TABLE – 2

Vertical upturn bend for DI-K7 pipe

Pipe dia (mm)	Pipe OD (mm)	Angle (degrees)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
150	170	11.25	1000	500	470	150	150
		22.5	1000	500	470	150	150
		45	1000	500	470	150	150
200	222	11.25	1000	550	522	150	150
		22.5	1000	550	522	150	150
		45	1000	550	522	150	150
250	274	11.25	1000	600	574	150	150
		22.5	1000	600	574	150	150
		45	1000	600	574	150	150
300	326	11.25	1000	650	626	150	150
		22.5	1000	650	626	150	150
		45	1000	650	626	150	150
350	378	11.25	1000	700	678	150	150
		22.5	1000	700	678	150	150
		45	1000	700	678	150	150
Vertical upturn bend for DI-K9 pipe							
150	170	11.25	1000	500	470	150	150
		22.5	1000	500	470	150	150
		45	1000	500	470	150	150
200	222	11.25	1000	550	522	150	150
		22.5	1000	550	522	150	150
		45	1000	550	522	150	150
Vertical upturn bend for HDPE pipe-6kg/cm2							
63	63	11.25	1000	400	363	150	150
		22.5	1000	400	363	150	150
		45	1000	400	363	150	150
75	75	11.25	1000	400	375	150	150
		22.5	1000	400	375	150	150
		45	1000	400	375	150	150
90	90	11.25	1000	400	375	150	150
		22.5	1000	400	375	150	150
		45	1000	400	375	150	150
110	110	11.25	1000	450	410	150	150
		22.5	1000	450	410	150	150
		45	1000	450	410	150	150
140	140	11.25	1000	450	440	150	150
		22.5	1000	450	440	150	150
		45	1000	450	440	150	150
Vertical upturn bend for HDPE pipe-8kg/cm2							
63	63	11.25	1000	400	363	150	150
		22.5	1000	400	363	150	150
		45	1000	400	363	150	150
75	75	11.25	1000	400	375	150	150
		22.5	1000	400	375	150	150
		45	1000	400	375	150	150
90	90	11.25	1000	400	390	150	150
		22.5	1000	400	390	150	150
		45	1000	400	390	150	150
125	125	11.25	1000	450	425	150	150
		22.5	1000	450	425	150	150
		45	1000	450	425	150	150
140	140	11.25	1000	450	440	150	150
		22.5	1000	450	440	150	150
		45	1000	450	440	150	150
Vertical upturn bend for HDPE pipe-10kg/cm2							
63	63	11.25	1000	400	363	150	150
		22.5	1000	400	363	150	150
		45	1000	400	363	150	150
75	75	11.25	1000	400	375	150	150
		22.5	1000	400	375	150	150
		45	1000	400	375	150	150
90	90	11.25	1000	400	390	150	150
		22.5	1000	400	390	150	150
		45	1000	400	390	150	150
110	110	11.25	1000	450	410	150	150
		22.5	1000	450	410	150	150
		45	1000	450	410	150	150
125	125	11.25	1000	450	425	150	150
		22.5	1000	450	425	150	150
		45	1000	450	425	150	150
Vertical upturn bend for HDPE pipe-12.5kg/cm2							
63	63	11.25	1000	400	363	150	150
		22.5	1000	400	363	150	150
		45	1000	400	363	150	150
75	75	11.25	1000	400	375	150	150
		22.5	1000	400	375	150	150
		45	1000	400	375	150	150

TABLE – 3

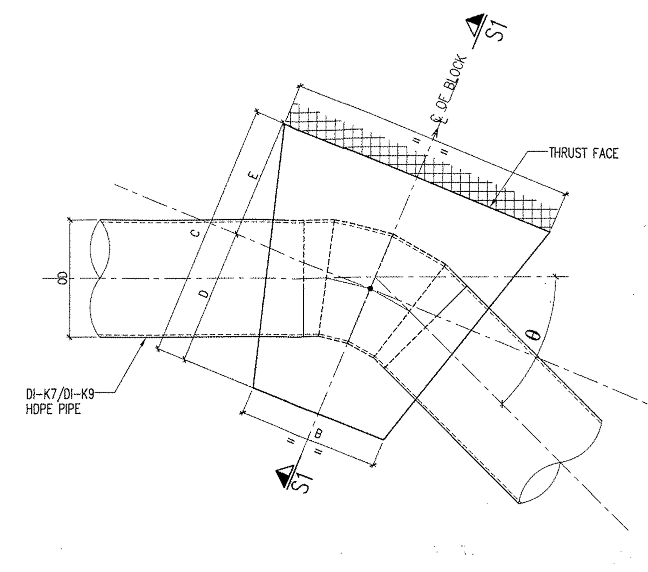
Vertical downturn bend for DI-K7 pipe

Pipe dia (mm)	Pipe OD (mm)	Angle (degrees)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
150	170	11.25	1000	500	470	150	150
		22.5	1000	500	470	150	150
		45	1000	675	570	200	200
200	222	11.25	1000	550	522	150	150
		22.5	1000	675	522	150	150
		45	1325	925	522	150	150
250	274	11.25	1000	600	574	150	150
		22.5	1250	800	574	150	150
		45	1750	1050	574	150	150
300	326	11.25	1000	750	626	150	150
		22.5	1300	1000	626	150	150
		45	2000	1200	626	150	150
350	378	11.25	1100	700	678	150	150
		22.5	1700	850	678	150	150
		45	2100	1250	678	150	150
Vertical downturn bend for DI-K9 pipe							
150	170	11.25	1000	500	470	150	150
		22.5	1000	550	470	150	150
		45	1400	600	670	250	250
200	222	11.25	1000	550	522	150	150
		22.5	1100	775	522	150	150
		45	1500	1000	622	200	200
Vertical downturn bend for HDPE pipe-6kg/cm2							
63	63	11.25	1000	400	363	150	150
		22.5	1000	400	363	150	150
		45	1000	400	363	150	150
75	75	11.25	1000	400	375	150	150
		22.5	1000	400	375	150	150
		45	1000	400	375	150	150
90	90	11.25	1000	400	390	150	150
		22.5	1000	400	390	150	150
		45	1000	400	390	150	150
110	110	11.25	1000	450	410	150	150
		22.5	1000	450	410	150	150
		45	1000	450	410	150	150
140	140	11.25	1000	450	440	150	150
		22.5	1000	450	440	150	150
		45	1000	450	440	150	150
Vertical downturn bend for HDPE pipe-8kg/cm2							
63	63	11.25	1000	400	363	150	150
		22.5	1000	400	363	150	150
		45	1000	400	363	150	150
75	75	11.25	1000	400	375	150	150
		22.5	1000	400	375	150	150
		45	1000	400	375	150	150
90	90	11.25	1000	400	390	150	150
		22.5	1000	400	390	150	150
		45	1000	400	390	150	150
125	125	11.25	1000	450	425	150	150
		22.5	1000	450	425	150	150
		45	1000	450	425	150	150
140	140	11.25	1000	450	440	150	150
		22.5	1000	450	440	150	150
		45	1000	450	440	150	150
Vertical downturn bend for HDPE pipe-10kg/cm2							
63	63	11.25	1000	400	363	150	150
		22.5	1000	400	363	150	150
		45	1000	400	363	150	150
75	75	11.25	1000	400	375	150	150
		22.5	1000	400	375	150	150
		45	1000	400	375	150	150
90	90	11.25	1000	400	390	150	150
		22.5	1000	400	390	150	150
		45	1000	400	390	150	150
110	110	11.25	1000	450	410	150	150
		22.5	1000	450	410	150	150
		45	1000	450	410	150	150
125	125	11.25	1000	450	425	150	150
		22.5	1000	450	425	150	150
		45	1000	450	425	150	150
Vertical downturn bend for HDPE pipe-12.5kg/cm2							
63	63	11.25	1000	400	363	150	150
		22.5	1000	400	363	150	150
		45	1000	400	363	150	150
75	75	11.25	1000	400	375	150	150
		22.5	1000	400	375	150	150
		45	1000	400	375	150	150

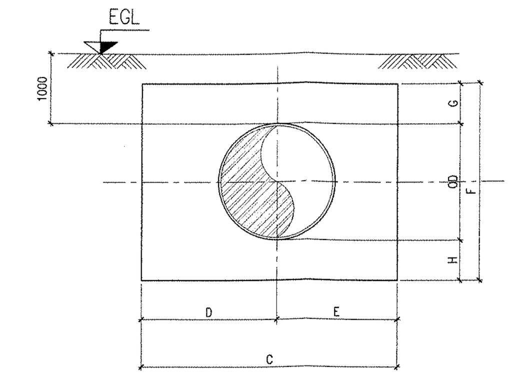
TABLE – 1

Horizontal bend for DI-K7 pipe

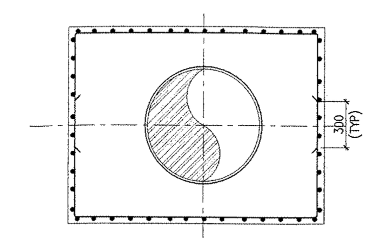
Pipe dia (mm)	Pipe OD (mm)	Angle (degrees)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
150	170	11.25	250	125	1000	556	444	470	150	150
		22.5	500	250	1000	556	444	470	150	150
		45	725	325	800	451	349	520	175	175
		90	1250	500	1200	686	514	520	175	175
200	222	11.25	325	150	1000	561	439	522	150	150
		22.5	625	200	1000	586	414	522	150	150
		45	1200	500	1050	597	453	522	150	150
		90	1700	550	1325	775	550	672	225	225
250	274	11.25	400	175	1250	707	543	574	150	150
		22.5	775	325	1250	710	540	574	150	150
		45	1500	550	1300	750	550	574	150	150
		90	2150	700	1250	731	519	774	250	250
300	326	11.25	550	225	1000	570	430	626	150	150
		22.5	1050	500	1000	559	441	626	150	150
		45	1800	600	1300	758	542	676	175	175
		90	2650	1400	1000	551	449	926	300	300
350	378	11.25	550	250	1000	563	437	678	150	150
		22.5	1000	500	1600	889	711	678	150	150
		45	1700	600	1700	986	714	778	200	200
		90	2850	1500	2000	1103	897	828	225	225
Horizontal bend for DI-K9 pipe										
150	170	11.25	300	150	1000	556	444	470	150	150
		22.5	525	225	1000	567	433	470	150	150
		45	950	475	1000	556	444	520	175	175
		90	1550	700	1000	563	437	570	200	200
200	222	11.25	400	225	1000	547	453	522	150	150
		22.5	750	375	1350	750	600	522	150	150
		45	1400	700	1300	722	578	572	175	175
		90	1750	650	1900	1095	805	822	300	300
Horizontal bend for HDPE pipe-6kg/cm2										
63	63	11.25	300	175	1000	544	456	363	150	150
		22.5	500	350	1000	529	471	363	150	150
		45	700	450	1000	536	464	363	150	150
		90	1000	600	1000	542	458	363	150	150
75	75	11.25	300	175	1000	544	456	375	150	150
		22.5	500	350	1000	529	471	375	150	150
		45	550	325	1000	543	457	375	150	150
		90	1500	800	1100	606	494	375	150	150
90	90	11.25	300	225	1000	524	476	390	150	150
		22.5	500	350	1000	529	471	390	150	150
		45	700	450	1000	536	464	390	150	150
		90	1600	800	1100	611	489	390	150	150
11.250	11.250	11.25	350	250	1000	528	472	410	150	150
		22.5	450	300	1000	533	467	410	150	150
		45	600	325	1000	550	450	410	150	150
		90	750	350	1000	561	439	410	150	150
140	140	11.25	400	300	1000	524	476	440	150	150
		22.5	500	325	1000	535	465	440	150	150
		45	400	200	1000	556	444	440	150	150
		90	700	300	1000	567	433	440	150	150
Horizontal bend for HDPE pipe-8kg/cm2										
63	63	11.25	300	175	1000	544	456	363	150	150
		22.5	500	325	1000	535	465	363	150	150
		45	600	325	1000	550	450	363	150	150
		90	700	350	1000	556	444	363	150	150
75	75	11.25	300	175	1000	544	456	375	150	150
		22.5	500	350	1000	529	471	375	150	150
		45	750	425	1000	546	454	375	150	150
		90	1300	800	1000	540	460	375	150	150
90	90	11.25	300	200	1000	533	467	390	150	150
		22.5	400	225	1000	547	453	390	150	150
		45	600	325	1000	550	450	390	150	150
		90	700	350	1000	556	444	390	150	150
125	125	11.25	300	225	1000	524	476	425	150	150
		22.5	500	350	1000	529	471	425	150	150
		45	700	325	1000	561	439	425	150	150
		90	1400	700	1000	556	444	425	150	150
140	140	11.25	300	200	1000	533	467	440	150	150
		22.5	550	325	1000	543	457	440	150	150
		45	550	250	1000	563	437	440	150	150
		90	1200	600	1000	556	444	440	150	150
Horizontal bend for HDPE pipe-10kg/cm2										
63	63	11.25	300	175	1000	544	456	363	150	150
		22.5	600	400	1000	533	467	363	150	150
		45	700	350	1000	556	444	363	150	150
		90	1000	500	1000	556	444	363	150	150
75	75	11.25	300	175	1000	544	456	375	150	150
		22.5	450	300	1000	533	467	375	150	150
		45	700	350	1000	556	444	375	150	150
		90	1600	900	1000	547	453	375	150	150
90	90	11.25	200	150	1000	524	476	390	150	150
		22.5	300	175	1000	544	456	390	150	150
		45	325	175	1000	550	450	390	150	150
		90	500	250	1000	556	444	390	150	150
11.250	11.250	11.25	300	175	1000	544	456	410	150	150
		22.5	375	225	1000	542	458	410	150	150
		45	525	250	1000	559	441	410	150	150
		90	650	250	1000	574	426	410	150	150
125	125	11.25	300	175	1000	544	456	425	150	150
		22.5	500	275	1000	548	452	425	150	150
		45	550	250	1000	563	437	425	150	150
		90	1100	550	1000	556	444	425	150	150
Horizontal bend for HDPE pipe-12.5kg/cm2										
63	63	11.25	300	175	1000	544	456	363	150	150
		22.5	600	400	1000	533	467	363	150	150
		45	700	350	1000	556	444	363	150	150
		90	1400	825	1000	543	457	363	150	150
75	75	11.25	300	200	1000	533	467	375	150	150
		22.5	500	350	1000	529	471	375	150	150
		45	700	350	1000	556	444	375	150	150
		90	1200	650	1000	550	450	375	150	150



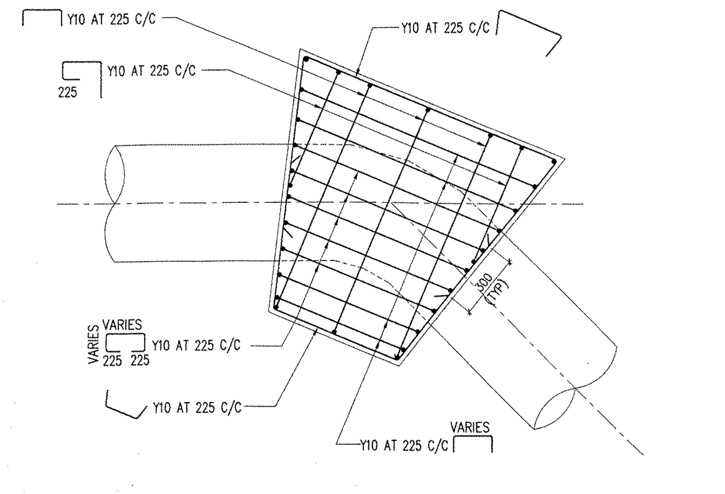
PLAN
(NUMERATION DETAIL OF THRUST BLOCK FOR HORIZONTAL BENDS REFER TABLE-1)



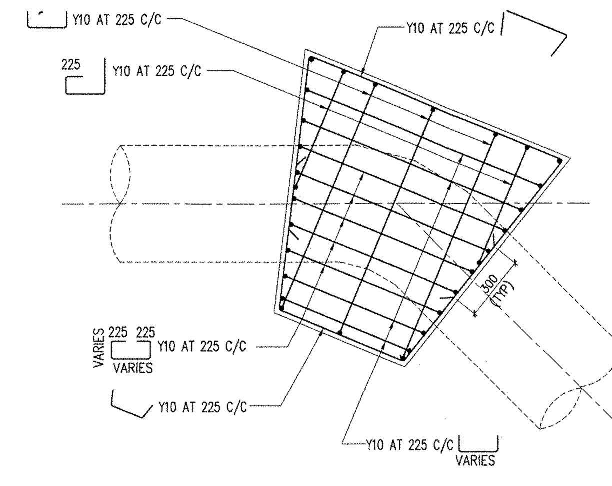
SECTION S1–S1
(NUMERATION DETAIL)



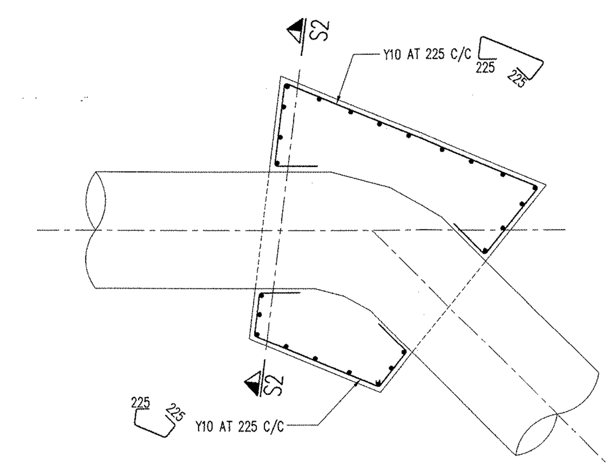
SECTION S1–S1
(RC DETAIL)



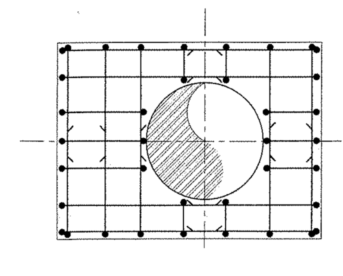
PLAN AT TOP FACE OF BLOCK
(RC DETAILS OF THRUST BLOCK FOR HORIZONTAL BENDS)



PLAN AT BOTTOM FACE OF BLOCK
(RC DETAILS OF THRUST BLOCK FOR HORIZONTAL BENDS)



PLAN AT MID HEIGHT OF BLOCK
(RC DETAILS OF THRUST BLOCK FOR HORIZONTAL BENDS)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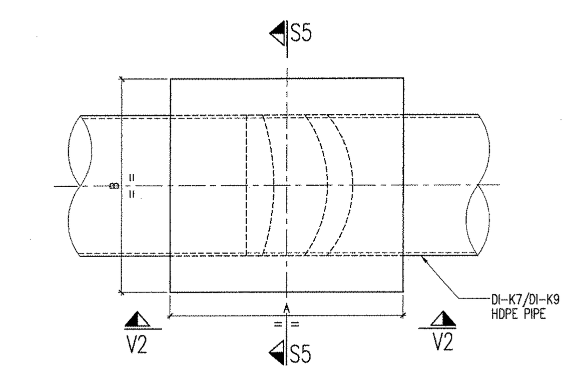
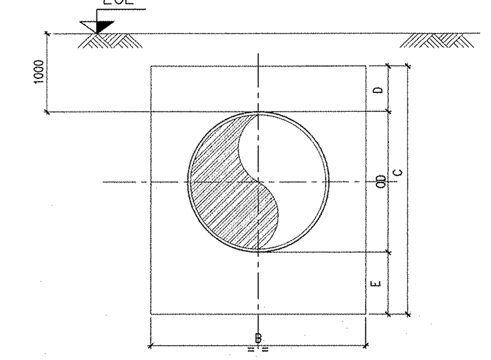
(RC DETAIL)



PLAN
(NUMERATION DETAIL OF THRUST BLOCK FOR VERTICAL DOWN-TURN BENDS REFER TABLE-3)



SECTION S5–S5
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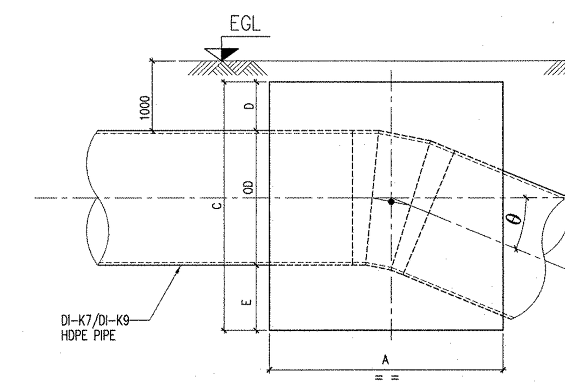
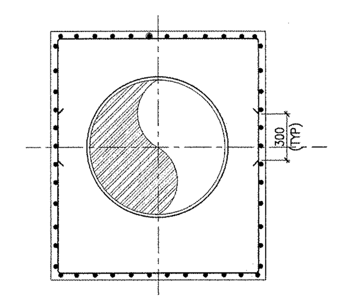
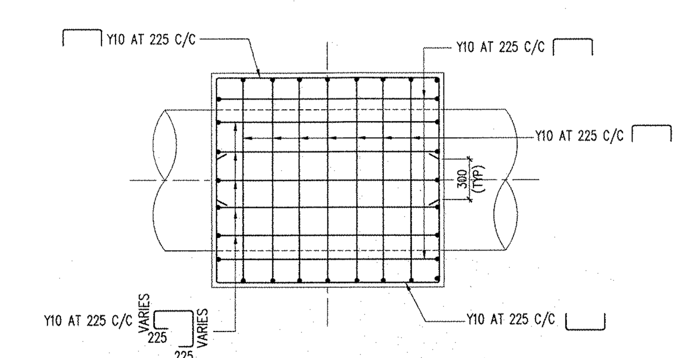


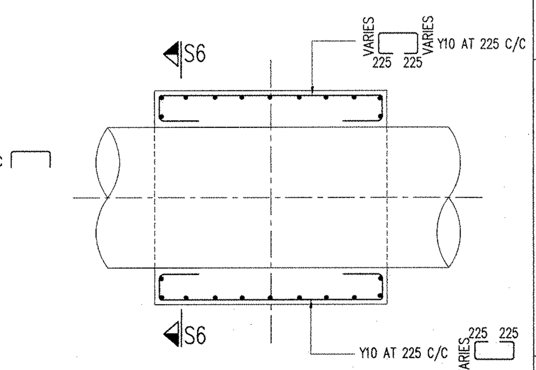
VIEW V2–V2
(NUMERATION DETAIL)



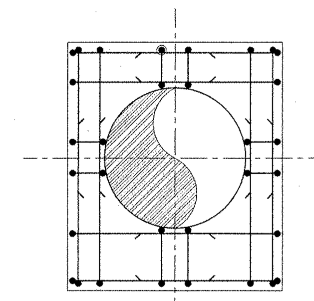
SECTION S5–S5
(RC DETAIL)

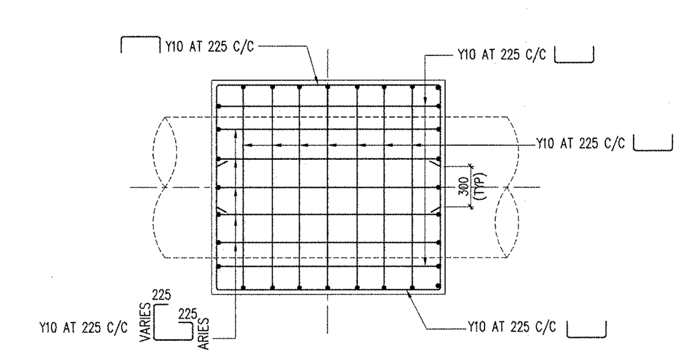


PLAN AT TOP FACE OF BLOCK
(R.C. DETAILS FOR VERTICAL DOWN-TURN BENDS)

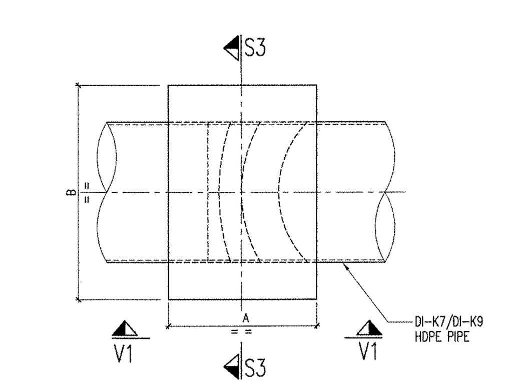


PLAN AT MID HEIGHT OF BLOCK
(RC DETAILS OF THRUST BLOCK FOR VERTICAL DOWN-TURN BENDS)

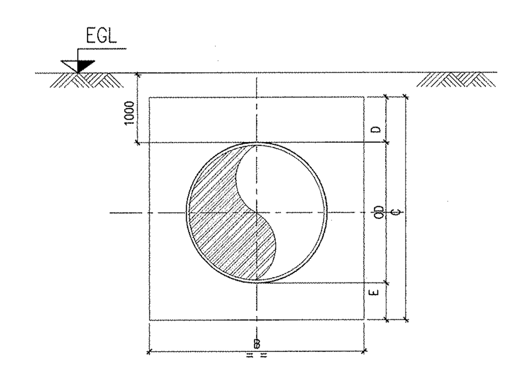

SECTION S6–S6
(RC DETAIL)



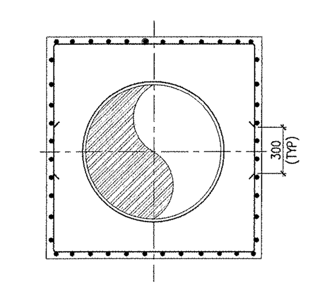
PLAN AT BOTTOM FACE OF BLOCK
(R.C. DETAILS FOR VERTICAL DOWN-TURN BENDS)



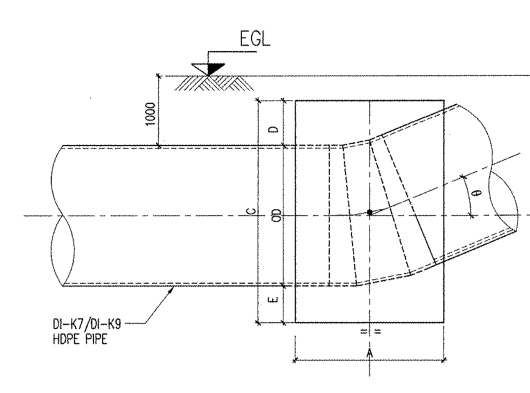
PLAN
(NUMERATION DETAIL OF THRUST BLOCK FOR VERTICAL UP-TURN BENDS REFER TABLE-2)



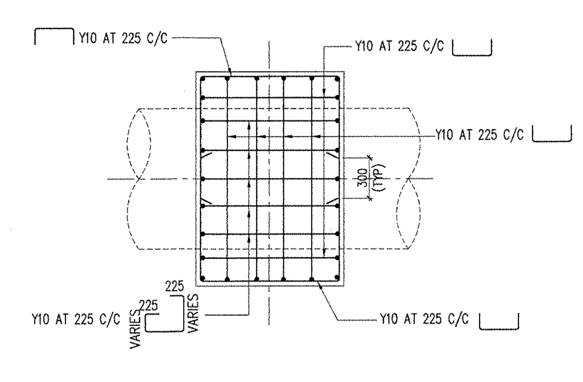
SECTION S3–S3
(NUMERATION DETAIL)



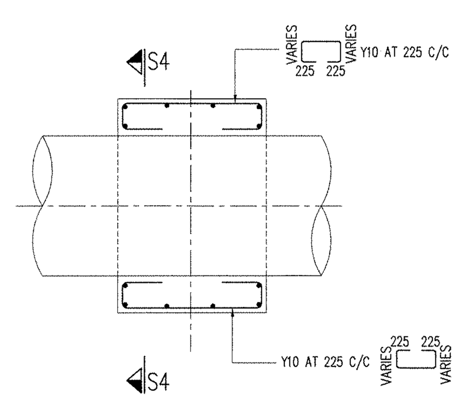
SECTION S3–S3
(RC DETAIL)



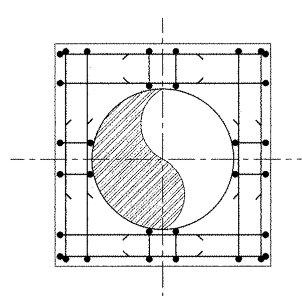
VIEW V1–V1
(NUMERATION DETAIL)

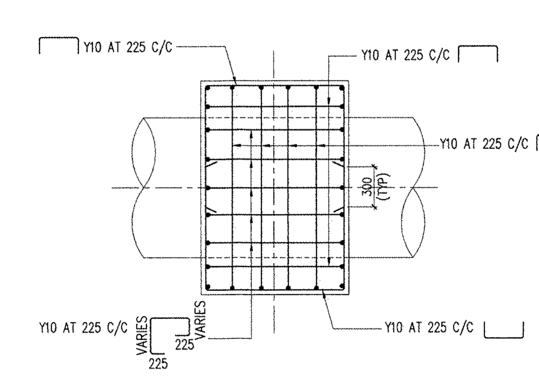


PLAN AT BOTTOM FACE OF BLOCK
(RC DETAILS FOR VERTICAL UP-TURN BENDS)



PLAN AT MID HEIGHT OF BLOCK
(RC DETAILS OF THRUST BLOCK FOR VERTICAL UP-TURN BENDS)


SECTION S4–S4
(RC DETAIL)



PLAN AT TOP FACE OF BLOCK
(RC DETAILS FOR VERTICAL UP-TURN BENDS)

LEGEND

EGL – EXISTING GROUND LEVEL
OD – OUTER DIAMETER

NOTES

1. ALL DIMENSIONS ARE IN MM AND LEVELS ARE IN METRES.
2. GRADE OF CONCRETE SHALL BE M20.
3. ALL REINFORCEMENT BARS SHALL BE HYSD BARS OF GRADE Fe 415 CONFORMING TO IS:1786 – 1985.
4. THRUST BLOCK SHALL BE CAST AGAINST THE UNDISTURBED FACE OF EXCAVATED TRENCH.
5. SOIL BENEATH AND BY THE SIDE OF THRUST BLOCK WHICH ULTIMATELY BEARS THRUST THROUGH CONCRETE MEDIUM MUST REMAIN UNDISTURBED. IN CASE OF ANY EXTRA EXCAVATION IS DONE IN TRENCHES BELOW THE BASE OF THRUST BLOCK AND THRUST FACE SIDE, THE GAP/DIFFERENCE SHALL BE FILLED WITH M15.
6. PIPE AND SPECIALS SHALL BE SUITABLY SUPPORTED WHILE CONCRETING THE THRUST BLOCK.
7. TESTING OF PUMPING MAIN SHALL BE DONE AFTER CASTING OF THRUST BLOCKS AND COMPACTION OF BACK FILLING.

REV.NO.	DESCRIPTION	DESIGNED	DRAWN	CHECKED	APPROVED
A	FOR APPROVAL	KRC 29.11.16	JK 29.11.16	RR 29.11.16	BRJ 29.11.16

L&T Construction
Water & Effluent Treatment SBG

CLIENT : GOVERNMENT OF TELANGANA,SUPERINTENDING ENGINEER RURAL WATER SUPPLY ENGINEERING DEPARTMENT
CONSULTANT :
PROJECT : PROVIDING DRINKING WATER TO HABITATIONS IN KOMARAMBHEEM ASIFABAD SEGMENT IN ADILABAD DISTRICT
SUPPLIER / CONTRACTOR : L&T Construction Water & Effluent Treatment SBG

JOB No. : LE150883

	NAME	SIGN	DATE
DSGN	KRC		29.11.2016
DRWN	JK		29.11.2016
CHKD	RR		29.11.2016
APPD	BRJ		29.11.2016

TITLE : BELOW GROUND THRUST BLOCK FOR DI-K7/DI-K9/HDPE PIPE AT TANDUR NUMERATION & RC DETAILS

SCALE 1:100
PROJECTION

DRG. No. LE150883-C-WS-CW-NR-3069 SIZE A0 REV. A

CHECKED BY	SIGN	DATE
CIVIL & STRUCTURAL	-	-
PROCESS	-	-
MECHANICAL	-	-
ELECTRICAL	-	-
INSTRUMENTATION	-	-

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