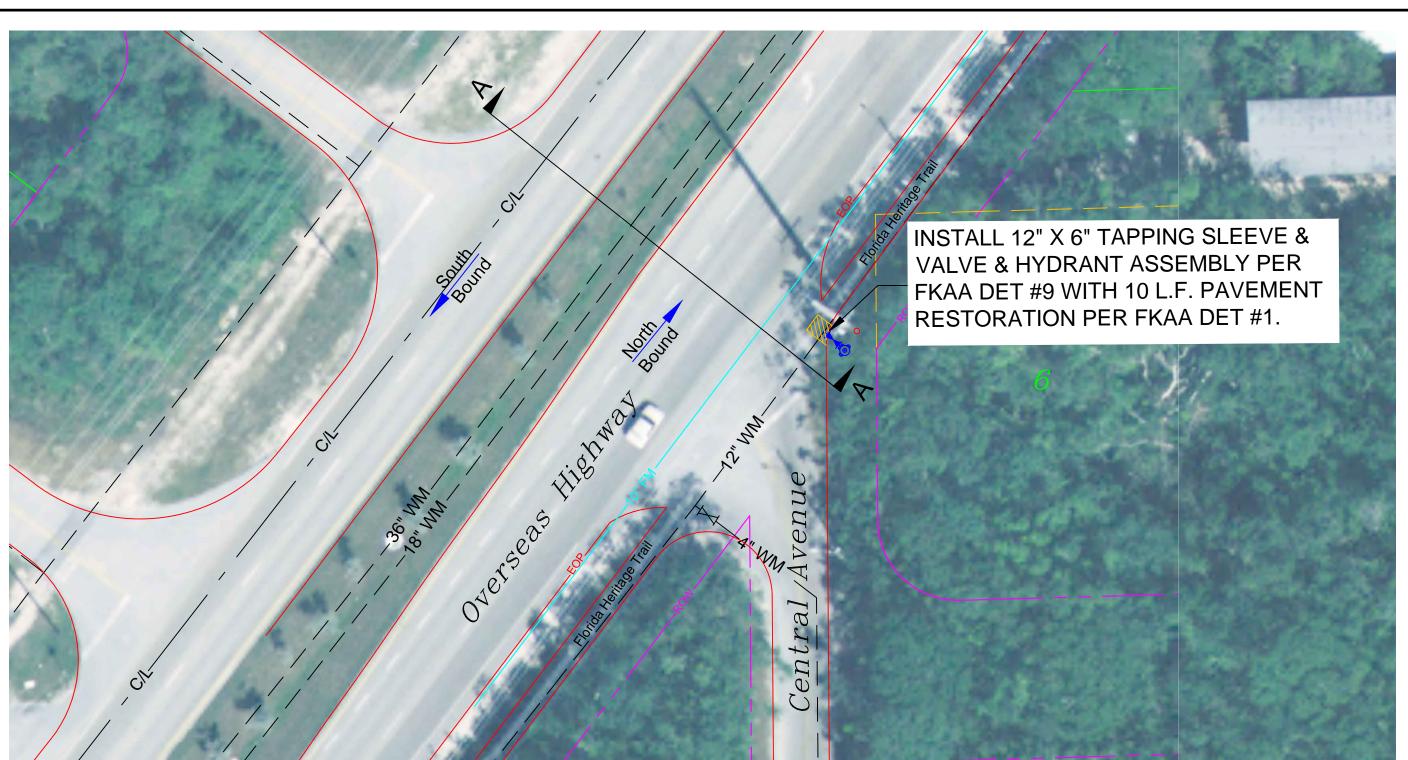
Key Largo Fire Hydrant Installation Key Largo, Florida Island of Key Largo **Subdivision**



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Date: 5/25/2016









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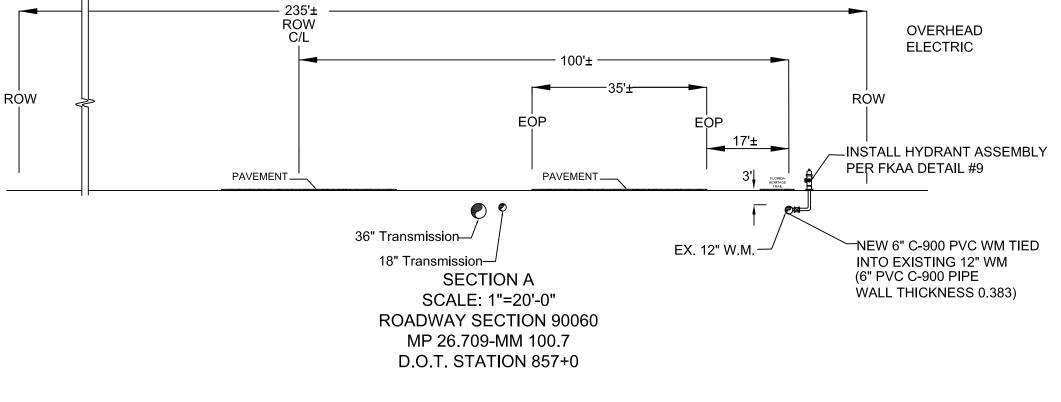
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FLORIDA DEPARTMENT OF TRANSPORTATION GENERAL NOTES:

1. CONTACT THE LOCAL MAINTENANCE OFFICE (305) 289-4360 TO COORDINATE PRE-CONSTRUCTION MEETING FOURTEEN (14) WORKING DAYS AND TO PROVIDE FORTY-EIGHT (48) HOURS NOTIFICATION PRIOR TO BEGINNING PERMITTED WORK.

- 2. SUBMIT LANE CLOSURE REQUESTS AT THE LANE CLOSURE INFORMATION SYSTEM WEBSITE (http://gis.atectrans.net/lcis/) FOURTEEN (14) WORKING DAYS PRIOR TO BEGINNING WORK WITHIN THE FDOT RIGHT-OF WAY.
- 3. WORKING HOURS WITHIN THE STATE RIGHT-OF-WAY SHALL BE FROM 9:00 AM TO 4:00 PM, OR AS DIRECTED BY THE DEPARTMENT REPRESENTATIVE PRIOR TO COMMENCING WORK. THERE SHALL BE NO LANE CLOSURES ON WEEKENDS, HOLIDAYS AND SPECIAL EVENTS WITHOUT PRIOR WRITTEN APPROVAL..
- 4. VALIDITY OF THIS PERMIT IS CONTINGENT UPON OBTAINING REQUIRED PERMITS FROM ALL OTHER AGENCIES INVOLVED.
- 5. ALL WORK MUST BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FDOT UTILITY ACCOMMODATION MANUAL, FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND FDOT DESIGN STANDARDS
- 6. PERMITTEE IS CAUTIONED THAT UTILITIES MAY BE LOCATED WITHIN THE CONSTRUCTION AREA. CALL 811 TWO (2) DAYS PRIOR TO BEGINNING WORK.
- 7. SAFE TEMPORARY ACCESS TO ALL ADJACENT PROPERTIES MUST BE PROVIDED AND MAINTAINED AT ALL TIMES. ACCOMMODATIONS FOR INTERSECTING TRAFFIC WITHIN THE CONSTRUCTION ZONE MUST BE PROVIDED AND MAINTAINED AT ALL TIMES. NO ROAD OR STREET CROSSING SHALL BE BLOCKED OR UNDULY RESTRICTED AS DETERMINED BY THE FDOT DEPARTMENT REPRESENTATIVE. ALL ACCESSES SHALL REMAIN OPEN AT ALL TIMES.
- 8. NO UNSAFE AREA(S) FOR PEDESTRIANS WILL REMAIN DURING ANY TIME OF THE CONSTRUCTION. PEDESTRIAN CONTROL FOR CLOSURE OF ROADS AND SIDEWALKS SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FDOT DESIGN STANDARDS AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 9. A COPY OF THE APPROVED PERMIT, APPROVED PLANS AND APPROVED LANE CLOSURE(S) MUST BE KEPT ON THE JOB SITE AT ALL TIMES DURING THE PERMITTED WORK.
- 10. IN THE EVENT THAT THE ROADWAY PAVEMENT IS DAMAGED, IT SHALL BE RESTORED IN FULL LANE TO MATCH OR EXCEED EXISTING CONDITIONS AND IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FDOT DESIGN STANDARDS AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 11. OPEN CUTTING OF EXISTING PAVED DRIVEWAY CONNECTIONS AND SIDE STREETS SHALL BE RESTORED IN FULL LANE FROM EDGE OF PAVEMENT TO FDOT RIGHT-OF-WAY LINE.
- 12. THE USE OF STEEL PLATES WILL BE AT THE DISCRETION AND APPROVAL OF THE DEPARTMENT REPRESENTATIVE. PLATES MUST BE SECURED WITH SPIKES AND COMPACTED ASPHALT.
- 13. TYPE 04 FILTER FABRIC IS REQUIRED BY THE DEPARTMENT TO BE PLACED WHERE ANY MATERIAL THAT CAN, DURING THE PROJECT LIFE BE SUBJECTED TO HIGH WATER TABLE, WHETHER IT IS PLACED IN THE DRY OR IN THE WET AND REQUIRES A FULL ENCAPSULATION OF THE GRANULAR MATERIAL.
- 14. WHEN PERMITTED WORK IS WITHIN FIVE (5) FT OF THE EXISTING TREES' DRIP LINES, TREE PROTECTION MEETING THE LATEST EDITION OF THE FDOT DESIGN STANDARD INDEX 544 MUST BE INSTALLED.
- 15. ROOT OR CANOPY TRIMMING REQUIRED TO REDUCE THE IMPACTS TO THE EXISTING VEGETATION MUST BE OVERSEEN BY A CERTIFIED ARBORIST
- 16. FDOT APPROVED EROSION DEVICES MUST BE PLACED BEFORE PERMITTED WORK BEGINS AND MAINTAINED THROUGHOUT THE PROJECT
- 17. ALL FINAL RESTORATION SHALL BE COORDINATED WITH THE DEPARTMENT REPRESENTATIVE. ALL PORTIONS OF THE STATE RIGHT-OF-WAY SHALL BE RESTORED WITHIN THIRTY (30) DAYS OF COMPLETION OF THE PERMITTED WORK.
- 18. WHEN FDOT ROADWAY IMPROVEMENTS HAVE COMMENCED OR BEEN COMPLETED PRIOR TO COMPLETION OF WORK PERMITTED UNDER THIS PERMIT, THIS PERMIT SHALL BECOME VOID.

ENVIRONMENTAL NOTES:

1. ENSURE APPROPRIATE EROSION CONTROL DEVICES ARE IN PLACE BEFORE WORK BEGINS AND ARE USED THROUGHOUT THE PROJECT.

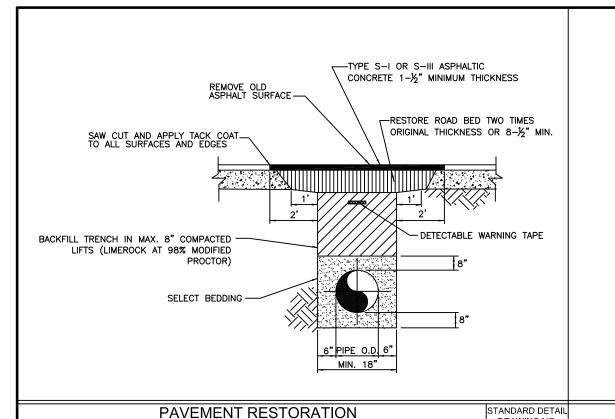
2. NO CONTAMINATION ISSUES ARE EXPECTED GIVEN THE SCOPE OF THE PROJECT; HOWEVER, THE FOLLOWING PROTOCOL SHOULD BE IMPLEMENTED:

IN THE EVENT THAT SOIL OR GROUNDWATER CONTAMINATION IS IDENTIFIED DURING EXCAVATION, THE APPLICANT IS TO CONTACT THE ASSISTANT CONTAMINATION IMPACT COORDINATOR AT

(305) 470-5138 AND PROVIDE THE DEPARTMENT COPIES OF CONTAMINATION-RELATED DELIVERABLES SUBMITTED TO ENVIRONMENTAL REGULATORY AGENCIES. THE POSTE TO TO CONTAMINATION IMPACT COORDINATOR AT 1000 N.W. 111TH AVENUE, MIAMI, FL 33172-5800 (ROOM #6109).



NOTE:
ALL WORK MUST CONFORM TO FKAA MINIMUM DESIGN AND
CONSTRUCTION STANDARDS AND SPECIFICATIONS.



VALVE BOX LID SHALL HAVE NON-PROTRUDING, NON-PENETRATING PICKHOLES AND THE LETTER "W" CONCRETE COLLAR SHALL HAVE-A LEVEL AND SMOOTH FINISH IN UNPAVED AREAS (NOTE 1) PLAN VIEW **DETAIL** MATCH EXISTING OR PROPOSED SURFACE (NOTE 1) NOTES 3 AND 4 PIPE TO STOP) MIN. C-900 PVC RISER PIPE (LENGTH VARIES) STAINLESS STEEL NUTS & BOLTS RISER TO BE NOTCHED TO PREVENT MOVEMENT - D.I. GATE VALVE D.I. OR PVC MAIN ELEVATION VIEW

1. CONCRETE COLLAR ALSO MAY BE FORMED AS A 30" DIA. CIRCLE UNDER PAVEMENT. 2. IN UNPAVED AREA INSTALL VALVE BOX LID 1/2" ABOVE SURFACE. #5 REBAR SHALL BE REQUIRED.

U.S.F. No. 7615 OR APPROVED EQUAL WITH 6" DIA. RISER FOR VALVES 6" DIA. OR SMALLER.

GATE VALVE & BOX

5. RESTRAIN AS REQUIRED PER DETAIL NO

EXISTING -8 MIL POLYETHYLENE SHEETING -CARBON STEEL TAPPING SLEEVE & VALVE WITH FUSION-APPLIED EPOXY COATING 3/4" TEST PLUG-STAINLESS STEEL RIKIKIK -STAINLESS STEEL NUTS AND BOLTS FLANGED JOINT -resilient seated Tapping valve with 2"x2" operating nut MECHANICAL JOINT PLAN VIEW

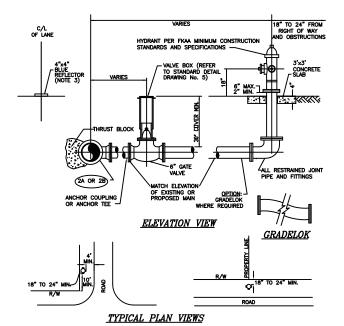
- PRESSURE TEST INSTALLED TAPPING SLEEVE AND VALVE ASSEMBLY BEFORE TAPPING EXISTING MAIN. SEE FKAA MINIMUM CONSTRUCTION STANDARDS & SPECIFICATIONS.
- 2. SEE FKAA MINIMUM CONSTRUCTION STANDARDS & SPECIFICATIONS FOR LIST OF APPROVED TAPPING SLEEVES AND VALVES.
- 3. ALL TAPS SHALL BE MADE WITH AN APPROVED TAPPING DEVICE.

STANDARD DETAIL DRAWING NO.

5

TAPPING SLEEVE & VALVE FOR DISTRIBUTION

STANDARD DETAIL DRAWING NO.



WITH BACKFILL

CONCRETE SLAB MAY BE ELIMINATED IN AREAS WHERE SIDEWALK IS INSTALLED PRIOR TO FINAL ACCEPTANCE OF THE HYDRANT.

INSTALL 2-SIDED BLUE REFLECTORS WITH BUTYL PADS. OF THE LANE ON THE SIDE OF HYDRANT INSTALLATION.

2A. TAPPING SLEEVE AND VALVE USED WHEN EXISTING LINE IS HOT. 2B. TEE-USED WHEN LINE IS NEW.

PVC PIPE RESTRAINT JOINT SCHEDULE LENGTH (L) TO BE RESTRAINE

| NOMINAL | | HORIZONTAL BENDS | | | VERTICAL OFFSETS v | | VALVES | REDUCERS | | TEES (NOTE 5) | | |
|--------------------------|-------------------------------------------------------------|------------------|----------------|-----------------|--------------------|---------|-----------------|----------|----------|---------------|----------------------------------------------------|-----------|
| PIPE SIZE (IN.) | 90° BENDS | | 22.5° BENDS | 11.25° BENDS | (SEE | NOTE 4) | OR DEAD-ENDS | (SIZE) | L FT. | RUN SIZE | BRANCH SIZE | L FT. |
| (114.) | L(FT.) | L(FT.) | L(FT.) | LR(FT.) | LU(FT.) | LI(FT.) | L(FT.) | 6 X 4 | 35 | 4" | 4" | F.C |
| 4 | 20 | 8 | 4 | 2 | 20 | 3 | 50 | 8 X 6 | 35 | 6" | 6" | 10 |
| 6 | 28 | 10 | 5 | 2 | 28 | 4 | 70 | 8 X 4 | 65 | H | 4" <less 8"</less | F.C |
| 8 | 36 | 14 | 6 | 3 | 36 | 5 | 90 | 10 X 8 | 35 | 8" | 6" <less< td=""><td>F.C</td></less<> | F.C |
| 10 | 40 | 18 | 8 | 4 | 45 | 6 | 110 | 10 X 6 | 65 | 10" | 10" 8" | 48 14 |
| 12 | 50 | 20 | 9 | 4 | 52 | 8 | 120 | | - | 10 | 6" <less< td=""><td>F.C</td></less<> | F.C |
| 14 | 56 | 23 | 10 | 5 | 60 | 9 | 140 | 12 X 10 | 35 | 40" | 12" | 65 |
| | | | | | | | | 12 X 8 | 65 | 12" | 10" 8" <less< td=""><td>35 F.C</td></less<> | 35 F.C |
| 16 | 60 | 26 | 11 | 6 | 67 | 10 | 160 | 16 X 12 | 65 | | 16" | 10 |
| 18 | 69 | 29 | 12 | 6 | 74 | 12 | 180 | 16 X 10 | 95 | 16" | 12" | 40 |
| 20 | 75 | 32 | 13 | 7 | 80 | 13 | 195 | 20 X 18 | 35 | <u> </u> | 10" <less 20"</less | 13 |
| 24 | 76 | 33 | 15 | 7 | 81 | 14 | 200 | 20 X 16 | 65 | 20" | 16" | 8 |
| 30 | 88 | 36 | 18 | 9 | 97 | 16 | 235 | 20 X 12 | 120 | <u> </u> | 12" <less 24"</less | F.0 |
| 36 | 100 | 40 | 20 | 10 | 110 | 20 | 270 | 24 X 20 | 65 | 24" | 20" | 90 |
| 42 | 115 | 48 | 23 | 11 | 125 | 24 | 300 | 24 X 18 | 95 | 24 | 16" | 40 |
| 48 | 125 | 52 | 25 | 12 | 140 | 30 | 340 | 24 X 16 | 120 | | 12" <less 30"</less | F.C |
| | | | | | | | 30 X 24 | 80 | 30" | 24" | 80 | |
| PVC PIPE RESTRAINT NOTES | | | | | | | 30 X 20 | 150 |] 30 | 20" | 50 | |
| 1 TILLS | 1 THIS SCHEDULE SHALL BE LITHLIZED ON ALL WATER SEWER FORCE | | | | | | | | 80 | \vdash | 16" <less 36"</less | 18 |

MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT

2. ASSUMPTIONS: PVC PIPE, SAFETY FACTOR = 1.5, TEST PRESSURE = 150 PSI, SOIL = GM OR SM, TRENCH TYPE 3, DEPTH OF COVER = 36".

DRAWING NO.

3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF

4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, LU IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. LI IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45

5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN) SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON

6. HDPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FEET (MIN.).

LOCATION OF PUBLIC WATER SYSYEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

| Other Pipe | Horizontal Separation | Crossings (1) | Joint Spacing @ Crossings (Full Joint Centered) |
|---------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Storm Sewer, Stormwater Force Main, Reclaimed Water (2) | Water Main 3 ft. minimum | Water Main 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred | Alternate 3 ft. minimum Water Main |
| Vacuum Sanitary Sewer | Water Main 10 ft. preferred 3 ft. minimum | Water Main 12 inches preferred 6 inches minimum | Alternate 3 ft. mininum |
| Gravity or Pressure Sanitary Sewer, Sanitary Sewer Force Main, Reclaimed Water (4) | Water Main 10 ft. preferred 6 ft. minimum (3) | Water Main 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred | Alternate 6 ft. minimum Water Miin |
| On-Site Sewage Treatment & Disposal System | 10 ft. minimum | | |

Water main should cross above other pipe. When water main must be below other pipe, the minimum separation is 12 inches
 Reclaimed water regulated under Part III of Chapter 62-610, F.A.C.

(3) 3 ft. for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer (4) Reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

FIRE HYDRANT ASSEMBLY

STANDARD DETAIL DRAWING NO. 9

PVC PIPE RESTRAINT JOINT SCHEDULE

STANDARD DETAIL DRAWING NO. 4 (1 OF 2)

F.O. = FITTING ONLY

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Overseas I e Key, FI. 3

James C. Reynolds, PE FI. License No. 46685 22972 O Cudjoe Engineering Services, Inc

eynolds Key Largo Fire Hydrants

Florida Phase Largo,

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