

TENDER NO: WAP/NK/JHK/RMC-PKG-2/BALANCE/2026

TENDER DOCUMENT

FOR

**Lining, Repair and Construction of Balance Works of Right Main Canal
& its Structures of Package-2 (RD 17.16 to 31.40 km) under North Koel
Reservoir Project, Jharkhand**

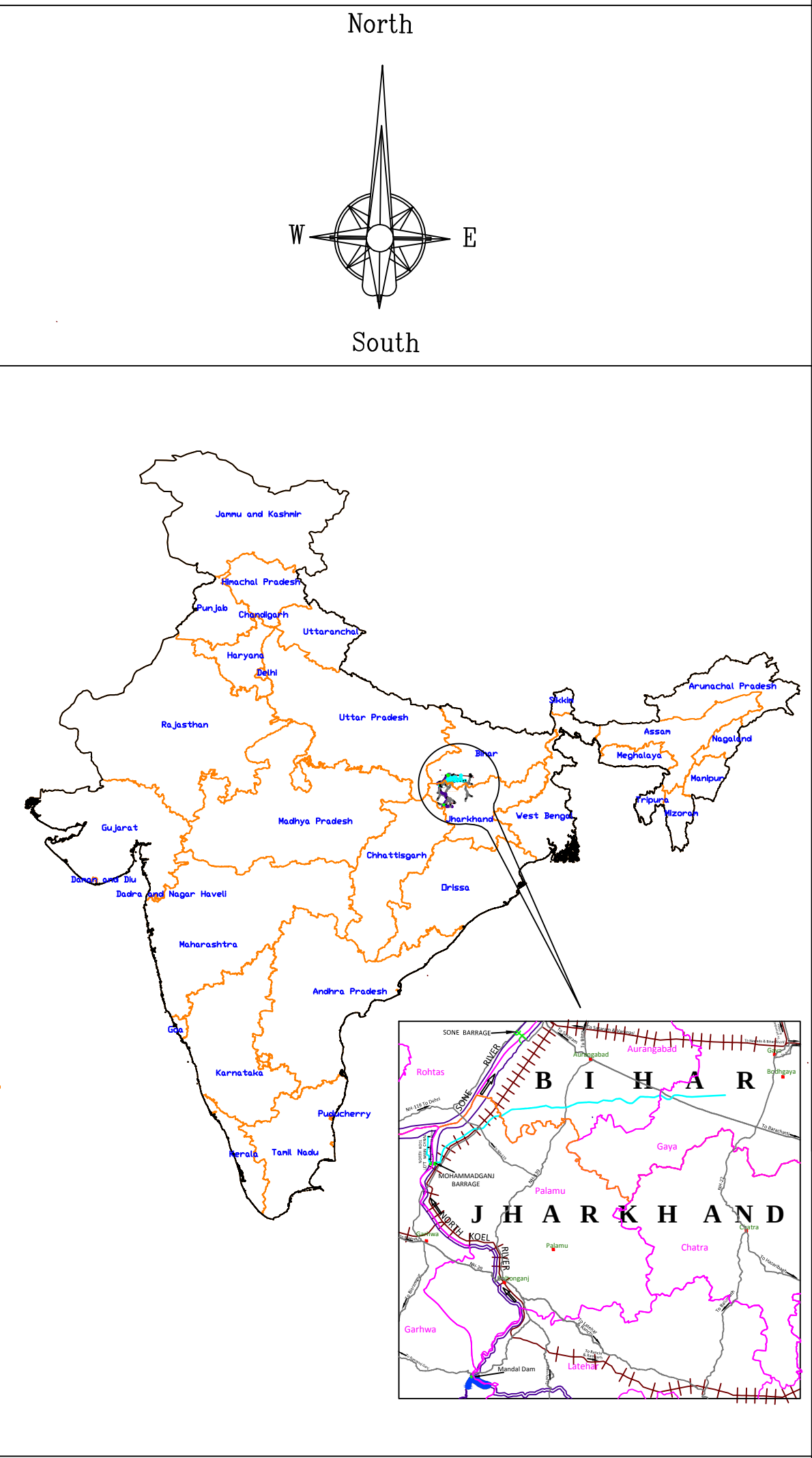
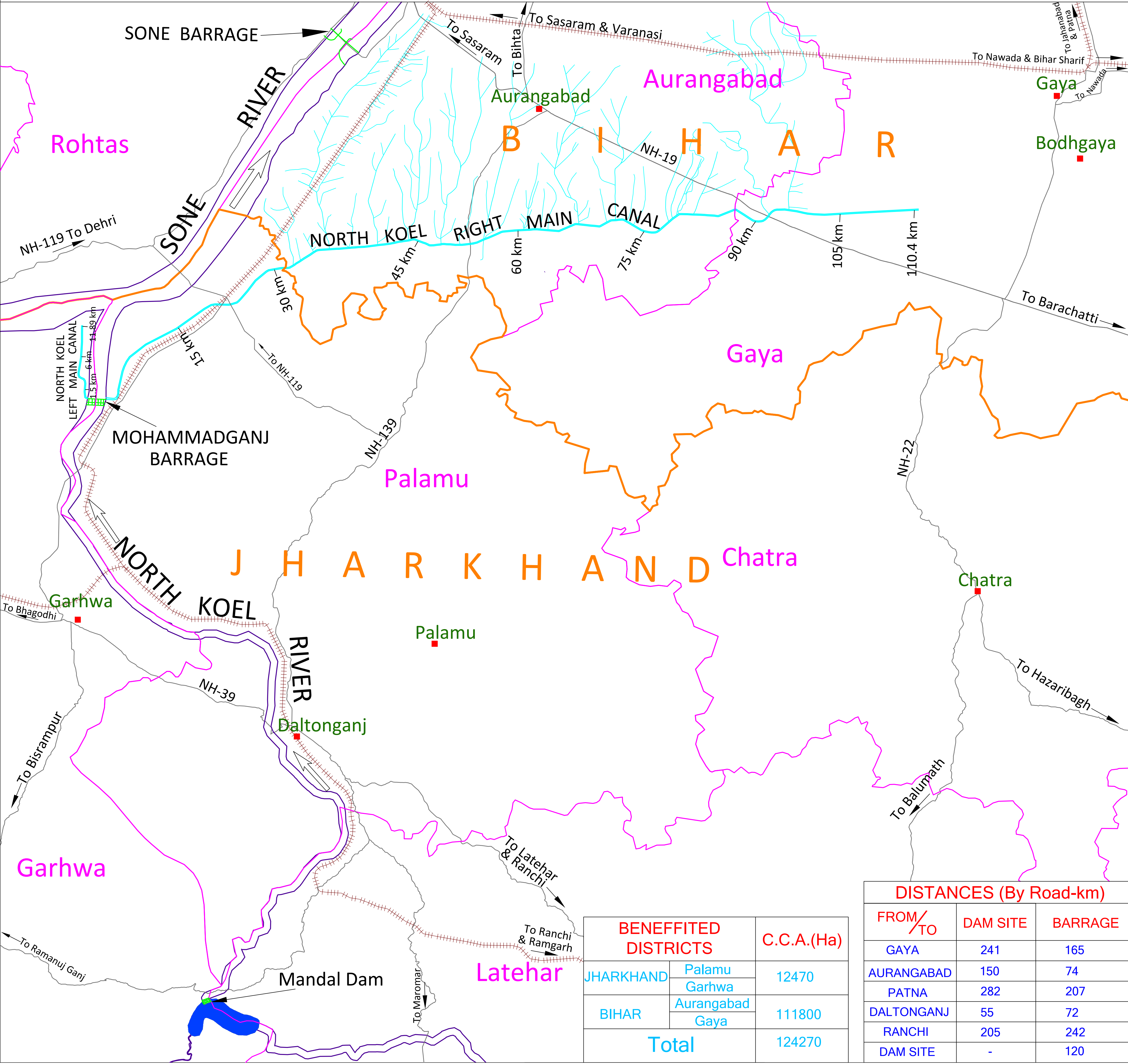
Estimated Cost (Rs. 43.97 Crores)

TENDER NO: WAP/NK/JHK/RMC-PKG-2/BALANCE/2026

TENDER DRAWINGS



INDEX MAP OF NORTH KOEL RESERVOIR PROJECT, JHARKHAND & BIHAR



LEGEND

	Road
	Railway
	Dam/Barrage
	Important Cities/Towns
	State Boundary
	District Boundary
	River
	Canal

Implementing Agency :-

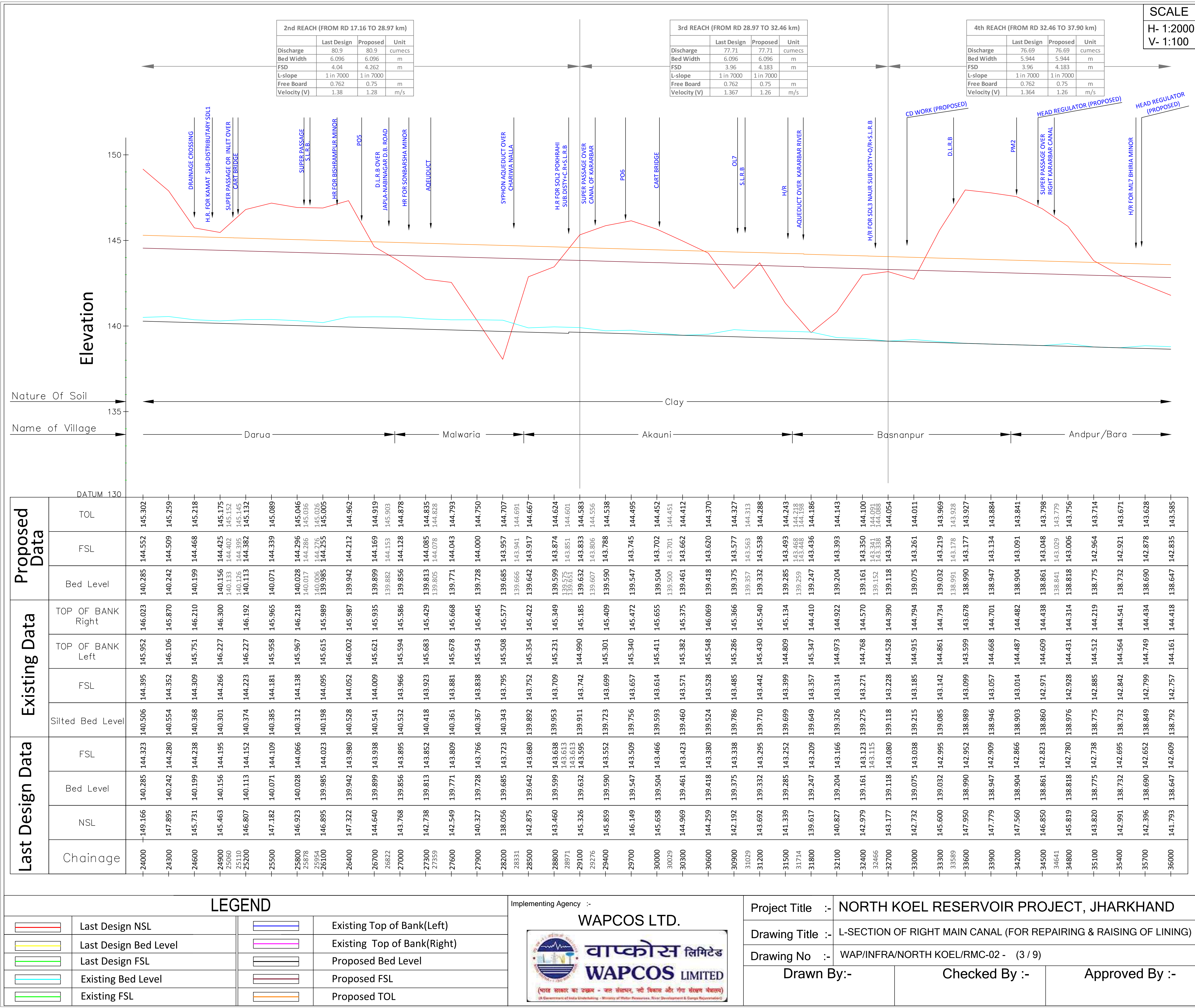


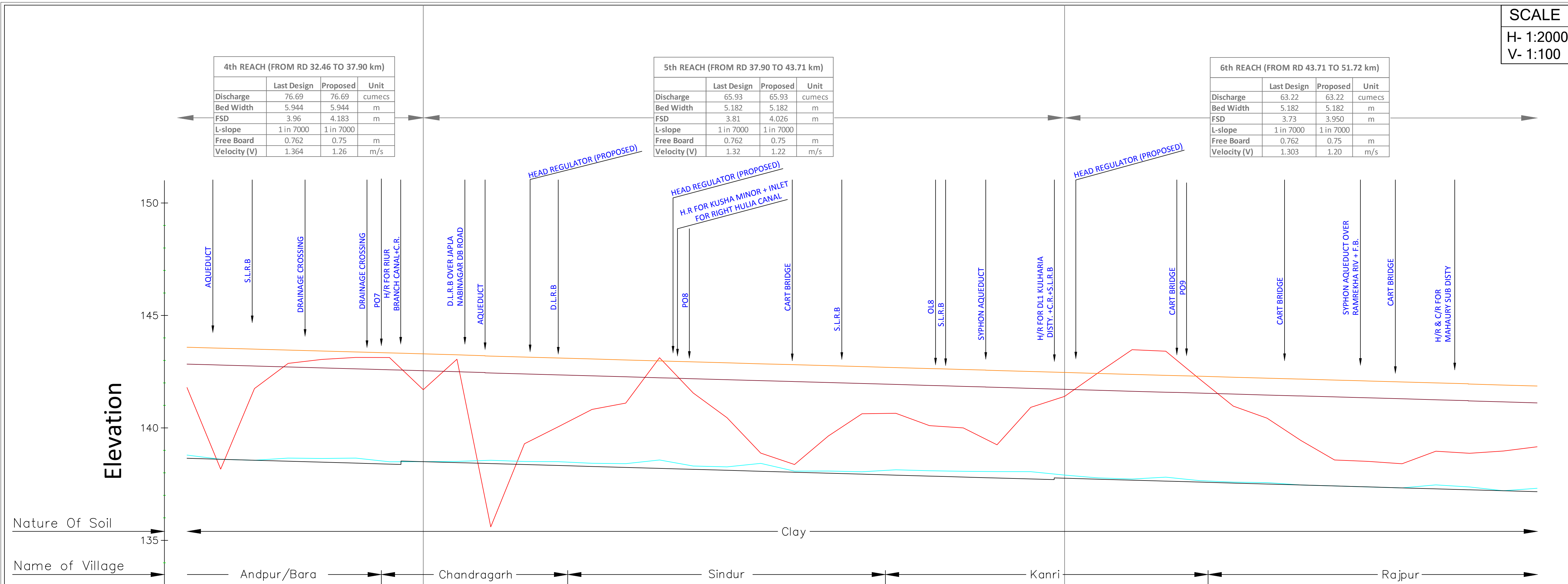
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR & JHARKHAND	
Drawing Title :-	INDEX MAP	
Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-01	

Drawn By :-	Checked By :-	Approved By :-
-------------	---------------	----------------

BENEFFITED DISTRICTS		C.C.A.(Ha)
JHARKHAND	Palamu	12470
	Garhwa	
BIHAR	Aurangabad	111800
	Gaya	
Total		124270

DISTANCES (By Road-km)		
FROM/TO	DAM SITE	BARRAGE
GAYA	241	165
AURANGABAD	150	74
PATNA	282	207
DALTONGANJ	55	72
RANCHI	205	242
DAM SITE	-	120





Last Design Data				Existing Data				Proposed Data		
Chainage	NSL	Bed Level	FSL	Silted Bed Level	FSL	TOP OF BANK Left	TOP OF BANK Right	Bed Level	FSL	DATUM 130
36000	141.793	138.647	142.609	138.792	142.757	144.161	144.418	138.647	142.835	143.585
36229	138.166	138.604	142.566	138.603	142.714	144.206	144.054	138.614	142.804	143.554
36300	141.750	138.561	142.523	138.560	142.671	144.847	144.215	138.564	142.756	143.506
36600	142.869	138.518	142.480	138.655	142.628	143.377	143.889	138.518	142.710	143.460
36900	143.043	138.475	142.438	138.641	142.585	143.646	144.148	138.497	142.689	143.439
37050	143.134	138.432	142.395	138.656	142.542	143.286	143.469	138.475	142.668	143.418
37200	143.128	138.390	142.352	138.493	142.499	142.907	143.603	138.390	142.583	143.333
37500	141.698	138.499	142.309	138.498	142.609	143.737	143.810	138.577	142.570	143.320
37600	143.055	138.456	142.266	138.508	142.566	143.744	143.760	138.499	142.541	143.291
37800	135.599	138.413	142.223	138.561	142.523	143.250	143.256	138.456	142.498	143.248
37902	143.128	138.390	142.338	138.498	142.609	143.737	143.810	138.447	142.486	143.236
38100	143.055	138.456	142.266	138.508	142.566	143.744	143.760	138.421	142.468	143.218
38400	135.599	138.413	142.223	138.561	142.523	143.250	143.256	138.413	142.441	143.191
38466	139.000	138.371	142.180	138.504	142.480	143.367	143.365	138.371	142.399	143.149
38649	140.050	138.328	142.138	138.495	142.437	143.366	143.122	138.328	142.357	143.107
38700	140.821	138.285	142.095	138.425	142.394	143.363	143.376	138.285	142.314	143.064
39000	141.101	138.242	142.052	138.407	142.351	143.419	143.317	138.242	142.271	143.021
40200	143.119	138.199	142.009	138.574	142.309	142.809	143.434	138.199	142.228	142.978
40310	141.552	138.156	141.966	138.305	142.266	143.239	142.952	138.156	142.185	142.935
40500	140.452	138.113	141.923	138.267	142.223	143.056	143.815	138.113	142.142	142.892
40800	138.879	138.071	141.880	138.422	142.180	142.561	142.742	138.071	142.099	142.849
41100	138.370	138.028	141.838	138.077	142.137	142.899	142.651	138.031	142.062	142.812
41380	139.638	137.985	141.795	138.080	142.094	142.830	143.303	137.985	142.016	142.766
41700	140.629	137.942	141.752	138.047	142.051	142.694	142.507	137.968	142.000	142.750
41819	140.650	137.899	141.709	138.138	142.009	142.623	142.496	137.942	141.974	142.724
42000	140.101	137.856	141.666	138.095	141.966	141.994	142.402	137.899	141.931	142.681
42710	140.001	137.813	141.623	138.069	141.923	142.957	142.899	137.856	141.888	142.638
42900	139.248	137.771	141.580	138.056	141.880	143.113	143.088	137.841	141.874	142.624
43099	140.915	137.728	141.538	138.054	141.837	142.966	143.185	137.785	141.819	142.569
43500	141.400	137.761	141.495	137.903	141.870	143.158	142.704	142.566	141.816	142.566
43708	141.400	137.761	141.495	137.903	141.870	143.158	142.704	142.508	141.758	142.508
43800	142.451	137.718	141.452	137.774	141.827	143.302	143.384	142.478	141.728	142.478
44100	143.479	137.675	141.409	137.726	141.785	142.341	142.765	141.714	141.714	142.464
44400	143.411	137.632	141.366	137.811	141.742	143.388	143.236	141.672	142.422	142.422
44700	142.171	137.590	141.323	137.653	141.699	143.090	143.173	141.586	142.336	142.336
44800	139.440	137.461	141.195	137.460	141.570	142.694	142.911	141.575	142.325	142.325
45000	138.571	137.418	141.152	137.417	141.527	142.702	142.974	141.546	142.296	142.296
46200	138.510	137.375	141.109	137.374	141.485	142.568	142.655	141.504	142.254	142.254
46427	138.407	137.332	141.066	137.331	141.442	142.321	142.234	141.461	142.211	142.211
46500	138.961	137.290	141.023	137.465	141.399	142.417	142.474	141.346	142.096	142.096
46741	138.870	137.247	140.980	137.374	141.356	142.474	142.473	141.302	142.052	142.052
46800	138.971	137.204	140.938	137.203	141.313	142.354	142.470	141.293	142.043	142.043
47100	138.971	137.204	140.938	137.203	141.313	142.354	142.470	141.250	142.000	142.000
47388	138.971	137.204	140.938	137.203	141.313	142.354	142.470	141.200	141.950	141.950
47400	138.971	137.204	140.938	137.203	141.313	142.354	142.470	141.198	141.948	141.948
47700	138.971	137.204	140.938	137.203	141.313	142.354	142.470	141.155	141.905	141.905
48000	138.971	137.204	140.938	137.203	141.313	142.354	142.470	141.112	141.862	141.862

LEGEND				Implementing Agency :-  WAPCOS LTD.	Project Title :- NORTH KOEL RESERVOIR PROJECT, JHARKHAND		
	Last Design NSL		Existing Top of Bank(Left)		Drawing Title :- L-SECTION OF RIGHT MAIN CANAL (FOR REPAIRING & RAISING OF LINING)		
	Last Design Bed Level		Existing Top of Bank(Right)		Drawing No :- WAP/INFRA/NORTH KOEL/RMC-02 - (4 / 9)		
	Last Design FSL		Proposed Bed Level		Drawn By:- Checked By :- Approved By :-		
	Existing Bed Level		Proposed FSL				
	Existing FSL		Proposed TOL				

SCALE

H- 1:2000

V- 1:100

Last Design Data			Existing Data			Proposed Data	
Chainage	NSL	Bed Level	FSL	Silted Bed Level	FSL	TOP OF BANK Left	TOP OF BANK Right
60000	136.261	135.066	138.723	135.368	139.178	140.217	140.210
60300	135.261	135.023	138.680	135.459	139.135	140.448	140.440
60442							
60600	137.559	134.980	138.637	135.362	139.092	140.384	139.928
60890							
60900	134.161	134.937	138.595	135.289	139.049	140.038	139.961
61200	135.261	134.894	138.552	135.219	139.007	140.014	139.921
61500	137.980	134.852	138.509	135.255	138.964	140.105	140.220
61800	137.419	134.809	138.466	135.110	138.921	139.994	139.996
62100	136.575	134.766	138.423	135.111	138.878	140.022	139.997
62400	135.441	134.723	138.380	135.237	138.835	139.828	139.718
62600							
62700	133.359	134.680	138.337	135.551	138.792	139.688	139.575
62880							
63000	133.950	134.637	138.295	134.946	138.749	139.812	139.720
63300	134.871	134.594	138.252	135.197	138.707	139.994	139.832
63600	136.081	134.552	138.209	135.163	138.664	140.264	140.183
63900	136.660	134.509	138.166	135.090	138.621	140.322	140.218
64200	135.700	134.466	138.123	134.518	138.578	140.302	140.220
64343							
64429							
64500	135.200	134.423	138.080	134.508	138.535	140.142	140.155
64800	135.941	134.380	138.037	134.540	138.492	140.059	140.105
65100	135.630	134.337	137.995	134.473	138.449	139.864	139.898
65340							
65400	136.051	134.294	137.952	134.599	138.407	139.804	139.485
65700	135.161	134.252	137.909	134.433	138.364	139.701	139.598
66000	135.279	134.209	137.866	134.266	138.321	139.598	139.564
66209							
66300	133.999	134.166	137.823	134.278	138.278	139.973	140.036
66600	132.201	134.123	137.780	134.245	138.235	139.784	139.669
66728							
66900	135.660	134.080	137.737	134.291	138.192	139.877	139.821
66989							
67200	135.493	134.037	137.695	134.039	138.588	139.952	140.162
67500	135.660	133.994	137.652	134.474	138.107	139.644	139.823
67608							
67800	135.542	133.952	137.609	134.422	138.064	139.738	139.866
68100	136.700	133.909	137.566	134.581	138.021	139.363	139.414
68367			137.529				
68400	136.139	133.866	137.523	134.169	137.978	139.159	139.159
68671							
68700	136.901	133.823	137.480	134.128	137.935	139.175	139.515
69000	135.898	133.780	137.437	134.002	137.892	140.340	138.319
69300	135.679	133.737	137.395	133.940	137.849	139.595	138.970
69525							
69600	136.209	133.695	137.352	133.836	137.807	139.298	139.208
69857							
69900	136.428	133.652	137.309	133.748	137.764	139.012	139.159
70200	136.358	133.609	137.266	133.820	137.721	138.950	138.972
70330							
70500	135.819	133.566	137.223	133.830	137.678	139.085	139.097
70800	134.188	133.523	137.180	133.845	137.635	138.689	138.634
71018							
71100	134.109	133.480	137.137	133.662	137.592	138.795	138.616
71400	135.599	133.437	137.095	133.576	137.549	138.620	138.511
71598							
71700	135.401	133.395	137.052	133.653	137.507	138.690	139.040
71990							
72000	135.721	133.352	137.009	133.770	137.464	138.078	138.508

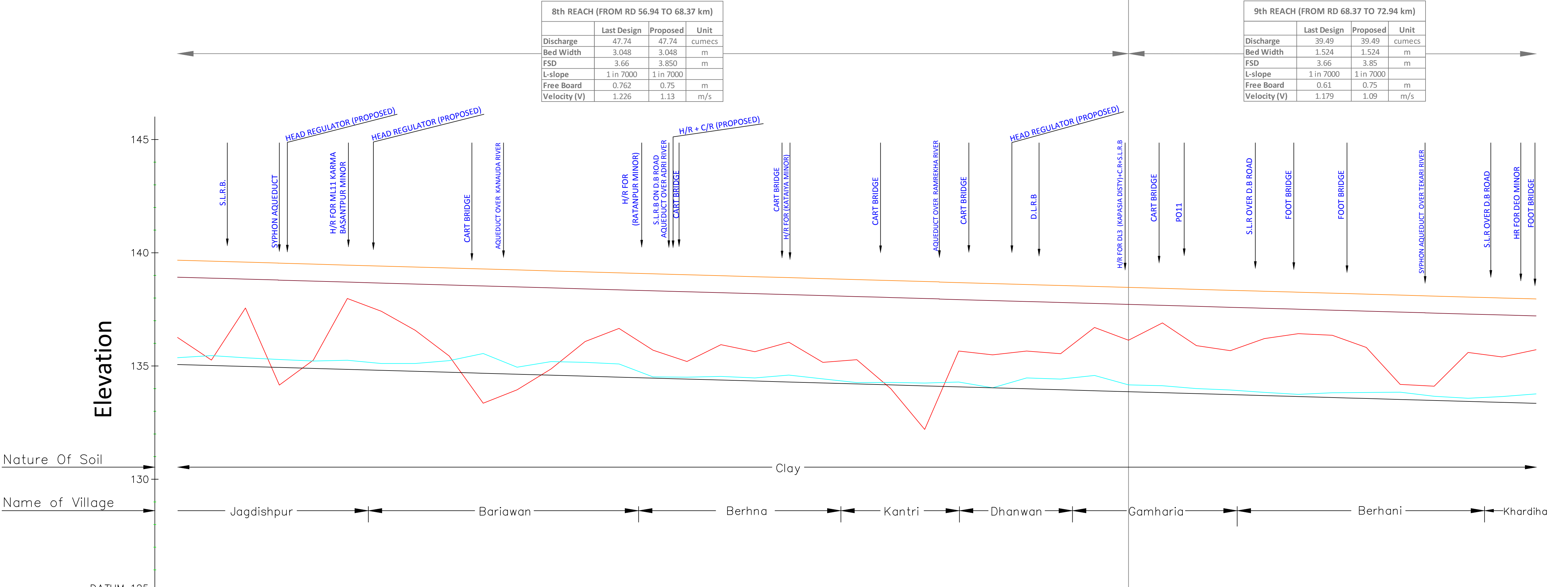
LEGEND			
	Last Design NSL		Existing Top of Bank(Left)
	Last Design Bed Level		Existing Top of Bank(Right)
	Last Design FSL		Proposed Bed Level
	Existing Bed Level		Proposed FSL
	Existing FSL		Proposed TOL

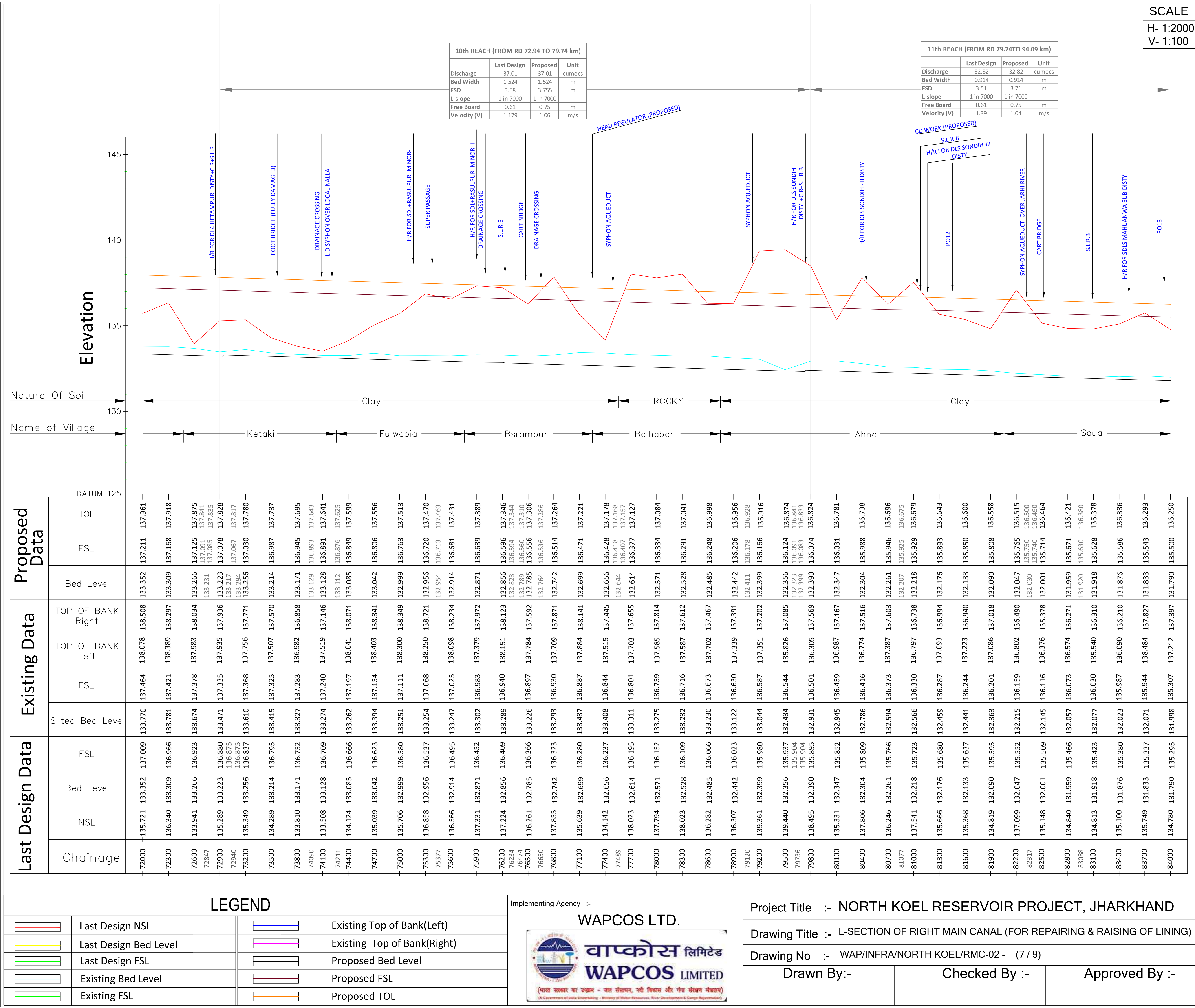
Implementing Agency :-

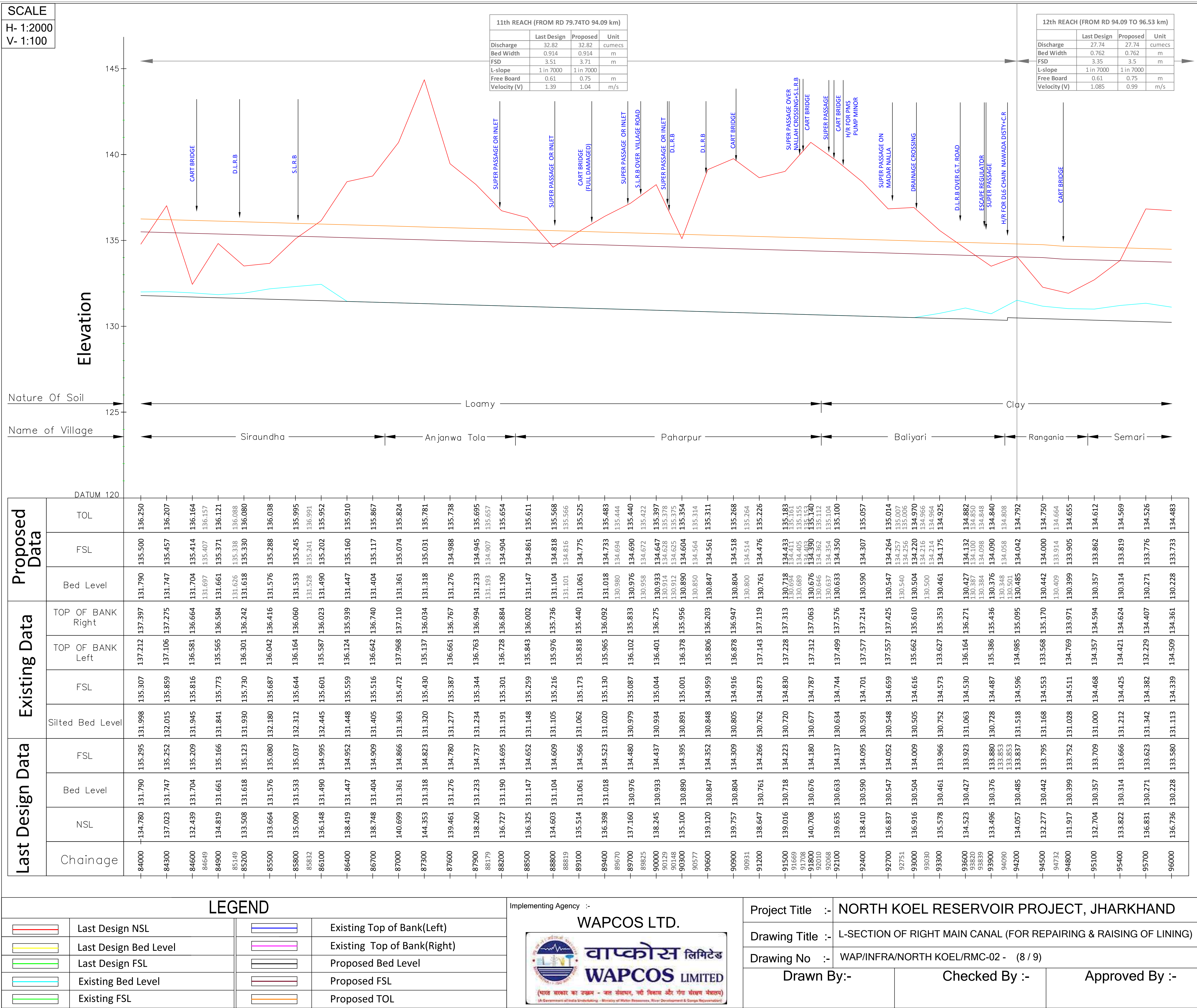


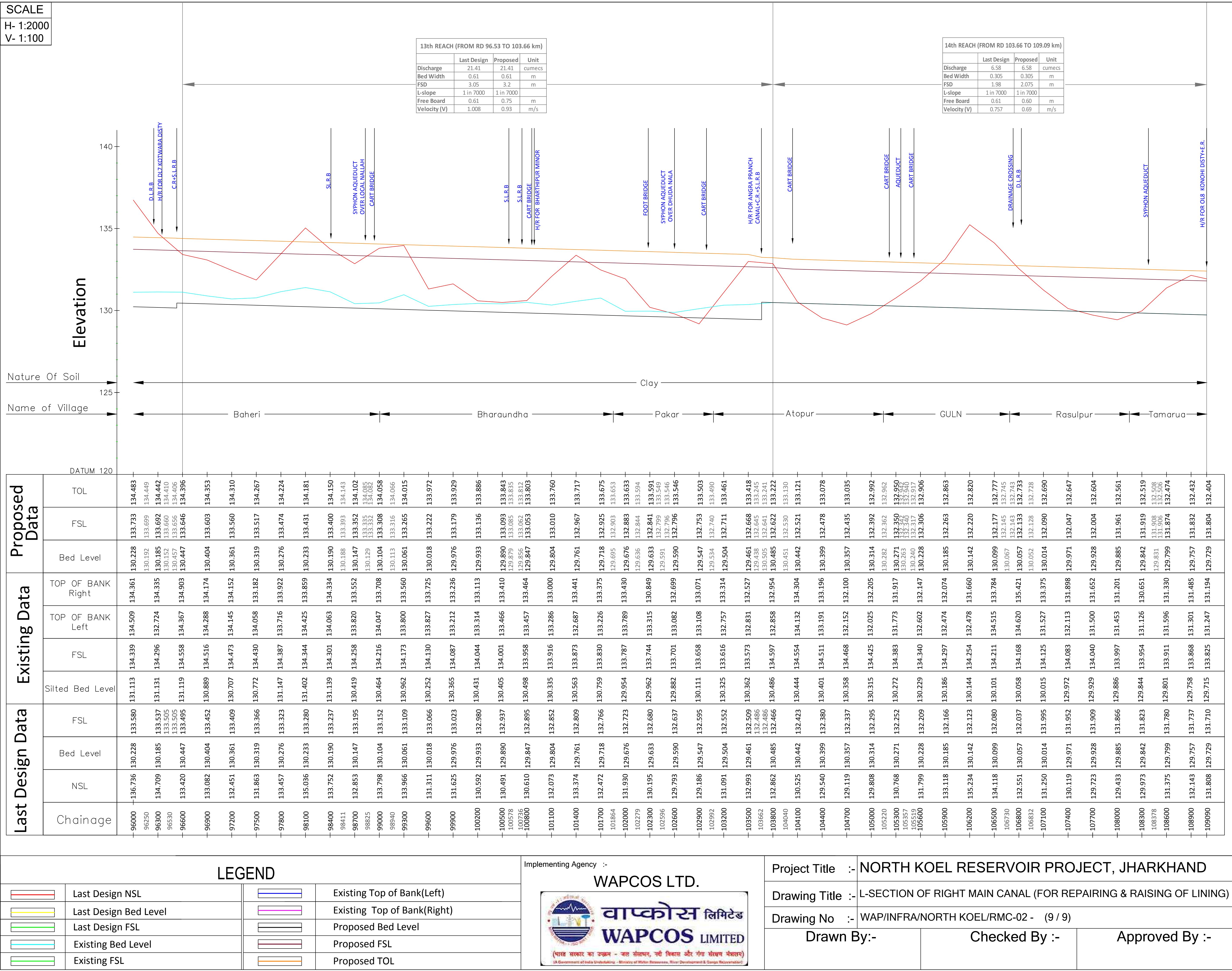
WAPCOS LTD.
वाष्कोस लिमिटेड
WAPCOS LIMITED
(भारत सरकार का उद्योग - जल संवर्धन, नदी विकास और गंगा संरक्षण में) (A Government of India Undertaking - Ministry of Water Resources, River Development & Ganga Rejuvenation)

Project Title :-	NORTH KOEL RESERVOIR PROJECT, JHARKHAND		
Drawing Title :-	L-SECTION OF RIGHT MAIN CANAL (FOR REPAIRING & RAISING OF LINING)		
Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-02 - (6 / 9)		
Drawn By:-		Checked By :-	Approved By :-

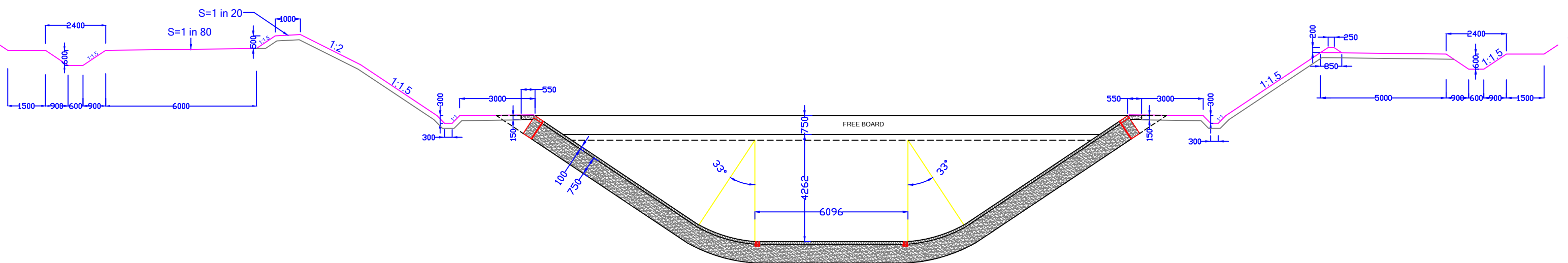








In Full Cutting



Note :- All Dimensions in mm

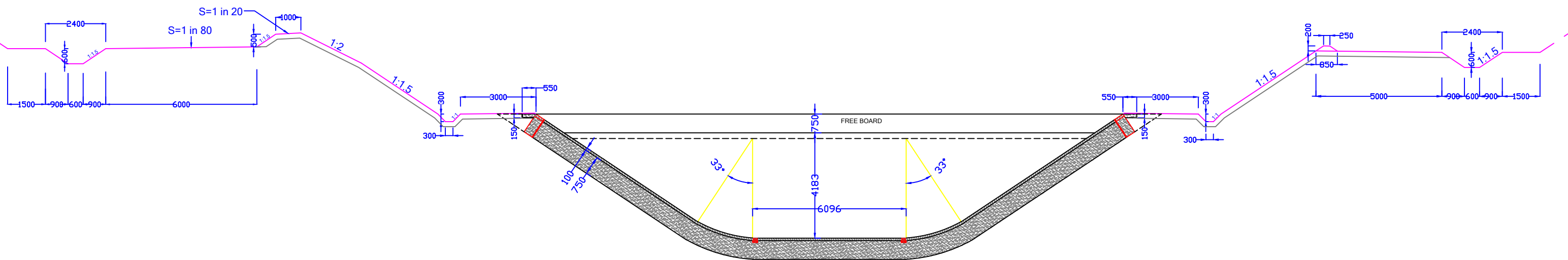
Prepared By:-

WAPCOS LTD.



Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	DESIGN SECTIONS (FROM RD -17.16 to 28.97) (FOR LINING & RAISING)
Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-X-SECTION-03a (02 / 03)

In Full Cutting



Note :- All Dimensions in mm

Prepared By:-

WAPCOS LTD.



Project Title :-

NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

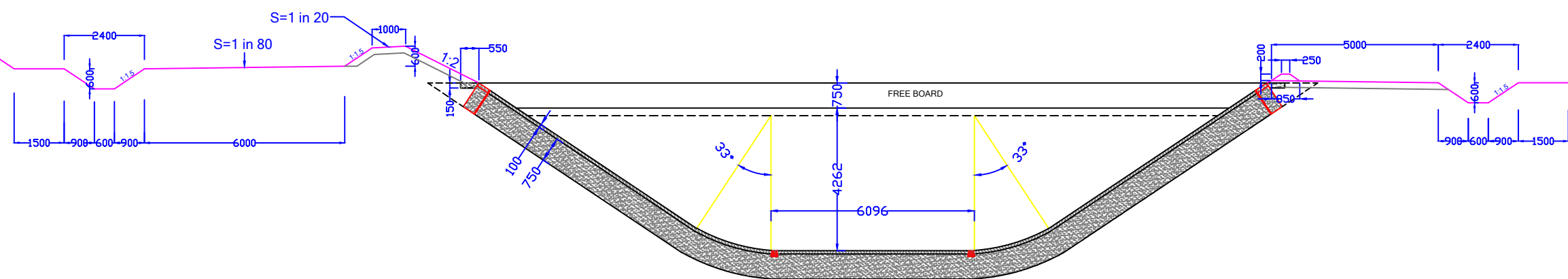
Drawing Title :-

DESIGN SECTIONS (FROM RD -28.97 to 32.46) (FOR LINING & RAISING)

Drawing No :-

WAP/INFRA/NORTH KOEL/RMC-X-SECTION-03a (03 / 03)

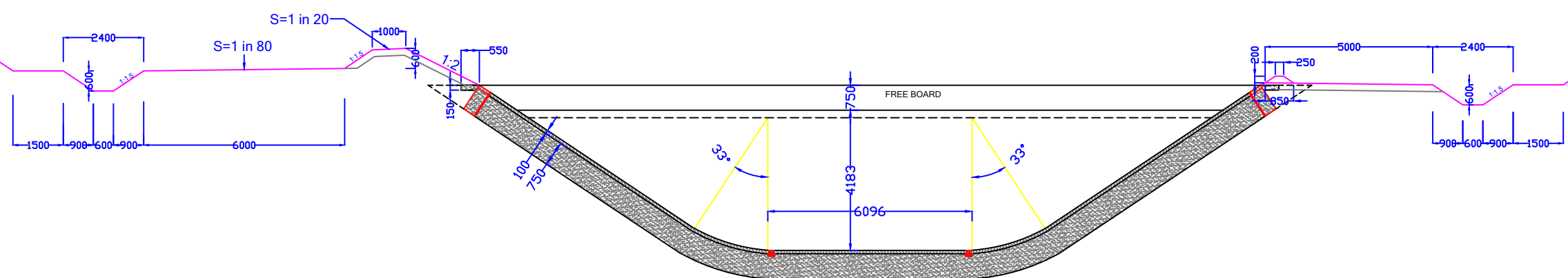
In Partial Cutting & Filling



Note :- All Dimensions in mm

Prepared By:- WAPCOS LTD.  वाष्कोस लिमिटेड WAPCOS LIMITED (भारत सरकार का उद्योग - जल संवर्धन, नदी विकास और गंगा संवर्धन संस्थान) (A Government of India Undertaking - Ministry of Water Resources, River Development & Ganga Rejuvenation)	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	DESIGN SECTIONS (FROM RD -17.16 to 28.97) (FOR LINING & RAISING)
	Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-X-SECTION-03b (02 / 03)

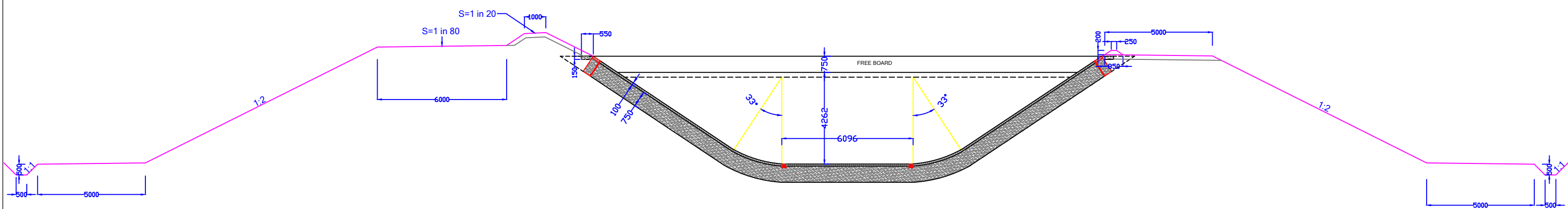
In Partial Cutting & Filling



Note :- All Dimensions in mm

Prepared By:- WAPCOS LTD.  वाष्कोस लिमिटेड WAPCOS LIMITED (भारत सरकार का उपक्रम - जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय) (A Government of India Undertaking - Ministry of Water Resources, River Development & Ganga Rejuvenation)	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	DESIGN SECTIONS (FROM RD -28.97 to 32.46) (FOR LINING & RAISING)
	Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-X-SECTION-03b (03 / 03)

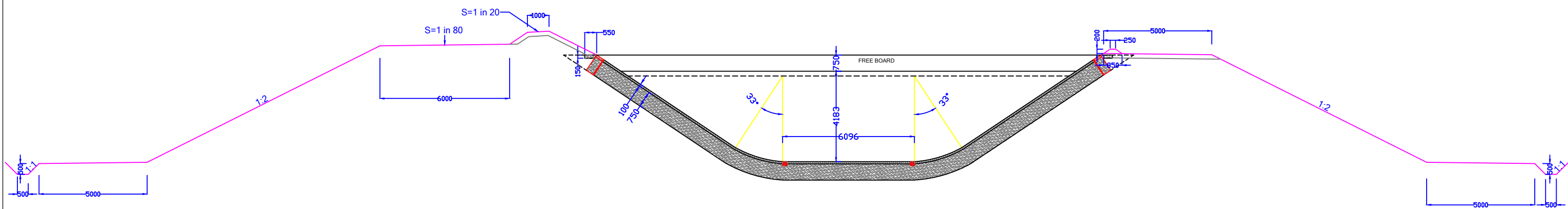
In Full Filling



Note :- All Dimensions in mm

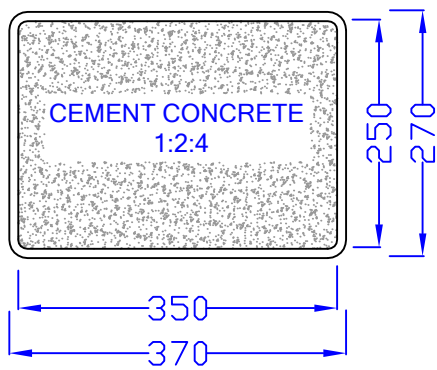
Prepared By:- WAPCOS LTD.  वाष्कोस लिमिटेड WAPCOS LIMITED (भारत सरकार का उद्योग - जल संवर्धन, नदी विकास और गंगा संरक्षण संस्थान) (A Government of India Undertaking - Ministry of Water Resources, River Development & Ganga Rejuvenation)	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	DESIGN SECTIONS (FROM RD -17.16 to 28.97) (FOR LINING & RAISING)
	Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-X-SECTION-03c (02 / 03)

In Full Filling

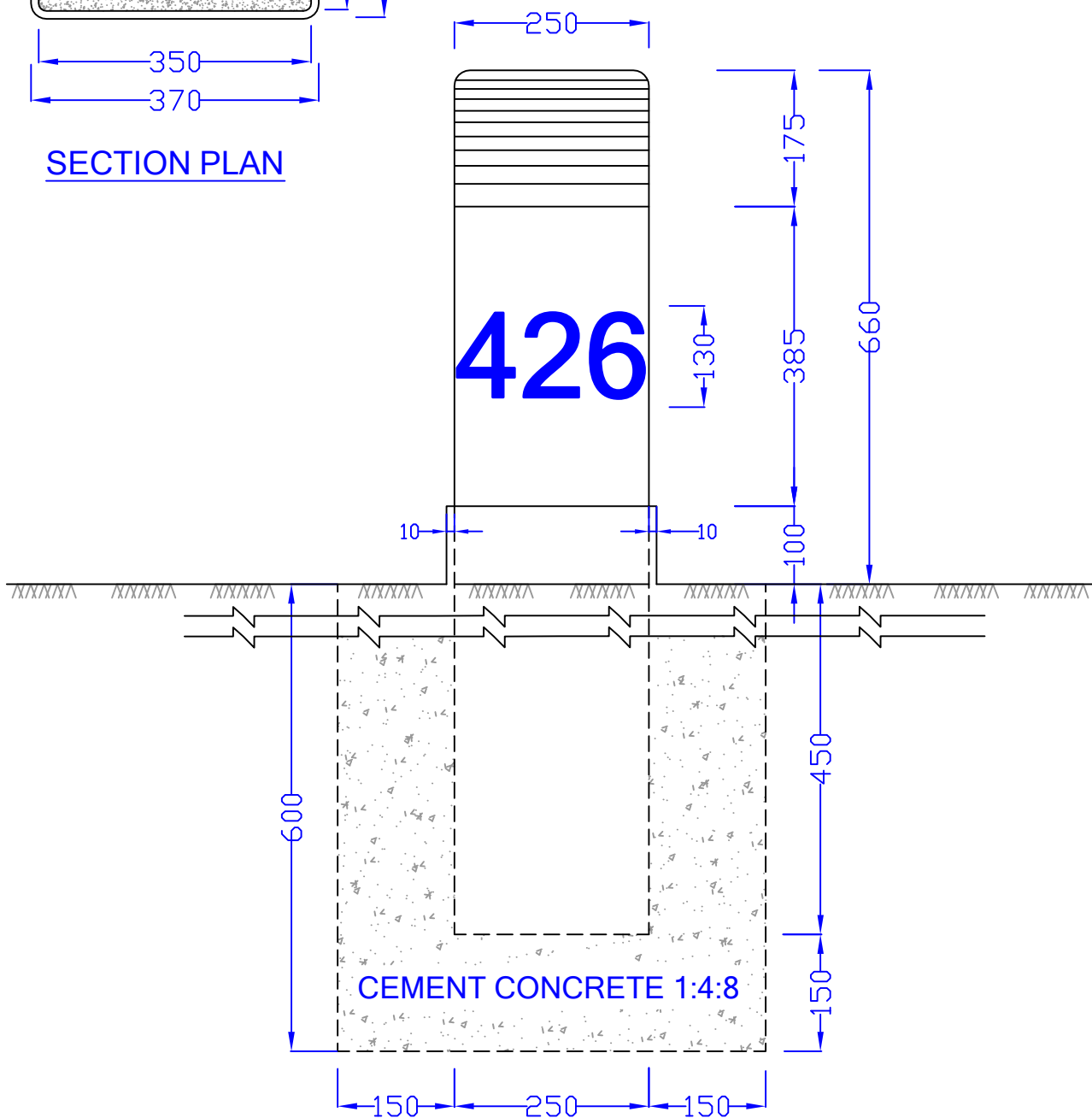


Note :- All Dimensions in mm

Prepared By:- WAPCOS LTD.  वाष्कोस लिमिटेड WAPCOS LIMITED (प्राप्त सरकार का उद्योग - जल संवर्धन, नदी विकास और गंगा संरक्षण में)	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
	Drawing Title :-	DESIGN SECTIONS (FROM RD -28.97 to 32.46) (FOR LINING & RAISING)
	Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-X-SECTION-03c (03 / 03)



SECTION PLAN



SIDE ELEVATION

Prepared By:-

WAPCOS LTD.



Project Title :-

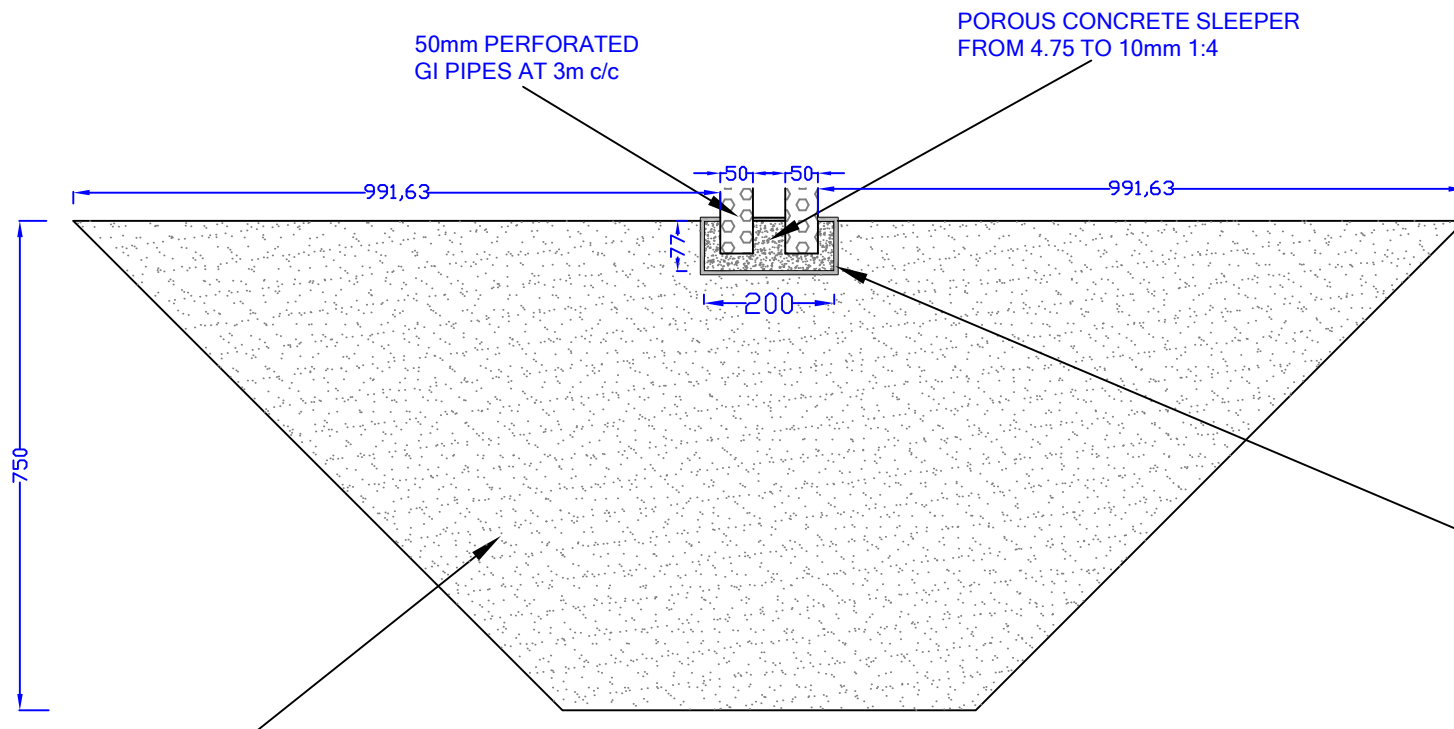
NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

DETAILS OF DISTANCE MARKS

Drawing No :-

WAP/INFRA/NORTH KOEL/RMC-05



CNS SOIL BROADLY CONFORM
 CLAY (LESS THAN 2 microns) : 15-20%
 SILT (0.06 mm - 0.002 mm) : 30-40%
 SAND (2 mm - 0.06mm) : 30-40%
 GRAVEL (SIZE GREATER THAN 2 mm) : 0-10%
 LIQUID LIMIT : MORE THAN 30 BUT LESS THAN 50%
 PLASTICITY INDEX : MORE THAN 15 BUT LESS THAN 30%

Design Specifications of Non-Woven Geo Textile Filter				
S.No.	Various Specifications	Unit	Test Standards	Value adopted
Physical Properties				
1	Mass per unit area	gm/m ²	ASTMD-5261	200
2	Thickness	Micron	ASTMD-5199	1800
3	Roll length	Meter	ASTMD-5261	100
4	Roll Width	Meter	ASTMD-5261	4.5
Hydraulic Properties				
1	Water Flow	Liter/m ² /min	ASTMD-4491	4480
2	Apparent Opening Size(AOS)	mm	ASTMD-4751	0.212
3	Permeability	s ⁻¹	ASTMD-4751	1.4
Mechanical Properties				
1	Tensile Strength	kN/m	ASTMD-4595	Not less than 9
2	Grab Tensile Strength	N	ASTMD-4632	Not less than 710
3	CBR Puncture Strength	N	ASTMD-6241	Not less than 1500
4	Grab Elongation	%	ASTMD-4632	Not less than 50
5	Trapezoidal Tear Strength	N	ASTMD-4533	250
6	Elongation at Maximum Load	%	ASTMD-4595	Not more than 50%
7	Survivability and Endurance Criteria		As per MoRTH Section 700, Table 701	

Prepared By:-

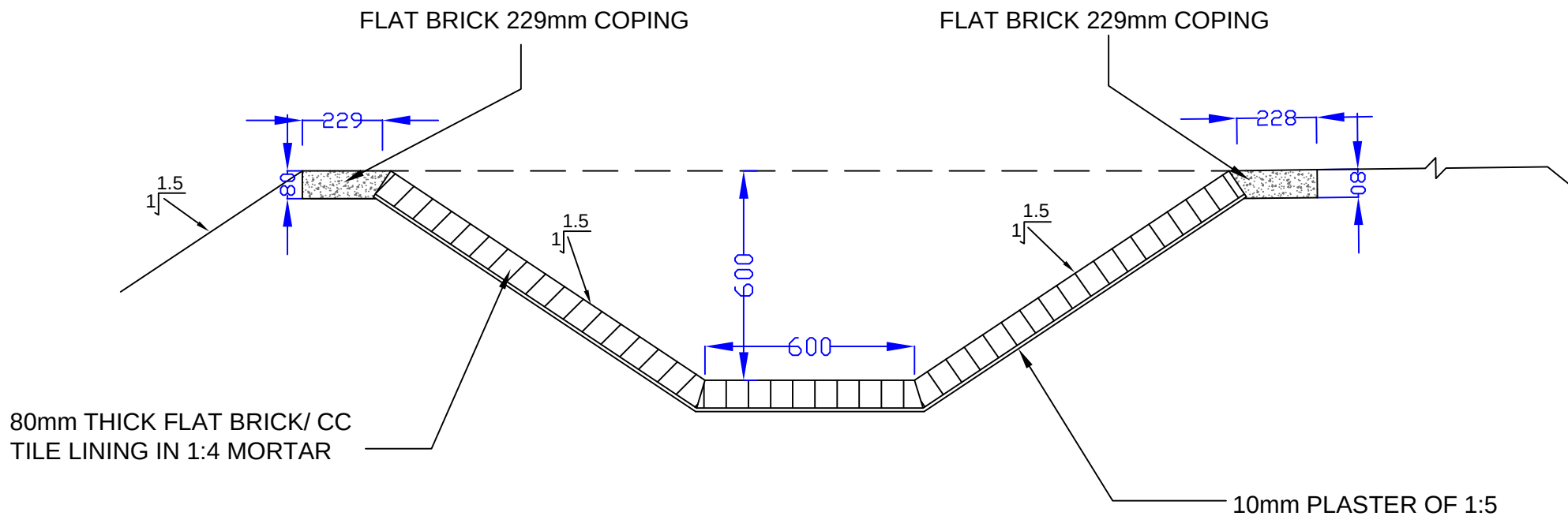
WAPCOS LTD.



Project Title :- NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :- ARRANGEMENT OF FILTER BEHIND LINING

Drawing No :- WAP/INFRA/NORTH KOEL/RMC-06



Note :- All Dimensions in mm

Prepared By:-

WAPCOS LTD.



Project Title :-

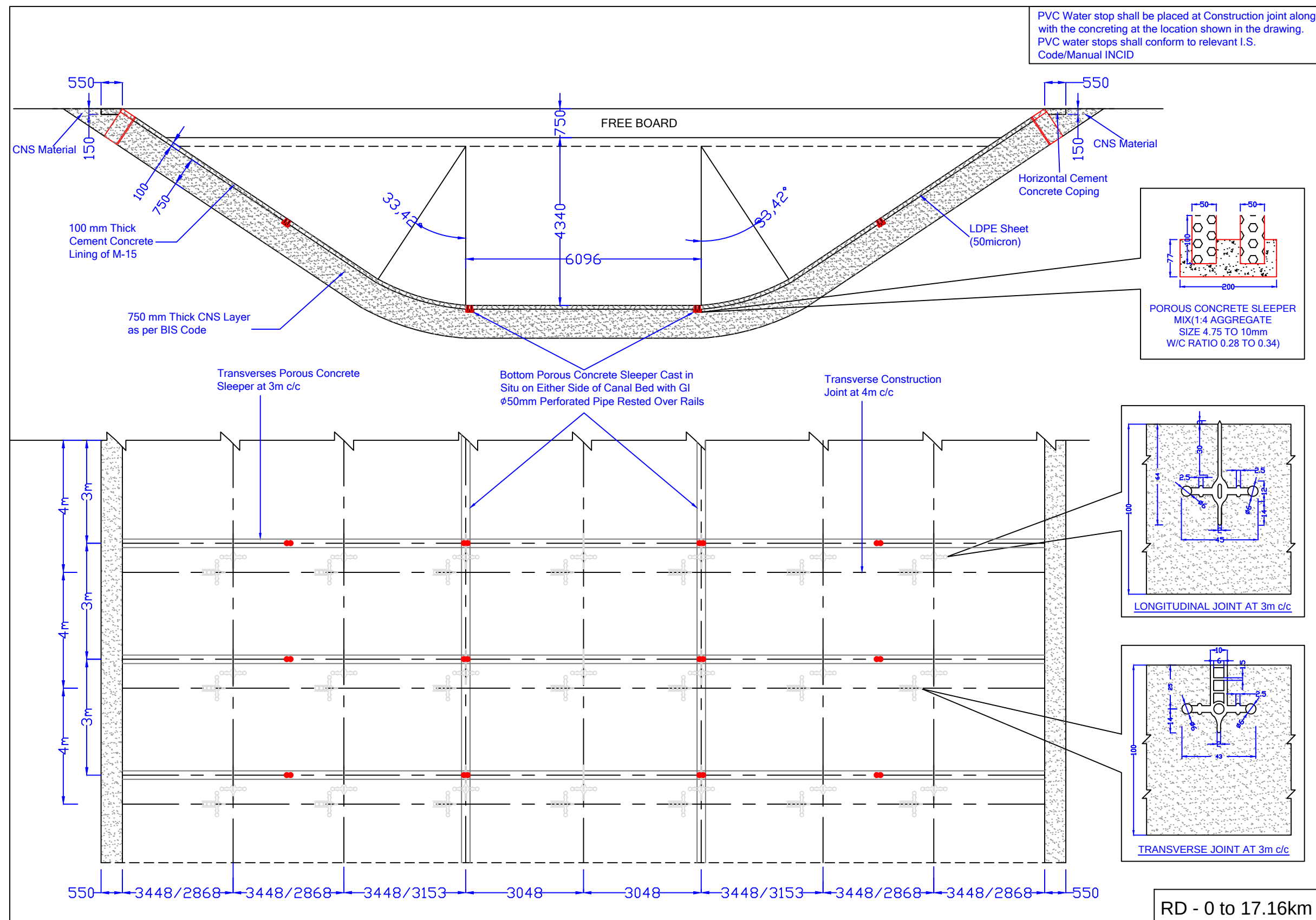
NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

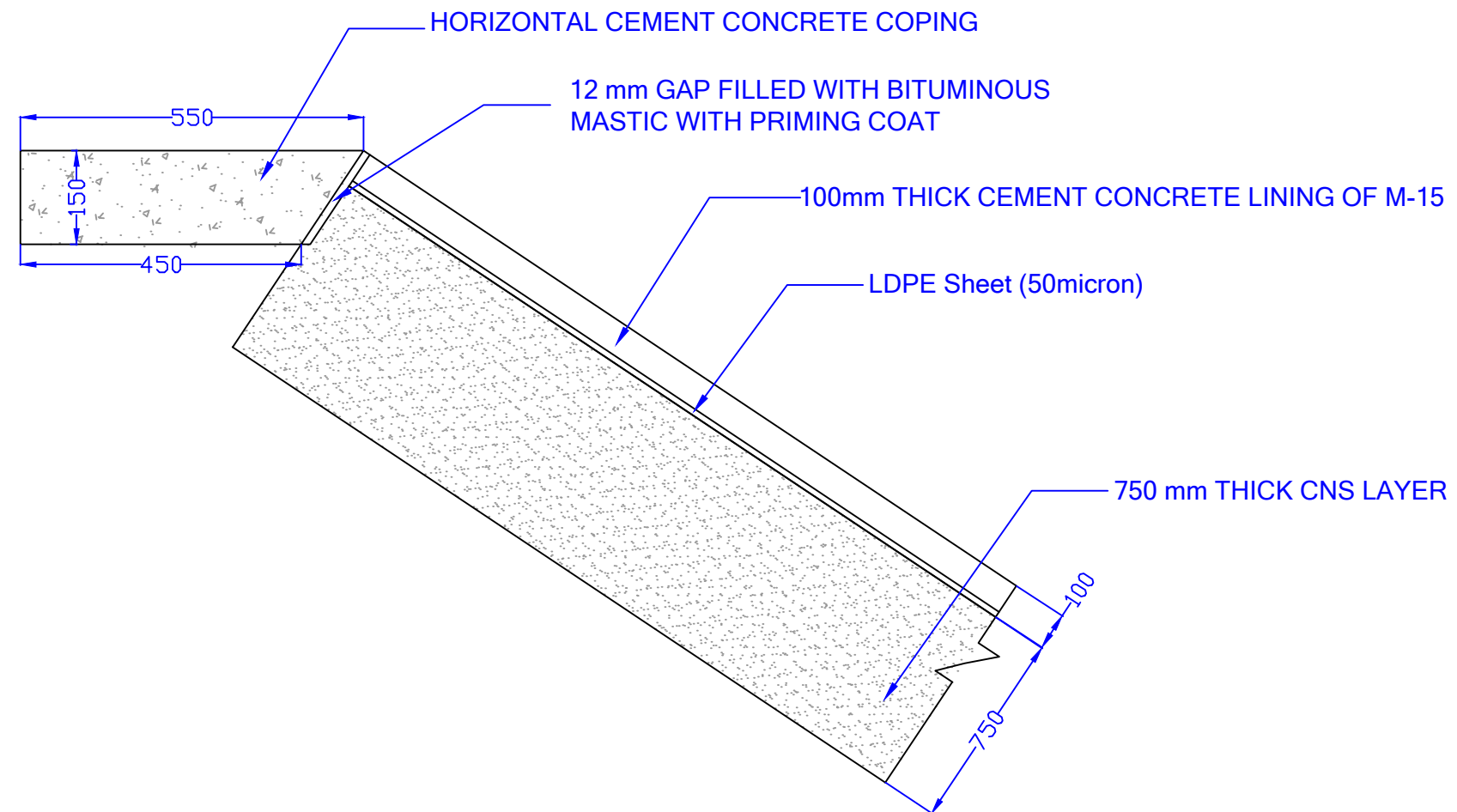
TYPICAL CROSS SECTION FOR CATCH WATER DRAIN

Drawing No :-

WAP/INFRA/NORTH KOEL/RMC-07



Prepared By:- WAPCOS LTD.  वाप्कोस लिमिटेड WAPCOS LIMITED (प्रायः सरकार का उद्योग - जल संवर्धन, नदी विकास और गंगा संरक्षण में) (An Government of India Undertaking - Ministry of Water Resources, River Development & Ganga Rejuvenation)	<table> <tr> <td>Project Title :-</td> <td>NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND</td> </tr> <tr> <td>Drawing Title :-</td> <td>CROSS SECTION & PLAN SHOWING LINING SPECIFICATIONS AND CONSTRUCTION PVC JOINT & POROUS SLEEPER ARRANGEMENT FROM RD-00 to 17.16 km. FROM RD-17.16 to 32.46 THE ARRANGEMENT SHOULD BE ADJUSTED AS PER DESIGN</td> </tr> <tr> <td>Drawing No :-</td> <td>WAP/INFRA/NORTH KOEL/RMC-08a</td> </tr> </table>	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND	Drawing Title :-	CROSS SECTION & PLAN SHOWING LINING SPECIFICATIONS AND CONSTRUCTION PVC JOINT & POROUS SLEEPER ARRANGEMENT FROM RD-00 to 17.16 km. FROM RD-17.16 to 32.46 THE ARRANGEMENT SHOULD BE ADJUSTED AS PER DESIGN	Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-08a
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND						
Drawing Title :-	CROSS SECTION & PLAN SHOWING LINING SPECIFICATIONS AND CONSTRUCTION PVC JOINT & POROUS SLEEPER ARRANGEMENT FROM RD-00 to 17.16 km. FROM RD-17.16 to 32.46 THE ARRANGEMENT SHOULD BE ADJUSTED AS PER DESIGN						
Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-08a						



DETAIL OF COPING

Prepared By:-

WAPCOS LTD.



Project Title :-

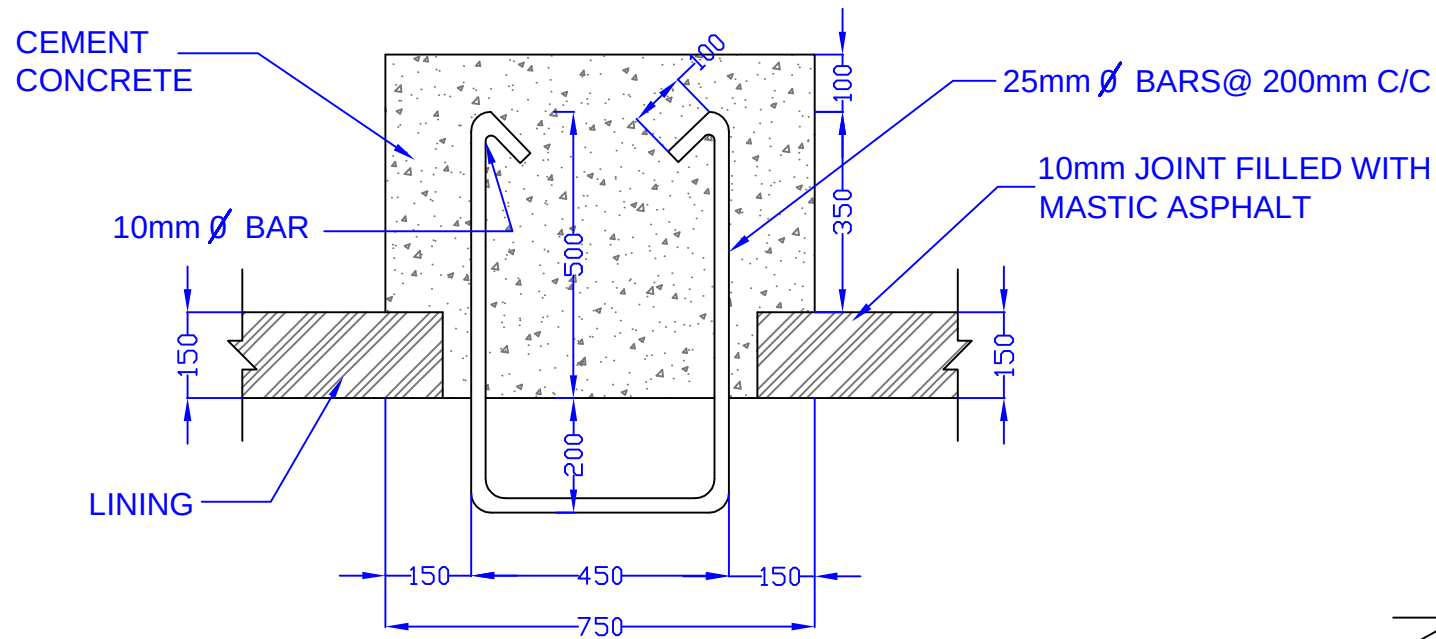
NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

Drawing Title :-

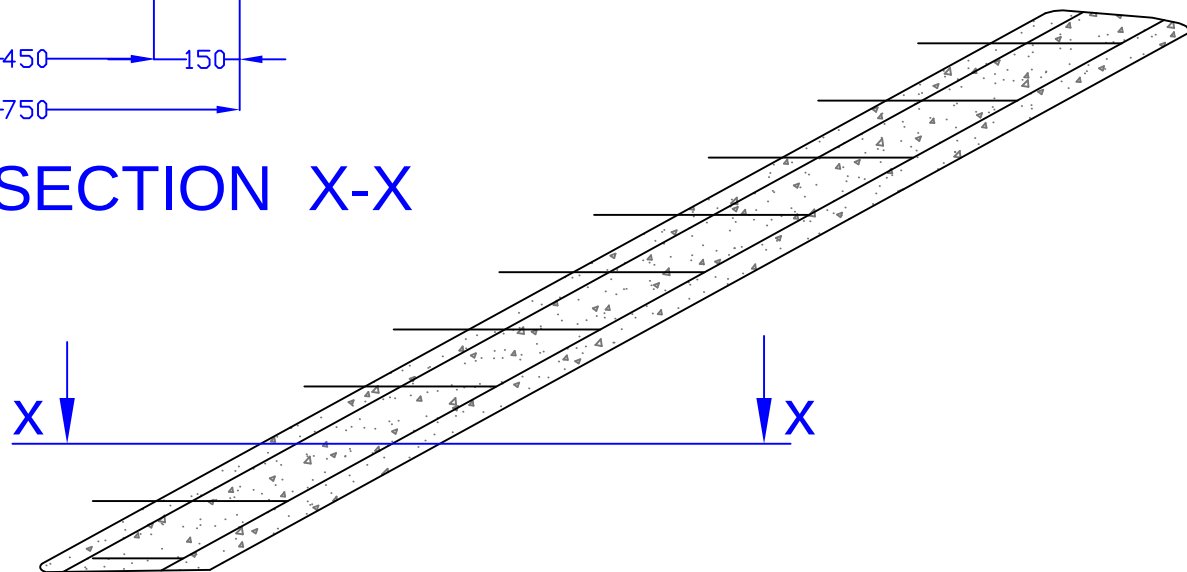
DETAILS OF COPING

Drawing No :-

WAP/INFRA/NORTH KOEL/RMC-08b



ENLARGED SECTION X-X



Prepared By:-

WAPCOS LTD.



Project Title :-

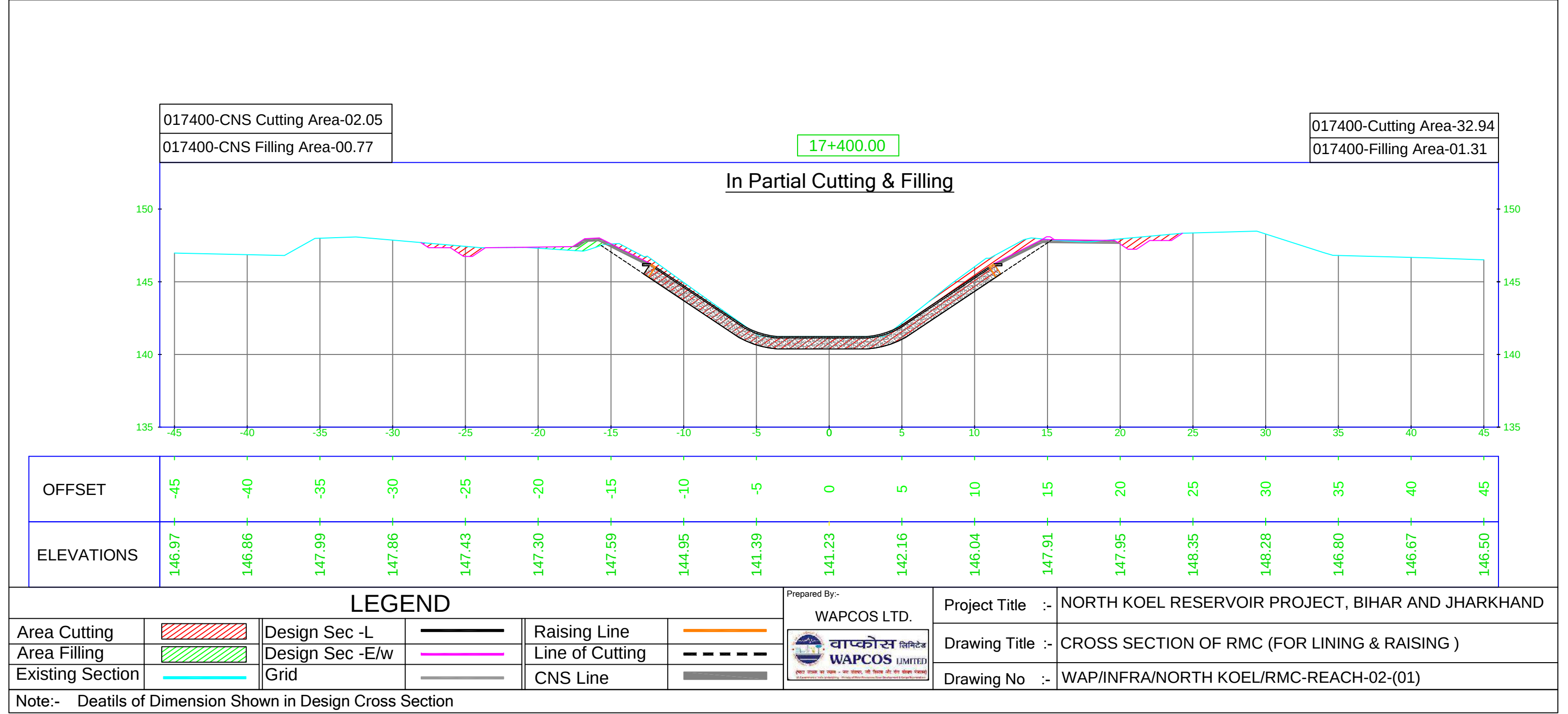
NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND

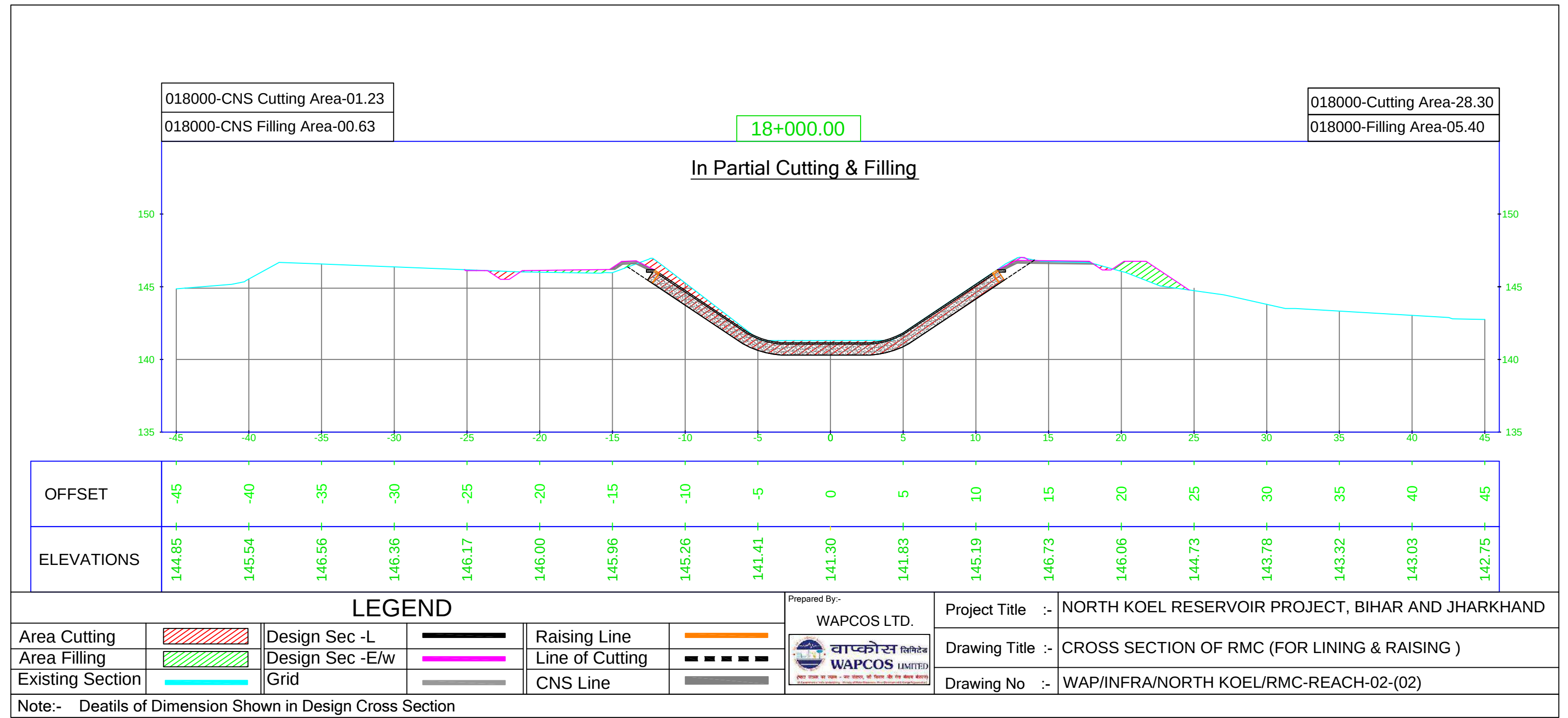
Drawing Title :-

DETAILS OF SAFETY LADDERS

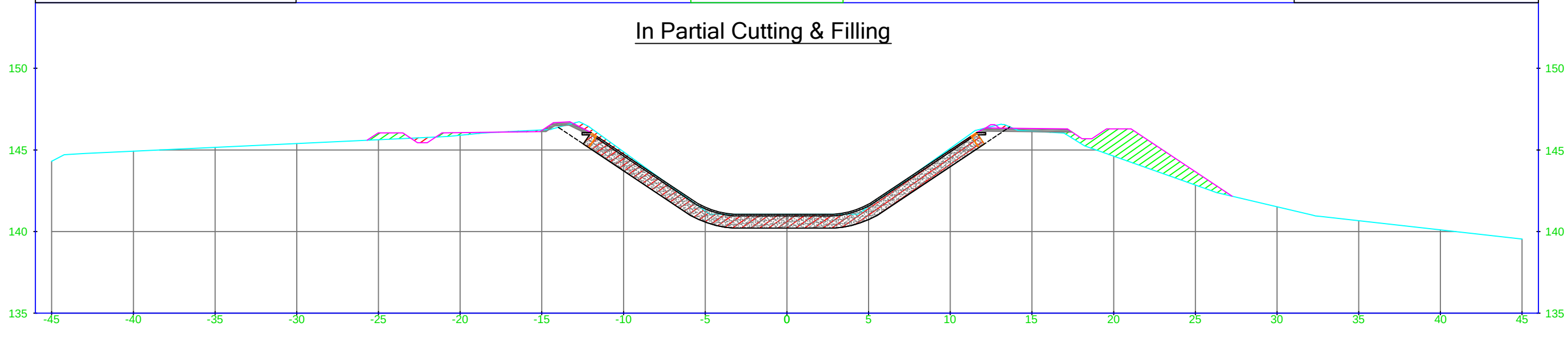
Drawing No :-

WAP/INFRA/NORTH KOEL/RMC-09





018600-CNS Cutting Area-00.77	18+600.00	018600-Cutting Area-23.81
018600-CNS Filling Area-0.93		018600-Filling Area-12.25

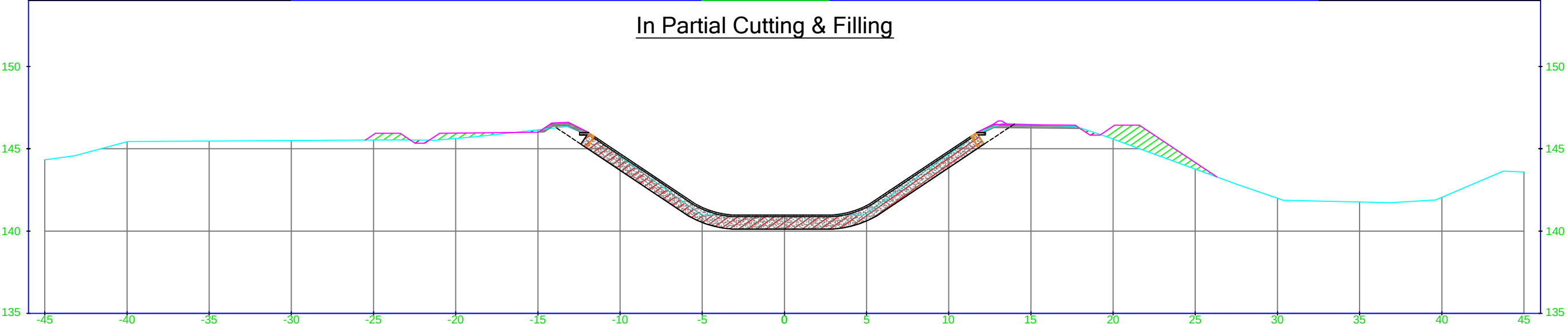


OFFSET	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45
ELEVATIONS	144.31	144.93	145.16	145.39	145.63	145.90	146.23	144.89	141.26	141.06	141.53	145.10	146.14	144.62	142.85	141.52	140.67	140.11	139.55

LEGEND					Prepared By:- WAPCOS LTD.	Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Area Cutting		Design Sec -L		Raising Line		Drawing Title :-	CROSS SECTION OF RMC (FOR LINING & RAISING)
Area Filling		Design Sec -E/w		Line of Cutting		Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-REACH-02-(03)
Existing Section		Grid		CNS Line			

Note:- Deatils of Dimension Shown in Design Cross Section

019200-CNS Cutting Area-01.04		019200-Cutting Area-19.12
019200-CNS Filling Area-00.75	19+200.00	019200-Filling Area-07.50



OFFSET	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45
ELEVATIONS	144.33	145.42	145.46	145.49	145.53	145.63	146.15	144.53	140.97	140.97	141.10	144.67	146.47	145.59	143.77	141.99	141.77	142.05	143.59

LEGEND

Area Cutting		Design Sec -L		Raising Line	
Area Filling		Design Sec -E/w		Line of Cutting	
Existing Section		Grid		CNS Line	

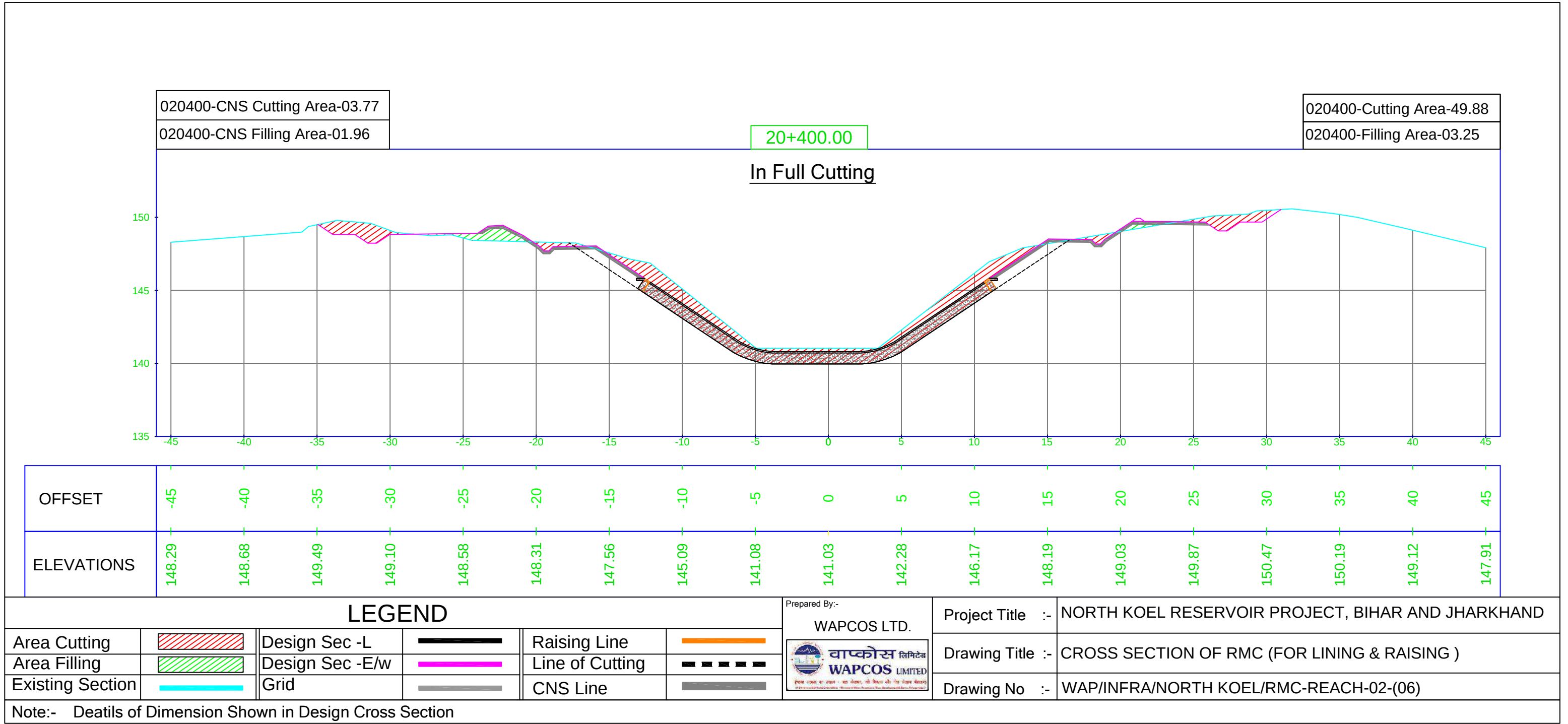
Prepared By:-

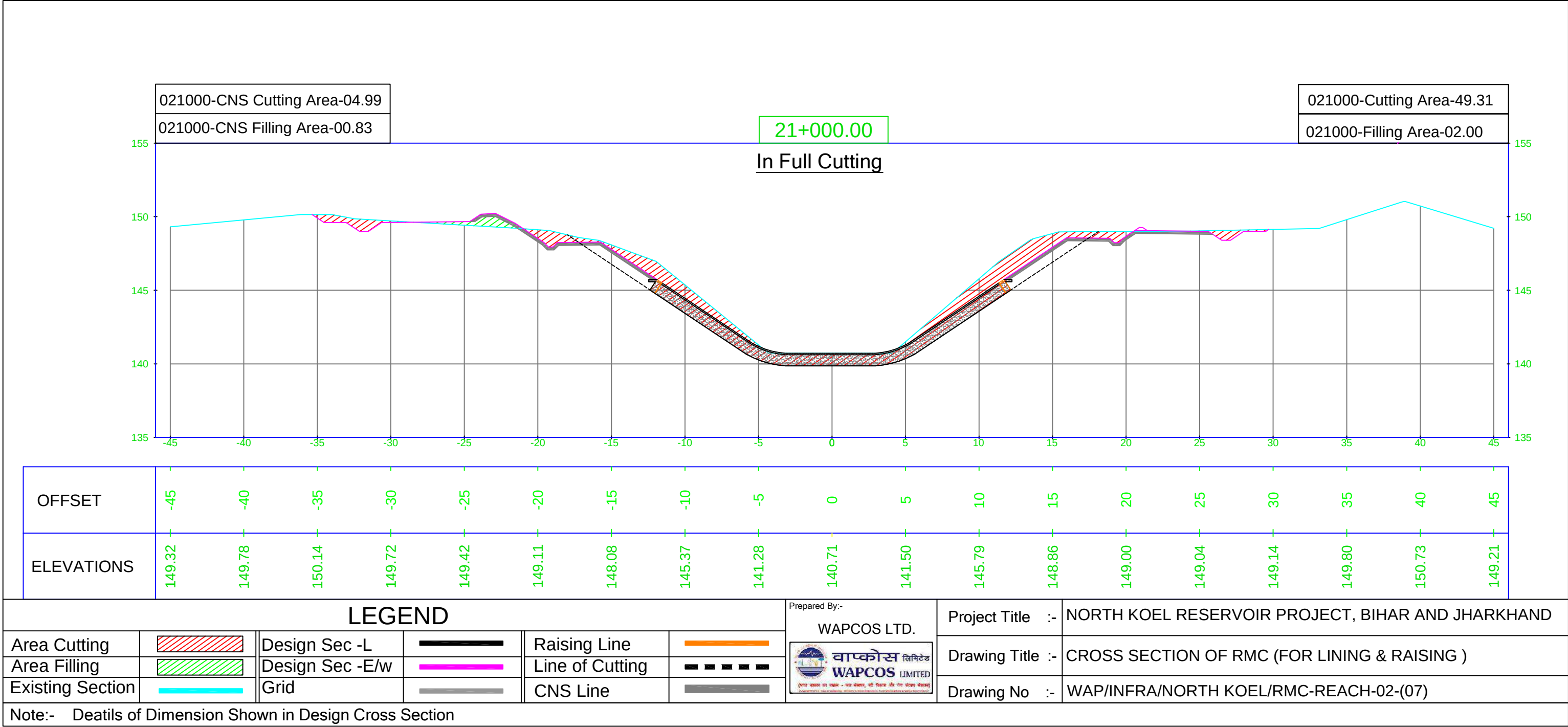
WAPCOS LTD.

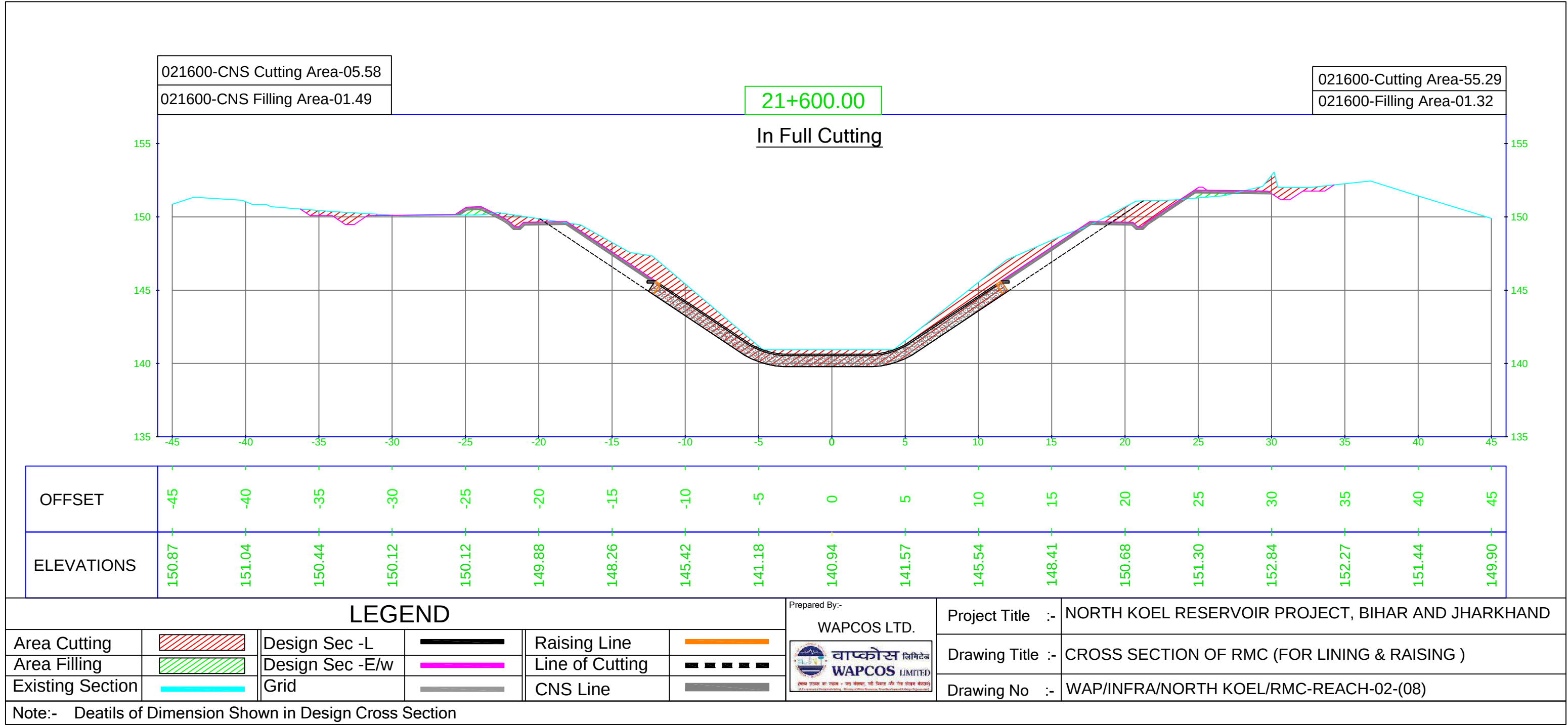


Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	CROSS SECTION OF RMC (FOR LINING & RAISING)
Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-REACH-02-(04)

Note:- Deatils of Dimension Shown in Design Cross Section





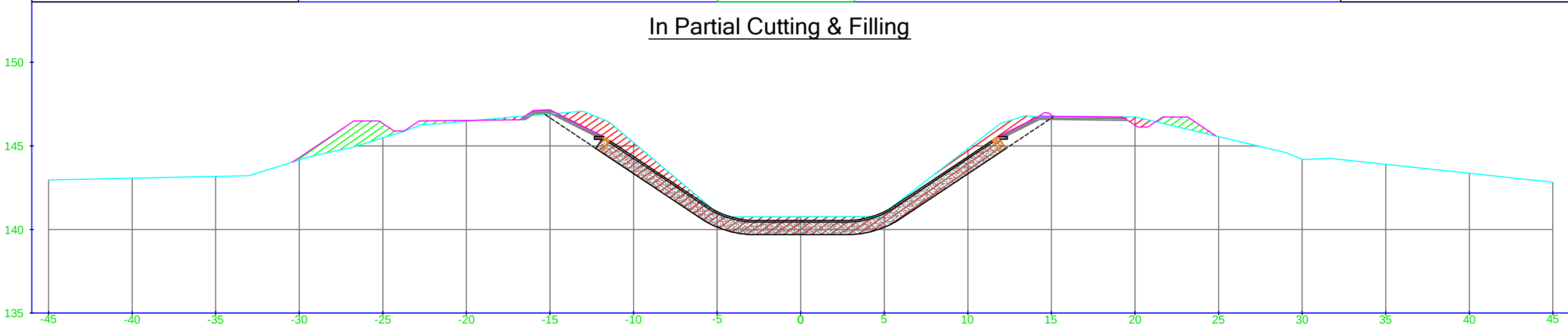


022200-CNS Cutting Area-02.08
022200-CNS Filling Area-00.47

022200-Cutting Area-34.52
022200-Filling Area-07.53

22+200.00

In Partial Cutting & Filling



OFFSET	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45
ELEVATIONS	142.96	143.07	143.17	144.16	145.48	146.47	146.90	145.21	141.00	140.76	140.99	144.84	146.72	146.73	145.56	144.21	143.90	143.36	142.82

LEGEND

Area Cutting		Design Sec -L		Raising Line	
Area Filling		Design Sec -E/w		Line of Cutting	
Existing Section		Grid		CNS Line	

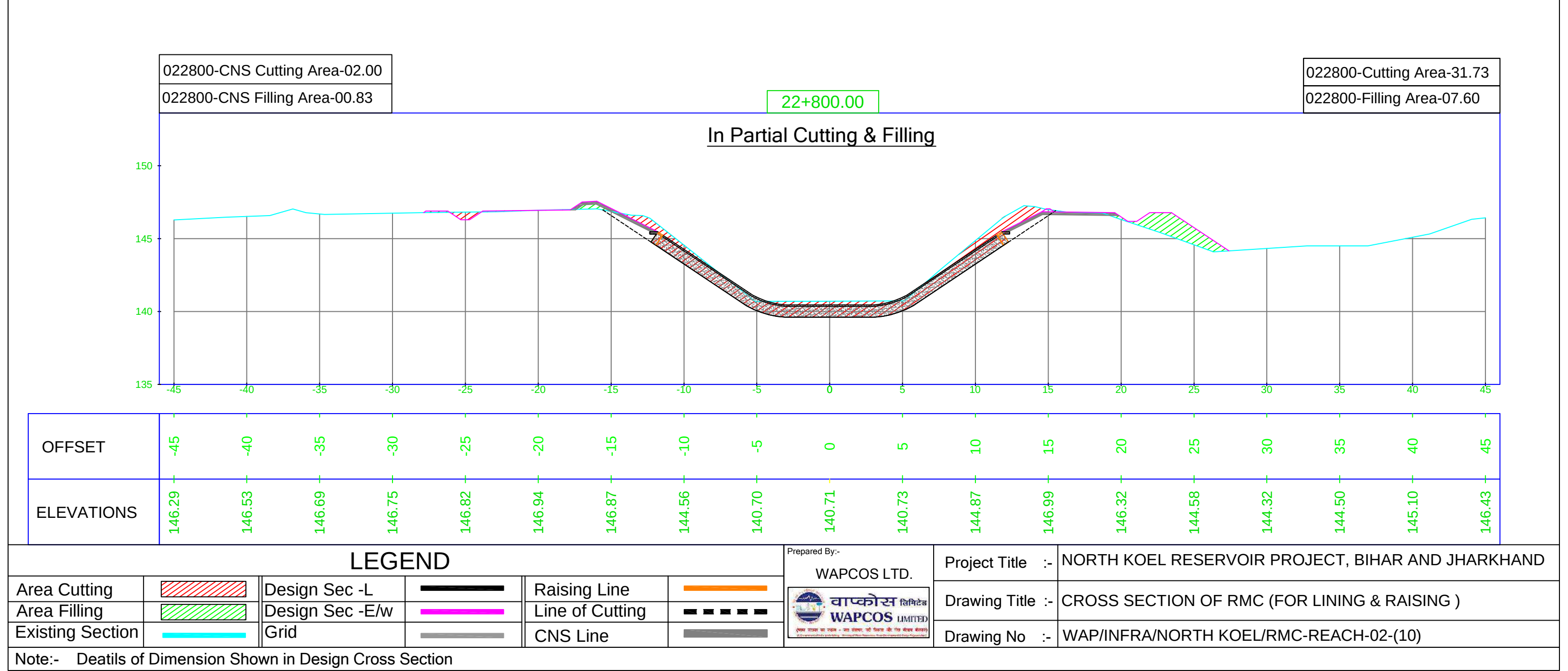
Prepared By:-

WAPCOS LTD.



Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	CROSS SECTION OF RMC (FOR LINING & RAISING)
Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-REACH-02-(09)

Note:- Deatils of Dimension Shown in Design Cross Section

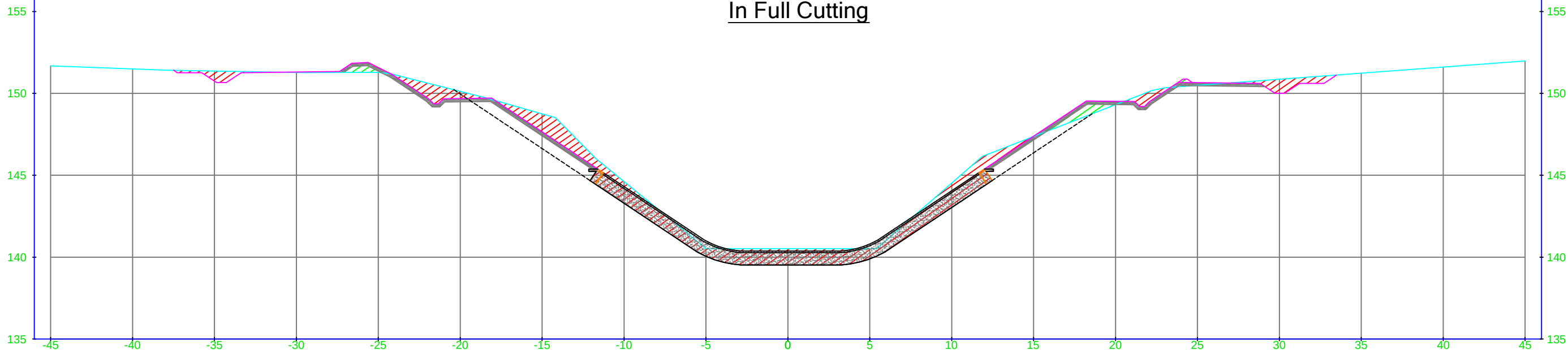


023400-CNS Cutting Area-05.09
023400-CNS Filling Area-02.16

023400-Cutting Area-39.41
023400-Filling Area-02.40

23+400.00

In Full Cutting

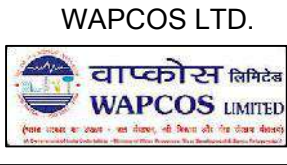


OFFSET	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45
ELEVATIONS	151.69	151.50	151.37	151.28	151.28	150.13	148.75	144.62	140.52	140.52	140.52	144.52	147.37	149.31	150.49	150.86	151.23	151.60	151.98

LEGEND

Area Cutting		Design Sec -L		Raising Line	
Area Filling		Design Sec -E/w		Line of Cutting	
Existing Section		Grid		CNS Line	

Prepared By:-



Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	CROSS SECTION OF RMC (FOR LINING & RAISING)
Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-REACH-02-(11)

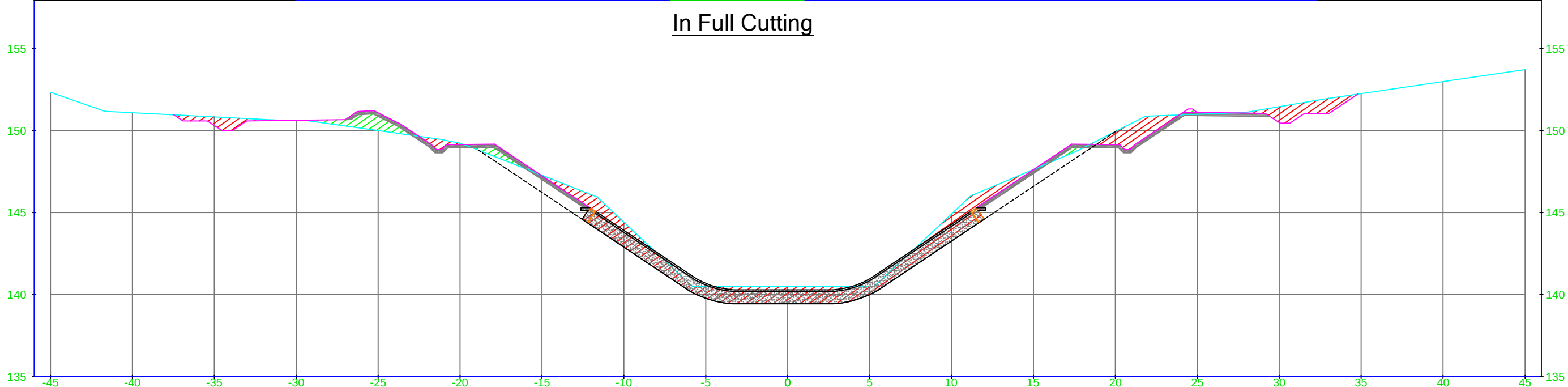
Note:- Deatils of Dimension Shown in Design Cross Section

024000-CNS Cutting Area-02.70
024000-CNS Filling Area-04.54

024000-Cutting Area-40.67
024000-Filling Area-04.24

24+000.00

In Full Cutting



OFFSET	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45
ELEVATIONS	152.34	151.09	150.84	150.63	150.00	149.23	147.28	144.42	140.51	140.51	140.50	144.92	147.63	149.95	151.00	151.46	152.26	152.99	153.72

LEGEND

Area Cutting		Design Sec -L		Raising Line	
Area Filling		Design Sec -E/w		Line of Cutting	
Existing Section		Grid		CNS Line	

Prepared By:-

WAPCOS LTD.



Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	CROSS SECTION OF RMC (FOR LINING & RAISING)
Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-REACH-02-(12)

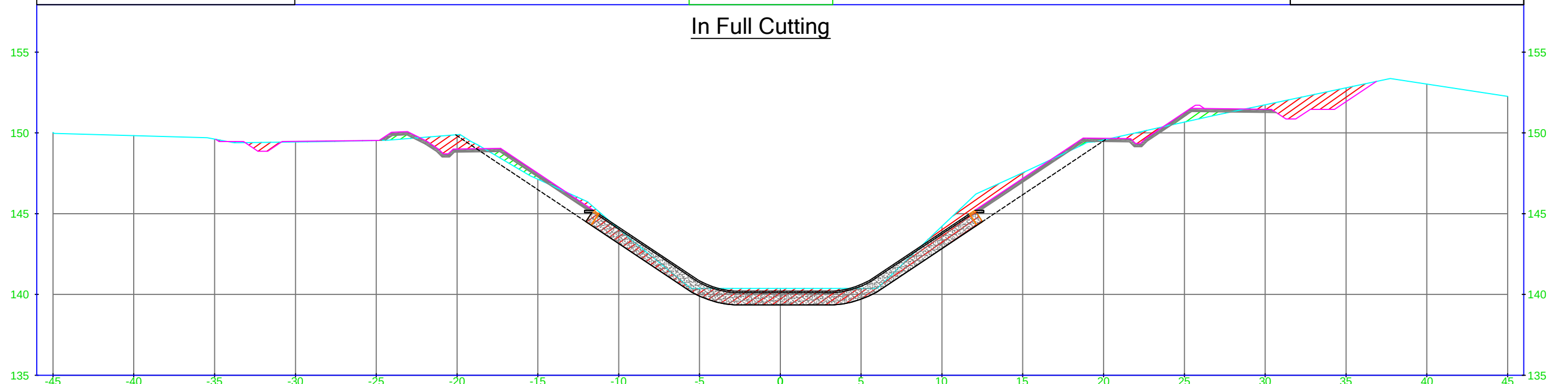
Note:- Deatils of Dimension Shown in Design Cross Section

024600-CNS Cutting Area-04.02
024600-CNS Filling Area-03.01

024600-Cutting Area-33.80
024600-Filling Area-02.49

24+600.00

In Full Cutting



OFFSET	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45
ELEVATIONS	150.02	149.83	149.62	149.44	149.53	149.88	147.14	144.06	140.37	140.37	140.37	144.22	147.53	149.56	150.67	151.74	152.79	153.02	152.26

LEGEND

Area Cutting		Design Sec -L		Raising Line	
Area Filling		Design Sec -E/w		Line of Cutting	
Existing Section		Grid		CNS Line	

Prepared By:-

WAPCOS LTD.



Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	CROSS SECTION OF RMC (FOR LINING & RAISING)
Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-REACH-02-(13)

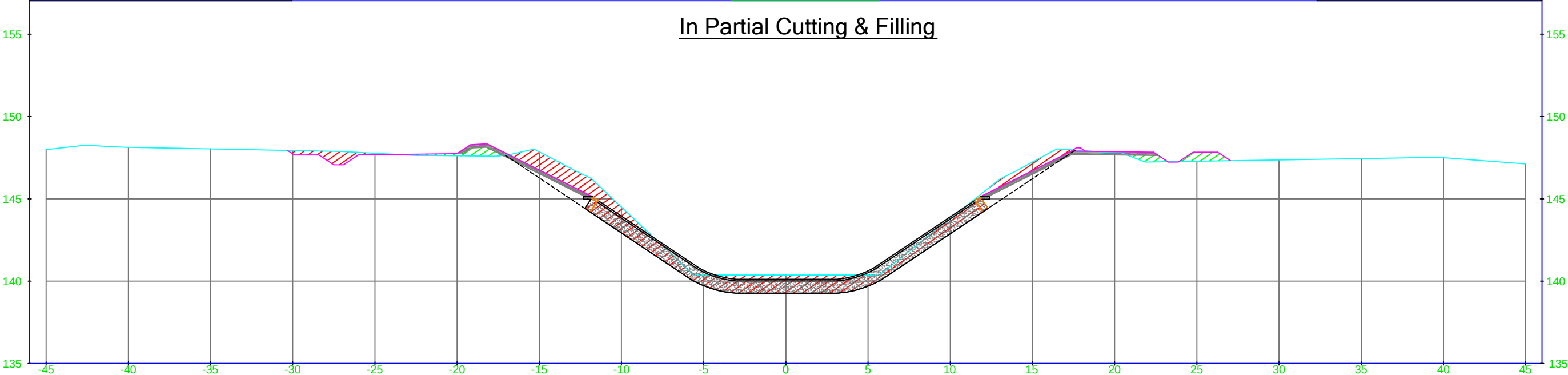
Note:- Deatils of Dimension Shown in Design Cross Section

025200-CNS Cutting Area-02.88
025200-CNS Filling Area-01.07

025200-Cutting Area-33.02
025200-Filling Area-03.13

25+200.00

In Partial Cutting & Filling



OFFSET	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45
ELEVATIONS	147.97	148.13	148.03	147.93	147.77	147.61	147.85	144.51	140.37	140.37	140.37	143.81	147.23	147.82	147.28	147.36	147.45	147.49	147.13

LEGEND

Area Cutting		Design Sec -L		Raising Line	
Area Filling		Design Sec -E/w		Line of Cutting	
Existing Section		Grid		CNS Line	

Prepared By:-

WAPCOS LTD.



Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	CROSS SECTION OF RMC (FOR LINING & RAISING)
Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-REACH-02-(14)

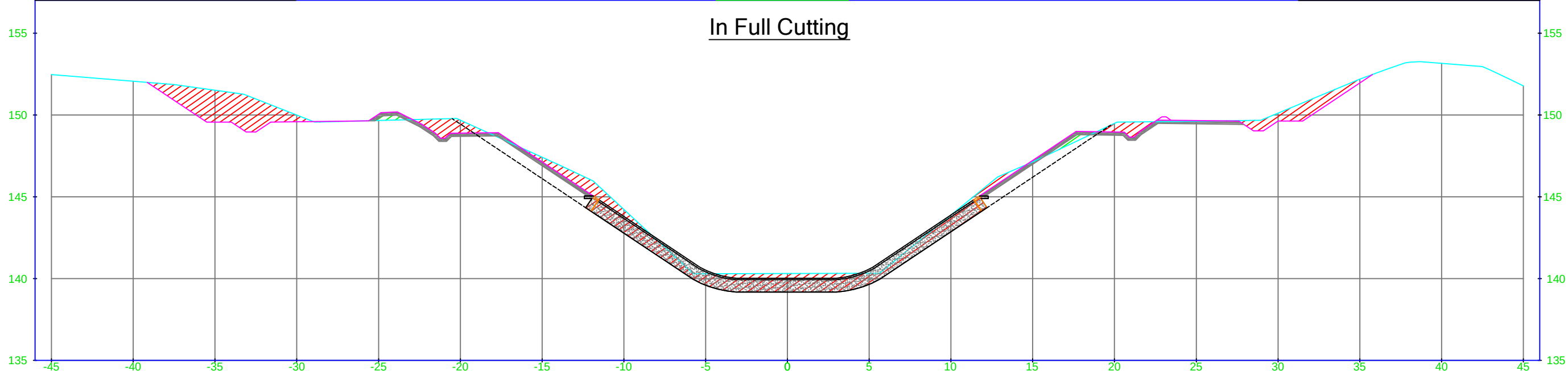
Note:- Deatils of Dimension Shown in Design Cross Section

025800-CNS Cutting Area-04.77
052800-CNS Filling Area-01.76

025800-Cutting Area-48.80
025800-Filling Area-00.97

25+800.00

In Full Cutting



OFFSET	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45
ELEVATIONS	152.47	152.07	151.52	149.99	149.67	149.69	147.42	144.23	140.30	140.31	140.33	143.89	147.13	149.49	149.63	150.12	152.19	153.16	151.79

LEGEND

Area Cutting		Design Sec -L		Raising Line	
Area Filling		Design Sec -E/w		Line of Cutting	
Existing Section		Grid		CNS Line	

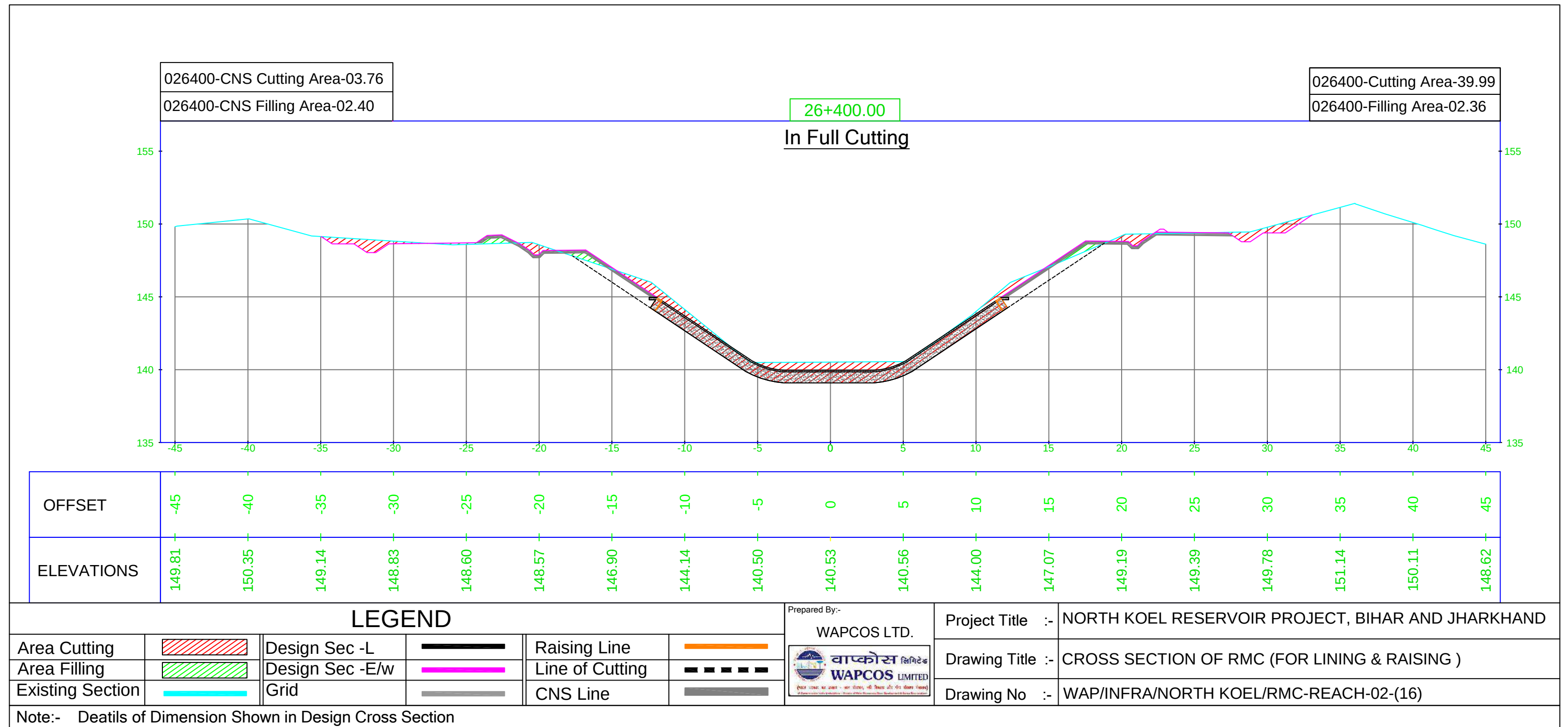
Prepared By:-

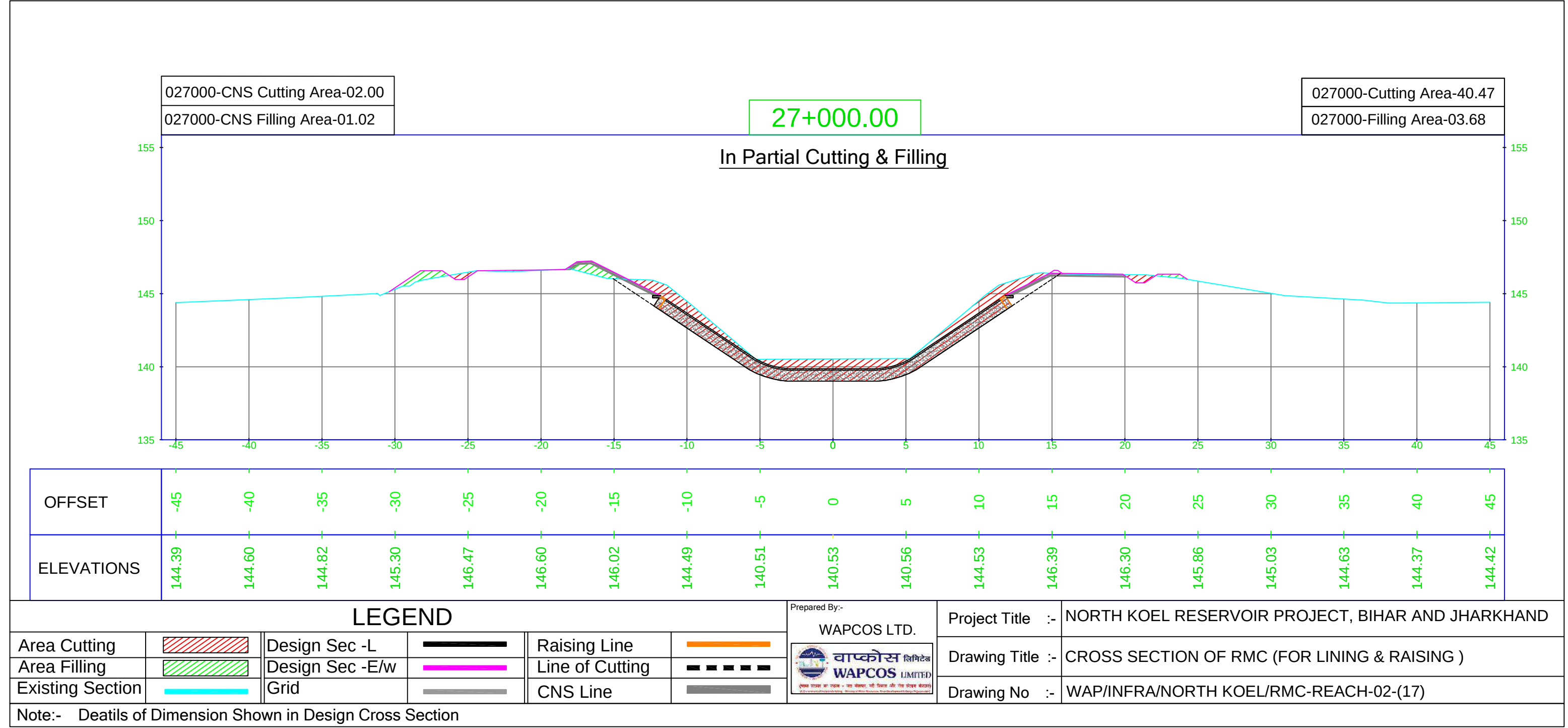
WAPCOS LTD.

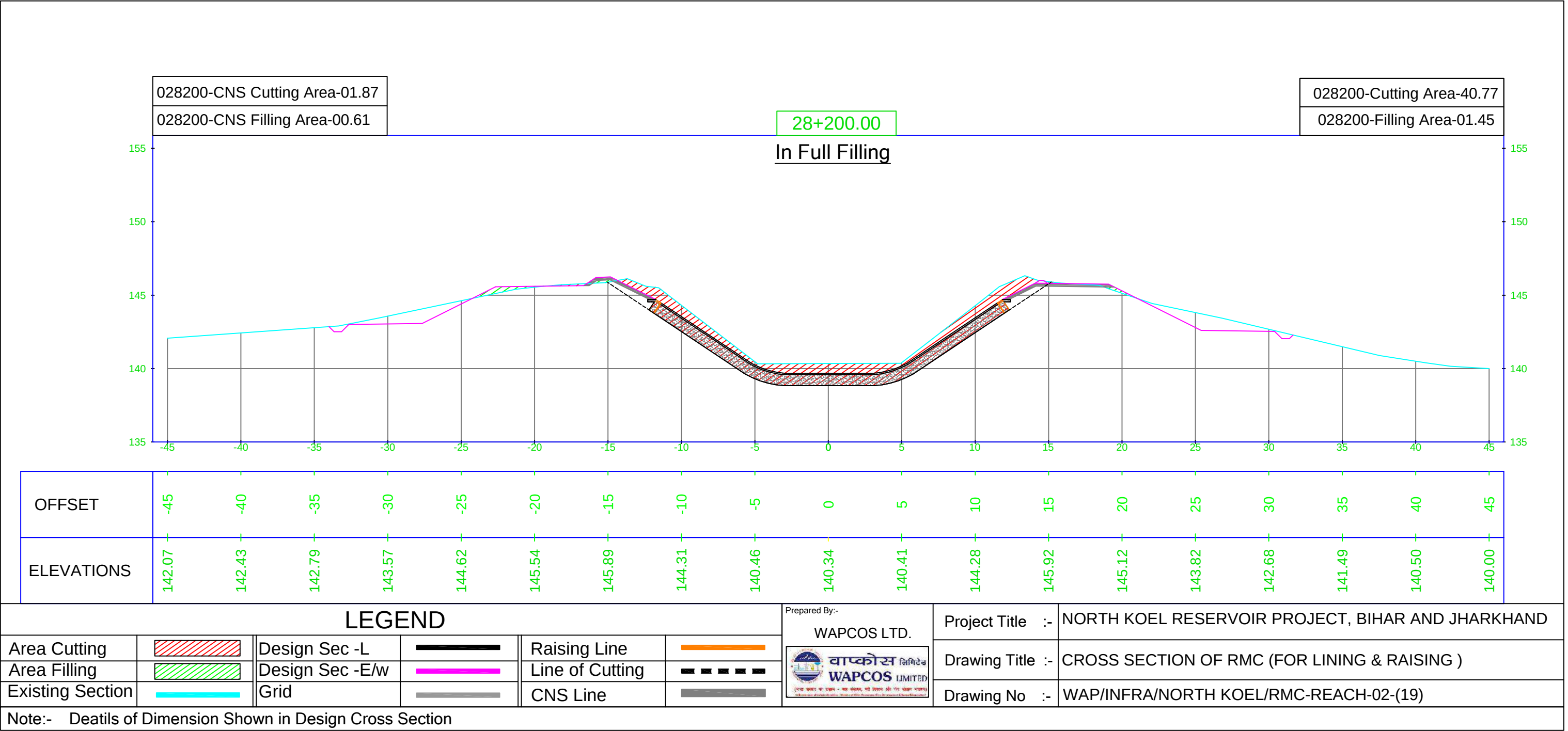


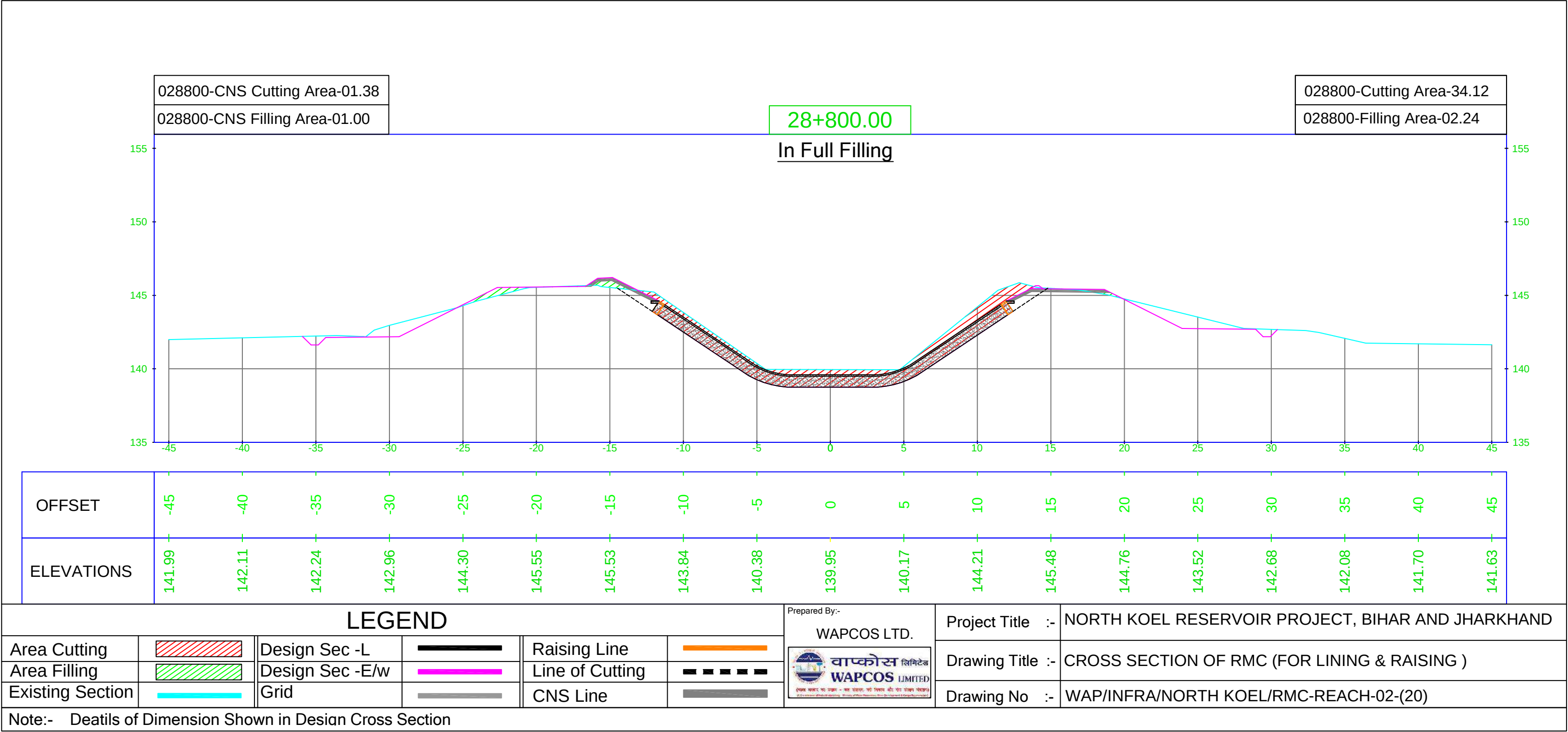
Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	CROSS SECTION OF RMC (FOR LINING & RAISING)
Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-REACH-02-(15)

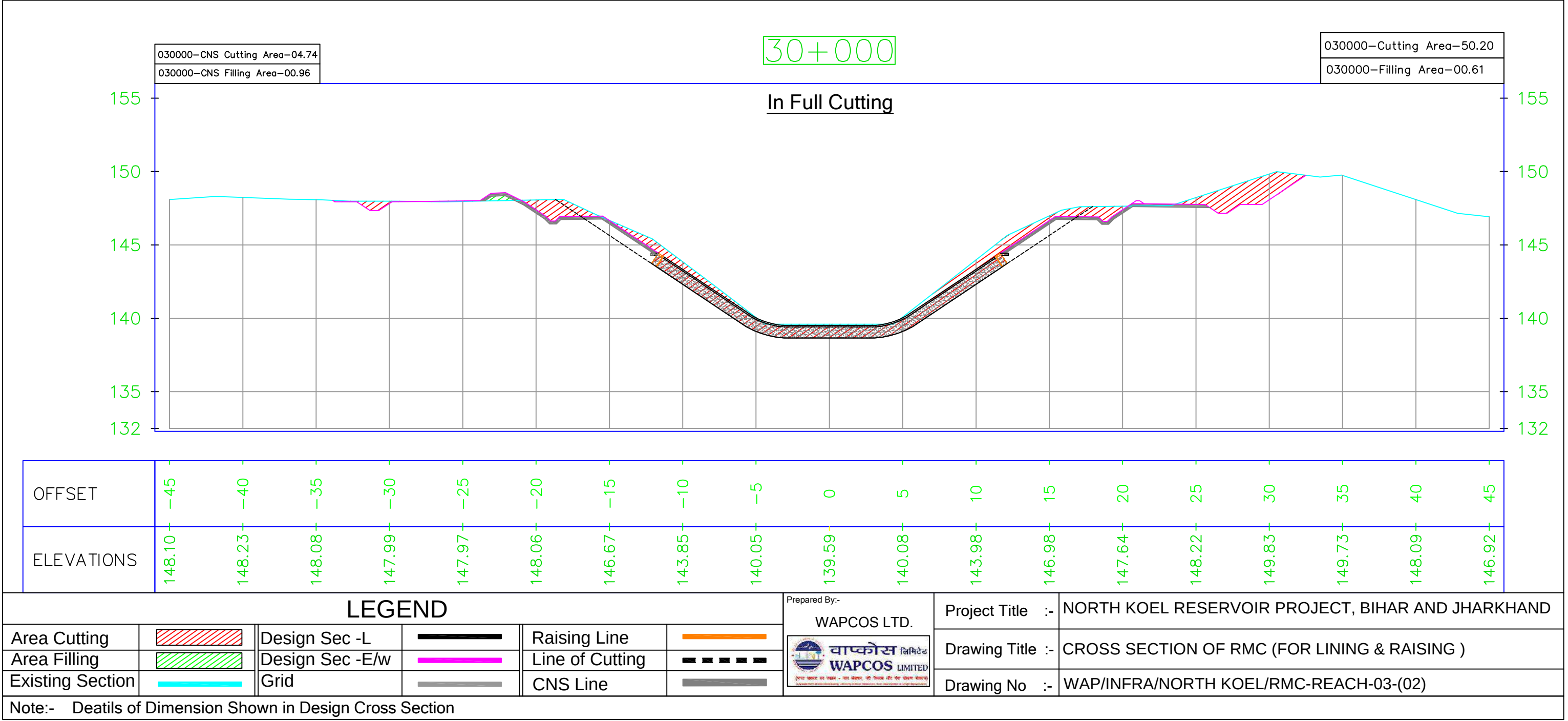
Note:- Deatils of Dimension Shown in Design Cross Section

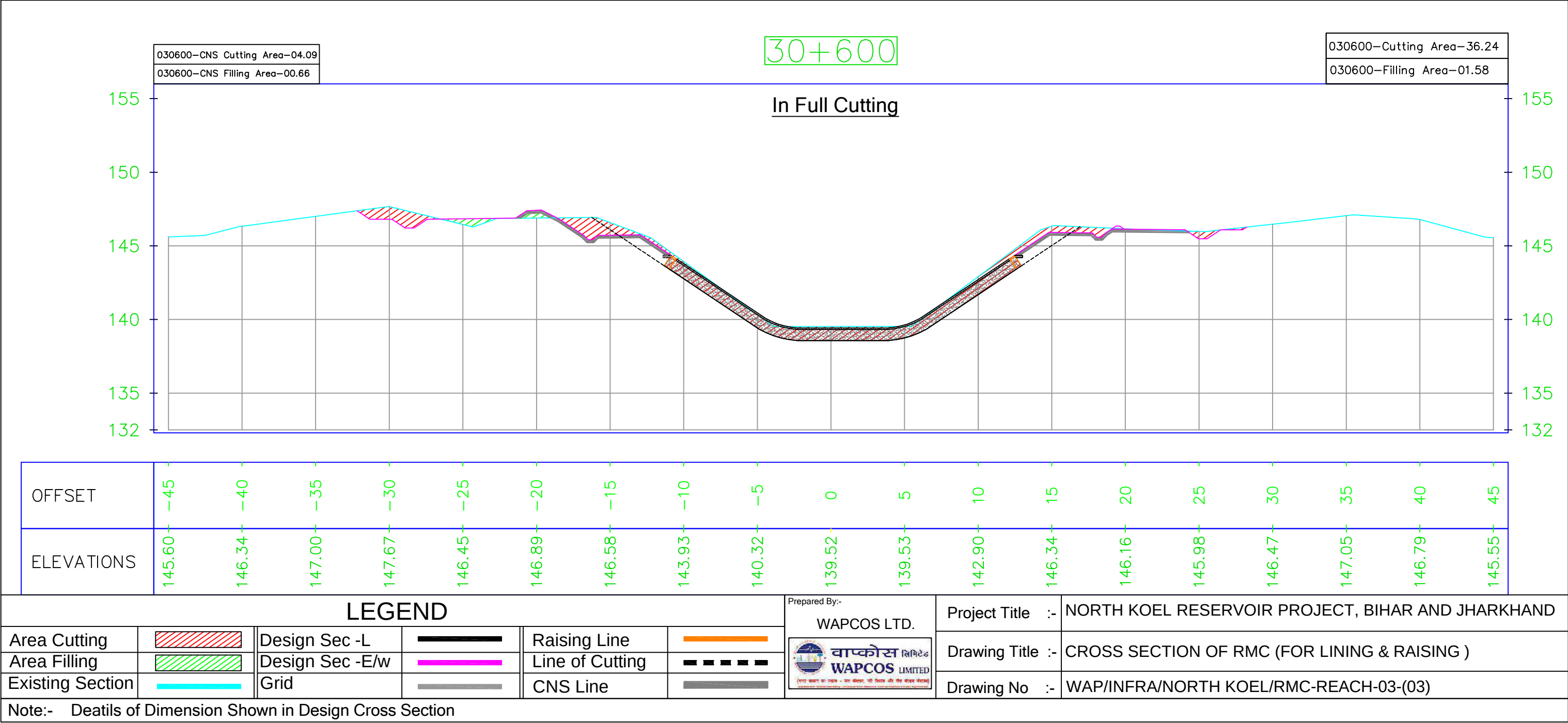


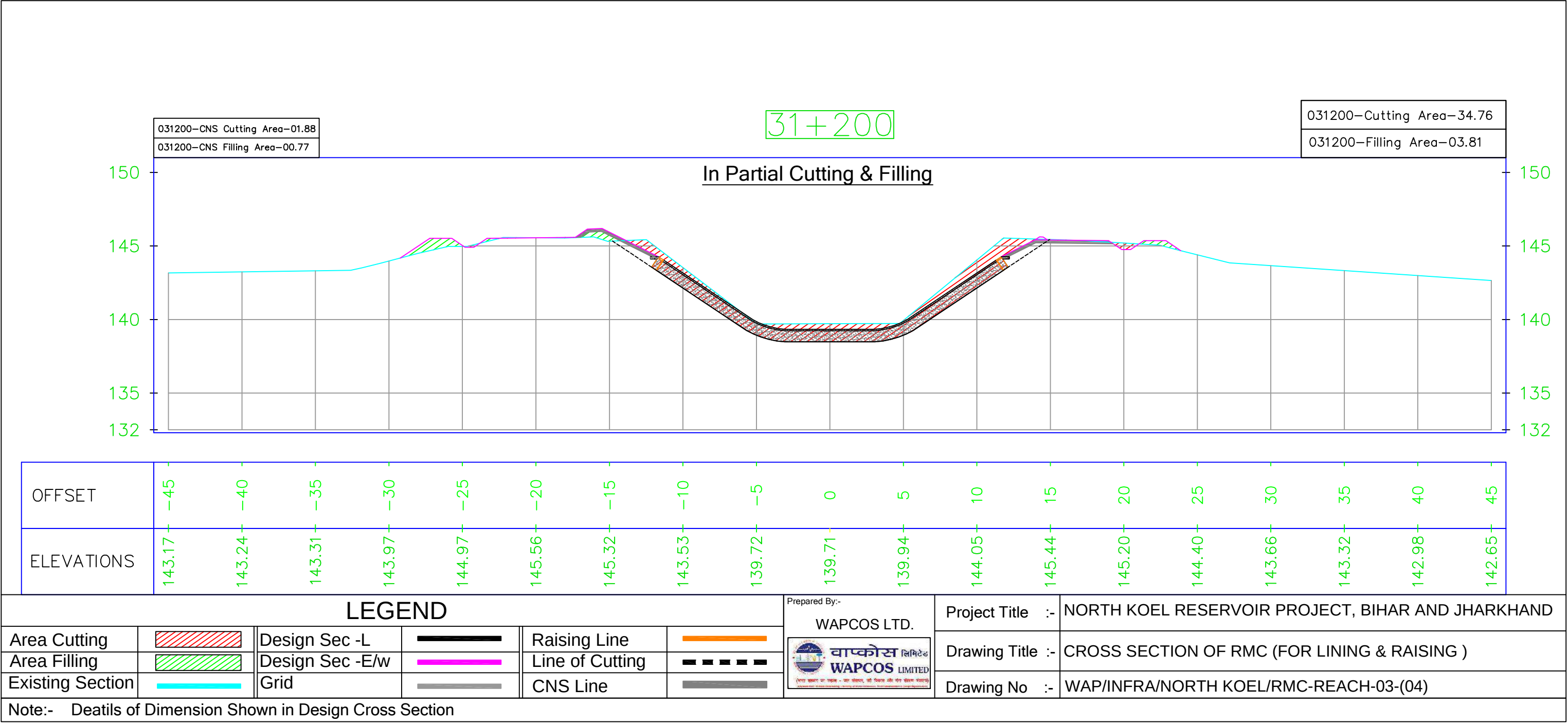




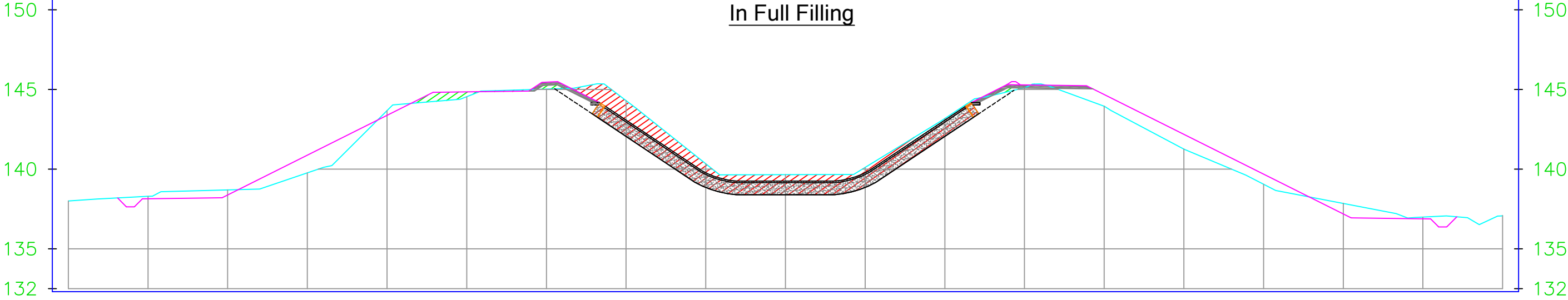








031800-CNS Cutting Area-01.48	31+800	031800-Cutting Area-35.94
031800-CNS Filling Area-00.90		031800-Filling Area-02.10



OFFSET	-45	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45
ELEVATIONS	138.00	138.29	138.69	139.77	143.67	144.55	145.03	144.30	140.33	139.65	140.10	143.18	145.10	143.95	141.26	139.05	137.85	136.99	137.08

LEGEND

Area Cutting		Design Sec -L		Raising Line	
Area Filling		Design Sec -E/w		Line of Cutting	
Existing Section		Grid		CNS Line	

Prepared By:-

WAPCOS LTD.



Project Title :-	NORTH KOEL RESERVOIR PROJECT, BIHAR AND JHARKHAND
Drawing Title :-	CROSS SECTION OF RMC (FOR LINING & RAISING)
Drawing No :-	WAP/INFRA/NORTH KOEL/RMC-REACH-03-(05)

Note:- Deatils of Dimension Shown in Design Cross Section

