Stormwater Calculations
- Drainage Area: 11,700 sq ft.
- Option A manages a 1.25" rain event

Maintain Existing Street Trees
- Proposed improvements shall protect and maintain existing street trees

Interpretive Signage
- Identifies stormwater BMP

Rainwater Infiltration Areas
- Create a series of infiltration areas below the stormwater transition areas
- Drainage from north portion of roofwill flow into these areas.
- Areas vary in size. All areas approximately 4' deep.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

New Outdoor Plaza
- New plaza with pervious pavements
- Provide bike racks and seating areas
- Interpretive elements to highlight stormwater functions
- Display area for student art or science projects

Rainwater Transition Areas
- Create areas where new downspouts drop roof stormwater into the landscape
- Design functional or artistic componenets to celebrate stormwater
- Transition areas overflow stormwater into infiltration areas.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

New planting areas
- Maintain walls and plant overflow areas with new native drought tolerant plantings

Re-route internal roof drainage
- Create new piping to re-route stormwater drainage from the roof area to the front exterior of the building
- Approximately 145' lf of new piping to extend roof drainage to building exterior

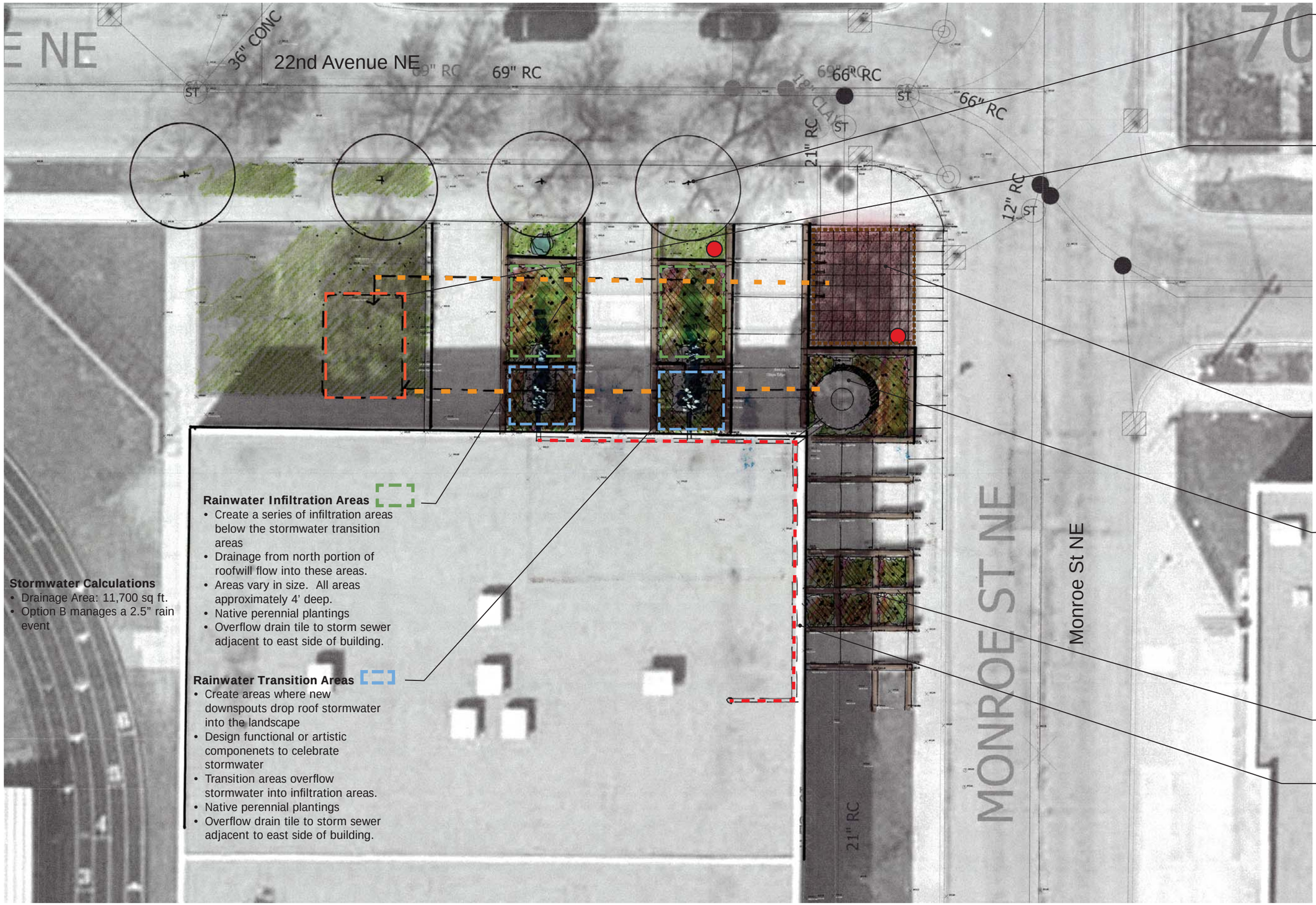
0 20 40

NE Green Campus- Gym Roof Stormwater Options

Option A

9.19.2012

Stantec



Stormwater Calculations
- Drainage Area: 11,700 sq ft.
- Option B manages a 2.5” rain event

Rainwater Infiltration Areas
- Create a series of infiltration areas below the stormwater transition areas
- Drainage from north portion of roofwill flow into these areas.
- Areas vary in size. All areas approximately 4’ deep.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

Rainwater Transition Areas
- Create areas where new downspouts drop roof stormwater into the landscape
- Design functional or artistic componenets to celebrate stormwater
- Transition areas overflow stormwater into infiltration areas.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

Maintain Existing Street Trees
- Proposed improvements shall protect and maintain existing street trees

Interpretive Signage
- Identifies stormwater BMP

Underground Cistern
- New cistern to be buried underground to expand storage and infiltration capacity of roof stormwater
- Can be converted in the future to reuse stormwater on-site for irrigation
- Pump required

Drain tile connections
- Provide connections between cisterns and landscape areas

New Outdoor Plaza
- New plaza with pervious pavements
- Provide bike racks and seating areas
- Interpretive elements to highlight stormwater functions
- Display area for student art or science projects

Cistern
- New above grade cistern to store stormwater from roof and route stormwater to transition and infiltration areas.
- Connect to underground cistern to expand storage and infiltration capacity.
- Could be painted as a student art project.
- Spigot allows for student involvement in landscape maintenance.

New planting areas
- Maintain walls and plant overflow areas with new native drought tolerant plantings

Re-route internal roof drainage
- Create new piping to re-route stormwater drainage from the roof area to the front exterior of the building
- Approximately 145’ lf of new piping to extend roof drainage to building exterior

0 20 40

NE Green Campus- Gym Roof Stormwater Options

Option B

9.19.2012

Stantec

Rainwater Transition Areas
- Create areas where new downspouts drop roof stormwater into the landscape
- Design functional or artistic componenets to celebrate stormwater
- Transition areas overflow stormwater into infiltration areas.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

Rainwater Infiltration Areas
- Create a series of infiltration areas below the stormwater transition areas
- Drainage from north portion of roofwill flow into these areas.
- Areas vary in size. All areas approximately 4' deep.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

Cistern
- New above grade cistern to store stormwater from roof and route stormwater to transition and infiltration areas.
- Connect to underground cistern to expand storage and infiltration capacity.
- Could be painted as a student art project.
- Spigot allows for student involvement in landscape maintenance.

New Outdoor Plaza
- New plaza with pervious pavements
- Provide bike racks and seating areas
- Interpretive elements to highlight stormwater functions
- Display area for student art or science projects

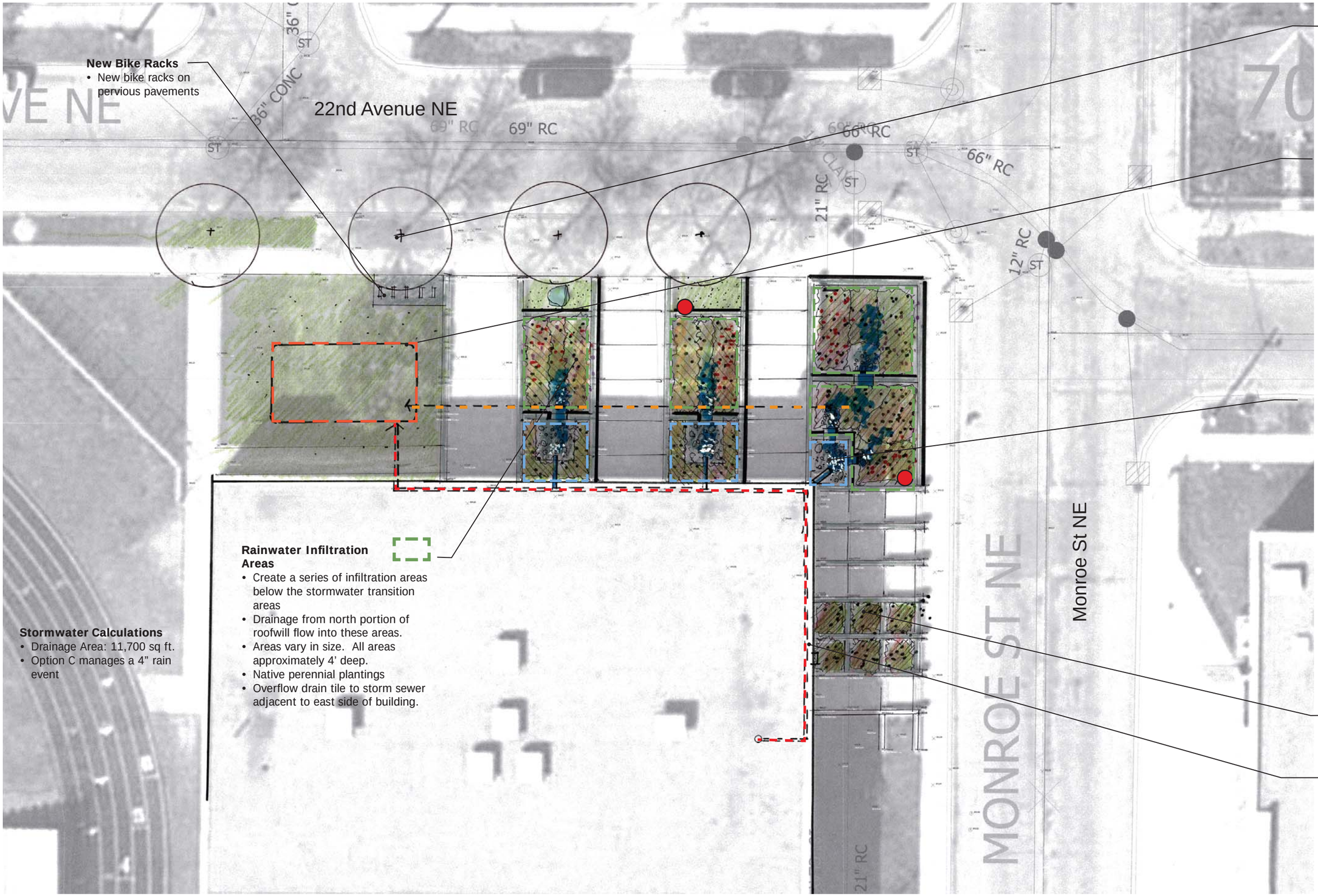
0 20 40

NE Green Campus- Gym Roof Stormwater Options

Option B - View

9.19.2012

Stantec



New Bike Racks
- New bike racks on pervious pavements

Rainwater Infiltration Areas
- Create a series of infiltration areas below the stormwater transition areas
- Drainage from north portion of roofwill flow into these areas.
- Areas vary in size. All areas approximately 4' deep.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

Stormwater Calculations
- Drainage Area: 11,700 sq ft.
- Option C manages a 4" rain event

Maintain Existing Street Trees
- Proposed improvements shall protect and maintain existing street trees

Interpretive Signage
- Identifies stormwater BMP

Underground Cistern
- New cistern to be buried underground to expand storage and infiltration capacity of roof stormwater
- Can be converted in the future to reuse stormwater on-site for irrigation
- Pump required

Drain tile connections
- Provide connections between cisterns and landscape areas

Rainwater Transition Areas
- Create areas where new downspouts drop roof stormwater into the landscape
- Design functional or artistic componenets to celebrate stormwater
- Transition areas overflow stormwater into infiltration areas.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

New planting areas
- Maintain walls and plant overflow areas with new native drought tolerant plantings

Re-route internal roof drainage
- Create new piping to re-route stormwater drainage from the roof area to the front exterior of the building
- Approximately 145' lf of new piping to extend roof drainage to building exterior

0 20 40

NE Green Campus- Gym Roof Stormwater Options

Option C

9.19.2012

Stantec

Rainwater Transition Areas

- Create areas where new downspouts drop roof stormwater into the landscape
- Design functional or artistic componenets to celebrate stormwater
- Transition areas overflow stormwater into infiltration areas.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

Rainwater Infiltration Areas

- Create a series of infiltration areas below the stormwater transition areas
- Drainage from north portion of roofwill flow into these areas.
- Areas vary in size. All areas approximately 4' deep.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

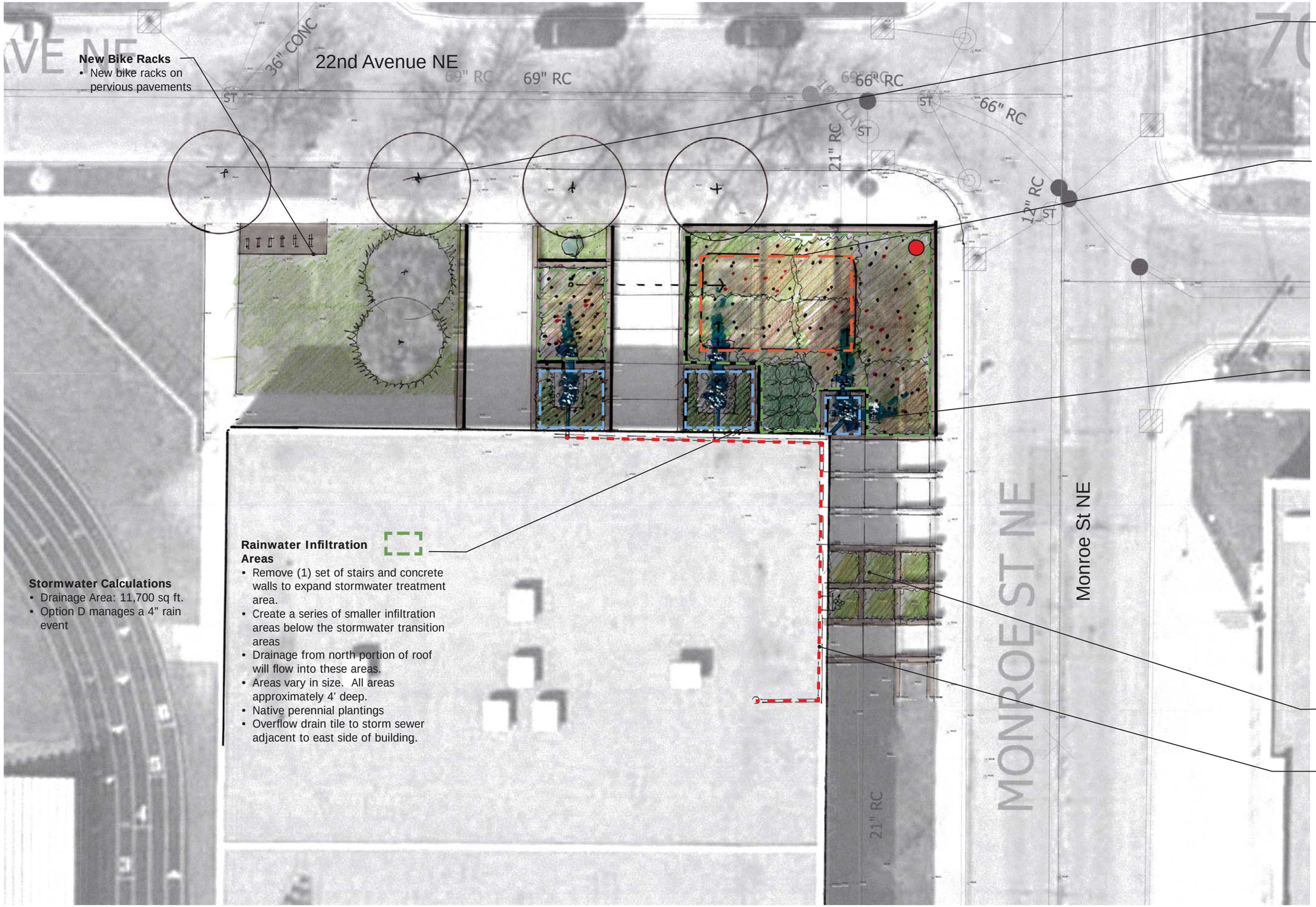
0 20 40

NE Green Campus- Gym Roof Stormwater Options

Option C - View

9.19.2012

Stantec



New Bike Racks
- New bike racks on pervious pavements

Stormwater Calculations
- Drainage Area: 11,700 sq ft.
- Option D manages a 4" rain event

Rainwater Infiltration Areas
- Remove (1) set of stairs and concrete walls to expand stormwater treatment area.
- Create a series of smaller infiltration areas below the stormwater transition areas
- Drainage from north portion of roof will flow into these areas.
- Areas vary in size. All areas approximately 4' deep.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

Maintain Existing Street Trees
- Proposed improvements shall protect and maintain existing street trees

Interpretive Signage
- Identifies stormwater BMP

Underground Cistern
- Remove (1) set of stairs and concrete walls to expand stormwater treatment area.
- New cistern to be buried underground to expand storage and infiltration capacity of roof stormwater
- Can be converted in the future to reuse stormwater on-site for irrigation.
- Pump and overflow catch basin required

Rainwater Transition Areas
- Create areas where new downspouts drop roof stormwater into the landscape
- Design functional or artistic componenets to celebrate stormwater
- Transition areas overflow stormwater into infiltration areas.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

New planting areas
- Maintain walls and plant overflow areas with new native drought tolerant plantings

Re-route internal roof drainage
- Create new piping to re-route stormwater drainage from the roof area to the front exterior of the building
- Approximately 145' lf of new piping to extend roof drainage to building exterior

0 20 40

NE Green Campus- Gym Roof Stormwater Options

Option D

9.19.2012

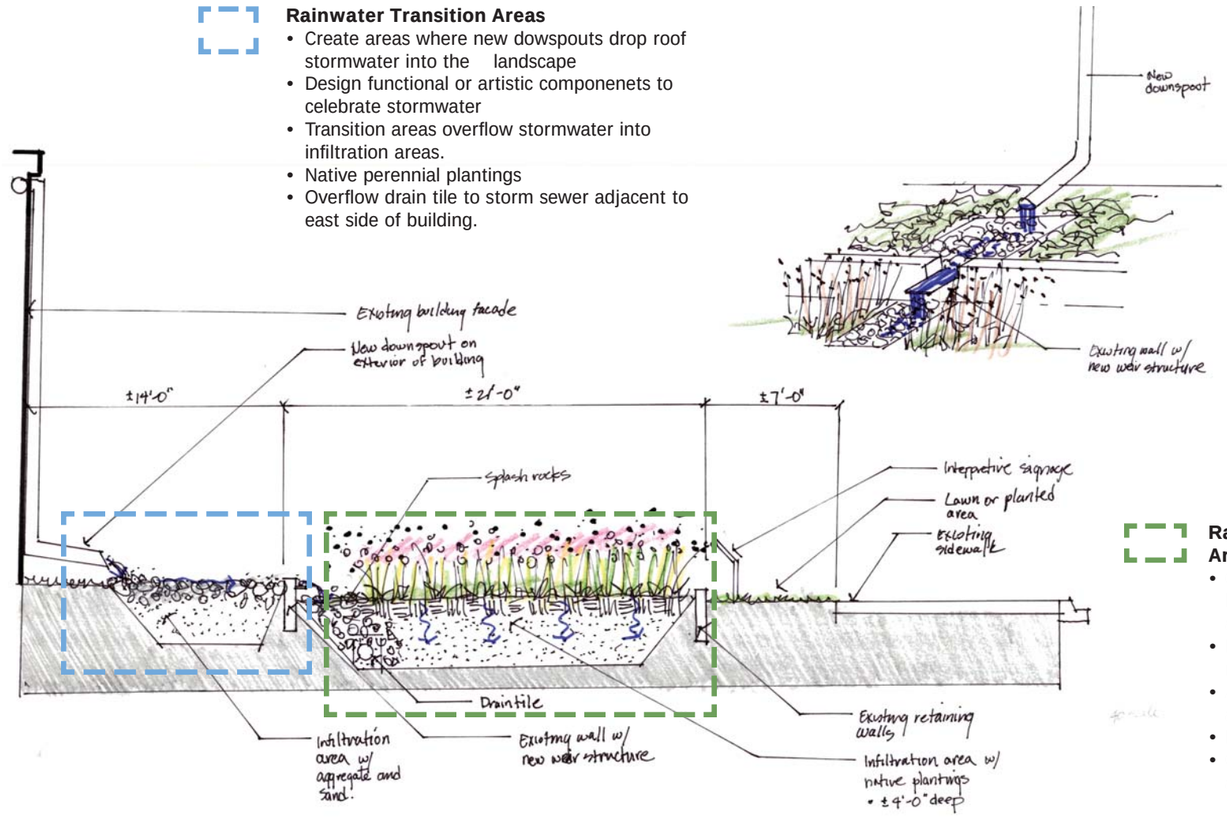
Stantec

NE Green Campus Implementation
Runoff Computations

	Drainage Area, sq ft	Rain Event, inches	Runoff Volume, cu ft	Porosity	Subgrade Volume, cu ft	Required Surface Area, sq ft[1]
Edison Gym Roof	11,700	0.5	488	N/A	N/A	N/A
		1	975	N/A	N/A	N/A
		1.25	1,219	N/A	N/A	N/A
		2	1,950	N/A	N/A	N/A
		2.5	2,438	N/A	N/A	N/A
		4	3,900	N/A	N/A	N/A

[1] Based on four-foot deep trench

Rainwater Transition Areas
- Create areas where new dowspouts drop roof stormwater into the landscape
- Design functional or artistic componenets to celebrate stormwater
- Transition areas overflow stormwater into infiltration areas.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.



Rainwater Infiltration Areas
- Create a series of infiltration areas below the stormwater transition areas
- Drainage from north portion of roofwill flow into these areas.
- Areas vary in size. All areas approximately 4' deep.
- Native perennial plantings
- Overflow drain tile to storm sewer adjacent to east side of building.

Rainwater Infiltration Areas

NE Green Campus- Gym Roof Stormwater Options

0 20 40

Stantec