STORM WATER MANAGEMENT DESIGN INTENT

STORMWATER OR "URBAN RUNOFF" CONTAINS POLLUTANTS THAT CAN LEAD TO THE DETERIORATION OF DOWNSTREAM RECEIVING WATERS. RAINWATER SCRUBS POLLUTANTS FROM THE AIR AND PICKS UP ADDITIONAL POLLUTANTS AS IT RUNS OVER STREETS, ROOFS AND LANDSCAPED AREAS. TYPICAL URBAN POLLUTANTS INCLUDE HEAVY METALS FROM BRAKE PADS AND ZINC DOWNSPOUTS; PETROLEUM PRODUCTS FROM CARS; FERTILIZERS AND PESTICIDES FROM LANDSCAPED AREAS; AND FOG AND MERCUry WASHED FROM THE AIR. THESE POLLUTANTS CAN CAUSE TOXIC REACTIONS IN AQUATIC LIFE. IN ADDITION, BACTERIA AND VIRUSES IN URBAN RUNOFF CAN CAUSE HUMAN ILLNESSES FROM DIRECT CONTACT, INHALATION OR THE DRINKING OF RUNOFF.

THE DESIGN SHALL EXPLORE OPPORTUNITIES TO ACCOMMODATE THE FOLLOWING MEASURES:

1. INSTALL A ROOF DRAIN BIOFILTRATION SYSTEM IN SETBACK AREAS THAT RECEIVES AND FILTERS RUNOFF.
2. NOT ALLOW ANY RUNOFF TO ENTER UNDERGROUND PARKING. IF THERE ARE ABOVE GROUND PARKING LOTS, TREAT RUNOFF BEFORE IT ENTERS THE STORM DRAIN SYSTEM.
3. INSTALL SUFFICIENT BIORETENTION (SWALES) WITHOUT CURBS OR WITH RAISED PLANTERS ON PODIUM DECKS CAN BE IDENTIFIED TO ACT AS FLOW THROUGH PLANTERS.
4. USE PERMEABLE MATERIALS.
5. ROUTE ANY DRIVEWAY RUNOFF TO A ROADSIDE OR DRIVEWAY ADJACENT BIOSWALE.
6. DO NOT USE COPPER OR ZINC FOR ROOFING, DOWNSPOUTS, GUTTERS OR OTHER EXPOSED SURFACES, AND DO NOT USE ROOFING MATERIALS WITH TAR PAPERS OR OTHER PETROLEUM-BASED SEALERS. USE ROOF MATERIALS THAT ARE INERT, SUCH AS TILE.
7. INSTALL POROUS PAVEMENT, SWALES, BIOFILTERS AND WATER FILTERS.

BEST MANAGEMENT PRACTICES (BMPs) MAY BE EMPLOYED TO:

- SLOW THE RATE OF RUNOFF BY EXTENDING THE DETENTION TIMES OF RUNOFF ON SITE TO ENCOURAGE THE SETTLING OF PARTICLES, THE SORPTION (ATTACHMENT) OF POLLUTANTS ONTO PARTICLES, OR NUTRIENT (PHOSPHORUS AND NITROGEN) UPTAKE BY VEGETATION.
- INCREASE INFILTRATION; (MAKING INTO SOILS TO FILTER AND REDUCE RUNOFF) AND/OR EVAPOTRANSPIRATION (PLANT AND SOIL EVAPORATION TO REDUCE RUNOFF).
- FILTER RUNOFF USING TARGETED FILTER MEDIA OR VEGETATION THAT TRAPS OR BREAKS DOWN MANY CONTAMINANTS.
- PREVENT POLLUTANTS FROM BEING PICKED UP AND TRANSPORTED BY STORMWATER.
- REDUCE OR ELIMINATE DRY WEATHER FLOWS (IRRIGATION RUNOFF, PAVEMENT WASHING, ETC.).
- IMPROVE THE SITE'S AESTHETICS AND INCREASE WATER CONSERVATION.
- BIORETENTION (DEPRESSED LANDSCAPED AREAS) CAN BE USED IN SURFACE PARKING LOTS AND ROAD MEDIANS TO CAPTURE STORMWATER AND ALLOW IT TO SLOWLY DRAIN OR SOAK IN. EXCESS RUNOFF DRAINS TO THE STORM DRAIN SYSTEM VIA A VERTICAL INTAKE PIPE.
- RAISED PLANTERS ON PODIUM DECKS CAN BE IDENTIFIED TO ACT AS FLOW THROUGH PLANTERS.
- SWALES (SHALLOW SIDE-SLOPED GRASS LINED CHANNELS AND BIOSWALES (SWALES WITH VEGETATION, USUALLY ALLOWING FOR TEMPORARY PONDING AND INCREASED INFILTRATION) CAN CHANNEL STORMWATER FROM IMPERVIOUS AREAS INTO THE STORM DRAIN SYSTEM WHILE ALLOWING FOR SOME INFILTRATION, FILTRATION AND POLLUTANT BINDING BY SOILS AND UPTAKE BY PLANTS.
- UNDERGROUND PARKING CAN STOP POLLUTANTS FROM CONTACTING STORMWATER.

DRB COMMENT:

How will storm water be handled in the project? What type of planting will be proposed at the courtyards? Will there be mostly above grade planters?

DESIGN TEAM RESPONSE:
DRB COMMENT:
Provide shadow studies of options presented in Conceptual Design Conference

DESIGN TEAM RESPONSE:
Shadow Studies for Option A provided.

4:00 pm equinox
12:00 pm equinox
8:00 am equinox

4:00 pm summer solstice
12:00 pm summer solstice
8:00 am summer solstice

4:00 pm winter solstice
12:00 pm winter solstice
8:00 am winter solstice

OPTION A
DRB COMMENT:
Provide shadow studies of options presented in Conceptual Design Conference

DESIGN TEAM RESPONSE:
Shadow Studies for Option B provided.

4:00 pm equinox
12:00 pm equinox
8:00 am equinox

4:00 pm summer solstice
12:00 pm summer solstice
8:00 am summer solstice

4:00 pm winter solstice
12:00 pm winter solstice
8:00 am winter solstice

OPTION B
**DRB COMMENT:**
Provide shadow studies of options presented in Conceptual Design Conference

**DESIGN TEAM RESPONSE:**
Shadow Studies for Option C provided.

**OPTION C**
Request for project sections including adjacent context like the Evergreen Hospital as well as Madison House (Assisted Living facility)

Sections show the relationship of the project to its context as well as the various program elements.
Concerned about the scale of the residential courtyards and the series of unprogrammed spaces.

All courtyards have been programmed to provide different activities for the residents and on the façade facing Totem Lake Way exterior staircases are shown leading from the courtyards directly down to the street to provide additional connectivity.
Where and what does the connection to Evergreen Hospital look like? The idea of a strong connection to the De Young Pavilion should be explored.

**DESIGN TEAM RESPONSE:**
An enhanced sidewalk with a linear greenway is proposed along 120th to connect to the Evergreen Hospital.
DRB COMMENT:
Need further development of the residential component along Totem Lake Way. Suggests use of stoops and to give special attention to the parking entrances. Would also like to see architectural features and notches to give variety to long frontages.

DESIGN TEAM RESPONSE:
The Totem Lake Way façade has been developed to add stoops for access from street level to the first level of flats. This façade shows massing elements at varying heights and planes to further articulate the façade. Materials include, metal panel and hardi board siding as well as hardi board panels with different modulation patterns. Another important addition are staircases leading from the elevated courtyards directly to street level.
Request for updated plaza design. Would like to see a better relationship to human scale. Encourages articulation and modulation of the buildings surrounding the plaza. Consider recesses and areas for the public realm.

**DRB COMMENT:**

Refer to revised plaza layout including areas for outdoor seating adjacent to the retail spaces as well as programmed areas for gathering and lounging including a water feature.
Request for updated plaza design. Would like to see a better relationship to human scale. Encourages articulation and modulation of the buildings surrounding the plaza. Consider recesses and areas for the public realm.

DRB COMMENT:

Refer to revised plaza layout including areas for outdoor seating adjacent to the retail spaces as well as programmed areas for gathering and lounging including a water feature.

DESIGN TEAM RESPONSE:
DRB COMMENT:
Any intent to break the horizontal datum between retail and residential along 120th? Encourages setbacks and addressing the human scale

DESIGN TEAM RESPONSE:
Along 120th setbacks have been introduced at key locations above the retail level. To break the datum select massing elements express themselves all the way to the ground level also adding verticality. Distinct materials have been introduced to bring variety to the ground plane.
DRB COMMENT:
Due to surrounding context a large number of people will be looking down on the project. Has any thought been given to the roof planes?

DESIGN TEAM RESPONSE:
The height of the proposed building exceeds that of the top of the hill.
LEVEL HEIGHT CALCULATION

(103'-2"X134') + (118'-3"X133') + (201'-3"X131.8') + (43'-2"X131.5') + (123'-1"X135') + (151'-6"X135') + (333'-8"X141) + (134'-5"X148.5') + (158'-8"X150') + (439'-6"X148.5') + (43'-1"X141.5') + (60'-3"X134') + (248'-7"X133.5') + (118'-3"X133.5')

= 139.83' AVERAGE BUILDING ELEVATION
PARAPET = 216'-0" BUILDING HEIGHT

FAIRFIELD RESIDENTIAL
5638.00 06.09.2016

ATTACHMENT 2
FILE NO. DRV16-00914
DESIGN RESPONSE PLANS