

# Dominion Energy

Richmond, VA

*OJB developed a master plan for the new Dominion headquarters and then implemented the contemporary vision. The new 20-story Class A office tower features a large roof garden located on level 3.*

Planting is native to the region and/or adaptive to the soils, climate, and other environmental conditions. The planting schedule was developed through discussions with local horticulturalists, along with research collected from various resources including City Urban Design Guidelines. The street trees surrounding the building are Nuttall Oaks, a Red Oak variety that has been developed to withstand urban conditions in the city. Shrubs and groundcover will be planted beneath the street trees. Special planting areas will be along the south face of the building. A “sunken” garden at the southwest corner of the building receiving limited sunlight will consist of shade-loving plants such as ferns and Wild Ginger.

The 1-acre roof garden includes outdoor dining, fitness area, event lawn, fixed and flexible seating, two arbor structures and a pathway system through a botanical garden, featuring native and adaptive perennials that provide seasonal interest through color, form and textures.

The development encompasses a full block of site improvements including the surrounding streetscape, pedestrian realm and amenity zone, which features special paving, native and adaptive street trees, street lights and pedestrian scale lighting.

The tower has achieved LEED Gold certification.

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## Client

Dominion Energy

## Dates

2016-2019

## Team

Pickard Chilton  
Kendall/Heaton Associates  
PDR  
Timmons Group  
Alvine Engineering

## LEED

Gold

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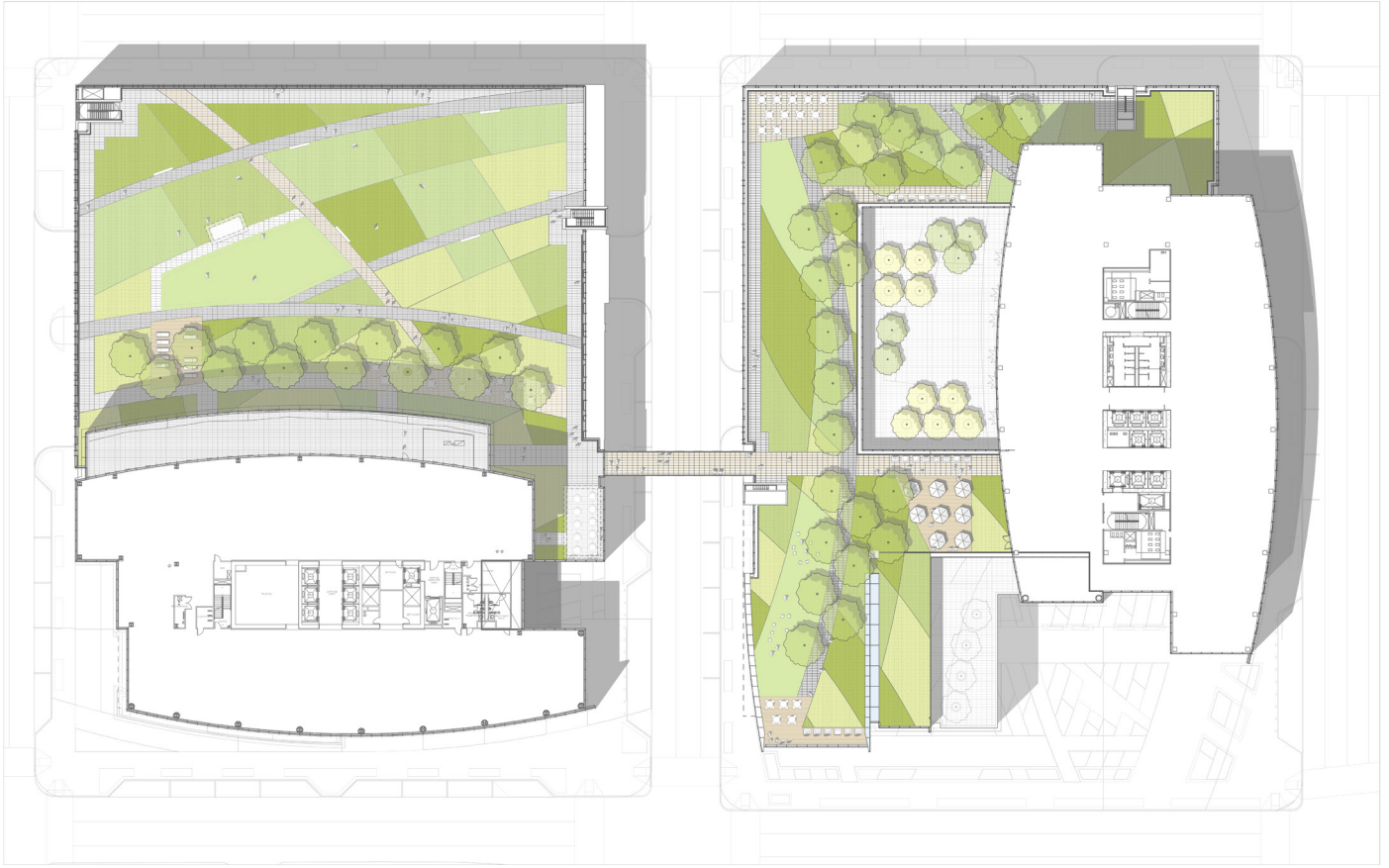


03B















NATIVE P

22 TOTAL PLANT TYPES

68%

15 PLANT TYPES

NATIVE PLANTS

IRRIGATION R

BASELINE CASE

3,320 GALLONS

1,040 GALLONS OF H2O PER DAY

2,280 G

OPTION 1 IRRIGATION REQUIREMENTS

CALCULATIONS FOR THE MONTH OF JULY

$ETO \times PF \times SF \times 0.62 / IE = \text{GALLONS OF H2O PER DAY}$

BASELINE CASE:  $0.16 \times 1.0 \times 31,355 \times 0.62 / 0.75 = 3,320$   
ASSUMPTIONS: NON-NATIVE PLANT

DESIGN CASE:  $0.16 \times 0.3 \times 31,355 \times 0.62 / 0.9 = 1,040$   
ASSUMPTIONS: NATIVE AND ADAPT



**PLANTING**

**7 PLANT TYPES**

**32%**

NURSERY RECOMMENDED PLANTS

**REQUIREMENTS**

**OF H2O PER DAY**

**GALLONS OF H2O PER DAY SAVED**

**-70%**

IRRIGATION REDUCTION

**320 GALLONS OF H2O PER DAY**

CONVENTIONAL PLANTING, WATER-LOVING PLANTS, NON-EFFICIENT IRRIGATION (SPRAY)

**80 GALLONS OF H2O PER DAY**

EFFICIENT PLANTING, LOW-WATER USE PLANTS, EFFICIENT IRRIGATION (DRIP)













**32,355 SF** of roof garden planting can potentially **reduce** the surface temperature by **43.5°F**



**Forty-four trees** will provide shade canopy for users in dining and deck areas; shade beneath the tree canopy can **reduce** temperatures by **10°F**



There are approximately **100,000 sq ft** of areas for gathering activity



Each tree can sequester **100 lbs** of CO<sub>2</sub> per year and act as a passive filter for particulate matter. **44 trees** on the roof garden potentially **sequester 4,400 lbs** of CO<sub>2</sub> per year





Approximately **6,300 SF**  
for dining and social



The **41,200 SF** green roof garden can be expected to last **2X as long** as conventional building roofs

Intercept 120  
gallons of rain and act  
as a natural filter for airborne  
pollutants. Forty-four  
trees on the roof garden level can  
intercept up to **5,280**



Each tree can intercept up to  
500 gallons of rainfall per year.  
Forty-four trees on the roof  
garden level can potentially  
intercept up to **22,000 gallons**  
per tree per year







# Sustainability

*138 new trees were planted on the tower, along with 100% native and adaptive planting that are positioned to withstand the inclement weather changes.*



## LAND

The building was positioned on site with relation to Kanawha Plaza, allowing for rooftop views and street access.

The project redevelops a degraded site, removing an old underused building that existed before.



## WATER

The one acre green roof was installed to reduce the heat island effect, absorb storm water and provide enjoyment to the users.

Trees have the potential for intercepting 69,000 gallons of water which is the equivalent to the water usage for 6,900 American residents for one day \*

The design reduces outdoor water usage by using native and adaptive plant species and drip irrigation.



## SOCIAL

The project supports alternative modes of transportation, with bike parking and bus stops.

The project provides optimum site accessibility, safety, and wayfinding.

The roof top botanical gardens creates an amenity space for the employees, offering a zone for mental restoration and education.

The wood deck with shade structures offers a place for impromptu outdoor meetings and weekly fitness classes.



## PLANTING

138 trees planted

100% native and adaptive planting used on site.

A fern garden maximizes space created by a retaining wall and a 10' topographic change.

Reference communities were considered when choosing plants.

The project fosters habitat creation, creating a spot for butterflies, bees and birds in the urban center.

The soil profile was considered during plant selection, especially with minimum amounts of soil depth for the gardens on the roof.

The project minimizes pesticide and fertilizer use, by leaving nutrient-rich plant trimming on site.

Plants are allowed to go to seed/flower life.



## CARBON, ENERGY & AIR

The project uses planting to minimize building energy use.

The project uses local plant material, sourced from nurseries in the Richmond area.

The trees sequester 16,560 pounds of carbon annually, which offsets 2 cars per year \*\*

During construction, pollutants were controlled and retained.

Exposure to environmental tobacco smoke was minimized through designated smoke-free zones and prohibited smoking on site.



## ECONOMICS

Maintenance savings were considered in the design, by planting perennials and preparing the client for seasonal change.

By building a central headquarters, employees have more opportunities for collaboration, which improves work efficiency and idea creation.