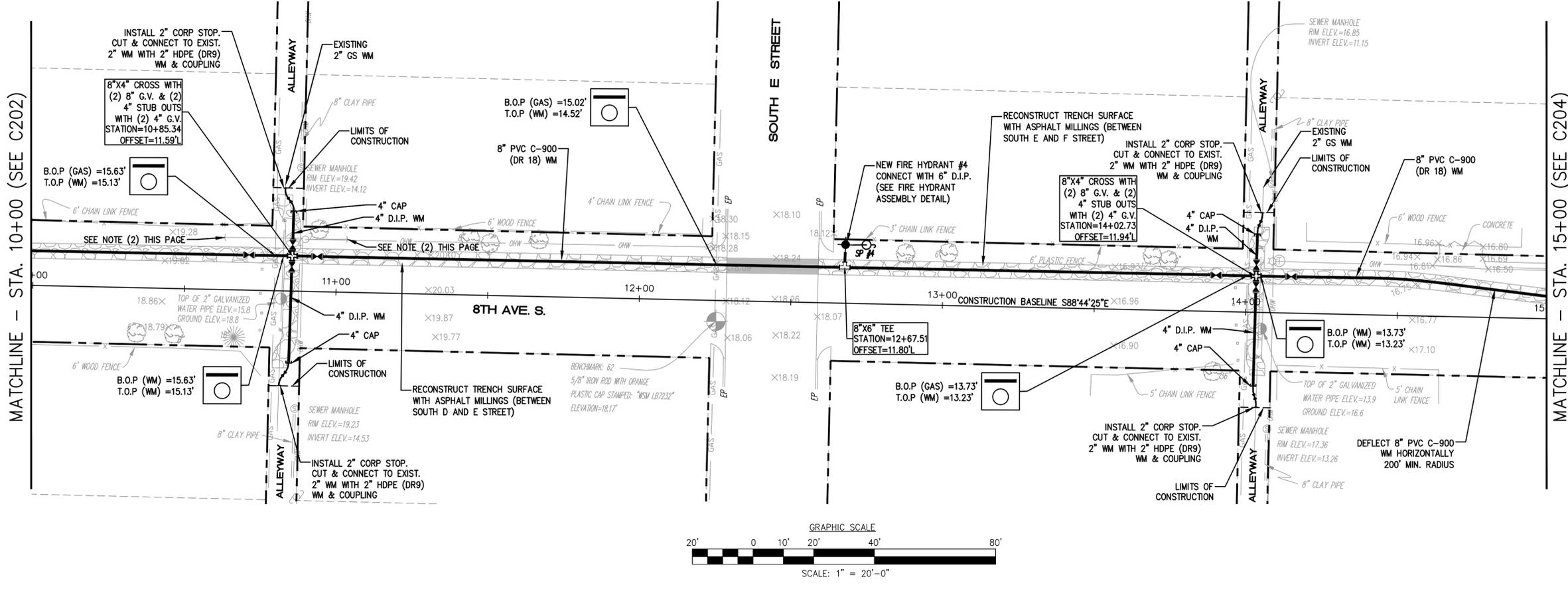
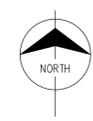


CITY OF LAKE WORTH
8TH AVE. SOUTH AND SOUTH F STREET
WATER MAIN INSTALLATION
PALM BEACH COUNTY, FLORIDA

8TH AVE S. PLAN AND
PROFILE STA 5+00 TO 10+00

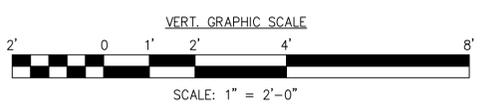
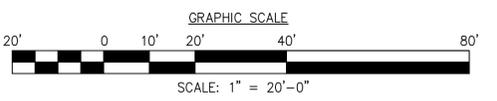
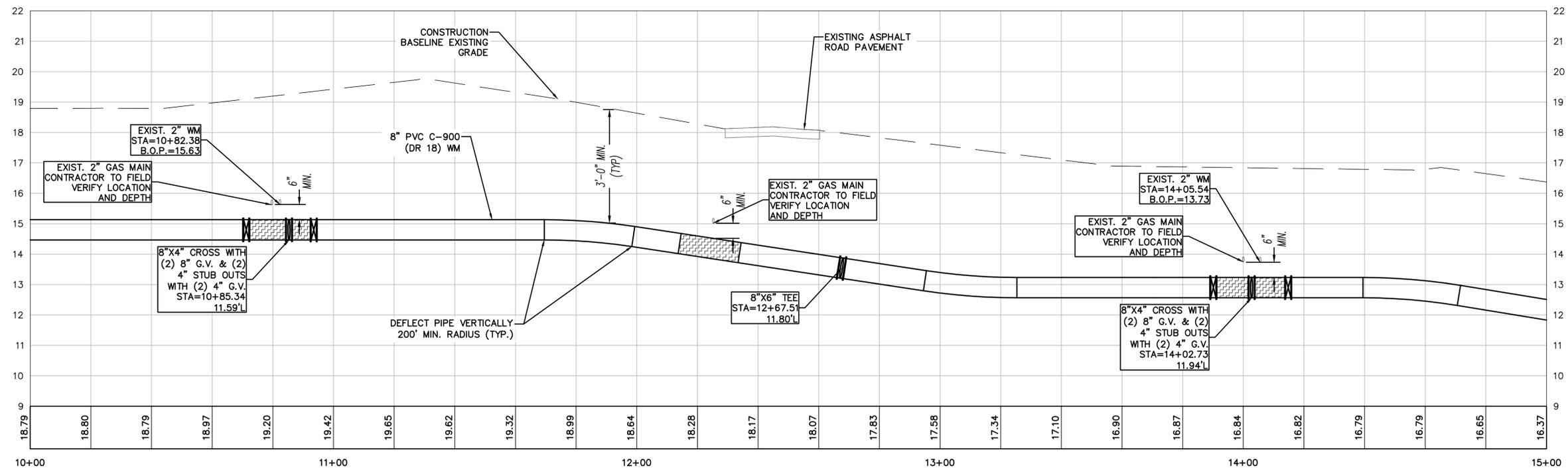
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CHK: FN	SCALE: AS SHOWN
APV: ACD	DATE: 04/01/2016

SHEET
C202



- LEGEND:**
- WATER**
- PROPOSED WATER MAIN
 - - - EXISTING WATERMAIN
- PAVING**
- [Pattern] CONCRETE DRIVEWAY/ SIDEWALK TO BE REPLACED
 - [Pattern] MILL 3/4" AND RESURFACE ROAD WITH 3/4" TYPE S-3 ASPHALTIC CONCRETE
 - [Pattern] ROADWAY TRENCH RECONSTRUCTION
 - [Pattern] NON-PAVED TRENCH RECONSTRUCTION
 - [Symbol] TREE TO BE REMOVED
- PROFILE**
- [Pattern] D.I.P. (THICKNESS CALSS 52) WM COLOR CODED AS PER F.A.C. 62-555.320(21)(b)3.)
- ROW**
- - - ROW LINE
 - - - LIMITS OF CONSTRUCTION

STA. 10+00.00 TO 15+00.00

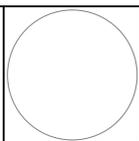


- NOTES:**
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7800 CONGRESS AVENUE, SUITE 200
BOCA RATON, FLORIDA 33487-1350
PHONE: (561) 994-6500
FAX: (561) 994-6524
CERT. OF AUTHORIZATION NO. 0002



DATE: _____
ENGINEER OF RECORD:
ANA C. DEMELO, P.E.
FL. REG. NUMBER: 57420

#	Date	Revision Description



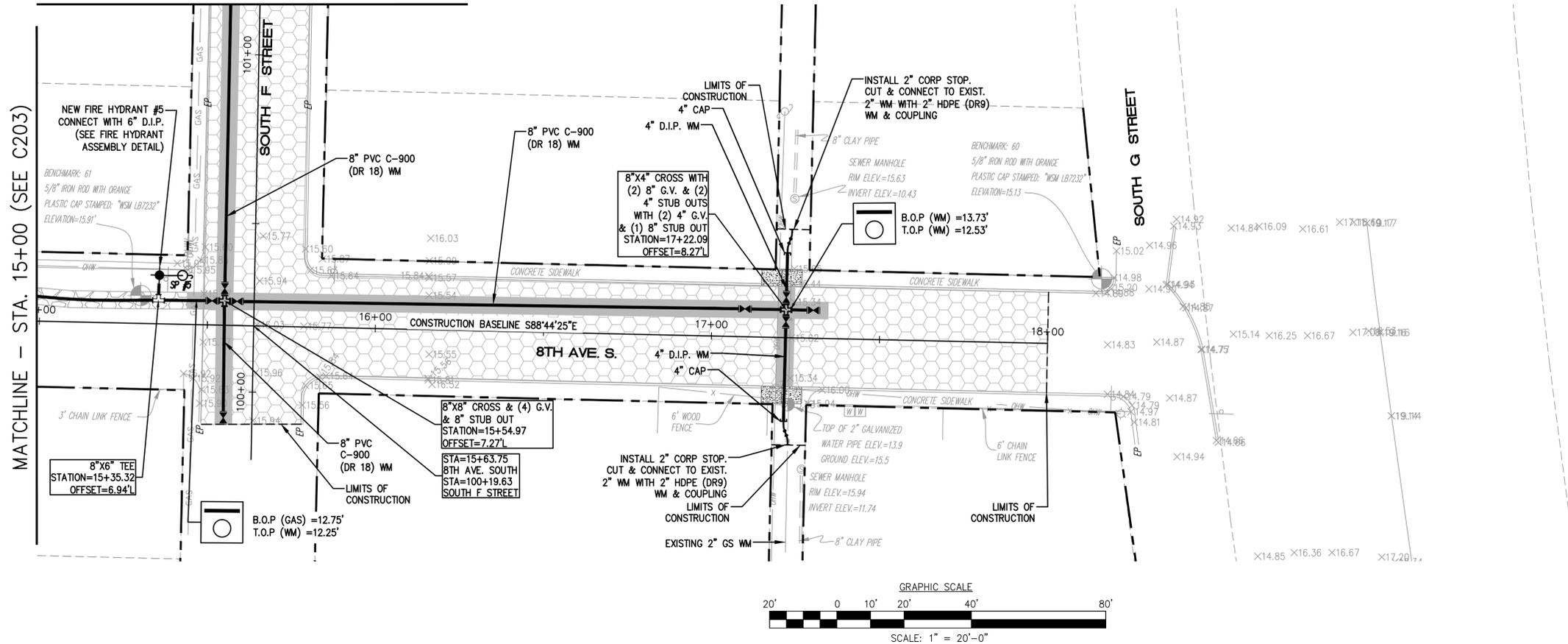
CITY OF LAKE WORTH
8TH AVE. SOUTH AND SOUTH F STREET
WATER MAIN INSTALLATION
PALM BEACH COUNTY, FLORIDA

8TH AVE S. PLAN AND
PROFILE STA 10+00 TO 15+00

DWN: MH	DSN: ACD
CHK: FN	SCALE: AS SHOWN
APV: ACD	DATE: 04/01/2016

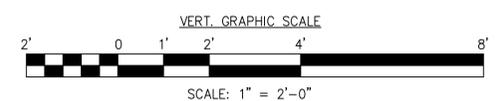
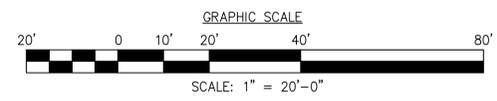
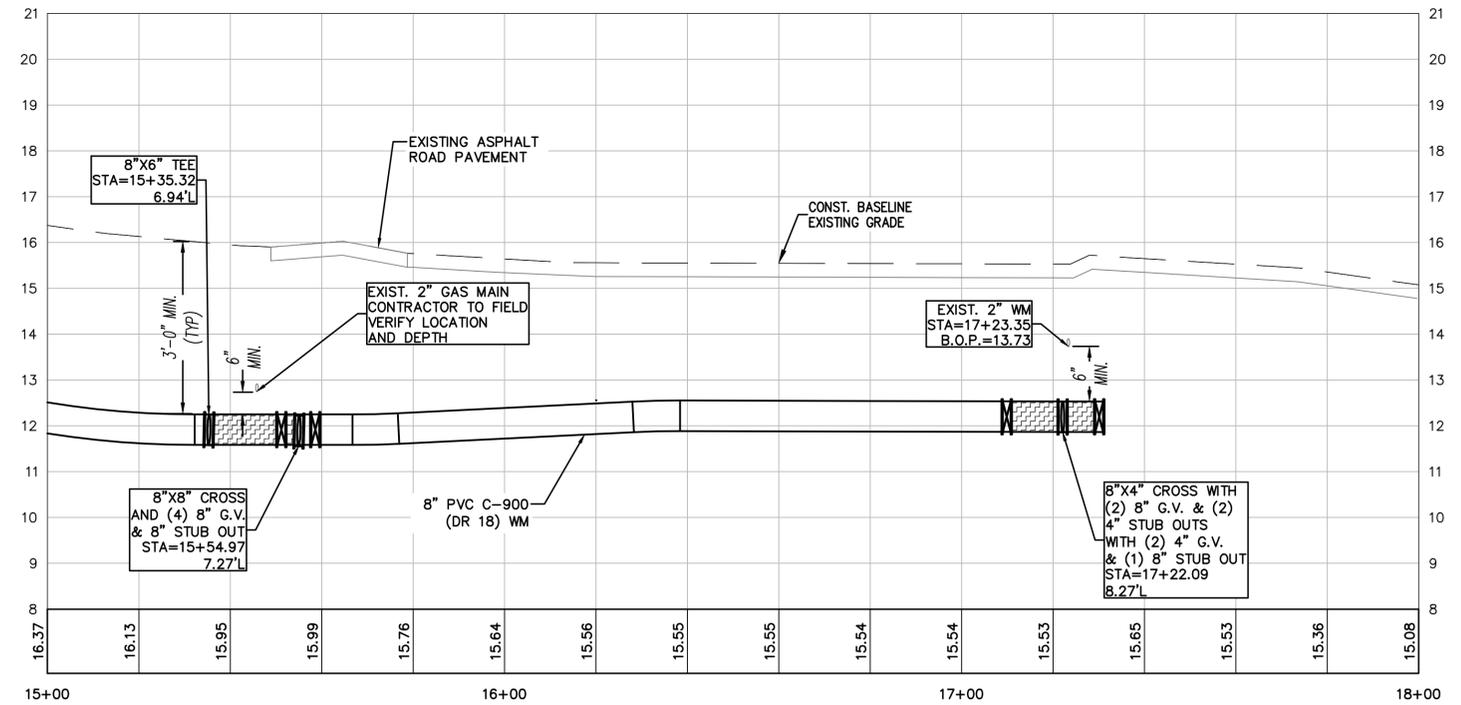
SHEET
C203

FOR CONTINUATION SEE C205



- LEGEND:**
- WATER**
- PROPOSED WATER MAIN
 - EXISTING WATERMAIN
- PAVING**
- CONCRETE DRIVEWAY/ SIDEWALK TO BE REPLACED
 - MILL 3/4" AND RESURFACE ROAD WITH 3/4" TYPE S-3 ASPHALTIC CONCRETE
 - ROADWAY TRENCH RECONSTRUCTION
 - NON-PAVED TRENCH RECONSTRUCTION
 - TREE TO BE REMOVED
- PROFILE**
- D.I.P. (THICKNESS CALSS 52) WM COLOR CODED AS PER F.A.C. 62-555.320(21)(b)3.)
- ROW**
- ROW LINE
 - LIMITS OF CONSTRUCTION

STA. 15+00.00 TO 18+00.00

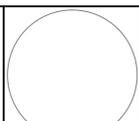


- NOTES:**
- CONTRACTOR TO EXERCISE CAUTION WHEN DIGGING IN THE VICINITY OF THE EXISTING 2" GS WM AND OTHER EXISTING UTILITIES. HAND-DIG AS NECESSARY TO AVOID DAMAGE TO EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY DAMAGED UTILITY DUE TO CONSTRUCTION ACTIVITIES.
 - CONTRACTOR TO EXERCISE CAUTION WHEN WORKING IN THE PROXIMITY OF POWER POLES, LOW OVERHANGING WIRES, GUY WIRES AND ANCHORS. IF GUY WIRE AND ANCHOR CONFLICTS WITH TRENCH EXCAVATION, CONTRACTOR SHALL SUPPORT THE POWER POLE DURING CONSTRUCTION ACTIVITIES, REMOVE AND REINSTALL GUY WIRE AND ANCHOR.

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7800 CONGRESS AVENUE, SUITE 200
BOCA RATON, FLORIDA 33487-1350
PHONE: (561) 994-6500
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CERT. OF AUTHORIZATION NO. 0002



DATE: _____
ENGINEER OF RECORD:
ANA C. DEMELO, P.E.
FL. REG. NUMBER: 57420

#	Date	Revision Description



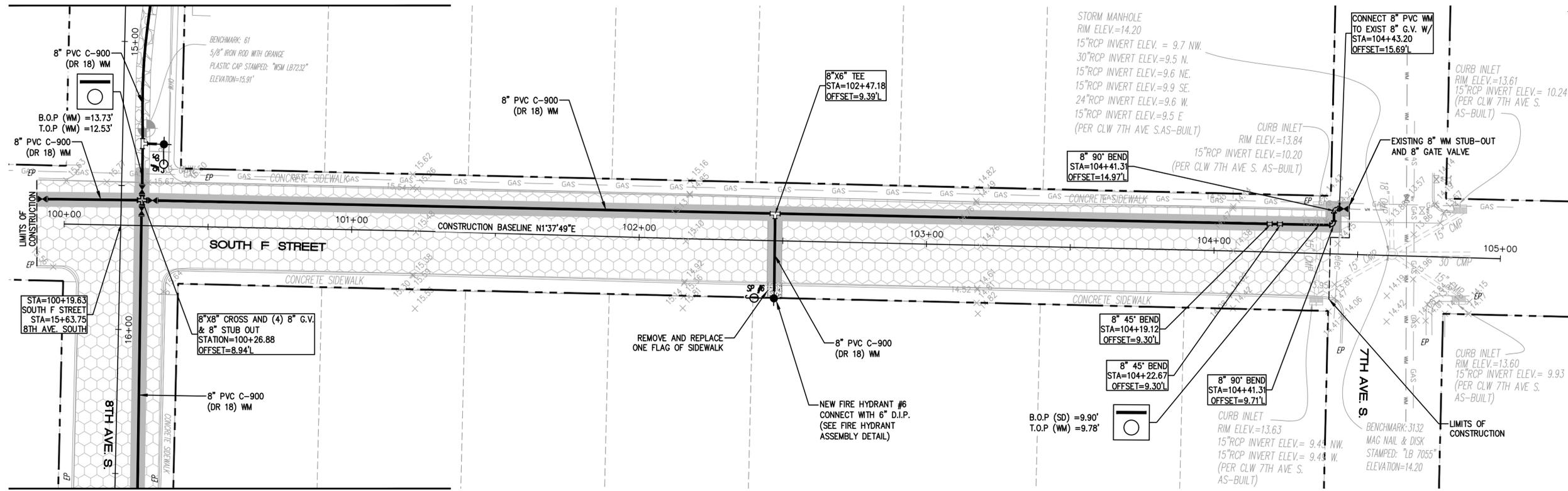
CITY OF LAKE WORTH
8TH AVE. SOUTH AND SOUTH F STREET
WATER MAIN INSTALLATION
PALM BEACH COUNTY, FLORIDA

8TH AVE S. PLAN AND
PROFILE STA 15+00 TO 18+00

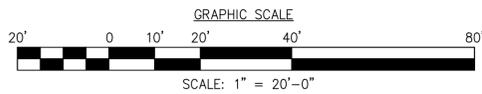
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CHK: FN	SCALE: AS SHOWN
APV: ACD	DATE: 04/01/2016

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FOR CONTINUATION SEE C203



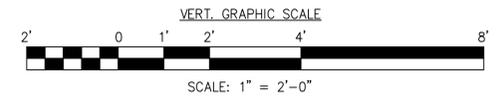
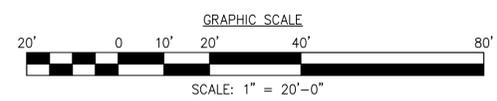
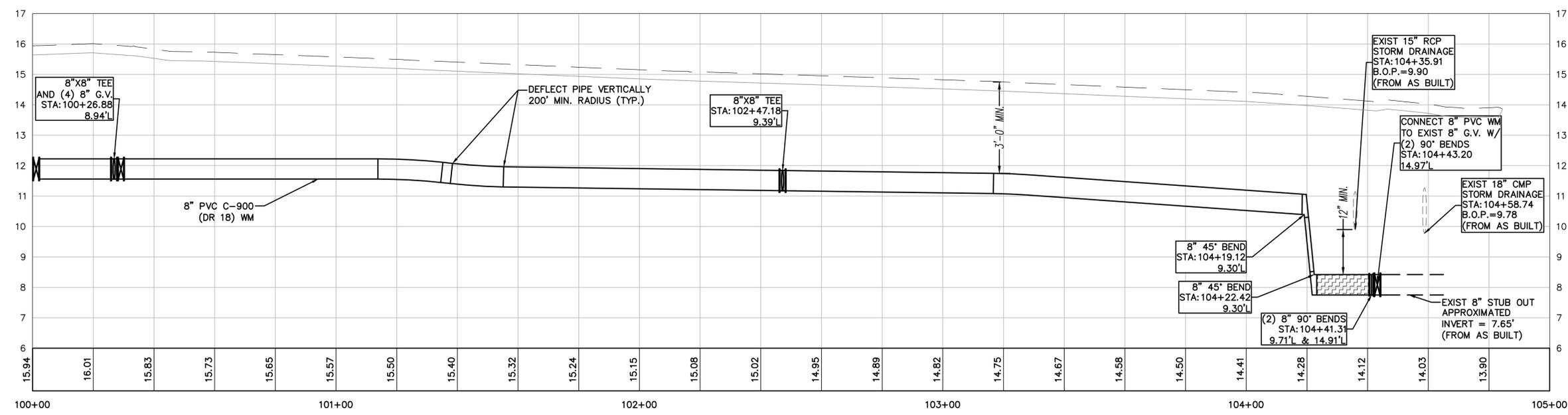
FOR CONTINUATION SEE C204



- LEGEND:**
- WATER**
- PROPOSED WATER MAIN
 - EXISTING WATERMAIN
- PAVING**
- CONCRETE DRIVEWAY/SIDEWALK TO BE REPLACED
 - MILL 3/4" AND RESURFACE ROAD WITH 3/4" TYPE S-3 ASPHALTIC CONCRETE
 - ROADWAY TRENCH RECONSTRUCTION
 - NON-PAVED TRENCH RECONSTRUCTION
 - TREE TO BE REMOVED
- PROFILE**
- D.I.P. (THICKNESS CALSS 52) WM COLOR CODED AS PER F.A.C. 62-555.320(21)(b)3.)
- ROW**
- ROW LINE
 - LIMITS OF CONSTRUCTION

- NOTES:**
- CONTRACTOR TO EXERCISE CAUTION WHEN DIGGING IN THE VICINITY OF THE EXISTING 2" GS WM AND OTHER EXISTING UTILITIES. HAND-DIG AS NECESSARY TO AVOID DAMAGE TO EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY DAMAGED UTILITY DUE TO CONSTRUCTION ACTIVITIES.
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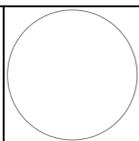
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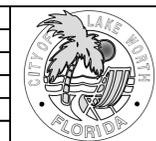


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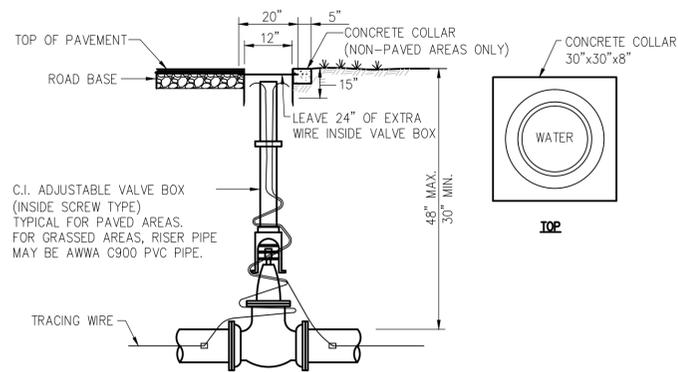


CITY OF LAKE WORTH
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WATER MAIN INSTALLATION
PALM BEACH COUNTY, FLORIDA

SOUTH F ST. PLAN AND PROFILE
STA 100+00 TO 105+00

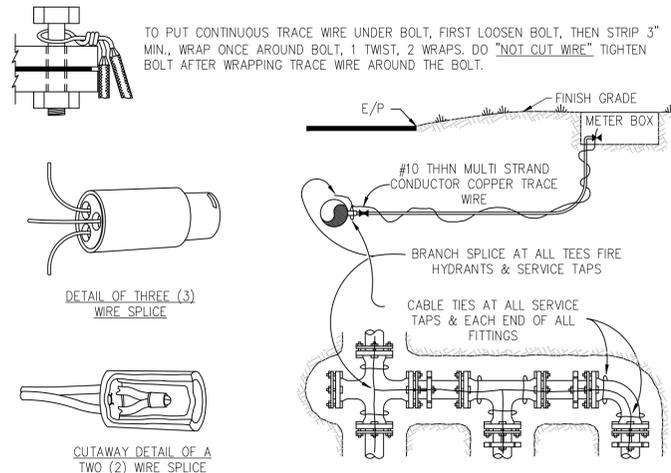
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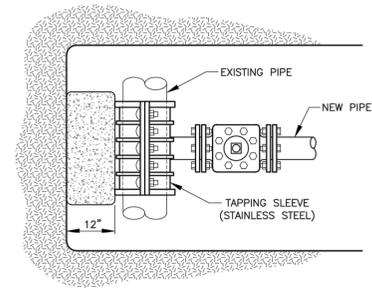
- NOTES:
1. TOP OF LID MUST BE FLUSH WITH PAVEMENT OR CONCRETE COLLAR.
 2. WHEN VALVE IS DEEPER THAN 36" AN EXTENSION WILL BE REQUIRED TO BRING OPERATING NUT TO 24" OF FINISHED GRADE. EXTENSION MUST BE SET SCREW TYPE AND ATTACHED TO OPERATING NUT.
 3. OUTSIDE BOX SHALL BE UNITED STATES FOUNDRY NO. 7630 WITH TYPE FD LID. LID SHALL BE CAST WITH THE WORDS: "WATER" OR "RAW WATER".
 4. USE NYLON CABLE TIES TO SECURE TRACE WIRE TO OUTSIDE OF VALVE EXTENSION AND CABLE TIE BEHIND EACH BELL.
 5. SEE NOTES ON DETAIL NO. 3, THIS SHEET.

VALVE SETTING

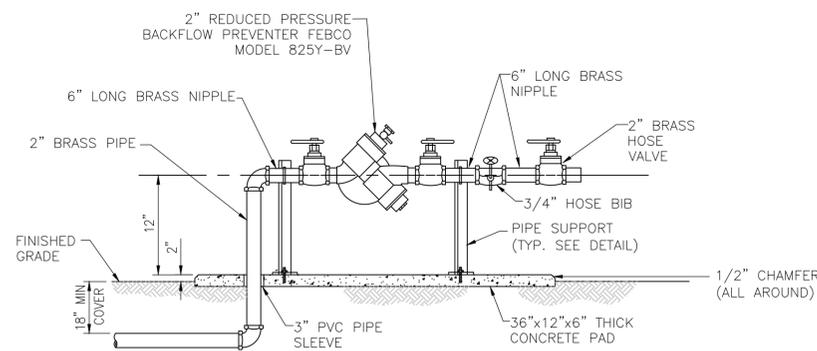


- NOTES:
1. TRACE WIRE IS REQUIRED ON ALL NON METALLIC PIPE.
 2. INCLUDE ALL COST OF MATERIAL & LABOR IN PRICE OF PIPE.
 3. CONTRACTOR IS RESPONSIBLE FOR CONTINUITY OF ALL TRACE WIRE.
 4. WIRE SPLICE CONNECTORS SHALL BE DRY-CON DIRECT BURY LUG BY KING INNOVATIONS, DS-500 DRI-SPLICE BY SPEARS OR DIRECT BURY PRODUCTS BY 3M

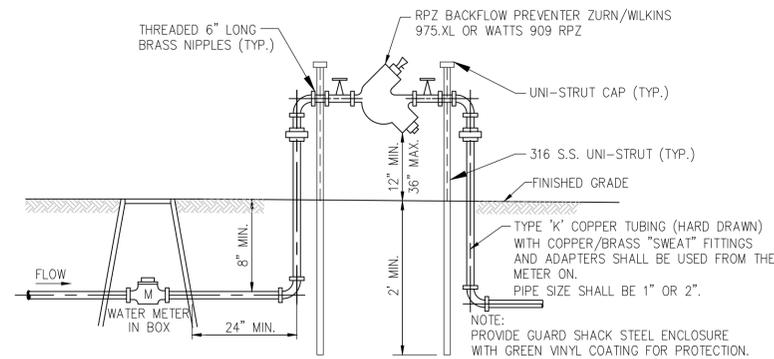
TRACE WIRE



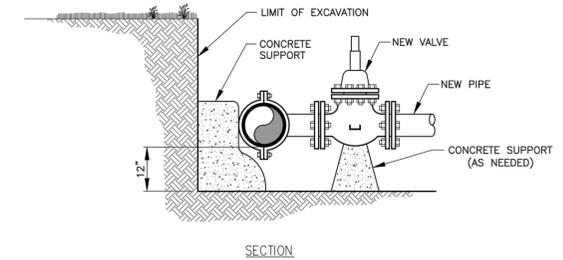
PLAN VIEW



BACKFLOW PREVENTER WITH HOSE BIB



BACKFLOW PREVENTION DEVICE - 3/4" TO 2"



SECTION

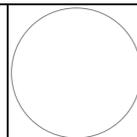
- NOTES:
1. 18" CLEARANCE FROM FITTINGS & BELLS.
 2. TAPPING VALVE & SLEEVE SHALL BE PRESSURE TESTED AT 150 PSI PRIOR TO BEING TAPPED.

TAPPING SLEEVE AND VALVE INSTALLATION

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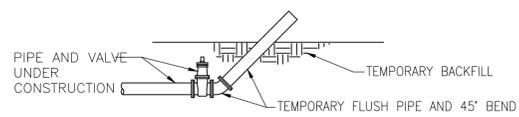
#	Date	Revision Description



CITY OF LAKE WORTH
8TH AVE. SOUTH AND SOUTH F STREET
WATER MAIN INSTALLATION
PALM BEACH COUNTY, FLORIDA

WATER DISTRIBUTION DETAILS	
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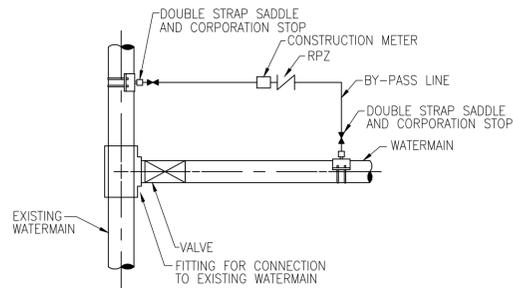
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NOTES:

- UPON COMPLETION OF THE PIPE INSTALLATION FOR ANY SECTION, THE MAINS SHALL BE PIGGED. CANNON FLUSHING MAY BE USED IN ADDITION TO PIGGING ONLY WITH THE APPROVAL OF THE ENGINEER. CANNON FLUSHING SHALL ACHIEVE A MINIMUM VELOCITY OF 2.5 FEET PER SECOND IN THE PIPE, FITTINGS, ETC.
- INSTALL A 45° BEND AND ASSOCIATED PIPING AS SHOWN TO DIRECT THE FLUSHING WATER AWAY FROM THE IMMEDIATE WORK AREA AND EXERCISE DUE CARE SO AS TO ENSURE THAT THE WATER USED IN FLUSHING DOES NOT CAUSE A NUISANCE OR INFLECT PROPERTY DAMAGE.
- BENDS AND PIPING SHALL BE THE SAME SIZE AS THE LINE TO BE FLUSHED.
- PRIOR TO THE ACTUAL LINE FLUSHING OPERATION, THE CONTRACTOR SHALL PROPERLY NOTIFY THE ENGINEER OF SUCH INTENDED WATER USE.
- NO EXISTING VALVES SHALL BE TURNED ON OR OFF, EXCEPT BY AUTHORIZED UTILITY PERSONNEL.
- PIGGING AND FLUSHING SHALL NOT BE ACCOMPLISHED WITHOUT THE ACTUAL PRESENCE OF THE ENGINEER.
- AFTER THE LINE UNDER CONSTRUCTION HAS BEEN SUCCESSFULLY PIGGED AND FLUSHED, THE CONTRACTOR SHALL REMOVE THE TEMPORARY PIPING ARRANGEMENT AND PROCEED WITH THE REMAINING CONSTRUCTION AS SPECIFIED.

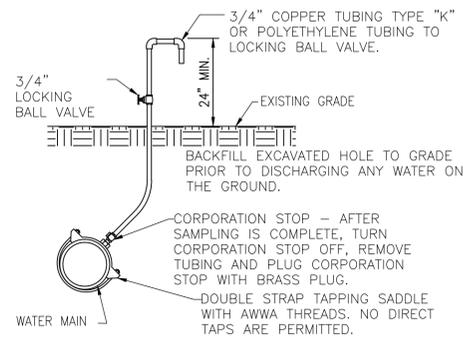
PIGGING AND CANNON FLUSHING



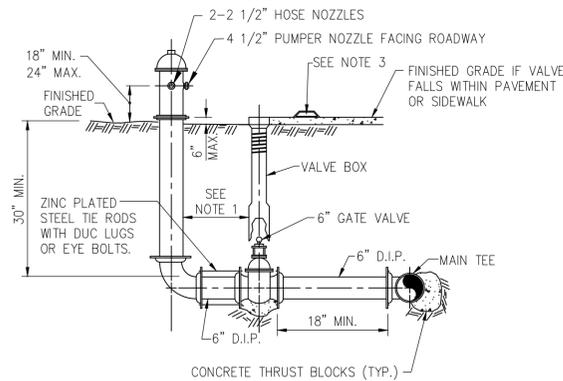
NOTES:

- PERFORM PRESSURE AND LEAKAGE TEST ON TAPPING SLEEVE AND TAPPING VALVE (WHEN USED) PRIOR TO MAKING TAP.
- ALL WATER FOR FLUSHING, PRESSURE AND LEAKAGE TESTS, AND BACTERIOLOGICAL CLEARANCE MUST BE FROM THE "BY-PASS" LINE WITH CHECK VALVE IN PLACE.
- DURING ALL PRESSURE AND LEAKAGE TESTS, BOTH CORPORATION STOPS ON THE "BY-PASS" LINE MUST BE CLOSED.
- THE UTILITY COMPANY SUPPLYING THE WATER SHALL BE NOTIFIED BEFORE FILLING AND FLUSHING. ONLY THE UTILITY COMPANY SHALL OPERATE THE VALVES.
- DOUBLE STRAP SADDLES ARE NOT REQUIRED WHEN CONNECTING TO DUCTILE IRON PIPE.
- CONNECT PRESSURE TEST PUMP TO SERVICE LINE OR BLOWOFF. NO EXTRA TAPS ARE PERMITTED UNLESS NEITHER A SERVICE LINE OR BLOWOFF ARE PRESENT IN THE TEST SECTION.
- WATERMAIN VALVES CANNOT BE OPENED UNTIL THE ENTIRE SYSTEM HAS BEEN CLEARED BY THE GOVERNING PERMITTING AGENCY.
- REMOVE THE "BY-PASS" LINE AFTER THE MAIN HAS BEEN CLEARED. PLUG CORPORATION STOP WITH THREADED BRASS PLUG.
- INSTALL ADJUSTABLE CAST IRON VALVE BOX ON THE VALVE.

DOUBLE VALVE CONNECTION



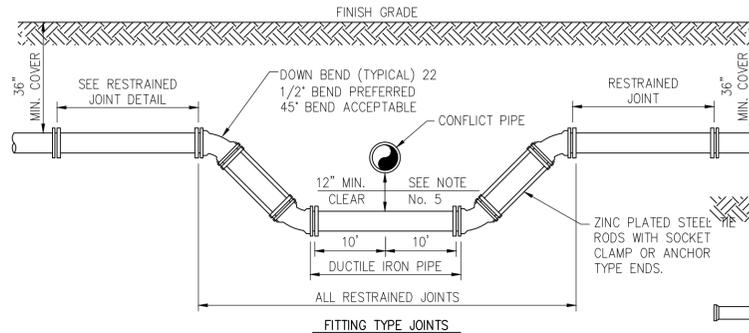
SAMPLING POINT



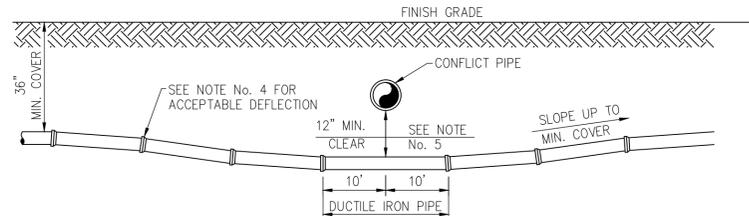
NOTES:

- ON RUNS LONGER THAN 60' ANOTHER VALVE IS REQUIRED.
- MEGALUGS REQUIRED ON ALL JOINTS.
- INSTALL SINGLE BLUE/BLUE REFLECTIVE PAVEMENT MARKER (RPM) IN CENTER OF TRAVEL LANE CLOSEST AND PERPENDICULAR TO THE FIRE HYDRANT.

FIRE HYDRANT ASSEMBLY



FITTING TYPE JOINTS

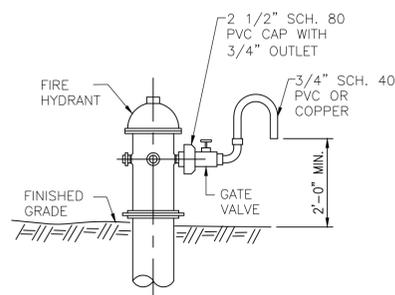


DEFLECTION TYPE JOINTS PREFERRED METHOD

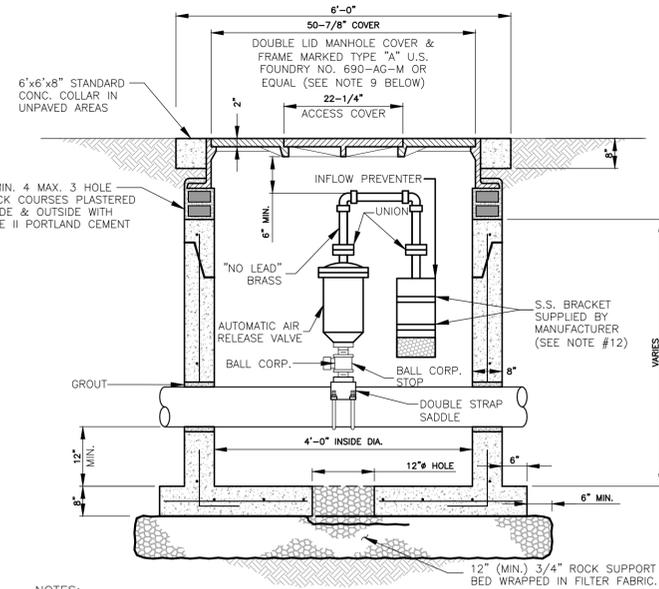
NOTES:

- THERE SHALL BE, IN ALL CASES, A MINIMUM OF 12" SEPARATION BETWEEN WATER MAINS AND FORCE MAINS.
- WHENEVER POSSIBLE WATER MAINS SHALL PASS OVER FORCE MAINS OR STORM SEWERS.
- FITTINGS SHALL BE RESTRAINED WITH MEGALUGS AND TIE RODS BETWEEN OFFSET FITTINGS. THRUST BLOCKS SHALL ONLY BE USED WITH THE APPROVAL OF THE ENGINEER.
- THE DEFLECTION TYPE CROSSING IS PREFERRED. SEE SPECIFICATIONS AND MANUFACTURER'S SUBMITTAL FOR MAXIMUM DEFLECTION ALLOWED.
- A MINIMUM OF 12" VERTICAL SEPARATION BETWEEN WATER MAINS AND STORM SEWERS SHALL BE MAINTAINED. WHERE THIS IS NOT POSSIBLE WATER MAIN SHALL BE D.I.P. WITH NO LESS THAN 6" SEPARATION.

PRESSURE PIPE CONFLICT



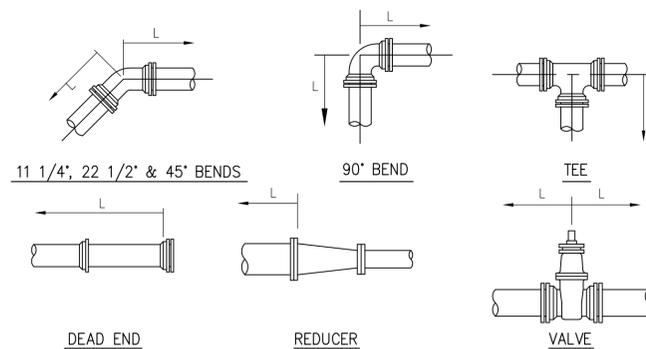
SAMPLE POINT ON FIRE HYDRANT



NOTES:

- PRECAST CONCRETE TYPE # 4000 P.S.I.
- ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
- LIFT HOLES ARE PERMITTED.
- ALL PIPE HOLES SHALL BE PRECAST OR CORE-DRILLED.
- MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478 LATEST STANDARD.
- MANHOLE EXTERIOR PROTECTION SHALL CONSIST OF THE USE OF CARBOLINE (KOPPERS) BITUMASTIC 300M (OR APPROVED EQUAL), THE FIRST COAT IN THE COLOR GRAY OR RED & THE SECOND COAT BEING THE COLOR BLACK.
- CONCRETE COLLAR REQUIRED WHEN MANHOLE IS OUTSIDE PAVEMENT, SEE NOTATION ABOVE.
- AIR RELEASE VALVE SHALL BE A.R.I. MODEL SAAR D-020 W/ ONE WAY AIR VALVE CHECK.
- AIR RELEASE VALVE AND PIPING TO BE IDENTIFIED AS "POTABLE WATER ARV" AND O/C STAMPED ON THE LID.
- DUCTILE IRON PIPE IS REQUIRED THROUGH THE VAULT.
- THREADED AREAS OF CORPORATION STOP SHALL BE SPIRAL WRAP WITH TWO WRAPS OF TEFLON TAPE.
- SHOP DRAWINGS ARE REQUIRED FOR CUSTOM MADE BRACKETS.

WATER MAIN AIR RELEASE VALVE AND MANHOLE



NOTES:

- LENGTH 'L' IS IN FEET.
- RESTRAINED LENGTHS ARE BASED ON THE FOLLOWING:
 - 150 PSI TEST PRESSURE
 - MIN. 30" COVER.
 - PVC - PIPE SIZES 4" - 12". DI - PIPE SIZES 4" - 48".
 - SANDY SOIL.
 - SAFETY FACTOR OF 1.5.
- LENGTH 'L' SHOWN IN THE TABLE TO BE RESTRAINED IN THE DIRECTION OF THE ARROWS.

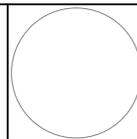
RESTRAINED PIPE JOINT

FITTING TYPE	PIPE SIZE															
	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	42"	48"		
90° HORIZ. BEND	17	24	31	38	45	52	60	68	76	84	92	100	108	116		
45° HORIZ. BEND	12	16	21	26	31	36	42	48	54	60	66	72	78	84		
22.5° HORIZ. BEND	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
11.25° HORIZ. BEND	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
45° VERT. OFFSET	19	27	35	42	50	58	66	74	82	90	98	106	114	122		
22.5° VERT. OFFSET	9	13	17	20	24	28	32	36	40	44	48	52	56	60		
11.25° VERT. OFFSET	5	7	9	11	13	15	17	19	21	23	25	27	29	31		
DEAD END AND INLINE VALVE	46	65	85	105	125	145	165	185	205	225	245	265	285	305		
TEE (BRANCH RESTRAINT)	4	6	8	10	12	14	16	18	20	24	30	36	42	48		
REDUCER (LARGER PIPE RESTRAINT)	6	8	10	12	14	16	18	20	24	30	36	42	48	54		

MECHANICAL THRUST RESTRAINT - MINIMUM PIPE LENGTHS



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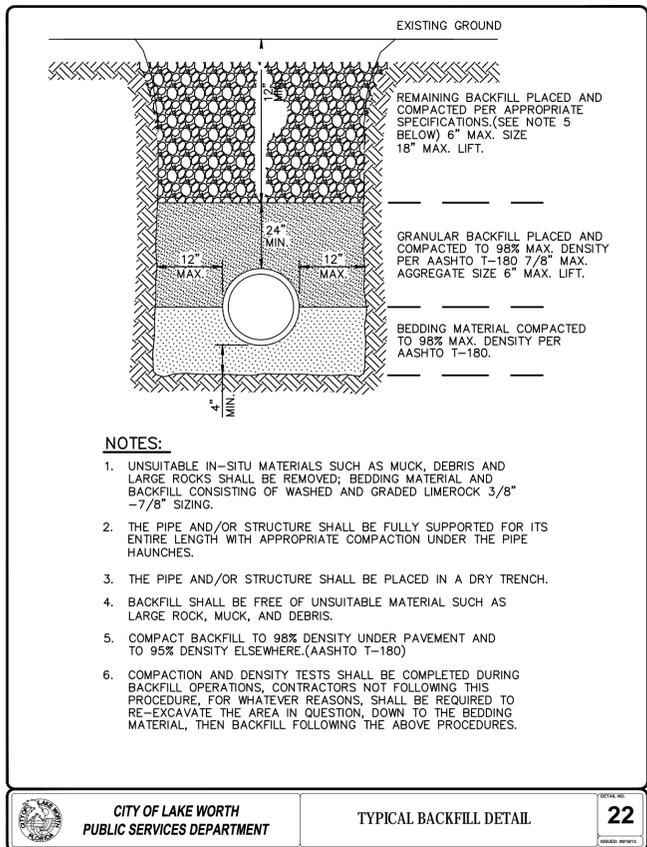
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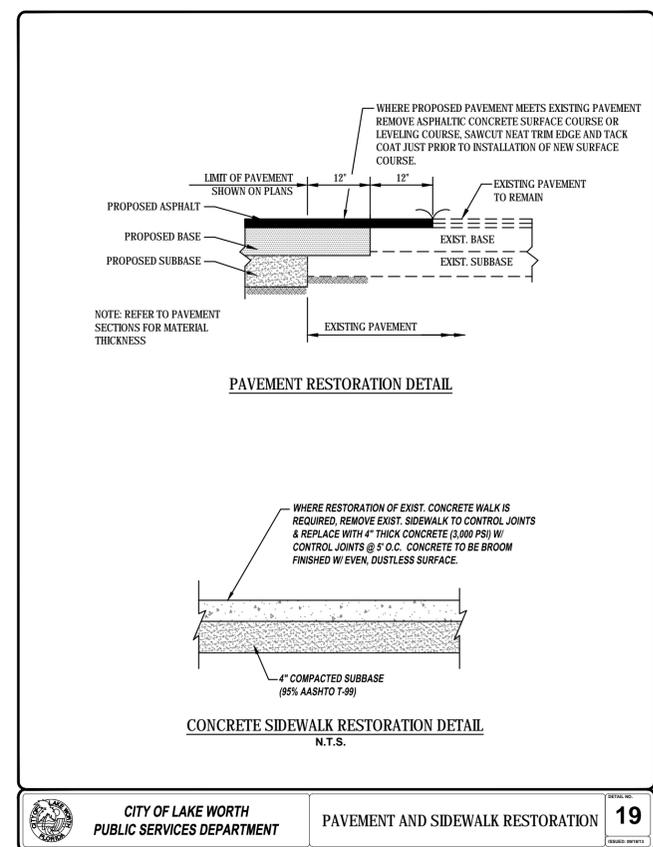
WATER DISTRIBUTION DETAILS	
DWN: MH	DSN: ACD
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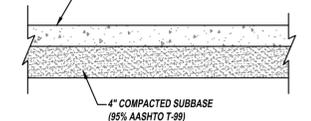


- NOTES:**
1. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGE ROCKS SHALL BE REMOVED; BEDDING MATERIAL AND BACKFILL CONSISTING OF WASHED AND GRADED LIMEROCK 3/8" - 7/8" SIZING.
 2. THE PIPE AND/OR STRUCTURE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
 3. THE PIPE AND/OR STRUCTURE SHALL BE PLACED IN A DRY TRENCH.
 4. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, MUCK, AND DEBRIS.
 5. COMPACT BACKFILL TO 98% DENSITY UNDER PAVEMENT AND TO 95% DENSITY ELSEWHERE. (AASHTO T-180)
 6. COMPACTION AND DENSITY TESTS SHALL BE COMPLETED DURING BACKFILL OPERATIONS, CONTRACTORS NOT FOLLOWING THIS PROCEDURE, FOR WHATEVER REASONS, SHALL BE REQUIRED TO RE-EXCAVATE THE AREA IN QUESTION, DOWN TO THE BEDDING MATERIAL, THEN BACKFILL FOLLOWING THE ABOVE PROCEDURES.

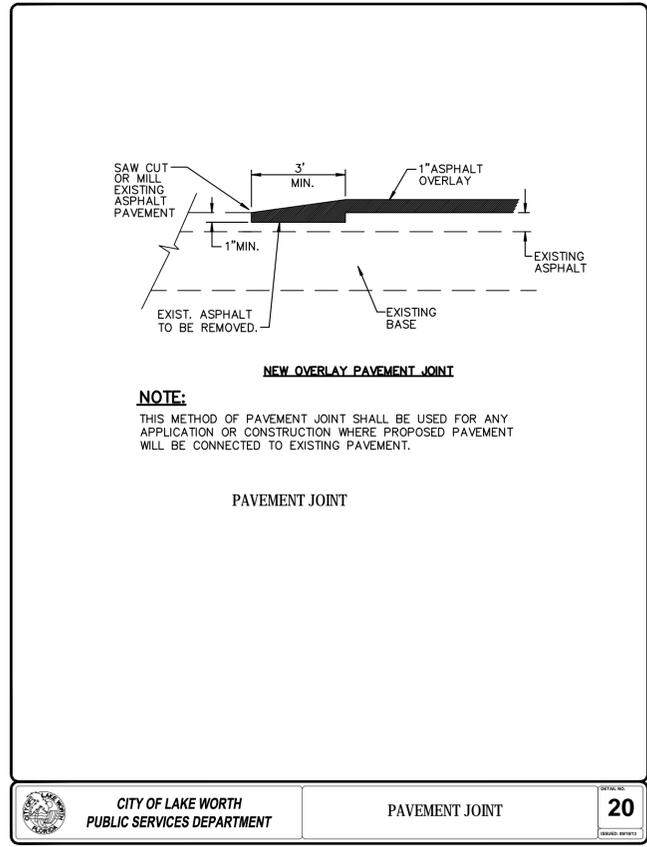
CITY OF LAKE WORTH PUBLIC SERVICES DEPARTMENT TYPICAL BACKFILL DETAIL 22



WHERE RESTORATION OF EXIST. CONCRETE WALK IS REQUIRED, REMOVE EXIST. SIDEWALK TO CONTROL JOINTS & REPLACE WITH 4" THICK CONCRETE (3,000 PSI) W/ CONTROL JOINTS @ 5' O.C. CONCRETE TO BE BROOM FINISHED W/ EVEN, DUSTLESS SURFACE.

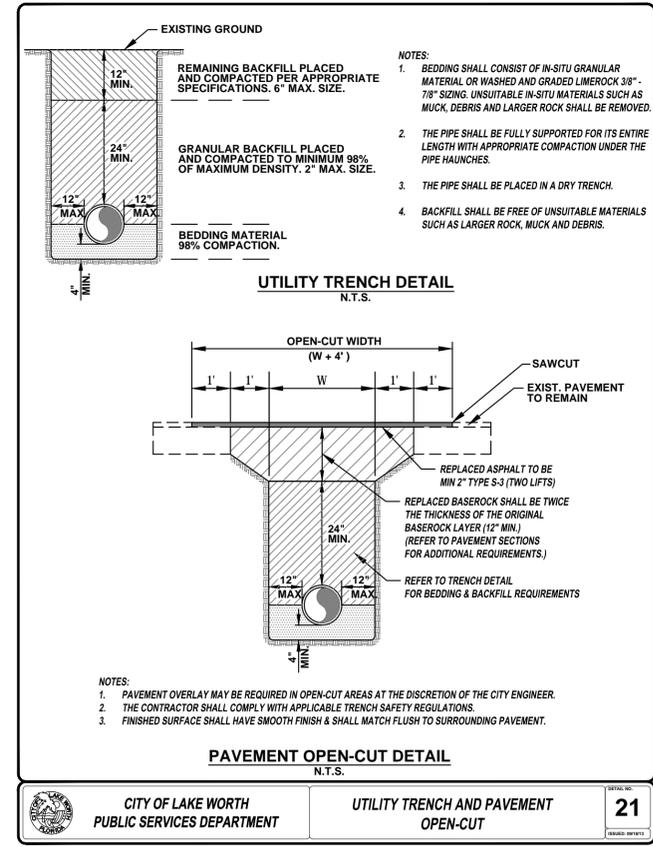


CITY OF LAKE WORTH PUBLIC SERVICES DEPARTMENT PAVEMENT AND SIDEWALK RESTORATION 19



NOTE:
THIS METHOD OF PAVEMENT JOINT SHALL BE USED FOR ANY APPLICATION OR CONSTRUCTION WHERE PROPOSED PAVEMENT WILL BE CONNECTED TO EXISTING PAVEMENT.

CITY OF LAKE WORTH PUBLIC SERVICES DEPARTMENT PAVEMENT JOINT 20



- NOTES:**
1. BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8" - 7/8" SIZING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCK SHALL BE REMOVED.
 2. THE PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
 3. THE PIPE SHALL BE PLACED IN A DRY TRENCH.
 4. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIALS SUCH AS LARGER ROCK, MUCK AND DEBRIS.

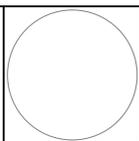
- NOTES:**
1. PAVEMENT OVERLAY MAY BE REQUIRED IN OPEN-CUT AREAS AT THE DISCRETION OF THE CITY ENGINEER.
 2. THE CONTRACTOR SHALL COMPLY WITH APPLICABLE TRENCH SAFETY REGULATIONS.
 3. FINISHED SURFACE SHALL HAVE SMOOTH FINISH & SHALL MATCH FLUSH TO SURROUNDING PAVEMENT.

CITY OF LAKE WORTH PUBLIC SERVICES DEPARTMENT UTILITY TRENCH AND PAVEMENT OPEN-CUT 21

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WATER MAIN INSTALLATION
PALM BEACH COUNTY, FLORIDA

ROAD CROSSING RESTORATION DETAILS

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