Rainier Vista Concept Plan

INFORMATION:

This presentation is to share the concept plan developed for the improvements to the Rainier Vista. The concept plan was completed in June 2008 and discussion with University Advancement is underway to establish a mechanism for fundraising. No action is required – this update is for comment and general information.

PROJECT DESCRIPTION:

Rainier Vista is something special; there are few places in the American landscape where the city and the wilderness complement one another so vividly. Mt. Rainier remains the constant in this landscape while the life of the University of Washington continues to expand. There are many ways to greatly strengthen the central role that the Rainier Vista plays in defining the University’s landscape identity.

Acknowledging the history of the site, contributing to a resilient campus ecology, increasing environmental sustainability and accommodating the pressures of contemporary use are all goals for the development of a framework that will guide the evolution of this iconic campus landscape. Opportunities to leverage strategic infrastructural upgrades to open up funding for a landscape renewal, as well as maximizing the benefit to the University of the proposed Sound Transit station to create a major new multi-modal gateway to the campus in which the Rainier Vista will play an iconic role will be explored.

The objectives of the study are as follows:

- Strengthen physical pedestrian connections and provide code-compliant, universal accessibility where possible for the entire length of the Vista, to all buildings fronting the Vista and to all adjoining walkways.
- Refine and improve the overall quality of the plant collections, providing distinguishing characteristics for each outdoor room and highlighting seasonal changes while maintaining a harmonious transition throughout the Vista.
- Diversify opportunities for gathering, seating, studying and passive recreation appropriate to the historic forms of the Vista landscape established of the last 100 years.
VII. STANDING COMMITTEES

B. Finance, Audit and Facilities Committee

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- Establish details for site elements (walls, pavement, seating, etc) constructed from simple, durable materials to reinforce the historic context while improving the overall quality of the pedestrian experience.
- Create a setting that is safe and provides access and the feeling of security at all times of day.
- Explore opportunities to minimize impacts on the natural environment and provide educational opportunities by supporting sustainable practices with innovative materials and technology.
- Develop creative recognition of the historic development of the campus over the past 100 years with the ability to continue the representation over the next 100 plus years.

The outcome of the study was to delineate individual projects, with associated costs, that could be installed over time as funding becomes available.

Funding for the development of the concept plan was approved by the Executive Vice President and University Advancement. The schedule for the plan was as follows:

- Study Budget $250,000
- Research & Analysis October - November 2007
- Concept Refinement January – April 2008
- Final Documentation April – June 2008

NEXT STEPS:

- Work with University Advancement to strategize fundraising for the project(s).
- Continue to coordinate with various city agencies to develop mutually agreeable design of the Montlake triangle area.
- Continue to work with Sound Transit to develop preferred bridge alternative.
2016: A Walk Up the Renewed Vista

What is the Rainier Vista?

1909 - 2008: Vista History

2008: The Vista Today

Vista Preservation

The Sustainable Vista

Rainier Vista: Improvements Over Time

Upper Vista

Sciences Quadrangle

Lower Vista

Montlake Triangle

Vista Seating and Paving Concept

Infrastructure

Acknowledgements & References

Michael Van Valkenburgh Associates, Inc., Landscape Architects
www.mvvainc.com

231 Concord Avenue
Cambridge, MA 02138

SvR Design Company, Consulting Engineers
www.svrdesign.com

1205 Second Avenue
Suite 200
Seattle, WA 98101
Imagine, for a moment, that you are a student arriving at the University of Washington in the year 2016 for your first class of the day at Kane Hall. Emerging from the new light rail station at Husky stadium, you will cross a new pedestrian bridge over Montlake Boulevard and arrive, on campus, directly in the middle of the Rainier Vista, with a view up to Drumheller Fountain and your destination beyond. Starting on a wide expanse of lawn at the Montlake Triangle, framed by tall evergreens that afford filtered views to Husky Stadium on the one side and the UW Medical Center on the other, you will cross over Pacific Place and the Burke-Gilman Trail on a landscape bridge. Once over the bridge, which feels just like a continuous part of the Vista landscape, you approach a series of low water gardens, alive with color and plants and providing places to sit and rest. If you have a little reading to do before class and it is a nice day, you might stop and sit down on one of the low site walls, taking in the view and enjoying the atmosphere. Let’s imagine that you are in a hurry, however, and move forward up the broad paths at the Vista edges.

Crossing Stevens Way, you continue along the path, the tall evergreens of the Vista edge on one side and open lawn on the other; the lawn will be vibrant and green, despite the numerous games and events that it hosts throughout the year. As a well-informed student, you will be pleased to reflect on the fact that this landscape beauty did not come at the cost of using environmental toxins like fertilizers or pesticides, but instead was made possible through a restructuring of the soils that allows for heavy uses without long-term damage. Approaching the Drumheller Fountain, you will be further gratified by the idea that this beautiful display of water is achieved sustainably, using collected rainwater rather than potable drinking water. You will also recognize in Drumheller a symbol of a university-wide commitment to sustainability in that the large basin of the pond is used as water storage and treatment, feeding irrigation systems that maintain the lawn below and cleaning the water so that it might be released back into the lake without causing harm. Only the most aware student would find pride in the fact that the beautiful landscape also represents an ecological achievement in the separation of stormwater from sewer lines, but there are certainly civil engineering and environmental science students who would be pleased to know this to be true.

Emerging into the new Sciences Quadrangle during peak pedestrian flow between classes, you will find it full of students, some taking the quickest route from one building to another, others sitting around the edge of Frosh Pond, planning where to meet for lunch or discussing the Huskies’ recent stunning victory in the Apple Cup. This large space
will be easy to navigate because of the multitude of paths, but it also
will have an intimacy created by a loose canopy of trees, large masses
of flowering shrubs, and an abundance of seating opportunities and
lawn areas. You might feel a strong desire to sit down and enjoy the
spectacle for a while, but the sad fact is that you are late for class and
must keep moving forwards.

As you continue up the Vista between Mary Gates and Johnson Halls,
you will be framed by a diversity of shrubs and trees on either side,
which may call to mind particularly cherished moments of seasonal
splendor, like the flowers of early spring or the bright colors of fall.
Benches are set into the shrub beds, right on the edge of the main path,
and looking up to Mary Gates Hall or Johnson Hall, you will be struck
by how elegant the architecture looks as it strikes the ground and how
well the lawn panels around the buildings complement the Collegiate
Gothic style of the architecture. The pleasure of walking through
this space will be amplified by the knowledge that it has just recently
been regraded and repaved so that it is completely and comfortably
accessible by wheelchair.

Dashing up the stairs past Suzzallo Library, you will see your
destination directly in front of you, but perhaps you won’t go there
directly. Instead, you will take just a moment to turn back and look out
down the full length of the Rainier Vista, pleased to note that the traffic
and the confusion of the Montlake Intersection is mostly hidden by the
raised ground level in the center of Montlake Triangle. If you are very
lucky, the mountain will be out and you will enjoy one of the signature
moments of this landscape, a recognized national treasure. Even if the
mountain is not out, however, you might stand there a moment and
reflect on how perfectly this Vista and this landscape have come to
serve the daily life of the campus in a way that is consistent with the
mission and the values of the University. Looking to the future, you
might start thinking about the day that you will stand in this same spot,
in your cap and gown, posing for a photo, eager to retrace those same
steps in the direction of Hec Edmondson Pavilion where you will pick
up your degree. Better not dwell too long on that thought, however,
because the doors are closing and class is just about to begin.
What is the Rainier Vista?

The Past, Present and Future of the University of Washington’s Iconic Landscape

Although all universities have landscapes that are highly treasured by students and alumni alike, very few institutions are blessed with anything like the Rainier Vista. The development of a Concept Plan for this landscape starts with the recognition that this is a nationally important historic landscape whose greatest strength is that it has managed to preserve its core identity while continuing to evolve in exciting and meaningful ways. The mixture of mighty evergreens and campus buildings that frame its open center creates a uniquely sublime connection between the rarified world of higher education and the rawness of the distant wilderness. More than just another view to Mt. Rainier, the experience of the Vista’s signature moment lifts the spirit and humbles the soul simultaneously.

Beyond its emotive power, however, the Rainier Vista is also a multifaceted space that by virtue of its vast territory is able to absorb numerous functions, uses, identities, and scales. To begin with, it is the beloved centerpiece of the oldest educational institution on the west coast (the UW was founded in 1861 with development of its current site beginning in 1894). Once a dense forested hillside, the site that became the Rainier Vista was initially cleared for the UW by the organizers of the Alaska-Yukon-Pacific Exposition (AYPE) in 1909. After a fleeting moment as a magnificent Beaux Arts fairground, the Vista, along with the Arts Quad, became the frame around which the university was constructed.

From a contemporary standpoint, the Rainier Vista is an active landscape space, particularly the portion between Drumheller Fountain and Red Square, and the iconic image of the University for faculty, students, staff, and alumni. Given the strong site lines up into the campus from the Montlake Intersection, it is also the public face the UW presents to the larger community. This symbolic function makes the Vista an ideal vehicle for communicating the University’s values and mission to the many communities within and beyond the campus. For instance, how is the UW’s commitment to sustainability supported by the resource-hungry 5 feet deep and 20,000 square foot Frosh Pond? Balancing the competing concerns of historic continuity and contemporary resource management, the Concept Plan proposes the integration of Frosh Pond into a broader system of rainwater interception, water storage, and irrigation. While still operating as a symbol of the UW’s past, Frosh Pond - made visible from a distance by Drumheller Fountain - can become a symbol of the university’s commitment to a sustainable future.

Throughout its history, the Rainier Vista has evolved to meet the needs of the contemporary university. The construction of the Sound Transit station at Husky Stadium and an increased concentration of bus traffic around the Montlake Triangle will make Rainier Vista a major commuter entry onto campus. The Concept Plan seeks to unite the operations of the station with the Vista in a way that is legible, functional, and welcoming. Although hardly used at present, Montlake Triangle might eventually be transformed into one of the University’s signature landscapes, becoming an integral part of daily arrivals and departures as well as creating additional space to serve the needs of less frequent events like football games, graduation, and the opening day crew races.

As the 21st century progresses, there is no doubt that the Rainier Vista will become even stronger as the image of UW and even more integrated into the daily life of the campus. The Concept Plan lays the groundwork that will insure that this escalation in use is accompanied by improvements in function and experience. The implementation of the Concept Plan initiatives will build additional value into this cherished landscape, preserving its history and ensuring its continued vitality in the years to come.
1909 - 2008: History of the Rainier Vista

The Rainier Vista has developed unevenly as a landscape space. Over the course of a decade, the site that it occupies went from practically raw wilderness to fully realized Beaux Arts “city” to empty formal grounds. The subsequent ninety years saw the Vista transform gradually as a landscape and expand in its function as the iconic centerpiece of the modern University of Washington.

In 1906, as planning was underway for the Alaska-Yukon-Pacific Exposition (AYPE), the University of Washington, which had been in its northeast Seattle location for a decade, was in desperate need of more classrooms but without the resources to realize them. The exposition’s planners asked that the University’s Board of Regents allow the AYPE to occupy the lower two-thirds of campus, which were completely uncleared at this point. According to Herbert Condon, who was the business comptroller at the time, “the principal inducement the University authorities had, to comply with the suggestion of the joint use of the campus, was the prospect of reducing this wild forest to a finished campus.”

The landscape architect hired to plan the fair was John Charles Olmsted, of the Olmsted Brothers firm from Brookline, Massachusetts. Involved in an ongoing relationship with the Seattle Parks Department, Olmsted had been working on a master plan for Seattle Parks as well as a master plan for the University (1904) that was supplanted by exposition planning. The AYPE plan would transform the southwestern corner of campus from a dense wood to an open slope with an elaborate formal design of walks and gardens, pools and fountains. While the original Olmsted plan for the university had been fairly inward-looking, the AYPE
plan was highly responsive to outward views. A central vista oriented the entire development toward Mt. Rainier while radiating avenues took advantage of views to Lake Washington, the Cascades, and Portage Bay.

The boldest permanent accomplishment of the AYPE from a landscape perspective was the creation of a view to the distant wilderness and the suggestion of a direct relationship between the life of a developing metropolis and the raw nature represented by Mt. Rainier. Seattle is a city that has abundant natural views to the Cascades, the Olympics, Lake Washington, and Puget Sound. The formal layout of the Rainier Vista gave this general condition a special distinction, bringing the distant ends of the city/wilderness spectrum together in a single landscape. Ironically, the actual wilderness of the campus, which had been envisioned by Edmond Meany, one of the original founders of the University, as an opportunity to develop an arboretum, was largely eliminated through these efforts. Alongside Rainier Vista, the remaining large trees framed the edges of the central space. The abundance of cleared land after the exhibition eventually permitted a wide distribution of structures over the tract as a whole. The southernmost pedestrian entry to the fair, coming from the direction of Capitol Hill, went under the Burlington Northern Tracks bridge which was completed in 1888.

The University's architectural inheritance from the AYPE was small. After the closing of the exhibition, five permanent buildings remained (one of which still exists today) as well as a scattering of temporary structures that were ostentatiously but flimsily built for a fleeting life that had been unexpectedly prolonged for University purposes. The Olmsteds developed a 1914 plan for the university that is partially reflected in the
subsequent work of the Seattle firm of Bebb & Gould, who were hired in 1915 to proceed with planning. Carl Gould, who led the firm’s efforts, was also charged with developing the University’s new Department of Architecture. Gould’s 1915 “Revised General Plan of the University of Washington,” commonly known as the Regents Plan, employs Beaux Arts design symmetry and classical formality. The plan unifies the planning dynamics of the lower and upper campus and relates the main axis of the Arts Quadrangle with the main axis of the AYPE, referred to as the Science Quadrangle, in a great central quadrangle (originally called Central Plaza, now known as Red Square).

In 1917 the Lake Washington Ship Canal was completed; the lake was lowered by 8.8 feet, and fill from the dredging added approximately one hundred acres to the campus. The Montlake intersection end of the Vista became a major vehicular entry onto campus, with traffic initially going up the Rainier Vista as far as where Stevens Lane is today. As Pacific Place emerged as a major road around the University, it was built on a bridge that ran parallel to the rail line and over the Montlake entrance. After construction of Husky Stadium in 1920, much of the Montlake Triangle was given over to parking.

An overall lack of resources, combined with America’s entry into World War I resulted in a Vista landscape that was largely empty, for many years. Construction started with the 1926 wing of Suzzallo Library. The Science Quad and the buildings that flank Rainier Vista only began to be built in the late 1920s and 1930s. In 1934 Bebb and Gould, the University’s supervising architects, were asked by the regents to update the 1915 plan. The 1935 report reaffirmed the basic design
principles of earlier plans but also recommended certain modifications, such as lowering the building densities south of the Science Quad. The 1936 Regents Plan by Bebb and Gould seems to suggest abandoning the Vista as a vehicular entryway, instead allowing the Vista landscape to cross over both the rail line and Pacific Place. This option was not adopted. Instead, the automobile took over more and more of the central Vista space with parking spots between Physics and Johnson Halls and around Frosh Pond.

In 1931, the University hired Butler S. Sturtevant as campus landscape architect, a staff position he held until 1939. Work that he oversaw using WPA funds include 1936 designs for the junction of Rainier Vista and “Central Walk” (Stevens Way) with Bebb and Gould; the Rainier Vista approach and surrounds for Frosh Pond (1936); renovation of Drumheller Fountain (1935-36) and drawings for the southerly closure of Rainier Vista.

The 1962 Development Plan incorporated many of the proposals of earlier plans all the way back to the Regents Plan. In addition to a renovation of Drumheller Fountain during this era, improvements included a greatly reduced presence of the automobile on the Vista.

In the 1970’s, the Central Quad, or Red Square, was built. Kane Hall became the northern terminus of the Vista. In 1971, the railway line was abandoned, in 1973 the right of way was acquired by the city, and in 1978 the Burke-Gilman Trail was dedicated. The southern entrance to the Vista remained a driving entrance onto the university up until the construction of the Triangle Parking Garage in 1985.
Identity & Scale

The grand scale of the Rainier Vista is successful in relation to its larger context, but there has been only mixed success when it comes to integrating smaller scale daily activities into the landscape.

The Concept Plan looks for a more successful mediation between these two scales by rethinking some of the incremental changes over time, which by and large have not acknowledged the Vista’s core identity and scale. These include issues like paving choices that underplay the importance of the landscape, grades and surfaces that do not meet ADA standards for accessibility, hierarchical confusion between the Vista and the spaces that cross it, and certain instances of planting strategies that fail to support either the spatial, aesthetic or ecological function of the space. Similarly, the numerous intersections with regional traffic intersections, including Stevens Way, the Burke-Gilman Trail, and Pacific Place, erode the cohesion of the Vista and diminish the experience of the landscape.

Identity and scale issues that need to be addressed include integrating the monumental site elements, like Drumheller Fountain and Frosh Pond, more successfully into the experience of their immediate landscapes, and making better use of the Montlake Triangle intersection as a prime opportunity to craft a positive public image for the UW in the larger community.
Function & Use

At present, the Vista is a large landscape that is used unequally along its length. The pathways of the upper Vista are at full capacity between classes whereas the Lower Vista and Montlake Triangle are only lightly populated. The upcoming construction of the Sound Transit station will create a new constituency for this lower landscape, increasing its usefulness and putting greater demands on the space.

One initial premise of the Concept Plan was to create additional uses, both large and small, along the length of the Vista that will encourage many of these commuters to stop and enjoy the landscape rather than simply pass through it. This anticipated increase in the use of the Vista presents challenges with respect to the operations and maintenance of the landscape. Although it is a very large space, to date the successful operation of the Vista has relied on concentrated resources in very centralized locations, for instance the use of water at Frosh Pond and Drumheller Fountain or the maintenance that is required to care for the rose gardens.

A modest short-term investment in restructuring the landscape to perform more sustainably would work to eliminate wasteful practices while preserving the valued qualities of the space. Not only would this greatly increase the long-term efficiency of the Rainier Vista, it might improve its overall experience even as it is being asked to perform a greater role in campus life.
2008: The Vista Today

Drumheller Fountain is an iconic campus element but its water and power use is inconsistent with the University’s sustainability goals.

The granular path surface on the Lower Vista does not meet accessibility standards.

At the Burke-Gilman Trail pedestrians and bicycles are in conflict.
At Pacific Place pedestrians and vehicles are in conflict.

There are few gathering places around Frosh Pond.

The accessible ramp at Bagley Hall is poorly integrated.

A series of construction projects has severely degraded the landscape in front of Guggenheim Hall.

The Vista edges are thin and the shrub layer includes invasive species.

The depressed access road is no longer in use and creates a visual interruption to the larger sweep of the Rainier Vista.

The cherry trees confine the Vista experience and block views.

The patterned brick and concrete paving at the Grant Lane cross-axis interrupts the Vista paving.

The main axis has a high capacity of use and is extremely busy between classes. The grade exceeds accessibility standards.

The plantings between Mary Gates Hall and Johnson Hall are at the scale of the architecture rather than the scale of the Vista.

The views of Husky Stadium from the Vista are poor.

The scale, materials, and expression of the landscape in the Montlake Triangle are in a poor and deteriorating condition.
As the University considers the future of the Rainier Vista and the campus as a whole, an official definition of contributing features should be agreed upon as the first step in ensuring that subsequent construction in the Vista’s vicinity preserves the central gesture of the space as well as its active architectural and landscape edges. New construction within the defined preservation area and view corridor should be analyzed for potential visual impact on the views to and from the Vista.

The Collegiate Gothic architecture of the upper Vista is a fundamental component to the success of the landscape as are the Sylvan Theater and Island Grove, themselves treasured campus landmarks, which flank the Vista below Drumheller Fountain and above Stevens Way. The depth and height of the wooded areas along the stretch of the landscape of the Vista between Stevens Way and Pacific Place are also important to the experience of the Vista. The quality of the wooded edge needs to be preserved; invasive species should be removed and the plantings should be reinvigorated with native understory shrubs, perennials, and a mix of deciduous and evergreen canopy trees. Likewise, Montlake Triangle, the terminus of the “official” Vista, contributes to the outward-looking experience and allows the opportunity for cars passing by to look up into the university from the intersection; it should be left free of elements that do not contribute directly to this experience.

Given that the centerpiece of the Vista landscape is a mountain that is 60 miles away, the “borrowed” landscape of the Vista includes an additional vast territory beyond the boundaries of the UW campus. The UW should preserve this larger scale aspect of the landscape to the degree that it can. As the university lands continue in front of Husky Stadium and down towards the Waterfront Activities Center, for instance, the layering effect of the tall trees and edges of the Montlake Cut provide a foreground landscape that is also important to our basic understanding of what makes the Rainier Vista one of the nation’s premier landscape spaces.
Proposed Stormwater Infrastructure Concept

1. Roof Runoff - direct to fountain cistern
2. Pathway Runoff - direct to fountain cistern
3. Road Runoff - direct to wet cell treatment
4. Fountain Cistern - beneath false floor in basin
5. Aeration Treatment - of cistern water
6. Pipe to Wet Cell Treatment - circulate fountain water
7. Wet Cell Treatment - water gardens & subsurface treatment
8. Lower Cistern - within volume of filled-in access road
9. Pipe to Fountain - return cleansed water
10. Irrigation Lines - pressurized and gravity fed
The Sustainable Vista

As the first major landscape project of the 21st century at the University of Washington, the renewed Rainier Vista presents an opportunity to demonstrate the applicability of sustainable practices, both visible and invisible, even in the most historically sensitive landscapes. Looking at the larger operations of the large-scale landscape, the Concept Plan treats pond water, stormwater runoff, water collection, site drainage, and irrigation as an integrated system of cleaning, recirculation, and reuse.

As demonstrated in the adjacent diagram, stormwater from surrounding buildings and pathways is collected in a separated storm drainage system while the sanitary sewer plumbing within buildings surrounding the corridor is rerouted to a dedicated sanitary sewer line. The stormwater runoff is directed to prefabricated cisterns installed within Frosh Pond. Operating in part as a system of water conservation, additional cistern volume reduces the effective depth and volume of water within the visible parts of Frosh Pond. Given that the water depth in the pond is currently about 5 feet, however, it is unlikely that this reduction in depth will affect the appearance of the pond.

Down slope, stormwater runoff from Stevens Way and surrounding buildings will be pre-treated and discharged to prefabricated cisterns located within the ramping area of the lower Rainier Vista. The two cisterns are to be hydraulically connected and overflows of the cisterns will be discharged to the 84-inch combined sewer overflow pipe, thereby reducing storm flows into the Metro sewer system.

The active water within Frosh Pond passes through a recirculation system comprised of vegetated cells installed above the lower Vista cisterns. The cells will be planted with a variety of wetland and emergent plants to provide varying levels of water treatment and visual appeal.

Reused stormwater fulfills the landscape irrigation demands along the Rainer Vista. Treated water will be pumped to the upper cisterns for reuse in the irrigation system surrounding the Sciences Quadrangle, Mary Gates and Johnson Halls and the area north of Stevens Way. Treated water is also used as fountain evaporation makeup water. Water stored in the lower Vista cistern irrigates the area of the Vista south of Stevens Way, including the area adjacent to Montlake Boulevard.

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**Functional Diagram**

- **1. Pathway & Building Runoff**
- **2. Pathway & Building Runoff**
- **3. Stevens Way Runoff**
- **4. Cistern**
- **5. Makeup Rainwater**
- **6. Irrigation**
- **7. Raingardens Treat Collected Stormwater**
- **8. Excess Water is Stored in Cisterns below Raingardens**
- **9. Recirculation System**
- **10. Storm Overflow**
Rainier Vista: Improvements over Time

Experienced as a sequence of spaces, the large-scale gesture of the Rainier Vista breaks into several smaller landscapes that are important in their own right. Within each area the Concept Plan proposes specific measures intended to improve the experience and function of individual spaces while also reinforcing the strength of the Vista as a whole. The experiential aspects of the proposed landscape are described in the following section and related functional improvements are addressed in the Vista Infrastructure section on pages 49 - 57.

Work within the Upper Vista, between Red Square and Thurston Lane, involves regrading and repaving as well as improvements to the planted edges of the space. A complete landscape renovation is proposed for the Sciences Quadrangle, tying an environmentally-motivated reengineering of Drumheller Fountain and Frosh Pond into an overall plan to renew an important campus space that has served as a construction staging area for much of the last decade. Projects within the Lower Vista, between the Sciences Quadrangle and Pacific Place, include restructuring the large lawn, and constructing a system of water treatment gardens above a new stormwater cistern. Improvements at Montlake Triangle include the lowering of Pacific Place, a new landscape bridge to the Husky Stadium Station, and the introduction of a landscape that invites use and gathering at a location that will quickly become a major campus entryway and community crossroads with the completion of the new Sound Transit station on Montlake Boulevard.
Mary Gates Hall and Johnson Hall are important contributing elements of the Rainier Vista. The role they play in defining the edges of the Vista will be greatly strengthened by replacing the overgrown shrubs of the upper level with a flat lawn while simultaneously replacing the lawn that is adjacent to the pathways with a beautiful and highly textured shrub border. Bringing lawn to the terrace levels of the buildings will allow for greater visibility along the upper walkways, thus improving safety, and creating new informal seating opportunities that look down onto the space and perhaps out into the Vista. This will also allow for a clearer expression of the Collegiate Gothic architectural style of Mary Gates Hall and Johnson Hall which is currently obscured by the tall shrubs. Bringing the shrubs to the level of the Vista will tighten the experience of the space, minimize the presence of the basement level walls of the buildings, and create new opportunities for eye-level seasonal displays. Benches will be notched into the shrub borders, creating new spaces to sit and watch your classmates walk by, or perhaps just for enjoying the Vista landscape.

This portion of the upper Vista is very well used and nearly filled to capacity between classes. One major accomplishment of its redesign will be to make subtle
adjustments to the slope so that it may be accessible by wheelchair and thus available for all students to enjoy. The patched asphalt paving will be replaced with a subtle gray unit paver that will begin at the base of the steps leading from Red Square, crossing over Grant Lane, and terminating at the threshold to Sciences Quad.

According to the Utility Master Plan, utility improvements associated with the Johnson Hall renovation are slated to begin after 2008 and include separation of the sanitary sewer and storm drainage system. Work shown in the Rainier Vista Concept Plan associated with the pathway between Johnson and Mary Gates Halls stormwater collection and diversion to Drumheller Fountain/Frosh Pond can be completed in coordination with the Johnson Hall Utility Improvements. These improvements will reduce capacity concerns associated with the pump station located on Pacific Place. Work may also include installation of a dedicated storm drain line routing additional stormwater runoff from Red Square to Drumheller Fountain cistern constructed as part of the Sciences Quadrangle project.
Drumheller Fountain
with Stormwater Cisterns

New Fountain Jets
along Pond Edge

New Seat Wall
Widened Seat Wall

Bagley Hall

Johnson Hall

Shrub and Flower Beds

Shrubs

New Steps & ADA Paths
The landscape between Bagley and Guggenheim Halls, which includes Frosh Pond, was first identified as the “Sciences Quadrangle” in early planning for the University. Although the programming of the buildings was consistent with this description, the evolution of the landscape has tended to segment the space rather than treat it as a single large landscape in the manner of the Arts Quad.

The buildings surrounding the new Sciences Quadrangle will look down on a compelling patterning of the landscape that will undergo subtle changes in color and texture throughout the seasons of the year. The new design treats the Sciences Quadrangle as a single, continuous space that relates to the scale of Frosh Pond and Drumheller Fountain while also supporting a variety of uses. An abraded network of pathways paved in radiating basalt cobbles flows through the space and facilitates direct connections across campus and between buildings. The space and ground plane is enlivened through planting, including canopy trees that create a sense of intimacy without blocking eye-level views and bursts of shrubs to create seasonal interest. A more welcoming, human-scale occupation of the space will be created through improved seating around Drumheller Fountain, benches throughout the plan, and lawn areas. A large paved area in front of Guggenheim Hall will accommodate outdoor gatherings and events, thus taking pressure off some of the campus gardens that are currently being used for this purpose.
The Sciences Quadrangle project would include the construction of cisterns within the Drumheller Fountain/Frosh Pond. The installation of the cisterns serves the purpose of capturing stormwater runoff from the surrounding area and reducing the volume of “active water” within Frosh Pond. Work in this area will include the installation of a subsurface irrigation system in the Quadrangle’s planted areas. Once the active volume of water is reduced from the 2 million gallons, a viable treatment and recirculation approach can be implemented (see Lower Vista).

Infrastructure associated with the proposed irrigation system will be installed with dual water distribution and cistern supply capability. Additional investigation will be required to determine if, in the interim, the cistern water can act as emergency backup water supply for the Power Plant.

Creating a cistern below the fountain and within the pond, and capturing stormwater runoff, will likely require a Washington State Water Rights Permit. Although there are several reasons to believe that this project might serve as an excellent test case for this kind of program, this process may take several years before the cisterns are allowed to be operational and connected to the surrounding irrigation systems.
The lawn directly south of the Sciences Quadrangle will be restructured with designed soils so that it may continue to provide unprogrammed open space for informal gatherings and low level sporting activities without creating long-term compaction issues. The pathways that run on either side of the lawn will be paved with chip and seal bituminous concrete, making this space accessible by wheelchair while maintaining the current appearance. The planted edges of the Vista will be managed; unwanted exotics and invasives will be removed and replaced with appropriate native plants.

The lowered roadway that occupies the center of the Vista south of Stevens Way (a vestigial remnant of what was once an entry onto campus) will be filled in with a cistern. The existing cherry trees will be removed and the landscape will be elevated somewhat to meet the grade of the landscape crossing in the direction of the Montlake triangle. A series of water gardens will terrace down the slope, each featuring a different level of interaction between the plants and the inundated soil. At the end of each water terrace, a low wall running roughly east-west will create new sitting opportunities within the space of the Vista itself. Approaches to improving the conditions of paving and planting at the edges of the space will be similar to what is described for the lawn south of the Sciences Quadrangle.

No major utility upgrades for this area were identified in the Utility Master Plan; however, future improvements associated with the Power Plant may impact this area. It is advisable that construction of these improvements be completed and established before the Sound Transit station is completed and commuters are routed through the area. The bulk of the work associated with the pond recirculation system, water quality treatment cells, and lower cistern is to be completed as part of this phase. Work will include construction of a cistern within the ramping section of the un-used road, at the parking garage. Vegetated water quality treatment cells are proposed to be constructed over the cistern. These cells will be cast-in-place concrete and will provide filtration treatment as water moves from each cell. High flows during storm events will be allowed to cascade from each cell and will overflow to the dedicated storm drain constructed as part of the Montlake Triangle project.
A new landscape bridge will be constructed over a newly lowered Pacific Place, forming a direct landscape connection between the Rainier Vista and the Montlake Triangle. Bicycle traffic along the Burke-Gilman trail will bypass this new pedestrian intersection on a separated bikeway that will also dip underneath the pedestrian crossing. The new high point in the Triangle will offer views out to Lake Washington and the Montlake Cut while also serving as an active crossroads of commuters arriving at and leaving the University and Medical Center as well as regional transit users making transfers between buses or between a bus and light rail.

Aside from the large paved area at the high point, the central space of the Triangle will be largely clear with a lawn or meadow that slopes down towards the Montlake intersection. To the east and west, tall evergreens will frame the space, providing filtered views to Husky Stadium and to the Medical Center. A new bridge across Montlake Boulevard, built as part of the Sound Transit Station, but coordinated with improvements to the Vista, will be accessed at grade from the main space of the Triangle, leading to stairs or an elevator that will deliver pedestrians to ground level in front of the stadium.

One of the goals identified by the Utility Master Plan is to separate sanitary sewer flows from storm drainage runoff and re-establish natural runoff discharge locations in the south Campus by the end of 2009. Separation of sanitary sewer flows associated with buildings would be completed before the Montlake Triangle work. The ultimate discharge location would be modified from connecting to the 138-inch Metro sewer line and a new dedicated storm drain line will connect to the 84-inch Metro combined sewer overflow. These improvements will have benefit for the capacity of the sewer lift station and reduce the potential for combined sewer discharges to Portage Bay. This project may present an excellent opportunity for partnering with SPU and/or King County Metro. The bulk of the improvements during this project are associated with the connectivity with Sound Transit. Work in this area will include the installation of a subsurface irrigation system.
Proposed Cross Section - Detail

Landscape Bridge
+77'

Existing Grade

Existing Parking Garage

Montlake Triangle Bridge Support Column

13’
Lowered Burke-Gilman Trail

Bridge Support Column

+63’

20’ Clearance

+53’

33’
Lowered NE Pacific Place

8’

Pedestrian Bridge to Sound Transit Station Beyond

Montlake Boulevard

PROPOSED GRADE

+63’
Vista Seating & Pavement Plan

**Gray Unit Pavers**
The existing paving between the steps leading to Red Square and Drumheller Fountain is badly worn and has required repeated patching. Given the prominence of the Collegiate Gothic architecture framing the Vista in this location, a similarly elegant material expression of the ground plane will reinforce the idea that the space itself is important.

**Basalt Cobbles**
The new Sciences Quadrangle will be unified by a landscape that speaks to the scale of the fountain, the rectilinearity of the space, and the passage of many students in multiple directions. Cobbles support the diverse functions of this landscape because they are both non-directional and responsive to curved forms and straight lines. Basalt is a material that is elegant and durable, evocative of local rock formations and suitable to define the experience of one of the University’s three major plaza spaces.

**Chip and Seal**
The lower reaches of the Vista will become more extensively used as greater numbers of commuters arrive via the Montlake Triangle. Replacing the gravel with chip and seal asphalt will suit the still casual use of these landscape spaces while making the pathways accessible by wheelchair.

**UW Bench**
This classic hardwood bench will be embedded within planted edges throughout the Vista.

**Stone Benches and Seatwalls**
Throughout the length of the Vista stone benches and seatwalls provide new places to sit, meet, and enjoy the Vista experience, particularly around Drumheller Fountain, the Sciences Quadrangle, and within the water gardens.
When fully realized, the following utility improvements will allow the Rainier Vista to perform as an integrated water collection, storage, treatment, and distribution system while also achieving many longstanding University goals with respect to optimizing and upgrading utilities infrastructure. Through association with these improvements, the expanse of Frosh Pond and the 100 foot jet of Drumheller Fountain will keep their historic significance while also becoming highly visible symbols of the UW’s activities as a research institution, its commitment to ongoing self-improvement with respect to sustainability, and its leadership role in the community. Although not so readily visible, additional utility initiatives like the separation of the combined sewer line, a stormwater collection system, and cisterns tied to automated irrigation systems, will also contribute to a space where the health and beauty of the built landscape contribute to the health and beauty of the larger ecological context.

The Vista has always been a place of learning as well as a place of gathering. The sustainability initiatives introduced into the basic infrastructure of the Vista will provide an opportunity to present students with a real-life application of an interdisciplinary approach to the built environment. As a living laboratory for biology, civil engineering, environmental science, forestry and horticulture, the Vista can become an object of further study within the University community.
Existing Stormwater Infrastructure
Existing Utility Network

The existing campus utility system is a complex and largely invisible network of direct buried utilities and utility piping routed through underground concrete tunnels. The range of utilities that support the functions of the University include water distribution systems, irrigation systems, electrical power services, lighting and backup power, natural gas, central cooling water, steam and condensate, compressed air and sanitary sewer and storm sewer utilities.

Power Plant Utility Tunnels

The Power Plant facility is located east of the Rainier Vista and houses the University’s main boilers, generators, and fuel oil storage. The Power Plant supplies compressed air, chilled water, and emergency power through the utility tunnels running across the campus. Utility tunnels related to the Power Plant cross the Rainier Vista at five locations: the entrance to Johnson Hall, the North side of Drumheller Fountain, the South side of Drumheller Fountain, Stevens Way, and the Triangle Parking Garage.

Water Distribution System

The University’s water distribution system, which is supplied by the City of Seattle, serves each building’s domestic service, fire protection, and irrigation demands. The University is currently partnering with Seattle Public Utilities (SPU) to provide conservation measures which reduce the campus water usage. Along the Rainier Vista, there are water main interconnection crossings at Grant Lane, Thurston Lane and Stevens Way. The utility maps show an additional interconnection to the larger water distribution system between Pacific and Stevens Way. Currently, there are no water lines connecting the Drumheller Fountain area to Stevens Way.

Storm Drainage and Sewer

A large part of the campus has a separated sewer system and it is a goal of the University to eliminate the remaining areas with combined sewer systems. The Rainier Vista, except for a portion at the north end of the assessment area, between Red Square and Grant Lane, is currently served by a combined sewer system. The pathways, landscaped areas between Grant Lane and Thurston Lane and portions of the roof runoff from Mary Gates Hall and Johnson Hall are collected in a combined storm sewer and routed to the 12-inch storm sewer line running down the Rainier Vista corridor where they are “combined” with sewer flows from Johnson Hall and Mary Gates Hall. Additional runoff comes from the paths and landscapes associated with Guggenheim Hall and Bagley Hall. The sewer main also conveys stormwater runoff from the area south of Thurston Lane, the Rainier Vista Lawns, Sylvan Theater, a 300-foot stretch of Stevens Way and Drumheller Fountain. This is a significant area that contributes storm water flows to the 138-inch Metro sewer trunk line at Pacific Place where it is pumped west along Pacific Street.

The sewer trunk line connects to an existing 84-inch combined sewer overflow that runs under the Medical Center and discharges to Portage Bay. The aggregate flows during storm events reduce the sewer pump capacity, thereby reducing the effectiveness of the sewer system. During large storm events, the addition of storm waters to this system creates the potential for the pumping system to be overwhelmed with combined storm water runoff and sewer flows. In these cases, sewer flows would overflow to the 84-inch pipe and discharge directly into the waterway. At the time of this assessment, information regarding the condition of the 12-inch sewer mainline or the frequency of combined sewer overflows to Portage Bay was not available.

Irrigation System

Approximately 250 acres of the 643 acre campus is irrigated. Most of the irrigated areas are manually irrigated and not connected to irrigation deduct meters. The absence of deduct metering contributes to additional sewer charges to the University from SPU. Measures for reducing the SPU charges currently being undertaken by University of Washington Facilities Program include introducing more automatic irrigation systems, the installation of deduct meters at areas with irrigation demand, and the installation of network controllers that use historic evaporation and plant transpiration to adjust irrigation supply.
The landscape irrigation systems serving the areas around the Rainier Vista are generally associated with the adjacent buildings. The only area along the Rainier Vista served by an automatic irrigation system is the area between Stevens Way and Pacific Place. The area adjacent to the Drumheller Fountain is irrigated manually. According to the University Maintenance Department, this piecemeal approach to irrigation leaves some areas of the Vista landscape without adequate coverage.

**Drumheller Fountain and Frosh Pond**

Drumheller Fountain and Frosh Pond are located near the top of the Rainier Vista. The pond area is approximately 0.7 acres and at approximately 5 feet deep, it has a dead storage volume of approximately 1 million gallons. The additional depth from the seating wall to the current water surface elevation may provide up to an additional 1 million gallons. The fountain is supplied by water line pumps running from Bagley Hall to the center of Frosh Pond. Water losses from the pond caused by evaporation are made up from the UW water distribution and are supplied by the SPU. The fountain has recently undergone improvements to reduce water losses caused by exfiltration through cracks at the concrete bottom of the pool. Currently Frosh Pond water quality is not monitored or filtered and pond water turn over is accomplished with water supplied from the water distribution system. Discharge from Drumheller Fountain and Frosh Pond is directed to the combined 12-inch sewer running along the Rainier Vista and ultimately discharges into the 138-inch Metro sewer trunk line at Pacific Place. According to the Drumheller Fountain & Frosh Pond Feasibility Study and observations the major contributor to the poor pond water quality is from guano loading.
Planned Improvements

Independent of the development of the Rainier Vista Concept Plan, a number of utility system improvements are being developed or considered by the UW. Building-related improvements planned along the Vista include utility upgrades for Johnson Hall and the replacement of existing footing drains for Bagley Hall. Larger scale initiatives that will affect the overall utility system, like Sound Transit’s Husky Stadium Station or new building projects, like the new Microbiology building, are also likely to be completed within the next decade. We have included the Utility Milestone Timeline for reference.

Power Plant Future Improvements

There are a number of emergency backup power systems, cooling water, and steam generation improvement projects identified in the Utility Master Plan. As most of these services are routed through the utility tunnels, any Power Plant improvement projects will have little impact to the Rainier Vista. However, the following long term goals may impact the Rainier Vista by adding new tunnels or requiring additional area within the corridor: alternate steam system routes to the west from the Power Plant, a central cooling system chilled water storage tank on South Campus, and cable extensions to the electrical system through South Campus.

Water Distribution Upgrades

According to the Utility Master Plan, the Power Plant requires a backup water supply system. The backup water supply system needs to be installed to support the flow of water during a SPU water supply system failure. Water would be supplied using a pumping system that draws water from Lake Washington. Other upgrades identified by the Utility Master Plan include a replacement of the water main along Montlake Boulevard and continued partnering with SPU for a water conservation program.

Irrigation System Upgrades

The Rainier Vista is a mix of manual, automatic, and networked irrigation systems. As discussed in the Utility Master Plan, the University is foremost concerned with conserving water. The University of Washington has established a program to install network controllers that use historic evaporation and plant transpiration to adjust irrigation supply. Additional measures for reducing SPU charges are to install deduct meters at areas with irrigation demand. In particular, the area adjacent to Drumheller Fountain/Frosh Pond, extending down to Stevens Way, requires upgraded irrigation systems.

Storm and Sewer System Upgrades

A 12-inch combined sewer line runs most of the length of the Rainier Vista. The line directs sewer flows from adjacent buildings to the Metro trunk line at Pacific Place. Additionally, discharge from Drumheller Fountain and stormwater runoff is also directed to this line. The University of Washington has identified this line as deficient and would like to see it separated in accordance with University of Washington and SPU sustainability goals. A proposed storm drain line, from Pacific Place to the Metro 84-inch combined sewer outfall near NE Pacific St., would fulfill the goal of separation of this sewer system. The Utility Master Plan also notes that, due to capacity concerns, the sewer pump station at the west corner of the Montlake Triangle is in need of replacement. Separation of the storm sewer system will alleviate capacity on the existing system.
Rainier Vista Concept Plan
Infrastructure Proposals

Upper Vista
Utility improvements associated with the Johnson Hall renovation are slated to begin after 2008 and include separation of the sanitary sewer and storm drainage system. These improvements will reduce capacity concerns associated with the pump station located on Pacific Place. Work in this area may also include installation of a dedicated storm drain line routing additional stormwater runoff from Red Square to the cistern constructed as part the Sciences Quadrangle renovation.

The Sciences Quadrangle
This project area includes the construction of cisterns within Frosh Pond. The installation of the cisterns serves the purpose of capturing stormwater runoff from the surrounding area and reducing the volume of “active water” within Frosh Pond. Work in this area will include the installation of a subsurface irrigation system for the planted areas of the Sciences Quadrangle. Infrastructure associated with the proposed irrigation system should be installed with dual water distribution and cistern supply capability. Additional investigation will be required to determine if, in the interim, the cistern water can act as emergency backup water supply for the Power Plant.

Currently, there are state regulations that tightly control the collection of rain water. Creating a cistern below the fountain and within the pond, and capturing stormwater runoff, will likely require a Washington State Water Rights Permit. Although there are clear environmental, operational, and economic reasons for pursuing this strategy, the laws are currently written to protect the “waters of the State” from being collected for reuse and the regulatory process may take several years before the cisterns are allowed to be operational and connected to the surrounding irrigation systems.

Lower Vista
Work will include construction of a cistern within the incline of the abandoned roadway that currently runs from Stevens Way into the Triangle Parking Garage. A series of water gardens are proposed to be constructed over the cistern. Each zone of the garden is an independent vegetated water quality treatment cell, constructed of cast-in-place concrete, which provides filtration treatment as water moves from cell to cell. High flows during storm events will be allowed to cascade through the cells and will overflow to the dedicated storm drain constructed as part of the Montlake Triangle project area.

Montlake Triangle
One of the goals identified by the Utility Master Plan is to separate sanitary sewer flows from storm drainage runoff and reestablish natural runoff discharge locations in the south Campus by the end of 2009. Separation of sanitary sewer flows associated with buildings would be completed as part of the other project areas. The ultimate discharge location would be modified from connecting to the 138-inch Metro sewer line, and a new dedicated storm drain line will connect to the 84-inch Metro combined sewer overflow. These improvements will reduce the potential for combined sewer discharges overflow, increase the capacity of the sewer lift station, and reduce the potential for combined sewer discharges to Portage Bay.

The bulk of other site improvements in this portion of the project are associated with connecting Montlake Triangle with the Sound Transit station and the Medical Center, as well as the associated lowering of Pacific Place. Work in this area will also include the installation of a subsurface irrigation system.
**Upper Vista**
- Install walking path stormwater collection
- Install irrigation system with landscape
- Separate storm & sewer flows from Mary Gates and Johnson Hall
- Install new utilities for Johnson Hall
- Potentially revise Red Square drainage system

**Sciences Quadrangle**
- Install walking path stormwater collection system
- Install cistern, pump, and stubs for future recirculation system
- Repair Bagley Hall foundation drain
- Install irrigation system with conventional feed until water rights permit is accepted
### Lower Vista
- Install cisterns & water quality planters
- Install recirculation system & pump.
- Rehabilitate 12” sewer line
- Separate storm & sewer flows from Electrical Engineering building
- Collect Stevens Way stormwater
- Separate storm and sewer flows from Bloedel Hall
- Upgrade utilities associated with buildings at South Campus
- Install irrigation system with landscape

### Montlake Triangle
- Install irrigation system with temporary connection to water system
- Install cutover for storm drains to CSO overflow
Acknowledgements

Rainier Vista Concept Plan Steering Committee

Lee Copeland
Brian Dudgeon
Jon Hooper
Maggi Johnson
Kristine Kenney
Kurt Kiefer
Jan Labyak
Iain Robertson
John Wetzel

University Landscape Advisory Committee

Dale Cole (Chair)
Ann Marie Borys
Lee Copeland
Robert Edmonds
Brian Gregory
Jon Hooper
Margaret Johnson
Norm Johnston
Jennifer Jones
Kurt Kiefer
Kristine Kenney
Nancy Rottle
Richard Walker
Rod White
Daniel Winterbottom
Darlene Zabowski

Architectural Commission

Richard Chapman
Dale Cole
Lee Copeland
Daniel Friedman (Chair)
Weldon Ihrig
Linda Jewell
Stephen Kieran
Linda Lane
Norman Pfeiffer
John Schaufelberger
Cathy Simon

Other Groups that have Reviewed and Commented on the Plan Include:

UW Office of Development and Alumni Relations
UW Office of Regional Affairs
Sound Transit University Station Design Team
Friends of Seattle Olmsted Parks
Seattle Design Commission
SDOT Skybridge Review Committee

References

History


Images
University of Washington Libraries, Special Collections
Museum of History and Industry