

NOTE:
 LOOSE STRAW SHALL BE
 CHINKED BETWEEN BALES TO
 PROVIDE A TIGHT JOINT.

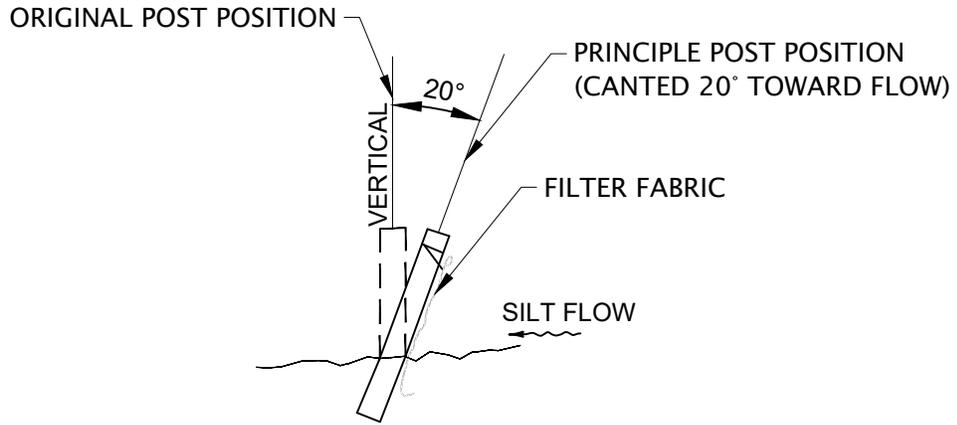


BAY COUNTY
 UTILITIES
 STANDARD
 DETAILS

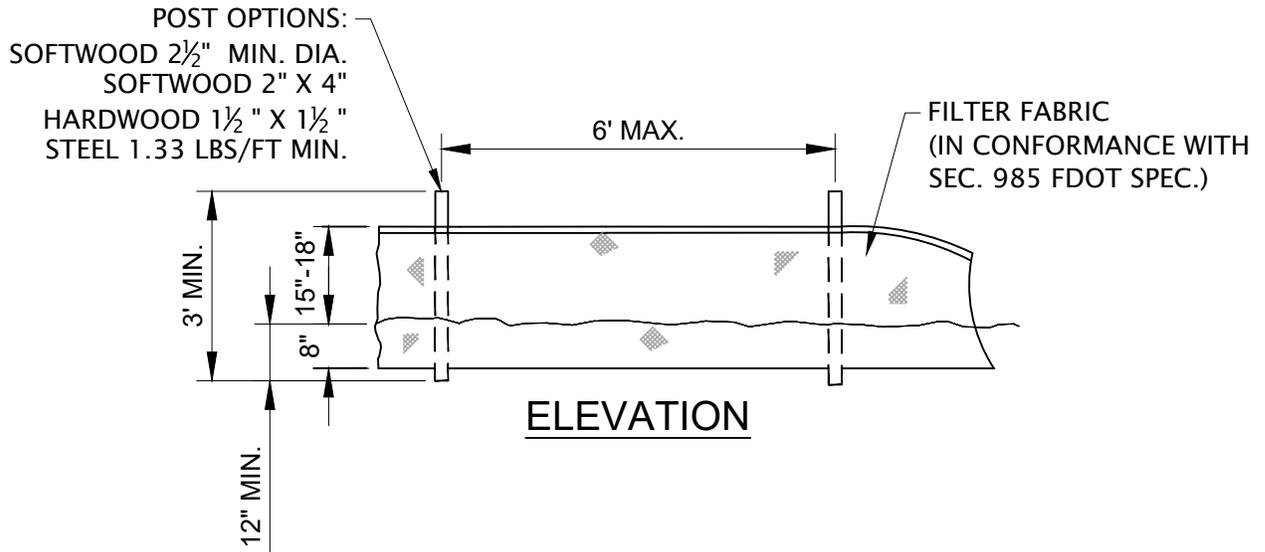
**STAKED
 HAY BALE**

DATE : MAY 2023
 SCALE : NTS

FIGURE : **G-1**



SECTION



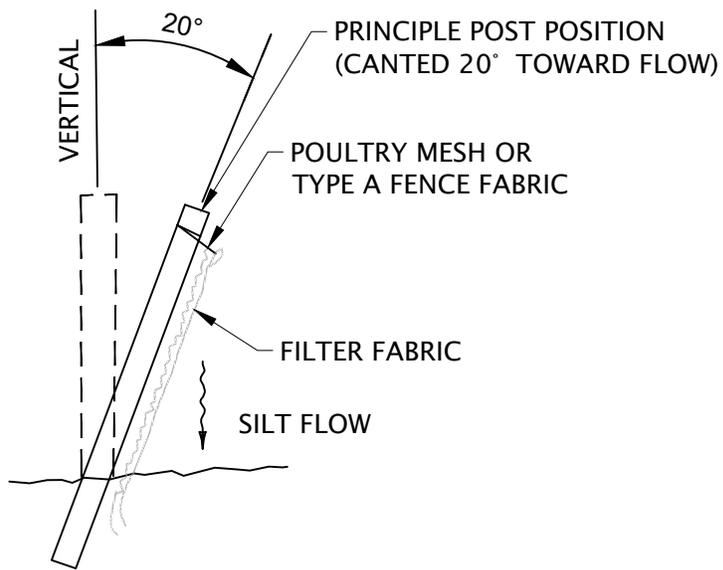
BAY COUNTY
UTILITIES
STANDARD
DETAILS

TYPE III SILT FENCE
(FDOT INDEX 102)

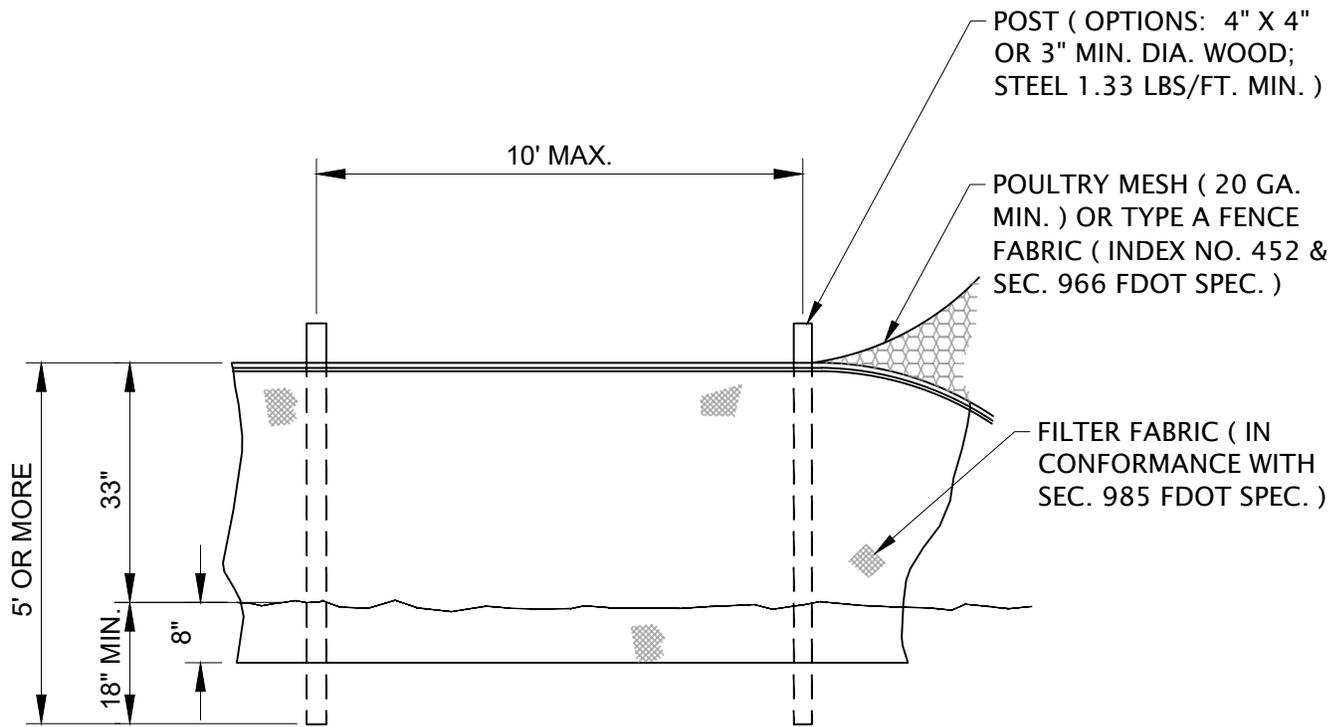
DATE : MAY 2023
SCALE : NTS

FIGURE :

G-2



SECTION



ELEVATION



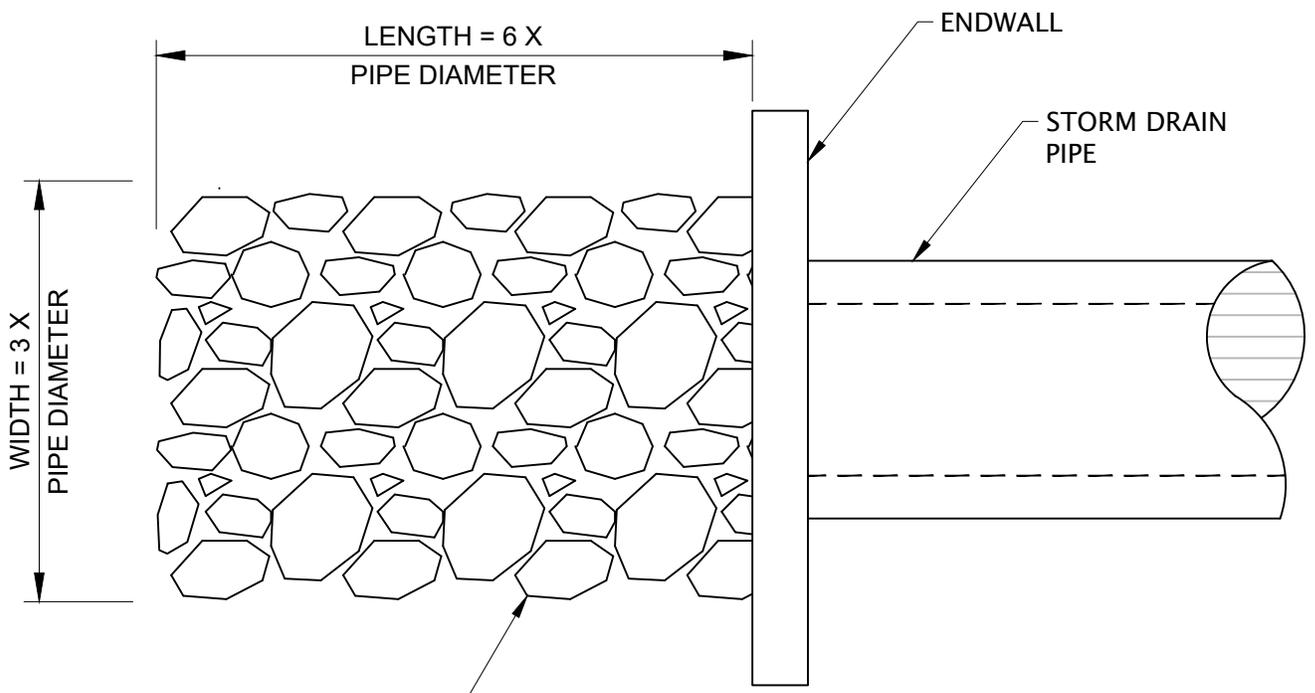
BAY COUNTY
UTILITIES
STANDARD
DETAILS

**TYPE IV SILT FENCE
(FDOT INDEX 102)**

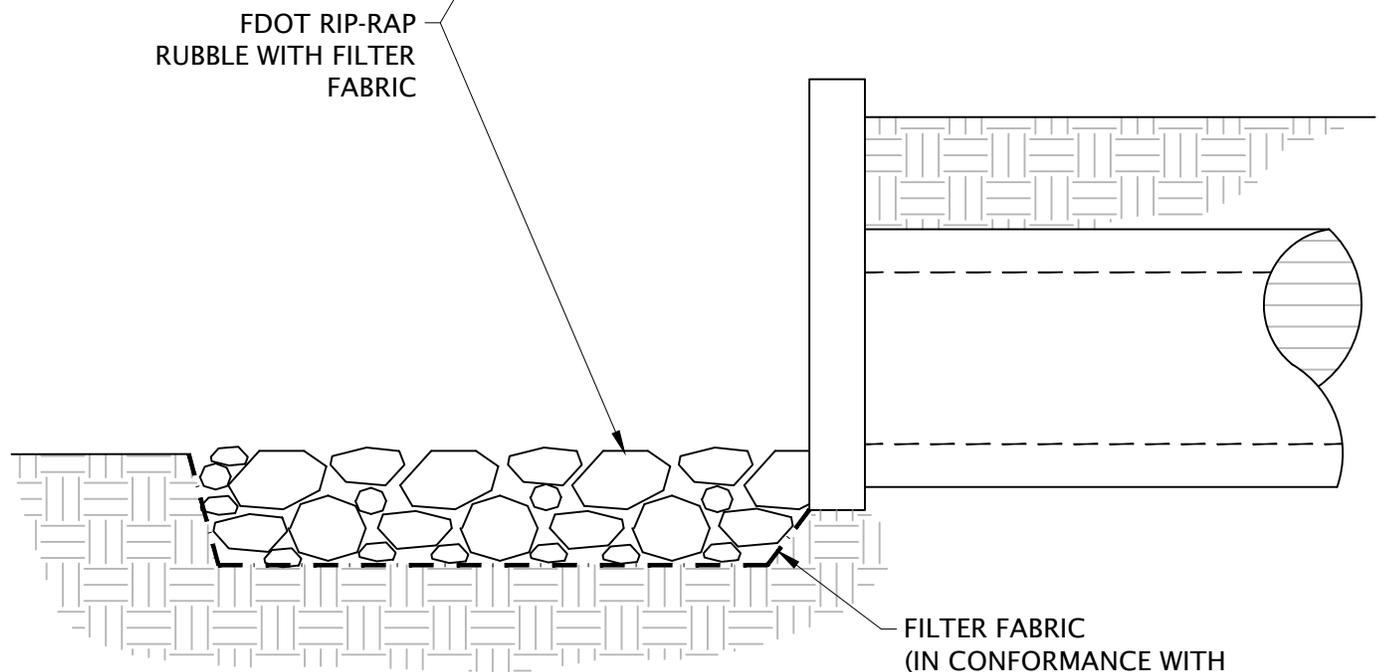
DATE : MAY 2023
SCALE : NTS

FIGURE :

G-3



PLAN



SECTION

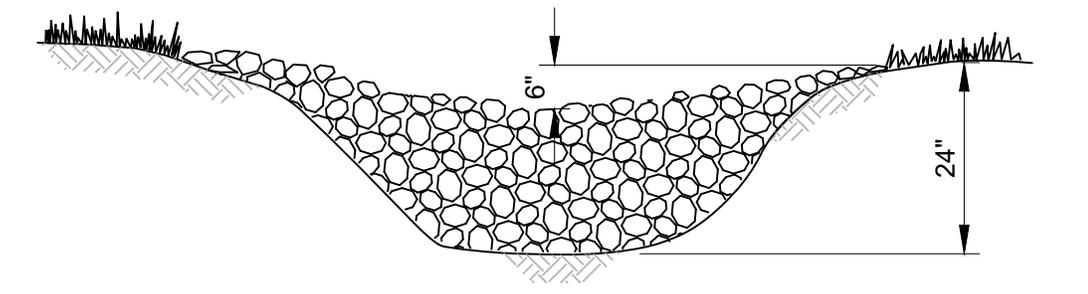


BAY COUNTY
UTILITIES
STANDARD
DETAILS

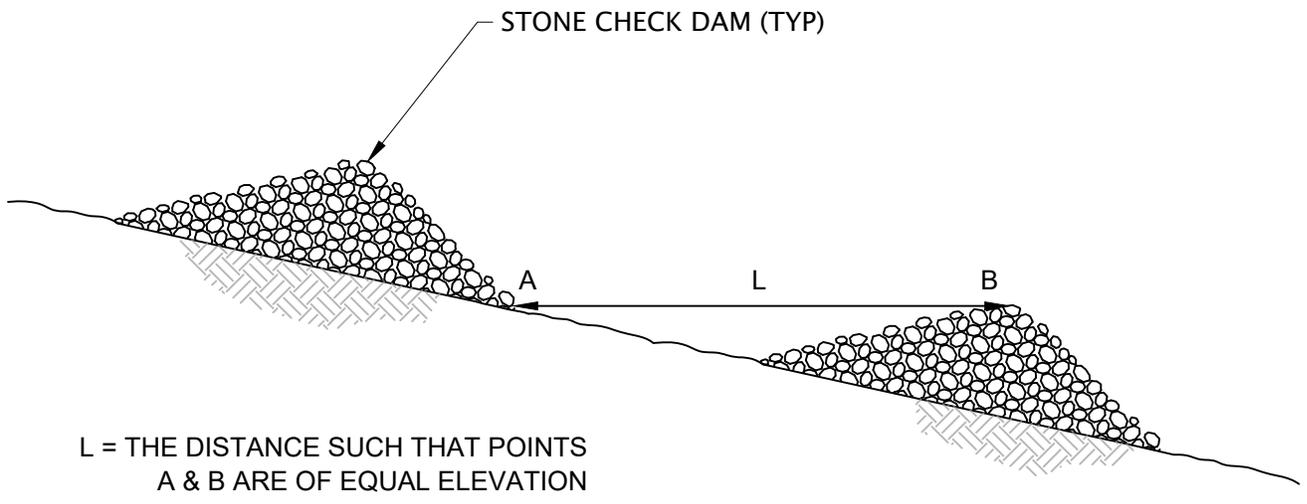
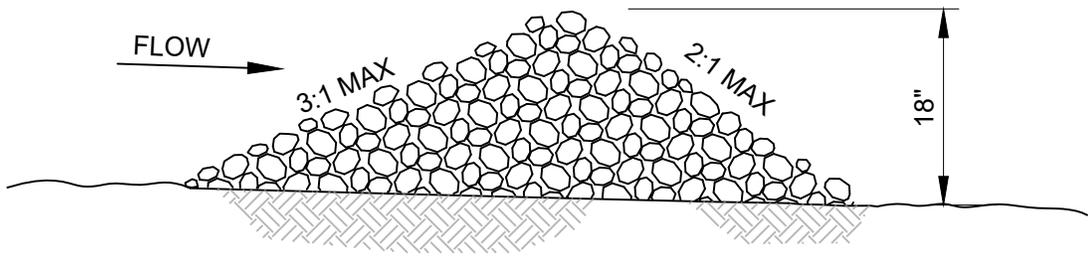
STORM DRAIN OUTLET
PROTECTION

DATE : MAY 2023
SCALE : NTS

FIGURE : **G-4**



F.D.O.T. NO. 1
COURSE
AGGREGATE



L = THE DISTANCE SUCH THAT POINTS
A & B ARE OF EQUAL ELEVATION

NOTE TO DESIGNER: SHOW CHECK DAMS AT
APPROXIMATE LOCATIONS ON PLAN BASED UPON
LENGTH (L).

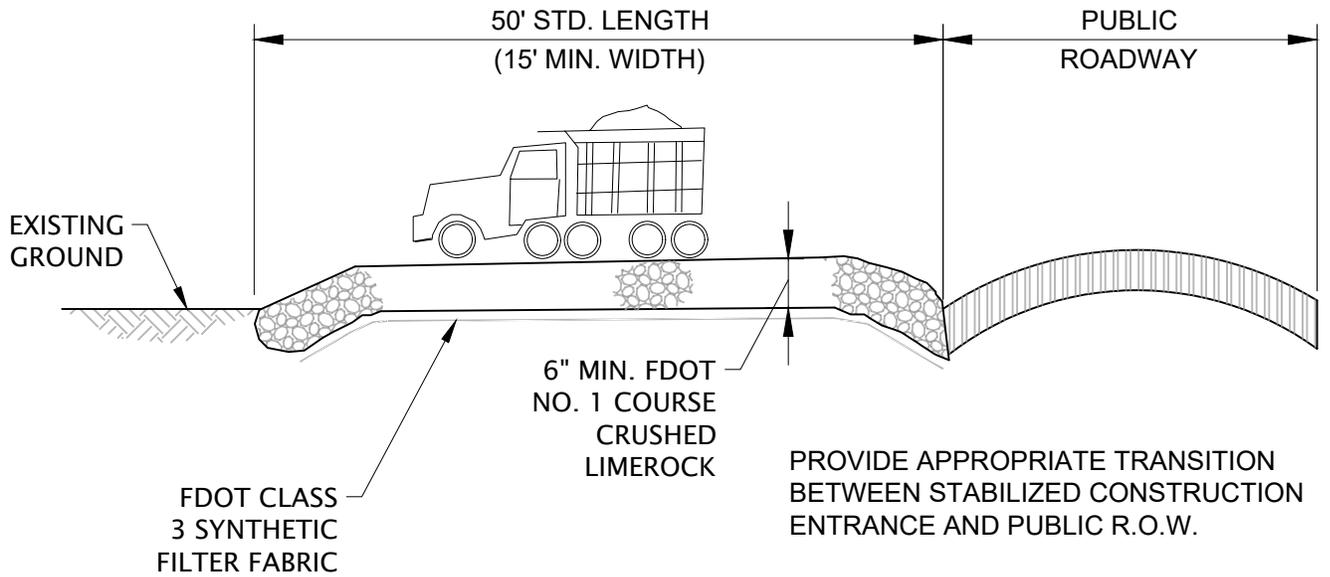


BAY COUNTY
UTILITIES
STANDARD
DETAILS

STONE CHECK DAM

DATE : MAY 2023
SCALE : NTS

FIGURE : G-5

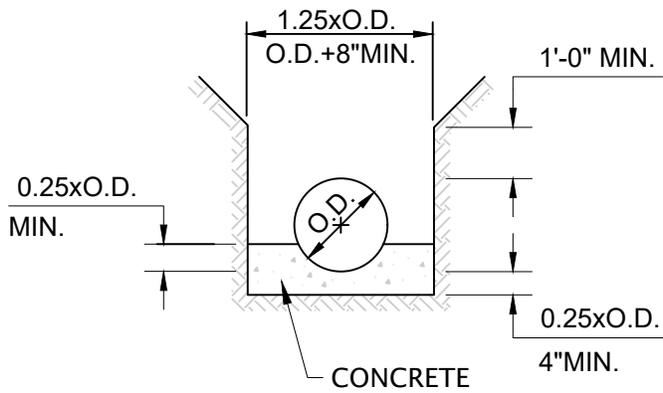


BAY COUNTY
UTILITIES
STANDARD
DETAILS

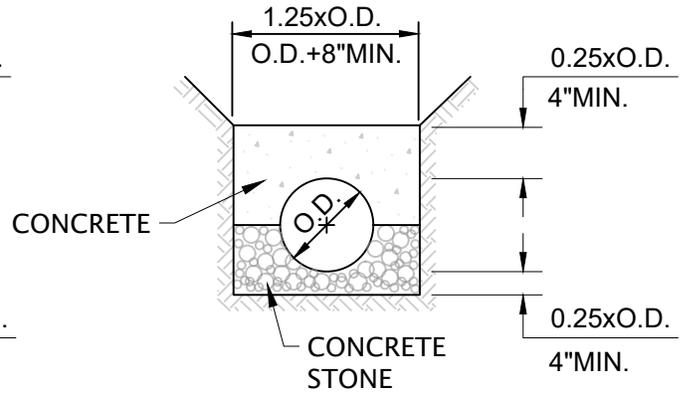
STABILIZED CONSTRUCTION
ENTRANCE

DATE : MAY 2023
SCALE : NTS

FIGURE : **G-6**

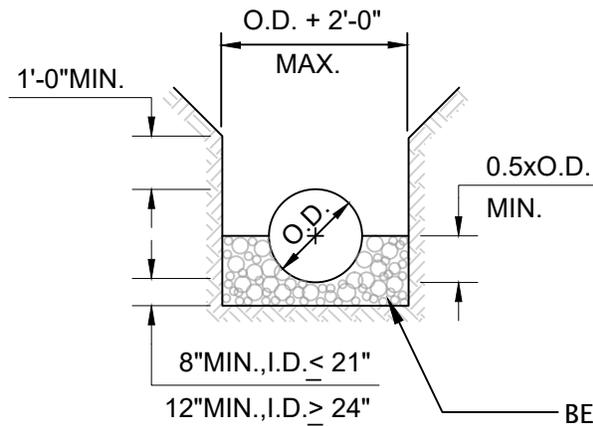


CONCRETE CRADLE

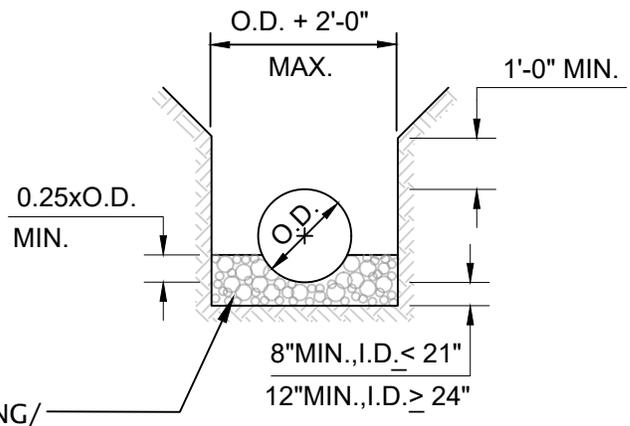


CONCRETE ARCH

CLASS "A"



CLASS "B"



CLASS "C"

NOTES:

1. FOR PVC AND HDPE HAUNCHING/BEDDING MATERIAL SHALL EXTEND TO 6-INCHES ABOVE THE TOP OF PIPE

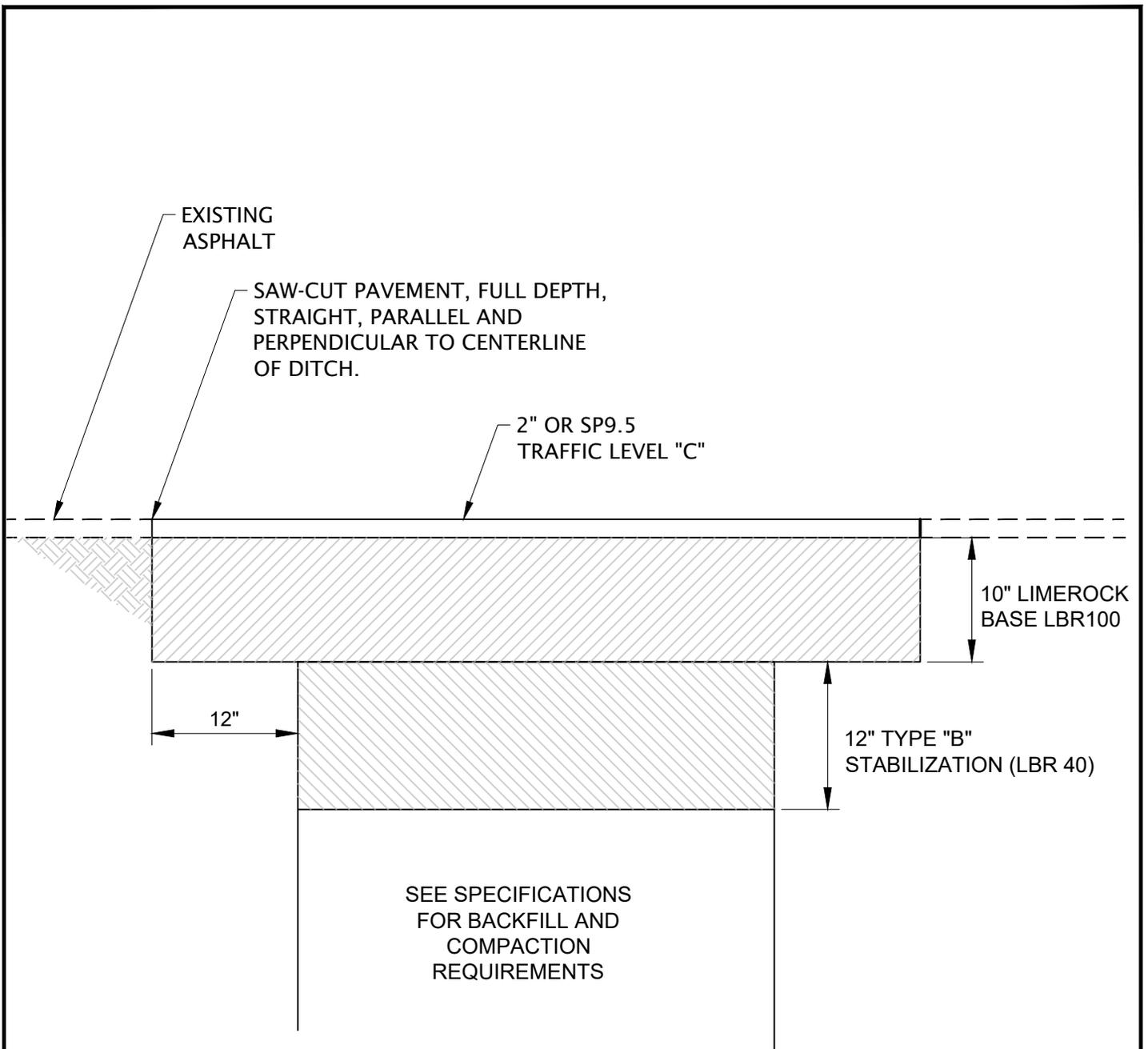


BAY COUNTY
UTILITIES
STANDARD
DETAILS

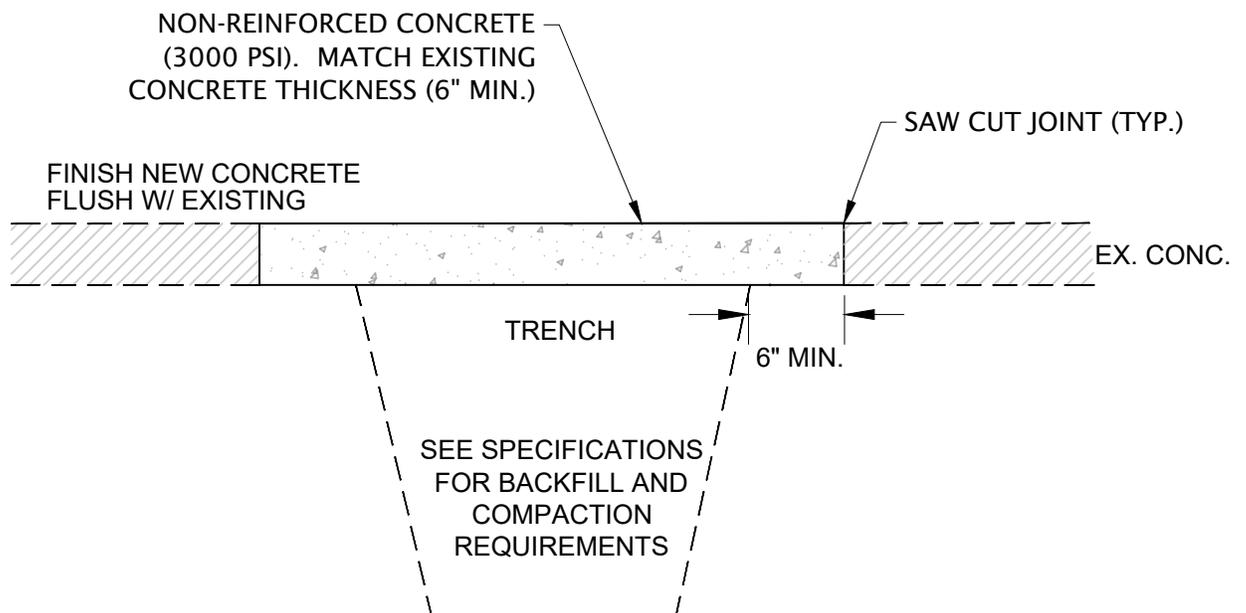
PIPE BEDDING
AND HAUNCHING

DATE : MAY 2023
SCALE : NTS

FIGURE : **G-8**



NOTE:
 DETAIL FOR FOR DRIVEWAYS, PARKING AREAS,
 AND LOW DENSITY RESIDENTIAL. CONTACT BAY
 COUNTY ENGINEERING DEPARTMENT TO
 DETERMINE REQUIREMENTS FOR REPLACING
 PAVEMENT ON COUNTY ROADS.

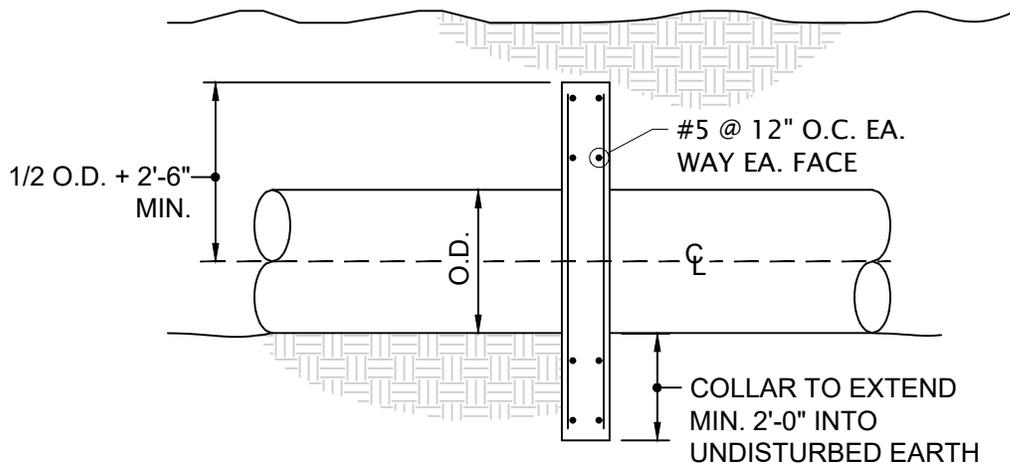
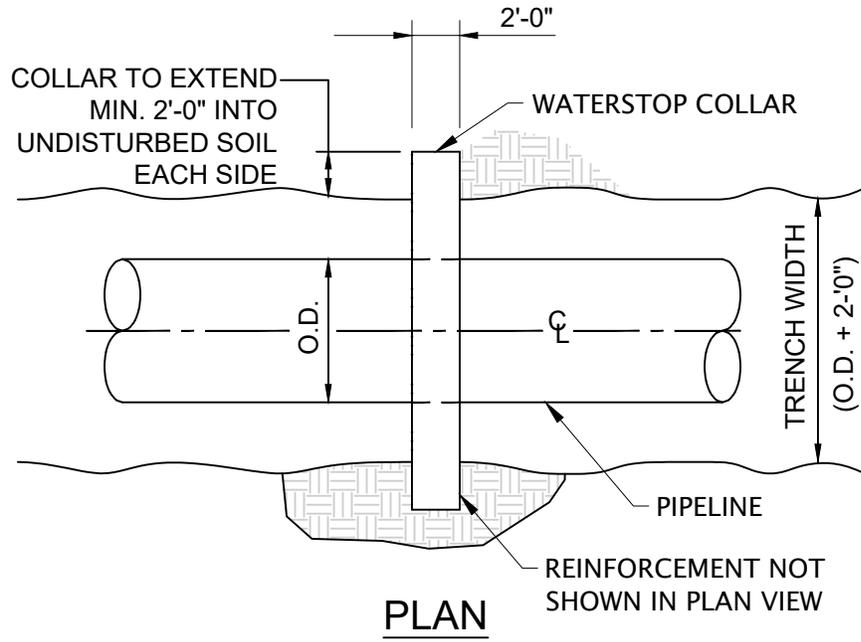


BAY COUNTY
UTILITIES
STANDARD
DETAILS

CONCRETE PAVEMENT REPLACEMENT

DATE : MAY 2023
SCALE : NTS

FIGURE : **G-10**



BAY COUNTY
UTILITIES
STANDARD
DETAILS

WATERSTOP COLLAR

DATE : MAY 2023

SCALE : NTS

FIGURE :

G-11

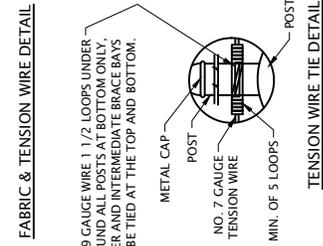
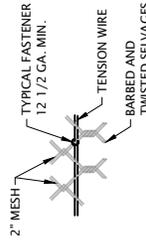
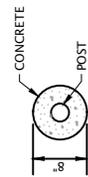
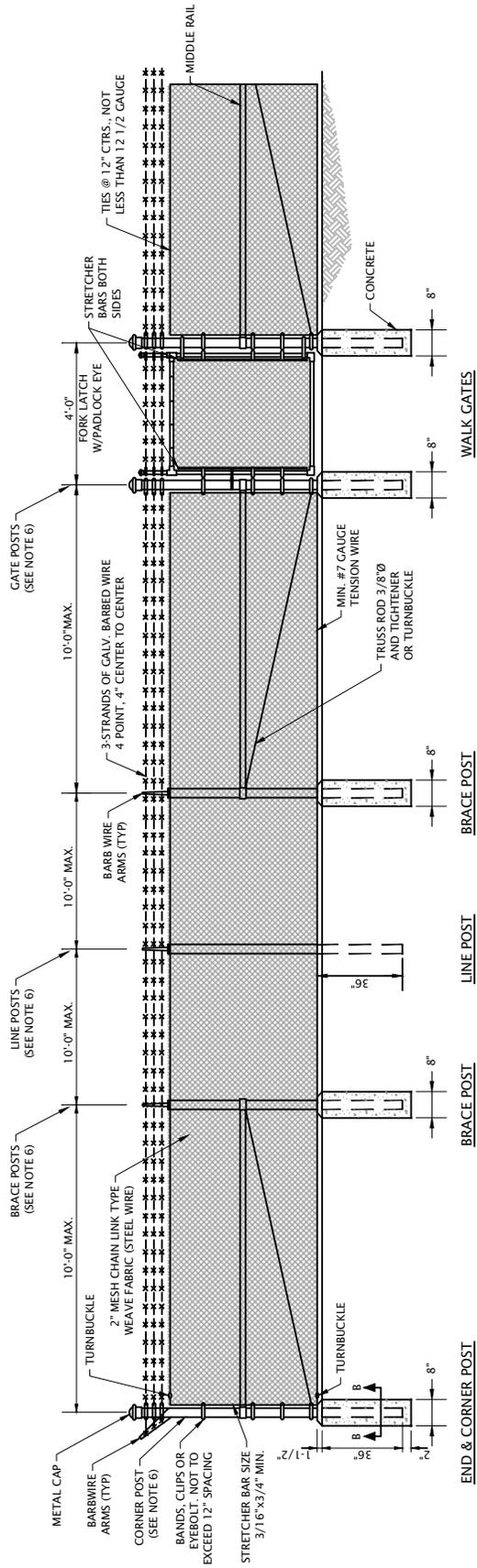


**BAY COUNTY
UTILITIES
STANDARD
DETAILS**

CHAIN LINK FENCE

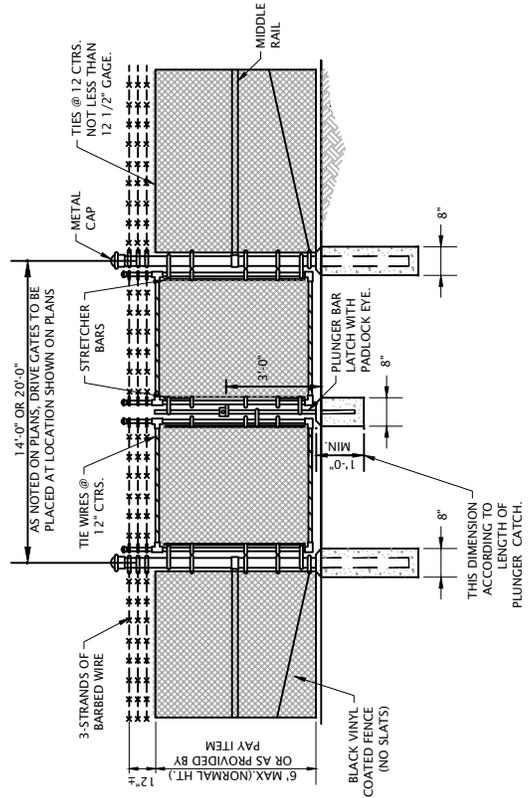
DATE : MAY 2023
SCALE : NTS

FIGURE : **G-12**



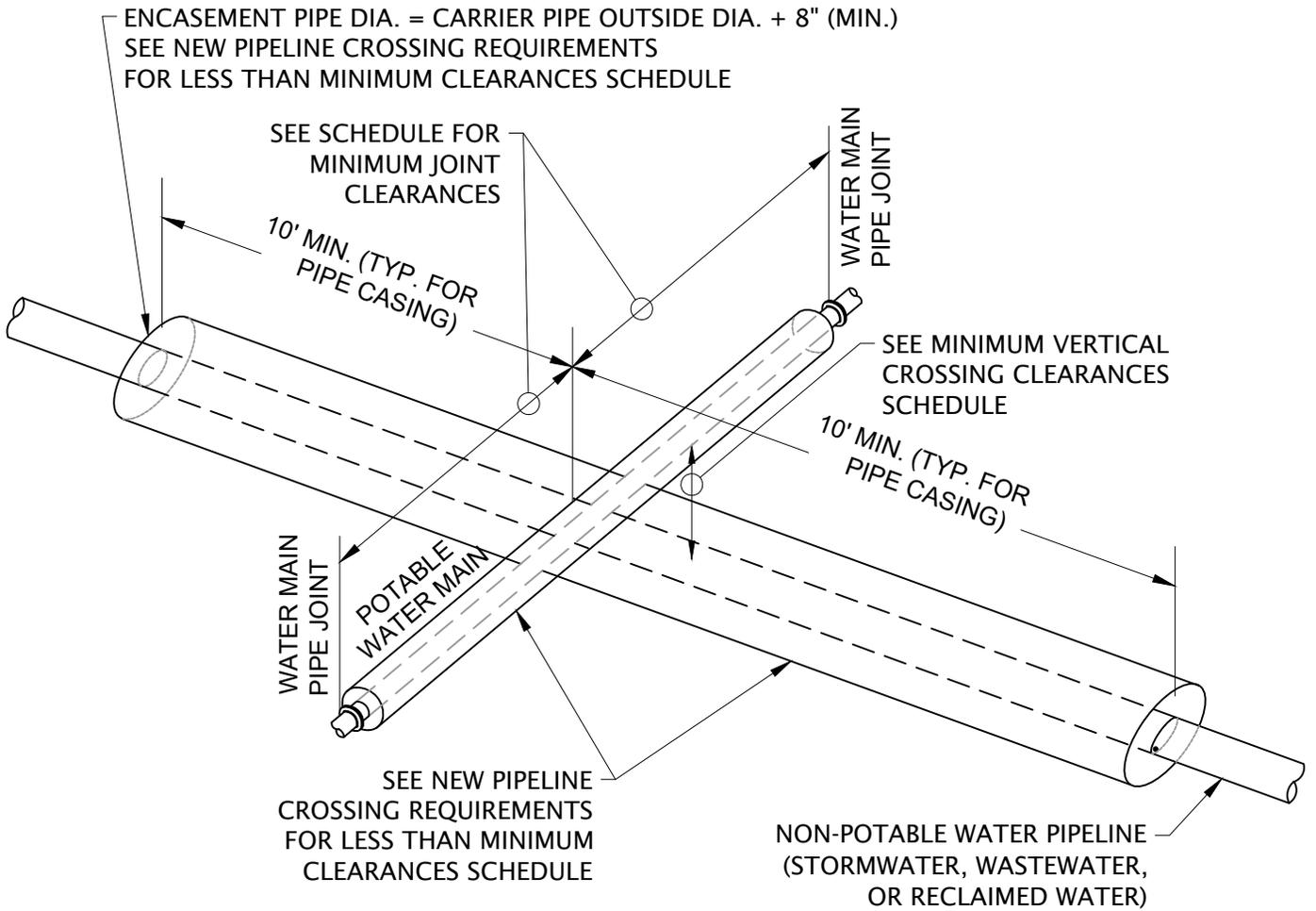
NOTES:

1. THE CONTRACTOR SHALL PROVIDE A SUITABLE METHOD TO VISUALLY ASSURE OBTAINING TWO (2) INCHES CLEARANCE BETWEEN POST AND BOTTOM OF CONCRETE AS SHOWN IN THE DETAIL DRAWING.
2. STRETCHER BARS FOR GATES ARE REQUIRED ON BOTH SIDES OF EACH GATE. STRETCHER BARS (SIZE 3/16"x3/4") MINIMUM ANCHOR WITH BANDS NOT EXCEEDING 12" SPACING OR OTHER APPROVED ANCHOR.



GENERAL NOTES:

1. ALL DIMENSIONS ARE TYPICAL AND MAY BE VARIED AT THE RECOMMENDATION OF THE MANUFACTURER AT INSTALLATION.
2. HOG RINGS SHALL BE GALVANIZED OR ALUMINUM ALLOY.
3. THE TENSION WIRE SHALL BE EITHER NO. 7 GAUGE STEEL WIRE GALVANIZED AT THE RATE OF 0.7 OZ. PER SQ. FT. MIN. OR ALUMINUM WIRE OF ALLOY ALCLAD 5056-H38 OR EQUAL WITH A WIRE DIAMETER OF 0.1875 IN. OR LARGER.
4. TENSION WIRE SHALL BE TIGHTENED TO SINGING TAUTNESS.
5. ALL TUBULAR POSTS TO HAVE A METAL CAP.
6. CORNER, LINE, BRACE, GATE POST, ETC., SHALL BE OF A SIZE SHOWN IN SPECIFICATIONS FOR A 6'-8" HIGH FENCE.
7. FENCE FABRIC SHALL BE WOVEN IN 2 INCH MESH FROM NO. 9 GAGE BLACK VINYL COATED WIRE CONFORMING TO GAGE 35 AND SPECIFICATION FOR GALVANIZED STEEL BLACK VINYL COATED CHAIN-LINK FENCE FABRIC (ASTM A392)



MINIMUM VERTICAL CROSSING CLEARANCES

1. WATER MAIN ABOVE STORMWATER (GRAVITY) OR WASTEWATER (GRAVITY & VACUUM): 6" (MIN.) 12"+ (PREFERRED)
2. WATER MAIN BELOW STORMWATER (GRAVITY) OR WASTEWATER (GRAVITY & VACUUM): 12" (MIN.)
3. WATER MAIN ABOVE OR BELOW STORMWATER, WASTEWATER & RECLAIMED WATER (PRESSURE): 12" (MIN.)

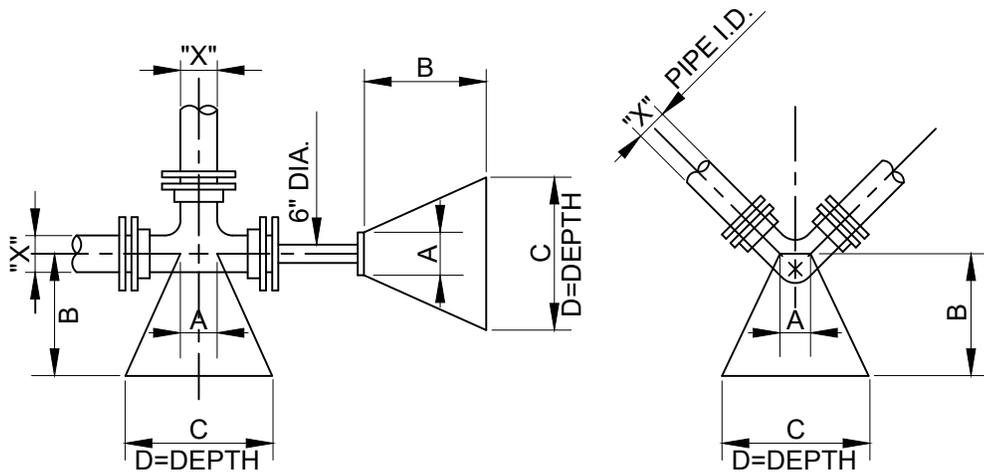
MINIMUM WATER MAIN JOINT SPACING

1. STORMWATER (GRAVITY & PRESSURE), WASTEWATER (VACUUM) OR RECLAIMED WATER (PRESSURE): 3' O.C.
2. WASTEWATER (GRAVITY & PRESSURE): 6' O.C.

NEW PIPELINE CROSSING REQUIREMENTS FOR LESS THAN MINIMUM VERTICAL CROSSING CLEARANCES

1. POTABLE WATER MAIN:
 WATER MAIN OR WATER MAIN IN CASING PIPE OF AWWA C-150 DUCTILE IRON PIPE (DIP):
 4"-12" - CLASS 350 OR EQUIVALENT WALL STRENGTH PIPE
 14"-24" - CLASS 250 OR EQUIVALENT WALL STRENGTH PIPE
 30"+ - CLASS 150 OR EQUIVALENT WALL STRENGTH PIPE
2. WASTEWATER / RECLAIMED WATER MAIN:
 WASTEWATER / RECLAIMED WATER MAIN OR WASTEWATER / RECLAIMED WATER MAIN IN CASING PIPE OF AWWA C-150 DUCTILE IRON PIPE (DIP):
 4"-12" - CLASS 350 OR EQUIVALENT WALL STRENGTH PIPE
 14"-24" - CLASS 250 OR EQUIVALENT WALL STRENGTH PIPE
 30"+ - CLASS 150 OR EQUIVALENT WALL STRENGTH PIPE

VERTICAL CROSSING SEPARATION REQUIREMENTS (SEE F.D.E.P. RULE 62-555.314(1) & (2) F.A.C.)



150 PSI TEST PRESSURE
2000 PSF SOIL BEARING

	DEAD END & TEES	X*	A	B	C	D
		16"	1'-3"	3'-6"	7'-6"	4'-9"
	12"	1'-0"	3'-0"	5'-6"	3'-6"	
	10"	1'-0"	2'-6"	4'-9"	3'-0"	
	8"	0'-10"	2'-0"	4'-0"	2'-6"	
	6"	0'-8"	1'-6"	2'-9"	1'-9"	
BENDS	90°	16"	1'-3"	5'-6"	9'-0"	5'-6"
		12"	1'-0"	4'-0"	6'-9"	4'-3"
		10"	1'-0"	3'-0"	5'-9"	3'-6"
		8"	0'-10"	2'-6"	4'-9"	3'-0"
		6"	0'-8"	1'-6"	3'-6"	2'-9"
	45°	16"	1'-3"	3'-6"	6'-9"	4'-3"
		12"	1'-0"	2'-3"	5'-3"	3'-3"
		10"	1'-0"	2'-3"	4'-6"	2'-9"
		8"	0'-10"	1'-6"	3'-6"	2'-3"
		6"	0'-8"	1'-3"	2'-6"	1'-6"
	22 1/2°	16"	1'-3"	1'-6"	4'-9"	3'-0"
		12"	1'-0"	1'-6"	3'-6"	2'-3"
		10"	1'-0"	1'-3"	3'-0"	2'-0"
		8"	0'-10"	1'-0"	2'-6"	1'-6"
		6"	0'-8"	1'-0"	1'-9"	1'-3"
11 1/4°	16"	1'-3"	1'-6"	3'-3"	2'-0"	
	12"	1'-0"	1'-6"	2'-6"	1'-6"	
	10"	1'-0"	1'-0"	2'-3"	1'-3"	
	8"	0'-10"	1'-0"	1'-9"	1'-0"	
	6"	0'-8"	1'-0"	1'-6"	0'-6"	

X* = DIAMETER OF PIPE TO BE BLOCKED



BAY COUNTY
UTILITIES
STANDARD
DETAILS

CONCRETE THRUST BLOCK REQUIREMENTS

DATE : MAY 2023
SCALE : NTS

FIGURE : **G-15**

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DR-18 PVC PIPE

MAIN PIPE SIZE	HORIZ. BENDS			TEES					REDUCERS			PLUGS & VALVES
	90°	45°	22.5°	SIZE / LENGTH					SIZE / LENGTH			
				X24	X20	X16	X12	X10	X20	X16	X12	
24	90	38	18	169	132	90	38	6	64	117	158	214
20	78	32	16	141	101	53	24	1	65	115	149	184
16	66	27	13	111	67	41	12		64	107	111	151
12	52	22	10	80	56	31	1		58	62	86	118
10	44	18	9	63	40	7			33	61	81	100
8	37	15	7	49	18	1			35	60		83
6	29	12	6	29	1				33			63
4	21	8	4	12								45

NOTES:

1. RESTRAIN 11.25° BENDS 50% OF LENGTH FOR 22.5° BENDS.
2. ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTING SECTIONS OF PIPE.
3. ALL ISOLATION VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
4. PIPE SIZES ARE GIVEN IN INCHES.
5. RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
6. LENGTHS SHOWN ARE FOR A TEST PRESURE OF 180 PSI.
7. THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON SOIL CLASSIFICATION SP WITH AWWA TYPE 3 TRENCH CONDITIONS, 180 PSI TEST PRESSURE, 3 FEET OF COVER AND 1.5 FACTOR OF SAFETY. ACTUAL BURY CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.
8. RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL RESTRAINED LENGTHS FOR PIPE.



BAY COUNTY
UTILITIES
STANDARD
DETAILS

RESTRAINED JOINT REQUIREMENTS FOR PVC PIPE

DATE : MAY 2023
SCALE : NTS

FIGURE : **G-16**

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (POLY-WRAPPED)

MAIN PIPE SIZE	HORIZ. BENDS			TEES							REDUCERS				PLUGS & VALVES
	90°	45°	22.5°	SIZE LENGTH							SIZE LENGTH				
				x36	x30	x24	x20	x16	x12	x10	x8	x6	x30	x24	
36	142	59	28	393	318	232	165	84	1	137	247	309	359	453	
30	124	51	25	333	252	189	115	23	1	137	213	276		391	
24	106	44	21	270	211	143	61	10	1	98	178	241		327	
20	92	38	18	225	161	85	39	1		98	176	227		280	
16	77	32	15	177	107	65	19	1		98	163	169		231	
12	61	25	12	127	89	50	1			88	96	131		181	
10	52	22	10	101	64	11				51	94	125		153	
8	44	18	9	78	30	1				54	92			128	
6	34	14	7	46	1					50				98	
4	24	10	5	19										69	

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (NON-WRAPPED)

MAIN PIPE SIZE	HORIZ. BENDS			TEES							REDUCERS				PLUGS & VALVES
	90°	45°	22.5°	SIZE LENGTH							SIZE LENGTH				
				x36	x30	x24	x20	x16	x12	x10	x8	x6	x30	x24	
36	100	42	20	163	132	96	68	35	1	57	103	128	149	188	
30	88	37	18	138	104	78	48	10	1	57	88	114		162	
24	75	31	15	112	87	59	25	4	1	40	74	100		135	
20	65	27	13	93	67	35	16	1		41	73	94		116	
16	54	22	11	73	44	27	8	1		41	68	70		96	
12	43	18	8	53	37	21	1			37	40	54		75	
10	37	15	7	42	26	5				21	39	52		63	
8	30	13	6	32	12	1				22	38			53	
6	24	10	5	19	1					21				41	
4	17	7	3	8										29	

NOTE:

SEE RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 8 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.

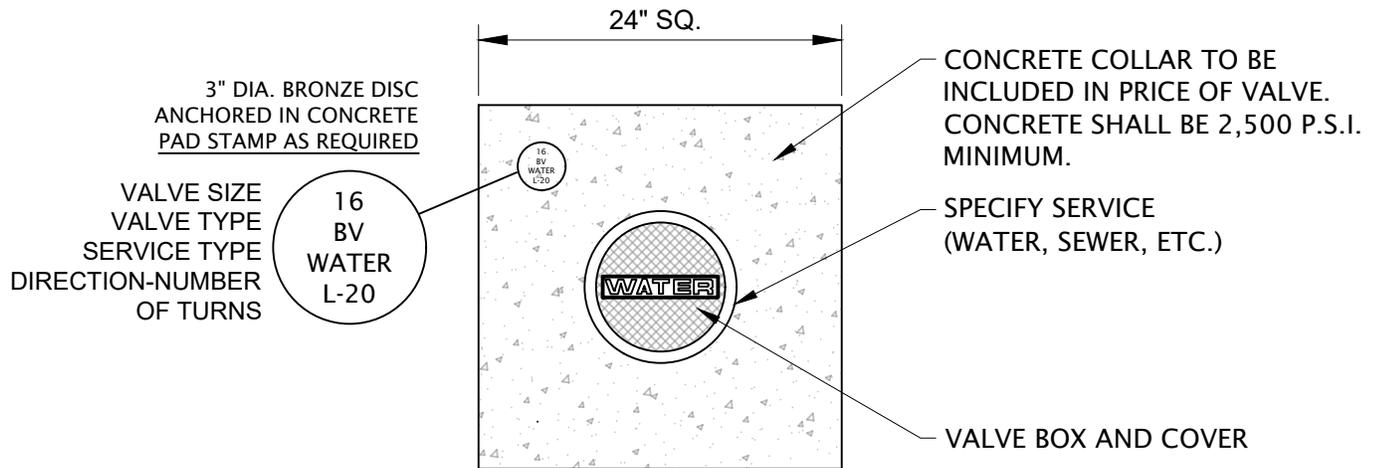


BAY COUNTY
UTILITIES
STANDARD
DETAILS

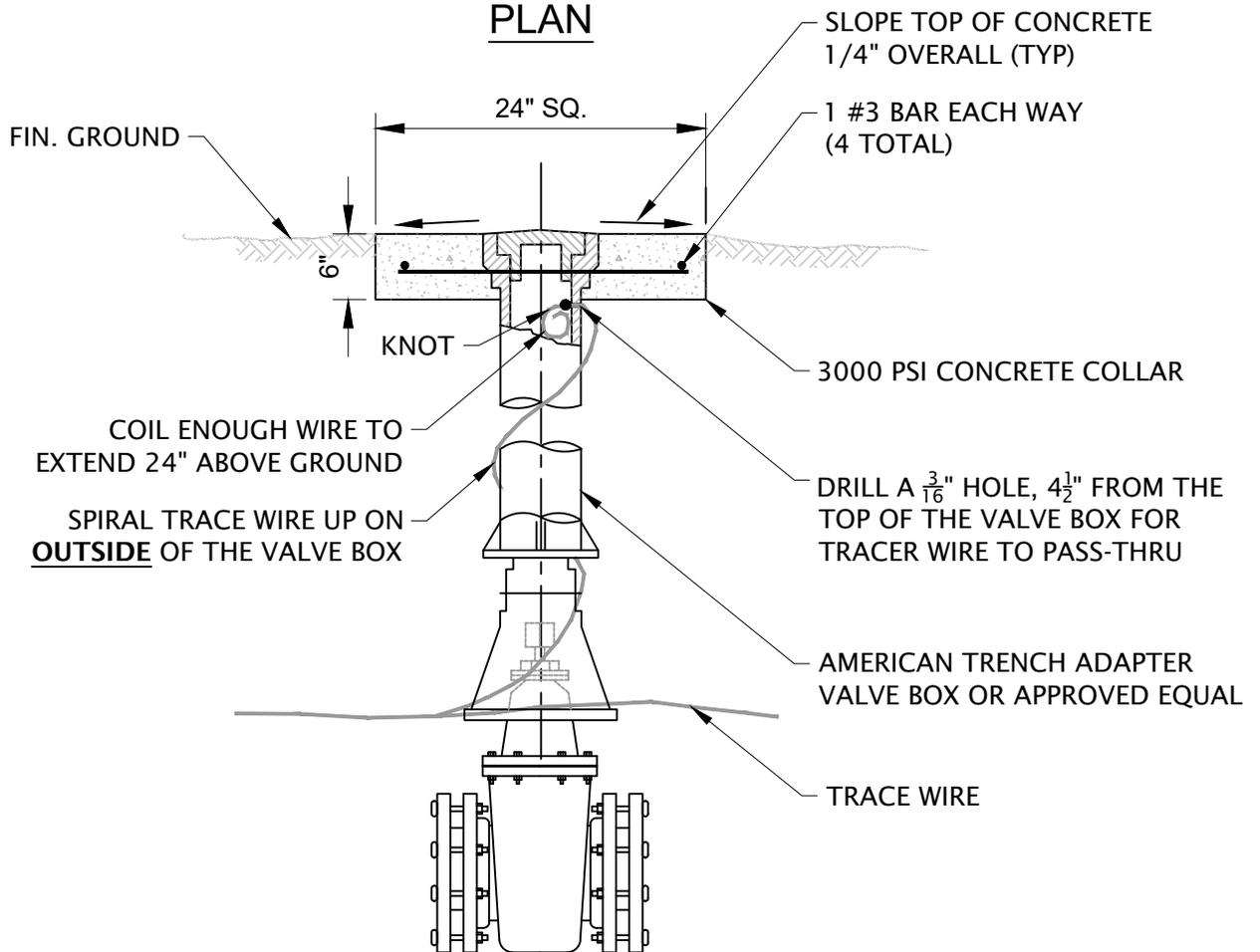
RESTRAINED JOINT REQUIREMENTS FOR DUCTILE IRON PIPE

DATE : MAY 2023
SCALE : NTS

FIGURE : **G-17**



PLAN



NOTES:

1. SEE SPECIFICATIONS FOR TECHNICAL REQUIREMENTS AND APPROVED GATE VALVES AND VALVE BOXES.
2. PVC OR DUCTILE IRON SHALL BE USED FOR VALVE BOX EXTENSIONS.
3. THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 2 FOOT DEPTH BELOW FINISHED GRADE.

SECTION

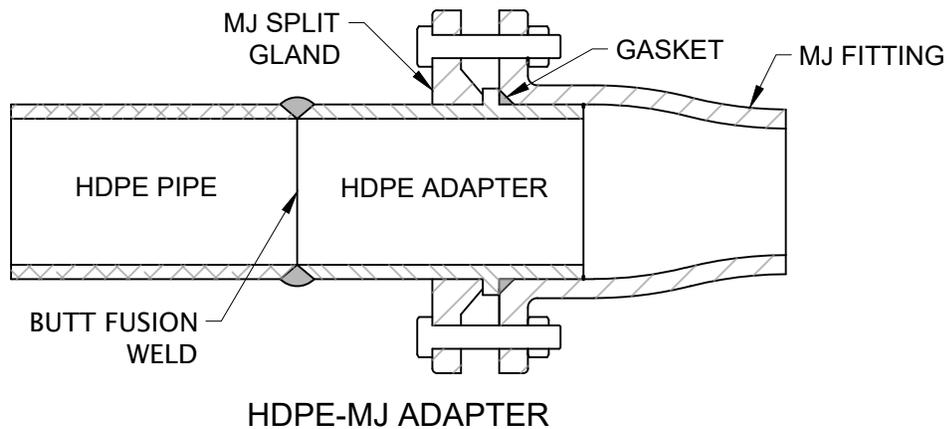
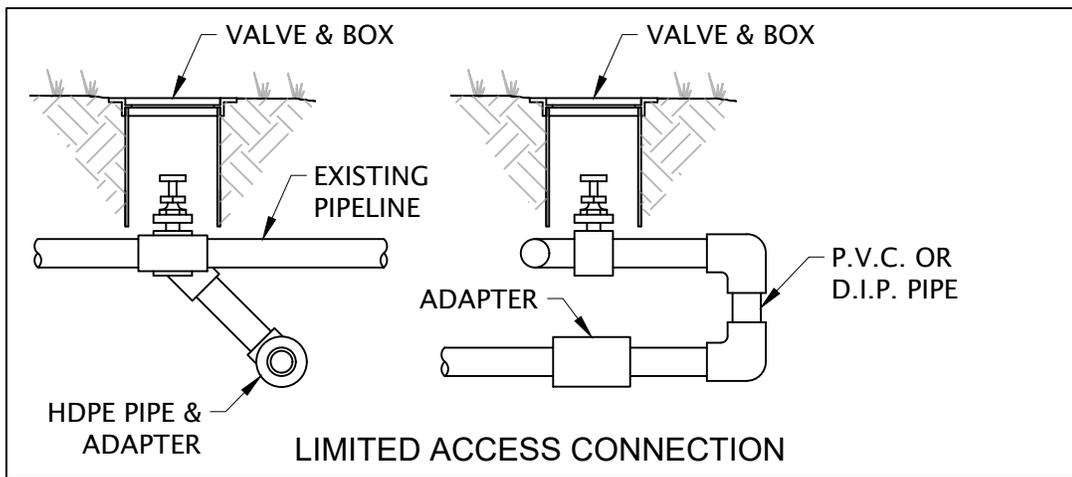
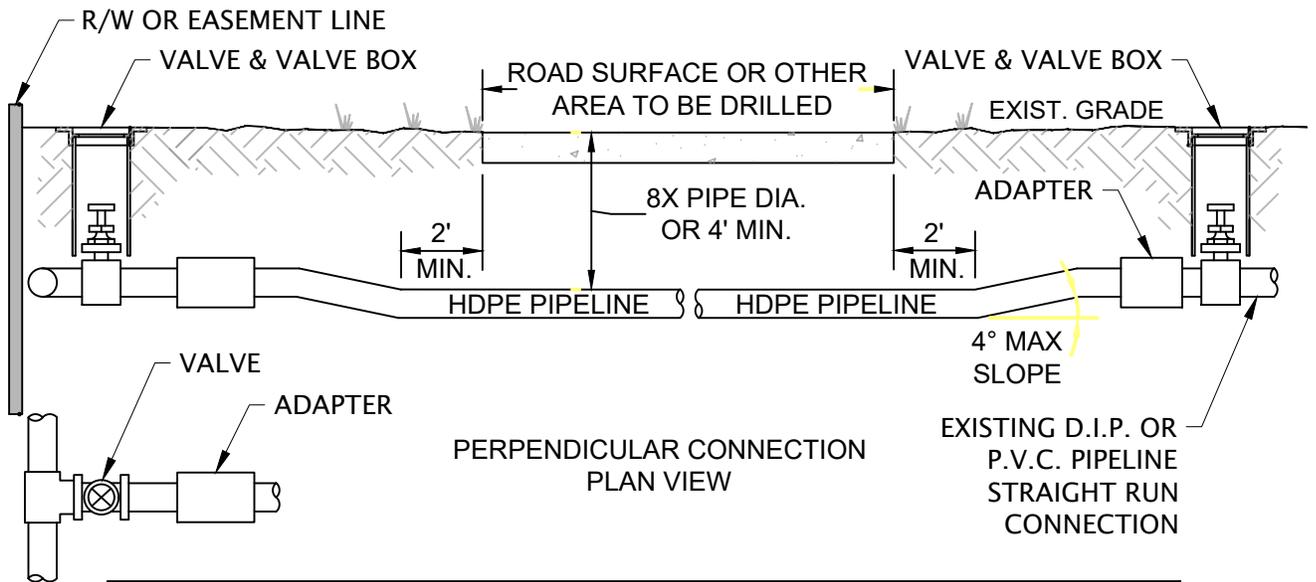


BAY COUNTY
UTILITIES
STANDARD
DETAILS

**VALVE AND
VALVE BOX COLLAR**

DATE : MAY 2023
SCALE : NTS

FIGURE : **G-19**



NOTES:

1. DIRECTIONAL DRILLS SHALL BE COMPLETED USING DR11 HDPE PIPE, DUCTILE IRON SIZE.
2. ALL DIRECTIONAL DRILLS SHALL BE AT A DEPTH OF 8X PIPE DIAMETER BELOW THE ROADWAY SURFACE OR 4' WHICHEVER IS GREATER.
3. ALL HDPE MUST BE COLOR CODED (SAFETY BLUE-WATER, SAFETY GREEN FOR SEWER AND PANTONE PURPLE FOR RECLAIMED WATER); BUTT FUSION WELDED; AND CONNECTED WITH HDPE-MJ ADAPTER.



BAY COUNTY
UTILITIES
STANDARD
DETAILS

**DIRECTIONAL BORE
DETAIL**

DATE : MAY 2023
SCALE : NTS

FIGURE : **G-20**