



VII. A.

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Planning Commission Staff Report

Project Type: Site Development Plan

Meeting Date: December 12, 2016

From: Jessica Henry, AICP
Senior Planner

Location: 18382 Chesterfield Airport Road

Applicant: Pickett, Ray & Silver, Inc. on behalf of Energy Marketing 709, LLC.

Description: **The Wedge McGrath Plaza (Energy Express)**: A Site Development Plan, Landscape Plan, Lighting Plan, Architectural Elevations and Architect’s Statement of Design for a 5.26 acre tract of land zoned “PC” Planned Commercial District located on the south side of Chesterfield Airport Road west of its intersection with Wings of Hope Boulevard.

PROPOSAL SUMMARY

Pickett, Ray & Silver, Inc. on behalf of Energy Marketing 709, LLC has submitted a request for construction of a convenience store with fast food restaurant with drive-thru, two fuel pump islands, drive-thru car wash, and retail building located within The Wedge development. The proposed convenience store and fast food restaurant building is 7,240 square feet in size, with an adjacent stand-alone car wash that is 3,000 square feet in size. The proposed retail building is 10,000 square feet in size. The Wedge development is zoned “PC” Planned Commercial District and is governed under the terms and conditions of City of Chesterfield Ordinance 2820. The exterior building materials will be comprised of EIFS, stone, brick, and aluminum and glass storefronts.

There are several outstanding items and direction needed of the Planning Commission for this project that are each discussed in detail later in this report. Those items are: Access, Architectural Archways, and Street Lighting.

HISTORY OF SUBJECT SITE

The site was zoned “NU” Non-Urban District prior to the incorporation of the City of Chesterfield. The convenience store/service station structure was built in 1960 and was zoned “NU” Non-Urban District with the adoption of the 1965 St. Louis County Zoning Ordinance. The three large parcels that are currently in existence were each granted a change in zoning from the “NU” Non-Urban District to the “C-8” Planned Commercial District in 1993. In November of 2014, the City Council approved Ordinance 2820 which unified the parcels under one comprehensive planned district ordinance and rezoned the properties to “PC” Planned Commercial District.

Surrounding Land Uses

The land use and zoning for the properties surrounding this parcel are as follows:

North: The land use of the property to the north is commercial and currently contains the Comfort Inn & Suites hotel which is zoned “C8” Planned Commercial District.

South: The properties to the south are primarily vacant and are zoned “M3” Planned Industrial District, however one parcel contains an electric utility substation just south across Old Olive Street Road.

East: Properties east of the site are primarily vacant and are zoned “M3” Planned Industrial District.

West: The property to the west is the Chesterfield Blue Valley Development which is zoned “PC” Planned Commercial District.



Figure 1: Aerial

Comprehensive Plan Analysis

The subject site is located within Ward 4 of the City of Chesterfield. The City of Chesterfield Land Use Plan indicates these parcels are within the *Mixed Use (Retail/Office/Warehouse)* which is defined as a *mixture of office, office /warehouse distribution and retail development with a maximum height of 3 stories (45 feet above grade). Development should have “business park” quality.* This subject site is not located in any sub-area identified by the Comprehensive Plan.

The Comprehensive Plan includes the following Commercial Development Policy which is applicable to the proposed development:

Commercial Development Policies

- **3.1.1 Quality of Design** – Overall design standards should be provided for smaller-scale, mixed-use, project-oriented developments. Developments should emphasize architectural design, pedestrian circulation, landscaping, open space, innovative parking solutions and landscape buffering between any adjacent residential uses.
 - *This policy is met by this proposed development. Please see Access and Site Circulation, Parking, Landscaping and Open Space, and Architectural Elevations sections. These sections discuss each of these items in detail, as they apply to this project.*

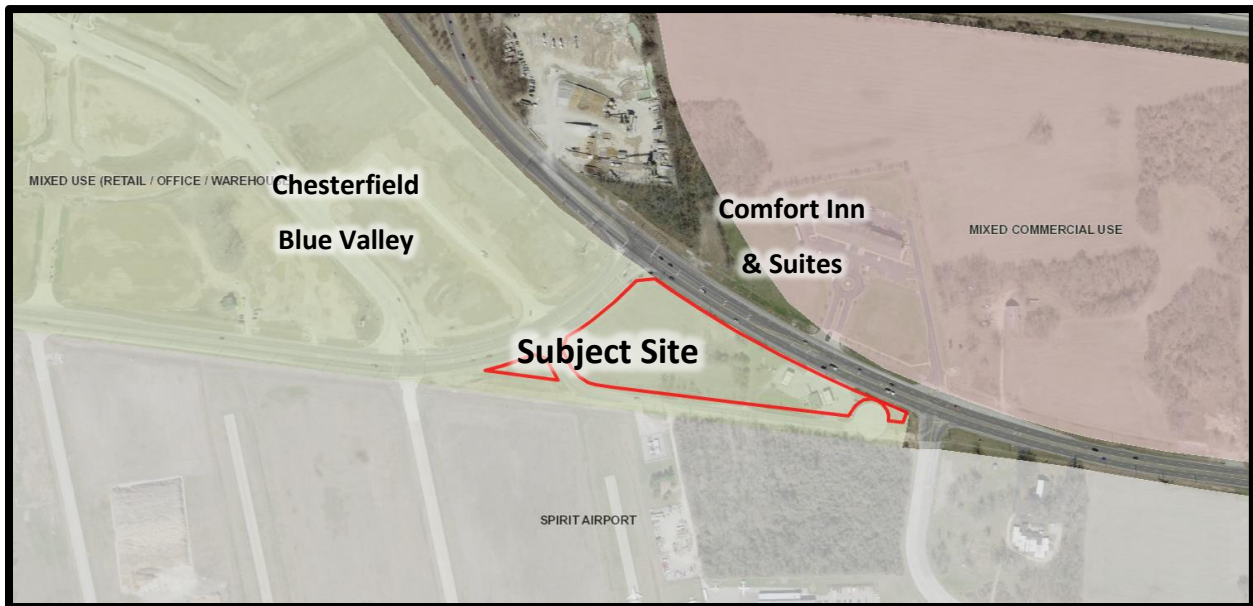


Figure 2: Comprehensive Plan Land Use Designation

STAFF ANALYSIS

Access and Site Circulation

Two access points are provided along Chesterfield Airport Road and two along Old Olive Street Road. However, the configuration of the easternmost access point on Chesterfield Airport Road does not conform to the approved site specific Ordinance 2820 and associated Preliminary Plan. Specifically, the Site Development Plan proposes a left turn movement into the easternmost access of the development which is specifically prohibited, as shown in the following excerpts from Ordinance 2820 and the Preliminary Plan:

I. ACCESS/ACCESS MANAGEMENT

1. Access to the development, except for the access to Out Lot A, shall be as shown on the Preliminary Plan, and adequate sight distance shall be provided, as directed by the City of Chesterfield, the Missouri Department of Transportation and St. Louis County Department of Highways and Traffic, as applicable.
 - a. The access to Out Lot A shall be as directed by the City of Chesterfield.
 - b. Left turn movements out of the development, at the easternmost access point along Chesterfield Airport Road, shall be prohibited.

Figure 3: Excerpt pertaining to access from Ordinance 2820

Note that Out Lot A is the small triangular tract of land that is separated from the main portion of the site by Old Olive Street Road. Although this small tract will not contain any structures, an access point is provided off of Old Olive Street Road to permit for routine maintenance of the bioretention basin located on this tract.

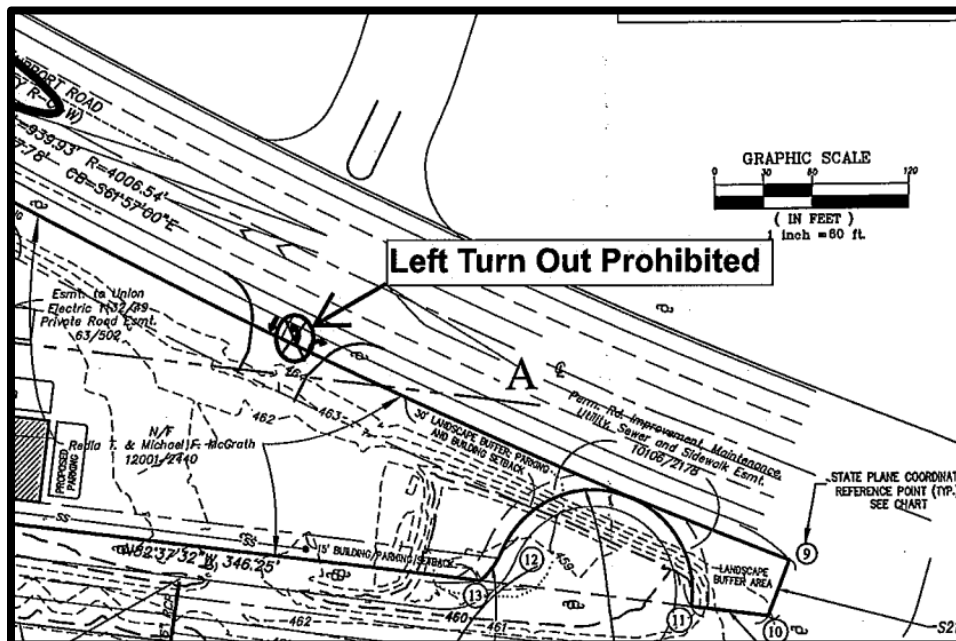


Figure 4: Easternmost access point as approved via Ordinance 2820

The issue of access was discussed at length during the zoning process for this development. Throughout the Site Development Plan review process, Staff has asserted that the access as shown on the Site Development Plan does not comply with the Ordinance; however, the applicant has declined to revise the Plan. The Applicant is requesting approval of the Plan as submitted (see attached letter). Additionally, on August 26, 2016 the City received a letter from St. Louis County stating that they were requiring the left turn movement out of easternmost access to Chesterfield Airport Road. **As City Staff makes our recommendations based upon adherence to the City Code and the planned district ordinance, Staff is recommending that this access be restricted so that no left turn is permitted, as required in Ordinance.**

A complete copy of Ordinance 2820 is accessible from the City’s website here for you:

<https://www.chesterfield.mo.us/ord/2014/ord2820.pdf>

Pedestrian Circulation

In addition to the sidewalks along Chesterfield Airport Road and Olive Street Road, internal crosswalks provide pedestrian circulation to the buildings within the development. The accessible spaces are located adjacent to the building entries.

Parking

As shown on the color site development plan excerpt on the following page, parking is provided throughout the site and is allocated by land use as required by the Unified Development Code. In addition to providing the required parking for each land use (retail, c-store, fast food restaurant, and car wash), additional stacking requirements are provided for the fast food restaurant drive-thru, car wash drive-thru, and vacuum stations. As provided on the Site Development Plan, the parking meets the requirements established in the City’s Unified Development Code.

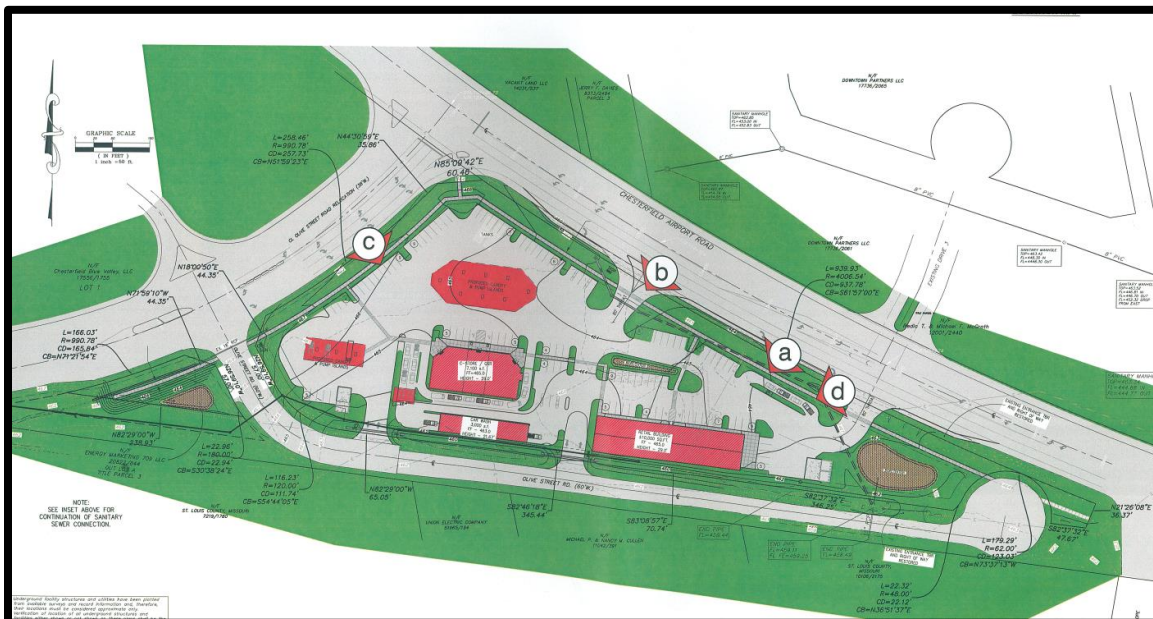


Figure 5: Colored Site Plan (letters represent cross section details not shown)

Landscaping and Tree Preservation

The request meets requirements of the City Code. Accordingly, trees will be planted throughout the parking area in addition to the provision of street trees along all three site frontages. Smaller landscape beds containing shrubs and perennials are located throughout the site. Landscape beds containing annual seasonal plantings are proposed around the monument signs and entrances. The dumpster enclosures are screened on three sides by plantings.

Landscape buffers consisting of trees, shrubs, bushes, and perennial planting beds are provided along each of the three frontages in accordance with the Unified Development Code requirements.

Several bio-retention areas are proposed on the site; these rain gardens will be planted with native plantings. These rain gardens will be designed to MSD standards and will help capture storm water runoff from the site.

The applicant is proposing to remove all of the existing trees on-site due to the topography of the site and the poor quality species of the existing tree canopy. This was also discussed with the Planning Commission during the zoning meetings when the Applicant explained the requirements for fill to be brought to the site in order to accommodate the site's redevelopment. In accordance with the Unified Development Code, due to the poor condition of the existing trees and upon recommendation of the City Arborist, the Planning and Development Services Director approved the removal of all the existing trees on June 9, 2016. Once the landscape plan is approved by the Planning Commission, the Applicant will have a mitigation plan reviewed by the Department. This will include additional trees to the site above and beyond what the Planning Commission requires, in order to satisfy mitigation requirements as directed by City Code.

Open Space

The minimum open space required by Ordinance 2820 for this development is 35% and the applicant is providing 39% across the 5.26 acre site. Two large open space areas are provided at the eastern and western extremities of the site, which also include large bioretention areas.

The proposal also includes a public art installation near the intersection of Relocated Olive Street Road and Chesterfield Airport Road. The exact installation will be determined prior to the issuance of building permits, after both the Planning and Development Services and Parks, Recreation and Arts departments have reviewed and approved the art piece.

Architectural Elevations

The three buildings feature a cohesive design, utilizing the same light fixtures, neutral brick and EIFS colors, black metal awning elements, and window tints. Stone detailing around the entry elements is utilized on each of the building to provide architectural detailing and clean transitions between materials. The neutral color palette and significant use of stone and brick corresponds to recently constructed buildings in the surrounding area.

The applicant has treated the buildings as being “four sided,” with the same degree and quality of materials being utilized on all four façades, including on the car wash building which is consistent with the Architectural Review Standards for the Chesterfield Valley.



Figure 6: Retail building front and rear elevations

The car wash canopy features a metal batten seam roof that corresponds to the central roof element on the convenience store. Stone pedestals are proposed in order to match the car wash and convenience store.

The proposed gas pump island canopies are typical commercial metal structures in the corporate color of the gasoline brand that will be sold on the site. The larger eight pump island is designated for use by standard vehicles, and the smaller three pump island will be for over-sized vehicles.

The dumpster enclosures are proposed to be constructed of the same brick utilized throughout the site.

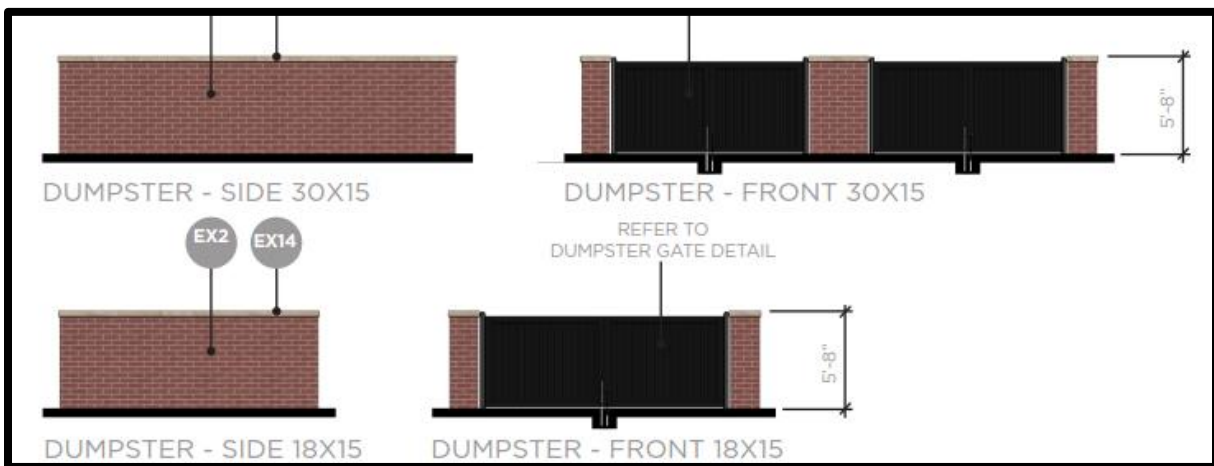


Figure 7: Dumpster enclosure elevations

The applicant is proposing to construct an architectural archway feature at the entrance to the car wash and restaurant drive-thru lane entrances adjacent to the c-store building. **This archway, shown in the images below, was not included in the ARB submittal. Based on this, Staff is requesting Planning Commission input of the appropriateness of this feature given its prominent location, size, and visibility from Chesterfield Airport Road.** The proposed archway is 18'6" at the tallest point. Note that although signage is shown, signage is reviewed as a separate process. In this case, the applicant has submitted a Sign Package that is requesting lit signage on the archway. As part of that review, Staff has provided comments pertaining to the prominence and visibility of the signage from Chesterfield Airport Road and will make recommendations pertaining to signage based on the Applicant's response to these comments. Once Staff review of the Sign Package request has concluded, the Sign Package will be placed on a Planning Commission agenda for review.

Regarding the archway as architectural element alone, without consideration to the signage request, Staff would note that it is substantially taller than required to provide the necessary clearance for vehicles to enter the drive thru lanes. Based on this, Staff recommends that the Planning Commission consider reducing the height so it is more integrated with the adjacent building.

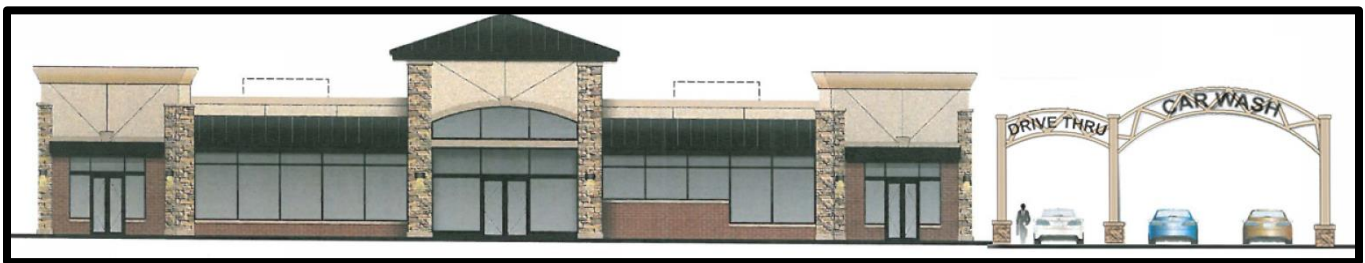


Figure 7: C-Store/fast food building elevation with associated architectural arch element



Figure 8: C-Store/fast food building rendering with associated architectural arch element

The project was reviewed by the Architectural Review Board (ARB) on May 12, 2016. A motion to forward the submittal to the Planning Commission with a recommendation for approval with the conditions listed below was passed by a vote of 6-0.

1. *Consideration should be given to moving/screening the vacuums along Chesterfield Airport Road to make these features less visible.*

In response to this recommendation, the applicant has added additional shrubbery to the Landscape Plan and has stated that the color of the vacuum stations will be revised from yellow to dark green, as shown in the rendering below:



Figure 9: Comparison renderings of vacuum stations

2. *More detail should be provided for the appearance of the ATM area and consideration be made to integrate its design with the proposed architecture of the buildings and/or use landscaping to screen.*

In response to this recommendation, the applicant has provided a rendering and Architectural Elevations for the proposed ATM in order to ensure that the design is integrated with the proposed buildings. Note that the island containing the ATM will be planted with shrubs, as shown in the Landscape Plan.



Figure 10: Proposed Architectural Elevation and rendering for ATM

3. *Consider adding more shrubs near the two entrances on Chesterfield Airport Road.*

In response to this recommendation, the applicant has added shrubs near the entrances.

4. *Consideration should be given to using landscape islands or other similar features to provide a safer pedestrian path west of the gas station building and north of the large vehicle gas canopy.*

In response to this recommendation, the applicant has provided a pedestrian path as discussed by the ARB.

Lighting

The lighting plan proposes the typical fully shielded, full cut-off pole mounted parking lot light fixtures and building entry wall mounted light fixtures. Additionally, typical canopy light fixtures are proposed on each of the pump island canopies. Each of these fixtures meets City code requirements.

The Unified Development Code requires that street lights be installed in commercial developments “at each intersection of a street within the subdivision, on street frontage between intersections, at each intersection of a street with a pedestrian way, at each circular turnaround, and within parking lot areas to comply with the provisions and regulations described herein.” However, the applicant is providing street lights only along the old Olive Street Road frontage. **As direct communication from St. Louis County prohibiting the placement of street lights within the County’s right-of-way as not been received, Staff is recommending that the provision of street lights along Relocated Olive Street Road and Chesterfield Airport Road be made a condition of approval for the Site Development Section Plan. Installation and maintenance of the lighting, should also be a requirement of the developer if indeed lights are required by the Commission.**

STAFF RECOMMENDATION

Staff has reviewed the Site Development Plan, Landscape Plan, Lighting Plan, Architectural Elevations, and Architect's Statement of Design. Staff has found the proposal to be in compliance with the site specific ordinance, Comprehensive Plan, and City Code requirements with the exception of the easternmost access point and the lack of street lights on Chesterfield Airport Road and Relocated Olive Street Road. Staff recommends approval of the proposed development of The Wedge McGrath Plaza (Energy Express) with the following conditions:

1. That the easternmost access point comply with Attachment B of Ordinance 2820; and
2. That street lights be provided along Chesterfield Airport Road and Relocated Olive Street Road with a note on the Site Development Plan requiring installation and maintenance be the responsibility of the Developer; and
3. That if the architectural elevations are approved as submitted by the Applicant with the new archways, said archways be reduced in height.

MOTION

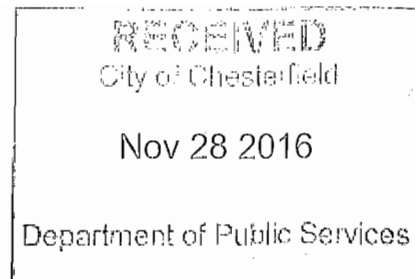
The following options are provided to the Planning Commission for consideration relative to this application:

- 1) “I move to approve (or deny) the Site Development Plan, Landscape Plan, Lighting Plan, Architectural Elevations and Architect’s Statement of Design for The Wedge McGrath Plaza (Energy Express) as presented by the Applicant.

4. “I move to approve the Site Development Plan, Landscape Plan, Lighting Plan, Architectural Elevations and Architect’s Statement of Design for The Wedge McGrath Plaza (Energy Express), with the following conditions:
 - a. That the easternmost access point comply with Attachment B of Ordinance 2820; and
 - b. That street lights be provided along Chesterfield Airport Road and Relocated Olive Street Road with a note on the Site Development Plan requiring installation and maintenance be the responsibility of the Developer; and
 - c. That the architectural archways be included in the approval at a height of ____ .

Attachments: Letter from Brad Goss
Site Development Plan
Lighting Cut-sheets
Landscape Plan
Lighting Plan
Tree Stand Delineation
Architectural Package

CC: Aimee Nassif, Planning and Development Services Director



Brad Goss
Ph 314.719.3702
Fax 314.719.3703
bgoss@salawus.com

November 28, 2016

Sent via Regular USPS and Electronic Mail

Attention: Aimee Nassif / Jessica Henry
Planning Department
690 Chesterfield Parkway West
Chesterfield City Hall
Chesterfield, MO 63017-0760

Re: Energy Marketing Plan

Dear Ms. Nassif and Ms. Henry:

Pursuant to our recent meeting at the City, this letter is responsive to the City's refusal to approve the left hand turn movement out of the easternmost access to Chesterfield Airport Road.

We have previously submitted to you, and you are in possession of, a letter dated August 3, 2015, from the St. Louis County Transportation/Public Works Department requiring the left turn movement out of the easternmost access to Chesterfield Airport Road to provide adequate access and to enhance traffic safety. Chesterfield Airport Road is owned and controlled by St. Louis County, being part of the County-maintained Arterial Road System. The City of Chesterfield's Comprehensive Plan clearly identifies Chesterfield Airport Road as a major arterial road and the Area Engineers Map for St. Louis County clearly identifies Chesterfield Airport Road as part of the St. Louis County Arterial Road System. The City of Chesterfield does not pay for the maintenance or improvement of Chesterfield Airport Road.

We previously submitted to the City a detailed analysis of the case law supporting our position in this matter and I once again refer you to that analysis. If you would like me to resubmit it to you, I will be happy to do so. The law in this area is clear that the City does not have the right to regulate my client's property with regard to access to and from the County right of way. The left turn out of the property is being mandated by the governmental body having jurisdiction over the adjoining road system, namely, St. Louis County, Missouri. If the City desires to assert control over the traffic flow into, out of, and upon Chesterfield Airport Road then the City must also assume the cost of maintenance and improvements to Chesterfield Airport Road by annexing the road. Until such time, the City is without jurisdiction in this matter.

For the same reasons, the City does not have the authority to require my client to place street lights in the right of way of Chesterfield Airport Road. Chesterfield Airport

Road is regulated by St. Louis County and the County regulations do not require that my client place street lights in the right of way, which probably explains the absence of such lights up and down Chesterfield Airport Road. The fact that the City is attempting to assert jurisdiction over the road for lighting purposes does not change the fact that the City lacks this power. Whether St. Louis County would allow the lights misses the point. My client cannot be burdened by the City requiring that it seek to install improvements in property governed by another jurisdiction. Accordingly, my client will not be installing street lights in the right of way of Chesterfield Airport Road.

I would also note that we have filed with the City, and you have in your possession, two separate, independent traffic studies supporting this left hand turn from the property. Not one, but both traffic consultants recommended the traffic access proposed by my client that is set forth on the plan, including the left turn out onto Chesterfield Road. Each of the studies arrives at the same conclusion that this turning movement is necessary for adequate site access and to prevent safety problems and traffic burdens at other intersection around the property. Finally, as noted, the only agency with jurisdiction, St. Louis County, is requiring this left turn.

If you should have any questions, please call me. Thank you.

Very truly yours,
SmithAmundsen LLC

By: 
Brad Goss

cc: Bob Grant
Steve Madras
Doug Tiemann



Architectural Review Board Submittal Package

[12 December 2016]

Chesterfield, Missouri

The Wedge (Mc Grath Plaza) Energy Express





PETROLEUM & MARKETING



Project Description

The Energy Express project is located at the intersection of Olive Street Road and Chesterfield Airport Road in Chesterfield, Missouri. Old Olive Street Road is located along the back side of the property. The site is comprised of approximately 5.26 acres. The proposed project includes the construction of three new buildings, including a 7,420 s.f. - 29'-0" high C-Store, a 3,000 s.f. - 21'-8" high Car-wash, and a 10,000+/- s.f. - 23'-6" high Retail lease space. There will also be a 19'-6" high canopy over the automobile fuel pump island and a 21'-0" high canopy over a separate commercial fuel pump island.

To address concerns of the adjoining airport, the tallest building is 29'-0" high, well under the height of the existing trees adjacent to the property and multi-story hotel across the street.

The site is relatively flat with only a one to three foot rise and fall across the property to achieve proper site drainage.

Site Relationship

The Scale and Fenestration of the proposed structures are compatible with neighboring use groups and surrounding buildings. The buildings are oriented with the most articulate facades and public accessible portions of the buildings addressing the Chesterfield Airport Road. As designed, this project does not impair or interfere with any surrounding properties or developments.

Parking for business patrons is provided adjacent to the public buildings. Parking areas will be required to provide landscape islands and trees as required by the Tree Preservation and Landscape Manual requirements. Sidewalks provided at these parking areas delineate and separate the pedestrian and vehicular traffic, and in no way does this design impair or interfere with any surrounding properties or developments.

The orientation of the building was derived by several influencing factors, including FAA sightline criteria, grades of transitioning ramps due to newly established flood plain elevation datums, and aircraft clearance recommendations.

Circulation System and Access

Bicycle circulation is not addressed.

The Amended Site Development Plan exceeds the minimum 35% open space requirements and parking and loading spaces for the proposed uses.

The floor area ratio (FAR) for the site is 0.15 (including pump canopy) which is below the required maximum of 0.55.

Sidewalks are provided along the Chesterfield Airport Road and relocated Olive Street Road and internal sidewalks are provided connecting proposed structures to allow for safe pedestrian access to each building within the site.

A 30-foot wide landscape buffer, parking and building setback is provided along the entire portion of Chesterfield Airport Road and relocated Olive Street Road. A 15 foot wide parking setback is provided along the dead end portion Old Olive Street Road along the southern boundary.

Landscape islands are shown in parking areas and will be provided as required by the Tree Preservation and Landscape Manual requirements. Bio-retention areas will also be located in landscaped island where possible and in green space areas at the east and west edges of the property.

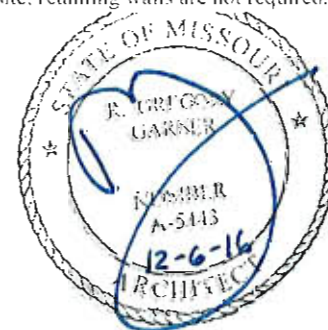
The proposed hours of operation will be the same as those of the businesses on the surrounding properties, namely, Comfort Inn to the northeast, and the Gas Station/Outlet Mall to the west, which contain no limitation on the hours of operation. This is consistent with existing uses and there is no residentially zoned property adjacent to or in the vicinity of the site.

Topography

Due to the adjacent airport and FAA requirements pertaining to minimizing obstructions of sight lines. The flat nature of this site and the low heights of the building and landscaping, has not caused any sightline issues.

Retaining Wall

Because of the flatness of the site, retaining walls are not required.

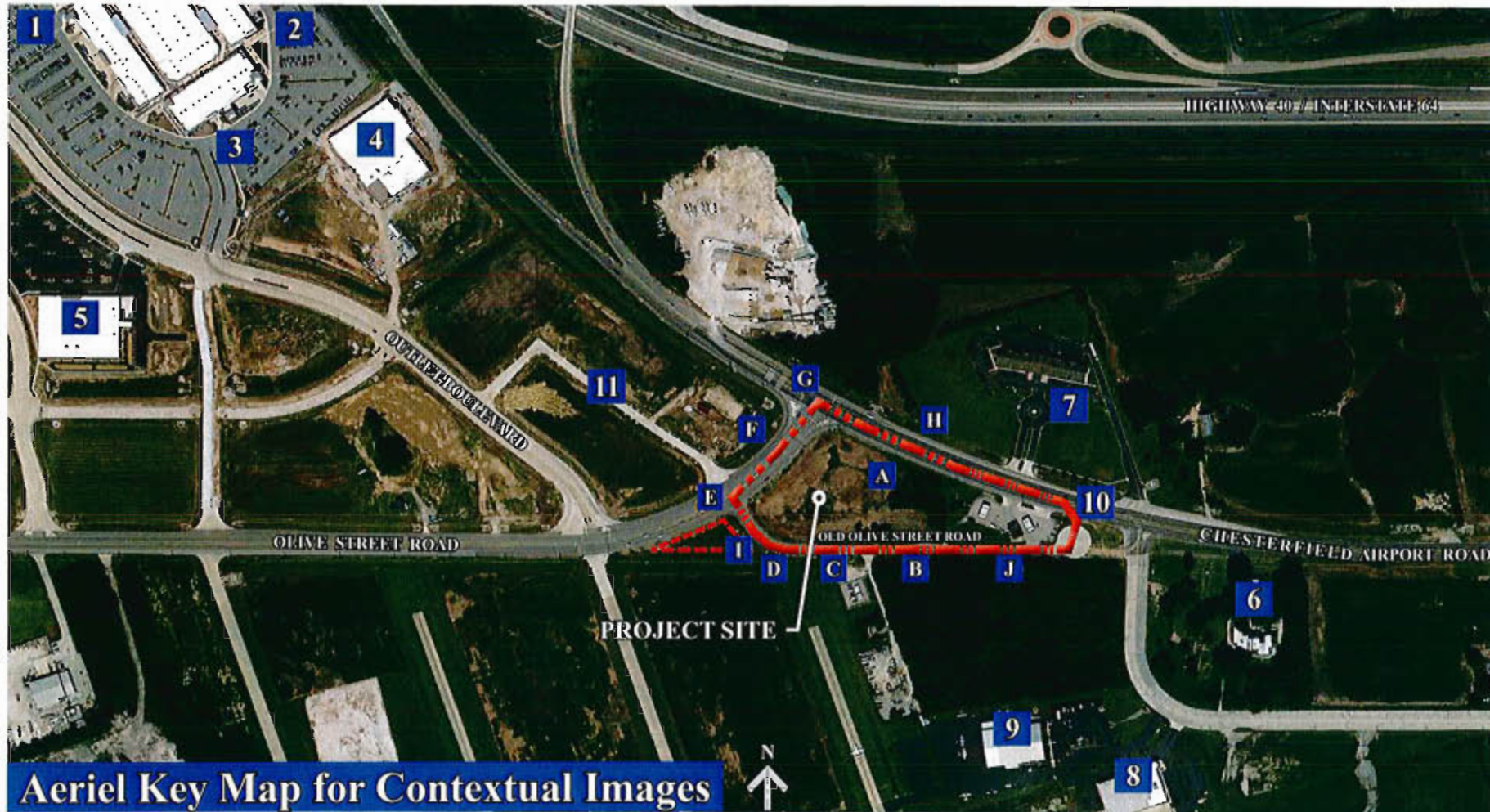


General Requirements Addressing Building Design

- A. **Building Scale:**
Building height is consistent with adjacent and neighboring properties.
- B. **Design:**
The scale of this project is appropriate and consistent with the adjacent buildings and surrounding area. The material finishes and colors selected for this project reflect those used on the adjacent area buildings uniting the new building with the existing context. All exposed mechanical rooftop units will be screened with panels matching the theme of the building colors.
- C. **Colors:**
 - All proposed buildings have colors that are considered natural earth tones.
 - The lower portion of all the buildings are masonry veneer products consisting of burgundy colored brick, light tan colored splitfaced block, light tan colored cast stone and different earth tone colored stones.
 - Aluminum store front will be black.
 - Glazing color will be a tinted grey.
 - Exterior Insulation Finish System (E.I.F.S.) are light tan colors of Almond and Birch.
 - Metal roof and Awnings will be matte black.
- D. **Landscape design and screening:**
 - All new landscaping will compliment the site. FAA regulations restricts certain types of plants to be incorporated into the design due to height limitations.
 - Building landscape buffers are introduced in limited areas.
 - Parking landscaping utilized per city requirements.
 - Masonry dumpster enclosure screen wall has brick veneer to minimize visual acuity.
 - Roof top units screened by metal panels matching proposed building exterior wall colors.
- E. **Signage:**
 - Wall mounted Signage will be located on the North exterior wall and potentially the West wall. All signage will be designed and approved under a separate review process.
- F. **Lighting:**
 - New wall pack mounted lighting will be incorporated in the design and be located on all exterior walls of the building for safety as well as for site lighting. -Refer to site lighting plans.
 - There is no up-lighting permitted.

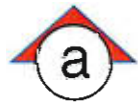
Specific Requirements for the Chesterfield Valley:

- Facades:**
 - All facades have been designed to an equal level of detail and quality of the nearest adjacent structure based upon functionality.
- Storage:**
 - Not Applicable.
- Utilities:**
 - New utility services are underground.
- Parking:**
 - Property not adjacent or along I-64 corridor.





RENDERING



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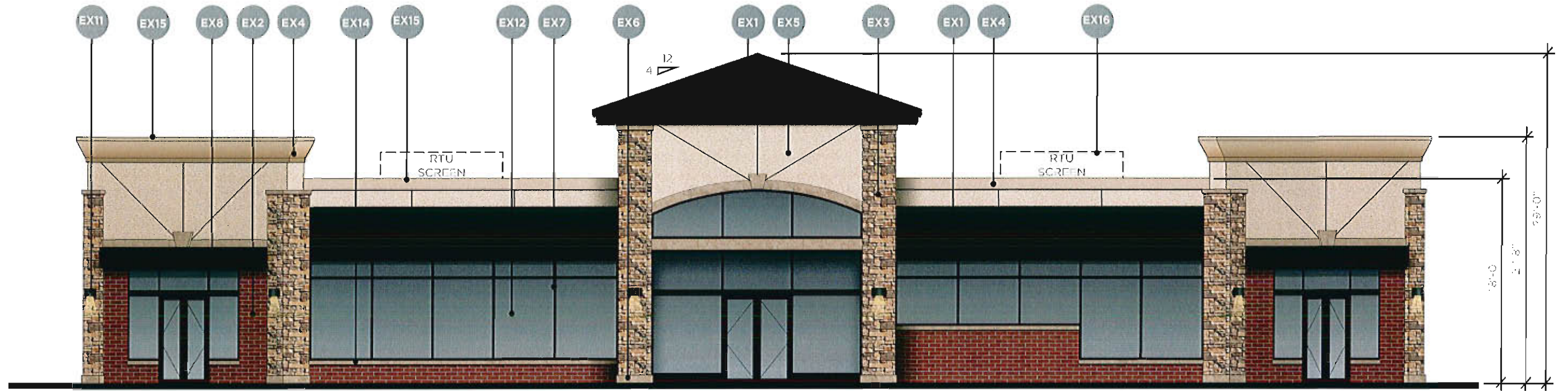


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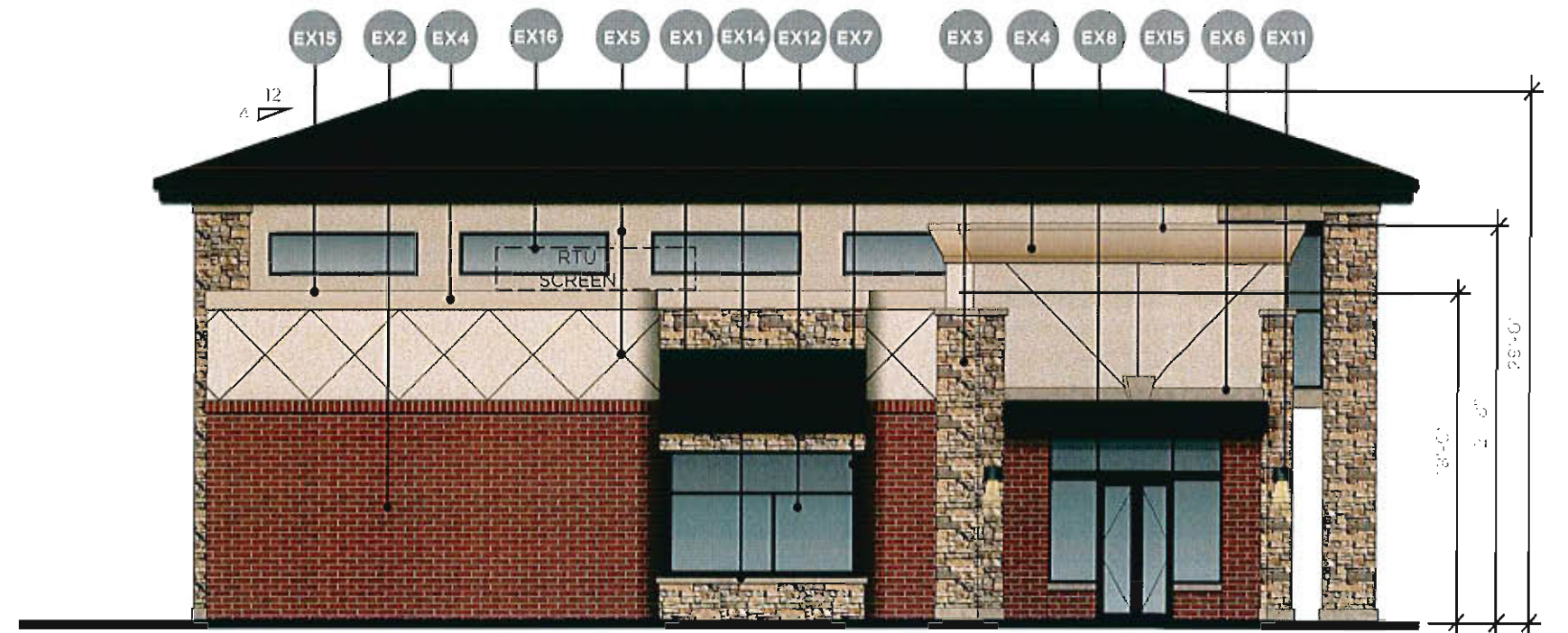




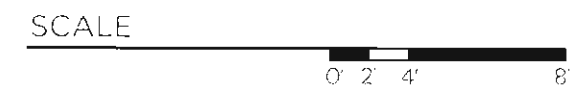
CSTORE - FRONT

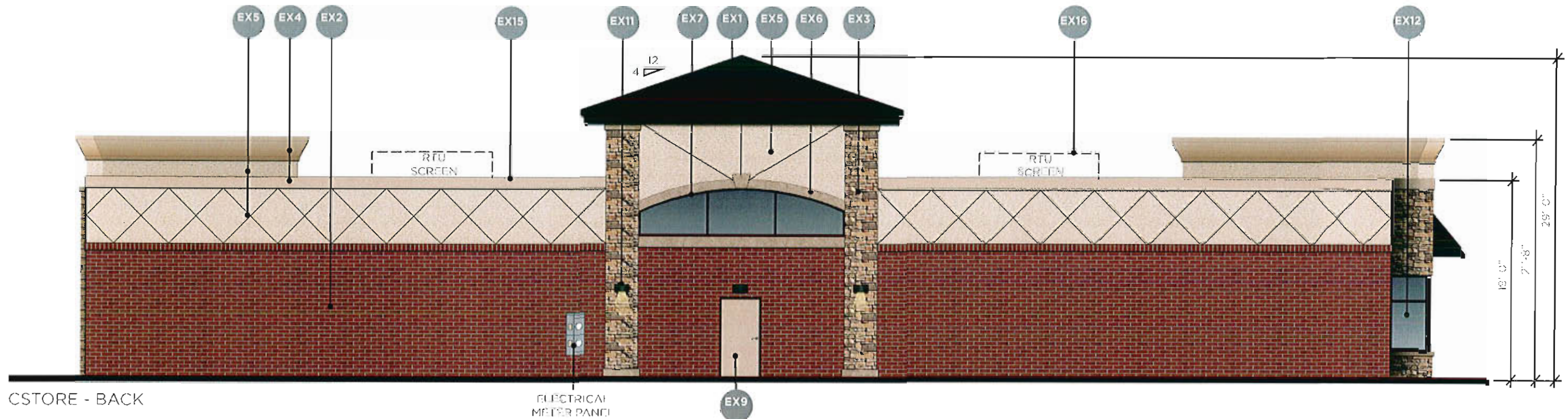
LEGEND

- EX1** Architectural Shingle (Color: Black).
- EX2** Facebrick Veneer (Color: Haverford). 3 5/8"W x 2 1/4"H x 7 5/8"L.
- EX3** Adhered Stone - Mountain Ledge Panels (Color: Pioneer).
- EX4** Exterior Insulation Finish System (Color: Almond).
- EX5** Exterior Insulation Finish System (Color: Birch).
- EX6** Adhered Stone - Snapped Edge Wainscot Sill & Base, Ashlar Cut Heads & Keystone (Color: Buckskin).
- EX7** Aluminum Storefront with 1" insulated glazing. (Color: Black Anodized Aluminum).
- EX8** Metal Awning. (Color: Matte Black).
- EX9** Exterior/Commercial Grade Paint. Paint color to match EX4.
- EX10** Split-Faced Concrete Masonry Units (Color: Light Tan).
- EX11** Outdoor Wall Mount Lighting - ENC Entry Round Clean LED - Down Lighting.
- EX12** 1" Insulated tinted windows (Color: Grey)
- EX13** Fuel Canopies Manufactured by Arning Companies, Inc.
- EX14** Cast Stone. (Color: Light Tan)
- EX15** Metal Coping (Color: Match adjacent finish color)
- EX16** Plastic RTU Screen (Color: Light Tan)



CSTORE - DRIVE THRU SIDE



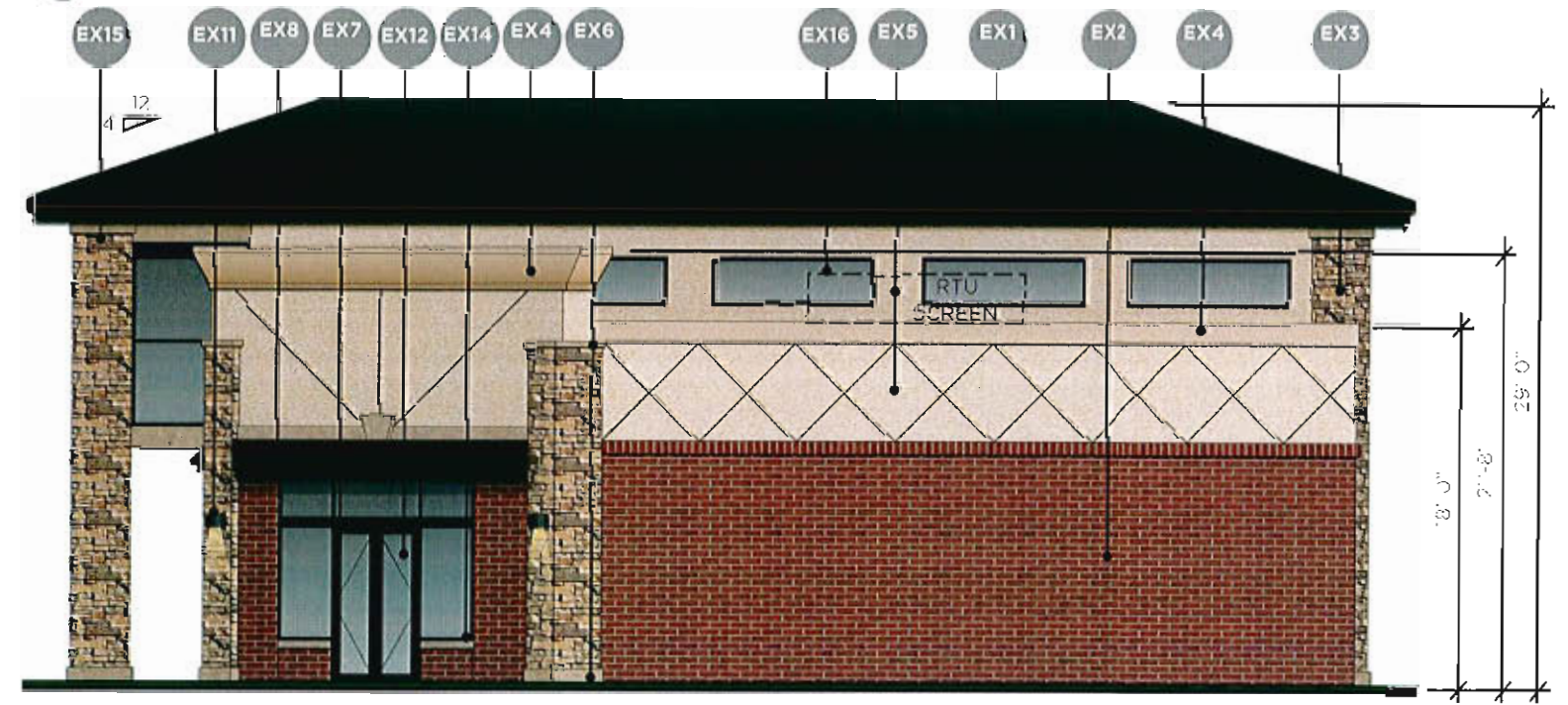


CSTORE - BACK

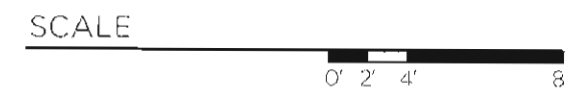
ELECTRICAL METER PANEL

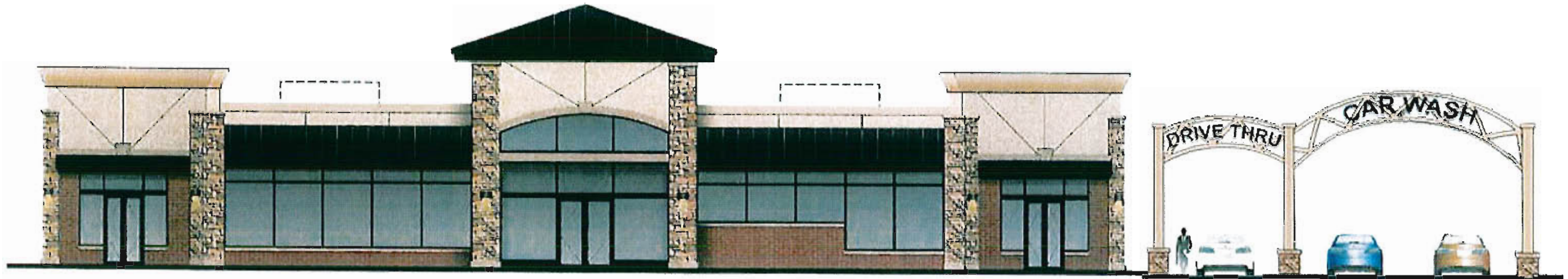
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- EX8** Metal Awning. (Color: Matte Black).
- EX9** Exterior/Commercial Grade Paint. Paint color to match EX4.
- EX10** Split Faced Concrete Masonry Units (Color: Light Tan).
- EX11** Outdoor Wall Mount Lighting - ENC Entr Round Clean LED Down Lighting.
- EX12** 1" Insulated tinted windows (Color: Grey)
- EX13** Fuel Canopies Manufactured by Arning Companies, Inc.
- EX14** Cast Stone. (Color: Light Tan)
- EX15** Metal Casing (Color: Match adjacent finish color)
- EX16** Plastic RTU Screen (Color: Light Tan)



CSTORE - SIDE





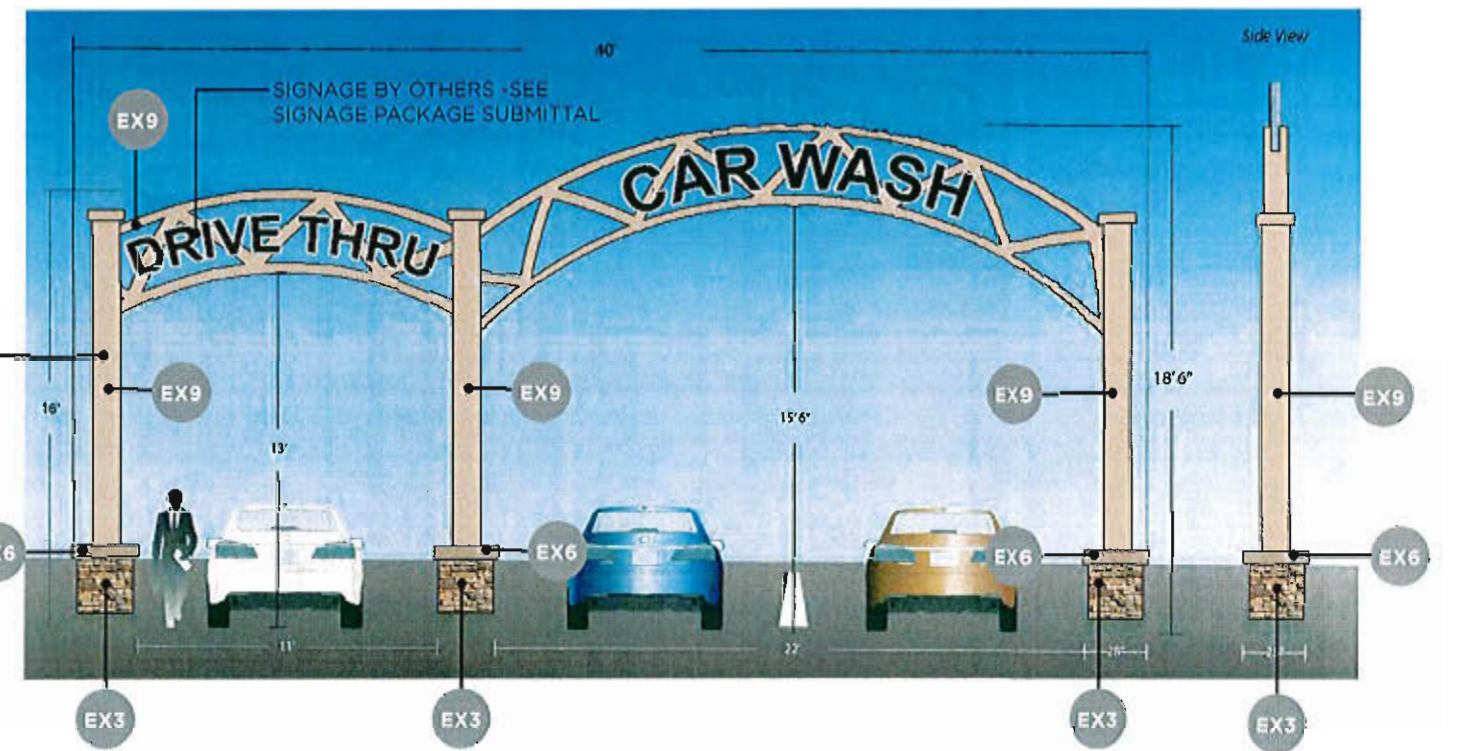
CSTORE - FRONT WITH SIGNAGE ELEMENT N.P.S.

SEE PREVIOUS SHEET FOR BALANCE OF MATERIAL INFORMATION

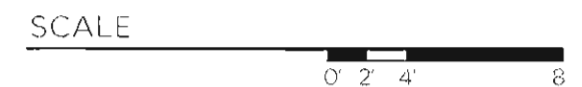
LEGEND

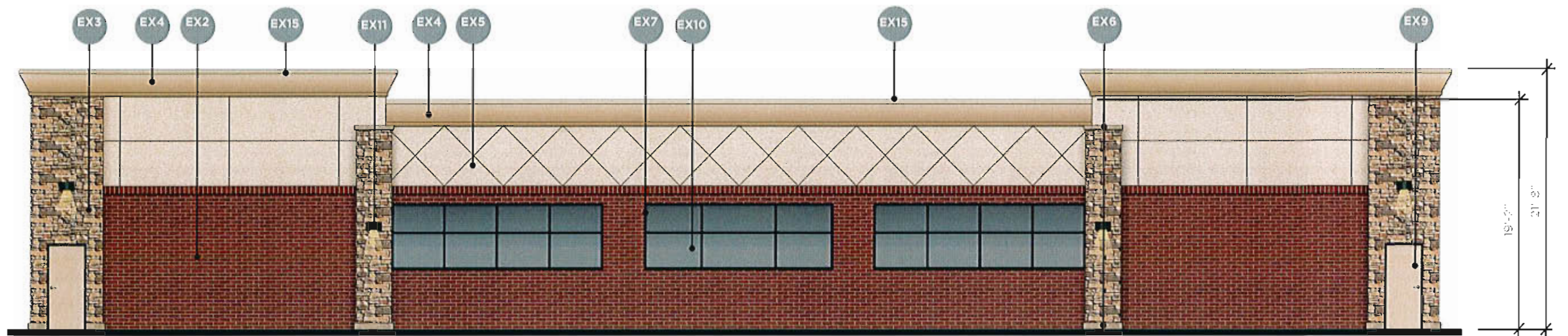
- EX1** Architectural Shingle (Color: Black).
- EX2** Facebrick Veneer (Color: Haverford). 3 5/8"W x 2 1/4"H x 7 5/8"L.
- EX3** Adhered Stone - Mountain Lodge Panels (Color: Pioneer).
- EX4** Exterior Insulation Finish System (Color: Almond).
- EX5** Exterior Insulation Finish System (Color: Birch).
- EX6** Adhered Stone - Snapped Edge Wainscot Sill & Base. Ashlar Cut Heads & Keystone (Color: Buckskin).
- EX7** Aluminum Storefront with 1" insulated glazing. (Color: Black Anodized Aluminum).
- EX8** Metal Awning. (Color: Matte Black).
- EX9** Exterior/Commercial Grade Paint. Paint color to match EX4.
- EX10** Split Faced Concrete Masonry Units (Color: Light Tan).
- EX11** Outdoor Wall Mount Lighting - ENC Entry Round Clean LED Down Lighting.
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- EX14** Cast Stone. (Color: Light Tan)
- EX15** Metal Coping (Color: Match adjacent finish color)
- EX16** Plastic RTU Screen (Color: Light Tan)

12"X12" POST ON TOP OF STONE PEDestal.



DRIVE-THRU & CAR WASH SIGNAGE ELEMENT N.P.S.

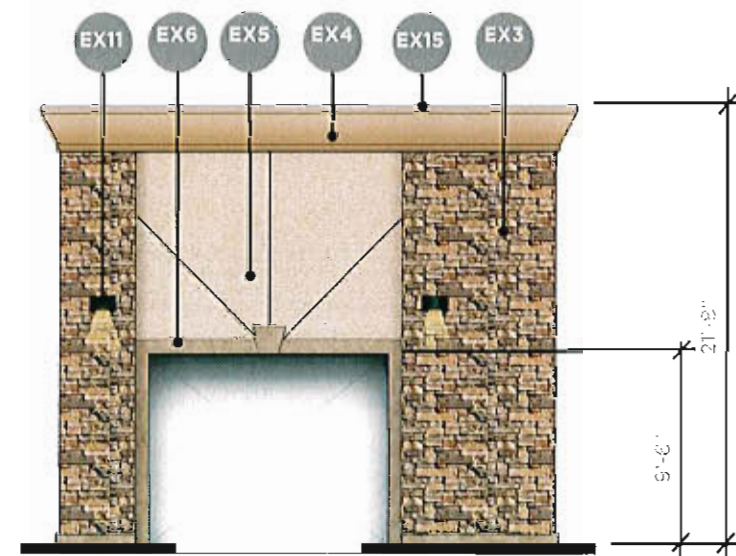




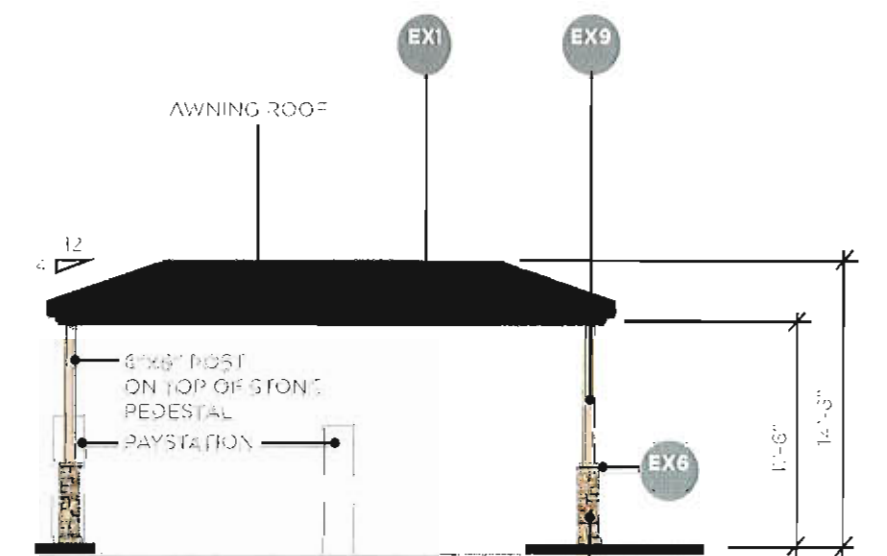
CAR WASH - FRONT SIDE

LEGEND

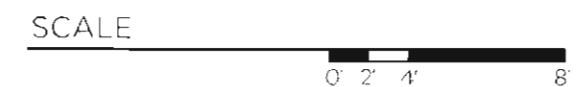
- EX1** Architectural Shingle (Color: Black).
- EX2** Facebrick Veneer (Color: Haverford). 3 5/8"W x 2 1/4"H x 7 5/8"L.
- EX3** Adhered Stone - Mountain Lodge Panels (Color: Pioneer).
- EX4** Exterior Insulation Finish System (Color: Almond).
- EX5** Exterior Insulation Finish System (Color: Birch).
- EX6** Adhered Stone - Strapped Edge Wainscot Sill & Base, Ashlar Cut Heads & Keystone (Color: Buckskin).
- EX7** Aluminum Storefront with 1" insulated glazing. (Color: Black Anodized Aluminum).
- EX8** Metal Awning. (Color: Matte Black).
- EX9** Exterior/Commercial Grade Paint. Paint color to match EX4.
- EX10** Split Faced Concrete Masonry Units (Color: Light Tan).
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- EX14** Cast Stone. (Color: Light Tan)
- EX15** Metal Coping (Color: Match adjacent finish color)
- EX16** Plastic RTU Screen (Color: Light Tan)

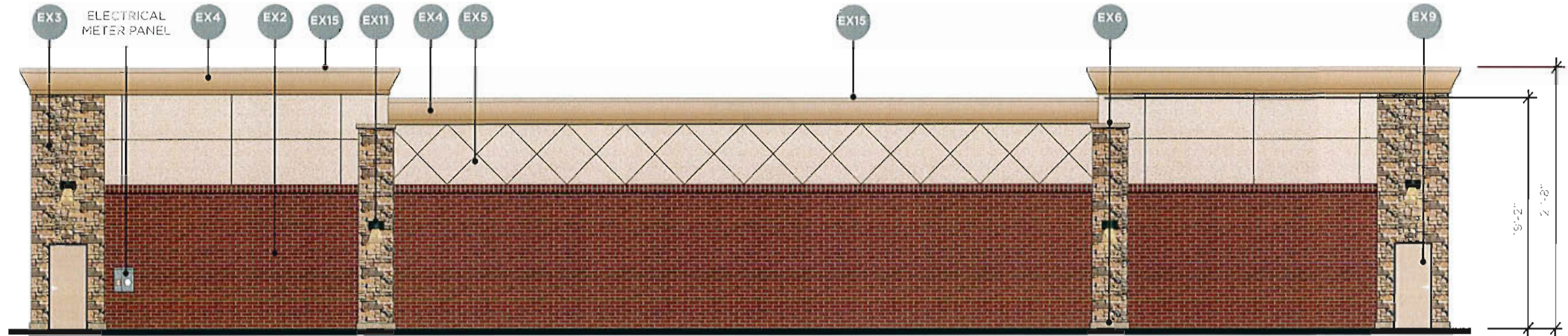


CAR WASH - ENTRY



CAR WASH - CANOPY

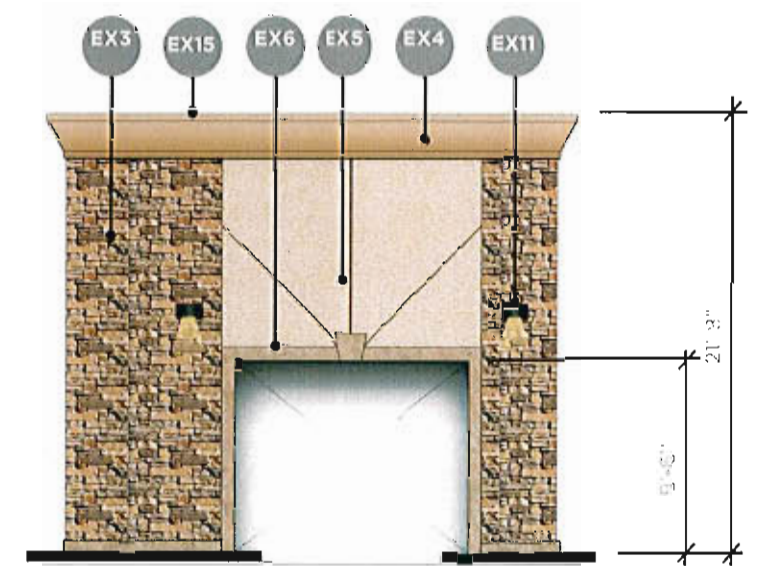




CAR WASH - BACK SIDE

LEGEND

- EX1** Architectural Shingle (Color: Black).
- EX2** Facebrick Veneer (Color: Havorford), 3 5/8"W x 2 1/4"H x 7 5/8"L.
- EX3** Adhered Stone - Mountain Ledge Panels (Color: Pioneer).
- EX4** Exterior Insulation Finish System (Color: Almond).
- EX5** Exterior Insulation Finish System (Color: Birch).
- EX6** Adhered Stone - Snapped Edge Wainscot Sill & Base, Ashlar Cut Heads & Keystone (Color: Buckskin).
- EX7** Aluminum Storefront with 1" insulated glazing. (Color: Black Anodized Aluminum).
- EX8** Metal Awning. (Color: Matte Black).
- EX9** Exterior/Commercial Grade Paint. Paint color to match EX4.
- EX10** Split Faced Concrete Masonry Units (Color: Light Tan).
- EX11** Outdoor Wall Mount Lighting - ENC Entry Round Clean LED - Down Lighting.
- EX12** 1" Insulated tinted windows (Color: Grey).
- EX13** Fuel Canopies Manufactured by Arming Companies, Inc.
- EX14** Cast Stone. (Color - Light Tan)
- EX15** Metal Coping (Color - Match adjacent finish color)
- EX16** Plastic RTU Screen. (Color - Light Tan)



CAR WASH - EXIT

EXTERIOR ELEVATIONS CAR WASH
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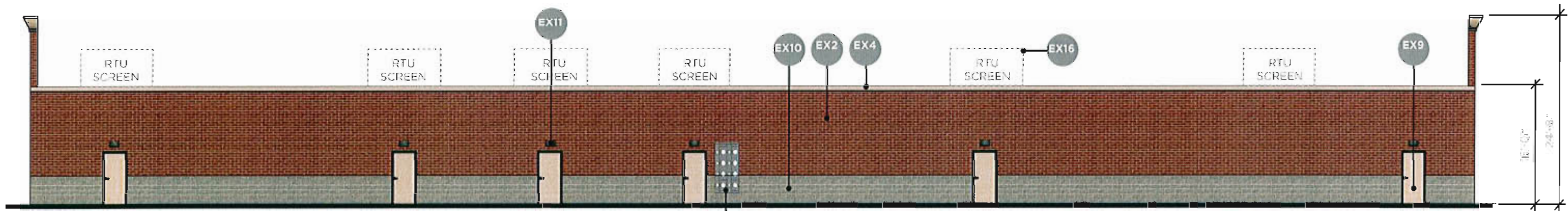


Archimages
architecture | interiors





LEASE SPACE - FRONT

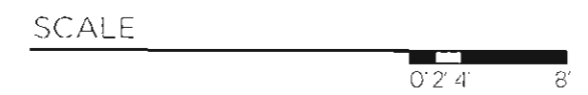


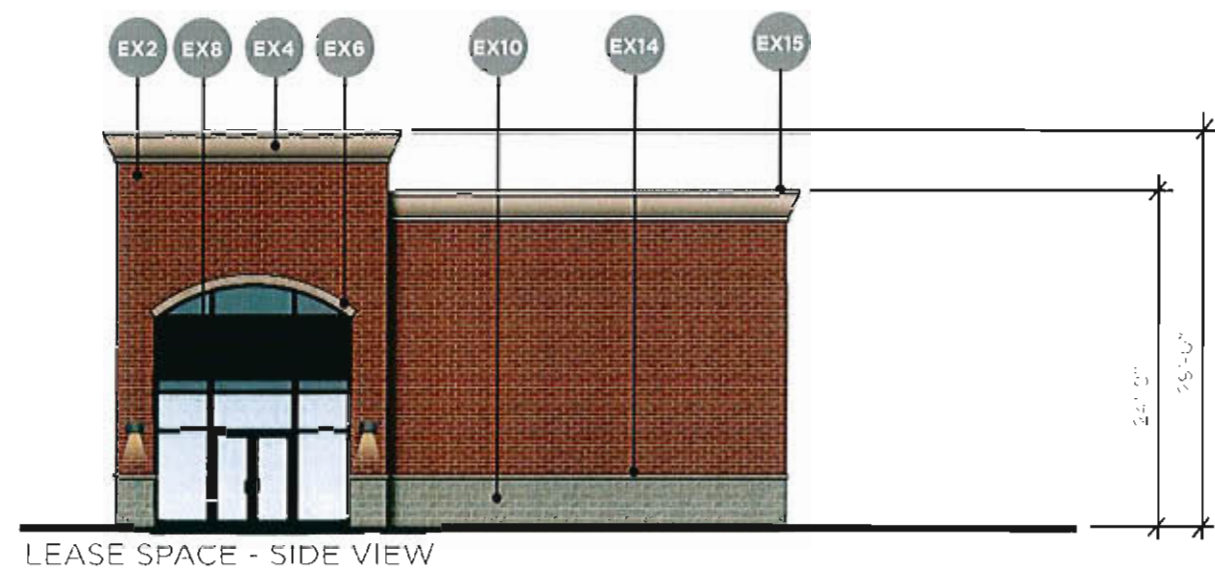
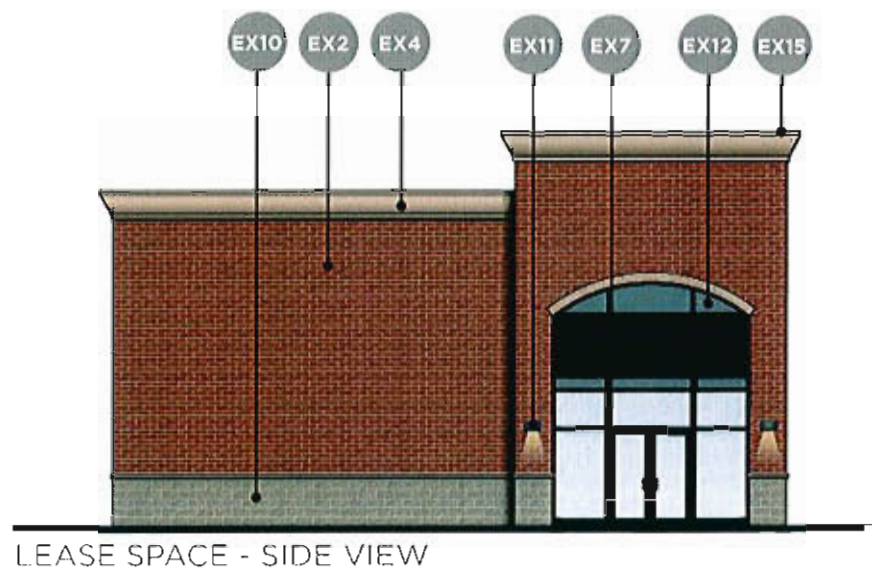
LEASE SPACE - BACK

ELECTRICAL METER PANEL

LEGEND

- EX1** Architectural Shingle (Color: Black).
- EX2** Facebrick Veneer (Color: Haverford). 3 5/8"W x 2 1/4"H x 7 5/8"L.
- EX3** Adhered Stone - Mountain Lodge Panels (Color: Pioneer).
- EX4** Exterior Insulation Finish System (Color: Almond).
- EX5** Exterior Insulation Finish System (Color: Birch).
- EX6** Adhered Stone - Snapped Edge Wainscot Sill & Base, Ashlar Cut Heads & Keystone (Color: Buckskin).
- EX7** Aluminum Storefront with 1" insulated glazing. (Color: Black Anodized Aluminum).
- EX8** Metal Awning. (Color: Matte Black).
- EX9** Exterior/Commercial Grade Paint. Paint color to match EX4.
- EX10** Split-Faced Concrete Masonry Units (Color: Light Tan).
- EX11** Outdoor Wall Mount Lighting - ENC Entry Round Clean LED - Down Lighting.
- EX12** 1" Insulated tinted windows (Color: Grey).
- EX13** Fuel Canopies Manufactured by Arning Companies, Inc.
- EX14** Cast Stone. (Color - Light Tan)
- EX15** Metal Coping (Color - Match adjacent finish color)
- EX16** Plastic RTU Screen (Color - Light Tan)





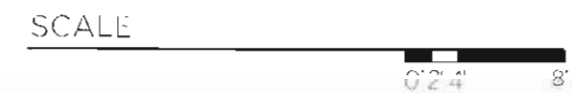
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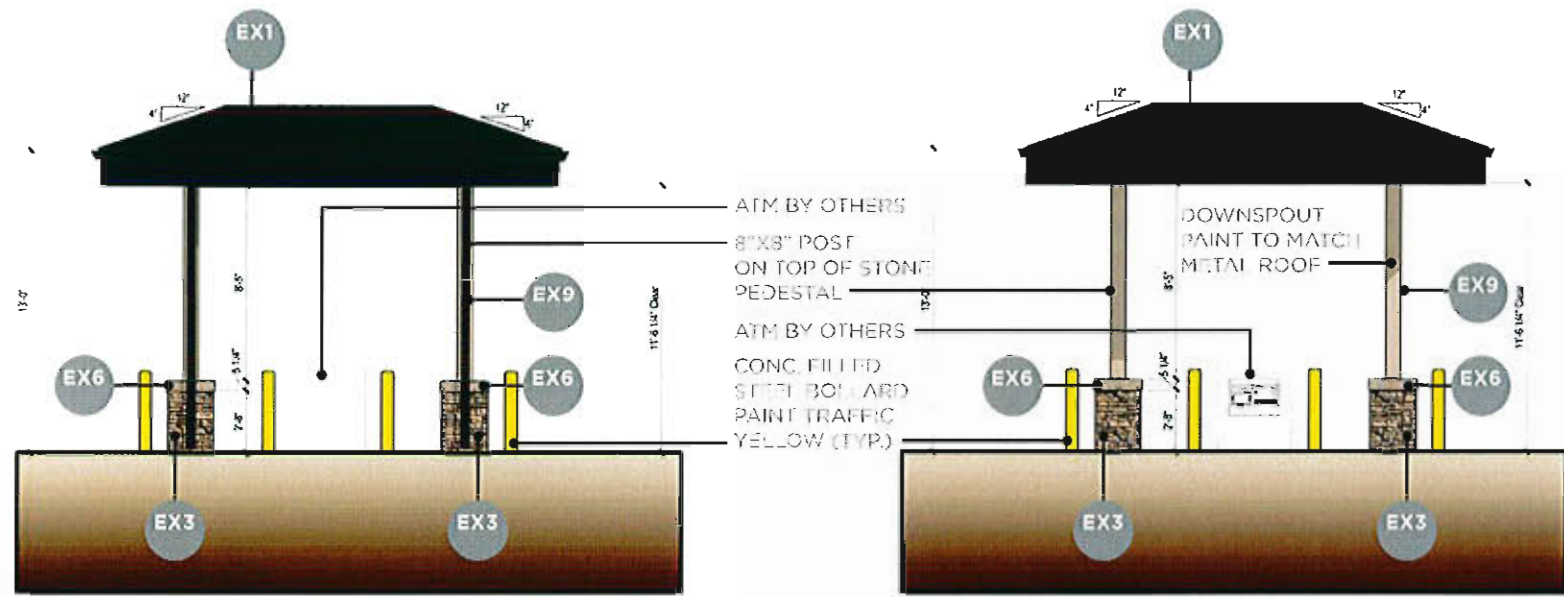
- EX1** Architectural Shingle (Color: Black).
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3 5/8"W x 2 1/4"H x 7 5/8"L.
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- EX5** Exterior Insulation Finish System (Color: Birch).
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- EX7** Aluminum Storefront with 1" insulated glazing. (Color: Black Anodized Aluminum).
- EX8** Metal Awning. (Color: Matte Black).
- EX9** Exterior/Commercial Grade Paint. Paint color to match EX4.
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- EX13** Fuel Canopies Manufactured by Arming Companies, Inc.
- EX14** Cast Stone. (Color - Light Tan)
- EX15** Metal Coping (Color - Match adjacent finish color)
- EX16** Plastic RTU Screen (Color - Light Tan)

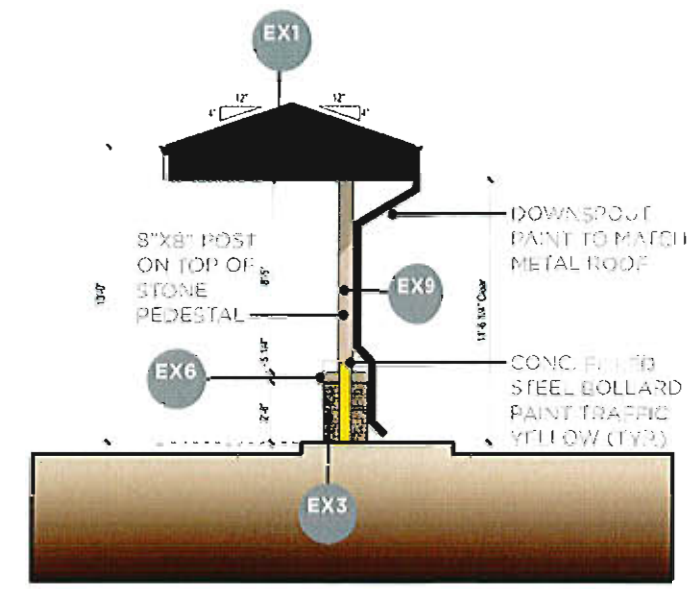
EXTERIOR ELEVATIONS LEASE SPACE
1599 | ENERGY EXPRESS | DECEMBER 12, 2016





ATM CANOPY - FRONT SERVICE SIDE
(FACES CHESTERFIELD AIRPORT ROAD)

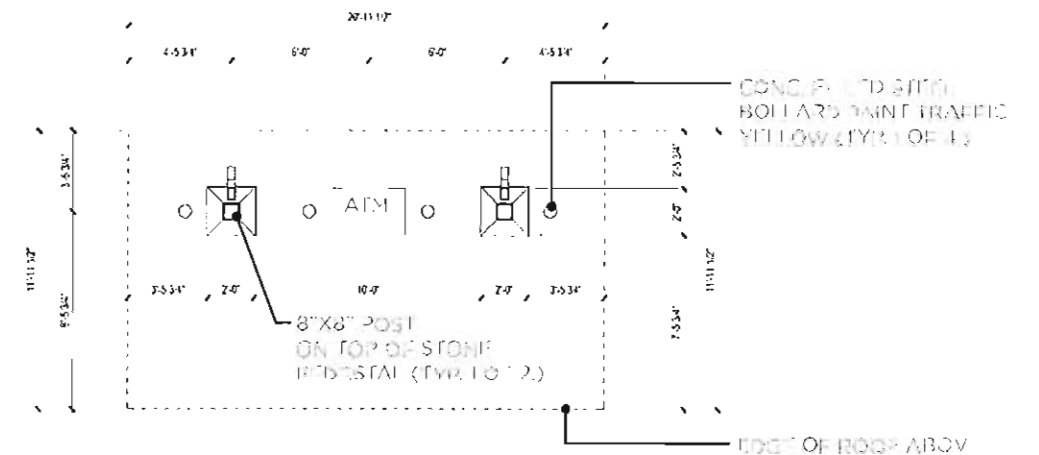
ATM CANOPY - REAR NON-SERVICE SIDE
(FACES RETAIL BUILDING/DRIVE AISLE)



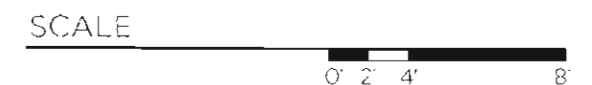
ATM CANOPY - SIDE VIEW
(BOTH SIDE VIEWS SIMILAR OPP. HAND)

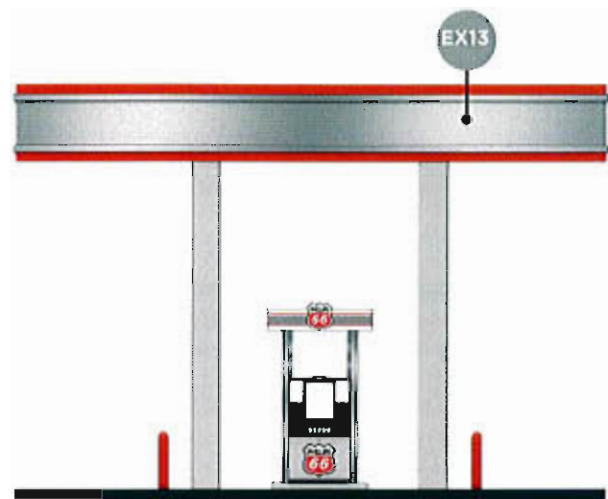
LEGEND

- EX1** Architectural Shingle (Color: Black).
- EX2** Facebrick Veneer (Color: Haverford). 3 5/8"W x 2 1/4" H x 7 5/8"L.
- EX3** Adhered Stone - Mountain Ledge Panels (Color: Pioneer).
- EX4** Exterior Insulation Finish System (Color: Almond).
- EX5** Exterior Insulation Finish System (Color: Birch).
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- EX7** Aluminum Storefront with 1" insulated glazing. (Color: Black Anodized Aluminum).
- EX8** Metal Awning. (Color: Matte Black).
- EX9** Exterior/Commercial Grade Paint. Paint color to match EX4.
- EX10** Split Faced Concrete Masonry Units (Color: Light Tan).
- EX11** Outdoor Wall Mount Lighting - ENC Entry Round Clean LED - Down Lighting.
- EX12** 1" insulated tinted windows (Color: Gray)
- EX13** Fuel Canopies Manufactured by Arning Companies, Inc.
- EX14** Cast Stone. (Color - Light Tan)
- EX15** Metal Coping (Color - Match adjacent finish color)
- EX16** Plastic RTU Screen (Color - Light Tan)

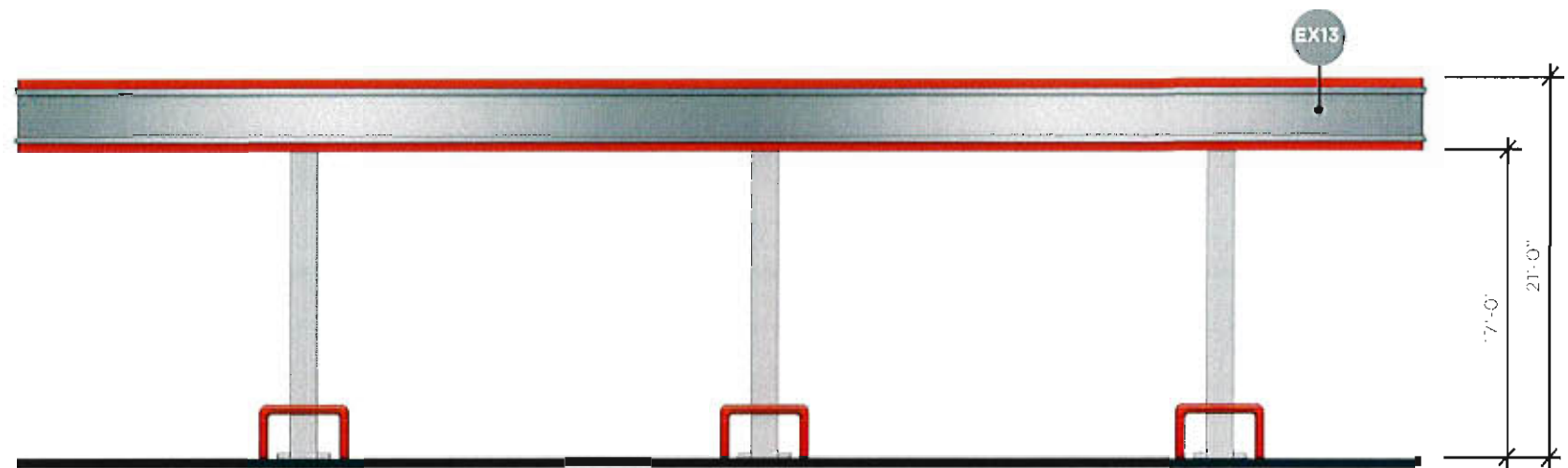


ATM CANOPY - PLAN VIEW

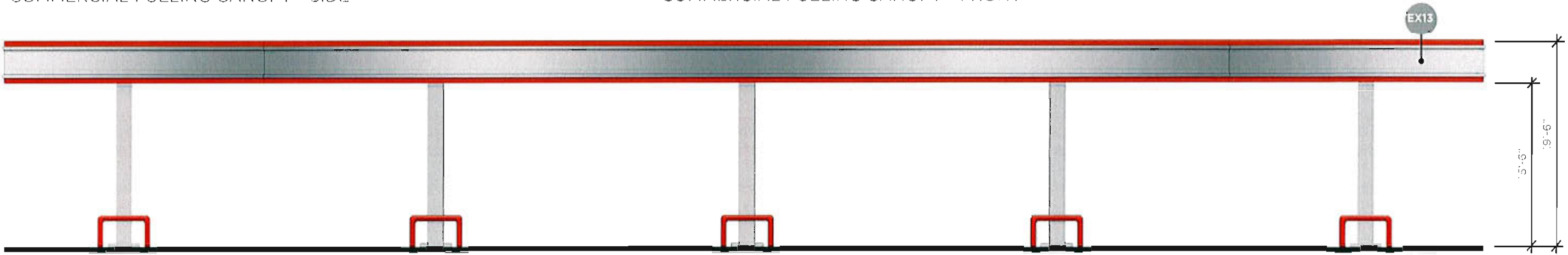




COMMERCIAL FUELING CANOPY - SIDE



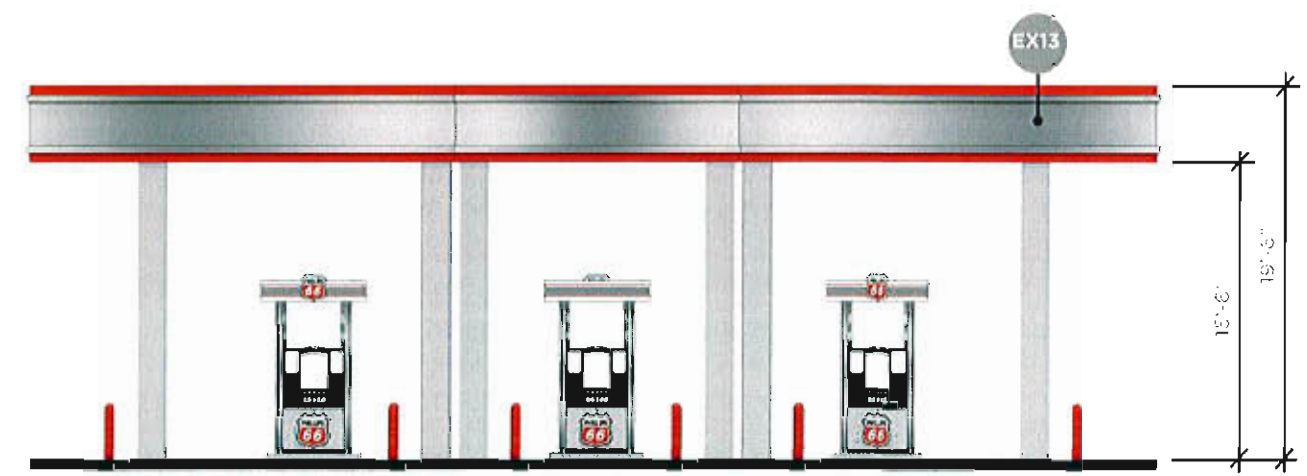
COMMERCIAL FUELING CANOPY - FRONT



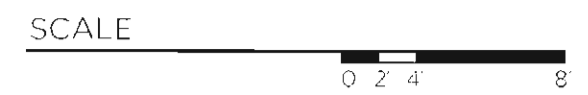
GAS CANOPY - FRONT

LEGEND

- EX1** Architectural Shingle (Color: Black).
- EX2** Facebrick Veneer (Color: Haverford). 3 5/8"W x 2 1/4"H x 7 5/8"L.
- EX3** Adhered Stone - Mountain Lodge Panels (Color: Pioneer).
- EX4** Exterior Insulation Finish System (Color: Almond).
- EX5** Exterior Insulation Finish System (Color: Birch).
- EX6** Adhered Stone - Snapped Edge Wainscot Sill & Base, Ashlar Cut Heads & Keystone (Color: Buckskin).
- EX7** Aluminum Storefront with 1" insulated glazing. (Color: Black Anodized Aluminum).
- EX8** Metal Awning (Color: Matte Black).
- EX9** Exterior/Commercial Grade Paint. Paint color to match EX4.
- EX10** Split-Faced Concrete Masonry Units (Color: Light Tan).
- EX11** Outdoor Wall Mount Lighting - ENC Entry Round Clean LED - Down Lighting.
- EX12** 1" Insulated tinted windows (Color: Grey)
- EX13** Fuel Canopies Manufactured by Arning Companies, Inc.
- EX14** Cast Stone. (Color - Light Tan)
- EX15** Metal Coping. (Color - Match adjacent finish color)
- EX16** Plastic RTU Screen (Color - Light Tan)

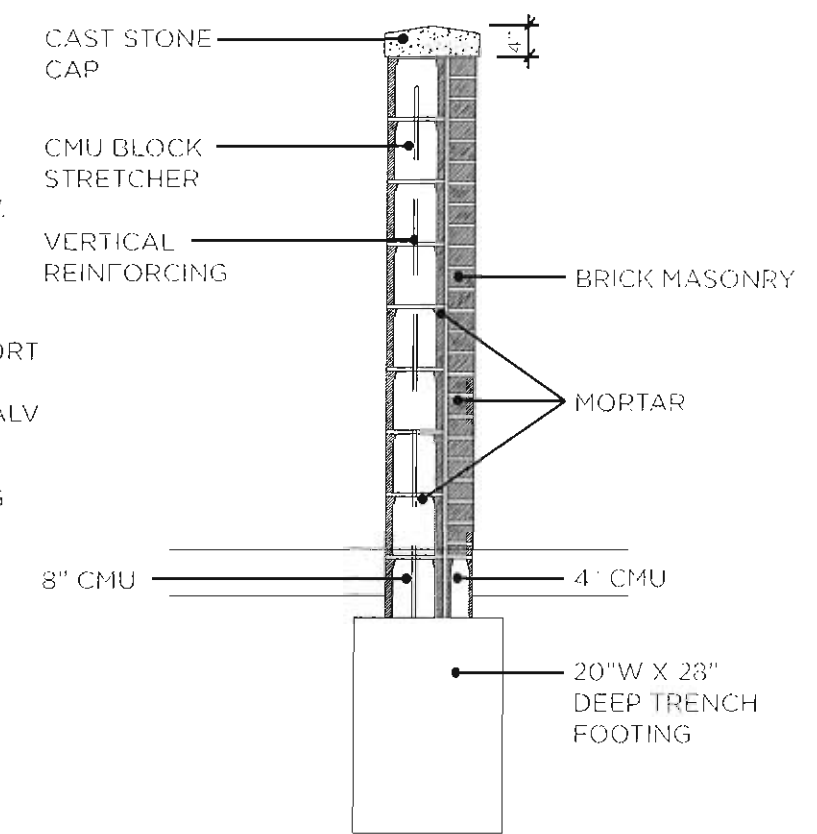
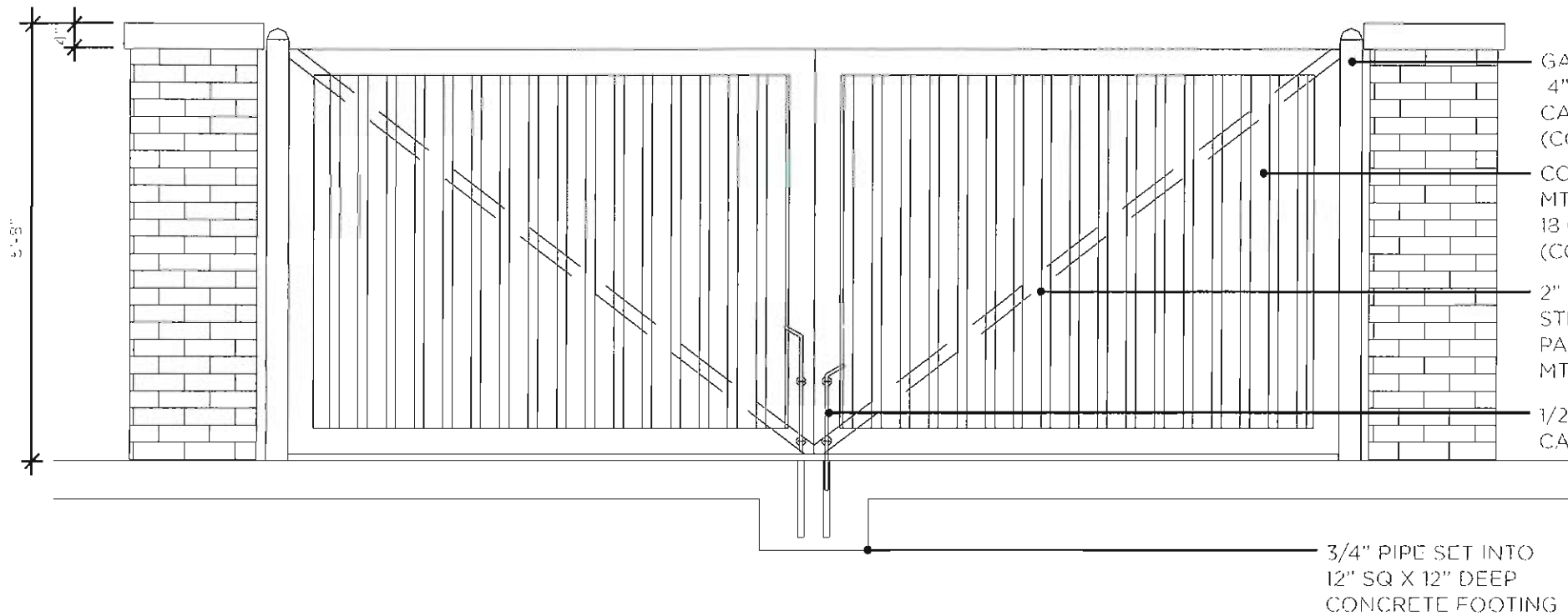


GAS CANOPY - SIDE



EXTERIOR ELEVATIONS FUEL CANOPIES
1599 | ENERGY EXPRESS | DECEMBER 12, 2016



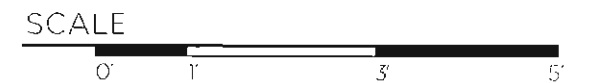
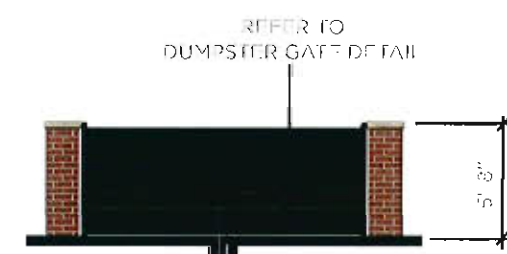
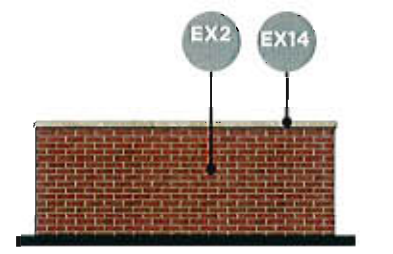
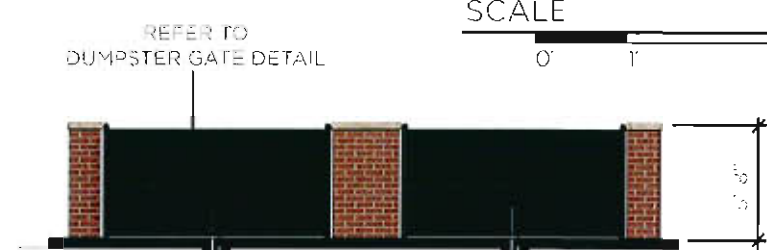
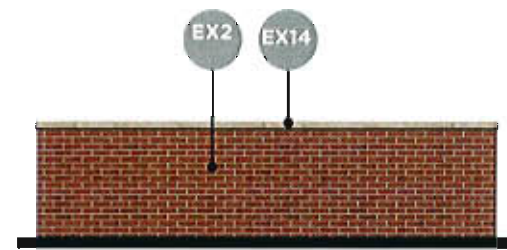


DUMPSTER GATE - DETAIL

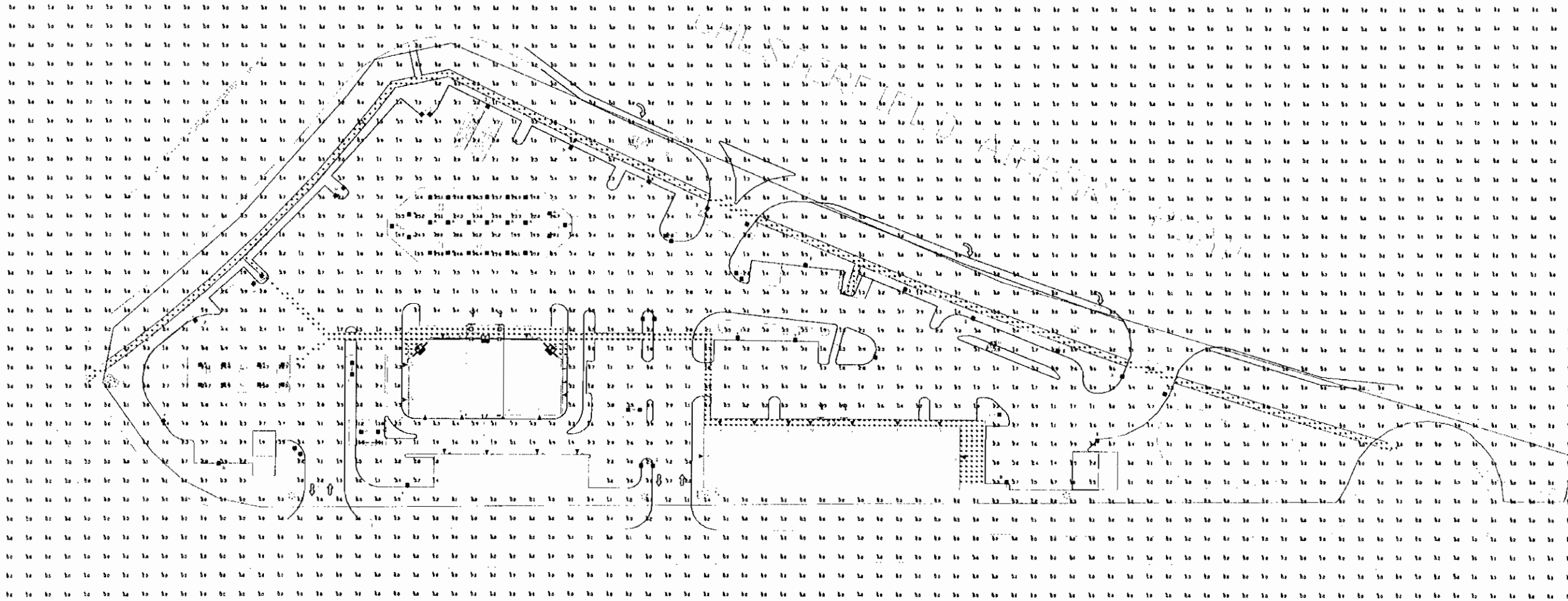
DUMPSTER WALL - DETAIL 11 3/4" THICK

LEGEND

- EX1** Architectural Shingle (Color: Black).
- EX2** Facebrick Veneer (Color: Haverford).
3 5/8"W x 2 1/4"H x 7 5/8"L.
- EX3** Adhered Stone - Mountain Ledge Panels
(Color: Pioneer).
- EX4** Exterior Insulation Finish System
(Color: Almond).
- EX5** Exterior Insulation Finish System
(Color: Birch).
- EX6** Adhered Stone - Snapped Edge Wainscot Sill
& Base, Ashlar Cut Heads & Keystone (Color:
Buckskin).
- EX7** Aluminum Storefront with 1" insulated
glazing
(Color: Black Anodized Aluminum).
- EX8** Metal Awning. (Color: Matte Black).
- EX9** Exterior/Commercial Grade Paint.
Paint color to match EX4.
- EX10** Split-Faced Concrete Masonry Units
(Color: Light Tan).
- EX11** Outdoor Wall Mount Lighting -
ENC Entry Round Clean LED
Down Lighting.
- EX12** 1" Insulated tinted windows (Color: Grey)
- EX13** Fuel Canopies Manufactured by Arning
Companies, Inc.
- EX14** Cast Stone Cap. (Color - Light Tan)
- EX15** Metal Coping.
(Color - Match adjacent finish color)
- EX16** Plastic RTU Screen (Color - Light Tan)

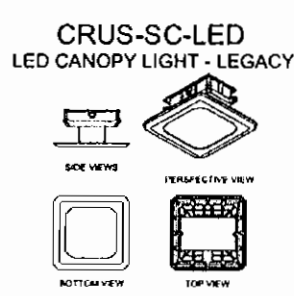
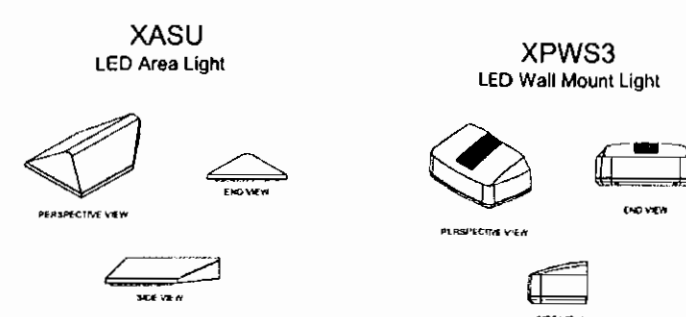


Energy Marketing LIGHTING PLAN



Symbol	Qty	Label	Arrangement	Description	LLF	Lumens/Lamp	Arr Lun Lumens	Arr. Watts
[Symbol]	34	A	SINGLE	CRUS-SC-LED-VLW-CW	1.000	NA	8842	78.7
[Symbol]	17	B	SINGLE	XASU-FT-LED-64-HO-CW-HSS-SINGLE-18"POLE+2"BASE	1.000	NA	6001	88
[Symbol]	4	C	2 @ 90 DEGREES	XASU-FT-LED-64-HO-CW-HSS-D90-18"POLE+2"BASE	1.000	NA	12002	176
[Symbol]	5	D	D180	XASU-FT-LED-64-HO-CW-HSS-D180-18"POLE+2"BASE	1.000	NA	12002	176
[Symbol]	1	E	D180	XASU-FT-LED-64-HO-CW-D180-18"POLE+2"BASE	1.000	NA	15312	178
[Symbol]	4	F	SINGLE	XASU-S-LED-64-HO-CW-SINGLE-18"POLE+2"BASE	1.000	NA	7542	88
[Symbol]	24	G	SINGLE	XPWS3-VW-LED-28-350-CW-UE	1.000	NA	3161	34
[Symbol]	2	H	SINGLE	PDL6K-LED-08-40-WH MTD @ 95' ATM CANOPY	1.000	NA	607	12.9

Label	Calc Type	Units	Avg	Max	Min	Avg/Min	Max/Min
ALL CALC POINTS	Illuminance	Fc	0.99	27.1	0.0	NA	NA
INTERIOR WALKWAYS	Illuminance	Fc	3.66	11.7	0.2	18.30	59.50
PERIMETER WALKWAYS	Illuminance	Fc	0.78	6.0	0.0	NA	NA
CAR WASH PAY CANOPY SUMMARY	Illuminance	Fc	15.15	20.1	11.2	1.35	1.79
DIESEL CANOPY SUMMARY	Illuminance	Fc	21.93	25.0	12.1	1.81	2.07
GAS CANOPY SUMMARY	Illuminance	Fc	21.26	27.1	7.5	2.83	3.61
NORTH ENTRANCE/EXIT SUMMARY	Illuminance	Fc	3.39	6.6	0.0	NA	NA
PARKING AREA SUMMARY	Illuminance	Fc	2.59	8.0	0.1	25.90	80.00
SOUTH ENTRANCE/EXIT SUMMARY	Illuminance	Fc	2.47	4.2	1.1	2.25	3.82



Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

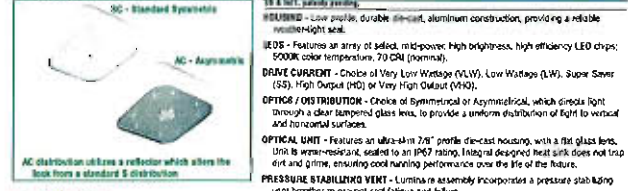
This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with the Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LEDs and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted.

Total Project Watts
Total Watts = 7127.599

Lighting Proposal LD-126601-9
ENERGY EXPRESS
CHESTERFIELD AIRPORT ROAD
CHESTERFIELD, MO

DATE: 04-15 REV: 04-16 SHEET 1 OF 1
SCALE: 1"=40'

LED CANOPY LIGHT - LEGACY™ (CRUS)



LED LIGHTING FACTS
Department of Energy has verified representative product test data and results in accordance with its Lighting Facts Program. Visit www.lightingfacts.com for specific catalog sheets.

ILLUMINATION - Low profile, durable, aluminum construction, providing a reliable, weather-resistant seal.

LED'S - Features an array of select, mid-power, high brightness, high efficiency LED chips; 5000K color temperature, 70 CRI (nominal).

DRIVE CURRENT - Choice of Very Low Voltage (VLV), Low Voltage (LV), Super Saver (SS), High Output (HO) or Very High Output (VHO).

OPTICS/DISTRIBUTION - Choice of Symmetrical or Asymmetrical, which directs light through a clear tempered glass lens, to provide a uniform distribution of light to vertical and horizontal surfaces.

OPTICAL UNIT - Features an ultra-thin 7/8" profile die-cast housing, with a flat glass lens. Used to view-reflect, sealed to an IP67 rating. Integral designed heat sink does not trap dirt and grime, ensuring excellent long-term performance over the life of the fixture.

PRESSURE STABILIZING VENT - Luminaire assembly incorporates a pressure balancing vent with breather to prevent seal leakage and failure.

HAZARDOUS LOCATION - Designed for lighter than air fuel applications. Product is suitable for Class I Division 2 only when properly installed per LSI installation instructions (consult factory).

DRIVER - State-of-the-art driver technology superior efficiency and optimum light output. Driver components are fully enclosed in potting for moisture resistance. Complies with IEC and FCC standards. 0-10V dimming supplied standard with all drive currents.

DRIVER HOUSING - Die-cast aluminum, wet location rated, electrical enclosure is elevated above canopy deck to prevent water entry, provide easy "break-out" connection of primary wiring and contributes to attaining the lowest operating temperatures available. Seals to optical housing via one-piece molded silicone gasket.

OPERATING TEMPERATURE - -40°C to 50°C (-40°F to +122°F).

ELECTRICAL - Unbalanced voltage power supply, 120-277 VAC, 50/60 Hz Input. Drivers feature two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41.2-2002, Scenario 1, Location Category C.

FINISH - Standard color is white and is finished with LSI's DuraGrip® polyester powder coat process. DuraGrip withstands extreme weather changes without cracking or peeling.

INSTALLATION - One person installation. No additional sealant required. Installable in a 1" or 1 1/2" deep pipe. Once penetration consists of a 4" hole, simplifying installation and water sealing. Unit is designed to quickly retrofit into existing Scottdale (S1) hole as well as openings for Encore and Encore Plus sizes and to accommodate wiring for the SGECA without having to relocate the conduit. Mounting brackets are available for existing Encore (see back page) as well as kits for new and existing S2 installations (see separate spec sheets). Support brackets are provided standard, to prevent sagging of deck.

SHIPPING WEIGHT - 27 pounds (single pack), 46 pounds (double pack).

EXPECTED LIFE - Minimum 50,000 to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

WARRANTY - Limited 5-year warranty.

LISTING - UL and ETL listed to UL 1598, UL 8750 and other U.S. and International safety standards. Suitable for wet locations.

PHOTOMETRICS - Please visit our web site at www.lightingfacts.com for detailed photometric data.

This product, or selected versions of this product, meet the standard listed below. Please consult factory for your specific requirements.

Light Output - CRUS

Beam Angle	SC	AC	SS	LV	VH
30°	15071	3746	53	63	124
36°	13504	11510	114	111	104
42°	11633	-	132	-	111
48°	22415	17262	159	157	141

Project Name: _____ Fixture Type: _____
 Catalog # _____

LED CANOPY LIGHT - LEGACY™ (CRUS)

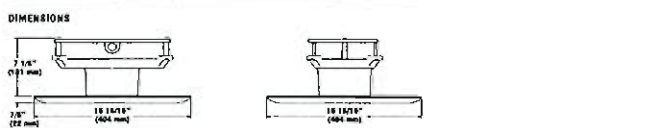
LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: CRUS SC LED HO 50 UE WHT

Profile	Distribution	Light Source	Color Temp	Input Voltage	Finish	Options
CRUS	SC - Standard System AC - Aeromaxx	LED	5000K 55 - Super Saver 60 - High Output VHO - Very High Output	50-1000V UL - Unbalanced Voltage (120-277V) UL - Unbalanced Voltage (241-480V)	WHT - White BLK - Black	UE - Ultra Efficient VH - Very High Output

ACCESSORY ORDERING INFORMATION (Accessories are sold separately)

Description	Order Number	Description	Order Number
Mounting Bracket (UL 1598, UL 8750, for 1" Deep Pipe)	51	UL - Side Mount and Support Bracket for 1 1/2" Deep Pipe	52
Mounting Bracket (UL 1598, UL 8750, for 1 1/2" Deep Pipe)	51	UL - Side Mount and Support Bracket for 1 1/2" Deep Pipe	52
Support Bracket (UL 1598, UL 8750, for 1" Deep Pipe)	53	UL - Side Mount and Support Bracket for 1 1/2" Deep Pipe	52



Light Output - CRUS

Beam Angle	SC	AC	SS	LV	VH
30°	15071	3746	53	63	124
36°	13504	11510	114	111	104
42°	11633	-	132	-	111
48°	22415	17262	159	157	141

Light Output - CRUS

Beam Angle	SC	AC	SS	LV	VH
30°	15071	3746	53	63	124
36°	13504	11510	114	111	104
42°	11633	-	132	-	111
48°	22415	17262	159	157	141

Project Name: _____ Fixture Type: _____
 Catalog # _____

LED AREA LIGHTS - AEROMAX™ SMALL (XASU)



LED LIGHTING FACTS
Department of Energy has verified representative product test data and results in accordance with its Lighting Facts Program. Visit www.lightingfacts.com for specific catalog sheets.

SMARTTEC™ - LSI drivers feature integral sensor which reduces drive current, when ambient temperatures exceed rated temperature.

ENERGY SAVING CONTROL OPTIONS - DIM - 0-10 vdc dimming enabled with controls by others. BUS - Bi-level switching responds to a 120-277V signal from separate controller or sensor (by others), with low light level decreased to 30% maximum drive current.

OCCUPANCY SENSOR (OBS) - Optional infrared passive infrared motion sensor activates dimming of luminaire light levels. High level light is activated and increased to full light in 1-2 seconds upon detection of motion. Low light level (30% maximum drive current) is activated when target zone is absent of motion activity for ~ 2 minutes and ramps down (10-15 sec) to low level to allow eye time to adjust. Sensor is located on the front of optical assembly. Sensor optic has a detection cone of approximately 45°. Extremes of detection - occurs 30' out from a 30' mounting height pole; occurs 20' out from a 20' mounting height pole.

EXPECTED LIFE - Minimum 50,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

LED'S - Select high-brightness LEDs in Cool White (5000K nominal) or Neutral White (4000K nominal) color temperature. 70 CRI (nominal).

DISTRIBUTION/PERFORMANCE - Types 3, FT and 5. Exceptional uniformity creates bright environment at lower light levels. Improved backlight output minimizes light trespass.

HOUSING - One-piece, die-cast aluminum, weather-tight housing containing factory pre-wired driver and field connections. Extruded aluminum EPDM gasketed wiring access door (with safety latches) is located underneath and will not load-less than-observed feature.

OPTICAL UNIT - Clear tempered optical grade flat glass lens sealed to aluminum optic housing creates an IP67 rated, sealed optical unit (includes pressure-stabilizing vent). Optical unit is inserted into housing cavity and sealed to the housing with a custom one-piece EPDM gasket. Optical unit housing serves dual purpose of safety and provides positive seal between unit and housing.

INSTALLATION - Exposed nut design allows fixture to be mounted in a dead-end without the need for extension arms. Use with 3" reduced drilling pattern on round and square poles. A round pole plate (XARPP, XSRPP) is required for mounting to round poles. Wall mount available by ordering wall mounting bracket (WAB-XAB-WM-CL). See Accessory Ordering Information chart for all brackets.

ELECTRICAL - A terminal block for attachment of incoming primary wiring is supplied. Two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41.2-2002, Location Category C. Available with universal voltage power supply 120-277VAC (50/60 Hz) and 241-480VAC. Optional weather-protected photocell receptacle is available. Photocell must be ordered separately.

DRIVER - Available in SS (Super Saver) and HO (High Output) drive currents (Drive currents are factory programmed). Components are fully enclosed in potting material for IP65 moisture resistance. Driver complies with IEC and FCC standards. Driver and key electronic components can easily be accessed.

OPERATING TEMPERATURE - -40°C to 50°C (-40°F to +122°F).

FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling.

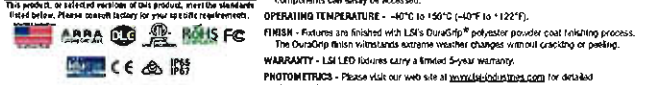
WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our web site at www.lightingfacts.com for detailed photometric data.

This product, or selected versions of this product, meet the standard listed below. Please consult factory for your specific requirements.

Light Output - XASU

Beam Angle	30°	36°	42°	48°
30°	2200	8500	6100	69
36°	2500	7500	7000	73
42°	4700	5700	5000	69
48°	7300	5700	6700	69



Project Name: _____ Fixture Type: _____
 Catalog # _____

LED AREA LIGHTS - AEROMAX™ SMALL (XASU)

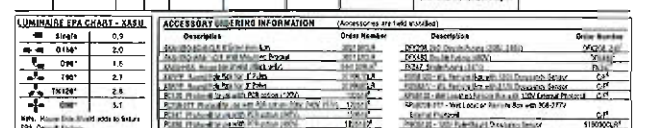
LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: XASU FT LED 64 HO CW UE WHT PCR

Profile	Distribution	Light Source	Color Temp	Input Voltage	Finish	Options
XASU	FT - Footcandle	LED	5000K 55 - Super Saver 60 - High Output	50-1000V UL - Unbalanced Voltage (120-277V) UL - Unbalanced Voltage (241-480V)	WHT - White BLK - Black	UE - Ultra Efficient VH - Very High Output PCR - Photocell Receptacle

ACCESSORY ORDERING INFORMATION (Accessories are sold separately)

Description	Order Number	Description	Order Number
Mounting Bracket (UL 1598, UL 8750, for 1" Deep Pipe)	51	UL - Side Mount and Support Bracket for 1 1/2" Deep Pipe	52
Mounting Bracket (UL 1598, UL 8750, for 1 1/2" Deep Pipe)	51	UL - Side Mount and Support Bracket for 1 1/2" Deep Pipe	52
Support Bracket (UL 1598, UL 8750, for 1" Deep Pipe)	53	UL - Side Mount and Support Bracket for 1 1/2" Deep Pipe	52



Light Output - XASU

Beam Angle	30°	36°	42°	48°
30°	2200	8500	6100	69
36°	2500	7500	7000	73
42°	4700	5700	5000	69
48°	7300	5700	6700	69

Project Name: _____ Fixture Type: _____
 Catalog # _____

FUEL CANOPY LIGHTS

LED PATRIOT® WALL SCONCE (XPWS3)



LED LIGHTING FACTS
Department of Energy has verified representative product test data and results in accordance with its Lighting Facts Program. Visit www.lightingfacts.com for specific catalog sheets.

SMARTTEC™ - LSI drivers feature integral sensor which reduces drive current, when ambient temperatures exceed rated temperature.

ENERGY SAVING CONTROL OPTIONS - DIM - 0-10 vdc dimming enabled with controls by others.

OPTIONAL INTEGRAL MOTION SENSOR - Passive infrared motion sensor activates dimming of luminaire light levels. High level light is activated when pass-by zone is triggered and increased to full light in 1-2 seconds. Low light level (30% of maximum drive current) is activated when target zone is absent of motion activity for 5 minutes and is gradually ramped down (10 seconds) to low level. Sensor detection range 110° horizontal x 30° vertical x 10 meters maximum distance.

EXPECTED LIFE - Minimum 50,000 hours to 100,000 hours depending upon the ambient temperature of the installation location. See LSI web site for specific guidance.

LED'S - Available with 28 or 48 select high-brightness LEDs in Cool White (5000K) or Neutral White (4000K) color temperature. 70 CRI.

OPTICS/DISTRIBUTION - Ultra-high efficiency reflectors provide three distributions. Choose from Wide Throw (WT), Forward Throw (FT) or Wall Wash (WW).

HOUSING - Die-cast aluminum housing is smooth, contoured rectangular shape. Mounting hardware is stainless steel or electroplated steel. Housing and optical unit are sealed with patented silicone gasket, supply conductors with molded EPDM bushing.

OPTICAL UNIT - Clear tempered optical-grade flat glass lens sealed to the aluminum optic housing creates an IP65 rated unit. Pressure stabilizing breather allows venting of potting material.

WALL MOUNTING - Galvanized-steel universal wall mounting plate easily mounts directly to 1" octagonal or square junction box. EPDM gasket is supplied to be installed between mounting plate and junction box, sealing junction box from entrance of water. Universal plate permits fixture to be mounted by applying (indoor only) or dry-mounting position.

POLE MOUNTING - XPSA (for square) or XPSAR (for round) allows mounting to poles in single and 2/180 configurations. Use with 3" reduced drilling pattern.

ELECTRICAL - Two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41.2-2002, Location Category C. Available with universal voltage power supply 120-277VAC (50/60 Hz) or 241-480VAC.

DRIVER - Available in 350mA and 400mA drive currents (Drive currents are factory programmed). Components are fully enclosed in potting material for IP65 moisture resistance. Driver complies with IEC and FCC standards. Driver can be easily accessed.

EMERGENCY OPTIONS - Optional integral emergency battery-backup options are available. BB option operates in 0°C to 60°C ambient temperature and CVBB operates in -20°C to 50°C ambient temperature. When primary AC power failure occurs, both options operate 10 LEDs for minimum of 90 minutes.

OPERATING TEMPERATURE - -40°C to 50°C (-40°F to +122°F).

FINISH - Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling.

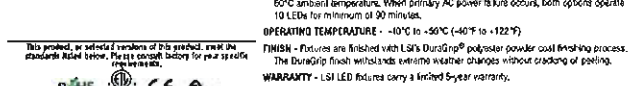
WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our web site at www.lightingfacts.com for detailed photometric data.

This product, or selected versions of this product, meet the standard listed below. Please consult factory for your specific requirements.

Light Output - XPWS3

Beam Angle	30°	36°	42°	48°
30°	2200	2900	2900	3400
36°	2500	2500	2500	2500
42°	2500	2500	2500	2500
48°	2500	2500	2500	2500



Project Name: _____ Fixture Type: _____
 Catalog # _____

LED PATRIOT® WALL SCONCE (XPWS3)

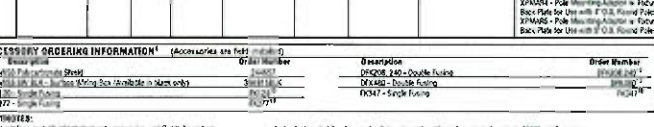
LUMINAIRE ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: XPWS3 FT LED 48 450 CW UE WHT BB

Profile	Distribution	Light Source	Color Temp	Input Voltage	Finish	Options
XPWS3-LED	FT - Forward Throw	LED	4500K 5000K 55 - Super Saver 60 - High Output VHO - Very High Output	50-1000V UL - Unbalanced Voltage (120-277V) UL - Unbalanced Voltage (241-480V)	WHT - White BLK - Black	UE - Ultra Efficient VH - Very High Output BB - Battery Backup

ACCESSORY ORDERING INFORMATION (Accessories are sold separately)

Description	Order Number	Description	Order Number
XPWS3-UL-UL - Universal Wall Mounting Plate (Available in 180 and 360)	51	UL - Side Mount and Support Bracket for 1 1/2" Deep Pipe	52
XPWS3-UL-UL - Universal Wall Mounting Plate (Available in 180 and 360)	51	UL - Side Mount and Support Bracket for 1 1/2" Deep Pipe	52
XPWS3-UL-UL - Universal Wall Mounting Plate (Available in 180 and 360)	51	UL - Side Mount and Support Bracket for 1 1/2" Deep Pipe	52



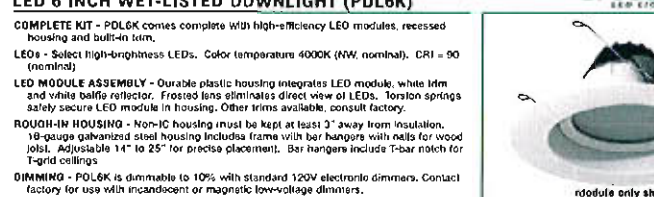
Light Output - XPWS3

Beam Angle	30°	36°	42°	48°
30°	2200	2900	2900	3400
36°	2500	2500	2500	2500
42°	2500	2500	2500	2500
48°	2500	2500	2500	2500

Project Name: _____ Fixture Type: _____
 Catalog # _____

LIGHT STANDARDS

LED 6 INCH WET-LISTED DOWNLIGHT (PDL6K)



COMPLETE KIT - PDL6K comes complete with high-efficiency LED modules, recessed housing and ball-in-lens.

LED'S - Select high-brightness LEDs. Color temperature 4000K (NW, nominal). CRI = 90 (nominal).

LED MODULE ASSEMBLY - Durable plastic housing integrates LED module, white IRM and white baffle reflector. Frosted lens eliminates direct view of LEDs. Torison springs safety secure LED module in housing. Other trims available, consult factory.

ROUGH-IN HOUSING - Non-IC housing must be kept at least 3" away from insulation. 1/8" gauge galvanized steel housing includes frame with bar hangers and ready for wood jobs. Adjustable 14" to 25" for precise placement. Bar hangers include T-bar notch for T-grid ceilings.

DIMMING - PDL6K is dimmable to 10% with standard 120V electronic dimmers. Contact factory for use with incandescent or magnetic low-voltage dimmers.

DELIVERED LUMENS - 900 (HO Output) or 700 (SS)

INPUT POWER - 13 watts (HO); 10 watts (SS)

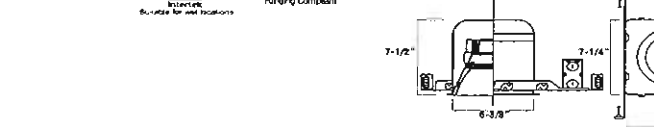
EXPECTED LIFE - Minimum 50,000 hours.

WARRANTY - Limited 5-year warranty.

LISTING - Wet location, ETL listed to U.S. and Canadian safety standards.

PHOTOMETRICS - LM-79 and LM-80 reports, as well as application layout assistance are available on request. Contact LSI Applications Group or lighting.apps@lsi-industries.com.

This product, or selected versions of this product, meet the standard listed below. Please consult factory for your specific requirements.



Project Name: _____ Fixture Type: _____
 Catalog # _____

LED 6 INCH WET-LISTED DOWNLIGHT (PDL6K)

LUMINAIRE ORDERING INFORMATION

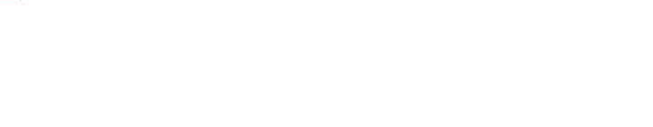
TYPICAL ORDER EXAMPLE: PDL6K LED HO NW 120

Profile	Light Source	Output	Color Temp	Line Voltage
PDL6K - 6" Downlight (Wet-Listed)	LED	HO - High Output 900 Lumens	NW - Neutral White (4000K)	120 - 120 VAC

ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: PDL6K LED HO NW 120

Profile	Light Source	Output	Color Temp	Line Voltage
PDL6K - 6" Downlight (Wet-Listed)	LED	HO - High Output 900 Lumens	NW - Neutral White (4000K)	120 - 120 VAC



Project Name: _____ Fixture Type: _____
 Catalog # _____

BUILDING LIGHTS

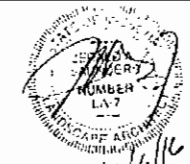
LIGHT FIXTURE CUT SHEETS

1599 | ENERGY EXPRESS | DECEMBER 12, 2016

ATM LIGHTS

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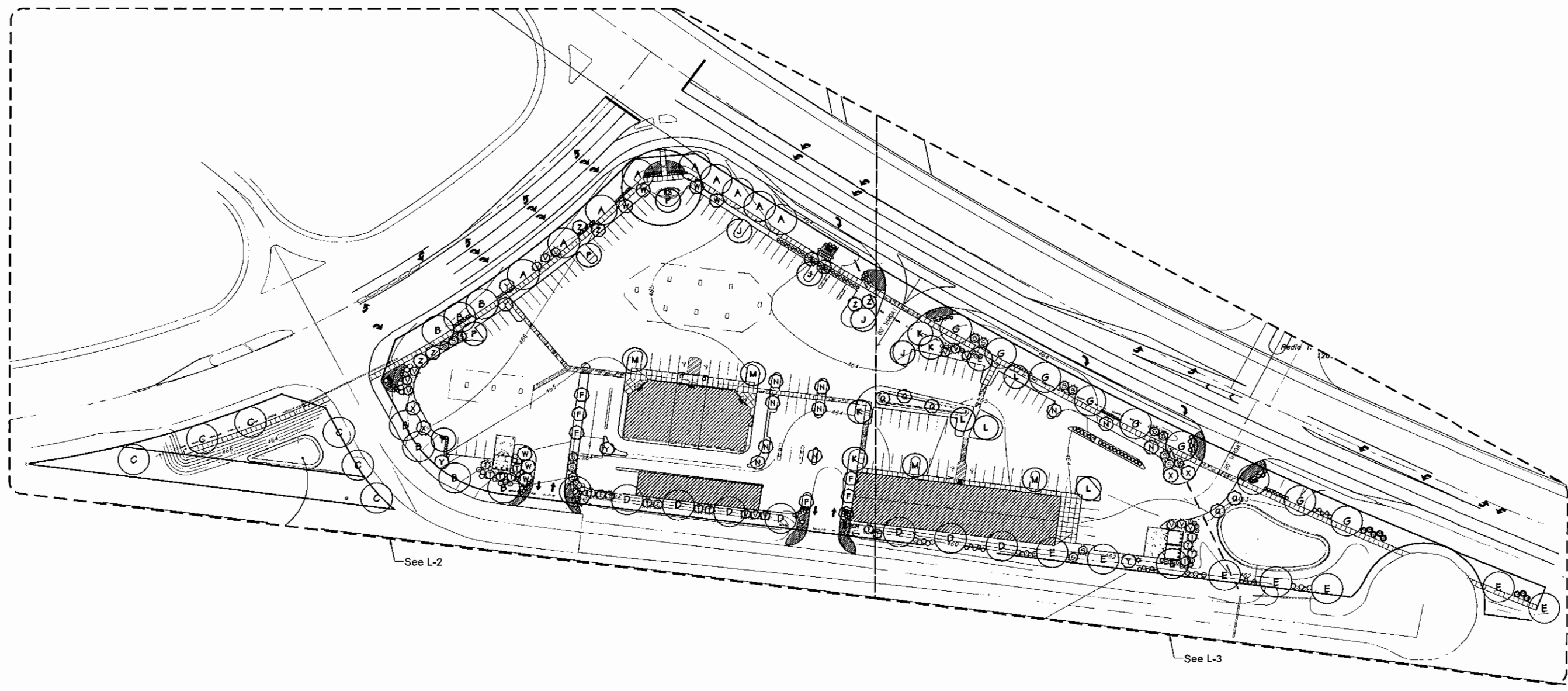


Jeraki Saunders - Landscape Architect
MO License # LA-067

Consultants:

The Wedge

Chesterfield, Missouri



Revisions:

Date	Description	No.
4/15/16	City Comments	
4/26/16	Plan Changes	
8/24/16	Plan Changes	
12/6/16	City Comments	

Drawn: KP
Checked: J6

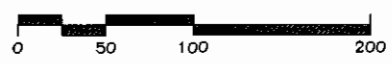
loomisAssociates
 landscape architects/planners
 229 Spirit of Park Drive, Suite 105
 Chesterfield, MO 63035
 Phone: (314) 281-1000
 Email: info@loomis-associates.com

Loomis Associates Inc.
 Missouri State Certificate of Authority # LAC #000019

Sheet Title:	Landscape Plan
Sheet No:	L-1
Date:	04/15/16
Job #:	957.001

LANDSCAPE PLAN
SCALE 1" = 50'

Open Space: 39.4%



Prepared For:
Steve Madras
Energy Marketing
2130 Kienlen Ave.
St. Louis MO 63121
(314) 383-3700

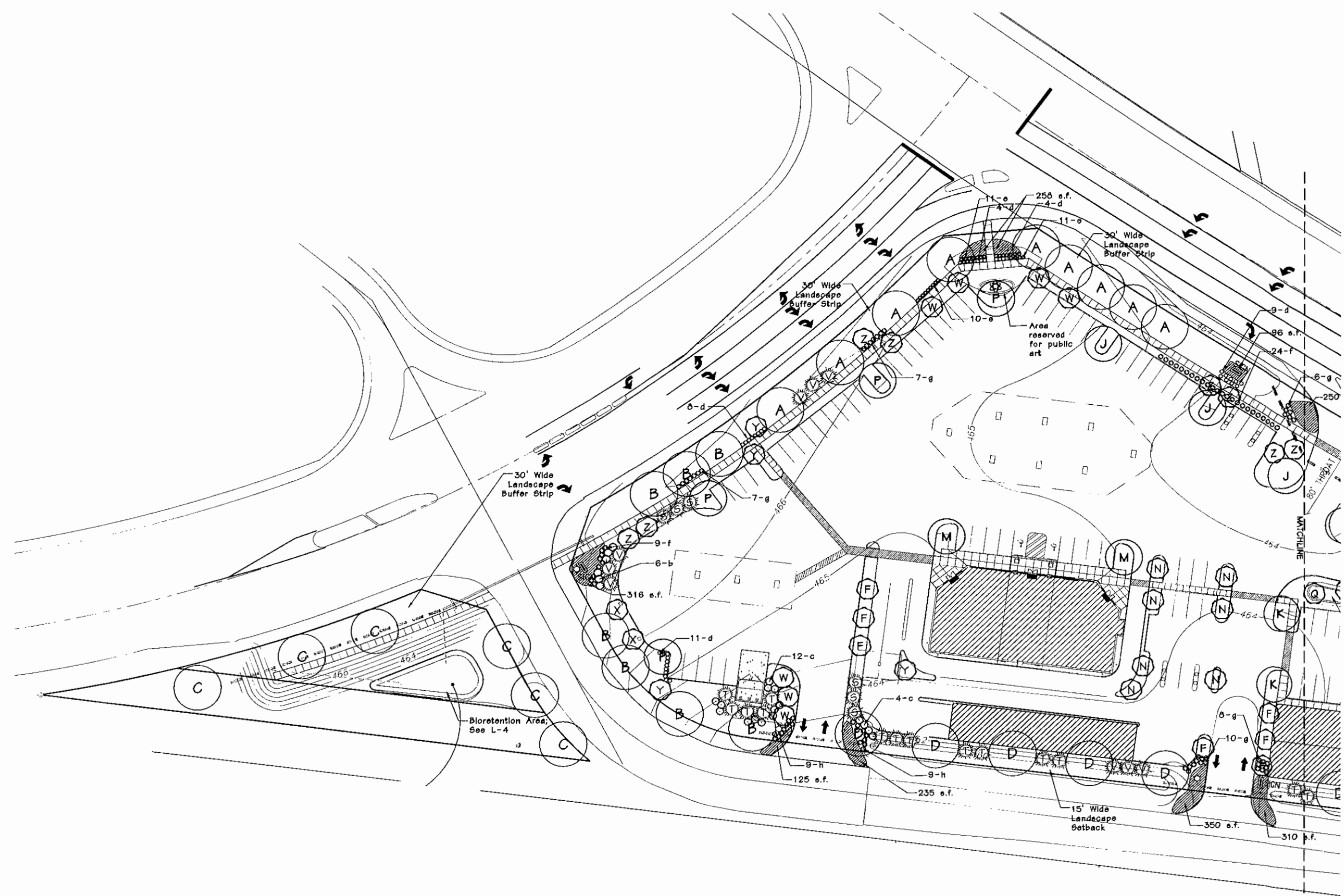


Jerold Saunders - Landscape Architect
MO License # LA-007

Consultants:

The Wedge

Chesterfield, Missouri



Revisions:

Date	Description	No.
09/22/15	Plan Revision	
02/10/16	Plan Revision	
4/15/16	City Comments	
4/26/16	Plan Changes	
8/24/16	Plan Changes	
12/8/16	City Comments	

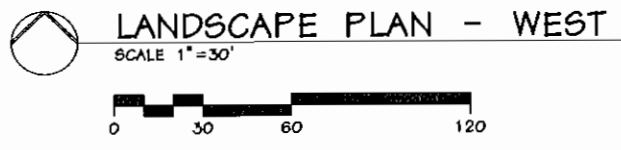
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Ioomis Associates

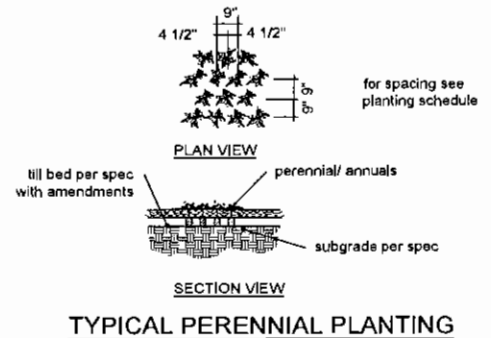
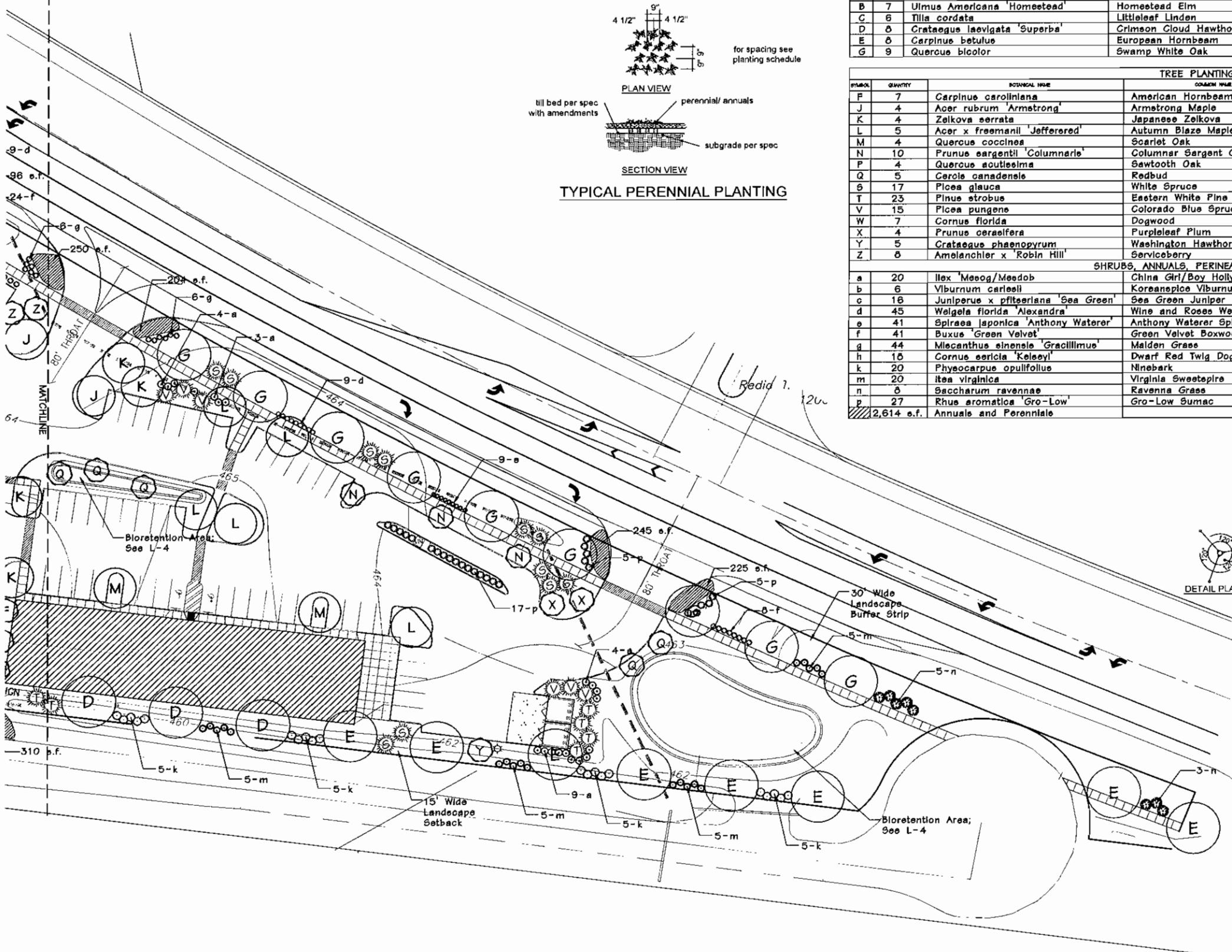
landscape architects/planners
707 Sparks Park Drive, Suite 115
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e-mail: info@ioomis-associates.com

Loomis Associates, Inc.
Missouri State Certificate of Authority # LAC #000019

Sheet Title:	Landscape Plan - West
Sheet No.:	L-2
Date:	04/10/15
Job #:	957.001



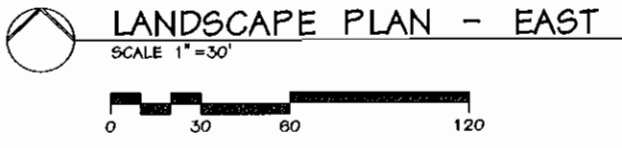
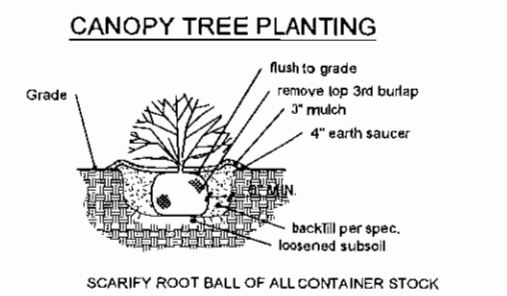
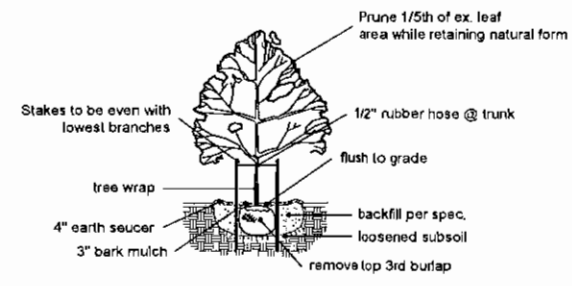
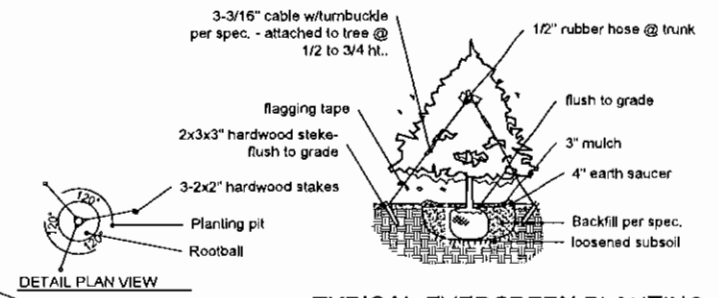
Prepared For:
Steve Madras
Energy Marketing
2130 Kienlen Ave.
St. Louis MO 63121
(314) 383-3700



SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	NATURE HEIGHT	GROWTH RATE	SIZE CLASS
A	9	Gleditsia triacanthos 'Inermis'	Thornless Honeylocust	2 1/2"	Canopy	45'+	FAST	LARGE
B	7	Ulmus Americana 'Homestead'	Homestead Elm	2 1/2"	Canopy	60-80'	MED/FAST	LARGE
C	6	Tilia cordata	Littleleaf Linden	2 1/2"	Canopy	45'+	SLOW/MED	LARGE
D	8	Crataegus laevigata 'Superba'	Crimson Cloud Hawthorn	2 1/2"	Ornamental	15-25'	MED.	SMALL
E	8	Carpinus betulus	European Hornbeam	2 1/2"	Canopy	35-40'	SLOW/MED	MEDIUM
G	9	Quercus bicolor	Swamp White Oak	2 1/2"	Canopy	45'+		LARGE

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	NATURE HEIGHT	HEIGHT @ 15 YRS	GROWTH RATE	SIZE CLASS
F	7	Carpinus caroliniana	American Hornbeam	2.5"	Ornamental	20'-35'	15'	Medium	Small
J	4	Acer rubrum 'Armstrong'	Armstrong Maple	2.5"	Deciduous	35'-45'	30'	Fast	Large
K	4	Zelkova serrata	Japanese Zelkova	2.5"	Deciduous	45'+	30'	Fast	Large
L	5	Acer x freemanii 'Jefferson'	Autumn Blaze Maple	2.5"	Deciduous	45'+	25'	Fast	Large
M	4	Quercus coccinea	Scarlet Oak	2.5"	Deciduous	45'+	18'	Med./Fast	Large
N	10	Prunus argentea 'Columnaris'	Columnar Sargent Cherry	2.5"	Ornamental	30'-40'	15'	Medium	Medium
P	4	Quercus acutesilma	Sawtooth Oak	2.5"	Deciduous	45'+	20'	Medium	Large
Q	5	Carole canadensis	Redbud	2.5"	Ornamental	25'-30'	12'	Fast	Medium
R	17	Picea glauca	White Spruce	6"	Evergreen	35'-40'	20'	Medium	Medium
T	23	Pinus strobus	Eastern White Pine	6"	Evergreen	35'-40'	20'	Fast	Large
V	15	Picea pungens	Colorado Blue Spruce	6"	Evergreen	35'-40'	20'	Medium	Medium
W	7	Cornus florida	Dogwood	2.5"	Ornamental	15'-25'	15'	Slow/Med.	Small
X	4	Prunus cerasifera	Purpleleaf Plum	2.5"	Ornamental	15'-25'	15'	Medium	Small
Y	5	Crataegus phaenopyrum	Washington Hawthorn	2.5"	Ornamental	20'-30'	12'	Medium	Medium
Z	8	Amelanchier x 'Robin Hill'	Serviceberry	2.5"	Ornamental	25'-30'	10'	Slow/Med.	Medium

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	NATURE HEIGHT	HEIGHT @ 15 YRS	GROWTH RATE	SIZE CLASS
a	20	Ilex 'Mesog/Mesdob'	China Girl/Boy Holly	5 gal.					
b	6	Viburnum carlesii	Koreanspice Viburnum	5 gal.					
c	18	Juniperus x pfitzeriana 'Sea Green'	Sea Green Juniper	5 gal.					
d	45	Wegelia florida 'Alexandra'	Wine and Roses Wegelia	5 gal.					
e	41	Spiraea japonica 'Anthony Waterer'	Anthony Waterer Spiraea	5 gal.					
f	41	Buxus 'Green Velvet'	Green Velvet Boxwood	5 gal.					
g	44	Miscanthus sinensis 'Gracillimus'	Malden Grass	5 gal.					
h	18	Cornus sericea 'Kelsey'	Dwarf Red Twig Dogwood	5 gal.					
k	20	Physocarpus opulifolius	Ninebark	5 gal.					
m	20	Itea virginica	Virginia Sweetpea	5 gal.					
n	8	Baccharum ravennae	Ravenna Grass	5 gal.					
p	27	Rhus aromatica 'Gro-Low'	Gro-Low Sumac	5 gal.					
2,614 s.f. Annuals and Perennials									



Consultants:

The Wedge
Chesterfield, Missouri

Date	Description	No.
09/22/15	Plan Revision	
02/10/16	Plan Revision	
4/15/16	City Comments	
4/28/16	Plan Changes	
8/24/16	Plan Changes	
12/8/16	City Comments	

Drawn: KP
Checked: JS

loomisAssociates
landscape/irrigation/planners
209 So. 40th Place, Suite 205
Chesterfield, Missouri 63074
630.215.2828 Fax 630.919.0797
www.loomisassociates.com

Sheet Title:	Landscape Plan - East
Sheet No.:	L-3
Date:	04/10/15
Job #:	957.001

Prepared For:
Steve Madras
Energy Marketing
2130 Kientlen Ave.
St. Louis MO 63121
(314) 383-3700

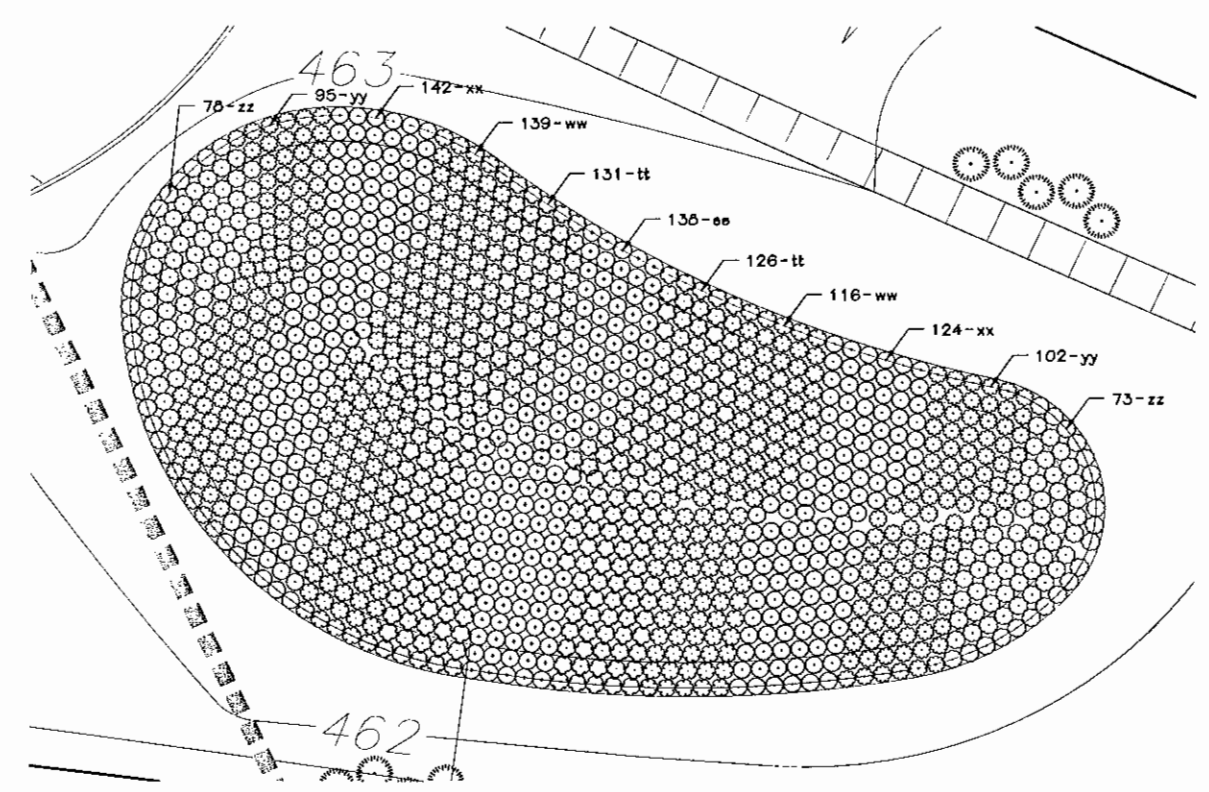
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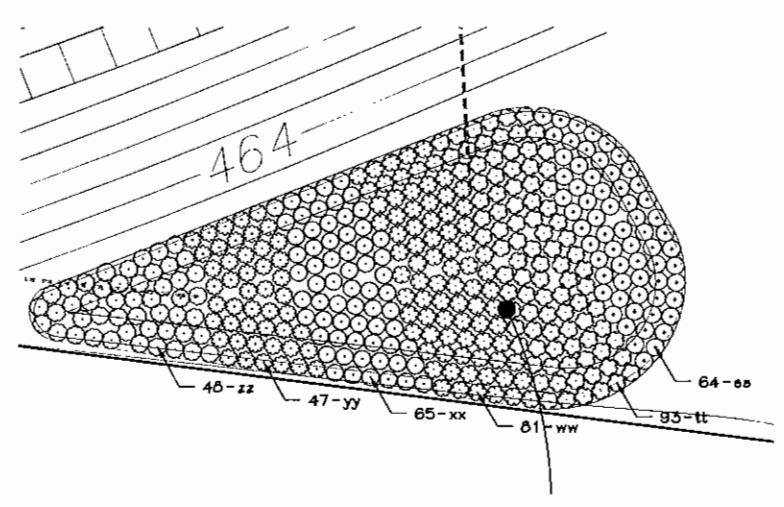
Jerold Saunders - Landscape Architect
MO License # LA-007

Consultants:

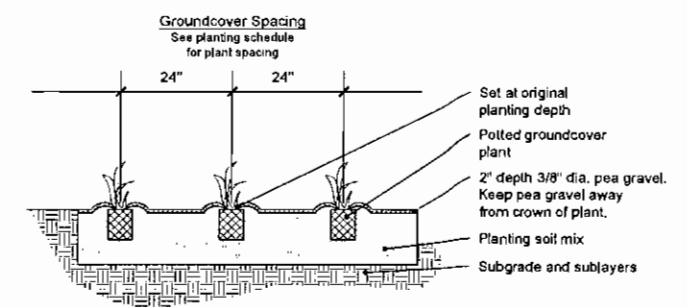
The Wedge
Chesterfield, Missouri



1 BIORETENTION AREA #1
SCALE 1"=10'



2 BIORETENTION AREA #2
SCALE 1"=10'



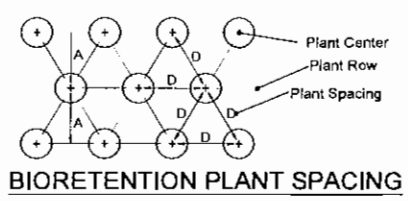
- Notes:
1. Remove spent flowers prior to planting.
 2. Loosen root mass at bottom of rootball.
 3. Top of rootball stripped of 1/4" surface growing media and covered with 1/4" landscape bed mix plus surface mulch.

BIORETENTION PLANT SPACING SECTION

TABLE 1: PLANTING, WATER, AND MULCH REQUIREMENTS

WATER AVAILABILITY	REQUIRED PLANTING PERIOD	MINIMUM CONTAINER SIZE	WATER REQUIREMENT FIRST 3 WEEKS	WATER REQUIREMENT AFTER 3 WEEKS*	MAXIMUM MULCH DEPTH****
No ability to water after initial planting	Late Feb.-April only	2.25"x3.75" or larger (plug)	Water each plug immediately after planting		1.5" for plugs
Manual watering with standard sprinkler	Late Feb.-Early June Sept.-October	4.5"x5" (quart) or larger in summer and fall	1" (60 min) every 4 days	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts
Automatic Irrigation (set to water more frequently than normal during first two months after planting)	Late Feb.-Early Oct.	2.25"x3.75" (plug) or larger in spring 4.5"x5" (quart) or larger in summer and fall	1" (60 min) every 4 days in spring and fall 1" (60 min) every 3 days in summer	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts

*This water amount includes natural rainfall. If you get a 1/2 inch of natural rain, then you will need to add a 1/2 inch of water to meet the 1 inch requirement.
 **Requires transport of water to the planting site in large containers and pouring enough water onto each plant (after planting) to moisten the entire planting pit.
 ***Plants are established when roots have grown out of the container soil and into the native soil by 3-5 inches. This normally takes 3-4 months for most perennials and grasses and up to 6-7 months for trees and shrubs.
 ****Shredded leaf compost is recommended for use with perennials and grasses. Mulch is recommended for tree and shrub plantings at a depth of 3 inches.



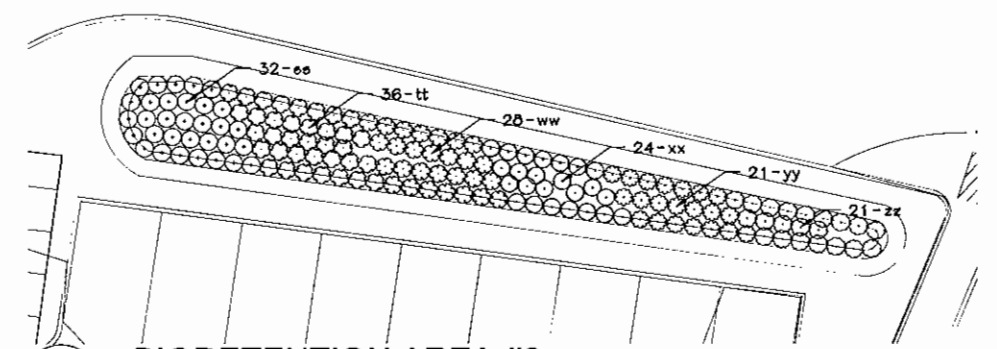
BIORETENTION PLANT SPACING

PLANT SPACING TABLE

SPACING 'D'	ROW 'A'	NUMBER OF PLANTS/SQ.FT.
30"	26"	.16
24"	20.8"	.25
18"	15.6"	.45
15"	13"	.64
12"	10.4"	1.00
10"	8.66"	1.44
8"	6.93"	2.25

Note: Plant quantities to be determined by multiplying area (sq.ft.) by number of plants/sq.ft. for required spacing. Table and diagram taken from "Landscape Guide for Stormwater Best Management Practice Design" by MSD with a revised date of May 2, 2012.

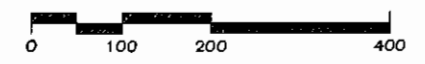
BIORETENTION PLANTING SCHEDULE					
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	ESPACING
ee	234	Chaemanthium latifolium	River Oate	Type 38 DCP	24" o.c.
tt	366	Juncus effusus	Common Rush	Type 38 DCP	24" o.c.
ww	364	Carex vulpinoidea	Fox Sedge	Type 38 DCP	24" o.c.
xx	355	Lobelia cardinalis	Cardinal Flower	Type 38 DCP	24" o.c.
yy	285	Carex muskingumensis	Palm Sedge	Type 38 DCP	24" o.c.
zz	220	Iris fulva	Copper Iris	Type 38 DCP	24" o.c.



3 BIORETENTION AREA #3
SCALE 1"=10'



KEY PLAN
SCALE 1"=100'



Revisions:

Date	Description	No.
4/15/16	City Comments	
4/26/16	Plan Changes	
8/24/16	Plan Changes	

Drawn: KP
Checked: JS

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Sheet Title: Bioretention Planting Plan

Sheet No: L-4

Prepared For:
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Date: 02/10/16
Job #: 957.001

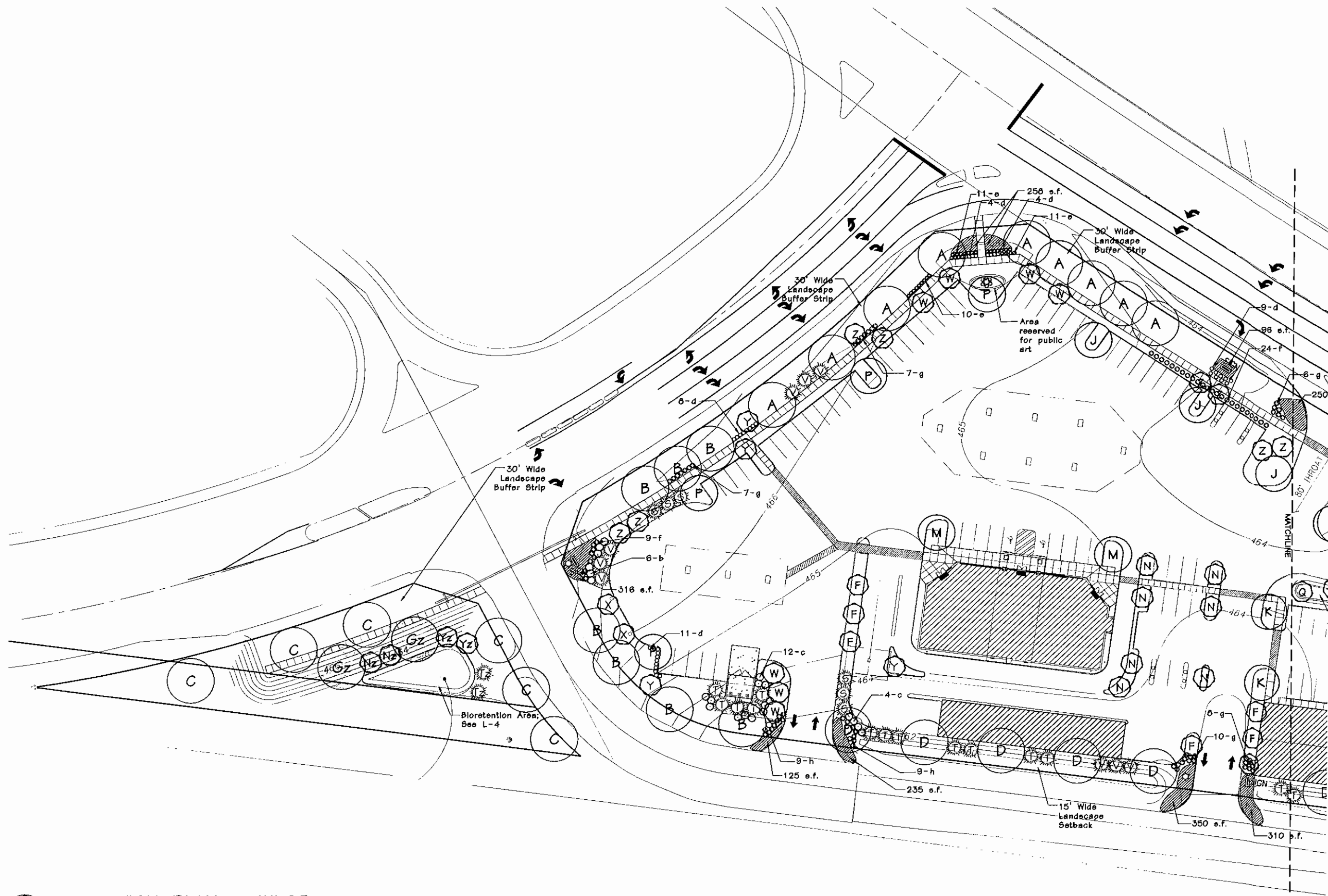


Jerald Saunders - Landscape Architect
MO License # LA-04

Consultants:

The Wedge

Chesterfield, Missouri



Revisions:

Date	Description	No.
12/6/16	City Comments	

Drawn: KP
Checked: JB

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Missouri State Certificate of Authority #: LAC #000019

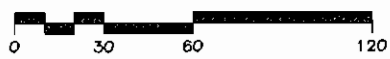
Sheet Title: Mitigation Plan - West

Sheet No: L-5

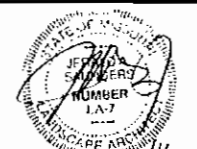
Date: 12/6/16
Job #: 957.001

MITIGATION PLAN - WEST

SCALE 1"=30'



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Chesterfield, Missouri

Revisions:

Date	Description	No.
12/6/16	City Comments	

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Checked: JS

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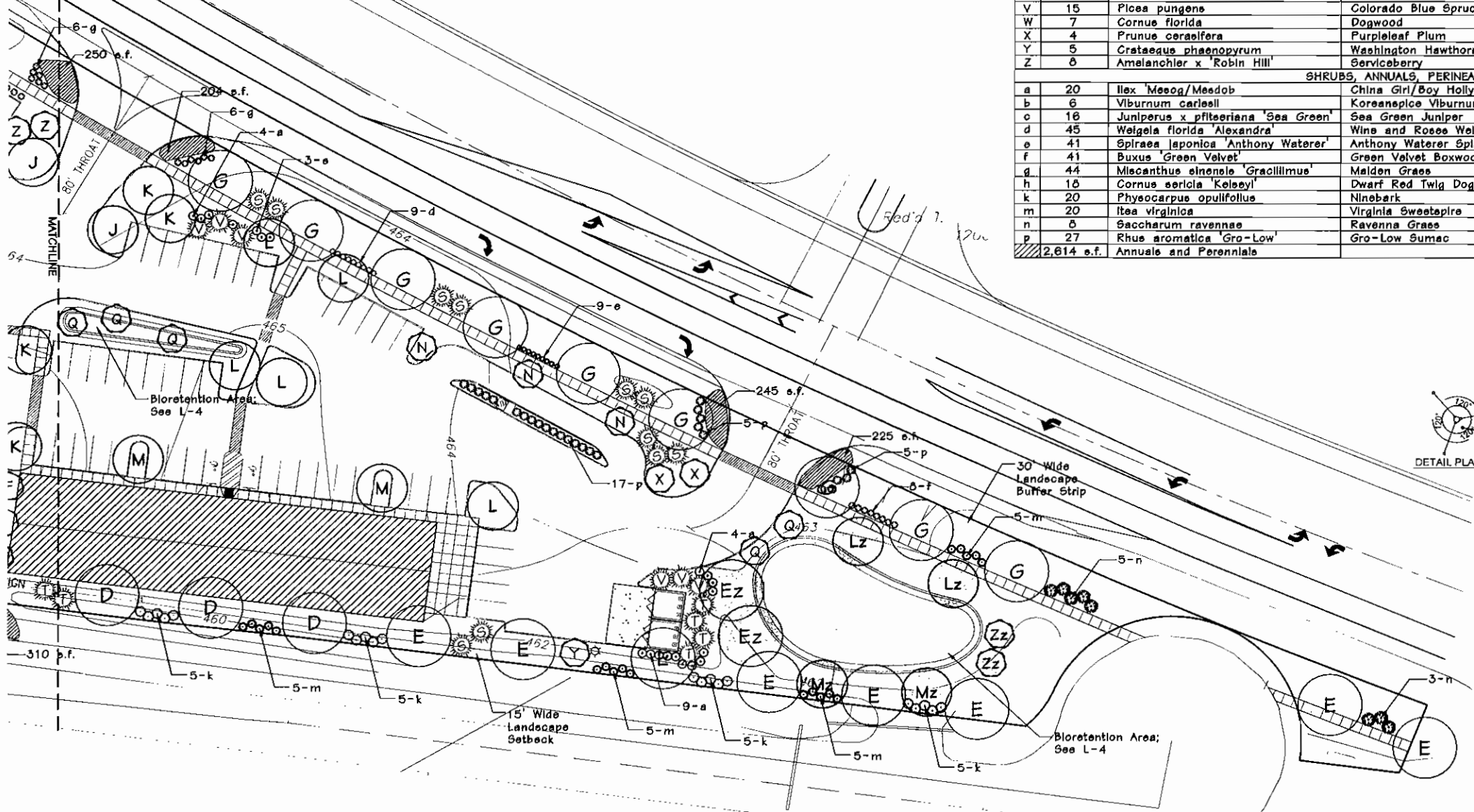
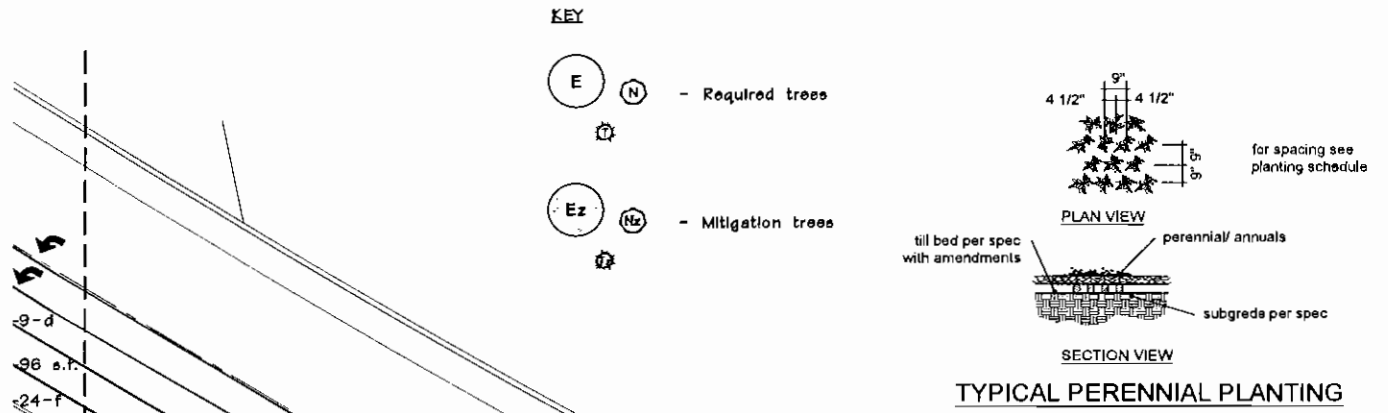
Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000019

Sheet Title:	Mitigation Plan - East
Sheet No.:	L-6
Date:	12/6/16
Job #:	957.001

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	MATURE HEIGHT	± HEIGHT IN 10 YRS	GROWTH RATE	SIZE CLASS
A	9	<i>Gleditsia triacanthos</i> 'Inermis'	Thornless Honeylocust	2 1/2"	Canopy	45'+		FAST	LARGE
B	7	<i>Ulmus Americana</i> 'Homestead'	Homestead Elm	2 1/2"	Canopy	60-80'		MED/FAST	LARGE
C	6	<i>Tilia cordata</i>	Littleleaf Linden	2 1/2"	Canopy	45'+		SLOW/MED	LARGE
D	8	<i>Crataegus laevigata</i> 'Superba'	Crimson Cloud Hawthorn	2 1/2"	Ornamental	15-25'		MED.	SMALL
E	8	<i>Carpinus betulus</i>	European Hornbeam	2 1/2"	Canopy	35-40'		SLOW/MED	MEDIUM
G	9	<i>Quercus bicolor</i>	Swamp White Oak	2 1/2"	Canopy	45'+		MED.	LARGE

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	MATURE HEIGHT	± HEIGHT IN 10 YRS	GROWTH RATE	SIZE CLASS
F	7	<i>Carpinus caroliniana</i>	American Hornbeam	2.5"	Ornamental	20'-35'	15'	Medium	Small
J	4	<i>Acer rubrum</i> 'Armstrong'	Armstrong Maple	2.5"	Deciduous	35'-45'	30'	Fast	Large
K	4	<i>Zelkova serrata</i>	Japanese Zelkova	2.5"	Deciduous	45'+	30'	Fast	Large
L	5	<i>Acer x freemanii</i> 'Jeffersred'	Autumn Blaze Maple	2.5"	Deciduous	45'+	25'	Fast	Large
M	4	<i>Quercus coccinea</i>	Scarlet Oak	2.5"	Deciduous	45'+	16'	Med./Fast	Large
N	10	<i>Prunus eargentii</i> 'Columnaris'	Columnar Sargent Cherry	2.5"	Ornamental	30'-40'	15'	Medium	Medium
P	4	<i>Quercus acutesilma</i>	Sawtooth Oak	2.5"	Deciduous	45'+	20'	Medium	Large
Q	5	<i>Cercis canadensis</i>	Redbud	2.5"	Ornamental	25'-30'	12'	Fast	Medium
S	17	<i>Picea glauca</i>	White Spruce	6"	Evergreen	35'-40'	20'	Medium	Medium
T	23	<i>Pinus strobus</i>	Eastern White Pine	6"	Evergreen	35'-40'	20'	Fast	Large
V	15	<i>Picea pungens</i>	Colorado Blue Spruce	6"	Evergreen	35'-40'	20'	Medium	Medium
W	7	<i>Cornus florida</i>	Dogwood	2.5"	Ornamental	15'-25'	15'	Slow/Med.	Small
X	4	<i>Prunus cerasifera</i>	Purpleleaf Plum	2.5"	Ornamental	15'-25'	15'	Medium	Small
Y	5	<i>Crataegus phaenopyrum</i>	Washington Hawthorn	2.5"	Ornamental	20'-30'	12'	Medium	Medium
Z	8	<i>Amelanchier x 'Robin Hill'</i>	Serviceberry	2.5"	Ornamental	25'-30'	10'	Slow/Med.	Medium

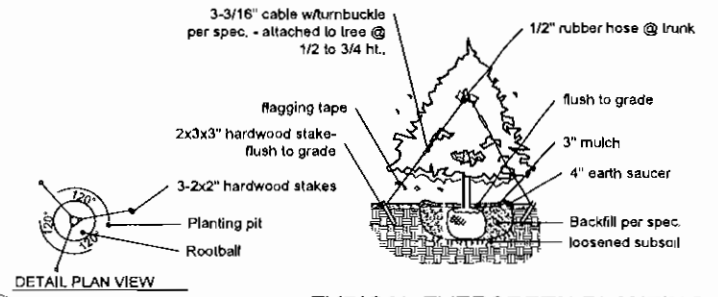
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	MATURE HEIGHT	± HEIGHT IN 10 YRS	GROWTH RATE	SIZE CLASS
a	20	<i>Ilex Meadog/Meadob</i>	China Girl/Boy Holly	5 gal.					
b	6	<i>Viburnum carlesii</i>	Koreanopice Viburnum	5 gal.					
c	18	<i>Juniperus x pfitzeriana</i> 'Sea Green'	Sea Green Juniper	5 gal.					
d	45	<i>Weigela florida</i> 'Alexandra'	Wine and Rosee Weigela	5 gal.					
e	41	<i>Spiraea japonica</i> 'Anthony Waterer'	Anthony Waterer Spirea	5 gal.					
f	41	<i>Buxus 'Green Velvet'</i>	Green Velvet Boxwood	5 gal.					
g	44	<i>Miscanthus sinensis</i> 'Gracillimus'	Malden Grass	5 gal.					
h	18	<i>Cornus sericea</i> 'Kelsey'	Dwarf Red Twig Dogwood	5 gal.					
k	20	<i>Physocarpus opulifolius</i>	Ninebark	5 gal.					
m	20	<i>Itea virginica</i>	Virginia Sweetapple	5 gal.					
n	8	<i>Saccharum ravennae</i>	Ravenna Grass	5 gal.					
p	27	<i>Rhus aromatica</i> 'Gro-Low'	Gro-Low Sumac	5 gal.					
2,614 s.f. Annuale and Perennials									



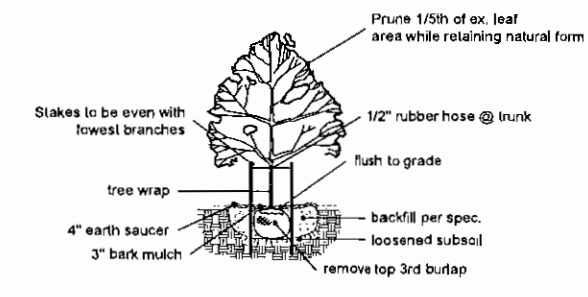
MITIGATION PLAN - EAST
SCALE 1"=30'

CALCULATIONS:
Existing Tree Canopy Coverage: 19,046 s.f., or 0.44 acres
19,046 s.f. x .30 (30% minimum preservation requirement) = 5,713.5 s.f. of tree canopy preservation required
Proposed Mitigation Plantings:
10 large trees @ 400 s.f./tree = 4,000 s.f.
6 small trees @ 300 s.f./tree = 1,800 s.f.
5,800 s.f. total

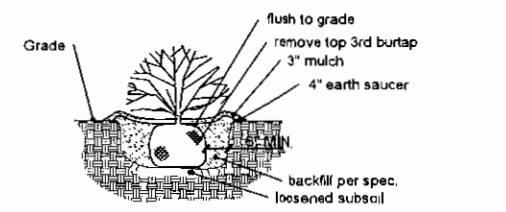
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	MATURE HEIGHT	± HEIGHT IN 10 YRS	GROWTH RATE	SIZE CLASS
Ez	2	<i>Carpinus betulus</i>	European Hornbeam	2 1/2"	Canopy	35-40'		Slow/Med.	Medium
Gz	2	<i>Quercus bicolor</i>	Swamp White Oak	2 1/2"	Canopy	45'+		Medium	Large
Lz	2	<i>Acer x freemanii</i> 'Jeffersred'	Autumn Blaze Maple	2.5"	Deciduous	45'+	25'	Fast	Large
Mz	2	<i>Quercus coccinea</i>	Scarlet Oak	2.5"	Deciduous	45'+	16'	Med./Fast	Large
Nz	2	<i>Prunus eargentii</i> 'Columnaris'	Columnar Sargent Cherry	2.5"	Ornamental	30'-40'	15'	Medium	Medium
Tz	2	<i>Pinus strobus</i>	Eastern White Pine	6"	Evergreen	35'-40'	20'	Fast	Large
Yz	2	<i>Crataegus phaenopyrum</i>	Washington Hawthorn	2.5"	Ornamental	20'-30'	12'	Medium	Medium
Zz	2	<i>Amelanchier x 'Robin Hill'</i>	Serviceberry	2.5"	Ornamental	25'-30'	10'	Slow/Med.	Medium



TYPICAL EVERGREEN PLANTING



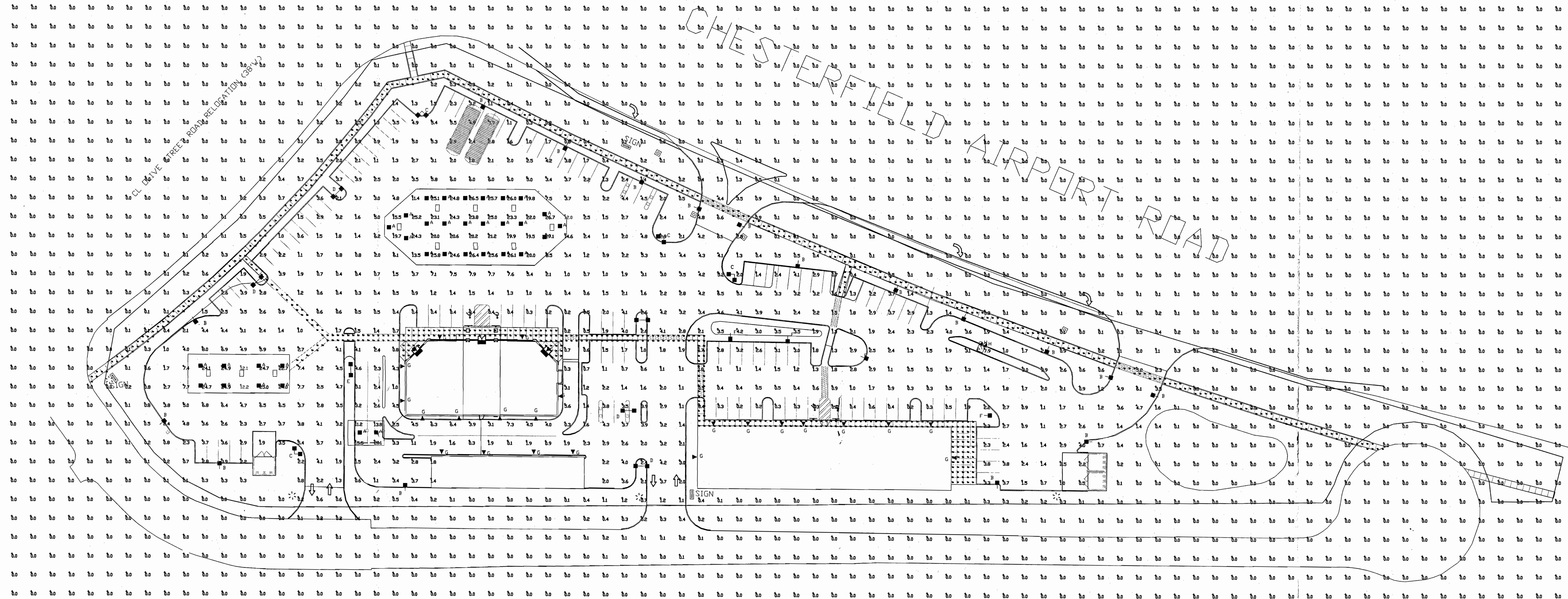
CANOPY TREE PLANTING



TYPICAL SHRUB PLANTING

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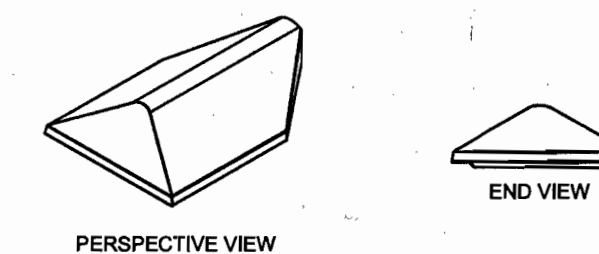
Energy Marketing LIGHTING PLAN



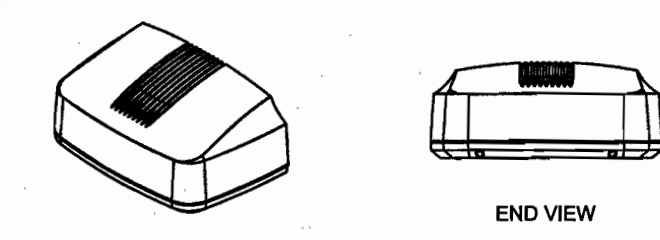
Luminaire Schedule								
Symbol	Qty	Label	Arrangement	Description	LLF	Lumens/Lamp	Arr. Lum. Lumens	Arr. Watts
	34	A	SINGLE	CRUS-SC-LED-VLW-CW	1.000	N.A.	8842	78.7
	17	B	SINGLE	XASU-FT-LED-64-HD-CW-HSS-SINGLE-18"POLE+2"BASE	1.000	N.A.	6001	88
	4	C	2 @ 90 DEGREES	XASU-FT-LED-64-HD-CW-HSS-D90-18"POLE+2"BASE	1.000	N.A.	12002	176
	5	D	D180	XASU-FT-LED-64-HD-CW-HSS-D180-18"POLE+2"BASE	1.000	N.A.	12002	176
	1	E	D180	XASU-FT-LED-64-HD-CW-D180-18"POLE+2"BASE	1.000	N.A.	15312	178
	4	F	SINGLE	XASU-5-LED-64-HD-CW-SINGLE-18"POLE+2"BASE	1.000	N.A.	7542	88
	24	G	SINGLE	XPWS3-WW-LED-28-350-CW-UE	1.000	N.A.	3161	34
	2	H	SINGLE	PDL6K-LED-08-40-WH MTD @ 9.5' ATM CANDPY	1.000	N.A.	607	12.9

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALL CALC POINTS	Illuminance	Fc	0.99	27.1	0.0	N.A.	N.A.
INTERIOR WALKWAYS	Illuminance	Fc	3.66	11.7	0.2	18.30	58.50
PERIMETER WALKWAYS	Illuminance	Fc	0.78	6.0	0.0	N.A.	N.A.
CAR WASH PAY CANDPY SUMMARY	Illuminance	Fc	15.15	20.1	11.2	1.35	1.79
DIESEL CANDPY SUMMARY	Illuminance	Fc	21.93	25.0	12.1	1.81	2.07
GAS CANDPY SUMMARY	Illuminance	Fc	21.26	27.1	7.5	2.83	3.61
NDRTH ENTRANCE/EXIT SUMMARY	Illuminance	Fc	3.39	6.6	0.0	N.A.	N.A.
PARKING AREA SUMMARY	Illuminance	Fc	2.59	8.0	0.1	25.90	80.00
SOUTH ENTRANCE/EXIT SUMMARY	Illuminance	Fc	2.47	4.2	1.1	2.25	3.82

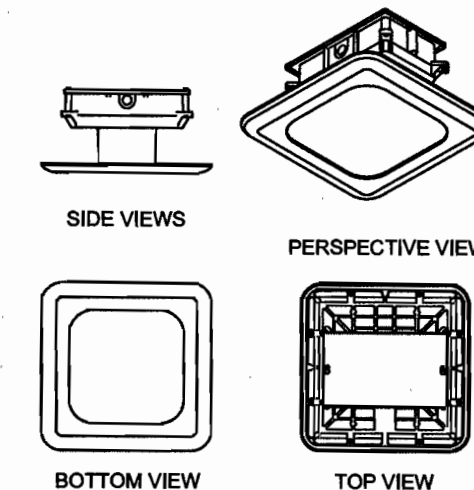
XASU
LED Area Light



XPWS3
LED Wall Mount Light

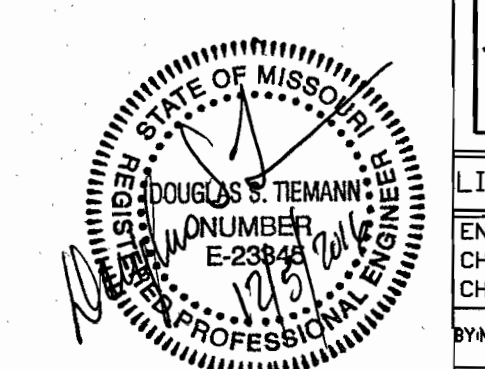


CRUS-SC-LED
LED CANOPY LIGHT - LEGACY



Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with the Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted.



Total Project Watts
Total Watts = 7127.599

IndusTrics
American Innovation Through Technology

Lighting Proposal LD-126601-9

ENERGY EXPRESS
CHESTERFIELD AIRPORT ROAD
CHESTERFIELD, MO

BY: [Signature] DATE: 03-24-15 REV: 09-16-16 SHEET 1 OF 1

SCALE: 1"=40'

LED 6 INCH WET-LISTED DOWNLIGHT (PDL6K)



COMPLETE KIT - PDL6K comes complete with high-efficiency LED modules, recessed housing and built-in trim.

LEDs - Select high-brightness LEDs. Color temperature 4000K (NW, nominal). CRI = 90 (nominal)

LED MODULE ASSEMBLY - Durable plastic housing integrates LED module, white trim and white baffle reflector. Frosted lens eliminates direct view of LEDs. Torsion springs safely secure LED module in housing. Other trims available, consult factory.

ROUGH-IN HOUSING - Non-IC housing must be kept at least 3" away from insulation. 16-gauge galvanized steel housing includes frame with bar hangers with nails for wood joist. Adjustable 14" to 25" for precise placement. Bar hangers include T-bar notch for T-grid ceilings

DIMMING - PDL6K is dimmable to 10% with standard 120V electronic dimmers. Contact factory for use with incandescent or magnetic low-voltage dimmers.

DELIVERED LUMENS - 900 (HO Output) or 700 (SS)

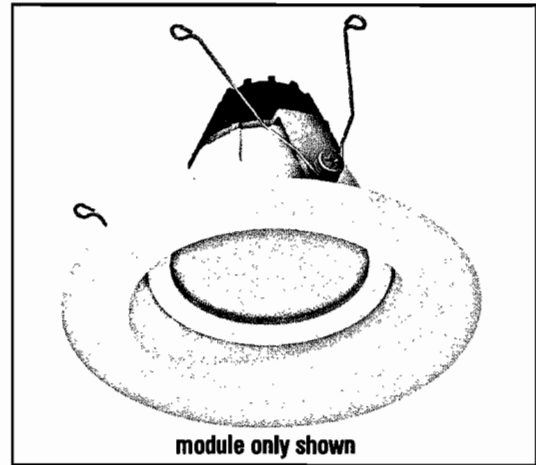
INPUT POWER - 13 watts (HO); 10 watts (SS)

EXPECTED LIFE - Minimum 50,000 hours.

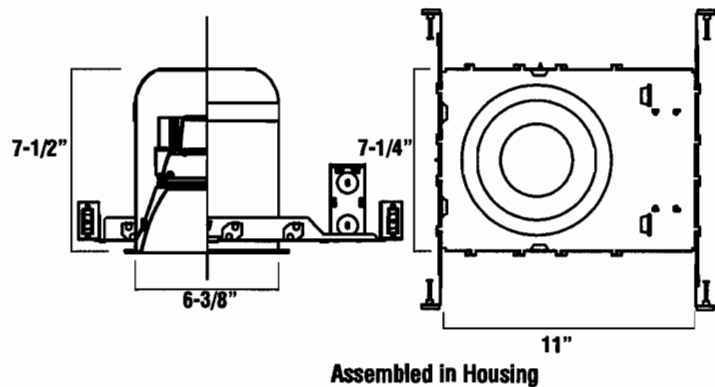
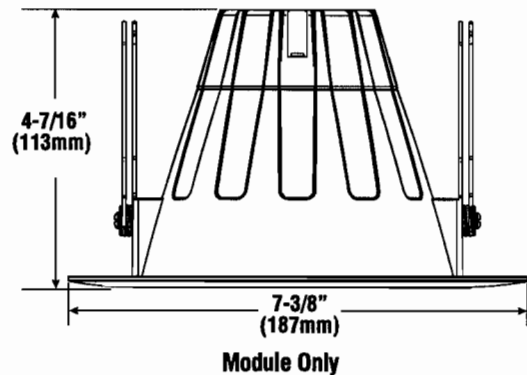
WARRANTY - Limited 5-year warranty.

LISTING - Wet location. ETL listed to U.S. and Canadian safety standards.

PHOTOMETRICS - LM-79 and LM-80 reports, as well as application layout assistance are available on request. Contact LSI Applications Group or lighting.apps@lsi-industries.com.



DIMENSIONS



ORDERING INFORMATION

TYPICAL ORDER EXAMPLE: **PDL6K LED HO NW 120**

Prefix	Light Source	Lumen Output	Color Temp	Line Voltage
PDL6K - 6" Downlight (Module & housing)	LED	HO - High Output SS - Super Saver	NW - Neutral White (4000K)	120 - 120 VAC



Project Name _____ Fixture Type _____
 Catalog # _____

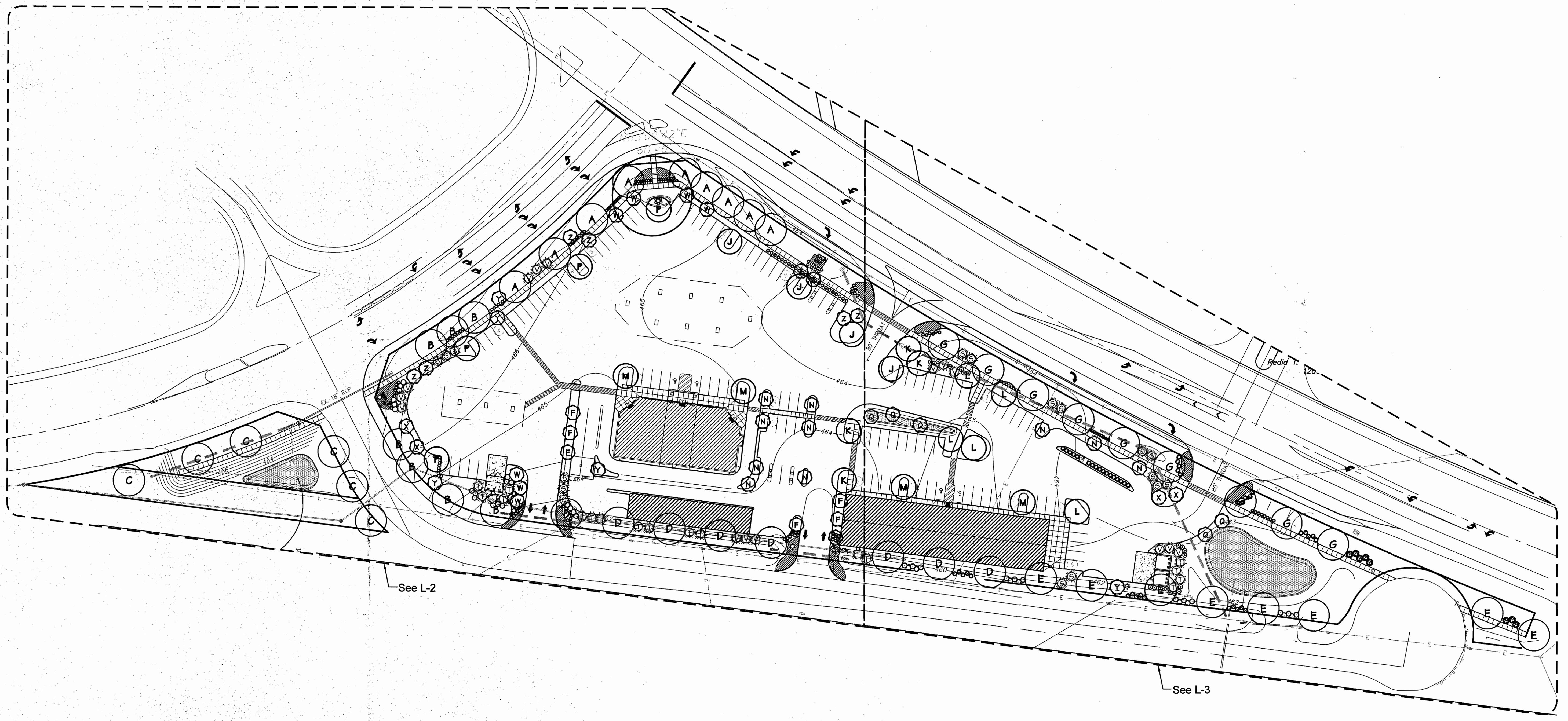


Jerald Saunders - Landscape Architect
MO License # LA-067

Consultants:

The Wedge

Chesterfield, Missouri



Revisions:

Date	Description	No.
4/15/16	City Comments	
4/26/16	Plan Changes	
8/24/16	Plan Changes	
12/6/16	City Comments	

Drawn: KP
Checked: JS

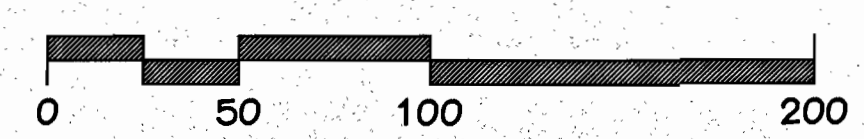
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landscape architects/planners
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e-mail: info@loomis-associates.com

Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000019

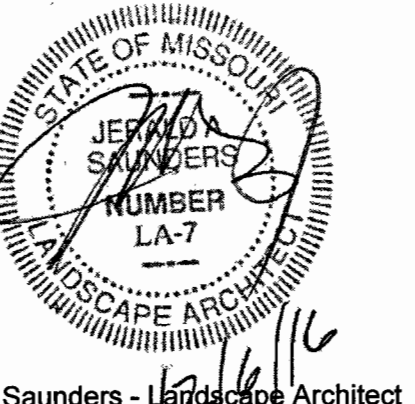
Sheet Title:	Landscape Plan
Sheet No:	L-1
Date:	04/15/16
Job #:	957.001

LANDSCAPE PLAN
SCALE 1"=50'



Open Space: 39.4%

Prepared For:
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Energy Marketing
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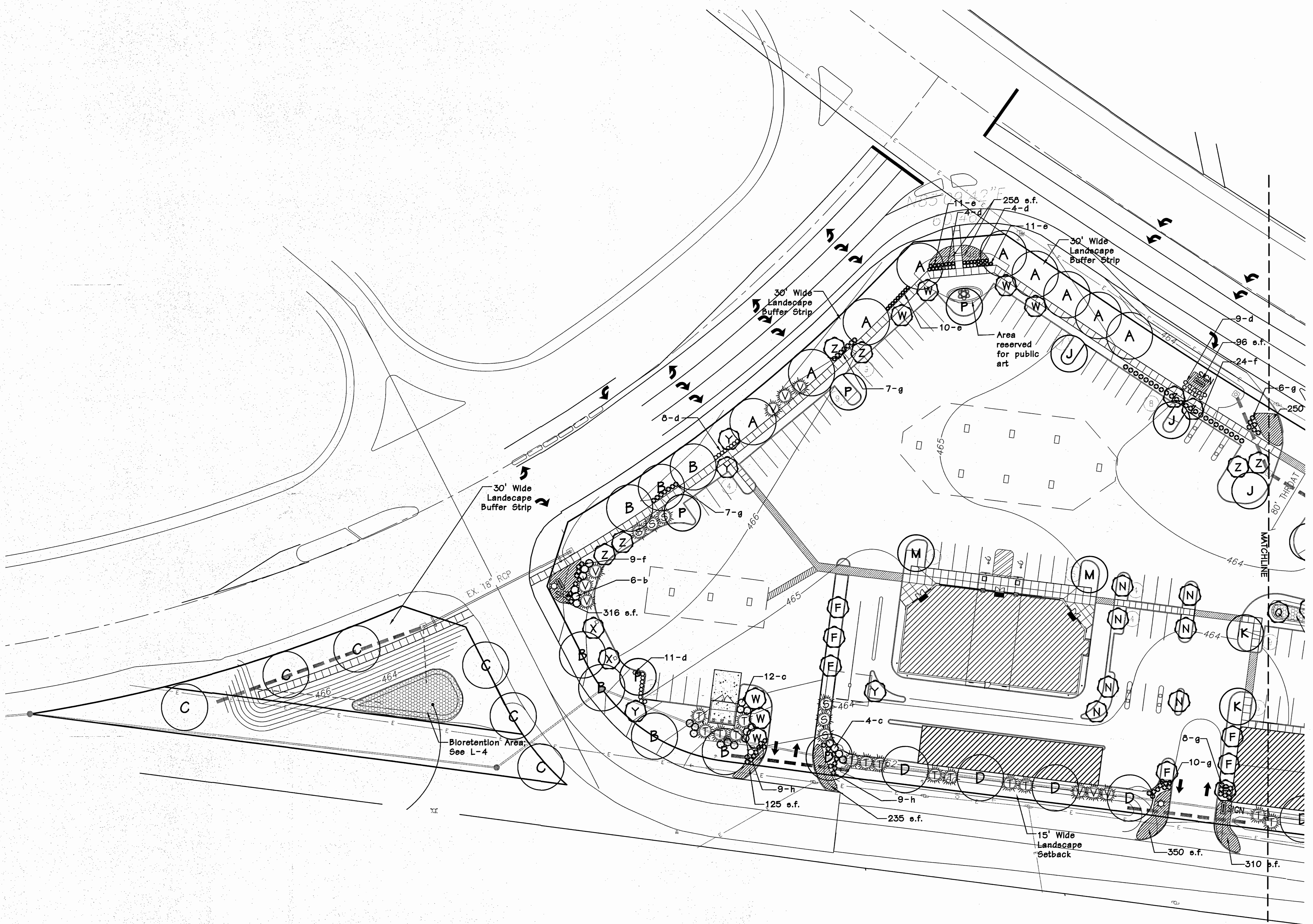


Jerald Saunders - Landscape Architect
MO License # LA-007

Consultants:

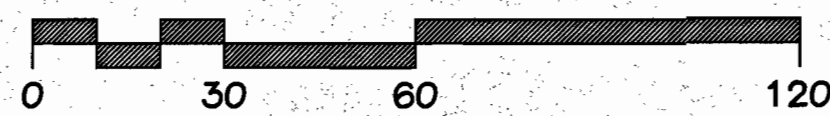
The Wedge

Chesterfield, Missouri



LANDSCAPE PLAN - WEST

SCALE 1" = 30'



Revisions:

Date	Description	No.
09/22/15	Plan Revision	
02/10/16	Plan Revision	
4/15/16	City Comments	
4/26/16	Plan Changes	
8/24/16	Plan Changes	
12/6/16	City Comments	

Drawn: KP
Checked: JS

loomisAssociates

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630.514.8663 Fax 630.519.0797
e-mail: info@loomis-associates.com

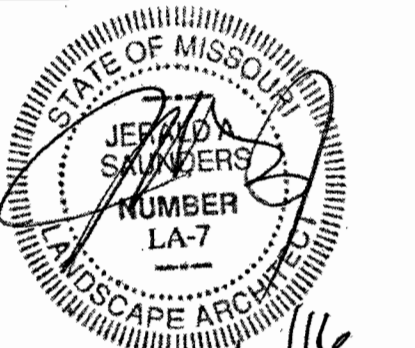
Loomis Associates, Inc.
Missouri State Certificate of Authority #: LAC #000018

Sheet Title: Landscape Plan - West

Sheet No: L-2

Prepared For:
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Date: 04/10/15
Job #: 957.001



Jerald Saunders - Landscape Architect
MO License # LA-007

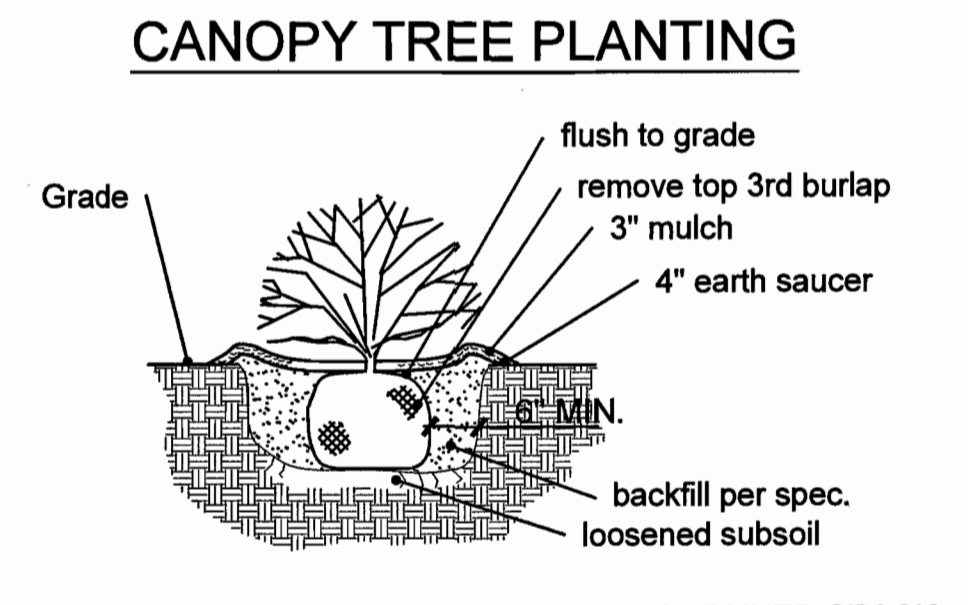
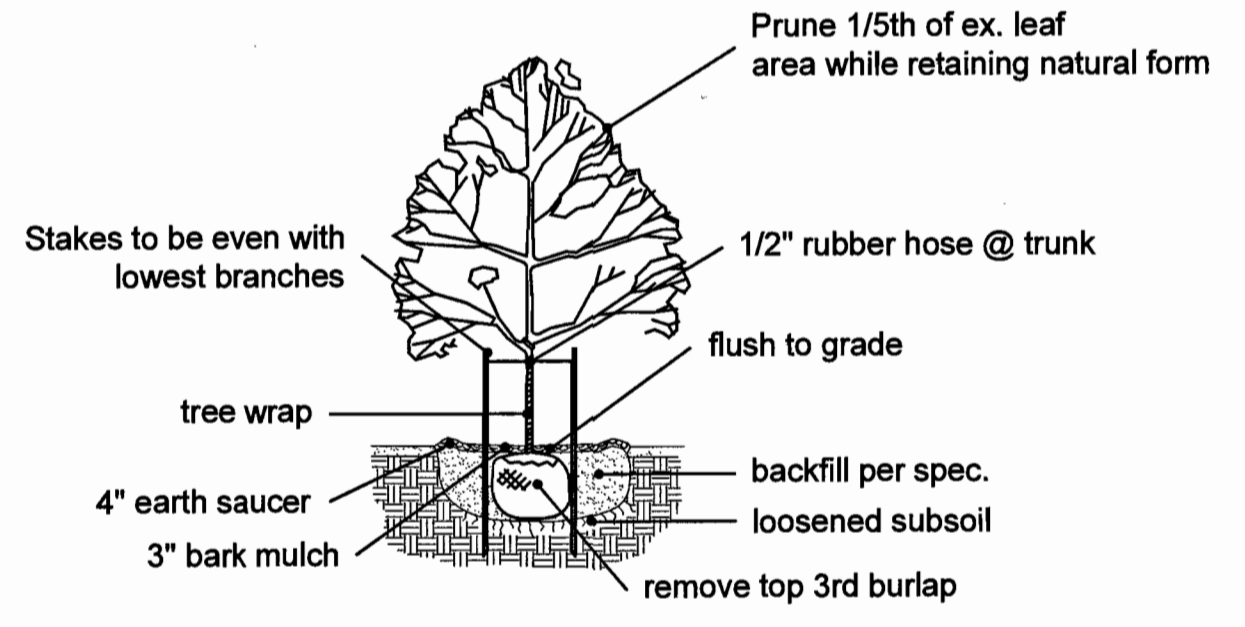
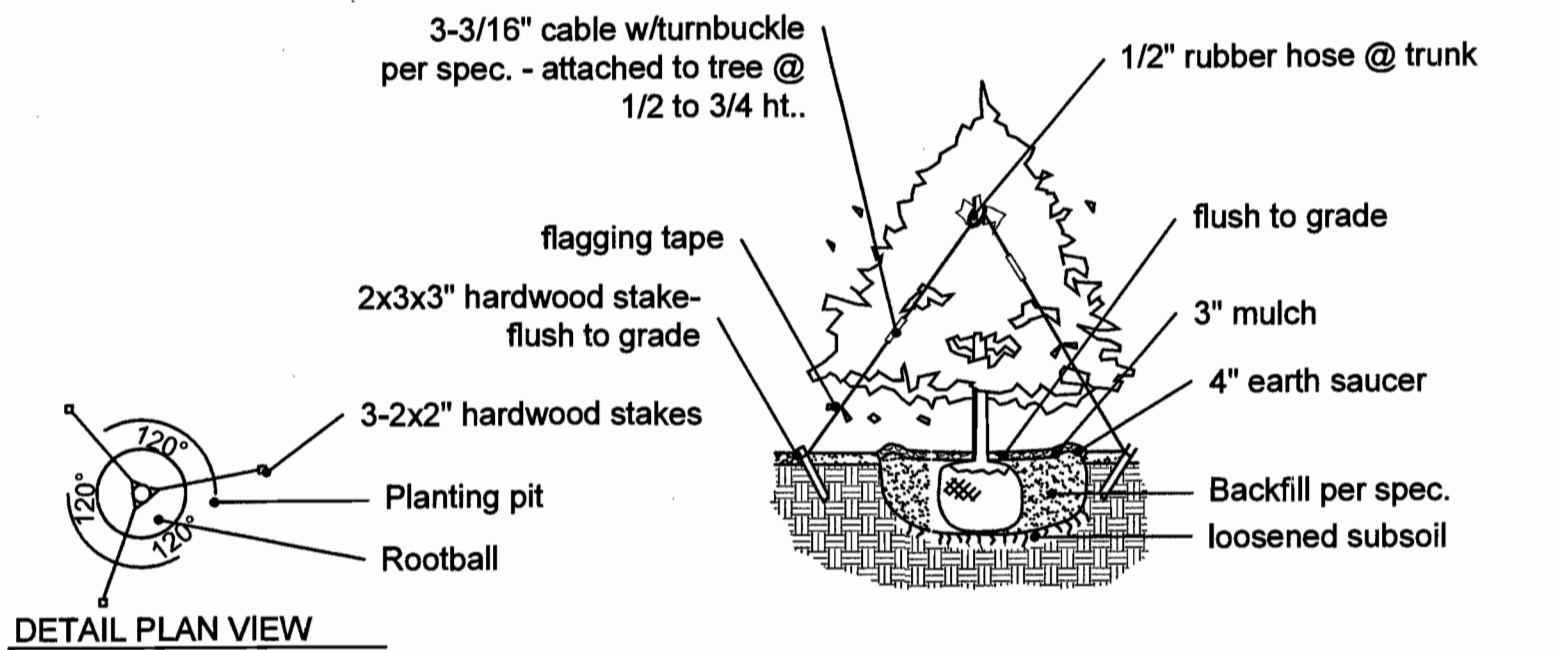
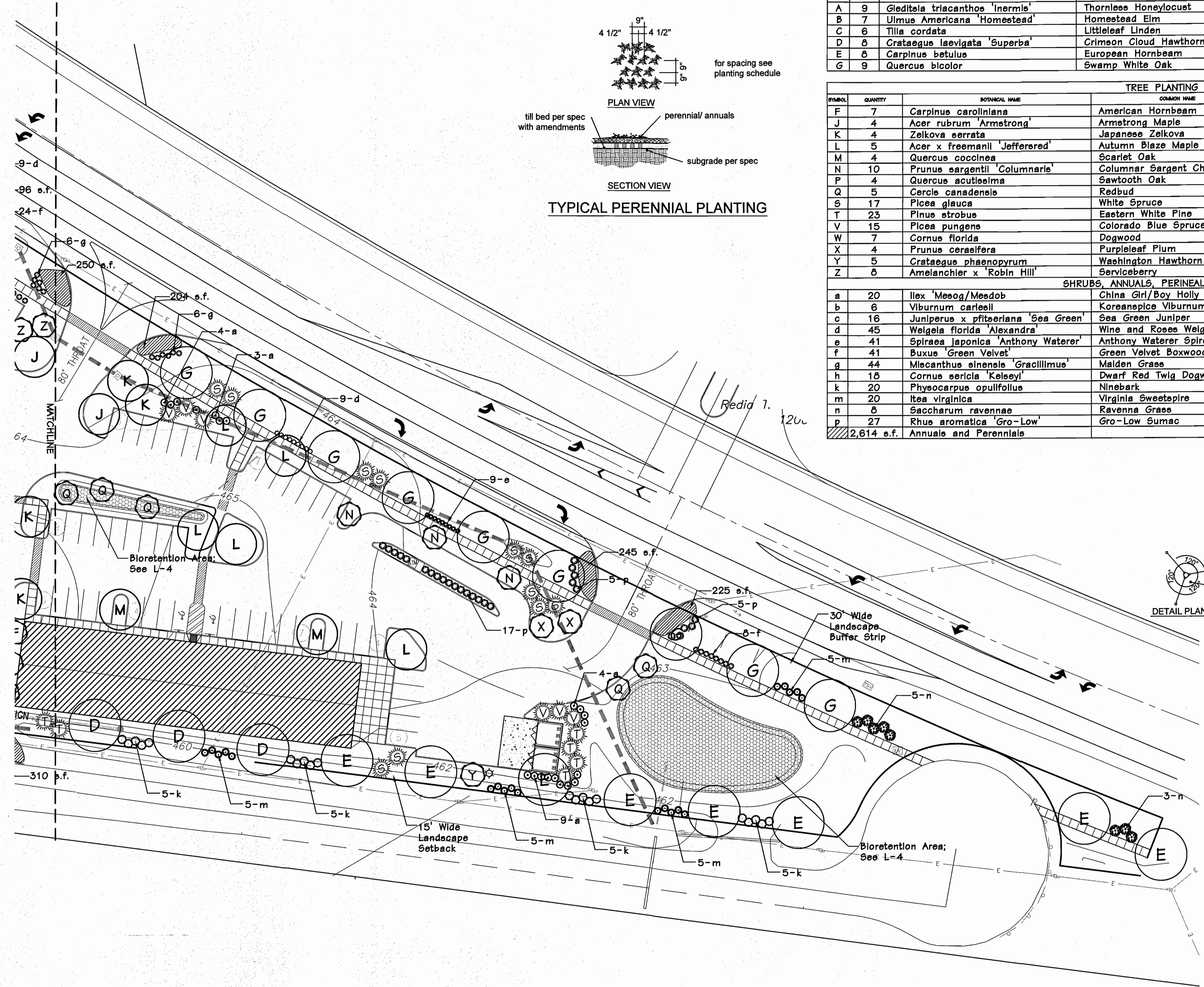
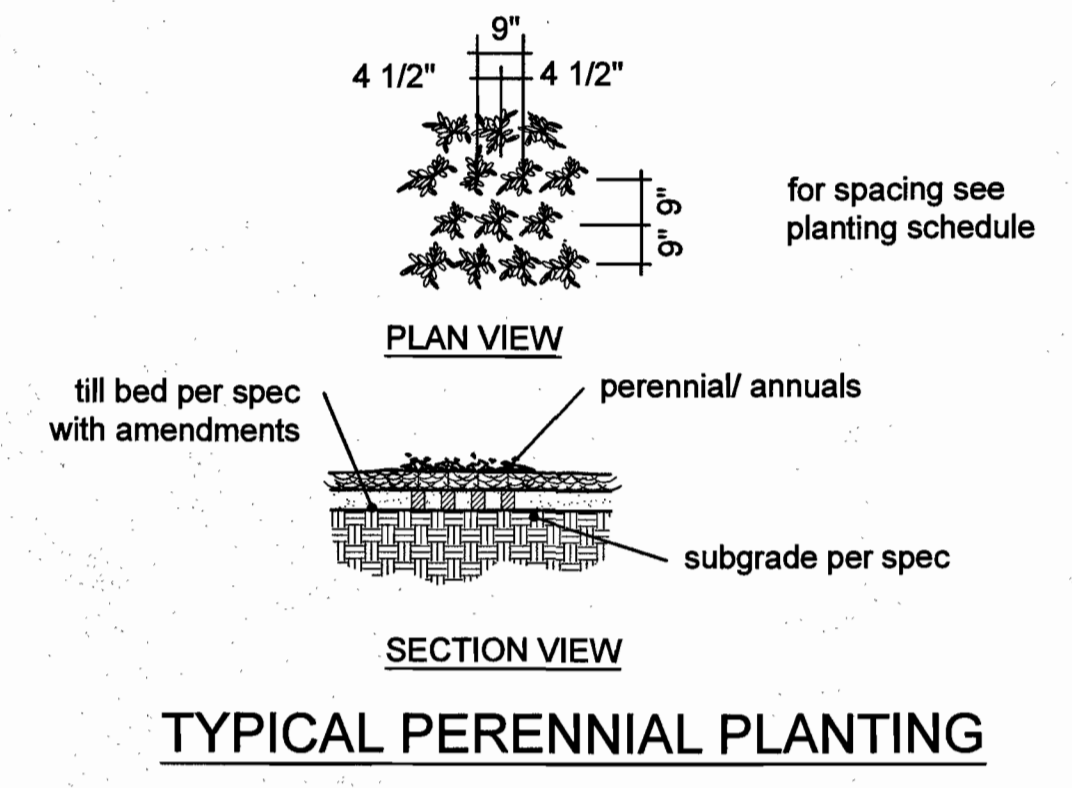
Consultants:

The Wedge
Chesterfield, Missouri

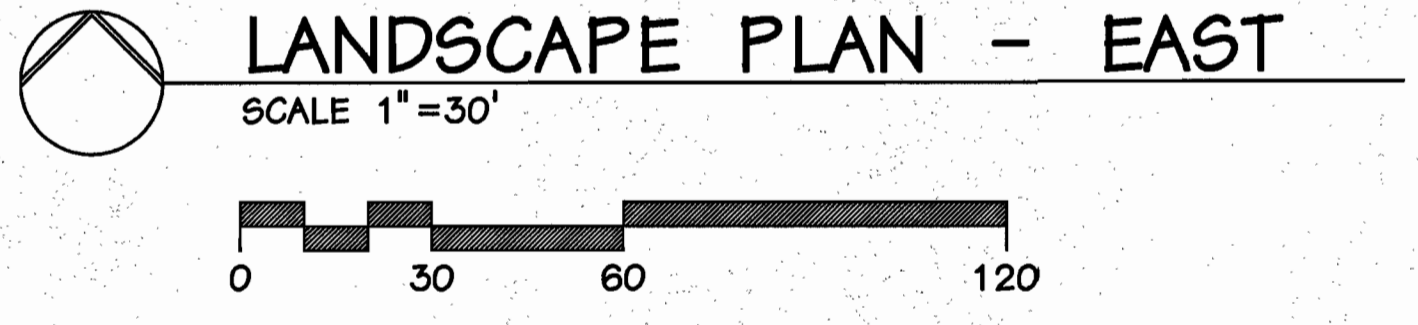
STREET TREE PLANTING SCHEDULE									
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	MATURE HEIGHT	HEIGHT IN 15 YRS	GROWTH RATE	SIZE CLASS
A	9	<i>Gleditsia triacanthos</i> 'Inermis'	Thornless Honeylocust	2 1/2"	Canopy	45'+		FAST	LARGE
B	7	<i>Ulmus Americana</i> 'Homestead'	Homestead Elm	2 1/2"	Canopy	60'-80'		MED/FAST	LARGE
C	6	<i>Tilia cordata</i>	Littleleaf Linden	2 1/2"	Canopy	45'+		SLOW/MED	LARGE
D	8	<i>Crataegus laevigata</i> 'Superba'	Crimson Cloud Hawthorn	2 1/2"	Ornamental	15'-25'		MED.	SMALL
E	8	<i>Carpinus betulus</i>	European Hornbeam	2 1/2"	Canopy	35'-40'		SLOW/MED	MEDIUM
G	9	<i>Quercus bicolor</i>	Swamp White Oak	2 1/2"	Canopy	45'+		MED.	LARGE

TREE PLANTING SCHEDULE									
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	MATURE HEIGHT	HEIGHT IN 15 YRS	GROWTH RATE	SIZE CLASS
F	7	<i>Carpinus caroliniana</i>	American Hornbeam	2.5"	Ornamental	20'-35'	15'	Medium	Small
J	4	<i>Acer rubrum</i> 'Armstrong'	Armstrong Maple	2.5"	Deciduous	35'-45'	30'	Fast	Large
K	4	<i>Zelkova serrata</i>	Japanese Zelkova	2.5"	Deciduous	45'+	30'	Fast	Large
L	5	<i>Acer x freemanii</i> 'Jeffersred'	Autumn Blaze Maple	2.5"	Deciduous	45'+	25'	Fast	Large
M	4	<i>Quercus coccolnea</i>	Scarlet Oak	2.5"	Deciduous	45'+	18'	Med./Fast	Large
N	10	<i>Prunus argentea</i> 'Columnaris'	Columnar Sargent Cherry	2.5"	Ornamental	30'-40'	15'	Medium	Medium
P	4	<i>Quercus acutissima</i>	Sawtooth Oak	2.5"	Deciduous	45'+	20'	Medium	Large
Q	5	<i>Cercis canadensis</i>	Redbud	2.5"	Ornamental	25'-30'	12'	Fast	Medium
S	17	<i>Picea glauca</i>	White Spruce	6"	Evergreen	35'-40'	20'	Medium	Medium
T	23	<i>Pinus strobus</i>	Eastern White Pine	6"	Evergreen	35'-40'	20'	Fast	Large
V	15	<i>Picea pungens</i>	Colorado Blue Spruce	6"	Evergreen	35'-40'	20'	Medium	Medium
W	7	<i>Cornus florida</i>	Dogwood	2.5"	Ornamental	15'-25'	15'	Slow/Med.	Small
X	4	<i>Prunus cerasifera</i>	Purpleleaf Plum	2.5"	Ornamental	15'-25'	15'	Medium	Small
Y	5	<i>Crataegus phaenopyrum</i>	Washington Hawthorn	2.5"	Ornamental	20'-30'	12'	Medium	Medium
Z	8	<i>Amelanchier x 'Robin Hill'</i>	Serviceberry	2.5"	Ornamental	25'-30'	10'	Slow/Med.	Medium

SHRUBS, ANNUALS, PERINEALS PLANTING SCHEDULE									
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	MATURE HEIGHT	HEIGHT IN 15 YRS	GROWTH RATE	SIZE CLASS
a	20	<i>Ilex 'Mesog/Mesdob</i>	China Girl/Boy Holly	5 gal.					
b	6	<i>Viburnum carlesii</i>	Koreanopice Viburnum	5 gal.					
c	16	<i>Juniperus x pfitzeriana 'Sea Green'</i>	Sea Green Juniper	5 gal.					
d	45	<i>Wiegela florida 'Alexandra'</i>	Wine and Roses Wiegela	5 gal.					
e	41	<i>Spiraea japonica 'Anthony Waterer'</i>	Anthony Waterer Spiraea	5 gal.					
f	41	<i>Buxus 'Green Velvet'</i>	Green Velvet Boxwood	5 gal.					
g	44	<i>Miscanthus sinensis 'Gracillimus'</i>	Maiden Grass	5 gal.					
h	18	<i>Cornus sericea 'Kelsey'</i>	Dwarf Red Twig Dogwood	5 gal.					
k	20	<i>Physocarpus opulifolius</i>	Ninebark	5 gal.					
m	20	<i>Itea virginica</i>	Virginia Sweetpire	5 gal.					
n	8	<i>Saccharum ravennae</i>	Ravenna Grass	5 gal.					
p	27	<i>Rhus aromatica 'Gro-Low'</i>	Gro-Low Sumac	5 gal.					
2,614 e.f. Annuals and Perennials									



SCARIFY ROOT BALL OF ALL CONTAINER STOCK



Revisions:		
Date	Description	No.
09/22/15	Plan Revision	
02/10/16	Plan Revision	
4/15/16	City Comments	
4/26/16	Plan Changes	
8/24/16	Plan Changes	
12/6/16	City Comments	

Drawn: KP
Checked: JS

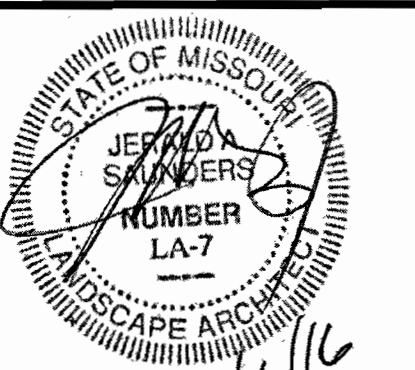
loomisAssociates

landscape architects/planners
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630-519-5038 Fax: 630-519-0797
Email: info@loomisassociates.com

Loomis Associates Inc.
Missouri State Certificate of Authority # LAC #000019

Sheet Title:	Landscape Plan - East
Sheet No.:	L-3
Date:	04/10/15
Job #:	957.001

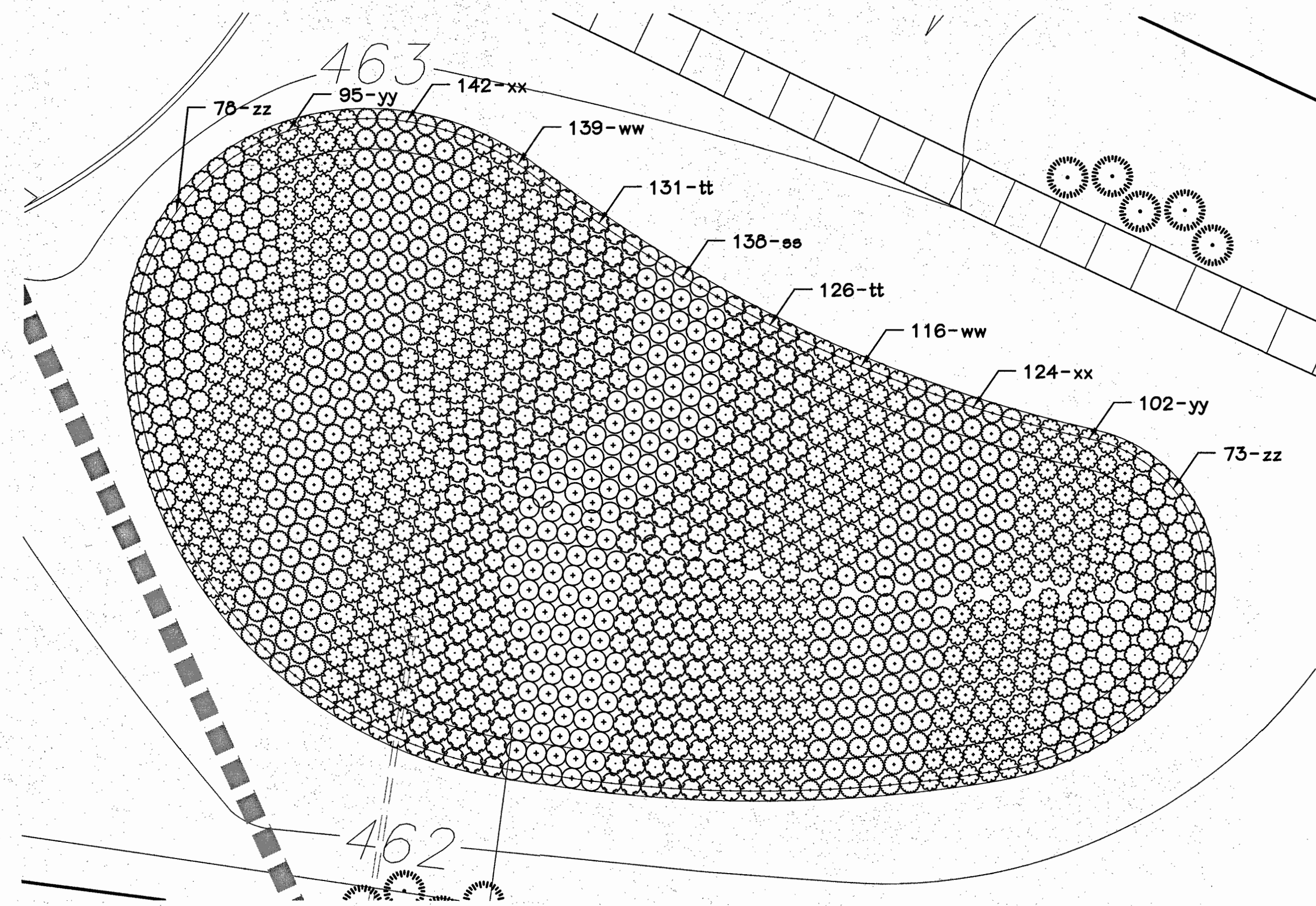
Prepared For:
Steve Madras
Energy Marketing
2130 Kienlen Ave.
St. Louis MO 63121
(314) 383-3700



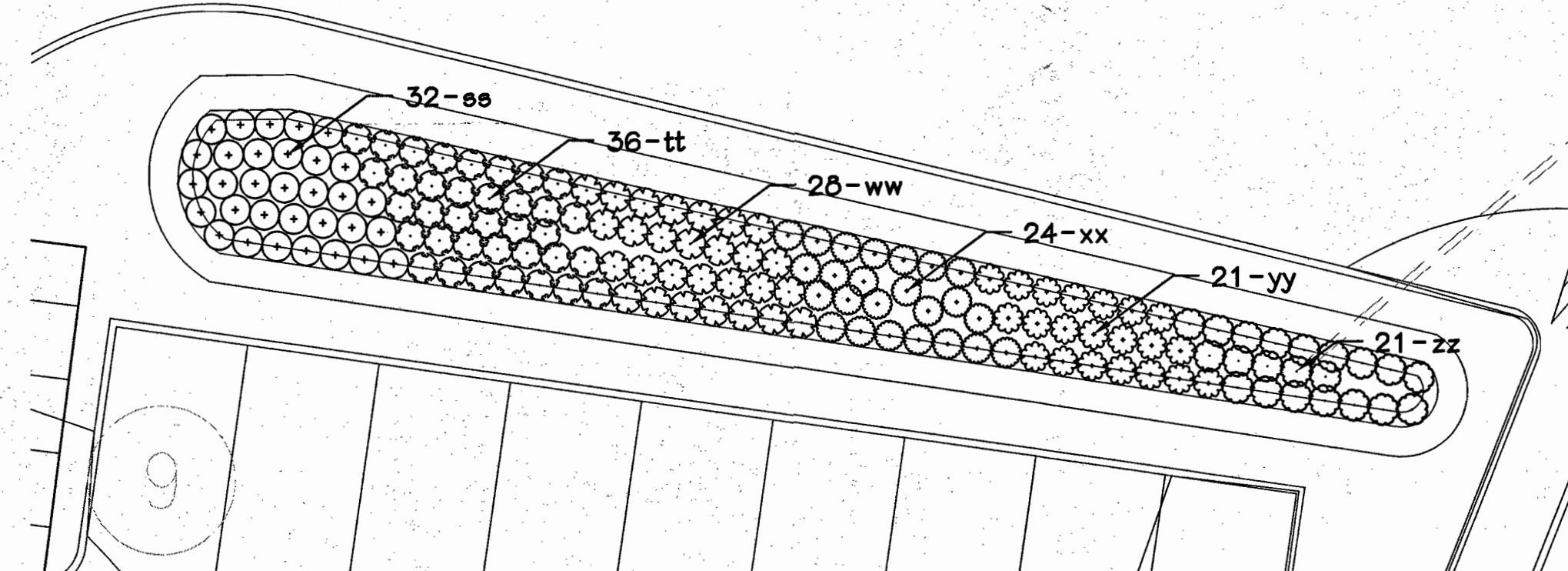
Jerald Saunders - Landscape Architect
MO License # LA-007

Consultants:

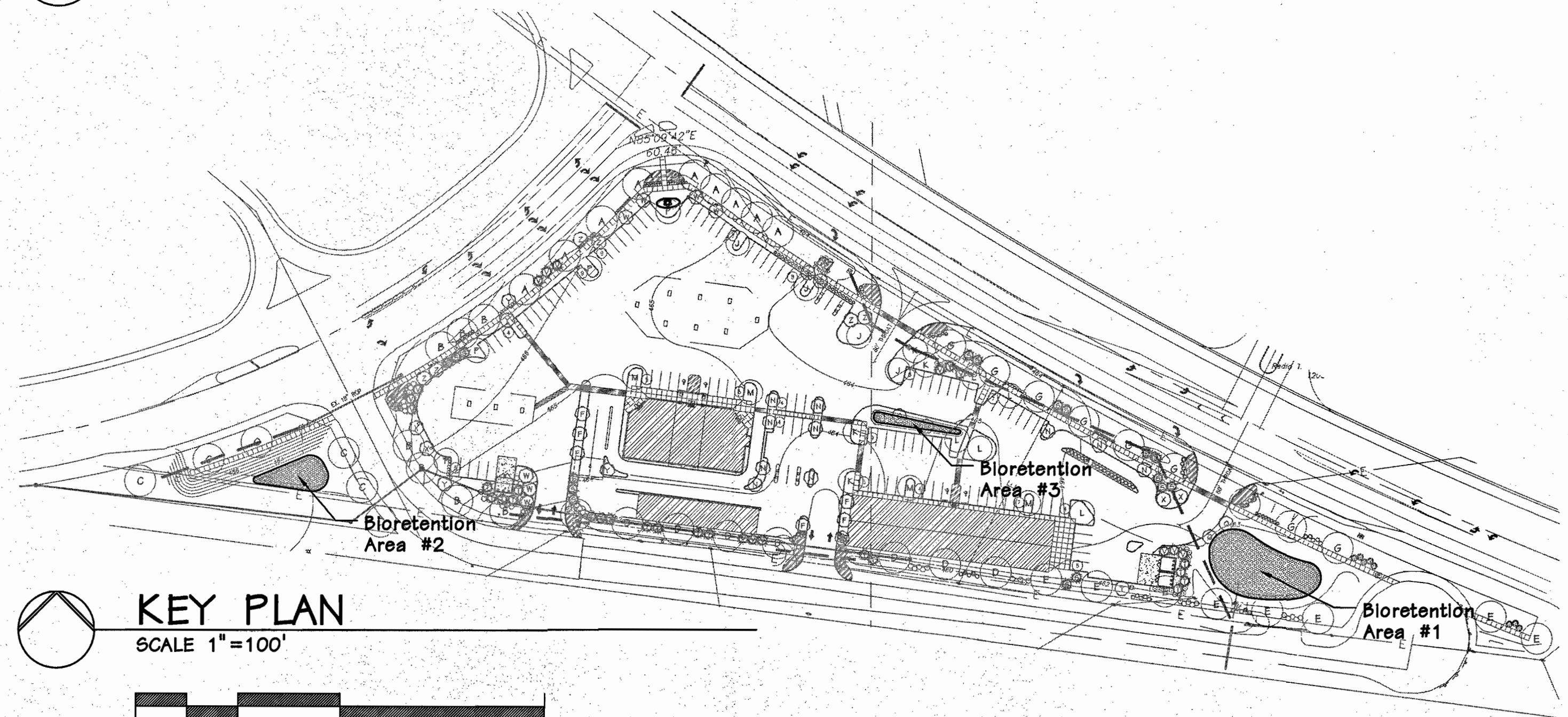
The Wedge
Chesterfield, Missouri



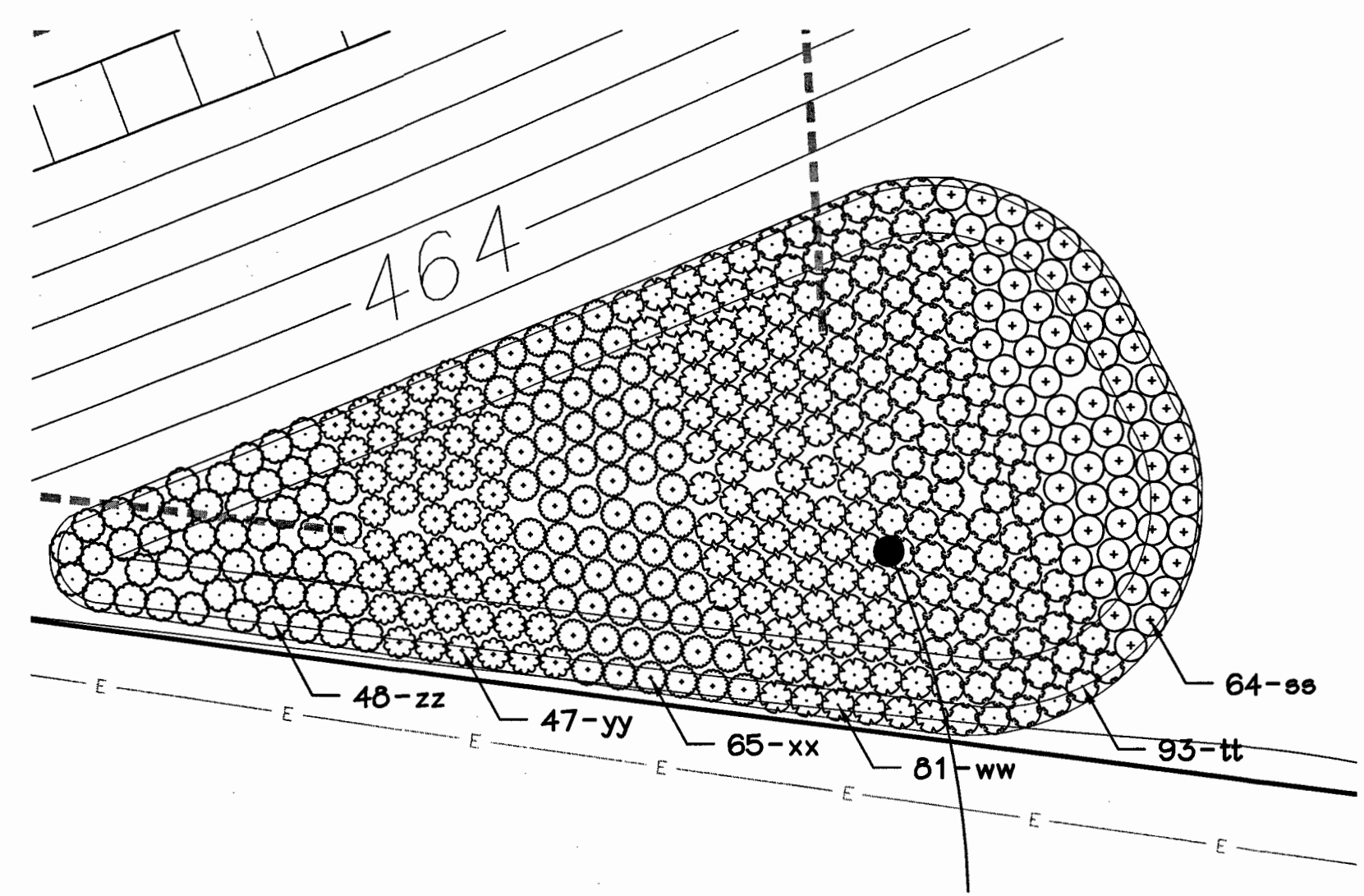
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L-3
BIORETENTION AREA #1
SCALE 1"=10'



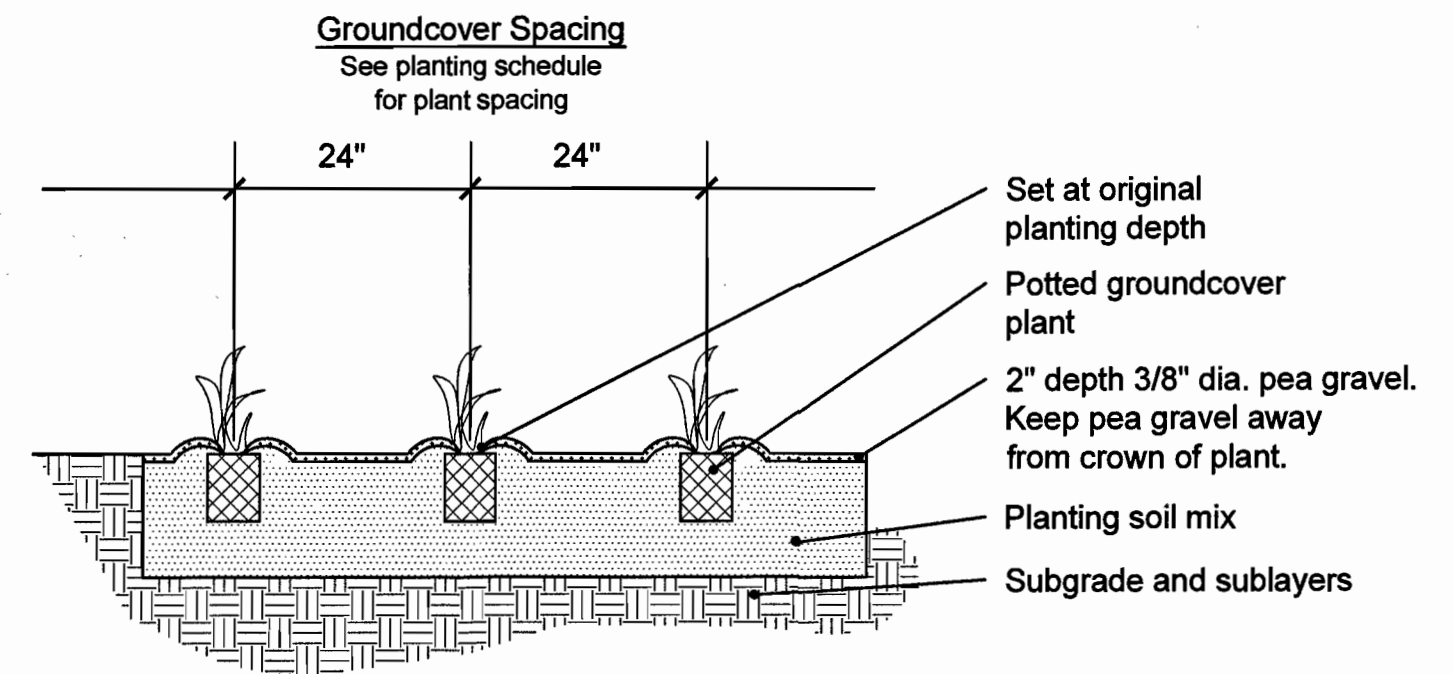
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L-3
BIORETENTION AREA #3
SCALE 1"=10'



KEY PLAN
SCALE 1"=100'



2
L-3
BIORETENTION AREA #2
SCALE 1"=10'



- Notes:
1. Remove spent flowers prior to planting.
 2. Loosen root mass at bottom of rootball.
 3. Top of rootball stripped of 1/4 inch surface growing media and covered with 1/4 inch landscape bed mix plus surface mulch.

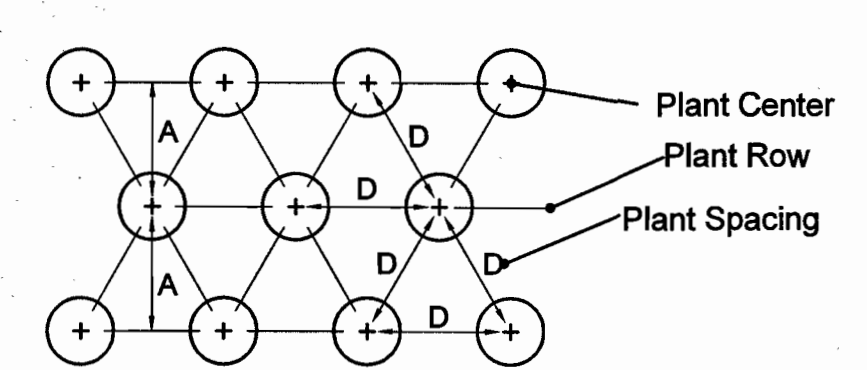
BIORETENTION PLANT SPACING SECTION

TABLE 1: PLANTING, WATER, AND MULCH REQUIREMENTS

WATER AVAILABILITY	REQUIRED PLANTING PERIOD	MINIMUM CONTAINER SIZE	WATER REQUIREMENT FIRST 3 WEEKS	WATER REQUIREMENT AFTER 3 WEEKS*	MAXIMUM MULCH DEPTH****
No ability to water after initial planting	Late Feb.-April only	2.25"x3.75" or larger (plug)	Water each plug immediately after planting		1.5" for plugs
Manual watering with standard sprinkler	Late Feb.-Early June Sept.-October	4.5"x5" (quart) or larger in summer and fall	1" (60 min) every 4 days	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts
Automatic Irrigation (set to water more frequently than normal during first two months after planting)	Late Feb.-Early Oct.	2.25"x3.75" (plug) or larger in spring 4.5"x5" (quart) or larger in summer and fall	1" (60 min) every 4 days in spring and fall 1" (60 min) every 3 days in summer	1" (60 min) every 7 days until plants established***	1.5" for plugs 2.5" for quarts

*This water amount includes natural rainfall. If you get a 1/2 inch of natural rain, then you will need to add a 1/2 inch of water to meet the 1 inch requirement.
 **Requires transport of water to the planting site in large containers and pouring enough water onto each plant (after planting) to moisten the entire planting pit.
 ***Plants are established when roots have grown out of the container soil and into the native soil by 3-5 inches. This normally takes 3-4 months for most perennials and grasses and up to 6-7 months for trees and shrubs.
 ****Shredded leaf compost is recommended for use with perennials and grasses. Mulch is recommended for tree and shrub plantings at a depth of 3 inches.

PLANT SPACING TABLE



BIORETENTION PLANT SPACING

SPACING 'D'	ROW 'A'	NUMBER OF PLANTS/SQ.FT.
30"	26"	.16
24"	20.8"	.25
18"	15.6"	.45
15"	13"	.64
12"	10.4"	1.00
10"	8.66"	1.44
8"	6.93"	2.25

Note: Plant quantities to be determined by multiplying area (sq.ft.) by number of plants/sq.ft. for required spacing. Table and diagram taken from "Landscape Guide for Stormwater Best Management Practice Design" by MSD with a revised date of May 2, 2012.

BIORETENTION PLANTING SCHEDULE

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
ss	234	Chaetantherium latifolium	River Oats	Type 38 DCP	24" o.c.
tt	366	Juncus effusus	Common Rush	Type 38 DCP	24" o.c.
ww	364	Carex vulpinoidea	Fox Sedge	Type 38 DCP	24" o.c.
xx	355	Lobelia cardinalis	Cardinal Flower	Type 38 DCP	24" o.c.
yy	265	Carex muskingumensis	Palm Sedge	Type 38 DCP	24" o.c.
zz	220	Iris fulva	Copper Iris	Type 38 DCP	24" o.c.

Revisions:

Date	Description	No.
4/15/16	City Comments	
4/26/16	Plan Changes	
8/24/16	Plan Changes	

Drawn: KP
Checked: JS

Iomis Associates
 landscapearchitects/planners
 779 Spink 40 Park Drive, Suite 105
 Chesterfield, Missouri 63010-1797
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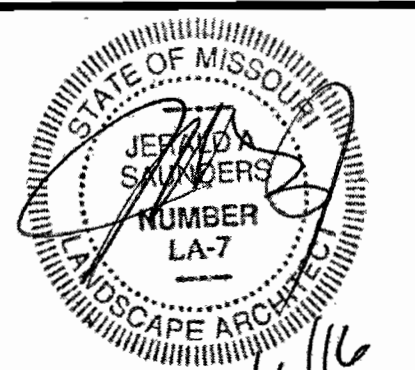
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 Missouri State Certificate of Authority #: LAC #0000193

Sheet Title: **Bioretention Planting Plan**

Sheet No: **L-4**

Prepared For:
Steve Madras
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Date: 02/10/16
Job #: 957.001

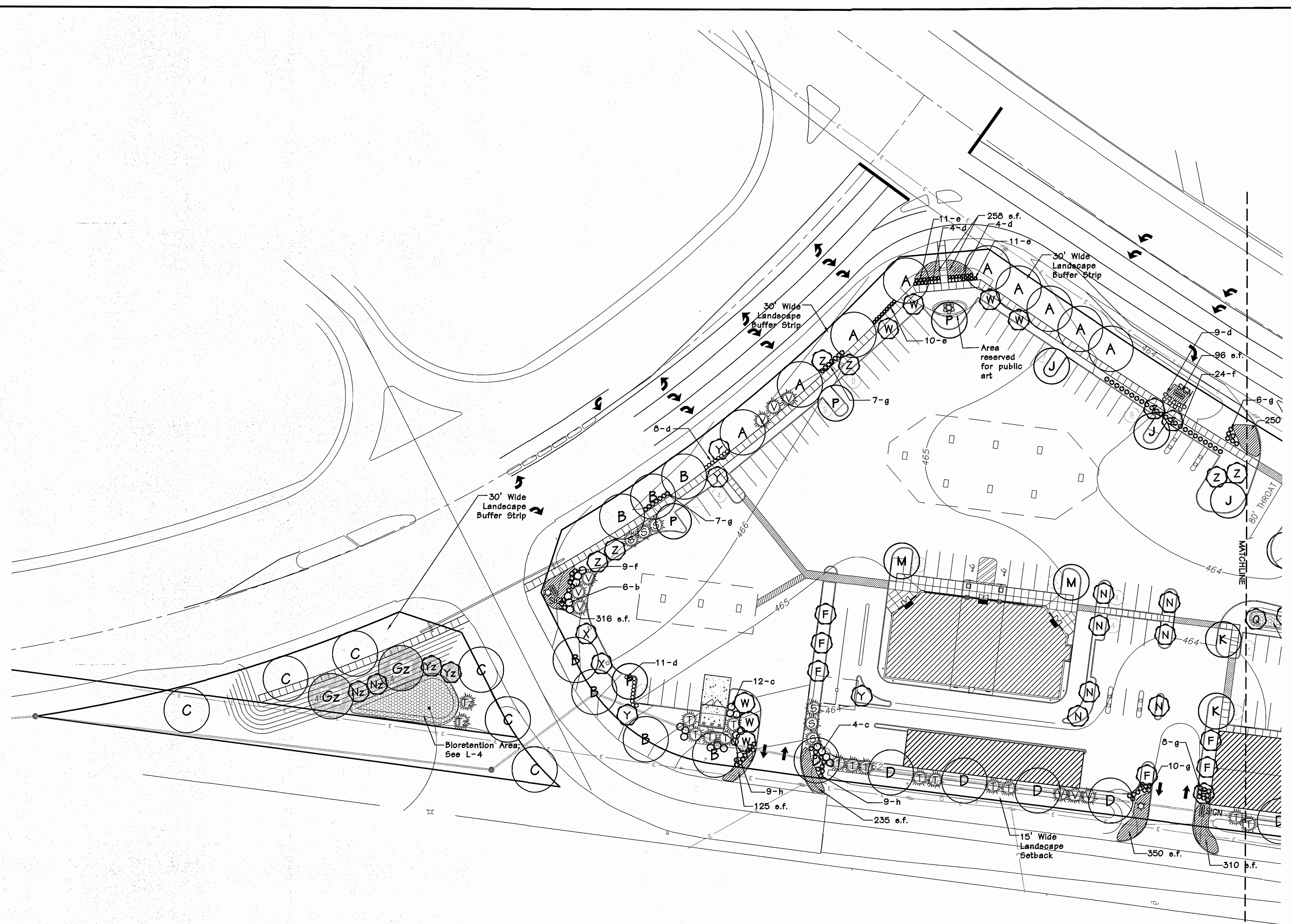


Jerald Saunders - Landscape Architect
MO License # LA-007

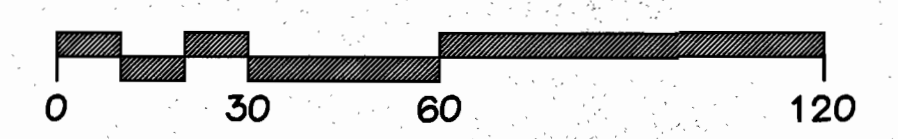
Consultants:

The Wedge

Chesterfield, Missouri



MITIGATION PLAN - WEST
SCALE 1"=30'



Revisions:

Date	Description	No.
12/6/16	City Comments	

Drawn: KP
Checked: JS

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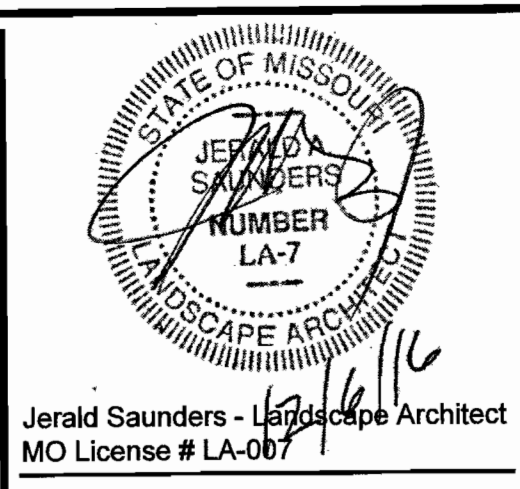
Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000018

Sheet Title: Mitigation Plan - West

Sheet No: L-5

Prepared For:
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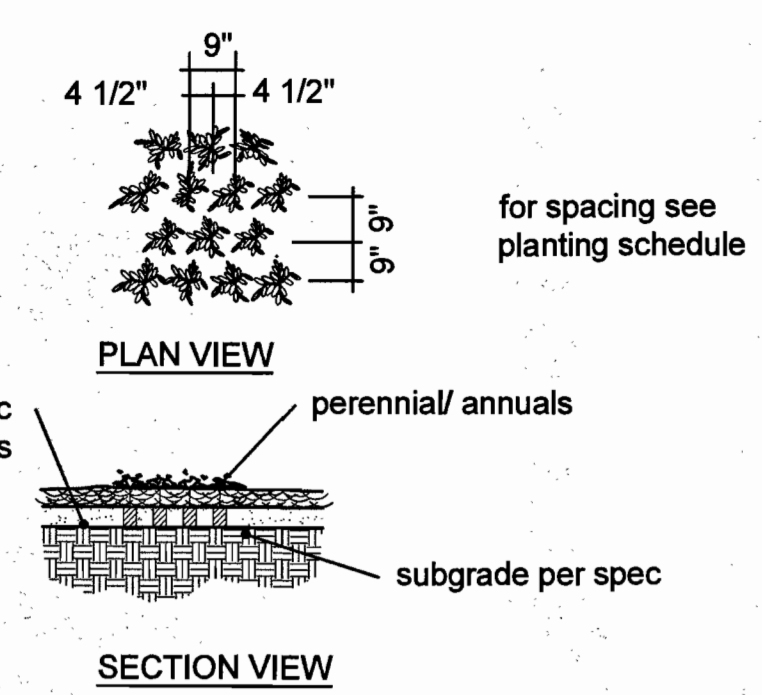
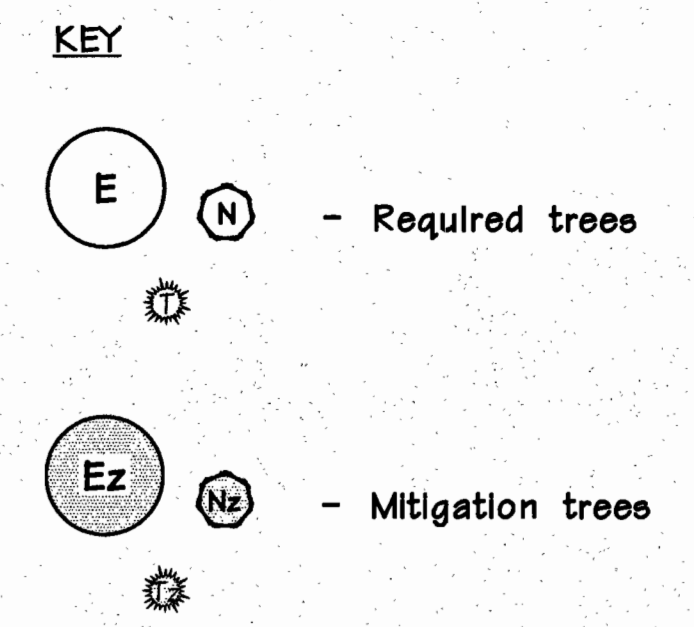
Date: 12/6/16
Job #: 957.001



Jerald Saunders - Landscape Architect
MO License # LA-067

Consultants:

The Wedge
Chesterfield, Missouri



STREET TREE PLANTING SCHEDULE

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	MATURE HEIGHT	HEIGHT IN 15 YRS	GROWTH RATE	SIZE CLASS
A	9	Gleditsia triacanthos 'Inermis'	Thornless Honeylocust	2 1/2"	Canopy	45'+	15'	FAST	LARGE
B	7	Ulmus Americana 'Homestead'	Homestead Elm	2 1/2"	Canopy	60-80'	30'	MED/FAST	LARGE
C	6	Tilia cordata	Littleleaf Linden	2 1/2"	Canopy	45'+	15'	SLOW/MED	LARGE
D	8	Crataegus laevigata 'Superba'	Crimson Cloud Hawthorn	2 1/2"	Ornamental	15-25'	15'	MED.	SMALL
E	8	Carpinus betulus	European Hornbeam	2 1/2"	Canopy	35-40'	15'	SLOW/MED	MEDIUM
G	9	Quercus bicolor	Swamp White Oak	2 1/2"	Canopy	45'+	15'	MED.	LARGE

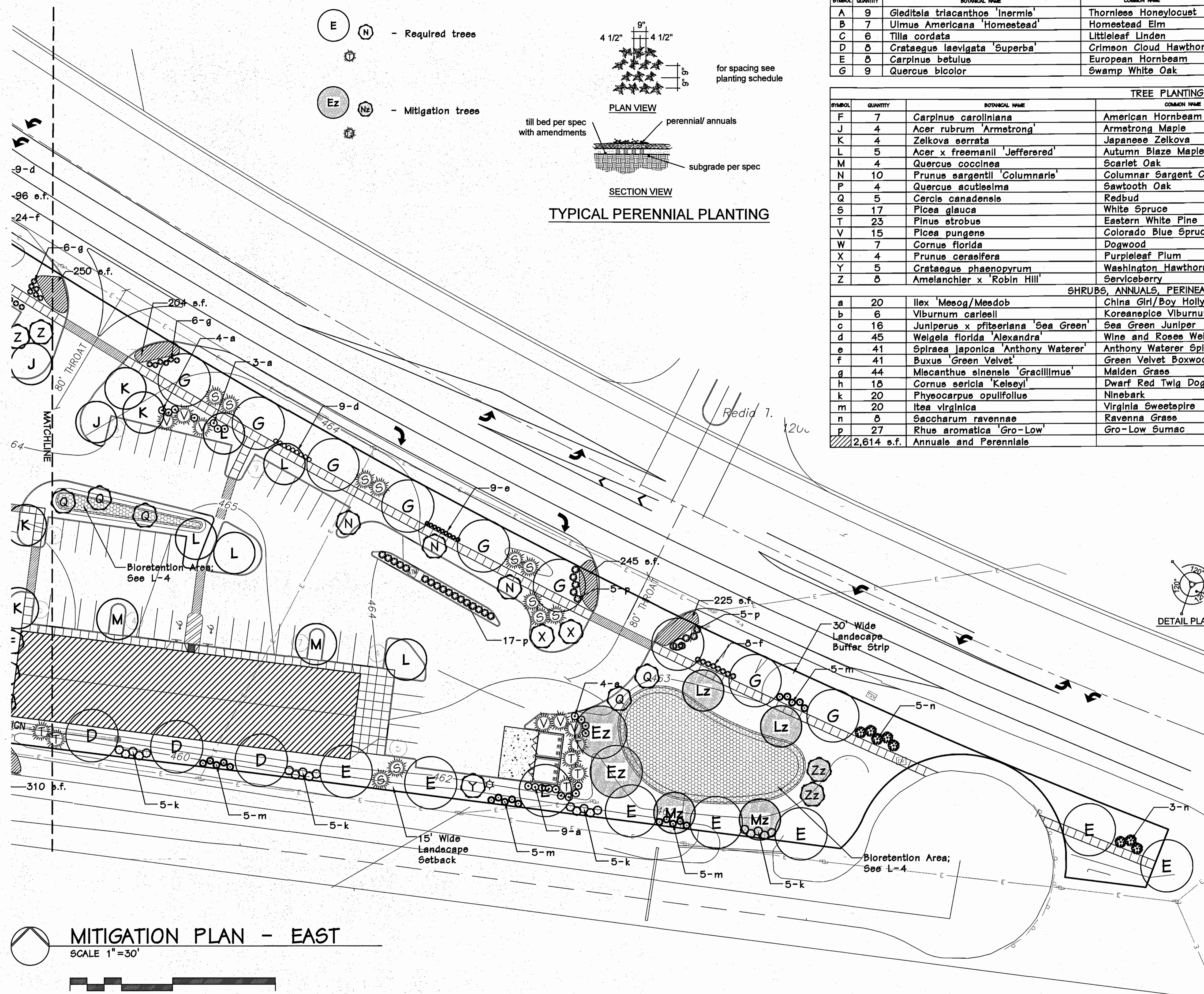
TREE PLANTING SCHEDULE

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	MATURE HEIGHT	HEIGHT IN 15 YRS	GROWTH RATE	SIZE CLASS
F	7	Carpinus caroliniana	American Hornbeam	2.5"	Ornamental	20'-35'	15'	Medium	Small
J	4	Acer rubrum 'Armstrong'	Armstrong Maple	2.5"	Deciduous	35'-45'	30'	Fast	Large
K	4	Zelkova serrata	Japanese Zelkova	2.5"	Deciduous	45'+	30'	Fast	Large
L	5	Acer x freemanii 'Jeffered'	Autumn Blaze Maple	2.5"	Deciduous	45'+	25'	Fast	Large
M	4	Quercus coccolinea	Scarlet Oak	2.5"	Deciduous	45'+	18'	Med./Fast	Large
N	10	Prunus sargentii 'Columnaris'	Columnar Sargent Cherry	2.5"	Ornamental	30'-40'	15'	Medium	Medium
P	4	Quercus acutesilma	Sawtooth Oak	2.5"	Deciduous	45'+	20'	Medium	Large
Q	5	Cercis canadensis	Redbud	2.5"	Ornamental	25'-30'	12'	Fast	Medium
S	17	Picea glauca	White Spruce	6"	Evergreen	35'-40'	20'	Medium	Medium
T	23	Pinus strobus	Eastern White Pine	6"	Evergreen	35'-40'	20'	Fast	Large
V	15	Picea pungens	Colorado Blue Spruce	6"	Evergreen	35'-40'	20'	Medium	Medium
W	7	Cornus florida	Dogwood	2.5"	Ornamental	15'-25'	15'	Slow/Med.	Small
X	4	Prunus cerasifera	Purpleleaf Plum	2.5"	Ornamental	15'-25'	15'	Medium	Small
Y	5	Crataegus phaenopyrum	Washington Hawthorn	2.5"	Ornamental	20'-30'	12'	Medium	Medium
Z	8	Amelanchier x 'Robin Hill'	Serviceberry	2.5"	Ornamental	25'-30'	10'	Slow/Med.	Medium

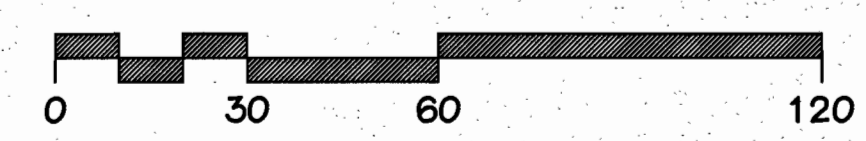
SHRUBS, ANNUALS, PERENNIALS PLANTING SCHEDULE

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
a	20	Ilex Mesog/Meedob	China Girl/Boy Holly	5 gal.	
b	6	Viburnum carlesii	Koreanspice Viburnum	5 gal.	
c	16	Juniperus x pfitzeriana 'Sea Green'	Sea Green Juniper	5 gal.	
d	45	Weigela florida 'Alexandra'	Wine and Roses Weigela	5 gal.	
e	41	Spiraea japonica 'Anthony Waterer'	Anthony Waterer Spirea	5 gal.	
f	41	Buxus 'Green Velvet'	Green Velvet Boxwood	5 gal.	
g	44	Miscanthus sinensis 'Gracillimus'	Malden Grass	5 gal.	
h	18	Cornus sericea 'Keisey'	Dwarf Red Twig Dogwood	5 gal.	
k	20	Physocarpus opulifolius	Ninebark	5 gal.	
m	20	Itea virginica	Virginia Sweetpire	5 gal.	
n	8	Saccharum ravennae	Ravenna Grass	5 gal.	
p	27	Rhus aromatica 'Gro-Low'	Gro-Low Sumac	5 gal.	

2,614 s.f. Annuals and Perennials



MITIGATION PLAN - EAST
SCALE 1"=30'



CALCULATIONS:

Existing Tree Canopy Coverage: 19,046 s.f., or 0.44 acres

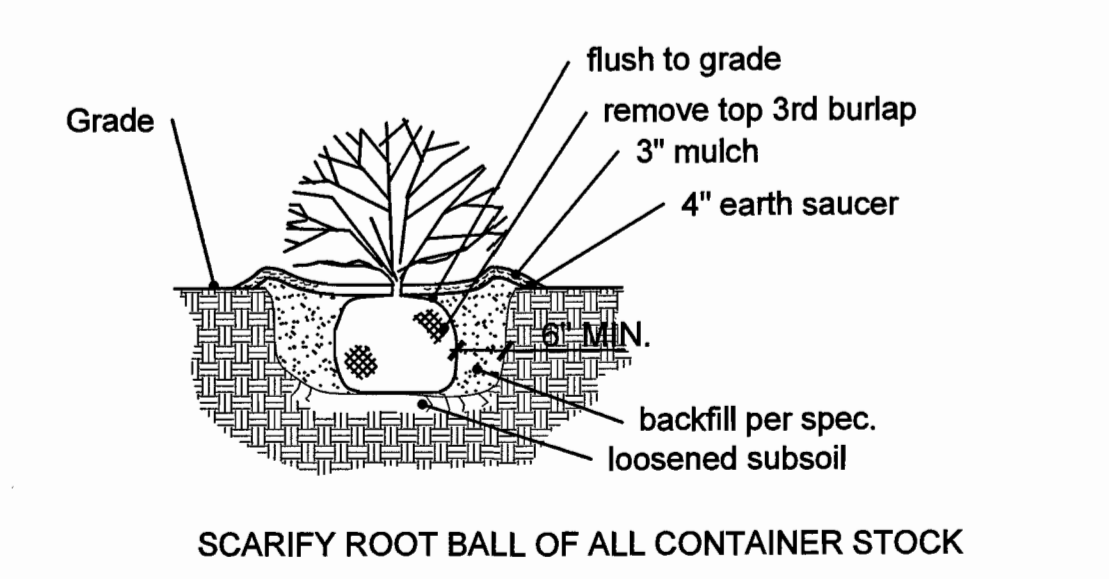
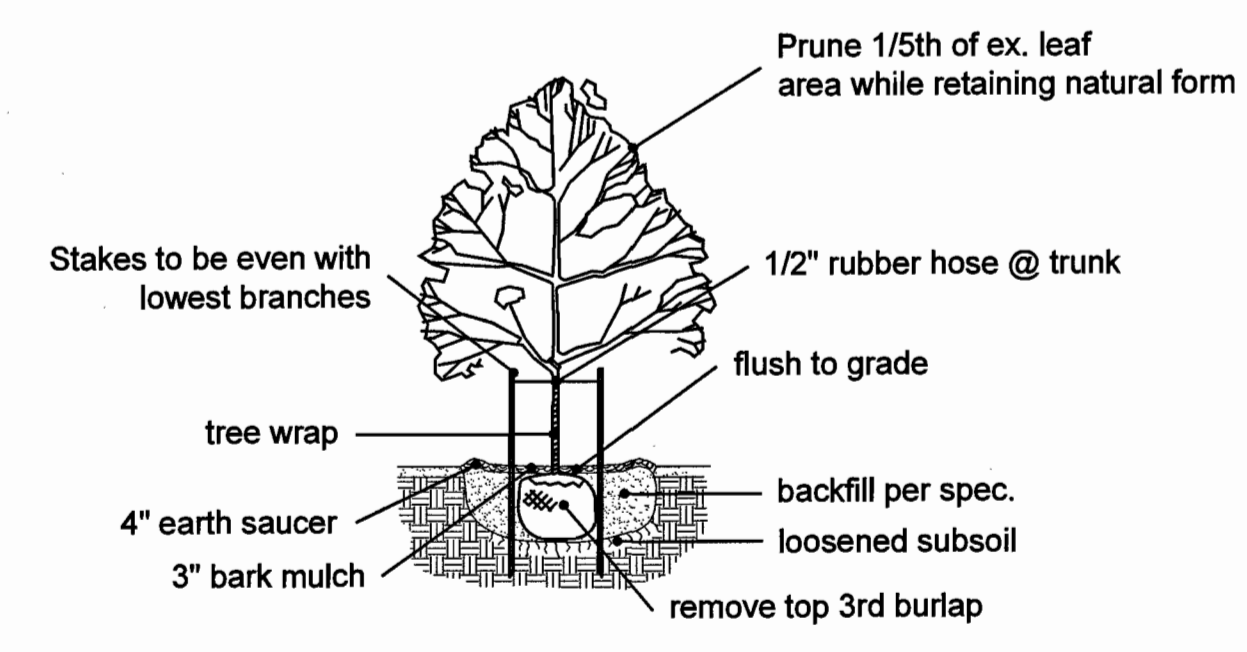
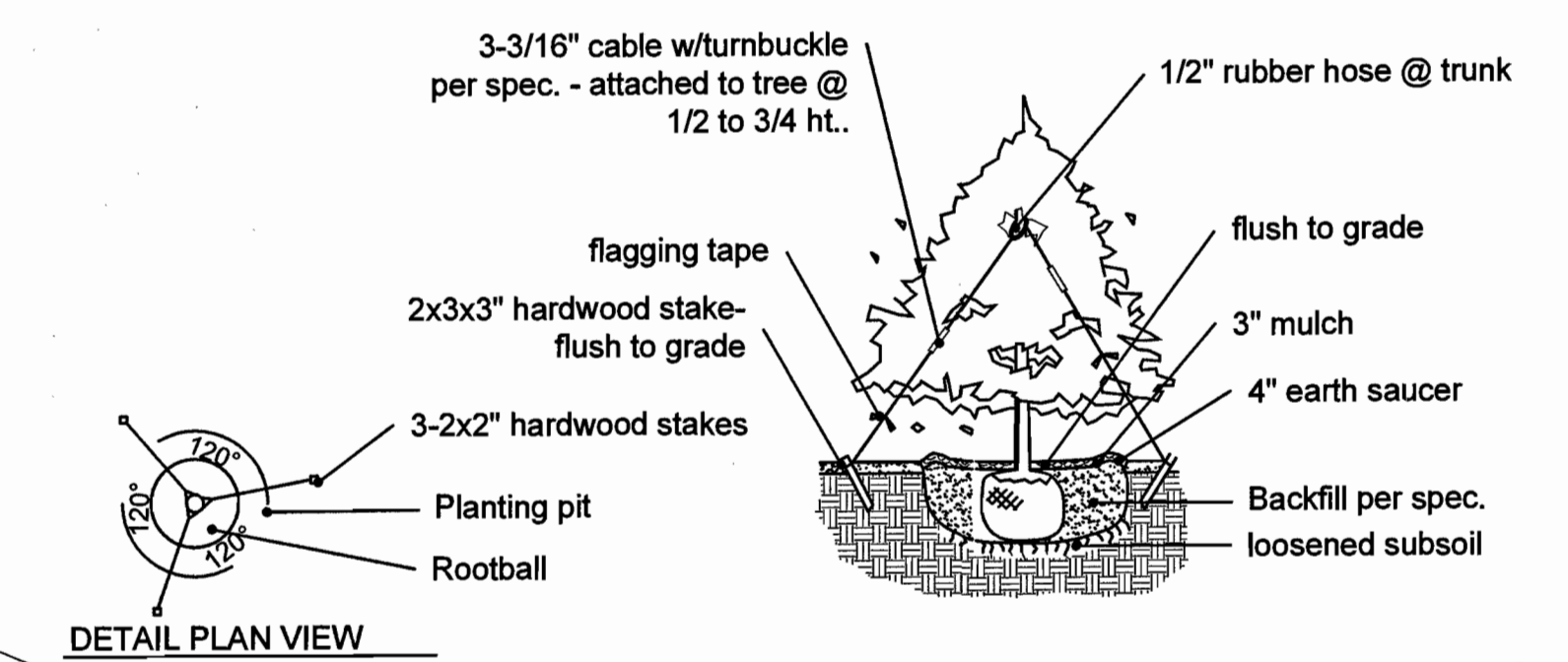
19,046 s.f. x .30 (30% minimum preservation requirement) = 5,713.5 s.f. of tree canopy preservation required

Proposed Mitigation Plantings:

10 large trees @ 400 s.f./tree = 4,000 s.f.
6 small trees @ 300 s.f./tree = 1,800 s.f.
5,800 s.f. total

MITIGATION TREE PLANTING SCHEDULE

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	MATURE HEIGHT	HEIGHT IN 15 YRS	GROWTH RATE	SIZE CLASS
Ez	2	Carpinus betulus	European Hornbeam	2 1/2"	Canopy	35-40'	15'	Slow/Med.	Medium
Gz	2	Quercus bicolor	Swamp White Oak	2 1/2"	Canopy	45'+	15'	Medium	Large
Lz	2	Acer x freemanii 'Jeffered'	Autumn Blaze Maple	2.5"	Deciduous	45'+	25'	Fast	Large
Mz	2	Quercus coccolinea	Scarlet Oak	2.5"	Deciduous	45'+	18'	Med./Fast	Large
Nz	2	Prunus sargentii 'Columnaris'	Columnar Sargent Cherry	2.5"	Ornamental	30'-40'	15'	Medium	Medium
Tz	2	Pinus strobus	Eastern White Pine	6"	Evergreen	35'-40'	20'	Fast	Large
Yz	2	Crataegus phaenopyrum	Washington Hawthorn	2.5"	Ornamental	20'-30'	12'	Medium	Medium
Zz	2	Amelanchier x 'Robin Hill'	Serviceberry	2.5"	Ornamental	25'-30'	10'	Slow/Med.	Medium



Revisions:

Date	Description	No.
12/6/16	City Comments	

Drawn: KP
Checked: JS

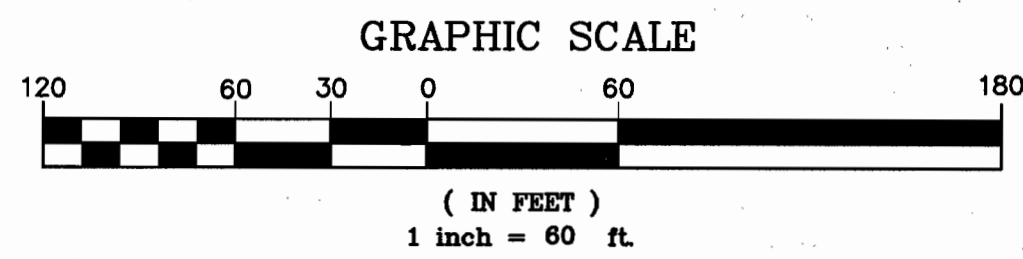
loomisAssociates

landscapeArchitects/planners
707 Spirit of Park Drive, Suite 125
Chesterfield, MO 63135
P: 636.515.8663 F: 636.515.0797
E: lasso@loomis-associates.com

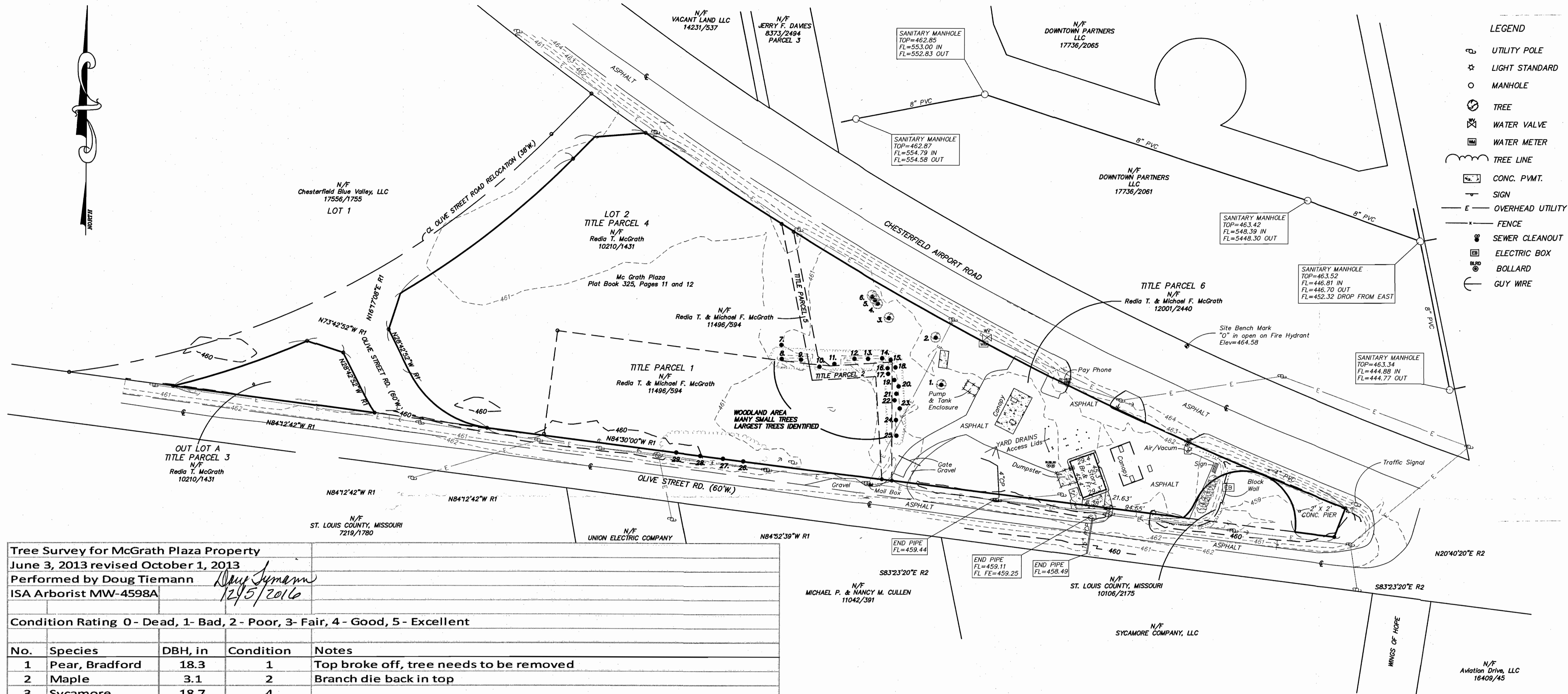
Loomis Associates, Inc.
Missouri State Certificate of Authority #: LAC #0000193

Sheet Title:	Mitigation Plan - East
Sheet No.:	L-6
Date:	12/6/16
Job #:	957.001

Prepared For:
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2130 Kienlen Ave.
St. Louis MO 63121
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Tree Stand Delineation



- LEGEND**
- ⊕ UTILITY POLE
 - ☆ LIGHT STANDARD
 - MANHOLE
 - 🌳 TREE
 - ⊗ WATER VALVE
 - ⊞ WATER METER
 - TREE LINE
 - ▭ CONC. PVMT.
 - ↑ SIGN
 - OVERHEAD UTILITY
 - FENCE
 - ⊙ SEWER CLEANOUT
 - ⊞ ELECTRIC BOX
 - ⊙ BOLLARD
 - GUY WIRE

Tree Survey for McGrath Plaza Property
 June 3, 2013 revised October 1, 2013
 Performed by Doug Tiemann
 ISA Arborist MW-4598A

Doug Tiemann
12/5/2016

Condition Rating 0 - Dead, 1 - Bad, 2 - Poor, 3 - Fair, 4 - Good, 5 - Excellent

No.	Species	DBH, in	Condition	Notes
1	Pear, Bradford	18.3	1	Top broke off, tree needs to be removed
2	Maple	3.1	2	Branch die back in top
3	Sycamore	18.7	4	
4	Maple	12.6	3	Multiple Stems - largest stem measured
5	Pine, Austrian	4.8	3	
6	Pine, Austrian	3.8	3	
7	Elm	6.1	3	
8	Elm	7.0	3	Multiple Stems - 5", 6" & 7"
9	Maple, Silver	14.5	3	
10	Elm	5.0	3	
11	Pine, Austrian	3.4	2	
12	Maple, Silver	8.0	3	
13	Pine, Austrian	8.8	3	
14	Pine, Austrian	12.0	3	
15	Pine, Austrian	18.7	2	Bottom portion dead
16	Elm, Siberian	8.8	3	
17	Elm, Siberian	8.4	3	
18	Pine, Austrian	12.2	2	
19	Elm	5.0	3	
20	Pine, Austrian	11.5	2	Bottom portion dead
21	Pine, Austrian	11.8	3	
22	Pear, Bradford	4.6	3	
23	Elm, Siberian	8.8	3	
24	Elm, Siberian	8.0	3	
25	Pear, Bradford	4.2	3	
26	Maple, Silver	35	1	Heavily trimmed on south side for power lines - Approximate diameter
27	Maple, Silver	46	1	Heavily trimmed on south side for power lines - Approximate diameter
28	Maple, Silver	32	1	Heavily trimmed on south side for power lines - Approximate diameter
29	Maple, Silver	44	1	Heavily trimmed on south side for power lines - Approximate diameter

PICKETT, RAY & SILVER INC.
 CIVIL ENGINEERING, LAND SURVEYING,
 AND NATURAL RESOURCES SERVICES

New Town, St. Peters
 333 Mid Rivers Mall Drive 2027 W. Hwy. 70, Suite B
 St. Charles, MO 63301 St. Peters, MO 65376
 Phone (636) 397-1211 Fax (636) 397-1104
 www.prs3.com 1-800-708-3918

Tree Survey
 A tract of land being Lot 2 and Outlot A of McGrath Plaza,
 part of Lot 6 of the Subdivision of R. H. Stevens Farm and
 part of U. S. Survey 102, Township 45 North - Range 3 East,
 St. Louis County, Missouri

Prepared For:
Energy Marketing 709 LLC

2130 Klenken Avenue
 St. Louis, MO 63121-5505
 314-383-3700

REVISIONS	NO.	DATE	DESCRIPTION
	1.	11-08-2013	CHANGED NAME FOR DRAWING

DRAWN	DWD	DATE	06-03-13
CHECKED	DST	DATE	06-03-13

PROJECT # 09056.EMKT.OOS
 TASK # 1 FIELD BOOK 1287

TREE STAND DELINEATION
 18425 OLIVE ST. RD.

SHEET 1 OF 1
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