

TENDER DOCUMENT

FOR

**Distribution Network for Amba Division of Right Main Canal
(RMC), Bihar Portion under North Koel Reservoir Project,
Jharkhand and Bihar**

Estimated Cost (Rs. 64.12 Crores)

TENDER NO: WAP/NK/RMC/DIST/AMBA/2025

TENDER DRAWINGS

Issued to M/s



(भारत सरकार का उपक्रम-जल शक्ति मंत्रालय)
(A Government of India Undertaking-Ministry of Jal Shakti)

NORTH KOEL RESERVOIR PROJECT

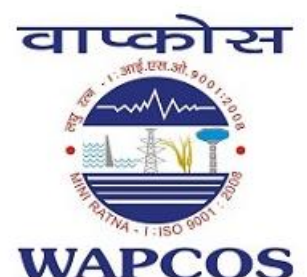
FEBRUARY 2025

Completion of Balance
Works of North Koel
Reservoir Project

DRAWING REPORT – KARMA BASANTPUR
MINOR (OFFTAKING FROM RIGHT MAIN
CANAL AT 61.92 KM)



WAPCOS LIMITED
(GOVT. OF INDIA UNDERTAKING)
76- C SECTOR-18 INDUSTRIAL AREA,
GURUGRAM-122015 (HARYANA)



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L-SECTION

L- SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 0+000 TO 1+500

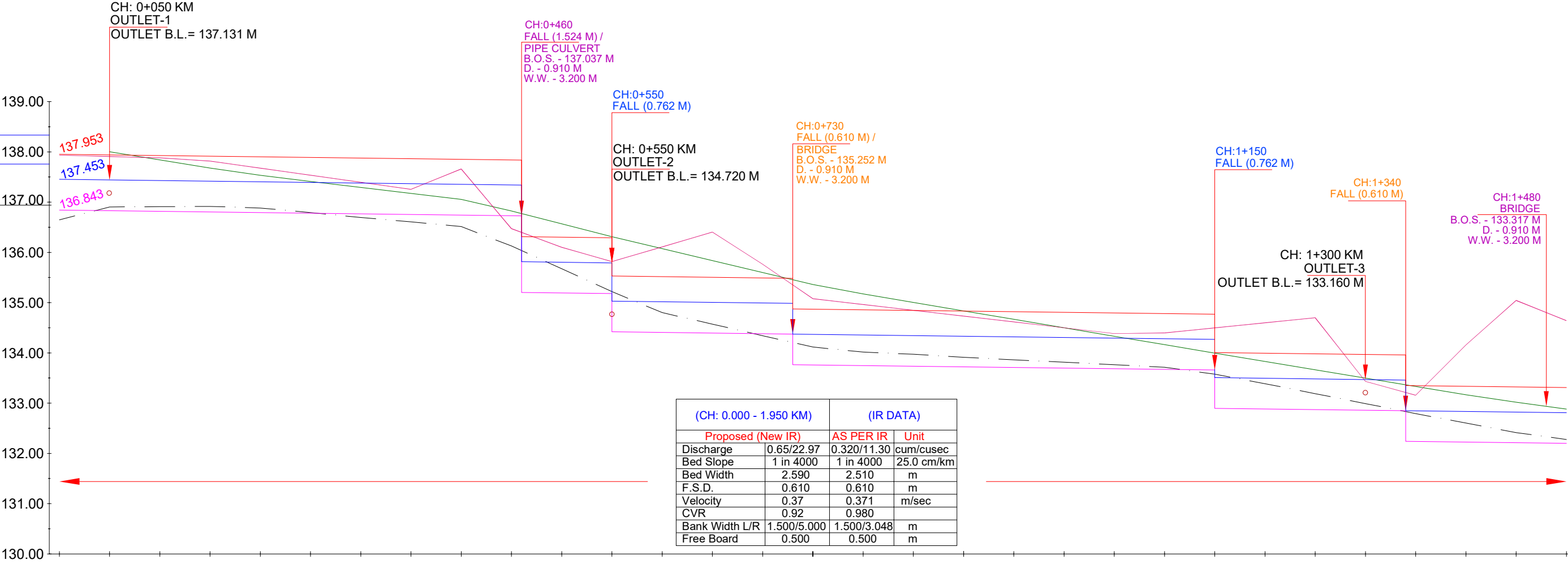
DATA OF
PARENT
CANAL

FSL @ FULL
DISCH. = 138.335

FSL @ 2/3
DISCH. = 137.756

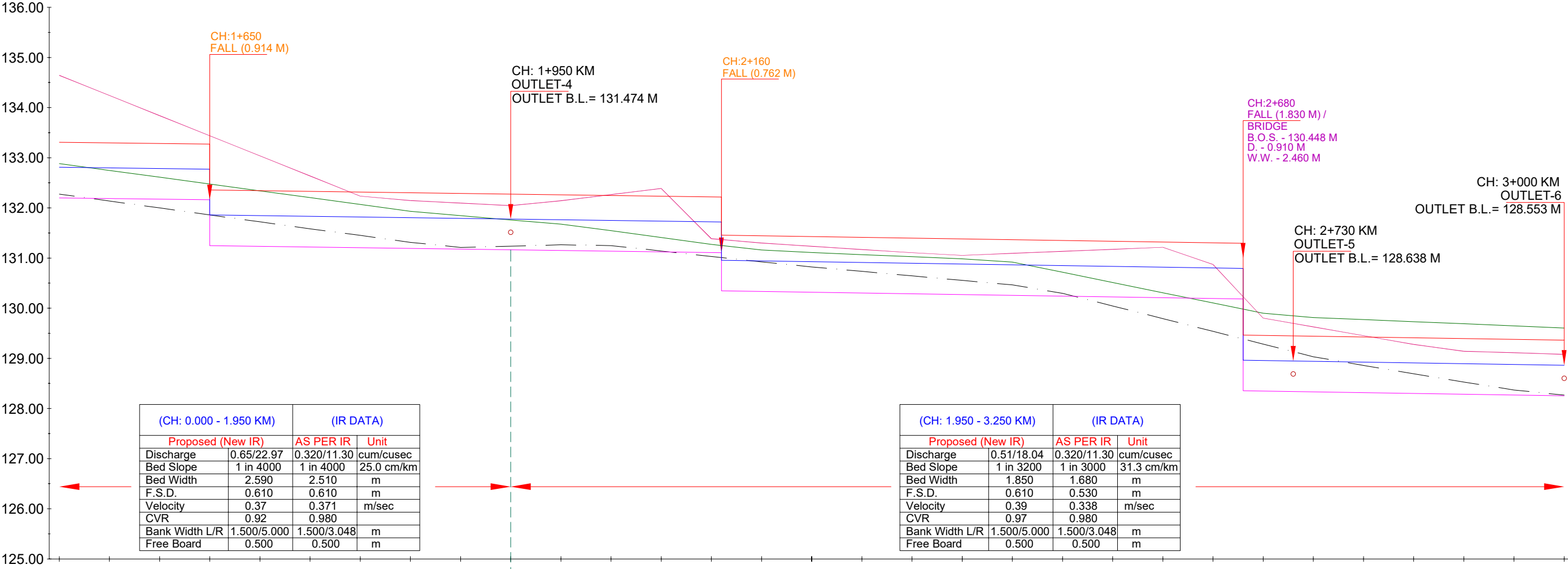
CREST RL OF
HR = 136.938 M

B.L. = 134.793 M



Chainage IN KM	EXISTING DATA			DESIGN DATA		
	NSL	TOP OF BANK LEVEL	Bed Level	Proposed Bed Level	F.S.L.	TOP OF BANK LEVEL
- 0+000		137.984	136.646	136.843	137.453	137.953
- 0+050	138.001	137.958	136.904	136.831	137.441	137.941
- 0+100	137.840	137.932	136.909	136.818	137.428	137.928
- 0+150	137.679	137.868	136.915	136.806	137.416	137.916
- 0+200	137.532	137.727	136.883	136.793	137.403	137.903
- 0+250	137.413	137.586	136.792	136.781	137.391	137.891
- 0+300	137.293	137.445	136.695	136.768	137.378	137.878
- 0+350	137.174	137.304	136.606	136.756	137.366	137.866
- 0+400	137.055	137.710	136.514	136.743	137.353	137.853
- 0+450	136.823	136.522	136.127	136.731 136.728 135.204	137.341 137.338 135.814	137.841 137.838 136.314
- 0+500	136.568	136.152	135.674	135.194	135.804	136.304
- 0+550	136.312	135.866	135.221	135.182 134.426	135.792 135.036	136.292 135.556
- 0+600	136.076	136.160	134.801	134.407	135.017	135.517
- 0+650	135.837	136.453	134.573	134.395	135.005	135.505
- 0+700	135.598	135.816	134.342	134.382	134.992	135.492
- 0+750	135.361	135.128	134.116	134.375 133.765 133.760	134.985 134.375 134.370	135.485 134.875 134.870
- 0+800	135.172	135.012	134.017	133.747	134.357	134.857
- 0+850	135.004	134.897	133.972	133.735	134.345	134.845
- 0+900	134.836	134.781	133.913	133.722	134.332	134.832
- 0+950	134.668	134.666	133.861	133.710	134.320	134.820
- 1+000	134.499	134.550	133.814	133.697	134.307	134.807
- 1+050	134.331	134.435	133.766	133.685	134.295	134.795
- 1+100	134.163	134.446	133.715	133.672	134.282	134.782
- 1+150	133.996	134.547	133.577	133.660 132.898	134.270 133.508	134.770 134.008
- 1+200	133.830	134.648	133.388	132.885	133.495	133.995
- 1+250	133.664	134.749	133.189	132.873	133.483	133.983
- 1+300	133.498	133.484	132.991	132.860	133.470	133.970
- 1+350	133.333	133.206	132.793	132.850 132.240 132.238	132.850 132.460 132.848	133.960 133.350 133.348
- 1+400	133.167	134.208	132.603	132.225	132.835	133.335
- 1+450	133.019	135.094	132.415	132.213	132.823	133.323
- 1+500	132.883		132.276	132.200	132.810	133.310

L- SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 1+500 TO 3+000



Chainage IN KM	EXISTING DATA		DESIGN DATA	
	NSL	TOP OF BANK LEVEL	Proposed Bed Level	F.S.L.
1+500	132.883	134.693	132.200	132.810
1+550	132.747	134.292	132.188	132.798
1+600	132.612	133.890	132.175	132.785
1+650	132.476	133.489	132.163	132.773
1+700	132.340	133.088	131.249	131.859
1+750	132.205	132.686	131.236	131.846
1+800	132.069	132.285	131.224	131.834
1+850	131.933	132.196	131.211	131.821
1+900	131.844	132.145	131.199	131.809
1+950	131.760	132.095	131.186	131.796
2+000	131.677	132.192	131.174	131.784
2+050	131.546	132.315	131.158	131.768
2+100	131.410	132.437	131.142	131.752
2+150	131.274	131.435	131.127	131.737
2+200	131.161	131.349	131.111	131.721
2+250	131.112	131.285	131.108	131.718
2+300	131.069	131.221	130.346	130.956
2+350	131.026	131.157	130.333	130.943
2+400	130.984	131.103	130.318	130.928
2+450	130.921	131.144	130.302	130.912
2+500	130.717	131.184	130.287	130.897
2+550	130.513	131.225	130.271	130.881
2+600	130.308	131.265	130.255	130.865
2+650	130.104	130.924	130.240	130.850
2+700	129.900	129.853	130.224	130.834
2+750	129.813	129.678	130.208	130.818
2+800	129.772	129.503	130.193	130.803
2+850	129.731	129.328	130.183	130.793
2+900	129.690	129.192	128.353	131.293
2+950	129.648	129.162	128.347	129.463
3+000	129.606		128.957	129.457

LEGEND

	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING STRUCTURE		PROPOSED FSL
	MODIFIED STRUCTURE		PROPOSED TOP OF BANK LEVEL
	NEW STRUCTURE		

IMPLEMENTING AGENCY :-

WAPCOS LTD.



PROJECT TITLE :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

DRAWING TITLE :-

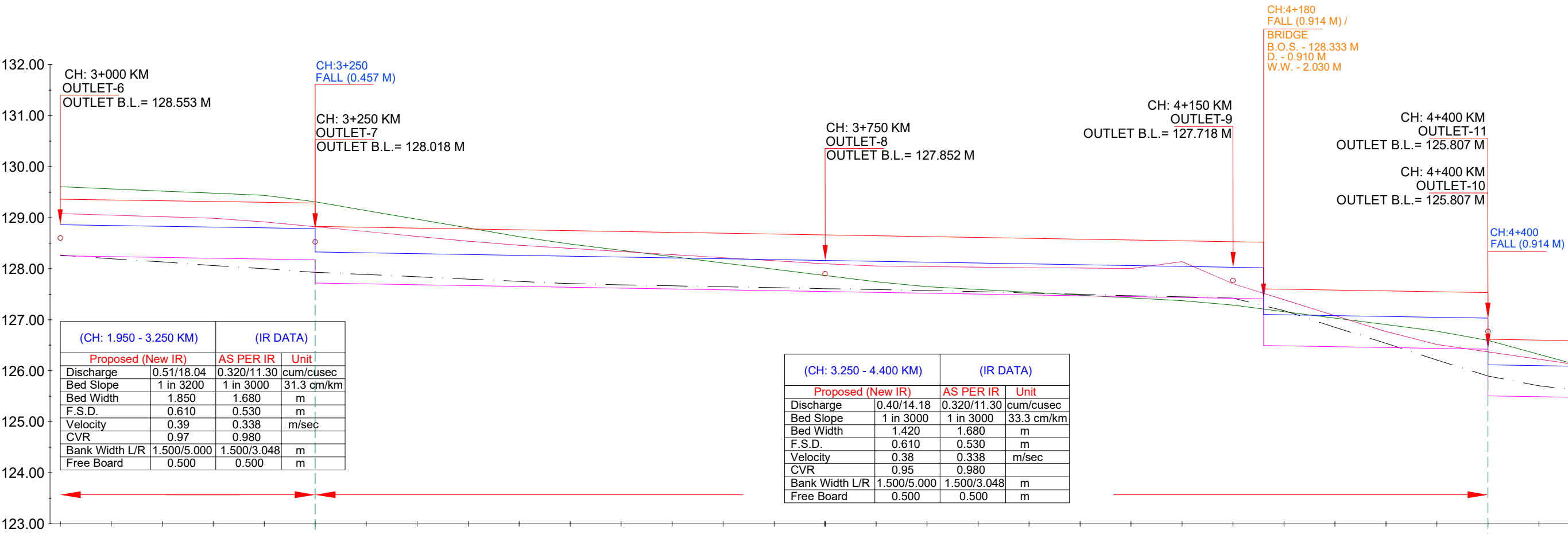
L-SECTION OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L),
NORTH KOEL RIGHT MAIN CANAL)

DRAWING NO. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ LSEC-

02 of 05

L- SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 3+000 TO 4+500



Chainage IN KM	EXISTING DATA			DESIGN DATA		
	NSL	TOP OF BANK LEVEL	Bed Level	Proposed Bed Level	F.S.L.	TOP OF BANK LEVEL
- 3+000	129.606	129.131	128.267	128.253	128.863	129.363
- 3+050	129.564	129.100	128.194	128.238	128.848	129.348
- 3+100	129.522	129.070	128.133	128.222	128.832	129.332
- 3+150	129.480	129.039	128.061	128.207	128.817	129.317
- 3+200	129.438	128.968	128.001	128.191	128.801	129.301
- 3+250	129.312	128.873	127.930	128.175	128.785	129.285
- 3+300	129.141	128.779	127.887	127.702	128.312	128.812
- 3+350	128.970	128.684	127.841	127.685	128.295	128.795
- 3+400	128.799	128.589	127.797	127.668	128.278	128.778
- 3+450	128.629	128.510	127.752	127.652	128.262	128.762
- 3+500	128.483	128.449	127.707	127.635	128.245	128.745
- 3+550	128.360	128.388	127.684	127.618	128.228	128.728
- 3+600	128.237	128.327	127.665	127.602	128.212	128.712
- 3+650	128.114	128.267	127.647	127.585	128.195	128.695
- 3+700	127.991	128.206	127.628	127.568	128.178	128.678
- 3+750	127.868	128.145	127.609	127.552	128.162	128.662
- 3+800	127.746	128.103	127.591	127.535	128.145	128.645
- 3+850	127.648	128.093	127.571	127.518	128.128	128.628
- 3+900	127.593	128.083	127.549	127.502	128.112	128.612
- 3+950	127.538	128.073	127.523	127.485	128.095	128.595
- 4+000	127.483	128.063	127.498	127.468	128.078	128.578
- 4+050	127.428	128.052	127.471	127.452	128.062	128.562
- 4+100	127.373	128.191	127.448	127.435	128.045	128.545
- 4+150	127.288	127.755	127.423	127.418	128.028	128.528
- 4+200	127.158	127.443	127.178	127.408 126.494 126.488	128.018 127.104 127.098	128.518 127.604 127.598
- 4+250	127.031	127.131	126.852	126.471	127.081	127.581
- 4+300	126.904	126.819	126.538	126.454	127.064	127.564
- 4+350	126.776	126.563	126.211	126.438	127.048	127.548
- 4+400	126.596	126.419	125.898	126.421 125.507	127.031 126.117	127.531 126.617
- 4+450	126.321	126.276	125.704	125.490	126.100	126.600
- 4+500	126.046		125.593	125.474	126.084	126.584

LEGEND

	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING STRUCTURE		PROPOSED FSL
	MODIFIED STRUCTURE		PROPOSED TOP OF BANK LEVEL
	NEW STRUCTURE		

IMPLEMENTING AGENCY :-

WAPCOS LTD.



PROJECT TITLE :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

DRAWING TITLE :-

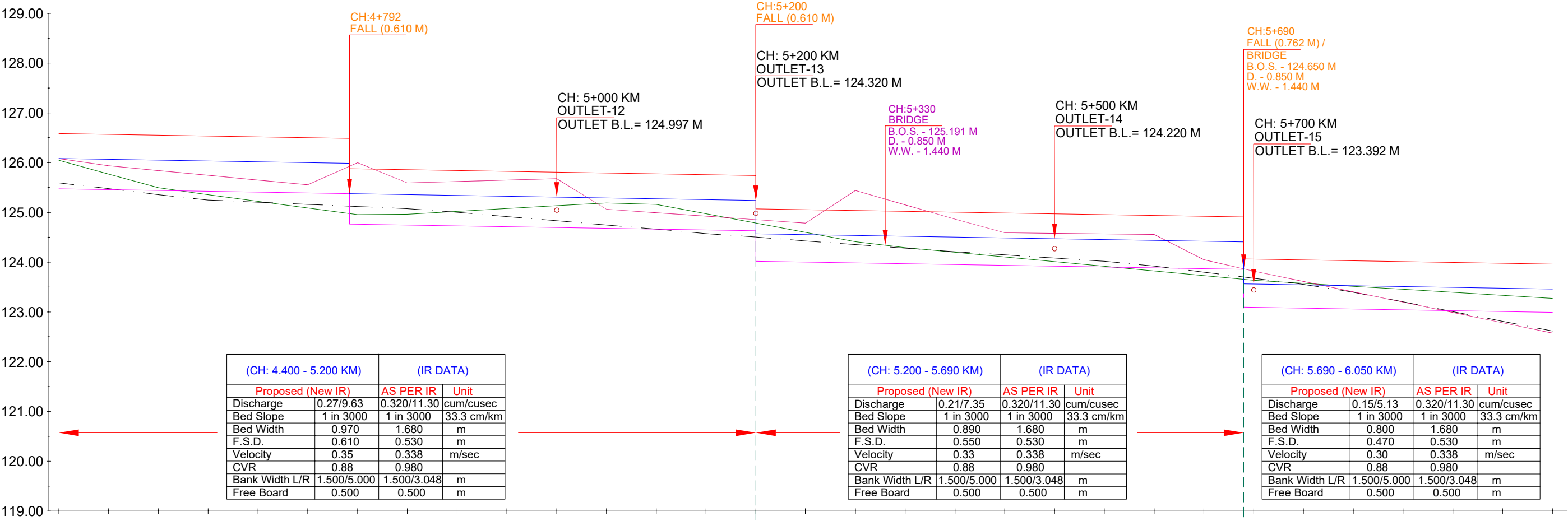
L-SECTION OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)

DRAWING NO. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ LSEC-

03 of 05

L- SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 4+500 TO 6+000



EXISTING DATA	DESIGN DATA																											
	TOP OF BANK LEVEL	F.S.L.	Proposed Bed Level	Bed Level	TOP OF BANK LEVEL	NSL	Chainage IN KM																					
	126.584	126.084	125.474	125.593	126.132	126.046	4+500	126.584	126.084	125.474	125.593	126.132	126.046	125.593	126.132	126.046	4+550	126.567	126.067	125.457	125.478	125.988	125.770	125.495	125.357	125.248	125.701	125.223
	126.550	126.050	125.440	125.357	125.891	125.495	4+600	126.550	126.050	125.440	125.357	125.891	125.495	125.357	125.891	125.495	4+650	126.534	126.034	125.424	125.248	125.796	125.357	125.248	125.205	125.205	125.701	125.223
	126.517	126.017	125.407	125.205	125.876	125.376	4+700	126.517	126.017	125.407	125.205	125.876	125.376	125.205	125.876	125.376	4+750	126.500	126.000	125.390	125.161	125.605	125.089	124.955	124.919	124.919	125.701	125.223
	126.500	125.986	125.376	125.161	125.876	125.376	4+800	126.500	125.986	125.376	125.161	125.876	125.376	125.161	125.876	125.376	4+850	125.857	125.357	124.747	125.075	125.643	124.963	124.955	124.919	124.919	125.701	125.223
	125.840	125.340	124.730	125.004	125.672	125.020	4+900	125.840	125.340	124.730	125.004	125.672	125.020	125.004	125.672	125.020	4+950	125.824	125.324	124.714	124.916	125.700	125.077	124.955	124.919	124.919	125.700	125.223
	125.807	125.307	124.697	124.832	125.728	125.134	5+000	125.807	125.307	124.697	124.832	125.728	125.134	124.832	125.728	125.134	5+050	125.790	125.290	124.680	124.746	125.114	125.191	125.160	124.973	124.973	125.114	125.191
	125.774	125.274	124.664	124.664	125.045	125.160	5+100	125.774	125.274	124.664	124.664	125.045	125.160	124.664	125.045	125.160	5+150	125.757	125.257	124.647	124.575	124.975	124.973	124.955	124.919	124.919	125.114	125.191
	125.740	125.240	124.630	124.504	124.985	124.787	5+200	125.740	125.240	124.630	124.504	124.985	124.787	124.504	124.985	124.787	5+250	125.054	124.554	124.004	124.427	124.836	124.600	124.587	124.551	124.551	124.836	124.600
	125.037	124.537	123.987	124.355	125.490	124.413	5+300	125.037	124.537	123.987	124.355	125.490	124.413	124.355	125.490	124.413	5+350	125.020	124.520	123.970	124.283	125.203	124.293	124.198	124.104	124.104	125.203	124.293
	125.004	124.504	123.954	124.211	124.916	124.198	5+400	125.004	124.504	123.954	124.211	124.916	124.198	124.211	124.916	124.198	5+450	124.987	124.487	123.937	124.147	124.642	124.104	123.823	123.729	123.729	124.642	124.104
	124.970	124.470	123.920	124.082	124.630	124.010	5+500	124.970	124.470	123.920	124.082	124.630	124.010	124.082	124.630	124.010	5+550	124.954	124.454	123.904	124.018	124.619	123.916	123.823	123.729	123.729	124.619	123.916
	124.937	124.437	123.887	123.922	124.607	123.823	5+600	124.937	124.437	123.887	123.922	124.607	123.823	123.922	124.607	123.823	5+650	124.920	124.420	123.870	123.800	124.100	123.729	123.637	123.543	123.543	124.100	123.729
	124.907	124.407	123.857	123.857	124.065	123.857	5+700	124.907	124.407	123.857	123.857	124.065	123.857	123.857	124.065	123.857	5+750	124.045	123.545	123.075	123.555	123.663	123.575	123.481	123.387	123.387	123.663	123.481
	124.028	123.528	123.058	123.396	123.455	123.515	5+800	124.028	123.528	123.058	123.396	123.455	123.515	123.396	123.455	123.515	5+850	124.012	123.512	123.042	123.203	123.248	123.455	123.361	123.267	123.267	123.248	123.455
	123.995	123.495	123.025	123.007	123.040	123.395	5+900	123.995	123.495	123.025	123.007	123.040	123.395	123.007	123.040	123.395	5+950	123.978	123.478	123.008	122.812	122.833	123.334	123.240	123.146	123.146	122.833	123.240
	123.962	123.462	122.992	122.616	122.625	123.274	6+000	123.962	123.462	122.992	122.616	122.625	123.274	122.616	122.625	123.274												

LEGEND

	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING STRUCTURE		PROPOSED FSL
	MODIFIED STRUCTURE		PROPOSED TOP OF BANK LEVEL
	NEW STRUCTURE		

IMPLEMENTING AGENCY :-

WAPCOS LTD.



PROJECT TITLE :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

DRAWING TITLE :-

L-SECTION OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)

DRAWING NO. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ LSEC-

04 of 05

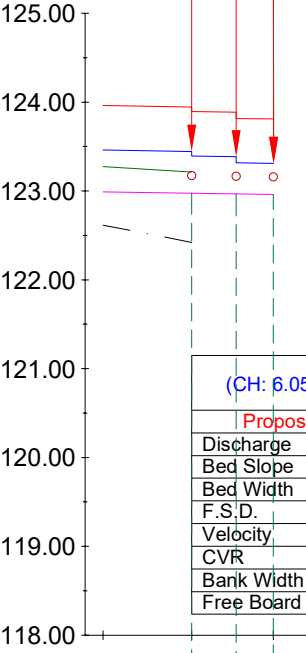
L- SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
FROM CH 6+000 TO 6+096

CH: 6+075 KM
OUTLET-17
OUTLET B.L.= 123.117 M

CH: 6+050 KM
OUTLET-16
OUTLET B.L.= 123.125 M

CH: 6+096 KM
OUTLET-18
OUTLET B.L.= 123.110 M

CH: 6+096 KM
OUTLET-19
OUTLET B.L.= 123.110 M



(CH: 6.050 - 6.075 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.10/3.69	0.320/11.30	cum/cusec
Bed Slope	1 in 3000	1 in 3000	33.3 cm/km
Bed Width	0.700	1.680	m
F.S.D.	0.420	0.530	m
Velocity	0.28	0.338	m/sec
CVR	0.88	0.980	
Bank Width L/R	1.500/5.000	1.500/3.048	m
Free Board	0.500	0.500	m

(CH: 6.075 - 6.096 KM)		(IR DATA)	
Proposed (New IR)		AS PER IR	Unit
Discharge	0.07/2.40	0.320/11.30	cum/cusec
Bed Slope	1 in 3000	1 in 3000	33.3 cm/km
Bed Width	0.630	1.680	m
F.S.D.	0.350	0.530	m
Velocity	0.25	0.338	m/sec
CVR	0.89	0.980	
Bank Width L/R	1.500/5.000	1.500/3.048	m
Free Board	0.500	0.500	m

DESIGN DATA	TOP OF BANK LEVEL	
	123.962	123.945
F.S.L.	123.462	123.445
	123.389	123.389
Proposed Bed Level	122.992	122.975
	122.967	122.965
Bed Level	122.616	122.421
	122.421	122.421
TOP OF BANK LEVEL	123.274	123.214
	123.214	123.214
Chainage IN KM	6+000	6+050
	6+096	6+096

LEGEND

	NSL		EXISTING BED LEVEL
	EXISTING TOP OF BANK		PROPOSED BED LEVEL
	EXISTING STRUCTURE		PROPOSED FSL
	MODIFIED STRUCTURE		PROPOSED TOP OF BANK LEVEL
	NEW STRUCTURE		

IMPLEMENTING AGENCY :-

WAPCOS LTD.



PROJECT TITLE :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

DRAWING TITLE :-

L-SECTION OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)

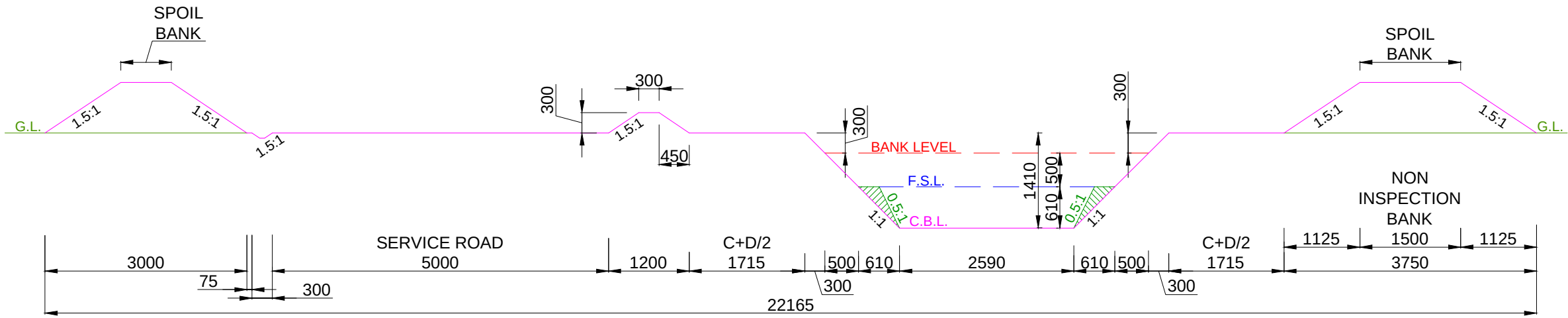
DRAWING NO. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ LSEC-

05 of 05

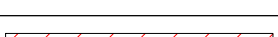
TYPICAL X-SECTION

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 0.000 KM TO CH: 1.950 KM

- NOTE:-**
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

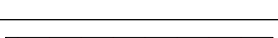
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
	CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)	
	FILL AREA		Drawing No. :- ₈	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FC) 1 of 8	

The diagram illustrates a cross-section of a road project with the following components and dimensions:

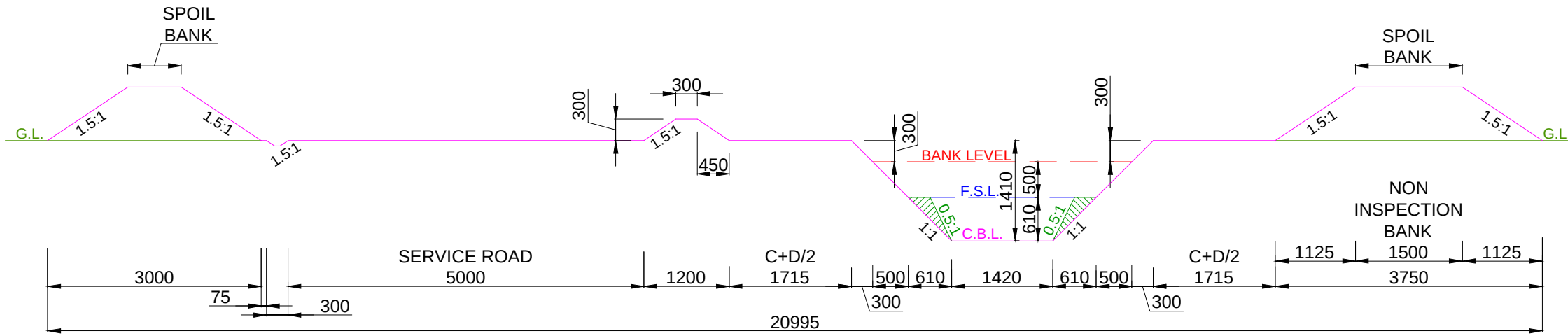
- SPOIL BANK**: Located at both ends of the section.
- G.L.**: Ground Level, indicated by green lines.
- BANK LEVEL**: Indicated by a red dashed line.
- E.S.L.**: Existing Surface Level, indicated by a blue line.
- C.B.L.**: Centerline Bank Level, indicated by a magenta line.
- SERVICE ROAD**: A 5000-unit wide road section.
- C+D/2**: Center-to-center distance between road sections, 1715 units.
- NON INSPECTION BANK**: A 3750-unit wide bank section.
- Dimensions**: Various horizontal and vertical measurements are provided, including 3000, 75, 300, 1200, 500, 610, 1850, 610, 500, 1125, 1500, 1125, 300, 450, 300, 1410, 500, 610, 0.5:1, 1:1, 1.5:1, and 21425 (total length).
- Slopes**: Slopes are indicated as 1.5:1 and 0.5:1.

NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

A	LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
		CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)	
		FILL AREA		Drawing No. :- ₉	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FC)2 of 8	

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 3.250 KM TO CH: 4.400 KM

- NOTE:-**
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

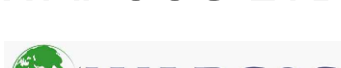
LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :- 10 WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FC) 3 of 8

The diagram illustrates the cross-section of a road project with the following components and dimensions:

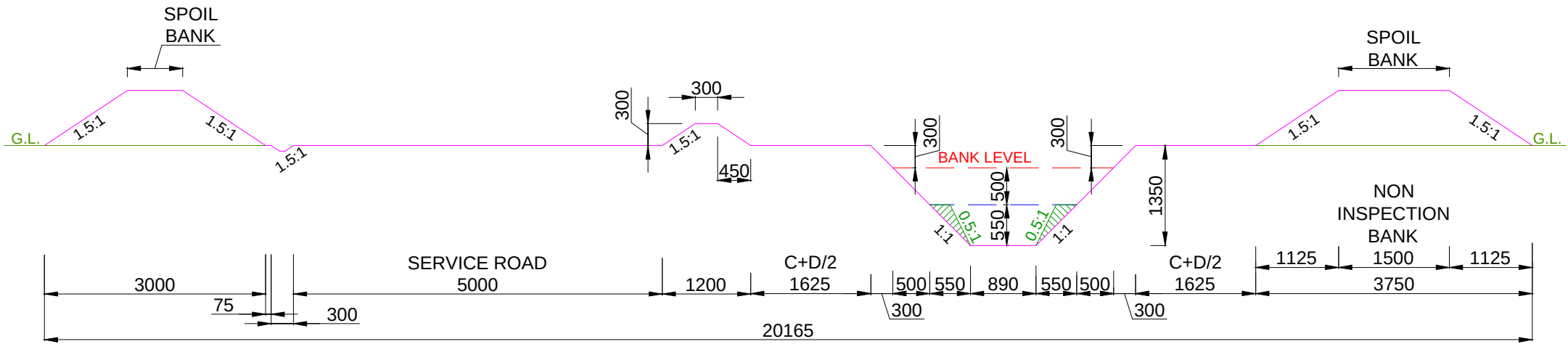
- SPOIL BANK:** Located at the far left and right, with a 1.5:1 slope and a top width of 3000.
- SERVICE ROAD:** A 5000-wide section with a 1.5:1 slope and a top width of 3000.
- C+D/2:** A central section with a 1.5:1 slope and a top width of 1715.
- NON INSPECTION BANK:** A 3750-wide section with a 1.5:1 slope and a top width of 1500.
- Dimensions:**
 - Overall width: 20545
 - Service Road width: 5000
 - C+D/2 width: 1715
 - Non Inspection Bank width: 3750
 - Spoil Bank width: 3000
 - Service Road slope: 1.5:1
 - C+D/2 slope: 1.5:1
 - Non Inspection Bank slope: 1.5:1
 - Spoil Bank slope: 1.5:1
 - Service Road top width: 3000
 - C+D/2 top width: 1715
 - Non Inspection Bank top width: 1500
 - Spoil Bank top width: 3000
 - Service Road height: 300
 - C+D/2 height: 300
 - Non Inspection Bank height: 300
 - Spoil Bank height: 300
 - Service Road bottom width: 300
 - C+D/2 bottom width: 300
 - Non Inspection Bank bottom width: 300
 - Spoil Bank bottom width: 300
- Labels:**
 - G.L. (Ground Level)
 - BANK LEVEL
 - SERVICE ROAD
 - C+D/2
 - NON INSPECTION BANK
 - SPOIL BANK

NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
	CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)	
	FILL AREA		Drawing No. :- ₁₁	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FC)4 of 8	

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL CUTTING

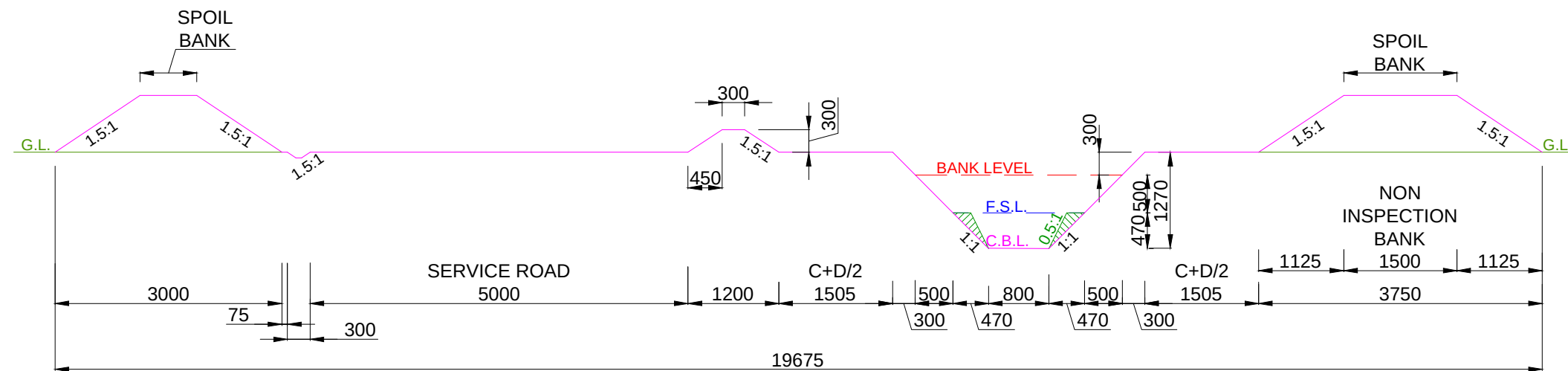


DESIGN SECTION FROM CH: 5.200 KM TO CH: 5.690 KM

- NOTE:-**
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :- 12 WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FC) 5 of 8

DESIGN SECTION FOR FULL CUTTING



DESIGN SECTION FROM CH: 5.690 KM TO CH: 6.050 KM

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
	CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)	
	FILL AREA		Drawing No. :- 13	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FC) 6 of 8	

The diagram illustrates a cross-section of a road project with the following details:

- Ground Level (G.L.):** Represented by a green line.
- Bank Level:** Represented by a red line.
- Finished Surface Level (F.S.L.):** Represented by a blue line.
- Spoil Bank:** Located on the left side of the diagram.
- Service Road:** A 5000-unit wide road section.
- Central Ditch:** Features a 0.5:1 slope and a width of 700 units at the bottom.
- Non Inspection Bank:** Located on the right side of the diagram.
- Dimensions:**
 - Left side: 3000, 75, 300.
 - Service Road: 5000.
 - Between Service Road and Ditch: 1200, 1430.
 - Ditch Section: 500, 420, 700, 500.
 - Between Ditch and Right Bank: 1430.
 - Right Bank: 1125, 1500, 1125.
 - Total Width: 19325.
- Slopes:** 1.5:1 for the main embankments and 0.5:1 for the ditch side slopes.

NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

7 of 8

The diagram illustrates a cross-section of a road profile with the following components and dimensions:

- SPOIL BANK:** Located at the far left and right, with a width of 3000 on the left and 1125 on the right. The slope is 1.5:1.
- SERVICE ROAD:** A central section with a width of 5000.
- C+D/2:** Two sections with widths of 1325 each, located on either side of the Service Road.
- NON INSPECTION BANK:** A section with a width of 3750, located on the right side of the C+D/2 section.
- Dimensions:**
 - Overall width: 19705
 - Service Road width: 5000
 - C+D/2 width: 1325
 - NON INSPECTION BANK width: 3750
 - SPOIL BANK width: 3000 (left) and 1125 (right)
 - Slope: 1.5:1
 - Height: 500, 300, 350, 500, 1150
 - Width of C+D/2 sections: 500, 630, 500, 300
 - Width of NON INSPECTION BANK sections: 1500

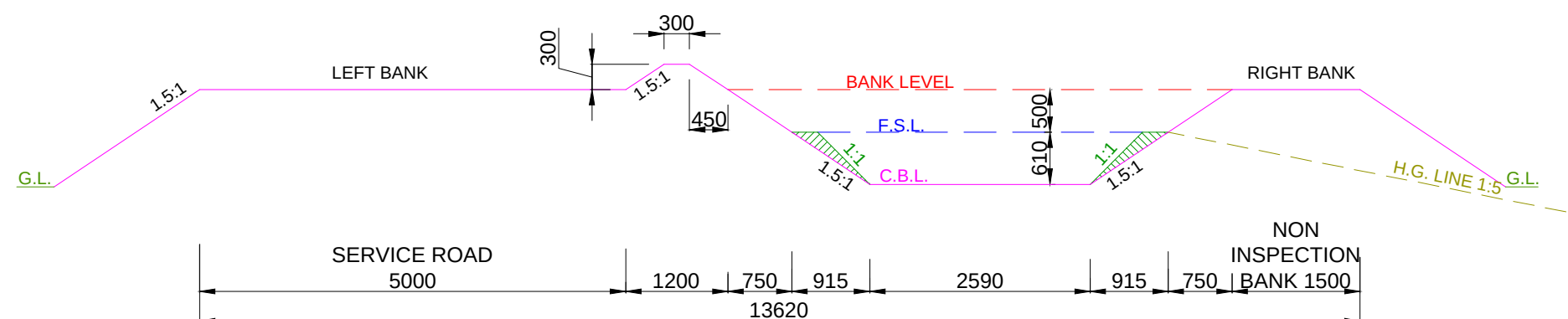
NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
	CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)	
	FILL AREA		Drawing No. :- 15	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FC)8 of 8	

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)

DESIGN SECTION FOR FULL FILLING

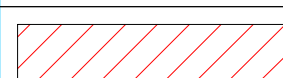


DESIGN SECTION FROM CH: 0.000 KM TO CH: 1.950 KM

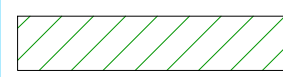
NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND



CUT AREA



FILL AREA

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-
16

WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FF)

1 of 8

The diagram illustrates a cross-section of a road with a central ditch. The left side features a service road with a width of 5000mm. The central ditch has a width of 1200mm at the top and 750mm at the bottom. The right side is a non-inspection bank with a width of 1500mm. The total width of the section is 12880mm. The diagram includes various slope ratios: 1.5:1 for the main side slopes, 1:1 for the ditch slopes, and 1.5:1 for the ditch side slopes. The ground level (G.L.) is indicated on the left and right. The bank level is shown in red, and the ditch level is shown in blue. The ditch depth is 610mm. The ditch bottom width is 1850mm. The ditch side slopes are 915mm wide. The ditch bottom is 750mm wide. The ditch top is 1200mm wide. The ditch bottom is 750mm wide. The ditch top is 1200mm wide. The ditch bottom is 750mm wide. The ditch top is 1200mm wide.

NOTE:-

- ## LEGEND

FILL AREA

WAPCOS LTD.



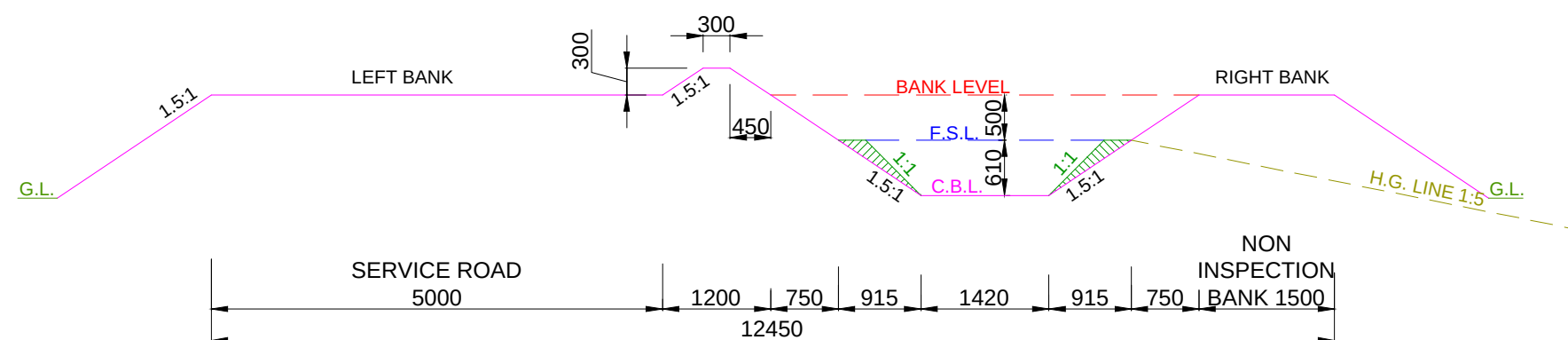
Drawing Title :-

Drawing No. :- 17

X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L),
NORTH KOEL RIGHT MAIN CANAL)

WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FF)

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING

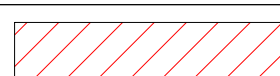


DESIGN SECTION FROM CH: 3.250 KM TO CH: 4.400 KM

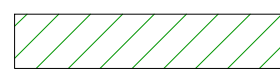
NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND



CUT AREA



FILL AREA

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

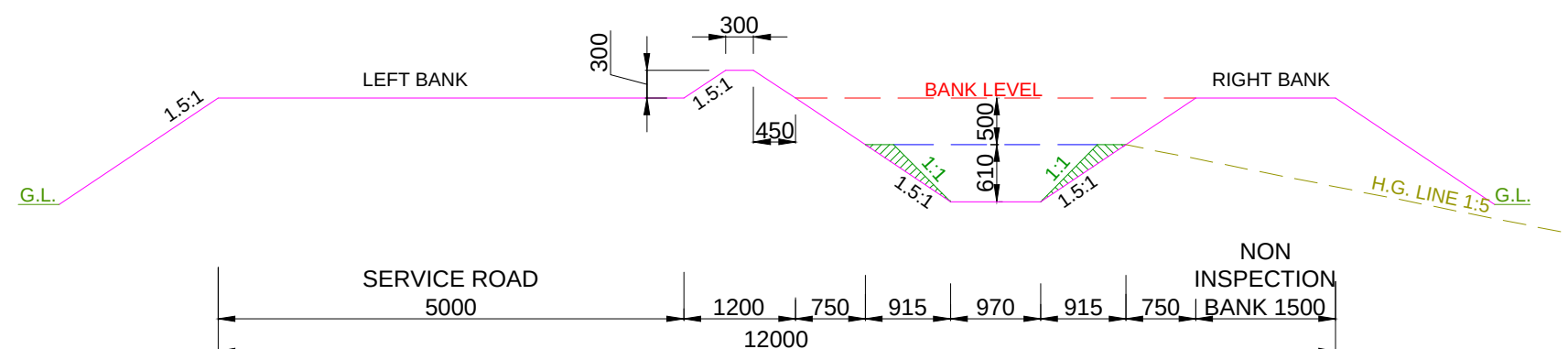
X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-
18

WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FF)

3 of 8

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING

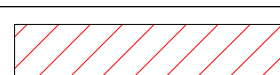


DESIGN SECTION FROM CH: 4.400 KM TO CH: 5.200 KM

NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND



CUT AREA



FILL AREA

Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

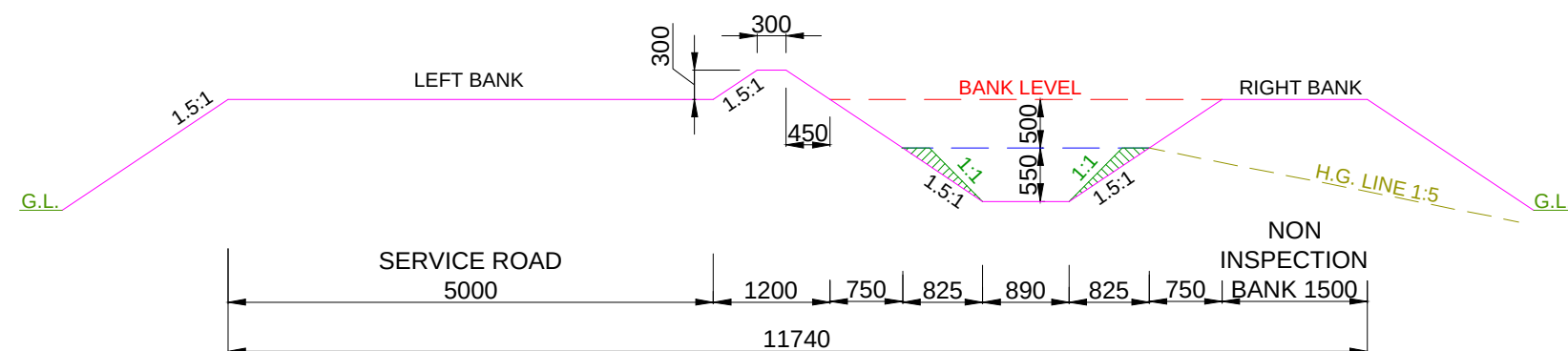
X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-
19

WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FF)

4 of 8

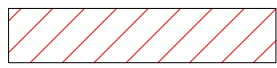
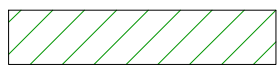
TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING



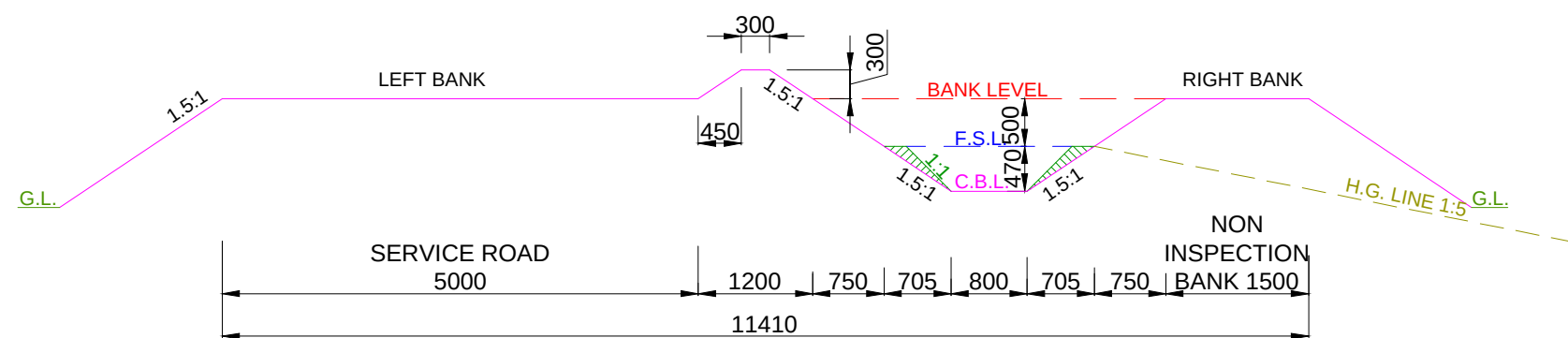
DESIGN SECTION FROM CH: 5.200 KM TO CH: 5.690 KM

NOTE:-

1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

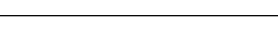
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)				
			Drawing No. :- 20	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FF) 5 of 8				
	CUT AREA							
	FILL AREA							

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING

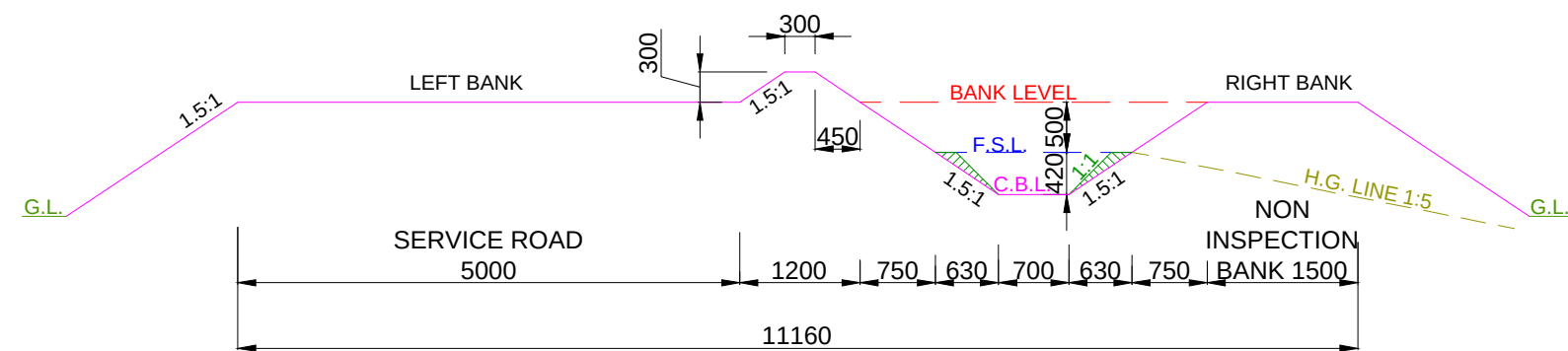


DESIGN SECTION FROM CH: 5.690 KM TO CH: 6.050 KM

- NOTE:-
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

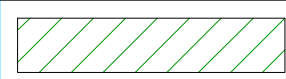
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
	CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)	
	FILL AREA		Drawing No. :- 21	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FF) 6 of 8	

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING

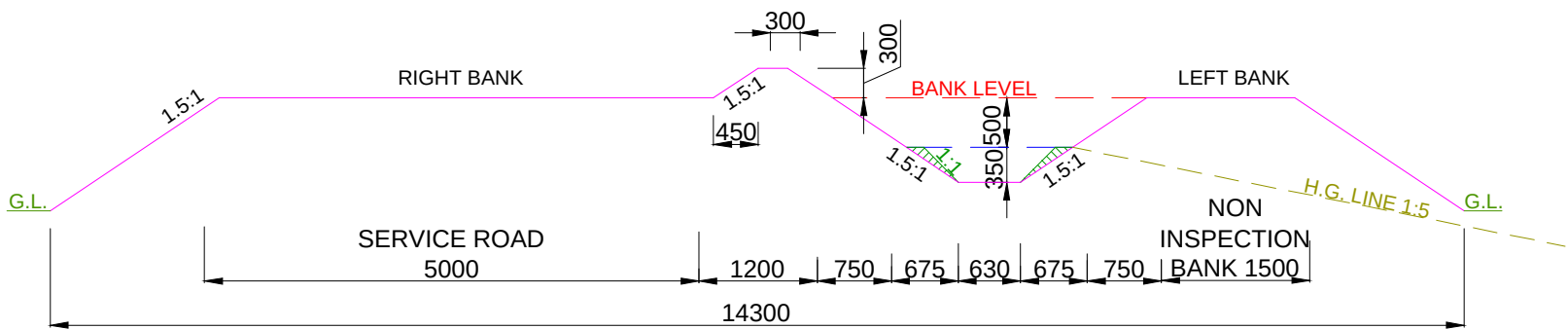


DESIGN SECTION FROM CH: 6.050 KM TO CH: 6.075 KM

- NOTE:-
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

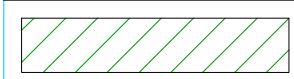
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)				
	FILL AREA		Drawing No. :- 22	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FF) 7 of 8				

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR FULL FILLING

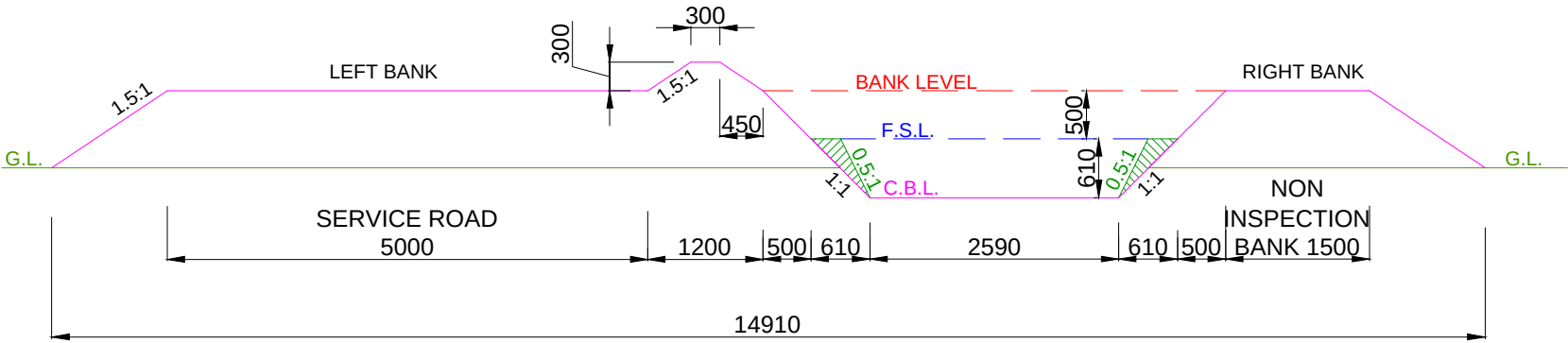


DESIGN SECTION FROM CH: 6.075 KM TO CH: 6.096 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

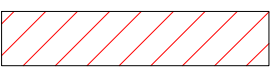
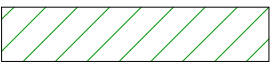
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)				
	FILL AREA		Drawing No. :- 23	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(FF) 8 of 8				

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

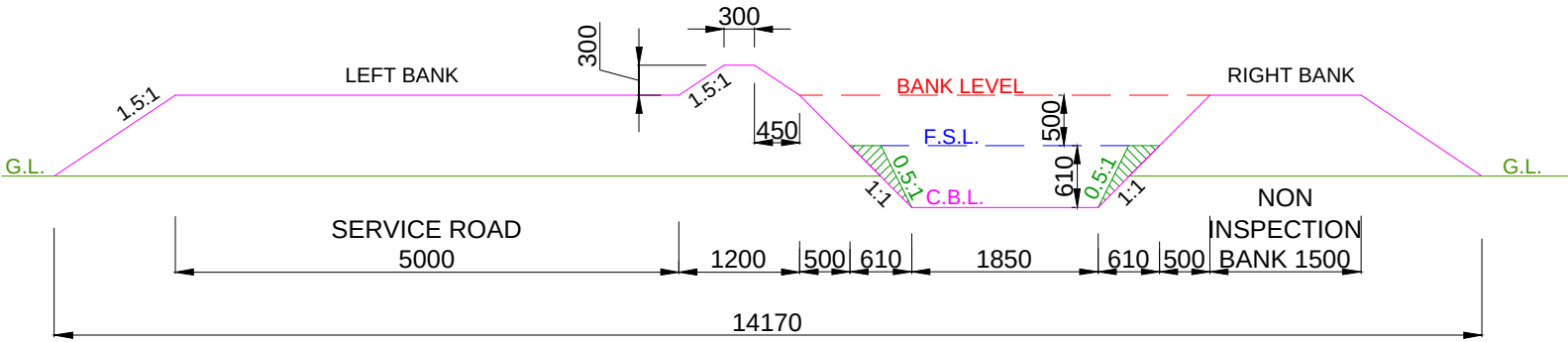


DESIGN SECTION FROM CH: 0.000 KM TO CH: 1.950 KM

- NOTE:-**
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

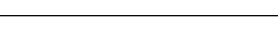
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)				
	FILL AREA		Drawing No. :- 24	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(PCF) 1 of 8				

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

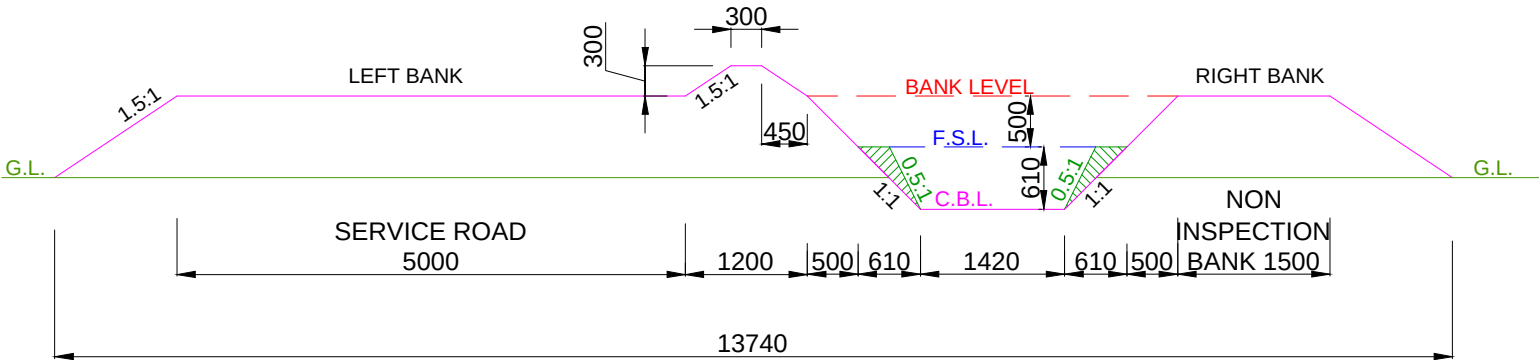


DESIGN SECTION FROM CH: 1.950 KM TO CH: 3.250 KM

- NOTE:-
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
	CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)	
	FILL AREA		Drawing No. :- 25	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(PCF) 2 of 8	

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

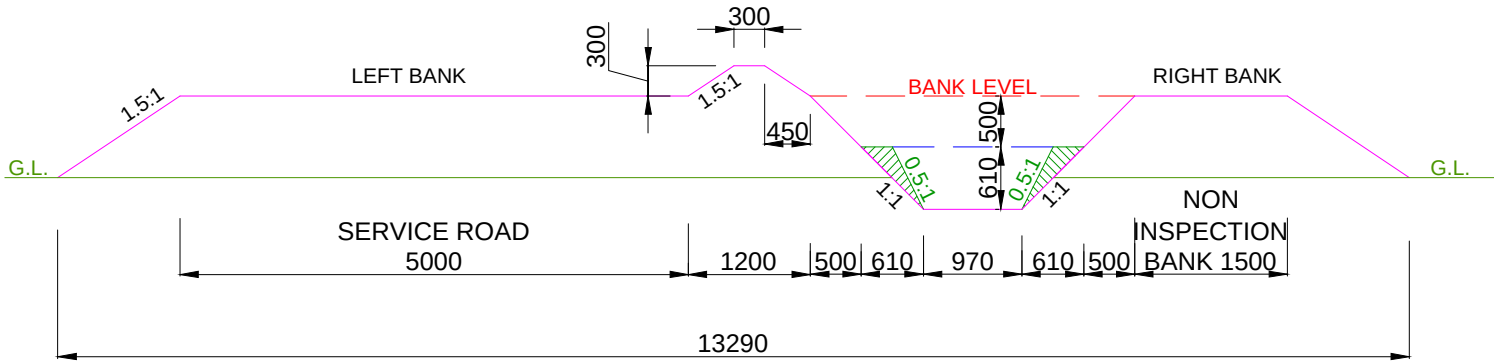


DESIGN SECTION FROM CH: 3.250 KM TO CH: 4.400 KM

- NOTE:-**
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

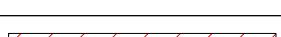
LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :- 26 WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(PCF) 3 of 8

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

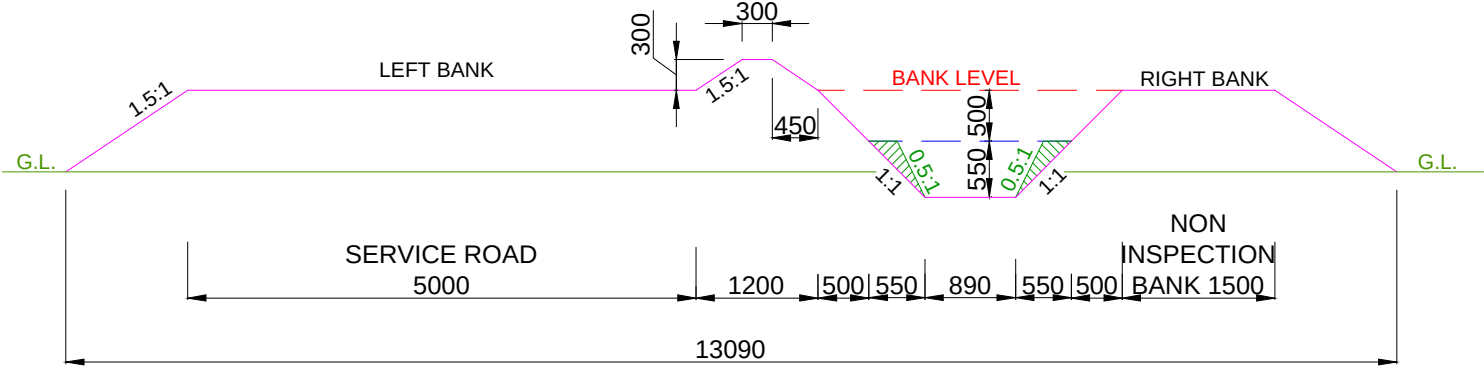


DESIGN SECTION FROM CH: 4.400 KM TO CH: 5.200 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

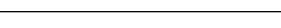
LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
	CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)	
	FILL AREA		Drawing No. :- ₂₇	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(PCF) 4 of 8	

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

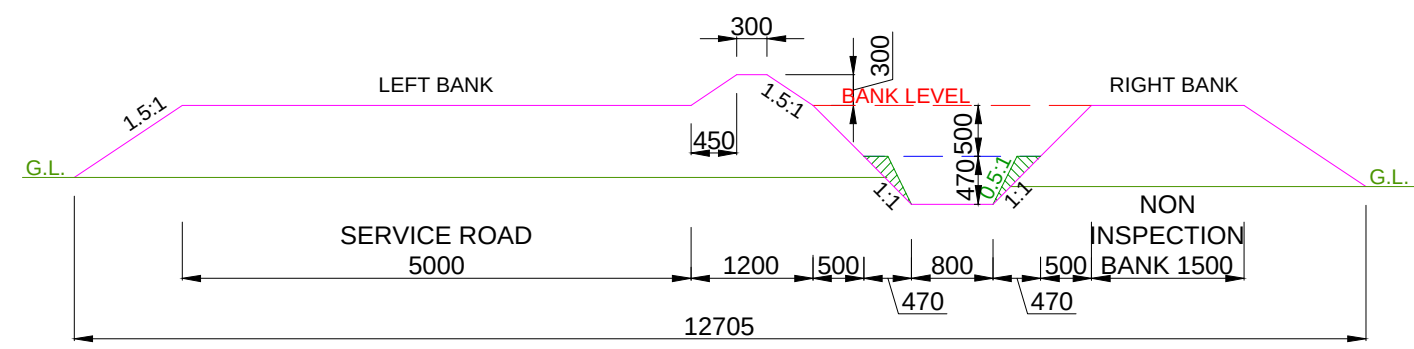


DESIGN SECTION FROM CH: 5.200 KM TO CH: 5.690 KM

- NOTE:-**
1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
	CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)	
	FILL AREA		Drawing No. :- ₂₈	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(PCF) 5 of 8	

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

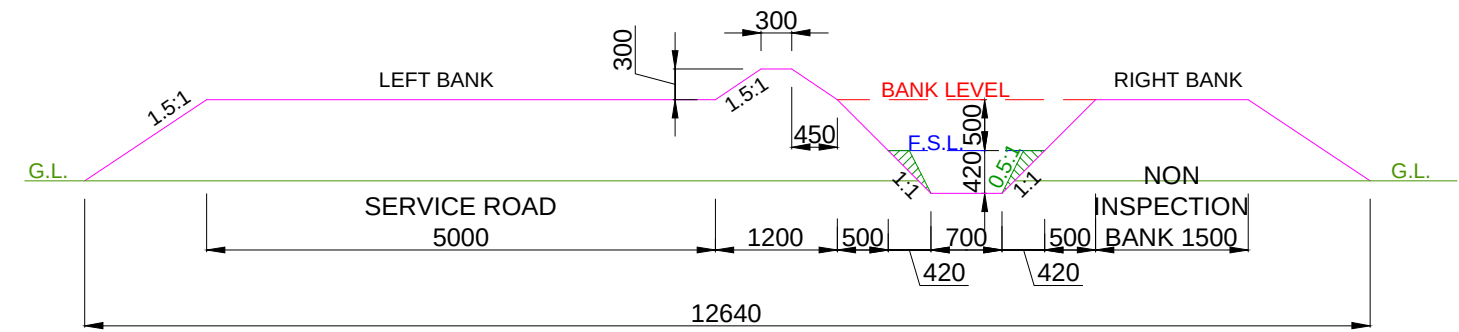


DESIGN SECTION FROM CH: 5.690 KM TO CH: 6.050 KM

- NOTE:-**
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

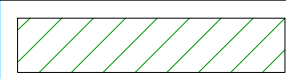
LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
			Drawing Title :- X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)
			Drawing No. :-₂₉ WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(PCF) 6 of 8

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING

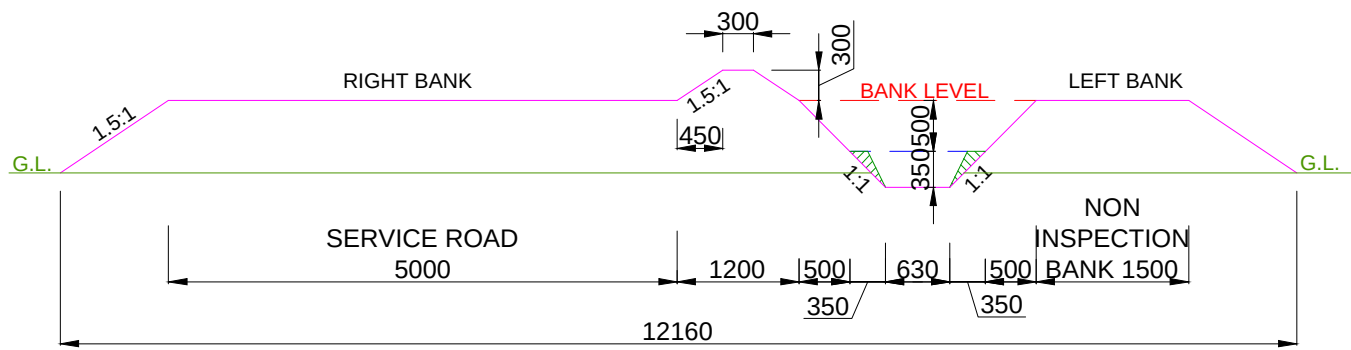


DESIGN SECTION FROM CH: 6.050 KM TO CH: 6.075 KM

- NOTE:-
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

LEGEND		Prepared by :- WAPCOS LTD. 	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
	CUT AREA		Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)				
	FILL AREA		Drawing No. :- 30	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(PCF) 7 of 8				

TYPICAL X - SECTION OF KARMA BASANTPUR MINOR
(OFFTAKE FROM RD - 61+531 KM. (LT), NORTH KOEL RIGHT MAIN CANAL)
DESIGN SECTION FOR PARTLY CUTTING/ PARTLY FILLING



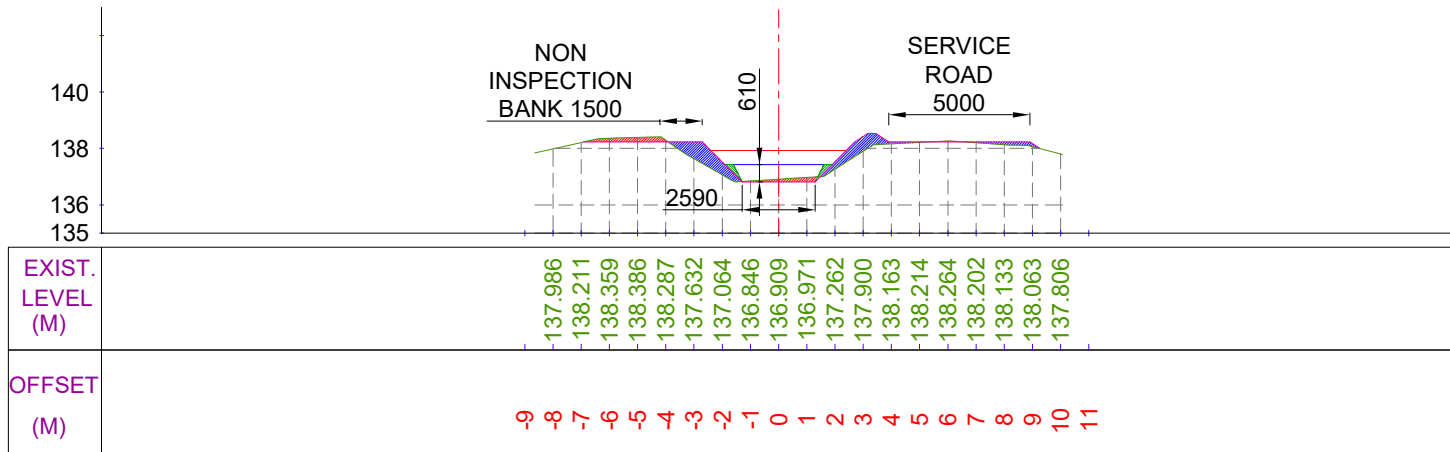
DESIGN SECTION FROM CH: 6.075 KM TO CH: 6.096 KM

- NOTE:-**
- 1. THE BANK WIDTH HAS BEEN ADOPTED AS PER IS 7112 : 2002 (TABLE-1).
 - 2. THE OFFTAKING CHAINAGE AND LENGTH OF THE CANAL HAS BEEN TAKEN AS PER ACTUAL SURVEY.
 - 3. THIS IS A TYPICAL DRAWING, INSPECTION & NON-INSPECTION BANK SHALL BE TAKEN AS PER SITE CONDITIONS.

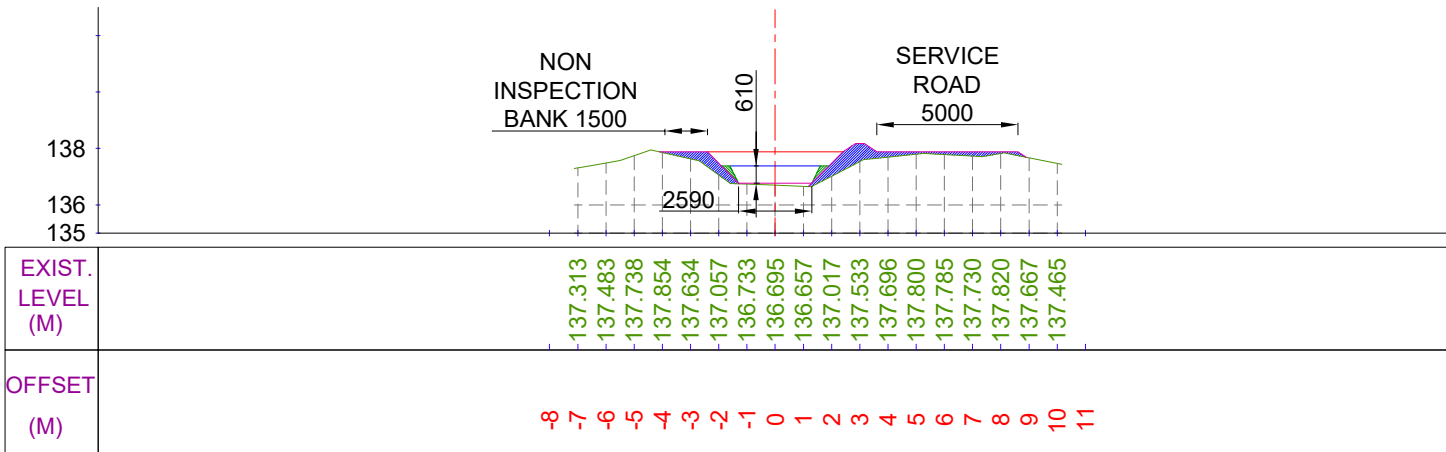
LEGEND CUT AREA FILL AREA		Prepared by :- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND				
			Drawing Title :-	X - SEC OF KARMA BASANTPUR MR.(OFFTAKE FROM RD 61+531KM.(L), NORTH KOEL RIGHT MAIN CANAL)				
			Drawing No. :- 31	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC /TYP-(PCF) 8 of 8				

CROSS-SECTION

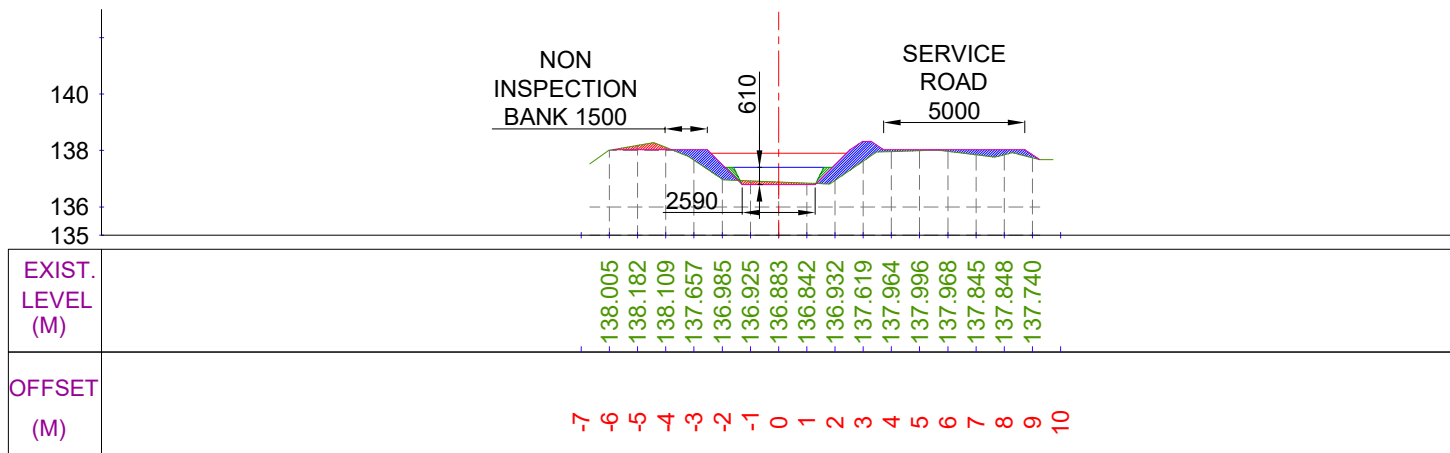
X SECTION OF KARMA BASANTPUR MR.



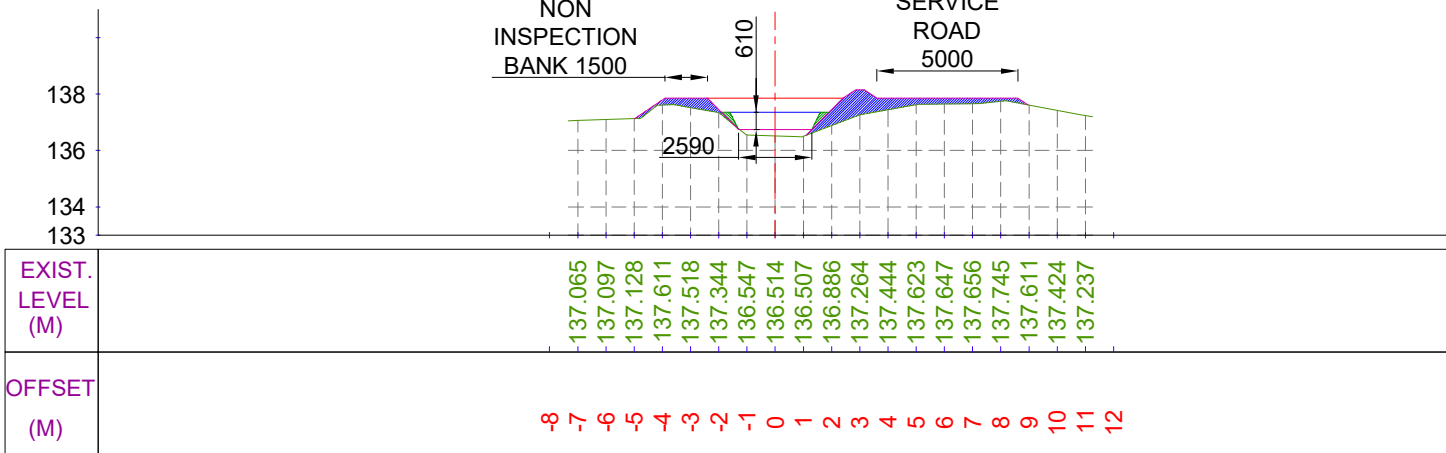
CUTTING AREA (SQ.M) = 0.657
FILLING AREA (SQ.M) = 2.176
CH. (KM):- 0+100
DESIGNED BED LEVEL = 136.818 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 2.435
CH. (KM):- 0+300
DESIGNED BED LEVEL = 136.768 M



CUTTING AREA (SQ.M) = 0.504
FILLING AREA (SQ.M) = 2.647
CH. (KM):- 0+200
DESIGNED BED LEVEL = 136.793 M

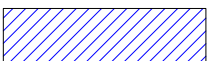


CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 3.395
CH. (KM):- 0+400
DESIGNED BED LEVEL = 136.743 M

LEGEND



CUT AREA



FILL AREA



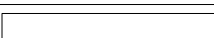
EXISTING BED LINE



F.S.L.



DESIGNED BED LINE



F.S.L.

Prepared by :-

WAPCOS LTD.

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Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

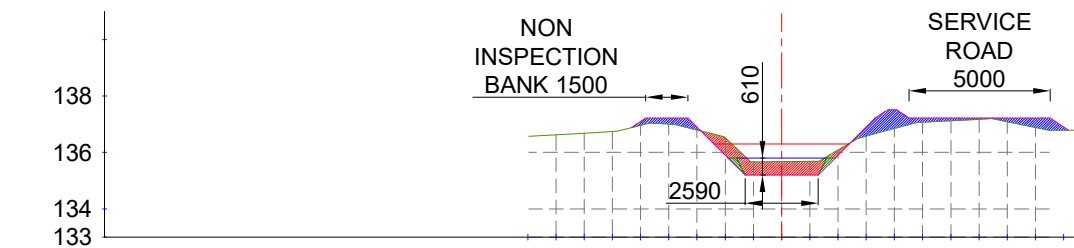
X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC-

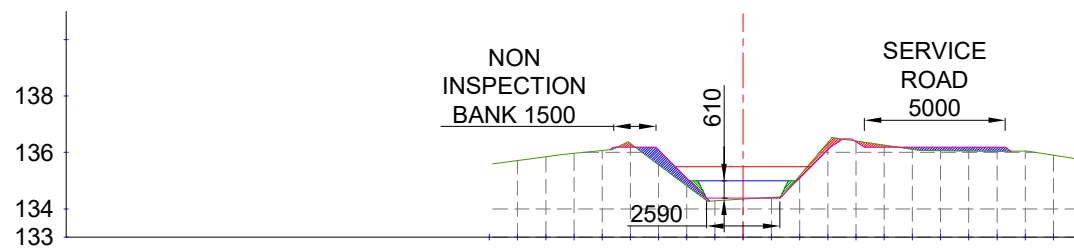
1 of 16

X SECTION OF KARMA BASANTPUR MR.



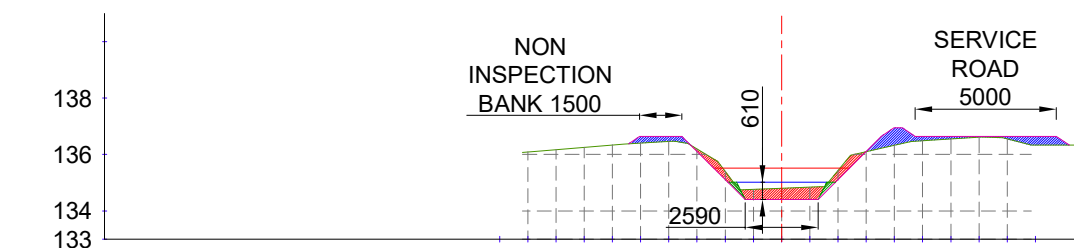
EXIST. LEVEL (M)	136.623	136.681	136.739	136.963	137.006	136.793	136.518	135.662	135.674	135.686	136.084	136.579	136.849	137.073	137.120	137.166	137.086	136.882
OFFSET (M)	0	1	2	3	4	5	6	7	8	9	10							

CUTTING AREA (SQ.M) = 2.077 CH. (KM):- 0+500
FILLING AREA (SQ.M) = 2.299 DESIGNED BED LEVEL = 135.194 M



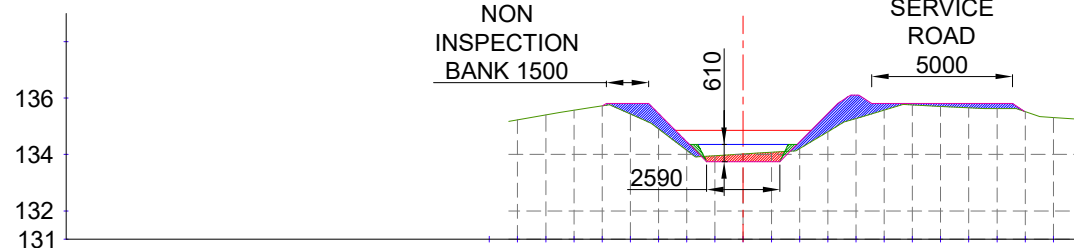
EXIST. LEVEL (M)	135.714	135.847	135.966	136.067	136.313	135.565	134.817	134.282	134.342	134.402	135.175	136.360	136.404	136.256	136.108	136.061	136.048	136.036	136.051	135.899
OFFSET (M)	0	1	2	3	4	5	6	7	8	9	10	11	12							

CUTTING AREA (SQ.M) = 0.511 CH. (KM):- 0+700
FILLING AREA (SQ.M) = 1.233 DESIGNED BED LEVEL = 134.382 M



EXIST. LEVEL (M)	136.091	136.174	136.257	136.340	136.408	136.466	136.197	135.402	134.762	134.801	134.841	135.433	136.101	136.329	136.490	136.554	136.619	136.549		
OFFSET (M)	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9

CUTTING AREA (SQ.M) = 1.762 CH. (KM):- 0+600
FILLING AREA (SQ.M) = 1.864 DESIGNED BED LEVEL = 134.407 M



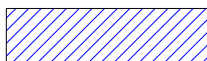
EXIST. LEVEL (M)	135.227	135.403	135.568	135.721	135.433	134.908	134.144	133.957	134.017	134.077	134.210	134.809	135.277	135.577	135.758	135.706	135.653	135.627	135.522	135.312	135.249
OFFSET (M)	0	1	2	3	4	5	6	7	8	9	10	11	12	13							

CUTTING AREA (SQ.M) = 0.739 CH. (KM):- 0+800
FILLING AREA (SQ.M) = 3.592 DESIGNED BED LEVEL = 133.747 M

LEGEND



CUT AREA



FILL AREA



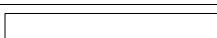
EXISTING BED LINE



F.S.L.



DESIGNED BED LINE



Prepared by :-

WAPCOS LTD.

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Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

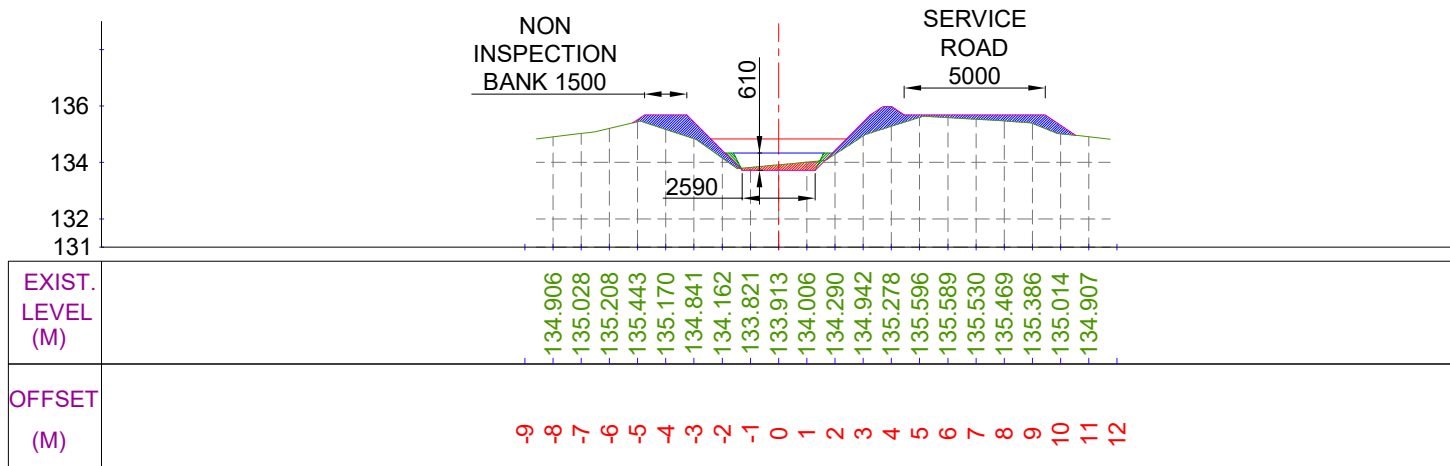
X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

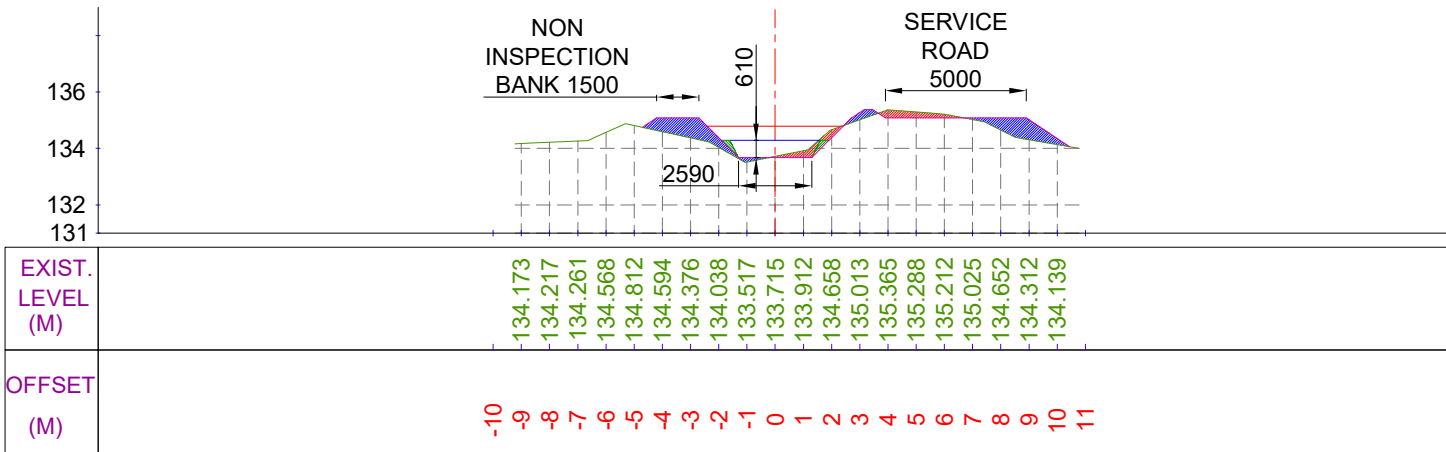
WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC-

2 of 16

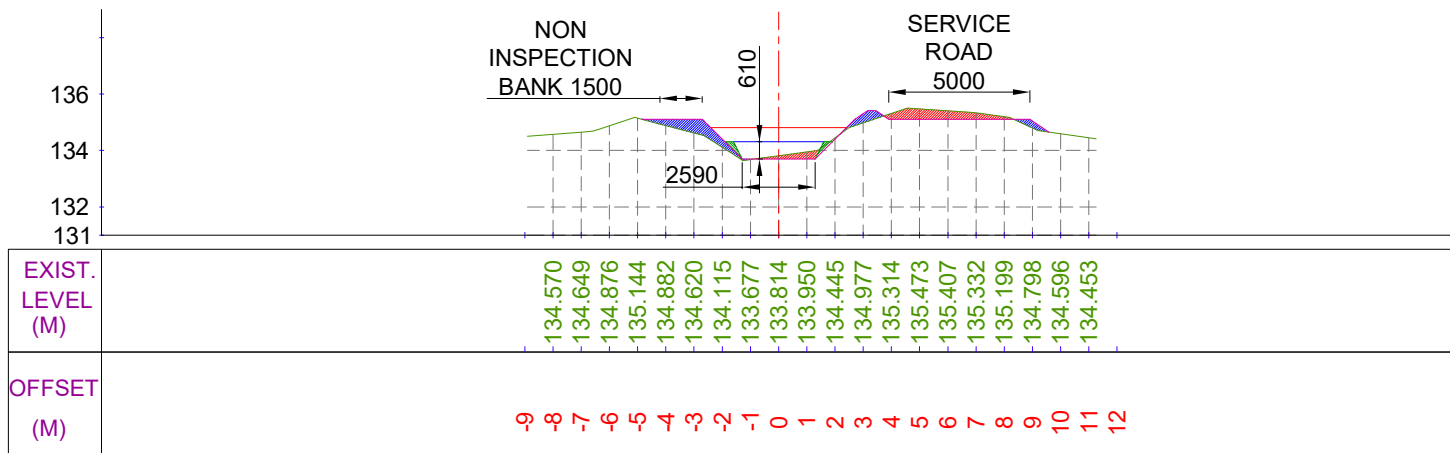
X SECTION OF KARMA BASANTPUR MR.



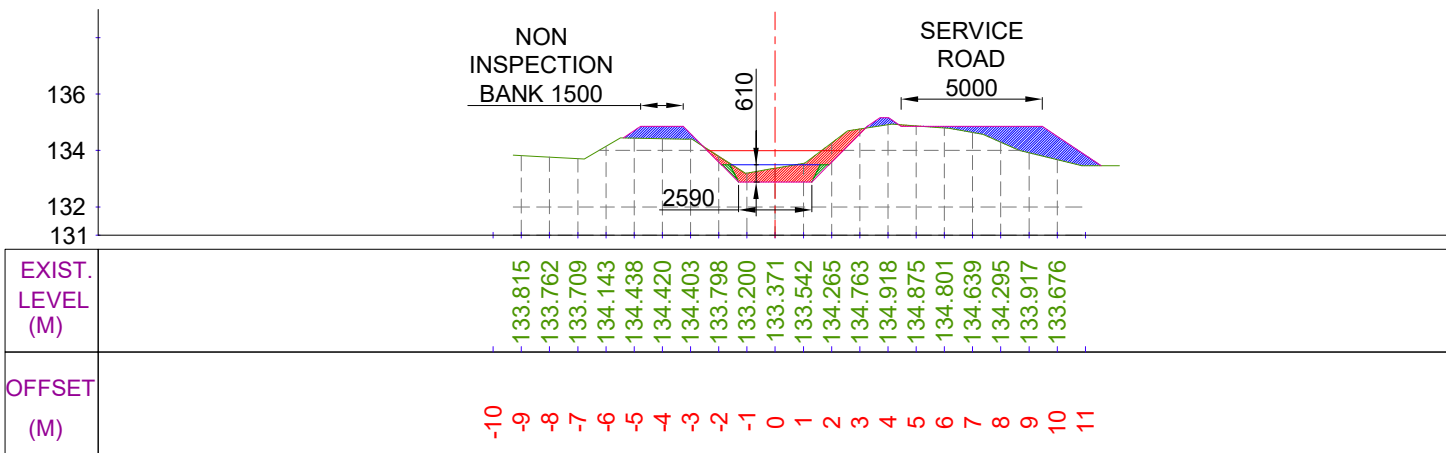
CUTTING AREA (SQ.M) = 0.522 CH. (KM):- 0+900
FILLING AREA (SQ.M) = 3.917 DESIGNED BED LEVEL = 133.722 M



CUTTING AREA (SQ.M) = 0.966 CH. (KM):- 1+100
FILLING AREA (SQ.M) = 3.207 DESIGNED BED LEVEL = 133.672 M



CUTTING AREA (SQ.M) = 1.486 CH. (KM):- 1+000
FILLING AREA (SQ.M) = 1.531 DESIGNED BED LEVEL = 133.697 M

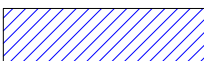


CUTTING AREA (SQ.M) = 2.487 CH. (KM):- 1+200
FILLING AREA (SQ.M) = 4.068 DESIGNED BED LEVEL = 132.885 M

LEGEND



CUT AREA



FILL AREA



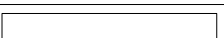
EXISTING BED LINE



F.S.L.



DESIGNED BED LINE



Prepared by :-

WAPCOS LTD.

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Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

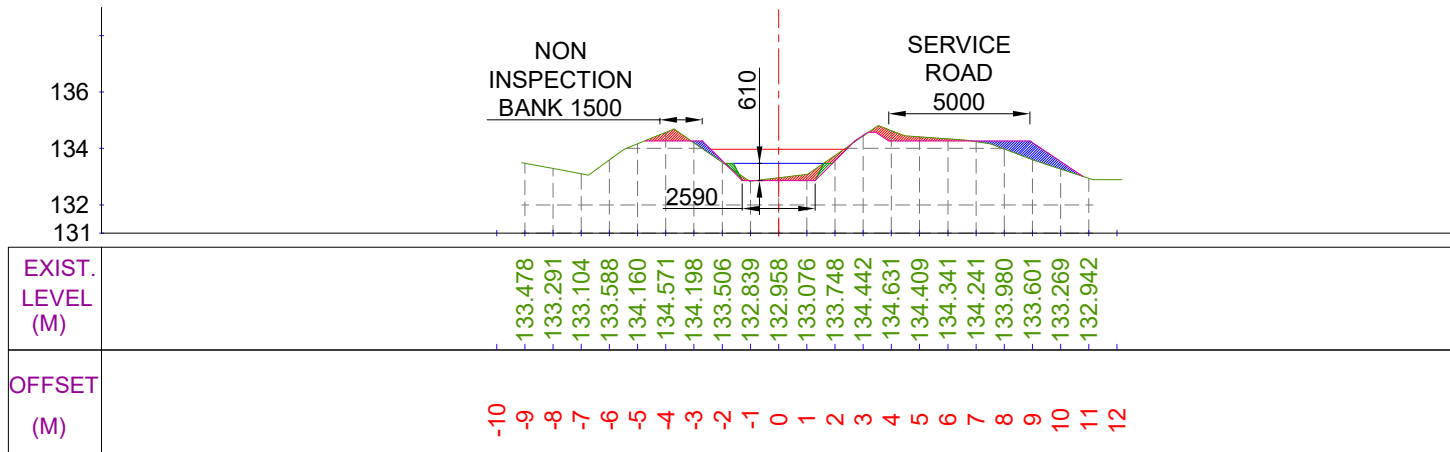
X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

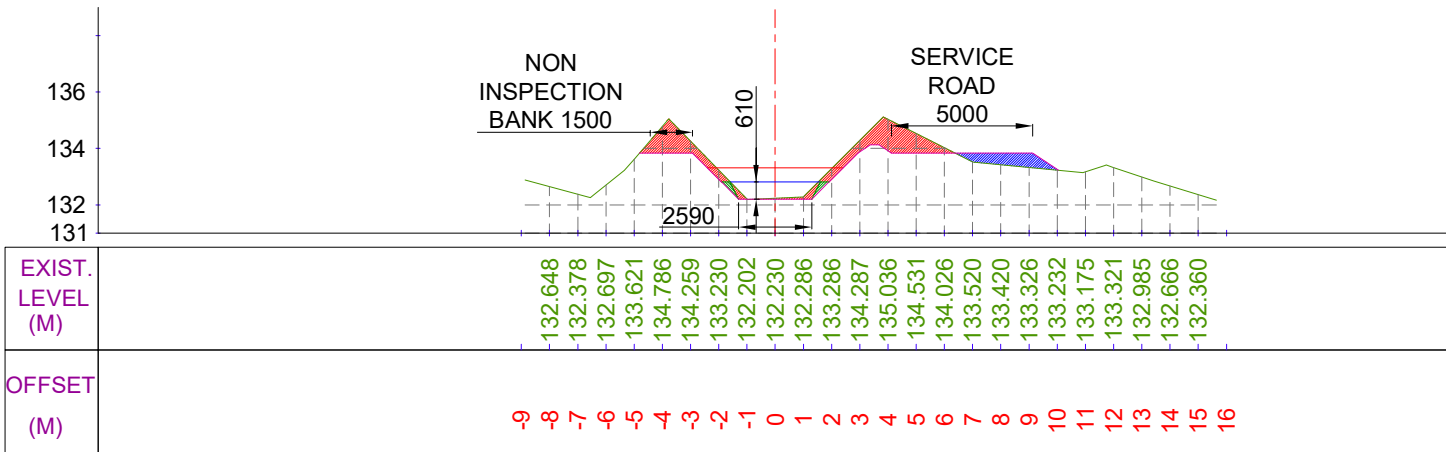
WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC-

3 of 16

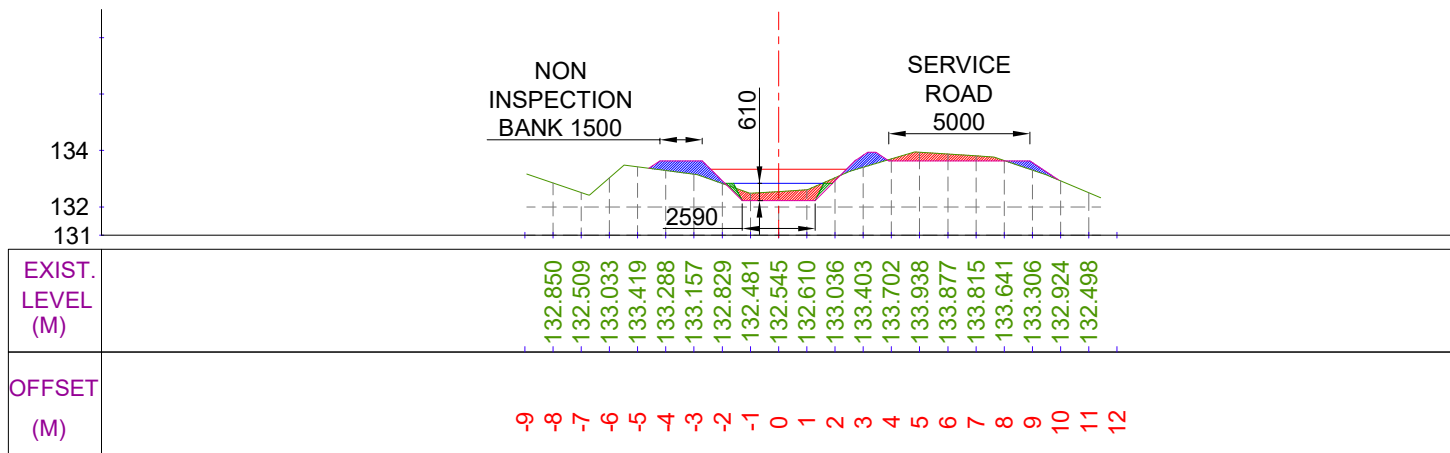
X SECTION OF KARMA BASANTPUR MR.



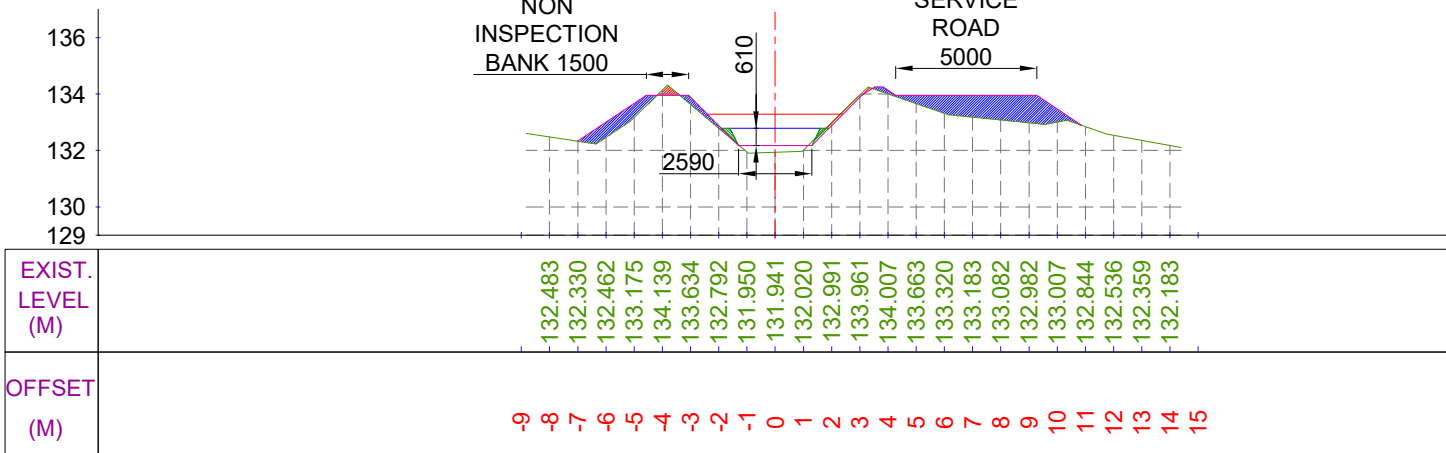
CUTTING AREA (SQ.M) = 1.379 CH. (KM):- 1+300
FILLING AREA (SQ.M) = 1.353 DESIGNED BED LEVEL = 132.860 M



CUTTING AREA (SQ.M) = 4.619 CH. (KM):- 1+500
FILLING AREA (SQ.M) = 1.228 DESIGNED BED LEVEL = 132.200 M



CUTTING AREA (SQ.M) = 1.852 CH. (KM):- 1+400
FILLING AREA (SQ.M) = 1.678 DESIGNED BED LEVEL = 132.225 M

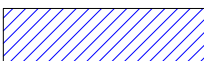


CUTTING AREA (SQ.M) = 0.304 CH. (KM):- 1+600
FILLING AREA (SQ.M) = 5.499 DESIGNED BED LEVEL = 132.175 M

LEGEND



CUT AREA



FILL AREA



EXISTING BED LINE



F.S.L.



DESIGNED BED LINE



F.S.L.

Prepared by :-

WAPCOS LTD.

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Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

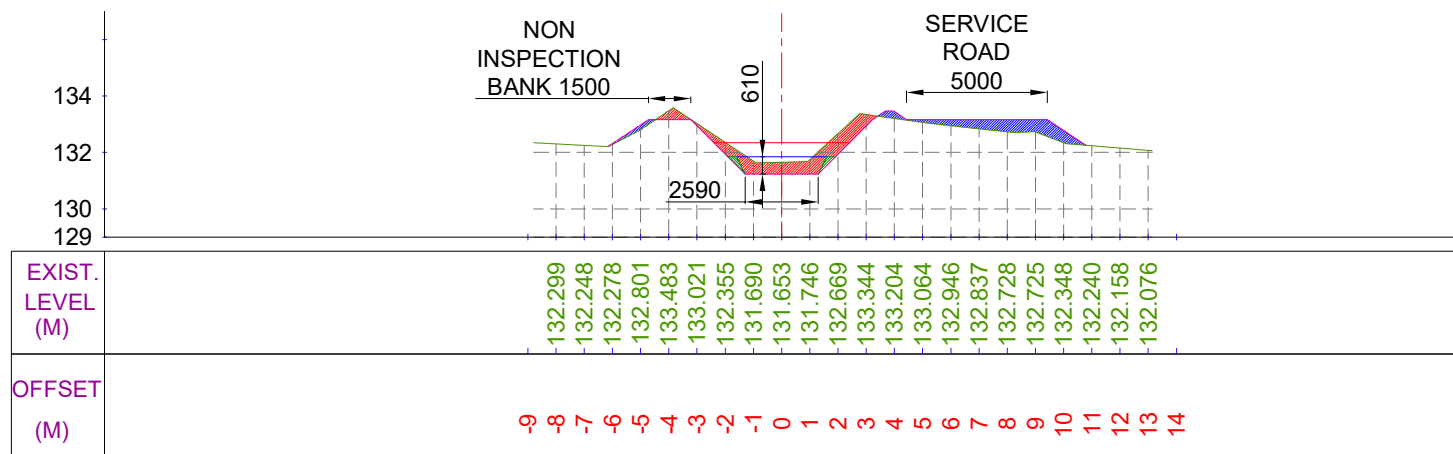
X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

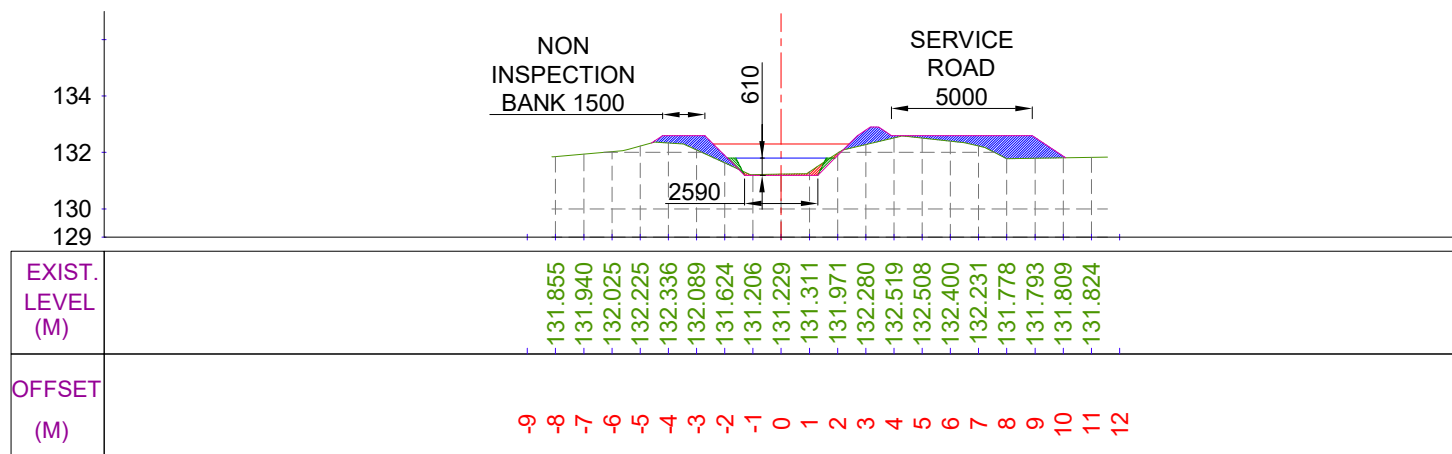
WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC-

4 of 16

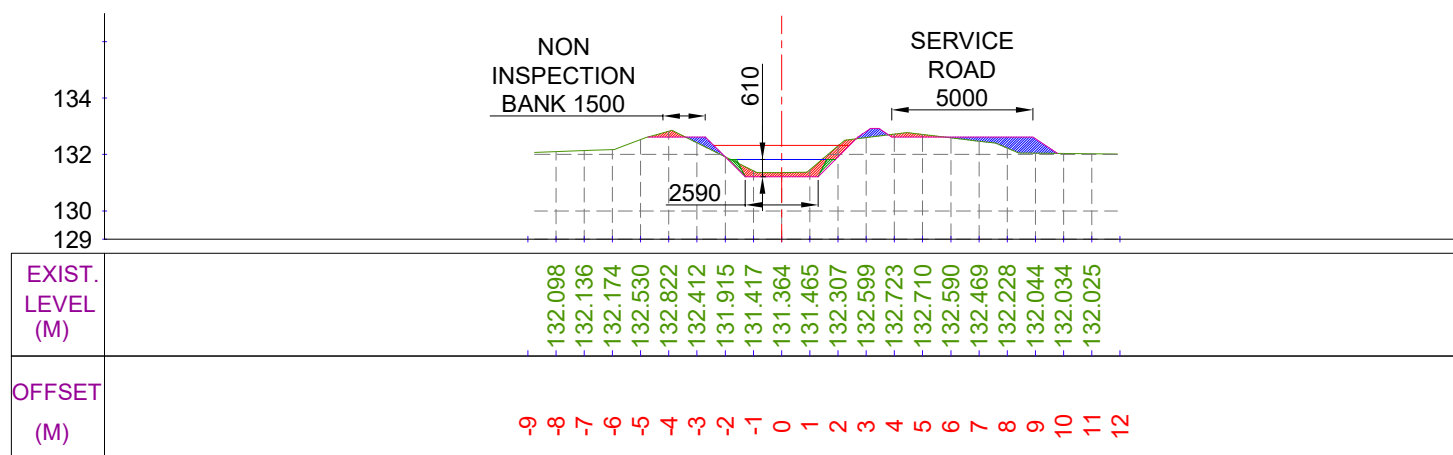
X SECTION OF KARMA BASANTPUR MR.



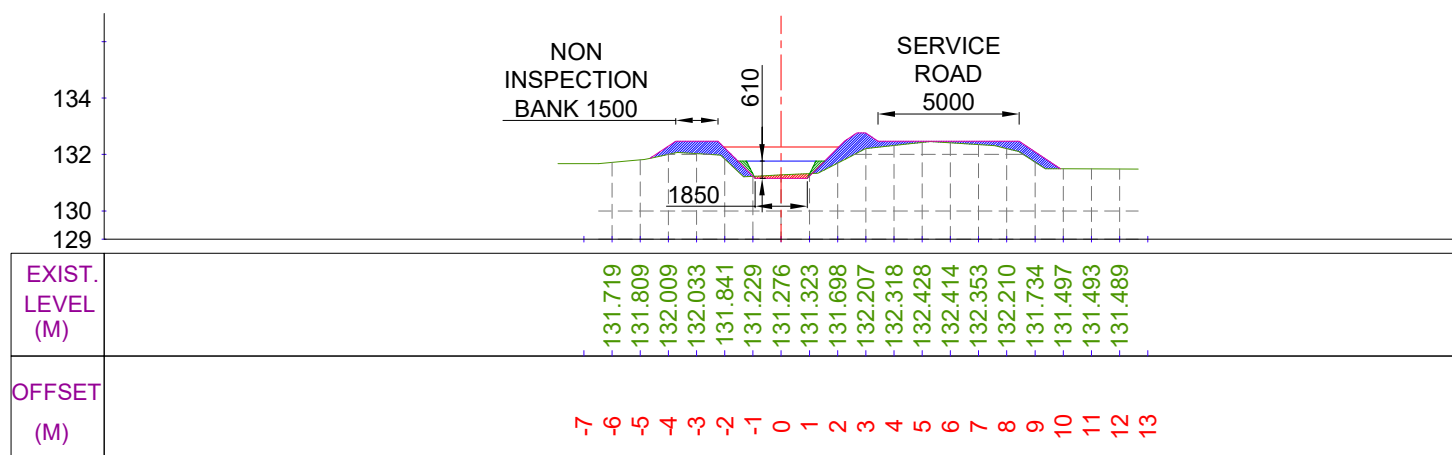
CUTTING AREA (SQ.M) = 3.169 CH. (KM):- 1+700
FILLING AREA (SQ.M) = 2.338 DESIGNED BED LEVEL = 131.236 M



CUTTING AREA (SQ.M) = 0.238 CH. (KM):- 1+900
FILLING AREA (SQ.M) = 3.841 DESIGNED BED LEVEL = 131.186 M



CUTTING AREA (SQ.M) = 1.256 CH. (KM):- 1+800
FILLING AREA (SQ.M) = 1.531 DESIGNED BED LEVEL = 131.211 M

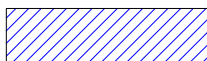


CUTTING AREA (SQ.M) = 0.226 CH. (KM):- 2+000
FILLING AREA (SQ.M) = 3.400 DESIGNED BED LEVEL = 131.158 M

LEGEND



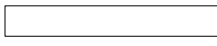
CUT AREA



FILL AREA



EXISTING BED LINE



F.S.L.



DESIGNED BED LINE



Prepared by :-

WAPCOS LTD.

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Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

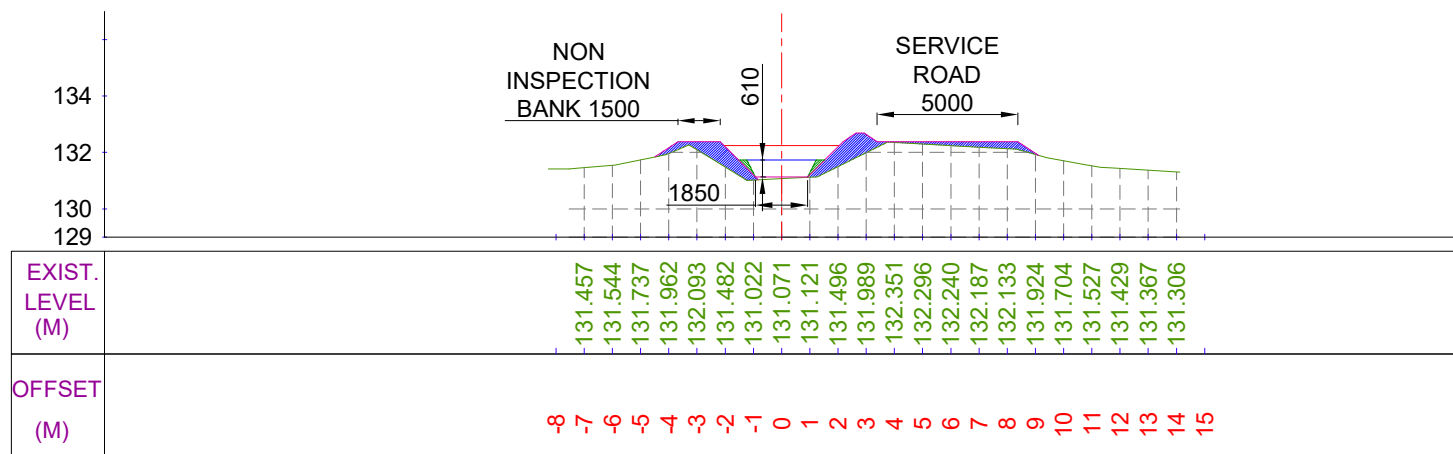
X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

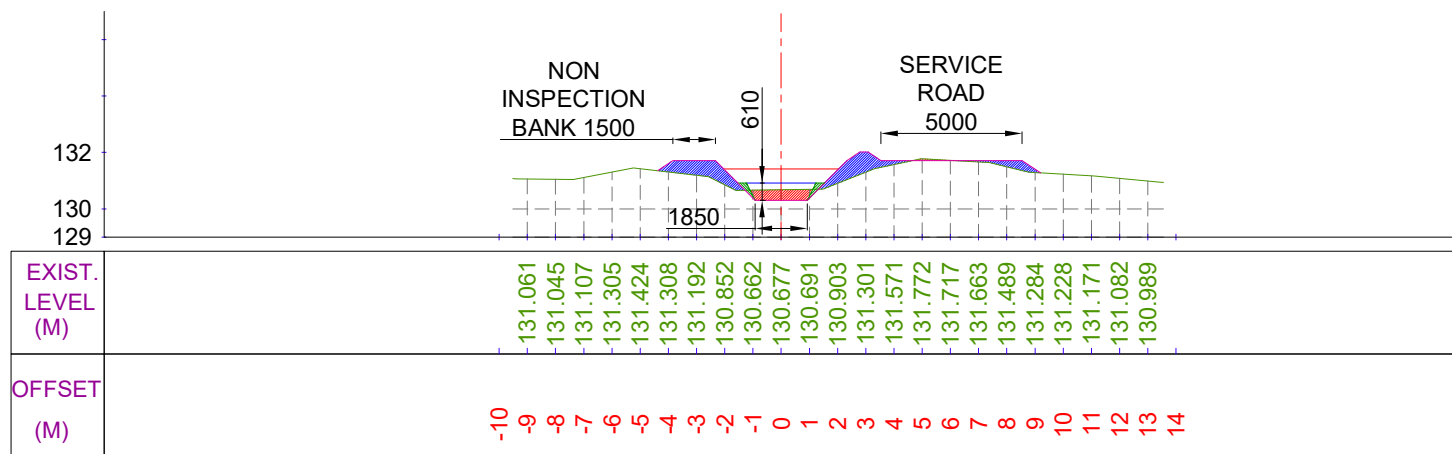
WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC-

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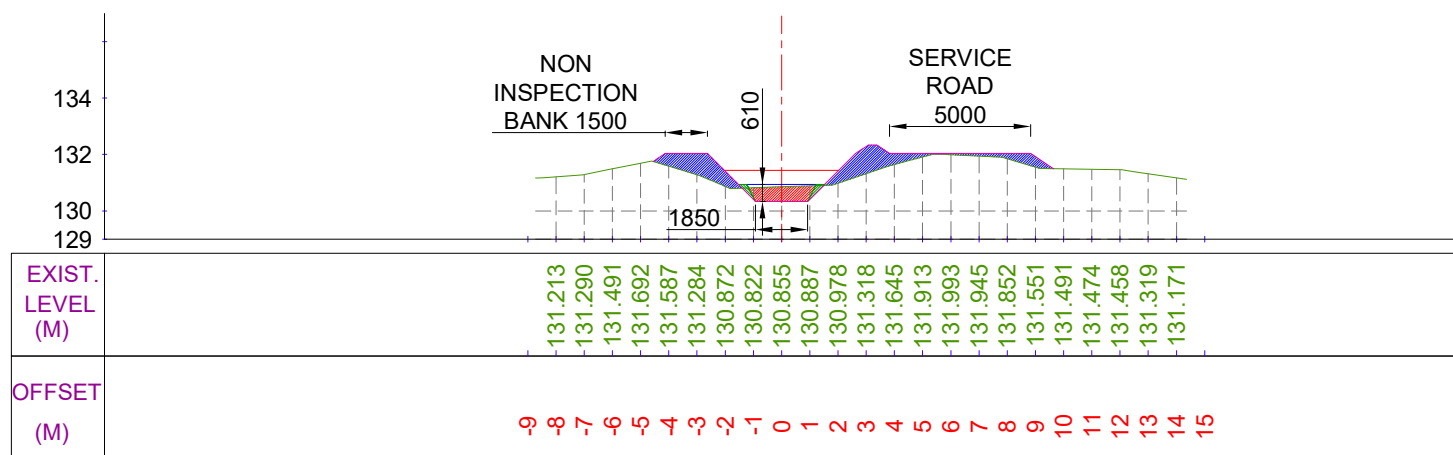
X SECTION OF KARMA BASANTPUR MR.



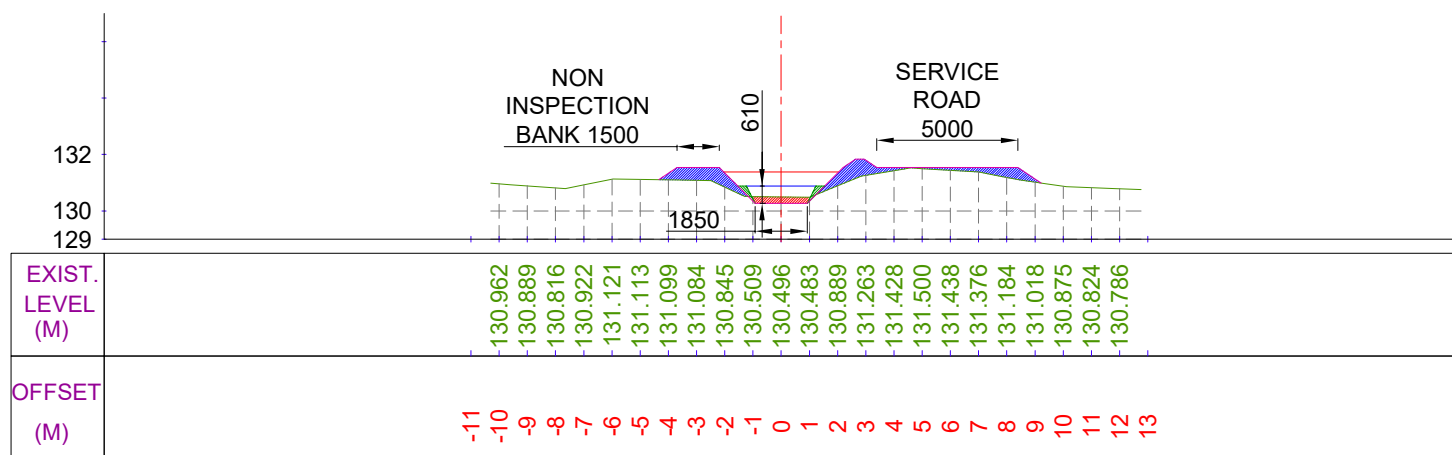
CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 3.583
CH. (KM):- 2+100
DESIGNED BED LEVEL = 131.127 M



CUTTING AREA (SQ.M) = 0.807
FILLING AREA (SQ.M) = 2.994
CH. (KM):- 2+300
DESIGNED BED LEVEL = 130.302 M



CUTTING AREA (SQ.M) = 1.103
FILLING AREA (SQ.M) = 4.200
CH. (KM):- 2+200
DESIGNED BED LEVEL = 130.333 M

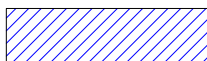


CUTTING AREA (SQ.M) = 0.442
FILLING AREA (SQ.M) = 3.051
CH. (KM):- 2+400
DESIGNED BED LEVEL = 130.271 M

LEGEND



CUT AREA



FILL AREA



EXISTING BED LINE



F.S.L.



DESIGNED BED LINE



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Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

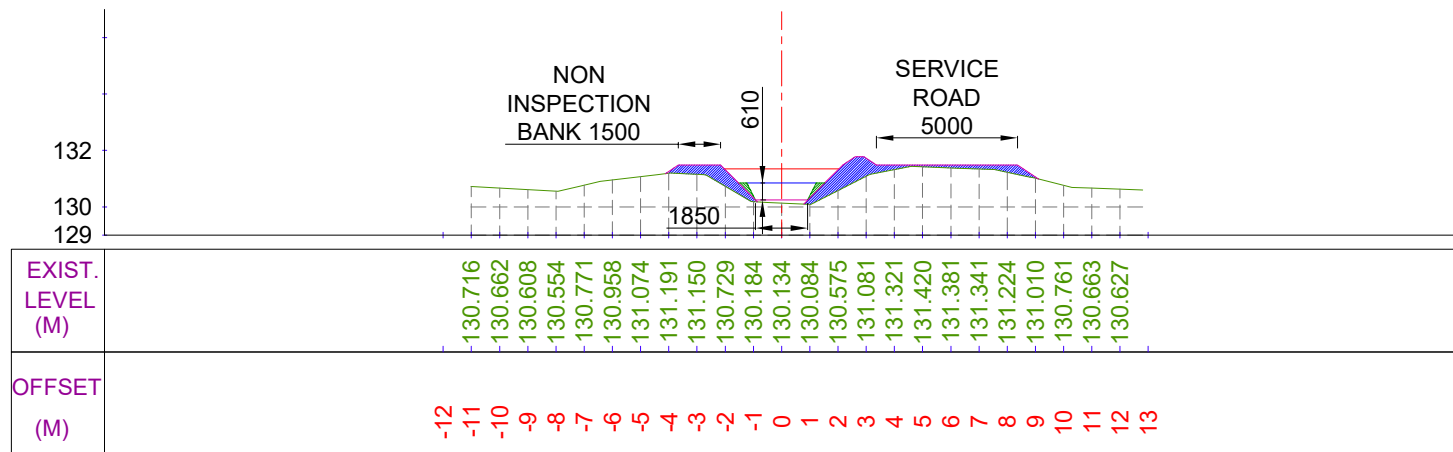
X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

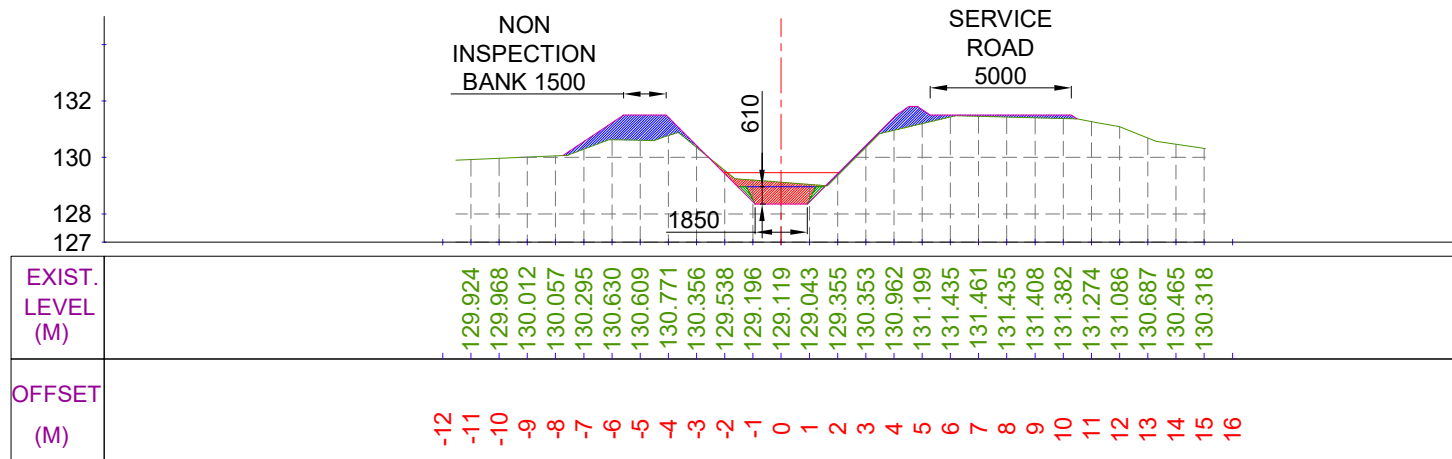
WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC-

6 of 16

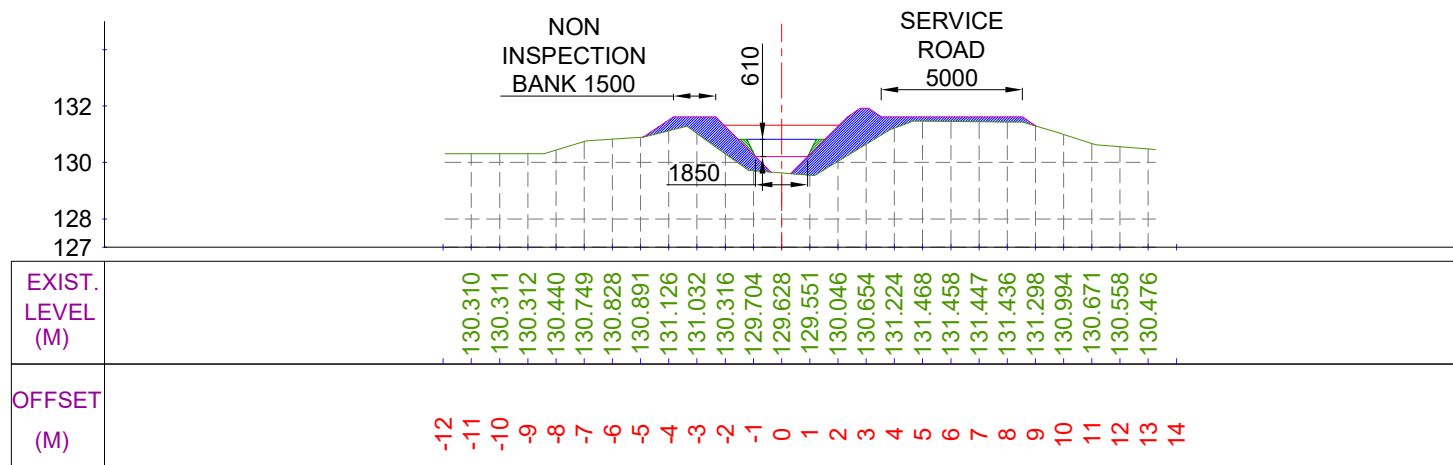
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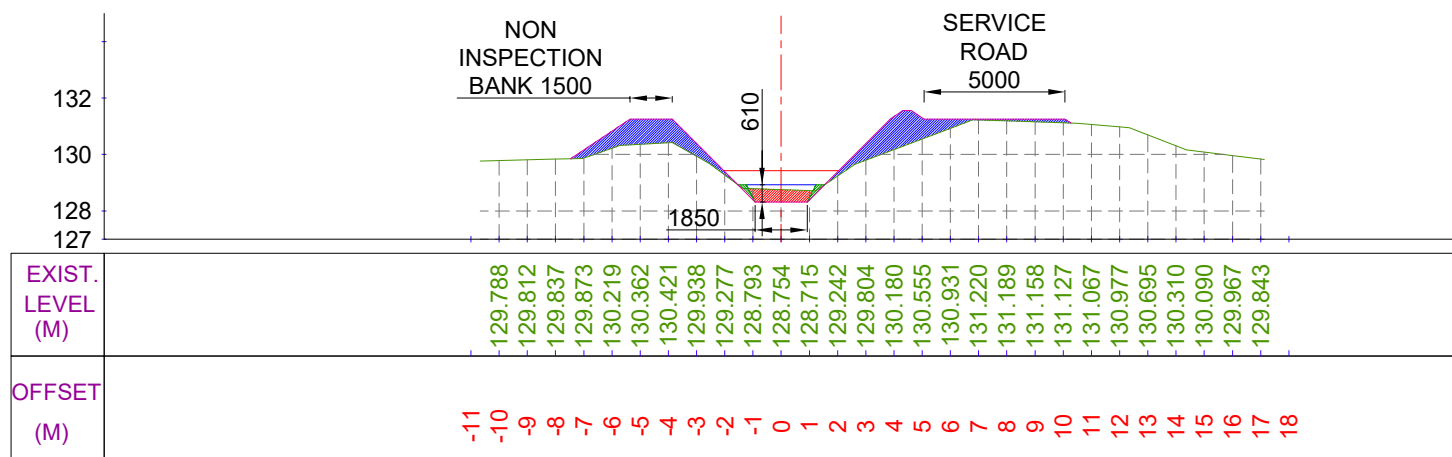
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FILLING AREA (SQ.M) = 3.464 DESIGNED BED LEVEL = 130.240 M



CUTTING AREA (SQ.M) = 1.928 CH. (KM):- 2+700
FILLING AREA (SQ.M) = 3.876 DESIGNED BED LEVEL = 128.347 M



CUTTING AREA (SQ.M) = 0.000 CH. (KM):- 2+600
FILLING AREA (SQ.M) = 6.733 DESIGNED BED LEVEL = 130.208 M



CUTTING AREA (SQ.M) = 0.908 CH. (KM):- 2+800
FILLING AREA (SQ.M) = 6.442 DESIGNED BED LEVEL = 128.316 M

LEGEND



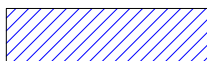
CUT AREA



EXISTING BED LINE



F.S.L.



FILL AREA



DESIGNED BED LINE

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Project Title :-

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Drawing Title :-

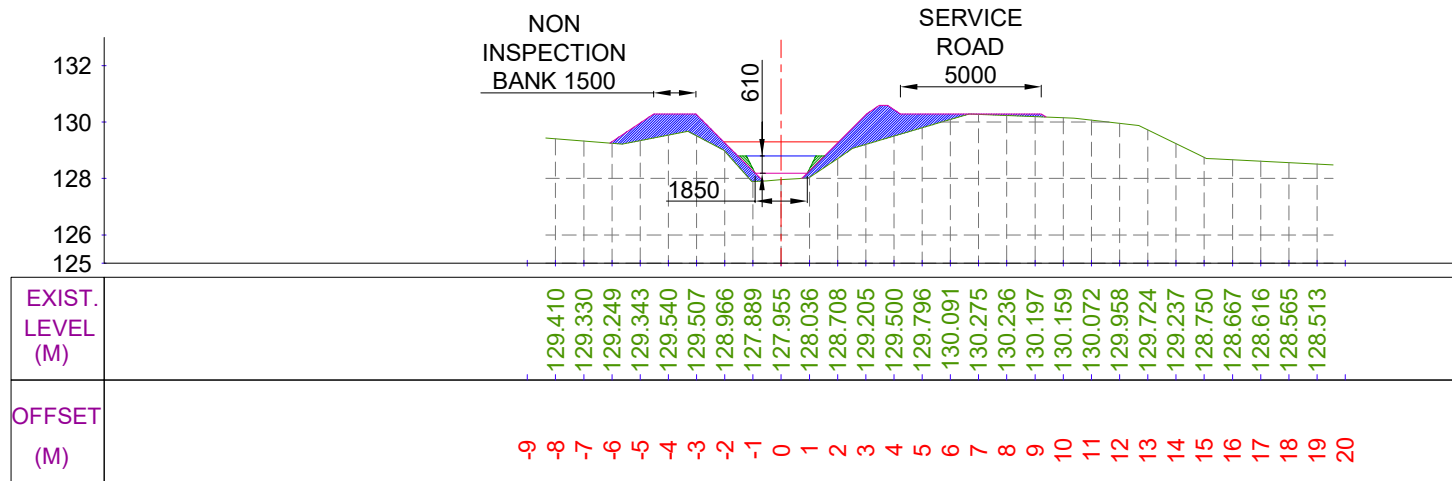
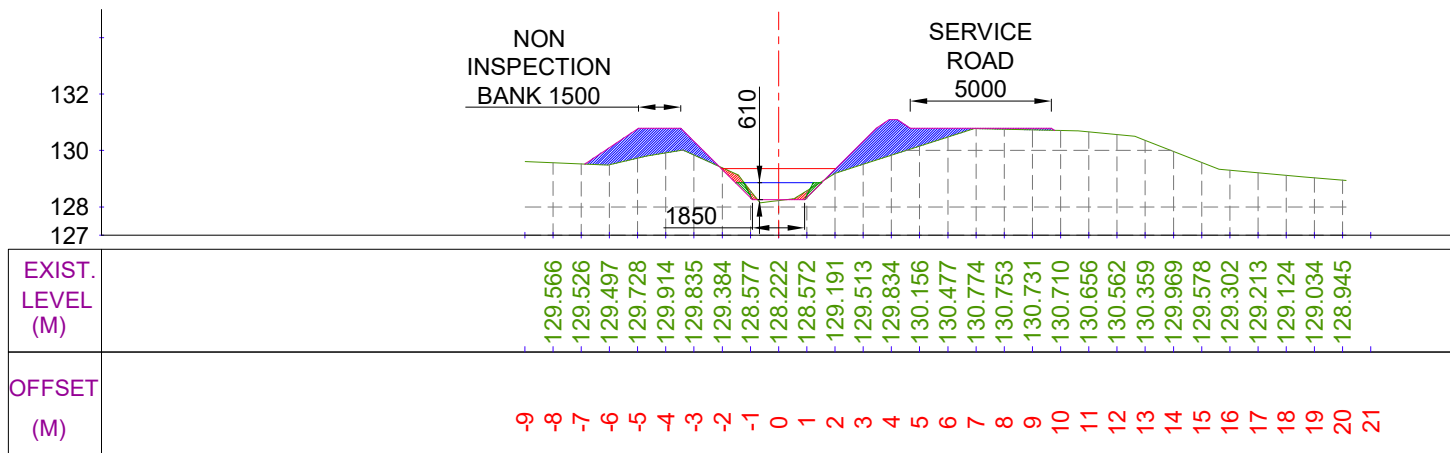
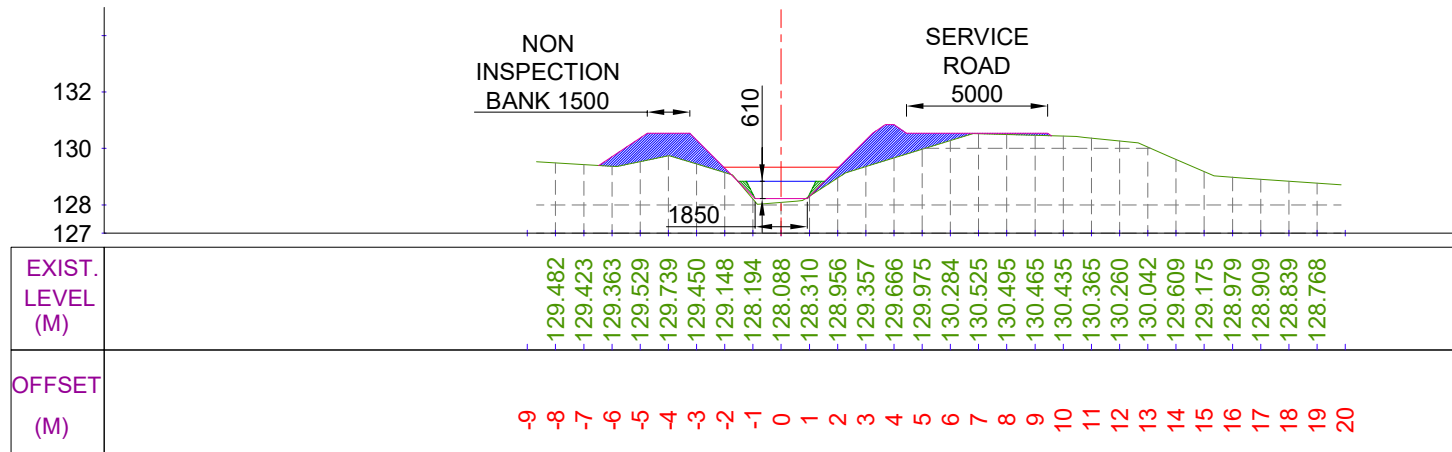
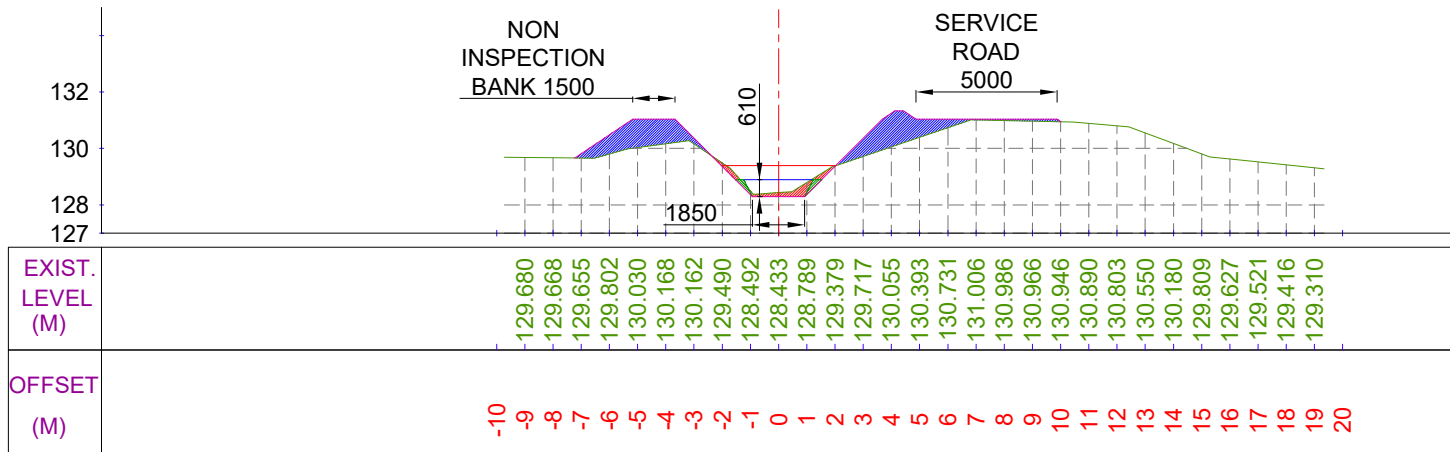
X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC-

7 of 16

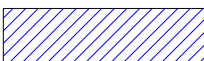
X SECTION OF KARMA BASANTPUR MR.



LEGEND



CUT AREA



FILL AREA



EXISTING BED LINE



F.S.L.



DESIGNED BED LINE



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Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

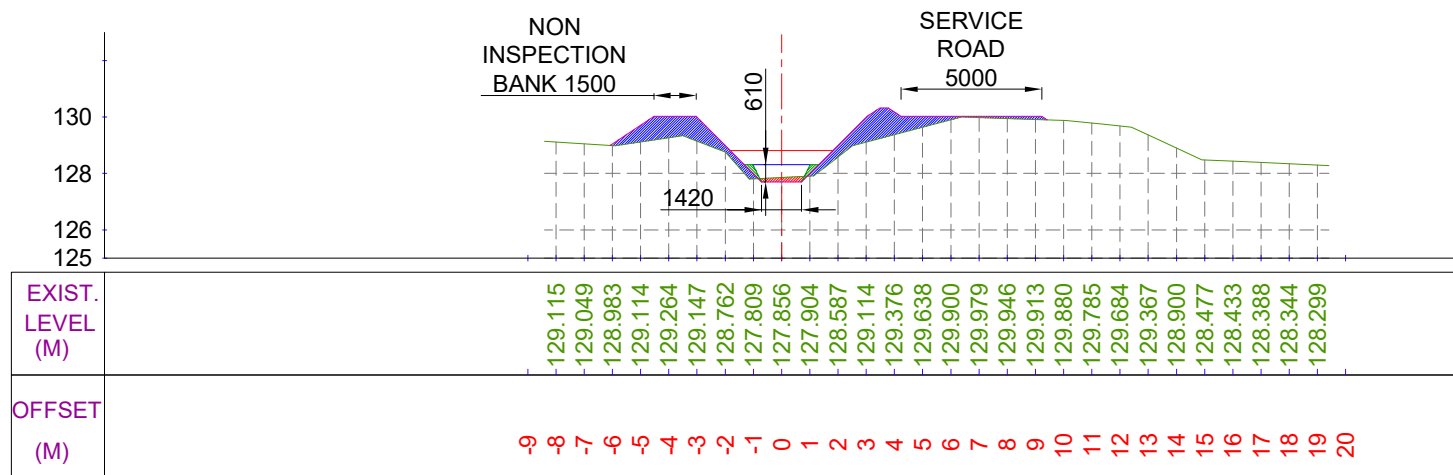
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Drawing No. :-

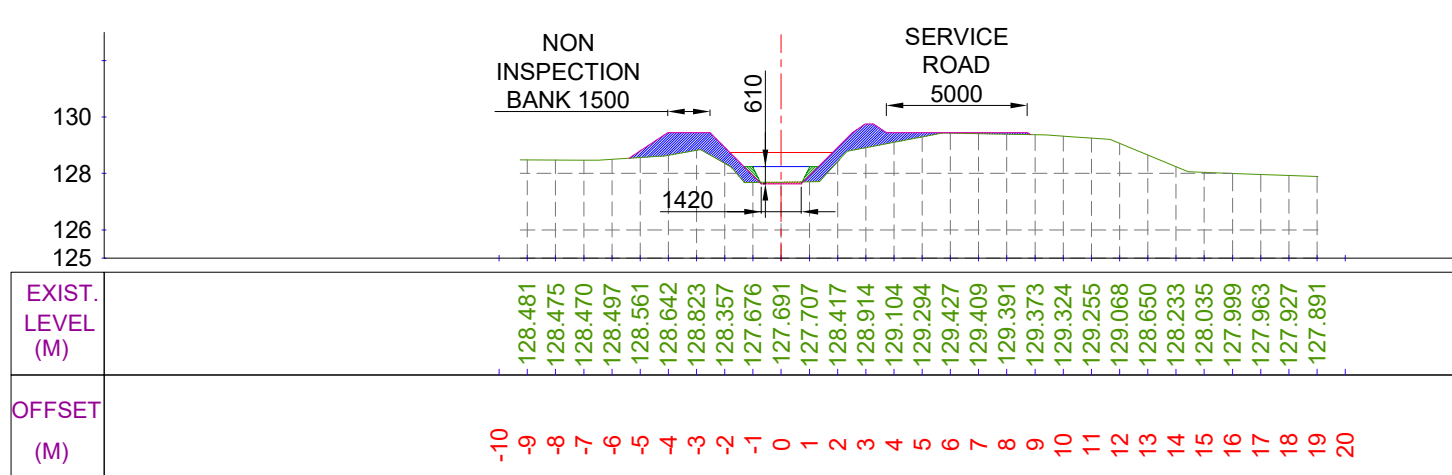
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8 of 16

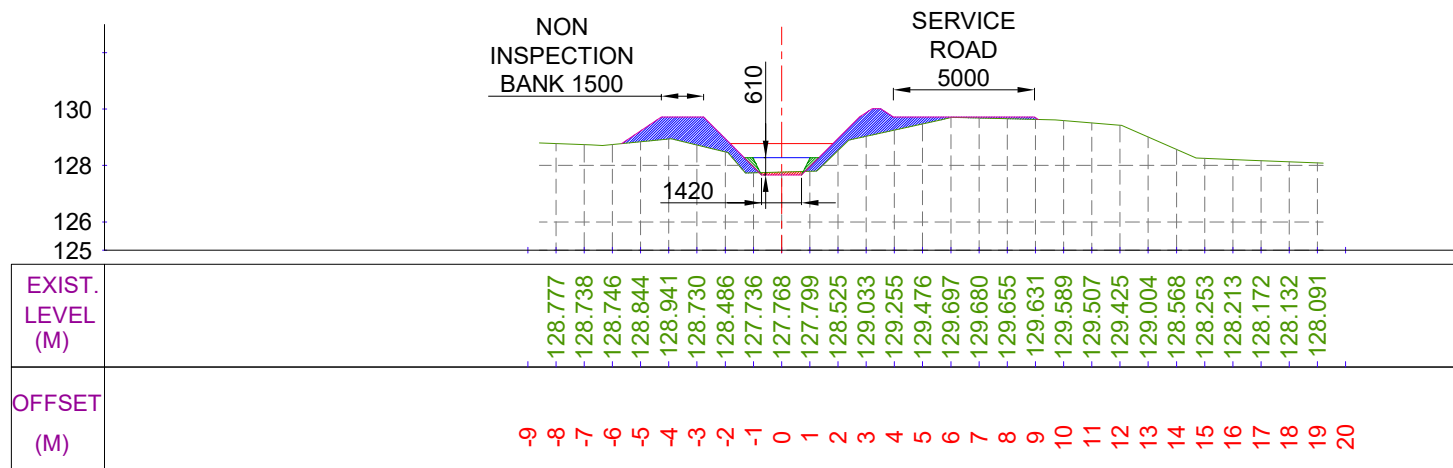
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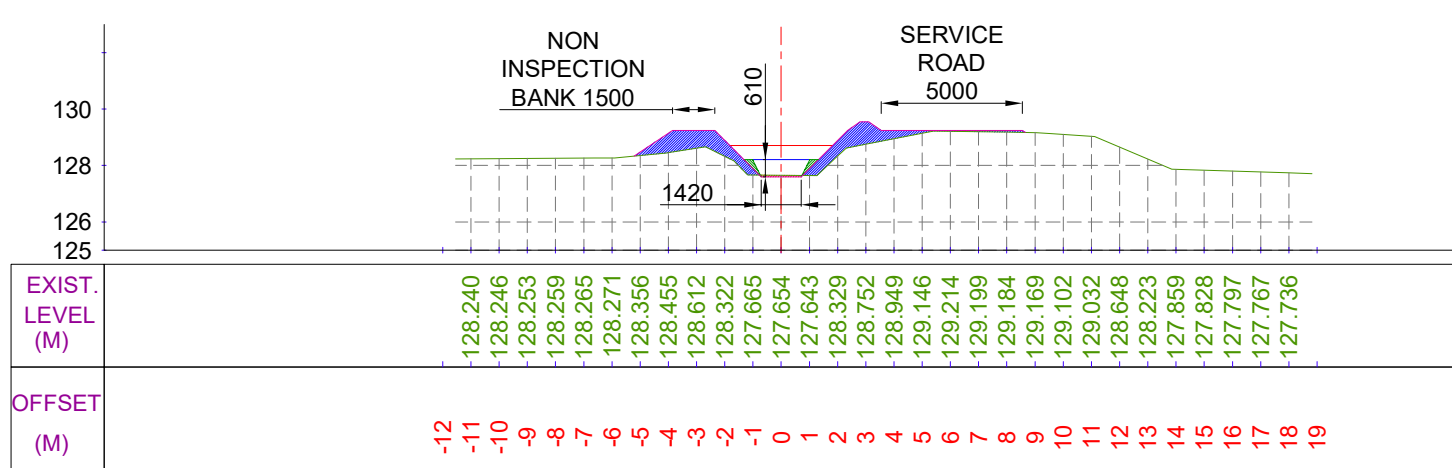
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FILLING AREA (SQ.M) = 5.551 DESIGNED BED LEVEL = 127.702 M



CUTTING AREA (SQ.M) = 0.081 CH. (KM):- 3+500
FILLING AREA (SQ.M) = 4.676 DESIGNED BED LEVEL = 127.635 M



CUTTING AREA (SQ.M) = 0.147 CH. (KM):- 3+400
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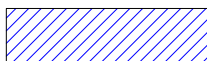


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FILLING AREA (SQ.M) = 4.284 DESIGNED BED LEVEL = 127.602 M

LEGEND



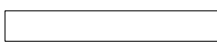
CUT AREA



FILL AREA



EXISTING BED LINE



F.S.L.



DESIGNED BED LINE

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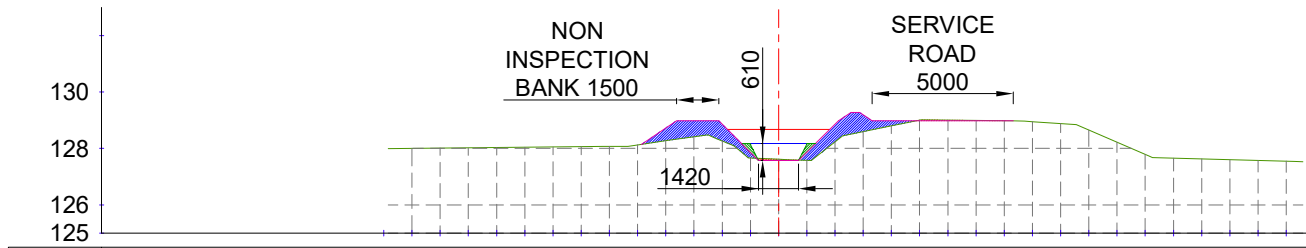
Drawing Title :-

X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

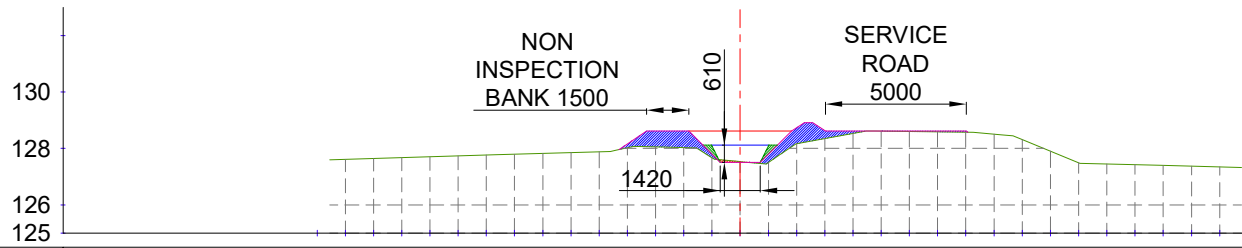
WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC- 9 of 16

X SECTION OF KARMA BASANTPUR MR.



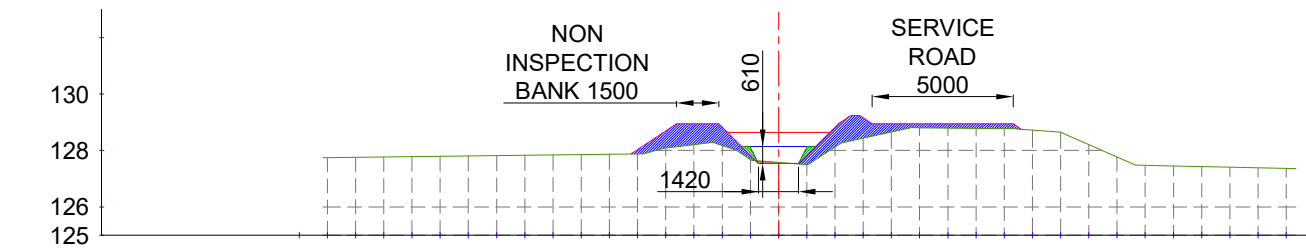
EXIST. LEVEL (M)	128.000	128.010	128.020	128.030	128.040	128.050	128.060	128.070	128.126	128.272	128.408	128.265	127.659	127.617	127.574	128.231	128.592	128.798	129.004	129.004	128.991	128.979	128.950	128.879	128.648	128.216	127.785	127.653	127.626	127.600	127.574	127.547	
OFFSET (M)	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CUTTING AREA (SQ.M) = 0.131 CH. (KM):- 3+700
FILLING AREA (SQ.M) = 3.380 DESIGNED BED LEVEL = 127.568 M



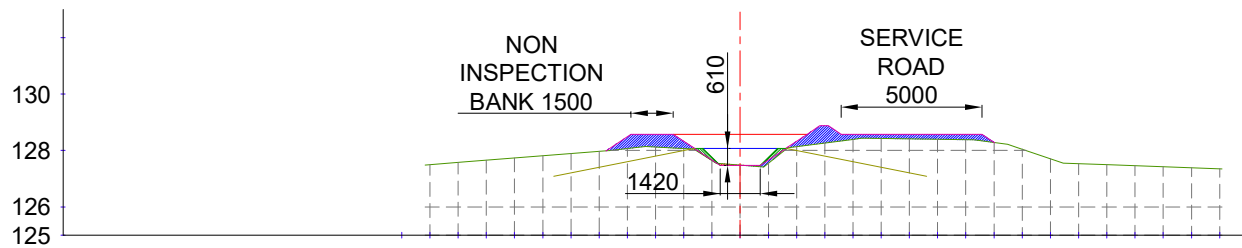
EXIST. LEVEL (M)	127.610	127.640	127.671	127.701	127.731	127.762	127.792	127.822	127.853	127.883	128.027	128.057	128.030	127.668	127.531	127.499	128.172	128.352	128.533	128.612	128.600	128.588	128.577	128.506	128.309	127.902	127.495	127.449	127.422	127.395	127.368	127.341		
OFFSET (M)	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CUTTING AREA (SQ.M) = 0.051 CH. (KM):- 3+900
FILLING AREA (SQ.M) = 2.661 DESIGNED BED LEVEL = 127.502 M



EXIST. LEVEL (M)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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CUTTING AREA (SQ.M) = 0.067 CH. (KM):- 3+800
FILLING AREA (SQ.M) = 4.763 DESIGNED BED LEVEL = 127.535 M



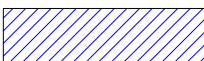
EXIST. LEVEL (M)	127.496	127.575	127.653	127.732	127.810	127.889	127.968	128.068	128.124	128.066	127.644	127.481	127.548	128.140	128.269	128.397	128.426	128.411	128.396	128.381	128.285	128.046	127.705	127.530	127.495	127.460	127.425	127.390	127.354		
OFFSET (M)	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CUTTING AREA (SQ.M) = 0.034 CH. (KM):- 4+000
FILLING AREA (SQ.M) = 2.901 DESIGNED BED LEVEL = 127.468 M

LEGEND



CUT AREA



FILL AREA



EXISTING BED LINE



F.S.L.



DESIGNED BED LINE

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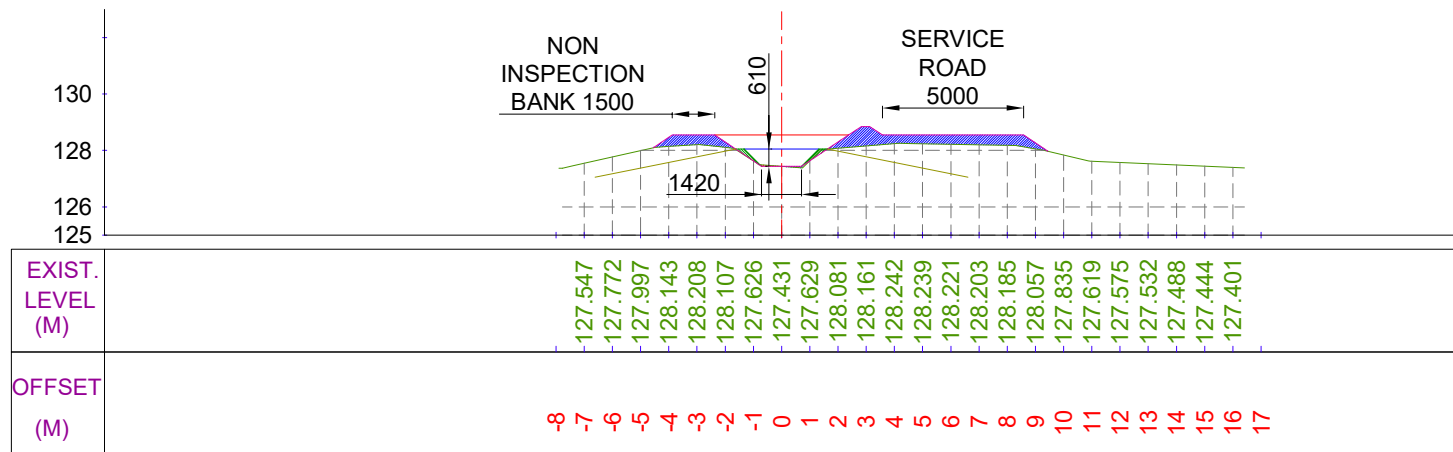
Drawing Title :-

X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

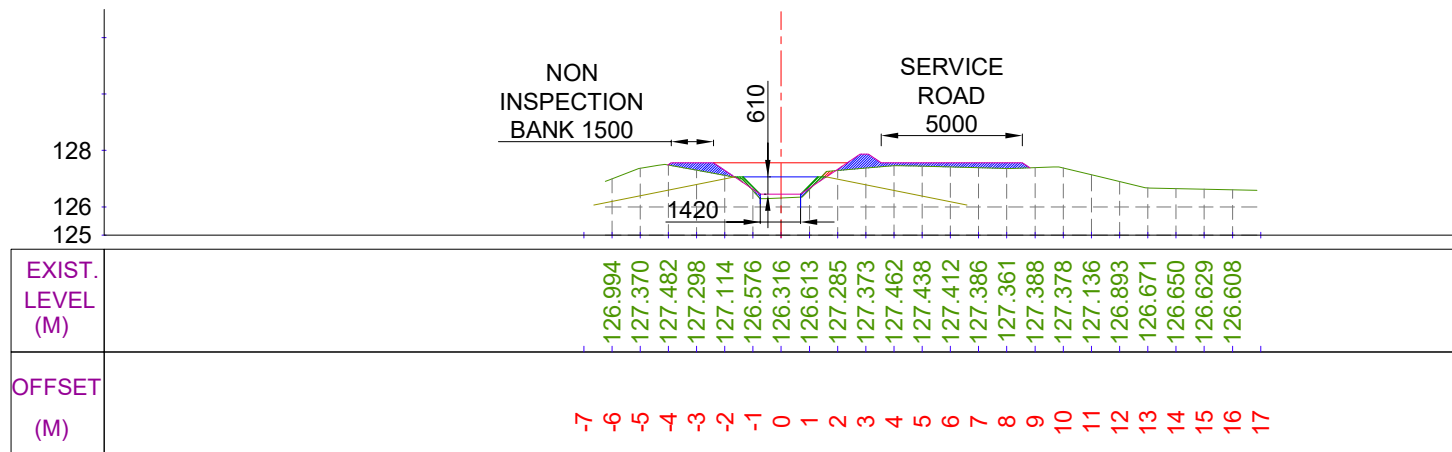
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WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC- 10 of 16

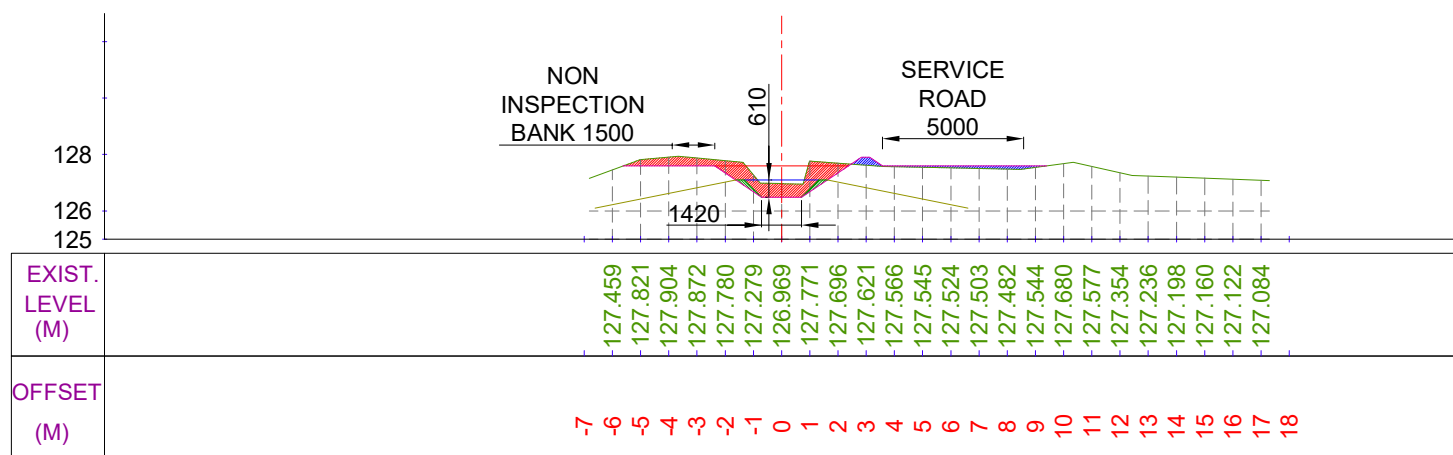
X SECTION OF KARMA BASANTPUR MR.



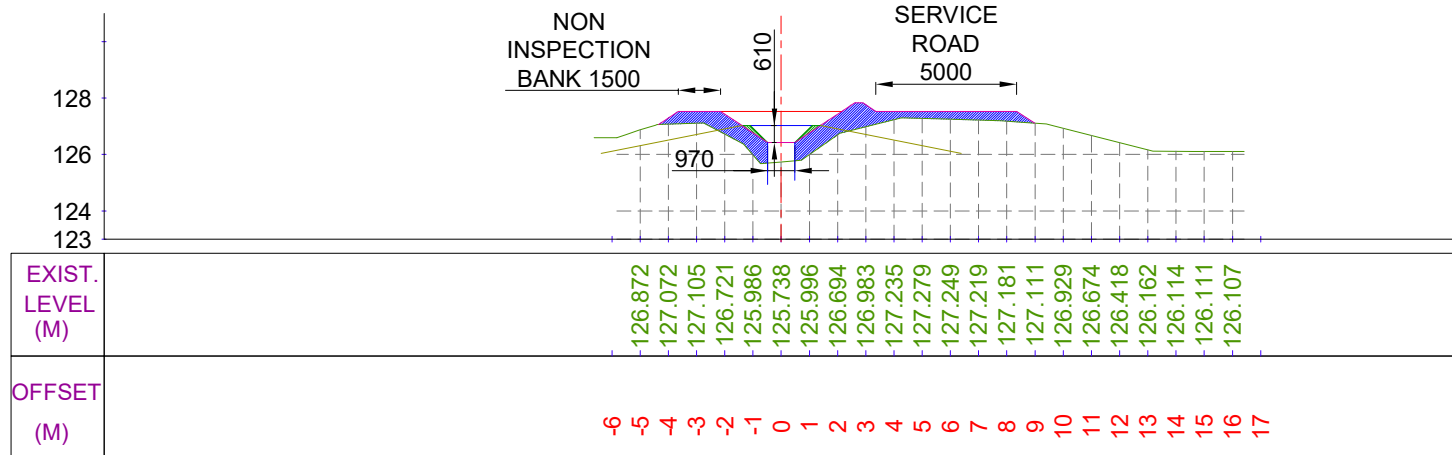
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FILLING AREA (SQ.M) = 3.524
CH. (KM):- 4+100
DESIGNED BED LEVEL = 127.435 M



CUTTING AREA (SQ.M) = 0.044
FILLING AREA (SQ.M) = 1.892
CH. (KM):- 4+300
DESIGNED BED LEVEL = 126.454 M



CUTTING AREA (SQ.M) = 3.223
FILLING AREA (SQ.M) = 0.620
CH. (KM):- 4+200
DESIGNED BED LEVEL = 126.488 M

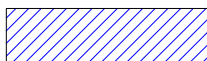


CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 5.936
CH. (KM):- 4+400
DESIGNED BED LEVEL = 126.421 M

LEGEND



CUT AREA



FILL AREA



EXISTING BED LINE



F.S.L.



DESIGNED BED LINE

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Project Title :-

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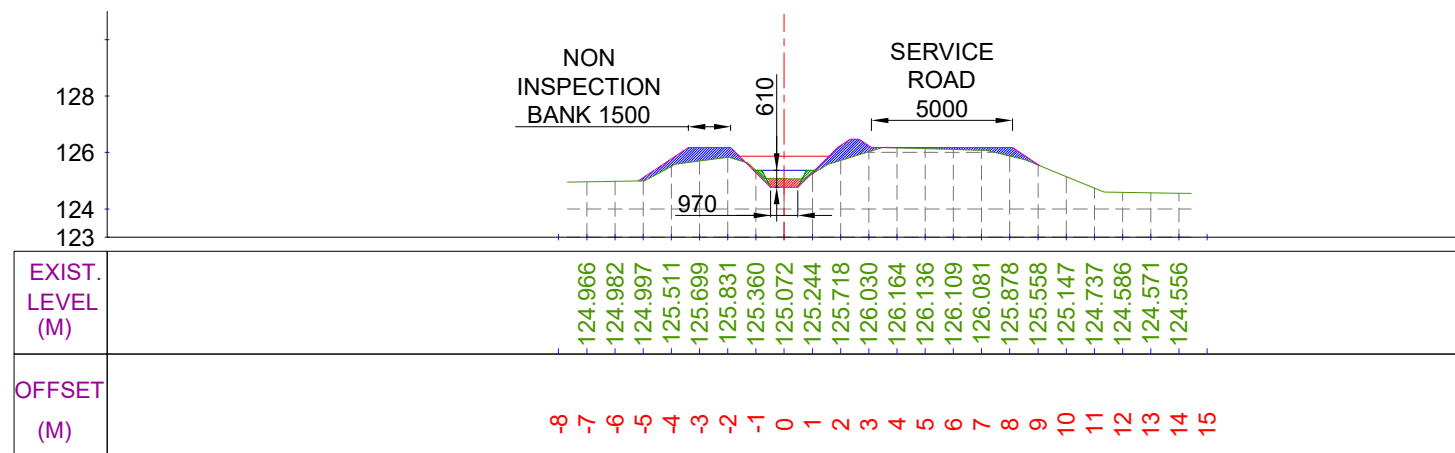
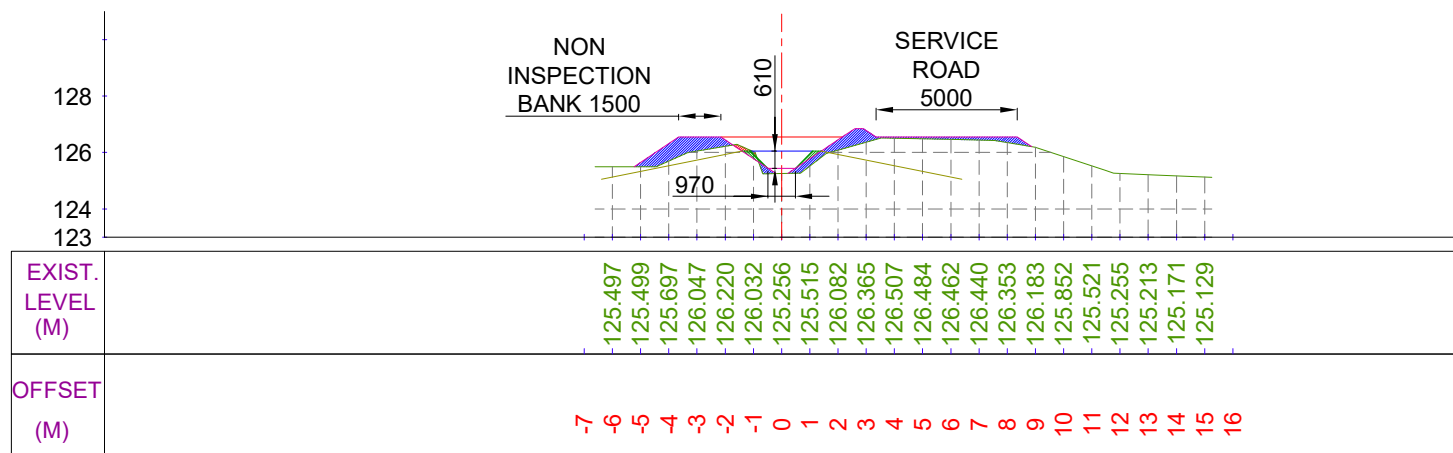
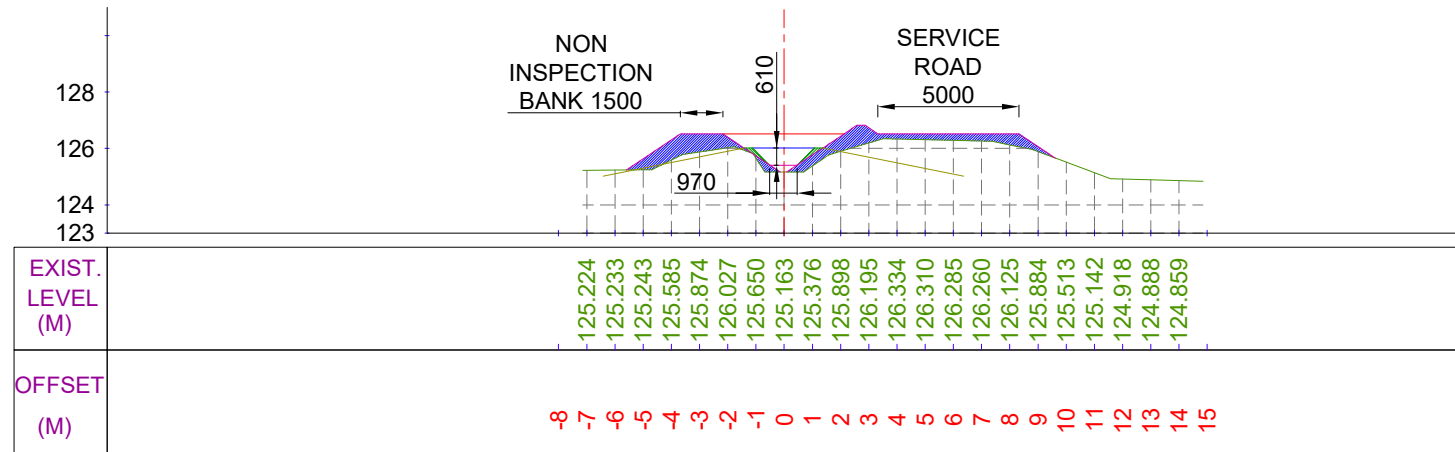
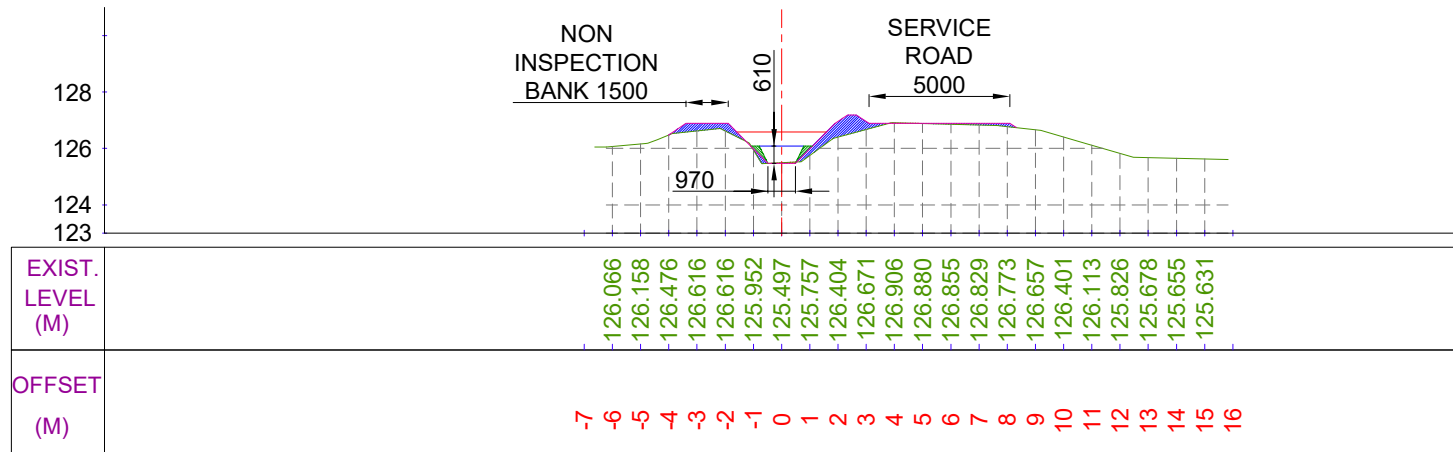
Drawing Title :-

X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC- 11 of 16

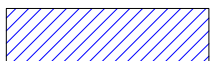
X SECTION OF KARMA BASANTPUR MR.



LEGEND



CUT AREA



FILL AREA



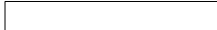
EXISTING BED LINE



F.S.L.



DESIGNED BED LINE



Prepared by :-

WAPCOS LTD.

F:\Works on 2018\North Koel Project\wapcos logo.jpg

Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

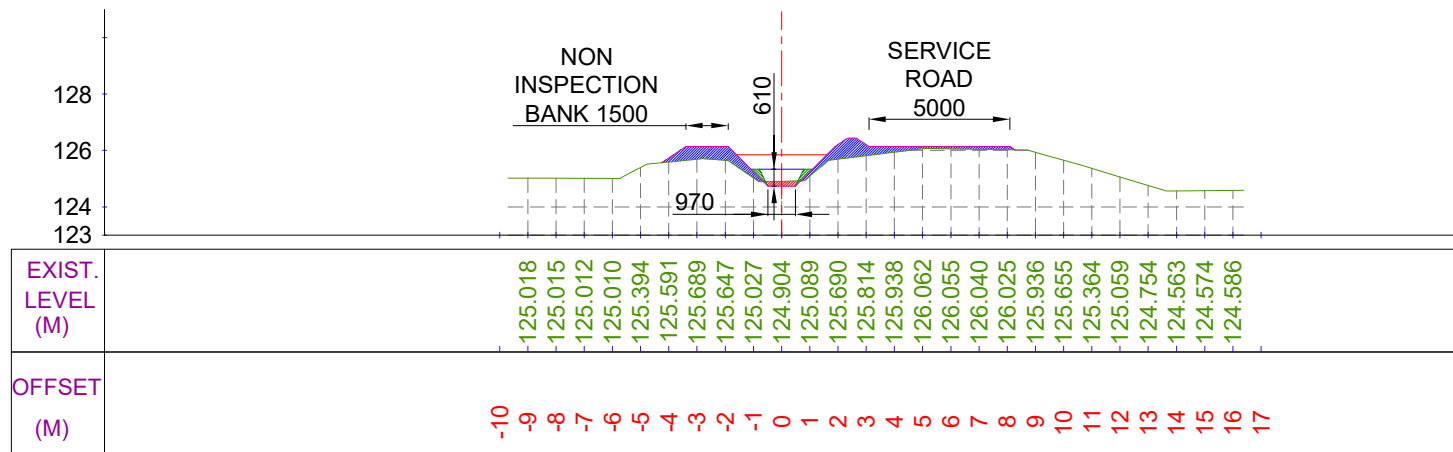
X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

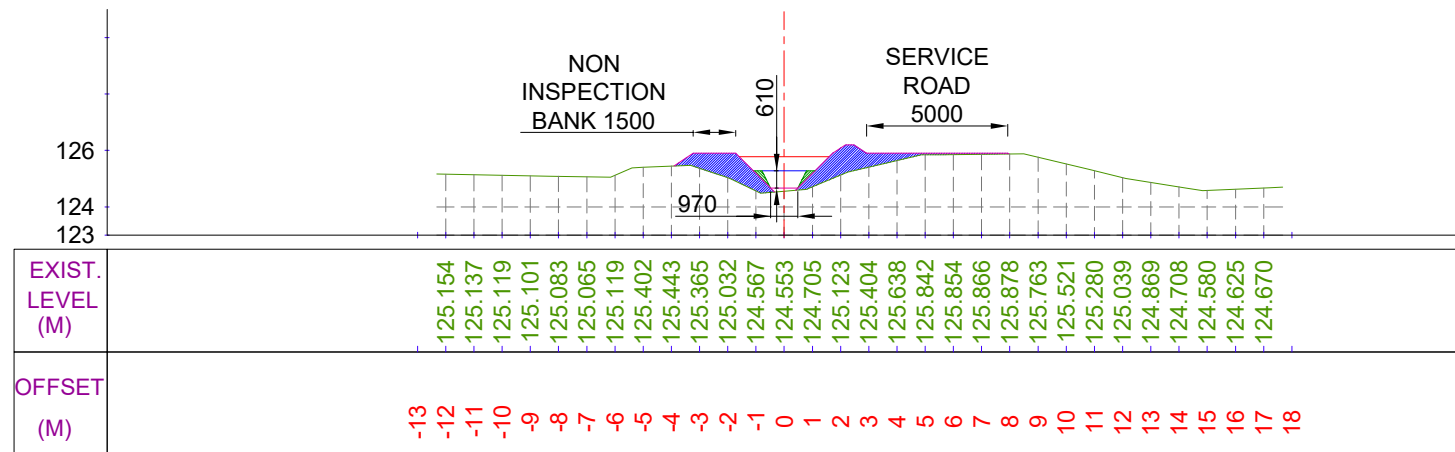
WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC-

12 of 16

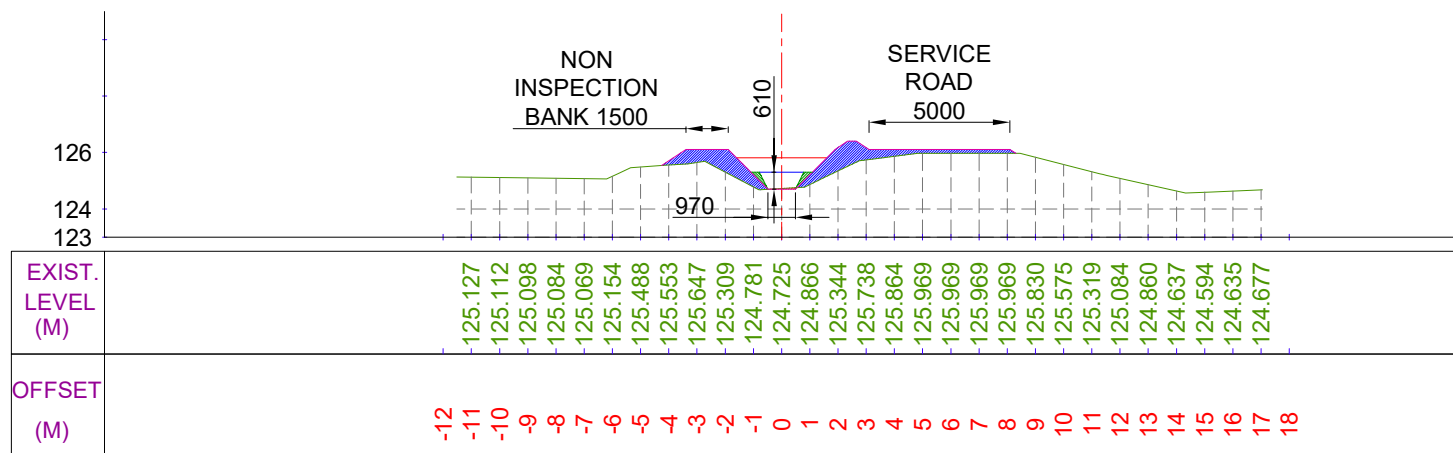
X SECTION OF KARMA BASANTPUR MR.



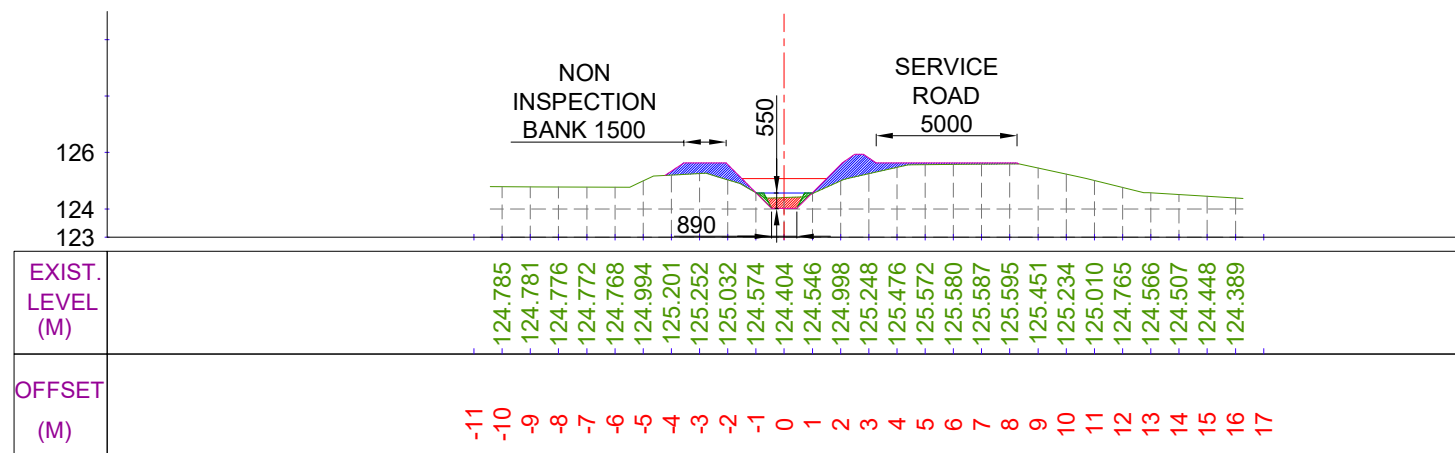
CUTTING AREA (SQ.M) = 0.184 CH. (KM):- 4+900
FILLING AREA (SQ.M) = 2.902 DESIGNED BED LEVEL = 124.730 M



CUTTING AREA (SQ.M) = 0.000 CH. (KM):- 5+100
FILLING AREA (SQ.M) = 4.400 DESIGNED BED LEVEL = 124.664 M



CUTTING AREA (SQ.M) = 0.028 CH. (KM):- 5+000
FILLING AREA (SQ.M) = 4.145 DESIGNED BED LEVEL = 124.697 M

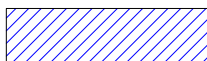


CUTTING AREA (SQ.M) = 0.415 CH. (KM):- 5+200
FILLING AREA (SQ.M) = 2.590 DESIGNED BED LEVEL = 124.020 M

LEGEND



CUT AREA



FILL AREA



EXISTING BED LINE



F.S.L.



DESIGNED BED LINE

Prepared by :-

WAPCOS LTD.

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Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

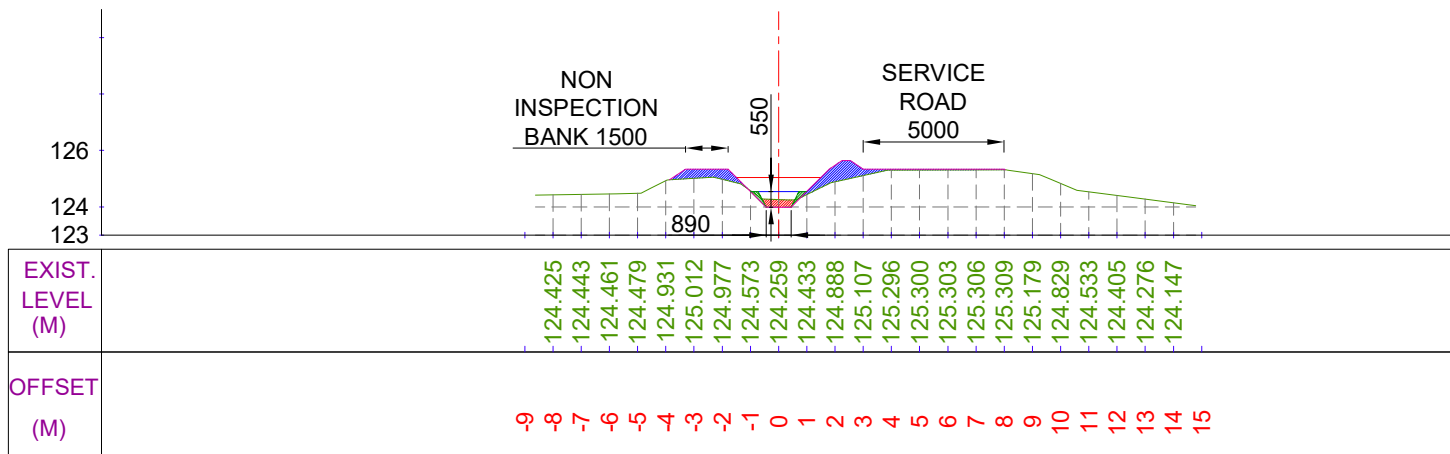
X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

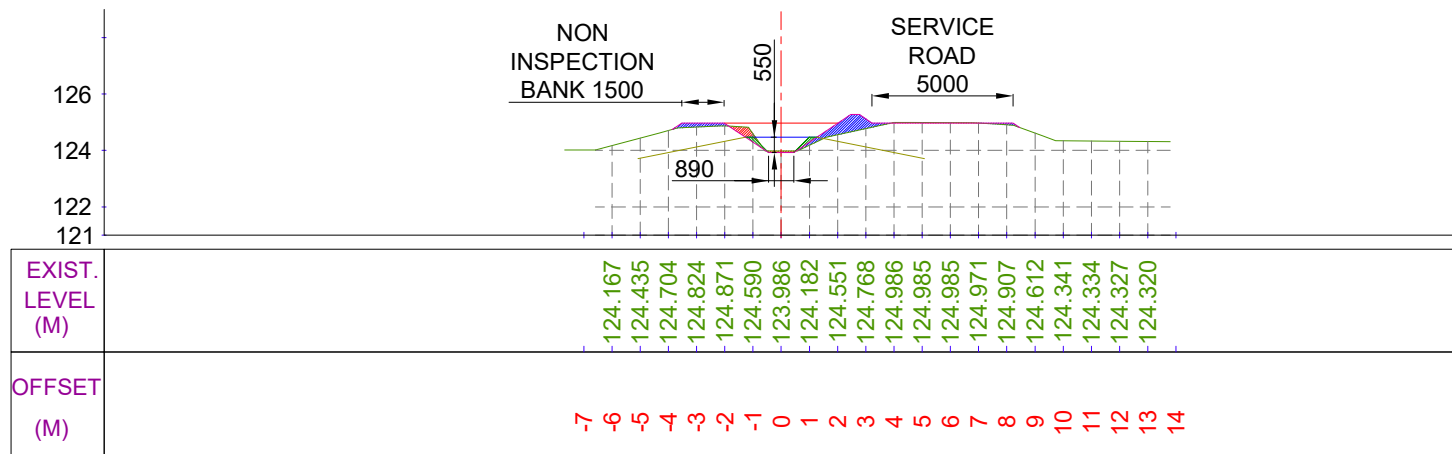
WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC-

13 of 16

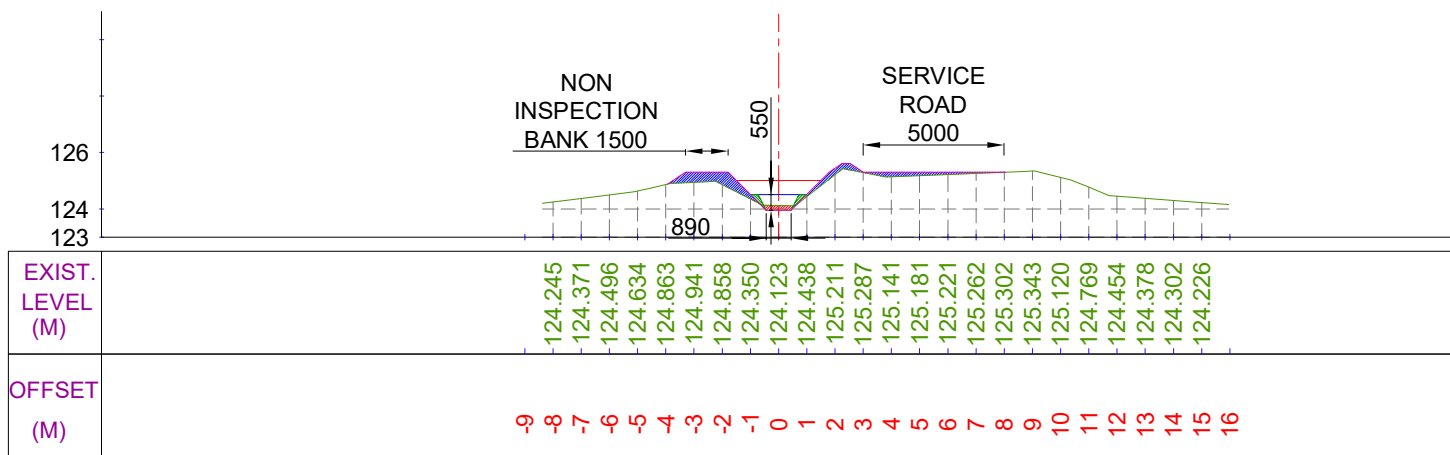
X SECTION OF KARMA BASANTPUR MR.



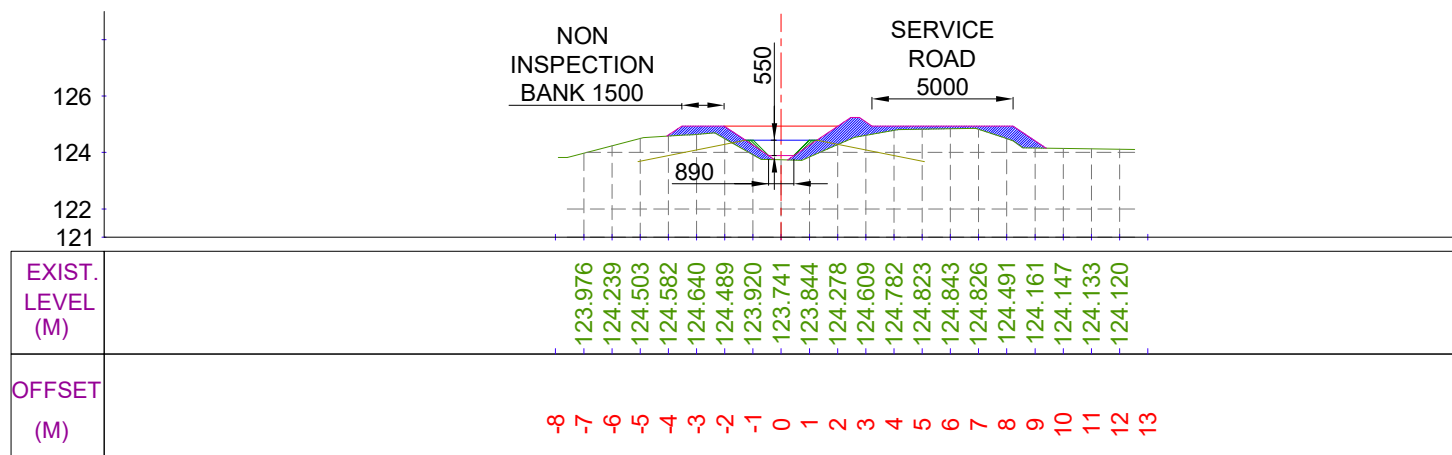
CUTTING AREA (SQ.M) = 0.279 CH. (KM):- 5+300
FILLING AREA (SQ.M) = 1.882 DESIGNED BED LEVEL = 123.987 M



CUTTING AREA (SQ.M) = 0.303 CH. (KM):- 5+500
FILLING AREA (SQ.M) = 1.175 DESIGNED BED LEVEL = 123.920 M



CUTTING AREA (SQ.M) = 0.164 CH. (KM):- 5+400
FILLING AREA (SQ.M) = 1.786 DESIGNED BED LEVEL = 123.954 M

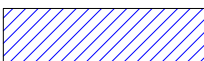


CUTTING AREA (SQ.M) = 0.000 CH. (KM):- 5+600
FILLING AREA (SQ.M) = 3.859 DESIGNED BED LEVEL = 123.887 M

LEGEND



CUT AREA



FILL AREA



EXISTING BED LINE



F.S.L.



DESIGNED BED LINE



Prepared by :-

WAPCOS LTD.

F:\Works on 2018\North Koel Project\wapcos logo.jpg

Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

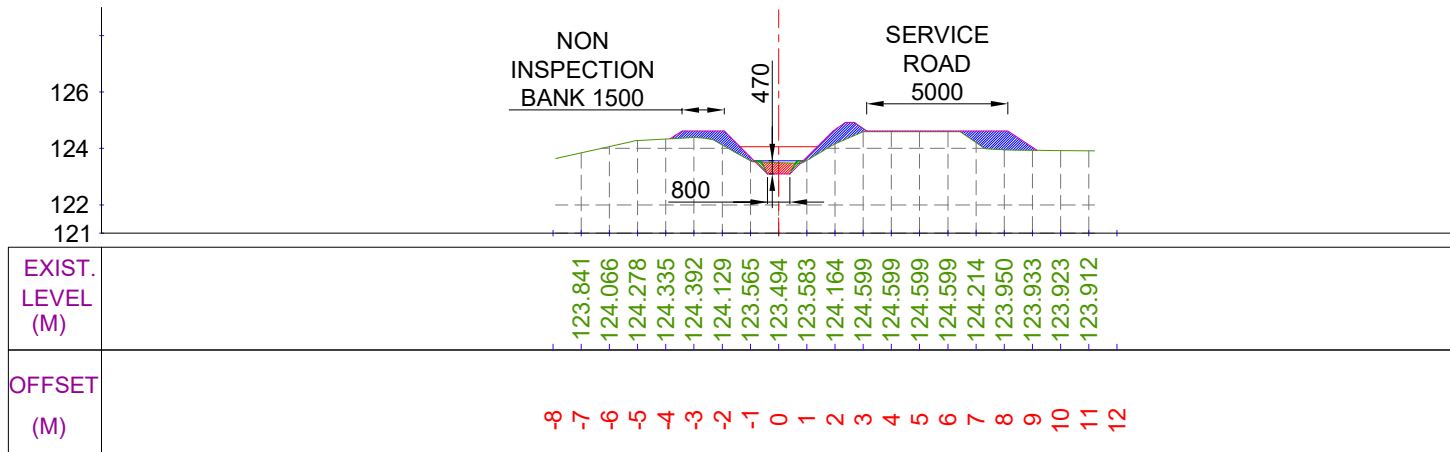
X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

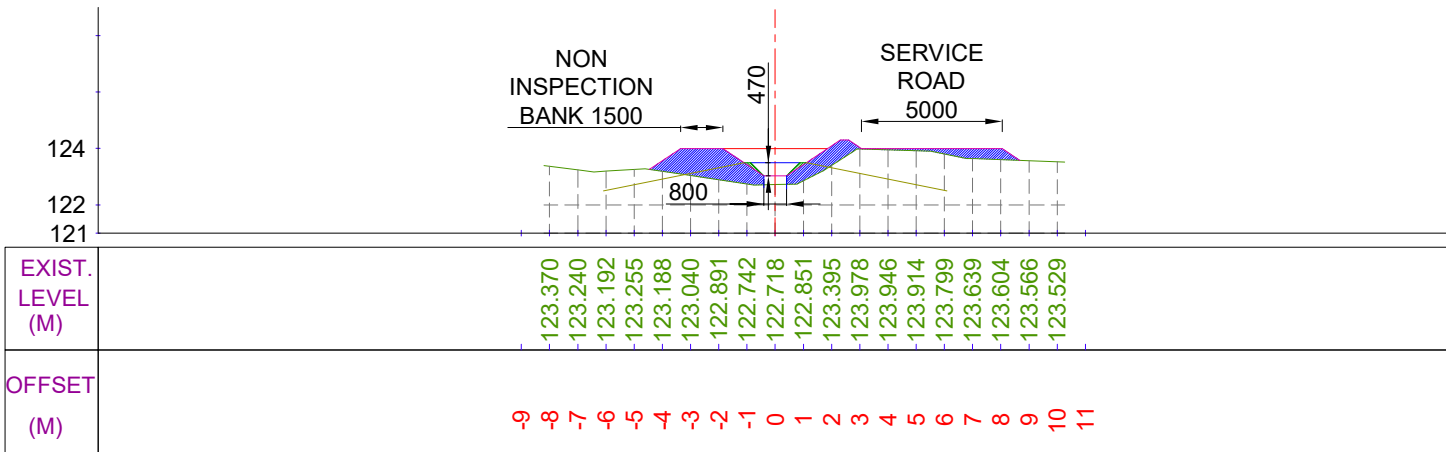
WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC-

14 of 16

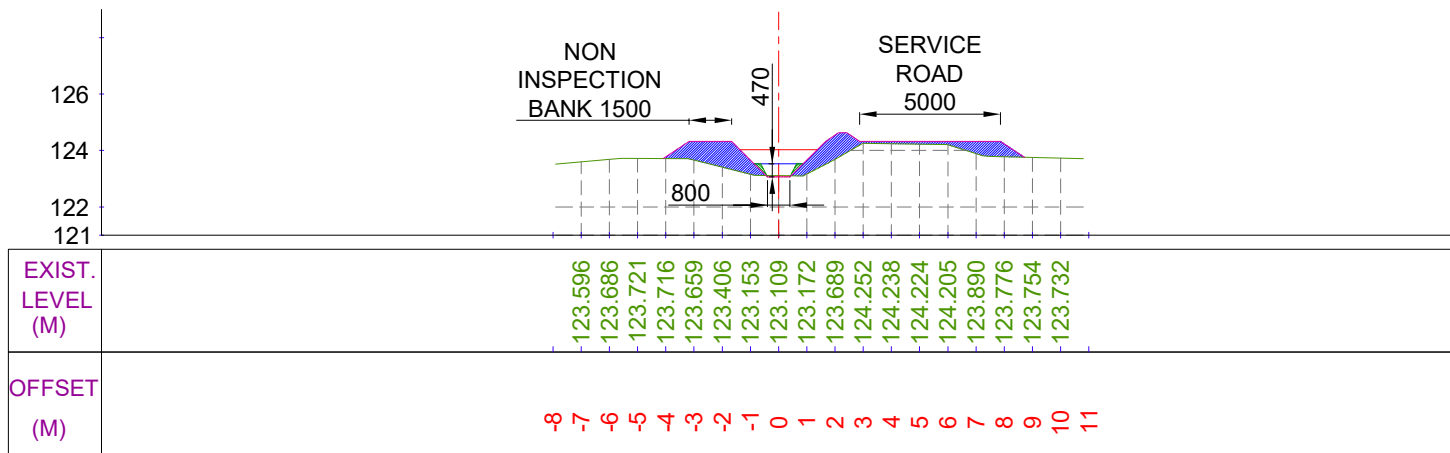
X SECTION OF KARMA BASANTPUR MR.



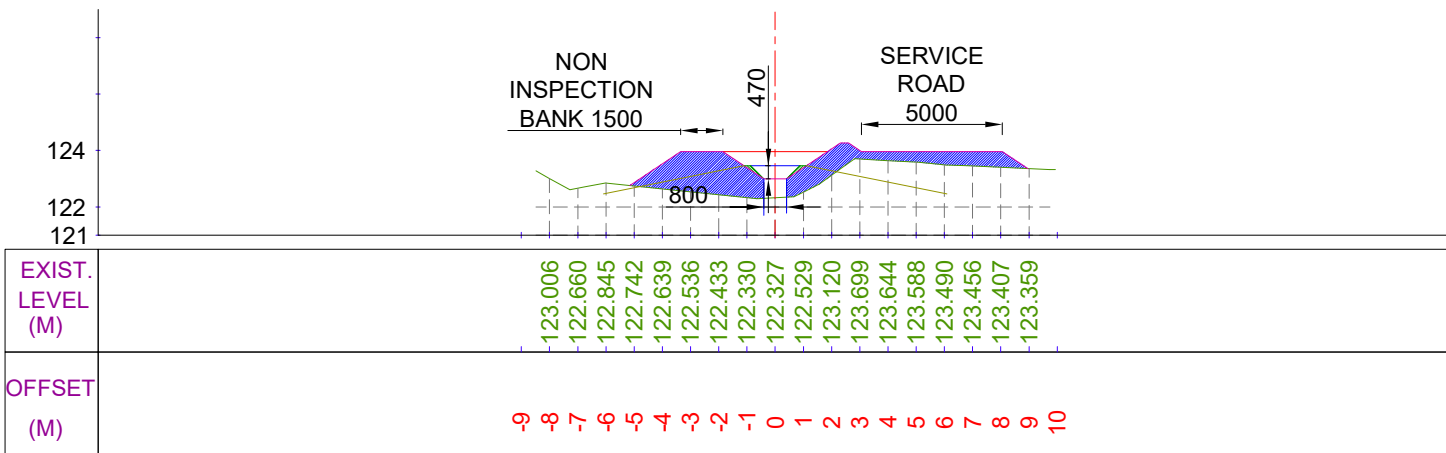
CUTTING AREA (SQ.M) = 0.402
FILLING AREA (SQ.M) = 2.828
CH. (KM):- 5+700
DESIGNED BED LEVEL = 123.092 M



CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 5.556
CH. (KM):- 5+900
DESIGNED BED LEVEL = 123.025 M



CUTTING AREA (SQ.M) = 0.042
FILLING AREA (SQ.M) = 4.819
CH. (KM):- 5+800
DESIGNED BED LEVEL = 123.058 M

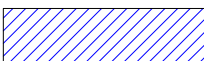


CUTTING AREA (SQ.M) = 0.000
FILLING AREA (SQ.M) = 9.569
CH. (KM):- 6+000
DESIGNED BED LEVEL = 122.992 M

LEGEND



CUT AREA



FILL AREA



EXISTING BED LINE



F.S.L.



DESIGNED BED LINE



F.S.L.

Prepared by :-

WAPCOS LTD.

F:\Works on 2018\North Koel Project\wapcos logo.jpg

Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

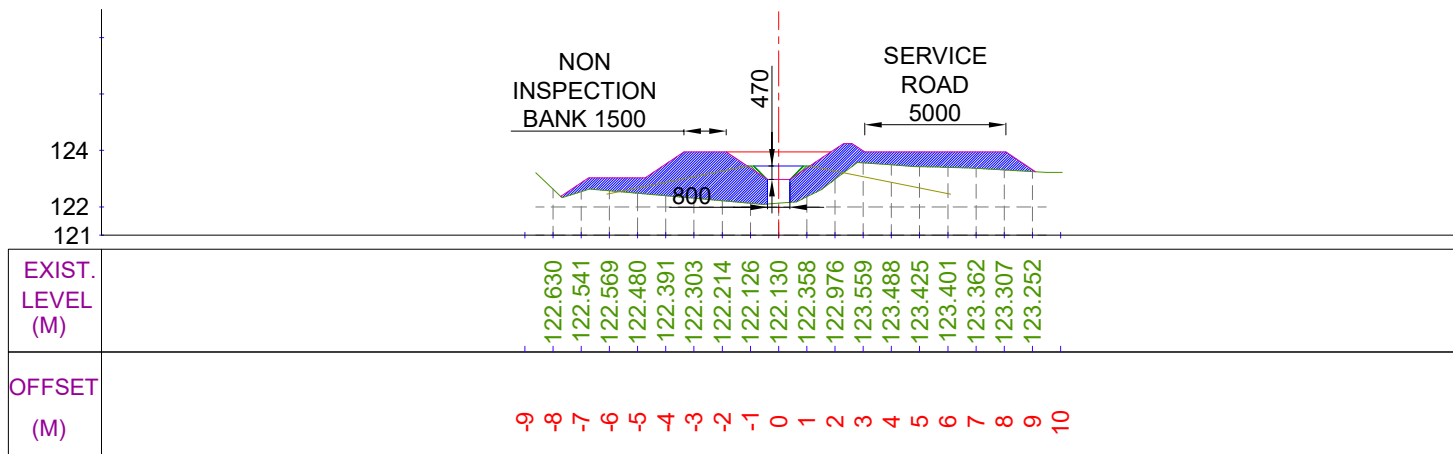
X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)

Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC-

15 of 16

X SECTION OF KARMA BASANTPUR MR.



CUTTING AREA (SQ.M) = 0.000 CH. (KM):- 6+050
FILLING AREA (SQ.M) = 12.579 DESIGNED BED LEVEL = 122.975 M

LEGEND

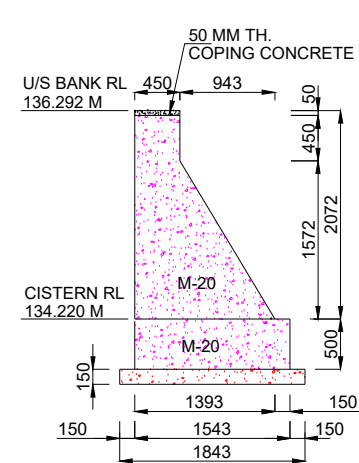
	CUT AREA		EXISTING BED LINE
			F.S.L.
	FILL AREA		DESIGNED BED LINE

Prepared by :-

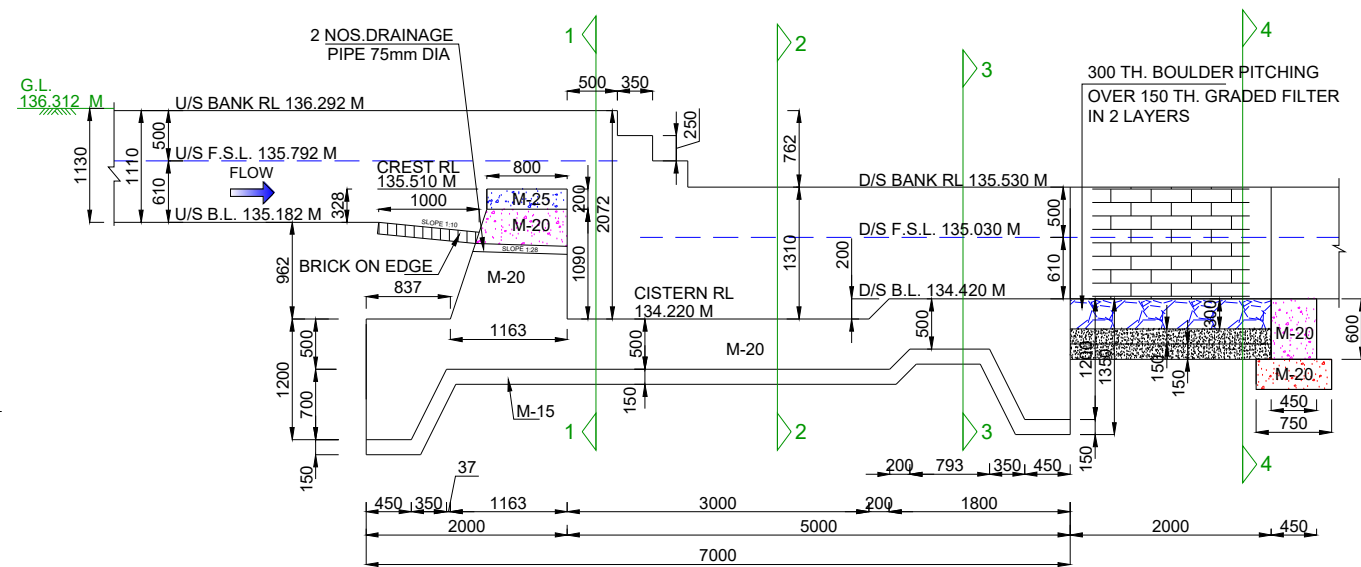
WAPCOS LTD.

Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	X SEC OF KARMA BASANTPUR MR. (OFFTAKE FROM 61+531 KM. (L), NORTH KOEL RIGHT MAIN CANAL)
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-18/ XSEC- 16 of 16

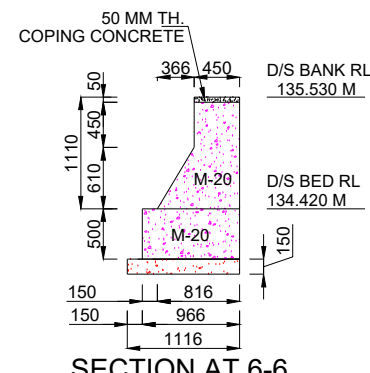
DRAWING OF STRUCTURES



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

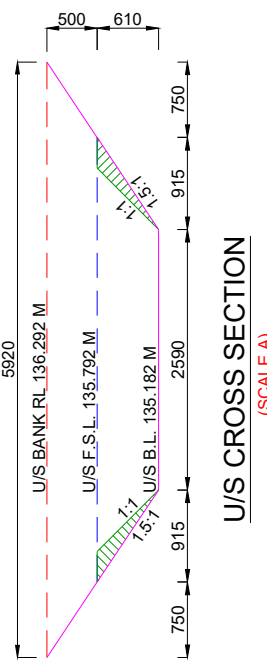
NOTES:-

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

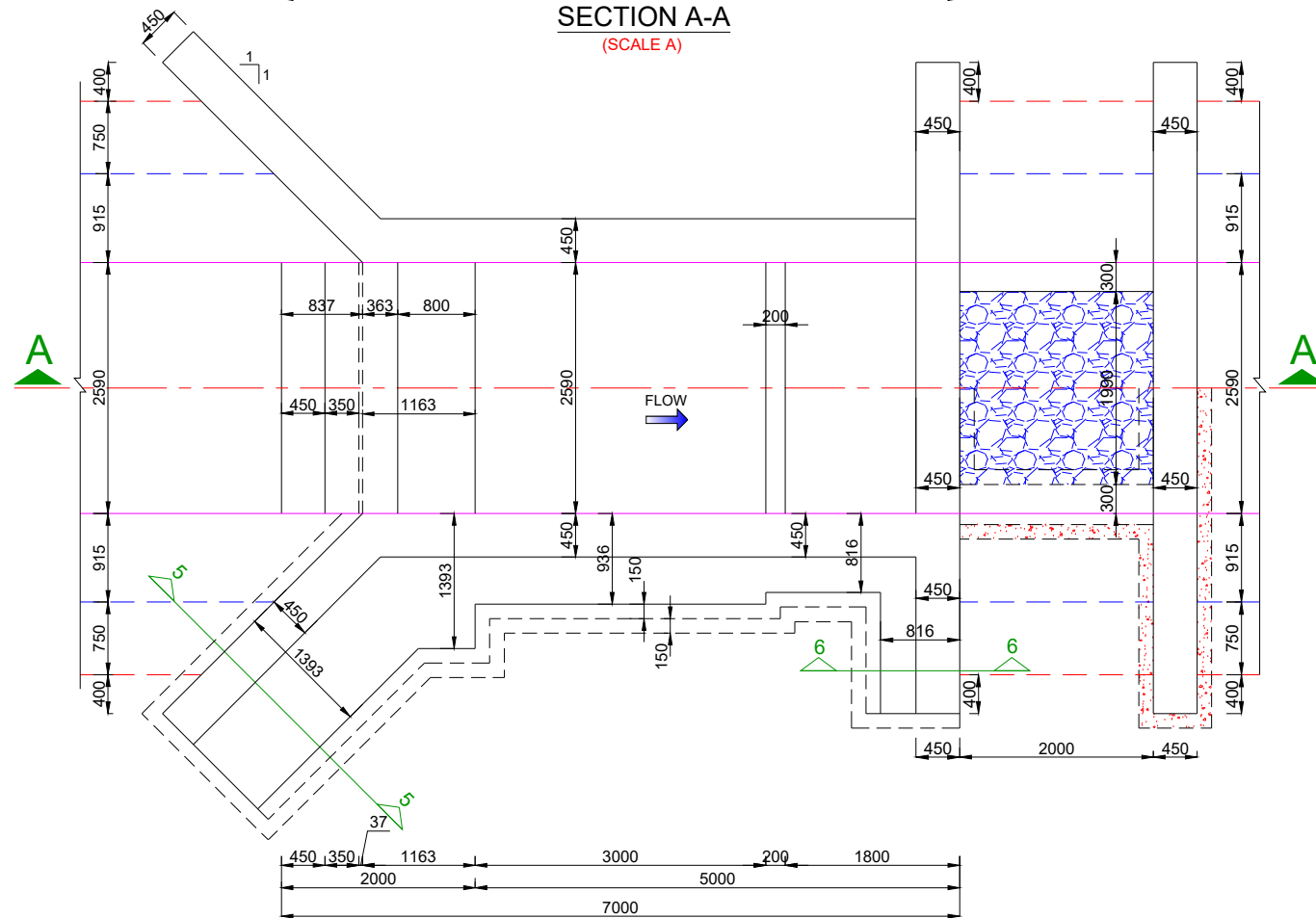
COMPONENT	GRADE
FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

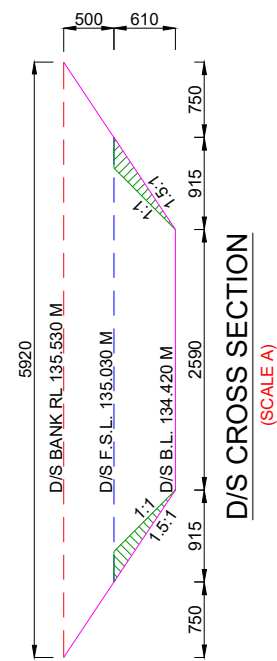
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.650	0.650	CUMEC
VERTICAL DROP	0.762	0.762	METRE
FULL SUPPLY DEPTH	0.610	0.610	METRE
BED WIDTH	2.590	2.590	METRE
BED SLOPE	1 : 3000	1 : 3000	



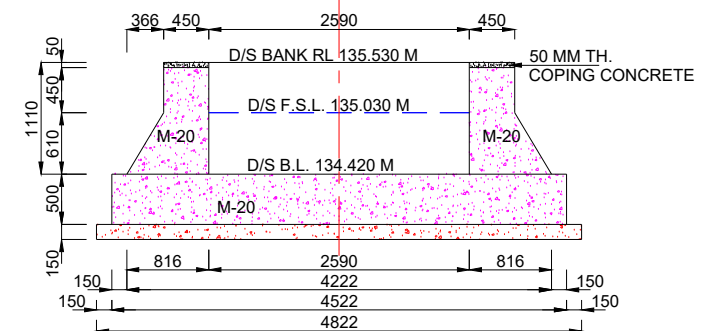
U/S CROSS SECTION
(SCALE A)



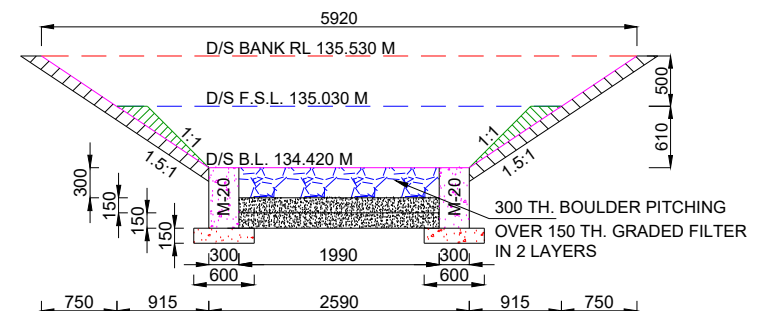
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



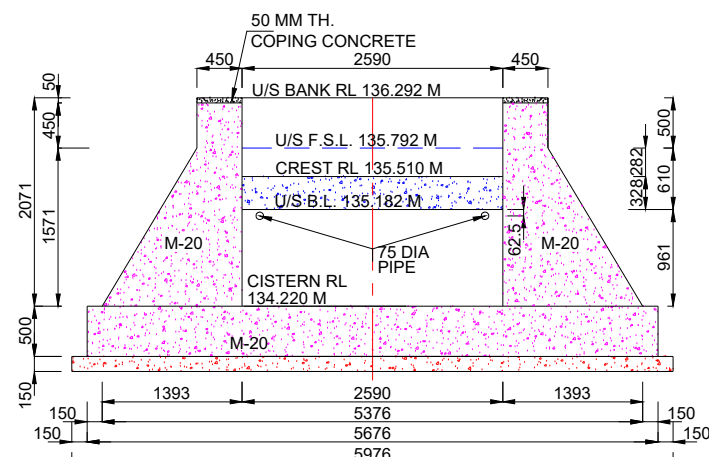
D/S CROSS SECTION
(SCALE A)



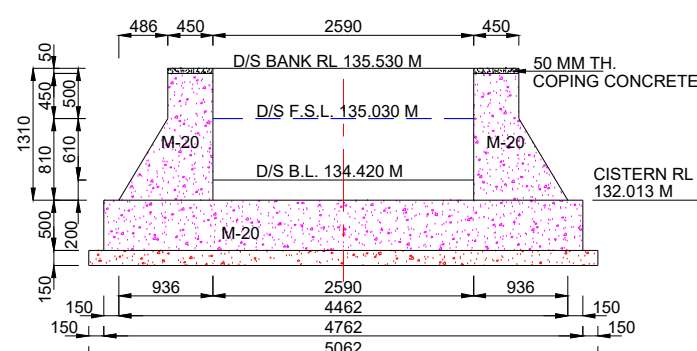
SECTION AT 3-3
(SCALE A)



SECTION AT 4-4
(SCALE A)

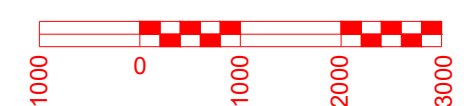


SECTION AT 1-1
(SCALE A)



SECTION AT 2-2
(SCALE A)

SCALE A:-



Prepared by :-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

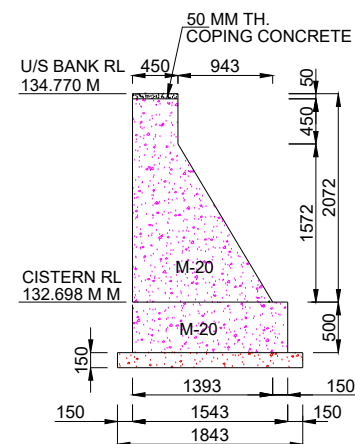
Drawing Title :-

SHARDA TYPE 0.762 M HT. FALL AT KM. 0.550 OF KARMA BASANTPUR MR. (OFFTAKE FROM RD 61+531 KM.(L), NORTH KOEL RMC)

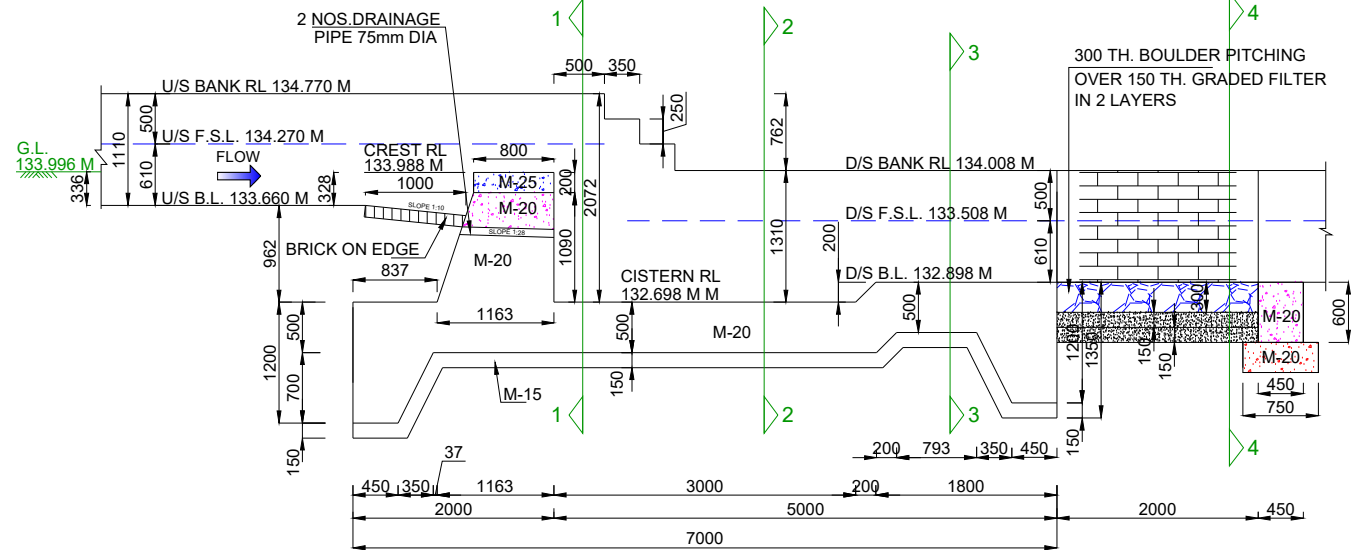
Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-018/ FALL

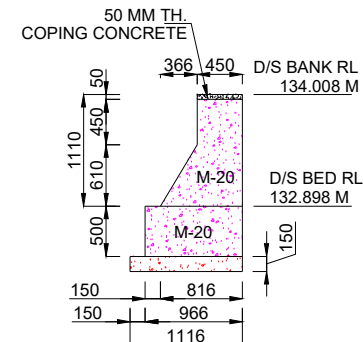
1 of 1



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



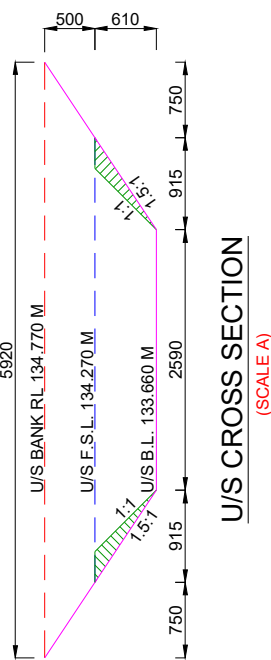
SECTION AT 6-6
(SCALE A)

NOTES:-

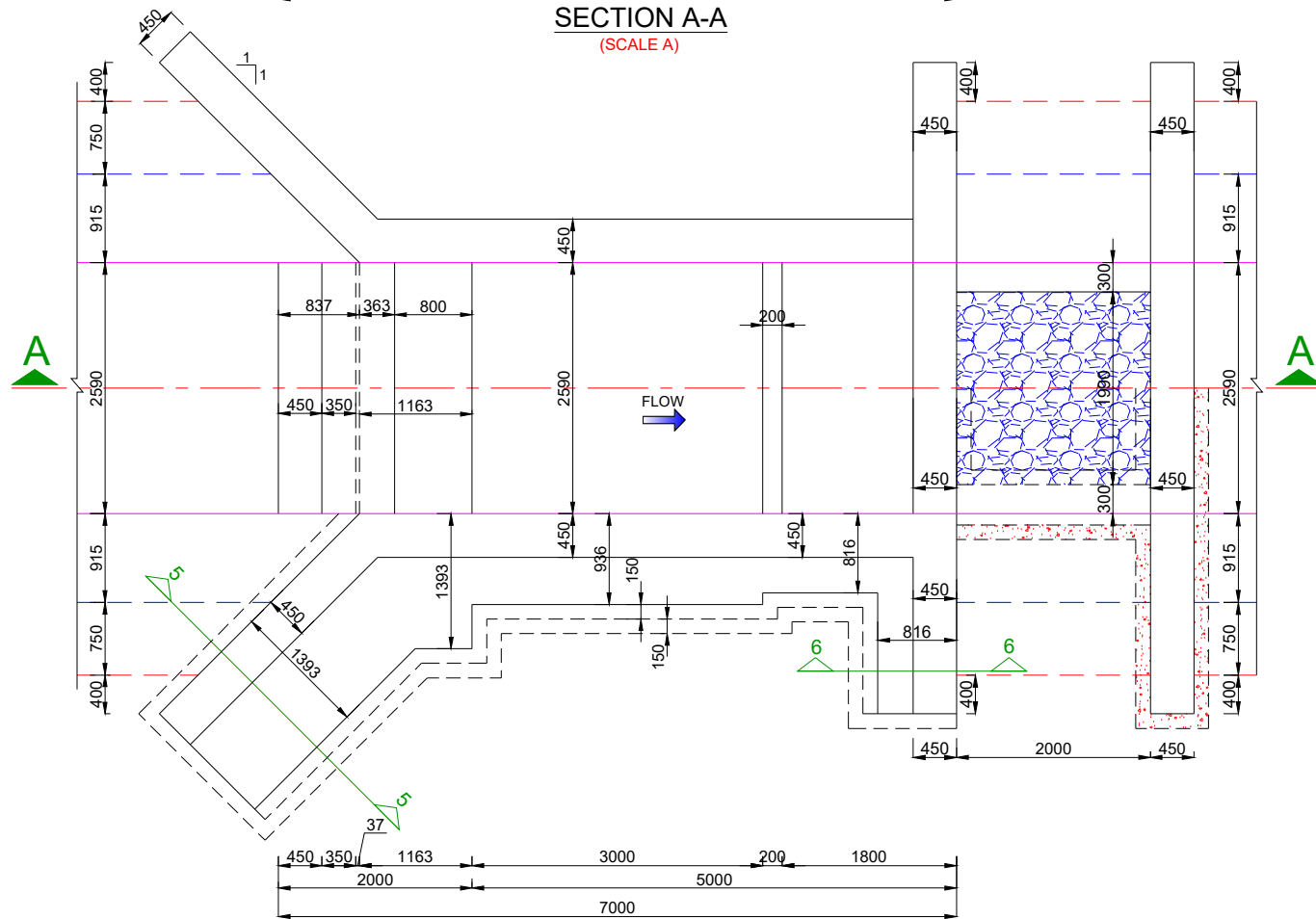
1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,
FLOOR M 20
FOUNDATION OF ABUTMENTS & WING WALL M 20
PCC UNDER FLOOR M 15
ABUTMENTS / WING WALLS M 20
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

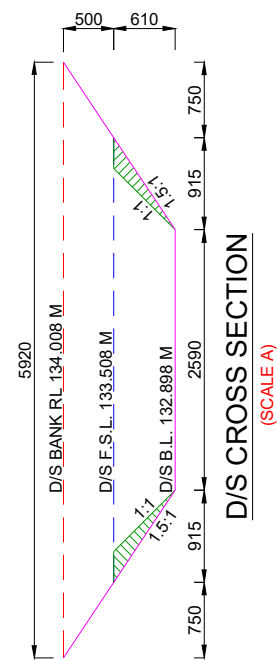
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.650	0.650	CUMEC
VERTICAL DROP	0.762	0.762	METRE
FULL SUPPLY DEPTH	0.610	0.610	METRE
BED WIDTH	2.590	2.590	METRE
BED SLOPE	1 : 3000	1 : 3000	



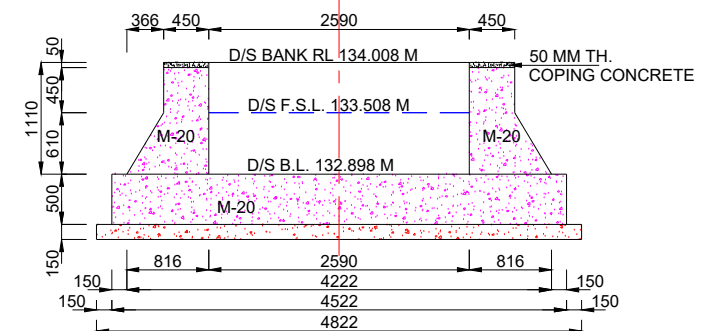
U/S CROSS SECTION
(SCALE A)



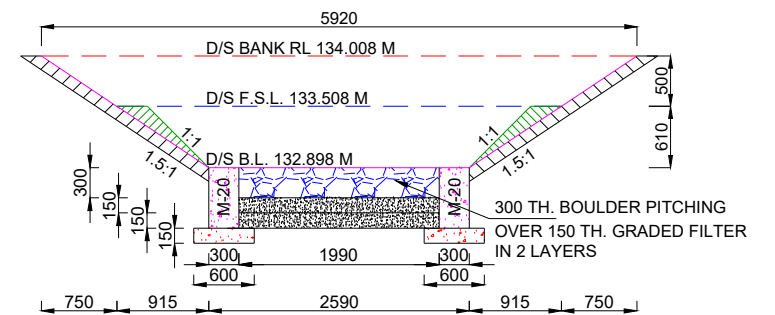
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



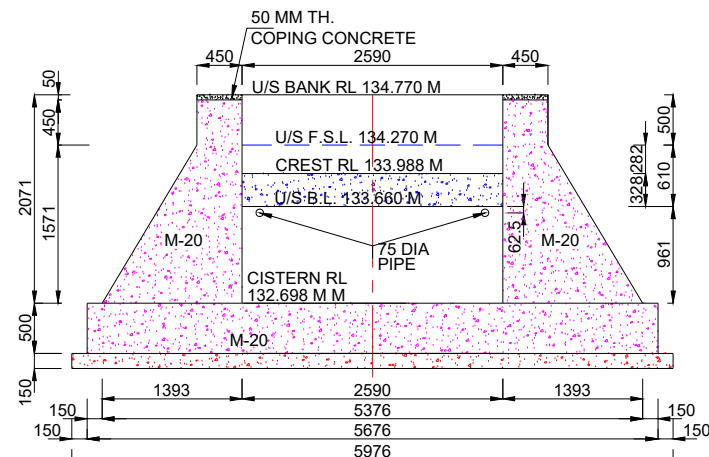
D/S CROSS SECTION
(SCALE A)



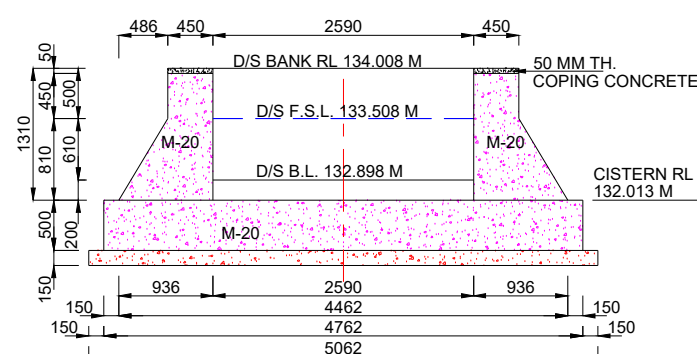
SECTION AT 3-3
(SCALE A)



SECTION AT 4-4
(SCALE A)

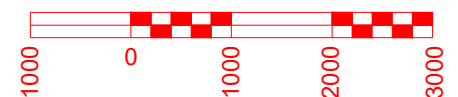


SECTION AT 1-1
(SCALE A)



SECTION AT 2-2
(SCALE A)

SCALE A:-

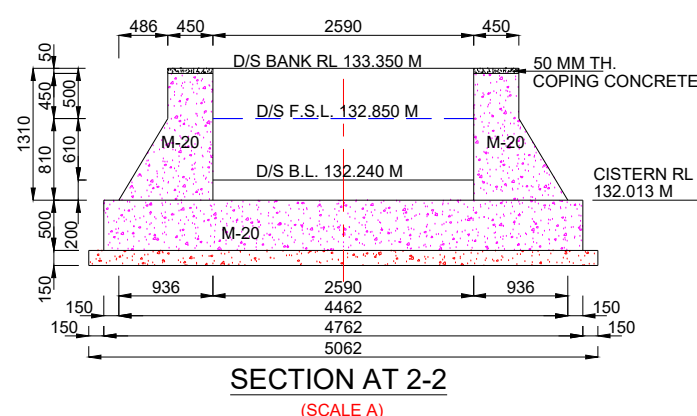
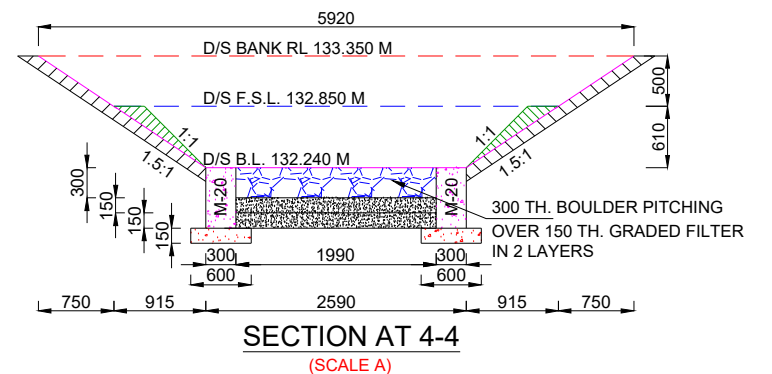
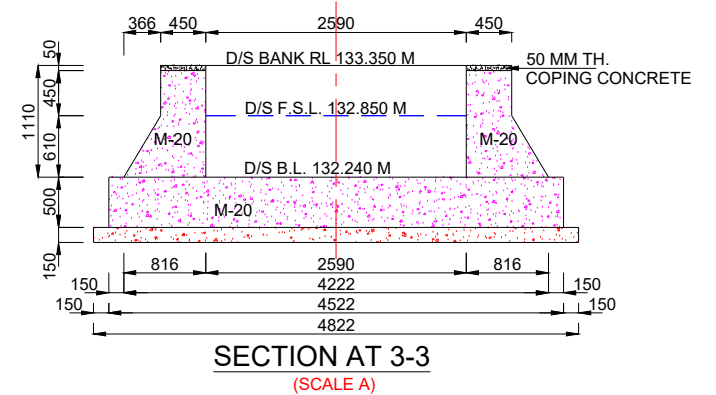
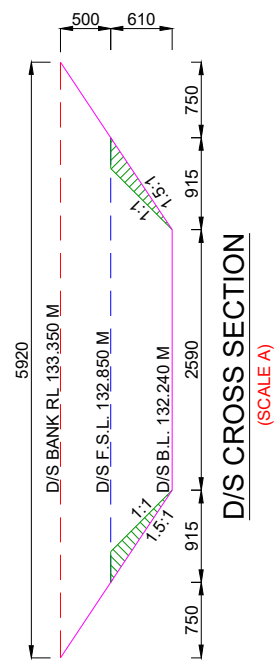
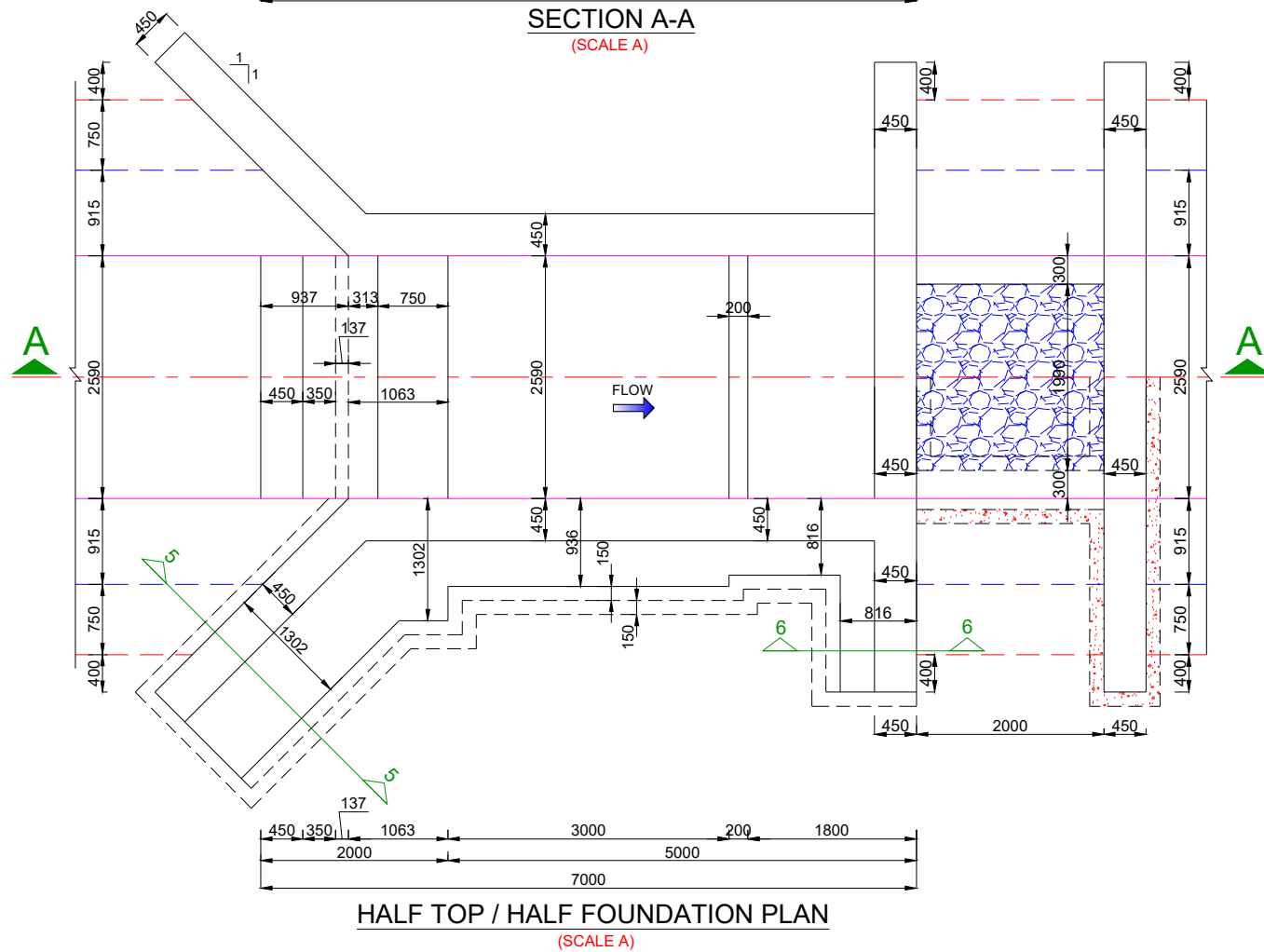
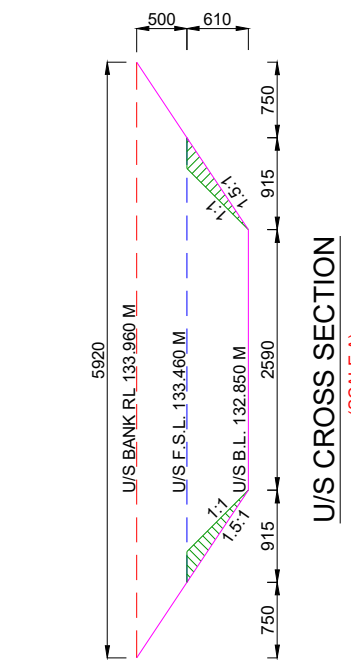


Prepared by :-

WAPCOS LTD.



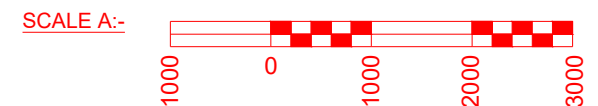
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
Drawing Title :-	SHARDA TYPE 0.762 M HT. FALL AT KM. 1.150 OF KARMA BASANTPUR MR. (OFFTAKE FROM RD 61+531 KM.(L), NORTH KOEL RMC)	
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-018/ FALL	1 of 1



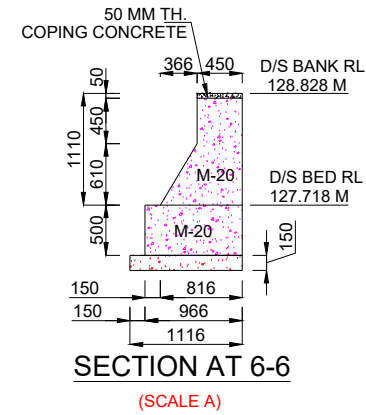
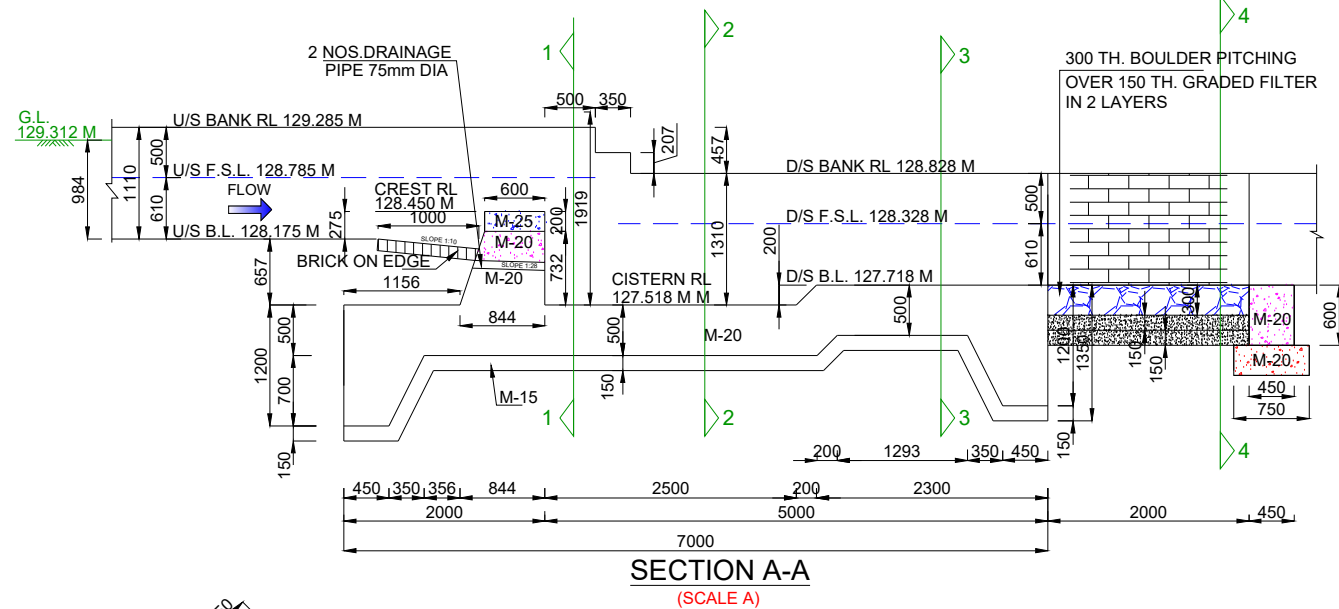
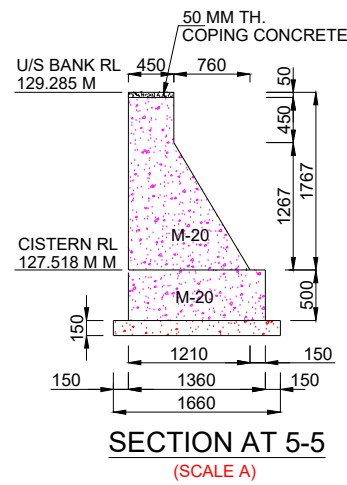
1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.650	0.650	CUMEC
VERTICAL DROP	0.610	0.610	METRE
FULL SUPPLY DEPTH	0.610	0.610	METRE
BED WIDTH	2.590	2.590	METRE
BED SLOPE	1 : 3000	1 : 3000	



Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND		
Drawing Title :-	SHARDA TYPE 0.610 M HT. FALL AT KM. 1.340 OF KARMA BASANTPUR MR. (OFFTAKE FROM RD 61+531 KM.(L), NORTH KOEL RMC)		
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-018/ FALL	1 of 1	



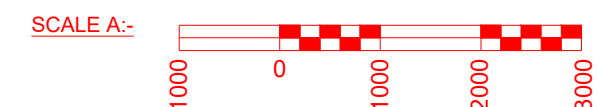
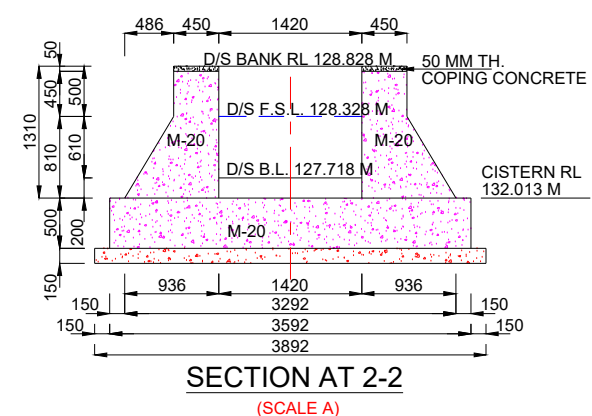
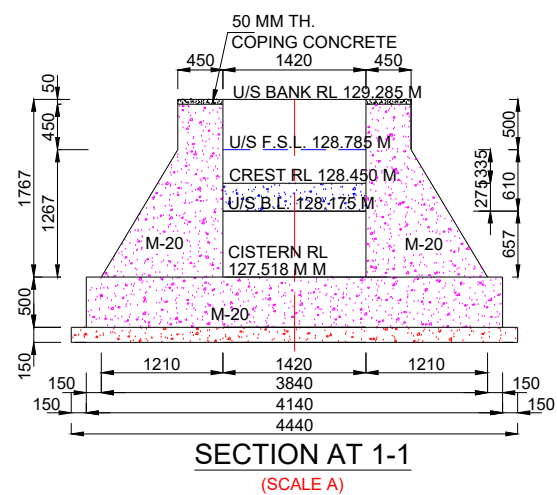
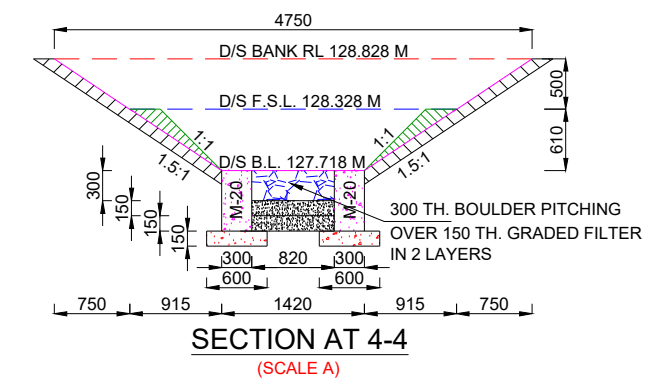
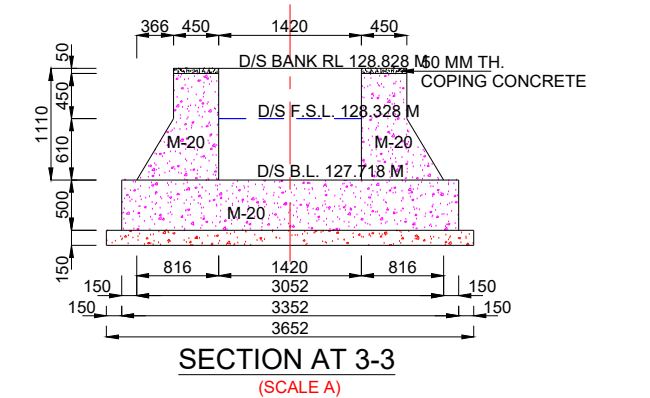
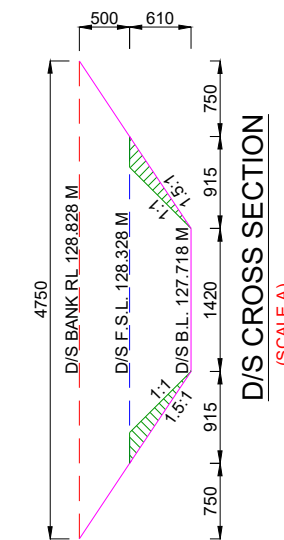
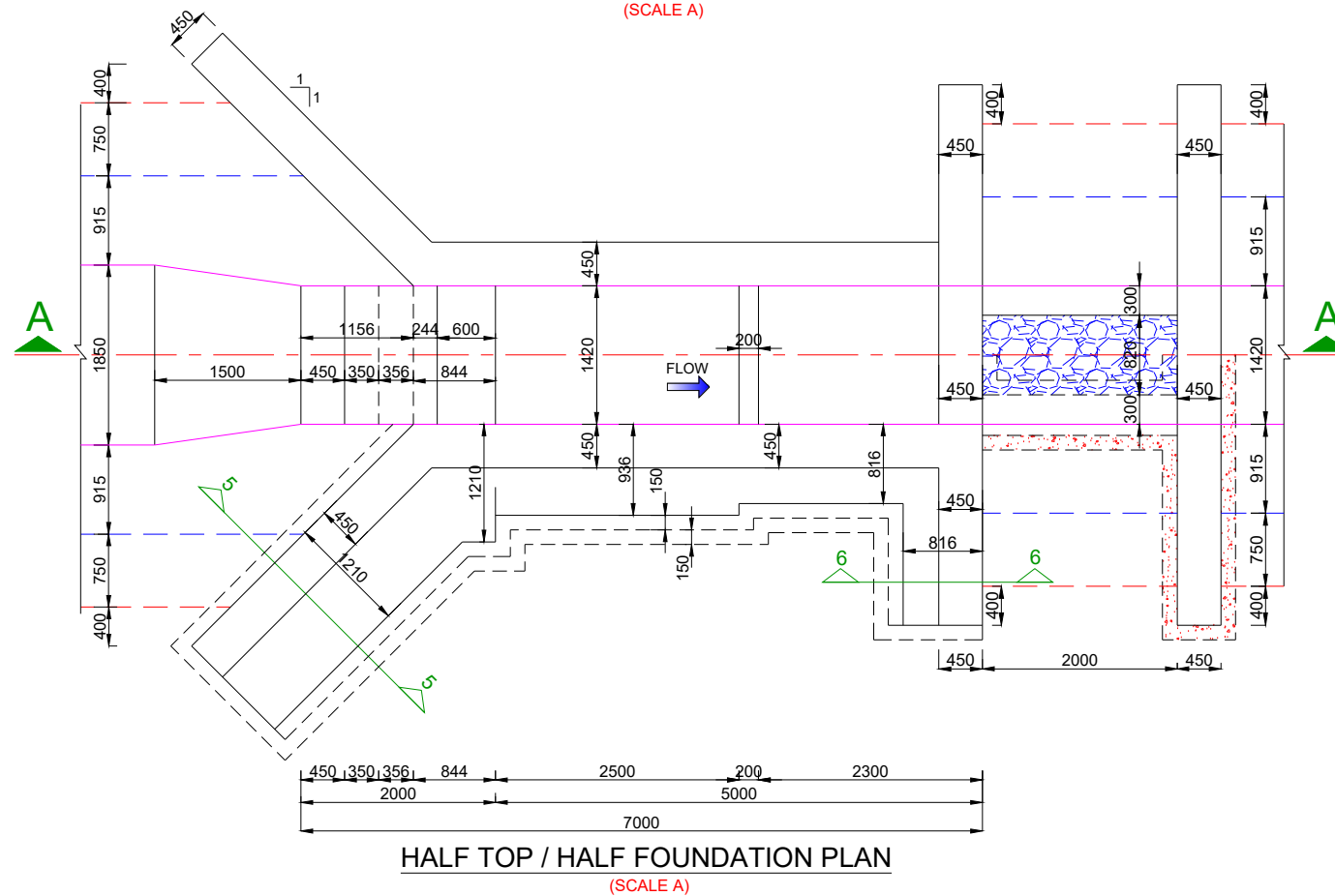
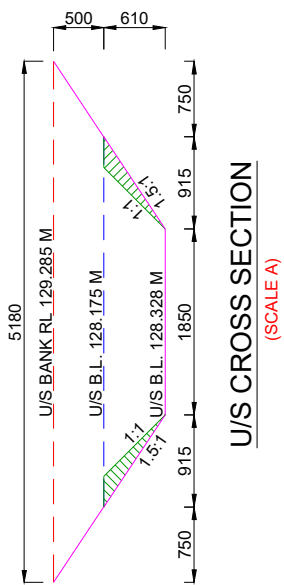
NOTES:-

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

COMPONENT	GRADE
FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.510	0.510	CUMEC
VERTICAL DROP	0.457	0.457	METRE
FULL SUPPLY DEPTH	0.610	0.610	METRE
BED WIDTH	1.850	1.420	METRE
BED SLOPE	1 : 3000	1 : 3000	



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Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

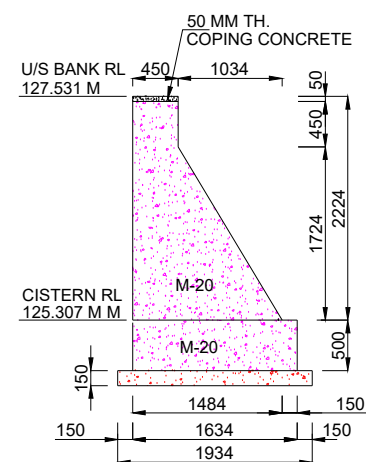
Drawing Title :-

SHARDA TYPE 0.457 M HT. FALL AT KM. 3.250 OF KARMA BASANTPUR MR. (OFFTAKE FROM RD 61+531 KM.(L), NORTH KOEL RMC)

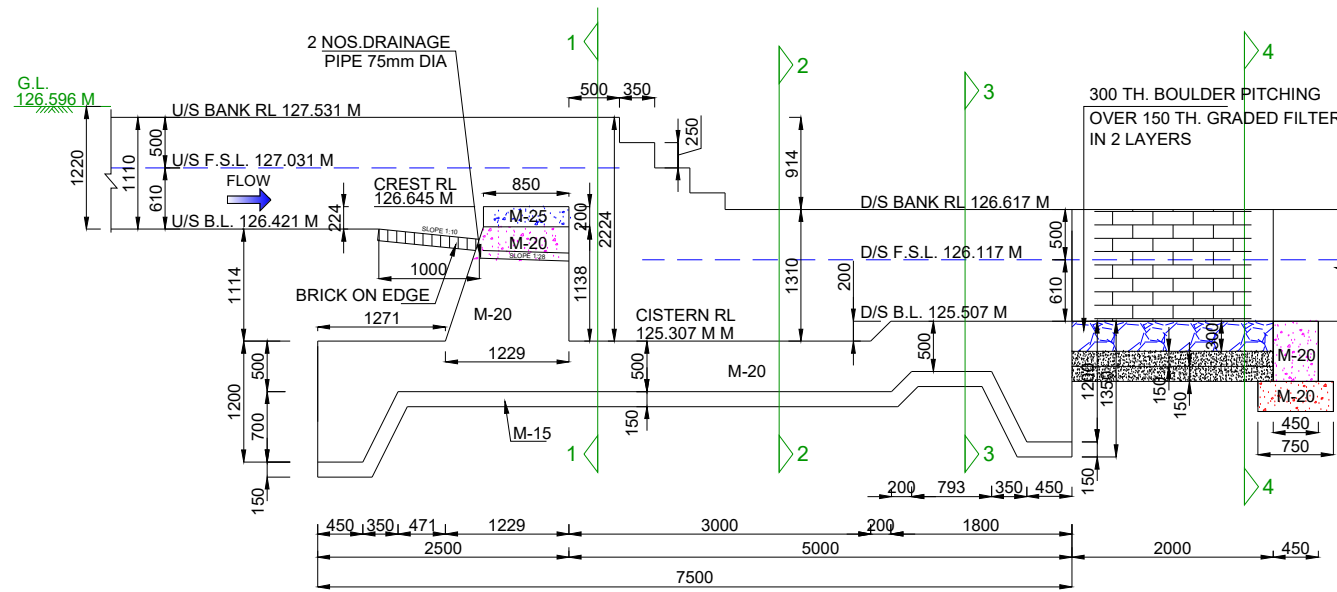
Drawing No. :-

WAP/ INFRA/ NORTHKOEL/ BC/ R-018/ FALL

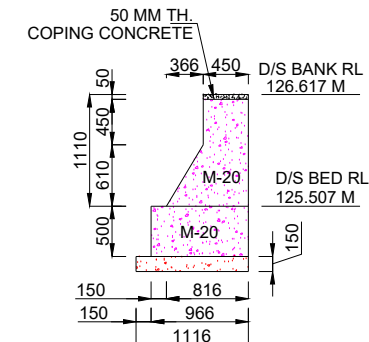
1 of 1



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



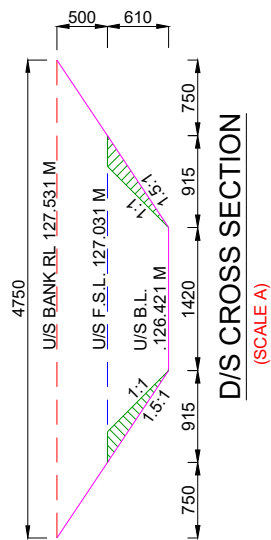
SECTION AT 6-6
(SCALE A)

NOTES:-

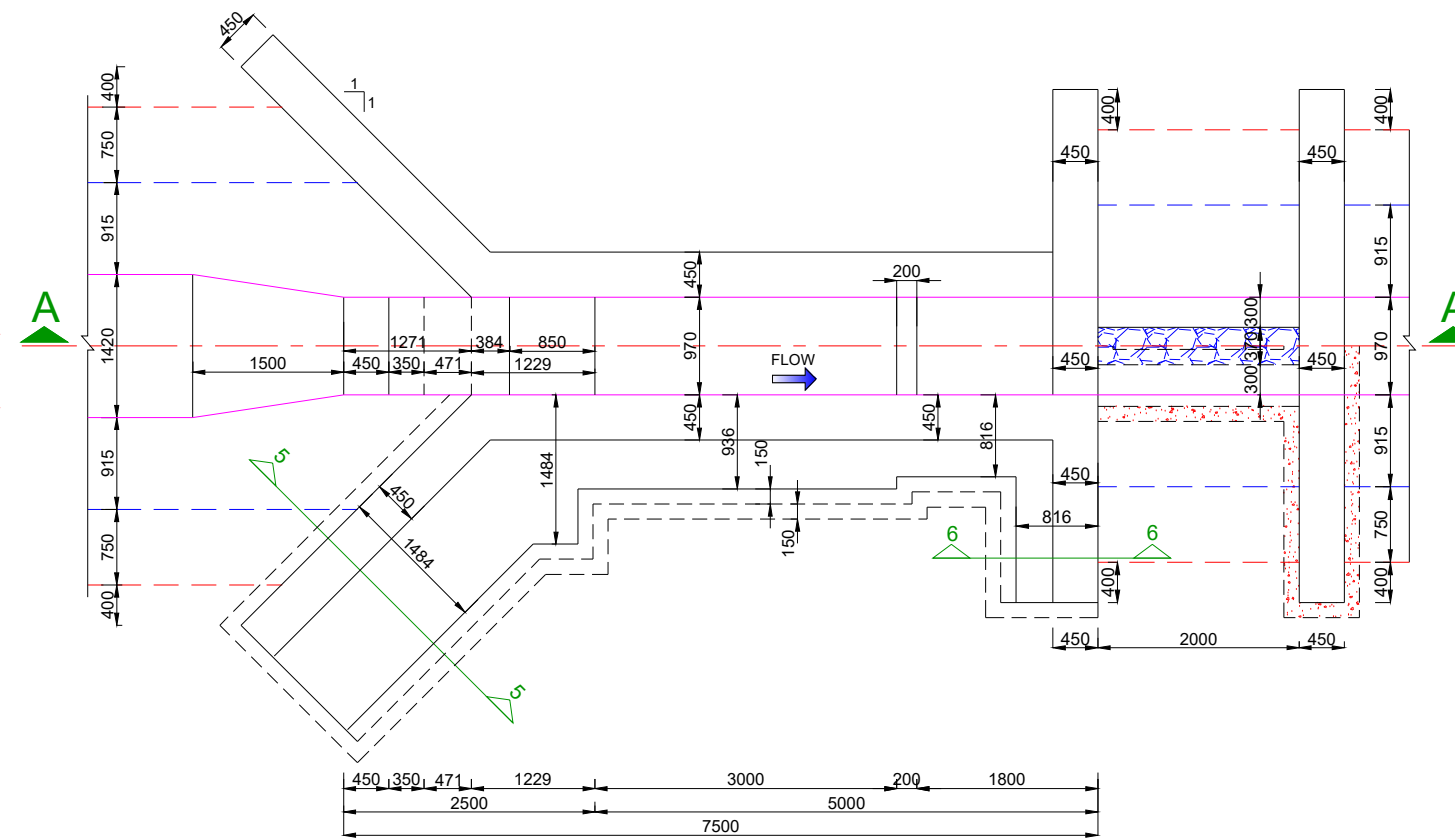
1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,
FLOOR M 20
FOUNDATION OF ABUTMENTS & WING WALL M 20
PCC UNDER FLOOR M 15
ABUTMENTS / WING WALLS M 20
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

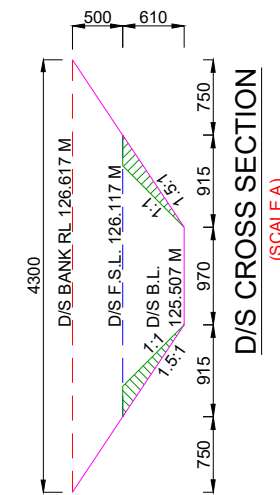
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.400	0.400	CUMEC
VERTICAL DROP	0.914	0.914	METRE
FULL SUPPLY DEPTH	0.610	0.610	METRE
BED WIDTH	1.420	0.970	METRE
BED SLOPE	1 : 3000	1 : 3000	



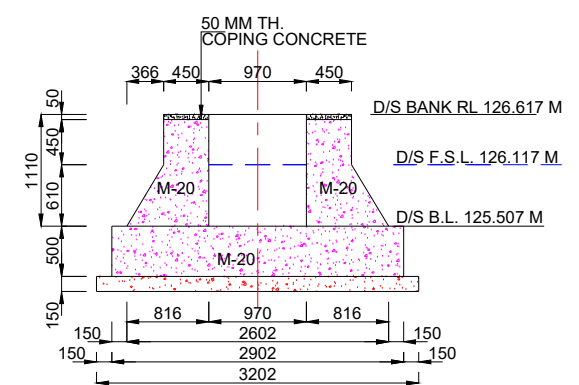
D/S CROSS SECTION
(SCALE A)



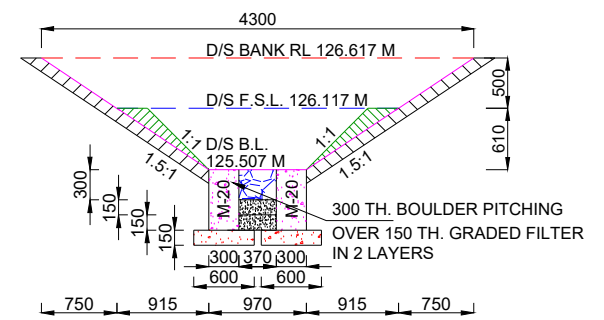
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



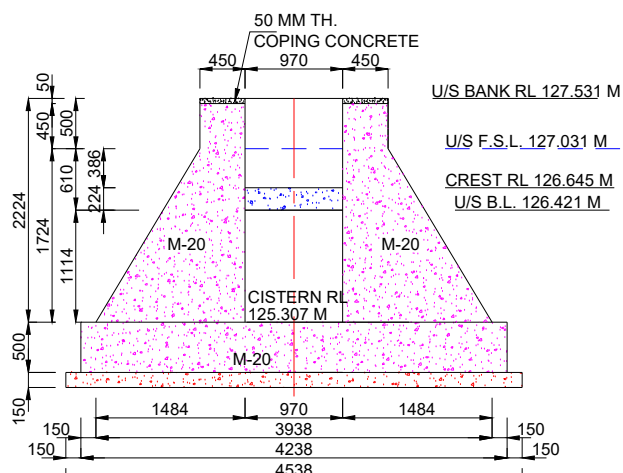
D/S CROSS SECTION
(SCALE A)



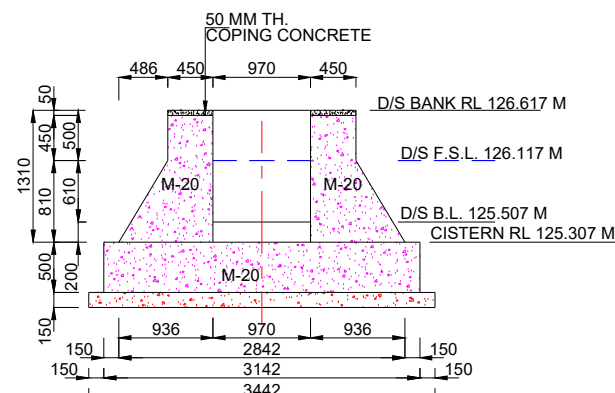
SECTION AT 3-3
(SCALE A)



SECTION AT 4-4
(SCALE A)

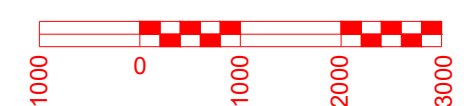


SECTION AT 1-1
(SCALE A)



SECTION AT 2-2
(SCALE A)

SCALE A:-

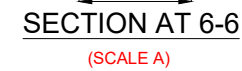


Prepared by :-

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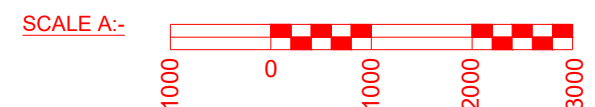
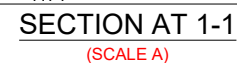
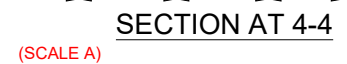
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
Drawing Title :-	SHARDA TYPE 0.914 M HT. FALL AT KM. 4.400 OF KARMA BASANTPUR MR. (OFFTAKE FROM RD 61+531 KM.(L), NORTH KOEL RMC)	
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-018/ FALL	1 of 1



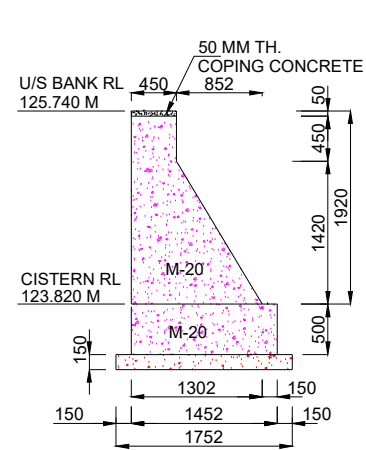
1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

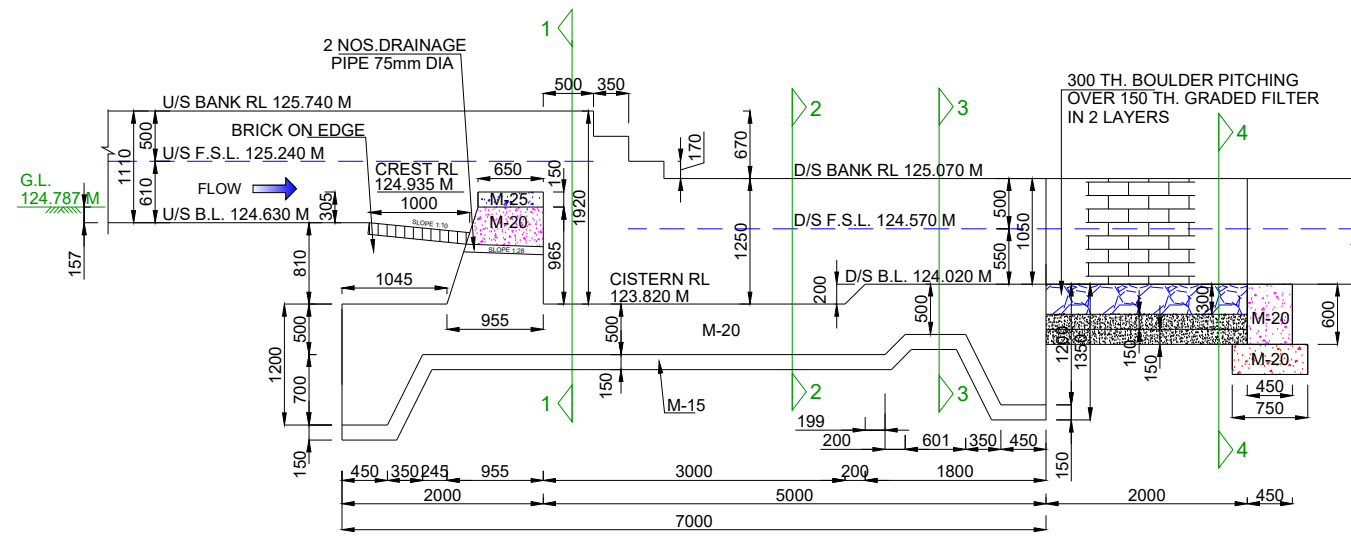
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.270	0.270	CUMEC
VERTICAL DROP	0.610	0.610	METRE
FULL SUPPLY DEPTH	0.610	0.610	METRE
BED WIDTH	0.970	0.970	METRE
BED SLOPE	1 : 3000	1 : 3000	



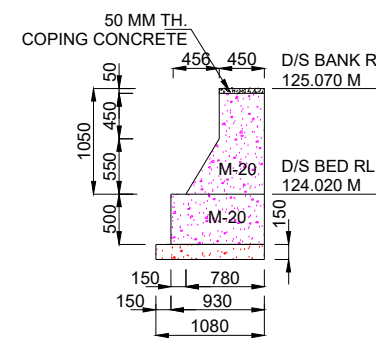
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND		
Drawing Title :-	SHARDA TYPE 0.610 M HT. FALL AT KM. 4.792 OF KARMA BASANTPUR MR. (OFFTAKE FROM RD 61+531 KM.(L), NORTH KOEL RMC)		
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-018/ FALL	1 of 1	A



SECTION AT 5-5
(SCALE A)



SECTION A-A
(SCALE A)



SECTION AT 6-6
(SCALE A)

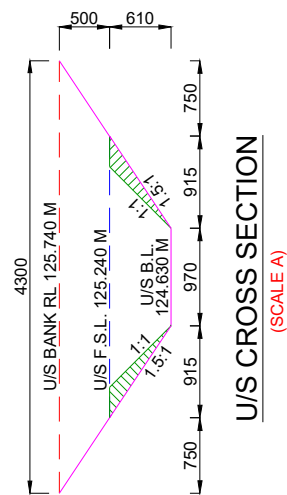
NOTES:-

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN METRES EXCEPT OTHERWISE MENTIONED.
2. THE DRAWING SHALL NOT BE SCALED OFF, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. ALL CONCRETE WORK SHALL CONFORM TO IS: 456 -2000. GRADE OF CONCRETE IN DIFFERENT COMPONENTS SHALL BE AS FOLLOWS,

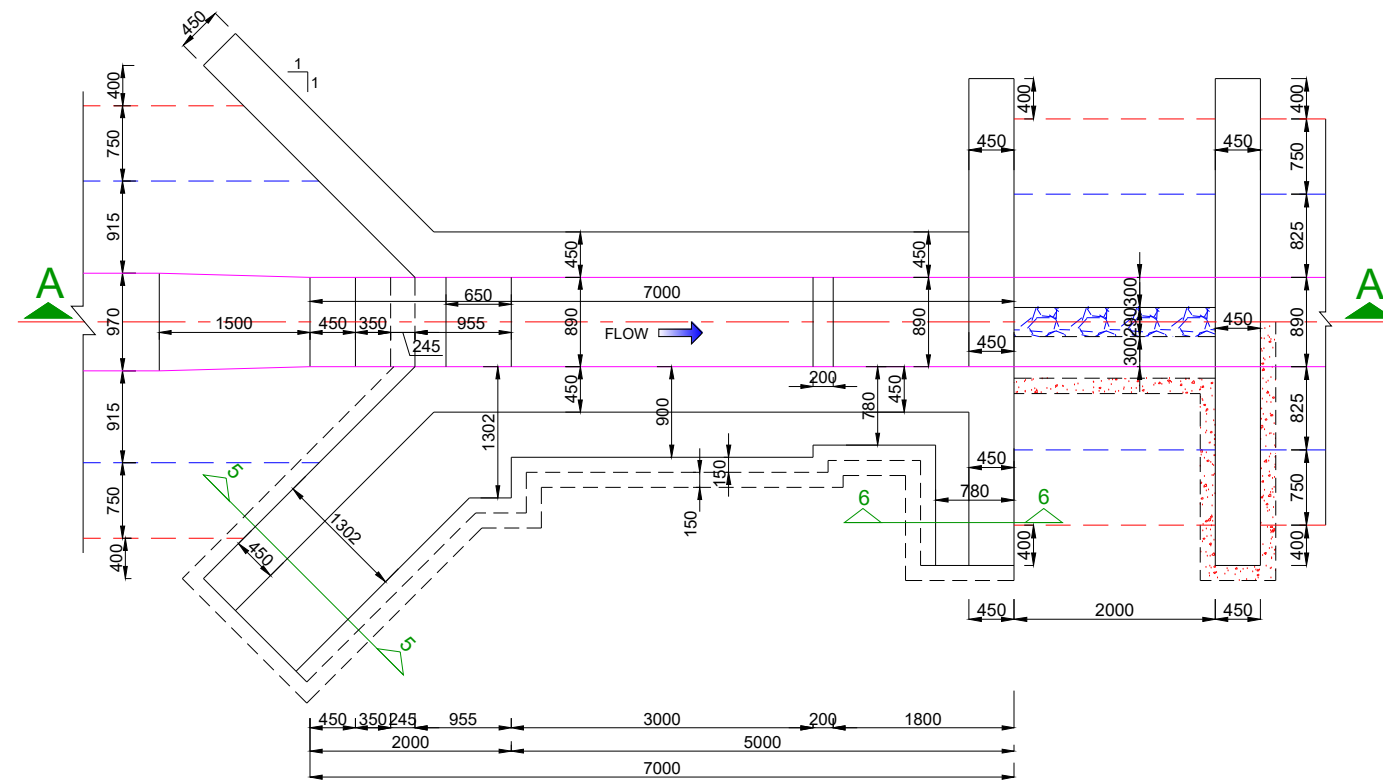
FLOOR	M 20
FOUNDATION OF ABUTMENTS & WING WALL	M 20
PCC UNDER FLOOR	M 15
ABUTMENTS / WING WALLS	M 20
4. ANY OVER DIGGING SHALL BE FILLED BY CONCRETE 1:3:6 GRADE.
5. SKIN REINFORCEMENT SHALL BE PROVIDED IN FLOOR AND ABUTMENT OF 12 MM DIA BARS @ 250 MM.

HYDRAULIC:- DATA

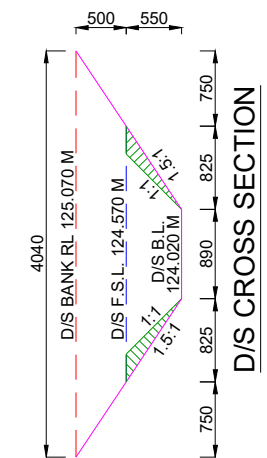
	U/S	D/S	UNIT
FULL SUPPLY DISCHARGE	0.270	0.270	CUMEC
VERTICAL DROP	0.610	0.610	METRE
FULL SUPPLY DEPTH	0.610	0.550	METRE
BED WIDTH	0.970	0.890	METRE
BED SLOPE	1 : 3000	1 : 3000	



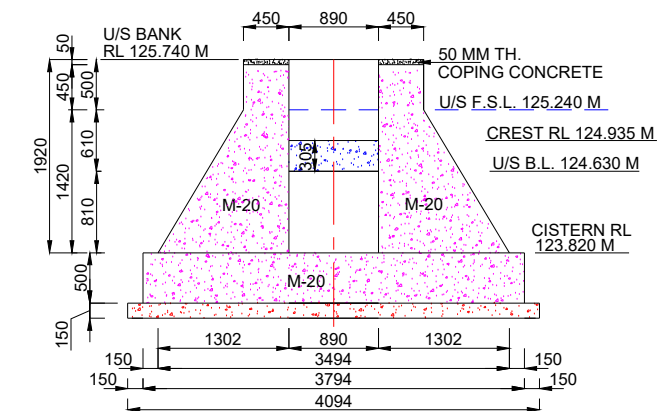
U/S CROSS SECTION
(SCALE A)



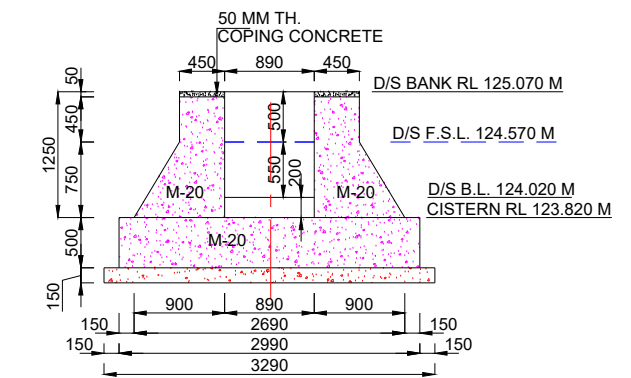
HALF TOP / HALF FOUNDATION PLAN
(SCALE A)



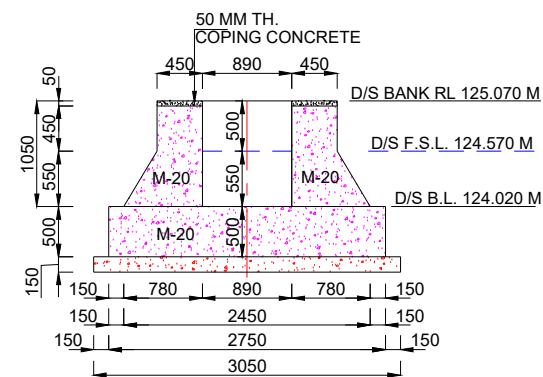
D/S CROSS SECTION
(SCALE A)



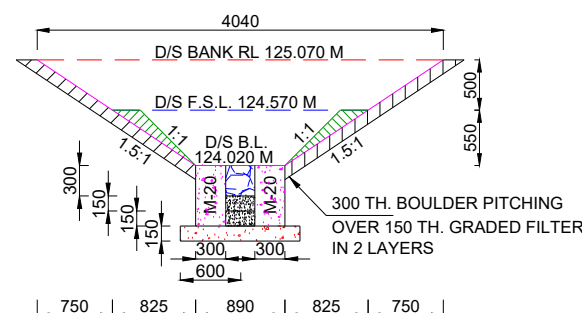
SECTION AT 1-1
(SCALE A)



SECTION AT 2-2
(SCALE A)



SECTION AT 3-3
(SCALE A)



SECTION AT 4-4
(SCALE A)

SCALE A:-



Prepared by :-

WAPCOS LTD.



Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	
Drawing Title :-	SHARDA TYPE 0.610 M HT. FALL AT KM. 5.200 OF KARMA BASANTPUR MR. (OFFTAKE FROM RD 61+531 KM.(L), NORTH KOEL RMC)	
Drawing No. :-	WAP/ INFRA/ NORTHKOEL/ BC/ R-018/ FALL	1 of 1

