

MANHOLE SCHEDULE						
NUMBER	MANHOLE DETAIL	BARREL CENTER LOCATION	BARREL DIAMETER	COVER DIAMETER	RIM ELEVATION	INLET/OUTLET SIZE, DIRECTION, INV EL.
MH1	1/G15	N 105+79.38 E 97+17.95	60"	30"	2449.00'	30" EAST, 2428.50' 30" NORTHWEST, 2428.47' 4" SOUTHWEST, 2446.70'
MH2	1/G15	N 106+71.96 E 96+76.96	72"	30"	2448.00'	30" SOUTHEAST, 2427.83' 18" NORTH, 2428.58' 36" WEST, 2427.29' 4" NORTHEAST, 2446.90
MH3	1/G15	N 106+71.96 E 96+10.88	72"	30"	2451.25'	36" EAST, 2426.85' 36" WEST, 2426.81' 8" SOUTH, 2426.83'
MH4	1/G15	N 106+56.96 E 96+10.88	48"	30"	2451.25'	8" NORTH, 2426.70' 3" SOUTH, 2448.00'
MH5	1/G15	N 103+60.00 E 88+46.67	60"	30"	2460.00'	24" NORTH, 2440.32' 24" EAST, 2440.11'
MH6	1/G15	N 103+60.00 E 89+41.97	60"	30"	2460.25'	24" WEST, 2436.31' 24" EAST, 2436.04' 12" NORTH, 2436.20'
MH7	1/G15	N 103+60.00 E 90+08.67	60"	30"	2460.00'	24" WEST, 2432.10' 30" EAST, 2431.92' 12" NORTH, 2431.94'
MH8	1/G15	N 103+60.00 E 92+46.17	60"	30"	2460.00'	30" WEST, 2430.03' 30" EAST, 2430.00' 16" NORTH, 2430.01'
MH9	1/G15	N 103+60.00 E 95+32.00	60"	30"	2452.00'	30" WEST, 2428.79' 30" NORTH, 2428.77'
MH10	1/G15	N 105+50.00 E 95+32.00	60"	30"	2451.50'	30" SOUTH, 2427.98' 12" WEST, 2432.53' 30" NORTHEAST, 2427.98'
MH11	1/G15	N 106+07.92 E 95+81.00	60"	30"	2451.75'	30" SOUTHWEST, 2427.66' 30" NORTH, 2427.64'
MH12	1/G15	N 106+26.00 E 87+97.92	48"	30"	2460.00'	12" SOUTH, 2450.05' 12" EAST, 2449.91'
MH13	1/G15	N 106+26.00 E 92+35.17	48"	30"	2455.75'	12" WEST, 2437.85' 12" EAST, 2437.71' 8" SOUTH, 2437.78'
MH14	2/G15	N 106+26.00 E 94+11.67	48"	30"	2454.00'	12" WEST, 2432.93' 12" EAST, 2432.79' 8" SOUTH, 2448.88'
MH15	2/G15	N 106+26.00 E 95+29.25	48"	30"	2451.75'	12" WEST, 2429.64' 12" NORTH, 2429.51' 12" SOUTHWEST, 2439.77'
MH16	1/G15	N 107+02.38 E 95+29.25	48"	30"	2452.25'	12" SOUTH, 2427.51' 12" EAST, 2427.37'
MH17	1/G15	N 107+02.38 E 95+81.00	60"	30"	2451.00'	12" WEST, 2426.07' 18" SOUTH, 2426.00' 18" NORTHEAST, 2425.97' 8" EAST, 2448.33
MH18	1/G15	N 108+01.33 E 96+45.06	60"	30"	2448.00'	18" SOUTHWEST, 2424.68' 18" EAST, 2424.61'
MH19	1/G15	N 105+76.00 E 95+12.00	48"	30"	2452.75'	12" SOUTH, 2442.50' 12" WEST, 2442.41' 12" NORTHEAST, 2442.33' 8" SOUTHWEST, 2442.75'
MH20	1/G15	N 105+27.67 E 95+25.50	60"	30"	2452.00'	24" WEST, 2443.89' 24" NORTH, 2443.82'
MH21	1/G15	N 105+72.38 E 95+25.50	60"	30"	2452.00'	24" SOUTH, 2443.27' 24" EAST, 2443.20' 18" NORTHWEST, 2443.58'
MH22	1/G15	N 105+72.81 E 98+37.00	60"	30"	2446.00'	24" WEST, 2438.94' 18" NORTHWEST, 2438.91' 24" EAST, 2438.88'
MH23	1/G15	N 105+40.50 E 99+13.50	60"	30"	2444.25'	18" WEST, 2439.62' 18" EAST, 2439.60' 18" SOUTH, 2439.60'
MH24	1/G15	N 104+86.75 E 95+32.00	60"	30"	2451.50'	30" SOUTH, 2428.25' 30" NORTH, 2428.23' 30" EAST, 2430.00'
MH25	1/G15	N 105+55.25 E 95+50.50	60"	30"	2449.50'	6" EAST, 2424.63' 6" WEST, 2424.50'
MH26	4/G18	N 105+55.25 E 94+69.00	72"	48"	2454.50'	6" WEST, 2436.00' 6" NORTH, 2423.50' 6" NORTHEAST, 2440.00' 6" EAST, 2424.00'
MH27	3/G18	N 104+28.25 E 88+46.67	60"	24"	2460.50'	24" NORTH, 2443.20' 24" SOUTH, 2442.99'
DIV. STR.	1/G14	N 127+61.33 E 81+15.69	60"	30"	2453.25'	18" SOUTH, 2444.26'
MHG1	1/G15	N 127+53.33 E 81+15.72	60"	30"	2453.25'	18" NORTH, 2444.25' 18" SOUTHEAST, 2440.48'
MHG2	1/G15	N 124+24.79 E 83+76.57	60"	30"	2453.75'	18" NORTHWEST, 2438.61' 18" SOUTHEAST, 2438.59'
MHG3	1/G15	N 120+96.25 E 86+37.42	60"	30"	2451.25'	18" NORTHWEST, 2436.72' 18" SOUTHEAST, 2436.70'
MHG4	1/G15	N 117+67.71 E 85+98.27	60"	30"	2450.00'	18" NORTHWEST, 2434.83' 18" SOUTHEAST, 2434.81'
MHG5	1/G15	N 114+39.17 E 91+59.11	60"	30"	2449.00'	18" NORTHWEST, 2432.94' 18" SOUTHEAST, 2432.92'
MHG6	1/G15	N 111+10.63 E 94+19.96	60"	30"	2448.00'	18" NORTHWEST, 2431.06' 18" SOUTHEAST, 2431.04'
MHG7	1/G15	N 107+86.99 E 96+76.95	60"	30"	2451.00'	18" NORTHWEST, 2429.17' 18" SOUTHEAST, 2429.15'

NOTE:
CONSTRUCTION OF MANHOLES SHALL BE IN ACCORDANCE WITH DESIGN AND CONSTRUCTION STANDARDS FOR WASTEWATER COLLECTION SYSTEMS (SEWER STANDARDS).

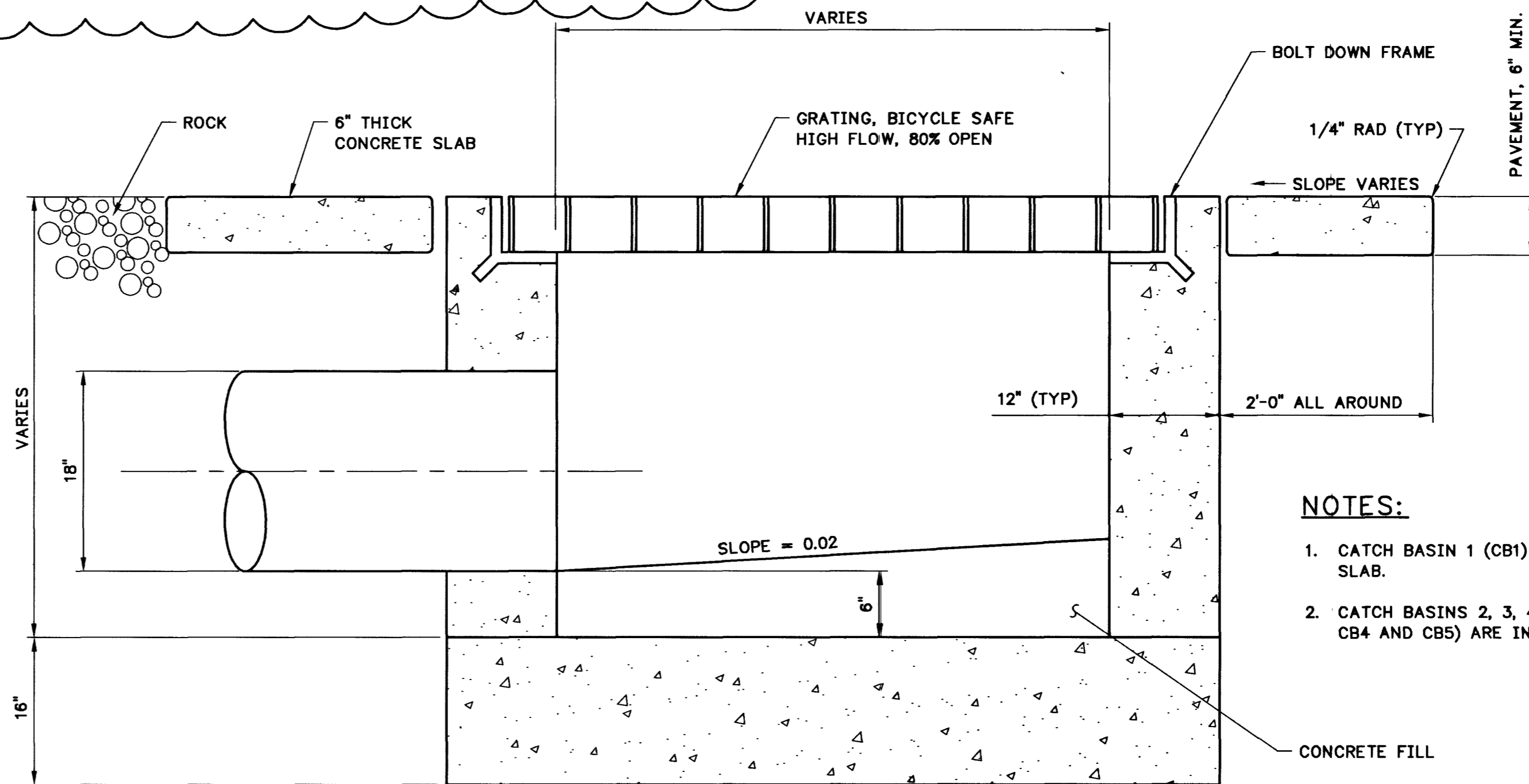
RESTRAINED JOINT REQUIREMENTS FOR PRESSURIZED PIPELINES

REQUIRED LENGTH OF RESTRAINED JOINT EACH SIDE OF FITTING									
PIPE DIAMETER (IN)	TEST PRESSURE (PSI)	PIPE MATERIAL	11-1/4" BEND (FT)	22-1/2" BEND (FT)	45" BEND (FT)	90" BEND (FT)	DEAD END (FT)	LARGE SIZE - REDUCER (FT)	REDUCER SIZE
3	100	DIP/PVC	F	F	F	F	5		N/A
3	150	DIP/PVC	F	F	F	3	12		N/A
3	220	DIP/PVC	F	F	2	5	12		N/A
4	100	DIP/PVC	F	F	F	3	8	F	3x4
4	150	DIP/PVC	F	F	2	5	12	F	3x4
4	220	DIP/PVC	F	F	3	7	17	F	3x4
6	100	DIP/PVC	F	F	2	7	12	4/7	(6x4)/(6x3)
6	150	DIP/PVC	F	2	3	8	18	7/10	(6x4)/(6x3)
6	220	DIP/PVC	F	2	5	11	26	10/15	(6x4)/(6x3)
8	100	DIP/PVC	F	F	3	7	16	4/10	(8x6)/(8x4)
8	150	DIP/PVC	F	2	4	10	24	6/16	(8x6)/(8x4)
8	220	DIP/PVC	F	3	6	15	36	9/23	(8x6)/(8x4)
10	100	DIP/PVC	F	2	4	9	20	4/11	(10x8)/(10x6)
10	150	DIP/PVC	F	3	5	13	31	6/16	(10x8)/(10x6)
10	220	DIP/PVC	2	4	8	19	45	8/24	(10x8)/(10x6)
12	100	DIP/PVC	F	2	4	10	25	1/11	(12x10)/(12x8)
12	150	DIP/PVC	2	3	6	16	37	1/16	(12x10)/(12x8)
12	220	DIP/PVC	2	5	9	23	54	2/23	(12x10)/(12x8)
16	100	DIP/PVC	F	3	6	14	33	11/22	(16x12)/(16x8)
16	150	DIP/PVC	2	4	8	21	49	16/34	(16x12)/(16x8)
16	220	DIP/PVC	3	6	12	30	72	23/49	(16x12)/(16x8)
16	220	DIP/PVC	F	5	9	23	89		
24	100	DIP/PVC	2	4	8	20	49	23	(24x16)
24	150	DIP/PVC	3	6	12	30	73	35	(24x16)
24	220	DIP/PVC	4	9	18	44	107	51	(24x16)
24	220	DIP/PVC	F	6	13	32	133		
30	100	DIP/PVC	2	5	10	24	60	16	(30x24)
30	150	DIP/PVC	4	7	15	36	90	23	(30x24)
30	220	DIP/PVC	5	11	22	53	132	34	(30x24)

NOTES & ASSUMPTIONS:

1. F = RESTRAIN BOTH JOINTS OF FITTING ONLY.
2. IF PIPE LENGTH INSTALLED IS GREATER THAN THE LENGTH LISTED IN TABLE, THEN ONLY BOTH ENDS OF FITTING ARE REQUIRED TO BE RESTRAINED.
3. REQUIRED RESTRAINED LENGTH BASED ON AN AVERAGE OF 4-FT MINIMUM DEPTH OF COVER (CONSERVATIVE).
4. SOIL CLASSIFICATION = SC.
5. PIPE BEDDING COMPACTION REQUIREMENT = 90% MAX DENSITY.
6. VALVES WILL BE BLOCKED PER STANDARD DETAILS.

CATCH BASIN SCHEDULE					
NUMBER	CATCH BASIN DETAIL	CATCH BASIN CENTER LOCATION	BASIN DIMENSIONS	RIM ELEVATION	OUTLET SIZE, DIRECTION, INV EL.
CB1	1/G14	N 106+36.00 E 95+08.00	24" x 24"	2451.50'	18" SOUTHEAST, 2447.43'
CB2	1/G14	N 106+01.00 E 98+27.00	24" x 24"	2445.50'	18" SOUTHEAST, 2440.43'
CB3	1/G14	N 105+40.50 E 98+27.00	24" x 24"	2445.50'	18" EAST, 2439.89'
CB4	1/G14	N 105+30.50 E 99+13.50	24" x 36"	2443.50'	18" NORTH, 2439.63'
CB5	1/G14	N 107+94.50 E 98+45.00	24" x 24"	2444.50'	18" EAST, 2440.50'



- NOTES:**
1. CATCH BASIN 1 (CB1) REQUIRES CONCRETE SLAB.
 2. CATCH BASINS 2, 3, 4 AND 5 (CB2, CB3, CB4 AND CB5) ARE IN PAVEMENT.

DETAIL 1/G14 - CATCH BASIN
NOT TO SCALE

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GREELEY AND HANSEN ENGINEERS 4625 SOUTH POLARIS AVENUE, SUITE 210 LAS VEGAS, NV 89103 (702) 736-7062 47984	DESIGNED JSC	APPROVED	1	6/27/01	JWW	CLARIFICATION	SCALE	CITY OF LAS VEGAS, NEVADA DEPARTMENT OF PUBLIC WORKS NORTHWEST WATER RESOURCE CENTER (WRC)	GENERAL YARD PIPING DETAILS	PROJ. NO. 1215
	DRAWN RJS						NO SCALE			DWG G14
	CHECKED JWW									SHEET 14 OF 218
										DATE OCTOBER 1998 REV 0

RECORD DRAWING