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DESIGN OF KUNDALIKA RIVERFRONT BY USING AUTOCAD AND SKETCHUP SOFTWARE

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Abstract : People are drawn to water. Human interaction with water is foremost feature that calls for riverfront development. People have a strong desire to feel it, reach it; and thus, it becomes very important that approach to water should be given, public space production along the river shore should be primary purpose. This report is focused to develop a set of guidelines that contribute to the establishment of socio interactive spaces at riverfront. Report will also explore on riverfront developments and notion of place identity and place making by the development of recreational spaces. Different case studies and their analysis will provide the strategies of a successful riverfront with meaningful socio interactive spaces. From the synthesis of findings, a set of design attributes are framed. Planned development and redevelopment of riverfronts are a recent phenomenon in the Indian development landscape. Contemporary riverfront development projects generally aim to boost the economy of riverfront cities and are seen as tools to upgrade and improve the image where social and ecological benefits are offshoots of development efforts. Cities in India have diverse conditions, leading to unique contexts which demand different approach to each development. Consequently, a corresponding change in planning process to accommodate the solutions is suggested.

Index Terms **- Riverfront, Kundalika River, Flood Control, Flood Management, SketchUp, AutoCAD, Lumion.**

1. INTRODUCTION

a riverfront is the zone of interaction between Urban Development and the water. The riverfront area is considered as a unique and irreplaceable resource where it is in the interface between land, water, air, sun and productive plants. Moreover, the riverfront is characterized as a place integrating land with water and having a natural feature for human settlement. In most of the countries the land in front of water is developed earlier than the inland areas. Riverfront development refers to any development in front of water and water body, a river, lake, ocean, bay, creek or canal. In the development area, considered that a riverfront development may not necessarily need to be directly fronting water but may only need to look attached to the water. They believe that commanding a view of water can still be considered as a riverfront property.

Figure 1. Riverfront

2. OBJECTIVES

- Identify and implement environmental protection priorities to protect water quality and other sensitive natural features.
- Stop the flow of sewage, keep the river clean and pollution free.
- Revitalize riverfront neighborhoods and rejuvenate it
- Make the riverfront accessible to public.

- Create riverfront parks to enjoy the water
- Designing development which is in harmony with natural character of the area.
- Creating a memorable identity for the river

3. RESEARCH METHODOLOGY

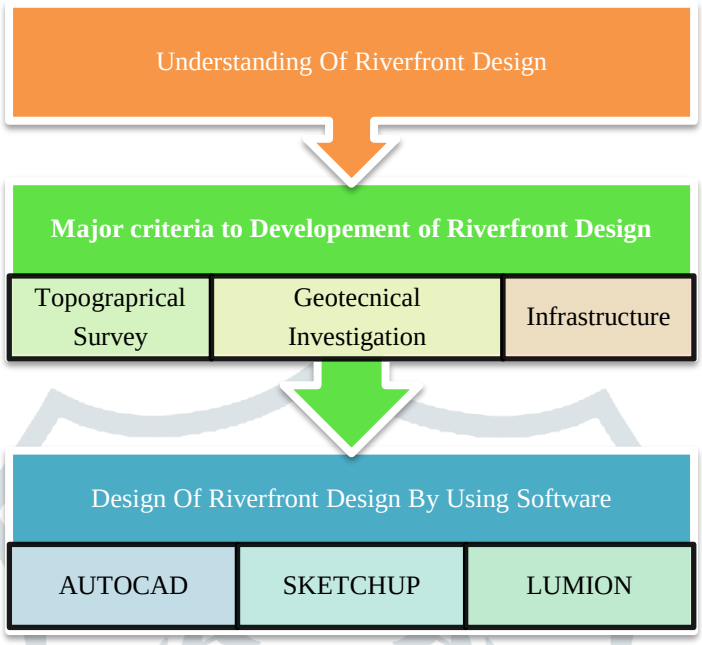

Figure 2. Methodology Used in Design of Riverfront

4. MAJOR CRITERIA TO DEVELOPMENT OF RIVERFRONT DESIGN

4.1 Topographical Survey

A topographic survey locates all surface features of a property, and depicts all natural features and elevations. In essence it is a 3-dimensional map of a 3-dimensional property showing all natural and man-made features and improvements. Specifically, it shows their location, size, height and any changes in elevation.

4.2 Geotechnical Investigation

Geo technical Investigation is very important before any structure is built-- whether it is your own dream house,an industrial shade, a multiplex, a shopping mall, a warehouse, a multi storeyed building or even small and big infra projects like bullet train. metros and so on. There are many organizations like ACTS and Dolocrete construction material testing lab and Geo-Engineering firm who carry out the Geo-technical investigation world wide with their own team of experts -- man and machine.

4.3 Infrastructure

Infrastructure is the important accepts after the topographical and geotechnical investigation. Before the infrastructure we have to design the riverfront path, route, sewage, drainage and all other essential concept. In the riverfront before starting infrastructure there are 3 stages 1st one is proposed 2nd is intermediate and 3rd is final stage.

5. DESIGH OF RIVERFRONT

5.1 Software used

AutoCAD is globally used by surveyors, designers, engineers, drafters. This is used in architectural planning and Engineering Drafting.
Sketch Up is an intuitive 3D modelling application that lets you create and edit 2D and 3D models with a patented “Push and Pull” method. The Push and Pull tool allow designers to extrude any flat surface into 3D shapes

Lumion is visualization software made for any architect, from the one-person practices to the most influential studios in the world. All you need is a 3D model of your design and, no matter your previous rendering experience, you can create breath-taking images and videos that fully express your vision of the project.

5.2 Design Steps:

- Open Google Earth pro software. Click on new button. Choose template file and click on ok and start the work.
- Firstly, import the required map, and select the path which is required and after selecting the route the places will copied.
- After that the marked path is put into the global mapper & put the hemisphere & co-ordinates in that software.
- After selecting the path the all co-ordinates are matching with the location.
- After the all completion the file is exported in DWG file.
- After the conversion the AutoCAD file is opened.
- The design process consist of all the required amenities and drainage sewage and water connect and joining road.
- Once the design process is completed with all requirements it is rendered.
- After that the file is opened in Sketchup software.
- After that all wall heights, pavements, water connect way designed.
- In that all other required amenities are designed.
- Once all the required .things are placed the file is exported.
- After that Lumion software is opened the exported sketch up file is opened in it.
- All the detailing done in sketch up software are created in Lumion.
- Lumion software is the imaginary creation of SketchUp file.
- After fulfilling all required the Lumion file is exported for final proposed video.

5.3 Plan and section

Fig 1: Google Earth path

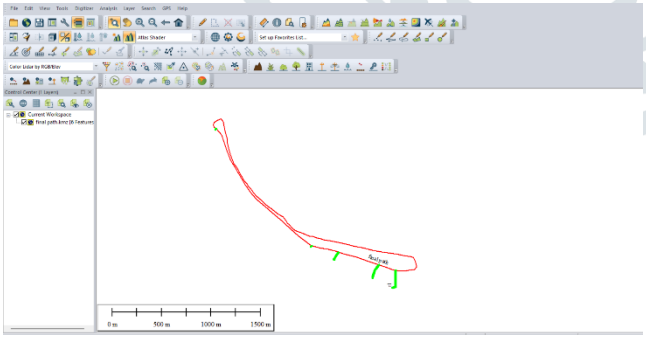

Fig 2: Global mapper conversion

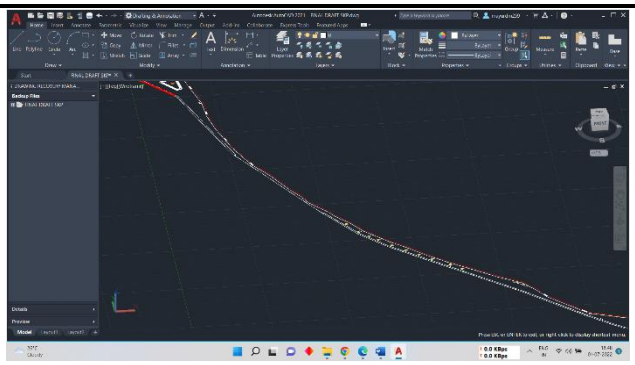

Fig 3: Auto cad design

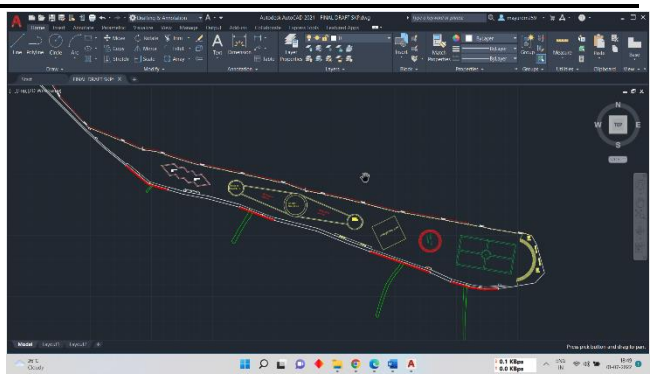

Fig 4: Auto cad amenities design

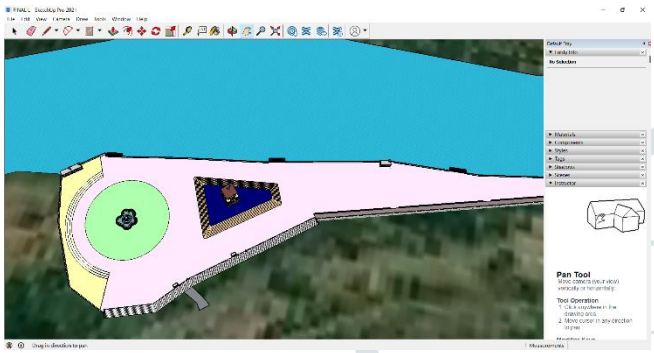

Fig 5: Rivet design

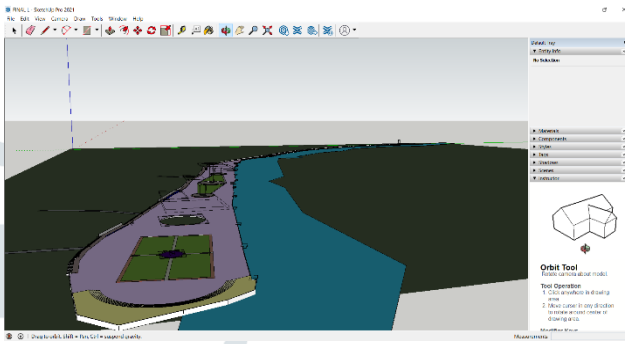

Fig 6: Rivet design

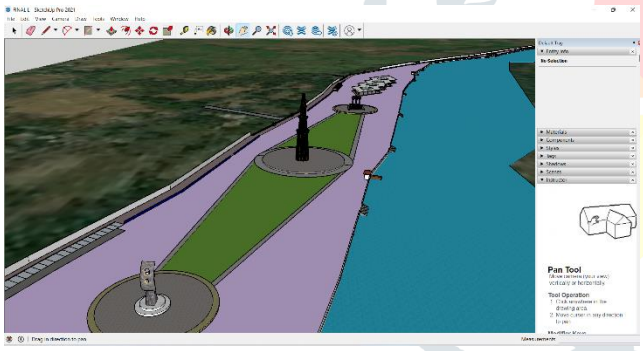

Fig 7: Rivet design

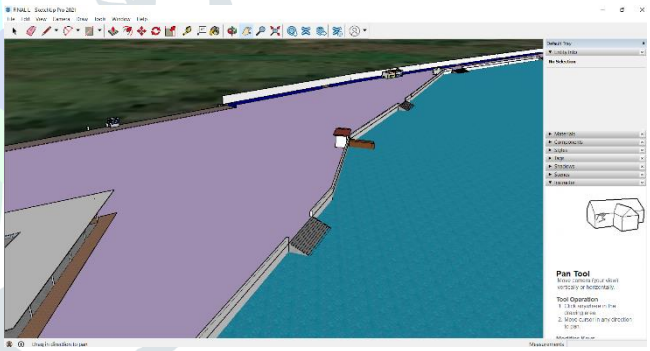

Fig 8: Rivet design

Fig 9: Lumion video

6. CONCLUSION

Riverfront Development Projects have huge potential to renew the landscape of Indian cities. They can provide quality public realms, add value to the current cultural aspects and remediate the ecological concerns at the same time boost the economy of the place. To direct the development toward above mentioned goals public participation and propelling body have been identified as the glaring

missing links in planning process and organization. A value centered planning process has also been suggested for the inclusion of these missing links. However there are some aspects which need further research and investigation: The various methods of public participation which can be effectively used in a diverse country like India; The method adopted to arrive at the major concerns for identification of propelling body and its functional and organizational power. By incorporating the needs and interests of all stakeholders in the planning process as suggested above the gap between the aims and objectives of the plan for riverfront development and their delivery to the users can be bridged. The final plan would be socially responsive, economically viable, and environmentally sustainable

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