



# VII. C.

690 Chesterfield Pkwy W • Chesterfield MO 63017-0760  
Phone: 636-537-4000 • Fax 636-537-4798 • [www.chesterfield.mo.us](http://www.chesterfield.mo.us)

## Planning Commission Staff Report

**Project Type:** Site Development Section Plan

**Meeting Date:** February 13, 2017

**From:** Jessica Henry, AICP  
Senior Planner

**Location:** Southeast corner of Ladue Road and Greentrails Drive.

**Applicant:** St. Charles Engineering & Surveying, Inc. on behalf of Onofrio Serra

**Description:** Trails West Village of Greentrails, Lot 270 B: A Site Development Section Plan, Landscape Plan, Lighting Plan, Architectural Elevations and an Architect's Statement of Design for a 3.6 acre tract of land zoned "C-8" Planned Commercial District, located at the southeast corner of Ladue Road and Greentrails Drive.

### PROPOSAL SUMMARY

The request is for a Site Development Section Plan, Landscape Plan, Lighting Plan, Architectural Elevations and an Architect's Statement of Design for a new retail center to be located on Lot 270 B of the Trails West Village of Greentrails subdivision. Although this subdivision is primarily residential in nature, Lot 270, outlined in yellow on the image on the following page, is zoned "C-8" Planned Commercial District. Accordingly, the applicant is proposing to construct a 4,000 square foot building with four separate entries to tenant spaces. The proposed building is to be constructed of earth tone brick veneer, cementer fiber lap siding, shake siding accents on the gables, accent stone on the end columns, definition residential shingles and a glass storefront with wood framed show windows, transom windows, and full glass entry doors.

### HISTORY OF SUBJECT SITE

In December of 1966, St. Louis County rezoned the subject site from the "NU" Non-Urban District to the "C-8" Planned Commercial District via Ordinance 4165 and established the permitted uses as being all permitted uses in the "C-2 and "C-3" Shopping Districts. In June of 1969, Ordinance 5084 amended the previous ordinance to limit the permitted uses to "C-2" Shopping District permitted uses as well as one neighborhood gasoline service station. On February 4th, 1985, St. Louis County approved Ordinance 11,900 which amended St. Louis County Ordinance 5084 and 4165 which had governed the site.

On November 20, 1989, The City of Chesterfield approved Ordinance 378 which amended portions of the sign requirements for the site. Additionally, the original Lot 270 was split into Lots A and B in 1986, with Lot A being further subdivided into Lot A1 and A2 in 2007, as shown in the image below. Lot 270 B is presently vacant with remaining portions of a parking area that are in disrepair.



### **Comprehensive Plan Analysis**

The subject site is located within Ward 1 of the City of Chesterfield. The City of Chesterfield Land Use Plan indicates these parcels are within the *Neighborhood Retail (Retail/Office/Warehouse)* which is defined as *a center no larger than 50,000 square feet that provides general merchandise and services and attracts customers from adjacent neighborhoods within Chesterfield that will generally travel up to 10 minutes to reach the center*. This subject site is not located in any sub-area identified by the Comprehensive Plan.

The Comprehensive Plan includes the following Commercial Development Policies which are 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.

- **3.1.2 Buffering of Neighborhoods**—Development should substantially buffer the neighboring residential uses in all directions by employing good site design, addressing vehicular access, building materials selection, tree preservation, and expanded setbacks.
- **3.2.1 Neighborhood Retail Facilities**—Additional neighborhood/service-oriented retail development should be limited to redevelopment and expansion of existing locations within defined boundaries. New development should be located at or near intersections as currently identified on the Land Use Map. Smaller-scale should be achieved through smaller sized projects, small individual tenants, neighborhood/local business mix, and/or creative architectural design.
  - *These policies are met by the 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**

The subject site has direct access from South Greentrails Drive as well as access from Ladue Road via the shared internal drive. No changes to the location of these access points are proposed. Internal circulation to each lot within the development will remain, and minor changes within the lots and to the shared drive areas are proposed in an effort to facilitate and improve circulation.

## Parking

The subject site is located within the small commercial development that comprises the southeast quadrant of the intersection of Ladue Road and South Greentrails Drive. The three lots within the development share cross access, and Lots 270 A1 and A2 currently contain a neighborhood service station and commercial retail building, respectively. The applicant is proposing to utilize the building as restaurant and retail space, and is providing the amount of parking required by city code.

## Landscaping and Tree Preservation

As required by the UDC, a thirty foot landscape buffer and berm planted with trees, shrubs, and ornamental grasses is provided along the South Greentrails Drive frontage. This will serve to buffer the adjacent residential area from the commercial use of the site and to provide screening from headlights. Additional trees and plantings are located within the parking area in accordance with City code. A creek runs through the wooded portion of the site, and the required creek bank setback is provided. The wooded area of the site is remaining largely intact, with minimal tree removal. Over 44% open space is being provided.

## 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. Each of these fixtures meets City code requirements.

## Architectural Elevations

Ordinance 378 states that submittals for buildings within this development should "*show the architectural character of the neighborhood and how the buildings blend in and complement the surrounding residential neighborhood.*"

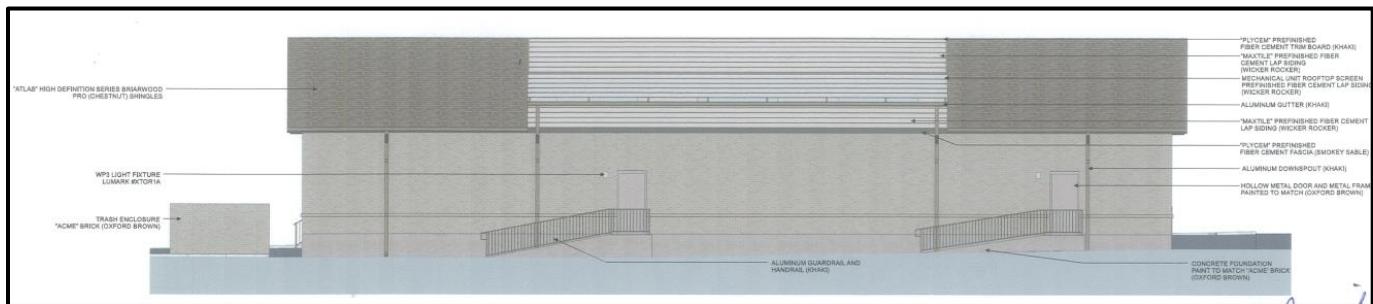
This project was presented to the ARB in March of 2016, where a motion to recommend approval with recommendations was passed. The recommendations primarily pertained to the screening of the roof-mounted mechanical units and lack of residential character in the building design.

Subsequently, the property owner engaged a new Architect and made substantial design revisions in order to incorporate the ARB's recommendations into the design proposal. The project was then presented for a second time to the ARB in January of 2017. The comparison below shows the original design reviewed by the ARB in March of 2016 and the revised design presented in January of 2017.

**March 2016 Architectural Elevation—Front and Rear Elevations**



**January 2017 Architectural Elevation—Front and Rear Elevations**

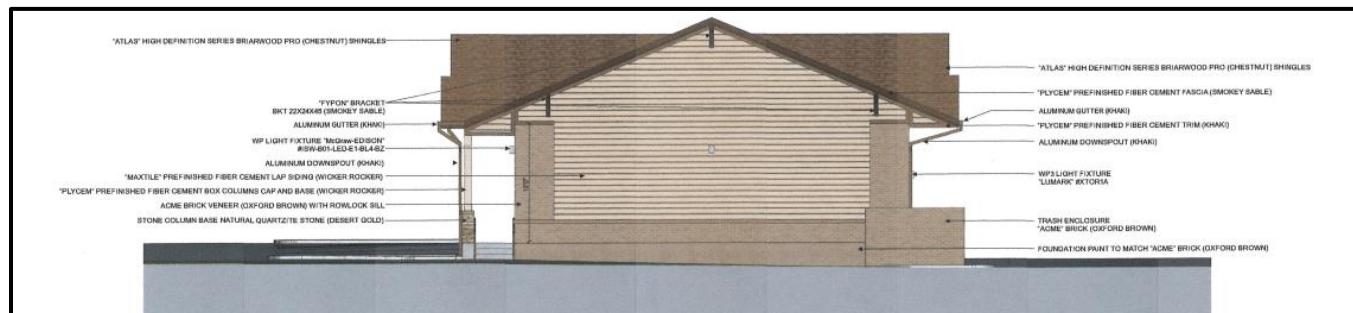


At the January 2017 ARB meeting, the ARB noted that the overall design was substantially improved and incorporated the Board's recommendations from the March 2016 meeting. However, the ARB did provide additional feedback on the proposed screening unit on the rear of the building and also recommended that the applicant incorporate additional landscape along the northern building elevation.

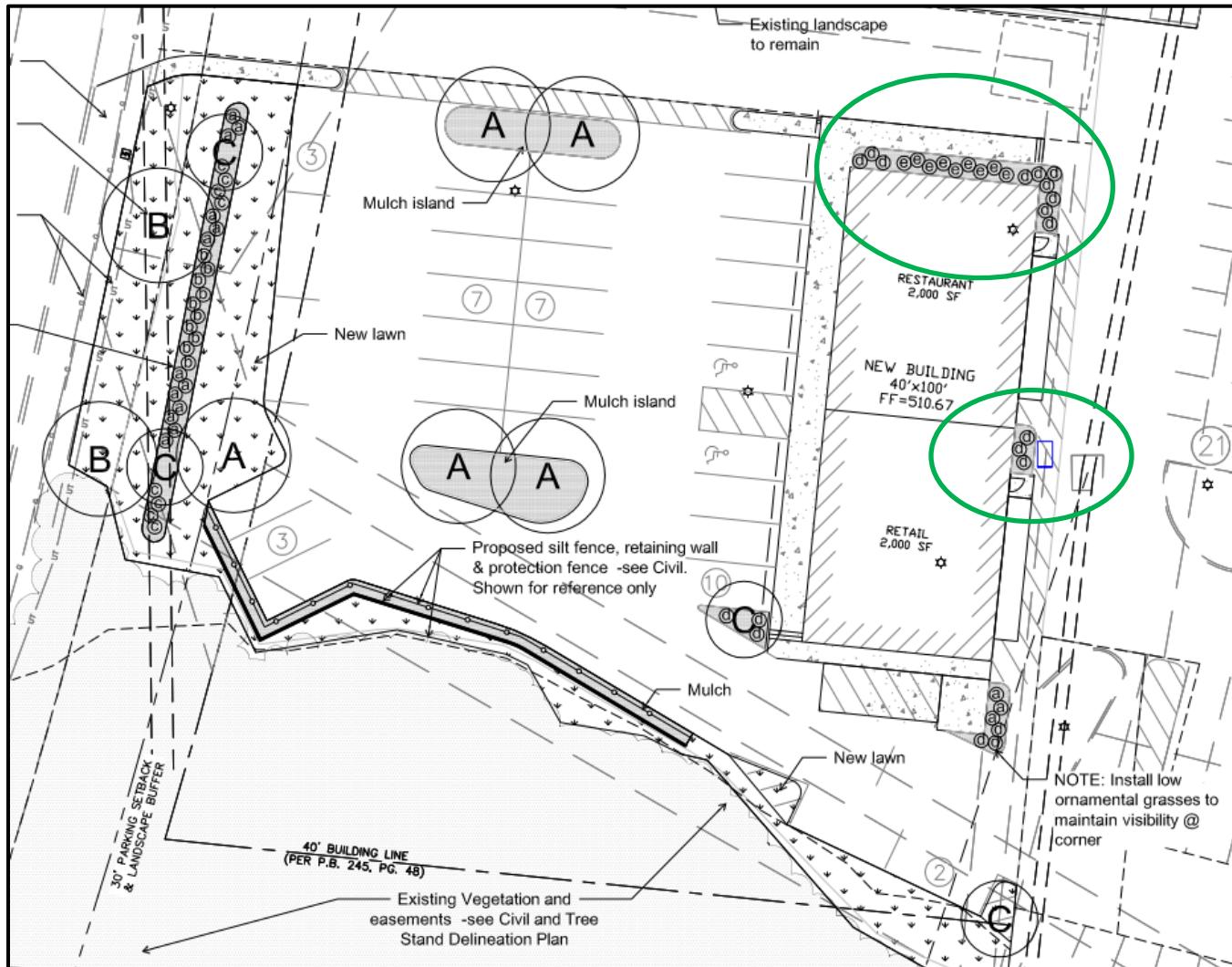
The following excerpts from the Architectural Elevations and rendering show the screening unit that was presented at the January 2017 ARB meeting:



The following excerpts from the Architectural Elevations and rendering show the revised screening unit that was submitted in response to the ARB's recommendation:



The applicant also added some additional landscape areas along the north and east building elevations, as indicated below in the excerpt from the Landscape Plan:



Upon receipt of the revised proposal, Staff requested feedback from the ARB Chair, who found the landscaping and building design were “much improved.” He further stated that the “changes appear to be what we were asking for.”

#### **STAFF RECOMMENDATION**

Staff has reviewed the Site Development Section 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. Staff recommends approval of the Site Development Section Plan, Landscape Plan, Lighting Plan, Architectural Elevations and Architect's Statement of Design for Trails West Village of Greentrails, Lot 270 B.

**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 Section Plan, Landscape Plan, Lighting Plan, Architectural Elevations and Architect's Statement of Design for Trails West Village of Greentrails, Lot 270 B as presented by the Applicant.
1. "I move to approve the Site Development Section Plan, Landscape Plan, Lighting Plan, Architectural Elevations and Architect's Statement of Design for Trails West Village of Greentrails, Lot 270 B with the following conditions:

Attachments:    Architect's Statement of Design  
                    Architectural Elevations  
                    Site Development Section Plan Packet

CC:                Justin Wyse, Director of Planning and Development Services

Dan Passanise  
ARCHITECT

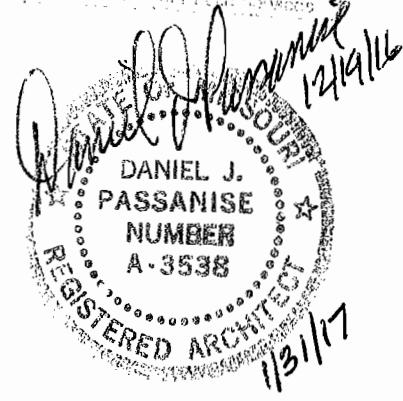
6842 ARDALE DRIVE  
ST. LOUIS, MO 63123  
314-677-7738



RECEIVED

FEB - 1 2017

City of Chesterfield  
Department of Public Services



TRAILS WEST VILLAGE OF GREENTRAILS  
LOT B  
116 S. GREENTRAILS  
CHESTERFIELD, MISSOURI

ARCHITECT'S STATEMENT OF DESIGN

Project Description

The proposed project is a 4000 square foot retail building and site development to accommodate two commercial retail spaces, new parking lot surface, block retaining wall, and landscaping.

The adjacent buildings and uses are an Auto Repair/Service Station and Retail Shopping Strip. (Music Studio, Laundry/Dry Cleaner, Veterinary Clinic, Beauty Parlor, Brokerage Office, Pizza Restaurant, Office Space)

The proposed project is located on a site surrounded by a well maintained residential community. The project site is the only commercial center in the immediate area, and it is well used by the community residence and visitors.

The new proposed retail building will promote a new fresh look to compliment the residential area and the adjacent retail and service businesses on this site.

It is expected that based on the needs of the area, the people in the community will be excited and enthusiastic about the new building (retail space) and site development of what is an existing unsightly, un-used parking area.

**Architectural Design Features:**

The exterior of the building is designed to reflect the fabric of the surrounding residential architectural scale, details and materials.

"Acme Brick"  
Oxford Brown

The exterior walls will be an earth tone brick veneer (with rowlock window sills) color coordinated prefinished fiber cement lap siding gable ends and accent walls with color coordinated trim.

Ledgestone thin set  
at column bases  
"Designers Image"  
"Desert Gold" Dry Stack Stone

The Storefront entrances to the retail spaces will provide for easy pedestrian access from the parking lot areas, including two ADA accessible handicap parking spaces.

Prefinished Fiber Cement Siding (Menards) "Maxitile" siding and color match trim w/PPG machine applied coating  
"Plycem trim" Smokey Sable Color  
"Fypon Brackets"  
Smoky Sable Color  
"Shake Siding" Khaki Color  
"Lap Siding" Wicker Rocker Color

The Storefront area also provides a warm welcoming feeling with prefinished color coordinated wood framed show windows and full glass entry doors.

The double gables will include prefinished fiber cement shake siding and wood bracket accents to provide a more residential scale and add an interesting texture to the predominant entry points.

The shake gable areas will provide space for signage that shall meet the Chesterfield Signage requirements at the time of the retail space build outs.

The roof will be a 5 in 12 pitch (Gable) with Architectural High definition shingles. Aluminum gutters and downspouts to match the siding trim color.

"Atlas" high definition color series  
Briarwood Pro "Chestnut"HD

The condensing units and other rooftop equipment will be placed on a flat section of the roof concealed by a prefinished fiber cement siding screen to match the siding at the main roof gables.

Aluminum tube guardrails will be provided at elevated entry sidewalk areas and at service/delivery door ramps. Aluminum color to match the prefinished fiber cement trim color.

Landscaping will be provided at parking lot islands and trash enclosure area.

The trash enclosure shall be constructed of solid masonry walls 6 foot minimum height with brick veneer to match the building with cast stone or limestone cap. The swing gate will have a galvanized steel frame with fiber cement board lap siding to match the building gable siding.

**Optional:**

Add 2 feet to the 5 foot wide sidewalk at the front entry to the retail spaces.

This will allow for the ledgestone column bases and adequate width for ADA access and pedestrian circulation.

Provide planters between columns for evergreen and flower arrangements at the front of retail space entry.

Optional planters  
between double columns.



EXP. DATE: 12/31/17  
DATE: \_\_\_\_\_  
  
Dan Passanise  
ARCHITECT  
6842 ARDALE DRIVE  
St. Louis, MO 63123  
314-677-7738

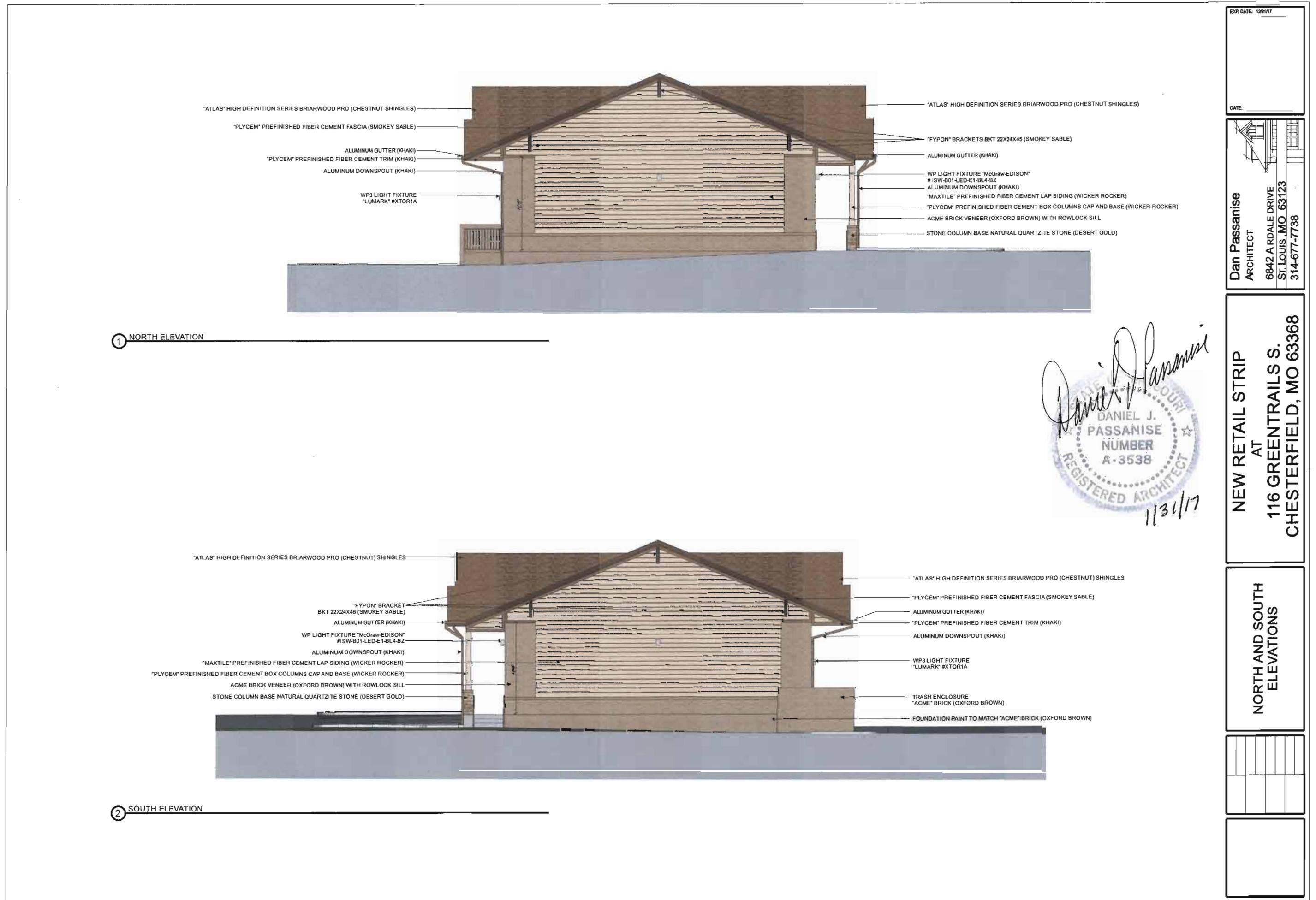
  
Daniel J.  
PASSANISE  
NUMBER  
A-3538  
REGISTERED ARCHITECT  
1/31/17

NEW RETAIL STRIP  
AT  
116 GREENTRAILS S.  
CHESTERFIELD, MO 63368



\_\_\_\_\_

\_\_\_\_\_



[Name of Owner(s)]  
consideration of being granted approval of said plan to develop property under the provisions of  
Section 03.  
(applicable subsection) (present zoning) \_\_\_\_\_ of City of Chesterfield Unified Development  
Code, do hereby agree and declare that said property from the date of recording this plan shall be  
developed only as shown thereon, unless said plan is amended by the City of Chesterfield, or  
voided or vacated by order of ordinance of the City of Chesterfield Council.

(Signature): \_\_\_\_\_  
(Name Typed): \_\_\_\_\_

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.  
On this \_\_\_\_\_ day of \_\_\_\_\_, A.D., 20\_\_\_\_\_, before me personally appeared  
(Officer of Corporation)  
that he/she is the \_\_\_\_\_ of \_\_\_\_\_ (Name of Corporation)  
corporation in the State of \_\_\_\_\_, and that the seal affixed to the foregoing instruments  
is the corporate seal of said corporation, and that said instrument was signed on behalf of said  
corporation by authority of its Board of Directors, and the said \_\_\_\_\_ (Officer of Corporation)  
acknowledged said instrument to be the free act and deed of said corporation.

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.  
On this \_\_\_\_\_ day of \_\_\_\_\_, A.D., 20\_\_\_\_\_, before me personally appeared  
(Individual) \_\_\_\_\_ (Wife) \_\_\_\_\_  
to be the person(s) described in, and who executed the foregoing instrument, and acknowledged  
that he, she or they executed the same as his, her, or their free act and deed.  
In Testimony Whereof, I have hereunto set my hand and affixed my Notarial Seal at my Office in  
(County and State)  
My term expires \_\_\_\_\_  
(Notary Public)

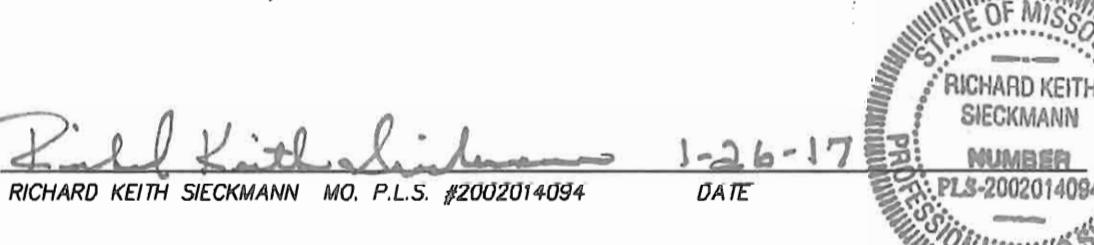
This Site Development Plan was approved by the City of Chesterfield Planning Commission and  
duly verified on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, by the Chairperson of said  
Commission, authorizing the recording of this Site Development Plan pursuant to Chesterfield  
Ordinance Number 200, as attested to by the Planning and Development Services Director and the  
City Clerk.

Aimee Nassif, AICP  
Planning and Development Services Director  
City of Chesterfield, Missouri

Vickie Hass, City Clerk  
City of Chesterfield, Missouri

#### SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT ST. CHARLES ENGINEERING AND SURVEYING, INC., AT THE REQUEST AND  
FOR THE EXCLUSIVE USE OF ONOFRIO & LUCRETIA SERRA DURING THE MONTH OF JUNE, 2014  
EXECUTED A BOUNDARY & TOPOGRAPHIC SURVEY OF "116 GREENTRAILS DRIVE", TOWNSHIP 45  
NORTH, RANGE 4 EAST, ST. LOUIS COUNTY, MISSOURI. THIS SURVEY WAS PREPARED IN ACCORDANCE  
WITH CHAPTER 16 "MISSOURI MINIMUM STANDARDS FOR URBAN PROPERTY BOUNDARY SURVEYS (20  
CSR 2030-16.010-16.110)." 1-26-17



#### COMPLIANCE WITH GEOTECHNICAL REPORT

JACOBI GEOTECHNICAL ENGINEERING AND THE UNDERSIGNED ENGINEER HAVE NOT PREPARED  
THE PLAN OF THIS SHEET. THE SEAL OF THE UNDERSIGNED PROFESSIONAL ENGINEER HAS  
BEEN APPLIED AT THE REQUEST OF THE OWNER/DEVELOPER. THE SEAL IS A PROFESSIONAL  
OPINION TO INDICATE THAT THE UNDERSIGNED HAS REVIEWED THE PLANS AND THAT IN HIS  
OPINION THE GRADING AND IMPROVEMENTS RELATED TO SLOPE CONSTRUCTION AS SHOWN ON  
THE PLANS, AS WELL AS THE FOUNDATIONS, ARE COMPATIBLE WITH THE SOIL AND GEOLOGIC  
CONDITIONS AT THE SITE AS DESCRIBED IN THE GEOTECHNICAL REPORT FOR THE  
DEVELOPMENT DATED APRIL 2016.

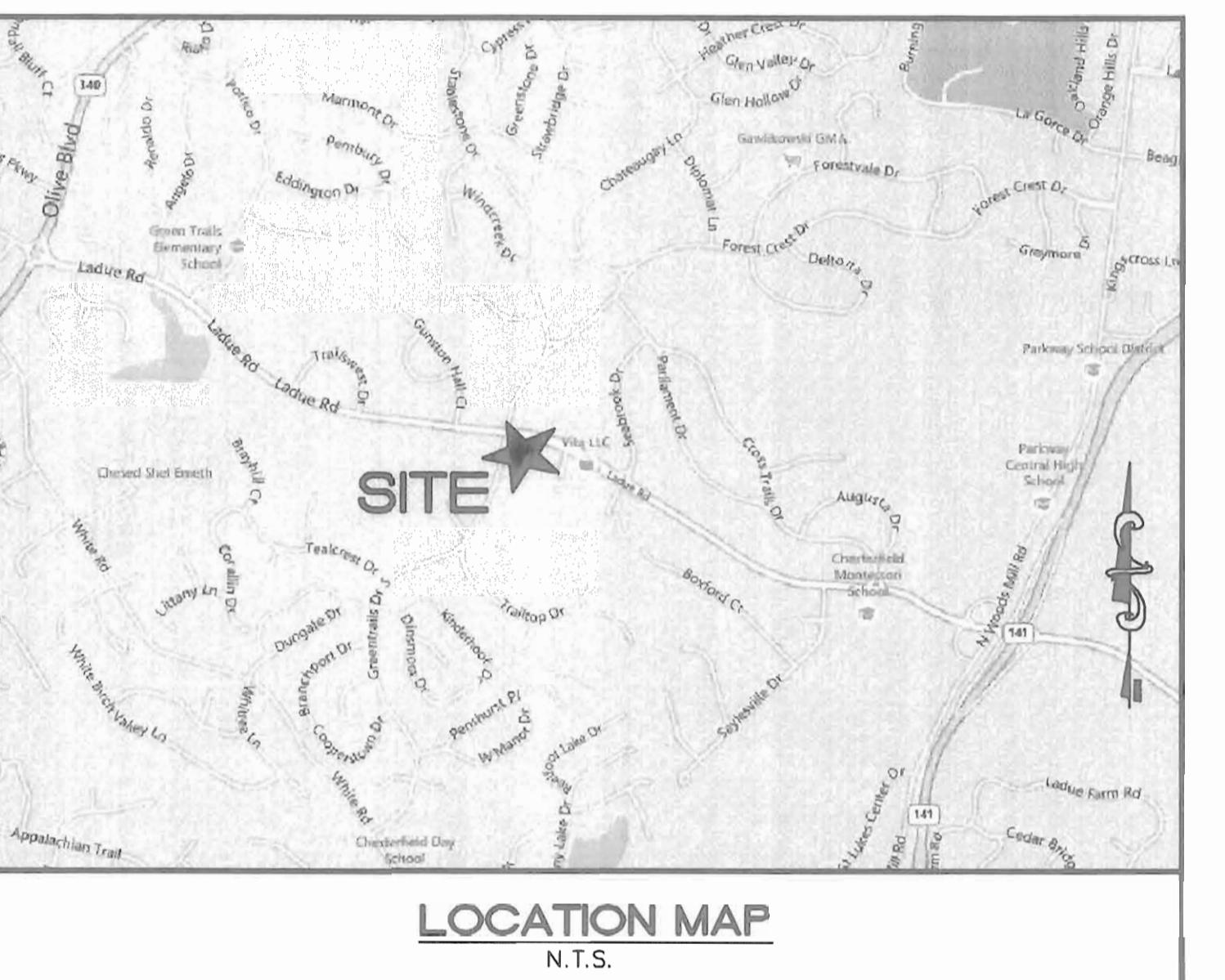
JACOBI GEOTECHNICAL ENGINEERING AND THE UNDERSIGNED ASSUME NO RESPONSIBILITY FOR  
SERVICES BY OTHERS (PURSUANT TO RSMO 327.41).

CONSTRUCTION MEANS AND METHODS FOR IMPLEMENTATION OF THE GRADING PLAN SHALL BE  
LEFT TO THE DEVELOPER/CONTRACTOR. OBSERVATIONS OF THE DEVELOPER/CONTRACTOR'S  
COMPLIANCE WITH THE APPLICABLE SPECIFICATIONS SHALL BE IDENTIFIED AND VERIFIED IN  
WRITING.



Underground utilities have been plotted from available information and therefore  
their locations shall be considered approximate only. The verification of the  
location of all underground utilities, either shown or not shown on these plans,  
shall be the responsibility of the contractor, and shall be located prior to any  
grading and/or construction of improvements.

# AMENDED SITE DEVELOPMENT SECTION PLAN 116 GREENTRAILS DRIVE LOT B OF THE RESUBDIVISION OF LOT 270 OF TRAILS WEST SECTION OF GREEN TRAILS SUBDIVISION TOWNSHIP 45 NORTH, RANGE 4 EAST ST. LOUIS COUNTY, MISSOURI



#### UTILITY & SERVICE PROVIDERS

WATER:  
MISSOURI AMERICAN WATER COMPANY  
727 CRAIG ROAD  
ST. LOUIS, MISSOURI 63141  
314-822-5846

ELECTRIC:  
AMEREN CORPORATION  
PO BOX 66149  
ST. LOUIS, MISSOURI 63166  
314-342-1111

FIRE PROTECTION:  
MONARCH FIRE PROTECTION DISTRICT  
13725 OLIVE BLVD.  
CHESTERFIELD, MISSOURI 63017  
314-514-0900

TELEPHONE:  
AT&T  
13075 MANCHESTER ROAD, 3RD FLOOR  
DES PERES, MISSOURI 63331  
636-220-2175

#### BENCHMARK

ST. LOUIS COUNTY BENCHMARK  
12-142 ELEVATION 523.33 - "SQ." IN THE CENTER OF AN ISLAND AT SEABROOK  
DRIVE (WEST ENTRANCE TO LADUE TRAILS); 10' NORTH OF THE CENTERLINE OF  
WESTBOUND LANES OF LADUE ROAD.

#### SITE BENCHMARK

ELEVATION 516.20 - "OLD IRON PIPE" AT THE SOUTHEAST CORNER OF THE  
INTERSECTION OF GREENTRAILS DRIVE AND LADUE ROAD, 30' EAST OF CENTERLINE  
OF GREENTRAILS DRIVE.

#### INDEX OF SHEETS

COVER SHEET	1
SITE PLAN	2
PARKING STUDY	3
TREE PRESERVATION PLAN	4
GREEK STUDY	5
LIGHTING PLAN	6-10

#### GENERAL NOTES:

- PROPERTY OWNER: ONOFRIO & LUCRETIA SERRA
- SITE ADDRESS: 116 GREENTRAILS DRIVE, CHESTERFIELD, MISSOURI 63017
- ST. LOUIS COUNTY PARCEL ID NUMBER: 17R320372
- AREA OF TRACT: 1.11 AC
- CURRENT/PROPOSED ZONING: C8

- REQUIRED SETBACKS:  
30' PARKING & LANDSCAPE - GREENTRAILS  
40' FRONT - GREENTRAILS  
40' SIDE - ALONG SOUTH PROPERTY LINE  
0' REAR - LOT B EAST PROPERTY LINE

- PROPOSED USE:  
2,000 SF=RETAIL  
2,000 SF=RESTAURANT

8. PARKING & LOADING REQUIREMENTS AND PROVISIONS PER CITY OF CHESTERFIELD THE UNIFIED DEVELOPMENT CODE:

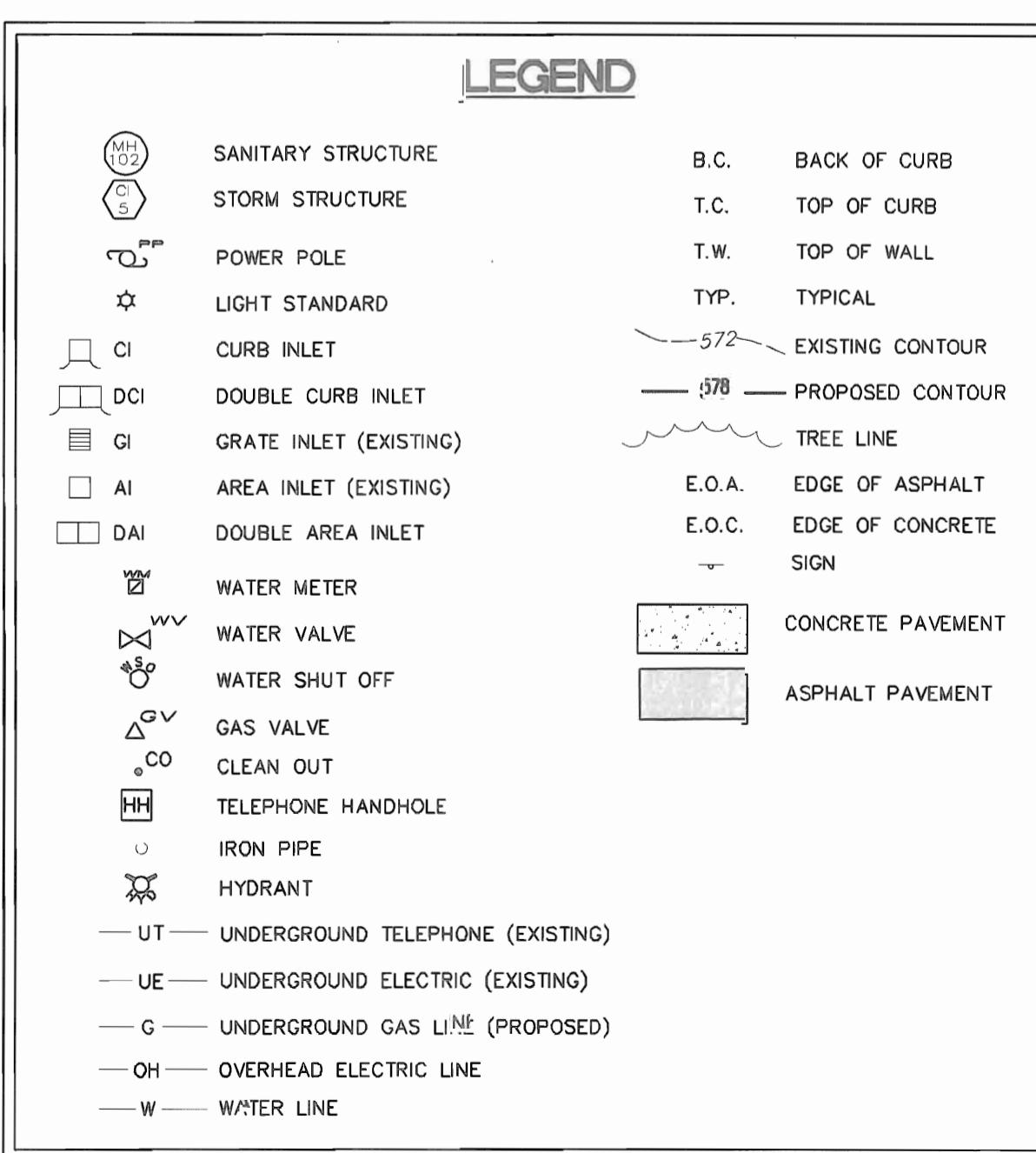
4 SPACES PER 1000 SF OF RETAIL SPACE  
2000 SF RETAIL X 4 SPACES PER 1000 SF =  
8 SPACES

12 SPACES PER 1000 SF OF RESTAURANT SPACE  
2000 SF RESTAURANT X 12 SPACES PER 1000 SF =  
24 SPACES

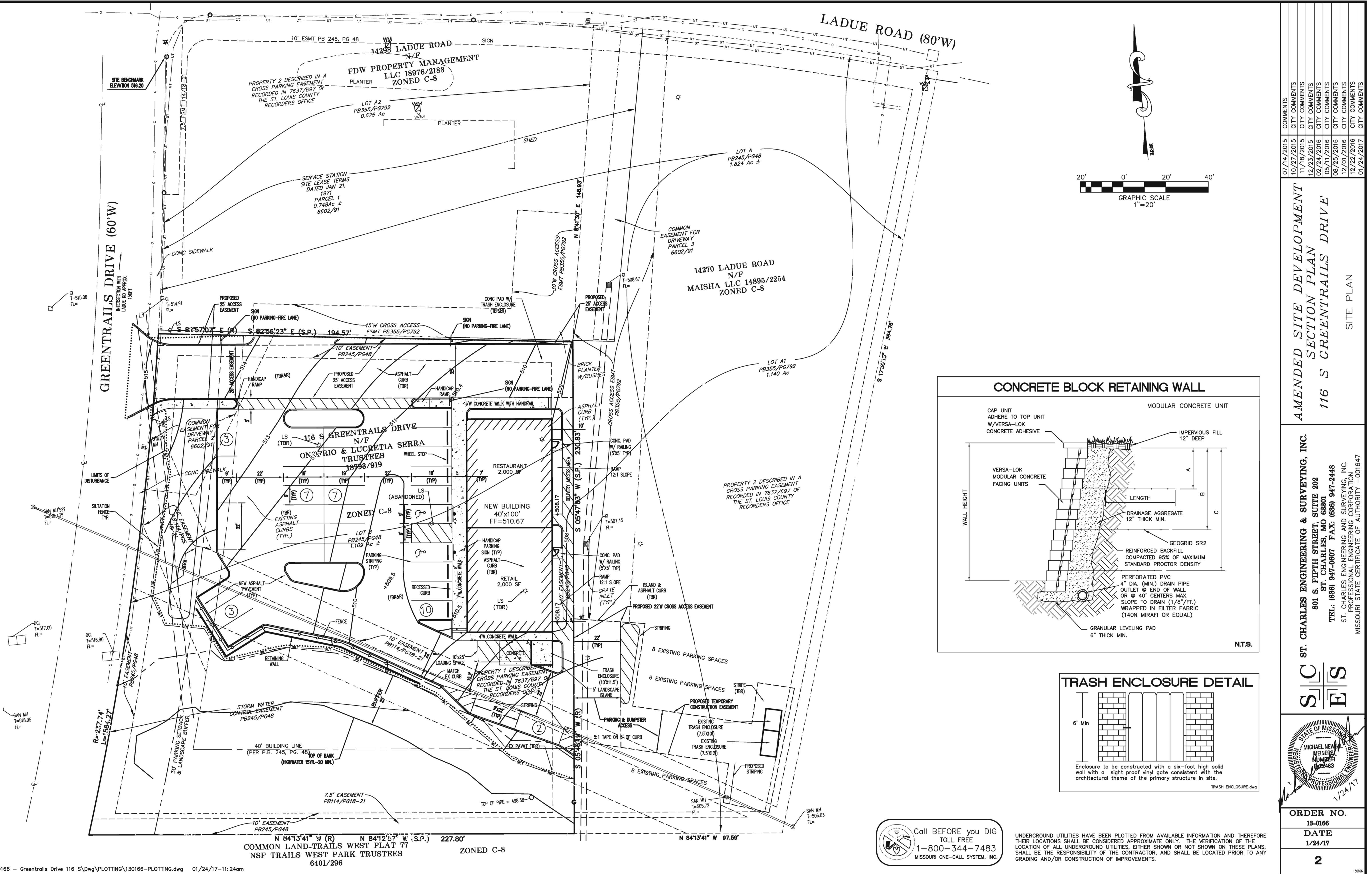
TOTAL PARKING REQUIRED: 32 SPACES  
TOTAL PARKING PROVIDED: 32 SPACES

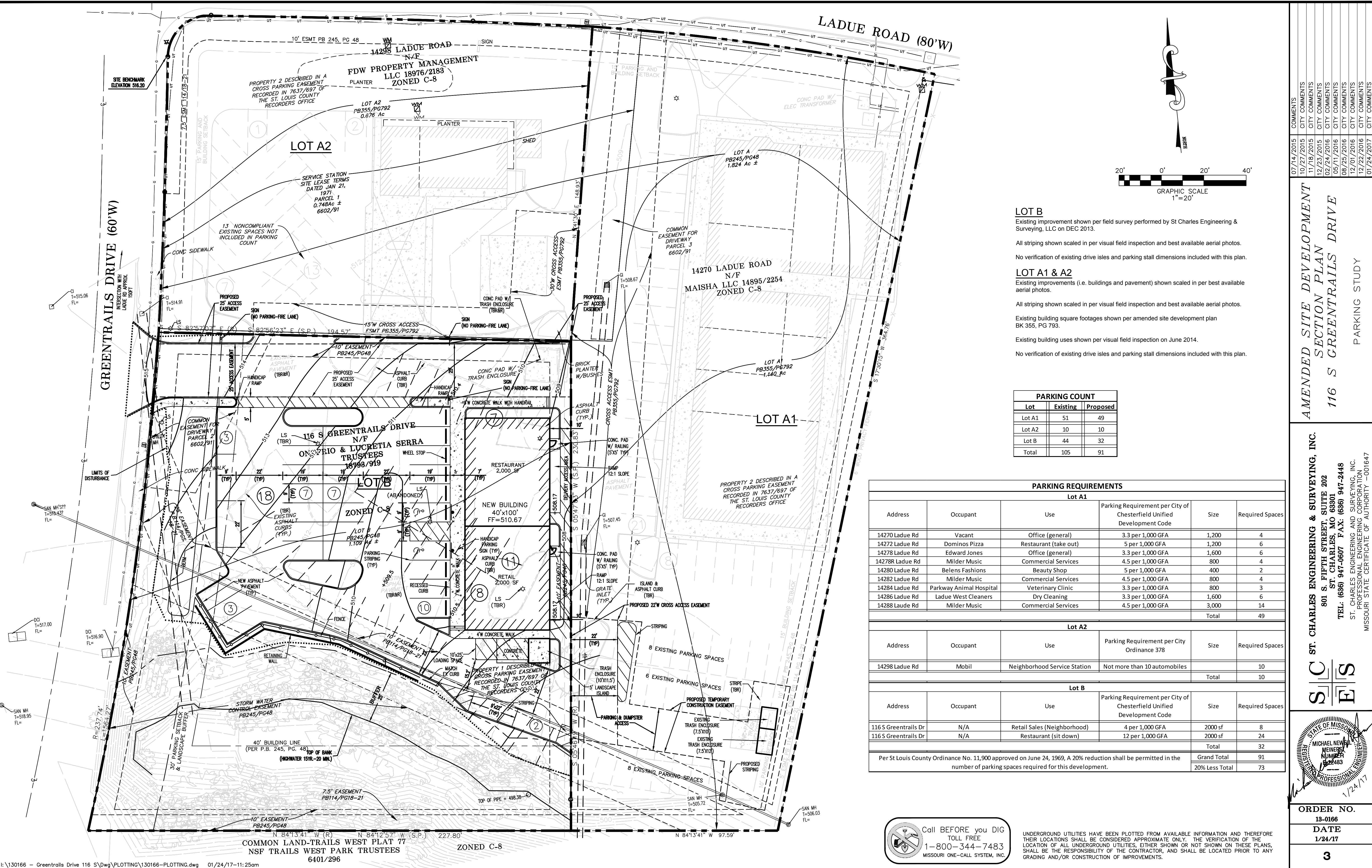
8. PER F.I.R.M. RATE MAP PANEL 29189C0170 K,  
THIS PARCEL LIES IN ZONE "X" AREAS DETERMINED  
TO BE OUTSIDE OF THE 500 YEAR FLOODPLAIN  
HAVING AN EFFECTIVE DATE OF FEBRUARY 4, 2015.

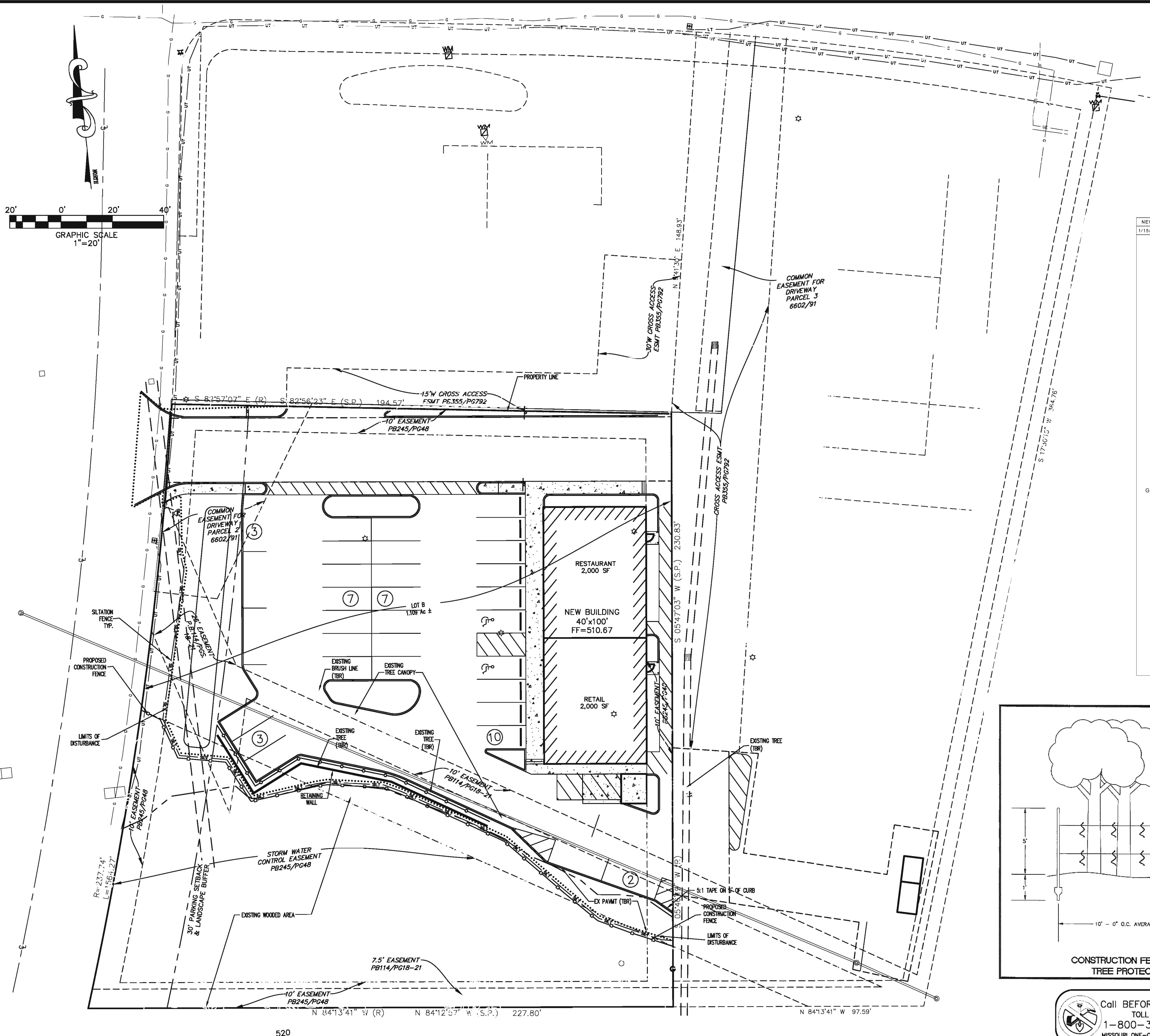
- AREA OF DISTURBANCE: 0.75 AC
- PROPOSED RESTAURANT SHALL BE A SIT DOWN RESTAURANT
- SIGN APPROVAL IS A SEPARATE PROCESS
- ALL PROPOSED UTILITIES SHALL BE PLACED UNDERGROUND
- HVAC SHALL BE PLACED ON THE ROOF OF BUILDING.



AMENDED SITE DEVELOPMENT SECTION PLAN 116 S GREENTRAILS DRIVE	COVER SHEET
ST. CHARLES ENGINEERING & SURVEYING, INC.	801 S. FIFTH STREET, SUITE 202 ST. CHARLES, MO 63301 TEL: (636) 947-2448 ST. CHARLES ENGINEERING AND SURVEYING, INC. PROFESSIONAL ENGINEERING CORPORATION MISSOURI STATE CERTIFICATE OF AUTHORITY #001647
1-24-17	
ORDER NO. 18-0186 DATE 1/24/17	

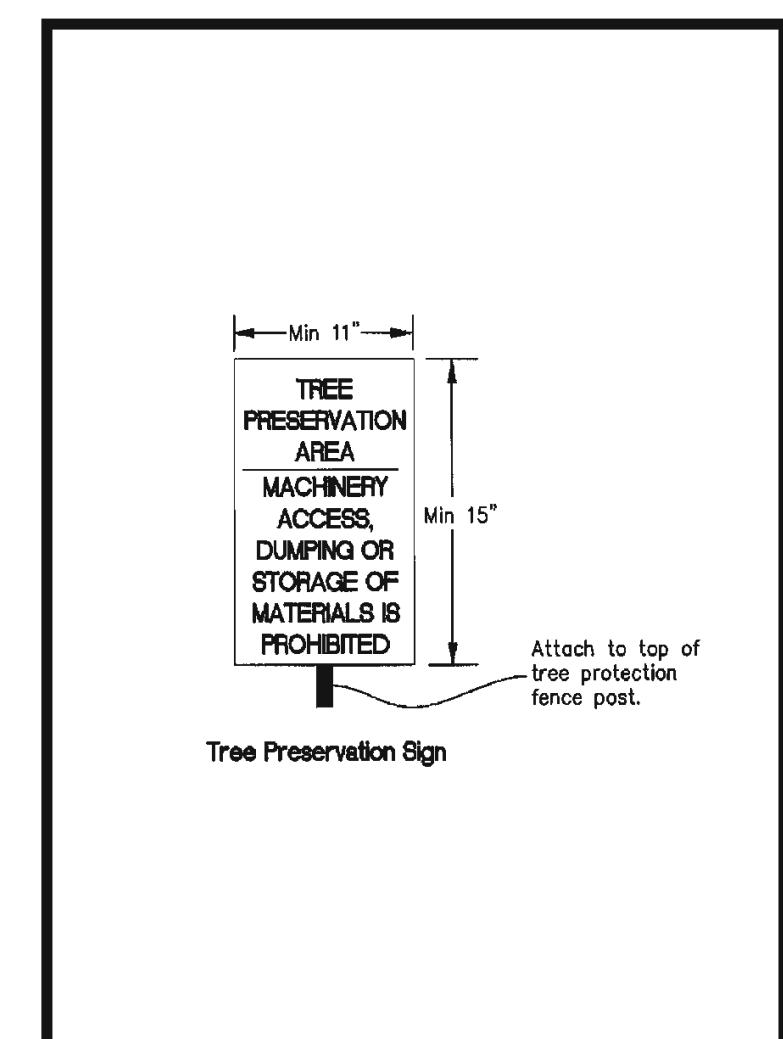
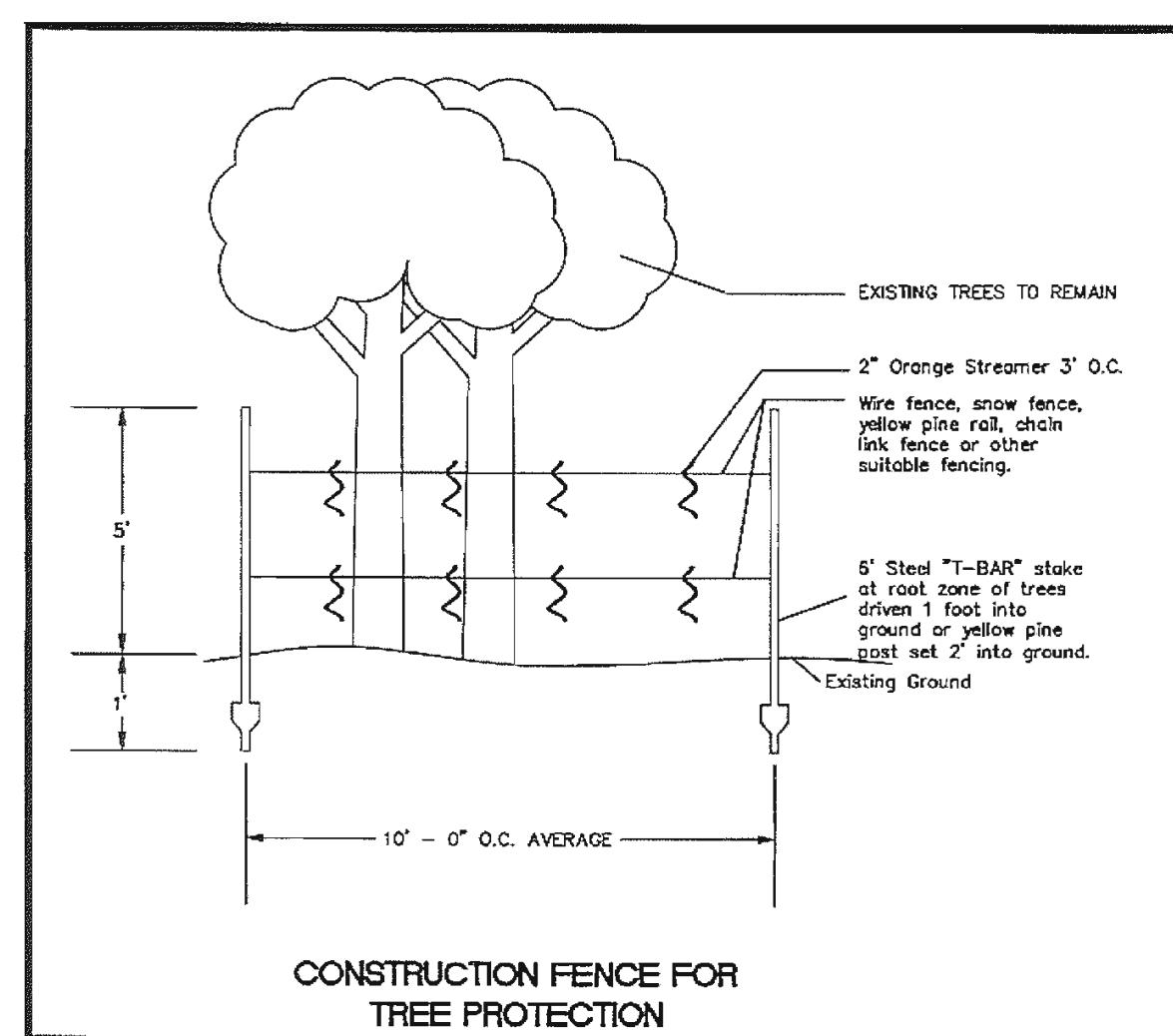
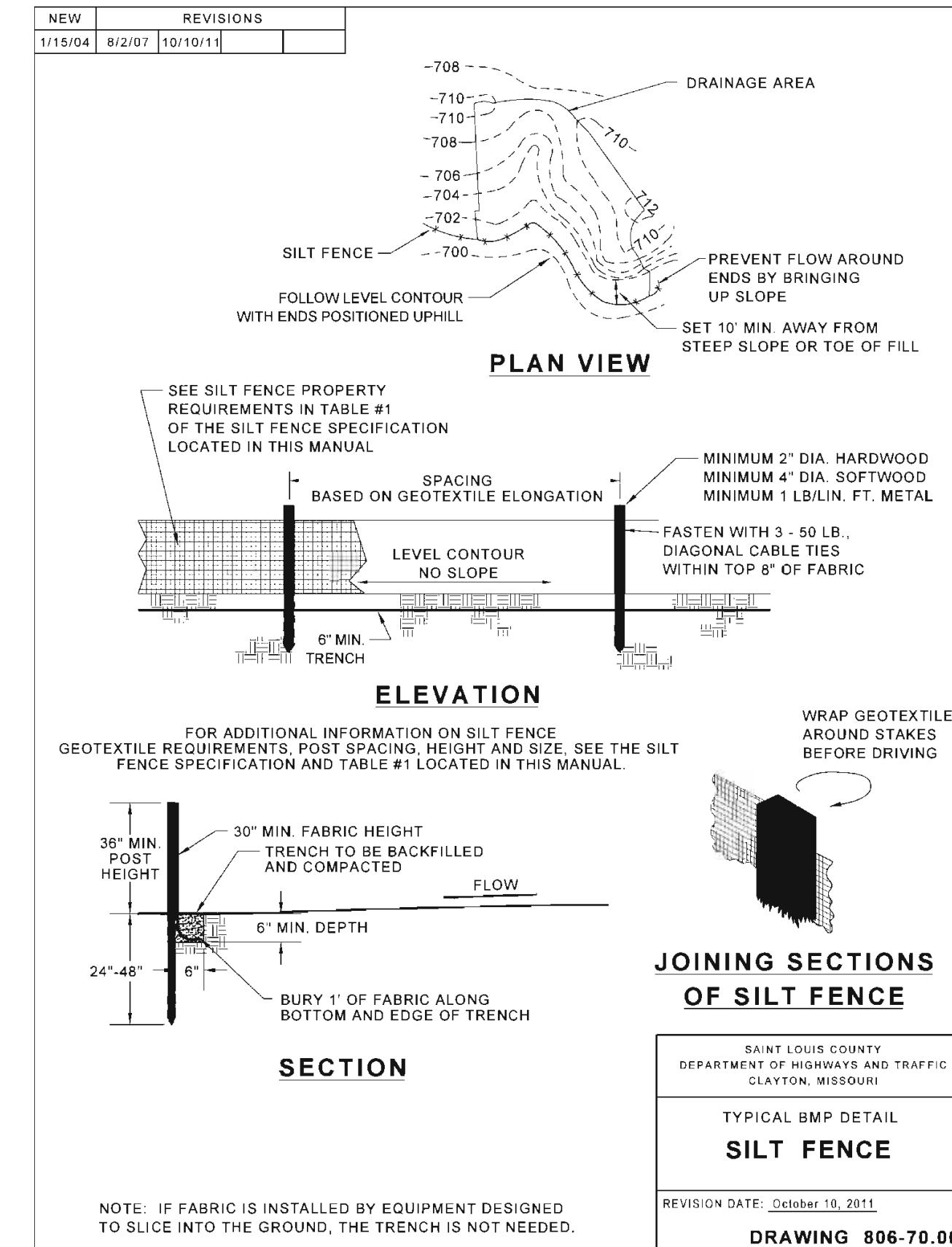






### GENERAL NOTES:

1. AREA OF TRACT: 1.11 AC.
2. LIMITS OF DISTURBANCE: 0.75 AC.
3. EXISTING TREE CANOPY: 0.35 AC.
4. EXISTING TREE CANOPY TO BE REMOVED: 0.10 AC.
5. EXISTING TREE CANOPY TO BE PRESERVED: 0.34 AC.
6. CLEARING LIMITS SHALL BE ROUGH STAKED OR MARKED BY THE APPLICANT'S SURVEYOR IN ORDER TO FACILITATE LOCATION FOR TRENCHING AND FENCING INSTALLATION.
7. NO CLEARING OR GRADING SHALL BEGIN IN AREAS WHERE TREE TREATMENT, PRESERVATION AND PROTECTION MEASURES HAVE NOT YET BEEN COMPLETED.
8. PROTECTIVE DEVICES: CONSTRUCTION FENCE, SILTATION FENCE
9. NO MAINTENANCE SCHEDULE REQUIRED
10. TREE SPECIALIST: TREES, FORESTS AND LANDSCAPING, INC. WILLIAM SPRADLEY, PRESIDENT



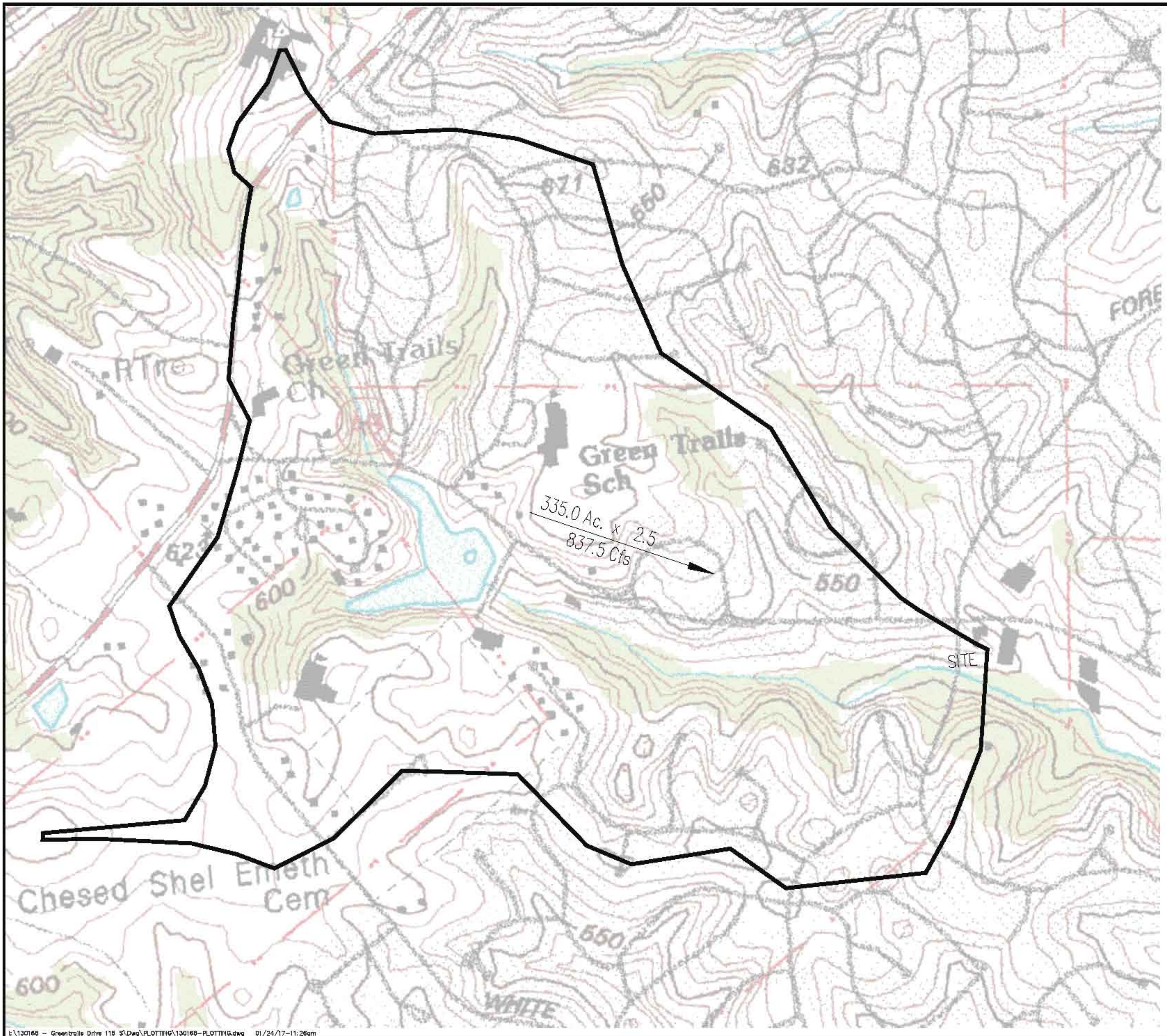
AMENDED SITE DEVELOPMENT SECTION PLAN	07/14/2015	COMMENTS
116 S GREENTRAILS DRIVE	10/23/2015	CITY COMMENTS
TREE PRESERVATION PLAN	12/22/2016	CITY COMMENTS
	02/24/2016	CITY COMMENTS
	05/11/2016	CITY COMMENTS
	08/25/2016	CITY COMMENTS
	12/01/2016	CITY COMMENTS
	12/24/2016	CITY COMMENTS
	01/24/2017	CITY COMMENTS

**ST. CHARLES ENGINEERING & SURVEYING, INC.**  
801 S. FIFTH STREET, SUITE 202  
ST. CHARLES, MO 63301  
TEL: (636) 947-0607 FAX: (636) 947-2448  
ST. CHARLES ENGINEERING AND SURVEYING, INC.  
PROFESSIONAL ENGINEERING CORPORATION  
MISSOURI STATE CERTIFICATE OF AUTHORITY -0016-47

**STATE OF MISSOURI**  
MICHAEL NEWELL  
MEINERS  
NUMBER  
22483  
PROFESSIONAL ENGINEER  
1/24/17

**Call BEFORE you DIG TOLL FREE 1-800-344-7483 MISSOURI ONE-CALL SYSTEM, INC.**

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING AND/OR CONSTRUCTION OF IMPROVEMENTS.



HIGH WATER  
15 YR. 20 MIN.

Channel Report

Hydroflow Express Estimate for AutoCAD® Civil 3D® 2013 by Autodesk, Inc.

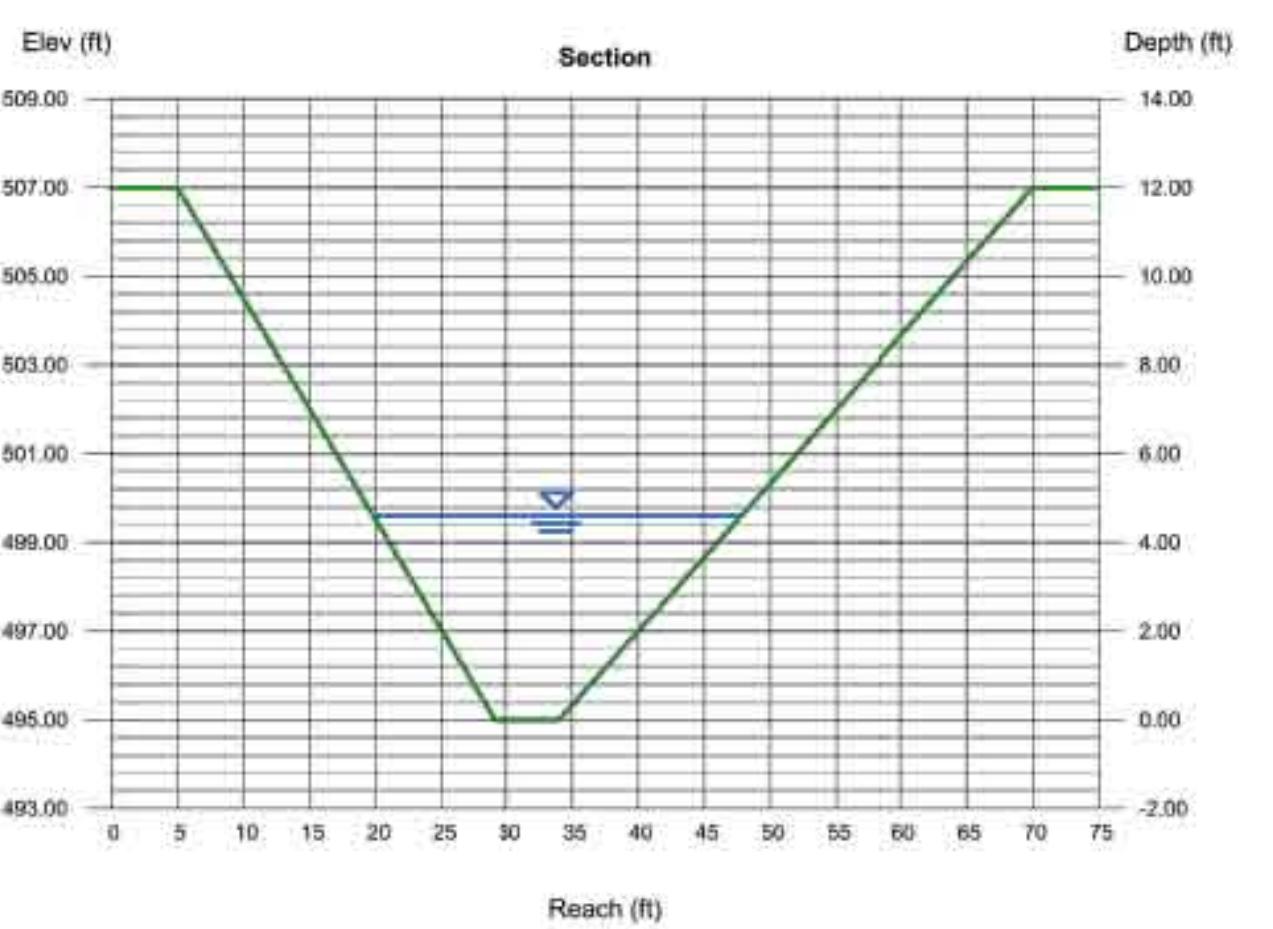
Friday, Oct 9 2015

130166 GREENTRAILS CREEK STUDY

Trapezoidal	Bottom Width (ft)	= 5.00	Highlighted	Depth (ft)	= 4.60
	Side Slopes (z:1)	= 2.00, 3.00		Q (cfs)	= 837.50
	Total Depth (ft)	= 12.00		Area (sqft)	= 75.90
	Invert Elev (ft)	= 495.00		Velocity (ft/s)	= 11.03
	Slope (%)	= 1.00		Wetted Perim (ft)	= 29.83
	N-Value	= 0.025		Crit Depth, Yc (ft)	= 4.98
Calculations	Compute by:			Top Width (ft)	= 28.00
	Known Q			EGL (ft)	= 6.49
	(cfs)				

ST. CHARLES ENGINEERING & SURVEYING, INC.  
801 S. FIFTH STREET, SUITE 202  
ST. CHARLES, MO 63301  
TEL: (636) 947-2448 FAX: (636) 947-0607

ST. CHARLES ENGINEERING AND SURVEYING, INC.  
PROFESSIONAL ENGINEERING & SURVEYING, INC.  
MISSOURI STATE CERTIFICATE OF AUTHORITY #001647

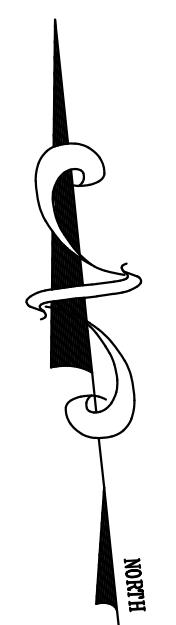


07/14/2015	COMMENTS
10/22/2015	CITY COMMENTS
11/16/2015	CITY COMMENTS
12/23/2015	CITY COMMENTS
02/24/2016	CITY COMMENTS
05/11/2016	CITY COMMENTS
08/25/2016	CITY COMMENTS
12/01/2016	CITY COMMENTS
12/22/2016	CITY COMMENTS
01/24/2017	CITY COMMENTS

STATE OF MISSOURI  
MICHAEL NEWELL  
MINERAL NUMBER  
12483  
PROFESSIONAL ENGINEER  
1/14/17

ORDER NO.  
13-0166  
DATE  
1/24/17

5



A graphic scale bar consisting of a horizontal line divided into four equal segments by vertical tick marks. The first segment is subdivided into two equal parts by a diagonal line from the top-left corner to the bottom-right corner. The second segment is also subdivided in the same manner. The third segment is solid black. The fourth segment is solid white. Above the scale bar, the labels '20'', '0'', '20'', and '40'' are positioned above the first, second, third, and fourth segments respectively. Below the scale bar, the text 'GRAPHIC SCALE' is centered, followed by '1''=20'.

POLE FIXTURES MOUNTED ON 15' POLE & 2.5' BASE  
LIGHT LEVEL CALCULATED ON PARKING SURFACE

Symbol	Qty	Label	Arrangement	Lum. Watts	Total Watts	LLF	Description
	2	F1	SINGLE	30	60	1.000	GLEON-AE-01-LED-E1-SL4-530-HSS
	3	F2	SINGLE	30	90	1.000	GLEON-AE-01-LED-E1-SL2-530-HSS
	2	F3	SINGLE	38	76	1.000	GLEON-AE-01-LED-E1-5WQ-700
	5	WP	SINGLE	27	135	1.000	ISW-B01-LED-E1-BL4
	4	WP3	SINGLE	7	28	1.000	XTOP1A

**S**IS ON MOUNTING HEIGHT OR LOCATION, LAMP WATTAGE, LAMP TYPE, AND  
**E**LD CONDITIONS, THAT EFFECT ANY OF THE PREVIOUSLY MENTIONED, WILL

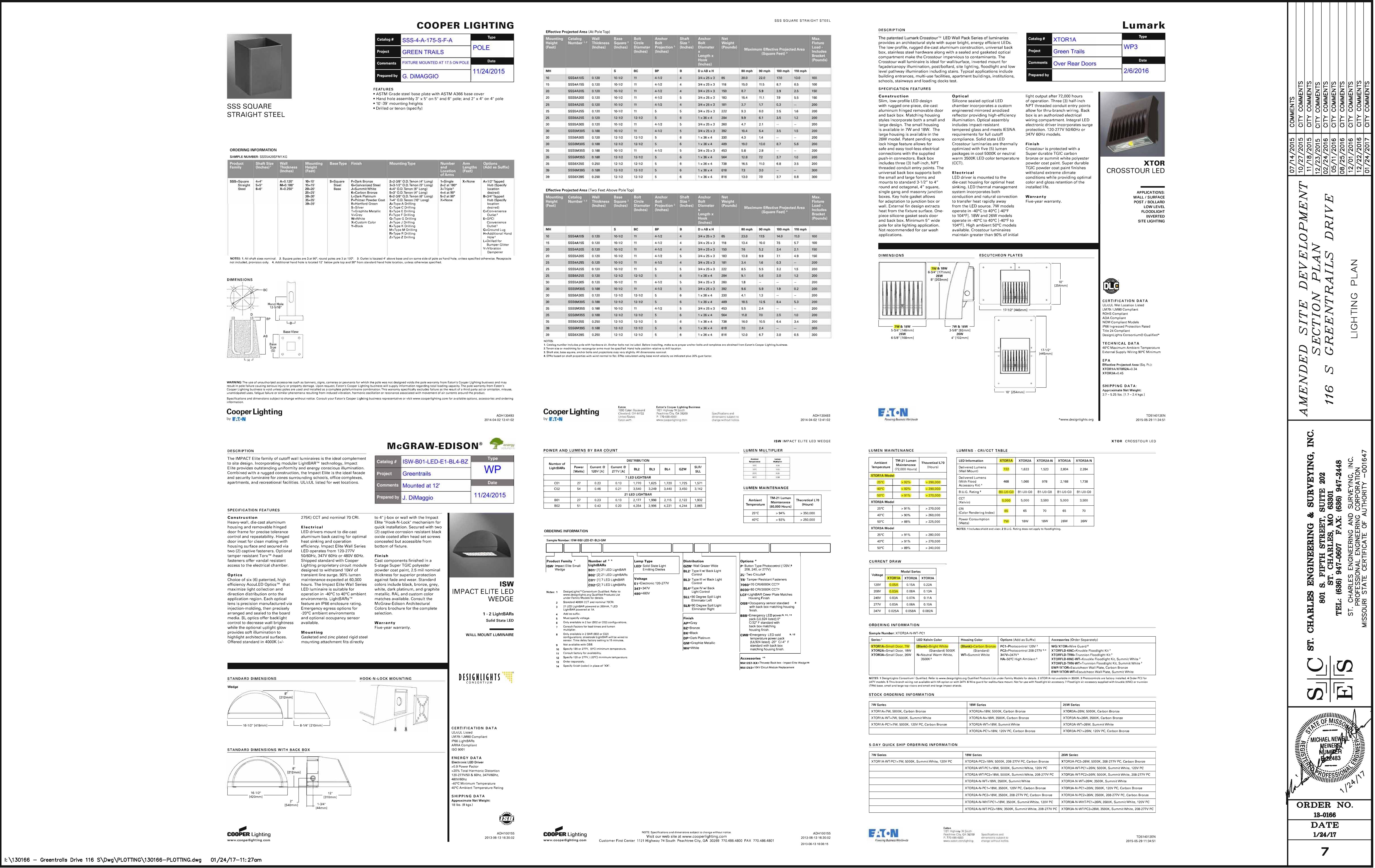
**ST. CHARLES ENGINEERING & SURVEYING, INC.**

801 S. FIFTH STREET, SUITE 202  
ST. CHARLES, MO 63301  
TEL: (636) 947-0607 FAX: (636) 947-2448

ST. CHARLES ENGINEERING AND SURVEYING, INC.  
PROFESSIONAL ENGINEERING CORPORATION  
MISSOURI STATE CERTIFICATE OF AUTHORITY -001647

**ORDER NO.**  
**13-0166**

**DATE**  
**1/24/17**



<p><b>Cooper Lighting</b> by EATON</p> <p><b>McGRAW-EDISON®</b></p> <p><b>GLEON GALLEON LED</b></p> <p><b>1-10 Light Squares Solid State LED AREA/SITE LUMINAIRE</b></p> <p><b>CERTIFICATION DATA</b></p> <p><b>ENERGY DATA</b></p> <p><b>DIMENSION DATA</b></p> <p><b>NOTES:</b> 1 Extended arm option may be required when mounting two or more fixtures at 90° or 120°. Refer to arm mounting requirement table. 2 ETR associated with optional arm length.</p> <p><b>Cooper Lighting</b> by EATON ADH140426 2015-03-06 14:56:19</p> <p><b>GLEON GALLEON LED</b></p> <p><b>OPTIC ORIENTATION</b></p> <p><b>DRILLING PATTERN</b></p> <p><b>NOMINAL POWER AND LUMENS (1A)</b></p> <p><b>GLEON GALLEON LED</b></p> <p><b>OPTICAL DISTRIBUTIONS</b></p> <p><b>ARM MOUNTING REQUIREMENTS</b></p> <p><b>Cooper Lighting</b> by EATON Eaton Cooper Lighting Business Eaton Highway 24 South • P.O. Box 44722 • United States • Eaton.com Specifications and dimensions subject to change without notice. ADH140426 2015-03-06 14:56:19</p> <p><b>Cooper Lighting</b> by EATON Eaton Cooper Lighting Business Eaton Highway 24 South • P.O. Box 44722 • United States • Eaton.com Specifications and dimensions subject to change without notice. ADH140426 2015-03-06 14:56:19</p> <p><b>GLEON GALLEON LED</b></p> <p><b>NOTES:</b> 1 Extended arm option may be required when mounting two or more fixtures at 90° or 120°. Refer to arm mounting requirement table. 2 ETR associated with optional arm length.</p> <p><b>Cooper Lighting</b> by EATON ADH140426 2015-03-06 14:56:19</p> <p><b>GLEON GALLEON LED</b></p> <p><b>NOMINAL POWER AND LUMENS (500mA)</b></p> <p><b>GLEON GALLEON LED</b></p> <p><b>NOTES:</b> 1 Extended arm option may be required when mounting two or more fixtures at 90° or 120°. Refer to arm mounting requirement table. 2 ETR associated with optional arm length.</p> <p><b>Cooper Lighting</b> by EATON ADH140426 2015-03-06 14:56:19</p> <p><b>ST. CHARLES ENGINEERING &amp; SURVEYING, INC.</b></p> <p><b>AMENDED SITE DEVELOPMENT SECTION PLAN</b></p> <p><b>116 S GREENTRAILS DRIVE</b></p> <p><b>LIGHTING PLAN</b></p> <p><b>DATE</b> <b>1/24/17</b></p> <p><b>ORDER NO.</b> <b>18-0166</b></p> <p><b>STATE</b> <b>MISSOURI</b></p> <p><b>PROFESSIONAL ENGINEERING AND SURVEYING, INC.</b></p> <p><b>MISSOURI STATE CERTIFICATE OF AUTHORITY - 001647</b></p> <p><b>Michael Nenner</b> Member Number 022483</p>
--



## McGRAW-EDISON®



The GLEON™ LED luminaire delivers exceptional performance in a highly scalable, low-profile design. Patented, high-efficiency AcuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated.

Catalog #	GLEON-AE-01-LED-E1-5WQ-700	Type
Project	Greentrails	F3
Comments	Mounted at 17.5'	Date
Prepared by	J. DiMaggio	11/24/2015

### SPECIFICATION FEATURES

**Construction**  
Extruded aluminum driver enclosure that is sealed from light sources for maximum thermal performance. Heavy-wall die-cast aluminum arms enclose housing and die-cast aluminum heat sink. Die-cast aluminum housing and heat sink provides scalability with superior thermal rigidity. 3G vibration tested. One piece housing less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

**Optics**  
Choice of 15 pre-tuned, high-efficiency AcuLED Optics. The optics are precisely designed to shape the distribution maximizing efficiency and minimizing heat. AcuLED Optics are consistent distributions with the scalability to meet customized applications requiring optics be ordered in 4000K (L-77K) CCT and minimum 7000K CCT. For the ultimate level of application control, an optional house side shield accessory can

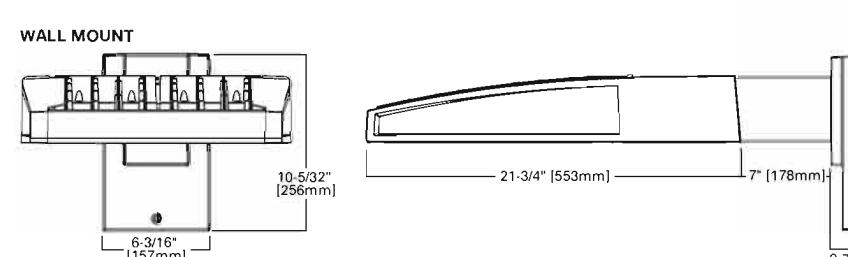
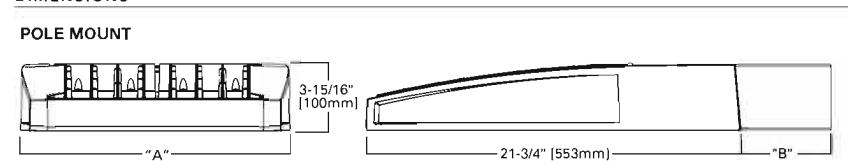
be field or factory installed. The house side shield is designed to seamlessly integrate with the SL2, SL3, SL4 or AFL optics.

**Electrical**  
LED drivers are mounted to the driver housing assembly for ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. Standard 100W driver included. Shunting standard with Cooper Lighting proprietary circuit module designed to withstand 10KV of transient voltage. The GLEON LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Light output and lumen rating differ than 90% lumen maintenance expected at 60,000 hours. Available to meet customized applications including 500mA current and 7000K drive current.

**Finish**  
Driver is finished in super durable TEC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Heat sink is powder coated black. Driver housing colors include black, bronze, gray, white, dark platinum and graphite metallic. All exterior colors match available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

**Warranty**  
Five-year warranty.

### DIMENSIONS



Number of Light Squares	*A* Width	*B* Standard Arm Length	*B* Optional Arm Length <sup>1</sup>	Weight with Arm <sup>2</sup> (lbs.)	EPA with Arm <sup>3</sup> (lbs.)
1-4	15-1/2" (394mm)	7" (178mm)	10" (254mm)	33 (15.0 kgs.)	9.96
5-6	21-5/8" (549mm)	7" (178mm)	10" (254mm)	44 (20.0 kgs.)	1.00
7-8	27-5/8" (702mm)	7" (178mm)	13" (330mm)	54 (24.0 kgs.)	1.07
9-10	33-3/4" (857mm)	7" (178mm)	16" (400mm)	63 (28.6 kgs.)	1.12

NOTES: 1. Orientation may be required when mounting two or more fixtures per pole at 90° or 120°. Refer to arm mounting dimension table. 2. EPA weight includes arm length.

### Cooper Lighting



ADH140426  
2015-03-06 14:56:19

\*www.designlights.org

Eaton 1000 Eaton Boulevard Cleveland, OH 44122 United States 1-704-480-4800 www.cooperlighting.com



2015

14:56:19

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

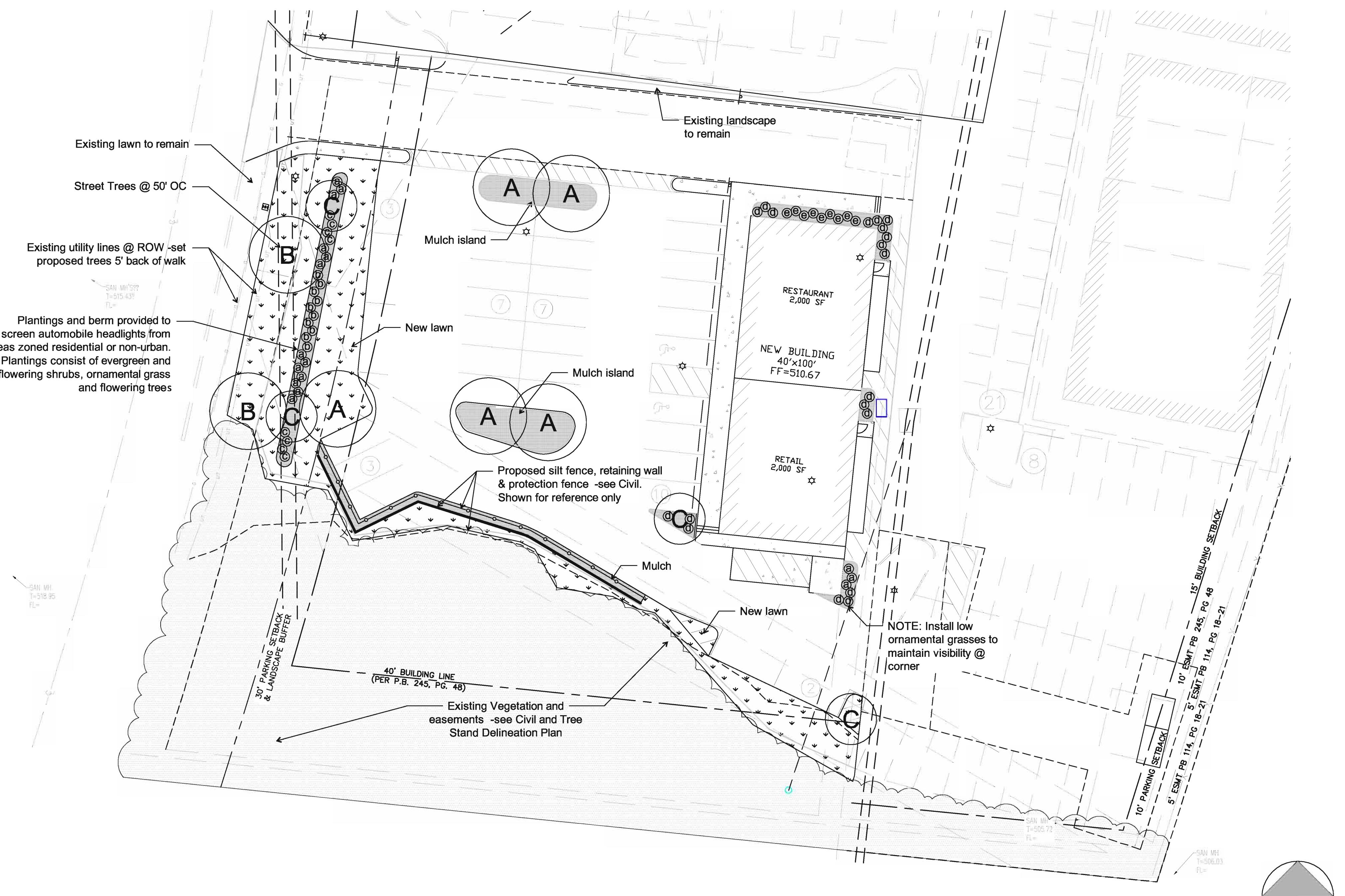
ADH140426  
2015-03-06 14:56:19

\*www.cooperlighting.com

Eaton's Cooper Lighting Business 1121 Highway 74 South P.O. Box 30209 P: 770-486-4800 www.cooperlighting.com

Specifications and dimensions subject to change without notice.

ADH140426  
2015-03-06 14:56:19



## 1 Landscape Development Planting Plan

Scale: 1" = 20' 0"

## SITE DEVELOPMENT SECTION PLAN-LANDSCAPING NOTES:

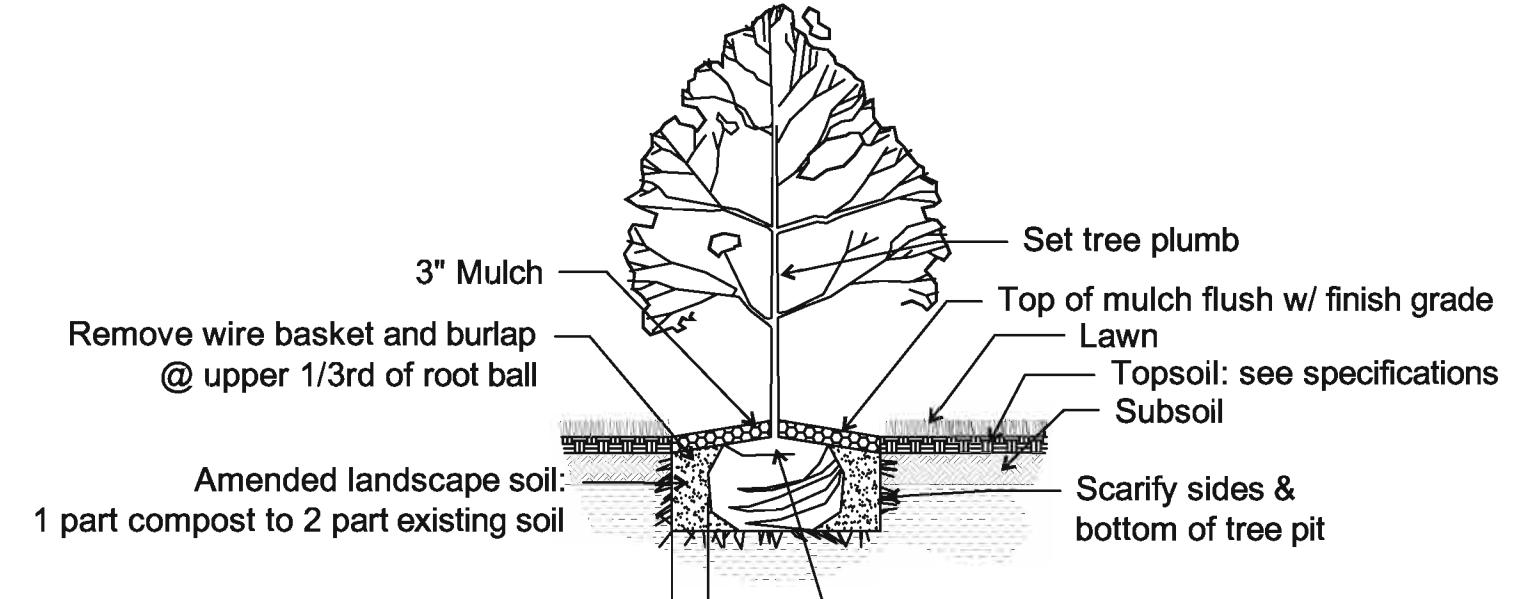
- See Civil sheets for specific information pertaining to existing and proposed easement, ROW, utilities and boundary
- All trees shown on this plan are selected from TREE PRESERVATION AND LANDSCAPE REQUIREMENTS (see City of Chesterfield Unified Development Code).
- Parking lot trees are located within 50 feet of parking stalls and 33.3% of parking lot trees species are a slow or medium growth rate (30% min. required).
- Contractor to review and field verify existing and proposed conditions prior to installation.
- Contractor to notify owner of any discrepancies. Contractor to coordinate and cooperate with other trades.
- Contractor to adjust plantings accordingly, notify owner and City of Chesterfield of any changes to landscape design due to unforeseen field conditions
- Proposed plant material is to be selected by the contractor and approved by Owner prior to installation.
- All planting beds and islands to receive 4 inch layer of mulch in a continuous bed. Apply a granular pre-emergent weed control prior to mulching.
- 6" Spade cut landscape bed areas.
- Repair all landscape and lawn areas disturbed during and due to construction. See Civil sheets for limits of site construction.
- Contractor is responsible for installing all plant material, seed, topsoil and mulch as shown on plan.
- Plant Schedule is for informational purposes only. Contractor is responsible for verifying and installation of quantities on drawings.
- Contractor to provide in-ground automatic irrigation system. Coordinate point of connection, back-flow preventer and controller location with owner's representative.
  - Lawn areas to be irrigated with 6" pop-up spray heads with head-to-head coverage
  - Annuals to be irrigated with 12" pop-up spray heads with head-to-head coverage
  - Shrubs and grasses to be irrigated with drip irrigation
- See Civil sheets for limits of disturbance and removal. Repair all lawn and landscape areas disturbed during construction.
- Shrub border along parking lot will screen front of cars from roadway and residential neighborhood across from project.

## LANDSCAPE PLANTING SCHEDULE:

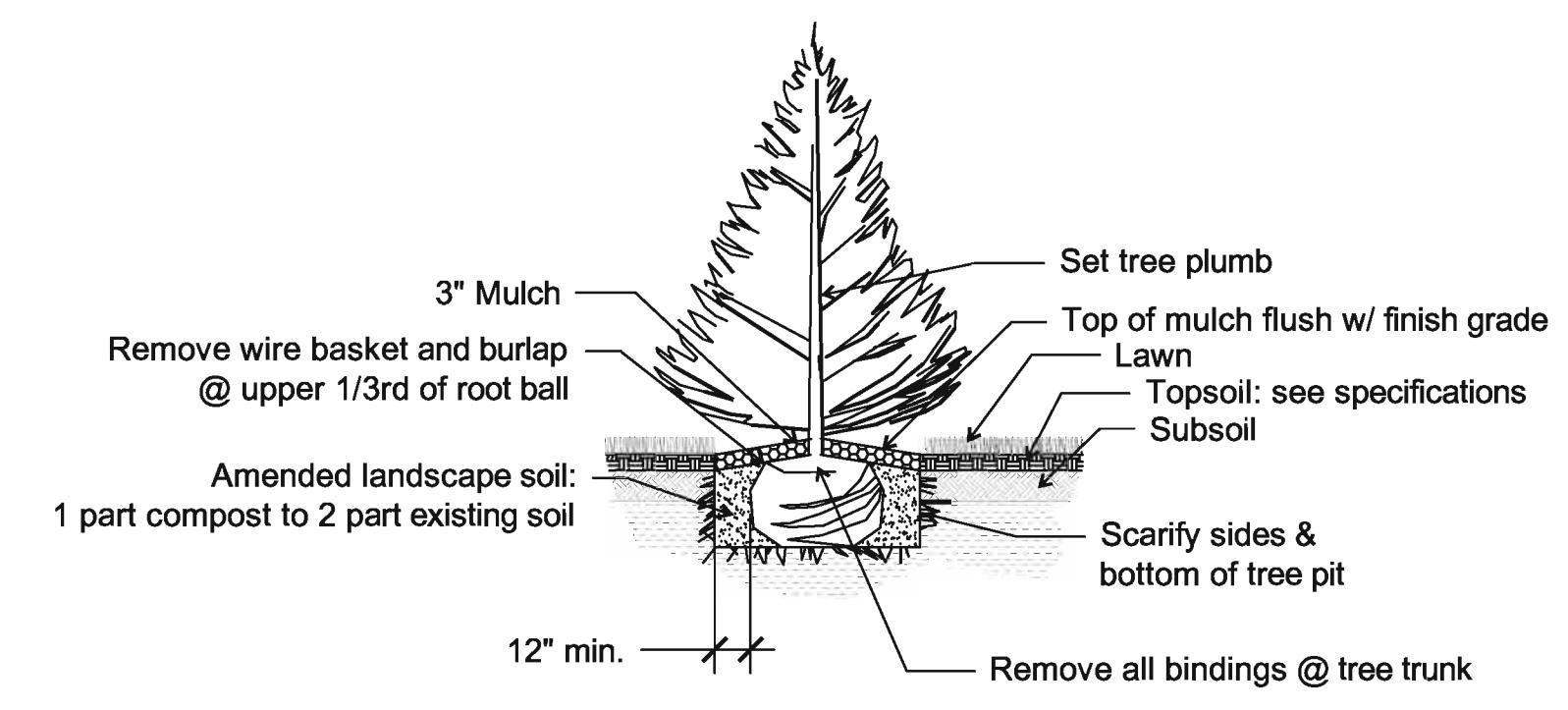
Key	Qty.	Scientific Name	Common Name	Size	Condition	Mature Height	Growth Rate	Type	PLANT TYPE	% PLANT SPECIES
A	5	Acer rubrum 'Columnare'	Upright Red Maple	2 1/2" Cal.	B&B	45'+	Fast	Parking Lot Tree	SHADE TREES	45.5%
B	2	Gleditsia triacanthos inermis 'Skyline'	Honey Locust	2 1/2" Cal.	B&B	45'+	Fast	Street Tree		18.2%
C	4	Cercis canadensis 'Forest Pansy'	Redbud -Forest Pansy	2 1/2" Cal.	B&B	20-40'	Med	Parking Lot Tree	ACCENT TREE	36.4%
a	16	Juniperus chinensis 'Sea Green'	Juniper	18-20"	5 Gal.	Hedge	Slow	Buffer Planting	EVERGREEN	25.8%
b	10	Rosa 'Home Run'	Home Run Rose	2 Gal.	3 canes	48-60"	Fast	Buffer Planting	FLOWERING	16.1%
c	8	Panicum virgatum 'Shenandoah'	Red Switch Grass		1 Gal.	36-48"	Fast	Buffer Planting	NATIVE GRASS	12.9%
d	19	Schizachyrium scoparium	Little Blue Stem		1 Gal.	20-36"	Fast	Parking Lot Island	NATIVE GRASS	30.6%
e	9	Schizachyrium scoparium	Hydrangea	18-24"	5 Gal.	36-40"	Fast	Building Proper	FLOWERING	14.5%
	1,900	sf Double Ground Bark Mulch								
	4,400	sf Fescue Sod								

## Open Space Site Calculations

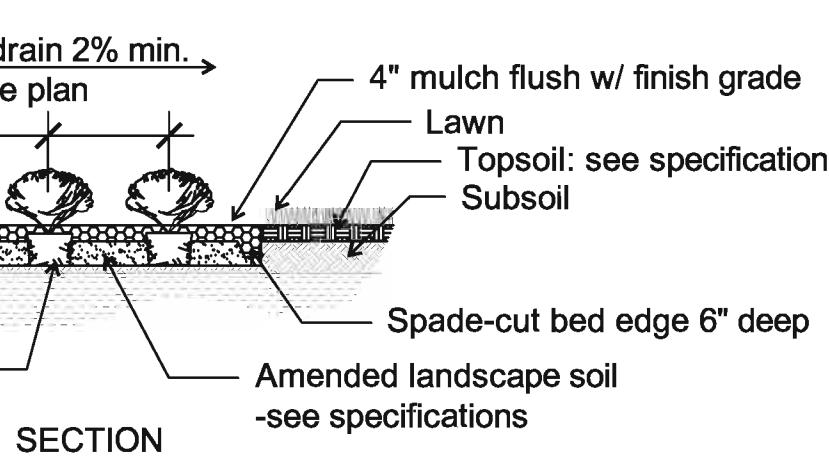
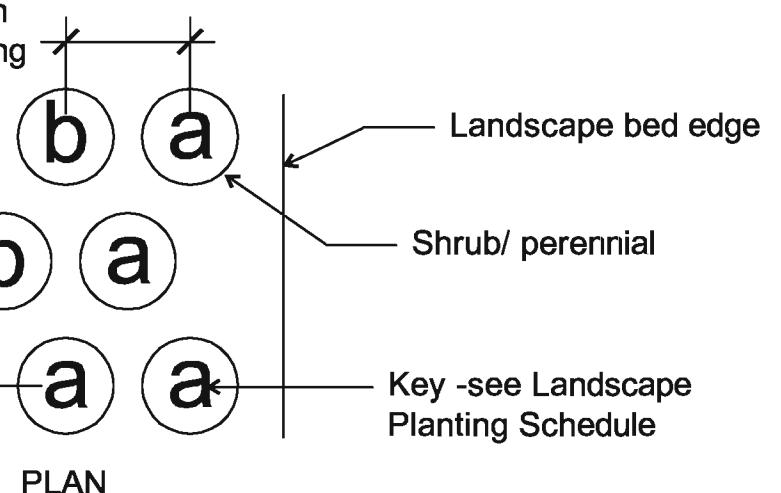
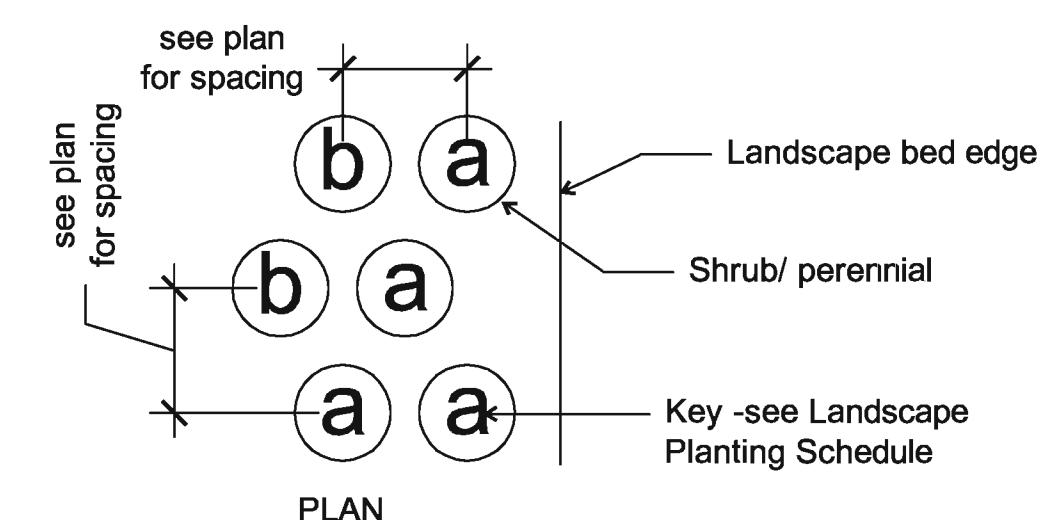
Description	Sq. Ft. Area	Site %
Property	48,520	100%
Non-Open Space Area	27,070	55.80%
Open Space	21,450	44.20%



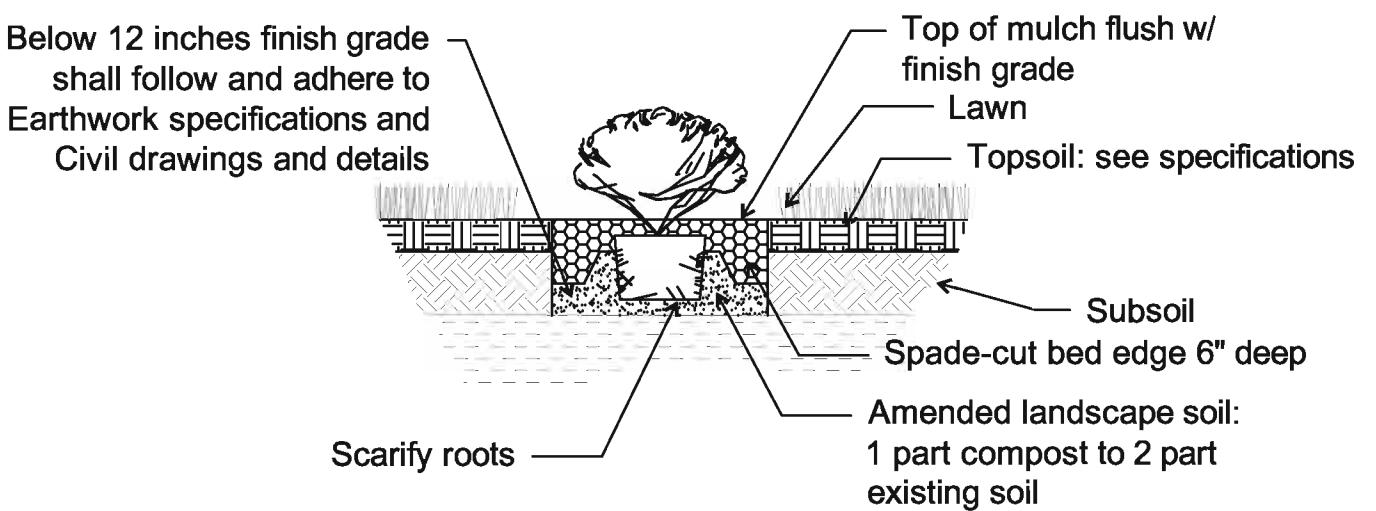
## SHADE TREE PLANTING DETAIL



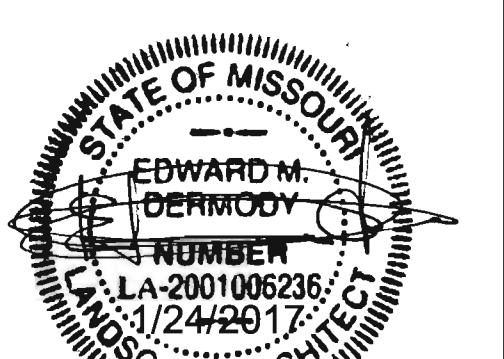
## EVERGREEN TREE PLANTING DETAIL



## SHRUB/ PERENNIAL/ ANNUAL PLANTING DETAIL



## SHRUB PLANTING DETAIL



This drawing and the details on it are the sole property of the landscape architect and/or engineer who prepared it. It shall not be copied, copied or reproduced, in whole or in part, or for any other purpose or project without the written consent of the copyright holder.

Copyright © Dermody & Associates, LLC

Issue Date: December 15, 2014

Drawn by: EMD

Checked by:

Sheet Title

Landscape Development Planting Plan

Project Number: 454.001