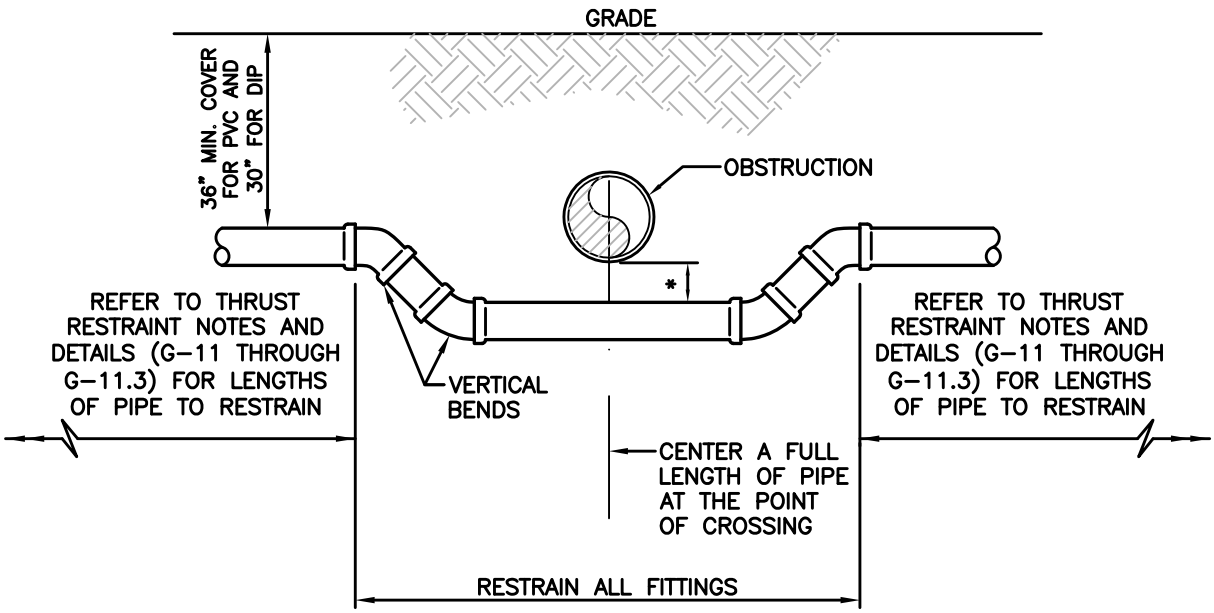
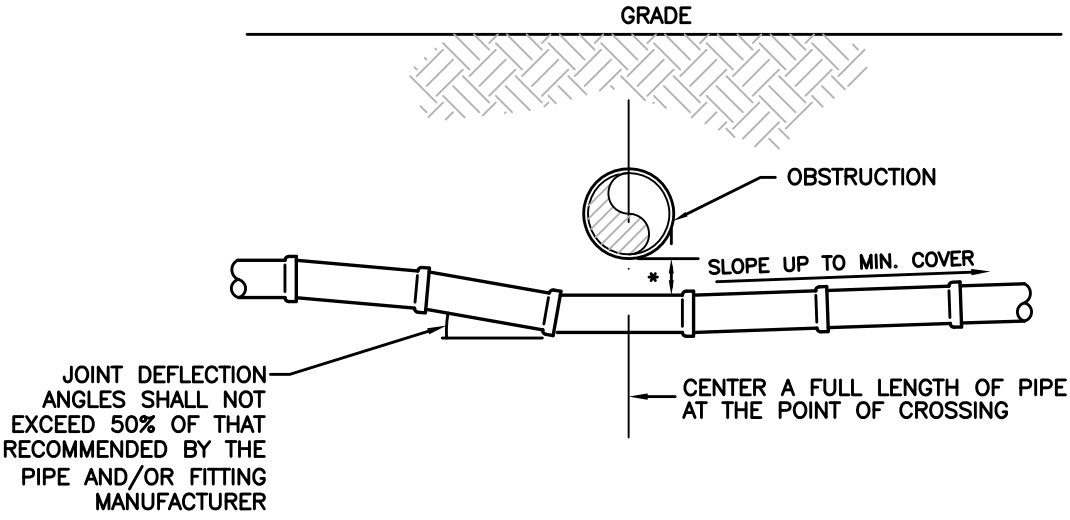


UTILITY CROSSING USING FITTINGS

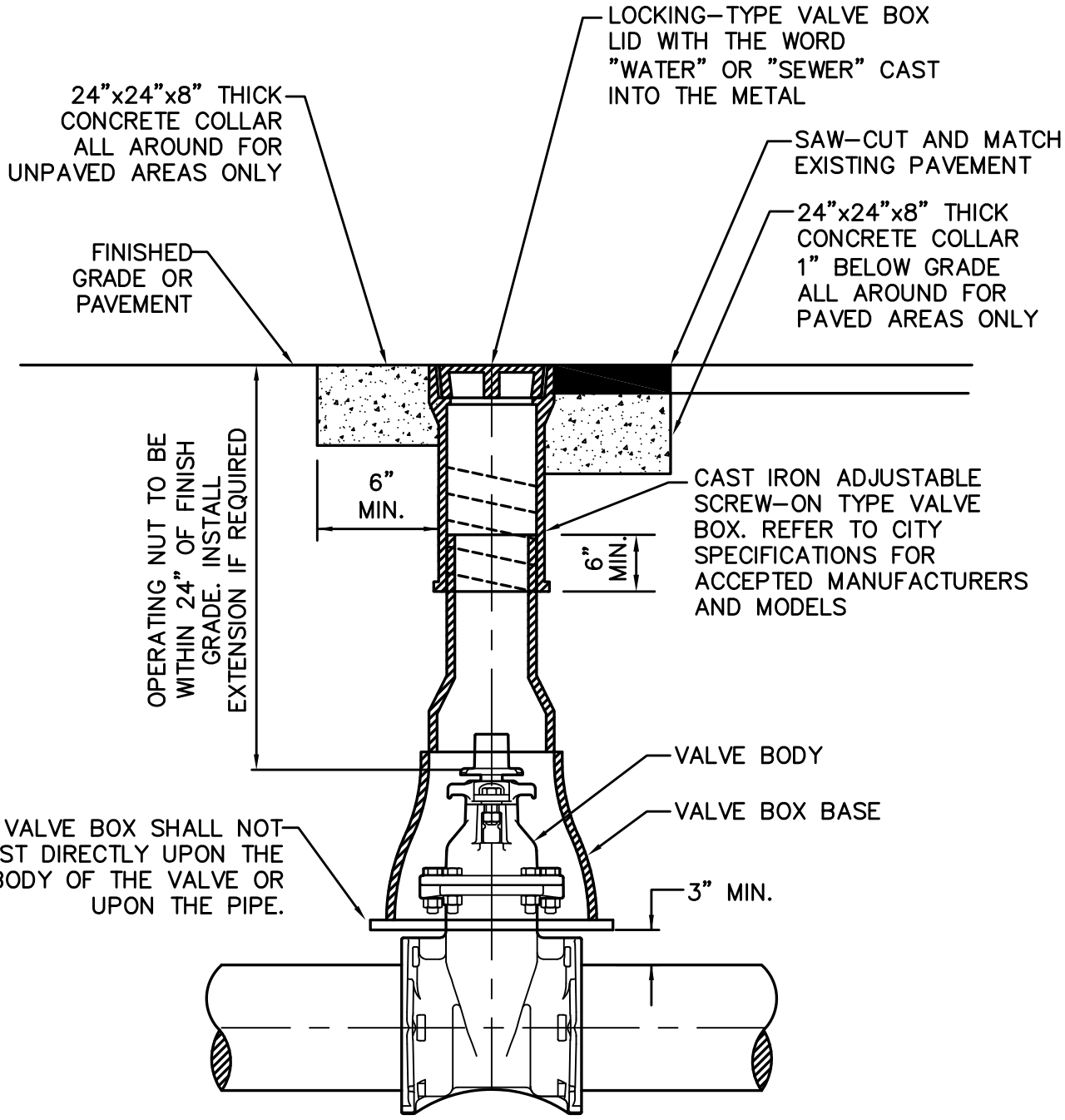
* REFER TO STANDARD DETAIL G-01.1, "SEPARATION REQUIREMENTS", FOR FDEP AND HEALTH DEPARTMENT SEPARATION REQUIREMENTS.



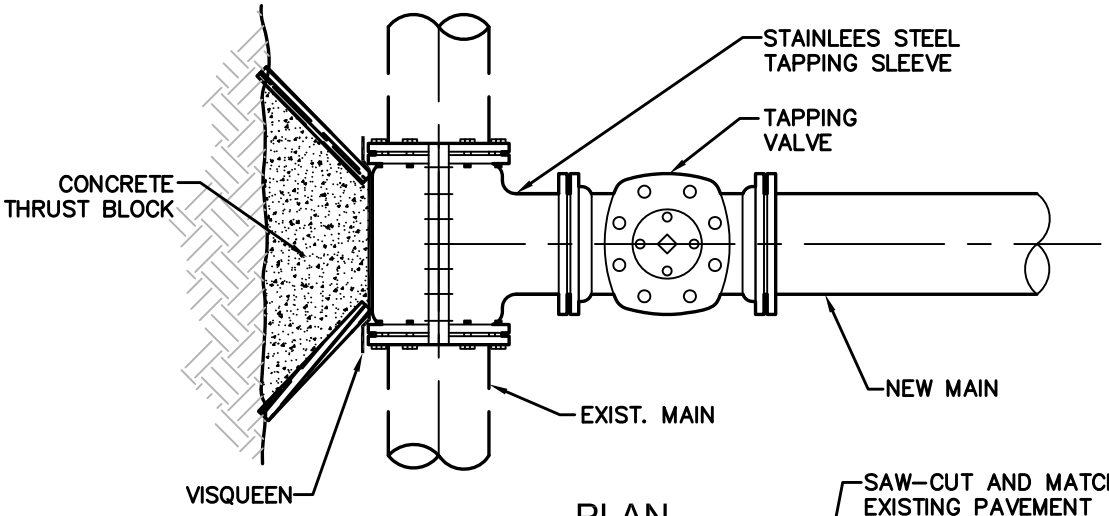
UTILITY CROSSING USING JOINT DEFLECTIONS

* REFER TO STANDARD DETAIL G-01.1, "SEPARATION REQUIREMENTS", FOR FDEP AND HEALTH DEPARTMENT SEPARATION REQUIREMENTS.

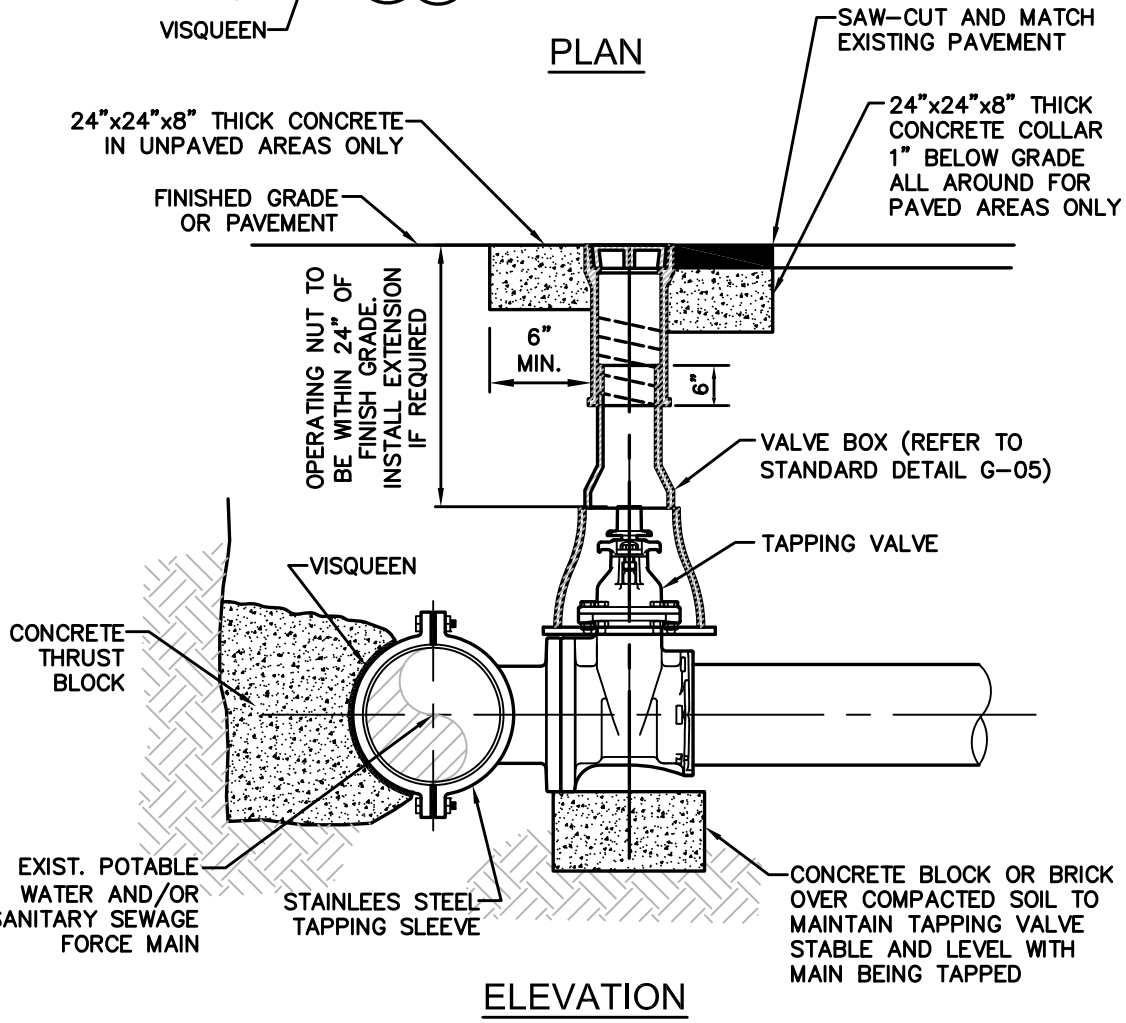
CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	UTILITY CROSSING DETAIL	DRAWING NO. G-04
	APPROVED: XXX		



CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	TYPICAL VALVE BOX SETTING	DRAWING NO. G-05
	APPROVED: XXX		



PLAN

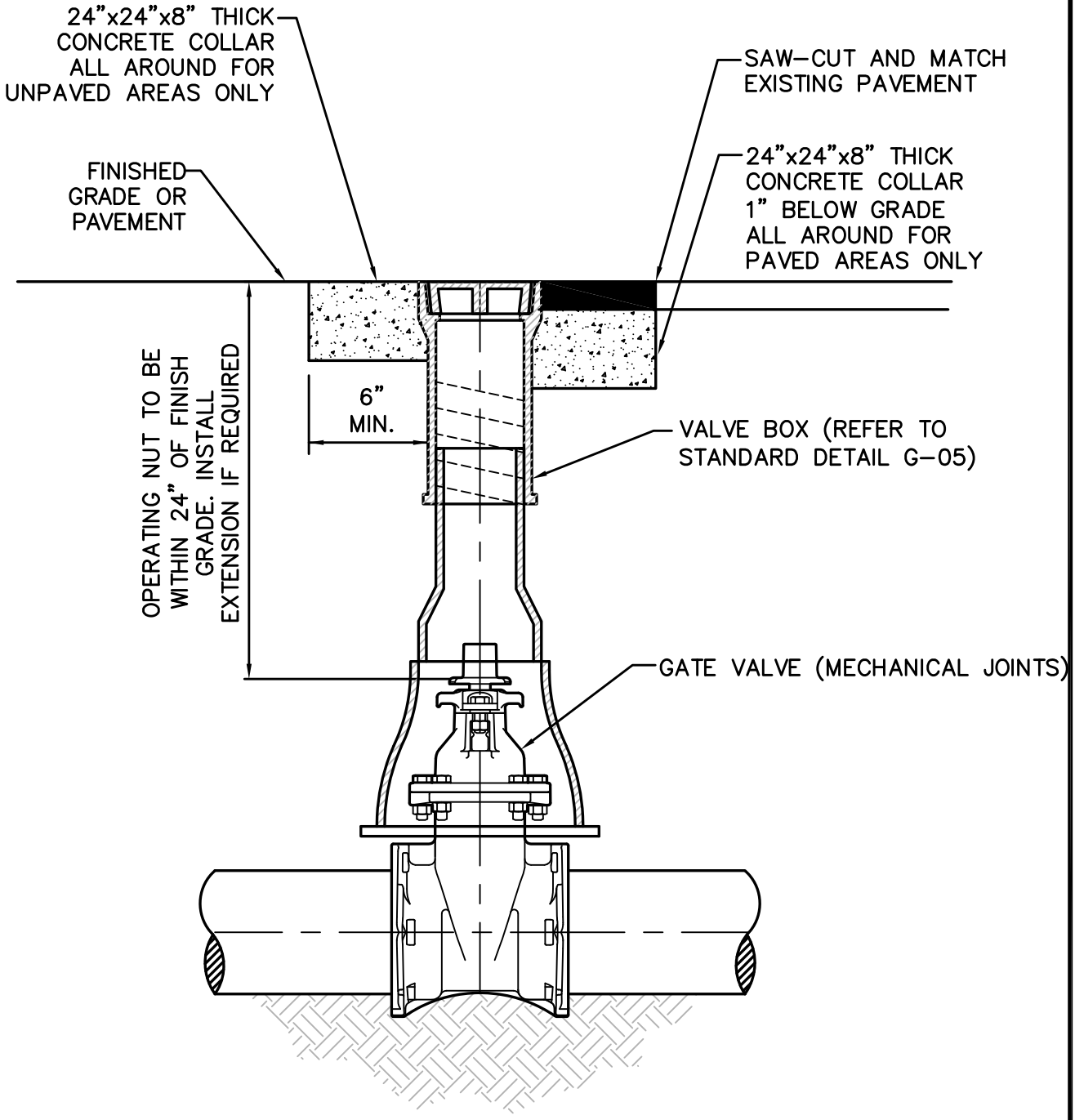


ELEVATION

NOTES:

1. NOTIFY THE CITY OF HOLLYWOOD 48 HOURS IN ADVANCE OF PROPOSED TAP.
2. TAPPING MUST BE DONE IN THE PRESENCE OF AN AUTHORIZED CITY REPRESENTATIVE.
3. TEMPORARY THRUST BLOCKS TO BE INSTALLED AND REMAIN IN PLACE DURING TAPPING OPERATIONS.
4. FOR SEWAGE FORCE MAINS, REFER TO DETAIL OF PRIVATE FORCE MAIN TIE-IN AT PROPERTY LINE.
5. FOR WATER MAINS, A GATE VALVE OF SAME DIAMETER SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF THE TAPPING VALVE.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	TYPICAL TAPPING SLEEVE AND VALVE SETTING	DRAWING NO. G-06
	APPROVED: XXX		



CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	TYPICAL GATE VALVE AND VALVE BOX SETTING	DRAWING NO. G-07
	APPROVED: XXX		

RESILIENT SEATED GATE VALVE SPECIFICATIONS:

4" THROUGH 12" SIZE
(WATER AND FORCE MAIN)

1. GATE VALVES SHALL BE RESILIENT SEATED, MANUFACTURED TO MEET OR EXCEED THE REQUIREMENTS OF AWWA C509 (LATEST REVISION) AND IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:

   1.1. VALVES SHALL HAVE AN UNOBSTRUCTED WATERWAY EQUAL TO OR GREATER THAN THE FULL NOMINAL DIAMETER OF THE VALVE.

   1.2. THE VALVES ARE TO BE NON-RISING STEM WITH THE STEM MADE OF CAST, FORGED OR ROLLED BRONZE SHOWN IN AWWA C509, TWO STEM SEALS SHALL BE PROVIDED AND SHALL BE OF THE O-RING TYPE, ONE ABOVE AND ONE BELOW THE THRUST COLLAR WITH LUBRICANT BETWEEN O-RING.

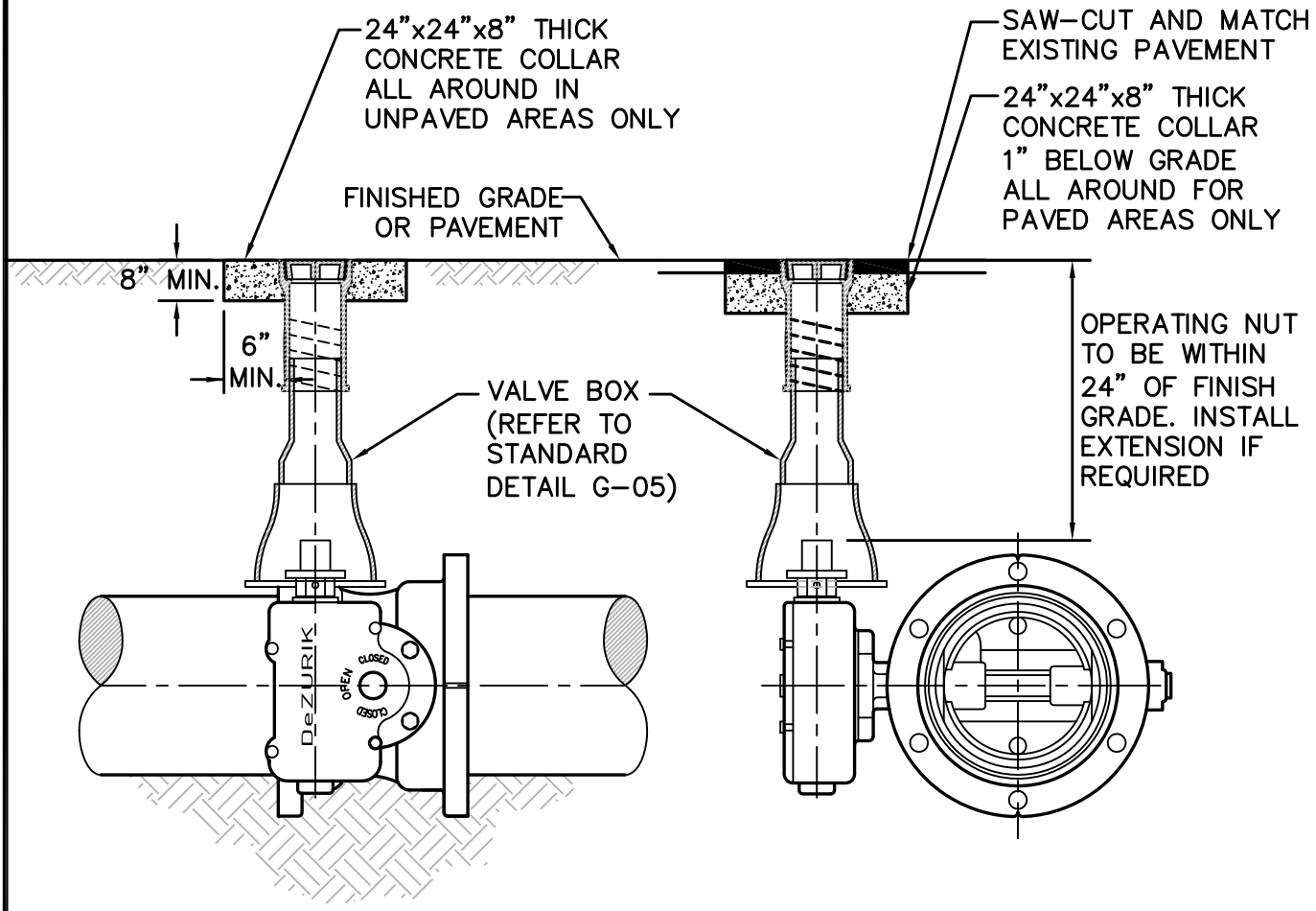
   1.3. THE STEM NUT, ALSO MADE OF BRONZE, MAY BE INDEPENDENT OF THE GATE OR CAST INTEGRALLY WITH THE GATE. IF THE STEM NUT IS CAST INTEGRALLY, THE THREADS SHALL BE STRAIGHT AND TRUE WITH THE AXIS OF THE STEM TO AVOID BINDING DURING THE OPENING OR CLOSING CYCLE.

   1.4. THE SEALING MECHANISM SHALL CONSISTS OF A CAST IRON GATE HAVING A VULCANIZED SYNTHETIC RUBBER COATING OR A RUBBER SEAT MECHANICALLY RETAINED ON THE GATE, THE RESILIENT SEALING MECHANISM SHALL PROVIDE ZERO LEAKAGE AT THE WATER WORKING PRESSURE WHEN INSTALLED WITH THE LINE FLOW IN EITHER DIRECTION.

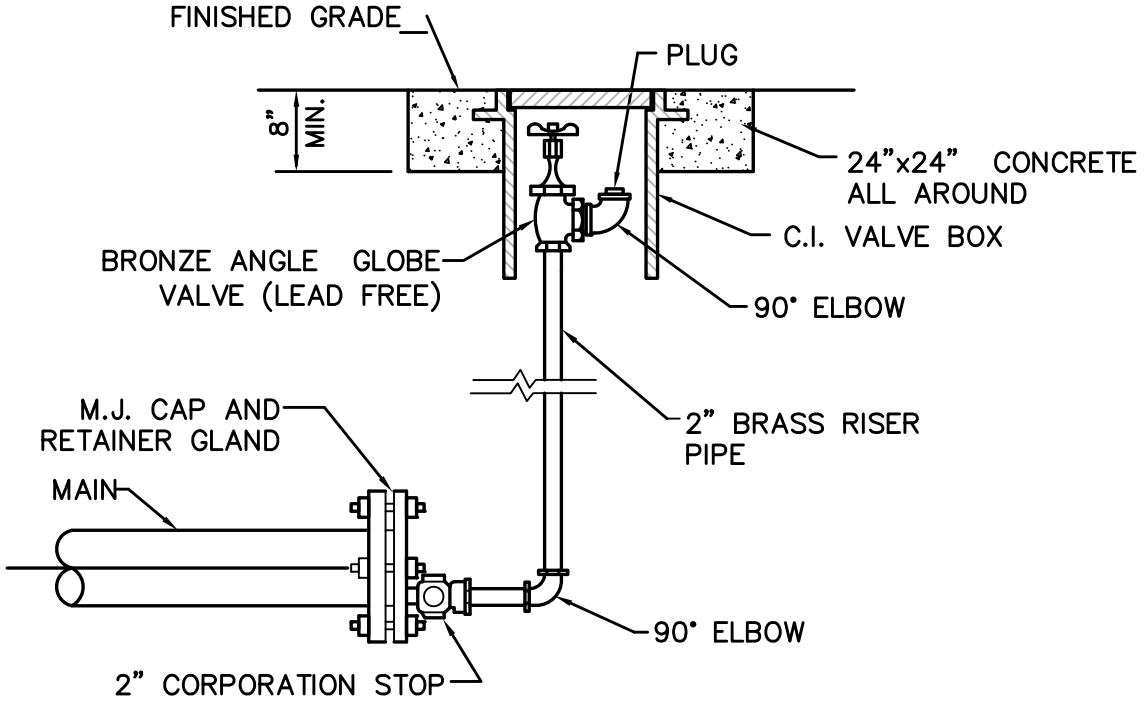
   1.5. A 2-INCH SQUARE WRENCH NUT SHALL BE PROVIDED FOR OPERATING THE VALVE.

   1.6. ALL VALVES ARE TO BE SUPPLIED COMPLETE AND READY FOR INSTALLATION INCLUDING, BUT NOT LIMITED TO ALL NUTS, BOLTS RINGS AND RUBBERS.

   1.7. ALL VALVES ARE TO BE TESTED IN STRICT ACCORDANCE WITH AWWA C509 LATEST REVISION).



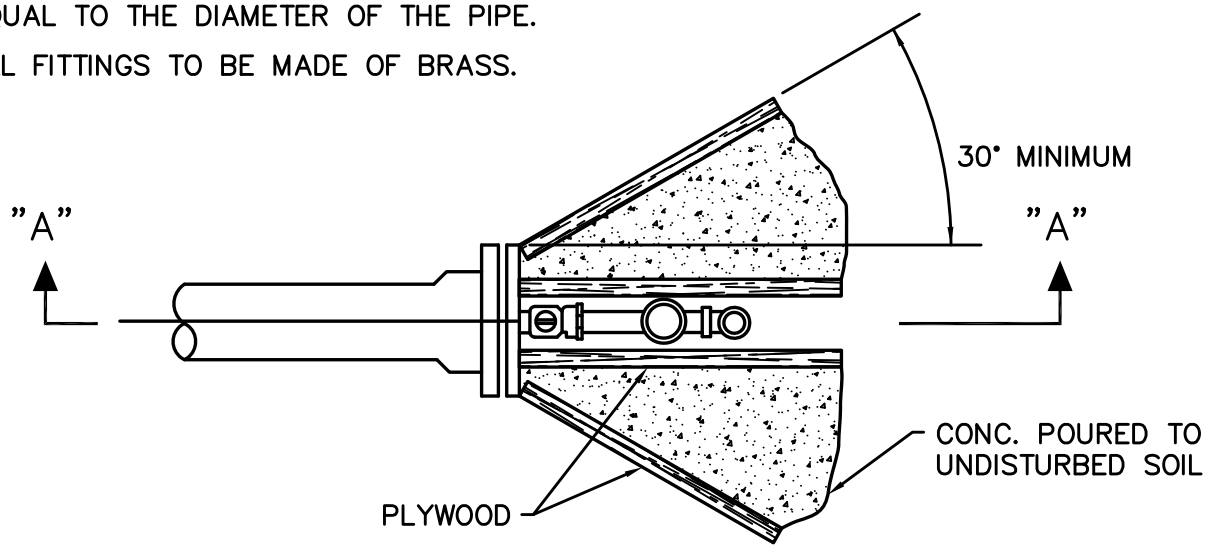
CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	TYPICAL BUTTERFLY VALVE SETTING	DRAWING NO. G-08
	APPROVED: XXX		



SECTION "A-A"

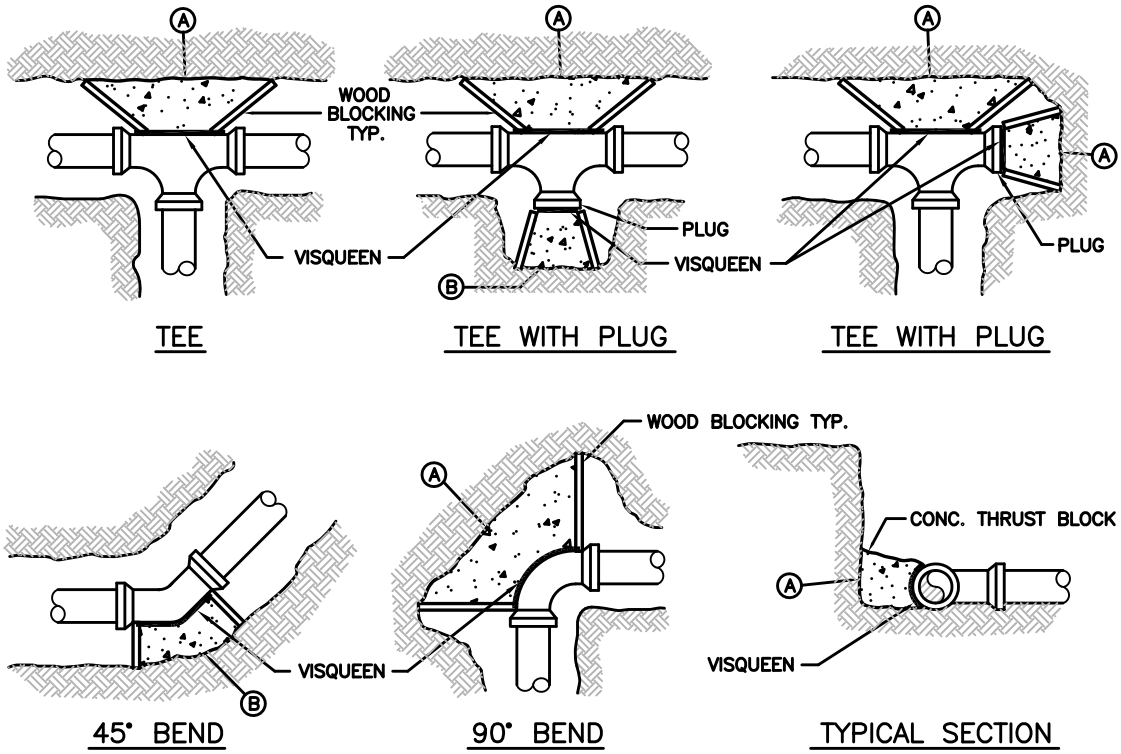
NOTES:

1. PIPE JOINT COMPOUND SHALL BE APPLIED TO MALE THREADS ONLY.
2. 2" TAP IN BOTTOM OF CAP ON MAIN.
3. PLYWOOD AND CONCRETE TO HAVE A HEIGHT EQUAL TO THE DIAMETER OF THE PIPE.
4. ALL FITTINGS TO BE MADE OF BRASS.



PLAN VIEW

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 11/06/2017
	DRAWN: EAM	TERMINAL BLOW-OFF DETAIL	DRAWING NO. G-09
	APPROVED: XXX		



MINIMUM CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL (SQ. FT.)				
MARK	PIPE SIZE			
	4" OR 6"	8"	10"	12"
A				
B				

NOTES:

1. THRUST BLOCKS ARE TO BE USED IN COMBINATION WITH, AND NOT IN LIEU OF, MECHANICAL JOINT RESTRAINTS AS REQUIRED BY THE CITY. REFER TO THRUST RESTRAINT DESIGN TABLE IN STANDARD DETAIL G-10.

2. THE AREAS IN THE TABLE ARE BASED ON _____ POUNDS PER SQUARE FOOT SOIL BEARING AGAINST THE UNDISTURBED TRENCH WALL AND ARE TO REPRESENT THE MINIMUM VERTICAL PROJECTED AREA AT THE THRUST BLOCK IN A PLANE PERPENDICULAR TO THE LINE BISECTING THE INCLUDING ANGLE OF THE FITTING.

3. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EVACUATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL.

4. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.

5. DO NOT COVER COUPLING OR JOINTS WITH CONCRETE.

6. CONCRETE TO BE 2500 P.S.I. MINIMUM 28 DAY STRENGTH.

7. TABLE TO BE COMPLETED BY DESIGN ENGINEER.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	THRUST BLOCK DESIGN	DRAWING NO. G-10
	APPROVED: XXX		

THRUST RESTRAINT NOTES:

1. ALL JOINTS BETWEEN BENDS AT HORIZONTAL & VERTICAL OFFSETS SHALL BE RESTRAINED.

2. MECHANICAL THRUST RESTRAINTS FOR D.I.P. FITTINGS ON D.I.P. OR P.V.C. PIPE SHALL BE MEGALUG AS MANUFACTURED BY EBAA IRON, INC., OR APPROVED EQUAL.

3. DUCTILE IRON FITTINGS UP TO 20-INCHES IN DIAMETER SHALL BE RESTRAINED BY MECHANICAL MEANS, I.E., MEGALUGS OR APPROVED EQUAL.

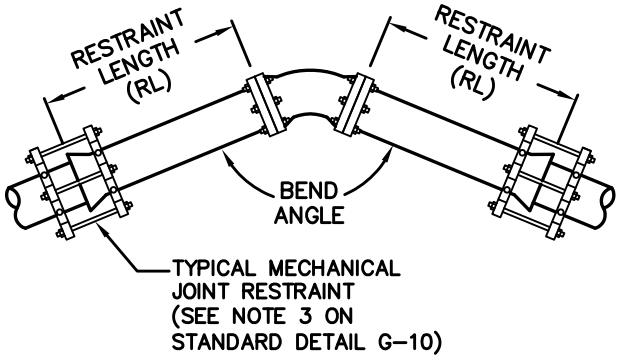
4. DUCTILE IRON FITTINGS 24-INCH IN DIAMETER AND ABOVE SHALL BE RESTRAINED BY MECHANICAL MEANS, I.E., MEGALUGS OR APPROVED EQUAL, WITH THE ADDITION OF THRUST BLOCKS AND CONCRETE ANCHORS AT THE DISCRETION OF THE ENGINEER OF RECORD.

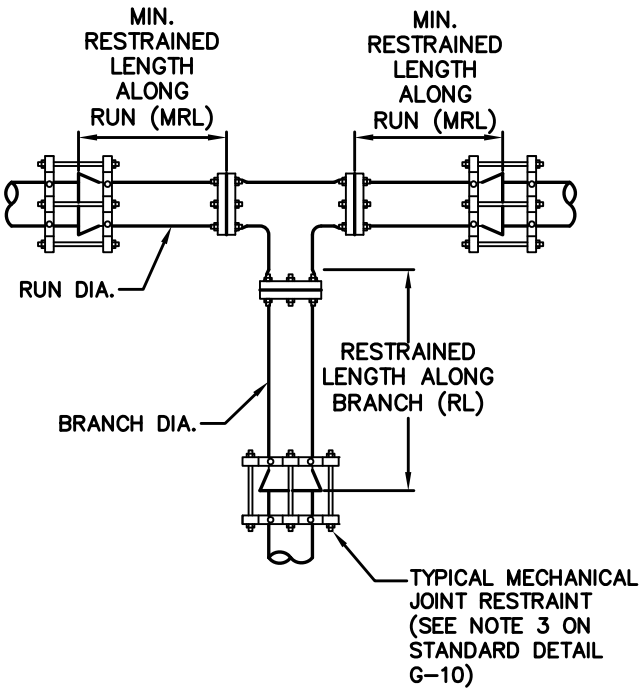
5. ANY THRUST BLOCKS AND ANCHORS ARE TO BE DESIGNED BY THE ENGINEER OF RECORD. SIGNED AND SEALED CALCULATIONS SHALL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO INSTALLATION.

6. THRUST BLOCKS CONSISTING OF POURED-IN-PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGH OF 2,500 PSI AFTER 28 DAYS.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	JOINT RESTRAINT DESIGN FOR PVC AND DIP THRUST RESTRAINT NOTES	DRAWING NO. G-11
	APPROVED: XXX		

HORIZONTAL BENDS			
PIPE DIA. (INCHES)	BEND (ANGLE)	RESTRAINED LENGTH (RL) (FT)	
		PVC	*DIP
24	11 1/4	.	.
	22 1/2	.	.
	45	.	.
	90	.	.
16	11 1/4	.	.
	22 1/2	.	.
	45	.	.
	90	.	.
12	11 1/4	.	.
	22 1/2	.	.
	45	.	.
	90	.	.
8	11 1/4	.	.
	22 1/2	.	.
	45	.	.
	90	.	.
6	11 1/4	.	.
	22 1/2	.	.
	45	.	.
	90	.	.
4	11 1/4	.	.
	22 1/2	.	.
	45	.	.
	90	.	.

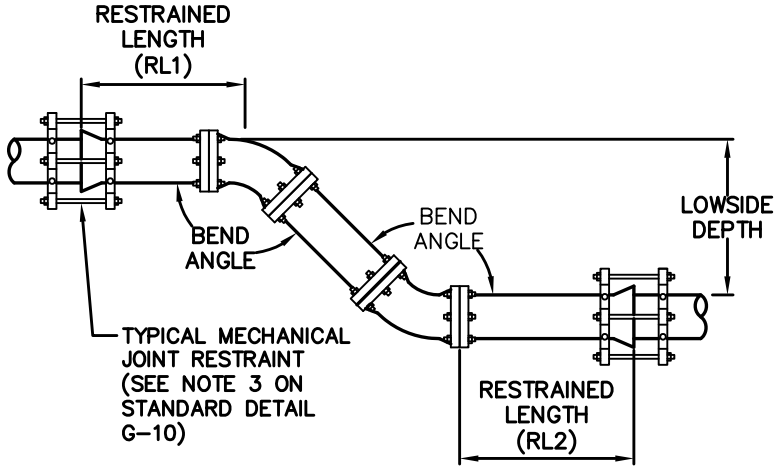




TEES AND TAPPING SLEEVES									
RUN DIA. (INCHES)	BRANCH DIA. (INCHES)	MINIMUM RESTRAINED LENGTH ALONG RUN (FT.)	MINIMUM RESTRAINED LENGTH ALONG BRANCH (FT.)		RUN DIA. (INCHES)	BRANCH DIA. (INCHES)	MINIMUM RESTRAINED LENGTH ALONG RUN (FT.)	MINIMUM RESTRAINED LENGTH ALONG BRANCH (FT.)	
			PVC	*DIP				PVC	*DIP
24"	24"	.	.	.	12"	12"	.	.	.
	16"	.	.	.		8"	.	.	.
	12"	.	.	.		6"	.	.	.
	8"	.	.	.		4"	.	.	.
	6"	.	.	.	8"	8"	.	.	.
	4"	.	.	.		6"	.	.	.
16"	16"	.	.	.		4"	.	.	.
	12"	.	.	.	6"	6"	.	.	.
	8"	.	.	.		4"	.	.	.
	6"	.	.	.	4"	4"	.	.	.
	4"	.	.	.	.	.	.	.	.

*ALL DIP JOINT–RESTRAINT CALCULATIONS ASSUME THE PIPE WILL BE WRAPPED IN POLYETHYLENE ENCASEMENT

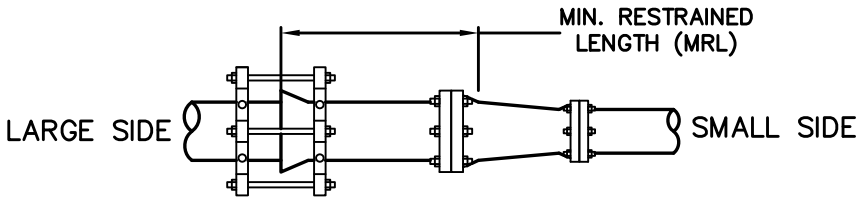
CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	JOINT RESTRAINT DESIGN FOR PVC AND DIP HORIZONTAL BENDS AND TEES	DRAWING NO. G-11.1
	APPROVED: XXX		



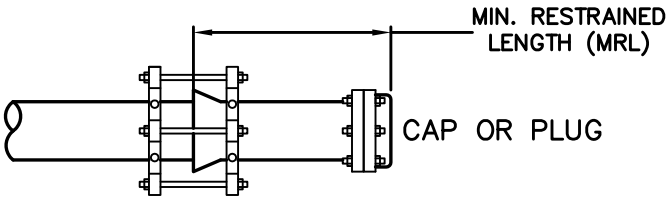
VERTICAL OFFSETS						
			PVC		*DIP	
PIPE DIA. (INCHES)	BEND (ANGLE)	LOWSIDE DEPTH (FT)	RESTRAINED LENGTHS		RESTRAINED LENGTHS	
			RL1 (FT.)	RL2 (FT.)	RL1 (FT.)	RL2 (FT.)
24	45	4	.	.	.	.
		5	.	.	.	.
		6	.	.	.	.
		7	.	.	.	.
16	45	4	.	.	.	.
		5	.	.	.	.
		6	.	.	.	.
		7	.	.	.	.
12	45	4	.	.	.	.
		5	.	.	.	.
		6	.	.	.	.
		7	.	.	.	.
8	45	4	.	.	.	.
		5	.	.	.	.
		6	.	.	.	.
		7	.	.	.	.
6	45	4	.	.	.	.
		5	.	.	.	.
		6	.	.	.	.
		7	.	.	.	.
4	45	4	.	.	.	.
		5	.	.	.	.
		6	.	.	.	.
		7	.	.	.	.

*ALL DIP JOINT–RESTRAINT CALCULATIONS ASSUME THE PIPE WILL BE WRAPPED IN POLYETHYLENE ENCASEMENT

CITY OF HOLLYWOOD, FLORIDA – DIAMOND OF THE GOLD COAST – INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	JOINT RESTRAINT DESIGN FOR PVC AND DIP VERTICAL OFFSETS	DRAWING NO. G-11.2
	APPROVED: XXX		



REDUCERS							
LARGE SIDE	SMALL SIDE	MINIMUM LENGTH TO RESTRAIN ON LARGE SIDE (FT)		LARGE SIDE	SMALL SIDE	MINIMUM LENGTH TO RESTRAIN ON LARGE SIDE (FT)	
		PVC	*DIP			PVC	*DIP
24"	16"	.	.	12"	8"	.	.
	12"	.	.		6"	.	.
	8"	.	.		4"	.	.
	6"	.	.	8"	6"	.	.
	4"	.	.		4"	.	.
16"	12"	.	.		2"	.	.
	8"	.	.	6"	4"	.	.
	6"	.	.		2"	.	.
	4"	.	.	4"	2"	.	.



DEAD ENDS		
PIPE DIA. (INCHES)	MIN. RESTRAINED LENGTH (FT)	
	PVC	*DIP
24"	.	.
16"	.	.
12"	.	.
8"	.	.
6"	.	.
4"	.	.

*ALL DIP JOINT–RESTRAINT CALCULATIONS ASSUME THE PIPE WILL BE WRAPPED IN POLYETHYLENE ENCASEMENT

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	JOINT RESTRAINT DESIGN FOR PVC AND DIP REDUCERS AND DEAD ENDS	DRAWING NO. G-11.3
	APPROVED: XXX		

FLEXIBLE PAVEMENT RESTORATION NOTES:

1. THE ABOVE DETAILS APPLY ONLY TO ASPHALT PAVEMENT RESTORATION OVER UTILITY TRENCHES CUT WITHIN CITY OF HOLLYWOOD RIGHTS-OF-WAY. FOR PAVEMENT RESTORATION WITHIN BROWARD COUNTY OR FDOT RIGHTS-OF-WAY REFER TO THE CORRESPONDING DETAILS FOR THOSE AGENCIES.

2. LIMEROCK BASE MATERIAL SHALL HAVE A MINIMUM L.B.R. OF 100 AND A MINIMUM CARBONATE CONTENT OF 70%. REPLACED BASE MATERIAL OVER TRENCH SHALL BE A MINIMUM OF 12" THICK".

3. LIMEROCK BASE MATERIAL SHALL BE PLACED IN 12" MAXIMUM (LOOSE MEASUREMENT) THICKNESS LAYERS WITH EACH LAYER THOROUGHLY ROLLED OR TAMPED AND COMPACTED TO 100% OF MAXIMUM DENSITY, PER AASHTO T-180, PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYERS.

4. STABILIZED SUBGRADE MATERIAL SHALL BE GRANULAR AND SHALL HAVE A MINIMUM L.B.R. OF 40.

5. BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE PIPE LAYING CONDITION TYPICAL SECTIONS IN DETAILS G-02 AND G-03, AND THE SPECIFICATIONS, BUT TESTING WILL BEGIN 12" ABOVE THE INSTALLED FACILITY.

6. ALL EDGES AND JOINTS OF EXISTING ASPHALT PAVEMENT SHALL BE SAW CUT TO STRAIGHT LINES, PARALLEL TO OR PERPENDICULAR TO THE ROADWAY, PRIOR TO THE RESURFACING.

7. RESURFACING MATERIAL SHALL BE FDOT SUPERPAVE, AND SHALL BE APPLIED A MINIMUM OF TWO INCH IN THICKNESS.

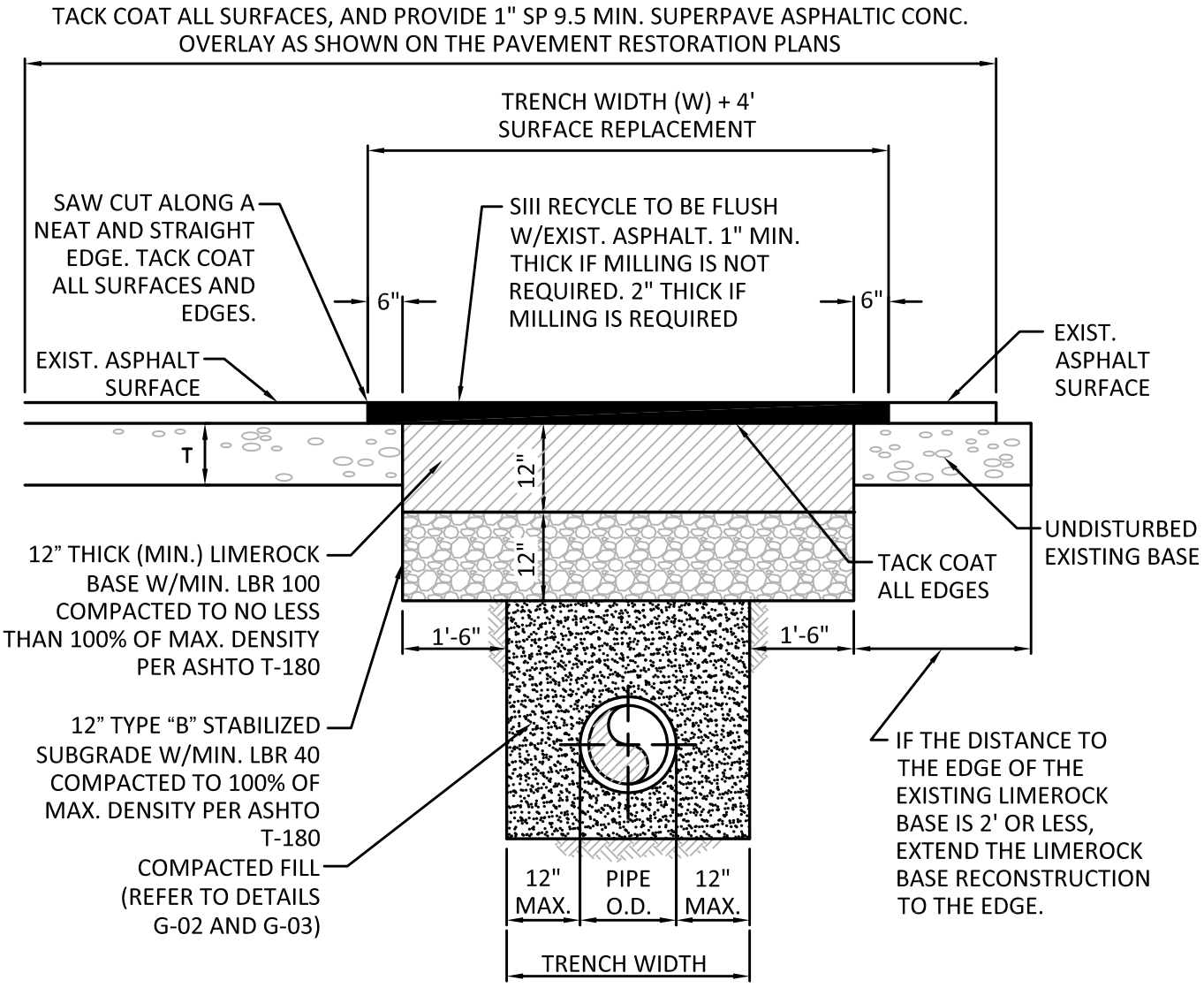
8. MILL AND BUTT JOINT TO EXISTING PAVEMENT.

9. IF THE TRENCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" ASPHALTIC CONCRETE PATCH TO KEEP THE FILL MATERIAL FROM RAVELING UNTIL REPLACED WITH A PERMANENT PATCH.

10. REFER TO SPECIFICATIONS FOR DETAILED PROCEDURES.

11. WHERE THE UTILITY TRENCH CROSSES EXISTING ASPHALT DRIVEWAYS, THE LIMEROCK BASE THICKNESS MAY BE A MINIMUM OF 6 INCHES THICK. REGARDLESS OF THE EXTENT OF IMPACT, THE ENTIRE DRIVEWAY SURFACE BETWEEN THE EDGE OF THE ROADWAY PAVEMENT AND PROPERTY LINE OR FRONT OF SIDEWALK SHALL BE OVERLAID USING 2-INCH THICK MINIMUM ASPHALTIC CONCRETE SURFACE COURSE WHERE INDICATED ON THE PLANS OR AS DIRECTED BY THE CITY/ENGINEER.

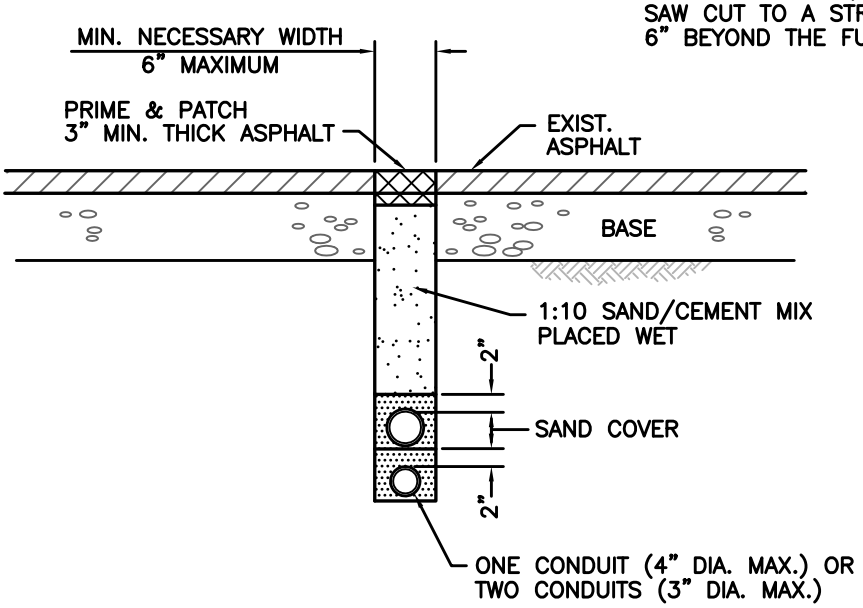
CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 11/06/2017
	DRAWN: EAM	FLEXIBLE PAVEMENT RESTORATION NOTES	DRAWING NO. G-12
	APPROVED: XXX		



CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 11/06/2017
	DRAWN: EAM	FLEXIBLE PAVEMENT RESTORATION FOR TRENCHES CUT PERPENDICULAR AND PARALLEL TO THE ROADWAY	DRAWING NO. G-12.1
	APPROVED: XXX		

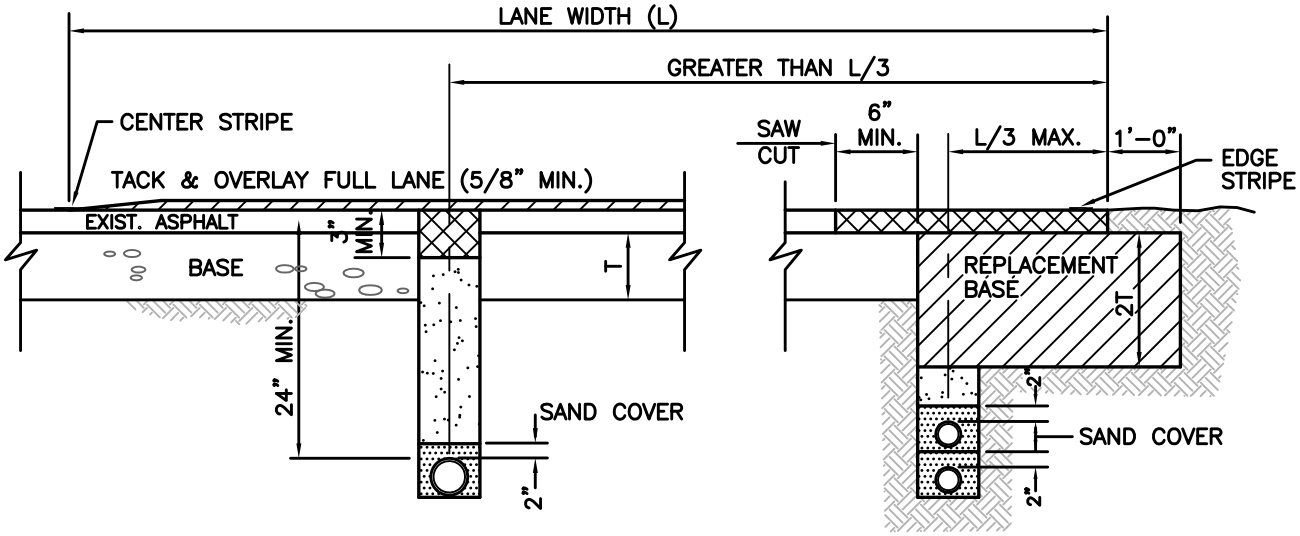
NOTE:

IF CRACKS APPEAR IN ASPHALT ADJACENT TO CUT, EDGES MUST BE SAW CUT TO A STRAIGHT LINE 6" BEYOND THE FURTHEST CRACK



DETAIL "A"

MINIMUM UTILITY CROSSING OF ROADWAY



DETAIL "B"

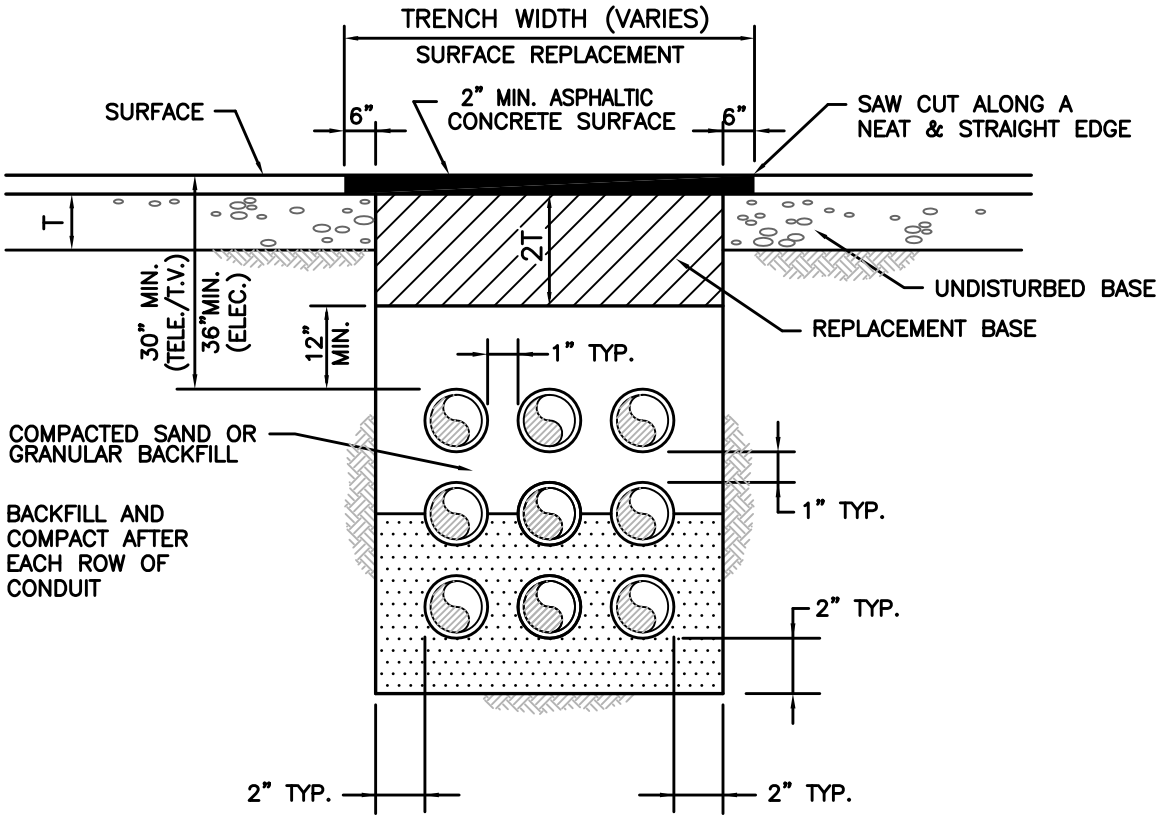
DETAIL "C"

MINIMUM PARALLEL UTILITY INSTALLATION

NOTE:

DETAILS NOT SHOWN SHALL BE AS PER DETAIL "A"

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	FLEXIBLE PAVEMENT RESTORATION FOR CONDUIT	DRAWING NO. G-12.2
	APPROVED: XXX		

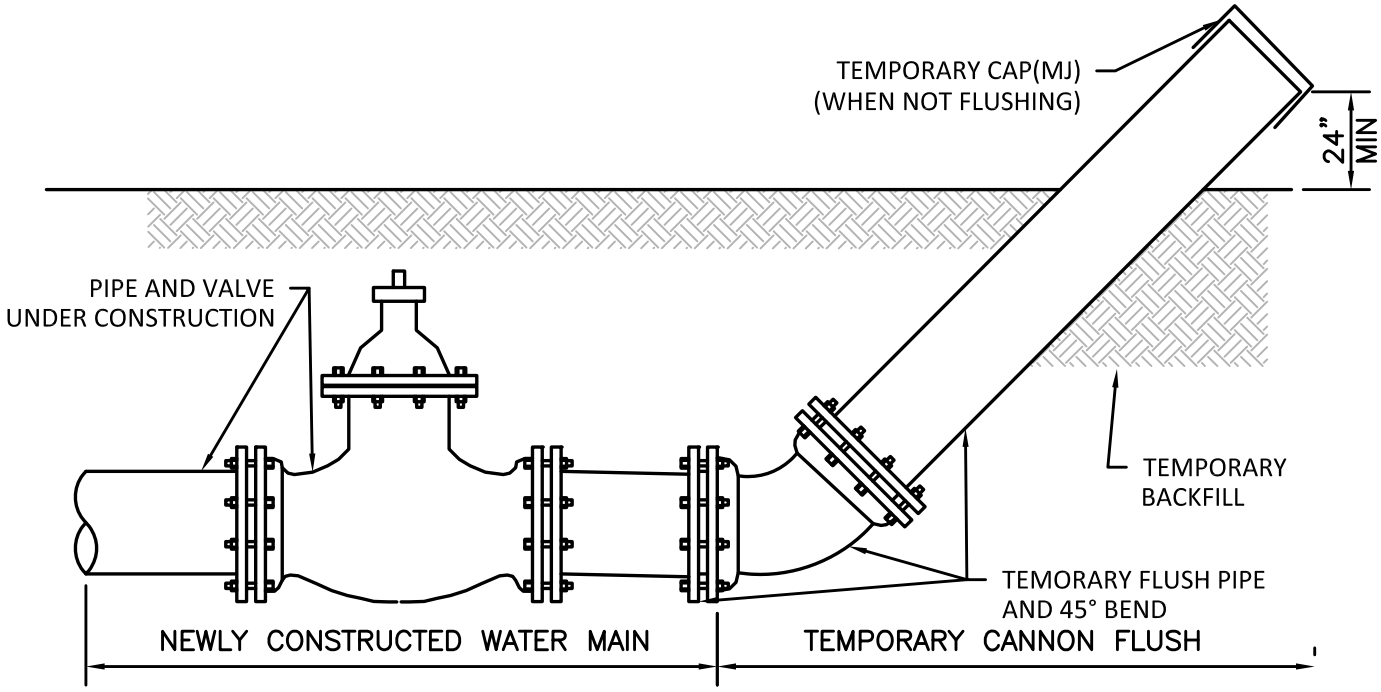


DETAIL "A"
(CROSSING ROADWAY)

NOTES:

1. REPLACED BASE MATERIAL OVER TRENCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE, MINIMUM 12", MAXIMUM 18".
2. BASE MATERIAL SHALL BE PLACED IN 6" MAXIMUM (LOOSE MEASUREMENT) LAYERS AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO 98% OF MAXIMUM DENSITY, PER AASHTO T-180.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE TREATED PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED.
5. SURFACE MATERIAL SHALL BE CONSISTENT WITH THE EXISTING SURFACE.
6. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 AND A MINIMUM CARBONATE CONTENT OF 70%.
7. IF THE TRENCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" ASPHALTIC CONCRETE PATCH TO KEEP THE FILL MATERIAL FROM RAVELING UNTIL REPLACED WITH A PERMANENT PATCH.
8. BACKFILL SHALL BE IN ACCORDANCE WITH DETAIL OF PIPE LAYING CONDITION TYPICAL SECTION, EXCEPT AS SHOWN ABOVE.

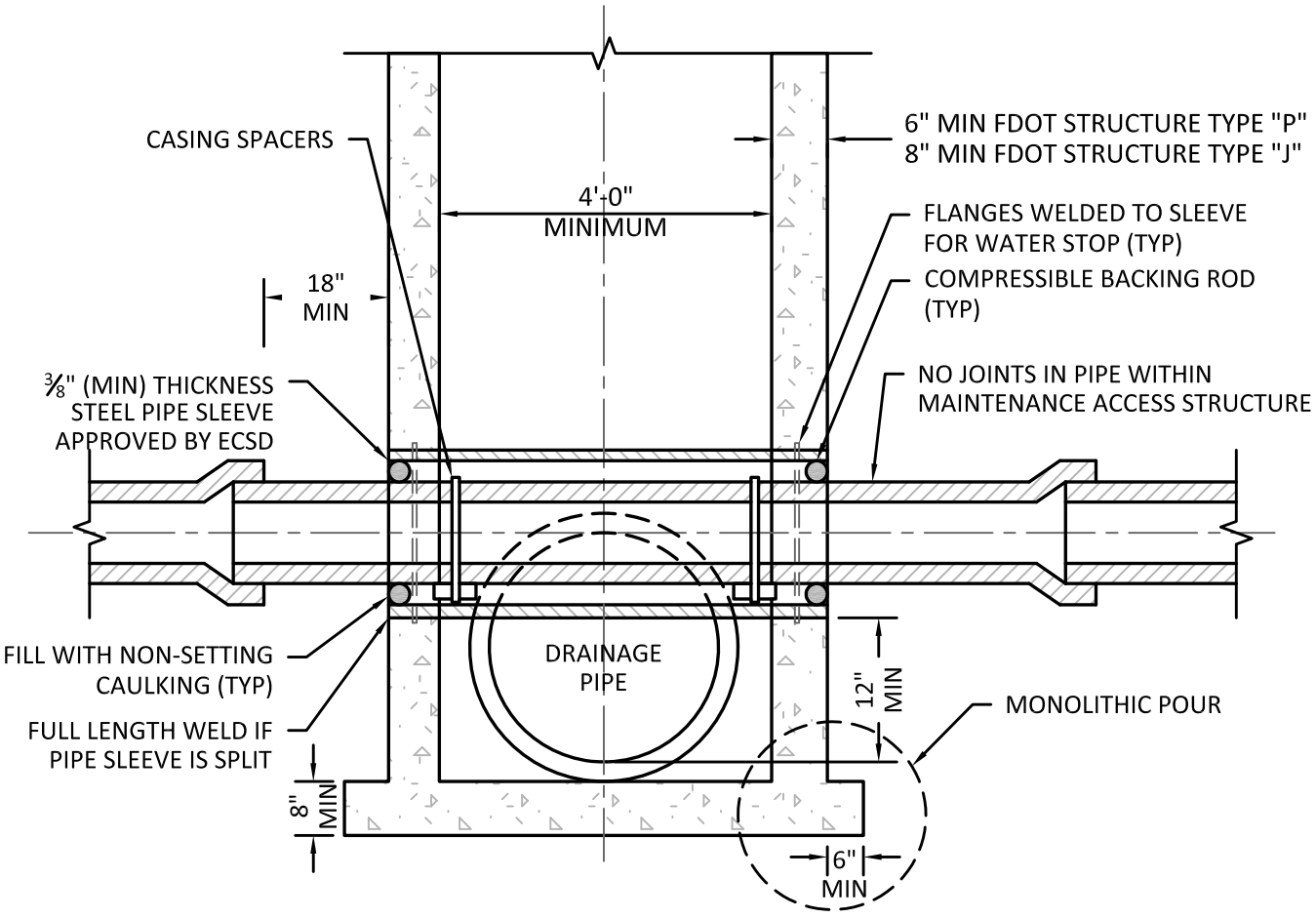
CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	FLEXIBLE PAVEMENT RESTORATION FOR DUCTBANKS	DRAWING NO. G-12.3
	APPROVED: XXX		



GENERAL NOTES:

1. FLUSHING LOCATIONS ARE TO BE PROPOSED BY CONTRACTOR AND APPROVED BY ECSD.
2. UPON COMPLETION OF THE PIPE INSTALLATION FOR ANY SECTION, THE MAIN SHALL BE CANNON FLUSHED TO REMOVE DIRT AND ANY OTHER FOREIGN MATTER.
3. INSTALL A TEMPORARY 45° BEND AND ASSOCIATED TEMPORARY 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 INFLICT PROPERTY DAMAGE.
4. BENDS AND PIPING SHALL BE THE SAME SIZE OR LARGER AS THE LINE BEING FLUSHED.
5. PRIOR TO THE ACTUAL LINE FLUSHING OPERATION THE CONTRACTOR SHALL PROPERLY NOTIFY ECSD INSPECTOR OF SUCH INTENDED WATER USE.
6. NO EXISTING VALVE SHALL BE OPERATED, EXCEPT BY AUTHORIZED CITY PERSONNEL.
7. FLUSHING SHALL NOT BE ACCOMPLISHED WITHOUT THE ACTUAL PRESENCE OF THE ECSD INSPECTOR.
8. AFTER THE LINE UNDER CONSTRUCTION HAS BEEN SUCCESSFULLY FLUSHED, THE CONTRACTOR SHALL REMOVE THE TEMPORARY PIPING ARRANGEMENT AND PROCEED WITH THE REMAINING CONSTRUCTION AS SPECIFIED.
9. ALL PIPING SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH CITY STANDARDS.
10. IF REQUIRED BY ECSD, WATER SHALL MAINS SHALL BE CLEANED BY PIGGING.
11. CONTRACTOR WILL INSTALL A PRESSURE GAUGE AT OR NEAR THE FILL AND FLUSH LOCATION AND MAINTAIN A MINIMUM PRESSURE OF 40 PSI AT ALL TIMES. THE FILL VALVE WILL BE OPENED AND CLOSED SLOWLY TO AVOID RAPID PRESSURE CHANGES IN THE WATER SYSTEM.
12. CONTRACTOR IS CAUTIONED THAT GOVERNING AGENCIES OR UTILITIES MAY HAVE REGULATIONS LIMITING OR PROHIBITING DISCHARGE INTO SEWERS, SURFACE WATERS, CANALS, DITCHES AND OTHER CONVEYANCES/RETENTION AREA. ALL COMPLIANCE WITH GOVERNING AGENCIES REQUIREMENTS (INCLUDING PERMITTING, IF REQUIRED) IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
13. CANNON FLUSHING TO PROCEED AFTER HEALTH DEPARTMENT CLEARANCE IS RECEIVED.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	CANNON FLUSHING	DRAWING NO. G-13
	APPROVED: XXX		



NOTES:

1. ALL CONFLICT MAINTENANCE ACCESS STRUCTURE SHALL CONFORM TO THE DETAILS SHOWN ON THIS DRAWING, AND TO THE REQUIREMENTS OF ASTM C-478 AND BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION'S "MINIMUM STANDARDS", LATEST EDITION.
2. POTABLE WATER PIPE SHALL NOT PASS THROUGH OR CONTACT STORM DRAINAGE MAINTENANCE ACCESS STRUCTURE WITHOUT WRITTEN PERMISSION OF ECSD.
3. POTABLE WATER PIPE SHALL NOT PASS THROUGH OR CONTACT SANITARY SEWER MAINTENANCE ACCESS STRUCTURE.
4. MINIMUM TWO (2) FOOT CLEARANCE REQUIRED BETWEEN OUTSIDE OF SLEEVE AND PARALLEL WALL.
5. CONFLICT STRUCTURE TO COMPLY WITH REQUIREMENTS OF CHAPTER 62-555.314 (FAC).

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	CONFLICT MAINTENANCE ACCESS STRUCTURE	DRAWING NO. G-14
	APPROVED: XXX		

SEWER NOTES:

1. THE MINIMUM DEPTH OF COVER OVER D.I.P. SANITARY SEWER GRAVITY OR FORCE MAINS IS 30". THE MINIMUM DEPTH OF COVER OVER PVC SANITARY SEWER OR FORCE MAINS IS 36".

2. ALL CONNECTIONS TO EXISTING MAINS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3. LEAKAGE TESTS AND ALIGNMENT (LAMPING) TESTS SHALL BE PERFORMED ON ALL NEW SEWER LINES UP TO THE CONNECTION POINT WITH THE EXISTING SEWER SYSTEM. THESE TESTS SHALL BE REQUESTED AND PAID FOR BY THE CONTRACTOR.

4. LAMPING TESTS SHALL BE PERFORMED ON GRAVITY SEWERS FROM MANHOLE TO MANHOLE UP TO AND INCLUDING THE POINT OF CONNECTION TO THE EXISTING SEWER SYSTEM.

5. LEAKAGE TESTS SHALL BE PERFORMED ON ALL SEGMENTS OF A GRAVITY SEWER SYSTEM, INCLUDING SERVICE LATERALS AND MANHOLES, FOR A CONTINUOUS PERIOD OF NO LESS THAN 2 HOURS. AT THE END OF THE TEST, THE TOTAL MEASURED LEAKAGE SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM, WITH ZERO ALLOWABLE LEAKAGE FOR LATERALS AND MANHOLES. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET ON THE SECTION BEING TESTED.

6. FORCE MAINS SHALL BE PRESSURE-TESTED IN ACCORDANCE WITH RULE 62-555.330 (FAC). THE PRESSURE TEST SHALL CONSIST OF HOLDING A TEST PRESSURE OF 150 PSI ON THE PIPELINE FOR A CONTINUOUS PERIOD OF 2 HOURS THE MAXIMUM ALLOWABLE LEAKAGE SHALL BE DETERMINED BY THE FOLLOWING FORMULA:

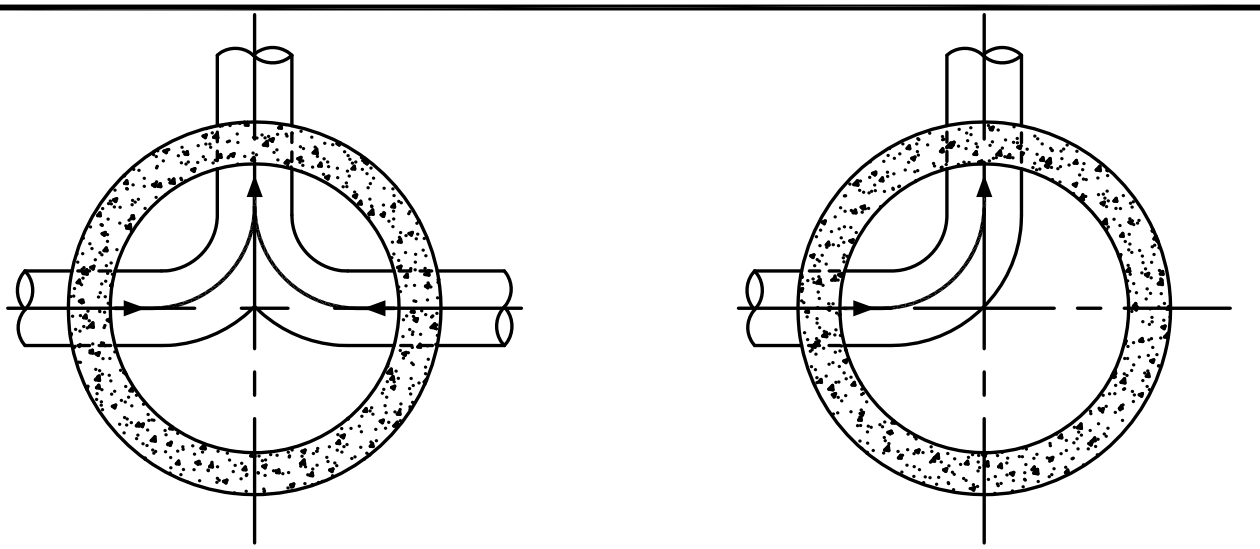
$$\frac{L = S \times D \times \sqrt{P}}{148{,}000}$$

WHERE:
L = ALLOWABLE LEAKAGE FOR SYSTEM IN GALLONS PER HOUR
D = PIPE DIAMETER IN INCHES
S = LENGTH OF LINES IN LINEAL FEET
P = AVERAGE TEST PRESSURE IN PSI

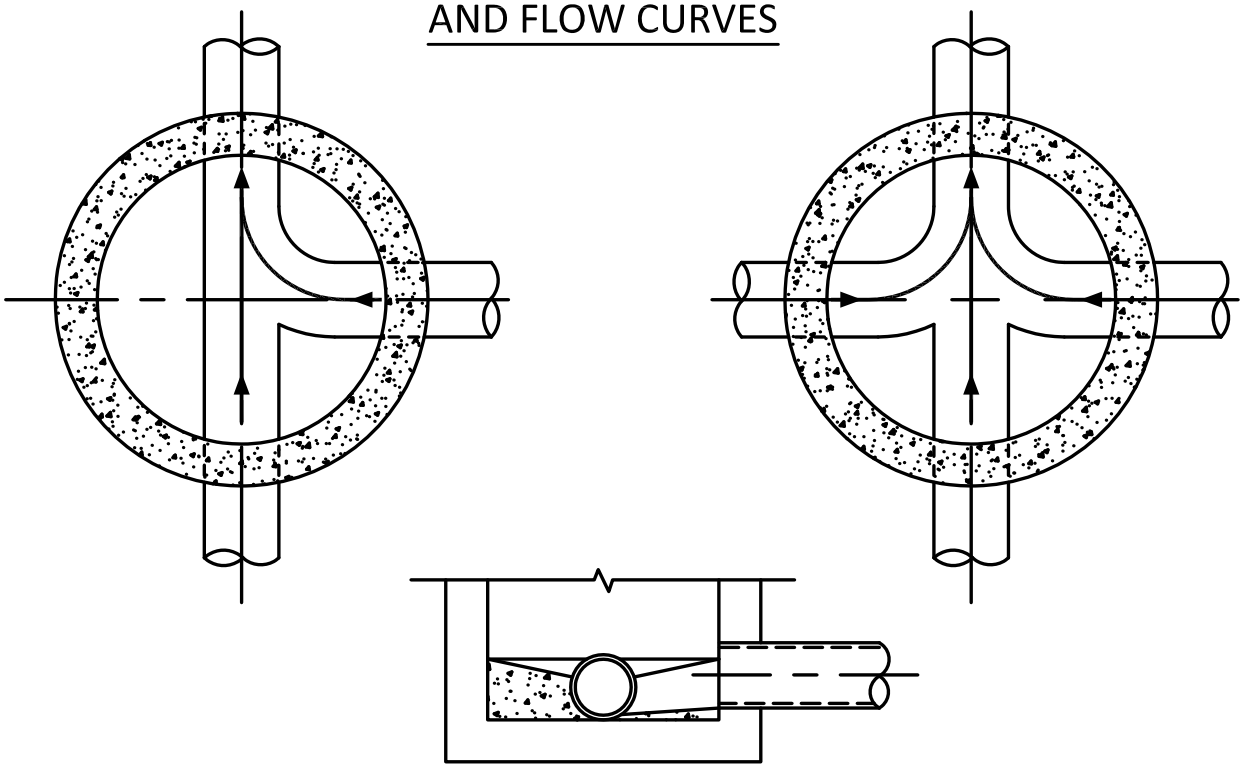
7. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTYFYING CONFLICTS WITH FORCE MAINS PLACED AT MINIMUM COVER. IN CASE OF CONFLICT, FORCE MAIN SHALL BE LOWERED TO PASS UNDER CONFLICTS WITH 12" MINIMUM SEPARATION FROM WATER MAINS AND 6" MINIMUM SEPARATION FROM OTHER UTILITIES. NO ADDITIONAL PAYMENT SHALL BE DUE TO CONTRACTOR FOR LOWERING THE MAIN OR THE ADDITIONAL FITTINGS USED THEREON.

8. WHENEVER IT IS NECESSARY, IN THE INTEREST OF SAFETY, TO BRACE THE SIDES OF A TRENCH, THE CONTRACTOR SHALL FURNISH, PUT IN PLACE AND MAINTAIN SUCH SHEETING OR BRACING AS MAY BE NECESSARY TO SUPPORT THE SIDES OF THE EXCAVATION TO ENSURE PERSONNEL SAFETY, AND TO PREVENT MOVEMENT WHICH CAN IN ANY WAY DAMAGE THE WORK OR ENDANGER ADJACENT STRUCTURES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SEQUENCE, METHODS AND MEANS OF CONSTRUCTION, AND FOR THE IMPLEMENTATION OF ALL OSHA AND OTHER SAFETY REQUIREMENTS.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	SANITARY SEWER MAIN CONSTRUCTION NOTES	DRAWING NO. S-01
	APPROVED: XXX		



PLAN OF BOTTOM
AND FLOW CURVES

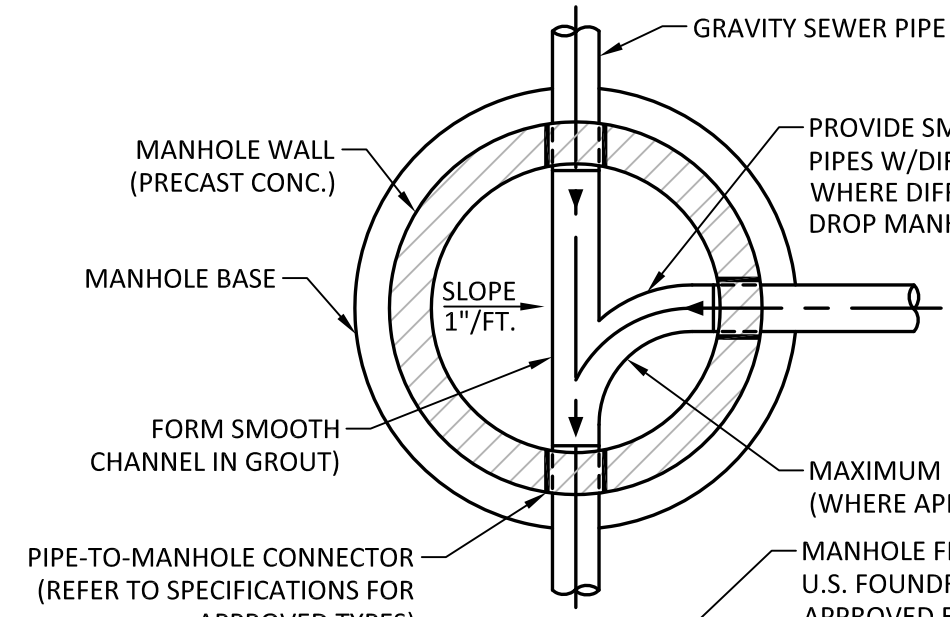


TYPICAL SECTION

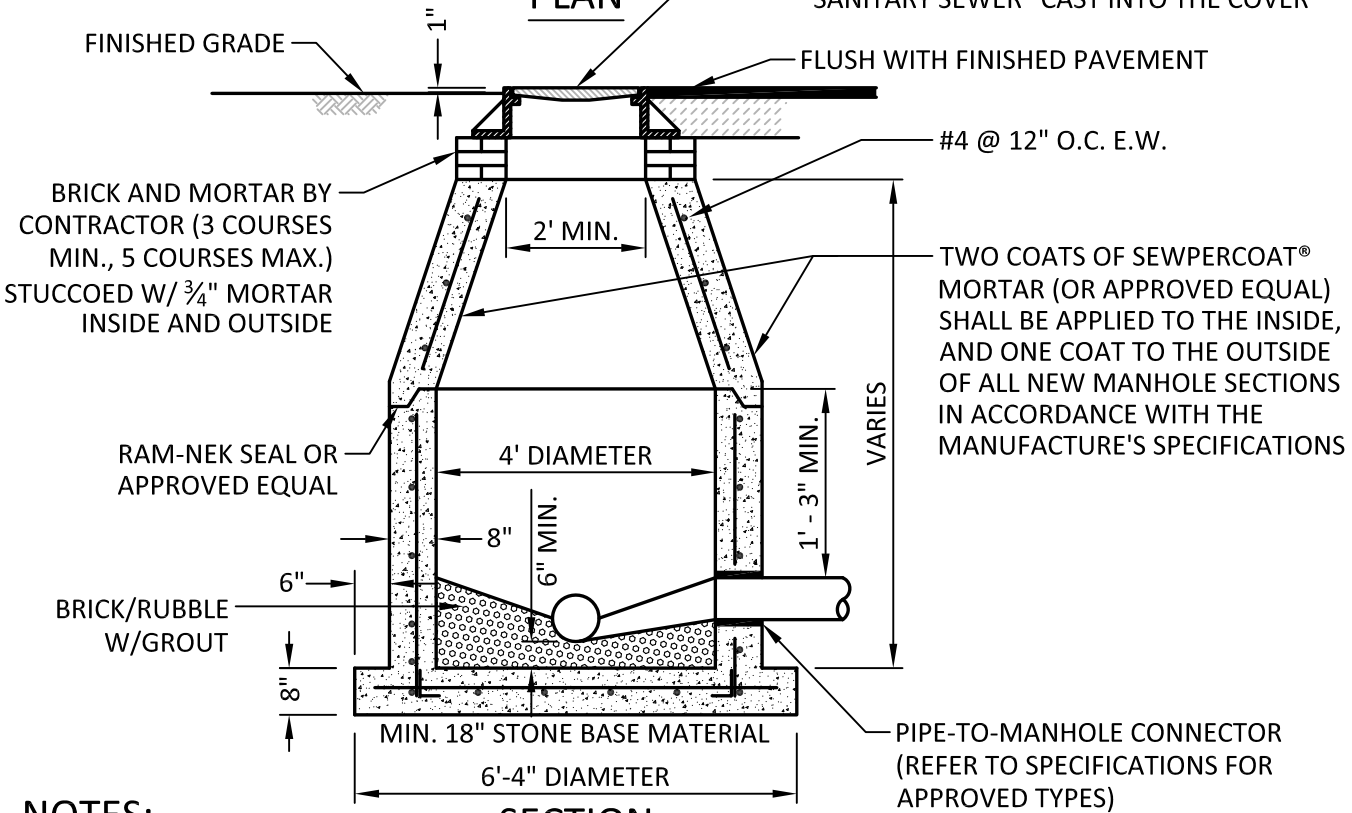
NOTES:

1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING SMOOTH FLOWS.
3. CHANNELS FOR FUTURE CONNECTIONS (STUBS) SHALL BE CONSTRUCTED FILLED WITH SAND & COVERED WITH 1" OF MORTAR.
4. WHEN FLOW LINE DEFLECTS MORE THAN 45°, A DROP OF 0.10' IS REQUIRED.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	MANHOLE FLOW PATTERNS	DRAWING NO. S-02
	APPROVED: XXX		



PLAN

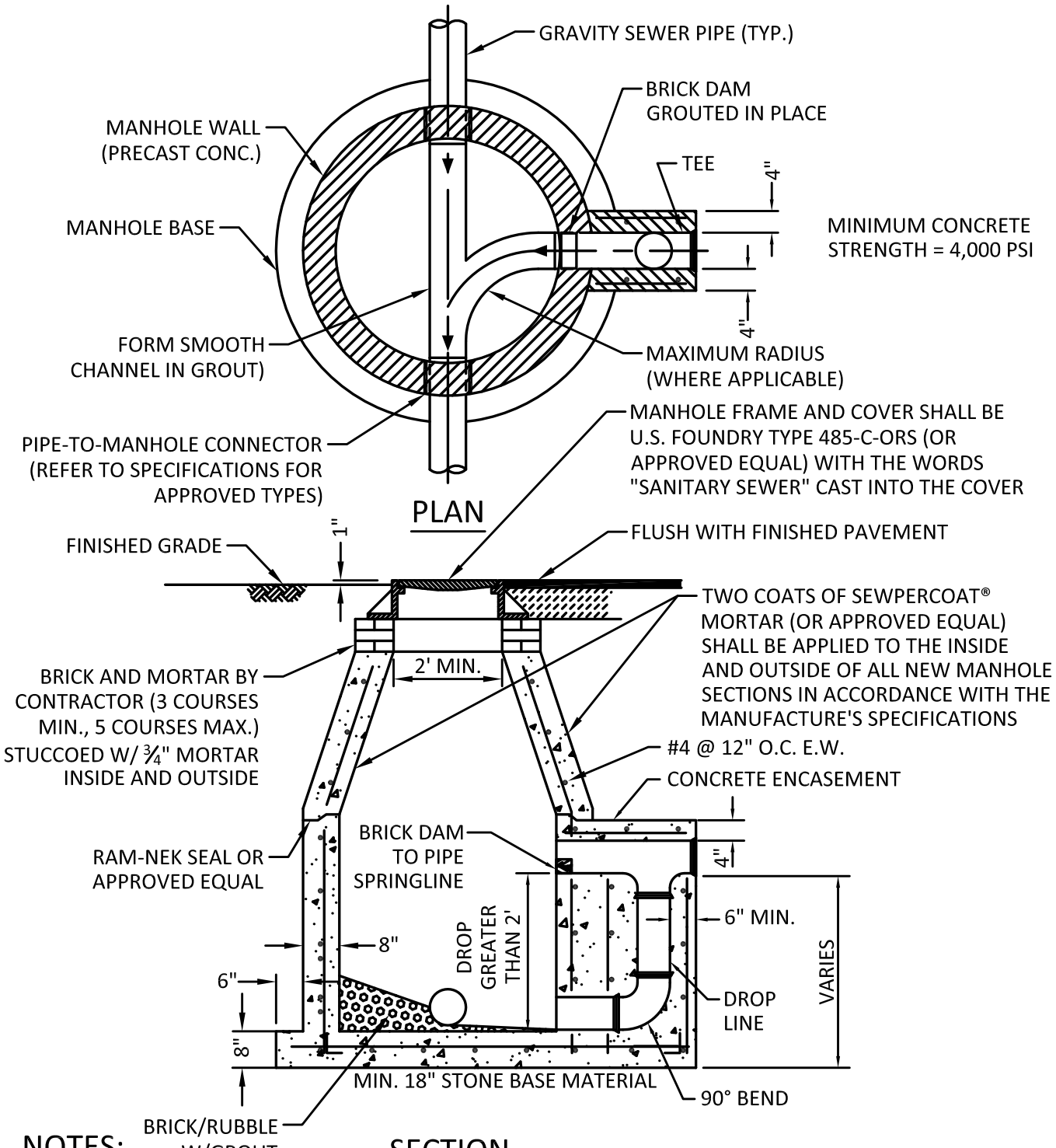


SECTION

NOTES:

1. SHOP DRAWINGS SHOWING ALL DIMENSIONS, INCLUDING CONCRETE REINFORCEMENT AND BUOYANCY, SHALL BE SUBMITTED TO THE CITY PRIOR TO INSTALLATION.
2. THE BOTTOM SLAB SHALL BE CAST MONOLITHICALLY WITH THE LOWER WALL SECTION TO A MINIMUM OF 3' ABOVE SLAB BASE.
3. NO CONSTRUCTION JOINTS ARE ALLOWED BELOW ELEVATION +2.00 NAVD. ABOVE ELEVATION +2.00 NAVD CONSTRUCTION JOINTS ARE ALLOWED, IF ADEQUATE JOINTS WITH KEY-WAYS AND WATER STOPS ARE PROVIDED. SUBMIT SHOP DRAWINGS OF JOINT DETAILS TO THE ENGINEER FOR APPROVAL.

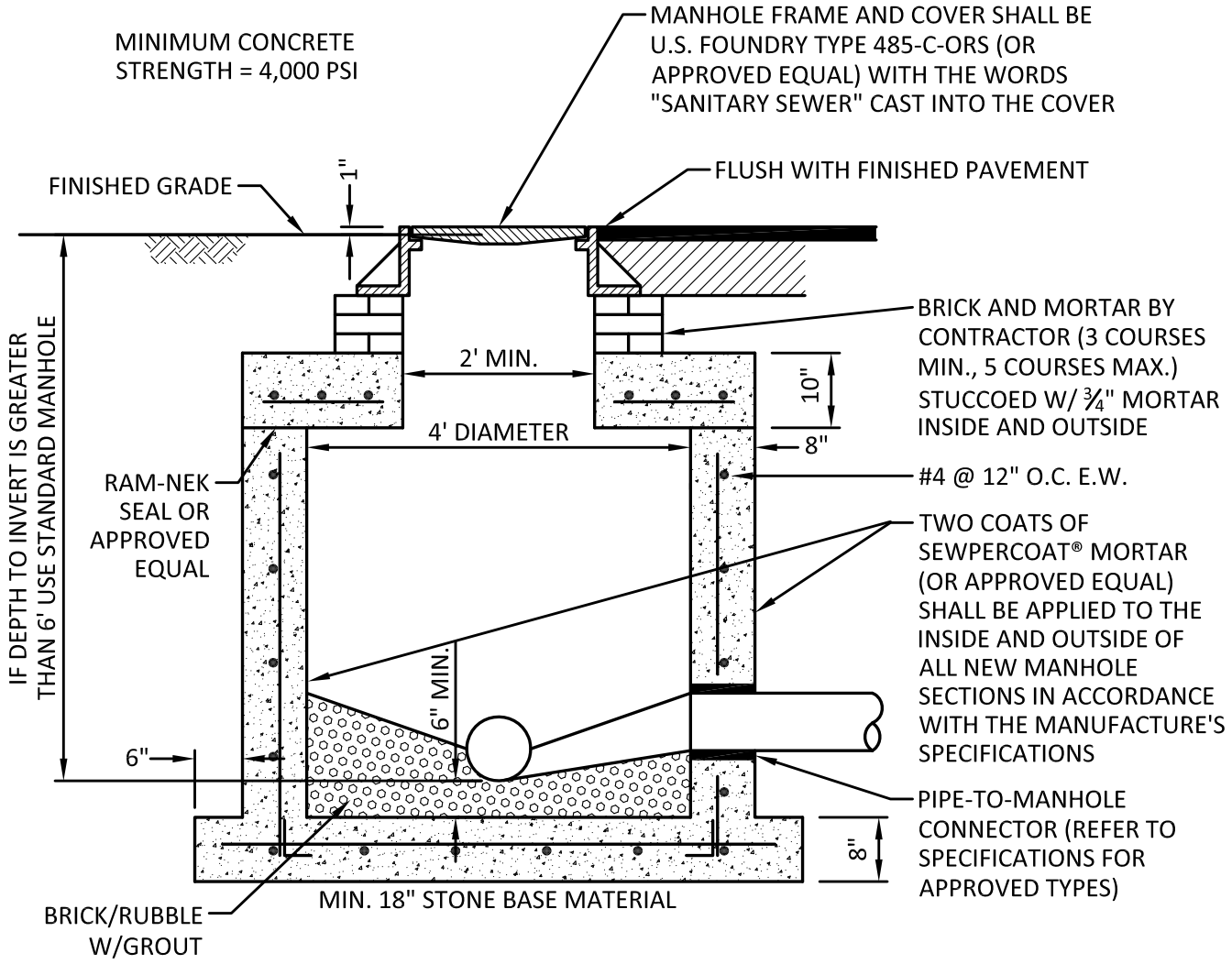
CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 07/18/2018
	DRAWN: EAM	STANDARD PRECAST MANHOLE	DRAWING NO. S-03
	APPROVED: XXX		



NOTES:

1. SHOP DRAWINGS SHOWING ALL DIMENSIONS, INCLUDING CONCRETE REINFORCEMENT AND BUOYANCY, SHALL BE SUBMITTED TO THE CITY PRIOR TO INSTALLATION.
2. THE BOTTOM SLAB SHALL BE CAST MONOLITHICALLY WITH THE LOWER WALL SECTION TO A MINIMUM OF 3' ABOVE SLAB BASE.
3. NO CONSTRUCTION JOINTS ARE ALLOWED BELOW ELEVATION +2.00 NAVD. ABOVE ELEVATION +2.00 NAVD CONSTRUCTION JOINTS ARE ALLOWED, IF ADEQUATE JOINTS WITH KEY-WAYS AND WATER STOPS ARE PROVIDED. SUBMIT SHOP DRAWINGS OF JOINT DETAILS TO THE ENGINEER FOR APPROVAL.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 07/18/2018
	DRAWN: EAM	DROP MANHOLE	DRAWING NO. S-04
	APPROVED: XXX		

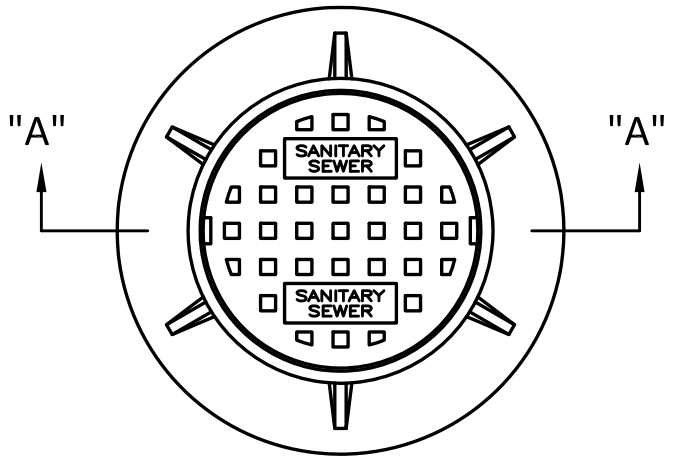


SECTION

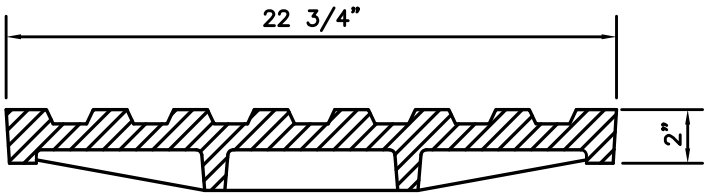
NOTES:

1. SHOP DRAWINGS SHOWING ALL DIMENSIONS, INCLUDING CONCRETE REINFORCEMENT AND BUOYANCY, SHALL BE SUBMITTED TO THE CITY PRIOR TO INSTALLATION.
2. THE BOTTOM SLAB SHALL BE CAST MONOLITHICALLY WITH THE LOWER WALL SECTION TO A MINIMUM OF 3' ABOVE SLAB BASE.
3. NO CONSTRUCTION JOINTS ARE ALLOWED BELOW ELEVATION +2.00 NAVD. ABOVE ELEVATION +2.00 NAVD CONSTRUCTION JOINTS ARE ALLOWED, IF ADEQUATE JOINTS WITH KEY-WAYS AND WATER STOPS ARE PROVIDED. SUBMIT SHOP DRAWINGS OF JOINT DETAILS TO THE ENGINEER FOR APPROVAL.

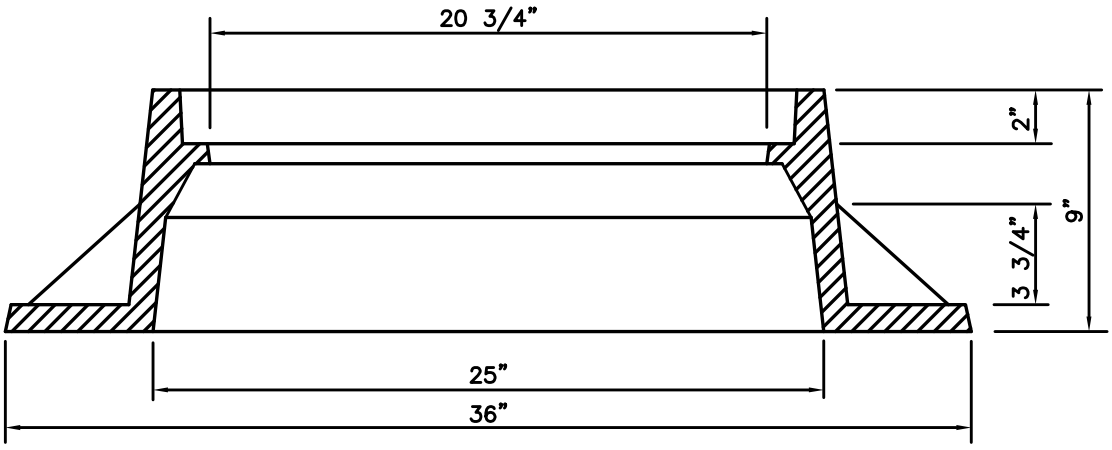
CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 07/18/2018
	DRAWN: EAM	SHALLOW MANHOLE	DRAWING NO. S-05
	APPROVED: XXX		



PLAN



COVER SECTION "A-A"



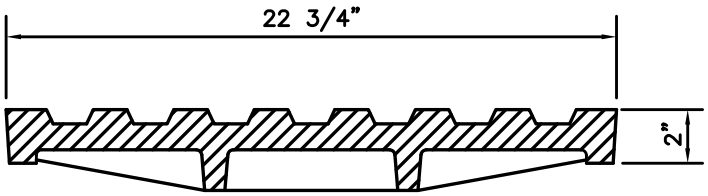
FRAME SECTION "A-A"

NOTES:

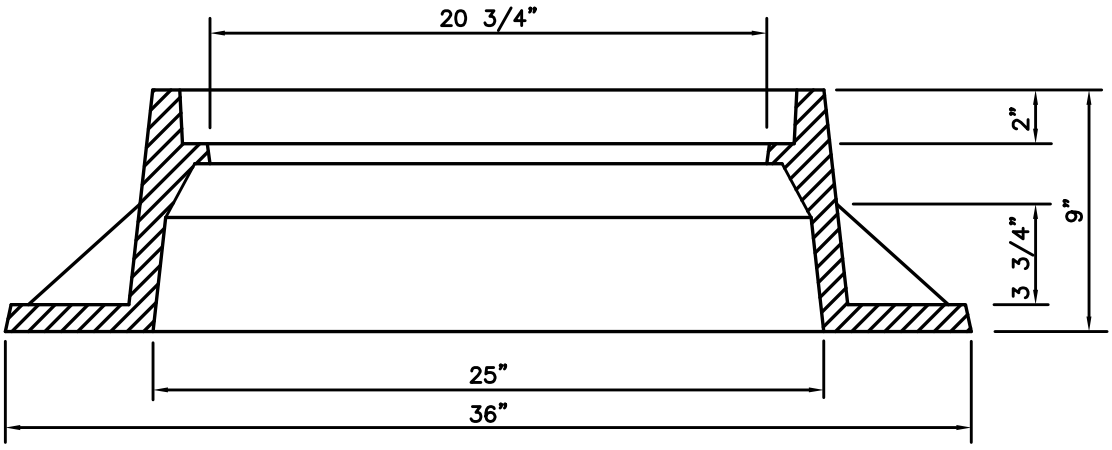
1. LETTERS ON COVER TO BE 3/8" HIGH, 1/4" TO 5/16" THICK AND FLUSH WITH TOP OF COVER.
2. ALL BEARING SURFACES TO BE MACHINED.
3. MINIMUM WEIGHTS: COVER - 160 LBS., TOTAL - 400 LBS.
4. MANHOLE FRAME AND COVER SHALL BE U.S. FOUNDRY 485-C-ORS WITH THE WORDS "SANITARY SEWER" CAST INTO THE COVER.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	MANHOLE FRAME AND COVER	DRAWING NO. S-06
	APPROVED: XXX		

PLAN



COVER SECTION "A-A"

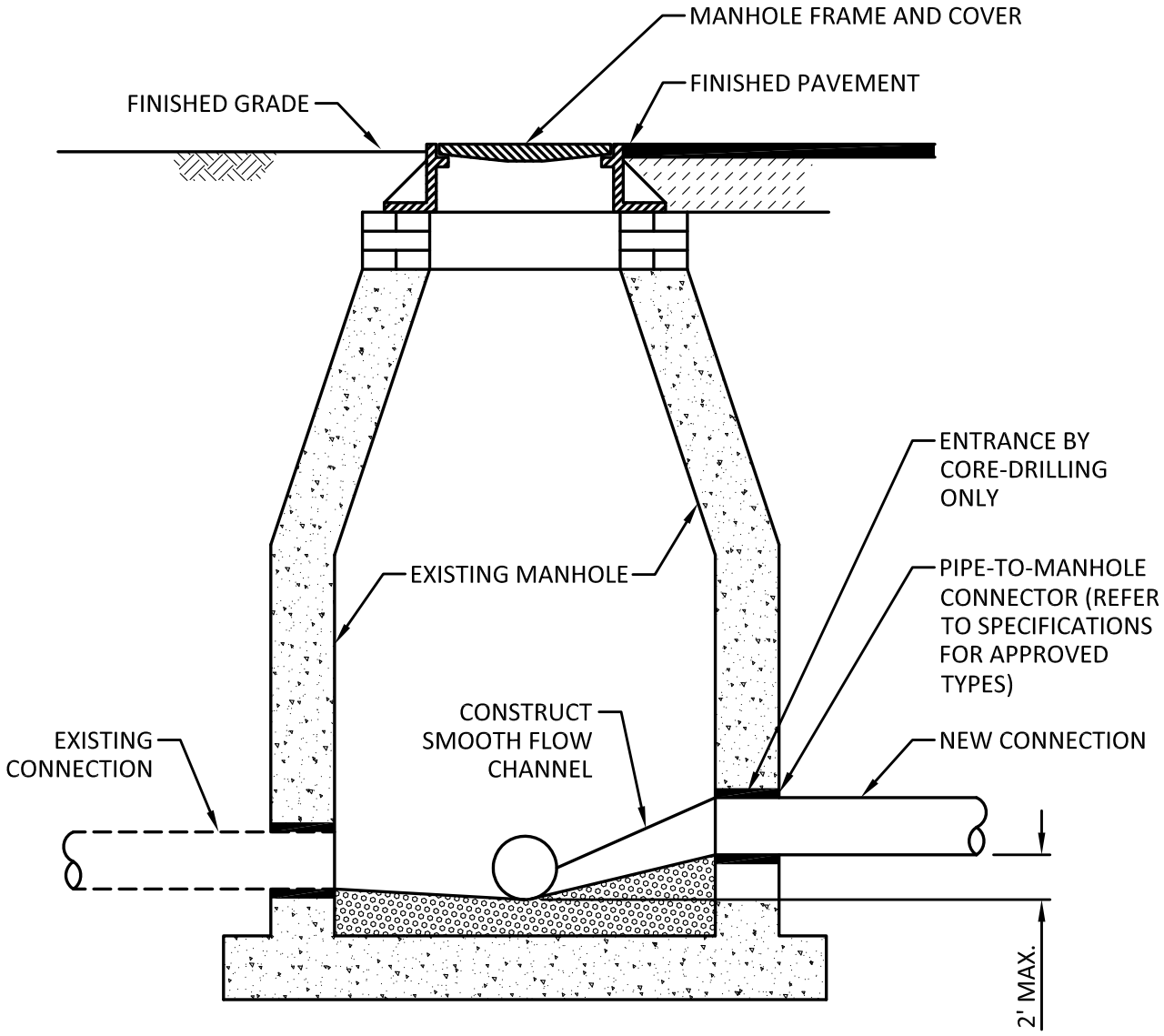


FRAME SECTION "A-A"

NOTES:

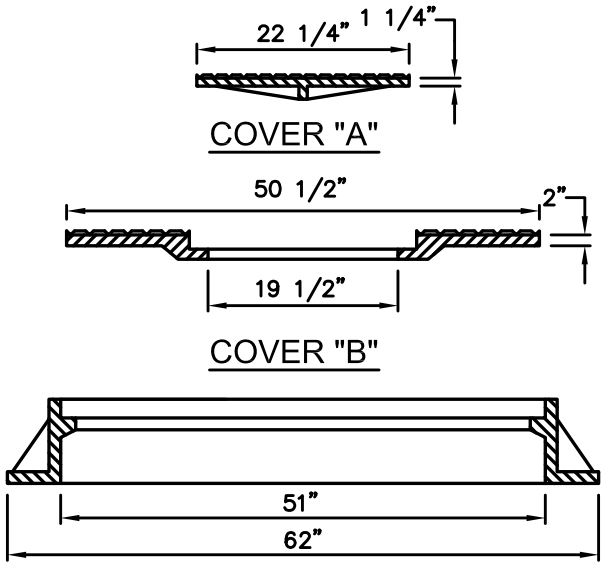
1. LETTERS ON COVER TO BE 3/8" HIGH, 1/4" TO 5/16" THICK AND FLUSH WITH TOP OF COVER.
2. ALL BEARING SURFACES TO BE MACHINED.
3. MINIMUM WEIGHTS: COVER - 160 LBS., TOTAL - 400 LBS.
4. MANHOLE FRAME AND COVER SHALL BE U.S. FOUNDRY 485-C-ORS TYPE EL, WITH THE WORDS "SANITARY SEWER" CAST INTO THE COVER.

	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	MANHOLE FRAME AND COVER CITY OF HOLLYWOOD	DRAWING NO. S-06.1
	APPROVED: XXX		



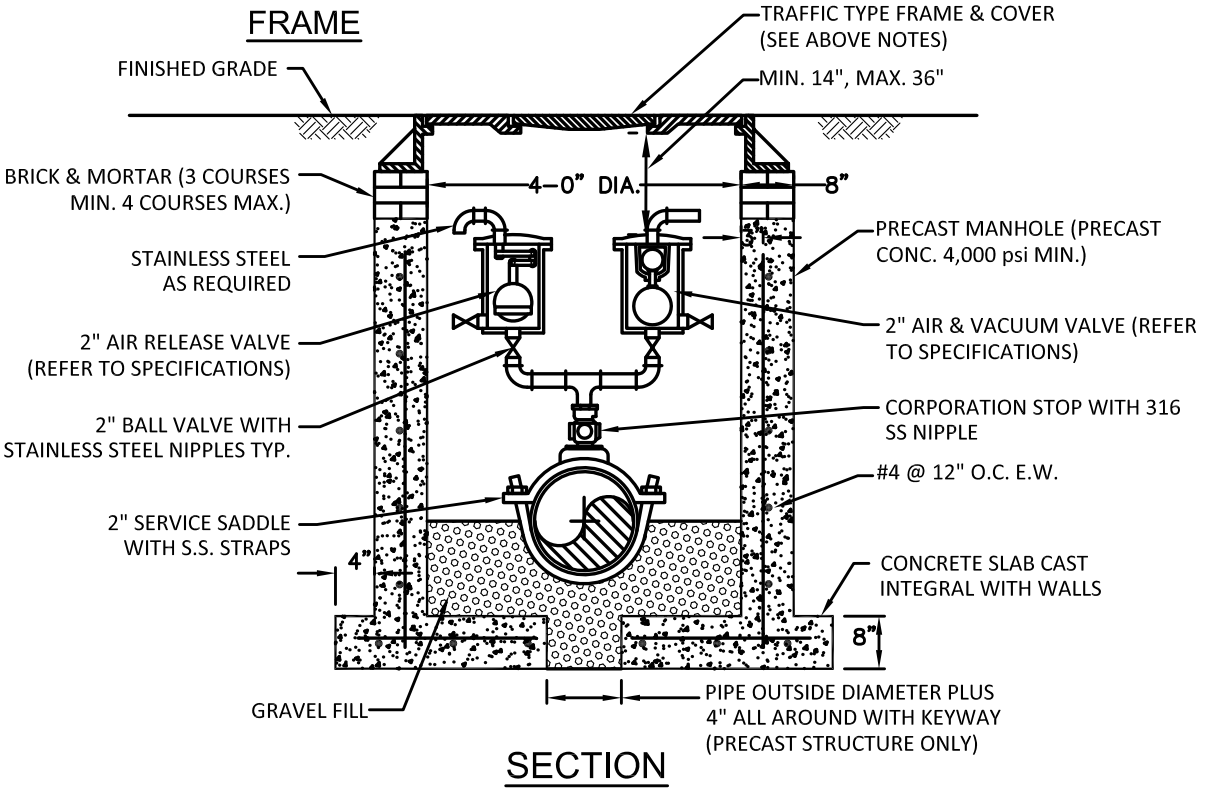
SECTION

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	NEW CONNECTION TO EXISTING MANHOLE	DRAWING NO. S-07
	APPROVED: XXX		



FRAME AND COVER NOTES:

1. AIR RELEASE VALVE MANHOLE COVERS AND FRAMES SHALL BE U.S. FOUNDRY TYPE 1341 RING WITH AG-M COVER, OR APPROVED EQUAL.
2. COVER "A" SHALL HAVE TWO ADJUSTABLE CAMLOCKS FOR SECURING IT TO COVER "B", AND FOUR 1"-DIAMETER VENT HOLES TO PREVENT UPLIFT DURING SUDDEN BURSTS OF AIR.
3. THE COVERS SHALL BE CAST LABELED "AIR RELEASE".
1. PROVIDE H-20 TRAFFIC BEARING FRAME AND COVER WITHIN TRAFFIC LANES OR SWALES ADJACENT TO ROADWAY.
2. ALL BEARING SURFACES TO BE MACHINED
3. MINIMUM WEIGHT 1840 LBS.
4. PICK HOLE COVERS "A" & "B".

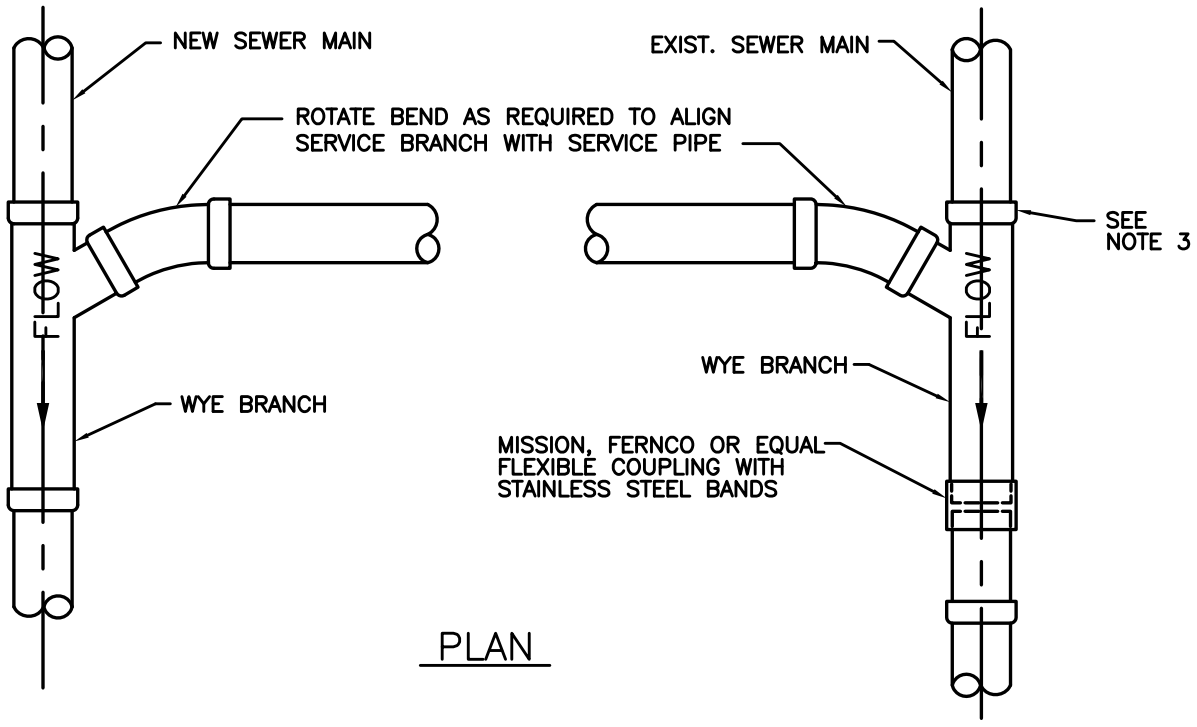


SECTION

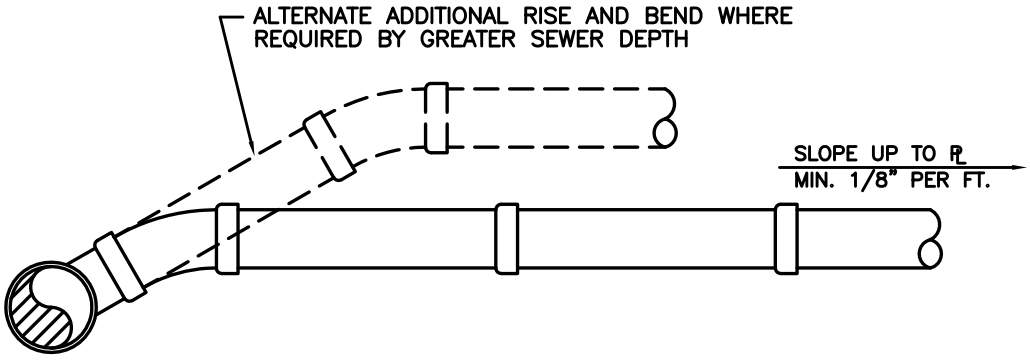
NOTES:

1. BRICK MASONRY TO BE STUCCOED WITH 1/2" MORTAR INSIDE AND OUTSIDE.
2. MANHOLE WALLS TO BE COATED INSIDE AND OUTSIDE WITH 16 MIL THICKNESS APPROVED COATING.
3. ALL OPENINGS AROUND PIPE SHALL BE SEALED WITH WATERPROOF, EXPANDING GROUT.
4. ACTUAL LOCATION AND MANHOLE FRAME ELEVATION SHALL BE AS INDICATED ON THE PLANS.
5. SHOP DRAWINGS SHALL BE SUBMITTED BY CONTRACTOR TO THE CITY PRIOR TO INSTALLATION. SHOP DRAWINGS TO SHOW DIMENSIONS, AND CONCRETE REINFORCEMENT.
6. AIR RELEASE VALVES SHALL BE INSTALLED AT LOCATIONS RECOMMENDED BY SECTION 49.2 OF THE "RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES" (RSWF).

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 07/25/2018
	DRAWN: EAM	AUTOMATIC AIR RELEASE VALVE (A.R.V.) AND MANHOLE	DRAWING NO. S-08
	APPROVED: XXX		



PLAN

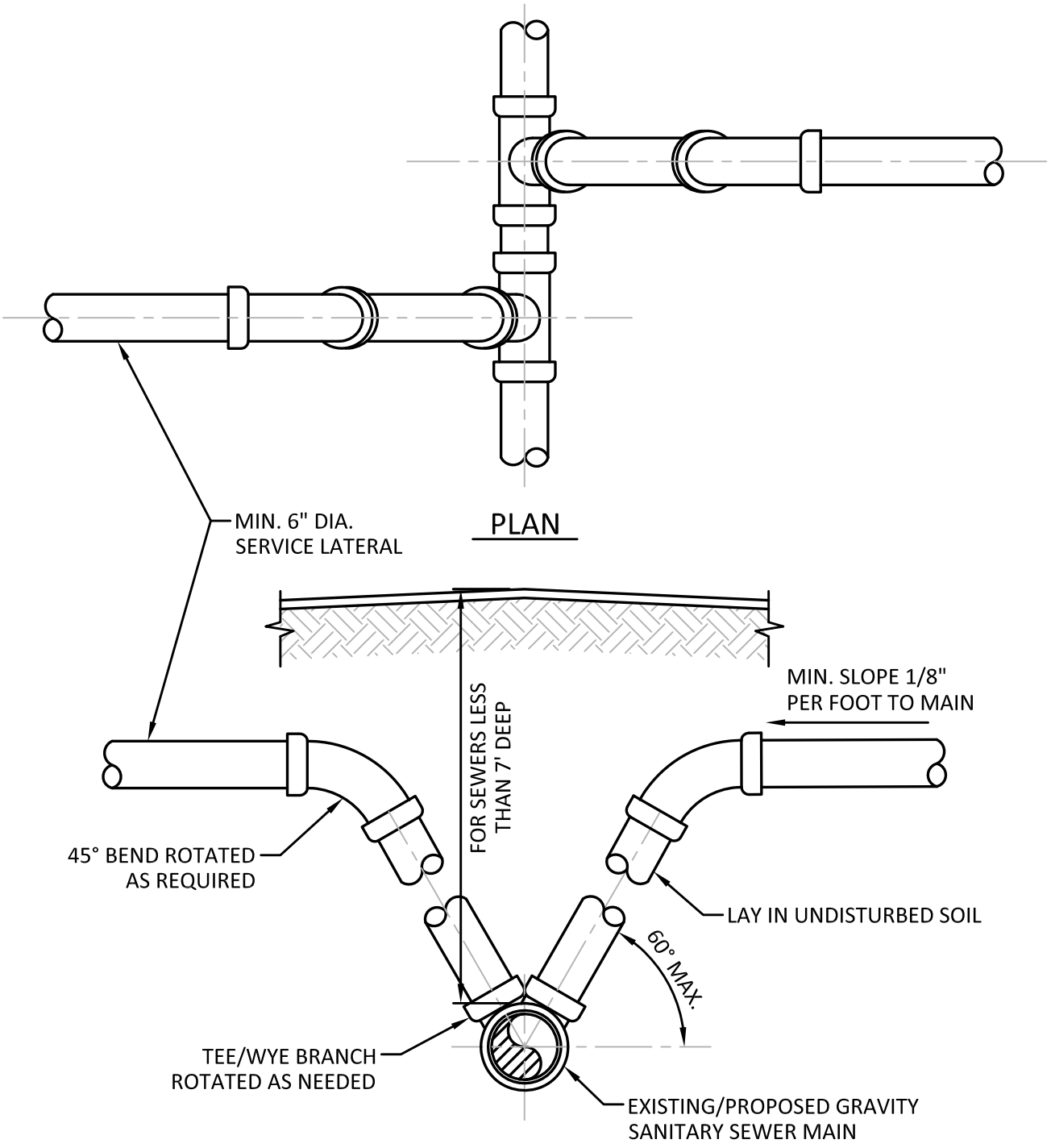


ELEVATION

NOTES:

1. SINGLE SERVICE CONNECTIONS SHALL USE 6" PIPE AND FITTINGS.
2. USE RISER CONNECTIONS WHERE INVERT OF SEWER IS GREATER THAN 7'-0" DEEP.
3. WHERE BELL OF WYE AND SPIGOT OF EXISTING MAIN ARE NOT COMPATIBLE, USE A SECOND FLEXIBLE COUPLING.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	WYE BRANCH CONNECTION	DRAWING NO. S-09
	APPROVED: XXX		

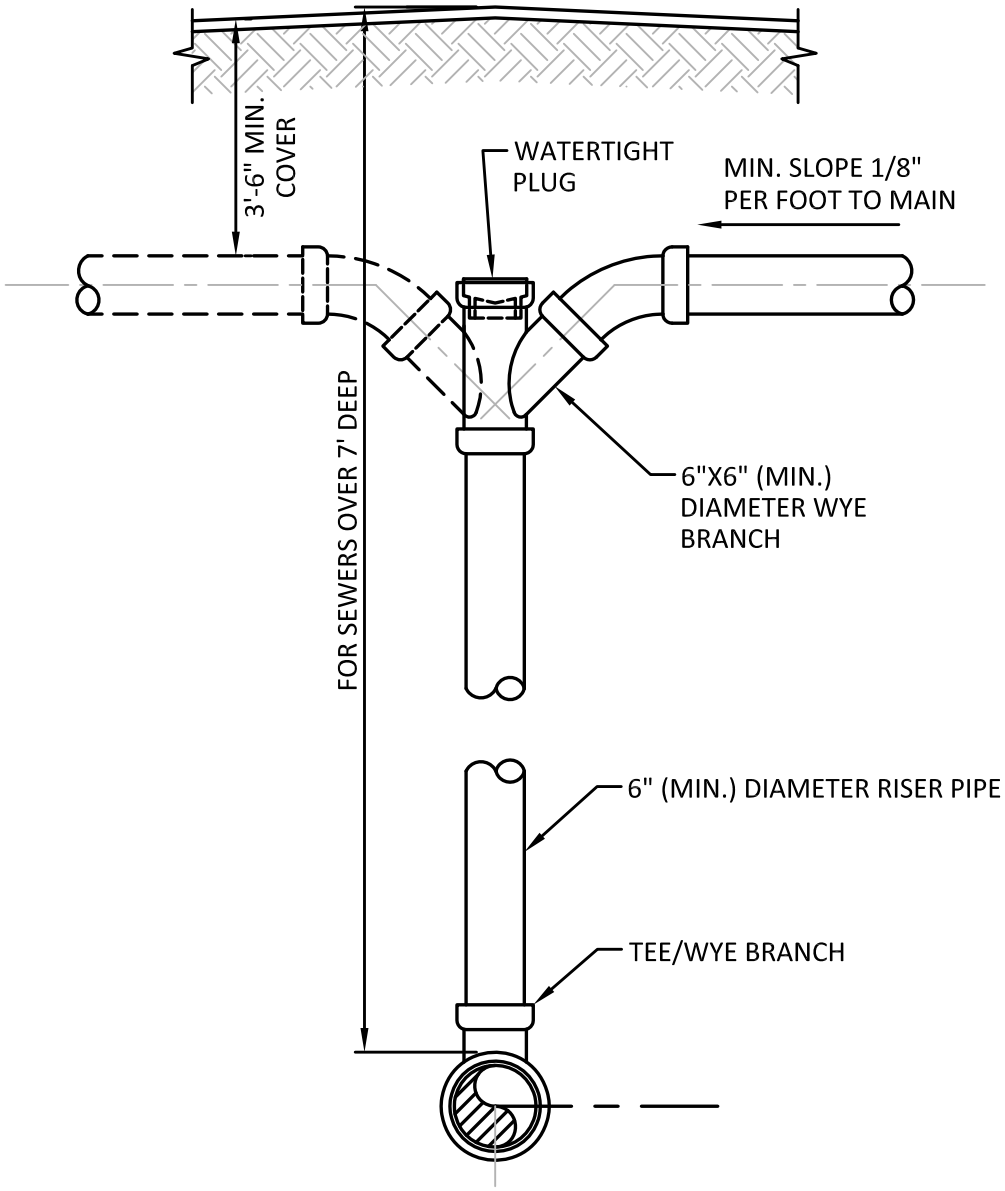


FRONT ELEVATION

NOTES:

1. MODIFIED RISER CONNECTION TO BE USED ONLY WHEN DIRECTED BY THE CITY.
2. NO. 57 ROCK OR ¾" DRAINFIELD LIMEROCK MAY BE USED AS BEDDING OVER UNDISTURBED SOIL WITH PVC PIPE.
3. SINGLE SERVICE CONNECTIONS SHALL USE 6" (MIN.) DIAMETER PIPE AND FITTINGS.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	SANITARY SEWER LATERAL MODIFIED RISER	DRAWING NO. S-10
	APPROVED: XXX		

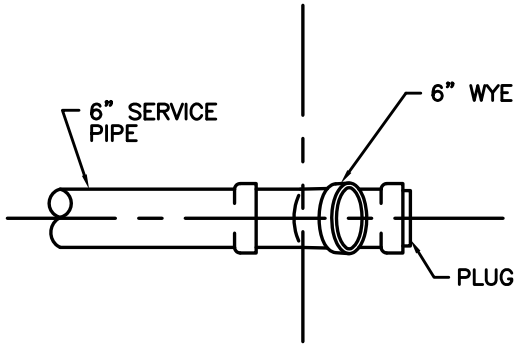


FRONT ELEVATION

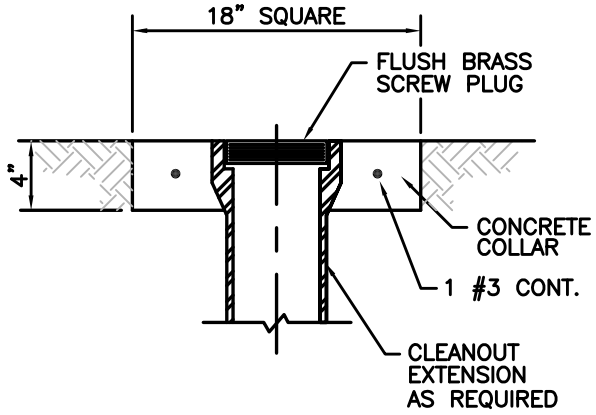
NOTES:

1. RISER CONNECTION TO BE USED ONLY WHEN SANITARY SEWER IS MORE THAN 7'-0" DEEP OR WHEN DIRECTED BY THE CITY.
2. NO. 57 ROCK OR ¾" DRAINFIELD LIMEROCK MAY BE USED AS BEDDING OVER UNDISTURBED SOIL WITH PVC PIPE.
3. SINGLE SERVICE CONNECTIONS SHALL USE 6" (MIN.) DIAMETER PIPE AND FITTINGS.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	SANITARY SEWER LATERAL VERTICAL RISER	DRAWING NO. S-11
	APPROVED: XXX		



PLAN



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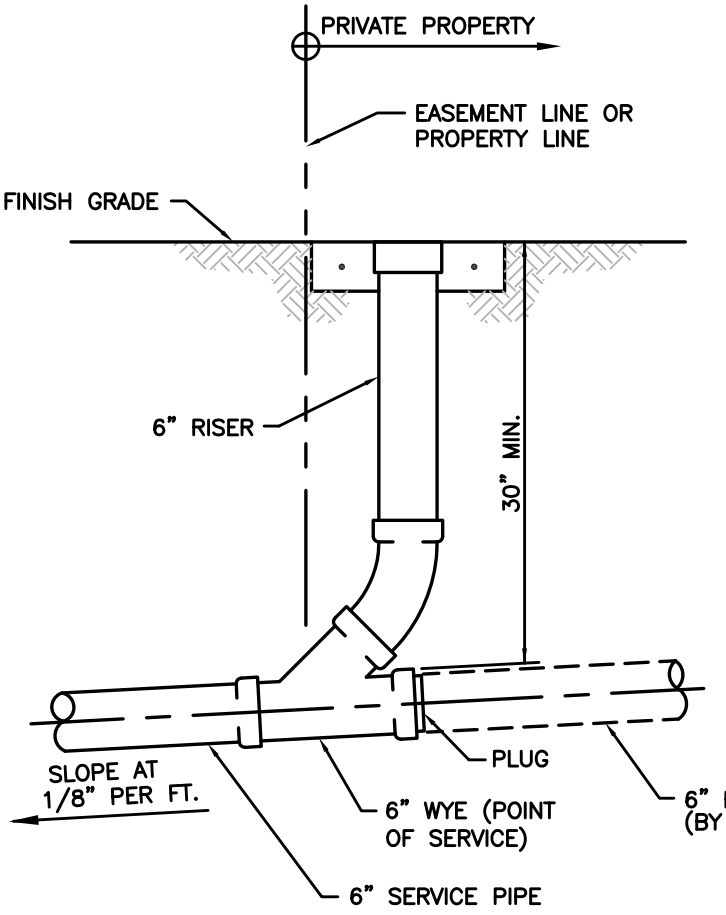
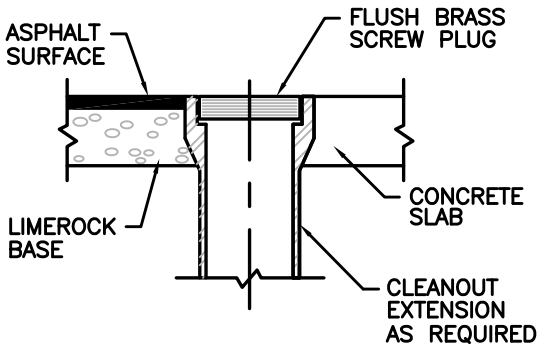


ELEVATION

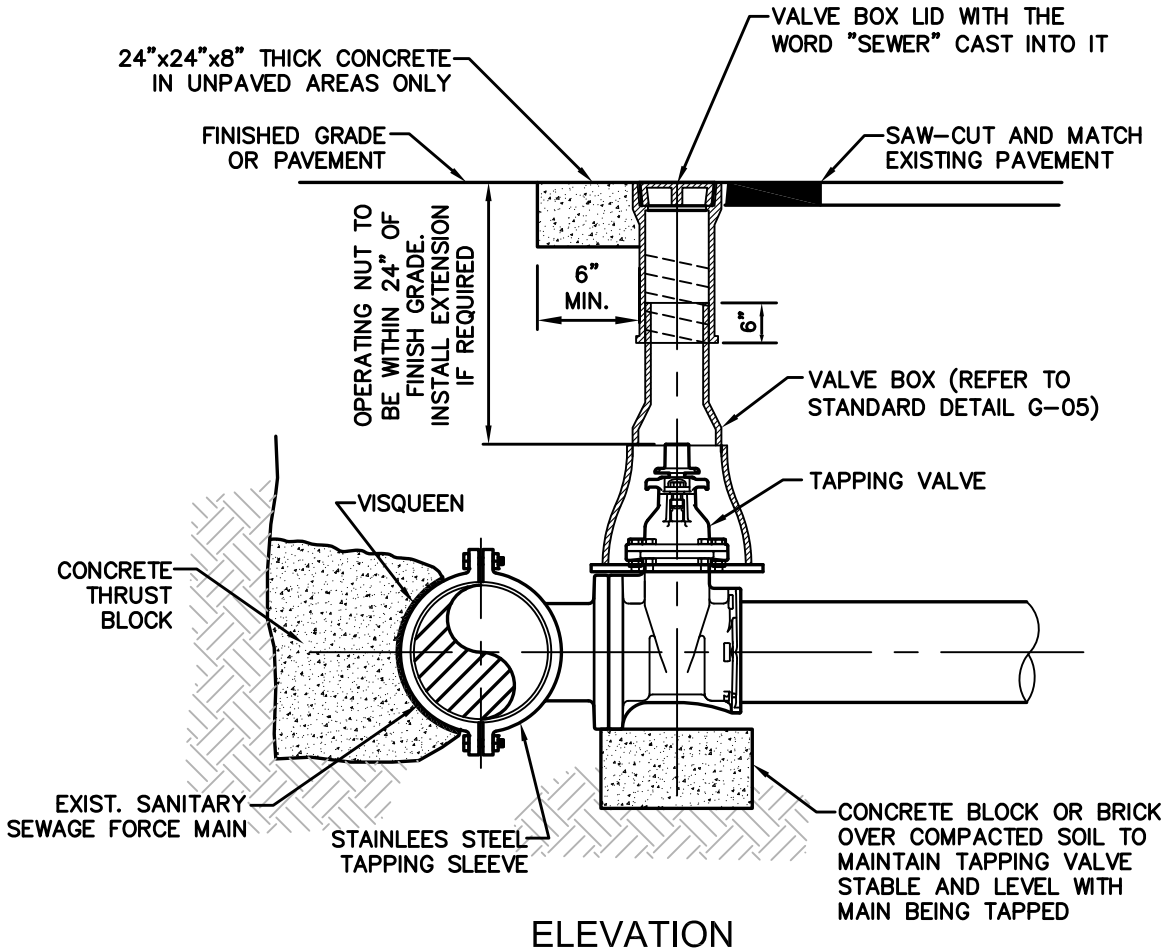


PAVEMENT TYPE

CLEANOUT DETAILS

SINGLE SERVICE CONNECTION

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	SEWER SERVICE CONNECTION AND CLEANOUT AT PROPERTY LINE	DRAWING NO. S-12
	APPROVED: XXX		

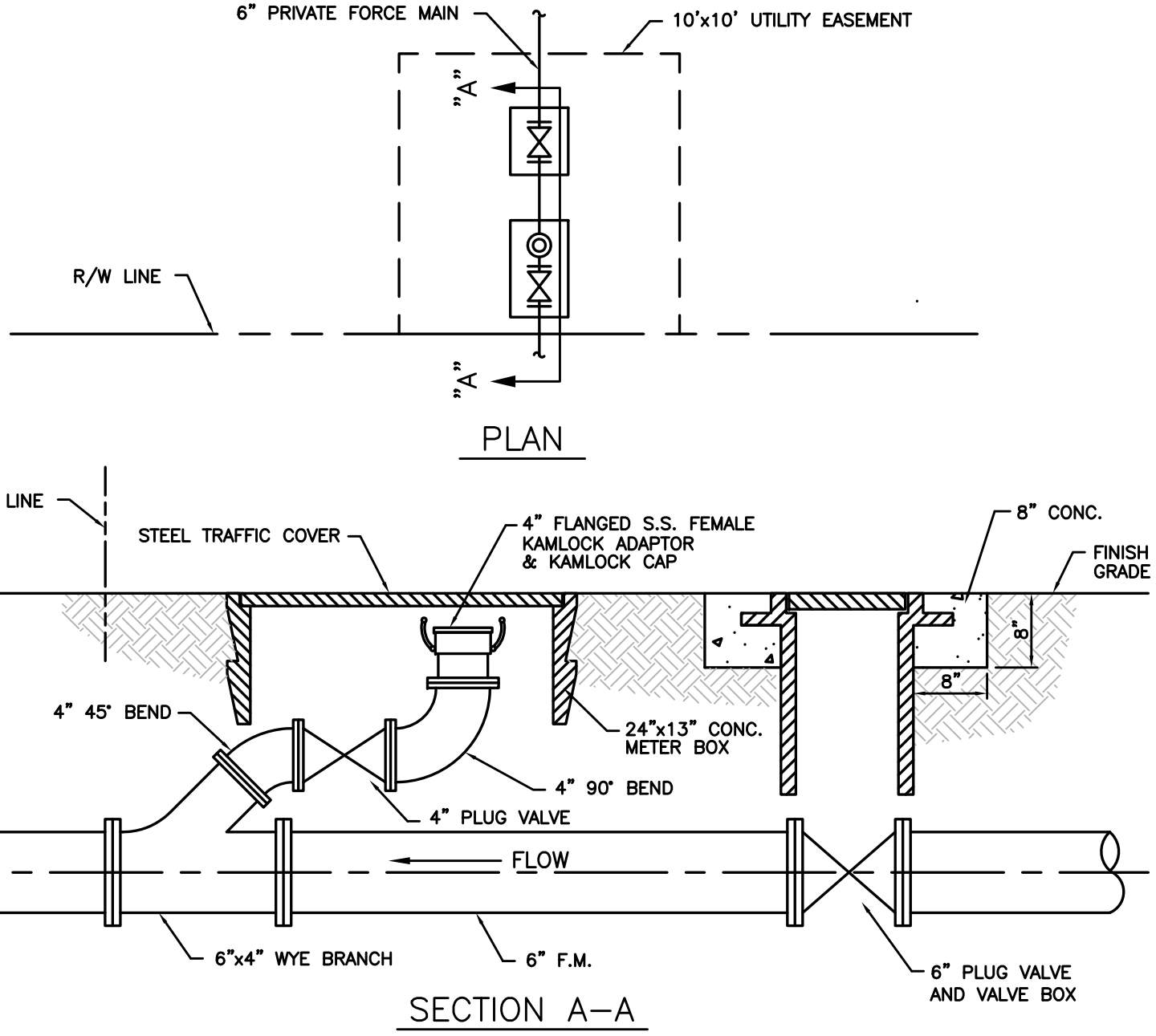


ELEVATION

NOTES:

1. REFER TO STANDARD DETAIL GS-06, "TYPICAL TAPPING SLEEVE AND VALVE SETTING"
2. REFER TO STANDARD DETAIL S-14, "PRIVATE FORCE MAIN TIE-IN AT PROPERTY LINE".

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	FORCE MAIN CONNECTION	DRAWING NO. S-13
	APPROVED: XXX		



CITY OF HOLLYWOOD, FLORIDA
INCORPORATED 1925
DIAMOND OF THE GOLD COAST

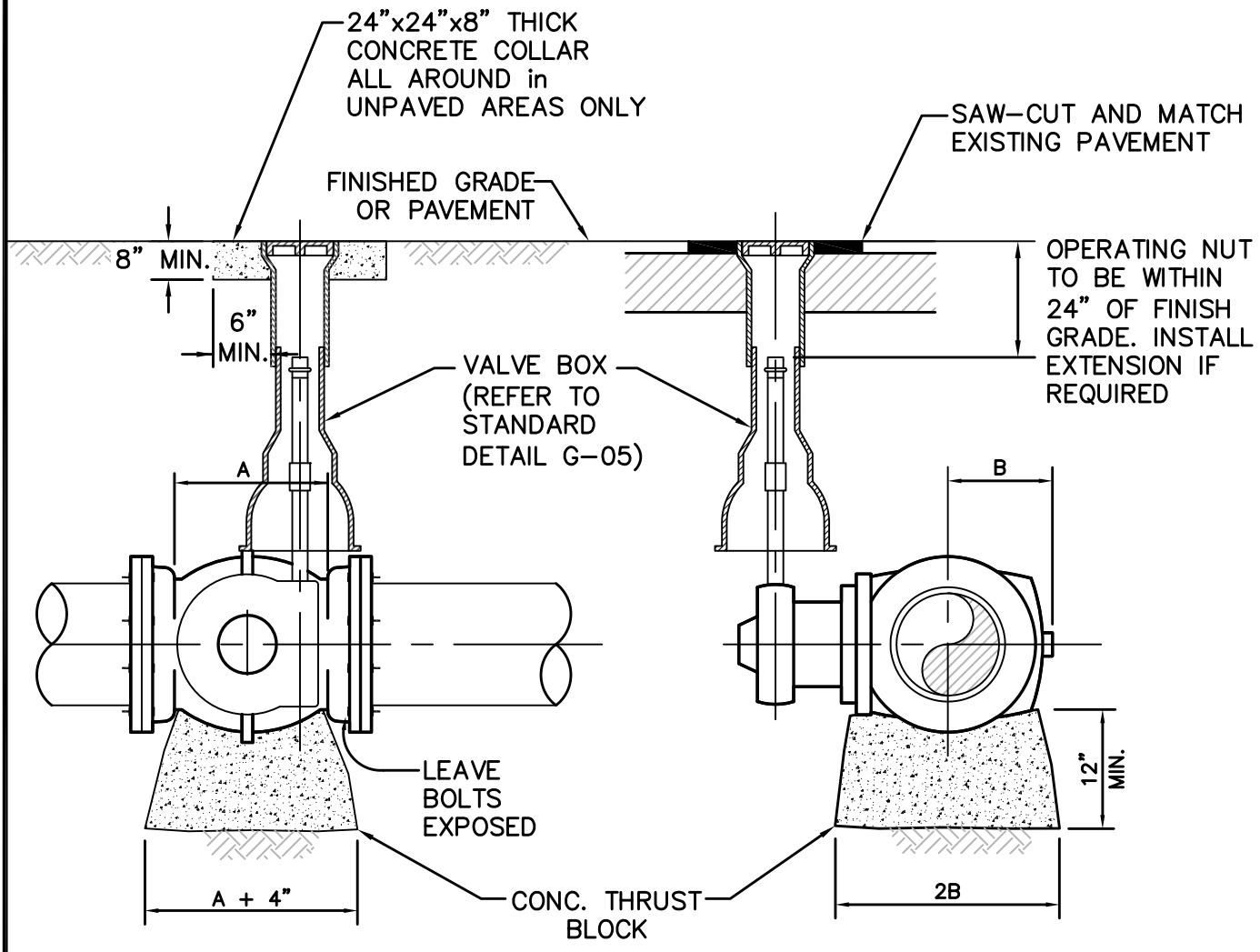
ISSUED: 03/01/1994
DRAWN: EAM
APPROVED: XXX

DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL

PRIVATE FORCE MAIN TIE-IN AT PROPERTY LINE

REVISED: 06/08/2014

DRAWING NO.
S-14

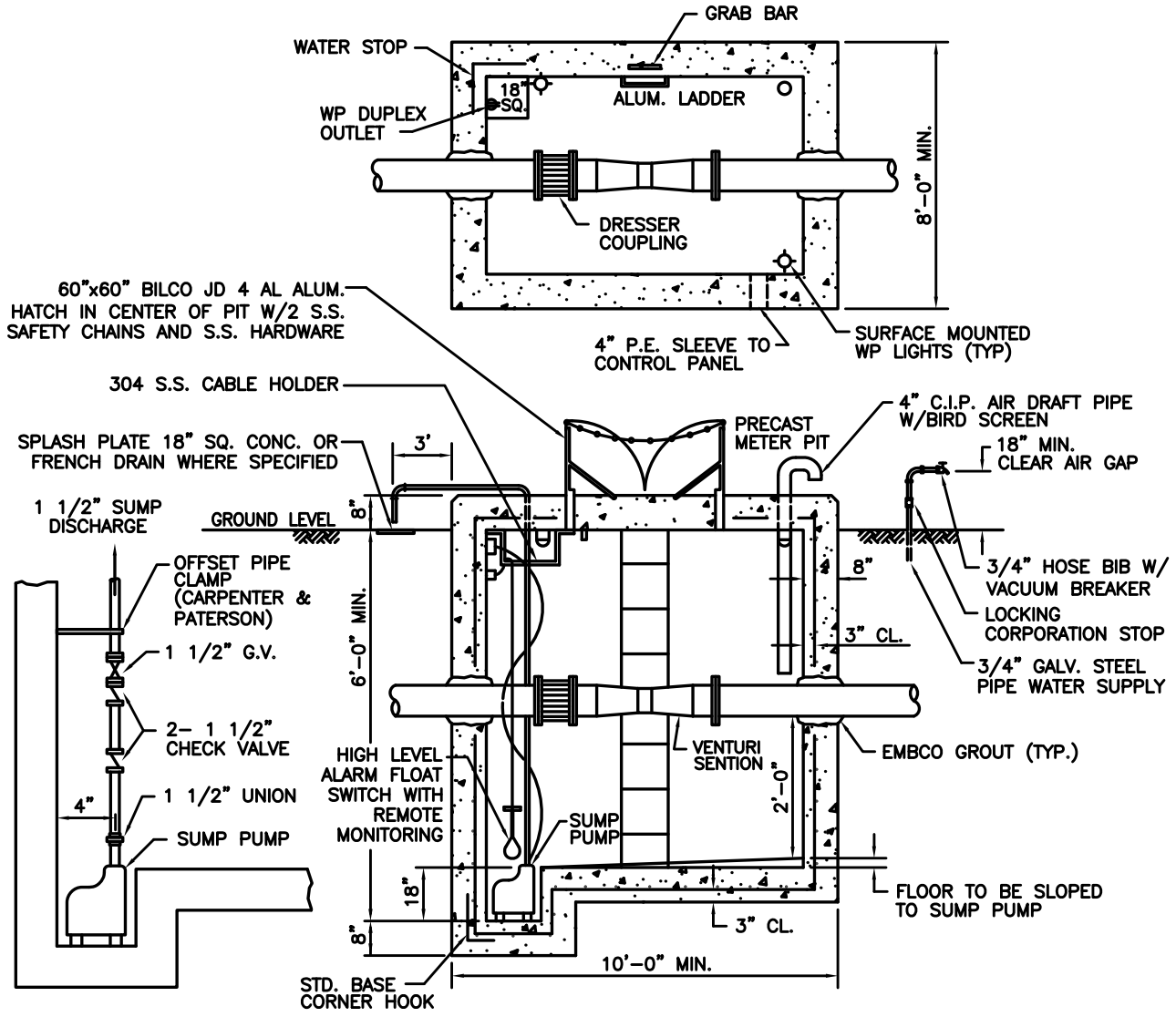


SIDE VIEW

FRONT VIEW

NOTE:
ALL CONCRETE TO BE 3000 P.S.I.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	PLUG VALVE	DRAWING NO. S-15
	APPROVED: XXX		



SUMP PUMP DETAIL

METER PIT DETAIL

NOTES:

1. SHOP DRAWINGS SHALL BE SUBMITTED BY CONTRACTOR TO THE CITY PRIOR TO INSTALLATION. SHOP DRAWINGS TO SHOW ALL CALCULATIONS AND DIMENSIONS, INCLUDING CONCRETE REINFORCEMENT AND UPLIFT, AND SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER.
2. CONCRETE MIN. 4000 P.S.I. AT 28 DAYS, TYPE II, EXPOSED EDGES OF SLAB TO HAVE 3/4" CHAMFER.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL THE FLOW METER AND INSTRUMENTATION AS SHOWN ON THE PLANS. THE FLOW METER AND ASSOCIATED INSTRUMENTATION IS TO PROVIDE FOR FLOW MEASUREMENT, INDICATING, RECORDING AND TOTALIZING OF SEWAGE IN A FULL PIPELINE OVER RANGES SPECIFIED. ACCURACY OF THE METERING SYSTEM, INCLUDING READOUT INSTRUMENTS, SHALL BE _____ OF THE ACTUAL RATE OVER THE SPECIFIED RANGE. LINEARITY AND REPEATABILITY SHALL BE _____.
4. THE METER SHALL BE _____.
5. SUMP PUMP SHALL BE _____ 1/3 HP (OR APPROVED EQUAL WITH BALL FLOAT ACTUATOR). THE POWER OUTLET SHOULD BE MOUNTED ABOVE THE EXPECTED HIGH WATER FLOOD LEVEL.
6. INSTALL HIGH LEVEL ALARM SENSOR (FLOAT SWITCH) IN METER PIT WITH REMOTE MONITORING.

*CODE: (3) 0-5 TO 0-30" H_2O
(4) 0-25 TO 0-150" H_2O
(5) 0-125 TO 0-750" H_2O

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	SEWAGE FORCE MAIN METER	DRAWING NO. S-16
	APPROVED: XXX		

WATER SYSTEM NOTES:

1. NEW OR RELOCATED UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT THAT WILL CROSS ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER WILL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OTHER PIPELINE OR AT LEAST 12 INCHES BELOW THE OTHER PIPELINE.

2. NEW OR RELOCATED UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT THAT WILL CROSS ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER WILL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE OR BELOW THE OTHER PIPELINE. [FAC 62-555.314(2); EXCEPTIONS ALLOWED UNDER FAC 62-555.314(5)].

3. AT ALL UTILITY CROSSINGS DESCRIBED ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE WILL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE, OR THE PIPES WILL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORM WATER FORCE MAINS, 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 FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. [FAC 62-555.314(2); EXCEPTIONS ALLOWED UNDER FAC 62-555.314(5)].

4. NEW UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT TO BE DUCTILE IRON PIPE (D.I.P.) WHEN CROSSING BELOW SANITARY SEWER MAINS.

5. POLYETHYLENE ENCASEMENT MATERIAL SHALL BE USED TO ENCASE ALL BURIED DUCTILE IRON PIPE, FITTINGS, VALVES, RODS, AND APPURTENANCES IN ACCORDANCE WITH AWWA C105, METHOD A. THE POLYETHYLENE TUBING SHALL BE CUT TWO FEET LONGER THAN THE PIPE SECTION AND SHALL OVERLAP THE ENDS OF THE PIPE BY ONE FOOT. THE POLYETHYLENE TUBING SHALL BE GATHERED AND LAPPED TO PROVIDE A SNUG FIT AND SHALL BE SECURED AT QUARTER POINTS WITH POLYETHYLENE TAPE. EACH END OF THE POLYETHYLENE TUBING SHALL BE SECURED WITH A WRAP OF POLYETHYLENE TAPE.

6. THE POLYETHYLENE TUBING SHALL PREVENT CONTACT BETWEEN THE PIPE AND BEDDING MATERIAL, BUT IS NOT INTENDED TO BE A COMPLETELY AIRTIGHT AND WATERTIGHT ENCLOSURE. DAMAGED POLYETHYLENE TUBING SHALL BE REPAIRED IN A WORKMANLIKE MANNER USING POLYETHYLENE TAPE, OR THE DAMAGED SECTION SHALL BE REPLACED. POLY WRAP WILL NOT BE PAID FOR AS A SEPARATE BID ITEM. IT SHALL BE CONSIDERED TO BE A PART OF THE PRICE BID FOR WATER MAINS.

7. FIRE HYDRANT BARRELS SHALL BE ENCASED IN POLY WRAP UP TO THE GROUND SURFACE AND THE WEEP HOLES SHALL NOT BE COVERED BY THE POLY WRAP.

8. GATE VALVES FOR USE WITH PIPE LESS THAN THREE INCHES (3") IN DIAMETER SHALL BE RATED FOR TWO HUNDRED (200) PSI WORKING PRESSURE, NON-SHOCK, BLOCK PATTERN, SCREWED BONNET, NON-RISING STEM, BRASS BODY, AND SOLID WEDGE. THEY SHALL BE STANDARD THREADED FOR PVC PIPE AND HAVE A MALLEABLE IRON HANDWHEEL. GATE VALVES 3" THROUGH 16" IN DIAMETER SHALL BE RESILIENT SEAT AND BIDIRECTIONAL FLOW ONLY. VALVES FOR SPECIAL APPLICATIONS WILL REQUIRE CITY UTILITY APPROVAL.

9. VALVE BOXES AND COVERS FOR ALL SIZE VALVES SHALL BE OF CAST IRON CONSTRUCTION AND ADJUSTABLE SCREW-ON TYPE. THE LID SHALL HAVE CAST IN THE METAL THE WORD "WATER" FOR THE WATER LINES. ALL VALVE BOXES SHALL BE SIX INCH (6") NOMINAL DIAMETER AND SHALL BE SUITABLE FOR DEPTHS OF THE PARTICULAR VALVE. THE STEM OF THE BURIED VALVE SHALL BE WITHIN TWENTY-FOUR INCHES (24") OF THE FINISHED GRADE UNLESS OTHERWISE APPROVED BY THE CITY.

10. ALL WATER MAIN INSTALLATIONS SHALL COMPLY WITH THE COLOR CODING REQUIREMENTS OF CHAPTER 62-555.320 F.A.C.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	WATER SYSTEM NOTES	DRAWING NO. W-01
	APPROVED: XXX		

WATER SYSTEM NOTES (CONTINUED):

11. ALL WATER MAIN INSTALLATIONS SHALL COMPLY WITH THE COLOR CODING REQUIREMENTS OF CHAPTER 62-555.320 F.A.C.

12. ALL PVC PIPE SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA C900 LATEST REVISION AND CLASS DR 18. ALL DIP WATER MAINS SHALL BE DUCTILE IRON PRESSURE CLASS 350, WITH WALL THICKNESS COMPLYING WITH CLASS 52. ALL DUCTILE IRON PIPE SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA C151/A21.51-02 AND BE CEMENT LINED AND SEAL COATED PER ANSI/AWWA C104/A21.4-03.

13. FITTINGS SHALL BE DUCTILE IRON, MEETING ANSI/AWWA C153/A21.53-00 SPECIFICATIONS, WITH 350 PSI MINIMUM WORKING PRESSURE. FITTINGS MUST BE CEMENT LINED AND SEAL COATED PER ANSI/AWWA C104/A21.4-03. ALL DUCTILE IRON PIPE AND FITTINGS MUST BE MANUFACTURED IN THE UNITED STATES OF AMERICA.

14. ALL DUCTILE IRON PIPE TO BE MECHANICAL JOINTS, WRAPPED IN POLY. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY DESIGN.

15. PAVEMENT RESTORATION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY.

16. ALL TRENCHING, PIPE LAYING, BACKFILL, PRESSURE TESTING, AND DISINFECTING MUST COMPLY WITH THE CITY OF HOLLYWOOD SPECIFICATIONS.

17. THE MINIMUM DEPTH OF COVER OVER WATER MAINS IS 30" (DIP) OR 36" (PVC).

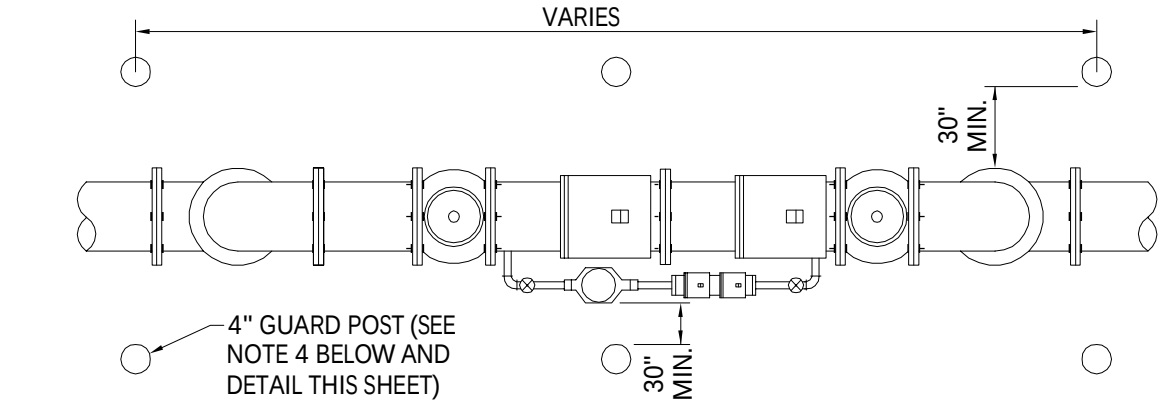
18. MINIMUM HORIZONTAL SEPARATION BETWEEN STORM STRUCTURES AND WATER MAINS SHALL BE 3'.

19. MAXIMUM DEFLECTION PER EACH JOINT SHALL BE 50% OF MANUFACTURES RECOMMENDATION (MAXIMUM) WHERE DEFLECTION IS REQUIRED.

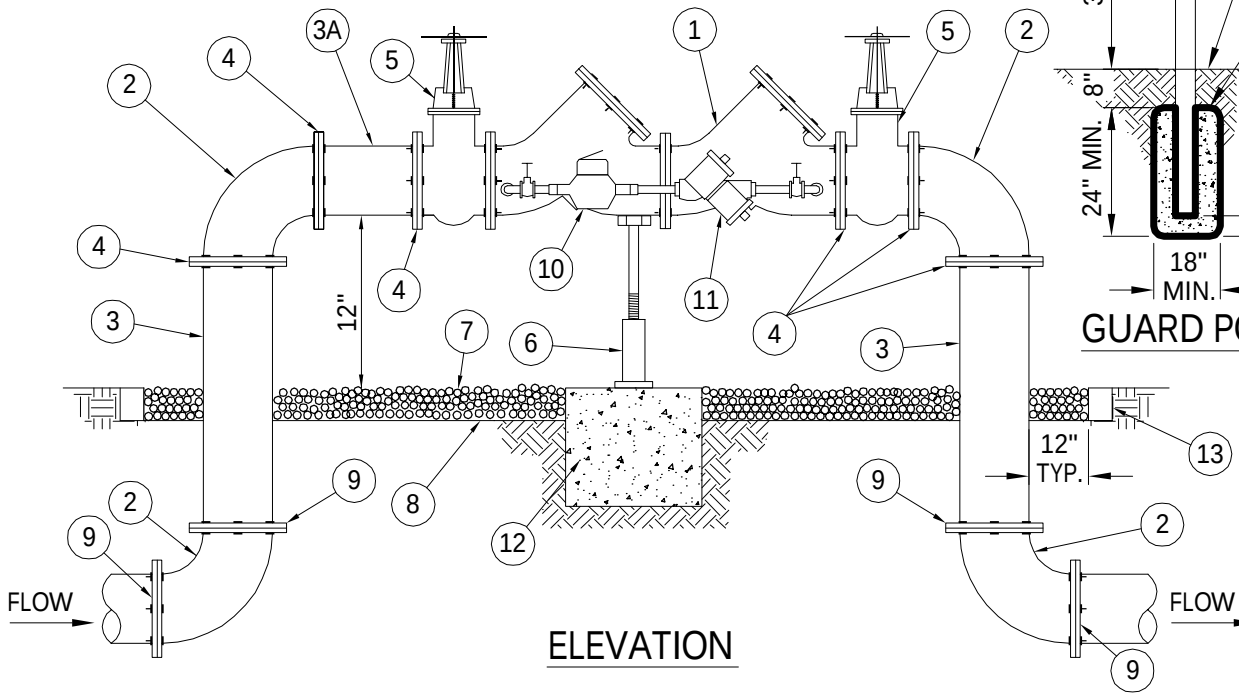
20. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING CONFLICTS WITH WATER MAINS PLACED AT MINIMUM COVER. IN CASE OF CONFLICT, WATER MAIN SHALL BE LOWERED TO PASS UNDER CONFLICTS WITH 18" MINIMUM VERTICAL SEPARATION. NO ADDITIONAL PAYMENT SHALL BE DUE TO CONTRACTOR FOR LOWERING THE MAIN OR THE ADDITIONAL FITTINGS USED THEREON.

21. PIPE JOINT RESTRAINT SHALL BE PROVIDED BY THE USE OF DUCTILE IRON FOLLOWER GLANDS MANUFACTURED TO ASTM A 536-80. TWIST-OFF NUTS SHALL BE USED TO ENSURE PROPER ACTUATING OF THE RESTRAINING DEVICES. THE MECHANICAL JOINT RESTRAINING DEVICES SHALL HAVE A WORKING PRESSURE OF 250 PSI MINIMUM, WITH A MINIMUM SAFETY FACTOR OF 2:1, AND SHALL BE EBAA IRON INC., MEGALUG OR APPROVED EQUAL. JOINT RESTRAINTS SHALL BE PROVIDED AT A MINIMUM OF THREE JOINTS (60 FEET) FROM ANY FITTING.

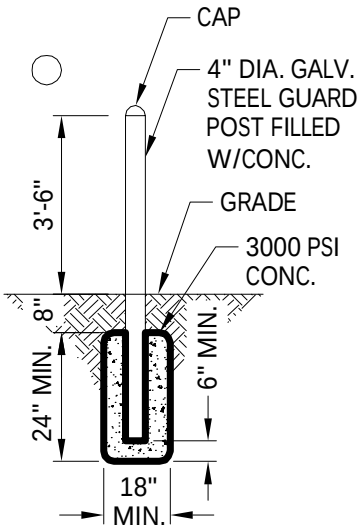
22. WHENEVER IT IS NECESSARY, IN THE INTEREST OF SAFETY, TO BRACE THE SIDES OF A TRENCH, THE CONTRACTOR SHALL FURNISH, PUT IN PLACE AND MAINTAIN SUCH SHEETING OR BRACING AS MAY BE NECESSARY TO SUPPORT THE SIDES OF THE EXCAVATION TO ENSURE PERSONNEL SAFETY, AND TO PREVENT MOVEMENT WHICH CAN IN ANY WAY DAMAGE THE WORK OR ENDANGER ADJACENT STRUCTURES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SEQUENCE, METHODS AND MEANS OF CONSTRUCTION, AND FOR THE IMPLEMENTATION OF ALL OSHA AND OTHER SAFETY REQUIREMENTS.



PLAN



ELEVATION



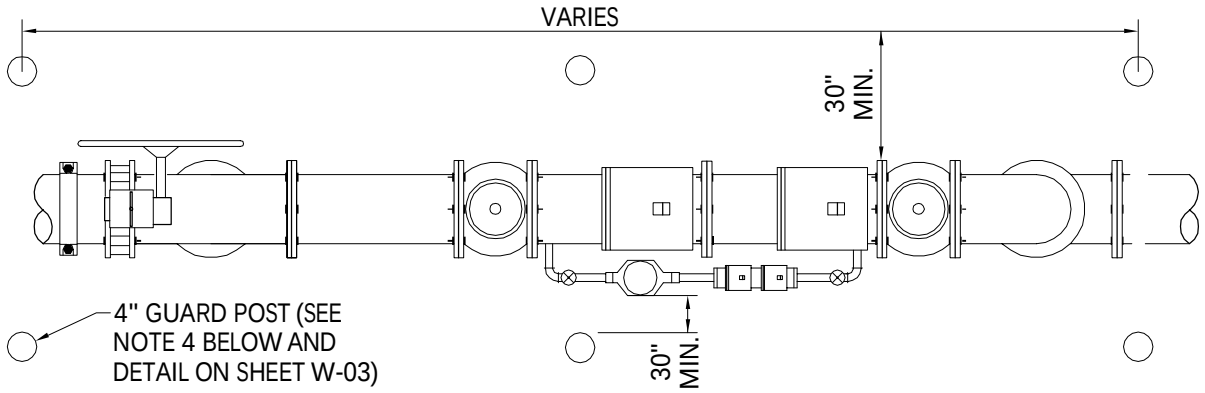
GUARD POST

MATERIALS					
ITEM	QTY.	DESCRIPTION	ITEM	QTY.	DESCRIPTION
1	1	4",6",8" VALVE,DOUBLE CHECK	7	N/A	PEA GRAVEL (4" DEEP)
2	4	4",6",8" BEND-90°	8	N/A	PLASTIC LINER/WEED STOP (5 MILS)
3	2	4",6",8" D.I.P. SPOOL PIECE	9	4	RESTRAINED JOINTS
3A	1	4",6",8" D.I.P. SPOOL PIECE (24" LONG)	10	1	LOW FLOW METER
4	7	4",6",8" FLANGE, D.I.P.	11	1	VALVE, BYPASS DOUBLE CHECK
5	2	4",6",8" GATE VALVE (SEE NOTE 6)	12	1	16"X16"X16" CONC. SUPPORT
6	1	SCREW JACK/ANCHORED	13	1	P.T. 2X4 LUMBER ALL AROUND

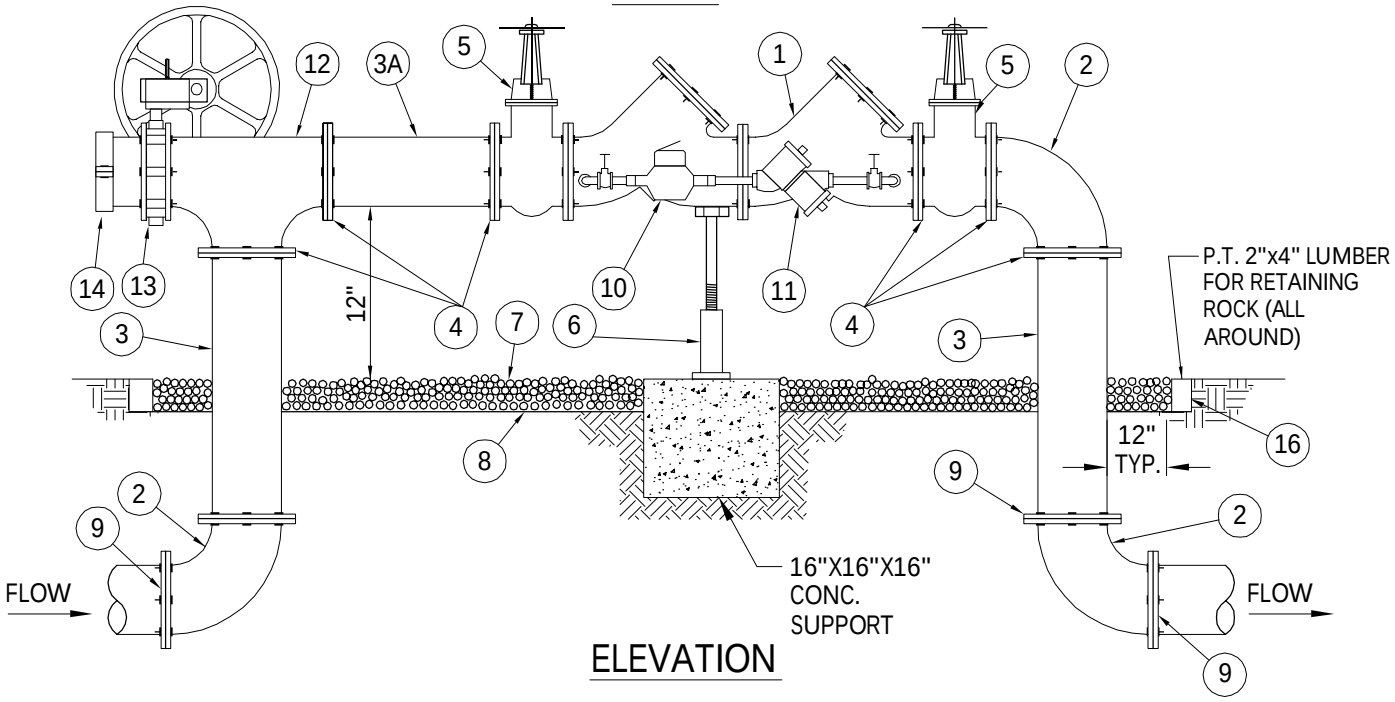
NOTES:

1. FIELD ADJUST AND CUT ITEM 3 TO THE PROPER LENGTH.
2. ALL PIPING SHALL BE D.I.P. CL 50/52 AS APPLICABLE TO MINIMUM STANDARDS.
3. ALL LOW FLOW METER PIPING SHALL BE BRASS OR COPPER.
4. PROTECTIVE 4" GALV. GUARD POSTS SHALL BE SPACED EVENLY APART AS SHOWN ABOVE OR IN ACCORDANCE WITH INSPECTOR'S DIRECTIONS.
5. MAY USE 45° BENDS (SEE DETAIL W-07.2) WHEN WORKING AREA IS NOT LIMITED, AS DIRECTED BY CITY.
6. GATE VALVES SHALL BE CHAINED AND LOCKED TOGETHER TO PREVENT TAMPERING.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	TYPICAL 4", 6" AND 8" DOUBLE CHECK DETECTOR ASSEMBLY FOR FIRE SPRINKLER SERVICE (90° BENDS)	DRAWING NO. W-03
	APPROVED: XXX		



PLAN



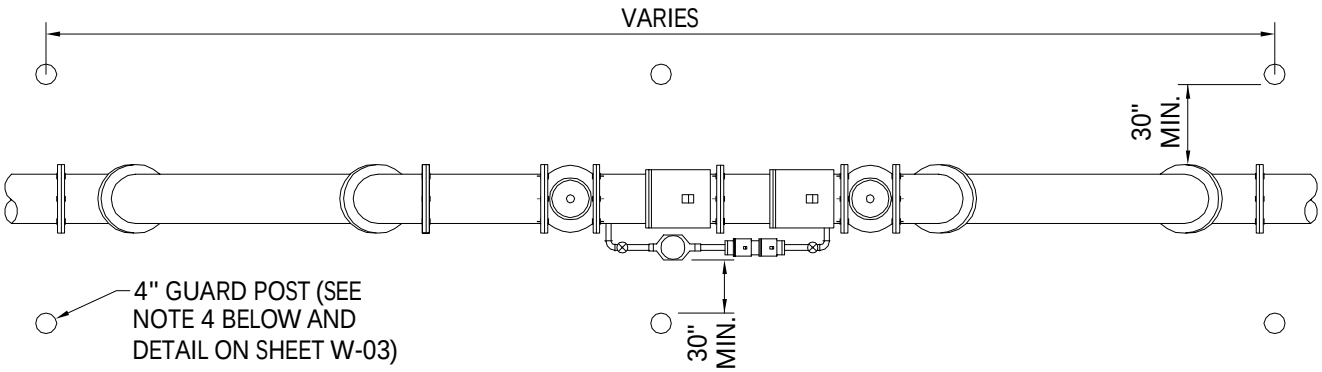
ELEVATION

MATERIALS					
ITEM	QTY.	DESCRIPTION	ITEM	QTY.	DESCRIPTION
1	1	4",6",8" VALVE,DOUBLE CHECK	8	N/A	PLASTIC LINER/WEED STOP (5 MILS)
2	4	4",6",8" BEND-90°	9	4	RESTRAINED JOINTS
3	2	4",6",8" D.I.P. SPOOL PIECE	10	1	LOW FLOW METER
3A	1	4",6",8" D.I.P. SPOOL PIECE(24" LONG)	11	1	VALVE, BYPASS DOUBLE CHECK
4	10	4",6",8" FLANGE, D.I.P.	12	1	4", 6", 8" TEE
5	2	4",6",8" GATE VALVE (SEE NOTE 6)	13	1	4", 6" 8" BUTTERFLY VALVE (SUPERVISED CLOSED), CHAINED AND LOCKED
6	1	SCREW JACK/ANCHORED			
7	N/A	PEA GRAVEL (4" DEEP)	14	1	4", 6", 8" CAP

NOTES:

1. FIELD ADJUST AND CUT ITEM 3 TO THE PROPER LENGTH.
2. ALL PIPING SHALL BE D.I.P. CL 50/52 AS APPLICABLE TO MINIMUM STANDARDS.
3. ALL LOW FLOW METER PIPING SHALL BE BRASS OR COPPER.
4. PROTECTIVE 4" GALV. GUARD POSTS SHALL BE SPACED EVENLY APART AS SHOWN ABOVE OR IN ACCORDANCE WITH INSPECTOR'S DIRECTIONS.
5. MAY USE 45° BENDS (SEE DETAIL W-05) WHEN WORKING AREA IS NOT LIMITED, AS DIRECTED BY CITY.
6. GATE VALVES SHALL BE CHAINED AND LOCKED TOGETHER TO PREVENT TAMPERING

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	TYPICAL 4", 6" AND 8" DOUBLE CHECK DETECTOR FOR FIRE SPRINKLER SERVICE W/B.V. CONNECTION (90° BENDS)	DRAWING NO. W-04
	APPROVED: XXX		



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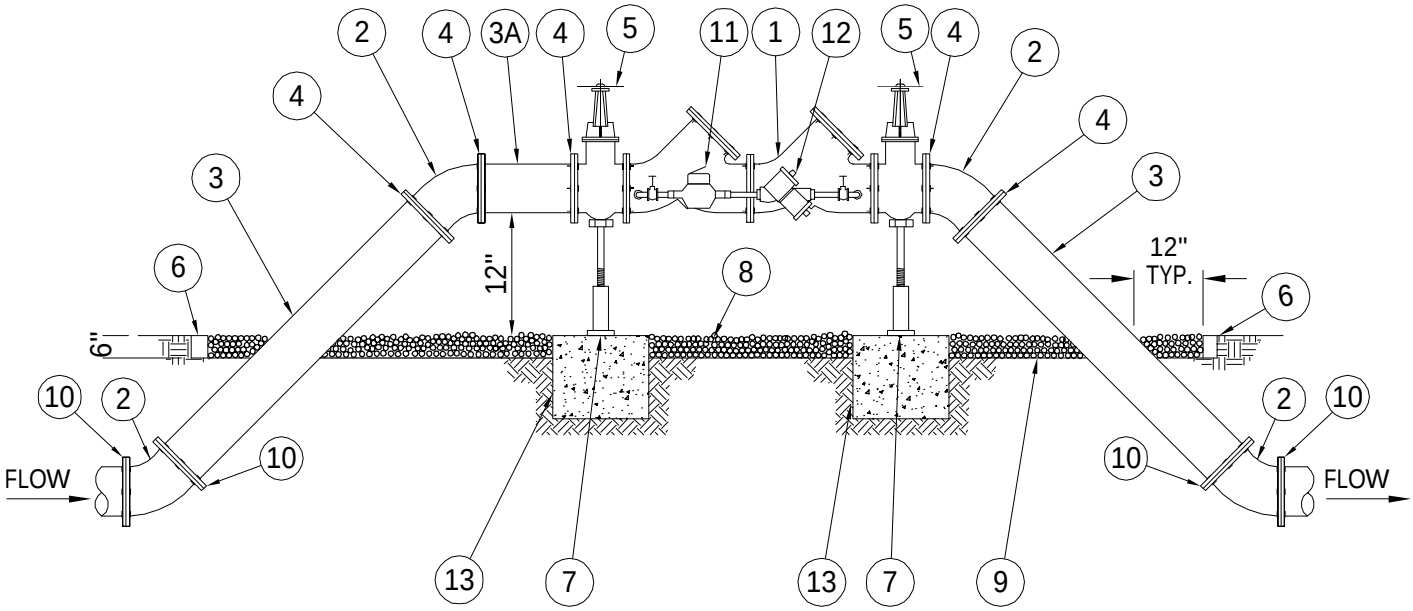


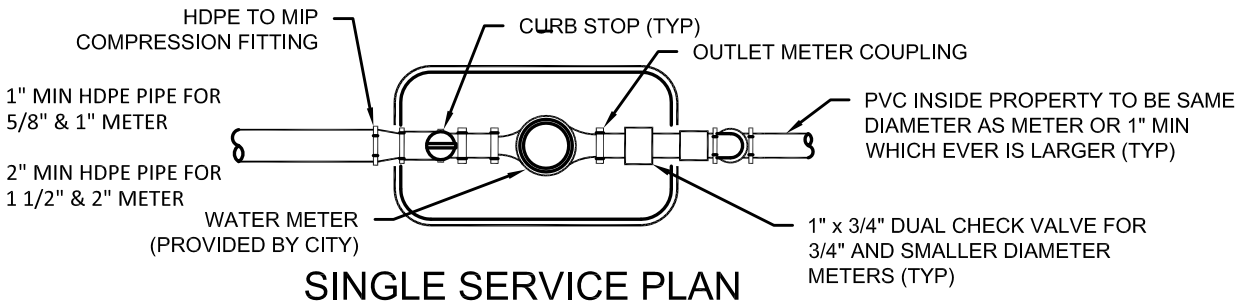
ELEVATION

MATERIALS					
ITEM	QTY.	DESCRIPTION	ITEM	QTY.	DESCRIPTION
1	1	4",6",8" VALVE,DOUBLE CHECK	7	2	SCREW JACK/ANCHORED
2	4	4",6",8" BEND-45°	8	N/A	PEA GRAVEL (4" DEEP)
3	2	4",6",8" D.I.P. SPOOL PIECE	9	N/A	PLASTIC LINER/WEED STOP (5 MILS)
3A	1	4",6",8" D.I.P. SPOOL PIECE(24" LONG)	10	4	RESTRAINED JOINTS
4	7	4",6",8" FLANGE, D.I.P.	11	1	LOW FLOW METER
5	2	4",6",8" GATE VALVE (SEE NOTE 6)	12	1	VALVE, BYPASS DOUBLE CHECK
6	2	P.T. 2"x4" LUMBER (ALL AROUND)	13	1	16"x16"x16" CONC. SUPPORT

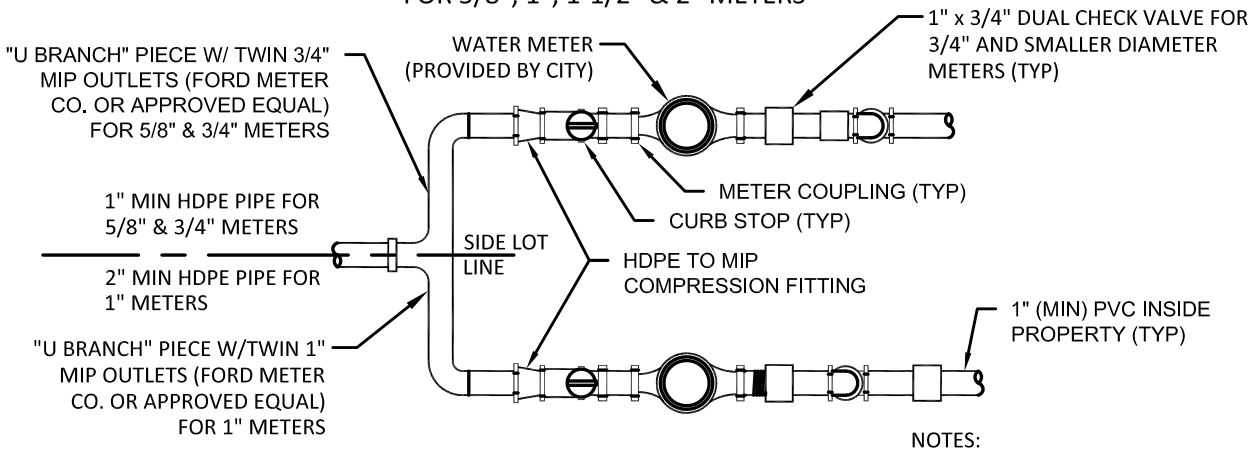
NOTES:

1. FIELD ADJUST AND CUT ITEM 3 TO THE PROPER LENGTH.
2. ALL PIPING SHALL BE D.I.P. CL 50/52 AS APPLICABLE TO MINIMUM STANDARDS.
3. ALL LOW FLOW METER PIPING SHALL BE BRASS OR COPPER.
4. PROTECTIVE 4" GALV. GUARD POSTS SHALL BE SPACED EVENLY APART AS SHOWN ABOVE OR IN ACCORDANCE WITH INSPECTOR'S DIRECTIONS.
5. MAY USE 90° BENDS (SEE DETAIL W-03) WHEN WORKING AREA IS LIMITED.
6. GATE VALVES SHALL BE CHAINED AND LOCKED TOGETHER TO PREVENT TAMPERING.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	TYPICAL 4", 6" AND 8" DOUBLE CHECK DETECTOR ASSEMBLY FOR FIRE SPRINKLER SERVICE (45° BENDS)	DRAWING NO. W-05
	APPROVED: XXX		

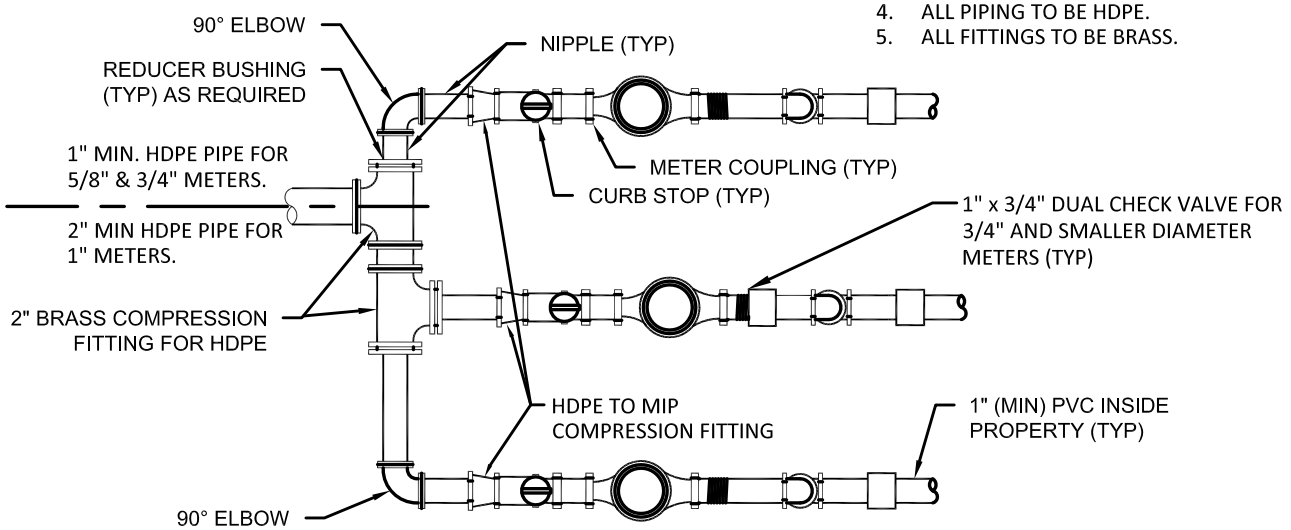


SINGLE SERVICE PLAN
FOR 5/8", 1", 1-1/2" & 2" METERS



DOUBLE SERVICE PLAN
FOR 5/8", 3/4" AND 1" METERS

NOTES:
1. USE ONE SINGLE METER BOX PER METER OR ONE DUAL METER BOX FOR TWO METERS.
2. 5/8" METERS REQUIRE 3/4" PIPING.
3. 1" METERS REQUIRE 1" PIPING.
4. ALL PIPING TO BE HDPE.
5. ALL FITTINGS TO BE BRASS.

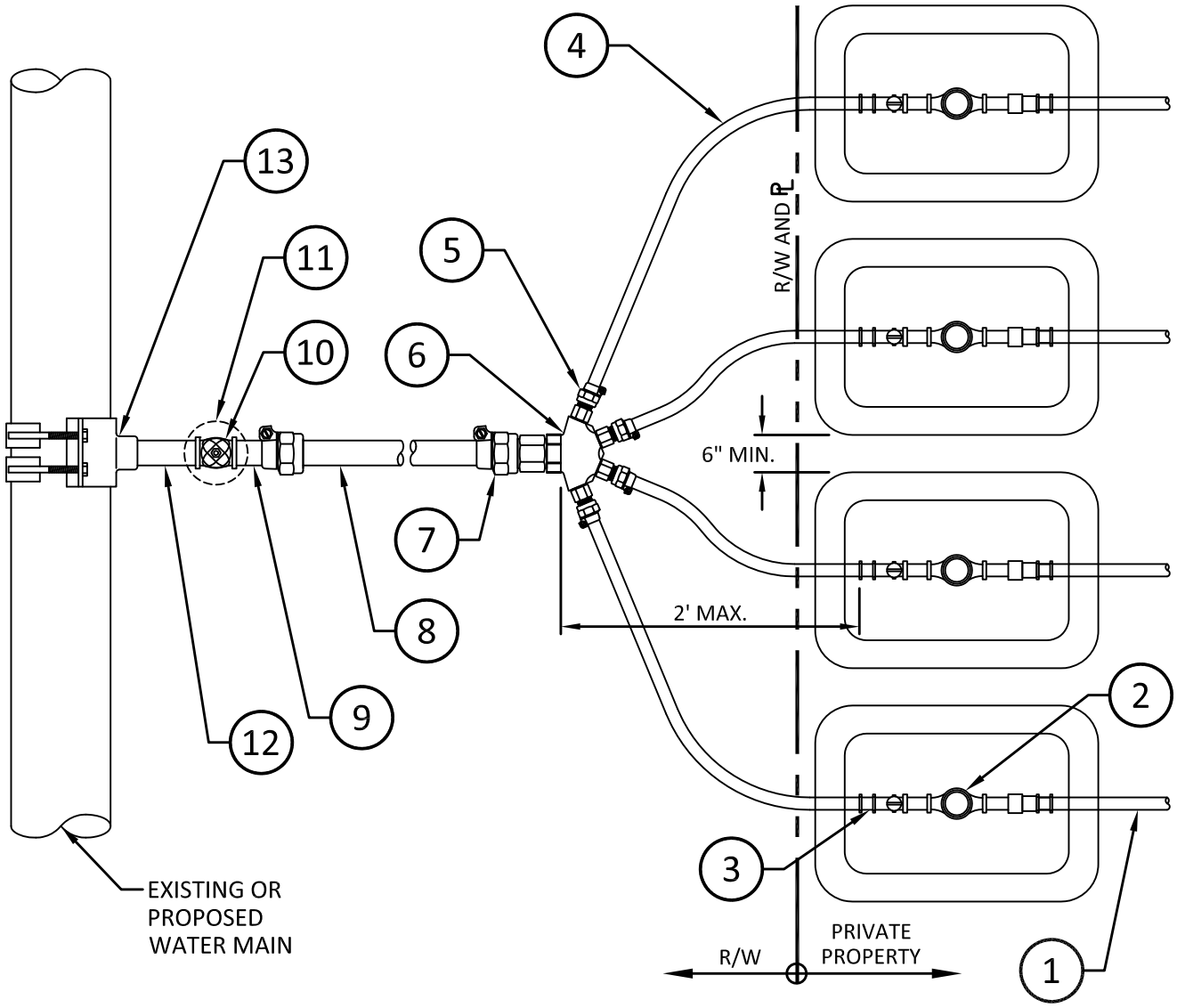


TRIPLE SERVICE PLAN
FOR 5/8", 3/4" AND 1" METERS

NOTES:
1. USE ONE METER BOX PER METER.
2. 5/8" METERS REQUIRE 3/4" PIPING.
3. 1" METERS REQUIRE 1" PIPING.
4. ALL FITTINGS TO BE BRASS.

NO GALVANIZED PIPE OR FITTINGS ALLOWED

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 11/06/2017
	DRAWN: EAM	TYPICAL 5/8", 1", 1-1/2" AND 2" METER INSTALLATION	DRAWING NO. W-06
	APPROVED: XXX		



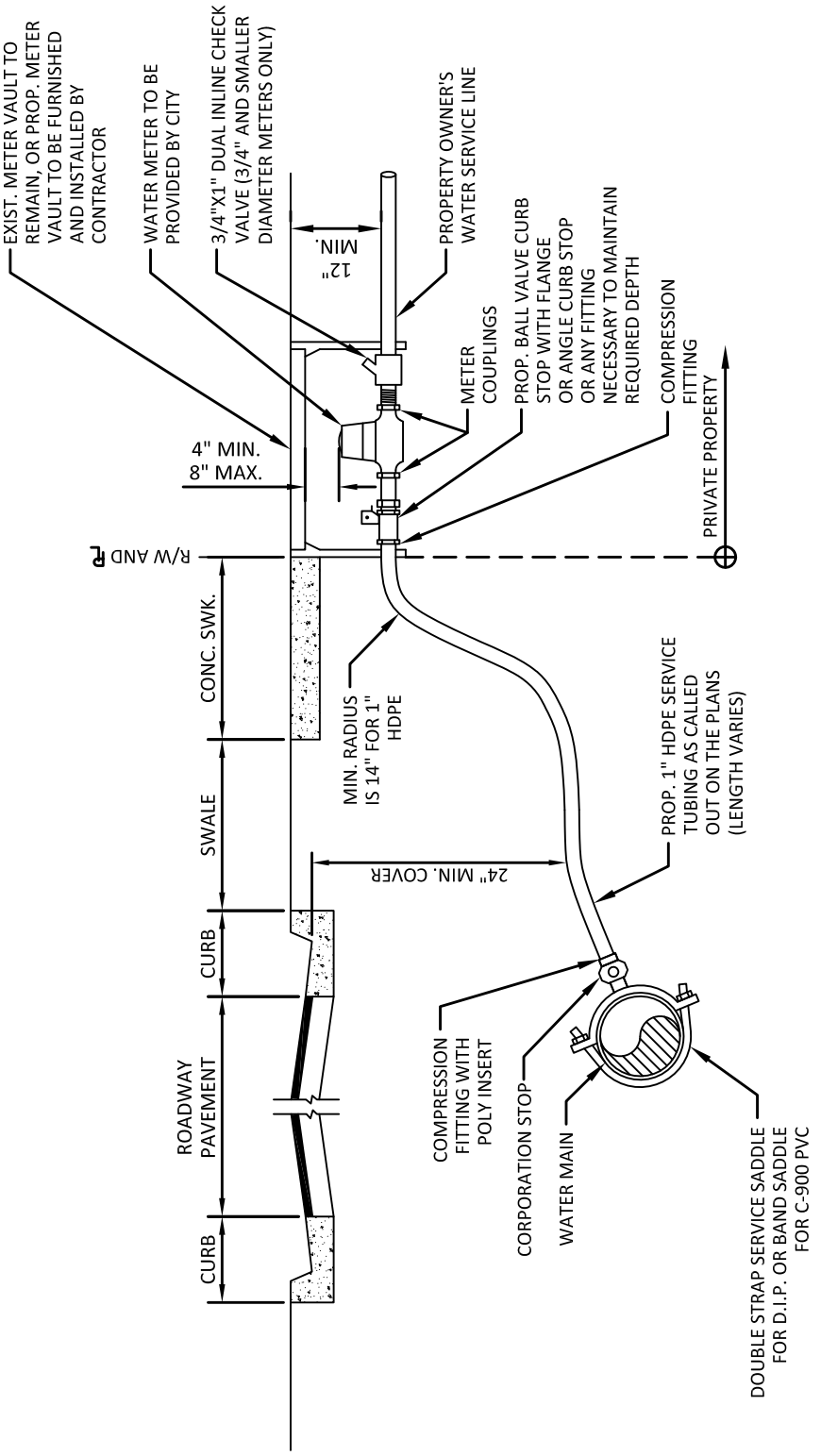
1. PROPERTY OWNER'S SERVICE PIPE
2. ⅝", ¾" OR 1" METER INSTALLATION (REFER TO "SINGLE SERVICE PLAN" ON STANDARD DETAIL W-06) (TYP. FOR 4)
3. COUPLING W/1" COMPRESSION FOR HDPE X ¾" MIP
4. 1" HDPE SERVICE PIPE TO METER (TYP. FOR 4)
5. COUPLING W/1" MIP X 1" COMPRESSION FOR HDPE (TYP. FOR 4)
6. MULTI-SERVICE "Y" W/SINGLE 2" FIP INLET AND (4)-1" FIP OUTLETS (MULTI SERVICE BRASS Y)
7. COUPLING WITH 2" COMPRESSION FOR HDPE X 2" MIP
8. 2" HDPE WATER SERVICE PIPE
9. COUPLING W/2" BRASS THREAD x 2" COMPRESSION FOR HDPE
10. PROP. 2" GATE VALVE W/2" OPERATING WHEEL
11. PROP. VALVE BOX W/LID AND RISER. FOR UNPAVED AREAS, INSTALL 24"x24"x8" THICK CONC. COLLAR
12. PROPOSED 2" BRASS NIPPLE
13. PROP. DOUBLE STRAP SERVICE SADDLE FOR D.I.P. OR BAND SADDLE FOR PVC
14. ALL FITTINGS TO BE BRASS.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 11/06/2017
	DRAWN: EAM	METER BANK INSTALLATION FOR FOUR ⅝", ¾" AND/OR 1" METERS	DRAWING NO. W-06.1
	APPROVED: XXX		

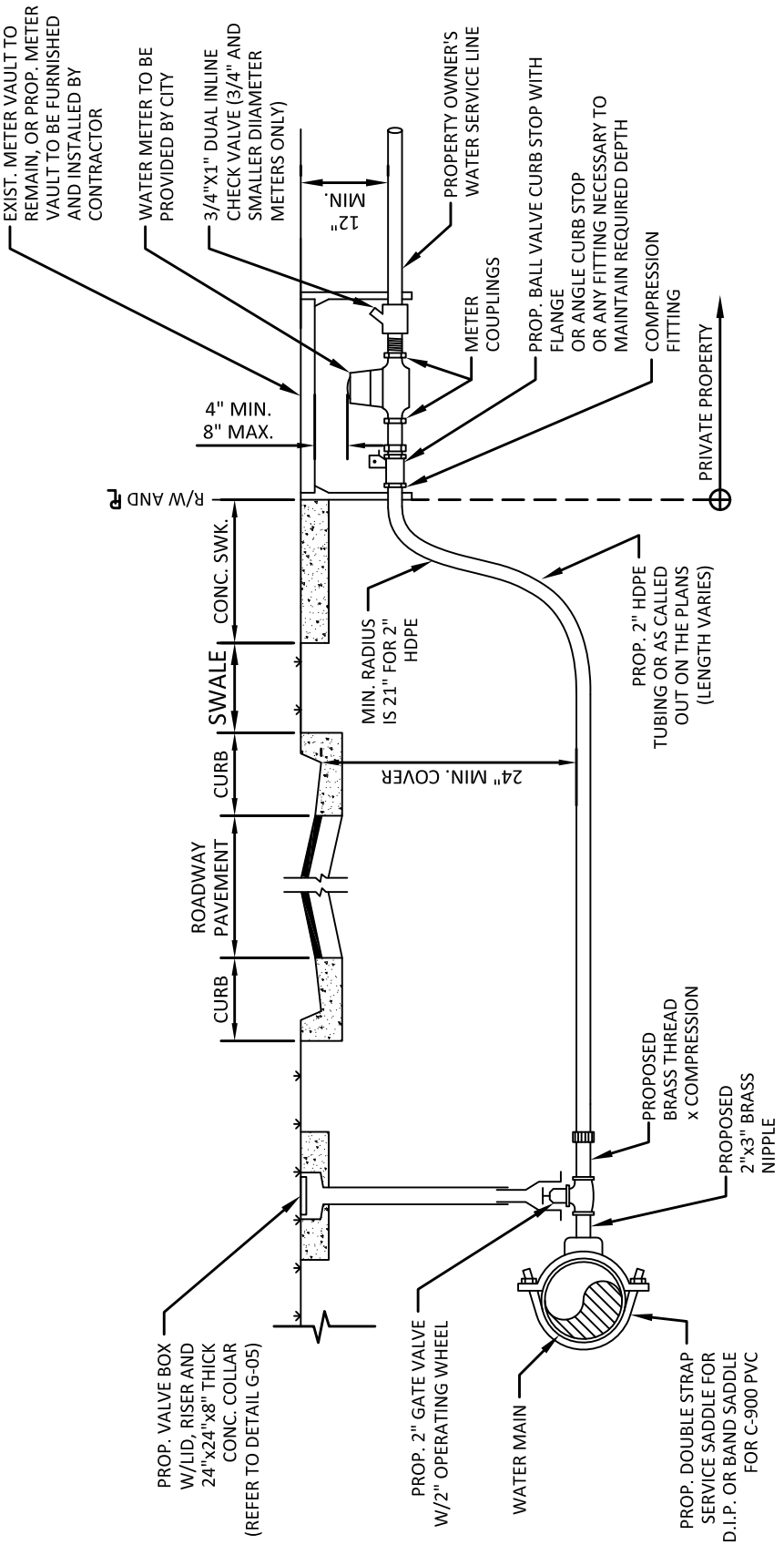
WATER METER SERVICE NOTES:

1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED NOT LESS THAN 18" ON CENTER.
2. P.E. TUBING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF AWWA STANDARD C901, "POLYETHYLENE (PE) PRESSURE PIPE AND TUBING, 1/2 IN. (13mm) THROUGH 3 IN. (76 mm), FOR WATER SERVICE".
3. MINIMUM SERVICE PIPE DIAMETER SHALL BE 1" FOR SINGLE OR DUAL ⅝" OR SINGLE 1" DIAMETER METERS.
4. MINIMUM SERVICE PIPE DIAMETER SHALL BE 2" FOR SINGLE OR DUAL 1-½" OR SINGLE 2" DIAMETER METERS.
5. FOR METER DIAMETERS LARGER THAN 2", THE MINIMUM SERVICE PIPE DIAMETER SHALL BE THE SAME AS THE METER DIAMETER.
6. APPROVED COPPER TUBING MAY BE USED AT THE CITY'S DISCRETION.
7. FOR NEW METER INSTALLATIONS, ALL SADDLES, VALVES, PIPING, FITTINGS,CURB STOPS, METER VALVES, METER COUPLINGS, METER VAULTS AND COVERS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THE WATER METERS WILL BE PROVIDED AND INSTALLED BY THE CITY OF HOLLYWOOD (NEW ACCOUNTS).
8. FOR METER RELOCATIONS, ALL SADDLES, VALVES, PIPING, FITTINGS, CURB STOPS, METER VALVES, METER COUPLINGS, METER VAULTS AND COVERS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THE EXISTING WATER METER TO BE RELOCATED AND INSTALLED BY CONTRACTOR.
9. FOR EXISTING METERS ABUTTING THE RIGHT-OF-WAY THAT ARE BEING DISCONNECTED FROM EXISTING MAINS AND RECONNECTED TO NEW MAINS, THE CONTRACTOR SHALL:
   a. CUT AND PLUG THE EXISTING SERVICE LINE AT THE MAIN AND AT THE METER, AND REMOVE THE EXISTING BALL VALVE CURB STOP.
   b. FURNISH AND INSTALL SERVICE SADDLE, CORPORATION STOP OR SERVICE VALVE AND VALVE BOX, PIPING AND FITTINGS UP TO AND INCLUDING THE BALL VALVE CURB STOP.
12. THE ELEVATION AT THE TOP OF THE METER BOX SHALL MATCH THE ELEVATION OF THE BACK OF SIDEWALK, WHENEVER PRACTICAL.
13. AS PART OF THE SERVICE INSTALLATION, THE CONTRACTOR SHALL RESTORE THE RIGHT-OF-WAY TO MATCH EXISTING CONDITIONS, INCLUDING ROADWAY PAVEMENT, PAVEMENT MARKINGS AND RPMs, CONCRETE CURBS, SIDEWALKS, RAMPS (INCLUDING DETECTABLE WARNING SURFACE), SODDING, AND ALL OTHER IMPROVEMENTS REMOVED OR DAMAGED DURING THE SERVICE INSTALLATION.
14. FOR UNPAVED AREAS, THE MINIMUM GROUND COVER ACCEPTED BY THE CITY IS SODDING.

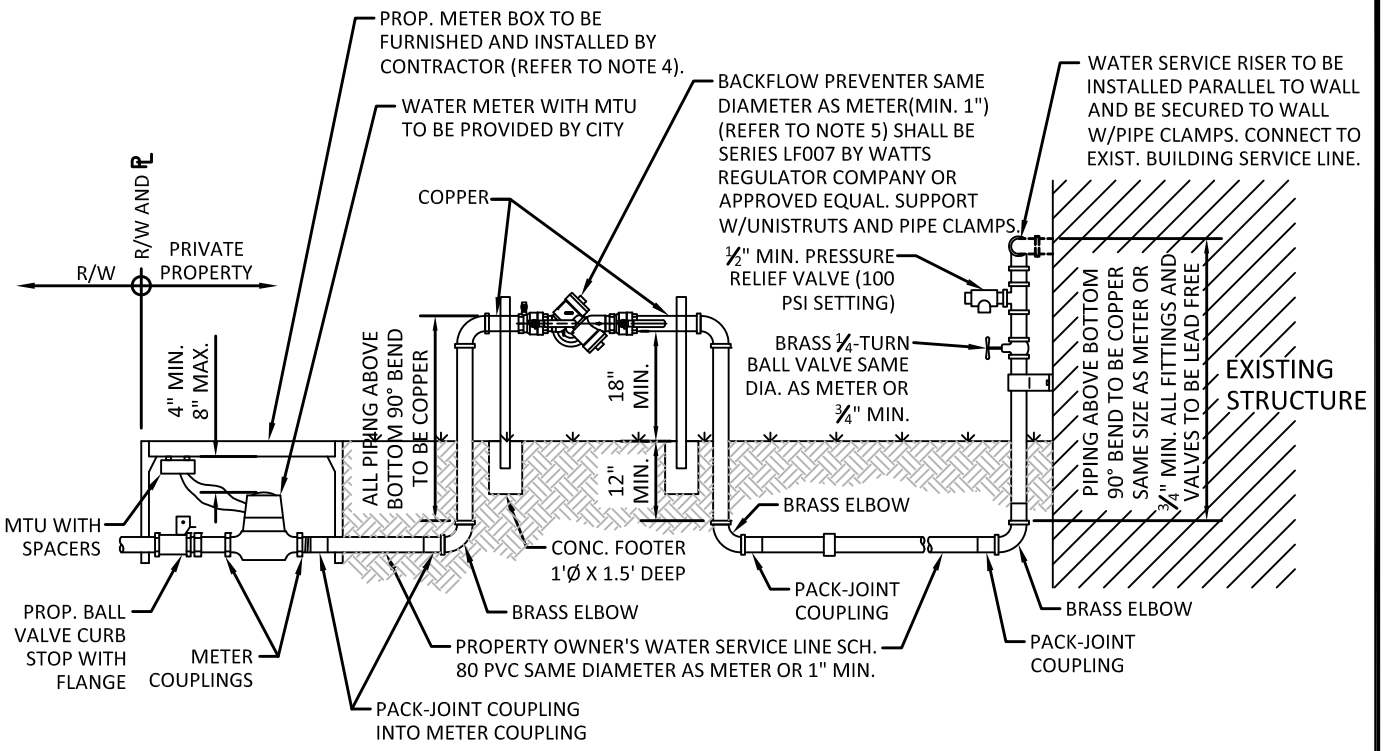
CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 11/06/2017
	DRAWN: EAM	WATER METER SERVICE NOTES FOR 5/8" THROUGH 2" METERS	DRAWING NO. W-07
	APPROVED: XXX		



CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 11/06/2017
	DRAWN: EAM	TYPICAL 1" HDPE WATER SERVICE FOR SINGLE/DUAL 5/8" TO 1" METERS	DRAWING NO. W-08
	APPROVED: XXX		

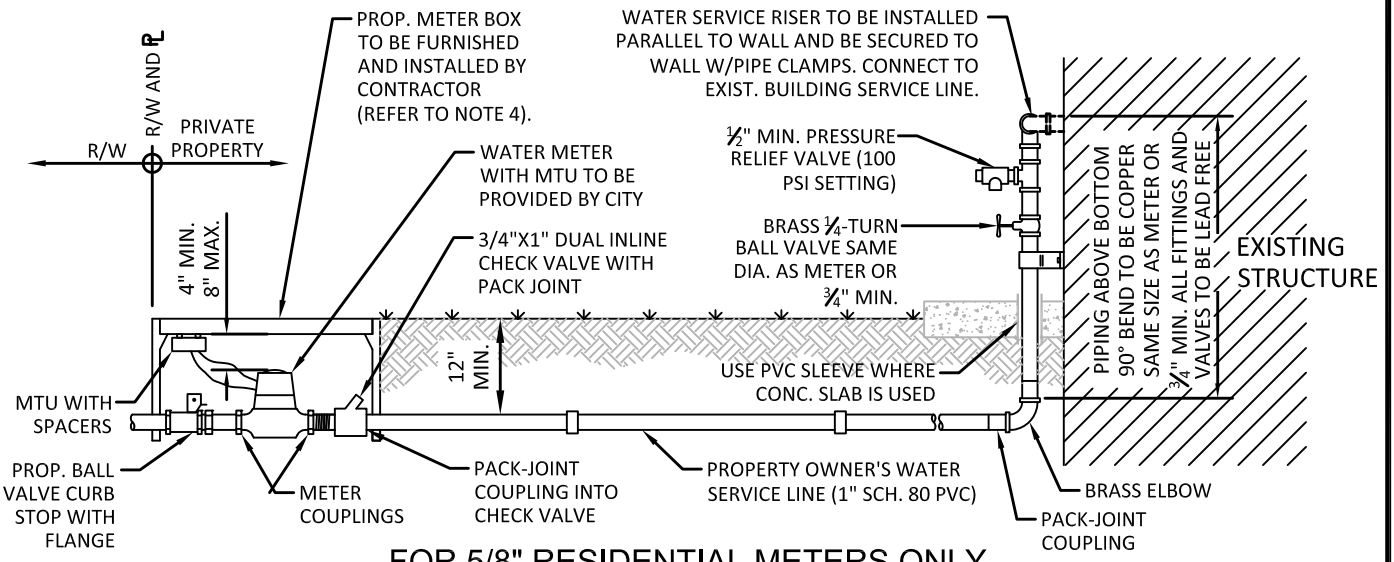


CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 11/06/2017
	DRAWN: EAM	TYPICAL 2-INCH HDPE WATER SERVICE FOR SINGLE/DUAL 5/8" TO 1" METERS, AND ANY SINGLE 1-1/2" TO 2" METERS	DRAWING NO. W-09
	APPROVED: XXX		



FOR 1", 1-1/2" & 2" RESIDENTIAL METERS, AND FOR ALL COMMERCIAL PROPERTIES REGARDLESS OF METER DIAMETER

SCALE: N.T.S.



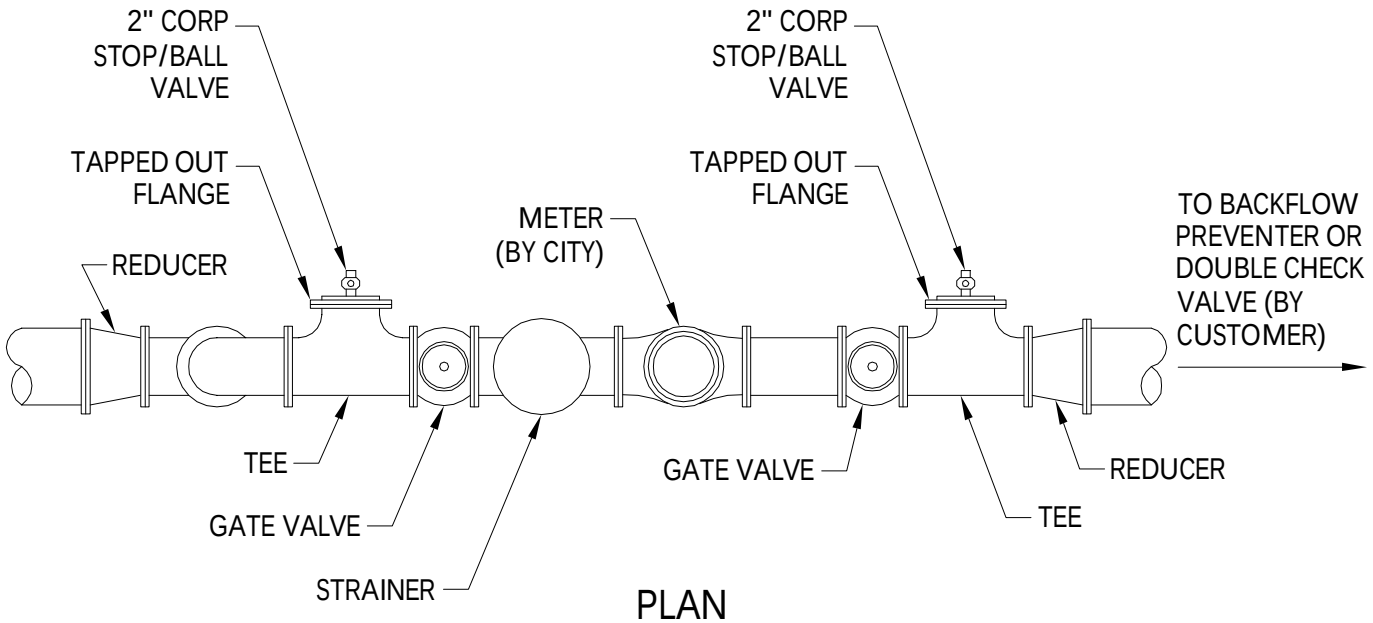
FOR 5/8" RESIDENTIAL METERS ONLY

SCALE: N.T.S.

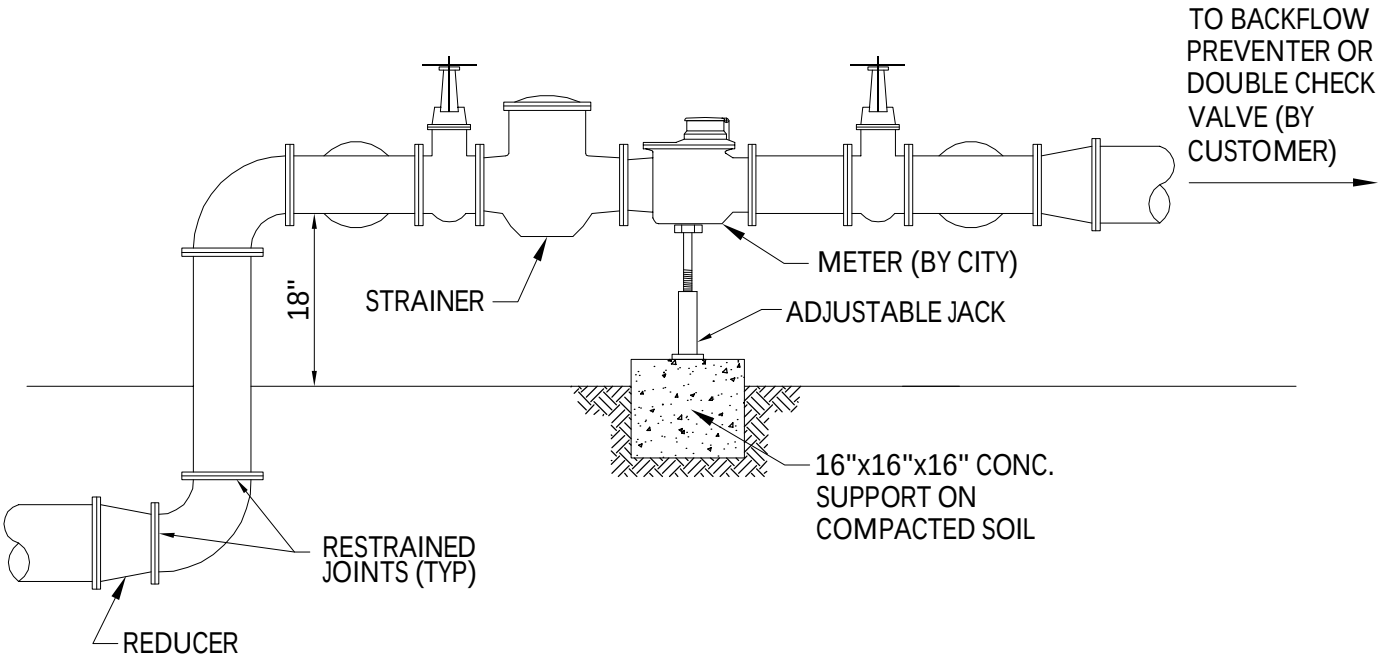
NOTES FOR ALL SERVICES:

1. IF EXISTING HOSE BIB IS REMOVED, DAMAGED, OR NO HOSE BIB EXISTS, ONE MUST BE INSTALLED: A HOSE BIB VACUUM BREAKER MUST BE INSTALLED AS REQUIRED TO COMPLY WITH THE LATEST REVISION OF THE FLORIDA BUILDING CODE.
2. THREADED PVC FITTINGS (MALE OR FEMALE) NOT ALLOWED. ALL TRANSITIONS FROM PVC TO METAL PIPING/FITTINGS SHALL USE COMPRESSION PACK-JOINT COUPLINGS. THIS INCLUDES PVC CONNECTIONS TO INLINE CHECK VALVE AND BACKFLOW PREVENTER.
3. PIPE CLAMPS FOR ATTACHING WATER SERVICE RISER TO WALL SHALL BE HOT-DIPPED GALVANIZED, WITH ISOLATION MATERIAL BETWEEN THE PIPE AND GALVANIZED METAL.
4. IF EXISTING CONCRETE METER BOX IS IN ACCEPTABLE CONDITION (AS DETERMINED BY ECSD) IT MAY BE RE-USED.
5. IF EXISTING BACKFLOW PREVENTER IS DETERMINED TO BE IN ACCEPTABLE CONDITION IT MAY BE RE-USED PROVIDED IT IS RE-CERTIFIED.
6. ALL PRIVATE SERVICE LINE INSTALLATIONS SHALL COMPLY WITH THE LATEST REVISION OF THE FLORIDA BUILDING CODE.
7. ALL FITTINGS TO BE BRASS.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 02/14/2018
	DRAWN: EAM	TYPICAL WATER SERVICE FROM METER TO STRUCTURE FOR 5/8" THROUGH 2" METERS	DRAWING NO. W-10
	APPROVED: XXX		



PLAN

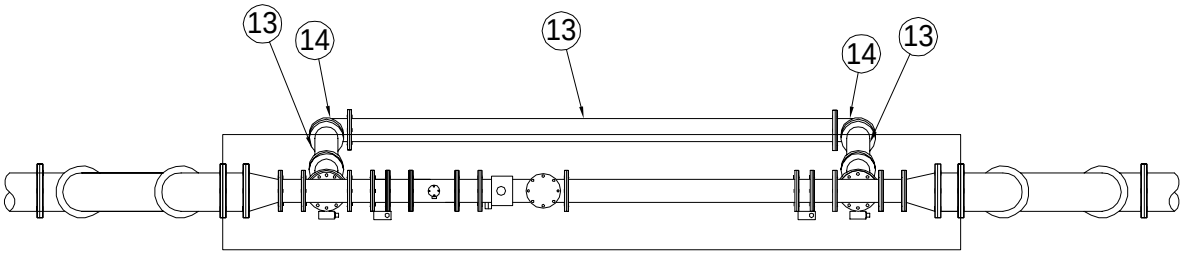


ELEVATION

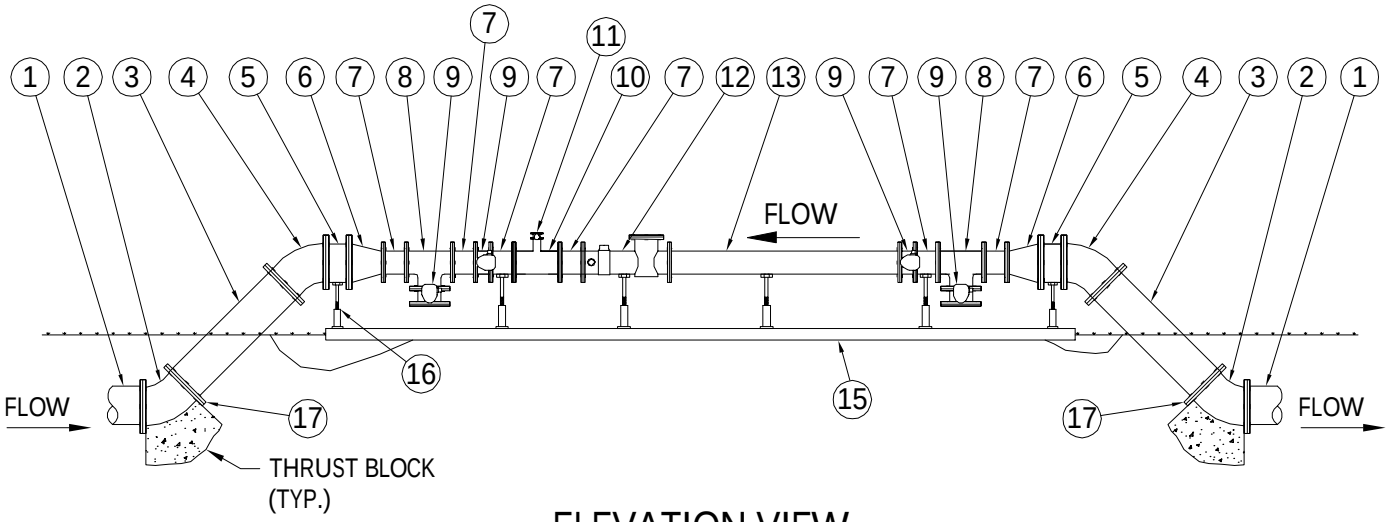
NOTES:

1. THE WATER METER AND STRAINER IS PROVIDED BY THE CITY OF HOLLYWOOD.
2. THE CITY'S RESPONSIBILITY ENDS AT THE REDUCER PRECEDING THE BACKFLOW PREVENTER.
3. TAPPED OUT FLANGE SHOULD MATCH SIZE OF TEE AND STANDARD 2" CORP STOP OR BALL VALVE.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	TYPICAL METER 3" DIAMETER AND LARGER	DRAWING NO. W-11
	APPROVED: XXX		



PLAN VIEW



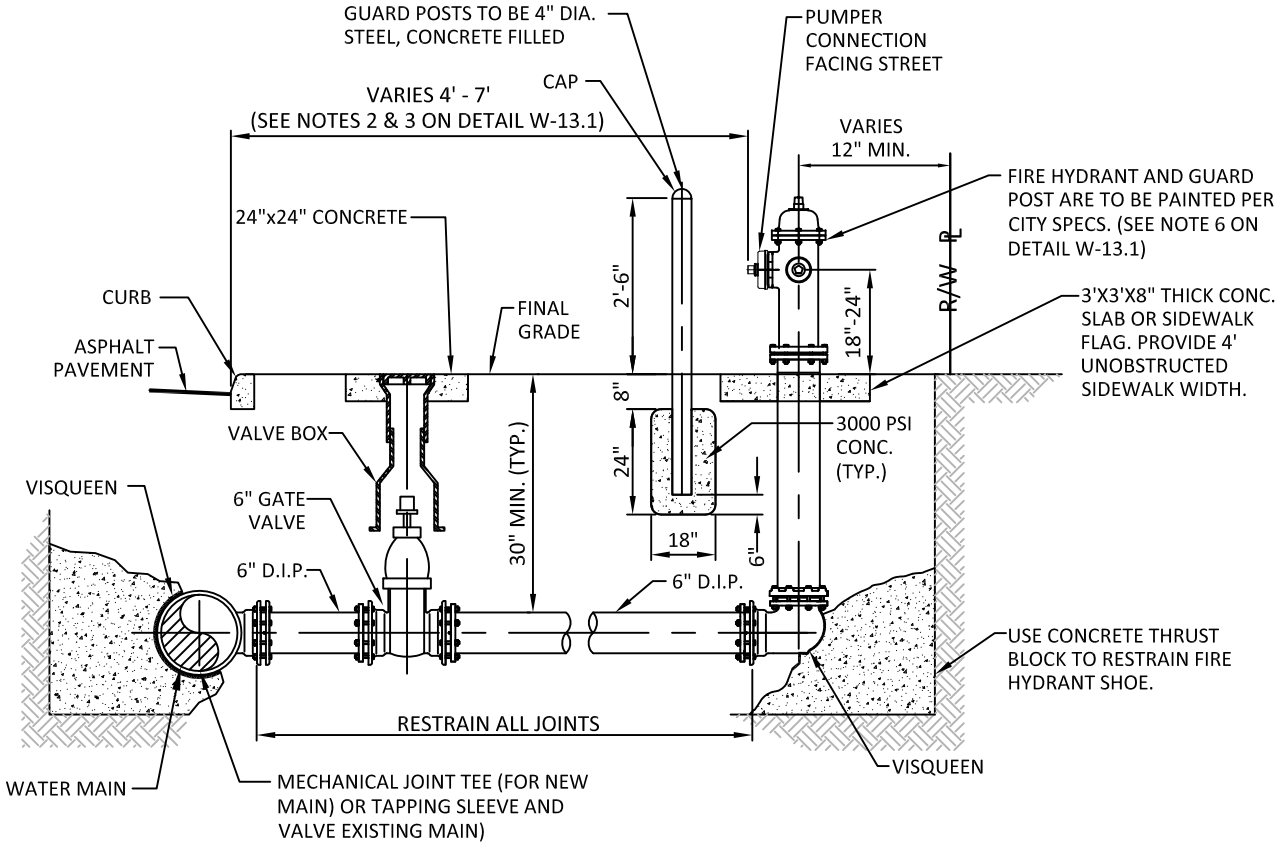
ELEVATION VIEW

MATERIALS					
ITEM	QTY.	DESCRIPTION	ITEM	QTY.	DESCRIPTION
1		20" D.I. PIPE	9	4	12" BUTTERFLY VALVE (FLG. x FLG.)
2	2	20" D.I.P. 45° BEND, M.J. x M.J., RESTRAINED	10	1	12" x 4" TEE (FLG. x FLG.)
3	2	20" D.I. SPOOL PIECE (P.E. x FLG.)	11	1	4" BUTTERFLY VALVE (FLG. x FLG.)
4	2	20" D.I.P. 45° BEND (FLG. x FLG.)	12	1	12" TURBINE METER
5	2	20" D.I. SPOOL PIECE (12" LONG) (FLG. x FLG.)	13	3	12" D.I. SPOOL PIECE (FLG. x FLG.)
6	2	20"x12" D.I.P. REDUCER (FLG. x FLG.)	14	2	12" D.I.P. 90° BEND (FLG. x FLG.)
7	6	12" D.I. SPOOL PIECE (12" LONG) (FLG. x FLG.)	15	1	3'W x 8" THICK CONC. SLAB W/#4 @ 12" O.C. E.W.
8	2	12" x 12" D.I.P. TEE (FLG. x FLG.) ROTATED DOWN 45°	16	6	SCREW JACK / ANCHORED

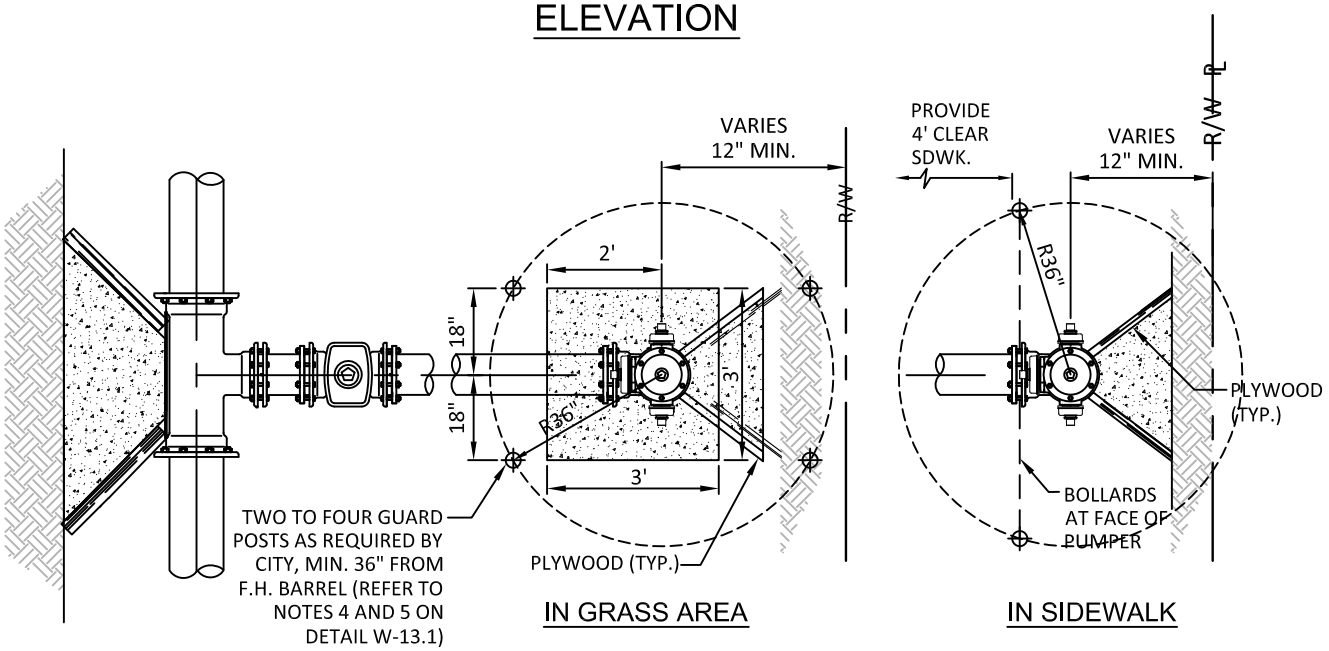
NOTES:

1. FIELD ADJUST AND CUT ITEM 3 TO THE PROPER LENGTH.
2. ALL PIPING SHALL BE D.I.P. CL 50/52 AS APPLICABLE TO MINIMUM STANDARDS.
3. USE 90° BENDS WHEN WORKING AREA IS LIMITED.
4. ADJUSTABLE PIPE SADDLE SUPPORTS SHALL BE SIZED TO FIT CURVATURE OF PIPE, WITH GALVANIZED STEEL PIPE AND FLOOR FLANGE. ATTACH FLOOR FLANGE TO CONCRETE SLAB WITH GALVANIZED EXPANSION BOLTS.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	12" CLASS II TURBINE METER ASSEMBLY FOR 20" WATER MAIN	DRAWING NO. W-12
	APPROVED: XXX		



ELEVATION



PLAN VIEW

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 03/05/2019
	DRAWN: EAM	TYPICAL FIRE HYDRANT INSTALLATION	DRAWING NO. W-13
	APPROVED: XXX		

NOTES:

1. IN ALL CASES, PROVIDE 4' UNOBSTRUCTED SIDEWALK CLEAR OF THE FIRE HYDRANT AND BOLLARDS.
2. FIRE HYDRANTS SHALL BE LOCATED BETWEEN 4' AND 7' FROM THE FACE OF CURB.
3. FIRE HYDRANTS SHALL NOT BE LOCATED WITHIN A RADIUS OR WITHIN FDOT CLEAR DRIVING ZONE.
4. GUARD POSTS SHALL BE INSTALLED AS REQUIRED FOR SAFETY OR AS APPROVED BY THE DEPT. OF PUBLIC UTILITIES. IN SIDEWALK, LOCATE GUARD POSTS AT THE FACE OF THE PUMPER AND 2'-6' LEFT/RIGHT OF ℄ OF THE FIRE HYDRANT.EXTRA POSTS MAY BE REQUIRED IN INDUSTRIAL AND CONGESTED TRAFFIC AREAS. (4 POSTS MAX.)
5. FIRE HYDRANT CONCRETE SLAB AND CONCRETE GUARD POST FOOTINGS SHALL BE DIFFERENT POURS.
6. THE FIRE HYDRANT BONNET, OPERATING NUT, HOLD-DOWN NUT, PUMPER CAP AND HOSE CAPS SHALL BE PAINTED GREEN, AND THE HYDRANT UPPER BARREL SHALL BE PAINTED SILVER IN ACCORDANCE WITH CITY SPECIFICATIONS.

CITY OF HOLLYWOOD, FLORIDA – DIAMOND OF THE GOLD COAST – INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	TYPICAL FIRE HYDRANT NOTES	DRAWING NO. W-13.1
	APPROVED: XXX		

WATER MAIN TESTING AND DISINFECTION NOTES:

1. NO CONNECTIONS TO THE EXISTING LINES SHALL BE MADE UNTIL THE PRESSURE AND BACTERIOLOGICAL TESTS HAVE BEEN PERFORMED ON THE PROPOSED WATER MAINS AND THE SYSTEM HAS BEEN APPROVED BY THE CITY OF HOLLYWOOD AND THE BROWARD COUNTY HEALTH DEPARTMENT.

2. THE PRESSURE TEST SHALL BE PERFORMED FOR 2 HOURS AT A CONSTANT PRESSURE OF 150 PSI AND IN ACCORDANCE WITH RULE 62-555.330 (FAC) C600 AWWA LATEST REVISION, EXCEPT AS OTHERWISE SPECIFIED HEREIN AND IN SPECIFICATION SECTION 15995, "PIPELINE TESTING AND DISINFECTION". PRESSURE TEST SHALL BE WITNESSED BY THE CITY OF HOLLYWOOD. THE ALLOWABLE LEAKAGE SHALL BE LESS THAN THE NUMBER OF GALLONS PER HOUR AS DETERMINED BY THE FORMULA:

$$L = \frac{S \times D \times \sqrt{P}}{148{,}000}$$

   L = THE ALLOWABLE LEAKAGE IN GALLONS PER HOUR.
   S = THE LENGTH OF PIPE BEING TESTED.
   D = THE NOMINAL DIAMETER OF THE PIPE BEING TESTED.
   P = THE AVERAGE TEST PRESSURE IN POUNDS PER SQUARE INCH.

3. THE COMPLETE LENGTH OF THE PROPOSED WATER MAIN SHALL BE TESTED, IN LENGTHS NOT TO EXCEED 2,000 FEET PER TEST.

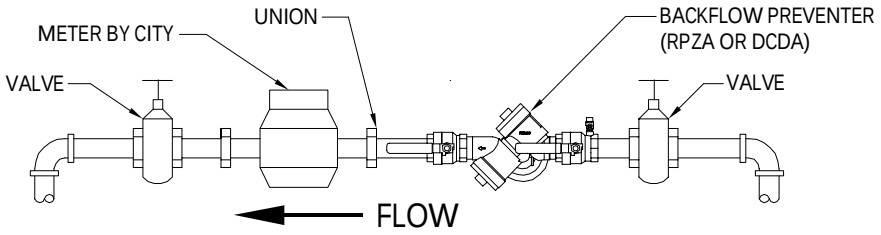
4. PROPOSED WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI/AWWA STANDARD C651 AND BACTERIOLOGICAL TESTED FOR TWO CONSECUTIVE DAYS IN ACCORDANCE WITH SPECIFICATION SECTION 15995, "PIPELINE TESTING AND DISINFECTION".

5. BACTERIOLOGICAL TESTS SHALL BE REQUESTED AND PAID FOR BY THE CONTRACTOR.

6. THE CONTRACTOR SHALL DIRECTLY HIRE A TESTING LABORATORY CERTIFIED BY THE FLORIDA DEPARTMENT OF HEALTH IN ORDER TO COLLECT AND TEST WATER SAMPLES FROM THE WATER DISTRIBUTION SYSTEM TO BE PLACED INTO SERVICE. SAMPLE COLLECTION AND BACTERIOLOGICAL ANALYSES SHALL BE PERFORMED IN ACCORDANCE WITH RULES 62-555.315(6), 62-555.340 AND 62-555.330 (FAC), AS WELL AS ALL REQUIREMENTS OF THE BROWARD COUNTY HEALTH DEPARTMENT PERMIT.

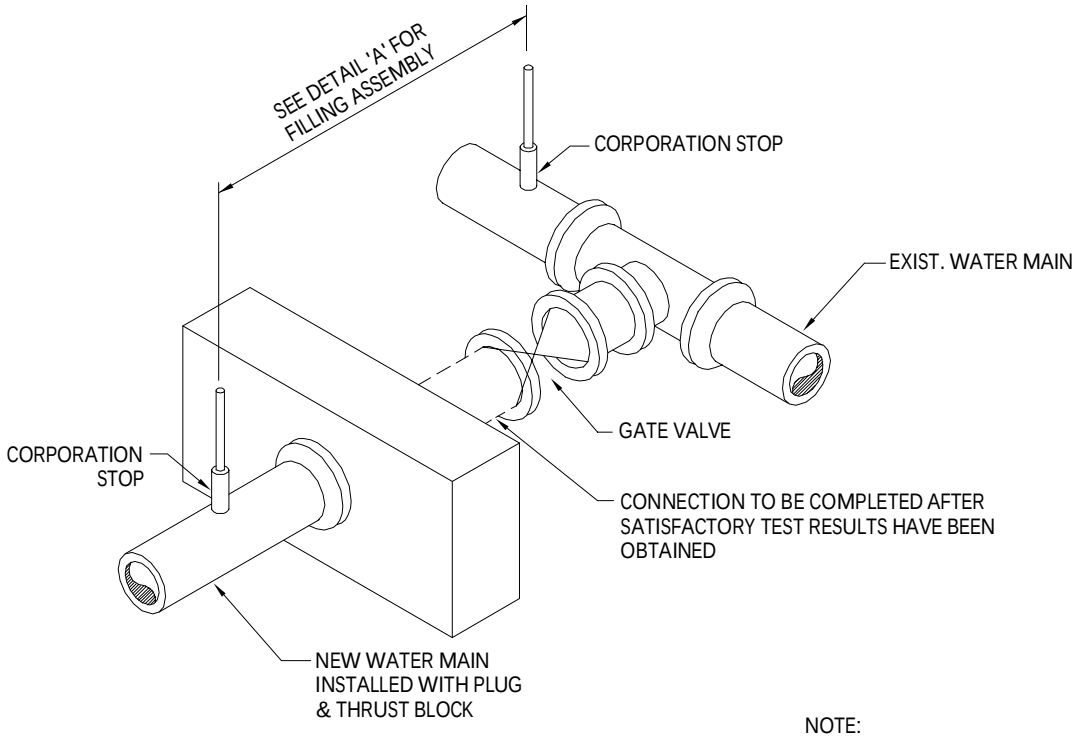
7. THE WATER DISTRIBUTION SYSTEM SHALL NOT BE CONSIDERED COMPLETE AND READY FOR FINAL INSPECTION UNTIL SUCCESSFUL TEST RESULTS ARE OBTAINED FOR ALL TESTS DESCRIBED ABOVE.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	WATER MAIN TESTING AND DISINFECTION NOTES	DRAWING NO. W-14
	APPROVED: XXX		



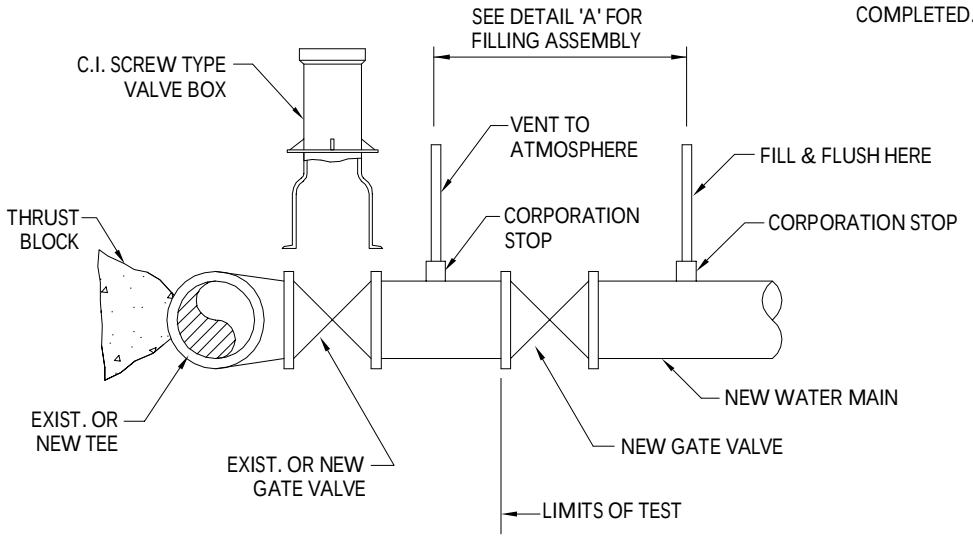
FILLING ASSEMBLY FITTINGS AND EQUIPMENT SHALL BE 2" MAX.

DETAIL 'A'



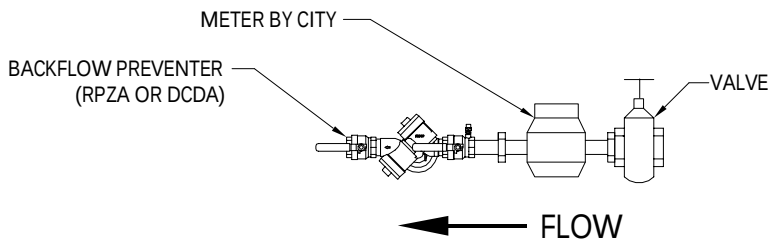
METHOD ``A''

NOTE:
REMOVE TEMPORARY CONNECTION AT CORPORATION STOP ON NEW MAIN AFTER FILLING & FLUSHING HAS BEEN COMPLETED.



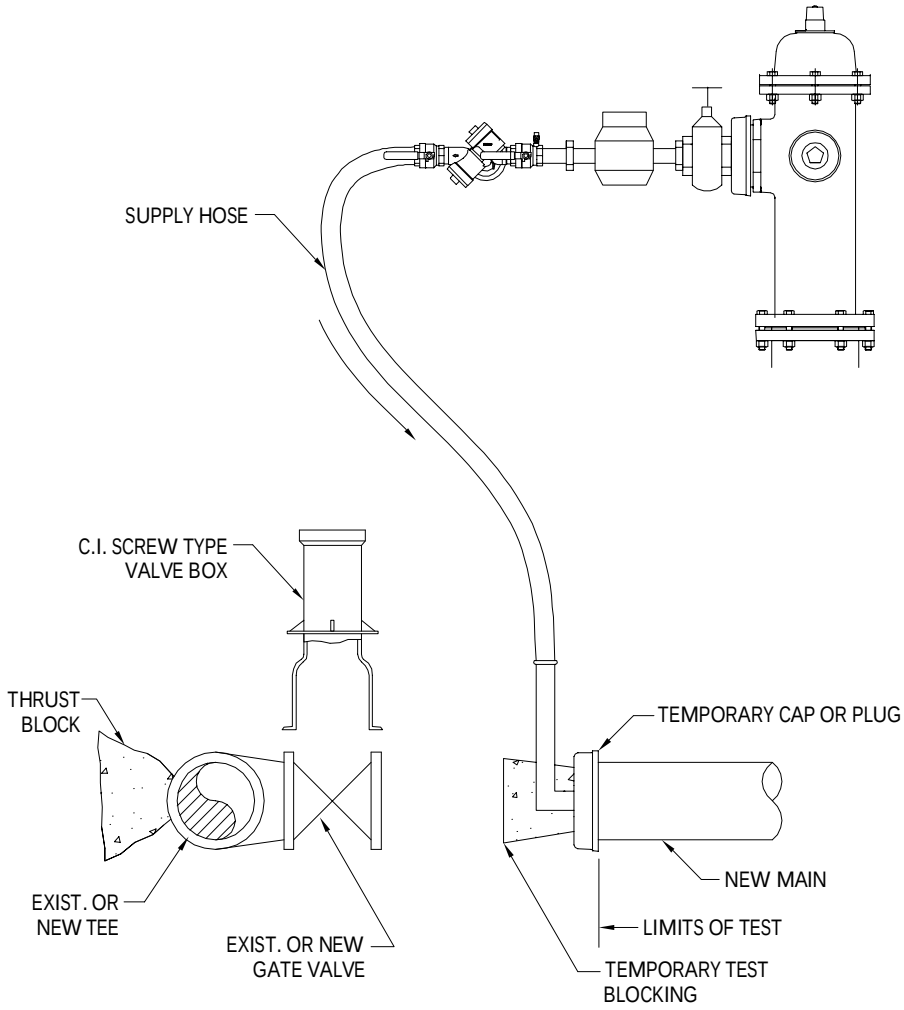
METHOD ``B''

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	FILLING AND FLUSHING DETAILS	DRAWING NO. W-15
	APPROVED: XXX		



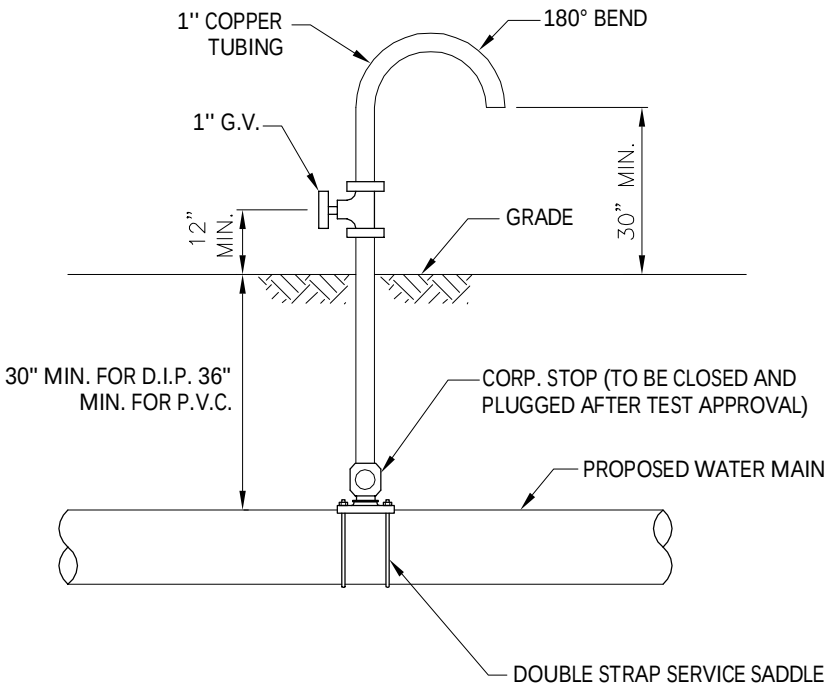
FILLING ASSEMBLY FITTINGS AND EQUIPMENT SHALL BE 2" MAX.

DETAIL 'A'



NOTES:
1. HOSE MUST BE REMOVED DURING THE HYDROSTATIC PRESSURE TEST.
2. REMOVE TEMPORARY CONNECTION ON NEW MAIN AFTER FILLING & FLUSHING HAS BEEN COMPLETED.

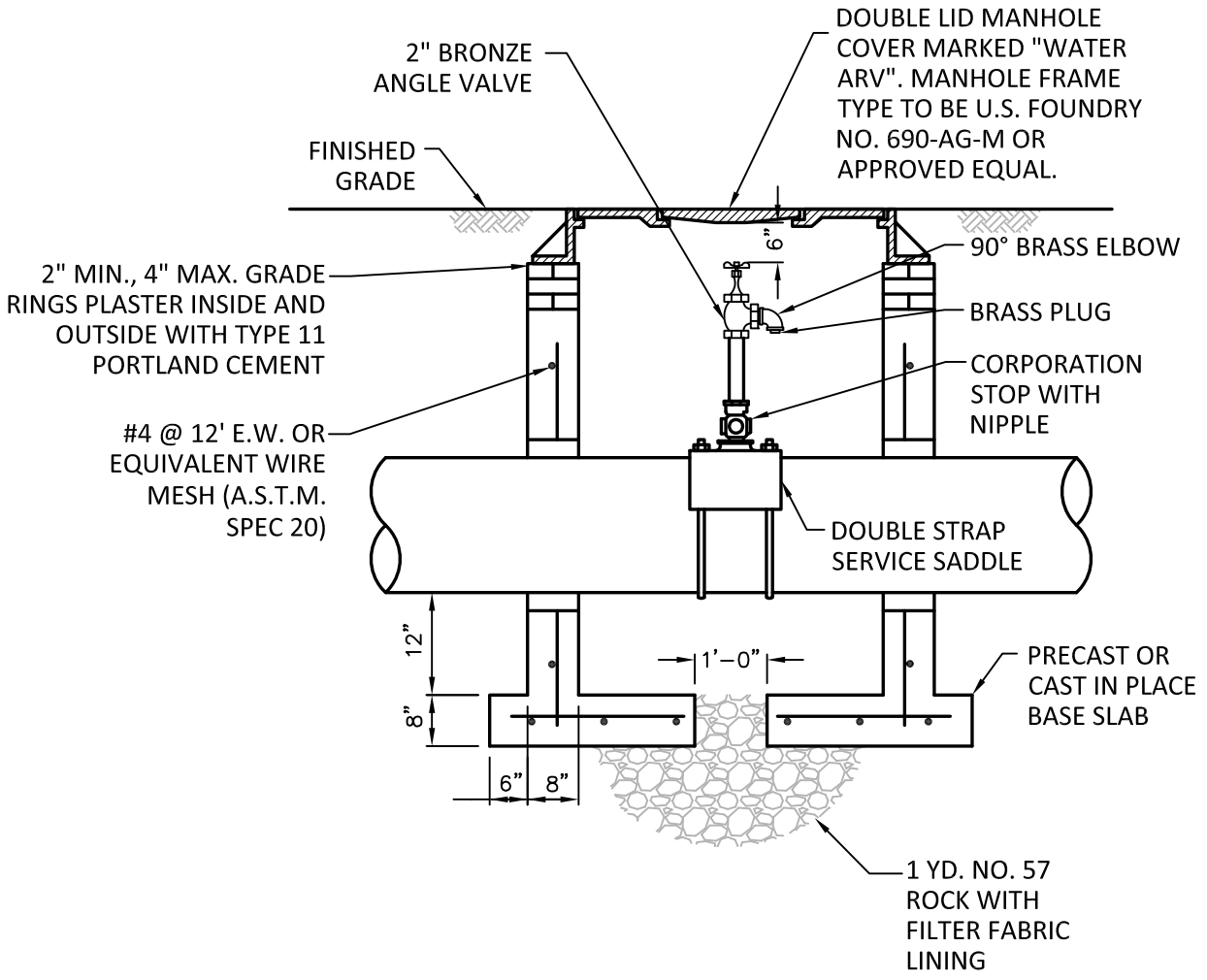
CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	CROSS CONNECTION FILLING AND FLUSHING DETAILS	DRAWING NO. W-15.1
	APPROVED: XXX		



NOTES:

SAMPLING POINT SHALL NOT BE REMOVED UNTIL APPROVAL IS OBTAINED FROM BROWARD COUNTY HEALTH DEPARTMENT.

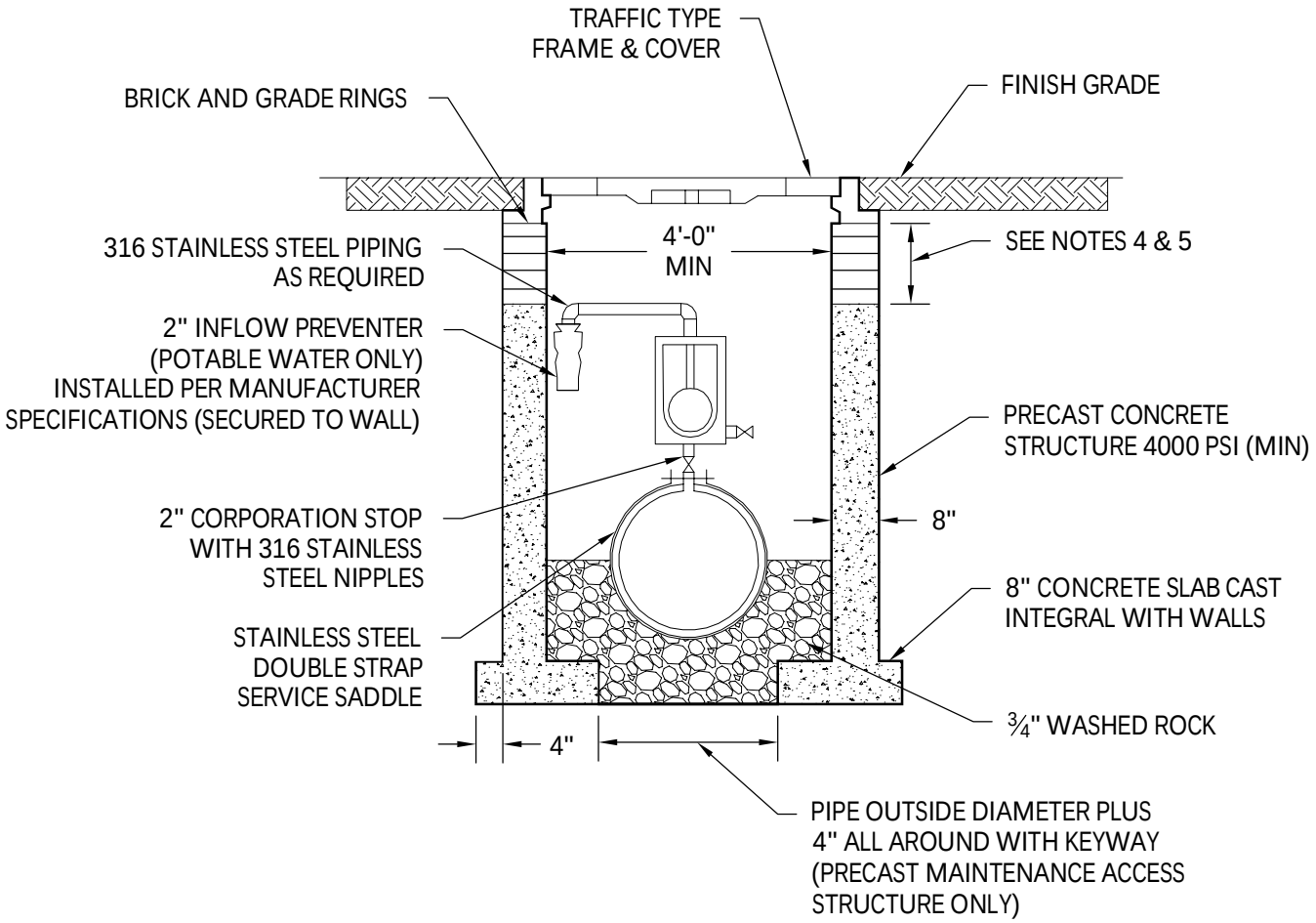
CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	SAMPLING POINT DETAIL	DRAWING NO. W-16
	APPROVED: XXX		



NOTES:

1. ARV ASSEMBLY SHALL BE 1" WHEN INSTALLED ON PIPE 12" IN DIAMETER OR SMALLER. FOR PIPE LARGER THAN 12" IN DIAMETER, USE 2" ARV ASSEMBLY.
2. PRECAST CONCRETE TYPE 4,000 P.S.I.
3. ALL OPENINGS SHALL BE SEALED WITH WATERPROOF, NON-SHRINKING GROUT.
4. LIFT HOLES ARE PERMITTED.
5. ALL PIPE HOLES SHALL BE PRECAST OR CORE-DRILLED.
6. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH A.S.T.M. C-478 LATEST STANDARD.
7. PAINT INSIDE & OUTSIDE WITH 2 COATS OF AN APPROVED PROTECTIVE COATING. (MIN. 10 MIL. D.F.T. PER COAT)
8. CONCRETE COLLAR REQUIRED WHEN MANHOLE IS OUTSIDE PAVEMENT.
9. AIR RELEASE VALVE SHALL BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED.
10. CONSTRUCTION JOINT AT BASE IS PERMITTED.
11. THREADED AREAS OF CORPORATION STOP SHALL BE SPIRAL WRAPPED WITH TWO LAYERS OF TEFLON TAPE.
12. IF MANHOLE IS LARGER THAN 4' DIAMETER USE REDUCING GRADE RING OR CONE SECTION.
13. ALL PIPING SHALL BE COPPER.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 01/08/2019
	DRAWN: EAM	MANUAL AIR RELEASE VALVE ASSEMBLY	DRAWING NO. W-17
	APPROVED: XXX		



NOTES:

1. LIFT HOLES ARE TO BE SEALED WITH ½" THICK MORTAR INSIDE AND OUTSIDE AFTER INSTALLATION.
2. MAINTENANCE ACCESS STRUCTURE WALLS TO BE COATED INSIDE AND OUTSIDE WITH 16 MIL. THICKNESS COAL TAR EPOXY.
3. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF, EXPANDING GROUT. ACTUAL LOCATION AND MAINTENANCE ACCESS STRUCTURE FRAME ELEVATION SHALL BE DETERMINED BY ENGINEER BASED ON AS-BUILT SURVEY DATA.
4. THE CHIMNEY AREA SHALL BE MINIMUM OF 4" AND A MAXIMUM OF 12" IN HEIGHT. A MINIMUM OF 3 COURSES AND MAXIMUM OF 4 COURSES OF BRICK SHALL BE INSTALLED.
5. GRADE RINGS ARE AN ACCEPTABLE ALTERATIVE TO BRICK. A MINIMUM OF 3 GRADE RINGS SHALL BE INSTALLED. SET IN TWO STRIPS OF SEALENT/ADHESIVE COMPOUND ON EACH SEALING FACE.
6. SET MAINTENANCE ACCESS STRUCTURE FRAME ON A BED OF PORTLAND CEMENT AND SILICA SAND. BRING MORTAR UP OVER FRAME.

CITY OF HOLLYWOOD, FLORIDA — DIAMOND OF THE GOLD COAST — INCORPORATED 1925	ISSUED: 03/01/1994	DEPARTMENT OF PUBLIC UTILITIES STANDARD DETAIL	REVISED: 06/08/2014
	DRAWN: EAM	AIR RELEASE VALVE WITH MAINTENANCE ACCESS STRUCTURE	DRAWING NO. W-18
	APPROVED: XXX		

GENERAL NOTES:

1. Cross Slopes and Grades:

   A. Sidewalk, ramp, and landing slopes (i.e. 0.02, 0.05, and 1:12) shown in this Index are maximums. With approval of the Engineer, provide the minimum feasible slope where the requirements cannot be met.

   B. Landings must have cross-slopes less than or equal to 0.02 in any direction.

   C. Maintain a single longitudinal slope along each side of the curb ramp. Ramp slopes are not required to exceed 15 feet in length.

   D. Joints permitted at the location of Slope Breaks. Otherwise locate joints in accordance with Index 522-001. No joints are permitted within the ramp portion of the Curb Ramp.

2. Curb, Curb and Gutter and/or Sidewalk:

   A. Refer to Index 522-001 for concrete thickness and sidewalk details.

   B. Remove any existing curb, curb and gutter, or sidewalk to the nearest joint beyond the curb transition or to the extent that no remaining section is less than 5 feet long.

   C. Width of Curb Ramp is 4'-0" minimum. Match sidewalk or Shared Use Path width as shown in the Plans.

3. Curb Ramp Alpha-Identification:

   A. Sidewalk curb ramp alpha-identifications (e.g. CR-A) are provided for reference purposes in the Plans.

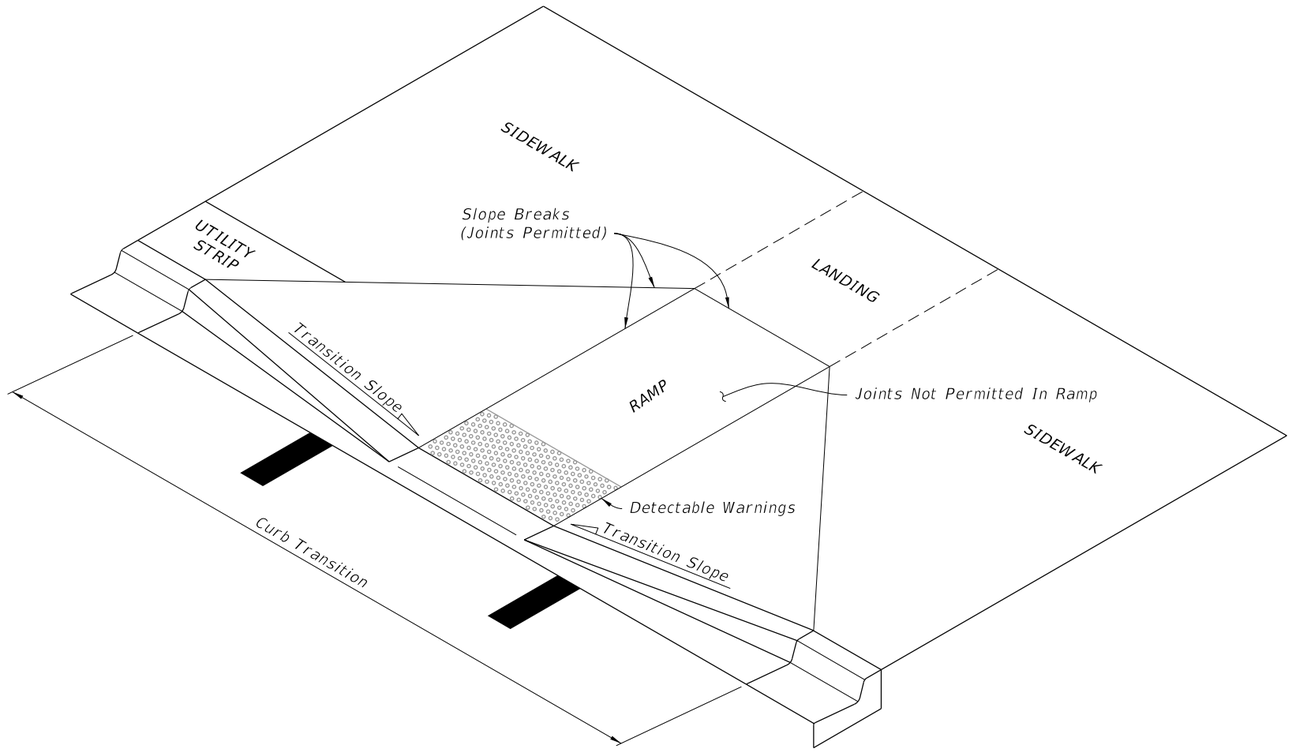
   B. Alpha-identifications CR-I and CR-J are intentionally omitted.

4. Detectable Warnings:

   A. Install detectable warnings in accordance with Specification 527.

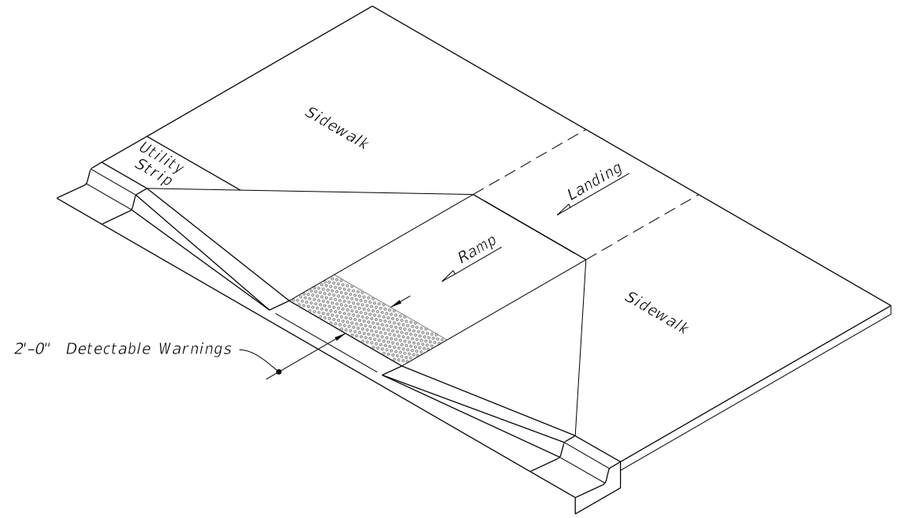
   B. Place detectable warnings across the full width of the ramp or landing, to a minimum depth of 2 feet measured perpendicular to the curb line and no greater than 5 feet from the back of the curb or edge of pavement.

   C. If detectable warnings are shown in the Plans on slopes greater than 5%, align the truncated domes with the centerline of the ramp; otherwise, the truncated domes are not required to be aligned.

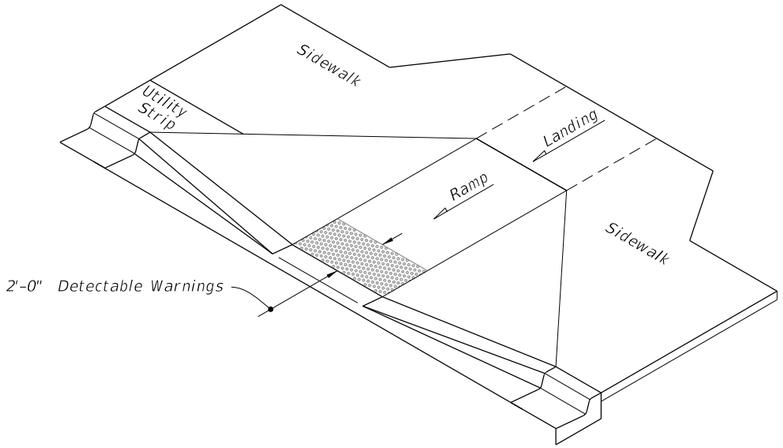


CURB RAMP NOMENCLATURE

10/6/2022 2:15:08 PM



ISOMETRIC VIEW



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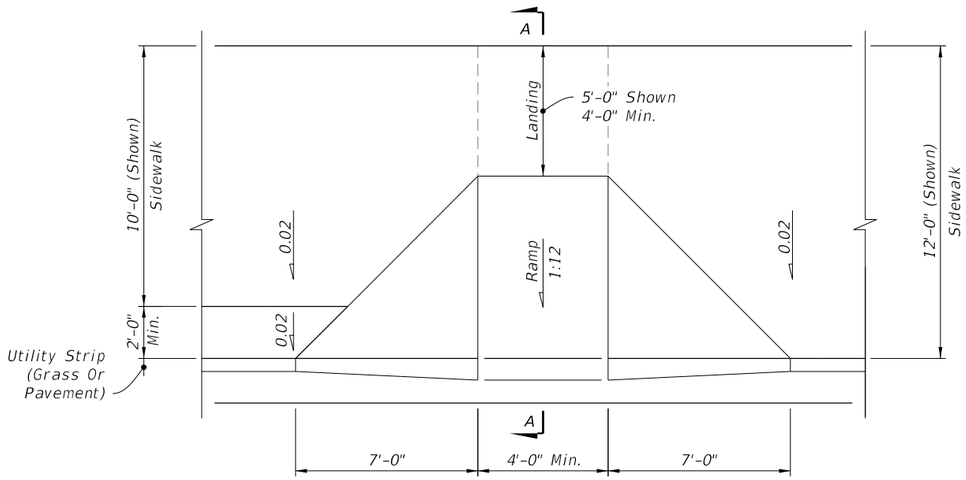
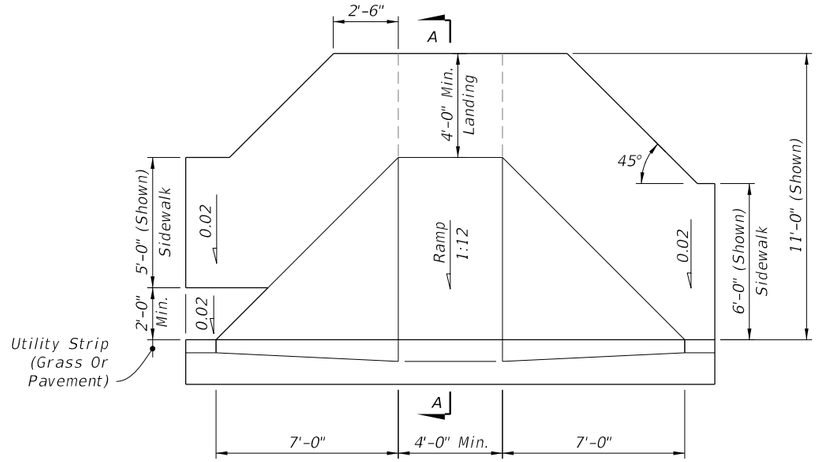


PLAN VIEW

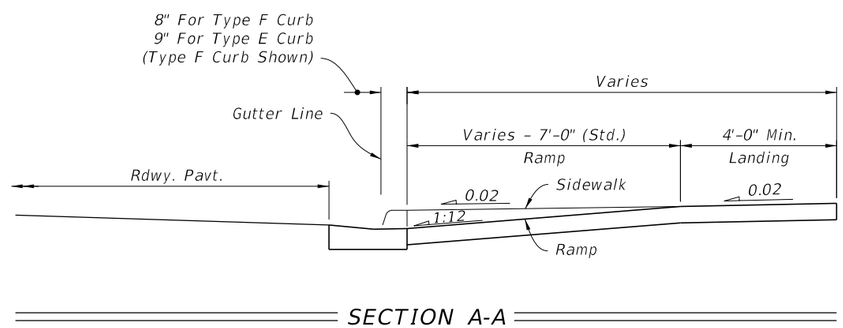
NOTE: For Example of CR-A used in Radial Curb Returns, See Sheet 7.

CR-A



PLAN VIEW

CR-B



SECTION A-A

SIDEWALK CURB RAMPS CR-A AND CR-B

5/24/2024 9:21:10 AM

LAST REVISION	REVISION	DESCRIPTION:	FY 2023-24 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
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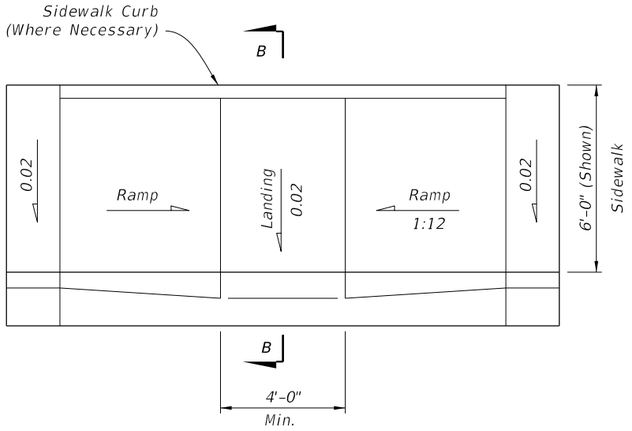
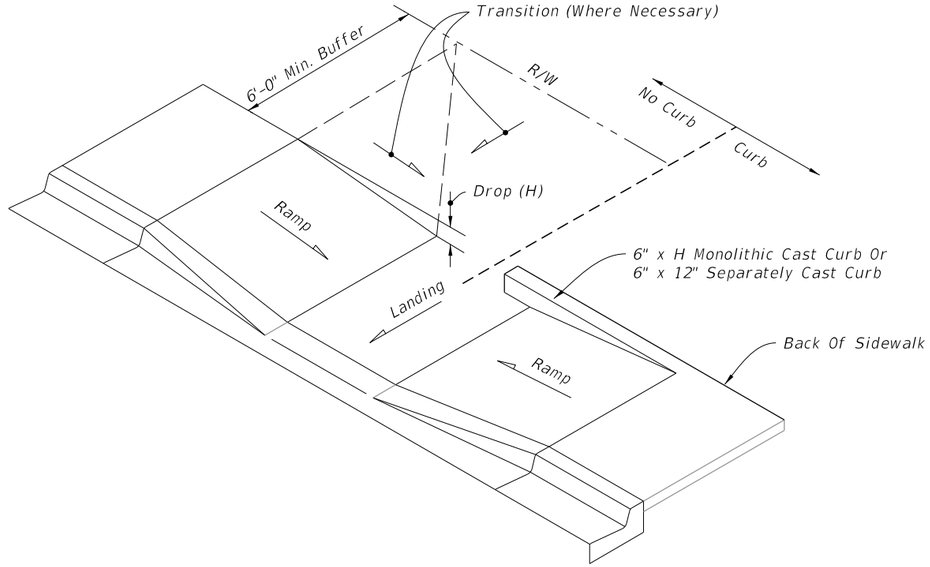
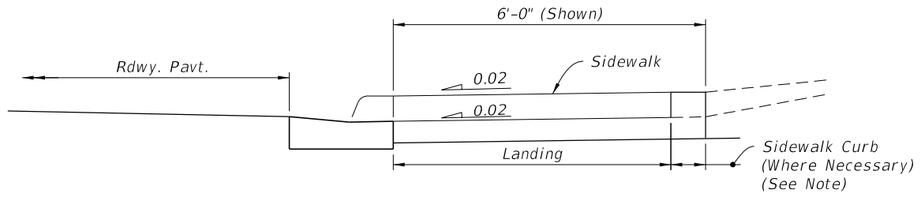


PLAN VIEW

CR-C

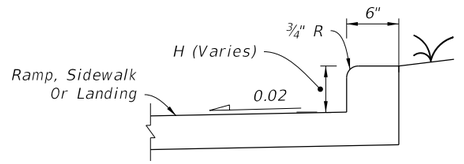


CONSTRUCTION OF SIDEWALK CURB IN CUT SECTIONS

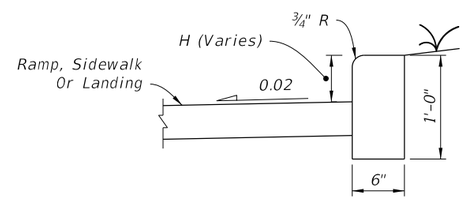


NOTE: For additional information on sidewalk curb construction, see SIDEWALK CURB OPTIONS details.

SECTION B-B



MONOLITHIC CAST CURB



SEPARATELY CAST CURB

SIDEWALK CURB OPTIONS

SIDEWALK CURB RAMPS CR-C AND SIDEWALK CURB

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/20			FY 2023-24 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	522-002	3 of 7

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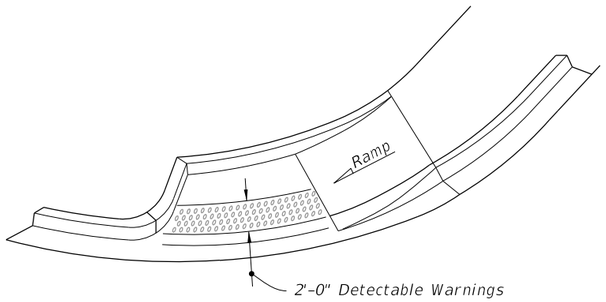
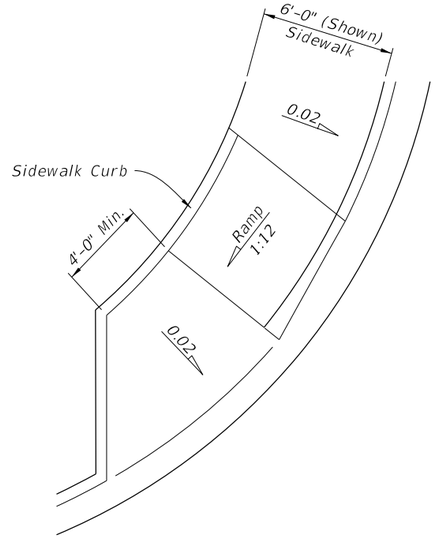
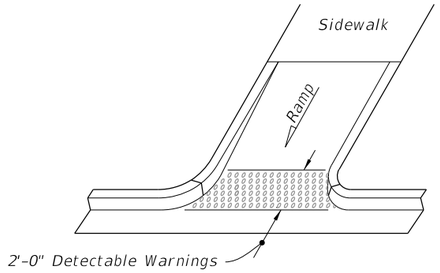


ISOMETRIC VIEW

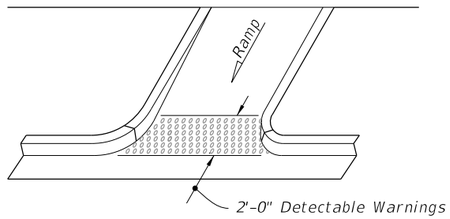


PLAN VIEW

CR-D

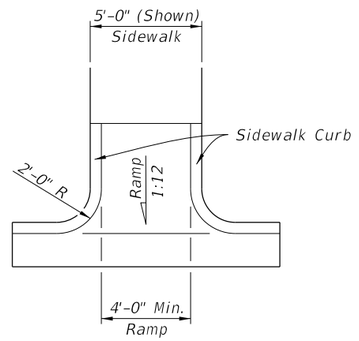


OPTION A



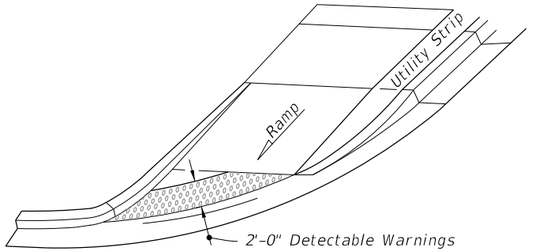
OPTION B

ISOMETRIC VIEW



PLAN VIEW

CR-E



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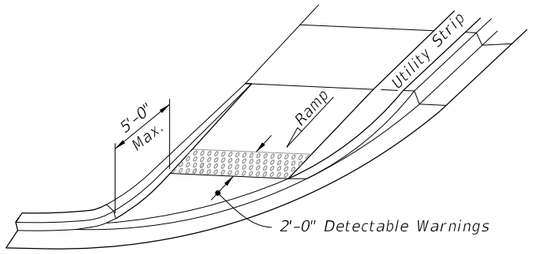

OPTION B

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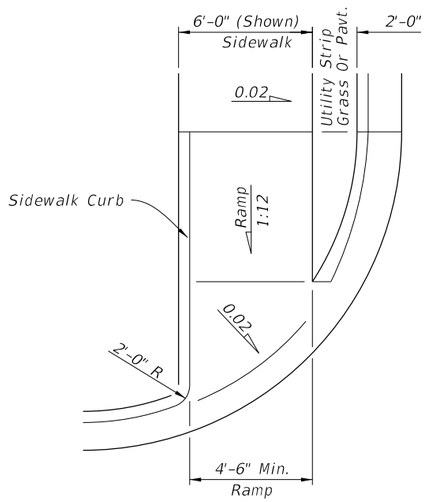
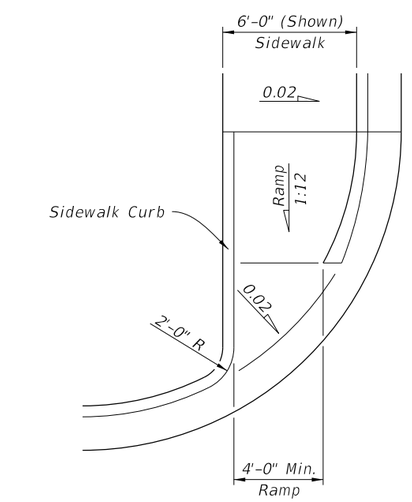


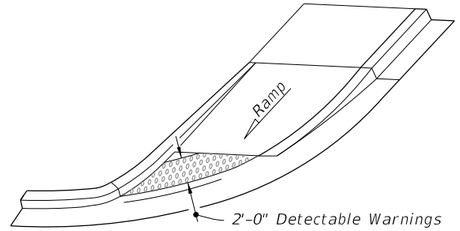
PLAN VIEW

CR-F



PLAN VIEW

CR-G



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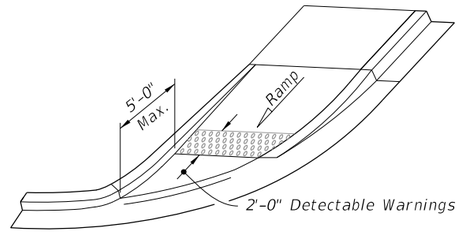

OPTION B

ISOMETRIC VIEW

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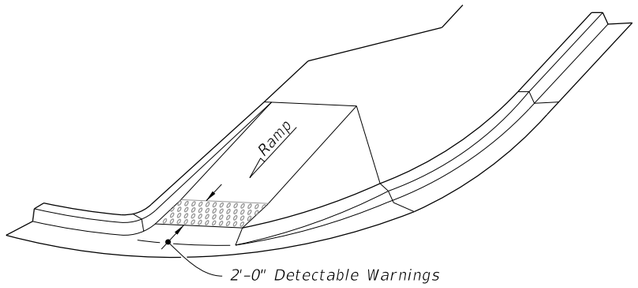
SIDEWALK CURB RAMPS CR-D, CR-E, CR-F & CR-G

LAST REVISION	REVISION	DESCRIPTION:	FY 2023-24 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
11/01/21					522-002	4 of 7



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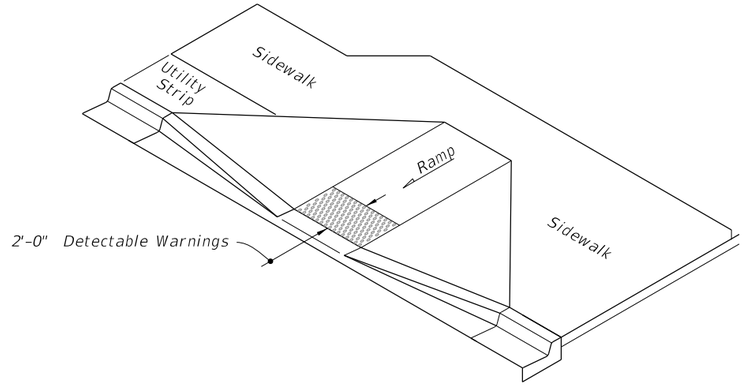

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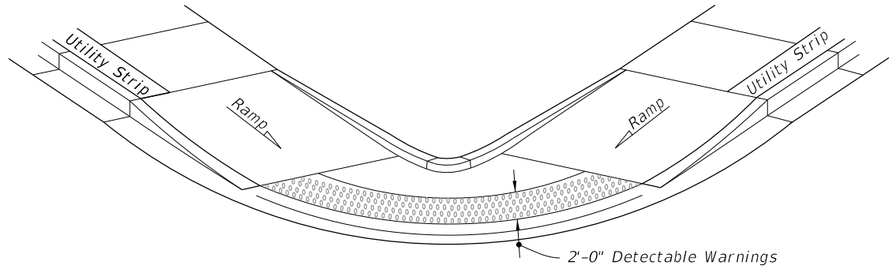

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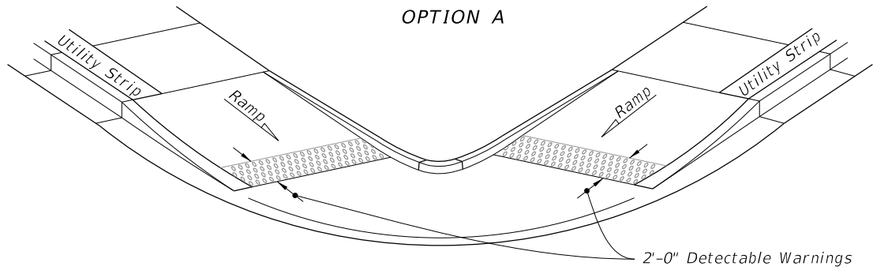
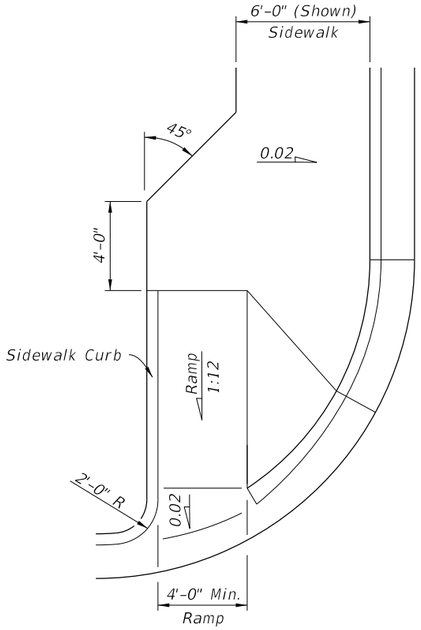


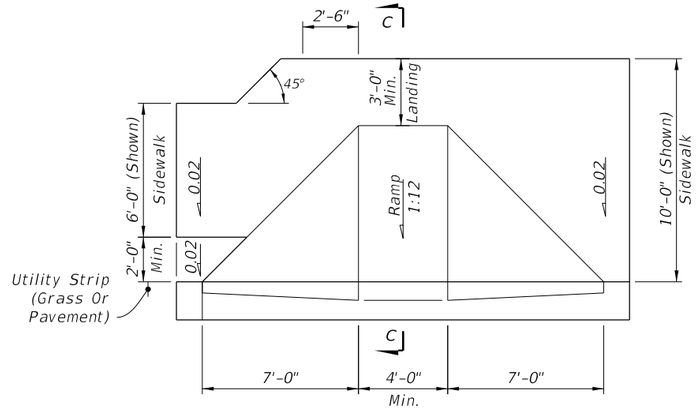
OPTION B

ISOMETRIC VIEW



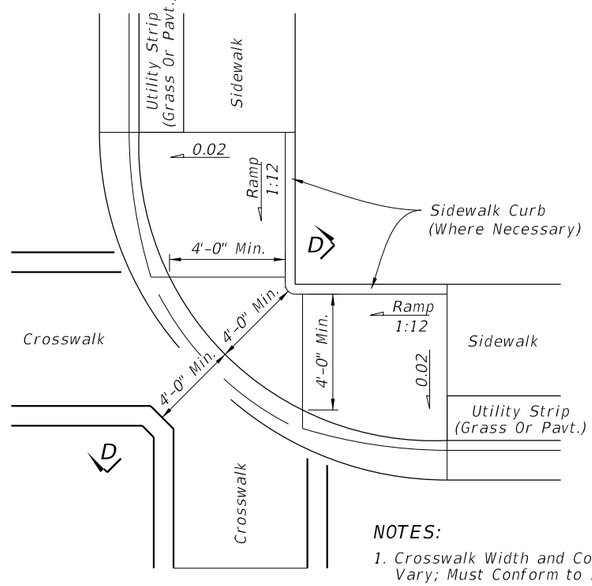
PLAN VIEW

CR-H



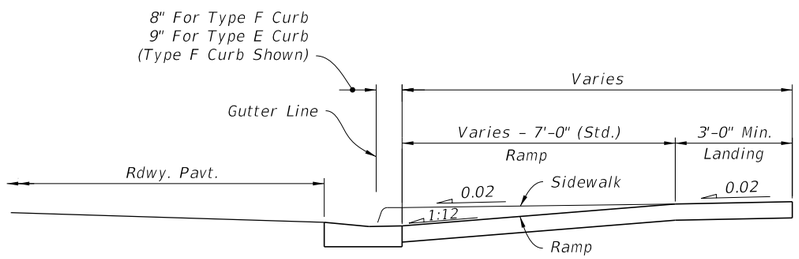
PLAN VIEW

CR-K

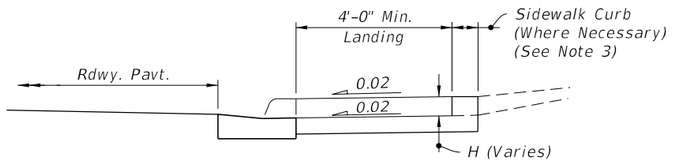


PLAN VIEW

CR-L



SECTION C-C



SECTION D-D

NOTES:

1. Crosswalk Width and Configuration Vary; Must Conform to Index 711-001.
2. 15' Radius Curve Shown for CR-L.
3. For additional information on sidewalk curb construction, see SIDEWALK CURB OPTIONS details, on Sheet 3.

SIDEWALK CURB RAMPS CR-H, CR-K & CR-L

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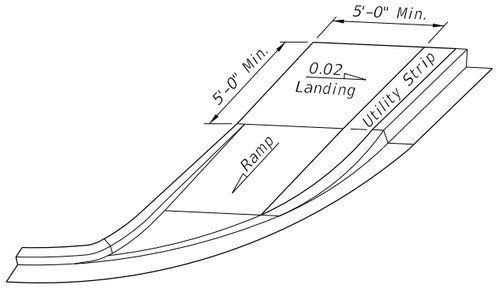
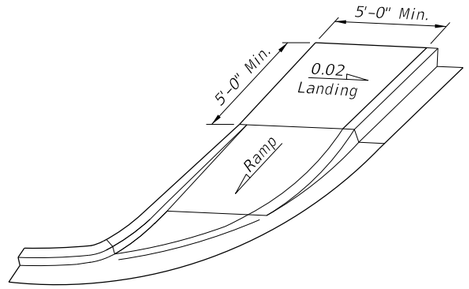
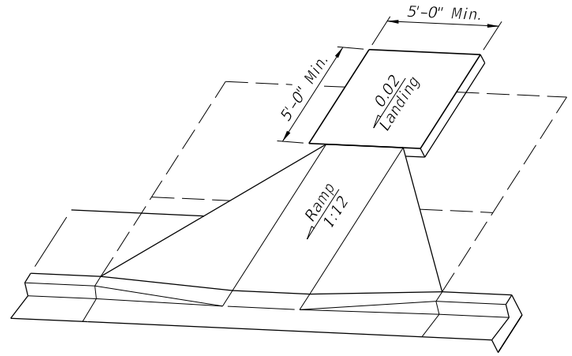
LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/20			FY 2023-24 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	522-002	5 of 7

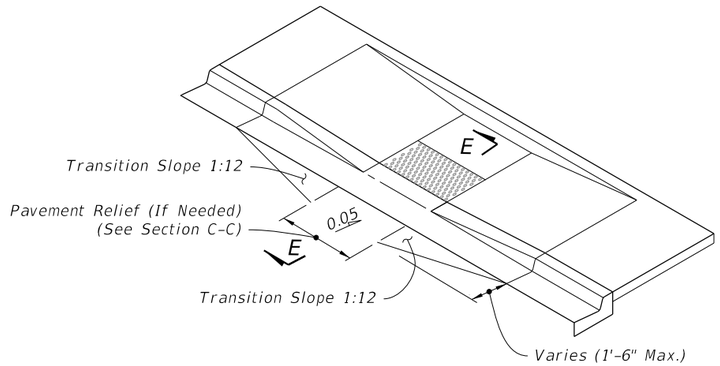






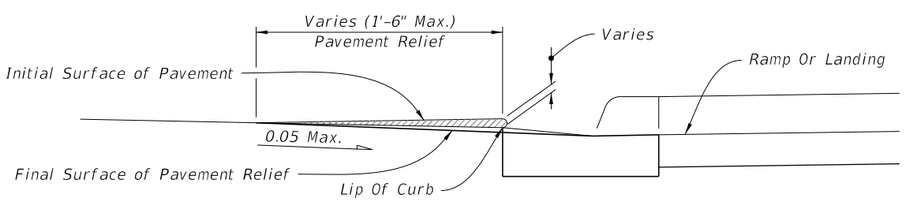
LANDINGS FOR CURB RAMPS WITHOUT SIDEWALKS

(See CR-F, CR-G & CR-K Respectively For Detectable Warning Details/Options)



ISOMETRIC VIEW

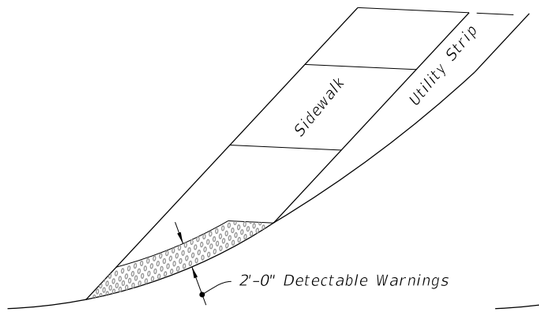
(CR-C Shown, Other Similar)



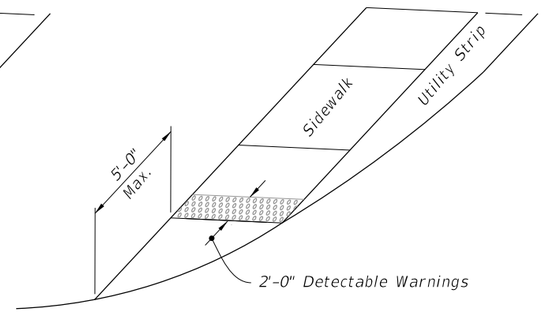
NOTE: Remove Elevated Pavement By Spading And Rolling, Smooth Milling, or Grinding.

SECTION E-E

PAVEMENT RELIEF DETAILS



OPTION A



OPTION B

DETECTABLE WARNING ON FLUSH SHOULDER SIDEWALKS

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CURB RAMPS WITHOUT SIDEWALKS AND FLUSH SHOULDER SIDEWALKS

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
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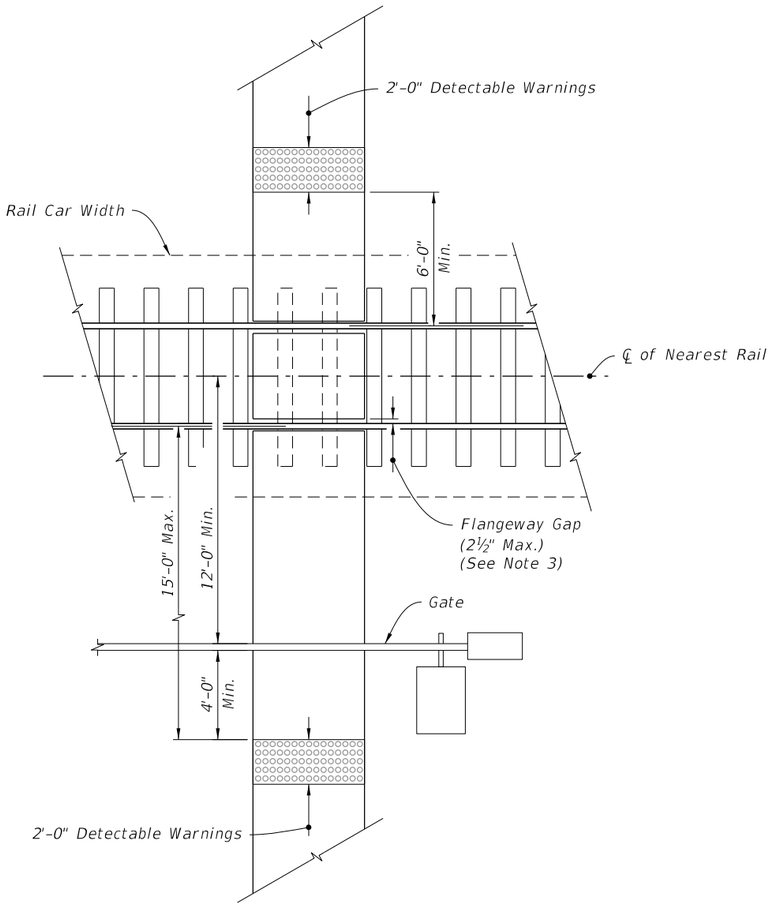
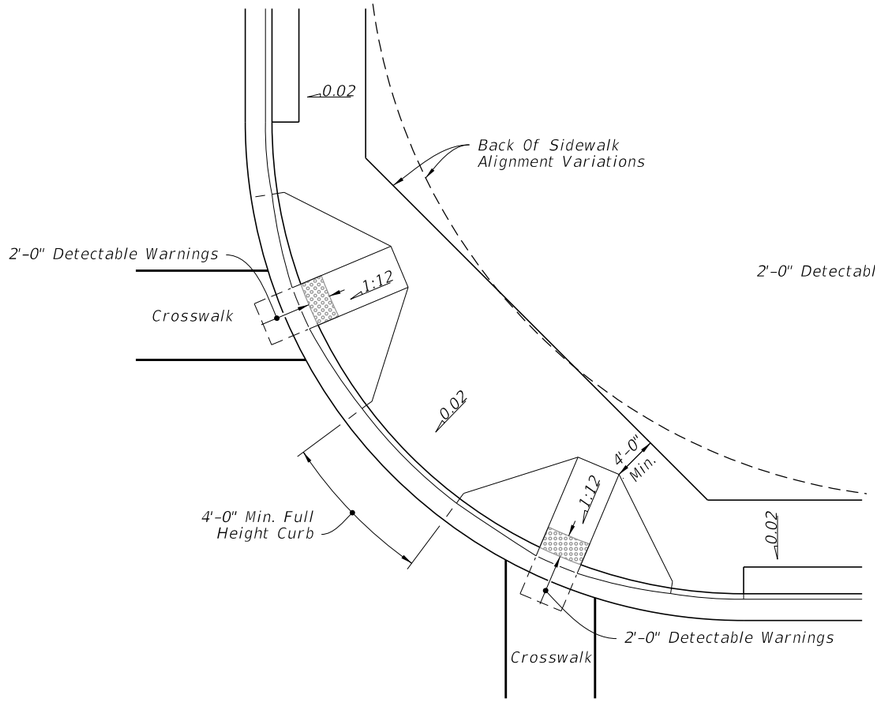
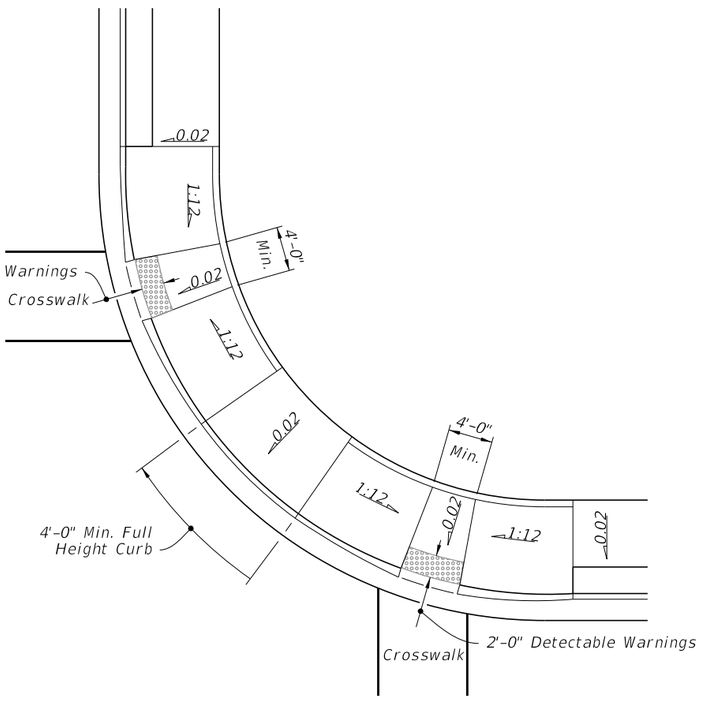
NOTES:

1. Where crosswalk markings are used, ramps must fall within the crosswalk limits. A clear space of 48" minimum is required at the bottom of the ramp within a marked crosswalk. If crosswalk markings are not present, a clear space of 48" minimum is required at the bottom of the ramp outside of active travel lanes.
2. Crosswalk widths and configurations vary; must conform to Index 711-001.
3. Flangeway Gap may be up to 3" for Freight-only Railways.

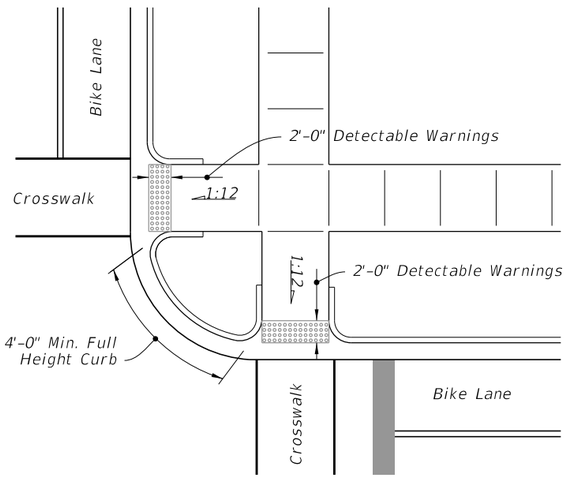


RAILROAD CROSSING

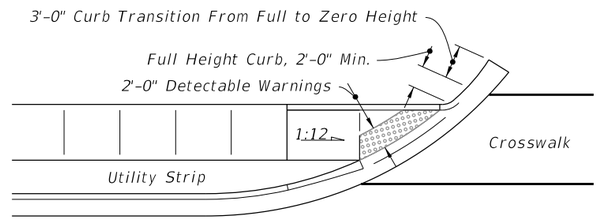




CURB RAMPS WITHIN RADIAL RETURN



CURB RAMPS OUTSIDE RADIAL RETURN



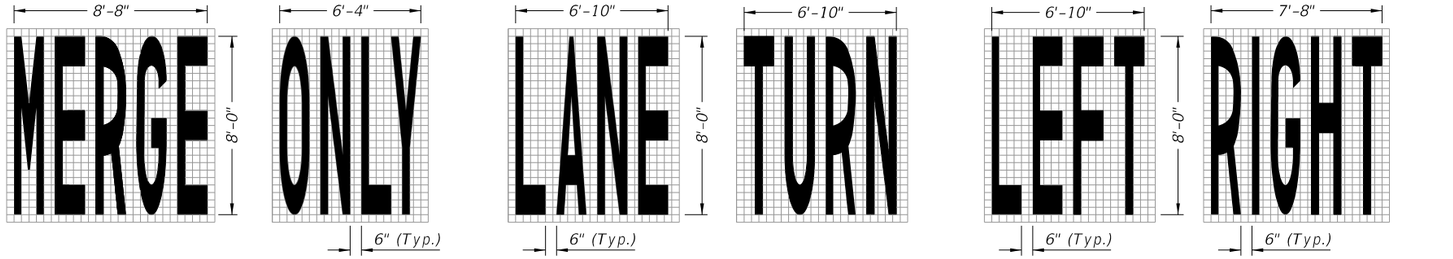
LINEAR SIDEWALK RAMPS

PLACEMENT OF SIDEWALK CURB RAMPS AT CURBED RETURNS (TYP.)

RAILROAD CROSSING AND CURB RAMPS AT CURBED RETURNS

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/20			FY 2023-24 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	522-002	7 of 7

12/13/2022 8:33:09 AM



MERGE — 34 S.F.

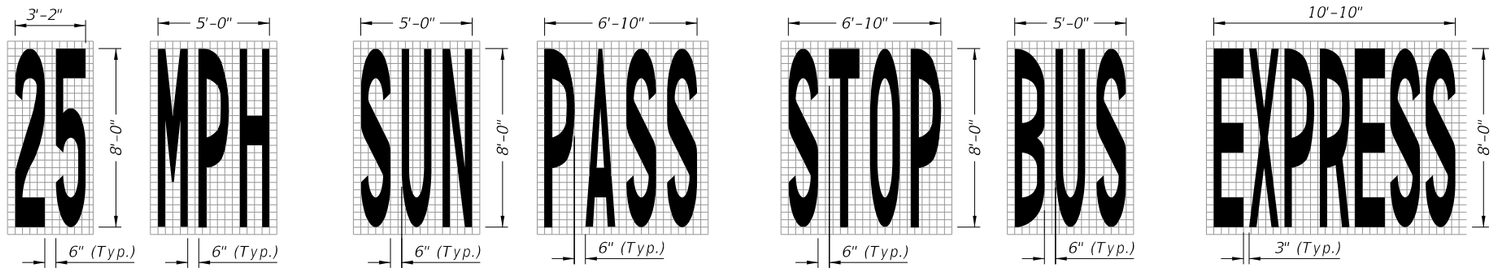
ONLY — 22 S.F.

LANE — 23 S.F.

TURN — 24 S.F.

LEFT — 20 S.F.

RIGHT — 26 S.F.



25 — 13 S.F.

MPH — 20 S.F.

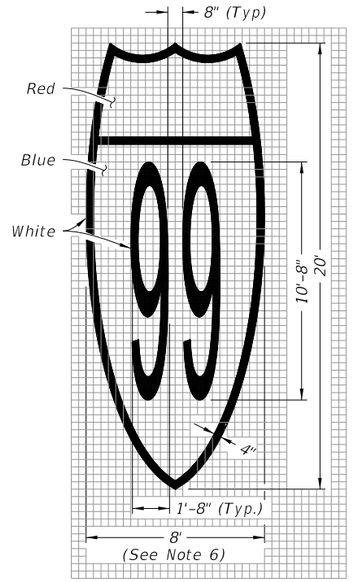
SUN — 20 S.F.

PASS — 23 S.F.

STOP — 22 S.F.

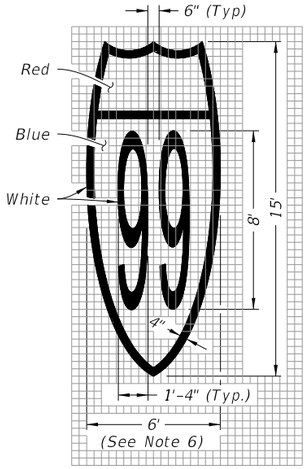
BUS — 20 S.F.

EXPRESS — 43 S.F.



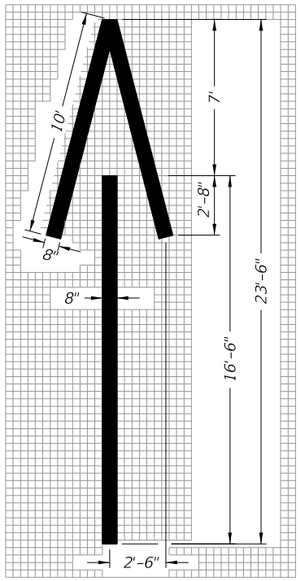
Route Shield for Limited Access Roadways (Interstate Route Shield Shown; U.S. and State Route Shield Similar)

128 S.F.



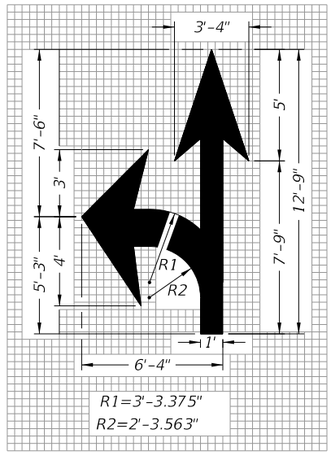
Route Shield for Arterials and Collectors (Interstate Route Shield Shown; U.S. and State Route Shield Similar)

72 S.F.



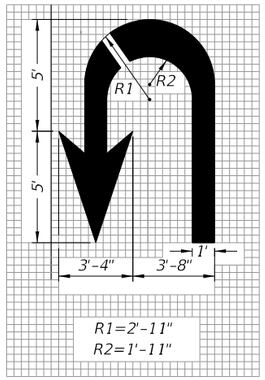
Wrong-Way Arrow

24 S.F.



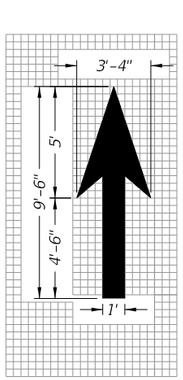
Turn and Through Lane-Use Arrow

29 S.F.



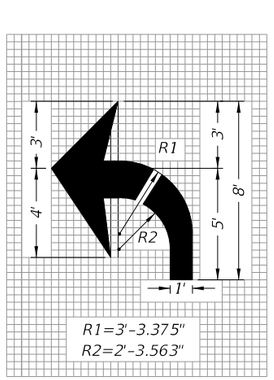
U Turn Lane-Use Arrow

27 S.F.



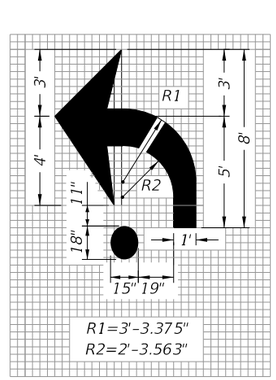
Through Lane-Use Arrow

12 S.F.



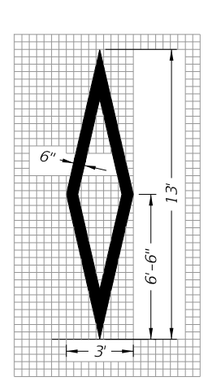
Turn Lane-Use Arrow (Left Turn Shown - Right Turn Similar)

17 S.F.



Roundabout Approach Arrow

19 S.F.



Preferential Lane Symbol

11 S.F.

PAVEMENT MESSAGE SPACING TABLE	
Posted Speed (mph)	Distance "S" (feet)
≤ 25	40
30 - 35	56
40 - 45	72
≥ 50	88

NOTES FOR PAVEMENT MESSAGES:

1. When an arrow and a pavement message are used together, locate the arrow a distance of "S" downstream from the pavement message. Measure the distance from the base of the arrow to the base of the pavement message. See the Pavement Message Spacing Table for "S" value.
2. Place all pavement messages 25' back from the stop line.
3. Dimensions are within 1" ±.
4. All grids are 4" x 4".
5. All pavement messages must be white except route shields.
6. Increase width of route shield for routes with three digits.

PAVEMENT MESSAGE AND ARROW DETAILS

GENERAL NOTE:

1. See Index 509-070 for pavement markings at railroad crossings.

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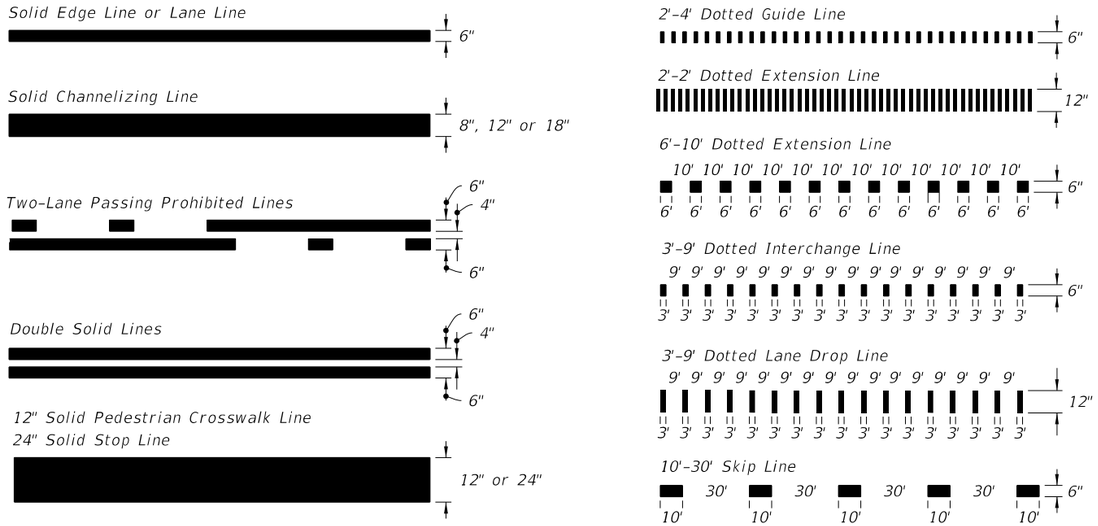
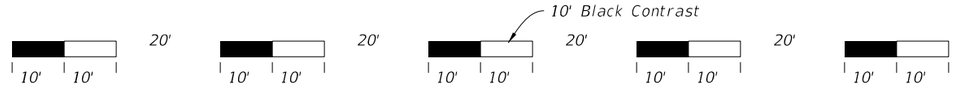


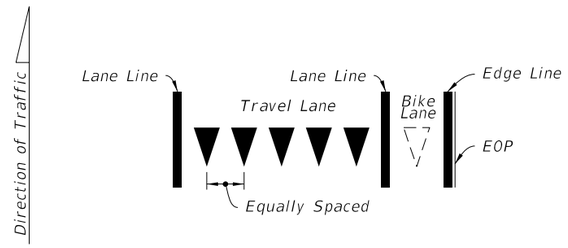
PAVEMENT MARKING LINES



10' White Skip With 10' Black Contrast and 20' Gaps

CONTRAST MARKINGS WITH ALTERNATING SKIP PATTERN

(10'-30' Skip Line Shown, Dotted Lines Similar)



Yield Lines consist of five - 18" X 27" white triangles which face traffic. Equally space triangles within traffic lane. When a bike lane is present, add one additional triangle in the center of the bike lane.

YIELD LINES

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LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
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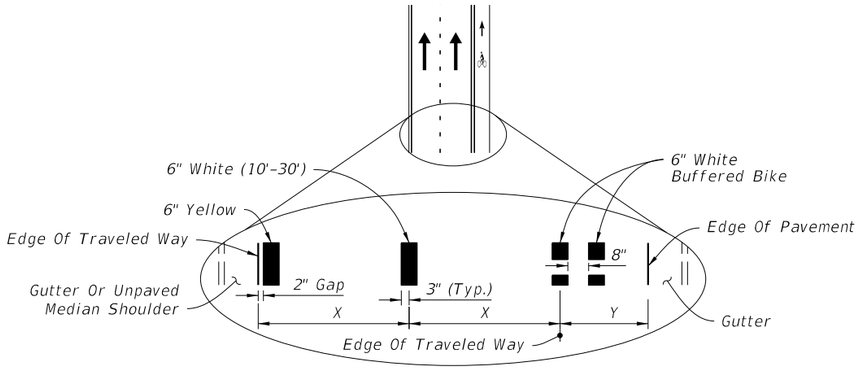
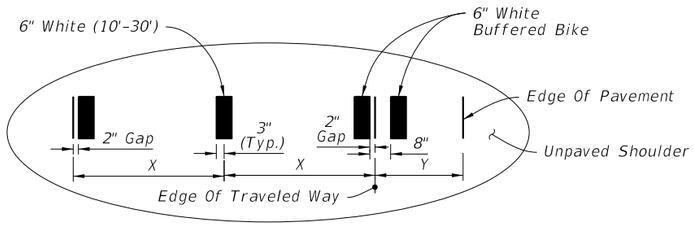


CURB AND GUTTER

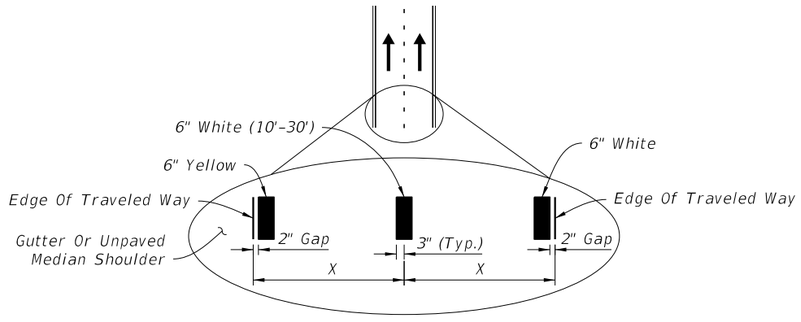


FLUSH SHOULDER

X = LANE WIDTH (FT.)

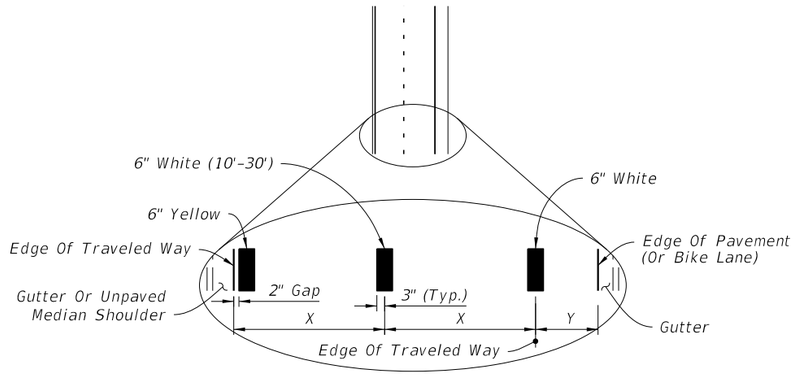
Y = BUFFERED BIKE LANE WIDTH (FT.)

STRIPING FOR BUFFERED BIKE LANE

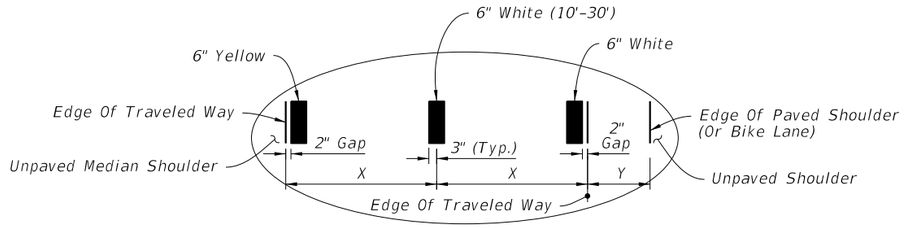


X = LANE WIDTH (FT.)

STRIPING FOR BUFFERED BIKE LANE



CURB AND GUTTER



FLUSH SHOULDER

X = LANE WIDTH (FT.)

Y = PAVED SHOULDER / BIKE LANE

STRIPING WITH SHOULDER OR NON-BUFFERED BIKE LANE

NOTES:

1. Lane widths (X) may not be same for each lane in the section.
2. For placement of RPMs, see Index 706-001.

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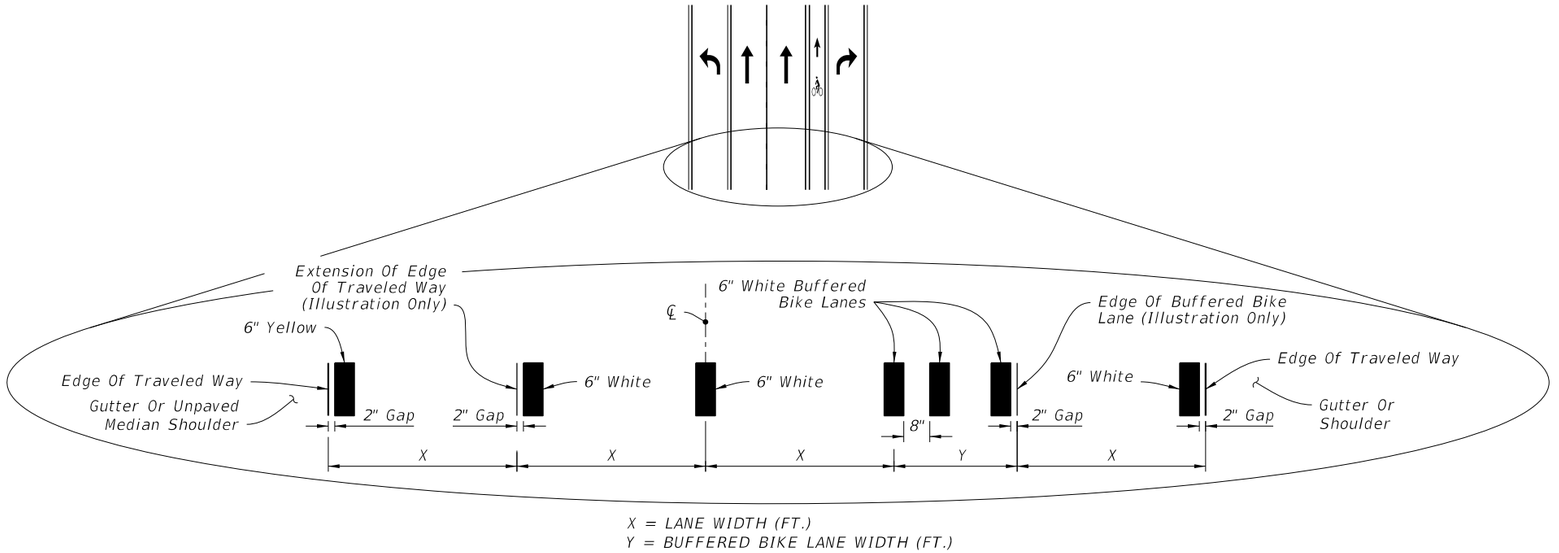
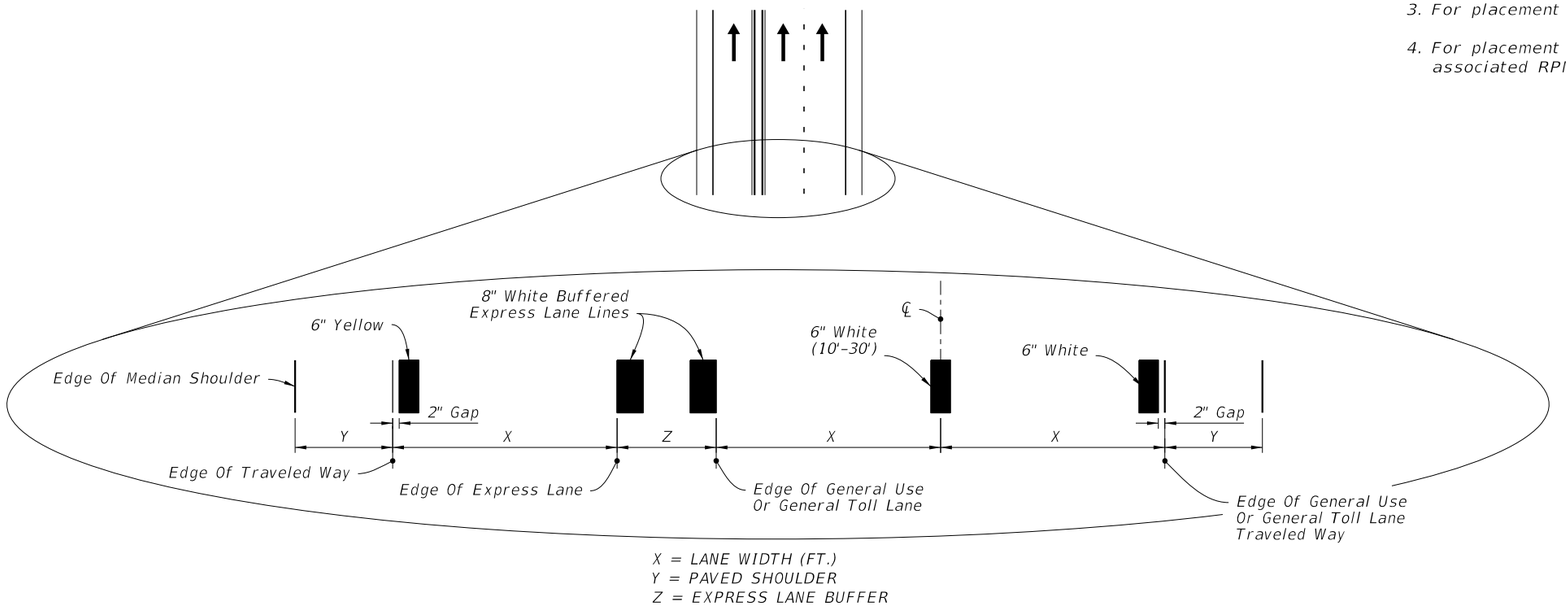
PLACEMENT OF LONGITUDINAL PAVEMENT MARKINGS



INTERSECTION APPROACH STRIPING WITH TURN LANES AND BUFFERED BIKE LANE KEY HOLE

NOTES:

1. Lane widths (X) may not be same for each lane in the section.
3. For placement of RPMs, see Index 706-001.
4. For placement of Express Lane markers and associated RPMs, see the Plans.



BUFFERED EXPRESS LANE STRIPING

PLACEMENT OF LONGITUDINAL PAVEMENT MARKINGS

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LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
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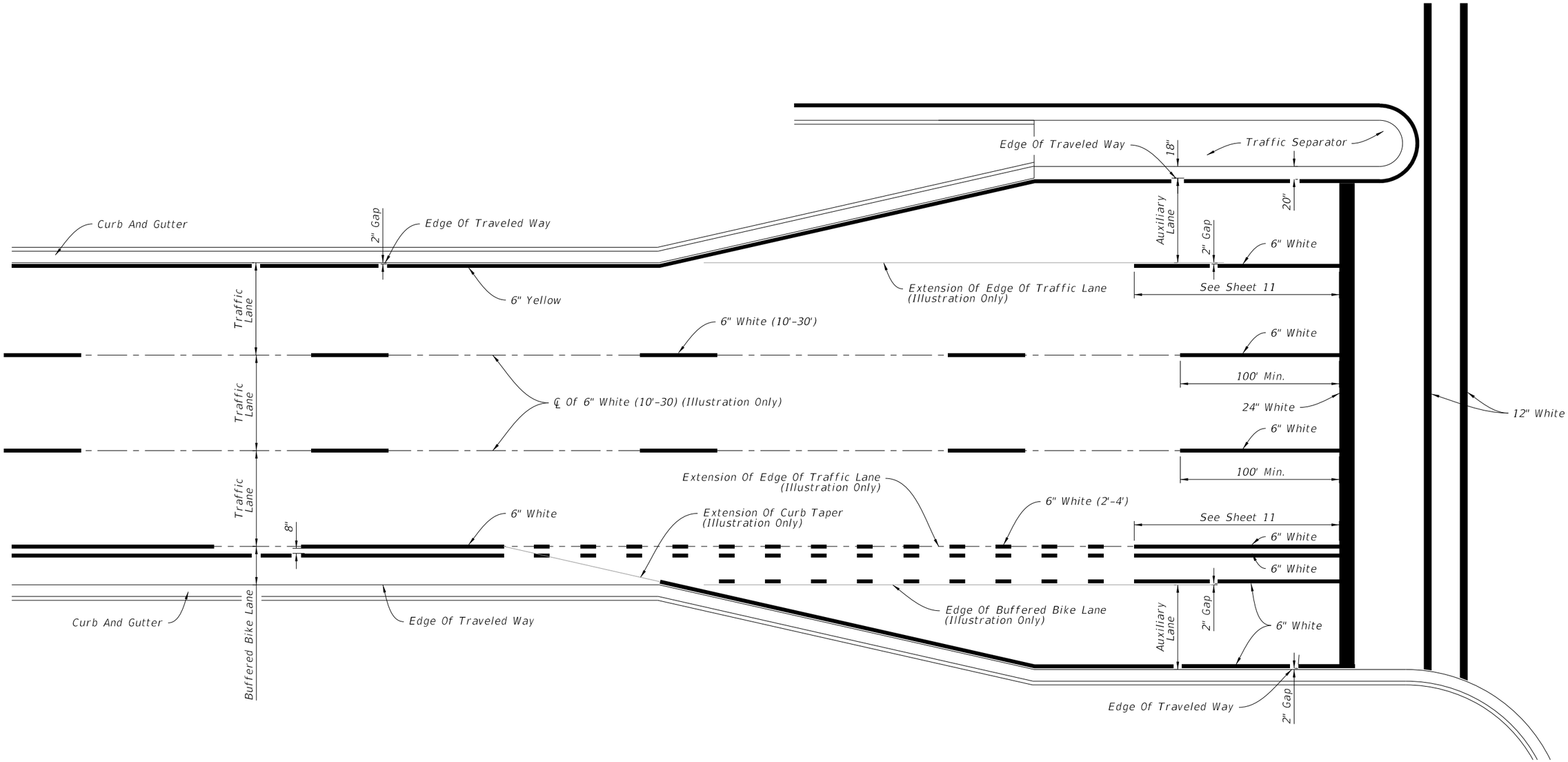

CURB AND GUTTER SHOWN

PLACEMENT OF LONGITUDINAL PAVEMENT MARKINGS

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
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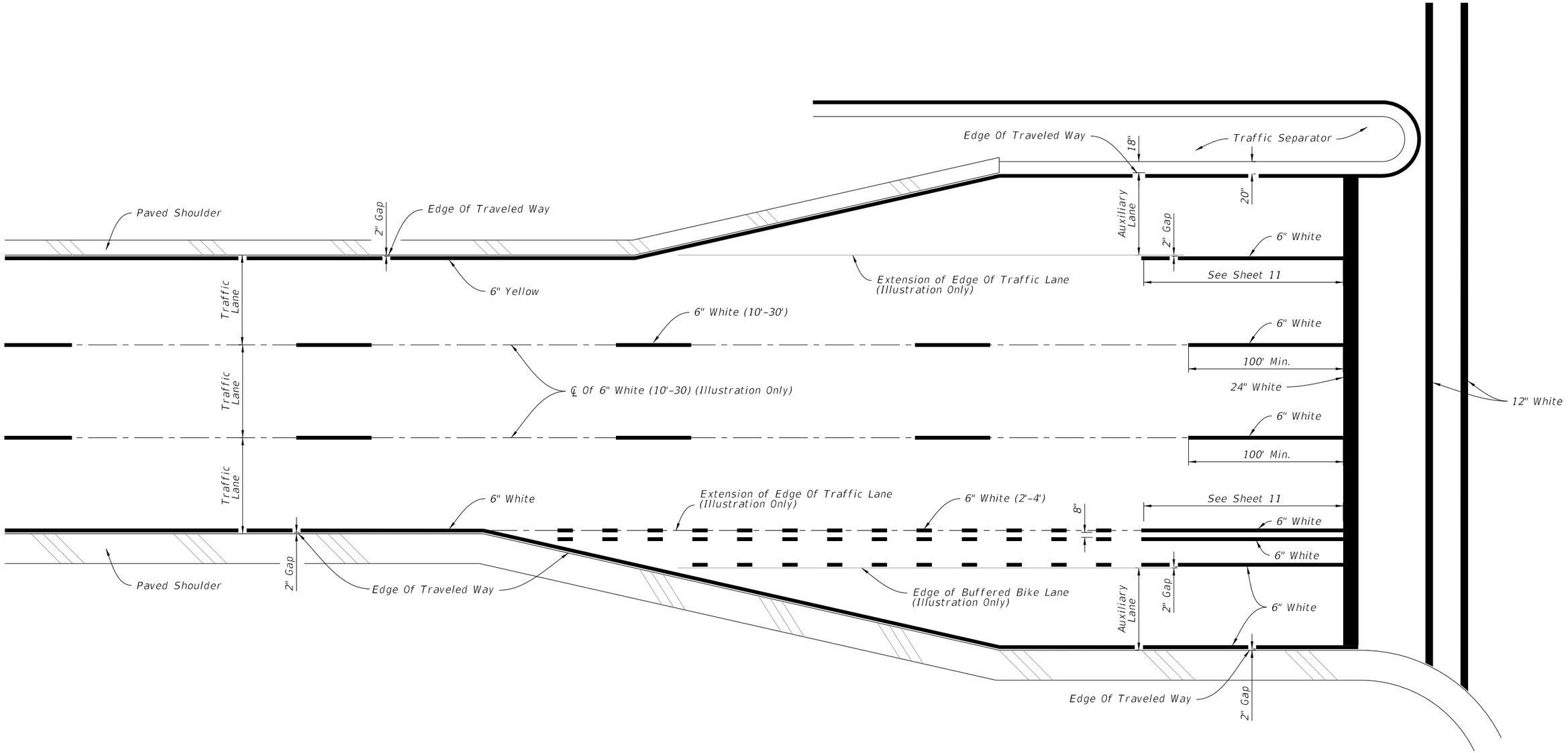

FLUSH SHOULDER SHOWN

10/18/2018 1:13:13 PM

PLACEMENT OF LONGITUDINAL PAVEMENT MARKINGS

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2019-20 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
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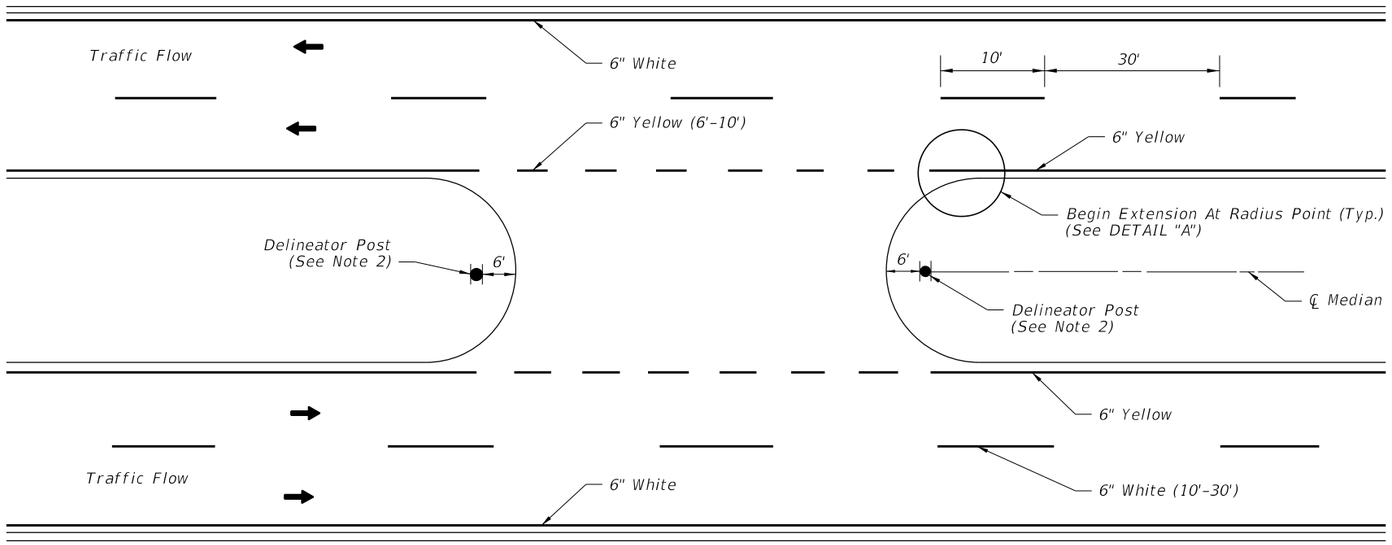
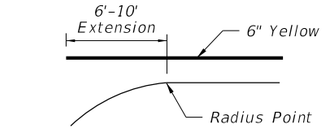
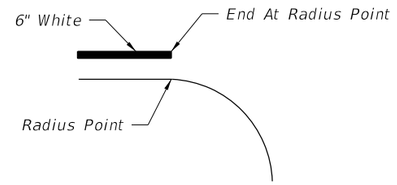


PAVEMENT MARKINGS AND DELINEATORS FOR MEDIAN CROSSOVER



DETAIL "A"



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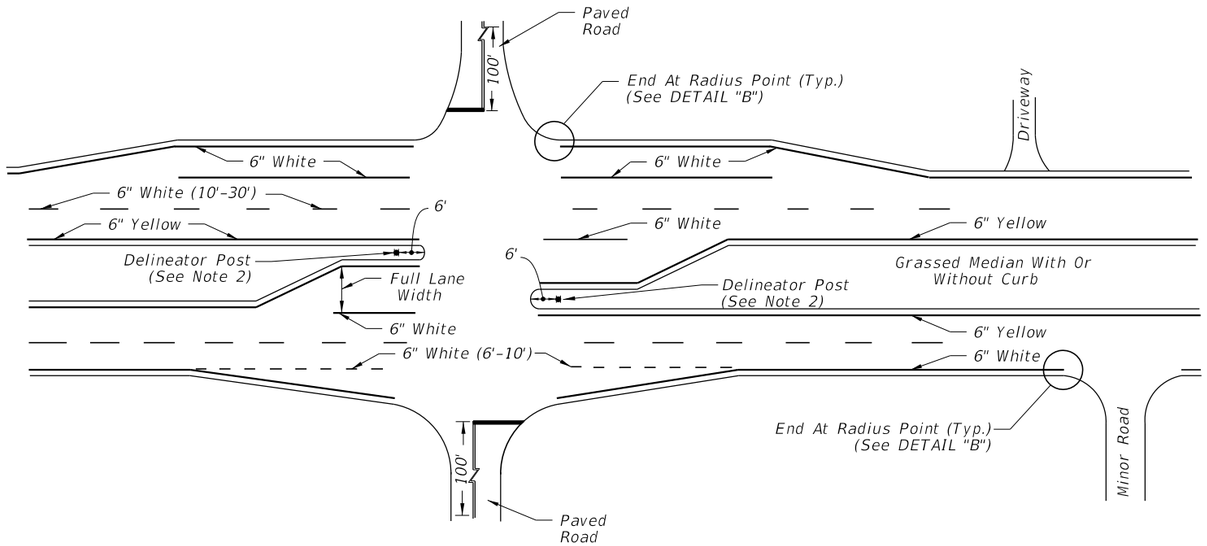

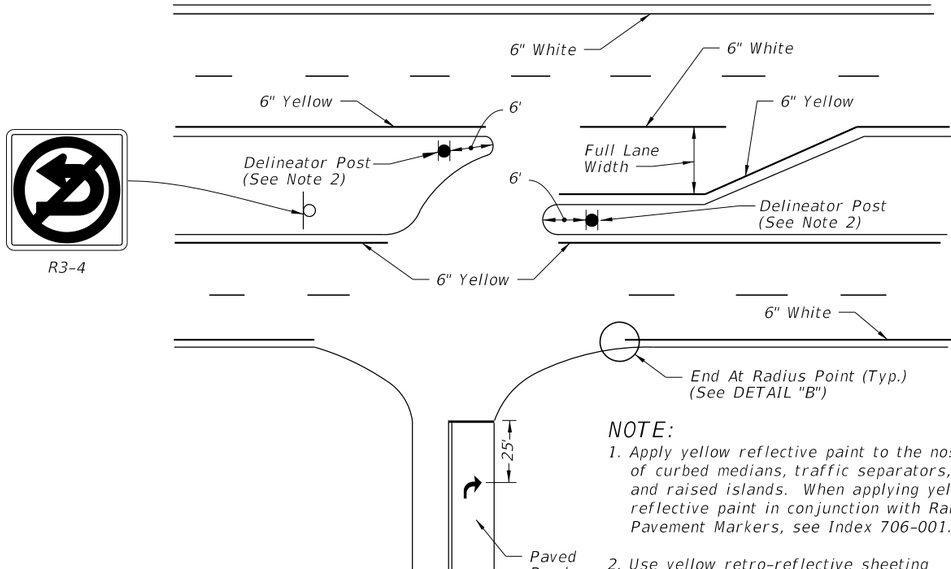

NOTE:

1. Apply yellow reflective paint to the noses of curbed medians, traffic separators, and raised islands. When applying yellow reflective paint in conjunction with Raised Pavement Markers, see Index 706-001.
2. Use yellow retro-reflective sheeting on both sides of the delineator. Install the post so that the top is 4' above the grade at the edge of the pavement.
3. Extend double yellow centerlines 100' back from intersection on all approaches or 50' for unmarked cross roads.

PAVEMENT MARKINGS FOR INTERSECTIONS WITH MAJOR AND MINOR ROADS

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LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
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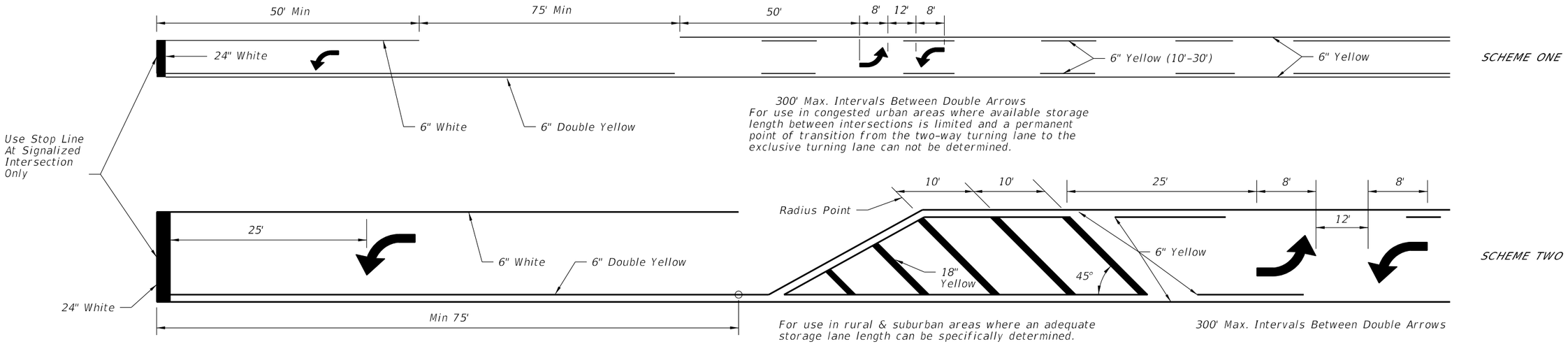
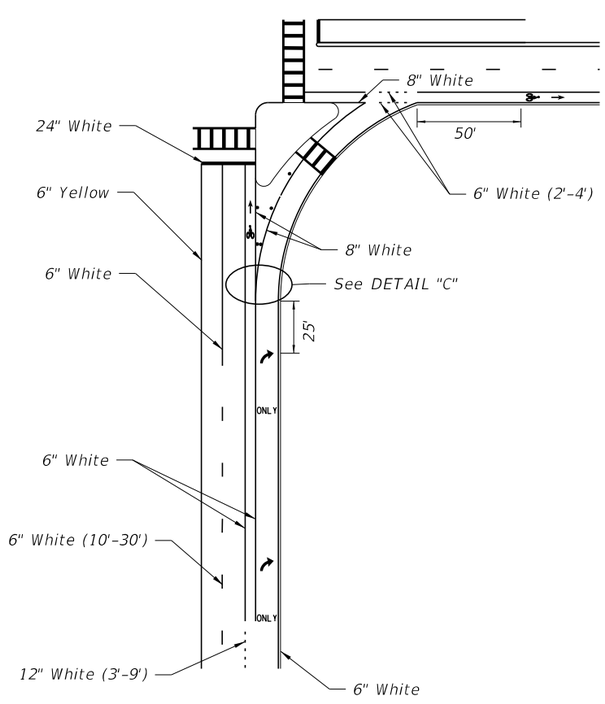
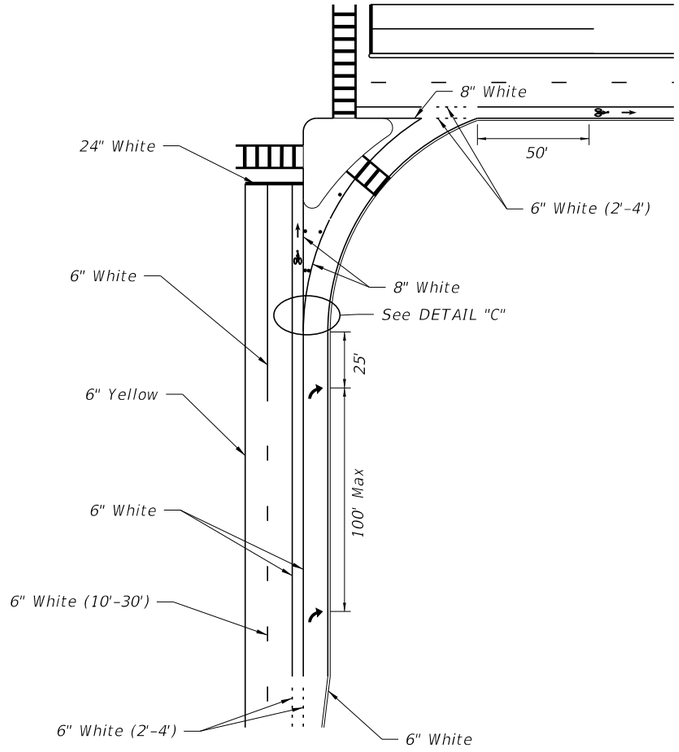


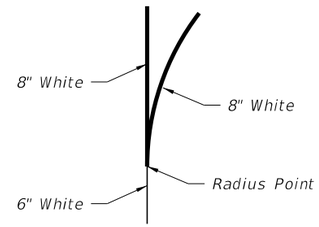
TWO WAY LEFT TURN LANE
(With Single Lane Left Turn Channelization)



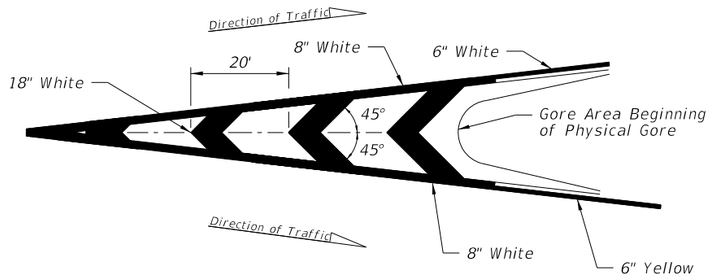
RIGHT TURN LANE DROP AND ISLAND DETAILS
LEFT TURN LANE DROP IS MIRROR IMAGE



RIGHT TURN LANE AND ISLAND DETAILS



DETAIL "C"



TRAFFIC CHANNELIZATION AT GORE

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LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2019-20 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
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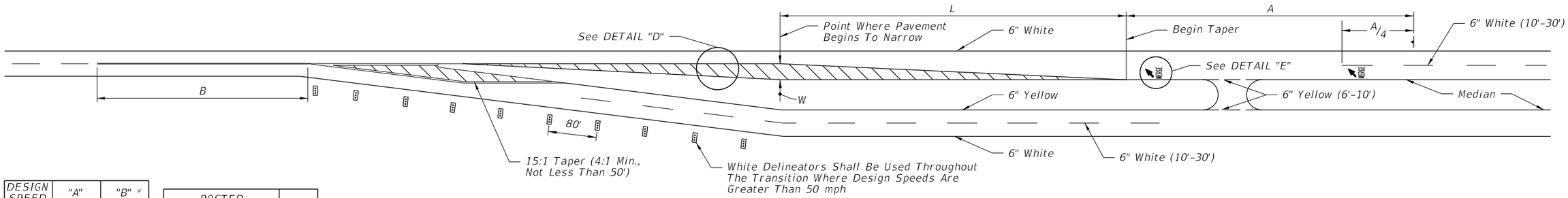


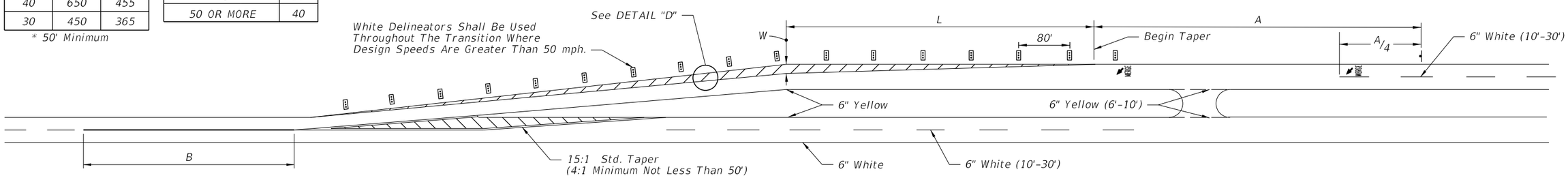
DESIGN SPEED (MPH)	"A" (FT.)	"B" * (FT.)
60	---	640
55	950	595
50	850	550
45	750	500
40	650	455
30	450	365

* 50' Minimum

POSTED SPEED LIMIT MPH	"Y" (FT.)
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40

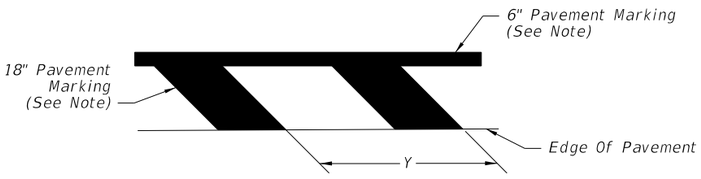
DESIGN SPEED 'S' (MPH)	Length 'L' (FT.)
40 or Less	$L = WS^2/60$
45 or Greater	$L = WS$

LEFT ROADWAY CENTERED ON EXISTING ROADWAY



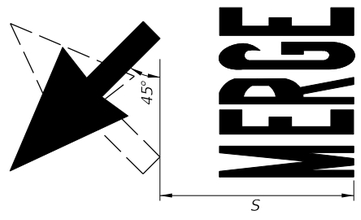
RIGHT ROADWAY CENTERED ON EXISTING ROADWAY

SCHEMES FOR TRANSITION - 2 LANE / 4 LANE ROADWAY



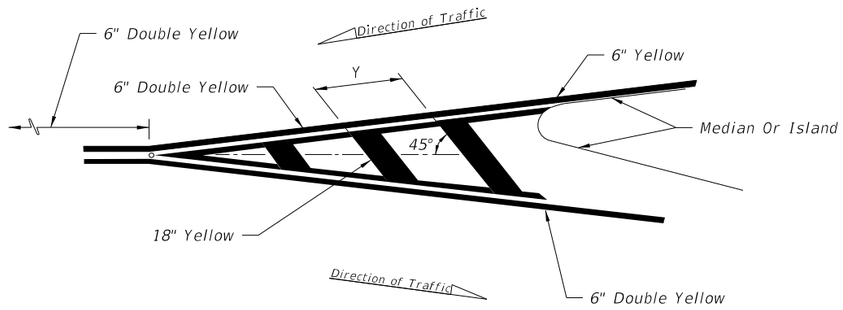
NOTE:
Make pavement markings yellow for left roadway centered on existing roadway. Right roadway centered on existing roadway is similar with white pavement markings.

DETAIL "D"



NOTE: See Sheet 1 for "S" value.

DETAIL "E"



MARKINGS FOR TRAFFIC SEPARATION

LAST REVISION	REVISION	DESCRIPTION:				
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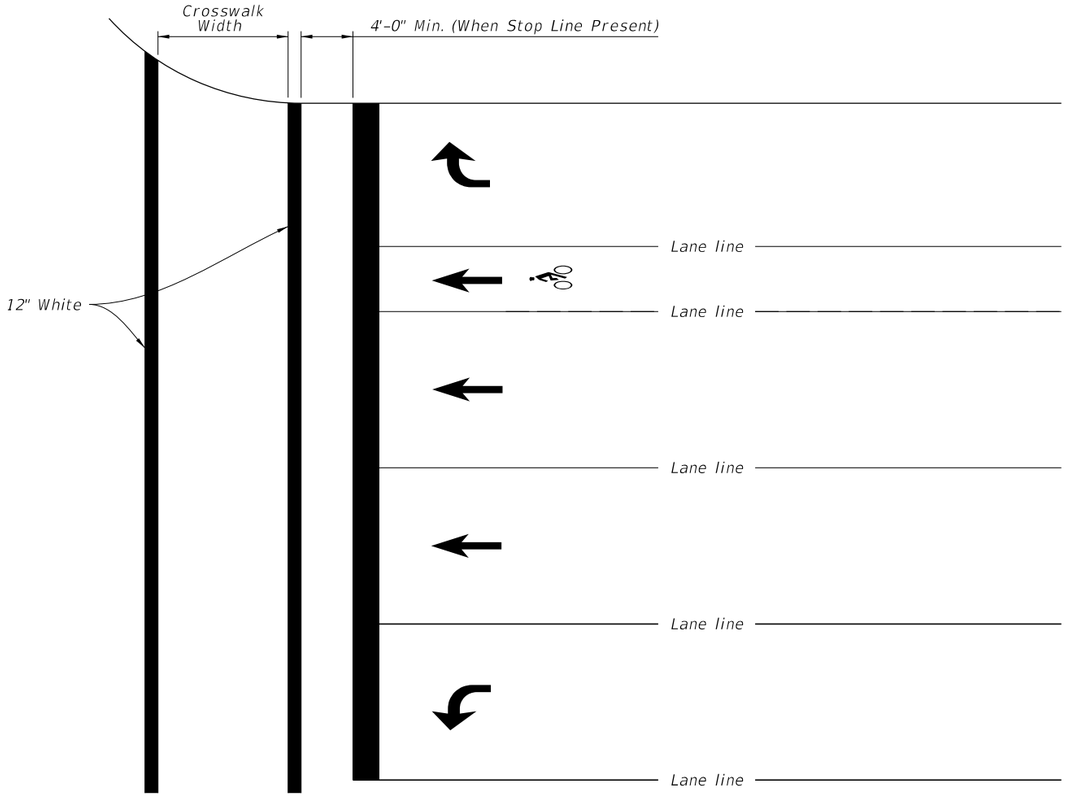
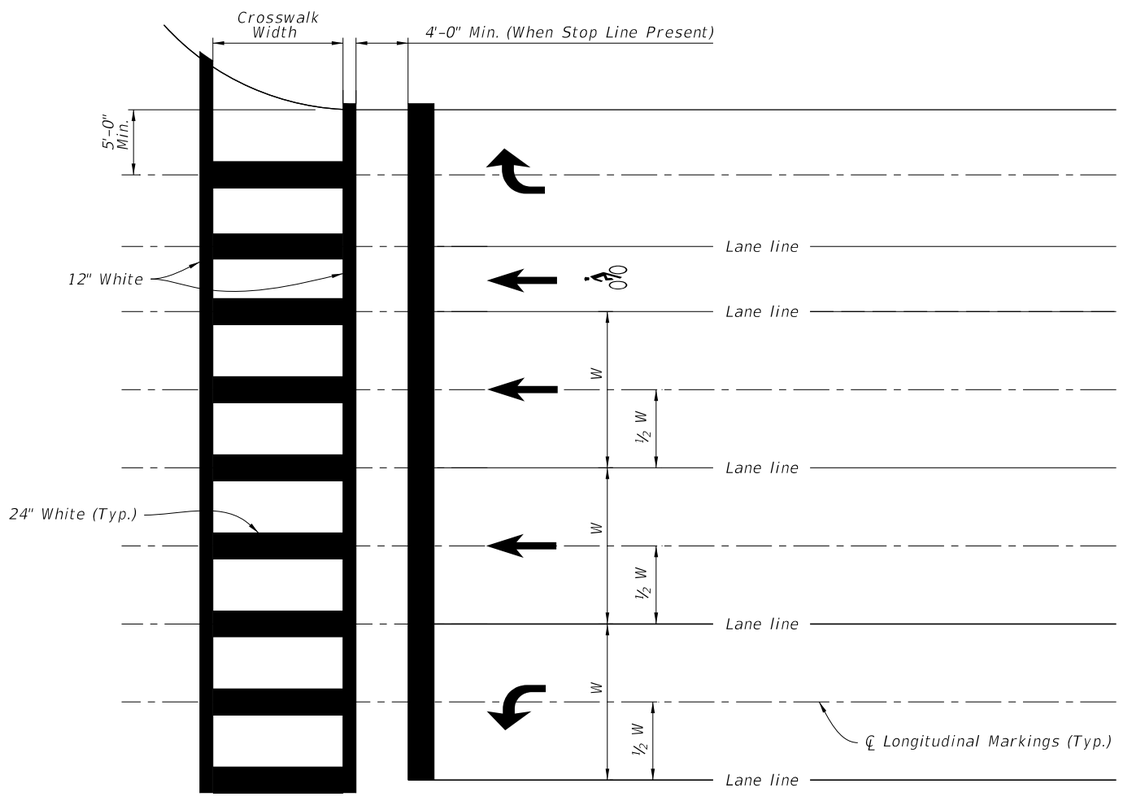


STANDARD CROSSWALK DETAILS



SPECIAL EMPHASIS CROSSWALK DETAILS

NOTES:

1. For crosswalk width, exceed width of the adjacent sidewalk, but do not make width less than 6' for intersection crosswalks and 10' for midblock crosswalks. Measure width from the inside of the transverse crosswalk markings.

2. When the Special Emphasis Crosswalk is not perpendicular to the lane lines, make the longitudinal markings parallel to the lane lines.

3. Refer to Index 522-002 when Curb Ramps are present.

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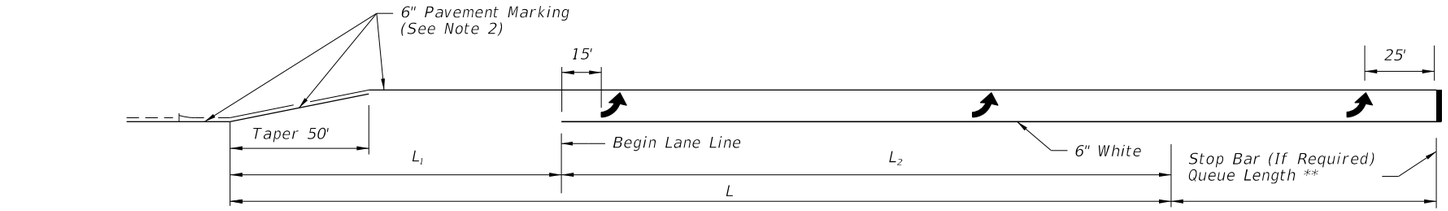
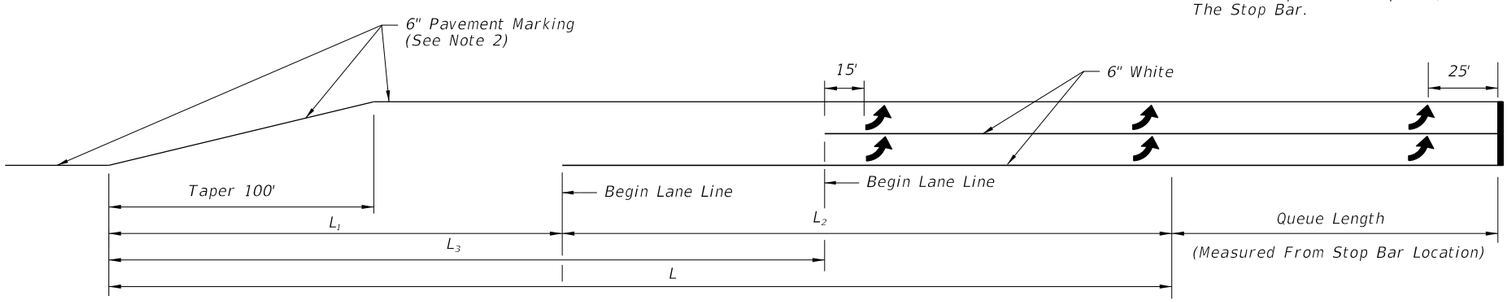
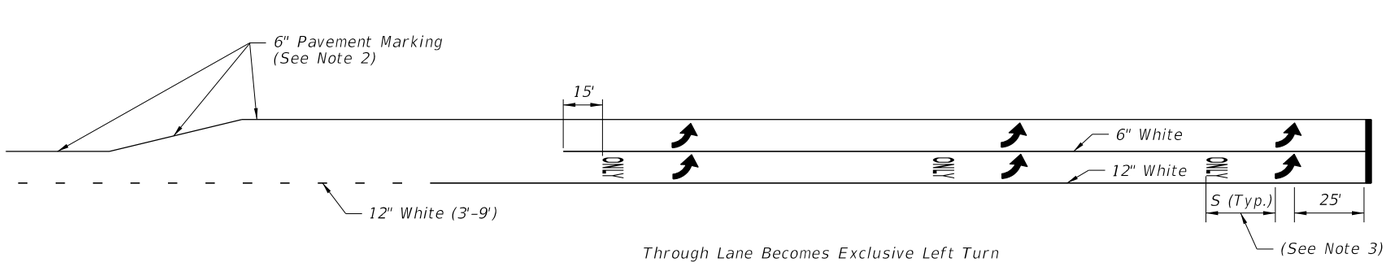


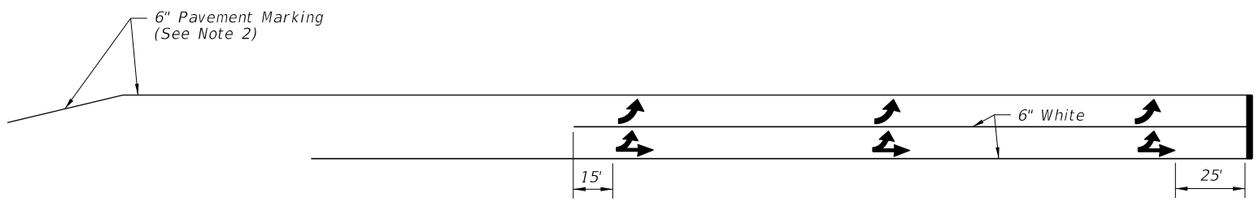
SINGLE LEFT TURNS

** Queue Length Is Measured From The Median Nose Radial Point Or, When A Stop Bar Is Required, From The Stop Bar.





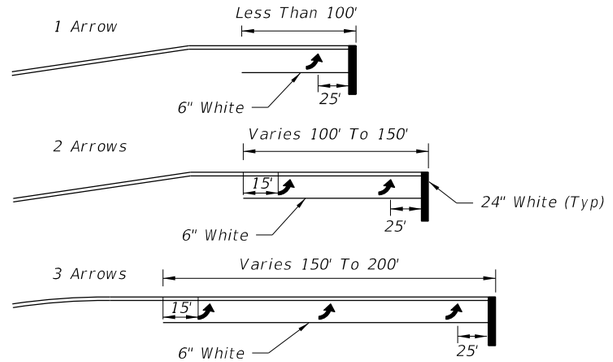
Through Lane Becomes Exclusive Left Turn



Through Lane Becomes Optional Left Turn

DOUBLE LEFT TURNS

	TURN LANES ◦ CURBED AND UNCURBED MEDIANS						
		URBAN CONDITIONS			RURAL CONDITIONS		
Design Speed (mph)	Clearance Distance L_1	Brake To Stop Distance L_2	Total Decel. Distance L	Clearance Distance L_3	Brake To Stop Distance L_2	Total Decel. Distance L	Clearance Distance L_3
35	70'	75'	145'	110'	— —	— —	— —
40	80'	75'	155'	120'	— —	— —	— —
45	85'	100'	185'	135'	— —	— —	— —
50	105'	135'	240'	160'	185'	290'	160'
55	125'	— —	— —	— —	225'	350'	195'
60	145'	— —	— —	— —	260'	405'	230'
65	170'	— —	— —	— —	290'	460'	270'



Arrow should be evenly spaced between first and last arrow. Turn lanes longer than 200' add one arrow for each 100' additional length.

ARROW SPACING

NOTES:

1. This Index also applies to right turn lanes.
2. Make pavement marking yellow for left-turn lanes and white for right-turn lanes.
3. See Sheet 1 for "S" value.

TURN LANE MARKINGS

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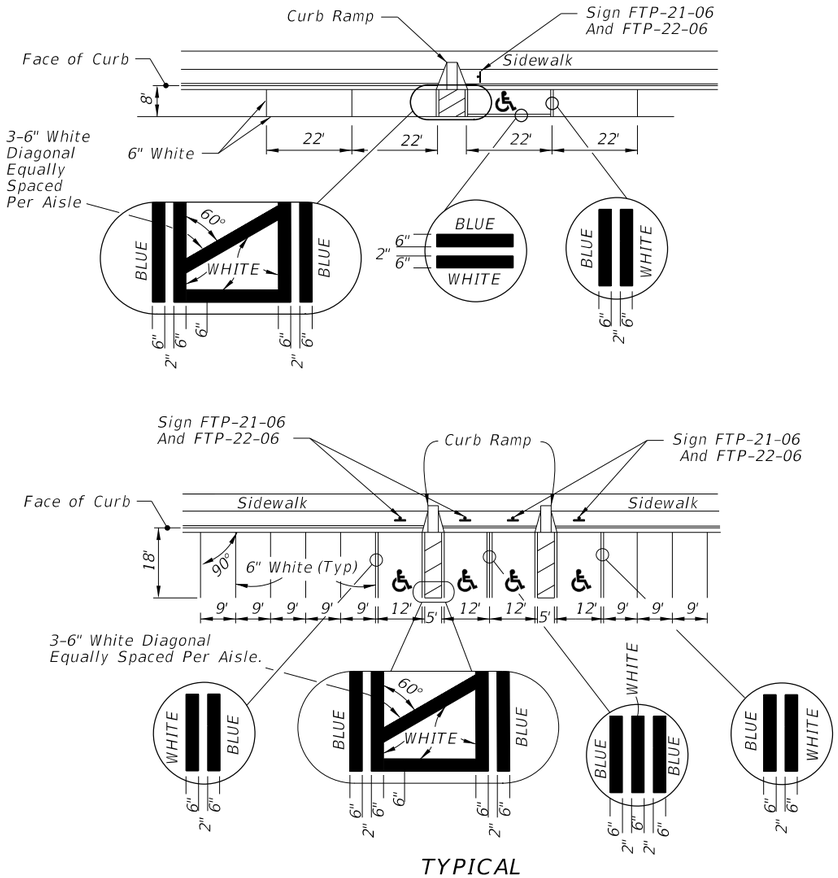
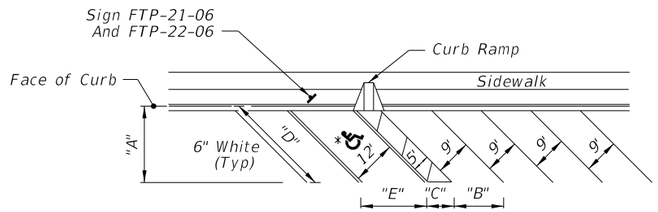
NOTES:

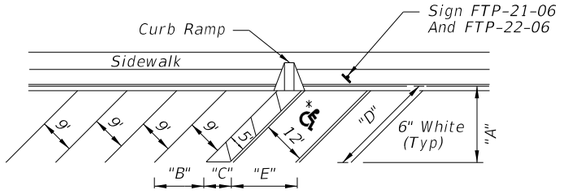
1. Dimensions are to the centerline of markings.
2. An Access Aisle is required for each accessible space when angle parking is used.
3. Criteria for pavement markings only, not public sidewalk curb ramp locations. For ramp locations refer to plans.
4. Tint blue pavement markings to match color 15180 of Federal Standards 595a.
5. Mount FTP-22-06 sign below the FTP-21-06 sign.



TYPICAL



FORWARD-IN PARKING

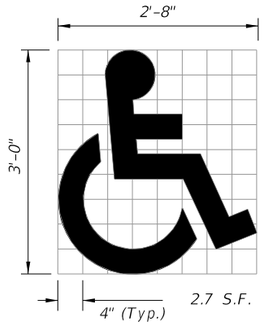


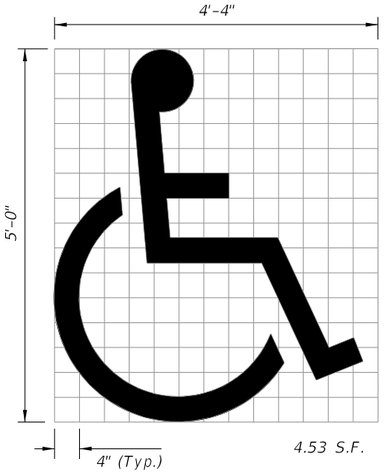
REVERSE-IN PARKING

*FOR ACCESSIBLE MARKINGS - SEE ABOVE

	"DIMENSIONS"				
∠ θ	"A"	"B"	"C"	"D"	"E"
45°	19'-1"	12'-9"	7'-0"	27'-0"	17'-0"
60°	20'-1"	10'-5"	5'-9"	23'-2"	13'-10"

PAVEMENT MARKING FOR PARKING





Use of pavement symbol in accessible parking spaces is optional, when used the symbol shall be 3' or 5' high and white in color.

UNIVERSAL SYMBOL OF ACCESSIBILITY

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LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2019-20 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
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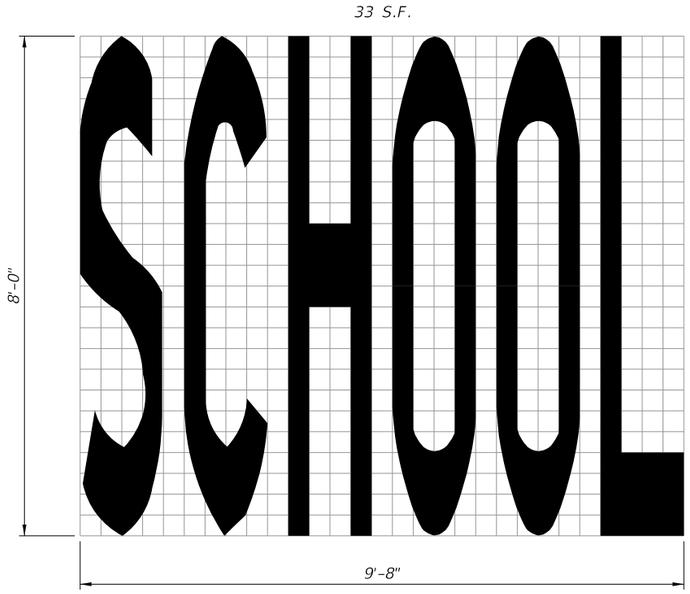
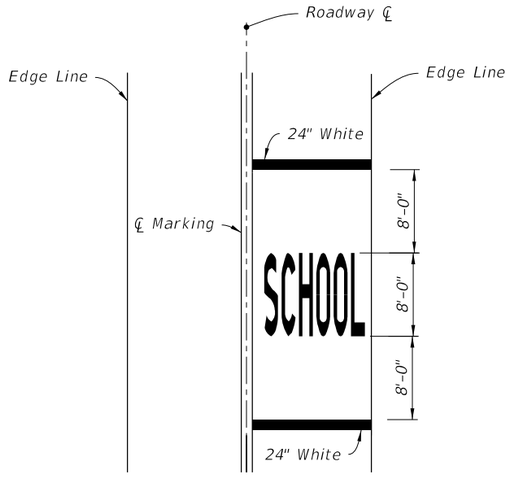


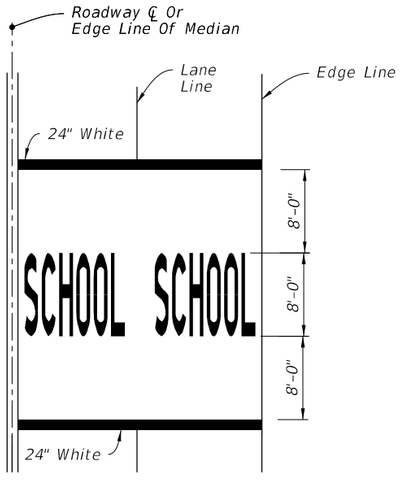
SCHOOL PAVEMENT MARKING

NOTES:

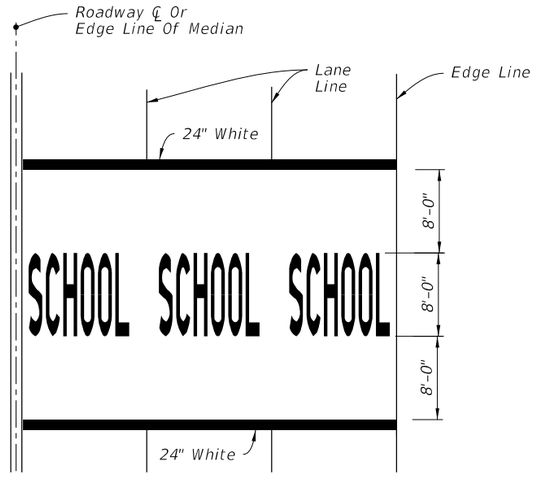
1. All grids are 4" x 4".
2. Pavement Marking Should Not Extend Into Opposing Lane.
3. Center School Pavement Marking in lane.



SINGLE-LANE APPROACH



TWO-LANE APPROACH



MULTI-LANE APPROACH
(Three or More)

MARKINGS FOR SCHOOL ZONES

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LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2019-20 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
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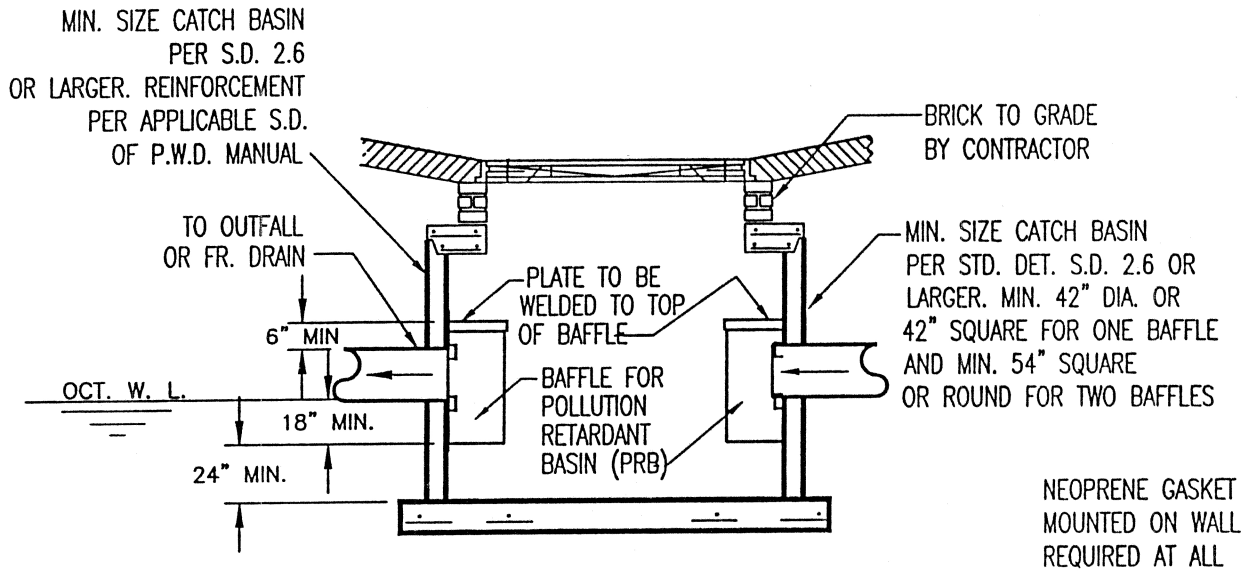
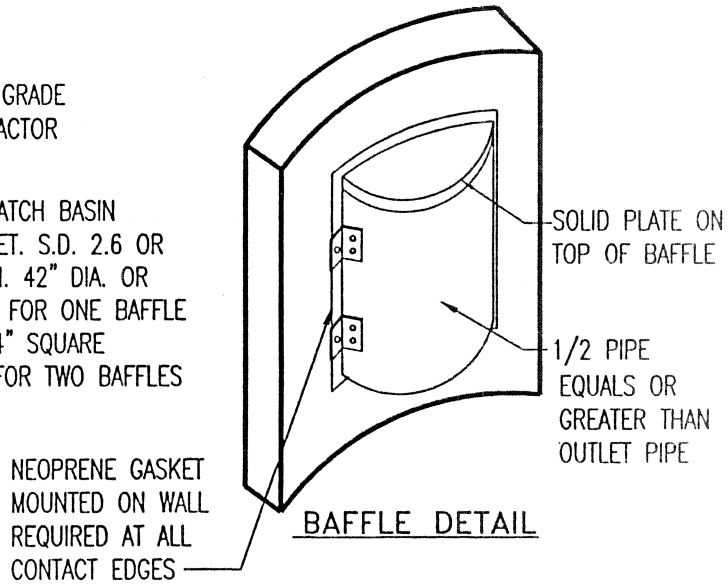


TYPICAL CATCH BASIN



BAFFLE DETAIL

ALTERNATE "B"

S.D. 2.9

WITH BAFFLE

N.T.S.

Between 2 baffles → 3.5'

Just 1 baffles → 2.5 with the wall

GENERAL PROVISIONS

1. THE CONTRACTOR SHALL OBTAIN FROM THE OWNER COPIES OF ALL AVAILABLE REGULATORY AGENCY PERMITS AND LOCAL AGENCY PERMITS.

2. ALL CONSTRUCTION PROJECTS 1 OR MORE ACRES IN SIZE THAT DISCHARGE TO OFFSITE AREAS ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGE FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES. IN ORDER TO MEET NPDES REQUIREMENTS, THE CONTRACTOR IS RESPONSIBLE FOR PREPARING A STORMWATER POLLUTION PREVENTION PLAN (SWPPP), IMPLEMENTING, INSPECTING, MAINTAINING, AND REPORTING ON ALL ELEMENTS OF THE SWPPP, COMPLETING AND SUBMITTING THE REQUIRED NOTICE OF INTENT (N01) AND NOTICE OF TERMINATION (NOT) FORMS AS THE OPERATOR, AND PAYING ALL ASSOCIATED FEES. FOR PROJECTS LESS THAN 1 ACRE IN SIZE THAT ARE NOT REQUIRED TO COMPLY WITH THE NPDES GENERAL PERMIT, THE CONTRACTOR IS STILL RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO AND DURING CONSTRUCTION IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

3. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE CONSTRUCTION PLANS. BENCHMARK INFORMATION SHALL BE PROVIDED TO THE CONTRACTOR BY THE OWNER OR OWNERS SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

4. BASE SURVEY INFORMATION INCLUDING BUT NOT LIMITED TO ELEVATIONS, EASEMENTS, RIGHTS OF WAY, AND OTHER TOPOGRAPHIC INFORMATION HAS BEEN PREPARED BY OTHER PROFESSIONALS. SZAUER ENGINEERING, INC. NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.

5. THIS SET OF PLANS MAY CONTAIN DRAWINGS PREPARED BY OTHER PROFESSIONALS, WHICH CONTAIN THE NAME, ADDRESS, AND LOGO OF THE PROFESSIONAL. SZAUER ENGINEERING, INC. IS NOT RESPONSIBLE FOR DRAWINGS PREPARED BY OTHER PROFESSIONALS.

6. THE CONTRACTOR SHALL SUBMIT (6) COPIES OF SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS REQUIRED FOR CONSTRUCTION. PRIOR TO SUBMISSION, THE CONTRACTOR SHALL THOROUGHLY CHECK SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES FOR COMPLETENESS AND FOR COMPLIANCE WITH THE CONSTRUCTION PLANS AND SHALL VERIFY ALL DIMENSIONS AND FIELD CONDITIONS AND SHALL COORDINATE THE SHOP DRAWINGS WITH THE REQUIREMENTS FOR OTHER RELATED WORK. THE CONTRACTORS RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SUBMITTALS IS NOT RELIEVED BY THE ENGINEERS REVIEW OF SUBMITTALS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING AT THE TIME OF SUBMISSION, OF DEVIATIONS IN SUBMITTALS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

7. PROTECT BENCHMARKS, PROPERTY CORNERS, AND OTHER SURVEY MONUMENTS FROM DAMAGE OR DISPLACEMENT. IF MARKER NEEDS TO BE REMOVED IT SHALL BE REFERENCED BY LICENSED LAND SURVEYOR AND REPLACED, AS NECESSARY, BY SAME.

8. THE CONTRACTOR IS RESPONSIBLE FOR ALL QUALITY CONTROL TESTING. AS A MINIMUM, TESTING SHALL INCLUDE A) PIPING AND STRUCTURAL EXCAVATION, BEDDING AND BACKFILL MATERIALS AND DENSITY TESTS; B) DETERMINATION OF COMPACTIVE EFFORT NEEDED FOR COMPLIANCE WITH THE DENSITY REQUIREMENTS; C) PORTLAND CEMENT CONCRETE AND ASPHALT PAVING QUALITY CONTROL TESTING INCLUDING DESIGN MIX REVIEW, MATERIALS, FIELD SLUMP AND AIR CONTENT, AND FIELD AND LAB CURED STRENGTH SAMPLES AND TESTING.

9. IN ADDITION TO QUALITY CONTROL TESTING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TESTING OR APPROVALS FOR ANY WORK (OR ANY PART THEREOF) IF LAWS OR REGULATIONS OF ANY PUBLIC BODY HAVING JURISDICTION SPECIFICALLY REQUIRE TESTING, INSPECTIONS OR APPROVAL. THE CONTRACTOR SHALL PAY ALL COSTS IN CONNECTION THEREWITH AND SHALL FURNISH THE OWNER AND ENGINEER THE REQUIRED CERTIFICATES OF INSPECTION, TESTING OR APPROVAL.

10. ANY DESIGN OR TESTING LABORATORY UTILIZED BY THE CONTRACTOR SHALL BE AN INDEPENDENT LABORATORY ACCEPTABLE TO THE OWNER AND THE ENGINEER, APPROVED IN WRITING, AND COMPLYING WITH THE LATEST EDITION OF THE "RECOMMENDED REQUIREMENTS FOR INDEPENDENT LABORATORY QUALIFICATION", PUBLISHED BY THE AMERICAN COUNCIL OF INDEPENDENT LABORATORIES.

11. TESTING RESULTS SHALL BE PROVIDED TO THE OWNER/OPERATOR AND THE ENGINEER. ALL TEST RESULTS SHALL BE PROVIDED (PASSING AND FAILING) ON A REGULAR AND IMMEDIATE BASIS.

12. THE ENTIRE PROJECT SITE SHALL BE THOROUGHLY CLEANED AT THE COMPLETION OF THE WORK. CLEAN ALL INSTALLED PIPELINES, STRUCTURES, SIDEWALKS, PAVED AREAS, ACCUMULATED SILT IN PONDS, PLUS ALL ADJACENT AREAS AFFECTED BY CONSTRUCTION, AS DIRECTED BY THE OWNER OR JURISDICTIONAL AGENCY. EQUIPMENT TO CLEAN THESE SURFACES SHALL BE SUBJECT TO APPROVAL BY THE OWNER.

UTILITY GENERAL NOTES

1. THE UTILITY DATA SHOWN ON THESE PLANS WAS LOCATED BY THE RESPECTIVE UTILITY, OR IS BASED ON UTILITY DRAWINGS, MAPS, OR FIELD RECONNAISSANCE.

2. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE VARIOUS UTILITIES AND TO MAKE THE NECESSARY ARRANGEMENTS FOR ANY RELOCATIONS OF THESE UTILITIES WITH THE OWNER OF THE UTILITY. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ANY UTILITIES, WHETHER SHOWN ON THESE PLANS OR NOT, THAT INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY FOR RELOCATION OR PROPER INSTRUCTION.

3. A SINGLE POINT UTILITY IDENTIFICATION SERVICE HAS BEEN SET UP FOR EXISTING UTILITIES. THE CONTRACTOR IS TO CONTACT THE SUNSHINE STATE ONE CALL CENTER BY DIALING "811" AT LEAST TWO (2) AND NO MORE THAN FIVE (5) WORKING DAYS PRIOR TO THE SPECIFIC CONSTRUCTION ACTIVITY FOR FIELD LOCATION. NOTE THAT NOT ALL UTILITIES PARTICIPATE IN THIS PROGRAM. THE CONTRACTOR SHOULD CONTACT ALL NON-PARTICIPATING UTILITIES SEPARATELY FOR FIELD LOCATION OF THEIR FACILITIES AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION. PER FLORIDA STATUTE 553.851, THE CONTRACTOR OR EXCAVATOR IS REQUIRED TO NOTIFY THE GAS COMPANY TWO (2) WORKING DAYS PRIOR TO STARTING EXCAVATION.

4. THE CONTRACTOR SHALL KEEP LOCATE TICKETS UP TO DATE AT ALL TIMES.

5. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH EACH UTILITY AND ALL COSTS ASSOCIATED WITH THE PROTECTION OF EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL ALSO COORDINATE NECESSARY RELOCATIONS OR OTHER CONSTRUCTION RELATED MATTERS WITH EACH UTILITY.

6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN IN SERVICE ALL EXISTING PIPING ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER AND THE ENGINEER.

7. TYPICAL DETAILS AS SHOWN ARE TO ILLUSTRATE THE ENGINEERS INTENT AND ARE NOT PRESENTED AS A SOLUTION TO ALL CONSTRUCTION PROBLEMS ENCOUNTERED IN THE FIELD. THE CONTRACTOR MAY ALTER THE METHOD OF CONSTRUCTION TO SUIT FIELD CONDITIONS, PROVIDING HE SUBMITS A PROPOSAL FOR AN ALTERNATE METHOD TO THE ENGINEER FOR APPROVAL AND USES MATERIALS AS DESIGNATED IN THE SPECIFICATIONS.

8. FOR EACH RESPECTIVE PIPELINE CONSTRUCTION REQUIRED, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, DEPTH, AND ALIGNMENT OF ALL EXISTING PIPES, CABLES, ETC. TO BE CROSSED OR CONNECTED TO. IF THE CONTRACTOR DEEMS NECESSARY (A) A CHANGE IN ALIGNMENT OR DEPTH, OR THE NEED FOR ADDITIONAL FITTINGS, BENDS, OR COUPLINGS, WHICH REPRESENT A DEPARTURE FROM THE CONTRACT DRAWING, OR (B) A NEED FOR RELOCATION OF EXISTING UTILITIES, THEN DETAILS OF SUCH DEPARTURES, RELOCATIONS, OR ADDITIONAL FITTINGS, INCLUDING CHANGES IN RELATED PORTIONS OF THE PROJECT AND THE REASONS THEREFORE, SHALL BE SUBMITTED WITH SHOP DRAWINGS. APPROVED DEPARTURES FOR THE CONTRACTORS CONVENIENCE SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

9. THE CONTRACTOR SHALL PROVIDE AT HIS OWN EXPENSE ALL NECESSARY TEST PUMPING EQUIPMENT, WATER, WATER METERS, PRESSURE GAUGES, AND OTHER EQUIPMENT, MATERIAL AND FACILITIES REQUIRED FOR ALL HYDROSTATIC, LEAKAGE, AND PRESSURE TESTING. THE CONTRACTOR SHALL CONTACT THE ENGINEER AND THE OWNER IN WRITTEN FORM, FORTY-EIGHT (48) HOURS IN ADVANCE OF PROPOSED TESTING. THE CONTRACTOR SHALL PERFORM SATISFACTORY PRETESTING PRIOR TO NOTIFICATION.

AS-BUILT DRAWING REQUIREMENTS

1. AS-BUILT DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER THREE WEEKS PRIOR TO FINAL INSPECTION. ALL AS-BUILT DATA SHALL BE PROVIDED BY A FLORIDA LICENSED SURVEYOR, SIGNED, SEALED AND DATED BY THE RESPONSIBLE PARTY.

2. AT THE COMPLETION OF THE WORK, DELIVER THE DRAWINGS DOCUMENTING AS-BUILT INFORMATION, MEASURED BY A LICENSED SURVEYOR, TO THE ENGINEER, IN GOOD CONDITION AND FREE FROM ANY EXTRANEOUS NOTATION. THE AS-BUILT INFORMATION IS TO INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

   A. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS FOR ALL UTILITY AND STORM STRUCTURES INCLUDING BUT NOT LIMITED TO MANHOLES, INLETS AND CLEANOUTS, INCLUDING STRUCTURE TOP AND INVERT ELEVATIONS.

   B. DISTANCE ALONG PIPELINES BETWEEN STRUCTURES.

   C. STORMWATER POND TOP OF BERM AND POND BOTTOM ELEVATIONS AND HORIZONTAL DIMENSIONS MEASURED AT A MINIMUM OF TEN LOCATIONS PER POND, AT LOCATIONS DESIGNATED BY THE ENGINEER. TOP OF POND HORIZONTAL DIMENSIONS ARE ALSO TO BE TIED TO PROPERTY CORNERS, EASEMENTS, AND RIGHTS-OF-WAY.

   D. STORMWATER CONTROL STRUCTURE DIMENSIONS AND ELEVATIONS, INCLUDING ALL WEIRS, SLOTS, ORIFICES, GRATES, AND SKIMMERS.

   E. STORMWATER CONVEYANCE SYSTEMS INCLUDING DIMENSIONS, ELEVATIONS, CONTOURS, AND CROSS SECTIONS.

   F. HORIZONTAL LOCATIONS AND VERTICAL ELEVATIONS OF ALL UTILITY VALVES, FITTINGS, CONNECTION POINTS, ETC.

   G. VERTICAL ELEVATIONS OF ALL PIPELINES AT CROSSINGS OF POTABLE WATER MAINS (WHETHER THE WATER MAIN IS EXISTING OR NEW) IN ORDER TO DOCUMENT THAT THE MINIMUM REQUIRED VERTICAL SEPARATION HAS BEEN MET.

   H. UTILITY PIPELINE TIED HORIZONTALLY TO EDGE OF PAVEMENT AND RIGHT-OF-WAY LINES, LOCATED EVERY 200-FT PLUS ALL CHANGES IN HORIZONTAL OFFSET.

   I. PAVEMENT WIDTH AND ELEVATIONS AT THE CENTERLINE AND EDGE OF PAVEMENT EVERY 200 FEET PLUS AT ALL CHANGES IN LONGITUDINAL SLOPE, CROSS SLOPE, INLET LOCATIONS, AND AT ALL DRIVEWAY AND STREET INTERSECTIONS. FOR PARKING LOTS, RECORD CENTERLINE AND EDGE OF PAVEMENT ELEVATIONS ALONG ALL DRIVE AISLES AND ISLANDS.

   J. ALL PARKING AREAS AND SIDEWALK RAMPS DESIGNATED FOR HANDICAP ACCESS SHALL CONTAIN HORIZONTAL AND VERTICAL MEASUREMENTS IN ORDER TO VERIFY REQUIRED WIDTHS AND SLOPES HAVE BEEN MET.

   K. HORIZONTAL AND VERTICAL DATA FOR ANY CONSTRUCTION THAT DEVIATES FROM THE APPROVED ENGINEERING DRAWINGS.

   L. WHERE THE PLANS CONTAIN SPECIFIC HORIZONTAL LOCATION DATA, SUCH AS STATION AND OFFSET, THE AS-BUILT DRAWINGS ARE TO REFLECT THE ACTUAL HORIZONTAL LOCATION.

   M. WHERE THE PLANS CONTAIN SPECIFIC VERTICAL ELEVATION DATA, THE AS-BUILT DRAWINGS ARE TO REFLECT THE ACTUAL MEASURED VERTICAL ELEVATION.

EROSION AND SEDIMENT CONTROL

1. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PROVIDED AND INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION. SEDIMENT CONTROL CONSISTS OF SILT FENCING AND FLOATING TURBIDITY BARRIERS PER FDOT INDEX NO. 102 AND 103. EROSION CONTROL CONSISTS OF SEEDING AND MULCHING, SODDING, WETTING SURFACES, PLACEMENT OF COARSE AGGREGATE, TEMPORARY PAVING.

2. MAINTAIN TEMPORARY EROSION CONTROL SYSTEMS AS DIRECTED BY OWNER OR GOVERNING AUTHORITIES TO CONTROL EROSION AND SILTATION DURING LIFE OF CONTRACT. OWNER HAS AUTHORITY TO LIMIT SURFACE AREA OF ERODIBLE EARTH MATERIAL EXPOSED BY CLEARING AND GRUBBING, EXCAVATION, TRENCHING, BORROW AND EMBANKMENT OPERATIONS. OWNER ALSO HAS AUTHORITY TO DIRECT CONTRACTOR TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

3. CONTRACTOR SHALL RESPOND TO EROSION AND SEDIMENT CONTROL MAINTENANCE REQUIREMENTS OR IMPLEMENT ADDITIONAL MEASURES TO CONTROL EROSION ORDERED BY OWNER OR GOVERNING AUTHORITIES WITHIN 48 HOURS OR SOONER IF REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

4. CONTRACTOR WILL BE REQUIRED TO INCORPORATE PERMANENT EROSION CONTROL FEATURES INTO PROJECT AT EARLIEST PRACTICAL TIME TO MINIMIZE NEED FOR TEMPORARY CONTROLS.

5. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS REPRESENT A MINIMUM REQUIREMENT. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES NEEDED IN ORDER TO PREVENT THE TRANSFER OF SEDIMENT FROM THE PROJECT AREA AND PREVENT THE EROSION OF SURFACES DURING CONSTRUCTION, AS NEEDED TO PROTECT ADJACENT PROPERTIES AND WATER BODIES.

6. GRASS ALL DISTURBED AREAS WITHIN 7 DAYS OF INITIAL DISTURBANCE. TYPE OF GRASSING SHALL BE AS FOLLOWS: TEMPORARY GRASSING TO BE SODDING AT ALL DRAINAGE STRUCTURES, RETENTION AREAS, SWALES AND DITCHES, AND WHERE SLOPES ARE STEEPER THAN 5:1. TEMPORARY GRASSING CAN BE SEED AND MULCH AT ALL OTHER LOCATIONS UNLESS OTHERWISE INDICATED IN THE DRAWINGS OR SPECIFICATIONS.

7. INSPECT EVERY TWO WEEKS DURING CONSTRUCTION. REMOVE ANY SEDIMENT BUILD-UP. REPAIR AND REINSTALL ANY DAMAGED OR MISSING SEDIMENT CONTROL MEASURES. INSTALL ADDITIONAL MEASURES IF INSPECTION REVEALS ADDITIONAL SEDIMENTATION CONTROL IS NECESSARY.

8. AREAS TO BE PAVED SHALL BE TREATED WITH A BITUMINOUS PRIME COAT AND SANDED TO MINIMIZE EROSION, WHERE PAVING IS SCHEDULED TO OCCUR MORE THAN 48 HOURS AFTER INSTALLATION OF BASE COURSE. AREAS TO RECEIVE CONCRETE PAVING SHALL BE EITHER PROTECTED WITH A LAYER OF FDOT COARSE AGGREGATE MATERIAL OR SHALL BE PAVED WITHIN 48 HOURS OF INSTALLATION OF THE SUBGRADE. INSTALL FINAL SURFACE COURSES WITHIN 14 DAYS AFTER REMOVAL OF EXISTING PAVEMENT.

TRAFFIC CONTROL

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A MAINTENANCE OF TRAFFIC (M.O.T.) PLAN PRIOR TO CONSTRUCTION. THE M.O.T. PLAN SHALL SHOW ALL PROPOSED TRAFFIC CONTROL SIGNS, PAVEMENT MARKINGS, AND BARRICADES, AND SHALL DETAIL ALL PROPOSED CONSTRUCTION SEQUENCING. THE M.O.T. PLAN SHALL BE APPROVED BY THE ENGINEER, OWNER, AND ROADWAY JURISDICTIONAL AGENCY PRIOR TO CONSTRUCTION. ALL PROPOSED ROADWAY AND DRIVEWAY LANE CLOSURES SHALL BE RESTRICTED TO THE HOURS BETWEEN 9:00 A.M. AND 4:00 P.M. UNLESS OTHERWISE AUTHORIZED IN THE APPROVED M.O.T.

2. ALL CONSTRUCTION SIGNING AND MARKINGS SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH FDOT INDEX NO. 600 AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE PLACEMENT OF THE SIGNING AND MARKINGS SHALL BE APPROVED IN THE FIELD BY THE ENGINEER PRIOR TO CONSTRUCTION.

3. INSPECT TRAFFIC CONTROL DEVICES ON A DAILY BASIS TO ENSURE PLACEMENT OF BARRICADES AND FUNCTION OF LIGHTS IS MAINTAINED THROUGHOUT CONSTRUCTION.

4. CONTACT PROPERTY OWNERS AFFECTED BY CONSTRUCTION. COORDINATE TEMPORARY DRIVEWAY CLOSURES AND SEQUENCING. MAINTAIN ACCESS FOR ALL PROPERTY OWNERS DURING CONSTRUCTION.

5. WET UNSTABILIZED AREAS AS NECESSARY TO CONTROL DUST.

6. ADJUST TRAFFIC CONTROL DEVICES AS REQUIRED UNDER EMERGENCY CONDITIONS.

7. THE CONTRACTOR IS EXPECTED TO COORDINATE ITS ACTIVITIES WITH OTHER CONTRACTORS WHO MAY BE WORKING IN THE IMMEDIATE VICINITY.

8. WHEN WORK OCCURS WITHIN 15-FT OF ACTIVE ROAD TRAVEL LANES BUT NO CLOSER THAN 2-FT FROM THE EDGE OF PAVEMENT, SIGNAGE AND WARNING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH FDOT INDEX NO. 600 AND 602, FOR A 2-LANE ROADWAY AND PER INDEX # 612 FOR A 4 LANE HIGHWAY.

9. TYPE I OR TYPE II BARRICADES AT 20-FT CENTERS SHALL BE PLACED AND MAINTAINED ALONG THE EDGE OF THE ROAD WHEREVER DROP-OFFS OR OTHER HAZARDS EXIST AND TO BLOCK ENTRANCE INTO COMPLETED OR PARTIALLY COMPLETED PAVEMENTS UNTIL SUCH PAVEMENTS ARE OPEN TO PUBLIC USE.

SITE PREPARATION

1. UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER, THE CONTRACTOR IS EXPECTED TO CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THE PROPERTY, RIGHT-OF-WAY, AND EASEMENTS AS INDICATED ON THE DRAWINGS. AT NO TIME SHALL THE CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY REPAIR OR RECONSTRUCTION OF DAMAGED AREAS IN SURROUNDING PROPERTIES SHALL BE REPAIRED BY THE CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.

2. STAKE OUT THE CONSTRUCTION, ESTABLISH LINES AND LEVELS, TEMPORARY BENCH MARKS, BATTER BOARDS, CENTERLINES, BASELINES, AND REFERENCE POINTS FOR THE WORK, AND VERIFY ALL DIMENSIONS RELATING TO INTERCONNECTION WITH EXISTING FEATURES. REPORT ANY INCONSISTENCIES IN THE PROPOSED GRADES, LINES AND LEVELS, DIMENSIONS AND LOCATIONS TO THE ENGINEER BEFORE COMMENCING WORK.

3. PROTECT ALL TREES AND SHRUBS LOCATED OUTSIDE THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, PARTICULARLY THOSE TREES AND SHRUBS LOCATED ADJACENT TO WORK AREAS.

4. WITHIN THE RIGHT-OF-WAY, EASEMENTS, AND OWNER SECURED PROPERTY, THE INTENT IS TO ALLOW TREES AND SHRUBS TO REMAIN IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: NEW ROADWAY CONSTRUCTION - TREES AND SHRUBS TO REMAIN WHERE LOCATED MORE THAN 15 FEET FROM THE BACK OF CURB, OR OUTSIDE THE LIMITS OF EXCAVATION OR FILL AREAS, WHICHEVER IS FURTHER. UTILITY PIPELINE CONSTRUCTION - TREES AND SHRUBS TO REMAIN OUTSIDE A 15 FOOT WIDE PATH, CENTERED ON THE PIPELINE.

5. TREES TO REMAIN IN THE CONSTRUCTION AREA SHALL BE BOXED, FENCED OR OTHERWISE PROTECTED IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. DO NOT PERMIT HEAVY EQUIPMENT OR STOCKPILES WITHIN BRANCH SPREAD

6. AREAS TO RECEIVE CLEARING AND GRUBBING SHALL INCLUDE ALL AREAS TO BE OCCUPIED BY THE PROPOSED IMPROVEMENTS, AREAS FOR FILL AND SITE GRADING, AND BORROW SITES. REMOVE TREES OUTSIDE OF THESE AREAS ONLY AS INDICATED ON THE DRAWINGS OR AS APPROVED IN WRITING BY THE ENGINEER.

7. CLEARING SHALL CONSIST OF REMOVING TREES AND BRUSH AND DISPOSAL OF OTHER MATERIALS THAT ENCROACH UPON OR OTHERWISE OBSTRUCT THE WORK.

8. EXERCISE EXTREME CARE DURING THE CLEARING AND GRUBBING OPERATIONS. DO NOT DAMAGE EXISTING STRUCTURES, PIPES OR UTILITIES.

9. GRUBBING SHALL CONSIST OF REMOVING AND DISPOSING OF STUMPS, ROOTS LARGER THAN T IN DIAMETER, AND MATTED ROOTS. REMOVE TO A DEPTH OF NOT LESS THAN 18" BELOW THE ORIGINAL SURFACE LEVEL OF THE GROUND.

10. ALL COMBUSTIBLE DEBRIS AND REFUSE FROM SITE PREPARATION OPERATIONS SHALL BE REMOVED TO LEGAL OFFSITE DISPOSAL AREAS.

GRADING

1. GRADING SHOWN ON THESE PLANS ARE PROVIDED TO THE CONTRACTOR TO EXPRESS THE GENERAL GRADING INTENT OF THE PROJECT. THE CONTRACTOR SHALL BE EXPECTED TO GRADE THE ENTIRE SITE TO PROVIDE POSITIVE DRAINAGE IN ALL AREAS THROUGHOUT THE SITE. SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CONTOURS OR SPOT ELEVATIONS AS SHOWN ON THE PLANS TO ACCOMPLISH THE GRADING INTENT. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER PRIOR TO DEMOBILIZATION OF GRADING EQUIPMENT TO DETERMINE THAT THE GRADING INTENT HAS BEEN ACHIEVED.

2. ALL PAVING SURFACES IN INTERSECTIONS AND ADJACENT SECTIONS SHALL BE GRADED TO DRAIN POSITIVELY AND TO PROVIDE A SMOOTHLY TRANSITIONED DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE, AND NO UNUSUALLY STEEP OR REVERSE CROSS SLOPES. THE STANDARD CROWN MAY HAVE TO BE CHANGED IN ORDER TO DRAIN POSITIVELY IN THE AREA OF INTERSECTIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO ACCOMPLISH THE ABOVE AND THE ENGINEER SHALL BE CONSULTED SO THAT HE MAY MAKE ANY AND ALL REQUIRED INTERPRETATIONS OF THE PLANS OR GIVE SUPPLEMENTARY INSTRUCTIONS TO ACCOMPLISH THE INTENT OF THE PLANS.

3. UNIFORMLY SMOOTH GRADE THE SITE. DEPRESSIONS FROM SETTLEMENT SHALL BE FILLED AND COMPACTED. TOPS OF EMBANKMENTS AND BREAKS IN GRADE SHALL BE ROUNDED. FINISHED SURFACES SHALL BE REASONABLY SMOOTH, COMPACTED, FREE FROM IRREGULAR SURFACE CHANGES AND COMPARABLE TO THE SMOOTHNESS OBTAINED BY BLADE_GRADER OPERATIONS.

4. SLOPE GRADES TO DRAIN AWAY FROM STRUCTURES AT A MINIMUM OF 'A-INCH PER FOOT FOR 10 FEET. FINISHED SURFACES ADJACENT TO PAVED AREAS AND WITHIN 10 FEET OF STRUCTURES SHALL BE WITHIN 1 INCH OF THE PROPOSED GRADE. ALL OTHER AREAS SHALL BE WITHIN 3 INCHES OF THE PROPOSED GRADE.

5. NEWLY GRADED AREAS SHALL BE PROTECTED FROM TRAFFIC AND EROSION. ALL SETTLEMENT OR WASHING AWAY THAT MAY OCCUR FROM ANY CAUSE PRIOR TO SEEDING OR ACCEPTANCE SHALL BE REPAIRED AND GRADES RE_ESTABLISHED TO THE REQUIRED ELEVATIONS AND SLOPES AT NO ADDITIONAL COST TO THE OWNER.

EXCAVATION, TRENCHING, AND FILL

1. THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (FS 553.60-553.64). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.

2. ROUGH EXCAVATE AND GRADE ANY PROPOSED STORMWATER PONDS AT THE START OF SITE GRADING ACTIVITIES. DIRECT SITE RUNOFF TOTHE PONDS TO MINIMIZE RUNOFF TO OFFSITE AREAS.

3. POND CONSTRUCTION SHALL RESULT IN THE FINISHED POND HAVING SIDE SLOPES AND DIMENSIONS THAT ARE IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO ENSURE THAT THESE REQUIREMENTS HAVE BEEN MET. IF THE CONSTRUCTED SIDE SLOPES ARE STEEPER THAN THE REQUIRED SIDE SLOPES, OR THE POND VOLUME IS NOT WITHIN THREE (3) PERCENT OF THE DESIGN VOLUME, THE CONTACTOR MAY BE REQUIRED TO MAKE CORRECTIONS TO THE POND AT NO ADDITIONAL COST TO THE OWNER.

4. FIELD DENSITY TESTING FREQUENCIES: A) ONE TEST FOR EACH 10,000 SQUARE FEET OR FRACTION THEREOF PER LIFT OF GENERAL BACKFILLING, MINIMUM 2 TESTS EACH LAYER; B) ONE TEST FOR EACH 100 SQUARE FEET OR FRACTION THEREOF OF BACKFILL AROUND AND UNDER STRUCTURES; C) ONE TEST FOR EACH 300 LINEAL FEET OR FRACTION THEREOF PER LIFT OF GENERAL BACKFILLING IN THE PIPELINE TRENCH; D) ONE TEST PER LIFT PER EACH CHANGE IN TYPE OF FILL; E) ONE TEST PER 1000 SQUARE FEET OF PAVEMENT SUBGRADE, MINIMUM OF 2 TESTS.

5. IT IS INTENDED THAT PREVIOUSLY EXCAVATED MATERIALS CONFORMING TO THE FOLLOWING REQUIREMENTS BE UTILIZED WHEREVER POSSIBLE.

   A. ACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-1, A-3, A-2-4, A-2-6; ASTM D2487 CLASSIFICATION GW, GP, GM, SM, SW, SP; UNLESS OTHERWISE DISAPPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS. NO MORE THAN 12% OF ACCEPTABLE MATERIALS SHALL PASS THE NUMBER 200 SIEVE.

   B. UNACCEPTABLE MATERIALS: AASHTO M145 CLASSIFICATION A-2-5, A-2-7, A-4, A-5, A-6, A-7, A-8; ASTM D2487 CLASSIFICATION GC, SC, ML, MH, CL, CH, OL, OH, PT; UNLESS OTHERWISE APPROVED WITHIN THE SOIL AND SUBSURFACE INVESTIGATION REPORTS.

6. PROVIDE BARRIERS, WARNING LIGHTS AND OTHER PROTECTIVE DEVICES AT ALL EXCAVATIONS.

7. SIDEWALKS, ROADS, STREETS, AND PAVEMENTS SHALL NOT BE BLOCKED OR OBSTRUCTED BY EXCAVATED MATERIALS, EXCEPT AS AUTHORIZED BY THE ENGINEER, IN WHICH CASE ADEQUATE TEMPORARY PROVISIONS MUST BE MADE FOR SATISFACTORY TEMPORARY PASSAGE OF PEDESTRIANS, AND VEHICLES. MINIMIZE INCONVENIENCE TO PUBLIC TRAVEL OR TO TENANTS OCCUPYING ADJOINING PROPERTY.

8. FURNISH, INSTALL, AND MAINTAIN, WITHOUT ADDITIONAL COMPENSATION, SHEETING, BRACING, AND SHORING SUPPORT REQUIRED TO KEEP EXCAVATIONS WITHIN THE PROPERTY OR EASEMENTS PROVIDED, TO SUPPORT THE SIDES OF THE EXCAVATION, AND TO PREVENT ANY MOVEMENT WHICH MAY DAMAGE ADJACENT PAVEMENTS OR STRUCTURES, DAMAGE OR DELAY THE WORK, OR ENDANGER LIFE AND HEALTH. VOIDS OUTSIDE THE SUPPORTS SHALL BE IMMEDIATELY FILLED AND COMPACTED.

9. ALL EXCAVATIONS SHALL BE MADE BY OPEN CUT UNLESS OTHERWISE INDICATED. SLOPE SIDES OF TRENCHES IN ACCORDANCE WITH OSHA REQUIREMENTS AND THE RECOMMENDATIONS CONTAINED WITHIN THE PROJECT GEOTECHNICAL REPORT.

10. EXCAVATE TRENCHES TO DEPTH INDICATED OR REQUIRED FOR INDICATED FLOW LINES AND INVERT ELEVATIONS. OVER EXCAVATE TRENCHES A MINIMUM OF 2 FEET WHERE EXCAVATIONS OCCUR WITHIN UNSUITABLE SOILS, AND REPLACE OVER EXCAVATED MATERIAL WITH SUITABLE SOILS.

11. EXCEPT AS OTHERWISE INDICATED, EXCAVATE FOR PRESSURE PIPING SO TOP OF PIPING IS MINIMUM 3 FEET BELOW FINISHED GRADE.

12. TRENCH BOTTOMS AND THE BOTTOMS OF ALL STRUCTURES SHALL BE KEPT DRY, COMPACTED, AND STABLE TO A DEPTH TWO FEET BELOW THE BOTTOM OF THE TRENCH OR STRUCTURE.

13. ALL BEDDING, FILL, AND BACKFILL MATERIAL SHALL BE SUITABLE SOILS OR FLOWABLE FILL. WHERE TRENCH OR EXCAVATION IS WITHIN THE INFLUENCE AREA OF ROADWAYS, STRUCTURES, FOUNDATIONS, OR SLABS, PLACE BACKFILL IN LAYERS OF 8 INCH LOOSE DEPTH. IN ALL OTHER AREAS, PLACE FILL AND BACKFILL IN LAYERS OF 12 INCH LOOSE DEPTH.

14. MINIMUM DENSITY REQUIREMENT (ASTM D1557 OR AASHTO T180): BACKFILL AND FILL UNDER AND WITHIN THE INFLUENCE AREA OF ROADWAYS, STRUCTURES, SLABS, FOUNDATIONS = 98 PERCENT; BACKFILL AND FILL PLACED WITHIN PUBLIC ROAD RIGHT-OF-WAY AND UTILITY EASEMENTS = 95 PERCENT; BACKFILL AND FILL PLACED WITHIN POND AND ROAD EMBANKMENT = 95 PERCENT; BACKFILL AND FILL PLACED IN ALL OTHER AREAS = 90 PERCENT.

UTILITY SEPARATION REQUIREMENTS

1. THE HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER, STORM SEWER, WASTEWATER FORCE MAINS, STORMWATER FORCE MAINS, RECLAIMED WATER MAINS AND ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

   A. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF THREE FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, VACUUM TYPE SANITARY SEWER AND RECLAIMED WATER MAIN.

   B. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF SIX FEET FROM THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN THE OUTSIDE OF WATER MAINS AND THE OUTSIDE OF GRAVITY SANITARY SEWERS CAN BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

   C. THE OUTSIDE OF WATER MAINS SHALL BE A MINIMUM OF TEN FEET FROM ALL PARTS OF ANY EXISTING OR PROPOSED ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.

2. THE VERTICAL SEPARATION BETWEEN WATER MAINS AND SANITARY AND STORM SEWER, WASTEWATER OR STORMWATER FORCE MAINS, AND RECLAIMED WATER MAINS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

   A. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES ABOVE THE OUTSIDE OF THE SEWER. WHERE IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER EXISTING OR PROPOSED GRAVITY SANITARY SEWER, VACUUM TYPE SANITARY SEWER, AND STORM SEWER, THEN THE WATER MAIN CAN CROSS UNDER THESE TYPES OF PIPELINE SYSTEMS PROVIDED THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE PIPELINE. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM VACUUM TYPE SANITARY SEWER OR STORM SEWER JOINTS, AND AT LEAST SIX FEET FROM GRAVITY SANITARY SEWER JOINTS.

   B. WHEREVER POSSIBLE, WATER MAINS SHALL CROSS OVER EXISTING OR PROPOSED RECLAIMED WATER MAINS, WASTEWATER FORCE MAINS AND STORMWATER FORCE MAINS. WHETHER THE WATER MAIN CROSSES OVER OR UNDER THESE TYPES OF PIPELINE SYSTEMS, THE OUTSIDE OF THE WATER MAIN SHALL BE AT LEAST 12 INCHES FROM THE OUTSIDE OF THE EXISTING OR PROPOSED RECLAIMED WATER MAIN, WASTEWATER FORCE MAIN AND STORMWATER FORCE MAIN. AT THE CROSSING, THE PROPOSED PIPE JOINTS SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM RECLAIMED WATER MAIN JOINTS AND STORMWATER FORCE MAIN JOINTS, AND AT LEAST SIX FEET FROM THE JOINTS OF WASTEWATER FORCE MAINS.

3. NO WATER MAIN SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE.

4. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST:

   A. THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER.

   B. SIX FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN.

   C. TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.

5. THE FOLLOWING ARE ACCEPTABLE ALTERNATIVE CONSTRUCTION VARIANCES WHERE IT IS NOT POSSIBLE TO MEET THE SEPARATION REQUIREMENTS, AND ARE ONLY TO BE IMPLEMENTED UPON RECEIPT OF EXPRESSED WRITTEN CONSENT FROM THE ENGINEER. IMPLEMENTATION OF THESE MEASURES WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER COULD RESULT IN THE REQUIREMENT THAT THE INSTALLED UNAPPROVED MEASURES BE REMOVED AND REPLACED AT NO COST.

   A. WHERE A WATER MAIN IS LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND OR WHERE A WATER MAIN CROSSES ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE LESS THAN THE MINIMUM REQUIRED DISTANCE BETWEEN THE JOINTS IN THE OTHER PIPELINE:

      1) USE OF PRESSURE RATED PIPE CONFORMING TO AWWA STANDARDS FOR A GRAVITY OR VACUUM TYPE PIPELINE.

      2) USE OF WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS FOR EITHER PIPELINE.

      3) USE OF WATERTIGHT CASING PIPE OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR EITHER PIPE.

   B. WHERE A WATER MAIN IS LESS THAN THREE FEET HORIZONTALLY FROM ANOTHER PIPELINE AND OR WHERE A WATER MAIN CROSSES ANOTHER PIPELINE LESS THAN THE REQUIRED MINIMUM SEPARATION:

      1) USE OF PIPE OR CASING PIPE, HAVING HIGH IMPACT STRENGTH (AT LEAST EQUAL TO 0.25 INCH THICK DUCTILE IRON PIPE), OR CONCRETE ENCASEMENT AT LEAST FOUR INCHES THICK FOR THE WATER MAIN AND FOR THE OTHER PIPELINE IF THE OTHER PIPELINE COVEYS WASTEWATER OR RECLAIMED WATER.

This item has been digitally signed and sealed by Jorge Szauer, PE. On January 13, 2025.

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WATER AND RECLAIMED WATER DISTRIBUTION SYSTEMS

1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE WATER SYSTEMS SHOWN ON THESE PLANS IS THE CITY OF HOLLYWOOD. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE CITY OF HOLLYWOOD-FLORIDA.

2. ALL WATER AND RECLAIMED MAIN PIPE SHALL BE EITHER DUCTILE IRON OR PVC, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

3. INSTALL ALL WATER AND RECLAIMED MAINS AT A MINIMUM 36 INCHES OF COVER.

4. BURIED DUCTILE IRON PIPE SHALL CONFORM WITH ANSI/AWWA C150/A21.50 AND C151/ A21.51, AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI. BURIED PIPE SHALL COMPLY WITH THE FOLLOWING PRESSURE CLASS (PC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 12" DIAMETER AND SMALLER = PC 350; B) 14" THROUGH 24" DIAMETER = PC 250; C) 30" THROUGH 64" DIAMETER = PC 200.

5. EXPOSED PIPE 4" AND LARGER SHALL BE DUCTILE IRON FLANGED AND SHALL CONFORM WITH AWWA/ANSI C115/A21.15, AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI. FLANGED PIPE SHALL COMPLY WITH THE FOLLOWING THICKNESS CLASS (TC) DESIGNATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS: A) 4" DIAMETER = TC 54; B) T THROUGH 24" DIAMETER = TC 53

6. DUCTILE IRON PIPE AND FITTINGS WITHIN 10 FEET OF GAS MAINS SHALL HAVE AN 8-MIL POLYETHYLENE WRAP IN ACCORDANCE WITH ANSI/AWWA C105/A21.5.

7. PVC PIPE 4" - 17 SHALL CONFORM TO AWWA C900. PIPE 14" - 36" SHALL CONFORM TO AWWA C905. PIPE SHALL CONFORM TO ASTM D1784, TYPE I, GRADE I, 4000 PSI DESIGN STRESS, AND SHALL BE NATIONAL SANITATION FEDERATION (NSF) APPROVED. PIPE SHALL BE CLASS 150 (DR18) WITH MARKINGS ON EACH SECTION SHOWING CONFORMANCE TO THE ABOVE SPECIFICATIONS. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO AWWA C900 OR C905 THE BELL SHALL BE INTEGRAL WITH THE PIPE AND OF EQUAL OR GREATER PRESSURE RATING. THE BELL OF PIPE AND FITTINGS USING PUSH-ON JOINTS SHALL HAVE AN INTEGRAL GROOVE TO RETAIN THE GASKET IN PLACE.

8. ALL FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON, CONFORMING TO ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53. ALL FULL BODY (C110/A21.10) FITTINGS SHALL BE PRESSURE RATED TO 250 PSI, MINIMUM. ALL COMPACT FITTINGS (C153/A21.53) SHALL BE PRESSURE RATED TO 350 PSI, MINIMUM.

9. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE LINED AND COATED. INTERIOR LINING SHALL BE STANDARD THICKNESS CEMENT MORTAR LINING PER ANSI/AWWA C104/A21.4. EXTERIOR COATING FOR BURIED PIPE AND FITTINGS SHALL BE A PETROLEUM ASPHALTIC COATING IN ACCORDANCE WITH ANSI/AWWA C110/A21.

10. EXTERIOR COATING OF EXPOSED PIPE AND FITTINGS SHALL BE FACTORY APPLIED RUST INHIBITING EPDXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH TWO COATS TNEMEC SERIES 2 TNEME-GLOSS, GLIDDEN LIFE MASTER PRO HIGH PERFORMANCE ACRYLIC NO. 6900 SERIES, OR EQUAL, AT MINIMUM 4 MILS DRY FILM THICKNESS PER COAT. PAINT COLOR TO BE IN ACCORDANCE WITH LOCAL UTILITY REQUIREMENTS.

11. MECHANICAL AND PUSH ON JOINTS FOR DUCTILE IRON PIPE AND FITTINGS SHALL BE RUBBER GASKETED, CONFORMING TO ANSI/AWWA C111/A21.11. LUBRICANTS OTHER THAN THAT FURNISHED BY THE PIPE MANUFACTURER WITH THE PIPE SHALL NOT BE USED.

12. ALL FITTINGS SHALL BE RESTRAINED IN ACCORDANCE WITH DIPRA, "THRUST RESTRAINT DESIGNED FOR DUCTILE IRON PIPE". PIPE JOINTS SHALL BE RESTRAINED UPSTREAM AND DOWNSTREAM OF FITTINGS IN ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS OR THE TABLE SHOWN IN THE DRAWINGS, WHICHEVER IS GREATER. DUCTILE IRON RESTRAINED JOINTS SHALL BE AMERICAN FAST GRIP GASKET, FLEX-RING, FIELD FLEX RING, LOK-RING, US PIPE TR-FLEX, EBAA MEGALUG, OR EQUAL. PVC PIPE JOINTS SHALL BE RESTRAINED USING MECHANICAL DEVICES, UNI-FLANGE BLOCK BUSTER SERIES 1350 OR ENGINEER APPROVED EQUAL.

13. ALL SERVICE PIPING (W -T) SHALL BE POLYETHYLENE. SDR-PR PE PIPE SHALL BE MANUFACTURED FROM PE3408 AND SHALL CONFORM TO AWWA C901. ALL PIPE SHALL BE DR9, PRESSURE CLASS 200 PSI. PIPE AND FITTINGS SHALL BE NSF APPROVED FOR THE USAGE TO WHICH THEY ARE TO BE APPLIED. JOINTS IN SDR-PR PE PIPE SHALL BE BUTT HEAT FUSION OR SOCKET HEAT FUSION TYPE. FITTINGS SHALL BE MANUFACTURED OF THE SAME MATERIAL AS THE PIPE AND SHALL BE OF THE SAME SDR OR LESS. PROVIDE ADAPTERS AS REQUIRED TO JOIN PE PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS.

14. ALL SERVICE SADDLES SHALL CONSIST OF DUCTILE IRON BODIES IN ACCORDANCE WITH ASTM A536, WITH DOUBLE STAINLESS STEEL STRAPS, BOLTS, WASHERS AND NUTS. STAINLESS STEEL TO BE TYPE 304. NUTS TO BE TEFLON COATED. DUCTILE IRON BODY TO BE FUSION BONDED NYLON COATING, MINIMUM THICKNESS 12 MILS.

    OUTLET OF SADDLE TO HAVE NPT THREADS.

15. ALL SERVICES SHALL INCLUDE THE FOLLOWING: CURB STOPS, UNIONS AS REQUIRED, CORPORATION STOPS. CONFORMANCE WITH AWWA C800 AND C901 IS REQUIRED. THE CONTRACTOR SHALL CUT "W" IN THE TOP CURB OF EACH WATER SERVICE AND A "V AT ALL VALVE LOCATIONS. CUT WS AND VS SHALL BE HIGHLIGHTED WITH BLUE PAINT.

16. UNLESS OTHERWISE NOTED IN THE PLANS, THE UTILITY COMPANY SHALL PROVIDE AND INSTALL WATER METERS AND RECLAIMED WATER METERS. CONTRACTOR SHALL CONSTRUCT WATER SERVICE AND RECLAIMED WATER SERVICE TO THE CORPORATION STOP.

17. UNLESS OTHERWISE INDICATED OR SPECIFIED, ALL VALVES TWO INCHES AND SMALLER SHALL BE ALL BRASS OR BRONZE; VALVES OVER TWO INCHES SHALL BE IRON BODY, FULLY BRONZE OR BRONZE MOUNTED.

18. VALVES 4 INCHES AND LARGER SHALL BE LINED AND COATED. INTERIOR OF VALVES SHALL BE COATED WITH A RUST INHIBITING EPDXY PRIMER, FOLLOWED BY A COAL TAR EPDXY, TOTAL MINIMUM DRY FILM THICKNESS OF 16 MILS, APPLIED AT THE FACTORY. EXTERIOR COATING ON BURIED VALVES SHALL BE RUST INHIBITING EPDXY PRIMER, FOLLOWED BY A COAL TAR EPDXY, TOTAL MINIMUM DRY FILM THICKNESS OF 16 MILS, APPLIED AT THE FACTORY. EXTERIOR COATING OF EXPOSED VALVES SHALL BE FACTORY APPLIED RUST INHIBITING EPDXY PRIMER, MINIMUM 3 MILS DRY FILM THICKNESS. AFTER INSTALLATION, EXTERIOR SURFACES SHALL BE PAINTED WITH TWO COATS TNEMEC SERIES 2 TNEME-GLOSS, GLIDDEN LIFE MASTER PRO HIGH PERFORMANCE ACRYLIC NO. 6900 SERIES, OR EQUAL, AT 4 MILS MINIMUM DRY FILM THICKNESS PER COAT. PAINT COLOR TO BE IN ACCORDANCE WITH LOCAL UTILITY REQUIREMENTS.

19. ALL VALVES 12" AND SMALLER SHALL BE GATE VALVES UNLESS OTHERWISE INDICATED ON THE DRAWINGS. GATE VALVES 3 INCHES TO 12 INCHES SHALL CONFORM TO AWWA C509. THE VALVES SHALL BE IRON BODY, CAST IRON FULLY ENCAPSULATED MOLDED RUBBER WEDGE COMPLYING WITH ASTM D2000, NON-RISING STEM WITH 0-RING SEALS. VALVES SHALL OPEN COUNTERCLOCKWISE.

20. TAPPING VALVES AND SLEEVES SHALL BE APPROVED AWWA TYPE OF THE SIZE REQUIRED. VALVES SHALL CONFORM TO THE REQUIREMENTS OF AWWA C509.

21. VALVES 14" AND LARGER SHALL BE BUTTERFLY VALVES. BUTTERFLY VALVES SHALL MEET OR EXCEED THE DESIGN STRENGTH, TESTING AND PERFORMANCE REQUIREMENTS OF AWWA C504, CLASS 150. VALVE BODY SHALL BE MECHANICAL JOINT END TYPE VALVE CONSTRUCTED OF CAST IRON OR DUCTILE IRON. DISC SHALL BE ONE PIECE CAST DESIGN WITH NO EXTERNAL RIBS TRANSVERSE TO FLOW. DISC SHALL BE CAST IRON OR DUCTILE IRON. THE RESILIENT SEAT SHALL MATE WITH A 304 OR 316 STAINLESS STEEL SURFACE.

22. VALVE SEATS SHALL BE MECHANICALLY RETAINED, AND MAY BE INSTALLED ON EITHER THE BODY OR DISC. 0-RING SEATS ON VALVE DISCS ARE UNACCEPTABLE.

    SEATS FOR VALVES 14" DIAMETER AND LARGER SHALL BE FULLY FIELD REPLACEABLE WITHOUT THE USE OF SPECIAL TOOLS. OPERATORS OF THE ENCLOSED TRAVELING-NUT TYPE SHALL BE PROVIDED UNLESS OTHERWISE INDICATED.

23. ALL BURIED VALVES SHALL BE PROVIDED WITH ADJUSTABLE VALVE BOXES APPROXIMATELY 5 INCHES IN DIAMETER WITH A MINIMUM THICKNESS OF 3/16 INCH CAST IRON. BOXES SHALL BE OF SUFFICIENT LENGTH TO OPERATE ALL VALVES BURIED IN THE GROUND, CONSISTING OF BASE, CENTER SECTION, AND TOP SECTION WITH COVER. VALVE BOXES LOCATED IN UNPAVED AREAS SHALL BE SLIP TYPE DESIGN TO PERMIT MOVEMENT OF THE TOP SECTION WITHOUT TRANSMITTING FORCES ONTO THE VALVE BODY. VALVE BOXES CAST INTO CONCRETE OR ASPHALT SURFACING SHALL HAVE BRASS COVERS. ALL VALVE BOX COVERS SHALL BE INTERNALLY CHAINED TO VALVE BOXES WITH AN APPROXIMATELY 18 INCH GALVANIZED CHAIN. VALVE BOX COVERS SHALL BE CAST WITH THE INSCRIPTION 'WATER' OR "RECLAIMED WATER'.

24. PVC PIPE SHALL BE COLOR CODED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS), STENCILED "WATER LINE" OR "RECLAIMED WATER LINE', AS APPLICABLE, (2" LETTERING ON TWO SIDES OF THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION).

25. INSTALL IDENTIFICATION TAPE ALONG ALL DUCTILE IRON PIPE AND PVC PIPE, MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. APPLY TAPE TO SURFACE OF PIPE, CONTINUOUSLY EXTENDING FROM 7 -
    JOINT [illegible] CENTERED ALONG TOP HALF OF PIPE.

26. INSTALL WARNING TAPE ALONG ALL PIPELINES, PLACED 2 FEET ABOVE PIPE. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE. TAPE SHALL BE COLORED BLUE (WATER MAINS) OR PURPLE (RECLAIMED WATER MAINS) WITH BLACK LETTERING, CODED AND WORDED "CAUTION: WATER MAIN BURIED BELOW", OR "CAUTION: RECLAIMED WATER MAIN BURIED BELOW", APPLICABLE.

27. INSTALL LOCATING WIRE ALONG ALL PVC PIPELINES. WIRE SHALL BE COLOR-CODED 14 GAUGE CONTINUOUS INSULATED WIRE. COLOR CODING SHALL BE SIMILAR TO WARNING TAPE COLORS. INSTALL LOCATOR WIRE ALONG ALL PRESSURIZED PIPELINES 7 AND LARGER. LOOP WIRE INTO ALL VALVE BOXES. LOOPING TO OCCUR EVERY 500 FEET MINIMUM. WHERE THERE ARE NO VALVE BOXES TO ALLOW LOOPING, PROVIDE ACCESS BOXES PER CITY REQUIREMENTS. CHECK WIRE FOR ELECTRICAL CONTINUITY.

28. ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS OR APPROVED JOINT DEFLECTION. BENDING OF PIPE, EXCEPT COPPER AND POLYETHYLENE, IS PROHIBITED. JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURERS RECOMMENDED MAXIMUM DEFLECTION.

29. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED.

30. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE LEAKS.

31. ALL SERVICE LINES SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.

32. APPLY HYDROSTATIC TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS), OR 100 PSI (RECLAIMED WATER MAINS) FOR 10 MINUTES AND FOR SUCH ADDITIONAL PERIOD NECESSARY FOR THE ENGINEER TO COMPLETE THE INSPECTION OF THE LINE UNDER TEST. DO NOT EXCEED PIPE MANUFACTURERS SUGGESTED TIME DURATION AT THE TEST PRESSURE. IF DEFECTS ARE NOTED, REPAIRS SHALL BE MADE AND THE TEST REPEATED UNTIL ALL PARTS OF THE LINE WITHSTAND THE TEST PRESSURE.

33. APPLY LEAKAGE TEST PRESSURE OF 150 PSI (WATER MAINS), 200 PSI (FIRE MAINS) OR 100 PSI (RECLAIMED WATER MAINS). MAINTAIN PRESSURE AT A MAXIMUM VARIATION OF 5% DURING THE ENTIRE LEAKAGE TEST. THE DURATION OF THE LEAKAGE TEST SHALL BE TWO HOURS MINIMUM, AND FOR SUCH ADDITIONAL TIME NECESSARY FOR THE ENGINEER TO COMPLETE INSPECTION OF THE SECTION OF LINE UNDER TEST. LEAKAGE MEASUREMENTS SHALL NOT BE STARTED UNTIL A CONSTANT TEST PRESSURE HAS BEEN ESTABLISHED. THE LINE LEAKAGE SHALL BE MEASURED BY MEANS OF A WATER METER INSTALLED ON THE SUPPLY SIDE OF THE PRESSURE PUMP.

34. NO LEAKAGE IS ALLOWED IN EXPOSED PIPING, BURIED PIPING WITH FLANGED, THREADED, OR WELDED JOINTS OR BURIED NON-POTABLE PIPING IN CONFLICT WITH POTABLE WATER LINES.

35. TESTED SECTIONS OF BURIED PIPING WITH SLIP-TYPE OR MECHANICAL JOINTS WILL NOT BE ACCEPTED IF IT HAS A LEAKAGE RATE IN EXCESS OF THAT RATE DETERMINED BY THE FORMULA L = SDP/133200 (AWWA C-600 DUCTILE IRON MAIN), OR L = NDP/7400 (AWWAC-605 - PVC MAIN); WHERE L = MAXIMUM PERMISSIBLE LEAKAGE RATE, IN GALLONS PER HOUR, THROUGHOUT THE ENTIRE LENGTH OF LINE BEING TESTED; S = LENGTH OF LINE TESTED (IN FEET); D = NOMINAL INTERNAL DIAMETER (IN INCHES) OF THE PIPE; N = NUMBER OF JOINTS ALONG LINE BEING TESTED; AND P = THE SQUARE ROOT OF THE ACTUAL PRESSURE IN PSIG ON ALL JOINTS IN THE TESTED PORTION OF THE LINE. THIS ACTUAL PRESSURE SHALL BE DETERMINED BY FINDING THE DIFFERENCE BETWEEN THE AVERAGE ELEVATION OF ALL TESTED PIPE JOINTS AND THE ELEVATION OF THE PRESSURE GAUGE AND ADDING THE DIFFERENCE IN ELEVATION HEAD TO THE AUTHORIZED TEST PRESSURE.

36. ALL APPARENT LEAKS DISCOVERED WITHIN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER SHALL BE LOCATED AND REPAIRED BY CONTRACTOR, REGARDLESS OF THE TOTAL LINE LEAKAGE RATE.

37. DISINFECT ALL POTABLE WATER LINES, FIRE LINES, VALVES, FITTINGS, HYDRANTS.

38. ALL DISINFECTION WORK SHALL BE ACCEPTABLE TO THE STATE HEALTH AUTHORITY. IF ANY REQUIREMENTS OF THIS SECTION ARE IN CONFLICT WITH REQUIREMENTS OF THE AUTHORITY FOR DISINFECTION, THOSE OF THE AUTHORITY SHALL GOVERN. THE WATER MAIN DISINFECTION AND BACTERIOLOGICAL SAMPLING AND METHODS OF DISINFECTION FOR ALL WATER CONTAINMENT DEVICES AND PIPING SYSTEMS SHALL CONFORM TO AWWA C651.

FIRE PROTECTION SYSTEMS

1. COMBUSTIBLE CONSTRUCTION CANNOT OCCUR UNTIL PROPER DOCUMENTATION HAS BEEN SUBMITTED TO THE LOCAL FIRE MARSHAL. DOCUMENTATION SHALL SHOW THAT HYDRANTS HAVE BEEN INSTALLED, TESTED, AND ARE IN PROPER WORKING ORDER.

2. INSTALL ALL FIRE LINE PIPING AT A MINIMUM 36 INCHES OF COVER.

3. ALL FIRE LINE PIPING FROM POINT OF SERVICE AS DEFINED BY FS 633.021(16) SHALL BE C900 DR 14. THE FIRE LINE SHALL BE PRESSURE TESTED TO 200 PSI FOR A MINIMUM OF TWO HOURS, TESTED IN ACCORDANCE WITH NFPA 24-9-2.

4. THE CONTRACTOR INSTALLING THE UNDERGROUND FIRE PROTECTION PIPING SHALL HOLD A CLASS I, II, OR LEVEL V CERTIFICATION AS ISSUED BY THE STATE OF FLORIDA, AS REQUIRED BY FS 633.021(5).

5. ALL FIRE PROTECTION SPRINKLER SYSTEMS INSTALLED SHALL COMPLY WITH NFPA 13, AND SHALL BE MONITORED BY A COMPANY LISTED AS A CENTRAL STATION.

6. HYDRANTS SHALL CONFORM TO AWWA C502 AND SHALL BE FURNISHED COMPLETE WITH WRENCH AND OTHER APPURTENANCES. MANUFACTURERS CERTIFICATION OF COMPLIANCE WITH AWWA C502 AND TESTS LISTED THEREIN WILL BE REQUIRED.

7. ALL HYDRANTS SHALL BE OF BREAKABLE TYPE, WITH THE BREAKABLE SECTION LOCATED SLIGHTLY ABOVE THE FINISH GROUND LINE. HYDRANTS SHALL CONTAIN TWO-TWO AND A HALF INCH [(2) 2-1/2"] HOSE CONNECTIONS AND ONE-FOUR AND A HALF INCH (4-1/2") STEAMER CONNECTIONS WITH NATIONAL STANDARD FIRE HOSE COUPLING SCREW THREADS, FIVE AND ONE QUARTER INCH (5-1/4") VALVE OPENING, SIX INCH (6") DIAMETER MECHANICAL JOINT INLET, ONE AND ONE-HALF INCH (1-1/2") PENTAGON OPERATING NUT. THE HYDRANTS SHALL OPEN COUNTERCLOCKWISE.

8. ALL HYDRANTS SHALL BE PAINTED IN AN APPROVED MANNER WITH THE PRIMER PAINT BEING KOPPER'S "GLAMORTEX" NO. 622 RUST PRIMER AND THE FINISH PAINT SHALL BE TWO COATS OF ENAMEL OR SPECIAL COATING TO COLOR AS REQUIRED BY THE LOCAL FIRE DEPARTMENT.

9. BLUE PAVEMENT REFLECTORS (CAT EYES) SHALL BE PLACED IN THE CENTERLINE OF THE DRIVING LANE DIRECTLY IN FRONT OF ALL FIRE HYDRANTS. THERE SHALL BE NO TREES, SHRUBS, OR LANDSCAPING PLANTED AROUND THE FIRE HYDRANTS OR IN AREAS DESIGNATED AS FIRE LANES.

10. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SUCH THAT THE UNDERGROUND DRAIN (WEEP HOLE) IS AT LEAST: THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER MAIN, OR VACUUM TYPE SANITARY SEWER; SIX FEET FROM ANY EXISTING OR PROPOSED GRAVITY SANITARY SEWER AND WASTEWATER FORCE MAIN; AND TEN FEET FROM ANY ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM SUCH AS SEPTIC TANKS, DRAINFIELDS, AND GREASE TRAPS. ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS DO NOT INCLUDE PACKAGE SEWAGE TREATMENT FACILITIES AND PUBLIC WASTEWATER TREATMENT FACILITIES.

11. THE CONTRACTOR SHALL PROVIDE A POST-CONSTRUCTION FIRE FLOW TEST WITNESSED AND APPROVED BY THE ENGINEER AND THE UTILITY. HYDRANTS SHALL DELIVER A MINIMUM OF 1250 GPM WITH A RESIDUAL PRESSURE OF 20 PSI.

SANITARY SEWER SYSTEMS

1. THE ENTITY THAT WILL OPERATE AND MAINTAIN THE SEWER SYSTEM SHOWN ON THESE PLANS IS THE CITY OF HOLLYWOOD. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE CITY OF HOLLYWOOD - FLORIDA.

2. PVC SEWER PIPE SHALL BE TYPE PSM PVC PIPE CONFORMING TO ASTM D3034 AND SHALL BE SDR 35 FOR 4" THROUGH 15", AND ASTM F 679, WALL THICKNESS T-1, FOR PIPE 18" THROUGH 27".

3. INSTALL ALL SEWER MAINS AT A MINIMUM 36 INCHES OF COVER.

4. JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212 USING RUBBER GASKETS CONFORMING TO ASTM F477.

5. FITTINGS SHALL CONFORM TO THE SAME REQUIREMENTS AS THE PIPE. PROVIDE ADAPTERS AS REQUIRED TO JOIN PVC PIPE TO PIPE, FITTINGS AND EQUIPMENT OF OTHER MATERIALS. SOLVENT CEMENT SHALL BE AS RECOMMENDED BY THE PIPE MANUFACTURER.

6. PVC SEWER PIPE SHALL BE COLOR CODED GREEN, STENCILED "SEWER LINE" (2 . LETTERING ON TWO SIDES OF THE PIPE IN AT LEAST THREE AREAS PER PIPE SECTION).

7. INSTALL ADHESIVE IDENTIFICATION TAPE ALONG PIPELINE. TAPE SHALL BE MINIMUM THICKNESS 4 MILS, WIDTH 6 INCHES, LETTER SIZE 1 INCH. TAPE COLOR AND LETTERING SHALL BE "SEWER LINE", BLACK PRINTING ON GREEN BACKGROUND. PLACE TAPE AS FOLLOWS: - 8" PIPE - CENTER ALONG TOP HALF OF PIPE; 10" - 18" PIPE - PLACE ALONG BOTH SIDES OF THE TOP HALF OF PIPE; 20" PIPE AND LARGER - PLACE ON BOTH SIDES OF TOP HALF OF PIPE WITH A THIRD STRIP CENTERED ALONG TOP HALF OF PIPE.

8. INSTALL WARNING TAPE ALONG ALL SEWER PIPELINES. TAPE SHALL BE 6-INCH WIDE VINYL CONTINUOUS TAPE, COLORED GREEN WITH BLACK LETTERING CODED AND WORDED "CAUTION: SEWER BURIED BELOW". INSTALL ALONG PIPELINE, 2 FEET ABOVE PIPE, MINIMUM OF 1 FOOT BELOW GRADE

9. CONNECTIONS TO EXISTING SEWER SHALL BE CONDUCTED IN SUCH A MANNER THAT THE EXISTING SEWER REMAINS IN OPERATION. PROVIDE BY PASS PUMPING OF EXISTING FLOWS OR COLLECT AND LEGALLY DISPOSE OF EXISTING SEWER FLOW AS NEEDED TO ACCOMMODATE CONSTRUCTION WHILE KEEPING EXISTING SEWER IN SERVICE.

10. PRIOR TO INSPECTIONS AND TESTING, CLEAN ALL INSTALLED LINES AND MANHOLES. TEST PROCEDURES SHALL BE APPROVED BY THE ENGINEER. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE ENGINEER AND UTILITY. NOTIFY THE ENGINEER AND THE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY WORK IS TO BE INSPECTED OR TESTED.

11. PROVIDE ALL EQUIPMENT FOR TESTING. INCREMENTS ON GAGES USED FOR LOW PRESSURE AIR TESTING SHALL BE OF SCALED TO THE NEAREST 0.1 PSI. GAGES, PUMPS, AND HOSES SHALL BE IN GOOD WORKING ORDER WITH NO NOTICEABLE LEAKS.

12. ALL SERVICE LATERALS SHALL BE COMPLETED PRIOR TO TESTING, AND ARE SUBJECT TO THE SAME TESTING REQUIREMENTS AS THE MAIN LINE.

13. PROVIDE LIGHT SOURCE AND MIRRORS FOR LAMPING OF SEWER. ANY SEWER IN WHICH THE DIRECT LIGHT OF A LAMP CANNOT BE VIEWED IN EITHER DIRECTION, FULL CIRCLE, BETWEEN ADJACENT MANHOLES SHALL BE CONSIDERED UNSATISFACTORY, UNLESS THE LINE IS DESIGNED WITH HORIZONTAL DEFLECTIONS, AND SHALL BE REPAIRED BY THE CONTRACTOR WITHOUT ADDITIONAL COMPENSATION.

14. CONDUCT LOW PRESSURE AIR TESTING (4.0 PSI INITIAL PRESSURE) OF INSTALLED SEWER PIPING IN ACCORDANCE WITH ASTM F1417. MAXIMUM ALLOWABLE LEAKAGE IS 0.0015 CUBIC FEET PER MINUTE PER SQUARE FOOT INTERNAL SURFACE AREA BEING TESTED. ALLOWABLE AIR PRESSURE DROP DURING THE TEST IS 0.5 PSIG. MINIMUM REQUIRED TEST TIME (DURATION) IS: A) 4" PIPE = 1 MIN 53 SEC; B) 6" PIPE = 2 MIN 50 SEC, OR 0.427 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; C) 8" PIPE = 3 MIN 47 SEC, OR 0.760 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; D) 10" PIPE = 4 MIN 43 SEC, OR 1.187 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER; E) 12" PIPE = 5 MIN 40 SEC, OR 1.709 X LENGTH OF PIPE TESTED, WHICHEVER IS GREATER.

15. CONDUCT LEAKAGE TESTING OF MANHOLES. PLUG INVERTS AND FILL MANHOLE WITH WATER. ALLOWABLE WATER DROP IN MANHOLE TO BE FIELD DETERMINED BY UTILITY AND ENGINEER. MINIMUM TEST DURATION IS 1 HOUR.

16. CONDUCT DEFLECTION TESTING OF PIPELINE AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. MAXIMUM ALLOWABLE PIPE DEFLECTION IS 5%. MEASURE DEFLECTION BY MANUALLY PULLING A MANDREL THROUGH THE PIPE. THE MINIMUM MANDREL OUTER DIAMETER SHALL BE IN ACCORDANCE WITH THE FOLLOWING: 6" SEWER = 5.45" MANDREL; 8" SEWER = 7.28" MANDREL; 10" SEWER = 9.08" MANDREL; 12" SEWER = 10.79" MANDREL; 15" SEWER = 13.20" MANDREL; 18" SEWER = 16.13" MANDREL; 21" SEWER = 19.00" MANDREL; 24" SEWER = 21.36" MANDREL; 27" SEWER = 24.06" MANDREL.

17. DEFLECTION TESTING IS CONSIDERED SATISFACTORY IF THE MANDREL CAN BE PULLED BY HAND THROUGH THE PIPE BEING TESTED. IF THE MANDREL CANNOT BE PULLED THROUGH THE PIPE, REPLACE OR CORRECT THE PIPE AND RETEST UNTIL TESTING IS SATISFACTORY. ANY PIPE REMOVED OR CORRECTED DUE TO FAILING DEFLECTION TESTING SHALL ALSO BE RE-TESTED FOR LEAKAGE.

PRECAST STRUCTURES AND APPURTENANCES

1. ALL MANHOLES SHALL BE PRECAST CONSTRUCTION. THE MINIMUM SIZE DIAMETER OF MANHOLES SHALL BE 48" FOR SEWER LINES 21" IN DIAMETER OR LESS. INTEGRALLY CAST STEPS WITHIN PRECAST STRUCTURES ARE NOT ALLOWED.

2. BASES SHALL BE ONE-PIECE PRECAST BASE SECTIONS CONSISTING OF INTEGRALLY CAST SLAB, BOTTOM RING SECTION AND CONCRETE FLOW CHANNELS. BASE SECTIONS SHALL HAVE INTEGRAL INVERTS WITH GASKETS TO MATCH THE PIPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL INVERT ANGLES. PROVIDE OUTLET STUBS WITH JOINTS TO MATCH THE PIPE.

3. RISERS SHALL BE PRECAST REINFORCED CONCRETE PER ASTM C478, MANUFACTURED USING SULFATE RESISTANT CEMENT (ASTM C150, TYPE II). RISERS SHALL BE 48-INCH DIAMETER UNLESS OTHERWISE INDICATED AND SHALL HAVE A MINIMUM WALL THICKNESS OF 5 INCHES.

4. GASKETS FOR SEATING PRECAST SECTIONS SHALL BE COLD ADHESIVE PREFORMED PLASTIC GASKETS CONFORMING TO FDOT SPECIFICATION 942-2, UNLESS OTHERWISE INDICATED.

5. UNLESS OTHERWISE INDICATED, CONE TOP SECTIONS SHALL BE PRECAST, ECCENTRIC TYPE WITH 24-INCH DIAMETER TOP OPENING CONFORMING TO ASTM C478. PROVIDE 8-INCH MINIMUM THICKNESS FLAT SLAB TOPS WITH ECCENTRIC 24 INCH DIAMETER OPENING, UNLESS OTHERWISE INDICATED.

6. PROVIDE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO THE MANHOLE. CONNECTION OF CONCRETE PIPE TO THE MANHOLE SHALL BE MADE WITH NON-SHRINK METALLIC GROUT. CONNECTION OF DUCTILE IRON OR PVC PIPE TO THE MANHOLE SHALL PROVIDE A WATERTIGHT CONNECTION PER ASTM C923. WHERE CONNECTORS ARE USED, THEY SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATION OF THE CONNECTOR MANUFACTURER. THE USE OF ADHESIVES OR LUBRICANTS FOR INSTALLATION OF RUBBER CONNECTORS IS PROHIBITED.

7. FRAMES AND COVERS SHALL BE GREY IRON PER ASTM A48, CLASS 30B AND SHALL BE US FOUNDRY TYPE 227AS, TRAFFIC BEARING (AASHTO H-20 LOADING), UNLESS OTHERWISE NOTED IN THE DRAWINGS. CASTINGS SHALL BE SMOOTH, CLEAN, FREE FROM BLISTERS, BLOWHOLES, AND SHRINKAGE. RAISED LETTERING ON COVERS SHALL BE "STORM", "SEWER", OR AS DETAILED ON THE DRAWINGS.

8. PROVIDE CAST IRON INLETS, FRAMES, AND GRATES IN ACCORDANCE WITH DETAILS ON THE DRAWINGS. ALL FRAMES AND INLET GRATES SHALL BE PRODUCTS OF U.S. FOUNDRY & MANUFACTURING CORPORATION, OR EQUAL.

9. ALL INLET GRATES SHALL BE SECURED BY CHAIN AND EYEBOLT TO THE TOP OF THE STRUCTURE.

10. MANHOLE COATINGS AND FINISHES SHALL BE:

    A. SANITARY SEWER MANHOLE INTERIOR - BITUMINOUS EPDXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.

    B. INTERIOR OF MANHOLES WHICH RECEIVE FORCE MAIN DISCHARGE - INTEGRALLY ATTACHED INTERIOR LINER, FULL HEIGHT, FIBERGLASS LINER. LINER THICKNESS TO BE IN ACCORDANCE WITH THE DRAWINGS.

    C. EXTERIOR - BITUMINOUS EPDXY COATING, MINIMUM DRY FILM THICKNESS = 16 MILS.

11. AS-BUILT INFORMATION SHALL INCLUDE ALL RIM, TOP AND INVERT ELEVATIONS FOR ALL PRECAST STRUCTURES.

STORM SEWER SYSTEMS

1. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) UNLESS OTHERWISE INDICATED ON THE DRAWINGS. ROUND CONCRETE PIPE SHALL COMPLY WITH ASTM C76. ELLIPTICAL CONCRETE PIPE SHALL COMPLY WITH ASTM C507. PIPE JOINTS AND 0-RING GASKETS SHALL COMPLY ASTM C443. MINIMUM COVER OVER THE PIPE, INCLUDING COVER OVER THE BELL OF THE PIPE WHERE APPLICABLE, SHALL BE 30 INCHES.

2. RCP PIPE SHALL NOT BE SHIPPED FROM MANUFACTURER UNTIL THE COMPRESSIVE STRENGTH OF THE PIPE HAS REACHED 4000 PSI AND A MINIMUM OF 5 DAYS HAVE PASSED SINCE THE MANUFACTURING OR REPAIR OF THE PIPE HAS BEEN COMPLETED.

3. CORRUGATED POLYETHYLENE (PE) PIPE AND FITTINGS SHALL BE HIGH DENSITY, IN ACCORDANCE WITH ASTM D3350, CELL CLASSIFICATION 324420C (4"-10") OR CELL CLASSIFICATION 335420C (17-36"). PIPE 4"-10" SHALL COMPLY WITH AASHTO M252, TYPE S. PIPE 12"-36" SHALL COMPLY WITH AASHTO M294, TYPE S. BELL JOINTS FOR 4"-10" PIPE SHALL BE PUSH-ON SLEEVE. BELL JOINTS FOR 12"-36" PIPE SHALL BE INTEGRALLY FORMED ON PIPE. GASKETS SHALL BE INSTALLED BY PIPE MANUFACTURER AND SHALL COMPLY WITH ASTM D1056, GRADE 2A2. FITTINGS SHALL COMPLY WITH AASHTO M294.

4. UNDERDRAIN PIPE SHALL BE PERFORATED POLYVINYL CHLORIDE PIPE IN ACCORDANCE WITH ASTM F758. FILTER FABRIC UNDERDRAIN SOCK SHALL BE TYPE D-3 IN ACCORDANCE WITH FDOT INDEX NO. 199.

5. ALL PIPE JOINTS SHALL BE WRAPPED WITH FILTER FABRIC. FILTER FABRIC SHALL BE IN ACCORDANCE WITH FDOT INDEX NO. 199, TYPE D-3, A.O.S. 70-100. INSTALL IN ACCORDANCE WITH FDOT INDEX NO. 280. PROVIDE MINIMUM 12" OVERLAP.

6. INSTALL POLYETHYLENE PIPE IN ACCORDANCE WITH ASTM D2321. BACKFILL AND COMPACT EVENLY ON EACH SIDE TO PREVENT DISPLACEMENT. MINIMUM COVER OVER POLYETHYLENE PIPE SHALL BE AS FOLLOWS: A) PIPE UNDER FLEXIBLE PAVEMENT, RIGID PAVEMENT, OR UNPAVED AREAS WHERE BEDDING IS SUITABLE SOILS AS DEFINED IN THE GENERAL NOTES: MINIMUM COVER SHALL BE 36 INCHES OR ONE PIPE DIAMETER, WHICHEVER IS GREATER; B) PIPE UNDER FLEXIBLE PAVEMENT, RIGID PAVEMENT, OR UNPAVED AREAS WHERE BEDDING IS MANUFACTURED AGGREGATES CLASS 1A OR 1B AS DEFINED IN ASTM D2321: MINIMUM COVER SHALL BE 30 INCHES OR ONE PIPE DIAMETER, WHICHEVER IS GREATER.

7. INSTALL UNDERDRAINS IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 440. INSTALL CLEANOUTS AS SHOWN ON THE DRAWINGS.

8. PRIOR TO INSPECTIONS AND TESTING, CLEAN ALL INSTALLED LINES AND STRUCTURES.

9. ALL STORM PIPE SHALL BE SUBJECTED TO LEAKAGE TESTING. WHEN THE GROUND WATER LEVEL IS ABOVE THE TOP OF THE PIPE, AN INFILTRATION TEST SHALL BE PERFORMED BY SEALING OFF A LENGTH OF PIPE AND MEASURING THE DEPTH OF FLOW OVER A MEASURING WEIR, OR BY PUMPING THE INFILTRATED WATER INTO CONTAINERS FOR MEASUREMENT. TESTS SHALL BE CONDUCTED FOR A MINIMUM OF FOUR HOURS. INFILTRATION LEAKAGE SHALL NOT EXCEED 150 GALLONS PER 24 HOURS, PER INCH DIAMETER, PER MILE OF PIPE. WHEN THE GROUND WATER LEVEL IS BELOW THE TOP OF THE PIPE, THE PIPE SHALL BE TESTED FOR LEAKAGE BY EXFILTRATION. EXFILTRATION LEAKAGE TEST SHALL CONSIST OF ISOLATING THE PARTICULAR SECTION, FILLING WITH WATER TO A POINT 4 FEET ABOVE THE TOP OF THE PIPE AT THE UPPER MANHOLE OR INLET, AND ALLOWING IT TO STAND NOT LESS THAN FOUR HOURS. THE SECTION SHALL THEN BE REFILLED WITH WATER UP TO THE ORIGINAL LEVEL AND AFTER TWO HOURS THE DROP IN WATER SURFACE SHALL BE MEASURED. THE COMPUTED LEAKAGE SHALL NOT EXCEED 150 GALLONS PER INCH DIAMETER, PER 24 HOURS, PER MILE OF PIPE.

PAVING, SIDEWALKS, AND CURBING

1. MATERIALS AND CONSTRUCTION METHODS FOR THE ROADWAY AND PAVING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2021-22 EDITION.

2. ROADWAY PAVING, BASE, AND SUBGRADE THICKNESSES SHALL BE IN ACCORDANCE WITH DETAILS ON THESE DRAWINGS. MATERIAL STABILITY AND DENSITY REQUIREMENTS ARE AS FOLLOWS:

   A. TYPE S ASPHALTIC CONCRETE: MINIMUM STABILITY 1500 LBS, COMPACTED TO A MINIMUM OF 95% OF THE MARSHALL DESIGN DENSITY. FOR OFFSITE PAVEMENT USE TYPE SP PAVEMENT PER THE FDOT STANDARDS AND SPECIFICATIONS.

   B. LIMEROCK BASE: MINIMUM LBR OF 100, PLACED IN 6" MAXIMUM LIFTS, COMPACTED TO A MINIMUM DENSITY OF 98% OF THE MODIFIED PROCTOR DRY DENSITY (AASTHO T-180). CONTRACTOR MAY SUBSTITUTE ASPHALT BASE COURSE TYPE 3 (MIN. STABILITY OF 1000 LBS) AT NO ADDITIONAL COST, PROVIDED STRUCTURAL NUMBER EQUALS OR EXCEEDS THAT OF THE SPECIFIED LIMEROCK BASE.

   C. SUBGRADE: STABILIZE TO A MIN. LBR OF 40, COMPACT TO A MINIMUM DENSITY OF 98% OF THE MODIFIED PROCTOR DRY DENSITY (AASTHO T-180). CONTRACTOR MAY SUBSTITUTE LIMEROCK SUBGRADE (MIN. LBR OF 100) OR CONTROLLED LOW STRENGTH MATERIAL ("FLOWABLE FILL"), F'c (28 DAY) = 100-125 PSI AT NO ADDITIONAL COST, PROVIDED STRUCTURAL NUMBER EQUALS OR EXCEEDS THAT OF THE SPECIFIED SUBGRADE.

3. SIDEWALKS ARE TO BE CONSTRUCTED IN THE AREAS AS SHOWN ON THE CONSTRUCTION PLANS. THE SIDEWALK SHALL BE CONSTRUCTED OF 4" OF CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 2500 PSI. JOINTS SHALL BE EITHER TOOLED OR SAW CUT AT A DISTANCE OF 10'. HANDICAPPED RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS AND SHALL BE IN ACCORDANCE WITH THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION, LATEST EDITION.

4. CURBING SHALL BE CONSTRUCTED WHERE NOTED ON THE CONSTRUCTION PLANS. CONCRETE FOR CURBS SHALL BE FDOT CLASS "1" CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 2500 PSI. ALL CURBS SHALL HAVE SAW CUT CONTRACTION JOINTS AND SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10'-0" ON CENTER. CONSTRUCTION OF CURBS SHALL BE IN CONFORMANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) SECTION 520 AND DETAILS PROVIDED ON THE CONSTRUCTION PLANS.

5. FIELD COMPACTION DENSITY, STABILITY, AND THICKNESS TESTING FREQUENCIES OF SUB-BASE, BASE, AND ASPHALT SHALL BE TESTED ONCE EVERY 300 LINEAR FEET OF PAVING PER 24-FT WIDE STRIP, STAGGERED LEFT, CENTER AND RIGHT OF CENTERLINE. WHERE LESS THAN 300 LINEAR FEET OF SUB-BASE, BASE, AND ASPHALT IS PLACED IN ONE DAY, PROVIDE MIN. OF ONE TEST FOR EACH PER DAY'S CONSTRUCTION AT A LOCATION DESIGNATED BY THE ENGINEER. ASPHALT EXTRACTION GRADATION SHALL BE TESTED FROM GRAB SAMPLES COLLECTED ONCE EVERY 1800 SQUARE YARDS OF ASPHALT DELIVERED TO THE SITE (OR A MINIMUM OF ONCE PER DAY).

SIGNS AND PAVEMENT MARKINGS

1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE LATEST IMPLEMENTED EDITION OF FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS. STANDARD INDEX NO. 11200, 11860, 11862, 11863, 11864, 11865, 17302, 17344, 17346, 17349, AND 17355 APPLY. GENERALLY, ALL MARKINGS SHALL CONFORM TO THE FOLLOWING: 6" EDGE LINES, 6" LANE LINES, 6" SINGLE CENTERLINES, AND 6" DOUBLE LINE PATTERNS, UNLESS OTHERWISE NOTED ON THE PLANS.

2. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC WITH RAISED PAVEMENT MARKERS (TYPE 911 - 4" x 4"). RAISED PAVEMENT MARKERS ARE TO BE INSTALLED IN ACCORDANCE WITH THESE PLANS AND FDOT INDEX NO. 17352.

3. PARKING STALL PAVEMENT MARKINGS SHALL BE PAINTED. PAINT SHALL MEET THE REQUIREMENTS OF FDOT SPECIFICATION SECTION 971, NON-REFLECTIVE WHITE TRAFFIC PAINT.

4. ALL ROADWAY TRAFFIC SIGNS SHALL BE MANUFACTURED USING HIGH INTENSITY RETROREFLECTIVE MATERIALS. THE BACK OF ALL FINISHED PANELS SHALL BE STENCILED WITH THE DATE OF FABRICATION, THE FABRICATOR'S INITIALS, AND THE NAME OF THE SHEETING IN THREE-INCH LETTERS.

5. INTERNAL SITE TRAFFIC SIGNS ARE NOT REQUIRED TO BE RETROREFLECTIVE.

6. THE CONTRACTOR SHALL VERIFY THE REQUIRED LENGTH OF THE SIGN COLUMN SUPPORTS IN THE FIELD PRIOR TO FABRICATION.

7. ALL PAVEMENT MARKINGS REQUIRE LAYOUT APPROVAL IN THE FIELD BY THE ENGINEER PRIOR TO INSTALLATION

8. PRIOR TO FINAL PAVEMENT MARKING INSTALLATION, A TWO WEEK CURE TIME OF THE ASPHALT IS REQUIRED.

PAVING TIMING REQUIREMENTS

1. INSTALL SUBGRADE AND BASE COURSE MATERIALS WITHIN 48 HOURS OF THE REMOVAL / OPEN CUTTING OF EXISTING PAVEMENT CONSISTING OF STREETS, DRIVEWAYS, OR SIDEWALK. INSTALL FINAL SURFACE COURSES WITHIN 14 DAYS AFTER REMOVAL OF EXISTING PAVEMENT

2. AREAS TO RECEIVE ASPHALT SHALL RECEIVE EROSION CONTROL MEASURES NO LATER THAN 48 HOURS AFTER ACCEPTANCE OF BASE COURSE. TEMPORARY EROSION CONTROL CONSISTS OF PLACEMENT OF A BITUMINOUS PRIME COAT AND SANDING THE SURFACE. PERMANENT EROSION CONTROL CONSISTS OF PLACEMENT OF THE STRUCTURAL COURSE

3. AREAS TO RECEIVE CONCRETE PAVING SHALL BE EITHER PROTECTED WITH A LAYER OF FDOT COARSE AGGREGATE MATERIAL OR SHALL BE PAVED WITHIN 48 HOURS OF ACCEPTANCE OF THE SUBGRADE.

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Phone: (561) 716-0159
Certificate of Authorization Number 30129

Reviews:

Client:

Project: TOWNHOMES

2327–2339 Lincoln Street Hollywood , FLORIDA 33020

Plan Description: GENERAL NOTES

Seal:

JORGE SZAUER
FLA. REG. P.E. # 62579

Designed by: JORGE M. SZAUER

Drawn by: J. JANSE

Revised & Sealed: JORGE M. SZAUER

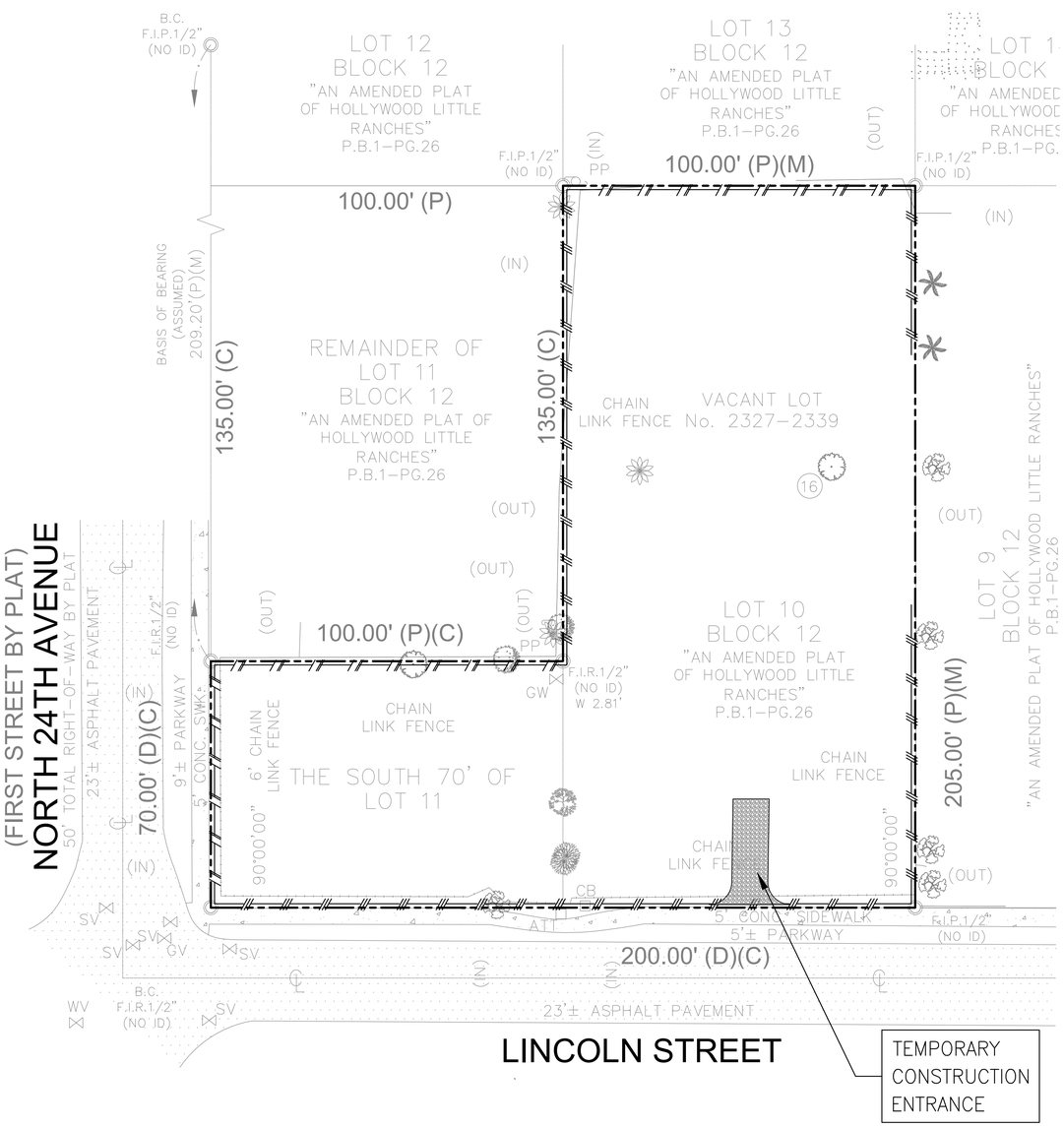
Date: DEC. 2024

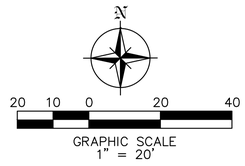
Scale: AS SHOWN

Job Nº:

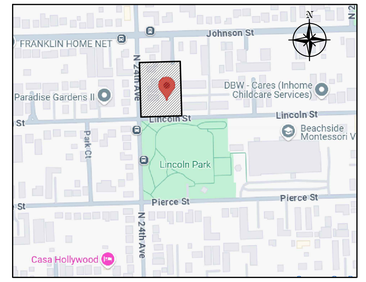
Sheet: C-01

of Sheets.



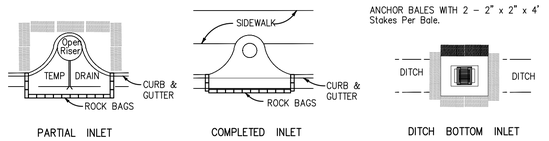


CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SEDIMENT INTRUSION INTO STORM WATER INLETS DURING CONSTRUCTION, WHEN APPLICABLE.



LOCATION MAP
N.T.S.

DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

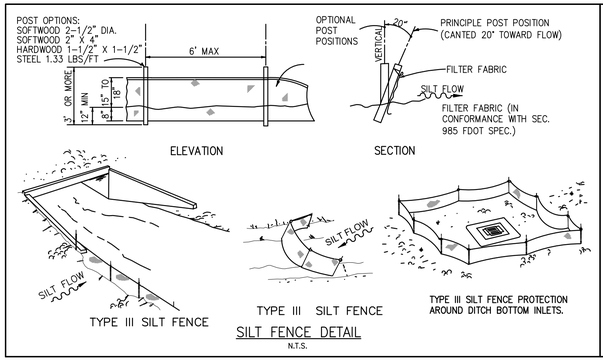


GUTTER BUDDY CURB INLET PROTECTION DETAIL
N.T.S.

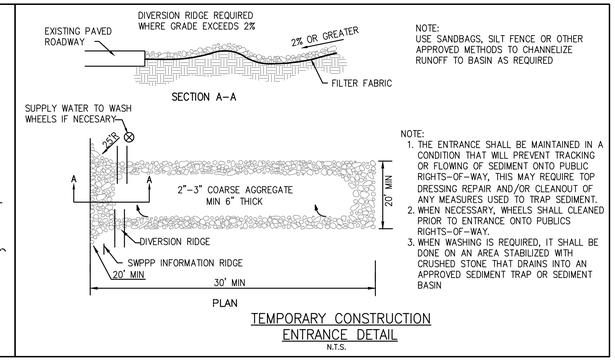
LEGEND

PROPERTYLINE

PROPOSED SILT FENCE



SILT FENCE DETAIL
N.T.S.



TEMPORARY CONSTRUCTION ENTRANCE DETAIL
N.T.S.

GENERAL EROSION & SEDIMENTATION CONTROL NOTES

A. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THIS STORM WATER POLLUTION PREVENTION PLAN. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.

B. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.

C. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.

D. CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN, OR AS REQUIRED BY THE APPLICABLE GENERAL PERMIT. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND / OR GRADING SHALL BE PERMITTED.

E. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA , AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES. CONTRACTOR SHALL CONSTRUCT TEMPORARY BERM ON DOWNSTREAM SIDES.

F. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING , EQUIPMENT CLEANING , ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

G. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN–UP FUEL OR CHEMICAL SPILLS AND LEAKS.

H. DUST ON THE SITE SHALL BE MINIMIZED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

I. RUBBISH , TRASH , GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGHOUT THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.

J. ALL DENUDED / BARE AREAS THAT WILL BE INACTIVE FOR 7 DAYS OR MORE , MUST BE STABILIZED IMMEDIATELY UPON COMPLETION OF MOST RECENT GRADING ACTIVITY , WITH THE USE OF FAST–GERMINATING ANNUAL GRASS / GRAIN VARIETIES, STRAW / HAY MULCH WOOD CELLULOSE FIBERS , TACKIFIERS, NETTING OR BLANKETS.

K. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY STABILIZED AS SHOWN ON THE PLANS. THESE AREAS SHALL BE SEEDED, SODDED , AND / OR VEGETATED IMMEDIATELY, AND NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND / OR LANDSCAPE PLAN.

L. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO PREVENT TRACKING OF DIRT, DUST OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE ONLY USE INGRESS / EGRESS LOCATIONS AS PROVIDED.

M. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

N. CONTRACTOR OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.

O. ON–SITE AND OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.

P. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.

Q. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT , THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE.

R. GENERAL CONTRACTOR IS TO DESIGNATE / IDENTIFY AREAS ON THE SITE MAPS, INSIDE OF THE LIMITS OF DISTURBANCE, FOR WASTE DISPOSAL AND DELIVERY AND MATERIAL STORAGE.

S. WHEN INSTALLATION OF SILT FENCE IS PERFORMED, THE CONTRACTOR SHALL STABILIZE THE DISTURBED AREA ALONG THE DOWNWARD SLOPE BY SEEDING OR MULCHING AS CONDITIONS WARRANT.

BMP MAINTENANCE EROSION NOTES

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.
2. ALL SEEDED \ SODDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED \ RESODDED AS NEEDED.
3. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE–HALF THE HEIGHT OF THE SILT FENCE.
4. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION EXITS AS CONDITIONS DEMAND.
5. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AREA AS CONDITIONS DEMAND.
6. OUTLET STRUCTURES SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
7. PRIOR TO LEAVING THE SITE, ALL VEHICLES SHALL BE CLEANED OF DEBRIS. AND DEBRIS AND / OR SEDIMENT REACHING THE PUBLIC STREET SHALL BE CLEANED IMMEDIATELY BY A METHOD OTHER THAN FLUSHING.

WASHING AREAS

VEHICLES SUCH AS CEMENT OR DUMP TRUCKS AND OTHER CONSTRUCTION EQUIPMENT SHOULD NOT BE WASHED AT LOCATIONS WHERE THE RUNOFF WILL FLOW DIRECTLY INTO A WATERCOURSE OR STORMWATER CONVEYANCE SYSTEM. SPECIAL AREAS SHOULD BE DESIGNATED FOR WASHING VEHICLES. THESE AREAS SHOULD BE LOCATED WHERE THE WASH WATER WILL SPREAD OUT AND EVAPORATE OR INFILTRATE DIRECTLY INTO THE GROUND, OR WHERE RUNOFF CAN BE COLLECTED IN A TEMPORARY HOLDING OR SEEPAGE BASIN. WASH AREAS SHOULD HAVE GRAVEL BASES TO MINIMIZE MUD GENERATION.

This item has been digitally signed and sealed by Jorge Szauer, PE. On January 13, 2025.

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Szauer Engineering
Civil Engineers
7251 W Palmetto Park Road Suite 100
Boca Raton, FL. 33433
Phone: (561) 716-0159
Certificate of Authorization Number 30129

Reviews:

Client:
Project: TOWNHOMES
2327–2339 Lincoln Street Hollywood , FLORIDA 33020

Plan Description: EROSION CONTROL PLAN

Seal:
JORGE SZAUER
FLA. REG. P.E. # 62579

Designed by: JORGE M. SZAUER
Drawn by: J. JANSE
Revised & Sealed: JORGE M. SZAUER
Date: DEC. 2024
Scale: AS SHOWN
Job N°:

Sheet: C-02
of Sheets

NOTE:
ROOF DRAIN TO BE CONNECTED TO PROPOSED STORMWATER DRAINAGE SYSTEM

GRAPHIC SCALE
1" = 10'

PROP. 6" YARD DRAIN
RIM ELEV. 11.0'
INV ELEV. 8.5'

PROP. CB-1
RIM ELEV 12.3'
INV ELEV 8.5'

INSTALL 30LF OR 18" EXFILTRATION TRENCH

PROP. CB-2
RIM ELEV. 12.3'
INV ELEV. 8.5'

INSTALL 30LF OR 18" EXFILTRATION TRENCH

PROP. 6" YARD DRAIN (BUBBLE-UP)
RIM ELEV. 11.0'
INV ELEV. 8.5'

PROP. CB-3
RIM ELEV 12.3'
INV ELEV 8.5'(M)
INV. ELEV. 7.0 (S)

PROP. 6" YARD DRAIN (BUBBLE-UP)
RIM ELEV. 11.0'
INV ELEV. 8.5'

PROP. 6" DRAINAGE PIPE (TYP)

PROP DRAINAGE WELL
RIM ELEV 11.8'
INV ELEV 7.0'

18" HDPE PIPE

FFE 14.0'

100.00' (P)(M)

205.00' (P)(M)

135.00' (C)

70.00' (D)(C)

200.00' (D)(C)

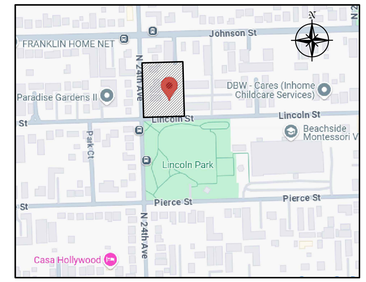
NORTH 24TH AVENUE

50' TOTAL RIGHT-OF-WAY BY PLAT
23'± ASPHALT PAVEMENT

LINCOLN STREET

23'± ASPHALT PAVEMENT

25.00'



LOCATION MAP
N.T.S.

NOTE:
ANY LIP FROM 1/4" BUT NO GREATER THAN 1/2" WILL BE BEVELED TO MEET ADA REQUIREMENTS

ALL ELEVATIONS ARE RELATIVE TO THE NAVD 88 DATUM

LEGEND

- PROPERTY LINE
- EXISTING ELEVATION
- PROP. GRADING ELEVATION
- MATCH EXISTING GRADE
- GRASS
- 5' ROW DEDICATION

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Szauer Engineering
Civil Engineers
7251 W Palmetto Park Road Suite 100
Boca Raton, FL. 33433
Phone: (561) 716-0159
Certificate of Authorization Number 30129

Reviews:

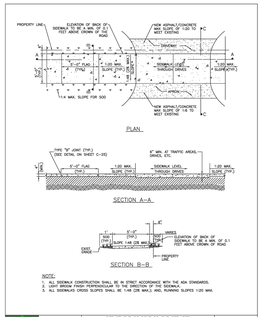
Client:
Project: TOWNHOMES
2327-2339 Lincoln Street Hollywood , FLORIDA 33020

Plan Description: PAVING, GRADING & DRAINAGE

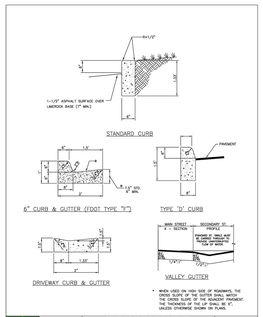
Seal:
JORGE SZAUER
FLA. REG. P.E. # 62579

Designed by:	JORGE M. SZAUER
Drawn by:	J. JANSE
Revised & Sealed:	JORGE M. SZAUER
Date:	DEC. 2024
Scale:	AS SHOWN
Job N°:	

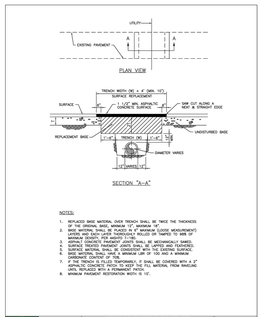
Sheet: C-03
of Sheets



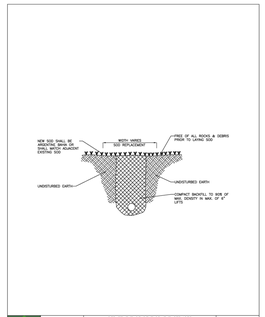
ISSUED: MAY 2023	DEPARTMENT OF DEVELOPMENT SERVICES ENGINEERING, TRANSPORTATION & MOBILITY DIVISION	REVISED: –
DRAWN: EG	SIDEWALK CONSTRUCTION DETAILS (1 OF 3)	DRAWING NO. C-23
APPROVED: JG		



ISSUED: MAY 2023	DEPARTMENT OF DEVELOPMENT SERVICES ENGINEERING, TRANSPORTATION & MOBILITY DIVISION	REVISED: –
DRAWN: EG	CURB AND GUTTER DETAILS	DRAWING NO. C-26
APPROVED: JG		



ISSUED: MAY 2023	DEPARTMENT OF DEVELOPMENT SERVICES ENGINEERING, TRANSPORTATION & MOBILITY DIVISION	REVISED: –
DRAWN: EG	FLEXIBLE PAVEMENT RESTORATION PERPEND. UTILITY INSTALLATION	DRAWING NO. C-31
APPROVED: JG		



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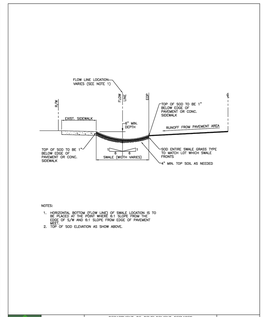
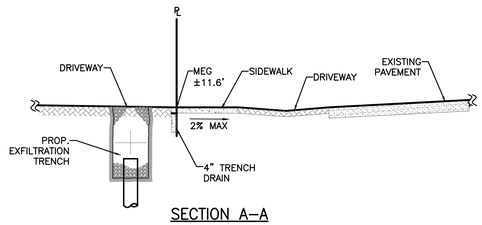
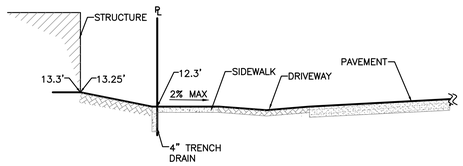
DRAWN: EG	TURF RESTORATION DETAIL	DRAWING NO. C-32
APPROVED: JG		



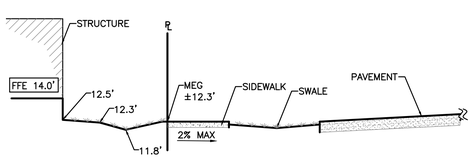
ISSUED: MAY 2023	DEPARTMENT OF DEVELOPMENT SERVICES ENGINEERING, TRANSPORTATION & MOBILITY DIVISION	REVISED: –
DRAWN: EG	TYPICAL SWALE GRADING	DRAWING NO. C-33
APPROVED: JG		



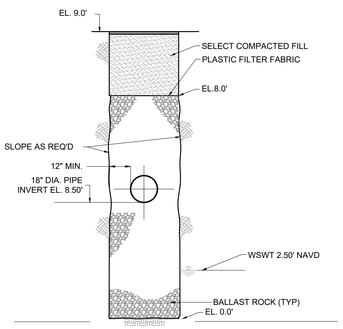
SECTION A–A
SC: 1'=5'



SECTION B–B
SC: 1'=5"

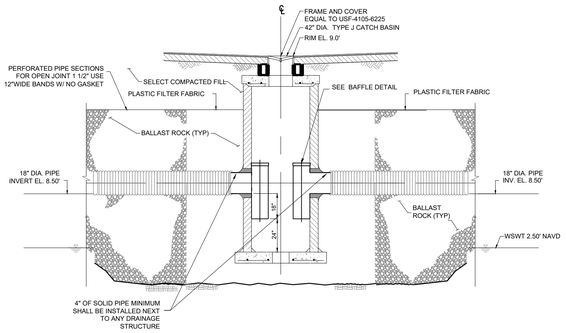


SECTION C–C
SC: 1'=5"



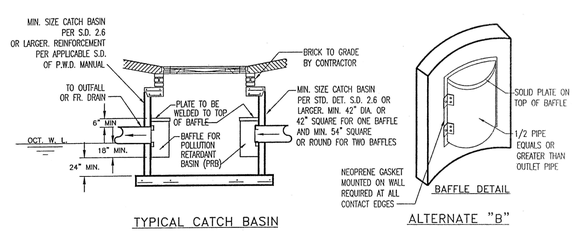
EXFILTRATION TRENCH

DETAIL 1 | NTS | STD



EXFILTRATION TRENCH

DETAIL 2 | NTS | STD

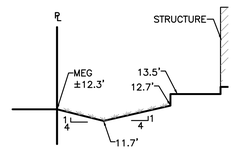


TYPICAL CATCH BASIN

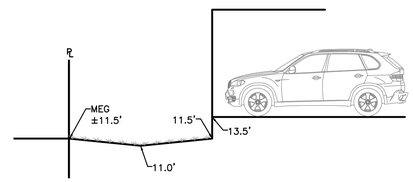
S.D. 2.9
WITH BAFFLE
N.T.S.

BAFFLE DETAIL

DETAIL 3 | NTS | STD



SECTION D–D
SC: 1'=5"



SECTION E–E
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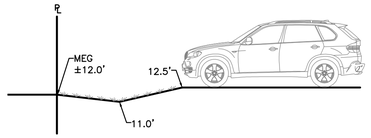
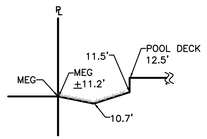
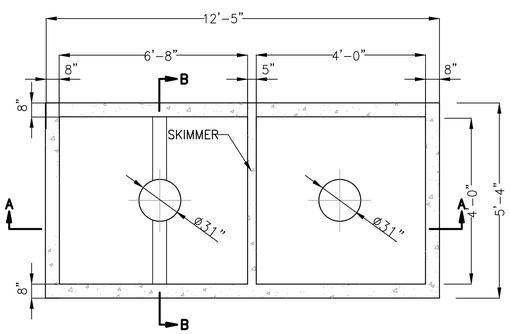


SECTION F–F
SC: 1'=5"



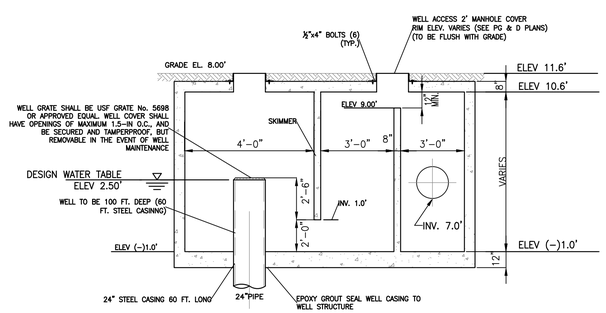
SECTION G–G
SC: 1'=5"

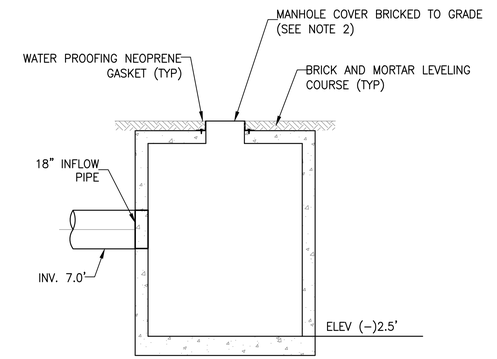
FRAME AND COVER TO BE US. FOUNDRY MODEL N° 195–EBWTL BOLTED WATER TIGHT MANHOLE RING AND COVERS OR EQUAL W THE WORDS "STROM SEWER" CAST ON COVER



DRAINAGE WELL INJECTION BOX

DETAIL 4 | NTS | STD





SECTION A–A
N.T.S.

SECTION B–B
N.T.S.

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Phone: (561) 716-0159
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Reviews:

Client:
Project: TOWNHOMES
2327–2339 Lincoln Street Hollywood , FLORIDA 33020

Plan Description: PG&D SECTIONS & DETAILS

Seal:
JORGE SZAUER
FLA. REG. P.E. # 62579

Designed by:	JORGE M. SZAUER
Drawn by:	J. JANSE
Revised S Sealed:	JORGE M. SZAUER
Date:	DEC. 2024
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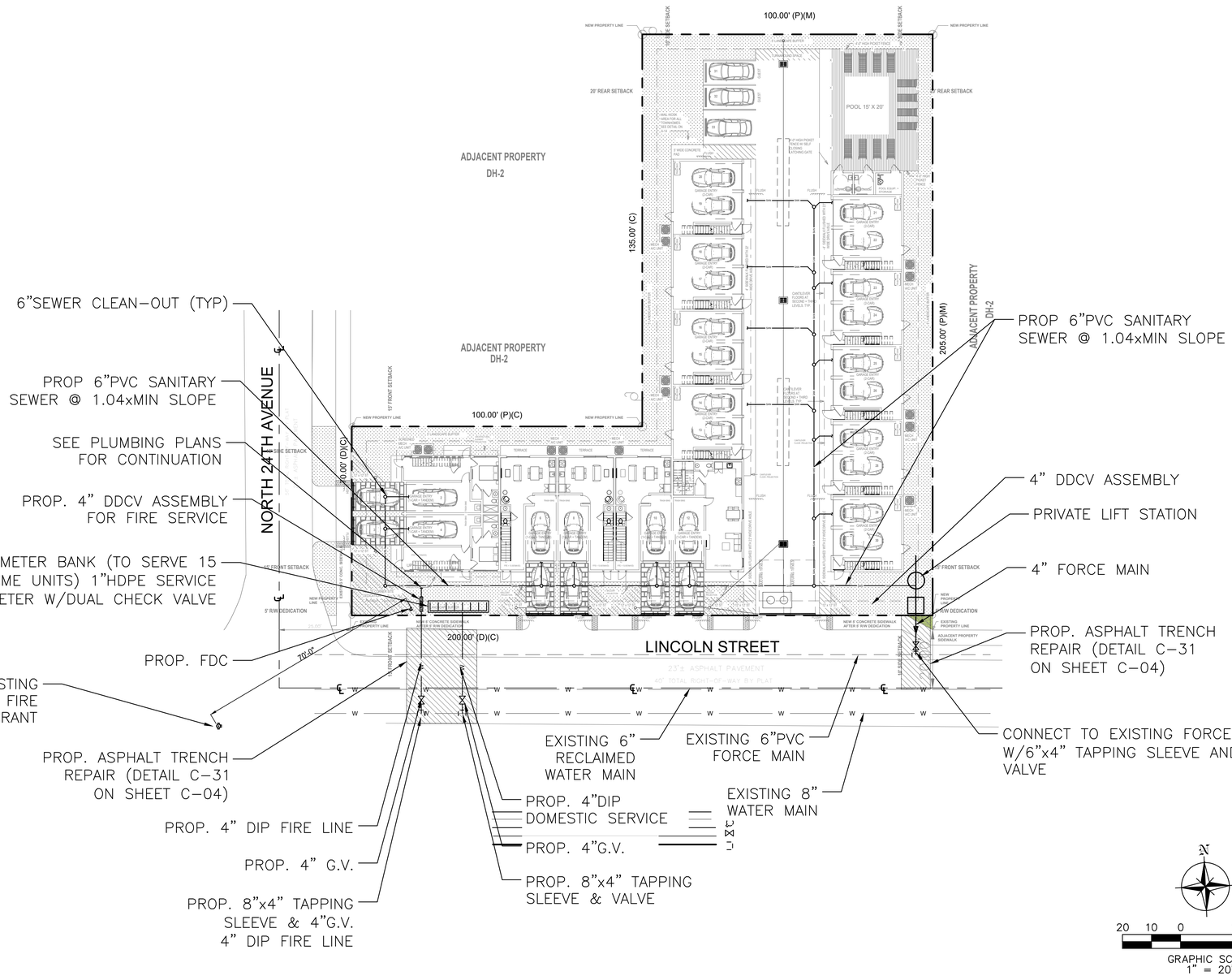
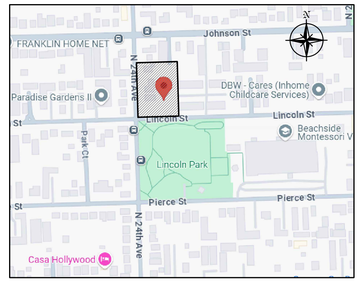
Sheet: C-03A
of Sheets





LOCATION MAP
N.T.S.

LEGEND

- PROPERTY LINE
- GRASS
- CONCRETE
- PAVEMENT RESTORATION

NOTE:

ALL UNDERGROUND FIRE MAIN WORK MUST BE COMPLETED BY FIRE PROTECTION CONTRCTOR HOLDING A CLASS I, II OR V LICENSE PER F.S. 633.102

ALL ELEVATIONS ARE RELATIVE TO THE NAVD 88 DATUM

20 10 0 20 40
GRAPHIC SCALE
1" = 20'

This item has been digitally signed and sealed by Jorge Szauer, PE. On January 13, 2025.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Szauer Engineering
Civil Engineers
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Certificate of Authorization Number 30129

Reviews:

Client:
Project: TOWNHOMES
2327-2339 Lincoln Street Hollywood , FLORIDA 33020

Plan Description: UTILITIES

Seal:
JORGE SZAUER
FLA. REG. P.E. # 62579

Designed by:	JORGE M. SZAUER
Drawn by:	J. JANSE
Revised & Sealed:	JORGE M. SZAUER
Date:	DEC. 2024
Scale:	AS SHOWN
Job Nº:	

Sheet: C-04
1 of 2 Sheets