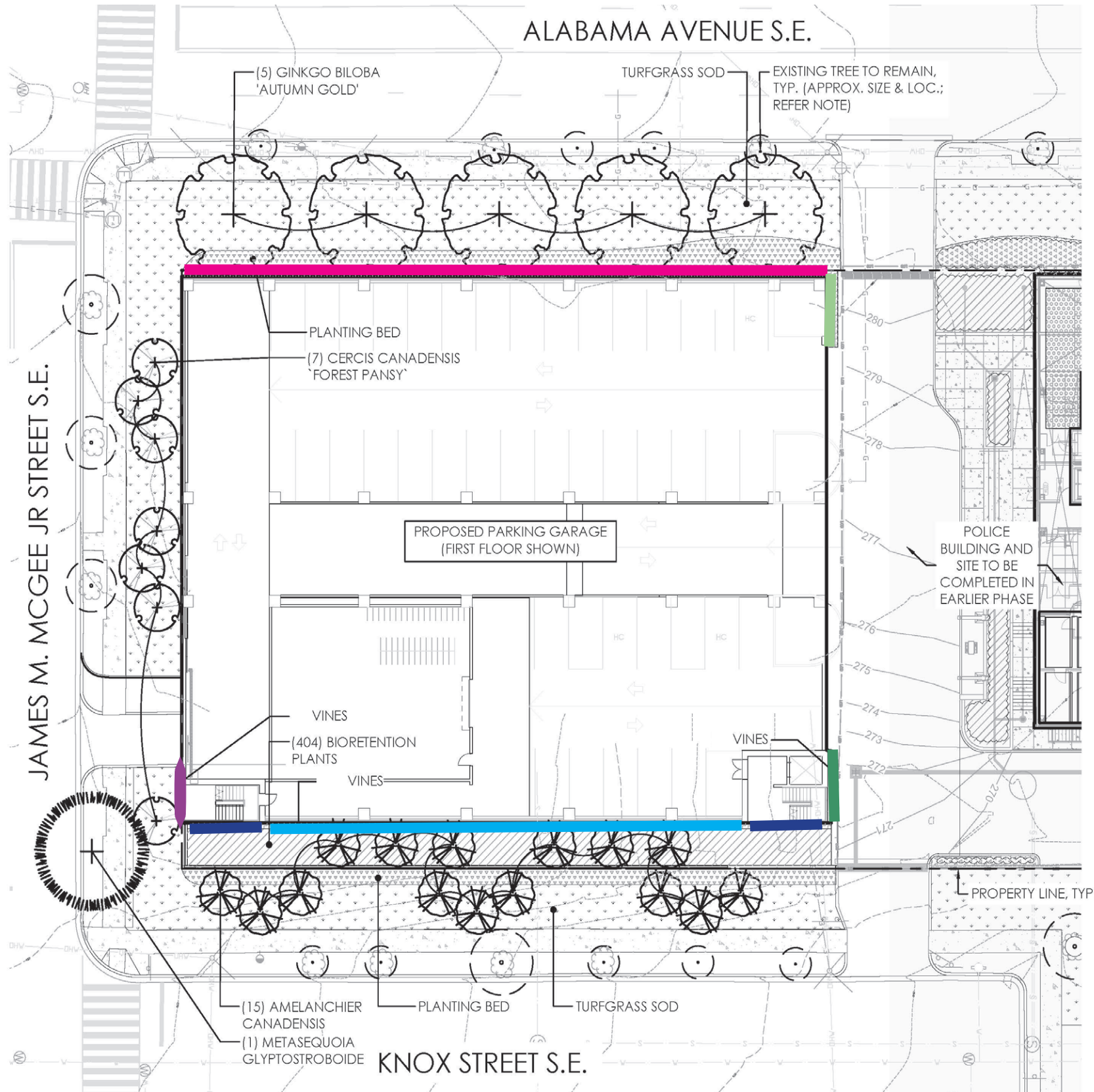


Site Plan



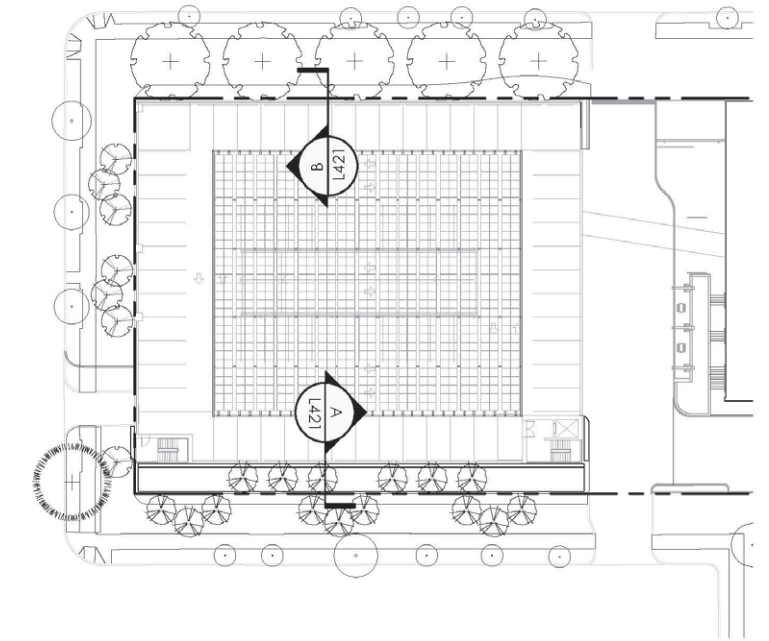
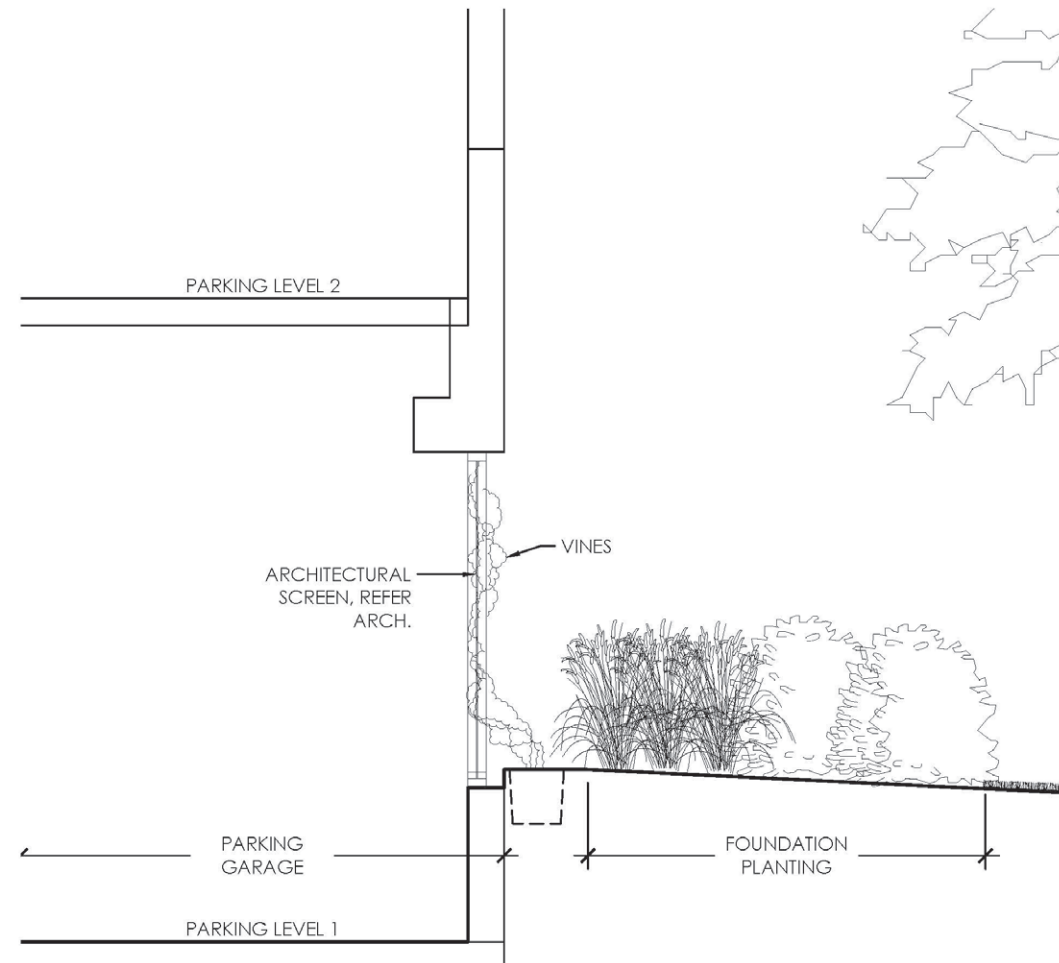
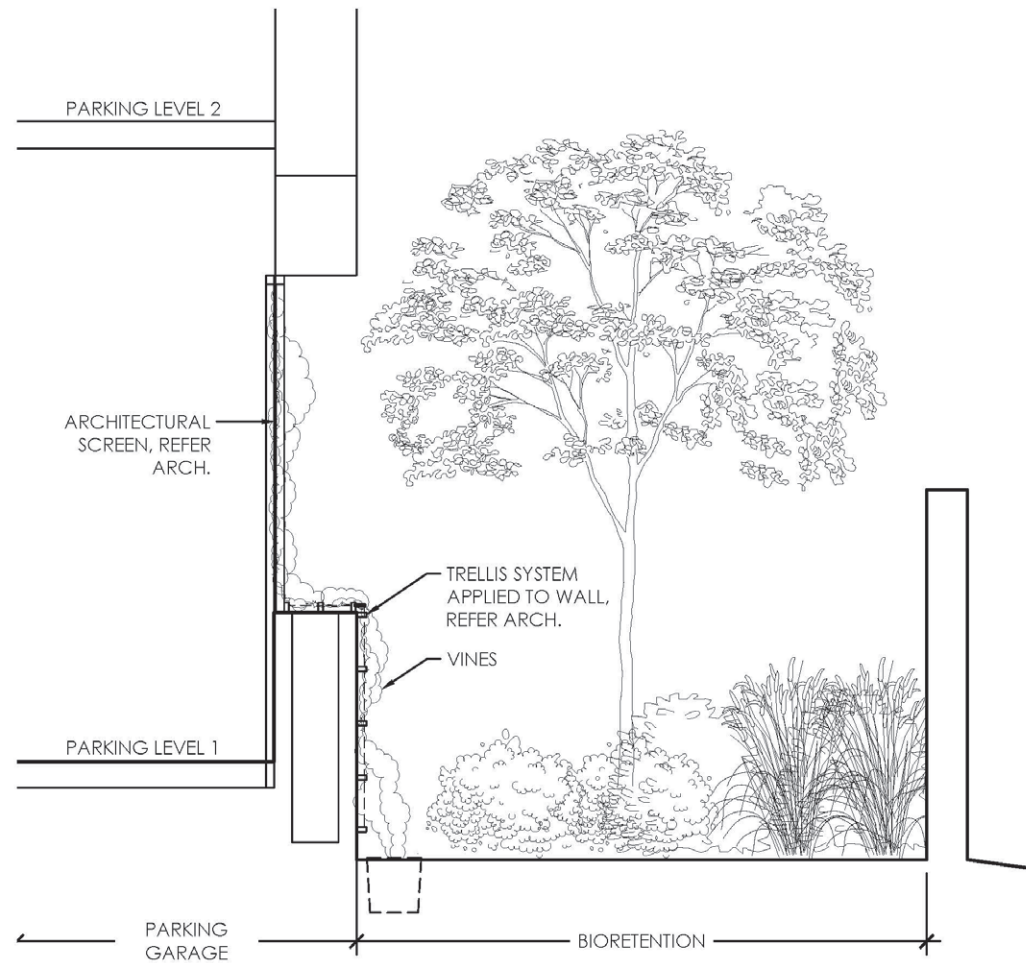
Orientation (Relative to Building) and Height of Vine System:

- East Side - Within Bioretention - 1 story
- East Side - Within Bioretention - Multiple stories
- North Side - 1 story
- North Side - Multiple stories
- South Side - Multiple stories
- West Side - 1 story

VINE SYSTEM APPLICATION

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Site Sections



KEY PLAN: NOT TO SCALE

A VINE PLANTING CONDITION - EAST PARKING GARAGE FACADE
1/2" = 1'-0"

B VINE PLANTING CONDITION - WEST PARKING GARAGE FACADE
1/2" = 1'-0"

VINE SYSTEM APPLICATION

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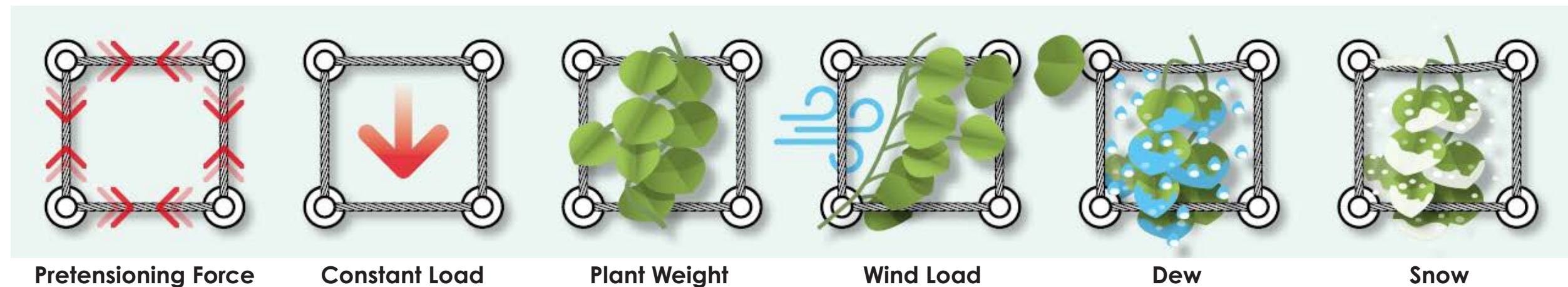
Design Considerations

Design Considerations:

- **Grid Structure** - Vine type and growth width of the plant determines the alignment and grid of the training system
- **Distance from Wall** - Required distance from wall depends on the root stock and growth density
- **Height** - The growth height of the plant should be approximate to the height of the training system
- **Load** - Factors include foliage, fruit, and wood weights; dew, rain, ice, and snow; wind loads
- **Plant Growth** - Climber type, growth rates and intensity, root space
- **Foliage Phases** - Evergreen or deciduous
- **Environmental Factors** - Substrate/soil properties; temperature/climate zone; location/sun/wind
- **Upkeep/Maintenance**

(Factors most pertinent to system selection highlighted in pink)

Factors Influencing System Load:



Design of System:

- Some product manufacturers have engineers that will assist with design (Jakob)
- System design potentially will need review by structural engineer (need likely determined on a case-by-case basis depending on system height)

Source: Jakob - Green Solution Technical Manual, pg 8

VINE SYSTEM APPLICATION

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Vine Types

HOW VINES ATTACH

Twining (or wrapping)



Twining (with tendrils)



Clinging



Sprawling



Twining Vines - Wrapping

- Stems twist around structure
- Grow on verticals, do not spread on horizontals
- Will be contained within trellis system
- Will not attach to other parts of building

Twining Vines - With Tendrils

- Tendrils "grab" onto structures
- Horizontal and vertical spread
- Will be contained within trellis system
- Will not attach to other parts of building

Scrambling/Sprawling Vines

- Long flexible stems that look like vines, unable to climb on their own
- Some plants use horns or hooks to enable vertical growth
- **Require additional maintenance** to keep stems on panels

Clinging Vines

- Aerial Rootlets and Sucker Disks attach to surfaces
- Horizontal and vertical spread
- More difficult to control extents of spread
- Can damage building facade
- **Not recommended** for use on building application

(Vines recommended for use on MPDPh2 highlighted in pink)

Deciduous Vines

DECIDUOUS VINE EXAMPLE:



FINNISH EMBASSY, WASHINGTON, D.C. - SUMMER



FINNISH EMBASSY, WASHINGTON, D.C. - WINTER

Benefits of Deciduous Vines:

- Counterbalance climate cycles
- Shade and evaporative cooling in summer
- Light and solar warmth in winter
- Majority of DMV native vines are deciduous

VINE SYSTEM APPLICATION

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Possible Vine Species Selections



Honeysuckle
Lonicera sempervirens

- Deciduous - semi-evergreen
- Full sun-Part shade



Carolina Jessamine
Gelsemium sempervirens

- Deciduous - semi-evergreen
- Full sun-Part shade



Autumn Clematis
Clematis temiflora

- Deciduous
- Shade tolerant



Avalanche Clematis
Clematis Avalanche

- Deciduous
- Full sun-Part shade
- Tall climber



Tangerine Beauty Crossvine
Bignonia capreolata 'Tangerine Beauty'

- Deciduous - semi-evergreen
- Full sun-Part shade



American Wisteria
Wisteria frutescens

- Deciduous
- Full sun-Part shade
- Tolerates wet soils



Pipe Vine
Isotrema macrophyllum

- Deciduous
- Full sun-Part shade



Evergreen Clematis
Clematis armandii

- Evergreen
- Part shade

VINE SYSTEM APPLICATION

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Vine Install and Maintenance

Best Practices for Plant Install:

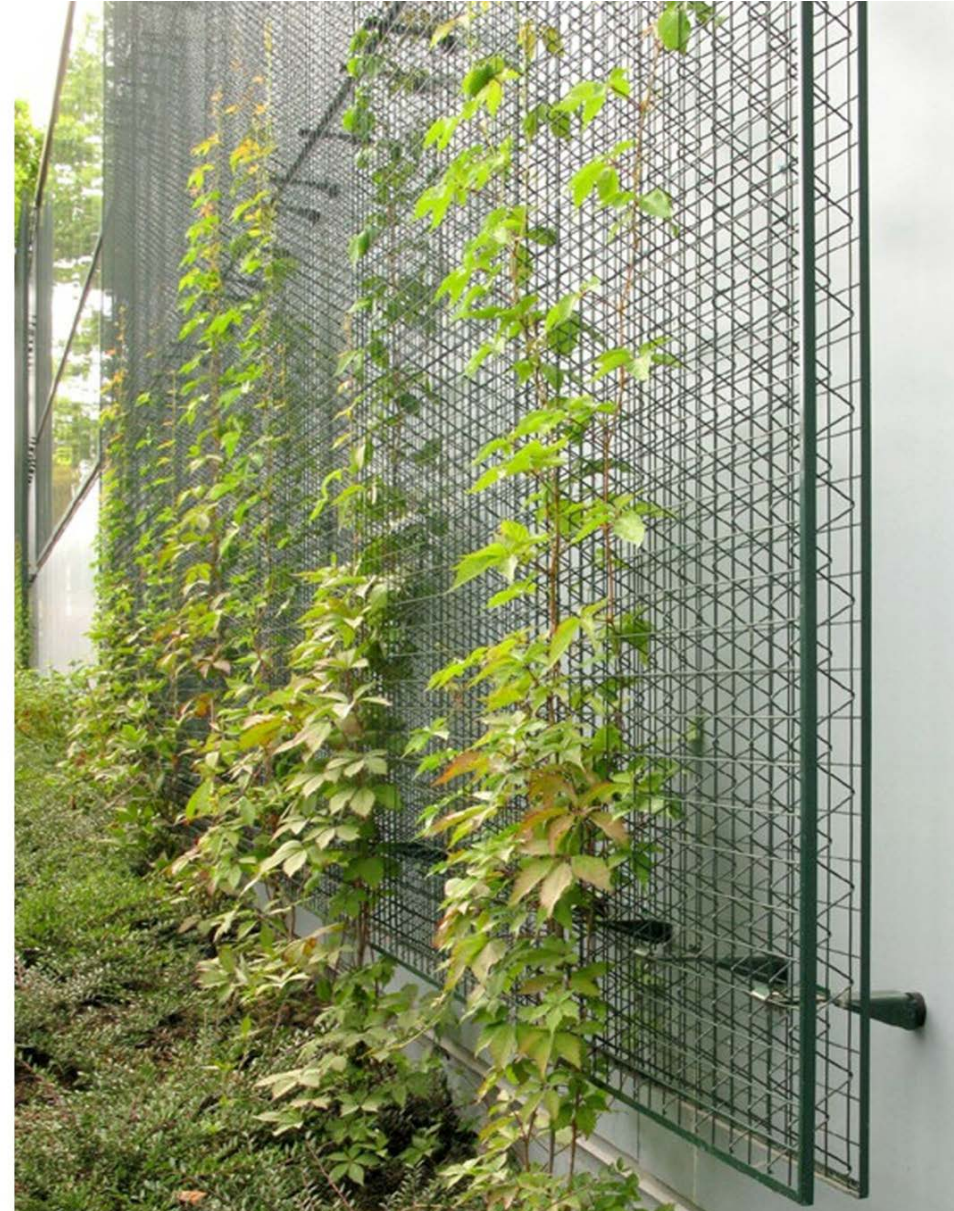
- Conduct a soil test
- Prepare soil with organic amendments
- Ensure proper plant spacing and placement
- Removal of temporary staking and weaving vines into panels
- Apply mulch and fertilizers
- Conduct a clean-up and initiate warranty period monitoring

Best Practices for Maintenance:

- Regular pruning (bi-annual and monthly as-needed)
- Annual fertilization and mulch application
- Regular watering during drought - better guarantee optimal plant performance & survivability
- Create a long-term maintenance plan

Source; <https://tournesol.com/blog/maximizing-the-potential-of-green-faade-systems-an-expert-guide-to-vine-selection-installation-and-maintenance>

Tournesol's "Greenscreen" System



Product Dimensions/Features:

- Three dimensional panel of galvanized steel wire
- Panels are composed of 2" x 2" grids
- Completed panels are 3" deep
- Panels are custom sizes: available width 6"-48", available length 12" - 168"
- Mounting can be horizontal or vertical
- Mounting of panels: work with Tournesol to determine mounting strategy, good rule of thumb is 4 or more building connections on a 4'x6' panel, 8 or more on a 4'x12' panel

Color/Finish Options

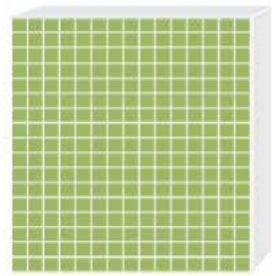
- Powder-coat - Range of colors

VINE SYSTEM APPLICATION

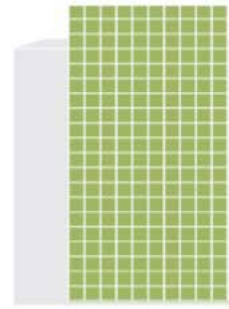
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Tournesol's "Greenscreen System"

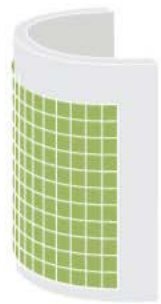
GREENSCREEN WALL APPLICATIONS



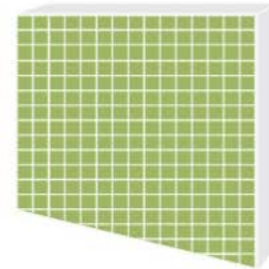
Add panels for continuous coverage



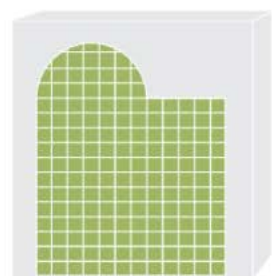
Cantilever up to 20%



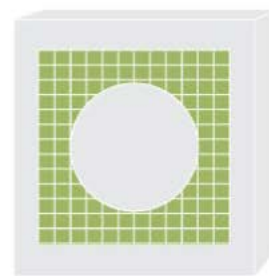
Curve to match contours



Angle cut any edge

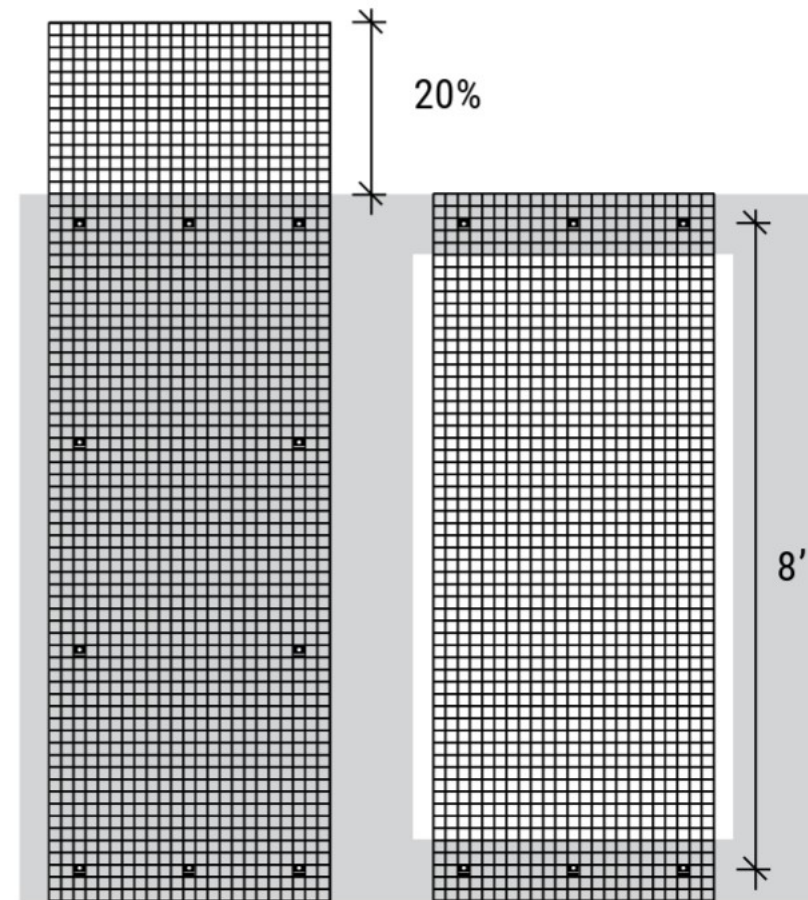


Fabricated to meet design needs



Cut out for aesthetic or functional reasons

OPEN SPANS & CANTILEVERING



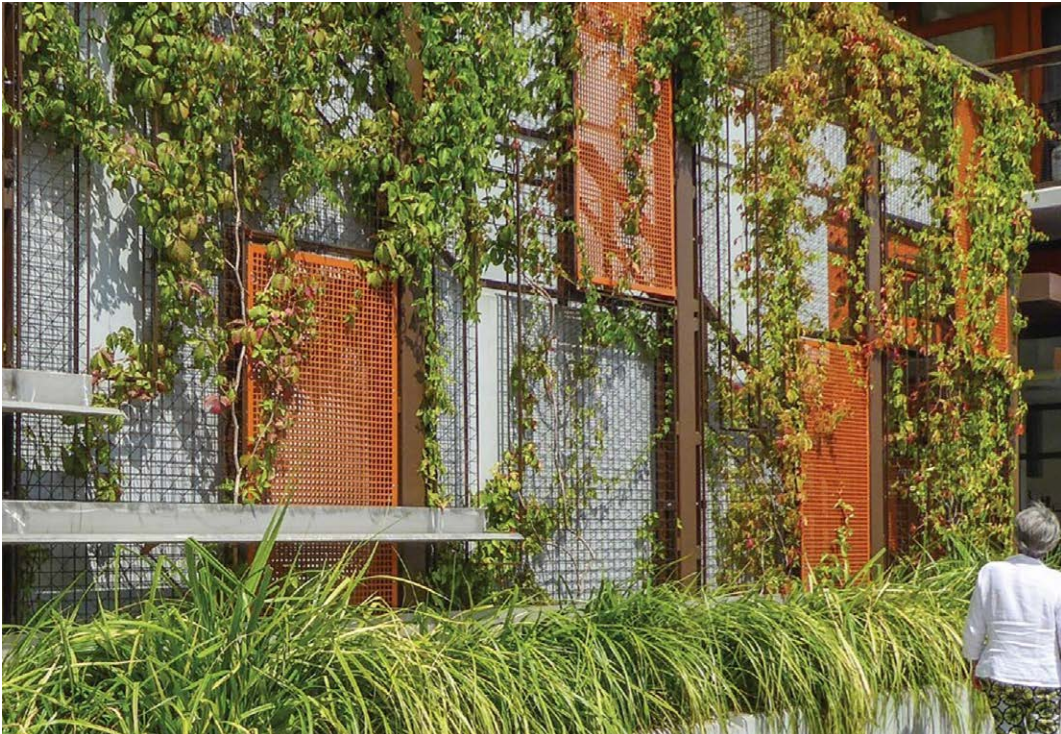
- Can span a vertical opening up to 8' unsupported
- Can cantilever up to 20% of the panel length

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Tournesol's "Greenscreen System"

PRECEDENTS



VINE SYSTEM APPLICATION

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