APPROVED: Jim Hackworth
DIRECTOR OF PUBLIC WORKS

COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS

COVER REQUIREMENTS

DATE: JULY, 2005 | NTS | PLATE **U-30** (42)

LEGEND:
SS = SINGLE STRENGTH
ES = EXTRA STRENGTH

CLASS / DIA	CONCRETE PIPE C-14 SS	CONCRETE PIPE C-14 ES	CONCRETE PIPE REINFORCED I	II	III	IV	V	CMP UNSTRUTTED 16 GA	14 GA	12 GA	10 GA	8 GA	VCP EXTRA STRENGTH
10	13	30	NOT PERMITTED				NO LIMIT						30
12	12	26		8	12	30		60	80				26
15	12	26		10	15	35		50	70				26
18	12	29		11	16	38		40	60	100			29
21	12	29		12	17	39		35	50	80	100		29
24	12	24		12	18	39		17	47	72	82		24
27	NOT PERMITTED	NOT PERMITTED		13	19	39							19
30				14	19	38		17*	32	47	72		19
33				14	20	38							20
36				13	17	27	64	13*	18	33	48		NOT PERMITTED
42				14	18	29	62		18*	28	38	100	
48				15	19	30	60		16*	24	29	39	
54				16	20	31	58		14*	20	25	35	
60			14	16	21	31	57		12*	17*	20	30	
66			15	17	22	32	56			14*	20	25	
72			15	18	23	33	56			7*	16	21	

* ONLY ON MINOR STREETS AND UNTRAVELED AREAS
MAXIMUM ALLOWABLE COVER – DRAINAGE PIPES
(MEASURED FINISH GRADE TO BOTTOM OF TRENCH IN FEET)

CORRUGATED HIGH DENSITY POLYETHYLENE PIPE
DUAL WALL
SMOOTH INTERIOR ONLY

DIA (INCHES)	MIN. COVER (INCHES)	MAX. FILL (HEIGHT – FEET)
12	18	23
15	18	22
18	18	22
24	18	24
30	18	23
36	18	26

	GAGE NO.					
THICKNESS	22	20	18	16	14	12
UNCOATED (in)	0.0299	0.0359	0.0478	0.0598	0.0747	0.1046
GALVANIZED (in)	0.034	0.040	0.052	0.064	0.079	0.109
GALVANIZED (mm)	0.762	1.02	0.32	1.63	2.01	2.77
	10	8	7	5	3	1
UNCOATED (in)	0.1345	0.1644	0.1838	0.2145	0.2451	0.2758
GALVANIZED (in)	0.138	0.168	0.188	0.218	0.249	0.280
GALVANIZED (mm)	3.51	4.27	4.78	5.54	6.32	7.11

NOTES:
1. CONCRETE PIPE SHALL CONFORM TO ASTM C-76 57-T OR C-14.
2. VITRIFIED CLAY PIPE SHALL BE EXTRA STRENGTH AND CONFORM TO ASTM C-278, CL 2.
3. ALL DEPTHS SHOWN FOR FLEXIBLE PAVEMENT ONLY
4. MIN. COVER ON VCP EXTRA STRENGTH SHALL CONFORM TO THAT OF CONCRETE PIPE CLASS 3.
5. 12 IN. MIN. COVER ON CONCRETE PIPE OUTSIDE STREET AREAS.
6. PIPES SHALL NOT EXTEND INTO ROAD STRUCTURAL SECTIONS UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.

CLASS / DIA	CONCRETE PIPE C-14 SS	CONCRETE PIPE C-14 ES	CONCRETE PIPE REINFORCED I	II	III	IV	V	CORRUGATED METAL PIPE ALL SIZES H-20 LOADING	CORRUGATED HIGH DENSITY POLYETHYLENE DUAL WALL SMOOTH INTERIOR ONLY
ALL SIZES	27"	24"	27"	24"	18"	12"	12"	18"	18"

MINIMUM ALLOWABLE COVER – DRAINAGE PIPES
(MEASURED SURFACE TO TOP OF PIPE IN INCHES)