Joint committee report in the matter of Hon'ble National Green Tribunal O.A. No. 130/2023 (CZ), Drupad Malik & Ors. Vs Secretary Urban Improvement Trust Kota & Ors.

1. Background:

The Hon'ble National Green Tribunal (NGT), Central Zone Bench, Bhopal on 10.10.2023, in the matter of O.A. No. 130/2023 (CZ), Drupad Malik & Ors. Vs Secretary Urban Improvement Trust Kota & Ors., has inter alia directed following:

"7. We deem it just and proper to call a report on the matter in issue in present Original Application, from a Joint Committee consisting of:-

i. Representative of the District Collector, Kota (Rajasthan)
ii. One representative from the Central Pollution Control Board.
iii. One representative from the Water Resources Department, State of Rajasthan.
iv. One representative from the Rajasthan State Bio Diversity Board.

8. The Committee is directed to visit the place and submit the factual and action taken report within six weeks. The State PCB will be the nodal agency for coordination and logistic support."

2. Constitution of Joint Committee:

In accordance with the NGT's directives, the following individuals have been nominated as members of the joint committee:

- District Collector, Kota (Rajasthan) nominated Additional District Magistrate (Administration), Kota as member of Joint Committee.
- Central Pollution Control Board nominated Sh. P. Jagan, Regional Director, Central Pollution Control Board, Bhopal as member of Joint Committee.
- Water Resources Department, State of Rajasthan nominated Superintending Engineer, R.P.S. & J.S. Dam Circle, Kota as member of Joint Committee.
- Rajasthan State Bio Diversity Board nominated Sh. Arbind Kumar Jha, Chief Manager (Tech.), Rajasthan State Biodiversity Board, Jaipur as member of Joint Committee.

3. Background of the Chambal River Front, Kota:

The Chambal River, a significant tributary of the Yamuna, originates from Mahu in the northern ranges of the Vindhyan Mountain system within the state of Madhya Pradesh. It enters Rajasthan at Chaurasigarh, approximately 96 Km southeast of Kota. The river is spanned by a series of four dams: Gandhi Sagar Dam, Rana Pratap Sagar Dam, Jawahar Sagar Dam, and Kota Barrage.

Kota Barrage Dam, the final instalment in this series of dams, is situated 0.80 Km upstream from the Chambal River Front in Kota. Downstream from the Kota Barrage, an

existing causeway is already in place. The Urban Improvement Trust, Kota (UIT, Kota), has further enhanced the water infrastructure by constructing an anicut (weir)/reservoir. This newly constructed anicut is positioned 300 meters upstream (and 2700 meters downstream from the existing Kota Barrage) from the pre-existing causeway.

The development of both sides of the river banks, inclusive of souvenir shops, public facilities, administrative offices, and the establishment of the new anicut, has become a subject of dispute. The petitioners, namely Dhrupad Malik and others, have brought this matter before the Hon'ble National Green Tribunal (NGT).

4. Details of the grievances raised in the O.A. no. 130/2023:

In the O.A. no. 130/2023, the grievances of the applicants are as follows:

a) The Chambal River Front Project, Kota (Raj.) is situated in the close proximity to the National Chambal Ghariyal Sanctuary for which mandatory Environment Clearance has not been obtained under Section 7 of Environment (Protection) Act,1986.
b) The said project poses a significant threat to the critically endangered species residing in the sanctuary, thereby contravening section 29 and 35 of the Wild Life Protection Act, 1972.
c) The respondents have commercialized the river bank, obstructing the natural flow of the river, and thereby violating Section 24(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974.
d) The installation of high intensity lights and fountains along the river banks can adversely impact the river's ecosystem.
e) The said project raises public safety concerns due to its proximity to the Kota Barrage.
f) The further contention of the applicant is that the project has effect of erosion of natural buffer zone, commercialization at the expense of the conservation, encroachment beyond the high flood level and the obstruction of the natural stream of the river and curtailment to the natural width of the river.

5. Site Visit and Observations:

In order to scrutinize the contentions presented by the applicants, the committee representatives conducted a site visit to the project site on the 8th and 9th of November 2023. During this visit, a thorough examination of the Detailed Project Report was undertaken, with a specific focus on environmental and wildlife conservation considerations, aligning with the provisions of the Wildlife (Protection) Act, 1972. Additionally, the committee took into account the concept of the Eco-Sensitive Zone. The point wise observations/ views of the committee are as below.

a) <u>The Chambal River Front Project, Kota (Raj.) is situated in the close proximity to the National Chambal Ghariyal Sanctuary for which mandatory Environment Clearance has not been obtained under Section 7 of Environment (Protection) Act,1986.</u>

- As per records made available to the members of joint committee vide UIT, Kota letter No. F9/2023-24/314 dated 20.10.2023, the total developed area of the said Chambal River Front is 39.5489 Ha and 19,218.15 sq. meter area is the total built

up area of both the banks where Tea Shops, Khadi shops, apparel/Khadi, Book Store, Souvenir Shops, Restaurants etc. have been proposed to operate. In support, the UIT, Kota has also provided verification report of Rajasthan Technical University, Kota dated 16/10/2023 wherein the built-up area of Chambal River Front has been determined as 19,218.15 Sq. meter. **(A copy of letter dated 20/10/2023 of UIT, Kota is annexed herewith and marked as Annexure I)**

- The location of the river front was examined from The National Chambal Ghariyal Sanctuary constitutes a part of perennial Chambal River but this part of Chambal River has been excluded from the Gazette Notification (Revenue (Group VIII) Department dated 20th July,1983) of the "The National Chambal Ghariyal Sanctuary", which starts from the Kota Barrage in the upstream and Kesorai Patan in the downstream. Hence, the portion of Chambal River where "Chambal River Front" has been constructed does not constitute part of the said sanctuary or any other National Park. **(A copy of Gazette Notification dated 20/07/1983 is annexed herewith and marked as Annexure-II)**
- In order to verify; whether the Chambal Riverfront Project is situated in any protected area viz National Park/Wildlife Sanctuary etc. or Eco-Sensitive Zone (ESZ) of the protected areas and requirement of NBWL Clearance thereof, a letter was written to concerned Deputy Conservator of Forest (DCF), Kota on 16/11/2023.
- In response of said letter, DCF, Kota vide his letter dated 17/11/2023 has submitted that the development work of River front has been carried out in the downstream of River Chambal and is not falling in the boundary of National Chambal Ghariyal Sanctuary. The final notification of National Chambal Ghariyal Sanctuary is under process. DCF, Kota has also mentioned that as per Ministry of Environment and Forest, Govt. of India letter dated 19/12/2006 and Hon'ble Supreme Court vide its order dated 04/12/2006 in W.P.460/2004 in the matter of Goa Foundation V/s Union of India had directed the Ministry to give a final opportunity to all States/Union Territories to respond and the State Governments send their proposal within four weeks, to the Ministry. The Hon'ble Court has also directed that if the State Government fail to comply to this then the Court would consider passing orders for implementation of decision taken on 21/01/2002 in which all areas falling within 10 Km from the boundary of protected area would be treated as Eco-sensitive zones. Looking to the above orders, ESZ of the National Chambal Ghariyal Sanctuary is 10 Km. **(A copy of letter dated 17/11/2023 of DCF, Kota is annexed herewith and marked as Annexure-III)**

  Hence, as per letter received from the DCF, Kota, it may be perceived that area of Chambal River Front lies within ESZ.
- However, DCF, Kota has further clarified in his letter dated 17/11/2023 that as per Environment Impact Assessment (EIA) Notification, 2006 and Ministry of Environment and Forest, Govt. of India letters dated 16/07/2020 & 17/05/2023 "proposals involving activity located within 10 Km of National Park/Wildlife Sanctuary wherein ESZ has not been notified and listed in the Schedule of EIA Notification, 2006 and requiring environment clearance, prior clearance from Standing Committee of National Board for Wild Life will be required".
- The Chambal River Front project may be categorized as either a building and construction project or an area development project. According to item no. 8(a) and 8(b) of schedule of EIA Notification, 2006, building and construction projects with a built-up area $\geq$ 20,000 sq. mtrs $\leq$ 1,50,000 sq. mtrs and township and area development projects covering an area $\geq$ 50 Ha. and or built-up area $\geq$ 1,50,000 sq.

mtrs require prior Environmental Clearance. **(A copy of Schedule of EIA notification, 2006 is annexed herewith and marked as Annexure IV)**

- As per submissions of UIT, Kota, the total developed area of Chambal River Front project is 39.5489 Ha and 19,218.15 sq. meter area is the total built up area, indicating that Environmental Clearance is not required for the project. Further, the UIT has mentioned in their letter dated 20.10.2023 that, they had uploaded the data on Parivesh Portal in the 'Know your proposal' section, the Portal is showing that no Environmental Clearance is required for the project. **(A copy of letter dated 20/10/2023 of UIT, Kota is annexed herewith and marked as Annexure I)**

b) <u>The project poses a significant threat to the critically endangered species residing in the sanctuary, thereby contravening section 29 and 35 of the Wild Life Protection Act, 1972.</u>

Section 29 of Wild Life (Protection) Act,1972 pertains to destruction in a Sanctuary; whereas, Section 35 of Wild Life (Protection) Act,1972 pertains to National Park. Therefore, violations of sections 29 and 35 of Wild Life (Protection) Act,1972 are not tenable. Besides, the project situated outside of sanctuary. It was also learnt that in this particular patch of Chambal River, Ghariyal has never been found. The movement of Ghariyal is generally restricted upto Kesorai patan patch and downstream. Other aquatic fauna such as water birds (River tern, Cormorants, Black winged Stilt, Egret, Heron etc.) were seen in this patch during visit.

c) <u>The respondents have commercialized the river bank, obstructing the natural flow of the river, and thereby violating Section 24(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974.</u>

In terms of the unhindered movement of both macro and micro fauna, it remains unaffected, as the flow and continuity of river water persist without any impediment. Consequently, the construction of the safety wall (implemented in steps) and the development of the riverfront have not disrupted the natural flow of the river, thereby ensuring compliance with Section 24(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974.

The Secretary of UIT, Kota, in his letter numbered F-9/A.A.Project/2020-21/124 dated 03/06/2020, formally requested the Chief Engineer of the Water Resources Zone in Kota for a No Objection Certificate (NOC) to construct a safety wall (in steps) along the stretch from Kota Barrage to Nayapura Bridge on both sides of the river. The purpose of this endeavour was to provide relief to the city from the annual flood occurrences.

Prior to granting the NOC, the Water Resources Department suggested conducting a hydraulic model study of the Kota Barrage in conjunction with the River Front development efforts. This study, proposed to be conducted by institutions such as Water Resources Bodhi, Bhopal, or any other recognised institute, aimed to visualize the potential impact of the riverfront project on both the Kota Barrage and the downstream Chambal River. Consequently, the task of conducting this crucial study was entrusted to the Gujarat Engineering Research Institute (GERI).

GERI diligently carried out the study and submitted its comprehensive report to UIT, Kota. Subsequently, the UIT Secretary forwarded the report to the Water Resources Department (WRD) through letter number 277 dated 18.03.2021. On the basis of report of the hydraulic model study presented by GERI, the WRD issued the No Objection Certificate (NOC) to UIT, Kota, vide letter number 4832 dated 12.04.2021. This decision was based on the finding that there were no adverse effects on the functionality of the Kota Barrage and no significant alterations in the water levels downstream of the Chambal River. **(A copy of GERI report is enclosed herewith and marked as Annexure-V)**

d) <u>The installation of high intensity lights and fountains along the river banks can adversely impact the river's ecosystem.</u>

During committee visit some lights were observed at the site and information related to this was asked from UIT. UIT vide their letter dated 19/12/2023 has submitted following details:

- The night illumination done at Chambal riverfront is carried out to illuminate the facade wall and pedestrian walk ways which are above reduced level (RL) 250 m from the river.
- Further, there is a substantial distance of around 35-40m between light poles and the edges of water on the bank of river which ensures that there is no impact of these artificial lights on the aquatic species. Moreover, energy saving LED lights in the said Project having no glare are installed for illumination on the pathways of the River Front, which do not impact the marine ecosystem. Hence, the artificial lights at night does not disrupts the natural light cycles of the marine species.
- These lights are shutdown during night keeping bare minimum illumination required for security purpose only.

  (A copy of UIT letter is enclosed herewith and marked as Annexure-VI)

e) <u>The said project raises public safety concerns due to its proximity to the Kota Barrage.</u>

The construction of safety wall (in steps) has prevented the nearby habitat from flooding.

f) <u>The further contention of the applicant is that the project has effect of erosion of natural buffer zone, commercialization at the expense of the conservation, encroachment beyond the high flood level and the obstruction of the natural stream of the river and curtailment to the natural width of the river.</u>

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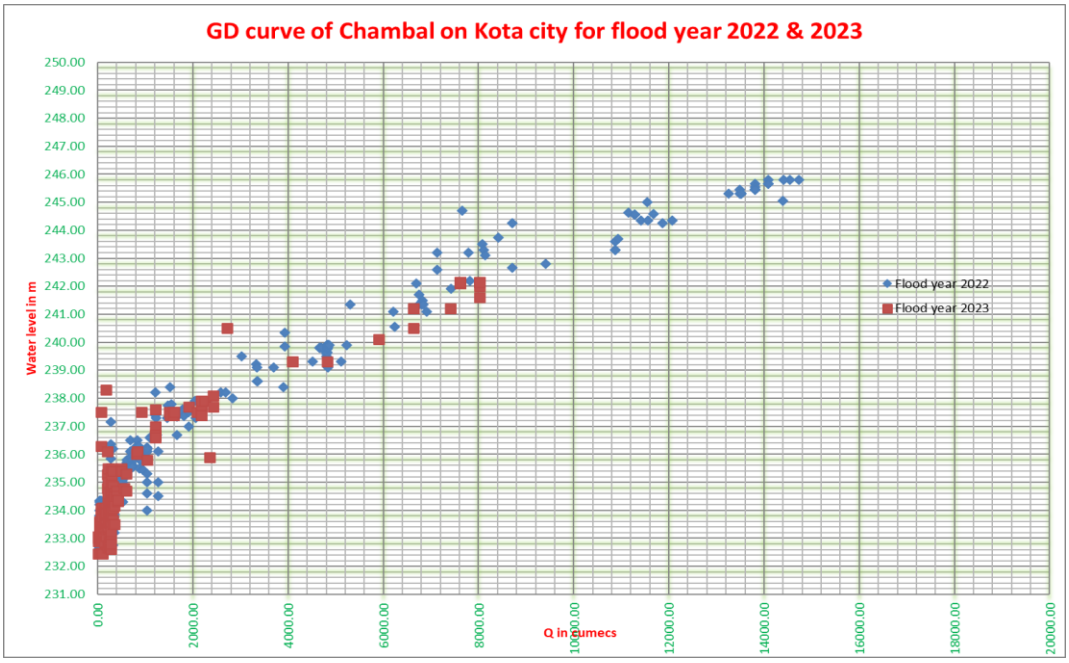
In addition, previous incidents have been noted, specifically on September 15, 2019, when Kota Barrage released a historic discharge of 709,050 Cusecs and the Highest Flood Level (HFL) marked at Nayapura over bridge was recorded at 247.12 meters, the Central Water Commission (CWC), Middle Chambal Sub Division, Kota initiated gauging at Nayapura over bridge in August 2021. This gauging was based on the discharge released from Kota Barrage and the levels achieved from August 2021 to October 2023. The CWC Middle Chambal Sub Division developed a comprehensive General Discharge (GD) Curve shown below:



Based on this curve, the discharge of 709,050 cusecs was calculated, resulting in a level of 247.10 meters. Remarkably, this aligns with the HFL recorded in 2019, confirming the absence of any obstruction in the river flow.

On August 23, 2022, Kota Barrage released 520,339.00 Cusecs, and the achieved level was 245.80 meters. Importantly, no flooding occurred on either side of the river

from the Barrage to Nayapura bridge after the implementation of the safety wall. In contrast, both sides were subject to flooding before the construction of the safety wall.

Consequently, the construction of the safety wall (implemented in steps) and the development of the riverfront have not impeded the river flow, thereby ensuring compliance with Section 24(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974. The safety wall, constructed in steps, has effectively prevented nearby habitats from flooding, which was a prevalent issue before its construction. Neither the flow of the river nor catchment has been obstructed.

31.1.24

(Bhagwant Singh Rathore)
Additional District
Magistrate (Admin.), Kota

(P.Jagan)
Regional Director, Central
Pollution Control Board,
Bhopal

31/1/24

(Aijazuddin Ansari)
Superintending Engineer
R.P.S. & J.S. Dam Circle,
Kota.

31.01.24

(Arbind Kumar Jha)
Chief Manager (Tech.),
Rajasthan
State Biodiversity
Board, Jaipur.

Annexure-I

कार्यालय नगर विकास न्यास, कोटा

क्रमांकःएफ.9 / अ.अ.(प्रो0) / 2023–24 / 314 दिनांकः 20 / 10 / 2023

Regional Officer
Rajasthan State Pollution Control Board
Plot No. 2A, Road no. 6
IP Industrial Area, Kota (Raj.).

Sub: - Regarding details of Chambal River Front Project developed by UIT, Kota.
Ref: - Your letter no. RPCB/RO/KOTA/GEN/349/1786 dated 11.10.2023.

In above reffered subject matter, the required information is hereby tabulated: -

S.No.	Required Information by RPCB	Compliance	Remark
1.	Total Developed Area	39.5489 Hect.	Master plan attached.
2.	Built up Area	19218.15 Sqm	RTU, Kota report attached
3.	Date of starting of project	28.05.2020	W/O of retaining wall attached
4.	Present Status	Complete and inaugurated on 12.09.2023	
5.	Air pollution source	No source observed during operation	
6.	Water pollution source	Total Nallahs and drains 35 Nos. trapped and treated by STP of capacity of 30 MLD.	CTE and CTO attached
7.	Environment clearance	Total built up area is less than 20,000 Sqm and developed area is less than 50.00 Hect as prescribed by memorandum of MoEF. When the data uploaded at PARIVESH portal by 'Know Your Proposal' it shows no EC, no Forest Clearance, no Wild Life Clearance and no Coastal Regulation Clearance required for this area development. It also shows 'Project area or part thereof not falling in Protected Area or ESZ.	Screen Shots attached. KML file of proposed area development also attached.

Secretary
UIT, Kota(Raj.)

26/10/2023
AEE

NOTIFICATION Dated: 17/08/2021

[redacted] Annexure - 2

RAJASTHAN TECHNICAL UNIVERSITY

UNIVERSITY DEPARTMENT

RAWATBHATA ROAD, AKELGARH, KOTA – 324 010 (RAJASTHAN)

DEPARTMENT OF CIVIL ENGINEERING

Report of Verification of Built up Area of Chambal River Front

Sub: Verification of Built up area at Chambal River Front, East and West Bank, Kota

Ref: 1. Your letter F9 EE/Project/2023-24/303 dated 06.10.2023
2. No. RTUK/UD/CED/F(16)21/D&D/2023-24/901 dt.09.10.2023 for Rs.3,54,000/-
3. Bill No. CE07/2023-24/05 dated 11.10.2023 for Rs.3,54,000/-

The built up area at Chambal River Front, Kota submitted by The Executive Engineer, UIT, Kota has been checked and verified. The total built up area is determined as 19218.15m^2. The details are attached in a separate sheet.

16/10/23
(Dr. K. S. Grover)
Prof. and PI

16.10.23
(Dr. A. K. Dwivedi)
Prof. and PI

16/10/23
(Dr. J. K. Sharma)
Prof. and PI

Dean Faculty Affairs
University Department
Rajasthan Technical University Kota-1

Dr. J. K. SHARMA
HOD (Civil)

[redacted]

Mail - Deputy Manager (Infra) | Welcome to PARIVESH | Welcome to PARIVESH | Welcome to PARIVESH

parivesh.nic.in/kya/#/

भारत सरकार | Government of India

English

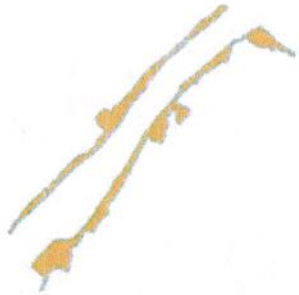
पर्यावेश PARIVESH (CPC GREEN) पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय Ministry of Environment, Forest and Climate Change

LiFE | NIC Bharatmaps

Home > Know Your Approvals > Generate Report

Know Your Approvals - Tentative Applicability of Green Clearances

Layers
List of Boundaries or Parameters covered



NIC Powered by Bharatmaps

Disclaimer: MoEFCC/NIC is not responsible for the positional inaccuracies, completeness or quality of the maps provided. Map data/Indicative list of clearances provided here is for guidance purpose only. It does not constitute a legal opinion or advice.

Project/Activity	Sub Activity	Project Capacity/Extent
Townships/ Area Development Projects / Rehabilitation Centres	Area Development	19218 sqmtr 39 Ha

Tentative Clearances

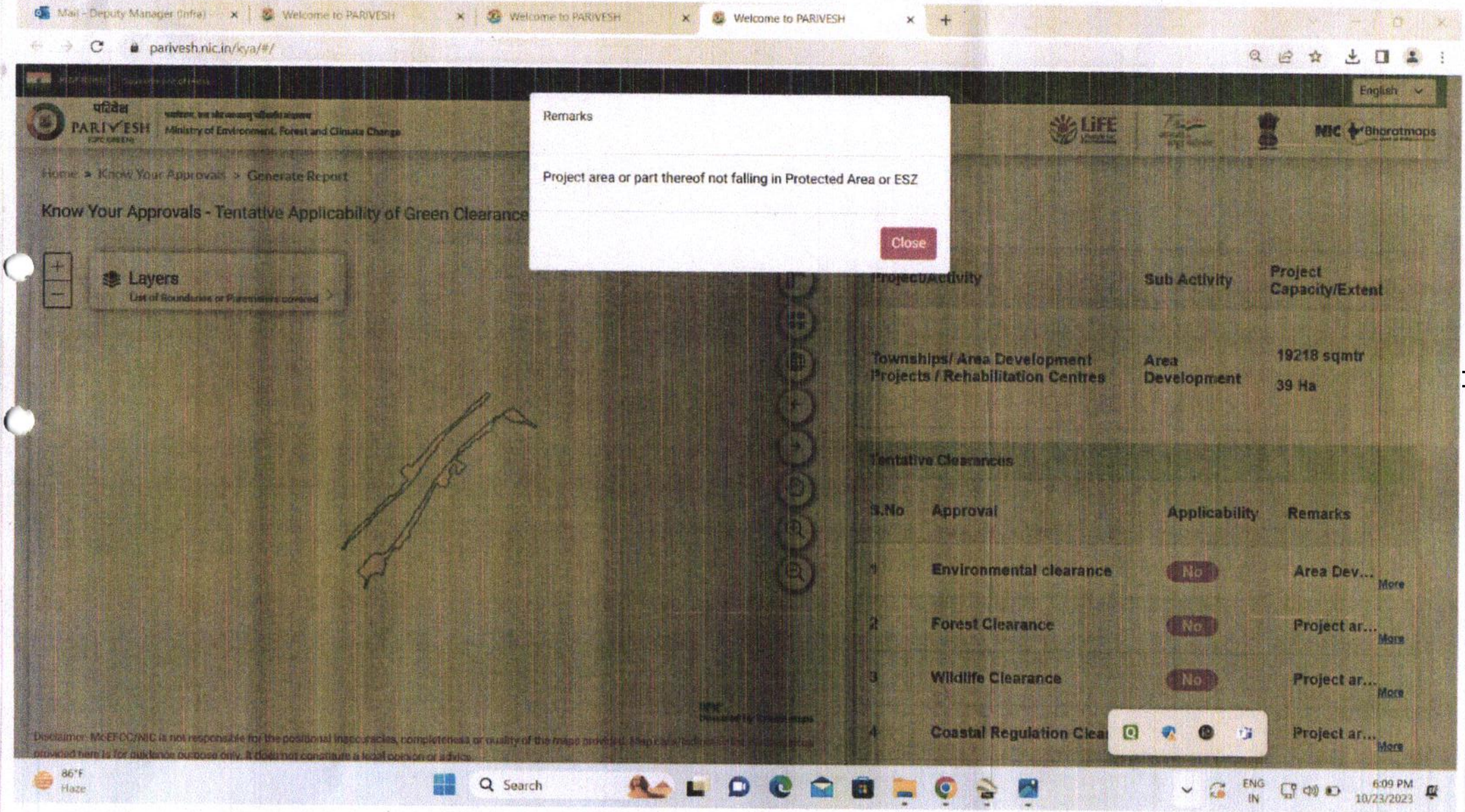
S.No	Approval	Applicability	Remarks
1	Environmental clearance	No	Area Dev... More
2	Forest Clearance	No	Project ar... More
3	Wildlife Clearance	No	Project ar... More
4	Coastal Regulation Clearance	No	Project ar... More

Upcoming Earnings | Search | ENG IN | 6:06 PM 10/23/2023

अमृत चौधरी
सहायक अभियन्ता (रिवर–पूर्व)

विनोद कुमार गौड
अधिशाषी अभियन्ता (रिवर–पूर्व)
नगर विकास न्यास, कोटा

[redacted]



अब्दुल चौधरी
सहायक अभियन्ता (रिवर–पूर्व)
नगर विकास न्यास, कोटा

विनोद कुमार गौड
अधिशाषी अभियन्ता (रिवर–पूर्व)
नगर विकास न्यास, कोटा

12

16

Annexure-II

भाग 1 (ख)

महत्वपूर्ण सरकारी प्रज्ञापन ।

राजस्व (ग्रुप-8) विभाग

अधिसूचना

जयपुर, सितम्बर 3, 1983

क्रमांक एफ 11(12)रेवेन्यू/81/78 :—यतः राज्य सरकार विचार है कि वह क्षेत्र जिसकी अवस्थिति तथा सीमाएं अनुसूची में विनिर्दिष्ट है, घास (सेवेएलिसा गेन्गेटिका) और ढाक (ब्यूटिया मोनोस्पर्मा) की जाति तथा अन्य वन्य वृक्षों को संरक्षित करने, प्रजनित करने तथा विकसित करने के प्रयोजन के लिए और उसके पर्यावरण के लिए पर्याप्त पारिस्थितिक महत्व का है;

और यतः वन (संरक्षण) अधिनियम, 1972 (1972 का केन्द्रीय अधिनियम 69) की धारा 18 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, राज्य सरकार, इसके द्वारा राजस्थान राज्य के अनुसूची में विनिर्दिष्ट क्षेत्र को अभयारण्य के रूप में घोषित करती है। यह राष्ट्रीय घड़ियाल अभयारण्य के रूप में जाना जायगा।

अवस्थिति तथा सीमाओं का विनिर्देश

जवाहर सागर बांध से कोटा बैराज तक का चम्बल नदी का अनुभाग जिसका प्रवाह दक्षिण-पश्चिम से उत्तर-पूर्व की ओर है, इसमें नदी के दोनों ओर के किनारों से 1000 मीटर स्थित भूमि की पट्टी सम्मिलित है।

रामगढ़ बांध से पाली तक का चम्बल नदी का अनुभाग नदी के दोनों ओर के किनारों से 1000 मीटर की दूरी के भीतर स्थित भूमि की पट्टी सम्मिलित है।

पाली से आगे, जहां चम्बल नदी राजस्थान और मध्य प्रदेश राज्यों के बीच सीमा बनाती है वहां नदी के मध्य-प्रवाह तक, तथा नदी के बायें किनारे के साथ साथ जिसमें उत्तर प्रदेश और मध्य प्रदेश राज्यों के विभाजक चिन्ह से भी 1000 मीटर की दूरी के भीतर स्थित भूमि की पट्टी।

यह उप विभाग की समसंख्यक अधिसूचना दिनांक 7-12-79 के अतिक्रमण में जारी किया जाता है।

राज्यपाल के आदेश से,

ए. एम. लाल,

शासन सचिव।

कृषि (ग्रुप-2बी) विभाग

विज्ञप्ति

जयपुर, अगस्त 27, 1983

क्रमांक 10(21) कृषि/ग्रु-2 बी/82:—जैसा कि राजस्थान कृषि उपज विपणि अधिनियम, 1961 की धारा 2 के खण्ड (ब) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए विज्ञप्ति संख्या प. 10 (18) कृषि 2 बी/78/880-85, दिनांक 19-7-82 के द्वारा कृषि उपज बाजार, पड़साना परोक्त विज्ञप्ति द्वारा घोषित मंडी को नई स्थापित करने की याचना की थी और अतः मंडी समिति, पड़साना ने उपरोक्त मंडी क्षेत्र के लिए उपरोक्त अधिनियम के प्रभिप्राय हेतु राजस्थान राज-पत्र, भाग 2, दिनांक 23 अप्रेल, 1977 में प्रकाशित विज्ञप्ति संख्या प. 10 (ग्रु 2 बी)75, दिनांक 23 अप्रेल, 1977 के द्वारा कृषि उपजों के क्रय एवं विक्रय से संबंध में एक मण्डी की स्थापना की है। इस प्रकार स्थापित मंडी [illegible] प्रकाशन की तारीख से स्थापित समझी जायेगी।

अब तदनुसार उपरोक्त अधिनियम की धारा 5 की उप-धारा (2) द्वारा प्रदत्त शक्तियों के प्रयोग में राजस्थान सरकार घोषणा करती है कि मुख्य मंडी बाड़ी से तात्पर्य वर्तमान मंडी से होगा, जिसकी सीमायें निम्न प्रकार होंगी :—

दक्षिण में:— दि पड़साना क्रय-विक्रय सहकारी समिति लि., पड़साना के गोदाम के दक्षिण-पश्चिम कोने से पशु चिकित्सालय के पूर्वी दक्षिणी कोने तक।

पूर्व में :— दुकान संख्या 135 से पशु चिकित्सालय के दक्षिण पूर्वी कोने तक।

पश्चिम में:— दुकान संख्या 1 से क्रय-विक्रय सहकारी समिति लि. पड़साना के दक्षिण-पश्चिम कोने तक होगी।

इसमें स्थित सभी दुकान, मकान व खाली भू-खण्ड आदि सम्मिलित होंगे।

पुनः उपरोक्त अधिनियम की धारा 4 की उप-धारा (3) द्वारा प्रदत्त शक्तियों के प्रयोग में राजस्थान सरकार विज्ञप्ति करती है कि इस मंडी क्षेत्र में उपरोक्त मुख्य मंडी बाड़ी की सीमाओं से लेकर उत्तर में बीकानेर-अनूपगढ़ सड़क व सतराना माईनर के जक्शन से सतराना माईनर के साथ-साथ मुरब्बा संख्या 83145 तक व वहां से मुरब्बा संख्या 10315 तक।

दक्षिण में:— कूपली रोड

पश्चिम में:— बीकानेर-अनूपगढ़ सड़क व पड़साना-कूपली सड़क के जक्शन से शुरू होकर बीकानेर-अनूपगढ़ सड़क के साथ साथ सतराना माईनर तक।

पूर्व:— मुरब्बा संख्या 10315 से 10412 के बीघा संख्या 20 के उत्तर पश्चिमी कोने से मुरब्बा संख्या 10418 के बीघा संख्या 16 के उत्तर-पश्चिमी कोने तक व आगे दक्षिण की ओर कूपली रोड की सीमाओं तक कोई स्थानीय अधिकारी किसी विधि में अन्तर्विष्ट किसी बात के होते हुये भी और कोई अन्य व्यक्ति इस विज्ञप्ति के प्रकाशन की तारीख पर या उसके पश्चात् उपरोक्त मंडी क्षेत्र के लिये विज्ञप्त किसी भी कृषि उपज के क्रय अथवा विक्रय के लिये कोई स्थान नहीं जमायेगा, स्थापित करेगा या कायम करेगा अथवा जमाये जाने, स्थापित किये जाने व कायम रखे जाने की अनुमति नहीं देगा। आगे राजस्थान सरकार घोषणा करती है कि इस विज्ञप्ति में धारा 4 की उप-धारा (3) के अन्तर्गत उपरोक्त वर्णित क्षेत्र मुख्य मंडी होगा। जैसा कि राजस्थान कृषि उपज विपणि अधिनियम, 1961 की धारा 2 की उप-धारा (1) के खण्ड (10) के अन्तर्गत परिभाषित है।

भाला से,

श्याम दास नवल,

उप शासन सचिव।

12129

16A

GOVERNMENT OF RAJASTHAN
REVENUE (GROUP) DEPARTMENT

NO.F.11(12)Rev.8/78 Jaipur, Dated 31/12/79

NOTIFICATION

Whereas the State Government considers that the area, situation and limits whereof are specified below, is of adequate ecological and faunal significance, for the purpose of protecting, propogating and developing the species of Gharial(Gavialis angeticus) and Crocodiles(Crocodilus palustris) and other wild life and its environment;

Now, therefore, in exercise of the powers conferred by section 18 of the Wild Life(Protection) Act, 1972(Central Act 53 of 1972), the State Government hereby declares the undermentioned area in the State of Rajasthan as a sanctuary and to be known as the National Gavial Sanctuary.

SPECIFICATIONS OF SITUATION AND LIMITS

I. Section of the Chambal River from Jawahar Sagar Dam to Kota Barrage flowing in the direction from South West to North East including a strip of distance of 100 metres on either side of the banks of the river.

II. Section of the Chambal River from Keshoraipatan to Pali including a strip of land of 100 metres on either side of the banks.

III. From Pali onward where the river constitute common boundary between the States of Rajasthan and Madhya Pradesh from the mid stream of the river to the left bank as well as a strip of 100 metres along the left bank to the point of inter-section of inter-State border of Rajasthan, Uttar Pradesh and Madhya Pradesh.

BY Order of the Governor,

Secretary to the Government

P.T.O..2

Annexure-III

कार्यालय उप वन संरक्षक (वन्यजीव) मुकन्दरा राष्ट्रीय उद्यान, कोटा

रावतभाटा रोड़, राजस्थान तकनीकी विश्वविद्यालय के सामने, कोटा (राज0) पिन–324010
Phone No. 0744-2470723 E-mail :- dcfmnp.kot.forest@rajasthan.gov.in

क्रमांकः–एफ( )तक–II/उवस/मु.रा.उ./2023–24/ 8687 दिनांकः 17/11/23

निगित :–

क्षेत्रीय प्रबंधक
राजस्थान प्रदूषण नियत्रंण बोर्ड
प्लॉट न0 02 रोड न0 06 इन्द्रप्रस्थ इण्डस्ट्रीयल एरिया कोटा।

विषय :– Regarding information required by the joint committee in the mattar of NGT O.A. No. 130/2023.
प्रसंग :– आपका पत्र क्रमांक 2249 –53 दिनांक 16.11.2023 के क्रम में।

महोदय,

उपरोक्त विषयान्तर्गत एवं प्रासंगिक पत्र के क्रम में लेख है, कि इस कार्यालय से संबंधित चाही गई सूचना बिन्दुवार निम्नानुसार है।

1. रिवर फंट का कार्य कोटा बेराज के बाद चम्बल नदी के डाउन स्ट्रीम में किया जा रहा है, जो राष्ट्रीय चम्बल घडियाल अभयारण्य की सीमा में नहीं आता है। राष्ट्रीय चम्बल घडियाल अभयारण्य के इको सेंसटिव जोन का फाईनल नोटिफिकेशन प्रक्रियाधीन है, वन एवं पर्यावरण मंत्रालय भारत सरकार के पंत्राक 19 दिसम्बर 2006 के एवं माननीय सुप्रीम कोर्ट के आदेशानुसार "Hon'ble Supreme Court vide order dated 4th December 2006 in W.P. 460/2004 in Goa Foundation Vs. Union of India has directed this Ministry to give a final opportunity to all States/Union territories to respond to this office letter dated 27-05-2005 and that the State Governments send their proposals within four weeks, to this Ministry. The Hon'ble Court has also directed that if the State Government fail to comply to this then the Court would consider passing passing orders for implementation of decision taken on 21st January 2002 in which all areas falling within 10 km from the boundary of Protected Area would be treated as eco-sensitive zones."उक्त आदेश के तहत राष्ट्रीय चम्बल घडियाल अभयारण्य का इको सेंसटिव जोन डिफॉल्ट 10 किगी. तक निहित है। इन्वायरमेंट इम्पेक्ट असासमेंट 2006 के अनुसार वन एवं पर्यावरण मंत्रालय भारत सरकार के पत्रांक 16 जूलाई 2020 एवं पत्रांक 17 मई 2023 के अनुसार"Proposals involving activity located within 10 Km of National Park/Wildlife Sanctuary wherein ESZ has not been finally notified and listed in the Schedule of the EIA Notification 2006 and requiring environment clearance, prior clearance from standing Committeeof the National Board for Wild Life will be required."के अनुसार किसी प्रोजेक्ट में पर्यावरणीय स्वीकृति की आवश्यकता होने पर नेशनल बोर्ड ऑफ वाइल्ड लाइफ से वन्यजीव स्वीकृति लिया जाना आवश्यक है।

2. उक्त पत्र इस कार्यालय से संबंधित नहीं है।

(बिजो जॉय)
उप वन संरक्षक (वन्यजीव)
मुकन्दरा राष्ट्रीय उद्यान, कोटा

Signature valid
RajKaj Ref 5066077
Digitally signed by Bijo Joy
Designation: Deputy Conservator Of Forest
Date: 2023.11.17 15:24:54 IST
Reason: Approved

Annexure-IV

(Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii)
MINISTRY OF ENVIRONMENT AND FORESTS
New Delhi 14th September, 2006
Notification

S.O. 1533(E). - Whereas, a draft notification **under sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986 for imposing** certain restrictions and prohibitions on new projects or activities, or on the expansion or modernization of existing projects or activities based on their potential environmental impacts as indicated in the Schedule to the notification, being undertaken in any part of India[1], unless prior environmental clearance has been accorded in accordance with the objectives of National Environment Policy **as approved by the Union Cabinet on 18th May, 2006** and the procedure specified in the notification, by the Central Government or the State or Union territory Level Environment Impact Assessment Authority (SEIAA), to be constituted by the Central Government in consultation with the State Government or the Union territory Administration concerned under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 for the purpose of this notification, was published in the Gazette of India ,Extraordinary, Part II, section 3, sub-section (ii) vide number S.O. 1324 (E) dated the 15th September ,2005 inviting objections and suggestions from all persons likely to be affected thereby within a period of sixty days from the date on which copies of Gazette containing the said notification were made available to the public;

And whereas, copies of the said notification were made available to the public on 15th September, 2005;

And whereas, all objections and suggestions received in response to the above mentioned draft notification have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986, read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986 and in supersession of the notification number S.O. 60 (E) dated the 27th January, 1994, except in respect of things done or omitted to be done before such supersession, the Central Government hereby directs that on and from the date of its publication the required construction of new projects or activities or the expansion or modernization of existing projects or activities listed in the Schedule to this notification entailing capacity addition with change in process and or technology shall be

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

undertaken in any part of India only after the prior environmental clearance from the Central Government or as the case may be, by the State Level Environment
Impact Assessment Authority, duly constituted by the Central Government under sub-section (3) of section 3 of the said Act, in accordance with the procedure specified hereinafter in this notification.

_____
[1]Includes the territorial waters

2. Requirements of prior Environmental Clearance (EC):- The following projects or activities shall require prior environmental clearance from the concerned regulatory authority, which shall hereinafter referred to be as the Central Government in the Ministry of Environment and Forests for matters falling under Category 'A' in the Schedule and at State level the State Environment Impact Assessment Authority (SEIAA) for matters falling under Category 'B' in the said Schedule, before any construction work, or preparation of land by the project management except for securing the land, is started on the project or activity:

(i) All new projects or activities listed in the Schedule to this notification;

(ii) Expansion and modernization of existing projects or activities listed in the Schedule to this notification with addition of capacity beyond the limits specified for the concerned sector, that is, projects or activities which cross the threshold limits given in the Schedule, after expansion or modernization;

(iii) Any change in product - mix in an existing manufacturing unit included in Schedule beyond the specified range.

3. State Level Environment Impact Assessment Authority:- (1) A State Level Environment Impact Assessment Authority hereinafter referred to as the SEIAA shall be constituted by the Central Government under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 comprising of three Members including a Chairman and a Member – Secretary to be nominated by the State Government or the Union territory Administration concerned.

(2) The Member-Secretary shall be a serving officer of the concerned State Government or Union territory administration familiar with environmental laws.

(3) The other two Members shall be either a professional or expert fulfilling the eligibility criteria given in Appendix VI to this notification.

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(4) One of the specified Members in sub-paragraph (3) above who is an expert in the Environmental Impact Assessment process shall be the Chairman of the SEIAA.

(5) The State Government or Union territory Administration shall forward the names of the Members and the Chairman referred in sub- paragraph 3 to 4 above to the Central Government and the Central Government shall constitute the SEIAA as an authority for the purposes of this notification within thirty days of the date of receipt of the names.

(6) The non-official Member and the Chairman shall have a fixed term of three years (from the date of the publication of the notification by the Central Government constituting the authority).

[I] "(7) All decisions of the SEIAA shall be taken in a meeting and shall ordinarily be unanimous:

Provided that, in case a decision is taken by majority, the details of views, for and against it, shall be clearly recorded in the minutes and copy thereof sent to MoEF."

4. Categorization of projects and activities:-

(i) All projects and activities are broadly categorized in to two categories - Category A and Category B, based on the spatial extent of potential impacts and potential impacts on human health and natural and man made resources.

(ii) All projects or activities included as Category 'A' in the Schedule, including expansion and modernization of existing projects or activities and change in product mix, shall require prior environmental clearance from the Central Government in the Ministry of Environment and Forests (MoEF) on the recommendations of an Expert Appraisal Committee (EAC) to be constituted by the Central Government for the purposes of this notification;

(iii) All projects or activities included as Category 'B' in the Schedule, including expansion and modernization of existing projects or activities as specified in sub paragraph (ii) of paragraph 2, or change in product mix as specified in sub paragraph (iii) of paragraph 2, but excluding those which fulfill the General Conditions (GC) stipulated in the Schedule, *will* require prior environmental clearance from the State/Union territory Environment Impact Assessment Authority (SEIAA). The SEIAA shall base its decision on the recommendations of a State or Union territory level Expert Appraisal Committee (SEAC) as to be constituted for in this notification. [II] "In the absence of a duly constituted SEIAA

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

or SEAC, a Category 'B' project shall be considered at Central Level as a Category 'B' project;"

5. Screening, Scoping and Appraisal Committees:-

The same Expert Appraisal Committees (EACs) at the Central Government and SEACs (hereinafter referred to as the (EAC) and (SEAC) at the State or the Union territory level shall screen, scope and appraise projects or activities in Category 'A' and Category 'B' respectively. EAC and SEAC's shall meet at least once every month.

(a) The composition of the EAC shall be as given in Appendix VI. The SEAC at the State or the Union territory level shall be constituted by the Central Government in consultation with the concerned State Government or the Union territory Administration with identical composition;

(b) The Central Government may, with the prior concurrence of the concerned State Governments or the Union territory Administrations, constitutes one SEAC for more than one State or Union territory for reasons of administrative convenience and cost;

(c) The EAC and SEAC shall be reconstituted after every three years;

(d) The authorised members of the EAC and SEAC, concerned, may inspect any site(s) connected with the project or activity in respect of which the prior environmental clearance is sought, for the purposes of screening or scoping or appraisal, with prior notice of at least seven days to the applicant, who shall provide necessary facilities for the inspection;

(e) The EAC and SEACs shall function on the principle of collective responsibility. The Chairperson shall endeavour to reach a consensus in each case, and if consensus cannot be reached, the view of the majority shall prevail.

6. Application for Prior Environmental Clearance (EC):-

An application seeking prior environmental clearance in all cases shall be made in the prescribed Form 1 annexed herewith and Supplementary Form 1A, if applicable, as given in Appendix II, after the identification of prospective site(s) for the project and/or activities to which the application relates, before commencing any construction activity, or preparation of land, at the site by the applicant. The applicant shall furnish, along with the application, a copy

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

of the pre-feasibility project report except that, in case of construction projects or activities (item 8 of the Schedule) in addition to Form 1 and the Supplementary Form 1A, a copy of the conceptual plan shall be provided, instead of the pre-feasibility report.

7. Stages in the Prior Environmental Clearance (EC) Process for New Projects:-

7(i) The environmental clearance process for new projects will comprise of a maximum of four stages, all of which may not apply to particular cases as set forth below in this notification. These four stages in sequential order are:-

- Stage (1) Screening (Only for Category 'B' projects and activities)
- Stage (2) Scoping
- Stage (3) Public Consultation
- Stage (4) Appraisal

I. **Stage (1) - Screening**:

In case of Category 'B' projects or activities, this stage will entail the scrutiny of an application seeking prior environmental clearance made in Form 1 by the concerned State level Expert Appraisal Committee (SEAC) for determining whether or not the project or activity requires further environmental studies for preparation of an Environmental Impact Assessment (EIA) for its appraisal prior to the grant of environmental clearance depending up on the nature and location specificity of the project . The projects requiring an Environmental Impact Assessment report shall be termed Category 'B1' and remaining projects shall be termed Category 'B2' and will not require an Environment Impact Assessment report. For categorization of projects into B1 or B2 except item 8 (b), the Ministry of Environment and Forests shall issue appropriate guidelines from time to time.

II. **Stage (2) - Scoping**:

(i) "Scoping": refers to the process by which the Expert Appraisal Committee in the case of Category 'A' projects or activities, and State level Expert Appraisal Committee in the case of Category 'B1' projects or activities, including applications for expansion and/or modernization and/or change in product mix of existing projects or activities, determine detailed and comprehensive Terms Of Reference (TOR) addressing all relevant environmental concerns for the preparation of an Environment Impact Assessment (EIA) Report in respect of the project or activity for which prior environmental clearance is sought. The Expert Appraisal Committee or State level Expert Appraisal Committee

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

concerned shall determine the Terms of Reference on the basis of the information furnished in the prescribed application Form1/Form 1A including Terns of Reference proposed by the applicant, a site visit by a sub- group of Expert Appraisal Committee or State level Expert Appraisal Committee concerned only if considered necessary by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned, Terms of Reference suggested by the applicant if furnished and other information that may be available with the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned. All projects and activities listed as Category 'B' in Item 8 of the Schedule (Construction/Township/Commercial Complexes /Housing) shall not require Scoping and will be appraised on the basis of Form 1/ Form 1A and the conceptual plan.

(ii) The Terms of Reference (TOR) shall be conveyed to the applicant by the Expert Appraisal Committee or State Level Expert Appraisal Committee as concerned within sixty days of the receipt of Form 1. In the case of Category A Hydroelectric projects Item 1(c) (i) of the Schedule the Terms of Reference shall be conveyed along with the clearance for pre-construction activities .If the Terms of Reference are not finalized and conveyed to the applicant within sixty days of the receipt of Form 1, the Terms of Reference suggested by the applicant shall be deemed as the final Terms of Reference approved for the EIA studies**.** The approved Terms of Reference shall be displayed on the website of the Ministry of Environment and Forests and the concerned State Level Environment Impact Assessment Authority.

(iii) Applications for prior environmental clearance may be rejected by the regulatory authority concerned on the recommendation of the EAC or SEAC concerned at this stage itself. In case of such rejection, the decision together with reasons for the same shall be communicated to the applicant in writing within sixty days of the receipt of the application.

III. **Stage (3) - Public Consultation**:

(i) "Public Consultation" refers to the process by which the concerns of local affected persons and others who have plausible stake in the environmental impacts of the project or activity are ascertained with a view to taking into account all the material concerns in the project or activity design as appropriate. All Category 'A' and Category B1 projects or activities shall undertake Public Consultation, except the following:-

(a) modernization of irrigation projects (item 1(c) (ii) of the Schedule).

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(b) all projects or activities located within industrial estates or parks (item 7(c) of the Schedule) approved by the concerned authorities, and which are not disallowed in such approvals.

(c) expansion of Roads and Highways (item 7 (f) of the Schedule) which do not involve any further acquisition of land.

[III] "(cc) maintenance dredging provided the dredged material shall be disposed within port limits.";

[III] "(d) All Building or Construction projects or Area Development projects (which do not contain any category 'A' projects and activities) and Townships (item 8(a) and 8(b) in the Schedule to the notification)."

e) all Category 'B2' projects and activities.

f) all projects or activities concerning national defence and security or involving other strategic considerations as determined by the Central Government.

(ii) The Public Consultation shall ordinarily have two components comprising of:-

(a) a public hearing at the site or in its close proximity- district wise, to be carried out in the manner prescribed in Appendix IV, for ascertaining concerns of local affected persons;

(b) obtain responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity.

(iii) the public hearing at, or in close proximity to, the site(s) in all cases shall be conducted by the State Pollution Control Board (SPCB) or the Union territory Pollution Control Committee (UTPCC) concerned in the specified manner and forward the proceedings to the regulatory authority concerned within 45(forty five) of a request to the effect from the applicant.

(iv) in case the State Pollution Control Board or the Union territory Pollution Control Committee concerned does not undertake and complete the public hearing within the specified period, and/or does not convey the proceedings of the public hearing within the prescribed period directly to the regulatory authority concerned as above, the regulatory

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

authority shall engage another public agency or authority which is not subordinate to the regulatory authority, to complete the process within a further period of forty five days,.

(v) If the public agency or authority nominated under the sub paragraph (iii) above reports to the regulatory authority concerned that owing to the local situation, it is not possible to conduct the public hearing in a manner which will enable the views of the concerned local persons to be freely expressed, it shall report the facts in detail to the concerned regulatory authority, which may, after due consideration of the report and other reliable information that it may have, decide that the public consultation in the case need not include the public hearing.

(vi) For obtaining responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity, the concerned regulatory authority and the State Pollution Control Board (SPCB) or the Union territory Pollution Control Committee (UTPCC) shall invite responses from such concerned persons by placing on their website the Summary EIA report prepared in the format given in Appendix IIIA by the applicant along with a copy of the application in the prescribed form, within seven days of the receipt of a written request for arranging the public hearing. Confidential information including non-disclosable or legally privileged information involving Intellectual Property Right, source specified in the application shall not be placed on the web site*.* The regulatory authority concerned may also use other appropriate media for ensuring wide publicity about the project or activity. The regulatory authority shall, however, make available on a written request from any concerned person the Draft EIA report for inspection at a notified place during normal office hours till the date of the public hearing. All the responses received as part of this public consultation process shall be forwarded to the applicant through the quickest available means.

(vii) After completion of the public consultation, the applicant shall address all the material environmental concerns expressed during this process, and make appropriate changes in the draft EIA and EMP. The final EIA report, so prepared, shall be submitted by the applicant to the concerned regulatory authority for appraisal. The applicant may alternatively submit a supplementary report to draft EIA and EMP addressing all the concerns expressed during the public consultation.

IV. Stage (4) - Appraisal:

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(i) Appraisal means the detailed scrutiny by the Expert Appraisal Committee or State Level Expert Appraisal Committee of the application and other documents like the Final EIA report, outcome of the public consultations including public hearing proceedings, submitted by the applicant to the regulatory authority concerned for grant of environmental clearance. This appraisal shall be made by Expert Appraisal Committee or State Level Expert Appraisal Committee concerned in a transparent manner in a proceeding to which the applicant shall be invited for furnishing necessary clarifications in person or through an authorized representative. On conclusion of this proceeding, the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned shall make categorical recommendations to the regulatory authority concerned either for grant of prior environmental clearance on stipulated terms and conditions, or rejection of the application for prior environmental clearance, together with reasons for the same.

(ii) The appraisal of all projects or activities which are not required to undergo public consultation, or submit an Environment Impact Assessment report, shall be carried out on the basis of the prescribed application Form 1 and Form 1A as applicable, any other relevant validated information available and the site visit wherever the same is considered as necessary by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned.

(iii) The appraisal of an application be shall be completed by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned within sixty days of the receipt of the final Environment Impact Assessment report and other documents or the receipt of Form 1 and Form 1 A, where public consultation is not necessary and the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee shall be placed before the competent authority for a final decision within the next fifteen days .The prescribed procedure for appraisal is given in Appendix V ;

7(ii). Prior Environmental Clearance (EC) process for Expansion or Modernization or Change of product mix in existing projects:

All applications seeking prior environmental clearance for expansion with increase in the production capacity beyond the capacity for which prior environmental clearance has been granted under this notification or with increase in either lease area or production capacity in the case of mining projects or for the modernization of an existing unit with increase in

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

the total production capacity beyond the threshold limit prescribed in the Schedule to this notification through change in process and or technology or involving a change in the product –mix shall be made in Form I and they shall be considered by the concerned Expert Appraisal Committee or State Level Expert Appraisal Committee within sixty days, who will decide on the due diligence necessary including preparation of EIA and public consultations and the application shall be appraised accordingly for grant of environmental clearance.

8. Grant or Rejection of Prior Environmental Clearance (EC):

(i) The regulatory authority shall consider the recommendations of the EAC or SEAC concerned and convey its decision to the applicant within forty five days of the receipt of the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned or in other words within one hundred and five days of the receipt of the final Environment Impact Assessment Report, and where Environment Impact Assessment is not required, within one hundred and five days of the receipt of the complete application with requisite documents, except as provided below.

(ii) The regulatory authority shall normally accept the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned. In cases where it disagrees with the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned, the regulatory authority shall request reconsideration by the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned within forty five days of the receipt of the recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned while stating the reasons for the disagreement. An intimation of this decision shall be simultaneously conveyed to the applicant. The Expert Appraisal Committee or State Level Expert Appraisal Committee concerned, in turn, shall consider the observations of the regulatory authority and furnish its views on the same within a further period of sixty days. The decision of the regulatory authority after considering the views of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned shall be final and conveyed to the applicant by the regulatory authority concerned within the next thirty days.

(iii) In the event that the decision of the regulatory authority is not communicated to the applicant within the period specified in sub-paragraphs (i) or (ii) above, as applicable, the

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

applicant may proceed as if the environment clearance sought for has been granted or denied by the regulatory authority in terms of the final recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned.

(iv) On expiry of the period specified for decision by the regulatory authority under paragraph (i) and (ii) above, as applicable, the decision of the regulatory authority, and the final recommendations of the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned shall be public documents.

(v) Clearances from other regulatory bodies or authorities shall not be required prior to receipt of applications for prior environmental clearance of projects or activities, or screening, or scoping, or appraisal, or decision by the regulatory authority concerned, unless any of these is sequentially dependent on such clearance either due to a requirement of law, or for necessary technical reasons.

(vi) Deliberate concealment and/or submission of false or misleading information or data which is material to screening or scoping or appraisal or decision on the application shall make the application liable for rejection, and cancellation of prior environmental clearance granted on that basis. Rejection of an application or cancellation of a prior environmental clearance already granted, on such ground, shall be decided by the regulatory authority, after giving a personal hearing to the applicant, and following the principles of natural justice.

9. Validity of Environmental Clearance (EC):

The "Validity of Environmental Clearance" is meant the period from which a prior environmental clearance is granted by the regulatory authority, or may be presumed by the applicant to have been granted under sub paragraph (iv) of paragraph 7 above, to the start of production operations by the project or activity, or completion of all construction operations in case of construction projects (item 8 of the Schedule), to which the application for prior environmental clearance refers. The prior environmental clearance granted for a project or activity shall be valid for a period of ten years in the case of River Valley projects (item 1(c) of the Schedule), project life as estimated by Expert Appraisal Committee or State Level Expert Appraisal Committee subject to a maximum of thirty years for mining projects and five years in the case of all other projects and activities. However, in the case of Area Development projects and Townships [item 8(b)], the validity

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

period shall be limited only to such activities as may be the responsibility of the applicant as a developer. This period of validity may be extended by the regulatory authority concerned by a maximum period of five years provided an application is made to the regulatory authority by the applicant within the validity period, together with an updated Form 1, and Supplementary Form 1A, for Construction projects or activities (item 8 of the Schedule). In this regard the regulatory authority may also consult the Expert Appraisal Committee or State Level Expert Appraisal Committee as the case may be.

10. Post Environmental Clearance Monitoring:

[IV] "(i)(a) In respect of Category 'A' project, it shall be mandatory for the project proponent to make public the environment clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the district or State where the project is located and in addition, this shall also be displayed in the project proponent's website permanently.

(b) In respect of Category 'B' projects, irrespective of its clearance by MoEF / SEIAA, the project proponent shall prominently advertise in the newspapers indicating that the project has been accorded environment clearance and the details of the MoEF website where it is displayed.

(c) The Ministry of Environment and Forests and the State/Union Territory Level Environmental Impact Assessment Authorities (SEIAAs), as the case may be, shall also place the environmental clearance in the public domain on Governmental portal.

(d) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.";

[IV] (ii) It shall be mandatory for the project management to submit half-yearly compliance reports in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year.

[IV] (iii) All such compliance reports submitted by the project management shall be public documents. Copies of the same shall be given to any person on application to the

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

concerned regulatory authority. The latest such compliance report shall also be displayed on the web site of the concerned regulatory authority.

11. Transferability of Environmental Clearance (EC):

A prior environmental clearance granted for a specific project or activity to an applicant may be transferred during its validity to another legal person entitled to undertake the project or activity on application by the transferor, or by the transferee with a written "no objection" by the transferor, to, and by the regulatory authority concerned, on the same terms and conditions under which the prior environmental clearance was initially granted, and for the same validity period. No reference to the Expert Appraisal Committee or State Level Expert Appraisal Committee concerned is necessary in such cases.

12. Operation of EIA Notification, 1994, till disposal of pending cases:

From the date of final publication of this notification the Environment Impact Assessment (EIA) notification number S.O.60 (E) dated 27th January, 1994 is hereby superseded, except in suppression of the things done or omitted to be done before such suppression to the extent that in case of all or some types of applications made for prior environmental clearance and pending on the date of final publication of this notification, the Central Government may relax any one or all provisions of this notification except the list of the projects or activities requiring prior environmental clearance in Schedule I , or continue operation of some or all provisions of the said notification, for a period not exceeding one year from the date of issue of this notification.

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

SCHEDULE

(See paragraph 2 and 7)

LIST OF PROJECTS OR ACTIVITIES REQUIRING PRIOR ENVIRONMENTAL CLEARANCE

Project or Activity		Category with threshold limit		Conditions if any
		A	B	
1		Mining, extraction of natural resources and power generation (for a specified production capacity)		
(1)	(2)	(3)	(4)	(5)
[v] "1(a)	(i) Mining of minerals.	≥ 50 ha. of mining lease area in respect of non-coal mine lease. > 150 ha of mining lease area in respect of coal mine lease. Asbestos mining irrespective of mining area	<50 ha ≥ 5 ha .of mining lease area in respect of non-coal mine lease. ≤ 150 ha ≥ 5 ha of mining lease area in respect of coal mine lease.	General Condition shall apply Note: Mineral prospecting Is exempted.”;
	(ii) Slurry pipelines (coal lignite and other ores) passing through national parks / sanctuaries / coral reefs, ecologically sensitive areas.	All projects.		
1(b)	Offshore and onshore oil and gas exploration, development & production	All projects		Note Exploration Surveys (not involving drilling) are exempted provided the concession areas have got previous clearance for physical survey
1(c)	River Valley pojects	(i) ≥ 50 MW hydroelectric power generation; (ii) ≥ 10,000 ha. of culturable command area	(i) < 50 MW ≥ 25 MW hydroelectric power generation; (ii) < 10,000 ha. of culturable command area	[v] “General Condition shall apply. Note: Irrigation projects not involving submergence or inter-state domain shall be appraised by the SEIAA as Category ‘B’ Projects.”;

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(1)	(2)	(3)	(4)	(5)
1(d)	Thermal Power Plants	[v] " ≥ 500 MW (coal / lignite / naphtha & gas based); ≥ 50 MW (Pet coke diesel and all other fuels including refinery residual oil waste except biomass); ≥ 20 MW (based on biomass or non hazardous municipal waste as fuel).";	< 500 MW (coal / lignite / naphtha & gas based); <50 MW ≥ 5MW (Pet coke, diesel and all other fuels including refinery residual oil waste except biomass); ≥ 20 MW > 15 MW (based on biomass or non hazardous municipal waste as fuel).";	[v] "General Condition shall apply. Note: (i) Power plant up to 15 MW, based on biomass and using auxiliary fuel such as coal / lignite / petroleum products up to 15% are exempt. (ii) Power plant up to 15 MW, based on non-hazardous municipal waste and using auxiliary fuel such as coal / lignite / petroleum products up to 15% are exempt. (iii) Power plants using waste heat boiler without any auxiliary fuel are exempt..";
1(e)	Nuclear power projects and processing of nuclear fuel	All projects		
2		Primary Processing		
2(a)	Coal washeries	≥ 1 million ton/annum throughput of coal	<1million ton/annum throughput of coal	General Condition shall apply (If located within mining area the proposal shall be appraised together with the mining proposal)
2 (b)	Mineral beneficiation	≥ 0.1million ton/annum mineral throughput	< 0.1million ton/annum mineral throughput	General Condition shall apply (Mining proposal with Mineral beneficiation shall be appraised together for grant of clearance)

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

3		Materials Production		
(1)	(2)	(3)	(4)	(5)
3(a)	Metallurgical industries (ferrous & non ferrous)	a)Primary metallurgical industry All projects b) Sponge iron manufacturing ≥ 200TPD c) Secondary metallurgical processing industry All toxic and heavy metal producing units ≥ 20,000 tonnes /annum	 Sponge iron manufacturing <200TPD Secondary metallurgical processing industry i.)All toxic and heavy metal producing units <20,000 tonnes /annum ii.)All other non –toxic secondary metallurgical processing industries >5000 tonnes/annum	[V] "General condition shall apply. Note: (i) The recycling industrial units registered under the HSM Rules, are exempted. (ii) In case of secondary metallurgical processing industrial units, those projects involving operation of furnaces only such as induction and electrical arc furnace, submerged arc furnace, and cupola with capacity more than 30,000 tonnes per annum (TPA) would require environmental clearance. (iii) Plant / units other than power plants (given against entry no. 1(d) of the schedule), based on municipal solid waste (non-hazardous) are exempted."
3(b)	Cement plants	≥ 1.0 million tonnes/annum production capacity	<1.0 million tonnes/annum production capacity. All Stand alone grinding units	General Condition shall apply
4		Materials Processing		
(1)	(2)	(3)	(4)	(5)
4(a)	Petroleum refining industry	All projects	-	-
4(b)	Coke oven plants	≥2,50,000 tonnes/annum	<2,50,000 & ≥25,000 tonnes/annum	[V] "General Condition shall apply."
4(c)	Asbestos milling and asbestos based products	All projects	-	-

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(1)	(2)	(3)	(4)	(5)
4(d)	Chlor-alkali industry	≥300 TPD production Capacity or a unit located out side the notified industrial area/ estate	[v] "(i) All projects irrespective of the size, if located in a Notified Industrial Area/ Estate. (ii) <300 tonnes per day (TPD) and located outside a Notified Industrial Area/ Estate."	[v] "General as well as specific condition shall apply. No new Mercury Cell based plants will be permitted and existing units converting to membrane cell technology are exempted from this notification."
4(e)	Soda ash Industry	All projects	-	-
4(f)	Leather/skin/hide processing industry	New projects outside the industrial area or expansion of existing units out side the industrial area	All new or expansion of projects located within a notified industrial area/ estate	[v] "General as well as specific condition shall apply."
5		Manufacturing / Fabrication		
5(a)	Chemical fertilizers	[v] "All projects except Single Super Phosphate."	[v] "Single Super Phosphate."	-
5(b)	Pesticides industry and pesticide specific intermediates (excluding formulations)	All units producing technical grade pesticides	-	-
5(c)	Petro-chemical complexes (industries based on processing of petroleum fractions & natural gas and/or reforming to aromatics)	All projects -	-	-
5(d)	Manmade fibers manufacturing	Rayon	Others	General Condition shall apply
5(e)	Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes)	Located out side the notified industrial area/ estate -	Located in a notified industrial area/ estate	[v] "General as well as specific condition shall apply."

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(1)	(2)	(3)	(4)	(5)
5(f)	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	Located out side the notified industrial area/ estate	Located in a notified industrial area/ estate	[v] "General as well as specific condition shall apply."
5(g)	Distilleries	(i)All Molasses based distilleries (ii) All Cane juice/ non-molasses based distilleries ≥30 KLD	All Cane juice / non-molasses based distilleries – <30 KLD	General Condition shall apply
5(h)	Integrated paint industry	-	All projects	General Condition shall apply
5(i)	Pulp & paper industry excluding manufacturing of paper from waste paper and manufacture of paper from ready pulp with out bleaching	Pulp manufacturing and Pulp& Paper manufacturing industry	Paper manufacturing industry without pulp manufacturing	General Condition shall apply
5(j)	Sugar Industry	-	≥ 5000 tcd cane crushing capacity	General Condition shall apply
5(k)	[v] Omitted			
6		Service Sectors		
6(a)	Oil & gas transportation pipe line (crude and refinery/ petrochemical products), passing through national parks / sanctuaries /coral reefs / ecologically sensitive areas including LNG Terminal	All projects		-

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(1)	(2)	(3)	(4)	(5)
6(b)	**Isolated storage & handling of hazardous chemicals (As per threshold planning quantity indicated in column 3 of schedule 2 & 3 of MSIHC Rules 1989 amended 2000)**	**-**	**All projects**	**General Condition shall apply**
7		**Physical Infrastructure including Environmental Services**		
7(a)	**Air ports**	**[v] "All projects including airstrips, which are for commercial use."**	**-**	**[v] "Note: Air strips, which do not involve bunkering/ refueling facility and or Air Traffic Control, are exempted."**
7(b)	All ship breaking yards including ship breaking units	All projects	-	-
7©	**Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes.**	**If at least one industry in the proposed industrial estate falls under the Category A, entire industrial area shall be treated as Category A, irrespective of the area.** **Industrial estates with area greater than 500 ha. and housing at least one Category B industry.**	**Industrial estates housing at least one Category B industry and area <500 ha.** **Industrial estates of area> 500 ha. and not housing any industry belonging to Category A or B.**	**[v] "Genral as well as special conditions shall apply.** **Note:** **1. Industrial Estate of area below 500 ha. and not housing any industry of Category 'A' or 'B' does not require clearance.** **2. If the area is less than 500 ha. but contains building and construction projects > 20,000 Sq. mts. And or development area more than 50 ha it will be treated as activity listed at serial no. 8(a) or 8(b) in the Schedule, as the case may be."**
7(d)	**Common hazardous waste treatment, storage and disposal facilities (TSDFs)**	**All integrated facilities having incineration &landfill or incineration alone**	**All facilities having land fill only**	**General Condition shall apply**

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(1)	(2)	(3)	(4)	(5)
7(e)	[V] "Ports, harbours, break waters, dredging."	≥ 5 million TPA of cargo handling capacity (excluding fishing harbours)	< 5 million TPA of cargo handling capacity and/or ports/ harbours ≥10,000 TPA of fish handling capacity	[V] "General Condition shall apply. Note: 1. Capital dredging inside and outside the ports or harbors and channels are included; 2. Maintenance dredging is exempt provided it formed part of the original proposal for which Environment Management Plan (EMP) was prepared and environmental clearance obtained."
7(f)	Highways	i) New National High ways; and ii) Expansion of National High ways greater than 30 KM, involving additional right of way greater than 20m involving land acquisition and passing through more than one State.	[V] " i) All State Highway Project; and ii) State Highway expansion projects in hilly terrain (above 1,000 m AMSL) and or ecologically sensitive areas."	General Condition shall apply. Note: Highways include expressways."
7(g)	Aerial ropeways	[V(xvi)(a)] "(i) All projects located at altitude of 1,000 mtr. And above. (ii) All projects located in notified ecologically sensitive areas."	[V(xvi)(b)] "All projects except those covered in column (3)."	General Condition shall apply
7(h)	Common Effluent Treatment Plants (CETPs)		All projects	General Condition shall apply
7(i)	Common Municipal Solid Waste Management Facility (CMSWMF)		All projects	General Condition shall apply
8		Building /Construction projects/Area Development projects and Townships		
8(a)	Building and Construction projects		≥20000 sq.mtrs and <1,50,000 sq.mtrs. of built-up area#	#(built up area for covered construction; in the case of facilities open to the sky, it will be the activity area)
8(b)	Townships and Area Development projects.		Covering an area ≥ 50 ha and or built up area ≥1,50,000 sq .mtrs ++	++All projects under Item 8(b) shall be appraised as Category B1

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

Note:-

[V(xvii)] **"General Condition (GC):**
Any project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 10 km from the boundary of: (i) Protected Areas notified under the Wild Life (Protection) Act, 1972, (ii) Critically Polluted areas as identified by the Central Pollution Control Board from time to time, (iii) Eco-sensitive areas as notified under section 3 of the Environment (Protection) Act, 1986, such as, Mahabaleshwar Panchgani, Matheran, Pachmarhi, Dahanu, Doon Valley, and (iv) inter-State boundaries and international boundaries:

Provided that the requirement regarding distance of 10 km of the inter-State boundaries can be reduced or completely done away with by an agreement between the respective States or U.Ts sharing the common boundary in case the activity does not fall within 10 kilometres of the areas mentioned at item (i), (ii) and (iii) above."

Specific Condition (SC):
If any Industrial Estate/Complex / Export processing Zones /Special Economic Zones/Biotech Parks / Leather Complex with homogeneous type of industries such as Items 4(d), 4(f), 5(e), 5(f), or those Industrial estates with pre –defined set of activities (not necessarily homogeneous, obtains prior environmental clearance, individual industries including proposed industrial housing within such estates /complexes will not be required to take prior environmental clearance, so long as the Terms and Conditions for the industrial estate/complex are complied with (Such estates/complexes must have a clearly identified management with the legal responsibility of ensuring adherence to the Terms and Conditions of prior environmental clearance, who may be held responsible for violation of the same throughout the life of the complex/estate).

[No. J-11013/56/2004-IA-II (I)]
(R.CHANDRAMOHAN)
JOINT SECRETARY TO THE GOVERNMENT OF INDIA

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

APPENDIX I

(See paragraph – 6)

FORM 1

[VI(a)] **"(I) Basic Information**

Serial Number	Item	Details
1.	Name of the project/s	
2.	S. No. in schedule	
3.	Proposed capacity/area/length/tonnage to be handled/command area/lease area/number of wells to be drilled	
4.	New/Expansion/Modernization	
5.	Existing Capacity/Area etc.	
6.	Category of Project i.e. 'A' or 'B'	
7.	Does it attract the general condition? If' Yes, please specify.	
8.	Does it attract the specific condition? If' Yes, please specify.	
9.	Location	
	Plot/Survey/Khasra No.	
	Village	
	Tehsil	
	District	
	State	
10.	Nearest railway station/airport along with distance in kms.	
11.	Nearest Town, city, District Headquarters along with distance in kms.	
12.	Village Panchayats, Zilla Parishad, Municipal Corporation, Local body (complete postal addresses with telephone nos. to be given)	
13.	Name of the applicant	
14.	Registered Address	
15.	Address for correspondence:	
	Name	
	Designation (Owner/Partner/CEO)	
	Address	
	Pin Code	
	E-mail	
	Telephone No.	
	Fax No.	
16	Details of Alternative Sites examined, if any. Location of these sites should be shown on a topo sheet.	Village-District-State 1. 2. 3.
17.	Interlinked Projects	
18	Whether separate application of interlinked project has been submitted?	

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

19.	If yes, date of submission	
20.	If no, reason	
21.	Whether the proposal involves approval/ clearance under: If yes, details of the same and their status to be given. (a) The Forest (Conservation) Act, 1980 ? (b) The Wildlife (Protection) Act, 1972 ? (c) The C.R.Z. Notification, 1991 ?	
22.	Whether there is any Government Order/Policy relevant/ relating to the site ?	
23.	Forest land involved (hectares)	
24.	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up ? (a) Name of the Court. (b) Case No. (c) Orders/directions of the Court, if any and its relevance with the proposed project.	

(II) Activity

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)		
1.2	Clearance of existing land, vegetation and buildings?		
1.3	Creation of new land uses?		
1.4	Pre-construction investigations e.g. bore houses, soil testing?		
1.5	Construction works?		
1.6	Demolition works?		
1.7	Temporary sites used for construction works or housing of construction workers?		
1.8	Above ground buildings, structures or earthworks including linear structures, cut And fill or excavations		

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

1.9	Underground works including mining or tunneling?		
1.10	Reclamation works?		
1.11	Dredging?		
1.12	Offshore structures?		
1.13	Production and manufacturing processes?		
1.14	Facilities for storage of goods or materials?		
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?		
1.16	Facilities for long term housing of operational workers?		
1.17	New road, rail or sea traffic during construction or operation?		
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?		
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?		
1.20	New or diverted transmission lines or pipelines?		
1.21	Impoundment, damming, culverting, realignment or other changes to the ydrology of watercourses or aquifers?		
1.22	Stream crossings?		
1.23	Abstraction or transfers of water form ground or surface waters?		
1.24	Changes in water bodies or the land surface affecting drainage or run-off?		
1.25	Transport of personnel or materials for construction, operation or decommissioning?		
1.26	Long-term dismantling or decommissioning or restoration works?		
1.27	Ongoing activity during decommissioning which could have an impact on the environment?		
1.28	Influx of people to an area in either temporarily or permanently?		
1.29	Introduction of alien species?		

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

1.30	Loss of native species or genetic diversity?		
1.31	Any other actions?		

2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)		
2.2	Water (expected source & competing users) unit: KLD		
2.3	Minerals (MT)		
2.4	Construction material – stone, aggregates, sand / soil (expected source – MT)		
2.5	Forests and timber (source – MT)		
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)		
2.7	Any other natural resources (use appropriate standard units)		

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)		
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)		
3.3	Affect the welfare of people e.g. by changing living conditions?		
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,		
3.5	Any other causes		

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes		
4.2	Municipal waste (domestic and or commercial wastes)		
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)		
4.4	Other industrial process wastes		
4.5	Surplus product		
4.6	Sewage sludge or other sludge from effluent treatment.		
4.7	Construction or demolition wastes		
4.8	Redundant machinery or equipment		
4.9	Contaminated soils or other materials		
4.10	Agricultural wastes		
4.11	Other solid wastes		

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources.		
5.2	Emissions from production processes		
5.3	Emissions from materials handling including storage or transport		
5.4	Emissions from construction activities including plant and equipment		
5.5	Dust or odours from handling of materials including construction materials, sewage and waste		

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

5.6	Emissions from incineration of waste		
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)		
5.8	Emissions from any other sources		

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers		
6.2	From industrial or similar processes		
6.3	From construction or demolition		
6.4	From blasting or piling		
6.5	From construction or operational traffic		
6.6	From lighting or cooling systems		
6.7	From any other sources		

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials		
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)		
7.3	By deposition of pollutants emitted to air into the land or into water		
7.4	From any other sources		
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?		

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances		
8.2	From any other causes		
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?		

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting. lities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: • Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) • housing development • extractive industries • supply industries • other		
9.2	Lead to after-use of the site, which could have an impact on the environment		
9.3	Set a precedent for later developments		
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects		

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(III) Environmental Sensitivity

S.No.	Areas	Name/ Identity	Aerial distance (within 15 km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value		
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests		
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, esting, foraging, resting, over wintering, migration		
4	Inland, coastal, marine or underground waters		
5	State, National boundaries		
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas		
7	Defence installations		
8	Densely populated or built-up area		
9	Areas occupied by sensitive man-made land uses *(hospitals, schools, places of worship, community facilities)*		
10	Areas containing important, high quality or scarce Resources *(ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)*		
11	Areas already subjected to pollution or environmental damage. *(those where existing legal environmental standards are exceeded)*		
12	Areas susceptible to natural hazard which could cause the project to present environmental Problems (*earthquakes, subsidence, landslides, erosion, Flooding or extreme or adverse climatic conditions*)		

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(IV). Proposed Terms of Reference for EIA studies

VI(b) "I hereby given undertaking that the data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance give, if any to the project will be revoked at our risk and cost."

Date: _____

Place: _____

Signature of the applicant
With Name and Full Address
(Project Proponent/Authorised Signatory)

NOTE:

1. The projects involving clearance under Coastal Regulation Zone Notification, 1991 shall submit with the application a C.R.Z. map duly demarcated by one of the authorized agencies, showing the project activities, w.r.t. C.R.Z. (at the stage of TOR) and the recommendations of the State Coastal Zone Management Authority (at the stage of EC). Sinmultaneous action shall also be taken to obtain the requisite clearance under the provisions of the C.R.Z. Notification, 1991 for the activities to be located in the CRZ.
2. The projects to be located within 10 km of the National Prks, Sancturies, Biosphere Reserves, Migratory Corridors of Wile Animals, the project proponenet shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon (at the stage of EC)."
3. All correspondence with the Ministry of Environment & Forests including aubmission of application for TOR/Environmental Clearance, subsequent clarifications, as may be required from time to time, participation in the EAC Meeting on behalf of the project proponent shall be made by the authorized signatory only. The authorized signatory should also submit a document in support of his claim of being and authorized signatory for the specific project."

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

APPENDIX II
(See paragraph 6)

FORM-1 A (only for construction projects listed under item 8 of the Schedule)

CHECK LIST OF ENVIRONMENTAL IMPACTS

(Project proponents are required to provide full information and wherever necessary attach explanatory notes with the Form and submit along with proposed environmental management plan & monitoring programme)

1. **LAND ENVIRONMENT**

(Attach panoramic view of the project site and the vicinity)

1.1. Will the existing landuse get significantly altered from the project that is not consistent with the surroundings? (Proposed landuse must conform to the approved Master Plan / Development Plan of the area. Change of landuse if any and the statutory approval from the competent authority be submitted). Attach Maps of (i) site location, (ii) surrounding features of the proposed site (within 500 meters) and (iii) the site (indicating levels & contours) to appropriate scales. If not available attach only conceptual plans.

1.2. List out all the major project requirements in terms of the land area, built up area, water consumption, power requirement, connectivity, community facilities, parking needs etc.

1.3. What are the likely impacts of the proposed activity on the existing facilities adjacent to the proposed site? (Such as open spaces, community facilities, details of the existing landuse, disturbance to the local ecology).

1.4. Will there be any significant land disturbance resulting in erosion, subsidence & instability? (Details of soil type, slope analysis, vulnerability to subsidence, seismicity etc may be given).

1.5. Will the proposal involve alteration of natural drainage systems? (Give details on a contour map showing the natural drainage near the proposed project site)

1.6. What are the quantities of earthwork involved in the construction activity-cutting, filling, reclamation etc. (Give details of the quantities of earthwork involved, transport of fill materials from outside the site etc.)

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

1.7. Give details regarding water supply, waste handling etc during the construction period.

1.8. Will the low lying areas & wetlands get altered? (Provide details of how low lying and wetlands are getting modified from the proposed activity)

1.9. Whether construction debris & waste during construction cause health hazard? (Give quantities of various types of wastes generated during construction including the construction labour and the means of disposal)

2. WATER ENVIRONMENT

2.1. Give the total quantity of water requirement for the proposed project with the breakup of requirements for various uses. How will the water requirement met? State the sources & quantities and furnish a water balance statement.

2.2. What is the capacity (dependable flow or yield) of the proposed source of water?

2.3. What is the quality of water required, in case, the supply is not from a municipal source? (Provide physical, chemical, biological characteristics with class of water quality)

2.4. How much of the water requirement can be met from the recycling of treated wastewater? (Give the details of quantities, sources and usage)

2.5. Will there be diversion of water from other users? (Please assess the impacts of the project on other existing uses and quantities of consumption)

2.6. What is the incremental pollution load from wastewater generated from the proposed activity? (Give details of the quantities and composition of wastewater generated from the proposed activity)

2.7. Give details of the water requirements met from water harvesting? Furnish details of the facilities created.

2.8. What would be the impact of the land use changes occurring due to the proposed project on the runoff characteristics (quantitative as well as qualitative) of the area in the post construction phase on a long term basis? Would it aggravate the problems of flooding or water logging in any way?

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

2.9. What are the impacts of the proposal on the ground water? (Will there be tapping of ground water; give the details of ground water table, recharging capacity, and approvals obtained from competent authority, if any)

2.10. What precautions/measures are taken to prevent the run-off from construction activities polluting land & aquifers? (Give details of quantities and the measures taken to avoid the adverse impacts)

2.11. How is the storm water from within the site managed?(State the provisions made to avoid flooding of the area, details of the drainage facilities provided along with a site layout indication contour levels)

2.12. Will the deployment of construction labourers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)

2.13. What on-site facilities are provided for the collection, treatment & safe disposal of sewage? (Give details of the quantities of wastewater generation, treatment capacities with technology & facilities for recycling and disposal)

2.14. Give details of dual plumbing system if treated waste used is used for flushing of toilets or any other use.

3. VEGETATION

3.1. Is there any threat of the project to the biodiversity? (Give a description of the local ecosystem with it's unique features, if any)

3.2. Will the construction involve extensive clearing or modification of vegetation? (Provide a detailed account of the trees & vegetation affected by the project)

3.3. What are the measures proposed to be taken to minimize the likely impacts on important site features (Give details of proposal for tree plantation, landscaping, creation of water bodies etc along with a layout plan to an appropriate scale)

4. FAUNA

4.1. Is there likely to be any displacement of fauna- both terrestrial and aquatic or creation of barriers for their movement? Provide the details.

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

4.2. Any direct or indirect impacts on the avifauna of the area? Provide details.

4.3. Prescribe measures such as corridors, fish ladders etc to mitigate adverse impacts on fauna

5. AIR ENVIRONMENT

5.1. Will the project increase atmospheric concentration of gases & result in heat islands? (Give details of background air quality levels with predicted values based on dispersion models taking into account the increased traffic generation as a result of the proposed constructions)

5.2. What are the impacts on generation of dust, smoke, odorous fumes or other hazardous gases? Give details in relation to all the meteorological parameters.

5.3. Will the proposal create shortage of parking space for vehicles? Furnish details of the present level of transport infrastructure and measures proposed for improvement including the traffic management at the entry & exit to the project site.

5.4. Provide details of the movement patterns with internal roads, bicycle tracks, pedestrian pathways, footpaths etc., with areas under each category.

5.5. Will there be significant increase in traffic noise & vibrations? Give details of the sources and the measures proposed for mitigation of the above.

5.6. What will be the impact of DG sets & other equipment on noise levels & vibration in & ambient air quality around the project site? Provide details.

6. AESTHETICS

6.1. Will the proposed constructions in any way result in the obstruction of a view, scenic amenity or landscapes? Are these considerations taken into account by the proponents?

6.2. Will there be any adverse impacts from new constructions on the existing structures? What are the considerations taken into account?

6.3. Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.

6.4. Are there any anthropological or archaeological sites or artefacts nearby? State if any other significant features in the vicinity of the proposed site have been considered.

7. SOCIO-ECONOMIC ASPECTS

7.1. Will the proposal result in any changes to the demographic structure of local population? Provide the details.

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

7.2. Give details of the existing social infrastructure around the proposed project.

7.3. Will the project cause adverse effects on local communities, disturbance to sacred sites or other cultural values? What are the safeguards proposed?

8. BUILDING MATERIALS

8.1. May involve the use of building materials with high-embodied energy. Are the construction materials produced with energy efficient processes? (Give details of energy conservation measures in the selection of building materials and their energy efficiency)

8.2. Transport and handling of materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts?

8.3. Are recycled materials used in roads and structures? State the extent of savings achieved?

8.4. Give details of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project.

9. ENERGY CONSERVATION

9.1. Give details of the power requirements, source of supply, backup source etc. What is the energy consumption assumed per square foot of built-up area? How have you tried to minimize energy consumption?

9.2. What type of, and capacity of, power back-up to you plan to provide?

9.3. What are the characteristics of the glass you plan to use? Provide specifications of its characteristics related to both short wave and long wave radiation?

9.4. What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project.

9.5. Does the layout of streets & buildings maximise the potential for solar energy devices? Have you considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex? Substantiate with details.

9.6. Is shading effectively used to reduce cooling/heating loads? What principles have been used to maximize the shading of Walls on the East and the West and the Roof? How much energy saving has been effected?

9.7. Do the structures use energy-efficient space conditioning, lighting and mechanical systems? Provide technical details. Provide details of the transformers and motor efficiencies, lighting intensity and air-conditioning load assumptions? Are you using CFC and HCFC free chillers? Provide specifications.

9.8. What are the likely effects of the building activity in altering the micro-climates? Provide a self assessment on the likely impacts of the proposed construction on

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

creation of heat island & inversion effects?

9.9. What are the thermal characteristics of the building envelope? (a) roof; (b) external walls; and (c) fenestration? Give details of the material used and the U-values or the R values of the individual components.

9.10. What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans.

9.11. If you are using glass as wall material provides details and specifications including emissivity and thermal characteristics.

9.12. What is the rate of air infiltration into the building? Provide details of how you are mitigating the effects of infiltration.

9.13. To what extent the non-conventional energy technologies are utilised in the overall energy consumption? Provide details of the renewable energy technologies used.

10. Environment Management Plan

The Environment Management Plan would consist of all mitigation measures for each item wise activity to be undertaken during the construction, operation and the entire life cycle to minimize adverse environmental impacts as a result of the activities of the project. It would also delineate the environmental monitoring plan for compliance of various environmental regulations. It will state the steps to be taken in case of emergency such as accidents at the site including fire.

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

APPENDIX III

(See paragraph 7

GENERIC STRUCTURE OF ENVIRONMENTAL IMPACT ASSESSENT DOCUMENT

S.NO	EIA STRUCTURE	CONTENTS
1.	Introduction	• Purpose of the report • Identification of project & project proponent • Brief description of nature, size, location of the project and its importance to the country, region • Scope of the study – details of regulatory scoping carried out (As per Terms of Reference)
2.	Project Description	• Condensed description of those aspects of the project (based on project feasibility study), likely to cause environmental effects. Details should be provided to give clear picture of the following: • Type of project • Need for the project • Location (maps showing general location, specific location, project boundary & project site layout) • Size or magnitude of operation (incl. Associated activities required by or for the project • Proposed schedule for approval and implementation • Technology and process description • Project description. Including drawings showing project layout, components of project etc. Schematic representations of the feasibility drawings which give information important for EIA purpose • Description of mitigation measures incorporated into the project to meet environmental standards, environmental operating conditions, or other EIA requirements (as required by the scope) • Assessment of New & untested technology for the risk of technological failure

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

3.	Description of the Environment	• Study area, period, components & methodology • Establishment of baseline for valued environmental components, as identified in the scope • Base maps of all environmental components
4.	Anticipated Environmental Impacts & Mitigation Measures	• Details of Investigated Environmental impacts due to project location, possible accidents, project design, project construction, regular operations, final decommissioning or rehabilitation of a completed project • Measures for minimizing and / or offsetting adverse impacts identified • Irreversible and Irretrievable commitments of environmental components • Assessment of significance of impacts (Criteria for determining significance, Assigning significance) • Mitigation measures
5.	Analysis of Alternatives (Technology & Site)	• In case, the scoping exercise results in need for alternatives: • Description of each alternative • Summary of adverse impacts of each alternative • Mitigation measures proposed for each alternative and • Selection of alternative
6.	Environmental Monitoring Program	• Technical aspects of monitoring the effectiveness of mitigation measures (incl. Measurement methodologies, frequency, location, data analysis, reporting schedules, emergency procedures, detailed budget & procurement schedules)
7.	Additional Studies	• Public Consultation • Risk assessment • Social Impact Assessment. R&R Action Plans
8.	Project Benefits	• Improvements in the physical infrastructure • Improvements in the social infrastructure

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

		• Employment potential –skilled; semi-skilled and unskilled • Other tangible benefits
9.	Environmental Cost Benefit Analysis	If recommended at the Scoping stage
10.	EMP	• Description of the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored, after approval of the EIA
11	Summary & Conclusion (This will constitute the summary of the EIA Report)	• Overall justification for implementation of the project • Explanation of how, adverse effects have been mitigated
12.	Disclosure of Consultants engaged	• The names of the Consultants engaged with their brief resume and nature of Consultancy rendered

APPENDIX III A

(See paragraph 7)

CONTENTS OF SUMMARY ENVIRONMENTAL IMPACT ASSESSMENT

The Summary EIA shall be a summary of the full EIA Report condensed to ten A-4 size pages at the maximum. It should necessarily cover in brief the following Chapters of the full EIA Report: -

1. Project Description
2. Description of the Environment
3. Anticipated Environmental impacts and mitigation measures
4. Environmental Monitoring Programme
5. Additional Studies
6. Project Benefits
7. Environment Management Plan

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

APPENDIX IV

(See paragraph 7)

PROCEDURE FOR CONDUCT OF PUBLIC HEARING

1.0 The Public Hearing shall be arranged in a systematic, time bound and transparent manner ensuring widest possible public participation at the project site(s) or in its close proximity District -wise, by the concerned State Pollution Control Board (SPCB) or the Union Territory Pollution Control Committee (UTPCC).

2. 0 **The Process:**

2.1 The Applicant shall make a request through a simple letter to the Member Secretary of the SPCB or Union Territory Pollution Control Committee, in whose jurisdiction the project is located, to arrange the public hearing within the prescribed statutory period. In case the project site is covering more than one District or State or Union Territory, the public hearing is mandated in each District, State or Union Territory in which the project is located and the applicant shall make separate requests to each concerned SPCB or UTPCC for holding the public hearing as per this procedure.

2.2 The Applicant shall enclose with the letter of request, at least 10 hard copies and an equivalent number of soft (electronic) copies of the draft EIA Report with the generic structure given in Appendix III including the Summary Environment Impact Assessment report in English and in the official languageof the state/local language, prepared strictly in accordance with the Terms of
Reference communicated after Scoping (Stage-2). Simultaneously the applicant shall arrange to forward copies, one hard and one soft, of the above draft EIA Report along with the Summary EIA report to the following authorities or offices, within whose jurisdiction the project will be located:

(a) District Magistrate/District collector/Deputy commissioner/s
(b) Zila Parishad or Municipal Corporation or Panchayats Union
(c) District Industries Office
(d) Urban Local Bodies (ULBs) / PRIs Concerned / Development authorities.
(d) Concerned Regional Office of the Ministry of Environment and Forests

2.3 On receiving the draft Environmental Impact Assessment report, the abovementioned authorities except the Regional Office of MoEF, shall arrange to widely publicize it within their respective jurisdictions requesting the interested persons to send their comments to the concerned regulatory authorities. They shall also make available the draft EIA Report for inspection electronically or otherwise to the public during normal office hours till the Public Hearing is over.

2.4 The SPCB or UTPCC concerned shall also make similar arrangements for giving publicity about the project within the State/Union Territory and make available the Summary of the draft Environmental Impact Assessment report (Appendix III A) for

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I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

inspection in select offices or public libraries or any other suitable location etc. They shall also additionally make available a copy of the draft Environmental Impact Assessment report to the above five authorities/offices as given in para 2.2.

3.0 Notice of Public Hearing:

3.1 The Member-Secretary of the concerned SPCB or UTPCC shall finalize the date, time and exact venue for the conduct of public hearing within 7(seven) days of the date of receipt of the draft Environmental Impact Assessment report from the project proponent, and advertise the same in one major National Daily and one Regional vernacular Daily / Official State Language. A minimum notice period of 30(thirty) days shall be provided to the public for furnishing their responses;

3.2 The advertisement shall also inform the public about the places or offices where the public could access the draft Environmental Impact Assessment report and the Summary Environmental Impact Assessment report before the public hearing**.** In places where the newspapers do not reach, the Competent Authority should arrange to inform the local public about the public hearing by other means such as by way of beating of drums as well as advertisement / announcement on radio / television.

3.3 No postponement of the date, time, venue of the public hearing shall be undertaken, unless some untoward emergency situation occurs and then only on the recommendation of the concerned District Magistrate/District collector/Deputy Commissioner, the postponement shall be notified to the public through the same National and Regional vernacular dailies and also prominently displayed at all the identified offices by the concerned SPCB or Union Territory Pollution Control Committee;

3.4 In the above exceptional circumstances, fresh date, time and venue for the public consultation shall be decided by the Member – Secretary of the concerned SPCB or UTPCC only in consultation with the District Magistrate/District collector/Deputy Commissioner and notified afresh as per procedure under 3.1 above.

4.0 Supervision and Presiding over the Hearing:

4.1 The District Magistrate/District collector/Deputy Commissioner or his or her representative not below the rank of an Additional District Magistrate assisted by a representative of SPCB or UTPCC**,** shall Supervise and preside over the entire public hearing process.

5.0 Videography

5.1 The SPCB or UTPCC shall arrange to video film the entire proceedings. A copy of the videotape or a CD shall be enclosed with the public hearing proceedings while Forwarding it to the Regulatory Authority concerned.

6.0 Proceedings

6.1 The attendance of all those who are present at the venue shall be noted and annexed with the final proceedings.

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

6.2 There shall be no quorum required for attendance for starting the proceedings.

6.3 A representative of the applicant shall initiate the proceedings with a presentation on the project and the Summary EIA report.

6.4 Persons present at the venue shall be granted the opportunity to seek information or clarifications on the project from the Applicant. The summary of the public hearing proceedings accurately reflecting all the views and concerns expressed shall be recorded by the representative of the SPCB or UTPCC and read over to the audience at the end of the proceedings explaining the contents in the local/vernacular language and the agreed minutes shall be signed by the District Magistrate/District collector/Deputy Commissioner or his or her representative on the same day and forwarded to the SPCB/UTPCC concerned**.**

6.5 A Statement of the issues raised by the public and the comments of the Applicant shall also be prepared in the local language or the Official State language, as the case may be, and in English and annexed to the proceedings:

6.6 The proceedings of the public hearing shall be conspicuously displayed at the office of the Panchyats within whose jurisdiction the project is located, office of the concerned Zila Parishad, District Magistrate/District collector/Deputy Commissioner, and the SPCB or UTPCC . The SPCB or
UTPCC shall also display the proceedings on its website for general information. Comments, if any, on the proceedings which may be sent directly to the concerned regulatory authorities and the applicant concerned.

7.0 **Time period for completion of public hearing**

7.1 The public hearing shall be completed within a period of 45 (forty five) days from date of receipt of the request letter from the Applicant. Thereafter the SPCB or UTPCC concerned shall sent the public hearing proceedings to the concerned regulatory authority within 8(eight) days of the completion of the public hearing.Simultaneously, a copy will also be provided to the project proponent.The applicant may also directly forward a copy of the approved public hearing proceedings to the regulatory authority concerned along with the final Environmental Impact Assessment report or supplementary report to the draft EIA report prepared after the public hearing and public consultations incorporating the concerns expressed in the public hearing along with action plan and financial allocation, item-wise, to address those concerns.”.

7.2 If the SPCB or UTPCC fails to hold the public hearing within the stipulated 45(forty five) days, the Central Government in Ministry of Environment and Forests for Category ‘A’ project or activity and the State Government or Union Territory Administration for Category ‘B’ project or activity at the request of the SEIAA, shall engage any other agency or authority to complete the process, as per procedure laid down in this notification.

APPENDIX –V

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

(See paragraph 7)

PROCEDURE PRESCRIBED FOR APPRAISAL

1. The applicant shall apply to the concerned regulatory authority through a simple communication enclosing the following documents where public consultations are mandatory:

- Final Environment Impact Assessment Report [20(twenty) hard copies and 1 (one) soft copy)]
- A copy of the video tape or CD of the public hearing proceedings
- A copy of final layout plan (20 copies)
- A copy of the project feasibility report (1 copy)

2. The Final EIA Report and the other relevant documents submitted by the applicant shall be scrutinized in office within 30 days from the date of its receipt by the concerned Regulatory Authority strictly with reference to the TOR and the inadequacies noted shall be communicated electronically or otherwise in a single set to the Members of the EAC /SEAC enclosing a copy each of the Final EIA Report including the public hearing proceedings and other public responses received along with a copy of Form -1or Form 1A and scheduled date of the EAC /SEAC meeting for considering the proposal.

3. Where a public consultation is not mandatory, the appraisal shall be made on the basis of the prescribed application Form 1 and EIA report, in the case of all projects and activities other than Item 8 of the Schedule. In the case of Item 8 of the Schedule, considering its unique project cycle, the EAC or SEAC concerned shall appraise all Category B projects or activities on the basis of Form 1, Form 1A and the conceptual plan and make recommendations on the project regarding grant of environmental clearance or otherwise and also stipulate the conditions for environmental clearance."

4. Every application shall be placed before the EAC/SEAC and its appraisal completed within 60 days of its receipt with requisite documents / details in the prescribed manner.

5. The applicant shall be informed at least 15 (fifteen) days prior to the scheduled date of the EAC /SEAC meeting for considering the project proposal.

6. The minutes of the EAC /SEAC meeting shall be finalised within 5 working days of the meeting and displayed on the website of the concerned regulatory authority. In case the project or activity is recommended for grant of EC, then the minutes shall clearly list out the specific environmental safeguards and conditions. In case the recommendations are for rejection, the reasons for the same shall also be explicitly stated.

Note: The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii) vide notification number S.O. 1533 (E), dated 14th September, 2006 and amended vide S.O. 1737 (E), dated the 11th October, 2007.

APPENDIX VI

(See paragraph 5)

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

COMPOSITION OF THE SECTOR/ PROJECT SPECIFIC EXPERT APPRAISAL COMMITTEE (EAC) FOR CATEGORY A PROJECTS AND THE STATE/UT LEVEL EXPERT APPRAISAL COMMITTEES (SEACs) FOR CATEGORY B PROJECTS TO BE CONSTITUTED BY THE CENTRAL GOVERNMENT `

1. The Expert Appraisal Committees (EAC(s) and the State/UT Level Expert Appraisal Committees (SEACs) shall consist of only professionals and experts fulfilling the following eligibility criteria:

Professional: The person should have at least (i) 5 years of formal University training in the concerned discipline leading to a MA/MSc Degree, or (ii) in case of Engineering /Technology/Architecture disciplines, 4 years formal training in a professional training course together with prescribed practical training in the field leading to a B.Tech/B.E./B.Arch. Degree, or (iii) Other professional degree (e.g. Law) involving a total of 5 years of formal University training and prescribed practical training, or (iv) Prescribed apprenticeship/article ship and pass examinations conducted by the concerned professional association (e.g. Chartered Accountancy),or (v) a University degree , followed by 2 years of formal training in a University or Service Academy (e.g. MBA/IAS/IFS). In selecting the individual professionals, experience gained by them in their respective fields will be taken note of.

Expert: A professional fulfilling the above eligibility criteria with at least 15 years of relevant experience in the field, or with an advanced degree (e.g. Ph.D.) in a concerned field and at least 10 years of relevant experience.

Age: Below 70 years. However, in the event of the non-availability of /paucity of experts in a given field, the maximum age of a member of the Expert Appraisal Committee may be allowed up to 75 years

2. The Members of the EAC shall be Experts with the requisite expertise and experience in the following fields /disciplines. In the event that persons fulfilling the criteria of “Experts” are not available, Professionals in the same field with sufficient experience may be considered:

- **Environment Quality Experts**: Experts in measurement/monitoring, analysis and interpretation of data in relation to environmental quality

- **Sectoral Experts in Project Management**: Experts in Project Management or Management of Process/Operations/Facilities in the relevant sectors.

- **Environmental Impact Assessment Process Experts**: Experts in conducting and carrying out Environmental Impact Assessments (EIAs) and preparation of Environmental Management Plans (EMPs) and other Management plans and who have wide expertise and knowledge of predictive techniques and tools used in the EIA process

- **Risk Assessment Experts**

- **Life Science Experts in floral and faunal management**

- **Forestry and Wildlife Experts**

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

- **Environmental Economics Expert with experience in project appraisal**

3. The Membership of the EAC shall not exceed 15 (fifteen) regular Members. However the Chairperson may co-opt an expert as a Member in a relevant field for a particular meeting of the Committee.

4. The Chairperson shall be an outstanding and experienced environmental policy expert or expert in management or public administration with wide experience in the relevant development sector.

5. The Chairperson shall nominate one of the Members as the Vice Chairperson who shall
preside over the EAC in the absence of the Chairman /Chairperson.

6. A representative of the Ministry of Environment and Forests shall assist the Committee as its Secretary.

7. The maximum tenure of a Member, including Chairperson, shall be for 2 (two) terms of 3 (three) years each.

8. The Chairman / Members may not be removed prior to expiry of the tenure without cause and proper enquiry.

I; II; III (i), (ii); IV (a), (b); V (i), (ii), (iii)(a), (b), (c), (iv), (v), (vi) (a), (b), (vii), (viii) (a), (b), (ix), (x), (xi), (xii) (a), (b) , (xiii), (xiv) (a), (b), (xv) (a), (b), (xvi) (a), (b), (xvii); VI (a), (b); VII & VIII of the Notification, S.O. 3067(E) dated 01.12.2009 of the Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] New Delhi, Tuesday, November 1, 2009; an amendment to EC notification S.O.1533(E) dated 14.09.2006

COMPOSITE (3D) MODEL STUDY OF PROPOSED RIVER FRONT ON CHAMBAL RIVER IN THE D/S OF KOTA BARRAGE, KOTA, RAJASTHAN

REPORT

GUJARAT ENGINEERING RESEARCH INSTITUTE

GOVT. OF GUJARAT

NARMADA, WATER RESOURSE, WATER SUPPLY&KALPSAR DEPARTMENT

Accompanied to Letter No.

COMPOSITE (3D) MODEL STUDY OF PROPOSED RIVER FRONT ON CHAMBAL RIVER IN THE D/S OF KOTA BARRAGE, KOTA, RAJASTHAN

INDEX

COMPOSITE (3D) MODEL STUDY OF PROPOSED RIVER FRONT ON CHAMBAL RIVER IN THE D/S OF KOTA BARRAGE, KOTA, RAJASTHAN

1.0 Introduction

The Chambal River is main tributary of Yamuna River in Central India. The Chambal River originates from Mahu in the northern ranges of Vindhyachal in Madhya Pradesh and flows about 360 Km in Madhya Pradesh and enters Rajasthan at Chaurasigarh around 96 Km south-east from Kota. The River flows 965 Km north-northeast through Madhya Pradesh, Rajasthan and Uttar Pradesh. The series of Chambal Valley Projects such as Gandhi Sagar Dam, RanaPratap Sagar Dam, Jawahar Sagar Dam and Kota Barrage are constructed across the river for power generation and irrigation purposes. The Kota Barrage is the fourth in the series Chambal Valley Projects, located about 0.8 Km upstream of Kota city in Rajasthan to create storage 99 MCM. This 305m long barrage has height 37m, operates 19 gates to control flow of flood during monsoon. The downstream tail channel of the barrage has stable high banks. To create 3km long small reservoir immediate downstream of the barrage, a causeway is constructed for recreation purpose. This river flows through prominent Kota city having historical significance, the Urban Improvement Trust Kota, Rajasthan desired river front developments works along both the banks downstream of the barrage up to the existing causeway.

The gates of the barrage are operated during monsoon each year. During monsoon in the year 2019 the maximum flood 7.2 lacs cusec was released. This downstream reach has three numbers of bridges up to the causeway. The Urban Improvement Trust (UIT) Kota has proposed an Anicut (weir) about 300 m upstream of existing causeway. With the river front development works on the bank and proposed an Anicut (weir) it is required to predict the water levels and velocity in this reach to assess any adverse effect on existing bridges and performance of barrage and appurtenant works. The Urban Improvement Trust (UIT) Kota has proposed to conduct the composite (3D) model study of proposed river front development works to GERI Vide letter no. F.9/EE-(P)/2020-21/137, dt.15/07/2020. The relevant topographical data were furnished to GERI along with the terms of reference of model study.

This is the only perennial river of Rajasthan, has deep gorge, stable banks and clean water flows through Kota city. The Rajasthan government is planning to take up unique river front development works along the banks of Chambal river downstream of Kota Barrage to promote ecotourism. This includes creation of 3 Km. long reservoir within the banks. The reservoir will be created by constructing an Anicut (weir) at the downstream end, and development works on the banks all along the length. The present report covers the studies for calibration/validation of the model, studies of hydraulic parameters in exiting condition of river (without the training walls, development works and an Anicut) and studies with the training walls, development

works and an Anicut to assess the impact of proposed development works on performance of barrage structure and exiting bridges.

Photo 1 : Barrage from D/S side

Photo 2: River from U/S side

2.0 Terms of reference

Following terms of reference for conducting the hydraulic model study of Kota Barrage with the river front development works were submitted by Executive Engineer

Project, The Urban Improvement Trust Kota, Rajasthan Vide letter no. F.9/EE-(P)/2020-21/152, dt.08/09/2020 through email.

1. Maximum flood discharge 881000 cusecs should be passed smoothly & there should be no adverse impact on Kota Barrage.
2. There should be no erosion on both the banks of the Chambal River at the downstream of Kota Barrage while releasing of flood water.
3. Tail water level was RL 249.70 m at the time passing of maximum discharge 709050 cusecs in last year.
4. At maximum flood discharge there should be no adverse effect on existing bridges at ch.0.0 m. & 2610 m.

3.0 Salient features of Kota Barrage and development works

Kota Barrage is constructed in the year 1960 to create 112.06 MCM gross storage for irrigation, water supply, power and other benefits to industries and thermal power plant. Following Salient were furnish by the Urban Improvement Trust Kota (UIT) (obtain from water resource department of Rajasthan Government) along with the proposal to conduct the physical model study.

1. Latitude : 25^{o} $10^{'}$ N
2. Longitude : 75^{o} $50^{'}$ E
3. Length of Dam : 551.68 m
4. Overflow length : 304.80 m
5. Non overflow length : 246.88 m
6. Top of Dam : 262.90 m
7. Maximum water level : 260.90 m
8. Full reservoir level : 260.30 m
9. Spillway crest level : 247.50 m
10. Sill level of reservoir : 235.36 m
11. Lowest river bed level : 227.38 m
12. Design spillway discharge : 21237 m^3/s (7.49 lacs cusec),revised 24953 m^3/s (8.81 lacs cusec)
13. No and size of spillway gates: Radial gates 19 no. size 12.2 m x 12.8 m
14. Top bank level (TBL) : 262.90 m
15. Tail water level : 238.11 m
16. Length of river front : 3000 m
17. Location of Anicut (weir) : 2700 m – D/S of barrage
18. Top level of Anicut (weir) : 235.00

4.0 Data & Details

The physical models have been proved to be the best tools for solving the complex flow problems of river channel at various flood passing conditions. The scaled physical models are constructed as per the required parameters to be assessed. For constructing and operating these models accurate recent topographical, structural and hydrological data & other relevant details of the projects are required. The UIT authority

Kota has proposed the study for river reach about 3 km downstream of the barrage, the portion of river on which the river front is proposed.

River topography: The topographical grid (30 m x 30 m) map showing the exiting features on the banks of Chambal river from downstream of Kota Barrage to Nayapura pullia was submitted to GERI for making the model. The survey was conducted considering ch. 0.0 m at sakatpura new culvert to ch. 2640 m downstream side up to Nayapura pullia(causeway). Development works are proposed on both the banks from downstream of barrage structure to causeway.

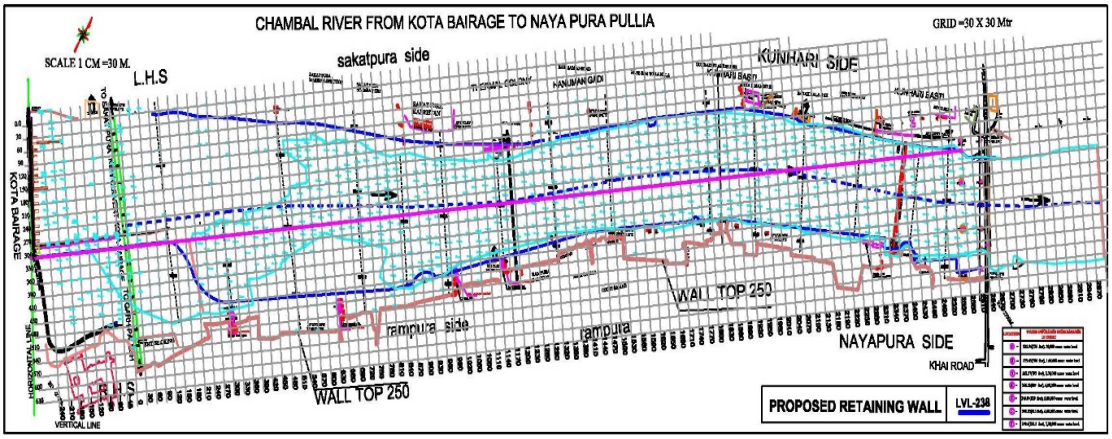


Figure 1 Topographical Grid Map

The structural details of barrage include spillway, non-over flow portion and dimensions of other components are the prime requirement of construction on the model as per scale. The plan showing the position of different components, sectional drawings of spillway and earth and rock fill dam (obtained from water resources department of Rajasthan) were furnished by the UIT Kota to GERI wide letter no. F 9 / E.E.(PROJECT)/2020-21/152/DT.08-09-2020.

The details of the existing three bridges in this downstream reach includes longitudinal section, length of span, thickness of pier, orientation of abutments etc. have been furnished. Following table 1 gives details of bridges.

Table 1

Name of bridge	Location	Length	No. of span	Top level of pier
Sakatpura new bridge	At ch.0.0m i.e. 300m D/S of Kota Barrage.	581.25m	13 span 37.50m 05 span 18.75m	256.14 m
Old bridge u/s of causeway	At ch. 2550 m	340.05m	03 span 52.60m 03 span 47.60m 01 span 39.45m	251.00 m
New bridge u/s of causeway	At ch. 2610 m	400.90m	02 span 52.60m 02 span 95.10m 01 span 105.5m	251.50 m

The training walls with steps (development works) are proposed on both the banks. The section of training wall on right bank is almost same all along the length. The right banks training wall starts from downstream face of right Non Over Flow (NOF) and ends at the right abutment of new bridge near the causeway.

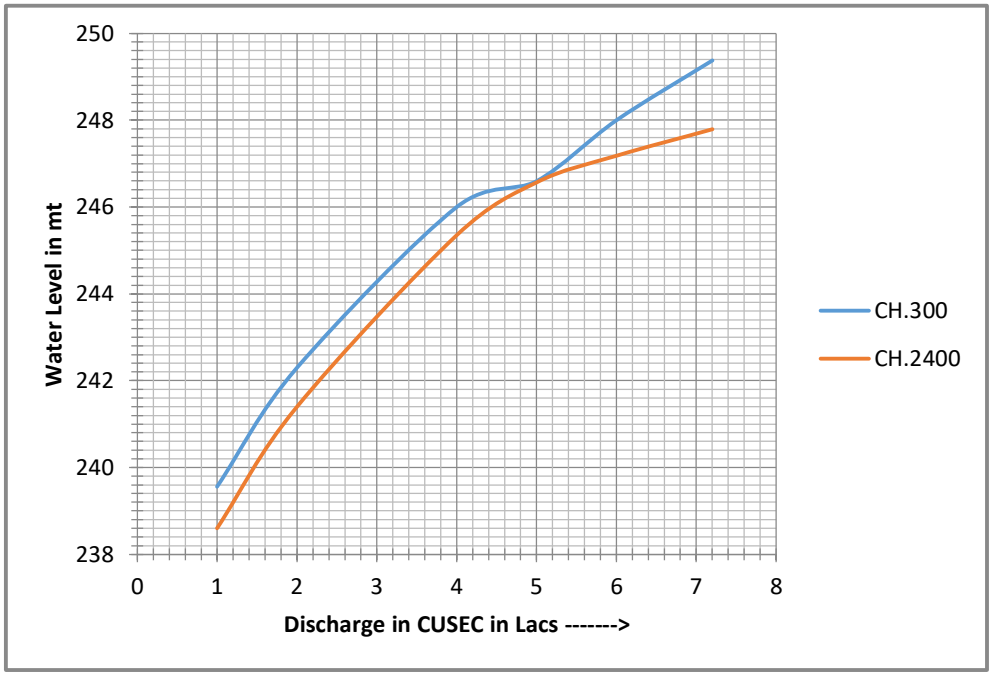
The training walls of left banks starts from ch. 100 m downstream of Sakatpura bridge and ends at new bridge near causeway is proposed in segments with different section of training wall viz. ch. 0 m to 720 m, 720 m to 1200 m, 1200 m to 1890 m and 1890 m to 2700 m.

To run and operate the model for different discharges, correctness of model is essential. To compare the model observations with the actual observed data of discharge verses water levels at 2 or 3 locations are required. The UIT has furnished gauge discharge data of two locations for the year 1986. First locations exist at chainage 300 m and second one is at ch. 2400m. Table 2 gives the actual observed gauge discharge data. Using these data the GQ curves are plotted.

Table – 2

Discharge in CUSECS IN LACS	CH.300	CH.2400
1.00	239.56	238.60
2.00	242.30	241.40
4.00	246.00	245.35
5.00	246.60	246.57
6.00	248.00	247.18
7.20	249.38	247.79

Fig.2 : Gauge – Discharge Curve



5.0 The 3D composite model

The 3D composite model is constructed with geometrically similar scale 1:100 on 10 m x 40 m size model tray to accommodate some portion of reservoir and the topography of 3 km length of river. The rigid bed model was prepared using rough cement mortar plaster in the river bed and bank. A portion of truncated reservoir, spillway and non over flow portion are reproduced as per the dimensions of the components, provided by UIT Kota. This river reach has hard rocks in river bed and banks. The steep and high banks are also composed of rock formation. Due to occurrence of hard rock strata in river bed and banks significant changes in river bed section were not observed during past maximum flood of magnitude 7.2 lacs cusec in monsoon year 2019 which was 80% of probable maximum flood 8.81 lacs cusec. To simulate this hard topography, the rigid bed model was considered suitable for observing the required hydraulic parameters such as flow pattern, water levels and velocities.

The topographical features were transferred to the model in 60 m x 60 m grid, covering 3 km length and 630 m width of river. The model of ogee shape spillway profile, downstream bucket, existing training walls of spillway, piers on spillway, non over flow portion was made as per the dimensions of components. Following Photos 2 & 3 show closed view of the spillway and downstream portion.

Photo 2: Closed View Of Spillway and Bridge

Photo 3 : View From Causeway

All three bridges and causeway are reproduced as per the drawing and details provided by UIT Kota. The proposed training walls all along the banks and Anicut (weir) was also reproduced on model. To measure the model discharge, calibrated standing wave flumes are used. At the end of the model, tail control arrangements is provided to achieve and control the tail water level at different discharges. The water levels are measured using pointer gauges with accuracy 1 mm and the velocities are measured precisely by electromagnetic current meter. For running the model, steady uniform flow condition of different discharges were considered as upstream boundary condition and the tail water levels at the end of model as downstream boundary condition. The model was operated for constant discharges to measure the hydraulic parameters.

Photo 4, 5 & 6: Model Run For Natural Regime

Photo 7: Model Run For Natural Regime

6.0 Calibration and Validation of the Model

For operating the model at different discharges to measure the exact values of water levels & velocities, correctness of model is important. The gauge discharge data at two locations in 3 Km of river reach are available at ch. 300 m and at ch. 2400 m. The model was operated for 1lacs cusecs, 2 lacs cusecs, 4 lacs cusecs, 6 lacs cusecs, 7.2 lacs cusecs maintaining the tail water level for respective discharges at ch. 2400 m. The water levels were observed at ch. 300 m to compare the values of water level close to the available values. Since the model is rigid and due to smooth surface, the water levels observed at ch. 300 m were lower than the actual observed values. It was then decided to calibrate the model reach near ch. 300 m by providing roughness to the surface of river bed (from ch. 300m To ch. 760m) The friction blocks of different sizes were used in the river bed portion to distribute the roughness for achieving desired values of water levels at low to moderate discharges. Following photos show the provision of roughness in the model for calibration purpose at moderate discharges.

Photo 8 & 9: Friction Blocks Of Different Size

Table no. 2 shows the actual observed discharge verses water levels up to 7.2 lacs cusecs flood at ch. 300 m and at ch. 2400 m. The G - Q curves shown fig.1 were plotted with the above values of discharges verses water levels at site. The model was run for 1, 2,4,6 and 7.2 lacs cusecs discharges. The water levels observed on model at ch.300m & ch. 2400 m were compared with the water level observed at site for corresponding discharges. It could be seen from the observations of the model and prototype that the water levels are in close agreement at moderate to high floods. Maintaining these values of water levels at respective discharges at ch. 2400 m, the model was operated for 1,2, 4,6 and 7.2 lacs cusecs discharges, the water levels at ch. 300 m were observed. The model was operated for different trials of roughness to achieved the desired water levels at moderate discharges. Further runs were taken for higher discharges 6 and 7.2 lacs cusecs to validate values of water levels on model. Finally, the water levels close to the desired water levels were achieved. It was observed that the observed water levels on model and prototype were in good agreement. Thus, the model was validated for all range of discharges and ready for further prediction runs.

7.0 Studies with the existing condition of river bed and banks (without development works)

The model was operated from 1 lacs cusecs to 7.2 lacs cusecs discharge in steady flow condition. The constant flood was released to the model through the calibrated standing wave flumes. All 19 gates provided on the spillway were kept open (free flow condition). At the initial flow the flood water rushed towards the right bank side beyond the end of right training wall from ch. 120 m to ch. 450 m. This cross flow formed pool behind the right training wall for length about 750 m. In the main channel the flood was flowing over the rock outcrops forming rapids at places. This flow phenomenon continued till creation of 3 Km long reservoir by the causeway with the top RL 236.00 m.

As the discharge increased the flood levels were also increased. The extent of pool remained confined within the right bank and NOF behind the right training wall.

Due to formation of pool on right bank side the forward flow was not seen in this pocket on the model for all range of discharges from 1 lacs cusecs to 7.2 lacs cusecs. The flow was confined within the banks at maximum 7.2 lacs discharge. The bank spillover was not observed all along the length of banks. The flow lines were concentrating towards the left bank. High velocity flow in deep channel causing wavy flow predominantly on left side. Turbulence was confined within the length of training wall of spillway. The reservoir level at 7.2 lacs cusecs discharge was at RL 260.00 m. Following photographs show the flow pattern from initial flow to 7.2 lacs cusecs discharge.

Photo 10 : Initial Cross Flow Towards Bank

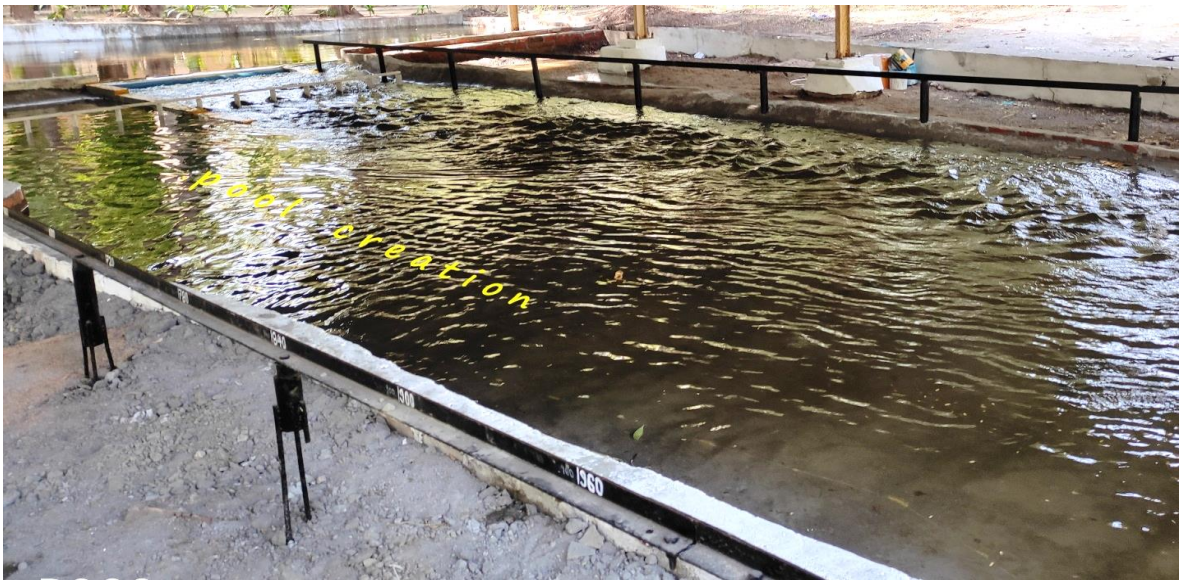


Photo 11 : Pool Creation Towards Right Bank

Photo 12 : Wavy Flood Towards Left Bank

Photo 13 : Close View of Maximum Flood Of 7.2 lacs Cusecs

7.1 Studies for water levels (without development works)

The width of river section at the barrages is about 500 m. The spillway of length 305 m is located left side and remaining portion is covered by non over flow (NOF) dam with top RL 262.90 m. The right side training wall of spillway of about 400m length is located at the center of river to guide the flow in tail channel. The ground levels behind the right training wall are lower than the ground levels of river bed in gorge portion from ch.120 m. to ch.500 m. The river width is maximum at ch.300 m in the tail channel. The bank convergence followed from ch.750 m to ch.1200 m and beyond this in further downstream reach the river sections remains almost same up to the causeway. Considering these topographical features of river reach 3 locations of observations viz. at ch.300 m, ch.1200 m and ch.2400 m were suggested by UIT, Kota.

The model was operated 1 lacs cusecs to 7.2 lacs cusecs and at each discharge run the water levels were observed at desired locations (ch. 300 m,1200 m and 2400 m) at left bank side, at the center and at right bank side. These water levels are presented in following table 3 to 5 and graph 1 to 3. The Locations of the observations of velocity and water levels are given in Plate 1 to 5. At 2 lacs cusecs flood the water levels were at RL 242.10 m, RL 242.30 m and RL 242.20 m at left, center and right respectively at ch. 300 m. At moderate discharge of 4 lacs cusecs the water levels were RL 245.90 m, RL 245.60 m and RL 245.70 m at left center and right bank side. It is depicted from these observations that the water levels are almost same at left, center and right side. At the maximum discharge 7.2 lacs cusecs, at ch. 300 m, water levels were RL 249.30 m RL 249.10 m and RL 249.10 m. At this maximum discharge the water levels were almost same from left to right with marginal different of 0.2m. The existing bank levels are higher than the water levels at the maximum flood. Due to presence of causeway about 3 km. downstream of barrage with top RL 236 m, a reservoir was created in this reach. The variation of water level from ch. 300m to Ch. 2400 m was 0.3 m at the maximum flood. The water level observation presented in tables also indicated water level variation 0.2 to 0.3m at low to moderate flood from Ch.300m to Ch.2400m.

Table – 3

Table Showing Water Levels for Different Discharges in Natural Condition of River on LHS at Different Chainages			
Discharge in lacs cusec	Water Levels in m. at Chainage		
	CH 300	CH 1200	CH 2400
1.00	240.10	240.00	240.10
2.00	242.10	242.10	242.00
4.00	245.90	245.60	245.40
6.00	247.50	247.50	247.40
7.20	249.30	249.20	249.10

Graph - 1

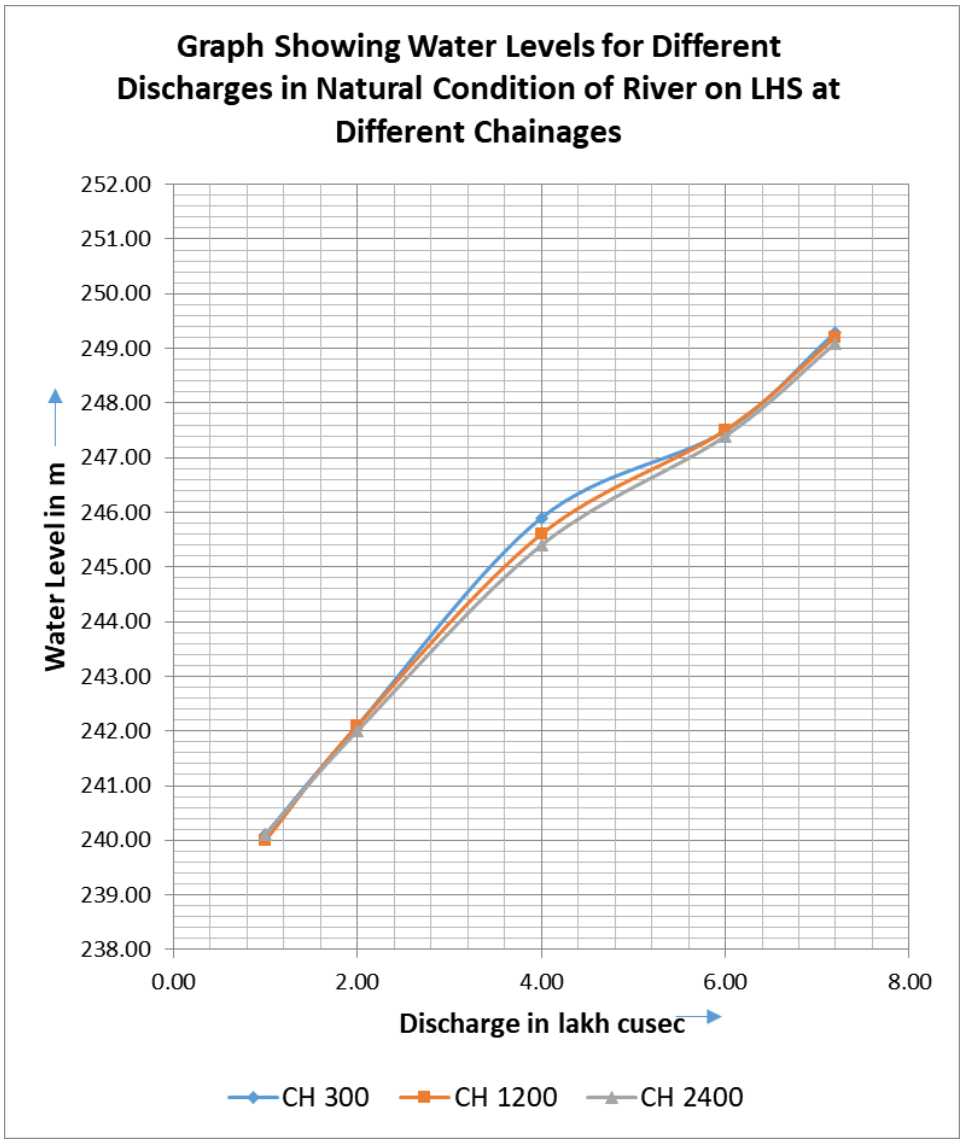

Graph Showing Water Levels for Different Discharges in Natural Condition of River on LHS at Different Chainages
Water Level in m
252.00
251.00
250.00
249.00
248.00
247.00
246.00
245.00
244.00
243.00
242.00
241.00
240.00
239.00
238.00
0.00
2.00
4.00
6.00
8.00
Discharge in lakh cusec
CH 300
CH 1200
CH 2400

Table - 4

Table Showing Water Levels for Different Discharges in Natural Condition of River on Center at Different Chainages			
Discharge in lacs cusec	Water Levels in m. at Chainage		
	CH 300	CH 1200	CH 2400
1.00	240.10	240.00	240.00
2.00	242.30	242.30	242.20
4.00	245.60	245.40	245.30
6.00	247.80	247.70	247.60
7.20	249.10	249.00	248.90

Graph – 2

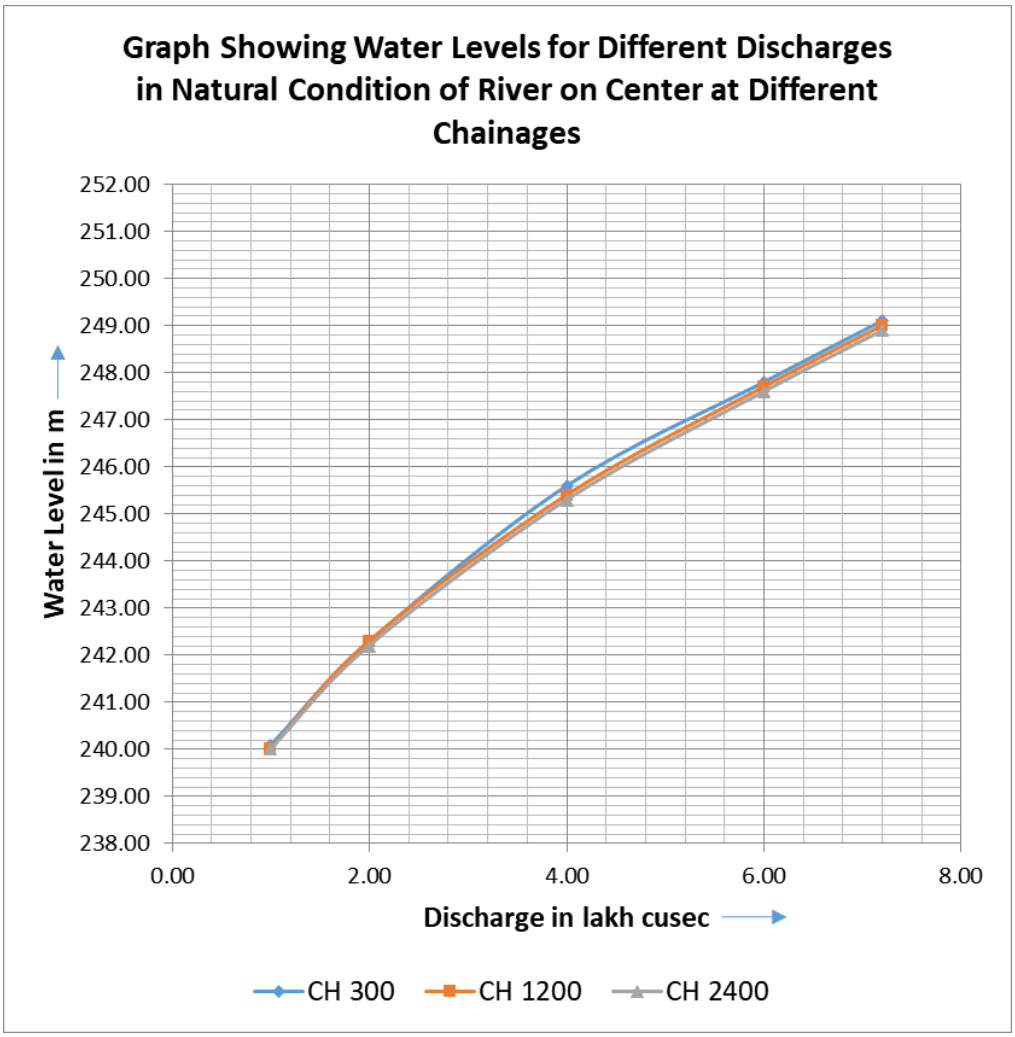
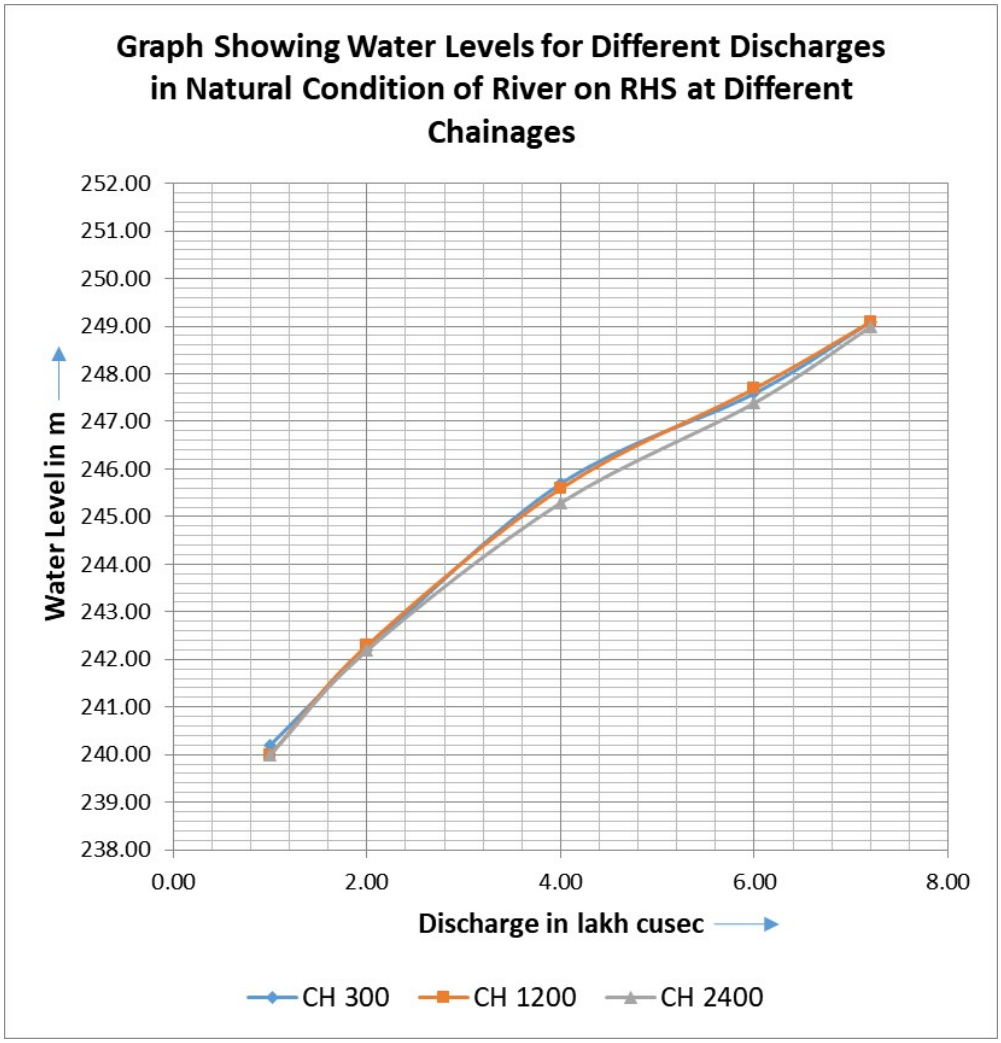


Table - 5

Table Showing Water Levels for Different Discharges in Natural Condition of River on RHS at Different Chainages			
Discharge in lacs cusec	Water Levels in m. at Chainage		
	CH 300	CH 1200	CH 2400
1.00	240.20	240.00	240.00
2.00	242.20	242.30	242.20
4.00	245.70	245.60	245.30
6.00	247.60	247.70	247.40
7.20	249.10	249.10	249.00

Graph - 3



7.2 Studies for velocities (without development works)

The model was operated 1 lacs cusecs to 7.2 lacs cusecs and at each discharge run the velocities were observed at desired locations (ch. 300 m, 1200 m and 2400 m) at left bank side, at the center and at right bank side. The velocity observations are presented in the following table 6 to 8 and Graph 4 to 6. At 2 lacs cusecs flood the velocities were 6.22m/s, 6.94m/s and 0.14m/s at left, center and right respectively at ch. 300 m. At moderate discharge of 4 lacs cusecs the velocities were 7.62 m/s, 8.74 m/s, and 0.13 m/s at left center and right bank side. It is depicted from these observations that the velocities were higher at center and left bank side. At the maximum discharge 7.2 lacs cusecs the velocities were 10.69 m/s, 11.17 m/s and 0.08 m/s at left center and right side respectively.

The velocities at the center of river channel were higher than that of left bank and right bank side all along the river portion under study. At low discharge 2 lacs cusec the velocity variation was 0.14 m/s to 1.77m/s on right bank side and 6.22 m/s to 1.60 m/s on left side from ch. 300m to ch. 2400m. From moderate to higher floods (4 lacs cusec to 7.2 lacs cusec) the velocities on left bank side were higher than the velocity on the right bank side all along the river channel. The velocity variation at moderate discharge was from 7.62m/s to 3.24m /s on the left bank side and 0.13m/s to 1.97m/s on right bank side. At high flood 7.2 lacs cusec flood the velocities varied 10.67m/s to 3.64m/s on left bank and the velocity was not exceeded 3.2m/s.

From the persistent observations of velocities at ch. 300m it could be seen that higher velocities occurred at this section at the center and left bank side in spite of river section is relatively wide. This was due to the fact that deep channel exists on the left side and there was shooting flow due to spur like intrusion on the bank. With this range of velocities, the scour and erosion on hard strata river bed and bank may not be possible.

Table - 6

Table Showing Velocity for Different Discharges in Natural Condition of River on LHS at Different Chainages			
Discharge in lacs cusec	Velocity in m/sec at Chainage		
	300	1200	2400
1 lac	4.107	0.100	0.663
2 lacs	6.223	1.000	1.600
4 lacs	7.627	3.157	3.247
6 lacs	9.873	3.927	3.640
7.2 lacs	10.697	4.427	3.640

Graph - 4

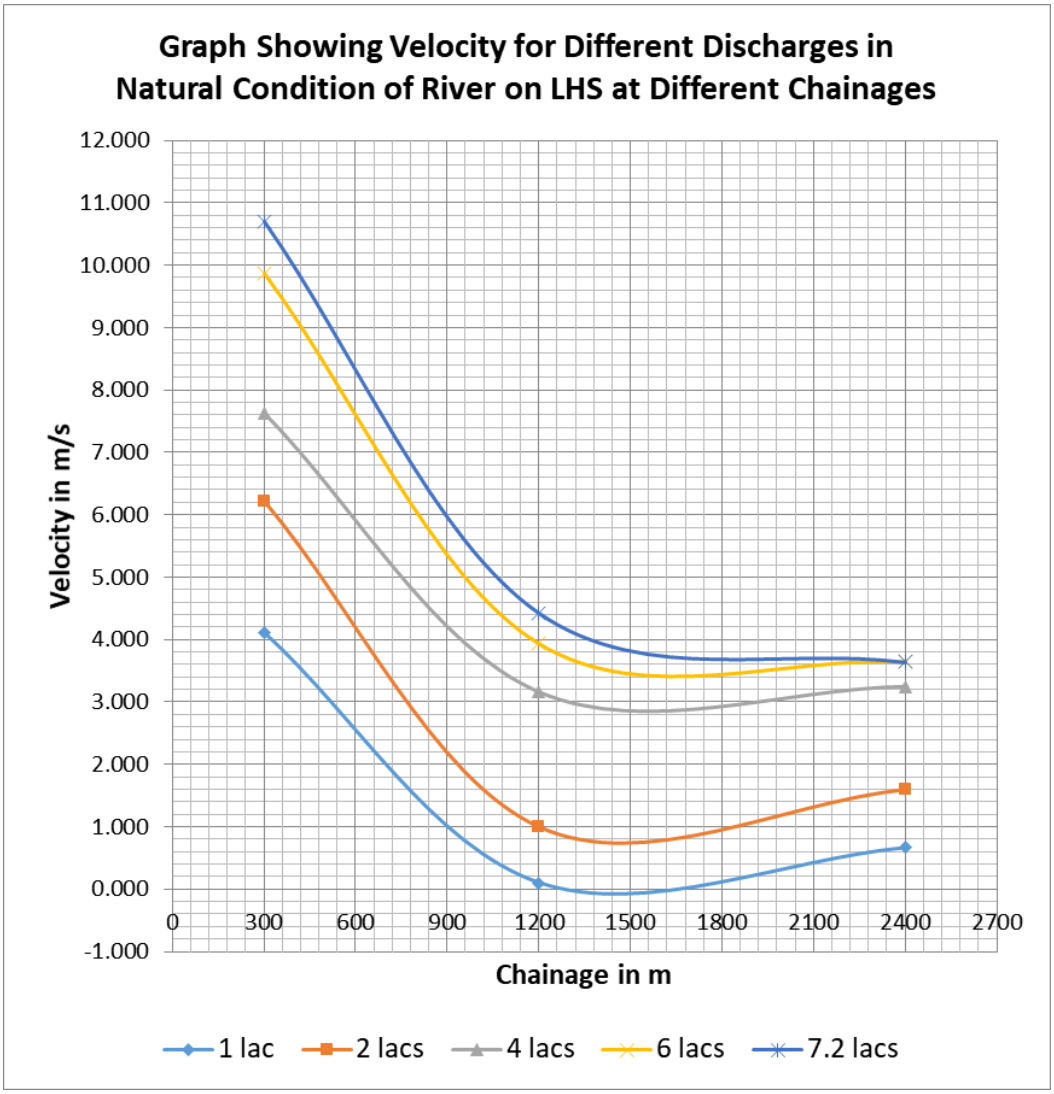

Graph Showing Velocity for Different Discharges in Natural Condition of River on LHS at Different Chainages
Velocity in m/s
12.000
11.000
10.000
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
0.000
-1.000
0
300
600
900
1200
1500
1800
2100
2400
2700
Chainage in m
1 lac
2 lacs
4 lacs
6 lacs
7.2 lacs

Table - 7

Table Showing Velocity for Different Discharges in Natural Condition of River on Center at Different Chainages			
Discharge in lacs cusec	Velocity in m/sec at Chainage		
	300	1200	2400
1 lac	4.923	1.253	1.417
2 lacs	6.947	3.540	1.977
4 lacs	8.740	4.590	3.120
6 lacs	10.457	6.440	4.003
7.2 lacs	11.170	7.477	4.180

Graph - 5

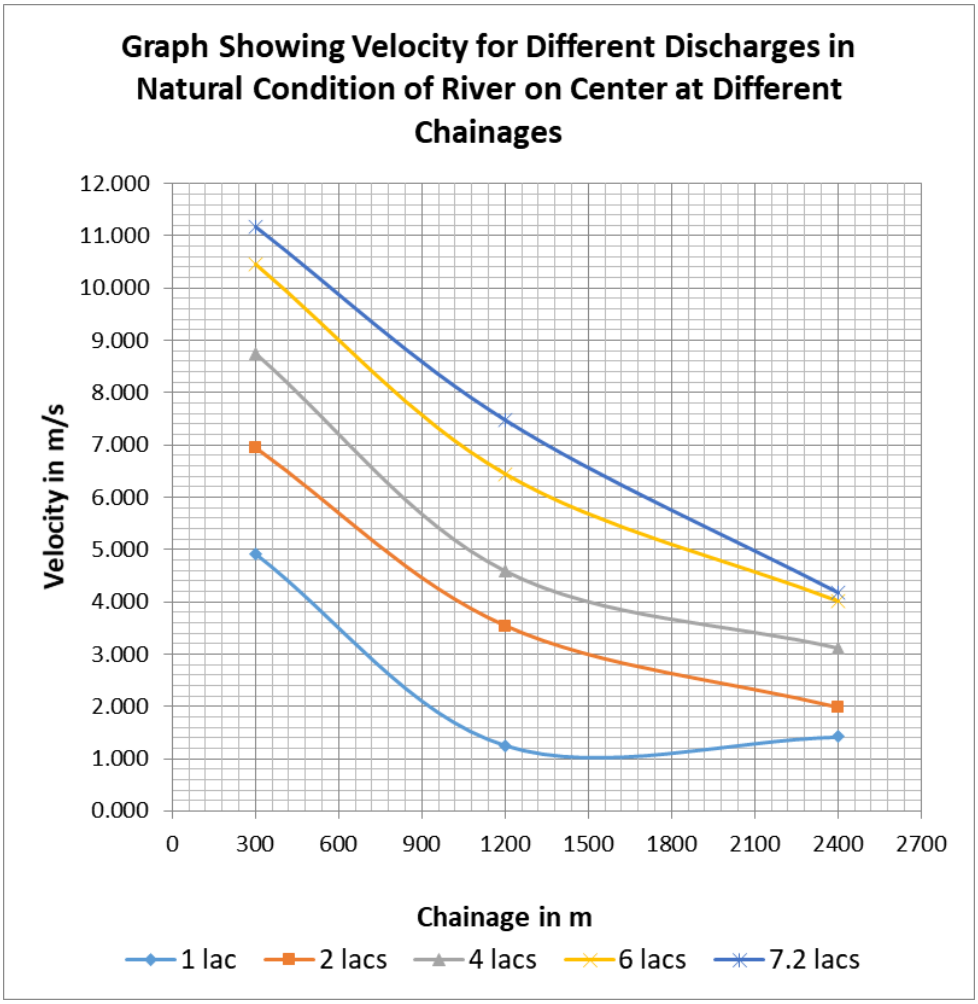
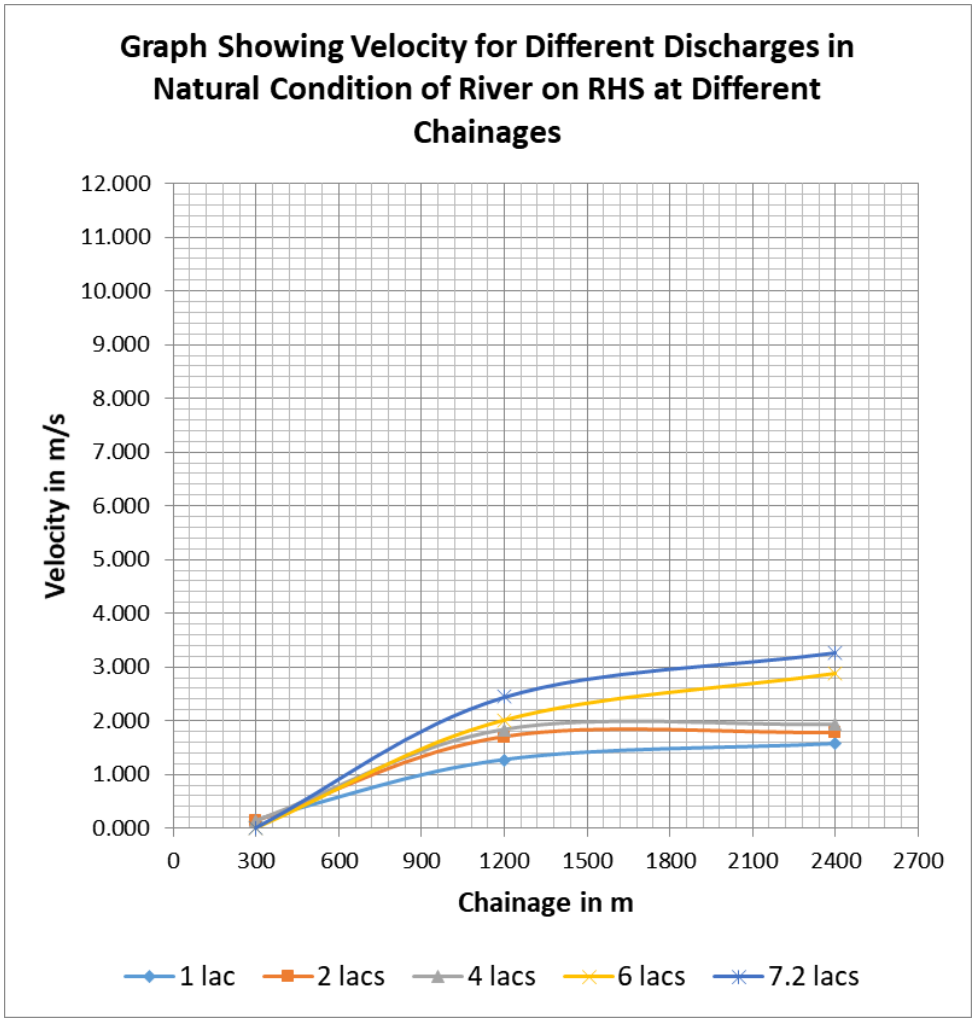


Table - 8

Table Showing Velocity for Different Discharges in Natural Condition of River on RHS at Different Chainages			
Discharge in lacs cusec	Velocity in m/sec at Chainage		
	300	1200	2400
1 lac	0.157	1.273	1.570
2 lacs	0.140	1.700	1.777
4 lacs	0.130	1.833	1.927
6 lacs	0.000	2.012	2.880
7.2 lacs	0.000	2.443	3.273

Graph - 6



7.3 Studies for performance of bridges (without development works)

There are 3 bridges constructed across the river in this 3 km reach downstream of Kota barrage. First bridge (Sakatpura Bridge) is located close to the barrage 270m downstream of barrage. This bridge is considered at ch. 0.0 m in the topographical survey map. The pier top level of this bridge is at RL 256.14 m and the water levels at 300 m downstream of this bridge were at RL 249.3 m, RL 249.1 m, RL 249.1 m at left, center and right side at the maximum flood of 7.2 lacs cusec. These water levels were 6.84 m below the pier top level. Encroachment of free board was not seen on the model.

Other 2 bridges are located at ch 2550m and at ch. 2610m with the top level of pier at RL 251.00m and RL 251.5m respectively, close to the causeway with top RL 236.0 m. The water levels at the maximum flood of 7.2 lacs cusec at Ch. 2400m were RL 249.1 m, RL 248.9 m and RL 249.00m at left center and right side. These levels were much below the pier top level of these 2 bridges. Encroachment of free board of these was also not seen on the model.

Photo 14 & 15: U/S and D/S Bridges During Maximum Flood

8.0 Studies with the development works (Retaining walls on the banks and Anicut)

Further studies were taken on the model with the development works as suggested by UIT. It is proposed to provide training walls on both the banks keeping the top RL 250m up to the causeway on both the banks. The proposed left training wall starts from 100m d/s of Sakatpura bridge to Ch. 2550 m upstream of new bridge. The right training wall begins from downstream face of NOF to the causeway, aiming to close the cross flow towards right bank side, which forms stagnant pool back side area of training wall of the spillway. These training walls with steps were simulated on the model. The proposed anicut (weir) of height 5m at Ch. 2370 m (320m upstream of the causeway) was also simulated on the model as per the dimensions suggested. Following photos are of the dry model with development works.

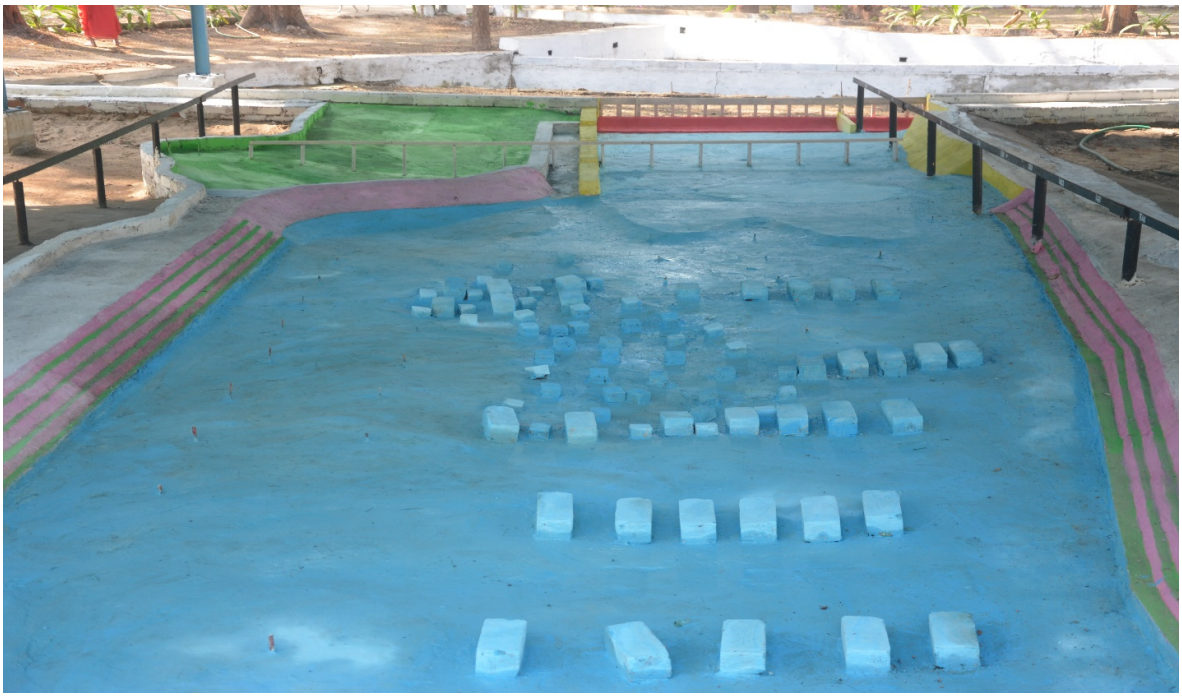


Photo 16: View from D/S side with Development Work

Photo 17: Close View Of Obstructions with Development Work

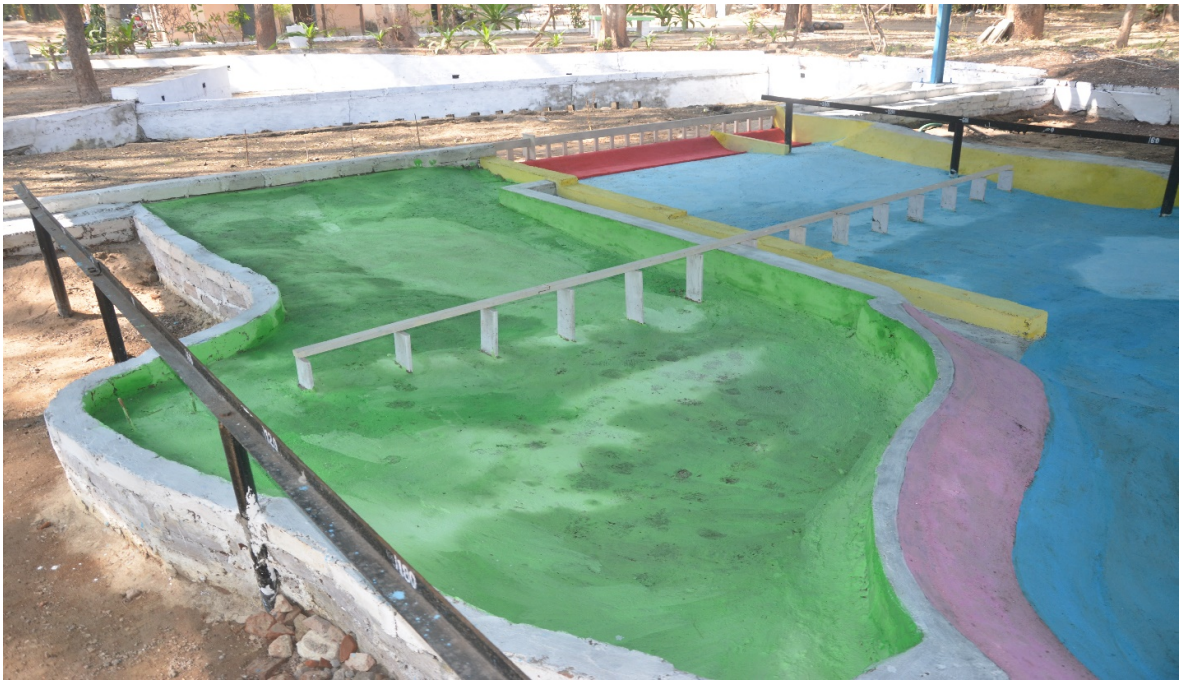


Photo 18: View Of Spillway and Bridge with Development Work

Photo 19: View from U/S side with Development Work

Photo 20: View from D/S side with Development Work

Photo 21: Whole View from D/S side with Development Work

8.1 Studies for water levels with the development works (Retaining walls on the banks and Anicut)

With these development works, the model was operated from 1lacs cusecs to 8.81 lacs cusecs discharge (PMF). The same trend of model run and observation was followed as in the case of without the development works. At each discharge run the water levels were observed at desired locations (ch. 300 m,1200 m, 2220 m and 2400 m) at left bank side, at the center and at right bank side. These water levels are presented in the following table 9 to 11 and Graph 7 to 9. The Locations of the observations of velocity and water levels are given in Plate 6 to11. At 2 lacs cusecs flood the water levels were at RL 242.50 m, RL 242.60 m and RL 242.20 m at left, center and right respectively at ch. 300 m. At moderate discharge of 4 lacs cusecs the water levels were RL 245.50 m, RL 245.50 m and RL 245.60 m at left, center and right bank side. It is depicted from these observations that the water levels are almost same at left, center and right side. At the discharge 7.2 lacs cusec, at ch. 300 m, water levels were RL 249.20 m RL 249.60 m and RL 249.40 m whereas the top of retaining wall is RL 250.00 m. From these observations of water levels 7.2 lacs cusecs flood was bank full discharge. The bank spillover was not observed at this discharge.

At the maximum discharge (PMF) 8.81 lacs cusecs the water levels were RL 251.00 m RL 251.20 m and RL 251.50 m from left to right with marginal different of 0.5 m. The water level was 1.5 m above the top level of proposed retaining wall. Due to presence of Anicut at ch. 2370 m with top RL 235.00 m and causeway with top RL 236 m, the water levels upstream of Anicut at ch. 2220 m at flood 7.2 lacs cusecs were RL

249.20 m, RL 249.20 m and RL 249.10 m. At the maximum flood 8.81 lacs cusecs the water levels were RL 251.20 m, RL 251.10 m and RL 251.00 m. These water levels were higher than the top level of proposed training wall. From the observations of water level without the development works and with the development works, it could be seen that the water level difference was marginal 0.20 m to 0.30 m *therefore the provision of development work was not giving impact on water levels all along the river channel downstream of barrage to the causeway.*

Table - 9

Table Showing Water Levels for Different Discharges in Proposed Condition of River on LHS at Different Chainages

Discharge in lacs cusec	CH 300	CH 1200	CH 2220	CH 2400
1.00	239.80	240.20	239.60	239.80
2.00	242.50	242.50	242.20	241.70
4.00	245.50	245.70	245.40	244.00
6.00	248.20	248.30	248.10	246.30
7.20	249.20	249.30	249.20	247.80
8.81	251.00	251.30	251.20	250.00

Graph - 7

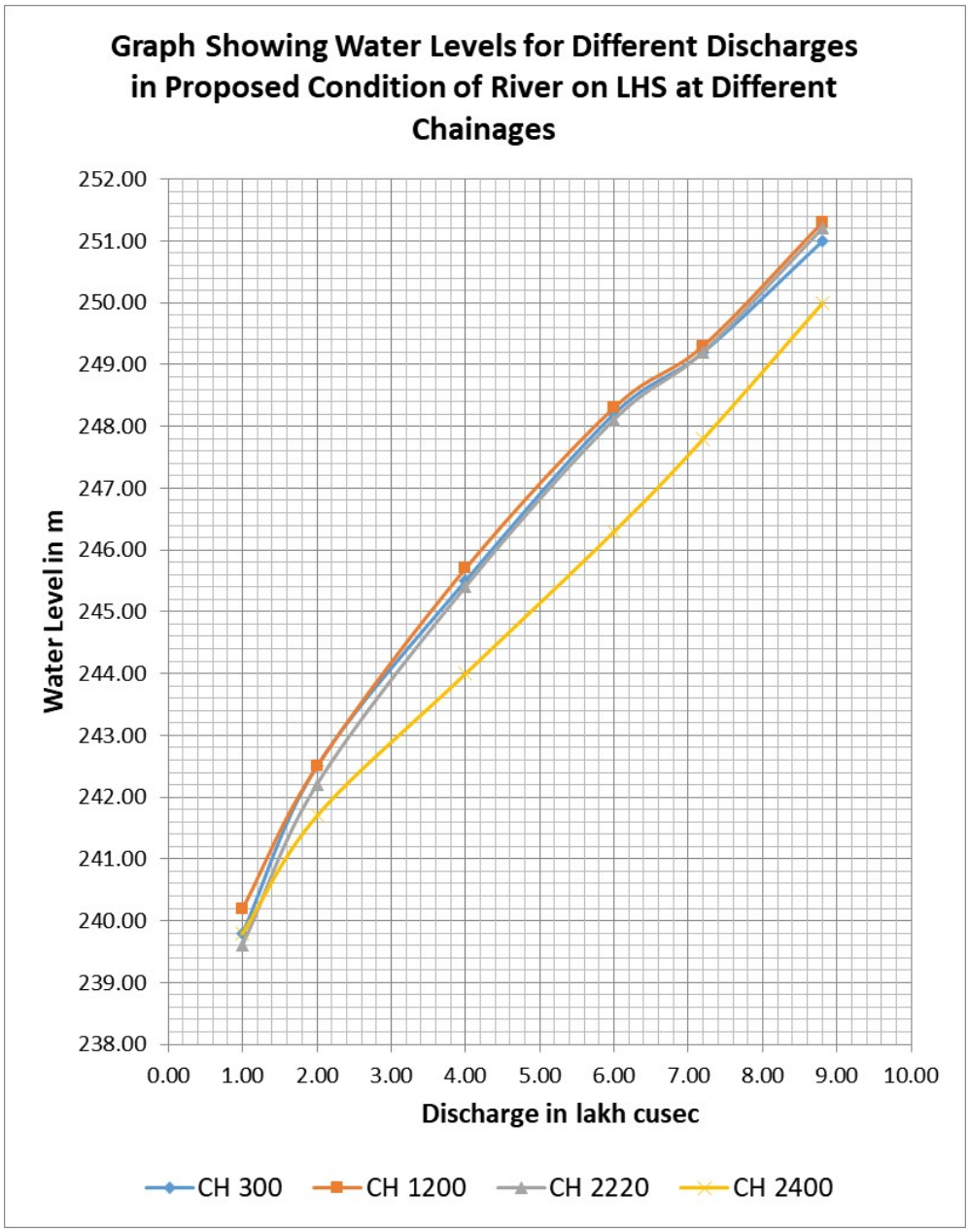

Graph Showing Water Levels for Different Discharges in Proposed Condition of River on LHS at Different Chainages
Water Level in m
252.00
251.00
250.00
249.00
248.00
247.00
246.00
245.00
244.00
243.00
242.00
241.00
240.00
239.00
238.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
Discharge in lakh cusec
CH 300
CH 1200
CH 2220
CH 2400

Table - 10

Table Showing Water Levels for Different Discharges in Proposed Condition of River on Center at Different Chainages				
Discharge in lacs cusec	CH 300	CH 1200	CH 2220	CH 2400
1.00	240.10	240.20	239.90	239.70
2.00	242.60	242.50	242.20	241.80
4.00	245.50	245.70	245.40	244.40
6.00	248.40	248.60	248.30	246.40
7.20	249.60	249.50	249.20	247.90
8.81	251.20	251.50	251.10	250.30

Graph - 8

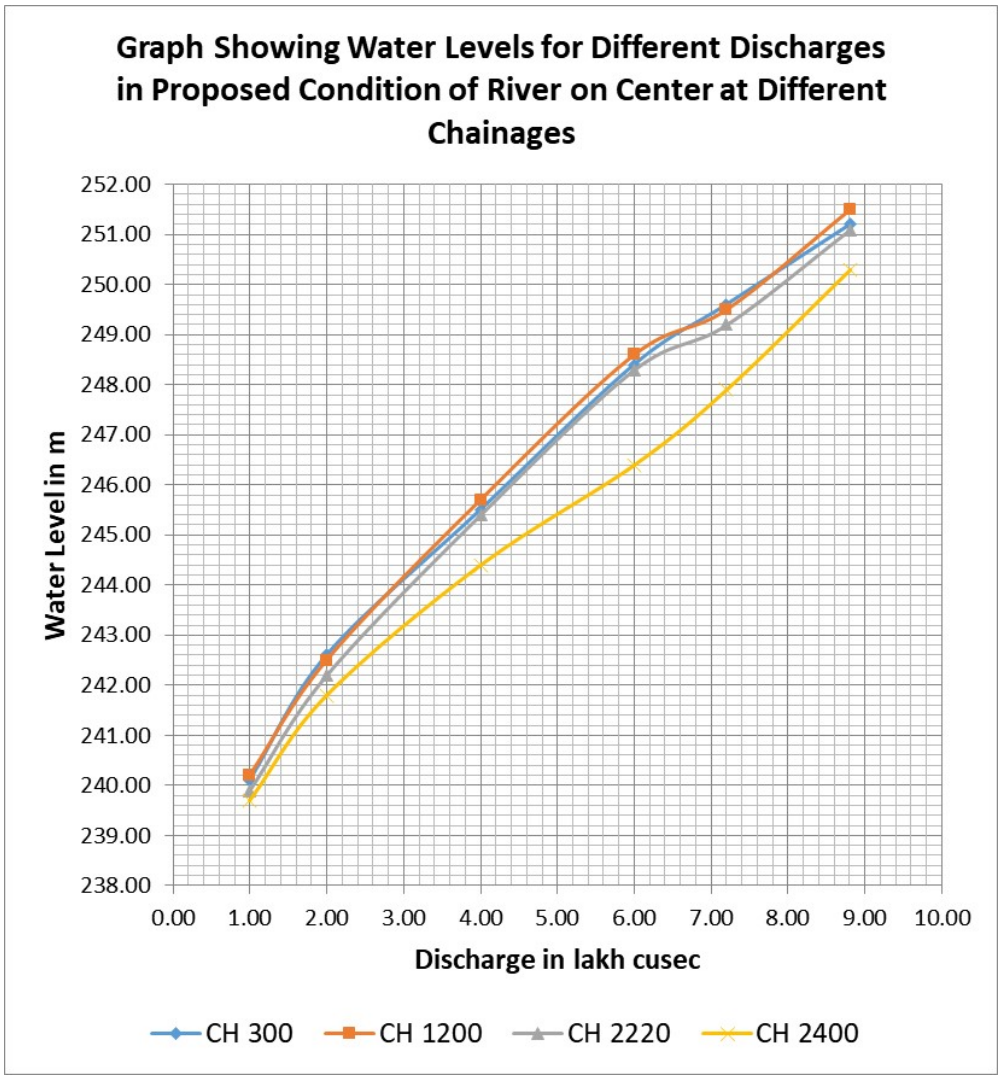
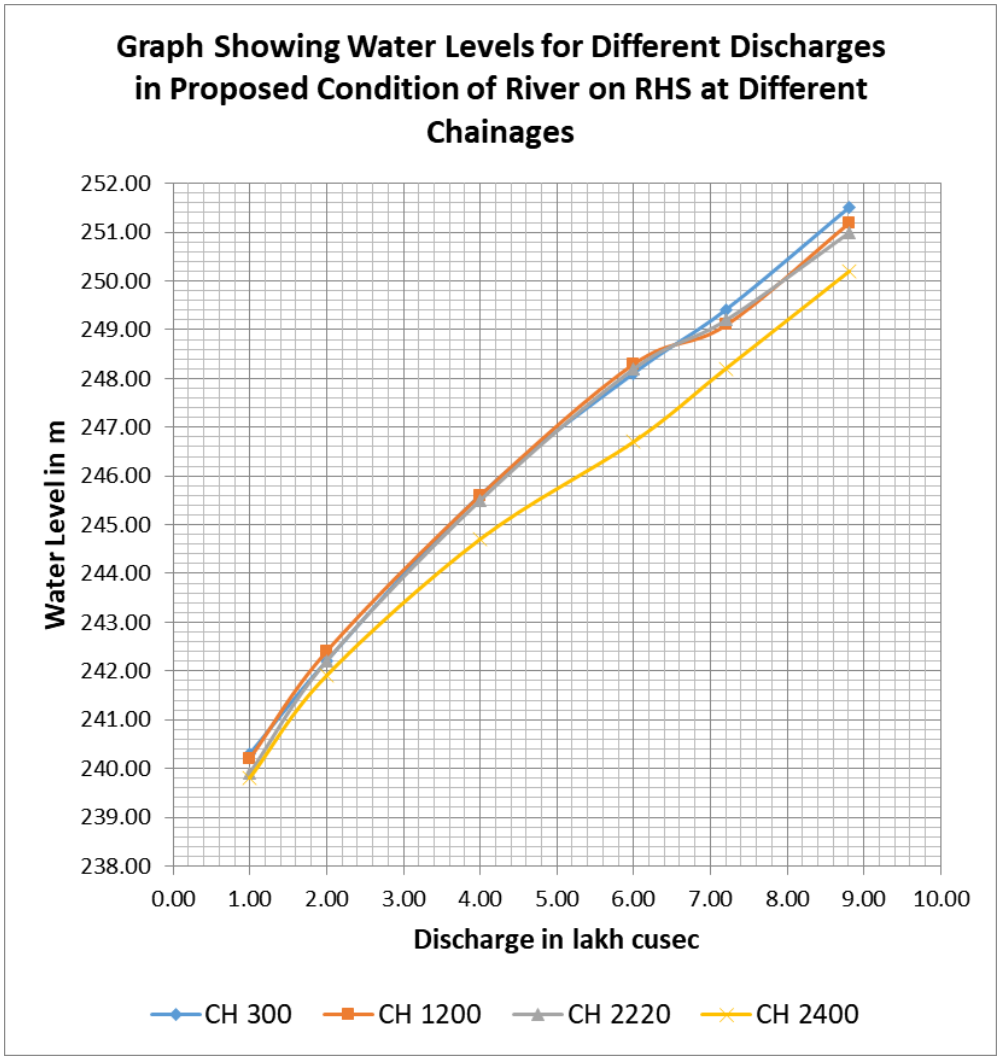


Table - 11

Table Showing Water Levels for Different Discharges in Proposed Condition of River on RHS at Different Chainages				
Discharge in lacs cusec	CH 300	CH 1200	CH 2220	CH 2400
1.00	240.30	240.20	239.90	239.80
2.00	242.20	242.40	242.20	241.90
4.00	245.60	245.60	245.50	244.70
6.00	248.10	248.30	248.20	246.70
7.20	249.40	249.10	249.20	248.20
8.81	251.50	251.20	251.00	250.20

Graph – 9



8.2 Studies for velocities with the development works (Retaining walls on the banks and Anicut)

The velocity observations were taken from 1 lacs cusecs to 8.81 lacs cusecs discharge and at each discharge run the velocities were observed at desired locations (ch. 300 m, 1200 m, 2220 m and 2400 m) at left bank side, at the center and at right bank side. The velocity observations are presented in the followings table12 to 14 and Graph 10 to 12. At 2 lacs cusecs flood the velocities varied from 2.34 m/s to 4.77 m/s on left bank side and 0.177 to 3.21 m/s on right side. At higher discharge of 7.2 lacs cusec, on left bank side, the variation was from 4.83 m/s to 7.70 m/s and on right bank side the variation was 2.46 m/s to 6.10 m/s. At the maximum flood of 8.81 lacs cusec the variation was 5.08 m/s to 8.13 m/s on left bank side and 2.97 m/s to 6.81 m/s on right bank side. From these velocity observations it was depicted that the velocities were higher on the left bank side compared to right bank. At ch. 300 m the velocities were higher at center and left bank side for all range of discharges, at moderate discharge, at 7.2 lacs cusec and at maximum discharge 8.81 lacs cusec the velocities were 5.89 m/s, 8.70 m/s and 9.66 m/s respectively. The table no. 15 shows the comparison of velocities in exiting condition and with the provision of retaining wall and Anicut.

Table - 12

Table Showing Velocity for Different Discharges in Proposed Condition of River on LHS at Different Chainages				
Discharge in lacs cusec	300	1200	2220	2400
1 lac	2.65	1.34	1.17	2.48
2 lacs	4.77	3.02	2.34	4.65
4 lacs	5.89	4.21	3.14	5.83
6 lacs	7.60	5.28	4.36	6.95
7.2 lacs	8.70	5.96	4.84	7.71
8.81 lacs	9.67	6.79	5.08	8.14

Graph - 10

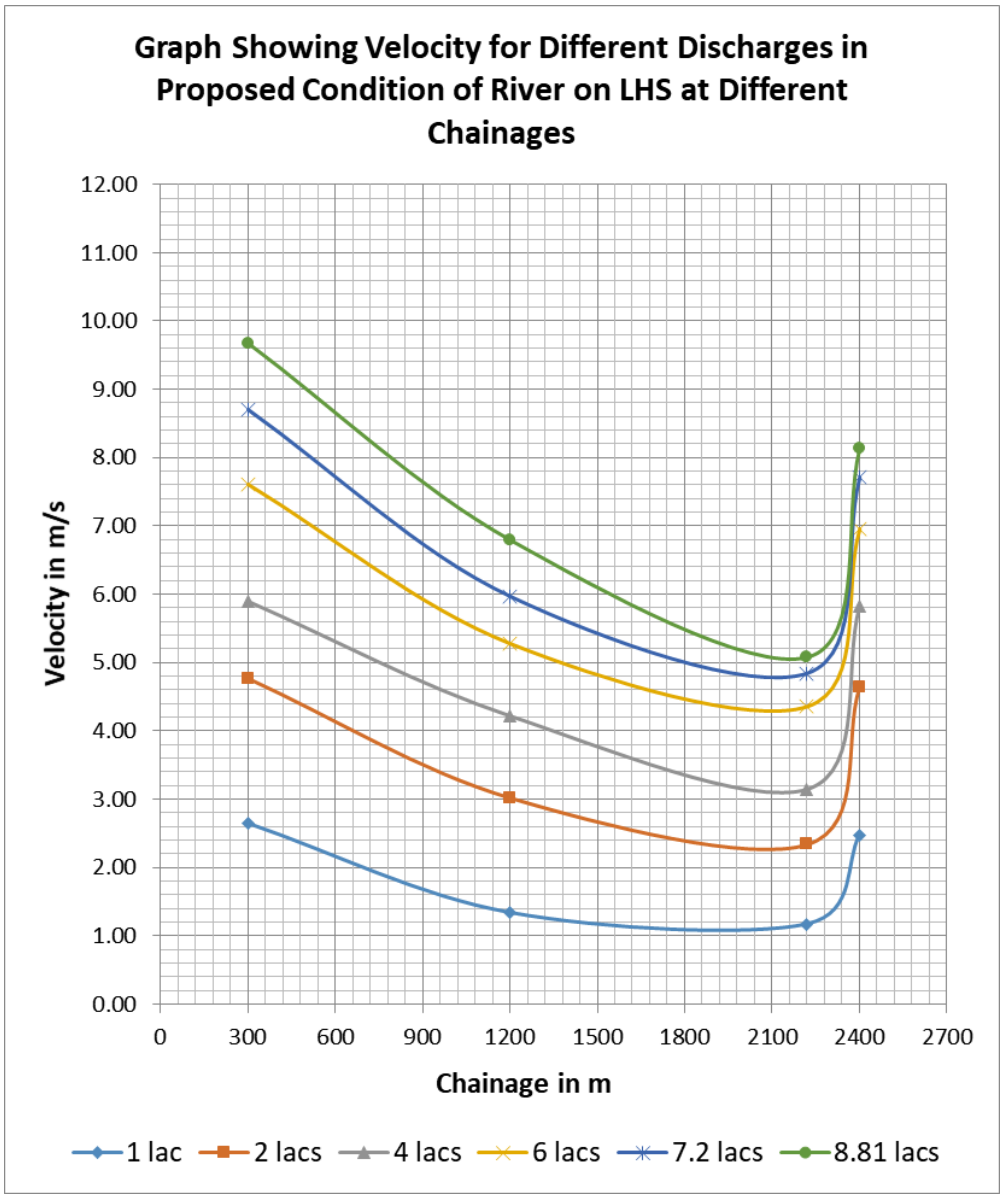

Graph Showing Velocity for Different Discharges in Proposed Condition of River on LHS at Different Chainages
Velocity in m/s
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
0
300
600
900
1200
1500
1800
2100
2400
2700
Chainage in m
1 lac
2 lacs
4 lacs
6 lacs
7.2 lacs
8.81 lacs

Table - 13

Table Showing Velocity for Different Discharges in Proposed Condition of River on Centre at Different Chainages				
Discharge in lacs cusec	300	1200	2220	2400
1 lac	4.28	0.77	1.10	2.28
2 lacs	6.42	2.05	1.84	4.28
4 lacs	7.60	3.15	2.99	5.91
6 lacs	8.25	4.00	3.99	7.72
7.2 lacs	8.98	5.61	4.70	7.43
8.81 lacs	10.20	6.87	5.24	7.77

Graph- 11

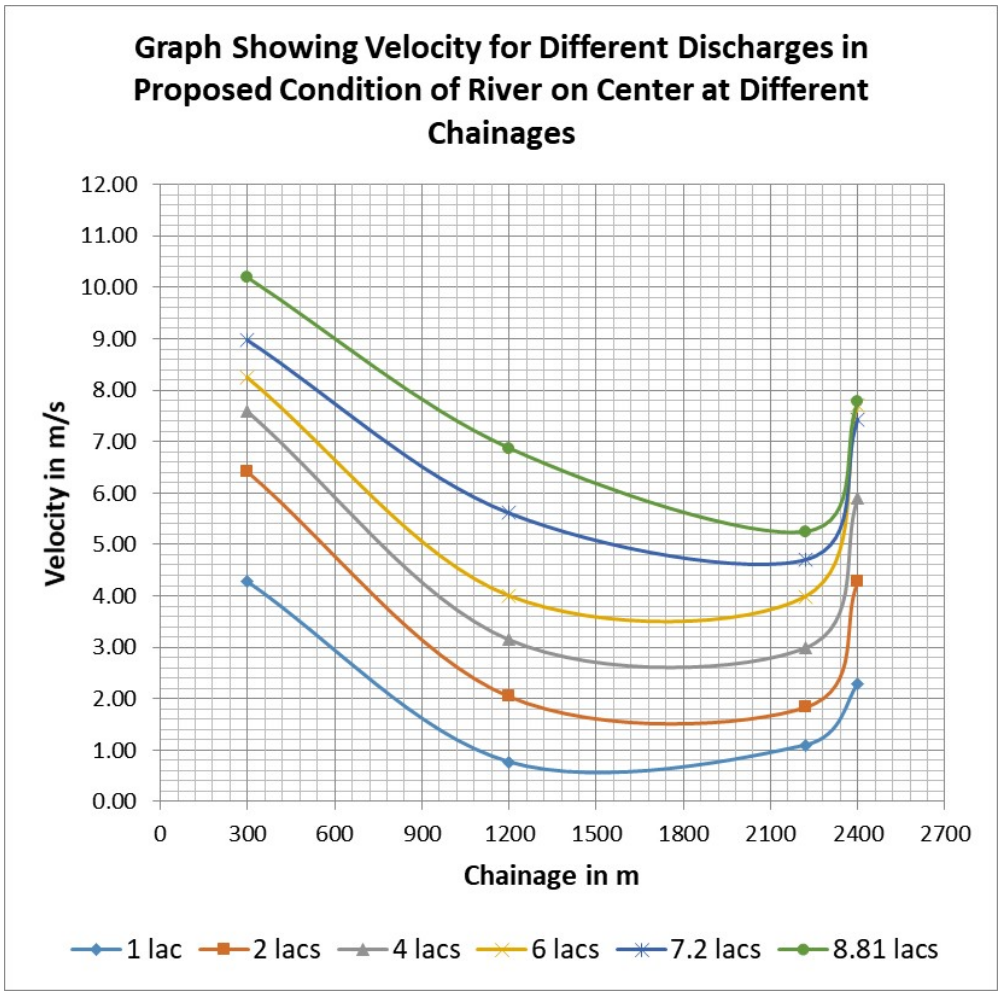


Table - 14

Table Showing Velocity for Different Discharges in Proposed Condition of River on RHS at Different Chainages				
Discharge in lacs cusec	300	1200	2220	2400
1 lac	0.02	0.79	1.09	1.36
2 lacs	0.18	0.87	1.45	3.22
4 lacs	0.25	1.57	2.56	4.90
6 lacs	0.08	2.36	3.34	6.02
7.2 lacs	0.02	2.46	3.86	6.11
8.81 lacs	0.02	2.97	4.26	6.81

Graph - 12

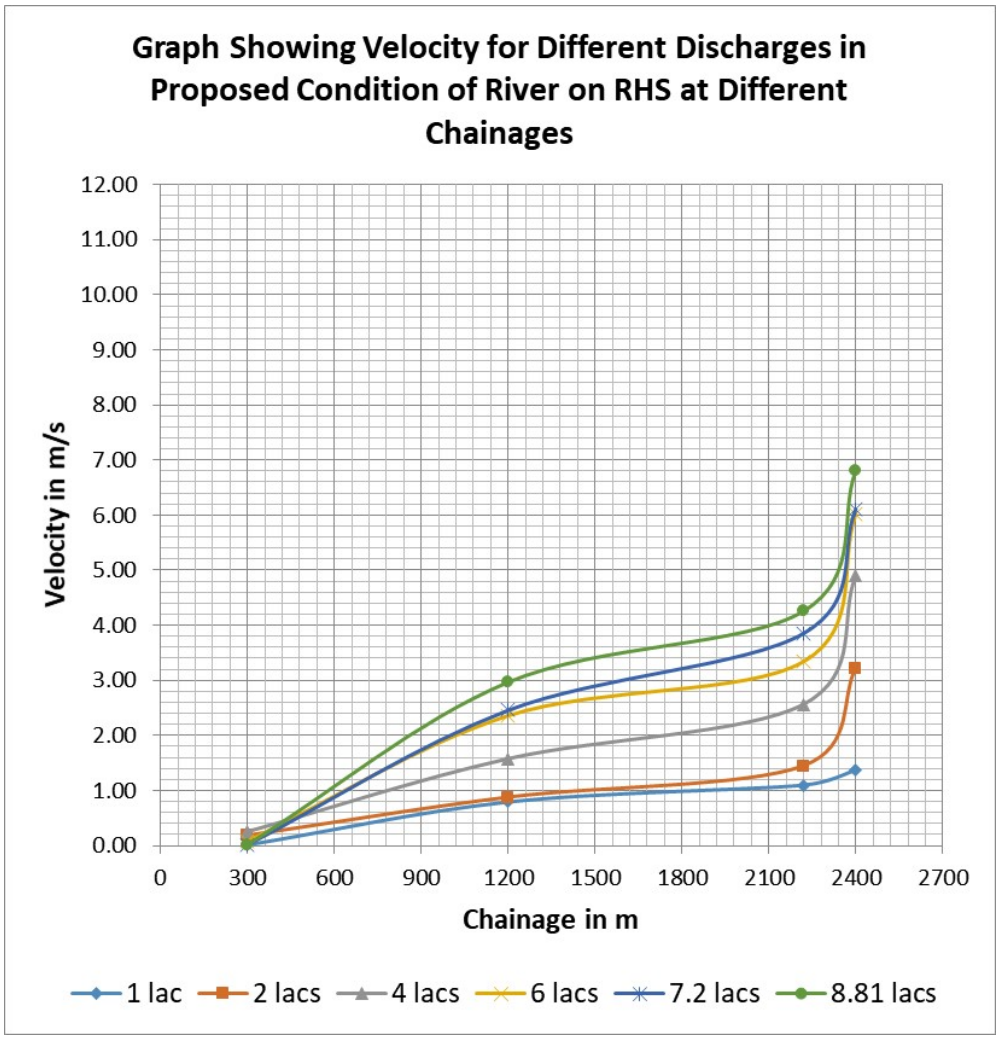


Table no. 15

Velocity variation in Existing condition and with the provision of Retaining wall and Anicut

Discharge	Condition	Chainage 300m	Chainage 1200m	Chainage 2400m
2 lacs cusec	Exiting condition	6.94 m/s	3.54 m/s	1.97 m/s
	With retaining wall and Anicut	6.42 m/s	2.05 m/s	4.27 m/s
4 lacs cusec	Exiting condition	8.74 m/s	4.59 m/s	3.12 m/s
	With retaining wall and Anicut	7.60 m/s	3.15 m/s	5.91 m/s
7.2 lacs cusec	Exiting condition	11.17 m/s	7.47 m/s	4.18 m/s
	With retaining wall and Anicut	8.98 m/s	5.61 m/s	7.43 m/s

From the table above, it was predicted that the velocities were decreased with the provision of retaining wall all along the length of retaining walls as compared with the velocity observed in exiting condition. These observations indicated that the flow pattern in the river channel was improved with the provision of retaining wall and Anicut in position. The provision of Anicut is at ch. 2300 m and the observation location is in the downstream of Anicut at ch. 2400 m. Due to flow over Anicut, the hydraulic jump was formed in the downstream of Anicut. Prior to jump shooting flow over the Anicut was observed due to which higher velocities are observed in the downstream of Anicut for all range of discharges at ch. 2400 m.

From the persistent observations of velocities at ch. 300 m it could be seen that higher velocities occurred at this section at the center and left bank side in spite of river section is relatively wide. This was due to the fact that shooting flow was observed on the rock outcrop present on left bank side and spur like intrusion on the left bank. With the provision of retaining wall on left bank side the velocities were reduced marginally at this ch. 300 m but the value of velocities in both cases, exiting and with development work were higher of the order of 10 m/s. Following photographs show the flow pattern with proposed development works.

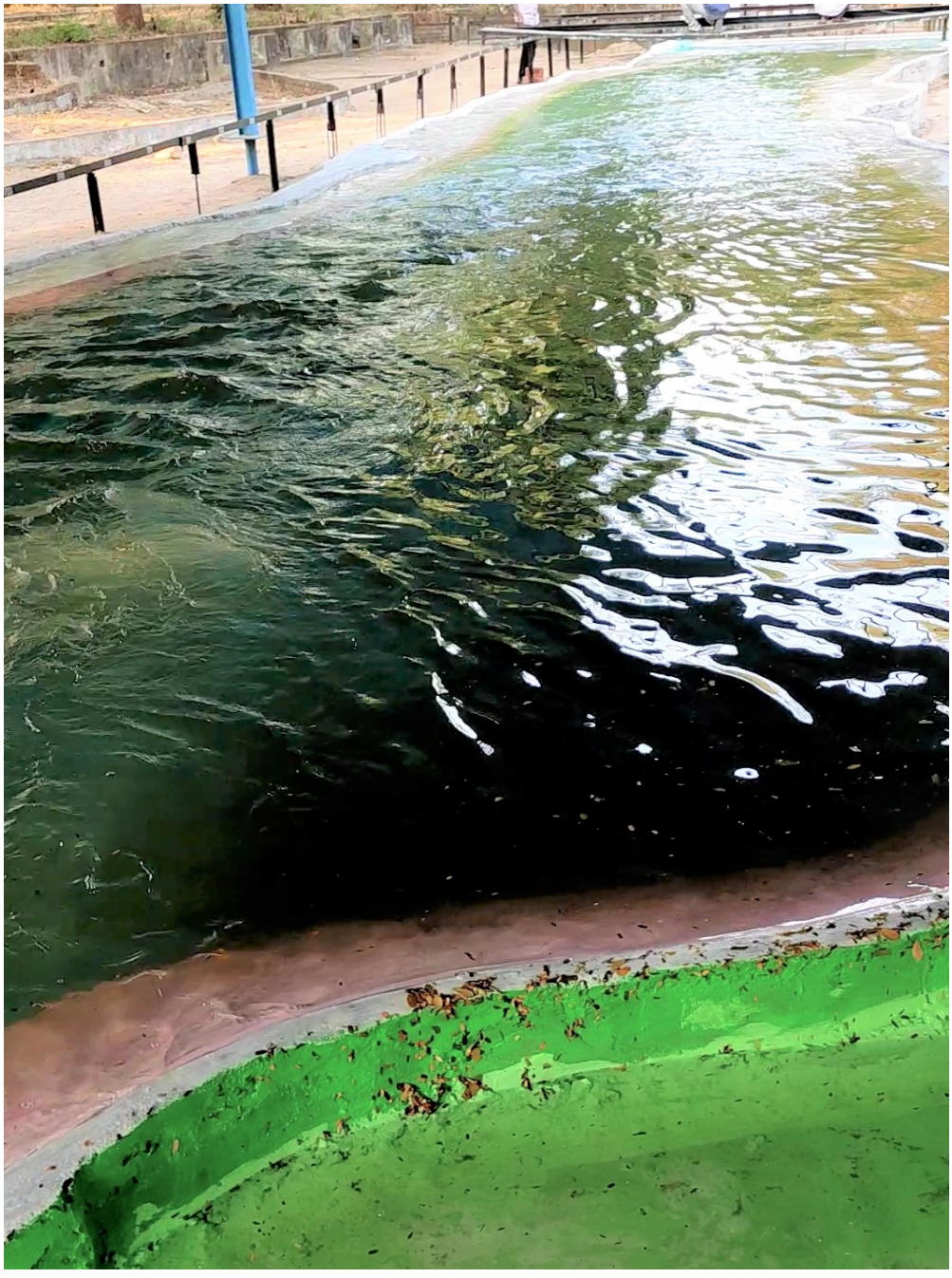


Photo 22: Close View Of Flow Pattern

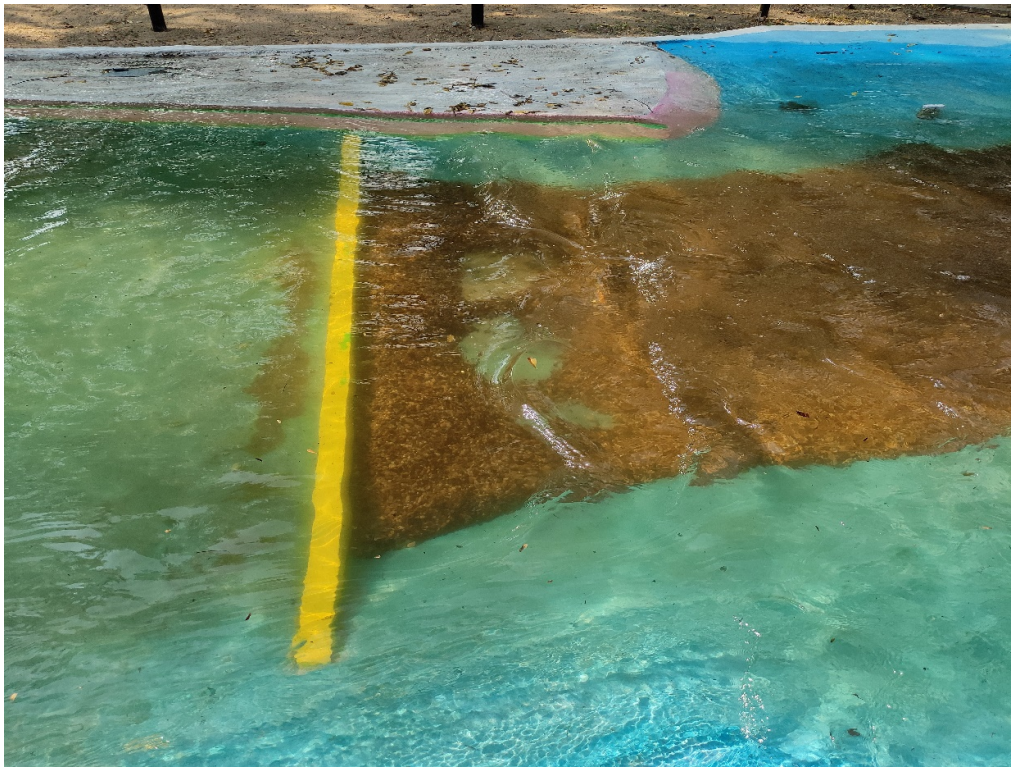


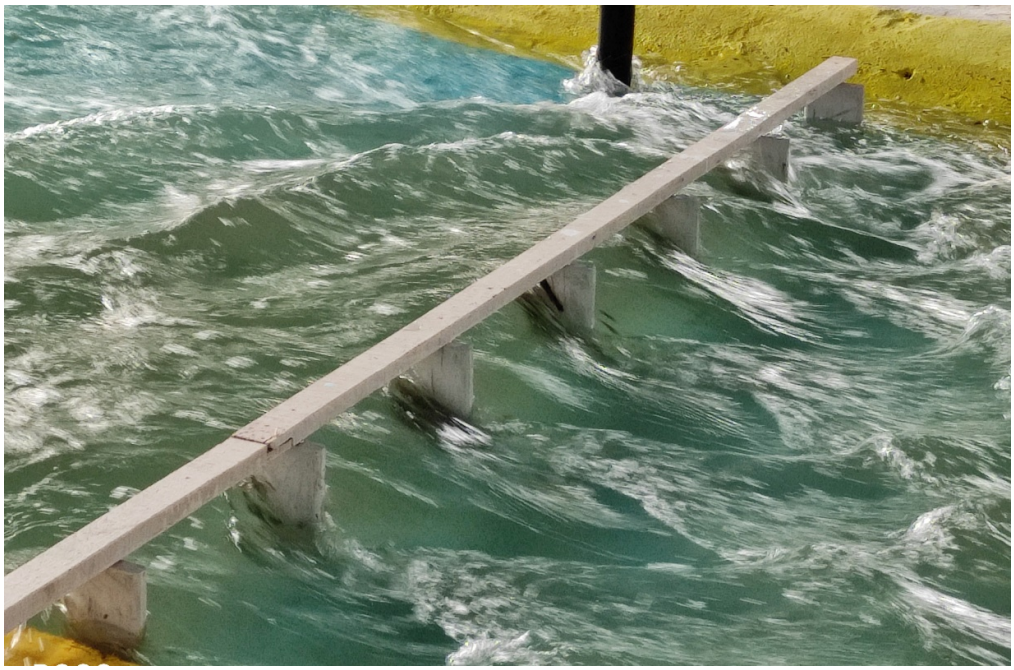
Photo 23: Close View of Flow Pattern Near Anicut

8.3 Studies for performance of bridges with the development works (Retaining walls on the banks and Anicut)

There are 3 bridges constructed across the river in this 3 km reach downstream of Kota barrage. First bridge (Sakatpura Bridge) is located close to the barrage 270 m downstream of barrage. This bridge is considered at ch. 0.0 m in the topographical survey map. The pier top level of this bridge is at RL 256.14 m and the water level on upstream side of this bridge was at RL 253.10 m and at the downstream side it was at RL 250 m at the maximum flood 8.81 lacs cusec (PMF). The maximum water level at this bridge was 3 m below the pier top level. As far as water level is concern the bridge was found safe against encroachment of free board.

Other 2 bridges are located at ch 2550 m and at ch. 2610 m with the top level of pier at RL 251.00 m and RL 251.50 m respectively, close to the causeway with top RL 236.0 m. The Anicut is proposed at ch. 2340 m, 180 m upstream of the bridge and 270 m upstream of causeway. At the maximum flood of 8.81 lacs cusec (PMF) the water level at ch. 2220 m was RL 251.00 m and at ch. 2400 m it was at RL 250.20 m. The water level at the maximum discharge was at RL 250.20 m near the bridge against the pier top level RL 251.00 m and 251.50 m was also below the pier top level. The encroachment of free board at these two bridges was not observed on model. From these observations of water levels, the development works, retaining walls and Anicut

was not giving adverse effect on the performance of these exiting bridges in the river reach under study.



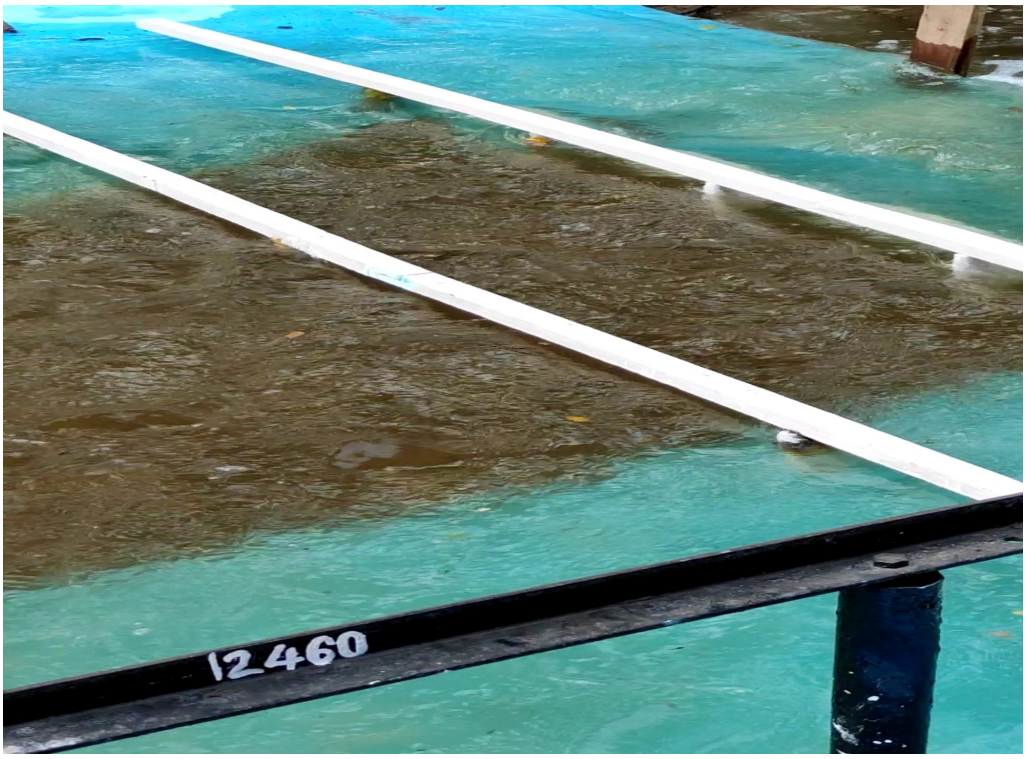


Photo 24 & 25 : Performance of Bridges

9.0 Witness of model studies by officers of UIT, Kota and WRD of Rajasthan Government

The Chief Engineer and Superintending Engineer UIT, Kota and Superintending Engineer and Executive Engineer Water Resources Department of Rajasthan had jointly visited the physical model several time during the month of October 2020 to January 2021 and finally on 18-01-2021. The quick runs of model with the development works were shown to them from 1 lacs cusec to 8.81 lacs cusec discharge. The main concern of these officers was to observe the impact of development works on water levels and velocities with close proximity all along the river channel.

Precise reservoir characteristics regarding the capacity of spillway in terms of water level (reservoir level) could not be possible without the exect upstream topography of reservoir which was not made available by the UIT, Kota to GERI. However, with the assumption of overage levels limited truncated portion of reservoir could be made on model. With these limitations of reservoir portion on model the higher values of reservoirs level could be expected on model due to fluming in truncated portion.

Photo 26: Visit Of Dignitaries At GERI

Photo 27 & 28: Visit Of Dignitaries At GERI

The reservoir level at maximum discharge 8.81 lacs cusecs (24953 m^3/s) was 262.10 m which was 0.75 m higher than the mathematically derived value RL 261.35m (design note on flood routing studies). Similarly, at discharge 7.2 lacs cusec flood the reservoir level on model was at RL 260m against the top level of dam RL 262.9m.

The flow over the Anicut was shown to the dignitaries. At higher floods from 6 lacs cusec to 8.81 lacs cusec shooting flow with high velocity was observed on the downstream side of Anicut resulting formation of hydraulic jump. The velocity of flow varied from 8 m/s to 11 m/s in the downstream portion of Anicut. From these observations of velocities and flow pattern the downstream floor is to be designed in the river bed from downstream toe of Anicut to the causeway to protect the scour in this portion of river bed.

The authorities were agreed with the model observations, no further suggestions were offered except early completion of study and submission of report.

10.0 Conclusion

1. The water level difference in existing condition of bank and with the provision of development works (Retaining wall and Anicut) was marginal 0.3 m to 0.4 m from low to higher discharge 7.2 lacs cusec all along the river reach.
2. The water level variation was 0.4 m along the flow in 2 km river reach, from RL 249.60 m to RL 249.20 m (from ch. 300 m to ch. 2200 m) upstream side of Anicut, at 7.2 lacs cusec discharge against the top level retaining wall at RL 250.00 m. This was the bank full discharge.
3. At the maximum discharge 8.81 lacs cusec (24953 m^3/s) the water level varied from RL 250.00 m to RL 251.50 m all along the length of retaining wall. The water level was 1.5 m above the top of the proposed retaining wall. The spillover all along the length of retaining wall was observed on model at the Probable Maximum Flood.
4. The reservoir level at maximum discharge 8.81 lacs cusec (24320 m^3/ s) was at RL 262.10 m which was 0.7 m higher than the mathematically derived value RL 261.35 m (design note on flood routing study, Kota). The reservoir level at 7.2 lacs cusec was at RL 260.00 m against the top level of dam at RL 262.90 m.
5. From the model observations, it was predicated that the velocities were decreased with the provision of retaining wall all along the length as compared with the velocities observed in existing condition. These observations indicated that the flow pattern in the river channel was improved with the provision of retaining wall and anicut in position.
6. The velocities along the left bank side were higher than the right bank side for all range of discharges. At the maximum flood 8.81 lacs cusec the velocities varied from 5.61 m/s to 7.43 m/s all along the retaining wall.
7. Higher velocities accrued at ch. 300 m at center and left bank side in spite of river section is relatively wide. This was due to the shooting flow on rock outcrop present on left bank side. The variation of higher velocities was 8 m/s to 10 m/s.
8. At the maximum discharge 8.81 lacs cusec (24320 m^3/ s) the water levels were below the top level of pier for all three existing bridges at ch. 300 m, ch. 2550 m

and ch. 2610 m. The encroachment of free board at these bridges was not observed on model. The provision of retaining wall and Anicut was not giving adverse effect on performance of existing bridges.

9. The flow pattern in the tail channel downstream of spillway was almost same in the existing condition of bank & with retaining wall except marginal rise (0.4 m) in water level downstream of spillway in both the cases for all range of discharges.
10. At higher floods from 6 lacs cusec to 8.81 lacs cusec, shooting flow with high velocity was observed on the downstream side of Anicut, resulting formation of hydraulic jump. The velocity of flow varied from 8 m/s to 11 m/s in the downstream portion of Anicut. These were the higher velocities immediate downstream of Anicut. Suitable apron is required to be designed considering these velocities of flow.

11.0 Limitation of model studies

1. Qualitative erosion & scour could not be made possible on the rigid bed model. The vulnerable locations of velocities and flow pattern were predicated.
2. Precise reservoir of Kota barrage could not be made possible because of Non availability of upstream topography. With the assumption of average levels limited truncated portion of reservoir could be made possible on model.
3. As per IS 14955: 2001, Guidelines for hydraulic model studies of barrage and weirs, clause 7.3, model studies only help in finalization of structures based on judgement of designer. The model results give qualitative idea of hydraulic parameters.

Sd/-

Assistant Research officer
Narmada Hydraulic Division
GERI, Gotri, Vadodara

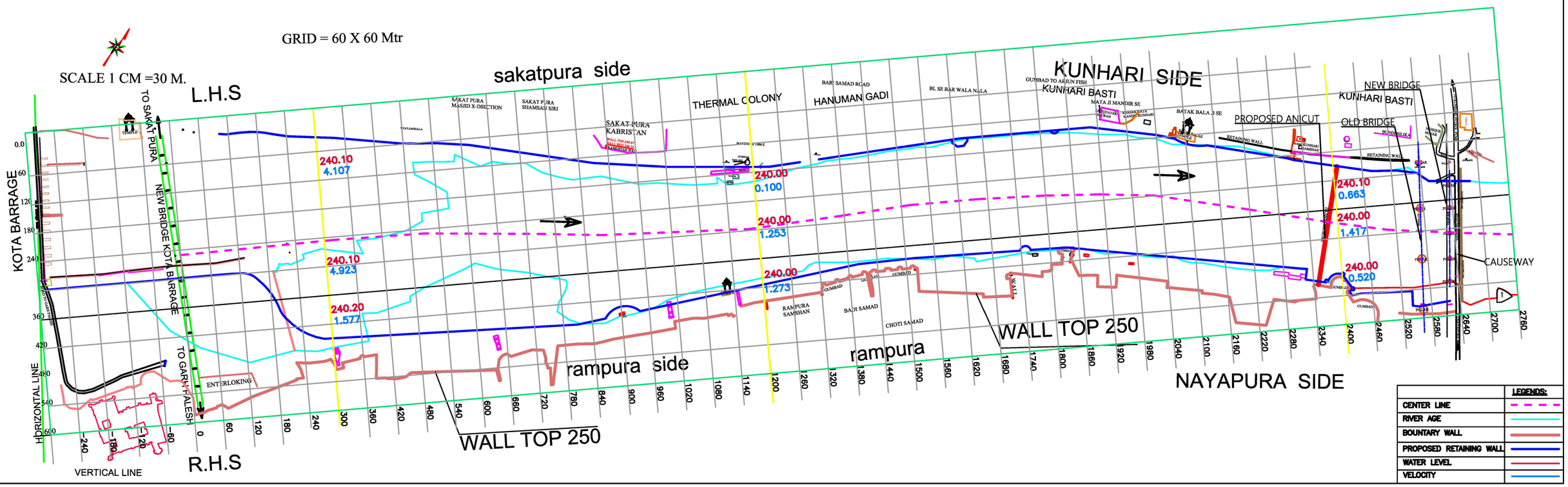
Sd/-

Research Officer
Narmada Hydraulic Division
GERI, Gotri, Vadodara

MODEL STUDY OF PROPOSED RIVER FRONT IN D/S OF KOTA BARRAGE ON RIVER CHAMBAL, KOTA, RAJASTHAN (G. S. SCALE - 1:100)

WATER LEVELS AND VELOCITIES FOR Q = 1 LAKH CUSEC DISCHARGE (EXISTING CONDITION)

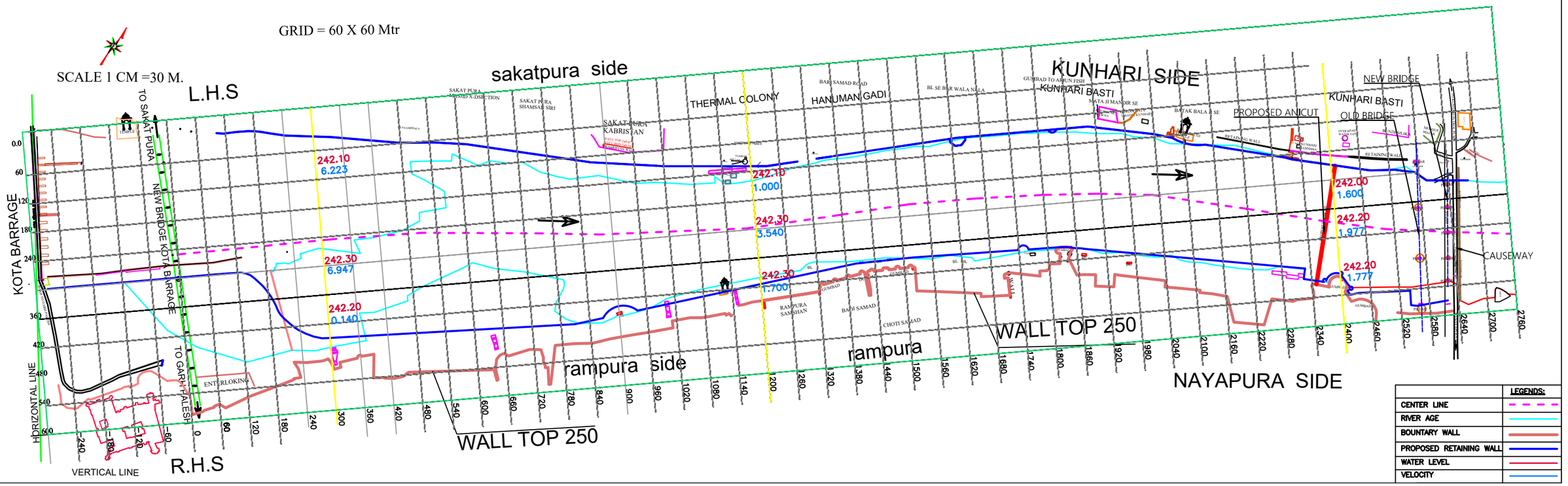
PLATE NO : 1



MODEL STUDY OF PROPOSED RIVER FRONT IN D/S OF KOTA BARRAGE ON RIVER CHAMBAL, KOTA, RAJASTHAN (G. S. SCALE - 1:100)

WATER LEVELS AND VELOCITIES FOR Q = 2 LAKH CUSEC DISCHARGE (EXISTING CONDITION)

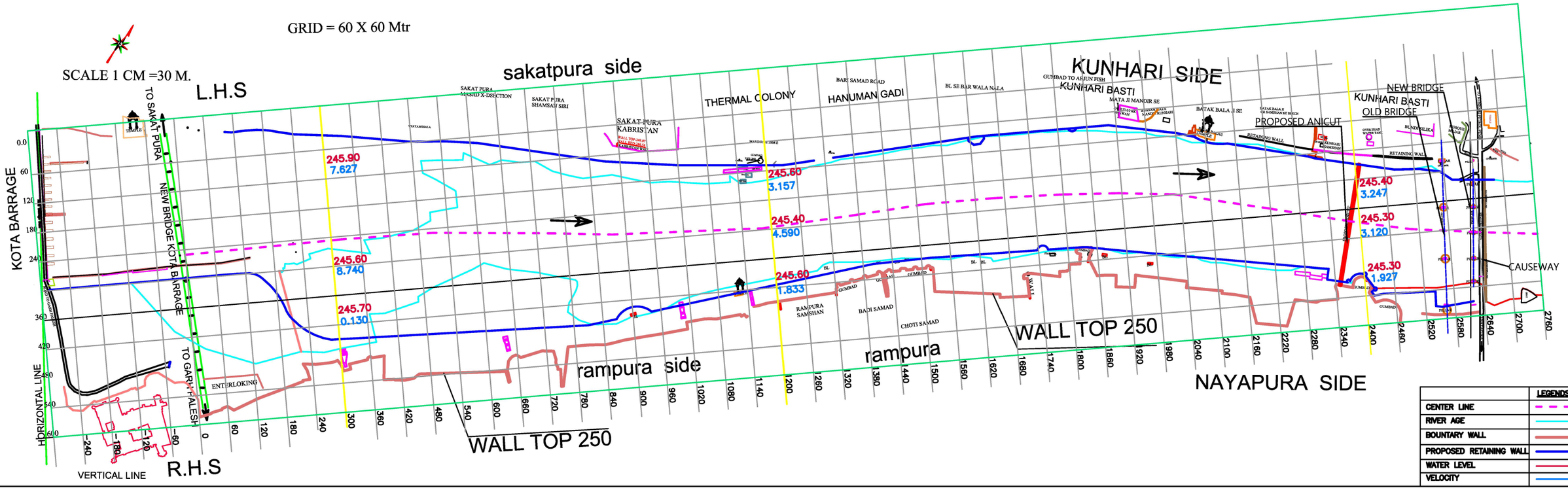
PLATE NO : 2



MODEL STUDY OF PROPOSED RIVER FRONT IN D/S OF KOTA BARRAGE ON RIVER CHAMBAL, KOTA, RAJASTHAN (G. S. SCALE - 1:100)

WATER LEVELS AND VELOCITIES FOR Q = 4 LAKH CUSEC DISCHARGE (EXISTING CONDITION)

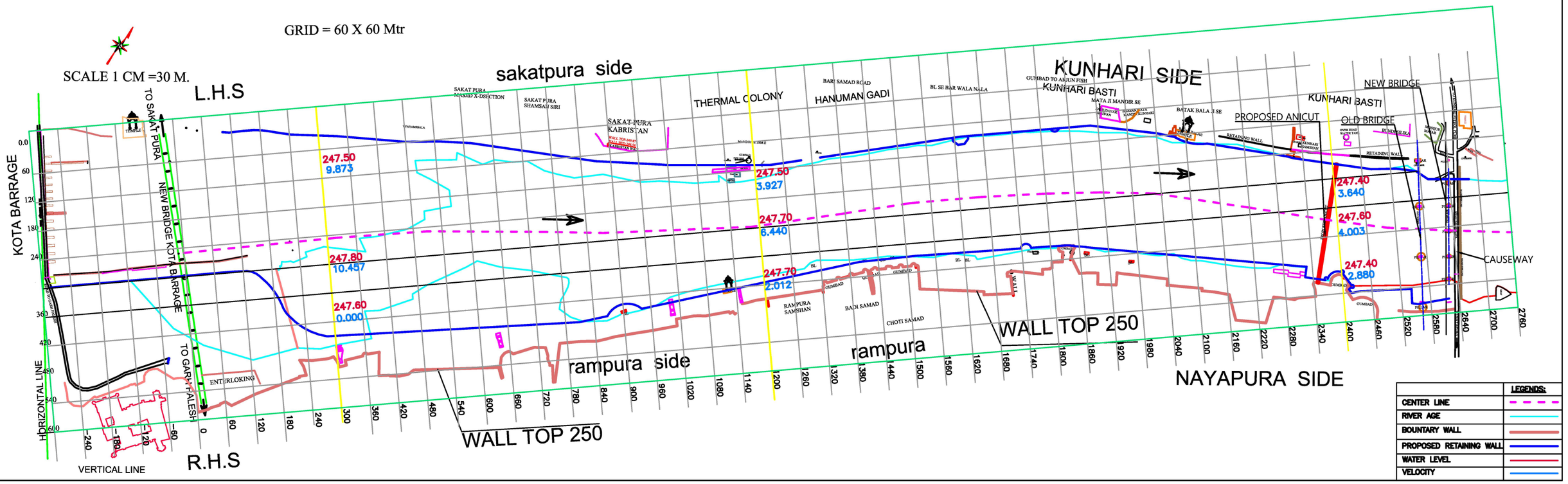
PLATE NO : 3



MODEL STUDY OF PROPOSED RIVER FRONT IN D/S OF KOTA BARRAGE ON RIVER CHAMBAL, KOTA, RAJASTHAN (G. S. SCALE - 1:100)

WATER LEVELS AND VELOCITIES FOR Q = 6 LAKH CUSEC DISCHARGE (EXISTING CONDITION)

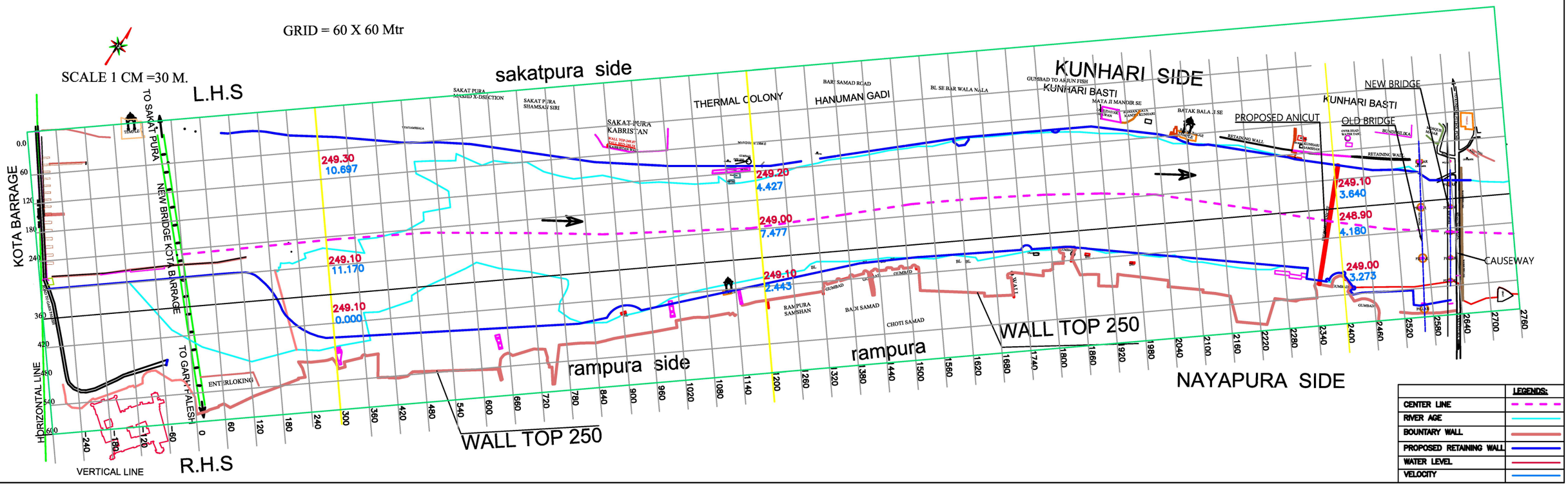
PLATE NO : 4



MODEL STUDY OF PROPOSED RIVER FRONT IN D/S OF KOTA BARRAGE ON RIVER CHAMBAL, KOTA, RAJASTHAN (G. S. SCALE - 1:100)

WATER LEVELS AND VELOCITIES FOR Q = 7.2 LAKH CUSEC DISCHARGE (EXISTING CONDITION)

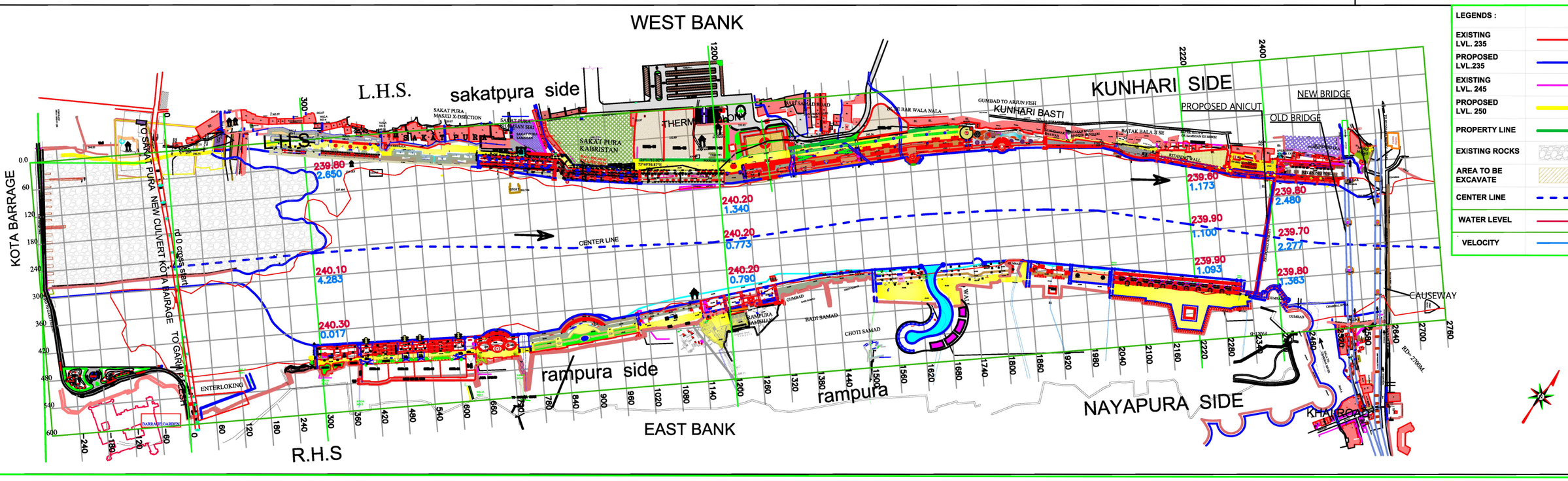
PLATE NO : 5



MODEL STUDY OF PROPOSED RIVER FRONT IN D/S OF KOTA BARRAGE ON RIVER CHAMBAL, KOTA, RAJASTHAN (G. S. SCALE - 1:100)

WATER LEVELS AND VELOCITIES FOR Q = 1 LAKH CUSEC DISCHARGE (WITH RETAINING WALL)

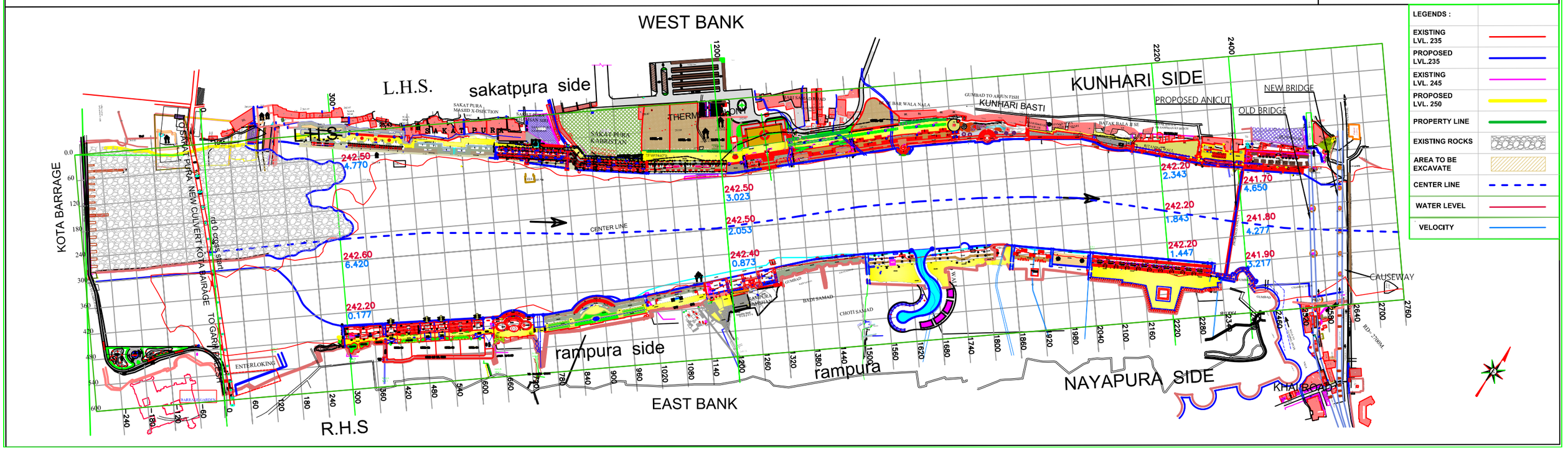
PLATE NO : 6



MODEL STUDY OF PROPOSED RIVER FRONT IN D/S OF KOTA BARRAGE ON RIVER CHAMBAL, KOTA, RAJASTHAN (G. S. SCALE - 1:100)

WATER LEVELS AND VELOCITIES FOR Q = 2 LAKH CUSEC DISCHARGE (WITH RETAINING WALL)

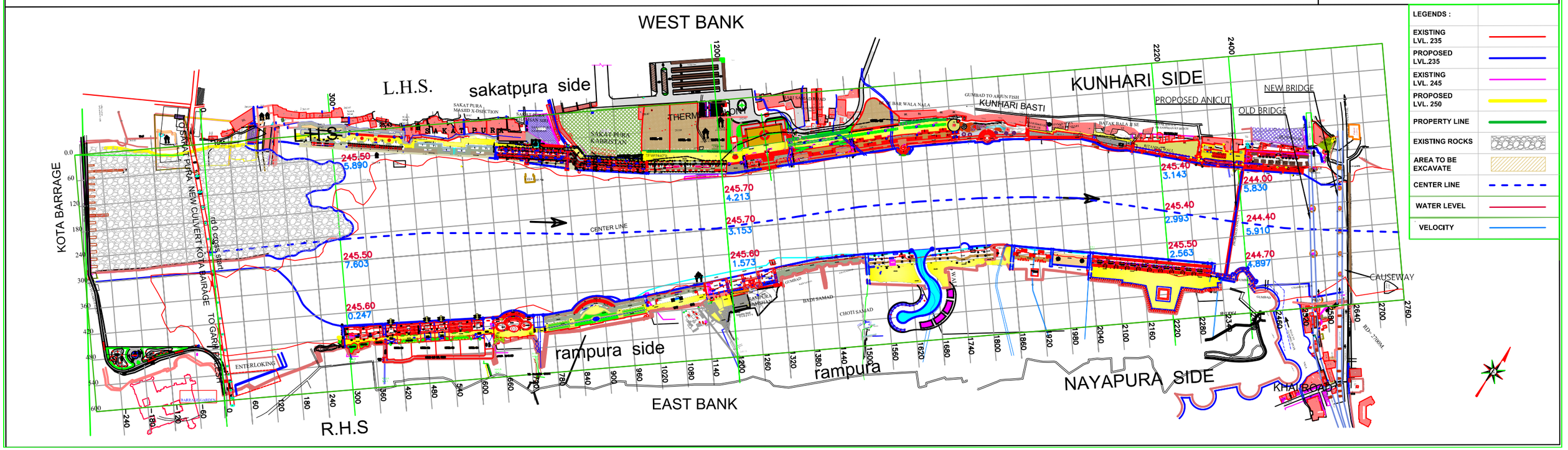
PLATE NO : 7



MODEL STUDY OF PROPOSED RIVER FRONT IN D/S OF KOTA BARRAGE ON RIVER CHAMBAL, KOTA, RAJASTHAN (G. S. SCALE - 1:100)

WATER LEVELS AND VELOCITIES FOR Q = 4 LAKH CUSEC DISCHARGE (WITH RETAINING WALL)

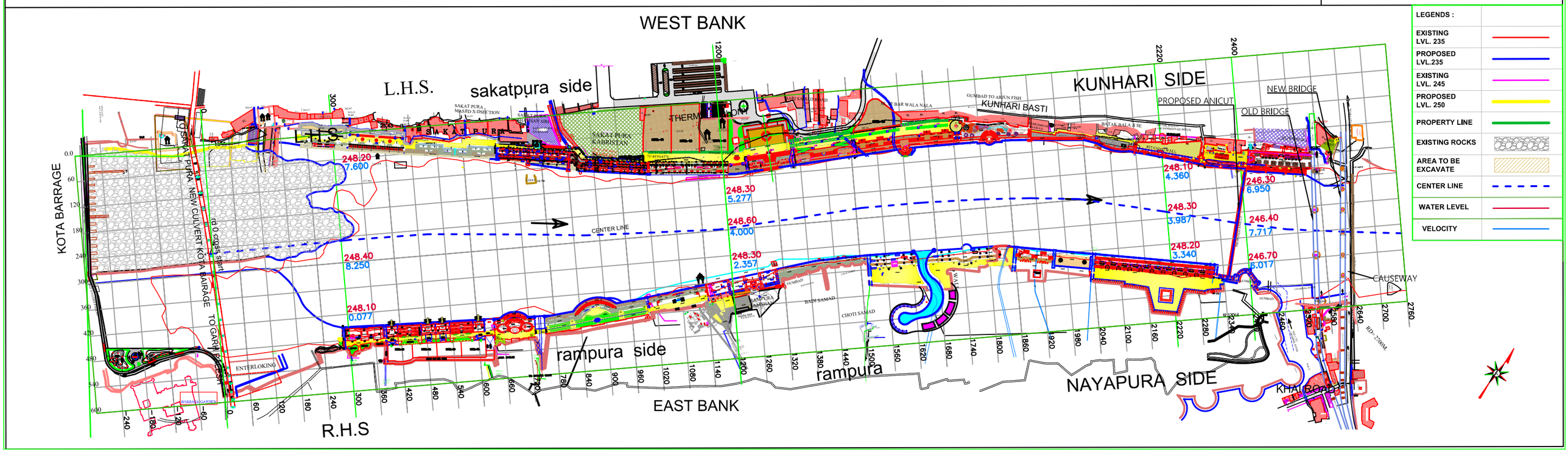
PLATE NO : 8



MODEL STUDY OF PROPOSED RIVER FRONT IN D/S OF KOTA BARRAGE ON RIVER CHAMBAL, KOTA, RAJASTHAN (G. S. SCALE - 1:100)

WATER LEVELS AND VELOCITIES FOR Q = 6 LAKH CUSEC DISCHARGE (WITH RETAINING WALL)

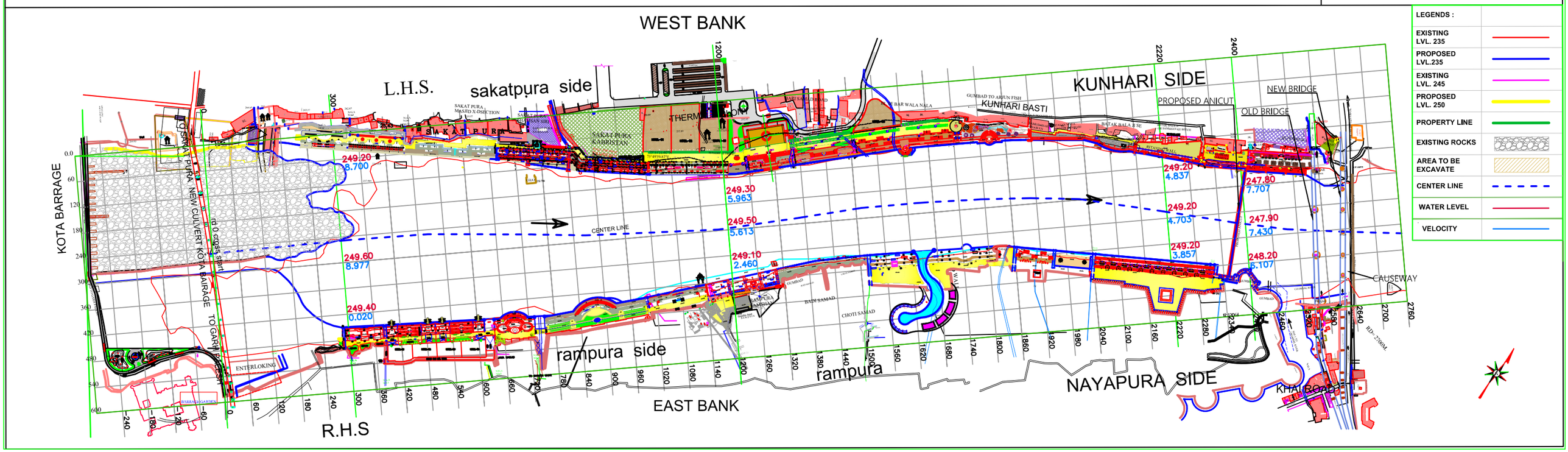
PLATE NO : 9



MODEL STUDY OF PROPOSED RIVER FRONT IN D/S OF KOTA BARRAGE ON RIVER CHAMBAL, KOTA, RAJASTHAN (G. S. SCALE - 1:100)

WATER LEVELS AND VELOCITIES FOR Q = 7.20 LAKH CUSEC DISCHARGE (WITH RETAINING WALL)

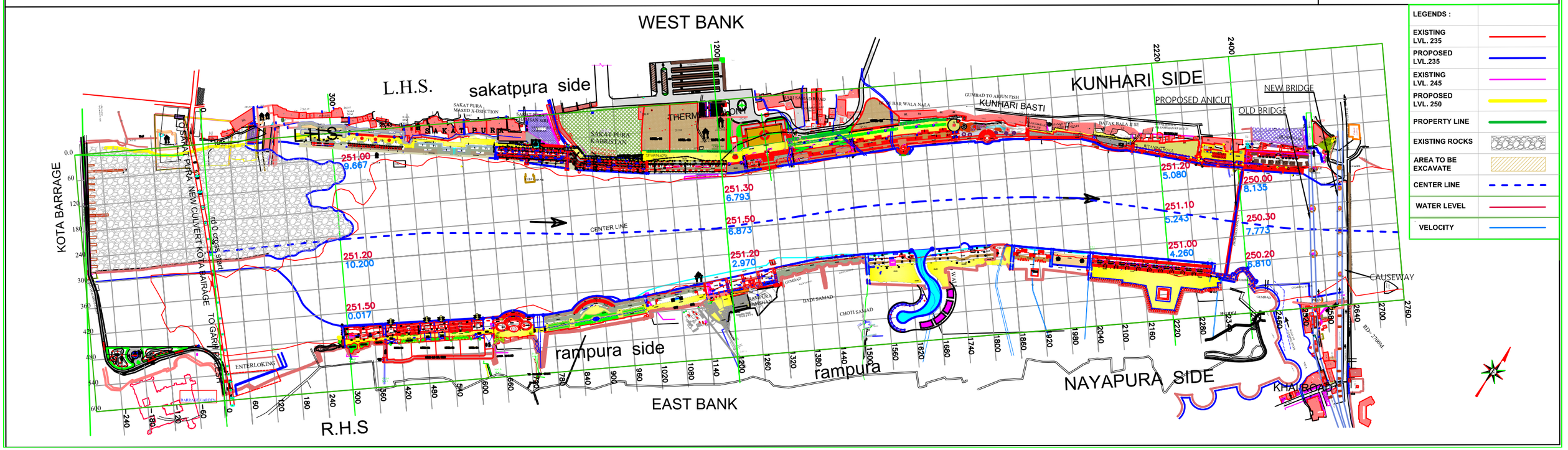
PLATE NO : 10



MODEL STUDY OF PROPOSED RIVER FRONT IN D/S OF KOTA BARRAGE ON RIVER CHAMBAL, KOTA, RAJASTHAN (G. S. SCALE - 1:100)

WATER LEVELS AND VELOCITIES FOR Q = 8.81 LAKH CUSEC DISCHARGE (WITH RETAINING WALL)

PLATE NO : 11



Annexure-VI

कार्यालय नगर विकास न्यास, कोटा

क्रमांकःएफ.9 / अ.अ.(P) / 2023–24 /337 दिनांकः 18 / 12 / 2023

Regional Officer
Rajasthan State Pollution Control Board
Plot No. 2A, Road no. 6
IP Industrial Area, Kota (Raj.).

Sub: - Regarding electrical lights installed at Chambal River Front Project developed by UIT, Kota.
Ref:- Information as asked by committee members constituted by H'ble NGT in matter of OA No. 130/2023.

In above reffered subject matter, the energy saving LED lights were installed on said project as recommended by consultant cum chief architect of the project. The facts and information about these lights is hereby described as :-

1. The night illumination done at Chambal riverfront is carried out to illuminate the facade wall and pedestrian walk ways which are above reduced level (RL) 250 m from the river.
2. Further, there is a substantial distance of around 35-40m between light poles and the edges of water on the bank of river which ensures that there is no impact of these artificial lights on the aquatic species. Moreover, energy saving LED lights in the said Project having no glare are installed for illumination on the pathways of the river front. which do not impact the marine ecosystem. Hence, the artificial lights at night does not disrupts the natural light cycles of the marine species.
3. These lights are shutdown during night keeping bare minimum illumination required for security purpose only.

18/12/2023
विनोद कुमार गौड़
Executive Engineer (P)
UIT, Kota(Raj.)
कार्यपालक अभियन्ता
नगर विकास न्यास, कोटा