Landscape and Ecology

Lecture 8

Campus Site Planning

Now we will start with campus site planning. Campus landscapes is considered as the green environment that's situated serves And symbolizes Higher Education. In general campuses are long lived as well as Complex and extensive.

Because of this in campuses it is possible to achieve environment of great richness and strong character. Due to this campus site planning has certain unique characteristics. Unlike housing or other development's where you have the same units getting repeated. In campus the structural units are highly individualist. For example there will be classrooms Labs research Labs, and other kinds of Labs, library meeting room's recreational activities. And each of these requires particular service and needs to be located in certain areas. And dinner Campus there is fluid and shifting activities. And these Activities have many Complex linkages and these linkages my shift in a year or may shift over a time. Because of all this campus site planning this unique. When we are starting a site planning for a campus first we need to understand the various requirements and then locate them in the site plan. It's important to locate the various activities and established the various linkages. That is required among these activities and all these needs to be done in relation to all the other factors that is done in the surrounding. Next we need to discuss about the various design determinants. Design determinant of the broad factors and considerations that inform the design process and outcomes. Doab designs or discusses 17 design concepts determinants. They include factors such as climate, vegetation, environmental suitability, landform and terrain. These are all mostly natural factors they are also manmade factors such as architectural programs, visual characters, and funds. All these factors influence the outcome of a campus site plan. First we will look at few of the design determinants we will start with climate. Climate effects the use outdoor areas and the sighting of the building and greenery all these needs to be done carefully to mitigate harsh climatic effects. Selection of vegetation is also influenced by the climate. We will discuss few design determinants such as climate terrain and vegetation. Climate is an important design determinant, because it affects the use of outdoor areas sighting of building and vegetation. This can be carefully arranged by mitigating harsh Environmental effects. Selection of vegetation also is influenced by climate. For example in gentle climates it is possible to have large outdoor areas outdoor terrace and lawns where social interaction can take place or an outdoor classroom can take place which is not possible in other water climate. Selection of vegetation is also influenced by climate... Trees and lawns where standard campus landscape tell certain Times Now the Awareness of Sustainable landscape. Lawns are giving way to more native species. Landform is another important design determinant. The campus design the master plan is definitely influenced by terrain. When sloping terrain three different approaches can be obtained. They are draping, flattening and in setting. In dripping buildings and Open Spaces are fitted into existing contours. Where is in flattening existing Contour modified to highlight the building. In setting approach blends the terrain and the building. Based on the analysis and the design determinants we can prepare master plans. What is master plan?It is a preliminary plan showing proposed site development. Master plan of a

comprise site work that must be executed in phases over a long time. We will look at few master plans. This is a proposed master plan for IIT Jodhpur. Herethe master plan is influenced by the climatic conditions and vernacular architecture of the region. This is the site plan of MIT campus Boston year here we can see that the Open Spaces are defined by the buildings. This is another master plan where you can see prominent open space in the center and the buildings are arranged around the open space and there are radiating roads this is the University of Guelp.here you can see that the red color indicates the pedestrian path so there is a central core that gives importance to pedestrians and the vehicle movement is outside. Next we will discuss about the landscape design component. There are 30 design components according to the bar doer. It starts from the site surrounding, perimeter, boundary marker and it goes to the detail of sin ages and seating. So in this lecture we will discuss few of the components under two broad headings. We will discuss about components such as gateways campus roads and walks under campus movement or circulation system and then we will discuss about Open Spaces. Heritage spaces secondary spaces and tertiary spaces under open space network. If we are discussing this components we will take one master plan as a base. This is the University of Guelp master plan. So we will keep this as a base and we will look at different components of different layers on the master plan and how they all come together to make memorable campus experience. So in the master plan we can see there are prominent pedestrian areas and vehicular axis. The activity analysis shows that important instructional spaces and services are concentrated in the center. And there are few that are distributed in the Periphery but mainly the core area has most of the instructional space and the housing is distributed along the Periphery indicated in yellow. We are going to discuss landscape components and movements system movement system. Is essential for campuses that to ensure that people can move around in a campus efficiently. So the movement system comprises of diseased states and small pedestrian walks. So all these together forms a complex network so a movement system in a campus needs to support all kinds of moments. It should support pedestrian's cyclist and all types motorized vehicles and transit. For User of a campus he or she first Travels the surrounding, reaches the perimeter, identify the Gateway then enters the campus. From that point onwards either drives to the parking and then from there walk to the desired building. So all this during this particular process they encounter different landscape components. We will discuss few of the components the components start with gateways. So in this university of guelp there are 5 different gateways. Gateways make the transition from the surrounding to the campus. They actually support The Identity of the university as we can see here. It also enhances the visitors experience assist in way finding. So here are some more examples of gateways. This is important for sense of arrival. Because. The deployment of the buildings landscape and movements patter patterns reinforce sense of arrival. In movement system the next component is street network. As I already mentioned it needs to accommodate all types of movement, motorized vehicles cyclist and pedestrians. In general street network is considered as skeleton of the campus. It is like how are skeleton shapes the body campus roads can be used to structure the entire campus design, So Street networks support place making they enhance the largest open space Network and address way finding issues. The next important component is the pedestrian network. Again we see that has a different layer in the University of Guelp Campus. In general the campus landscape design in at providing a pedestrian friendly campus. The central core area can have direct Pathways it can be directly linked continuous free

of conflicts with vehicles. Direct Pathways are very important otherwise the user will find direct way. Along the Periphery meandering part ways are acceptable. So the street Network and the pedestrian pathway they are the important element of the public realm in the campus because they connect the opening. Spaces and they hold the campus together. The campus pedestrian path can take many different forms. It can be a tree line walk like this or something like this it can be an open walk across the lawn. What is can also be under building overhangs or arcades. The design of the component are influenced by climate. While designing the campus Pathways system of Hierarchy can we used to regulate movement. The path with and surface treatment help inform the hierarchy depending on the number of people and kind of use. Wecan see the different material the surface kinds of Pathways. Again different treatment and surface configuration of Pathways. Sometimes the way pathways are also influenced by the technology.

Campus Landscape Spaces

Next we will Discuss about a campus landscape spaces. Under this we will discuss three kinds of spaces.

Primary Open Spaces

Secondary Open Spaces

Tertiary Open Spaces

Open space network in a campus play an important role in shaping the campus experience. Open space also shape the pattern development of a campus. And the established movement and way finding patterns. Again we are you see the University of guelp master plan. You are we can see different Open Spaces of different sizes and they all are interconnected generally a campus landscape design should seek to. Provide an interconnected hierarchy of green spaces. The hierarchy of green spaces will provide users with an opportunity for a range of scales for gathering. So based on the general role function and hierarchy of space within the larger network Open Spaces can be divided into 3 types. They can be primary iconic our heritage or it can be secondary or tertiary... We will look at each of these places. We will start with primary space. Primary space have a great visual and symbolic impact one of the best known example is Louis Khan plaza IIM Ahmedabad. The presence of such primary spaces define open landscape experience. This is the plan of the campus where such primary space is defined by the buildings. Here is the view from Louis Khan plaza. Such primary spaces can be used for campus rituals such as convocation and other cultural events. We will look at some more examples for primary spaces. This is IT campus Boston. Here again the adjacent building frame Open Spaces... This primary space is known as hillion Court. This is the view of the killian court. Herethe adjacent building frames. So as a result the access to this are also through this open space. Another view of the killian court. Often primary spaces have a very long history. As a result they are also known as a heritage spaces. Newly constructed campuses over a period of time primary spaces can become Heritage spaces. And they can also act as green lands. Primary spaces are considered as a major setting for campuses life. They can be used for

conducting campus ceremony and celebrations for large gathering. They can be used for social Encounters formal and informal meetings and discussions. They can also be used as outdoor classroom if the weather permits. Primary spaces accommodate unstructured recreation and relaxation both alone in groups. We can say that primary spaces in a campus give a strong impression on the visitor. Generally when a campus has a very strong primary space, we can see the picture of such space in there brochures or any other Publications. This is another example of primary space University Of California, Irvine. It has a strong Central space, circular space and it is defined by the building, the second type is the secondary space. This is very similar to the primary space but it doesn't have much of symbolic importance. So such spaces are also very large and they can also be used by the campus users. They are attractive and convenient .it can accommodate many different activities. The third type of space is the tertiary space, these are the spaces that are found very close to the building are in between the buildings. Such spaces provide opportunity for quite activities a certain smaller informal activities. While we discussed about open space network, for a successful space the detailing of the space is very important. For example here we see the seating but here it is quite uninviting. This kind of seating does not allow much of interaction. In certain cases the user can adapt and interact. Where certain other detailing are allows informal activity and interaction and sometimes the interaction takes place because of the provision of certain elements in the landscape. So we discussed about the landscape components and there to brought activities one under movement system and the other is open space network. All these Different layers creates a system of encountered experiences in a campus. So before concluding about the campus landscape I want to mention the importance about sustainability. Sustainable campus Foster responsible resource environment. Sustainable practices such as Storm water management can be adopted in a campus. So your we can see the sales on site is used to collect rainwater recycled and locally produced material can be used .another important Practice is Water use. Landscape that require very little water can be established and that can be chief through escaping and minimizing the lawn area. So here we see that there is no lawn. Instead native non-invasive drought tolerant trees shrubs Vines and under covers are used. Sustainable campus landscapes are necessary not only to optimize the limited resources. Particularly in a campus they can be used to educate the students, employees and community. Very importantly campus landscapes can be used for was testing ground for innovative sustainable practices. They can also be used as demonstration area for the public. So we have very briefly looked on the various campus determinants of Campus landscape and also discussed few landscape components. Next we will discuss about waterfront development. Urban Open Spaces are important for city in this part of the lecture we will discuss about design and development of water fronts. In general urban Open Spaces include publicly accessible Open Spaces. Such as parks squares and Plaza streets, community Gardens, greenways, urban wilder Ness and waterfront. We will discuss about water front. In general before that we will look at the significance of the urban open space. Urban Open Spaces are necessary because, they provide space needed for recreation, they facilitate, social contact and communication, they allow access to an experience of nature, they influence, human physical and psychological health and wellbeing. They provide Habitat for wild plants and animals, they play a role in hydrological cycle of the city - particularly in storm watermanagement. Different type of urban Open Spaces, we will discuss about waterfront .what is a waterfront? This is where there and water meets. So

Arban waterfront is defined as the dynamic area of cities and towns where land and water meets! Many cities are located near the water bodies or they are developed extended over the water bodies. We all know that ancient civilizations originator at riverside. Mainly because it ensures water supply for drinking and irrigation and so helpful in transportation. Urbanization has changed many of the characteristics of water fronts in many cities and in many cases transformation has led to negative characters . So waterfronts can play a significant role building the image of the city. There are certain issues that needs to be addressed. One is flooding and the other is pollution and water quality. And the third is soil erosion. Waterfront development is considered as a complex process because it involves many different kinds of stakeholders. They include government organizationsgrassrootsorganizations and different kinds of community stakeholders. As a part of development process the first step is understanding the waterfront condition. Sowe need to analyses various factors. We need to start with the understanding of the evolution of waterfront that includes documentation of historic and current conditions. That is the various stages of development. Understanding the ecology of water edge is very important we need to understand the ecology dynamic of waterfront and the different transportation and connection needs to be identified. Identification of land use is important .successful waterfront development have allowed different kinds of land uses to coexist. Other environmental factors such as soil conditions also needs to be carried out. After the analysis the water development process can start. The first step is community involvement. Itneeds to be done right at the beginning. Because it is essential for developing a vision and strategy. Developing an acceptable vision and strategy for the entire community is important for successful for important development of water front. And the second step is test preparation of remediation plan. This is carried out if it is required depending on the toxicity of the land or the pollution level. Remediation plans can be determined on. Next step is conceptual Framework design. The main goal is to arrive at over on plan for the waterfront. After this we can go into the detailed design. At this stage specific program at the site level are discussed .Through waterfront development process the site level can be transformed. But again the process need not be uniform because different waterfront encourage different types of activities. For example riverfront it promotes activities enhancing connection across the two rivers banks. . Both physical and visual connections are important. Here we see the riverfront the physical connection here visual connection is also important. The next type of waterfront is sea front. Here this is the land and here is the sea. The land connects the urban fabric to activity notes along the water. Here is. Example for sea front where there is a connection to city fabric. Third type is LakeFront, where ever there is a lake or a reservoir, you can promote activities around the edge. There can be other points of interest and they can be connected. We look at the for different faces that are required for waterfront development process and it varies according to water front t now we will look at few general strategies or the principal that needs to be followed for any successful waterfront development.1 set Strategy is to preserving the existing water body and protecting the health of the water body. Thisis an example for successful Restoration of urban section of the river. The Other strategy is engaging the community and creating a shared community vision. This is essential for the successful implementation of waterfront development. In addition while finalizing the use and activities it is important to create multiple use destination. So various activities can strengthen each other and such parts can become more popular. After establishing

for creating multiple news destination we need to collect this destinations along the waterfront. More opportunities for public access needs to be provided as it is shown here. And search analysis is carried out in San Diego. We can see multiple use destinations are established and those destinations are connected and public access is also maximized here. Whatever kind of development is proposed it needs to be in harmony with the water system. For example if there is a linear waterway then the roads and traffic ways needs to be parallel to the waterways. So it is better to minimize the crisscrossing of roads ways. It needs to be position where it is really required. And while designing the waterfront, important consideration is flooding. So if the subjected to periodic flooding. Then building should not be permitted about the projected hundred year flood level. Other facilities such as parklands, farm fields, gardens and even scenic Roadways can be located within the flood level hundred year flood level. The next strategy is balancing environmental benefits with human needs. There is a close connection between human needs and the natural system then we can create successful waterfront development. One of the successful riverfront development in India is Sabarmati riverfront. We will just look at some of the images of this riverfront development. This shows the Ahmedabad and Sabarmati River. These are some of the images of the riverfront development. We can see the prominence at two different travel and public parks.