



WILDWOOD

Final Recommendation Report

<<< Site Development Plan Package >>>

City of Wildwood Planning and Zoning Commission

January 17, 2017 Executive Meeting

Petition Numbers: *P.Z. 12 and 13-15 The Villages at Bright Leaf*

Petitioner: Fischer & Frichtel Custom Homes L.L.C. and Consort Homes L.L.C., 16640 Chesterfield Grove Road, Suite 130, Chesterfield, Missouri, 63005

Zoning District(s): R-3 10,000 Square Foot Residence District, with a Planned Residential Development Overlay District (PRD)

Location: North side of State Route 100, between Eatherton Road and Taylor Road

Locator Numbers: 23V230041, 23V230050, 23V240327, 23V310064, 23V330022, 23V330031, 23V330206, 23V330215, 23V330233, and 23V610917

Street

Addresses: 2350 and 2344 Eatherton Road, 2531, 2555, and 2567 Taylor Road, 16721 Manchester Road, and 16615, 16602, and 16618 Overlook Hills Drive

Town Center

Designation: Neighborhood General and Neighborhood Edge Districts

Ward: Five

Tract Size: 78.0 acres

Site Plan

Subcommittee

Meeting Dates: September 6 and 19, 2016

Conditional Approval

Date of the Plan

Package: September 19, 2016

Petitioners'

Request on Plan: Complete the approval process of the Site Development Plan (SDP) by addressing the remaining conditioned items identified for further study in the September 19, 2016 Planning and Zoning Commission action.

**Planning and Zoning
Commission's**

Recommendation: **Approval** of a Site Development Plan (SDP), including the Landscaping and Lighting Plans (these submittals were not available in September 2016, but now have been addressed), thereby removing the conditional items associated with the Planning and Zoning Commission's initial action on this matter, which occurred on September 19, 2016.

Background on

Recommendation: The Planning and Zoning Commission would first note that, when it acted upon the Site Development Plan package for this major residential development in the City's Town Center Area, it was conditional in nature. At that time, September 2016, the petitioner was still attempting to complete the Site Development Plan review process, so the City could issue a preliminary permit for clearing and grubbing before the November 1, 2016 grading deadline was reached, which precludes any such activity thereafter until March 1, 2017. Therefore, the Commission, acknowledging that many of the major items associated with this project had been addressed and determined to be compliant to the governing site-specific ordinance, agreed by its action to proceed with this conditional approval of the plan sheets. Given other circumstances and the size of this project, the developers have chosen not to proceed with the issuance of a grading permit thereafter, which allowed them more time to finalize all of the components of the development, before undertaking any activity at the site itself.

Regardless of that decision by the two (2) developers of this project, the conditional items associated with the Commission's action on the Site Development Plan remain applicable, outstanding, and needing to be addressed to allow for final action of the Site Development Plan package, thereby completing the zoning portion of the City's land use process for this specific project. These items that led to the conditional approval of the Site Development Plan package can be summarized as follows:

1. The final conceptual approval from the Metropolitan St. Louis Sewer District (MSD) regarding the planned design of infrastructure improvements to manage runoff from storm events.
2. The direction of the Missouri Department of Transportation (MoDOT) regarding the intersections of Taylor Road and State Route 100 and State Route 100 and State Route 109.
3. The selection of the best method to address the secondary emergency access, given the fire district's preference for a passive type of approach, while ensuring it does not become an issue for pedestrians and bicyclists to use. Other considerations of the fire district needing

to be addressed as well include the following: roundabout, splitter island, and speed table designs.

4. The construction access component to begin the development of the site, specifically its location on the properties and the placement of improvements required by the Stormwater Pollution Prevention Plan (SWPPP).
5. The width of the trail easement and the hard-surface improvement itself.
6. The further study of the easternmost cul-de-sac that abuts the Evergreen Subdivision and potentially increasing the amount of separation between the existing and proposed homesites, modifying the height of the berm, and minimizing grading along the common boundary line.

In considering these items, the Planning and Zoning Commission would note that, in each instance, it attempted to address all issues that had been identified by surrounding property owners and others, as part of this final review of the plan sheets and related documents. The Planning and Zoning Commission believes that a majority of these issues have been addressed, while others were investigated and determined to be beyond the scope of the governing site-specific ordinance for this project and/or the underlying regulations of the City that are applicable to a Town Center residential development. These areas, such as the easternmost cul-de-sac, did receive modifications, but not to the extent sought by some property owners in the vicinity. However, the Commission would state that it attempted to preserve as many existing trees as possible throughout the development site and reduce impacts on existing dwellings to the greatest extent possible.

Furthermore, the Planning and Zoning Commission would also note the proposal for this site reinforces the priority of the City to create communities that reflect reasonable densities of dwellings within the Town Center Area, while providing for a full range of amenities and infrastructure to meet the increased needs and demands created by additional residents in the area. Additionally, this proposal includes the extension of Eatherton Road through the entirety of the site, a critical roadway for the functional circulation, while also protecting the jurisdictional waterway located thereon, providing useable public space and a safe trail/sidewalk network, and offering a mix of units (life-cycle housing), all with quality materials and design. Collectively, these components of the plan and associated units are indicative of the compliance the submittal has to standards, guidelines, and regulations of the City.

To date, this project will represent the largest Town Center Area residential development undertaken in the City to reach this point in the process, with its one hundred ninety-two (192) units. The project entails over seventy-eight

(78) acres of land area, which under full development will alter the characteristics of the neighborhood from this point forward. Therefore, it is incumbent upon the developers and the City to meet the required high levels of design, construction, and compliance to protect the neighborhoods and the investments made by current residents. Requirements have been set in place that are reflected on the attached plan sheets to ensure the proper framework is in place to achieve this desired end product.

**Action of the
Planning
And Zoning
Commission:**

Acknowledging these items and their relative completion, as described below, the Planning and Zoning Commission has considered the submitted plans, which includes the Site Development Plan (SDP) and related sheets, including the Landscape and Lighting Plans, and believes them to meet minimum compliance with the site-specific ordinance governing this property and the City's *Zoning Ordinance* and *Subdivision and Development Regulations*. This compliance leads the members of the Planning and Zoning Commission to support approval of this complement of plans, thereby allowing the Department of Planning to sign and release them.

In regards to the six (6) items that were identified by the Planning and Zoning Commission in its conditional approval of the Site Development Plan (SDP), the developers have provided additional information in support of them, which has been considered and reviewed. Along with this review by the Planning and Zoning Commission, it has provided its commentary in this regard, which is noted below:

1. The final conceptual approval from the Metropolitan St. Louis Sewer District (MSD) regarding the planned design of infrastructure improvements to manage runoff from storm events. **Commission's Note >>> The Metropolitan St. Louis Sewer District has advised the design of stormwater improvements does meet its minimum standards for flood and channel protection, as well as water quality. The district's review has reached the stage of authorization of permits, if all of the City's approvals were in place. Included in the management of stormwater runoff, the Commission would note the permit for disturbance of a waterway of the United States of America has been issued by the U.S. Army Corp of Engineers and is attached to this report.**
2. The direction of the Missouri Department of Transportation (MoDOT) regarding the intersections of Taylor Road and State Route 100 and State Route 100 and State Route 109. **Commission's Note >>> The**

Missouri Department of Transportation (MoDOT) has completed its review of the revised traffic study and has determined no additional modifications are required to its network of roadway improvements serving this site, which include State Route 100 and State Route 109. Initially, the State believed modifications may be necessary at the intersection of these two (2) state routes, but it was determined to function well at its current design and capacity. The letter from the Missouri Department of Transportation (MoDOT) is attached to this report.

3. The selection of the best method to address the secondary emergency access, given the fire district's preference for a passive type of approach, while ensuring it does not become an issue for pedestrians and bicyclists to use. Other considerations of the fire district needing to be addressed as well include the following: roundabout, splitter island, and speed table designs. **Commission's Note >>>** The developers have provided a revised design for this planned connection to serve as secondary emergency access and a pedestrian way between the new development and the Evergreen Subdivision, which includes a mix of materials, design components, and landscaping to create a useable passageway for emergency vehicles and pedestrians, while discouraging any other use. The design is provided in an attached sheet. The Commission supports this design, which includes, at this time, a mix of asphalt and turfstone permeable pavers to provide the required stable surface for emergency vehicles and other users. The selected permeable pavers allow for grass to germinated and grow within the voids associated with its pattern, so as to provide a green space in this area. Complementing this access way, landscaping and boulders are planned along its edges. Although the Commission is supportive of this design, it does believe the entire area should be constructed with the turfstone permeable paver material, so as all of it will be a grass area capable of accommodating the weight of emergency vehicles and other users. This area being turf will also have a better visual appearance to surrounding lot owners and deter others from its use, since no type of gate or bollard system is planned at this time.
4. The construction access component to begin the development of the site, specifically its location on the properties and the placement of improvements required by the Stormwater Pollution Prevention Plan (SWPPP). **Commission's Note >>>** The governing site-specific ordinance for this project limits construction access to the Taylor Road intersection with State Route 100 (see attached ordinance). Given this circumstance, the Commission has reviewed several options for the location of the access point and associated staging area for employee parking and equipment placement. The intent of

this review of options was to determine if the access roadway to the staging area could be placed as close to State Route 100 as possible. To this end, the Commission is supporting a revised design, which has placed the access point within ninety (90) feet of the intersection of Taylor Road and State Route 100. This point of ingress/egress requires vehicles to pass behind only two (2) existing rear yard areas of residences, both of which are the largest of the lots in this vicinity. The associated staging area will then be situated approximately nine hundred (900) feet due west of this access point, with the intent to minimize the level of noise and disturbance associated with this location. In its analysis, the Commission avoided removing existing trees in the proposed public space area and prompting major utility relocations for such a temporary access and staging area at the Taylor Road/State Route 100 intersection.

5. The width of the trail easement and the hard-surface improvement itself. **Commission's Note >>>** The width of the proposed easement is twenty-five (25) feet to allow for the planned ten (10) foot wide, asphalt multiple-use trail to be constructed within it. The intent of the easement width is to allow more flexibility in the placement of the trail within its boundaries, which will limit tree removal and ensure this improvement can be sited at the best location within its entire length, from one (1) end of the site to the other.
6. The further study of the easternmost cul-de-sac that abuts the Evergreen Subdivision and potentially increasing the amount of separation between the existing and proposed homesites, modifying the height of the berm, and minimizing grading along the common boundary line. **Commission's Note >>>** The placement of this eastern cul-de-sac and the impact it has on abutting, existing homesites in the Evergreen Subdivision has been reviewed and the Commission has chosen to increase the bufferyard requirement from the standard "B (as shown)" to "D." This increase in plantings is intended to provide a successful 'green screen' between the rear yard areas of the new and existing dwellings that will share a common property line, while also requiring the planned berm to increase to the maximum allowable height for screening purposes as well. The Commission, previously, as part of its recommendation to the City Council on the initial zoning of this property, required all vents and stacks on the roofs of the dwellings facing toward the Evergreen Subdivision to be painted to match the color of the shingles, while ensuring all building materials were of the highest quality. All of these requirements were included in the development of this single cul-de-sac, along with shortening and shifting the cul-de-sac location to the west, which retained additional treed areas at its northern end, while ensuring all lots are of equal size and width to match the existing pattern of the area. The

Commission is aware of the concerns of residents in this area regarding tree removal, which is why it has undertaken a review of all options and implemented those types that are within its allowable authority. However, the Commission will continue to seek alternatives to offset the impacts of this new development in this area, as Improvement Plans are prepared and reviewed, and grading progresses on the site.

**Summary and
Conditions
of Action:**

This recommendation is conditioned upon the developers of this project, and their contractors/subcontractors, meeting all required and underlying codes, regulations, and standards of the City relating to this property and the development of land. The Planning and Zoning Commission is again recommending approval of the Site Development Plan and related items at this time, given the conditioned items of its past action have been addressed to its satisfaction. This recommendation is also based upon the completion of all required infrastructure and other public improvements associated with this site adhering to the approved plans for such, or otherwise they being amended in accordance with the processes of the City of Wildwood.

**Attachments
And Enclosures:**

Attachment A - Site Development Plan (SDP) and Related Items
Attachment B – Site-Specific Ordinance
Attachment C – Background Information

Vote:

The Planning and Zoning Commission approved the six (6) conditioned items associated with the Site Development Plan (SDP) package and released it for recording. The vote was 7 to 0 in support of the plan package (Voting Aye: Lee, Archeski, Gagnani, Beattie, Bartoni, Manton, and Bowlin).



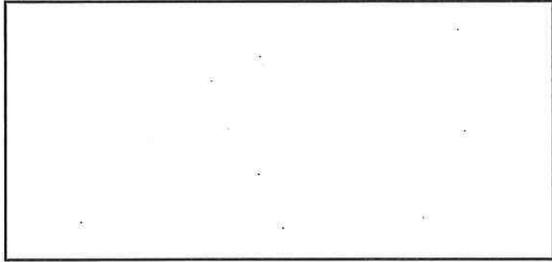
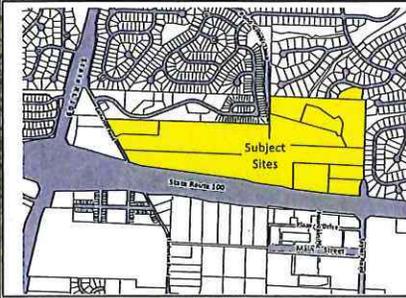
WILDWOOD

16860 Main Street
Wildwood, MO 63040

**CITY OF WILDWOOD
NOTICE OF
PUBLIC MEETING**
before the Planning and Zoning Commission
TUESDAY, January 17, 2017, at 6:30 p.m.

THE CITY WELCOMES AND ENCOURAGES
YOUR COMMENTS AND PARTICIPATION IN
ITS PUBLIC PROCESSES.
THANK YOU!

AS A RESIDENT OR PROPERTY OWNER NEAR THE SITE THAT IS IDENTIFIED ON THIS MAILER, THE CITY OF WILDWOOD WOULD LIKE TO ENSURE YOU ARE AWARE OF THIS REQUEST/PROPOSAL BECAUSE IT IS LOCATED WITHIN 1,500 FEET OF YOUR PROPERTY. YOUR COMMENTS ARE ENCOURAGED, ALONG WITH YOUR PARTICIPATION AT THE SCHEDULED HEARING OR MEETING. THIS ITEM IS SCHEDULED FOR DISCUSSION AND ITS OUTCOME MAY IMPACT YOUR HOME, NEIGHBORHOOD, OR AREA, SO PLEASE CAREFULLY READ THE DESCRIPTION AND PARTICIPATE AT YOUR DISCRETION. THE CITY OF WILDWOOD ENCOURAGES CITIZEN INPUT AT ALL OF ITS HEARINGS OR MEETINGS AND YOUR INVOLVEMENT WILL ASSIST IT IN REACHING THE BEST DECISION POSSIBLE FOR ALL PARTIES.



* PLEASE SEE YELLOW BOX ON OPPOSITE SIDE OF THIS MAILER FOR A LIST OF WAYS TO EITHER COMMENT ON AND/OR TRACK THIS ITEM.

Subject Site:
Villages at Bright Leaf Subdivision

Listed below is a request that was initially acted upon by the Planning and Zoning Commission at a public meeting held on September 19, 2016. You and many of your neighbors may have expressed interest in the outcome of this final review and the Commission is scheduled to take action upon this item at its upcoming meeting. If inclined, the Commission encourages you to attend this meeting and hear the recommendation on this matter and participate in its discussion. The meeting will be held on **Tuesday, January 17, 2017, at 6:30 p.m.** in the City Hall Council Chambers, 16860 Main Street, Wildwood, Missouri 63040. The specific request under consideration is as follows:

A Site Development Plan recommendation report of the Planning and Zoning Commission regarding **P.Z. 12 and 13-15 The Villages at Bright Leaf**; R-3 10,000 square foot Residence District (Town Center “Neighborhood General District” and “Neighborhood Edge District”), with a Planned Residential Development Overlay District (PRD); north side of State Route 100, east of State Route 109; which authorized the use of this seventy-eight (78) acre site for up to 192 single family dwellings on individual lots, with common ground, and public space, consistent with the governing site-specific ordinance and Town Center Plan. **This recommendation report addresses the list of required conditional items (six in total) of the Planning and Zoning Commission’s initial action on this matter, which occurred on September 19, 2016. (Ward Five)**

- RESIDENT OR PROPERTY OWNER - PLEASE COMMENT ON AND/OR TRACK THIS REQUEST BY:**
- 1) Submitting a comment online by visiting: <http://www.cityofwildwood.com/comment>.
 - 2) Submitting a written comment prior to the hearing and addressed to the Planning and Zoning Commission, City of Wildwood, 16860 Main Street, Wildwood, Missouri 63040.
 - 3) Viewing the Planning and Zoning Commission’s agenda, which is available on the City’s website at: www.cityofwildwood.com, the Friday before the aforementioned meeting date.

If you should have any questions regarding this information, please feel free to contact the Department of Planning at (636) 458-0440. Thank you in advance for your interest in this matter.

ATTACHMENT A
Site Development Plan (SDP) and Related Items

GENERAL NOTES:

- THIS SITE IS IN THE FOLLOWING DISTRICTS AND UTILITY SERVICE AREAS:
WARD EIGHT
METRO WEST FIRE PROTECTION DISTRICT
ST. LOUIS COUNTY POLICE DEPARTMENT - CITY OF WILDWOOD (6TH) PRECINCT
ROCKWOOD R-6 SCHOOL DISTRICT
METROPOLITAN ST. LOUIS SEWER DISTRICT
AUBURN MISSOURI
AT&T
LACLEDE GAS COMPANY
MISSOURI AMERICAN WATER COMPANY
CHARTER CABLE SERVICES
- SANITARY SEWER CONSTRUCTION AND CONNECTIONS SHALL BE AS APPROVED BY THE METROPOLITAN ST. LOUIS SEWER DISTRICT AND IN ACCORDANCE WITH THE STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES.
- STORMWATER SYSTEM DESIGN SHALL BE PURSUANT TO THE CITY OF WILDWOOD AND METROPOLITAN ST. LOUIS SEWER DISTRICT REQUIREMENTS AND SHALL DISCHARGE AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.
- THE LOCATION OF STORM AND SANITARY SEWER IMPROVEMENTS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS SHALL BE DETERMINED BY FIELD CONDITIONS AND SHALL BE INDICATED ON THE IMPROVEMENT PLANS.
- ALL GRADING AND DRAINAGE SHALL BE PER CITY OF WILDWOOD, MODOT AND METROPOLITAN ST. LOUIS SEWER DISTRICT STANDARDS. SOURCE OF TOPOGRAPHY- AERIAL PHOTOGRAPHY BY SURDEX DATED 3/11/2015.
- NO SLOPES SHALL EXCEED 3 (HORIZONTAL) TO 1 (VERTICAL), UNLESS JUSTIFIED BY GEOTECHNICAL REPORT WHICH MUST BE ACCEPTED/APPROVED BY THE CITY OF WILDWOOD.
- ALL PROPOSED UTILITIES WILL BE LOCATED UNDERGROUND WITHIN THIS SITE.
- NO PLANTS, TREES, SIGNS, ETC. GREATER THAN 36" IN HEIGHT SHALL BE PLACED WITHIN THE SIGHT DISTANCE TRIANGLE AT INTERSECTIONS AND MEDIANS AS TO RESTRICT SIGHT DISTANCE.
- MAXIMUM HEIGHT OF STREET LIGHTING FIXTURES SHALL BE 16 FEET AND SHALL BE IN COMPLIANCE WITH THE CITY OF WILDWOOD CODE REQUIREMENTS.
- STREET TREES AND SITE LANDSCAPING SHALL BE AS REQUIRED BY THE CITY OF WILDWOOD. SEE REQUIRED LANDSCAPE PLAN
- THE NEAREST MAJOR INTERSECTION IS HIGHWAY 100 AND STATE ROUTE 109 APPROXIMATELY 200 FEET TO THE SOUTHWEST.
- THE FRONT FACADES MUST BE 1.5 FEET ABOVE GRADE AT FRONTAGE LINES.
- ENTRANCES, STREET INTERSECTIONS, CUL-DE-SACS SHALL BE CONSTRUCTED TO CITY OF WILDWOOD AND MODOT STANDARDS.
- ALL EXISTING WATER FEATURES LOCATED ON THIS SITE WHICH WILL BE DISTURBED SHALL BE DEVIATED IN COMPLIANCE WITH THE CITY OF WILDWOOD GRADING CODE.

DEVELOPMENT NOTES:

- LOCATOR NUMBERS: 23V230041, 23V230050, 23V240327, 23V310064, 23V330022, 23V330031, 23V330206, 23V330215, 23V330233, 23V610917
- SITE ADDRESS: 2344 EATHERTON RD WILDWOOD, MO. 63011
- CURRENT OWNERS: WILLIAM JONES 2350 EATHERTON RD
COBBLER GROVER 2344 EATHERTON RD
MERA VAL INC. 2555 TAYLOR RD
DEBORAH STRAIN 16615 OVERLOOK HILLS DR
MERA VAL INC. 16721 MANCHESTER RD
WILLIAM JONES JR 2531 TAYLOR RD
MERA VAL INC. 2567 TAYLOR RD
WILLIAM JONES JR 16602 OVERLOOK HILLS DR
OVERLOOK HILLS LLC 16618 OVERLOOK HILLS DR
- EXISTING ZONING: R-3 10,000 SQUARE FOOT RESIDENCE DISTRICT (TOWN CENTER "NEIGHBORHOOD GENERAL DISTRICT" AND "NEIGHBORHOOD EDGE DISTRICT"), WITH A PLANNED RESIDENTIAL DEVELOPMENT OVERLAY DISTRICT (PRD), ORDINANCE #2145
- PROPOSED USE: SINGLE FAMILY RESIDENTIAL
- GROSS AREA OF SITE: 78.82 ACRES
LESS RIGHT-OF-WAY: <11.72> ACRES
NET AREA: 67.10 ACRES
- DENSITY = 67.10 AC. X 43,560 S.F./AC. = 292 LOTS ALLOWABLE
10,000 SQ.F.T.
- NUMBER OF LOTS PROPOSED: 192
- PARKING REQUIREMENTS:
2 EA. X 192 LOTS = 384 SPACES
PROVIDED = 384 SPACES + 7 GUEST SPACES
- COMMON GROUND = 19.80 AC.
PUBLIC OPEN SPACE = 20.40 AC.
TOTAL SPACE = 27.50 AC.

PROPERTY DESCRIPTION:

A tract of land located in Section 1, Township 44 North, Range 3 East, City of Wildwood, St. Louis County, Missouri and being more particularly described as follows:

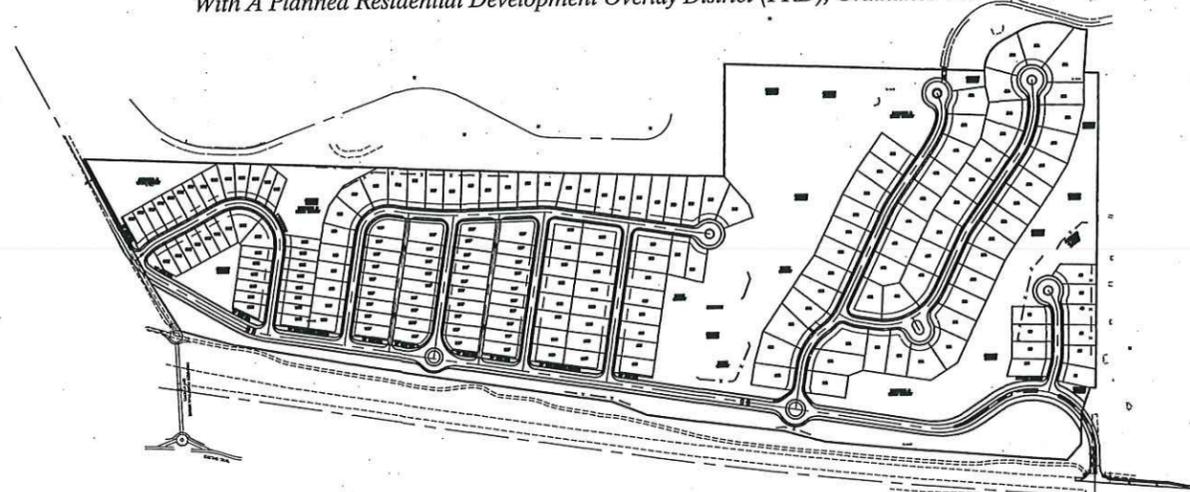
Beginning at the intersection of the north-south centerline of above said Section 1 and the east-west centerline of the Northeast Quarter of said Section 1, said intersection being the southwest corner of Evergreen Section 2 Plot 1, a subdivision according to the plat thereof recorded in Plat Book 260 Page 67 of the St. Louis County, Missouri Records; thence along the south line of said Evergreen Section 2 Plot 1 and its prolongation, being the south line of Evergreen Plot 4, a subdivision according to the plat thereof recorded in Plat Book 226 Page 95 of solid records, South 87°39'31" East, 935.26 feet to a point being the southeast corner of Lot 409 of said Evergreen Plot 4; thence leaving said south line and along the southeast line of Lots 407 through 409 corner of said Evergreen Plot 4 the following courses, distances and curves: along a curve to the right being non-tangent to the south right-of-way line of Birch Forest Drive (50 feet wide), thence leaving said southeast line and along said south right-of-way line, South 72°31'00" East, 38.21' to a point of curvature; thence continuing along said south right-of-way line, along a curve to the left with a radius of 200.00 feet and whose chord bears South 78°50'00" East, 44.01 feet, an arc distance of 44.10 feet, to the northwest corner of Lot 406 of said Evergreen Plot 4; thence leaving said south right-of-way line and along the west line of said Lot 406, South 04°51'00" West, 153.26 feet to a point on said east-west centerline, said point also being the southwest corner of said Lot 406; thence along said east-west centerline, said line also being the south line of said Lot 406, South 87°39'31" East, 51.95' to a point on the north-south centerline of the Northeast Quarter of said Section 1, said line also being the west line of said Evergreen Plot 3, the west line of Evergreen Plot 2, a subdivision according to the plat thereof recorded in Plat Book 199 Page 89 of solid records, South 01°34'37" West, 1128.77 feet to a point in the centerline of Taylor Road (Width Varies); thence leaving said north-south centerline, North 88°25'23" West, 20.00 feet to the west right-of-way line of said Taylor Road; thence along said west right-of-way line the following courses and distances: South 20°00'41" West, 94.87 feet; South 01°34'37" West, 113.11 feet; and South 43°21'00" West, 75.00 feet to a point in the north right-of-way line of State Highway 109 the following courses, distances and curves: North 85°02'20" West, 461.64 feet, an arc distance of 410.35 feet; North 73°52'28" West, 150.88 feet; along a curve to the right being non-tangent to the previous course with a radius of 17,038.74 feet, whose chord bears North 82°19'40" West, 495.62 feet, an arc distance of 495.64 feet; North 68°37'23" West, 137.03 feet; North 81°02'40" West, 865.00 feet; North 79°53'25" West, 500.10 feet; and North 74°04'56" West, 204.59' to a point in the east right-of-way line of Eatherton Road (40' Wide); thence leaving said south right-of-way line and along said east right-of-way line of Eatherton Road, North 30°49'19" West, 225.43 feet; thence continuing along said east right-of-way line, North 28°03'19" West, 483.01 feet to a point on the south line of Sandalwood Creek Condominiums Phase One as recorded according to the plat thereof recorded in Plat Book 240 Page 6 of solid records; thence leaving said east right-of-way line and along said south line and its prolongation, South 87°33'57" East, 1,534.33 feet to the southwest corner of Hunters Run, a subdivision according to the plat thereof recorded in Plat Book 320 Page 25 of solid records; thence leaving said south line and along the south line of said Hunters Run, South 87°41'40" East, 771.44 feet to a point on said north-south centerline of Section 1; thence leaving said south line and along said north-south centerline, North 01°12'37" East, 399.14 feet to the Point of Beginning and contains 3,433.413 square feet, or 78.820 acres more or less, according to calculations performed by the Sterling Company during the month of March, 2016.

The Villages at Bright Leaf

A Tract Of Land Located In
Sections 1 & 2, Township 44 North, Range 3 East,
City Of Wildwood,
St. Louis County, Missouri

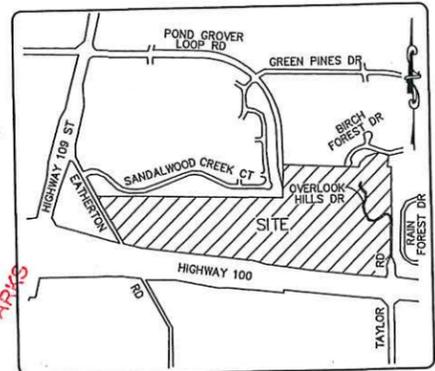
SITE DEVELOPMENT PLAN

R-3 10,000 Square Foot Residence District
(Town Center "Neighborhood General District" and "Neighborhood Edge District"),
With A Planned Residential Development Overlay District (PRD), Ordinance #2145



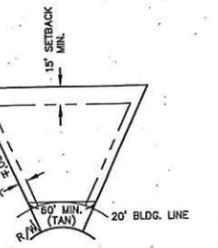
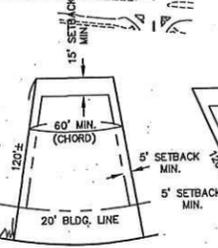
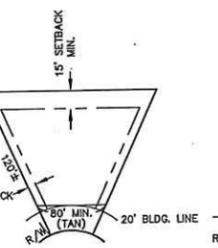
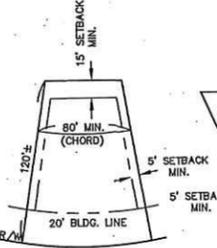
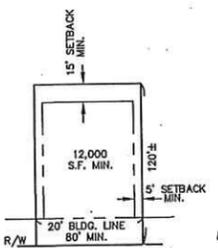
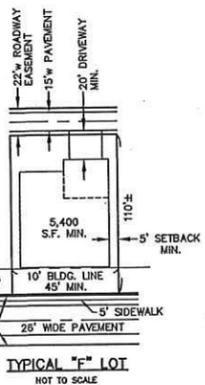
FLOOD NOTE:
ACCORDING TO THE FLOOD INSURANCE RATE MAP OF SAINT LOUIS COUNTY, MISSOURI, AND UNINCORPORATED AREAS (COMMUNITY PANEL NUMBER 29189C0260K DATED FEBRUARY 4, 2015), THIS PROPERTY LIES ENTIRELY OUTSIDE THE 500-YEAR FLOODPLAIN.

KEY MAP
SCALE: 1"=300'



LOCATION MAP
N.T.S.

EXISTING	LEGEND	PROPOSED
542	CONTOURS	(542)
X536	SPOT ELEVATIONS	536.0
---	CENTER LINE	---
---	BUILDINGS, ETC.	---
---	TREE LINE	---
X	FENCE	X
---	STORM SEWERS	---
---	SANITARY SEWERS	---
---	CATCH BASIN	---
---	AREA INLET	---
---	GRATED INLET	---
---	STORM MANHOLE	---
---	SANITARY MANHOLE	---
---	FLARED END SECTION	---
---	CLEANOUT	---
---	LATERAL CONNECTION	---
---	UTILITY OR POWER POLE	---
---	FIRE HYDRANT	---
---	TEST HOLE	---
---	PAVEMENT	---
---	GAS MAIN & SIZE	(2")
---	WATER MAIN & SIZE	(6")
---	TELEPHONE	(7)
---	ELECTRIC (U) UNDERGROUND	(E)
---	ELECTRIC (O) OVERHEAD	(OH)
---	FLOW LINE	---
---	TO BE REMOVED	TBR
---	TOP OF CURB	(TC)
---	SWALE	---
---	LIGHT STANDARD	---
---	STREET SIGN	---
---	P.S. PARKING STALLS	P.S.
---	YARD LIGHT	---



GEOTECHNICAL ENGINEER'S STATEMENT:

THESE PLANS HAVE BEEN REVIEWED BY JACOBI GEOTECHNICAL ENGINEERING, INC. FOR THEIR COMPLIANCE REGARDING GEOTECHNICAL RECOMMENDATIONS RELATIVE TO SITE DEVELOPMENT. BASED ON THIS REVIEW AND AVAILABLE SUBSURFACE INFORMATION, IT IS OUR OPINION THAT THE SITE MAY BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, GOOD CONSTRUCTION PRACTICES, AND THE RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT PREPARED BY JACOBI GEOTECHNICAL ENGINEERING, INC.

WE HAVE NOT PREPARED ANY PART OF THESE PLANS AND MY SEAL ON THESE PLANS IS INTENDED ONLY TO CONFIRM MY PERSONAL REVIEW AND APPROVAL TO THE SITE GRADING PLAN AS IT RELATES TO THE STABILITY OF EARTH SLOPES.

JACOBI GEOTECHNICAL ENGINEERING, INC. MUST BE INVOLVED DURING THE CONSTRUCTION PHASE OF THIS PROJECT IN ORDER TO DETERMINE IF SUBSURFACE CONDITIONS ARE AS ANTICIPATED FROM THE FIELD EXPLORATION DATA, THAT OUR RECOMMENDATIONS RELATIVE TO SITE GRADING ARE IMPLEMENTED, AND THAT OTHER GEOTECHNICAL ASPECTS OF SITE DEVELOPMENT ARE PERFORMED IN ACCORDANCE WITH THESE PLANS.

JACOBI GEOTECHNICAL ENGINEERING, INC.

SURVEYOR'S CERTIFICATION:

THIS IS TO CERTIFY THAT WE HAVE, DURING THE MONTH OF MARCH, 2016, AT THE REQUEST OF FISCHER & FRICHEL CUSTOM HOMES, LLC AND CONSORT HOMES, LLC, PREPARED A SITE DEVELOPMENT PLAN OF "THE VILLAGES AT BRIGHTLEAF", A TRACT OF LAND LOCATED IN SECTIONS 1 & 2, TOWNSHIP 44 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI. THIS PLAN IS NOT A SURVEY AND DOES NOT MEET THE "MISSOURI MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS" IN EFFECT AT THE DATE OF THIS PLAN.

THE STERLING COMPANY

GEORGE J. GOWER - VICE PRESIDENT
MO. REG. L.S. - #2336

MSD Base Map 23-V
MSD P #
Highway & Traffic #

SHEET INDEX

- 1.1 COVER SHEET
- 2.1-2.4 SDP - SITE PLAN
- 3.1-3.4 SDP - GRADING PLAN
- 4.1 NATURAL RESOURCES MAP
- 5.1 ENTRANCE DETAIL
- 6.1 SITE SECTIONS
- 7.1 WALL SCHEDULE
- 8.1 DETAILS
- 9.1-9.2 ORDINANCE #2145

LOT/UNIT TOTALS:

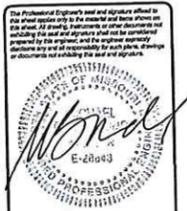
- "A" 80'W. MIN. ~ 53 LOTS
- "B" 63'W. MIN. ~ 40 LOTS
- "C" 62'W. MIN. ~ 10 LOTS
- "D" 60'W. MIN. ~ 14 LOTS
- "E" 38'W. MIN. ~ 37 LOTS
- "F" 45'W. MIN. ~ 38 LOTS
- TOTAL LOTS ~ 192

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7	1-12-2017 REVISED PER CITY COMMENTS

Fischer & FricHEL Custom Homes, LLC
and Consort Homes, LLC
16640 CHESTERFIELD GROVE ROAD, SUITE 130
CHESTERFIELD, MISSOURI 63005
Ph. 636-770-7300

THE STERLING CO.
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5055 New Baumgartner Road
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Ph. 314-487-0440 Fax 314-487-9944
www.sterling-eng-survey.com
Corporate Certificate of Authority #001948

The Villages at Bright Leaf
Wildwood, Missouri
SITE DEVELOPMENT PLAN

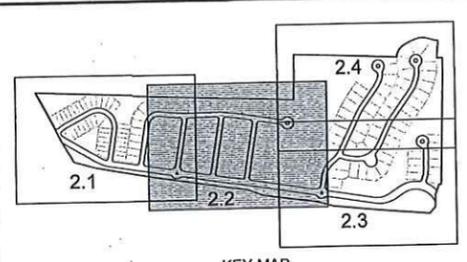
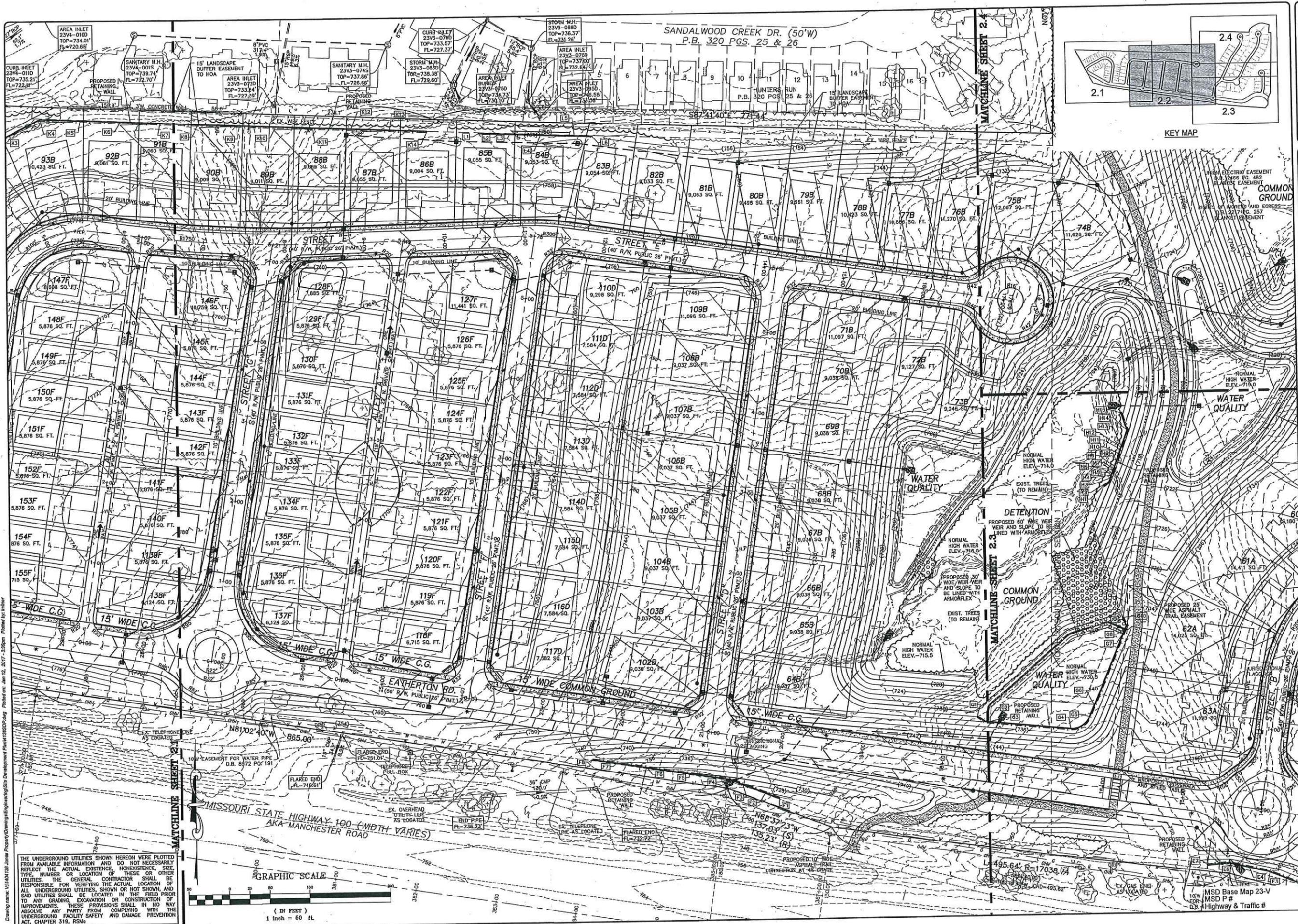


Date: 1/12/2017
MICHAEL G. BOERING
License No. E-28843
Civil Engineer

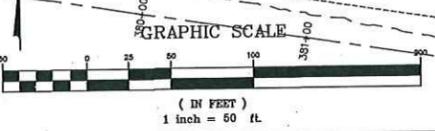
Job Number
14-04-138

Date
Jan. 12, 2017

Drawn: SL Sheet
Checked: SL 1.1
SDP



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2	2-22-2017 REVISED PER CITY COMMENTS
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6	11-14-2016 REVISED PER CITY COMMENTS
7	1-12-2017 REVISED PER CITY COMMENTS

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CHESTERFIELD, MISSOURI 63005
Ph. 636-770-7300

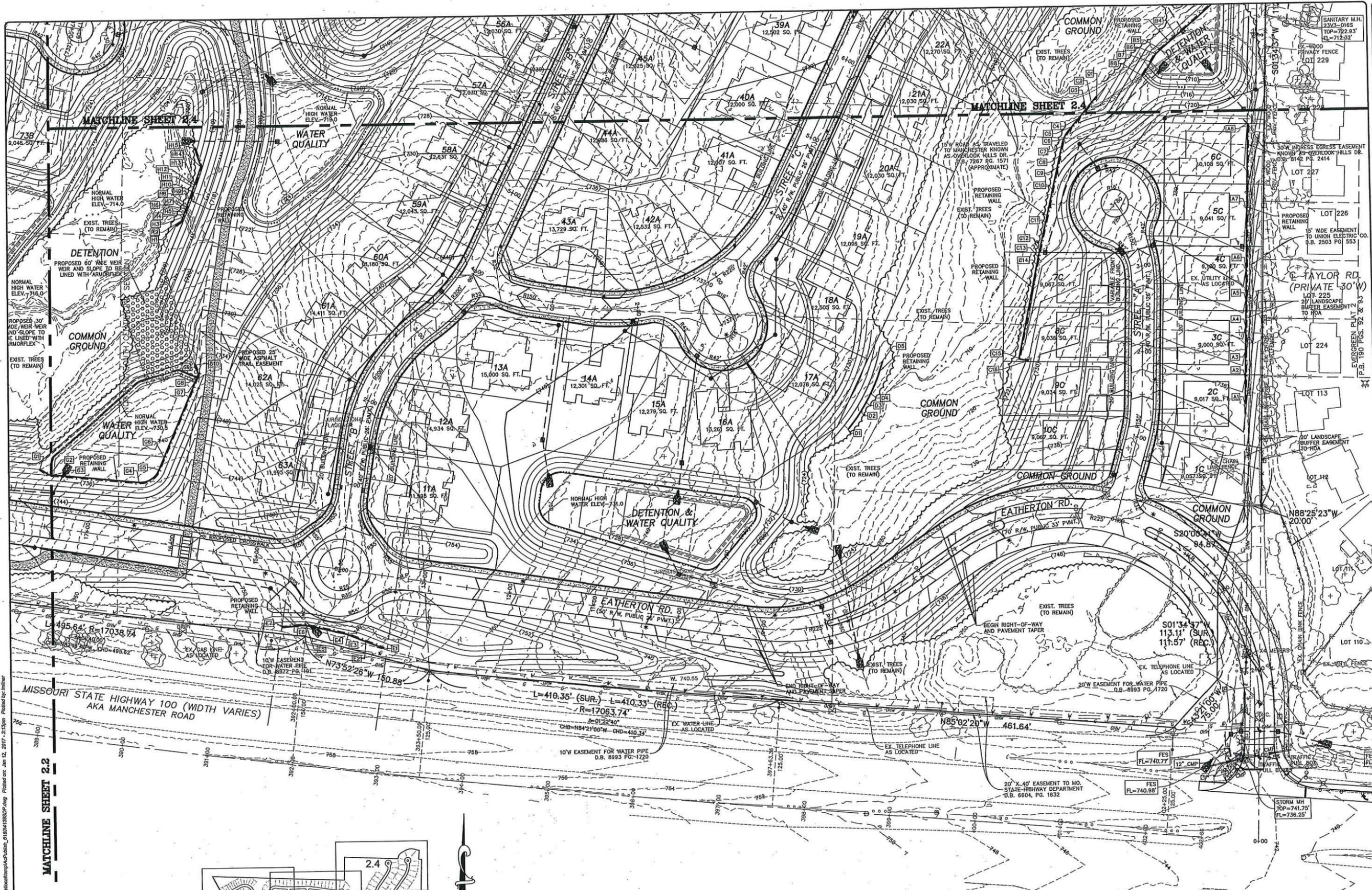
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St. Louis, Missouri 63129
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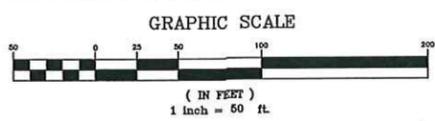
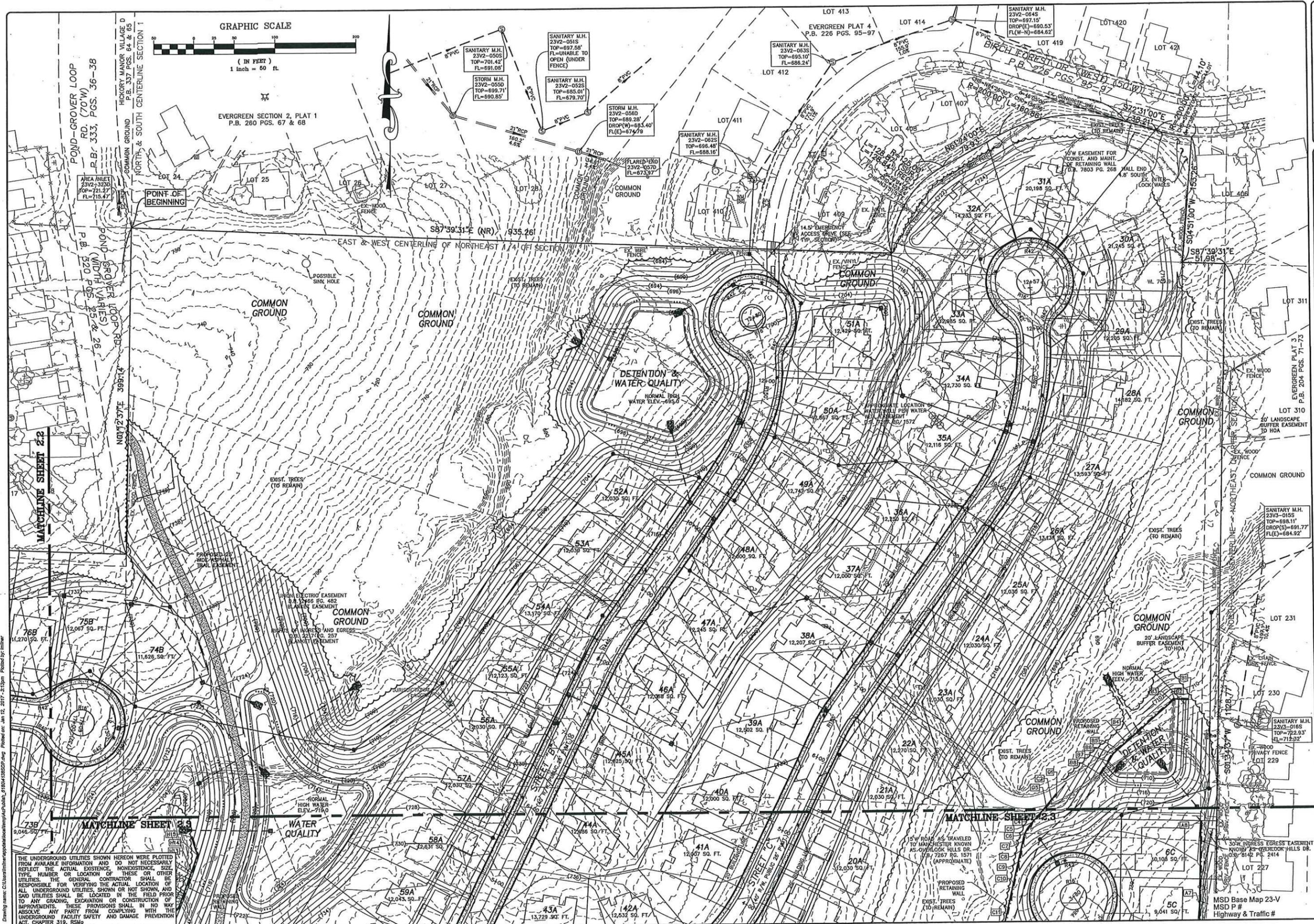
The Villages at Bright Leaf
Villwood, Missouri
SITE DEVELOPMENT PLAN
GRADING PLAN



Date: 1/12/2017
MICHAEL G. BOERDING
License No. E-26643
Civil Engineer

Job Number
14-04-138
Date
Jan. 12, 2017
Designed: ML Sheet
Drawn: SL 2.2
Checked: SL SDP





EVERGREEN SECTION 2, PLAT 1
P.B. 260 PGS. 67 & 68

LOT 413
EVERGREEN PLAT 4
P.B. 226 PGS. 95-97

SANITARY M.H.
23V2-0645
TOP=697.15'
DROP(E)=690.53'
FL(W-N)=684.62'

SANITARY M.H.
23V2-0505
TOP=701.42'
FL=691.05'

SANITARY M.H.
23V2-0515
TOP=697.58'
FL=UNABLE TO
OPEN (UNDER
FENCE)

STORM M.H.
23V2-0580
TOP=689.28'
DROP(W)=683.40'
FL(E)=674.79'

SANITARY M.H.
23V2-0635
TOP=695.10'
FL=686.24'

SANITARY M.H.
23V2-0625
TOP=686.48'
FL=688.16'

SANITARY M.H.
23V3-0155
TOP=685.11'
DROP(S)=691.77'
FL(E)=684.92'

SANITARY M.H.
23V3-0165
TOP=722.93'
FL=712.32'

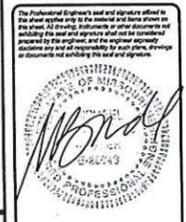
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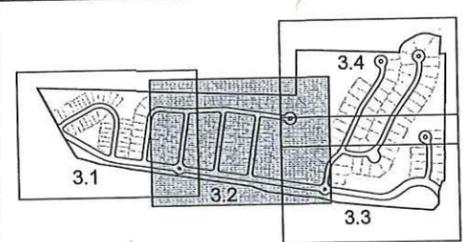
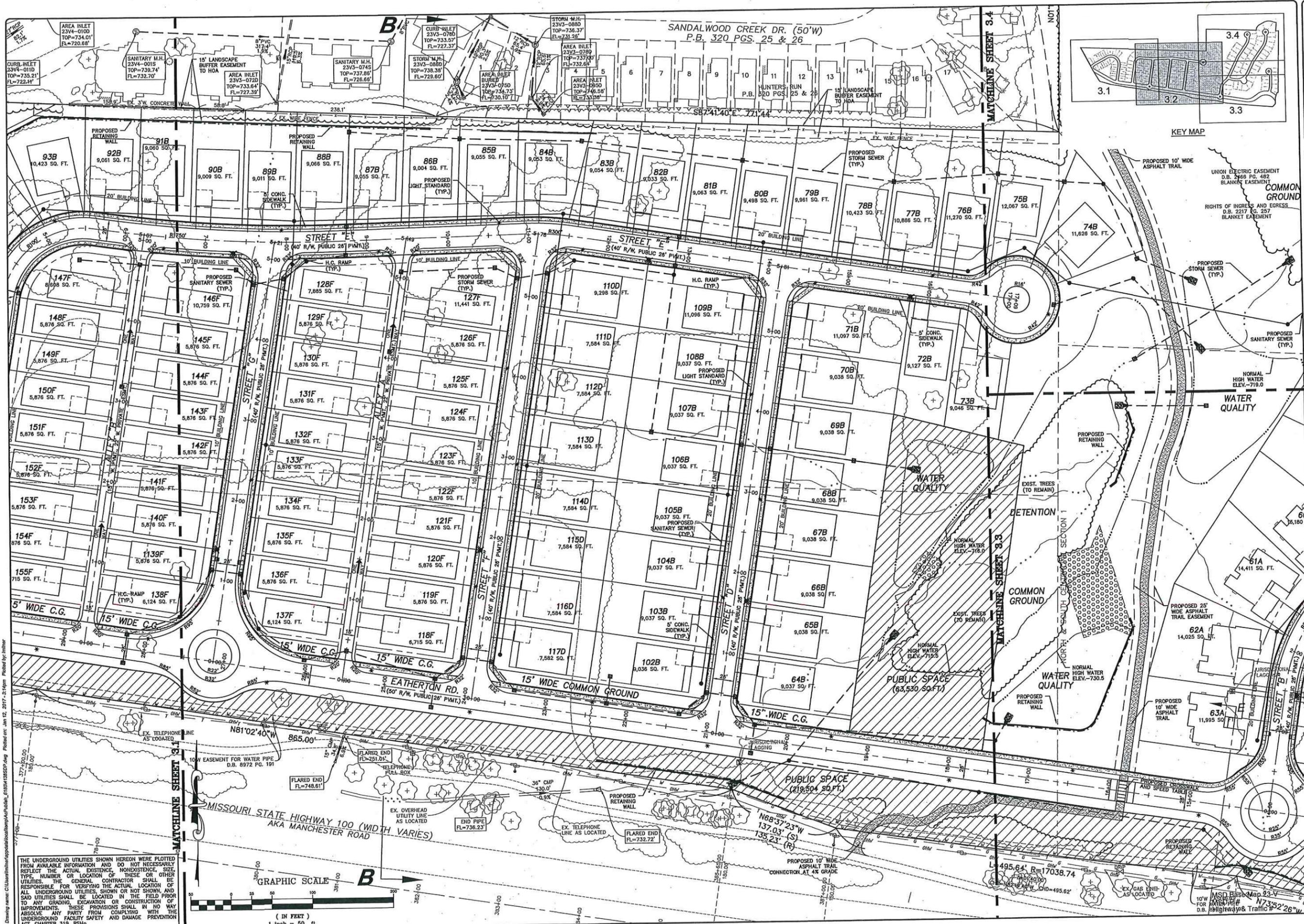
The Villages at Bright Leaf
Village, Missouri
SITE DEVELOPMENT PLAN
GRADING PLAN



Date: 1/12/2017
MICHAEL G. BOERDING
License No. E-28643
Civil Engineer

Job Number
14-04-138
Date
Jan. 12, 2017
Designed: MF Sheet
Drawn: SL
Checked: SL SDP

MSD Base Map 23-V
MSD P #
Highway & Traffic #



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 Ph. 314-487-9944
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The Villages at Bright Leaf
 Wildwood, Missouri
 SITE DEVELOPMENT PLAN
 SITE PLAN

The Professional Engineer's seal and signature shall be on the sheet and shall be in the presence of the client. All drawings, specifications or other documents prepared by the engineer and the engineer's assistants shall be the property of the engineer and shall not be used for any other project without the written consent of the engineer.

Date: 1/12/2017
 MICHAEL G. BOERDING
 License No. E-28643
 Civil Engineer

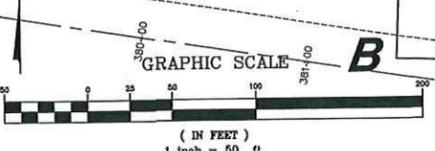
Job Number
14-04-138

Date
Jan. 12, 2017

Designed: MF
 Drawn: SL
 Checked: SL

Sheet
3.2
 SDP

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MISSOURI STATE HIGHWAY 100 (WIDTH VARIES)
 AKA MANCHESTER ROAD

10' W EASEMENT FOR WATER PIPE
 D.B. 6972 PG. 191

FLARED END
 FL=751.61'

TELEPHONE PULL BOX

EX. OVERHEAD UTILITY LINE AS LOCATED

EX. TELEPHONE LINE AS LOCATED

FLARED END
 FL=736.23'

END PIPE
 FL=736.23'

FLARED END
 FL=732.72'

PROPOSED 10' WIDE ASPHALT TRAIL CONNECTION AT 4% GRADE

PROPOSED CROSSWALK AND SPEED TABLE

PROPOSED RETAINING WALL

PROPOSED 10' WIDE ASPHALT TRAIL

PROPOSED 25' WIDE ASPHALT TRAIL EASEMENT

PROPOSED 10' WIDE ASPHALT TRAIL

PROPOSED 63A 11,995 SQ. FT.

PROPOSED 62A 14,025 SQ. FT.

PROPOSED 61A 14,411 SQ. FT.

PROPOSED 60A 18,180 SQ. FT.

PROPOSED 59A 18,180 SQ. FT.

PROPOSED 58A 18,180 SQ. FT.

PROPOSED 57A 18,180 SQ. FT.

PROPOSED 56A 18,180 SQ. FT.

PROPOSED 55A 18,180 SQ. FT.

PROPOSED 54A 18,180 SQ. FT.

PROPOSED 53A 18,180 SQ. FT.

PROPOSED 52A 18,180 SQ. FT.

PROPOSED 51A 18,180 SQ. FT.

PROPOSED 50A 18,180 SQ. FT.

PROPOSED 49A 18,180 SQ. FT.

PROPOSED 48A 18,180 SQ. FT.

PROPOSED 47A 18,180 SQ. FT.

PROPOSED 46A 18,180 SQ. FT.

PROPOSED 45A 18,180 SQ. FT.

PROPOSED 44A 18,180 SQ. FT.

PROPOSED 43A 18,180 SQ. FT.

PROPOSED 42A 18,180 SQ. FT.

PROPOSED 41A 18,180 SQ. FT.

PROPOSED 40A 18,180 SQ. FT.

PROPOSED 39A 18,180 SQ. FT.

PROPOSED 38A 18,180 SQ. FT.

PROPOSED 37A 18,180 SQ. FT.

PROPOSED 36A 18,180 SQ. FT.

PROPOSED 35A 18,180 SQ. FT.

PROPOSED 34A 18,180 SQ. FT.

PROPOSED 33A 18,180 SQ. FT.

PROPOSED 32A 18,180 SQ. FT.

PROPOSED 31A 18,180 SQ. FT.

PROPOSED 30A 18,180 SQ. FT.

PROPOSED 29A 18,180 SQ. FT.

PROPOSED 28A 18,180 SQ. FT.

PROPOSED 27A 18,180 SQ. FT.

PROPOSED 26A 18,180 SQ. FT.

PROPOSED 25A 18,180 SQ. FT.

PROPOSED 24A 18,180 SQ. FT.

PROPOSED 23A 18,180 SQ. FT.

PROPOSED 22A 18,180 SQ. FT.

PROPOSED 21A 18,180 SQ. FT.

PROPOSED 20A 18,180 SQ. FT.

PROPOSED 19A 18,180 SQ. FT.

PROPOSED 18A 18,180 SQ. FT.

PROPOSED 17A 18,180 SQ. FT.

PROPOSED 16A 18,180 SQ. FT.

PROPOSED 15A 18,180 SQ. FT.

PROPOSED 14A 18,180 SQ. FT.

PROPOSED 13A 18,180 SQ. FT.

PROPOSED 12A 18,180 SQ. FT.

PROPOSED 11A 18,180 SQ. FT.

PROPOSED 10A 18,180 SQ. FT.

PROPOSED 9A 18,180 SQ. FT.

PROPOSED 8A 18,180 SQ. FT.

PROPOSED 7A 18,180 SQ. FT.

PROPOSED 6A 18,180 SQ. FT.

PROPOSED 5A 18,180 SQ. FT.

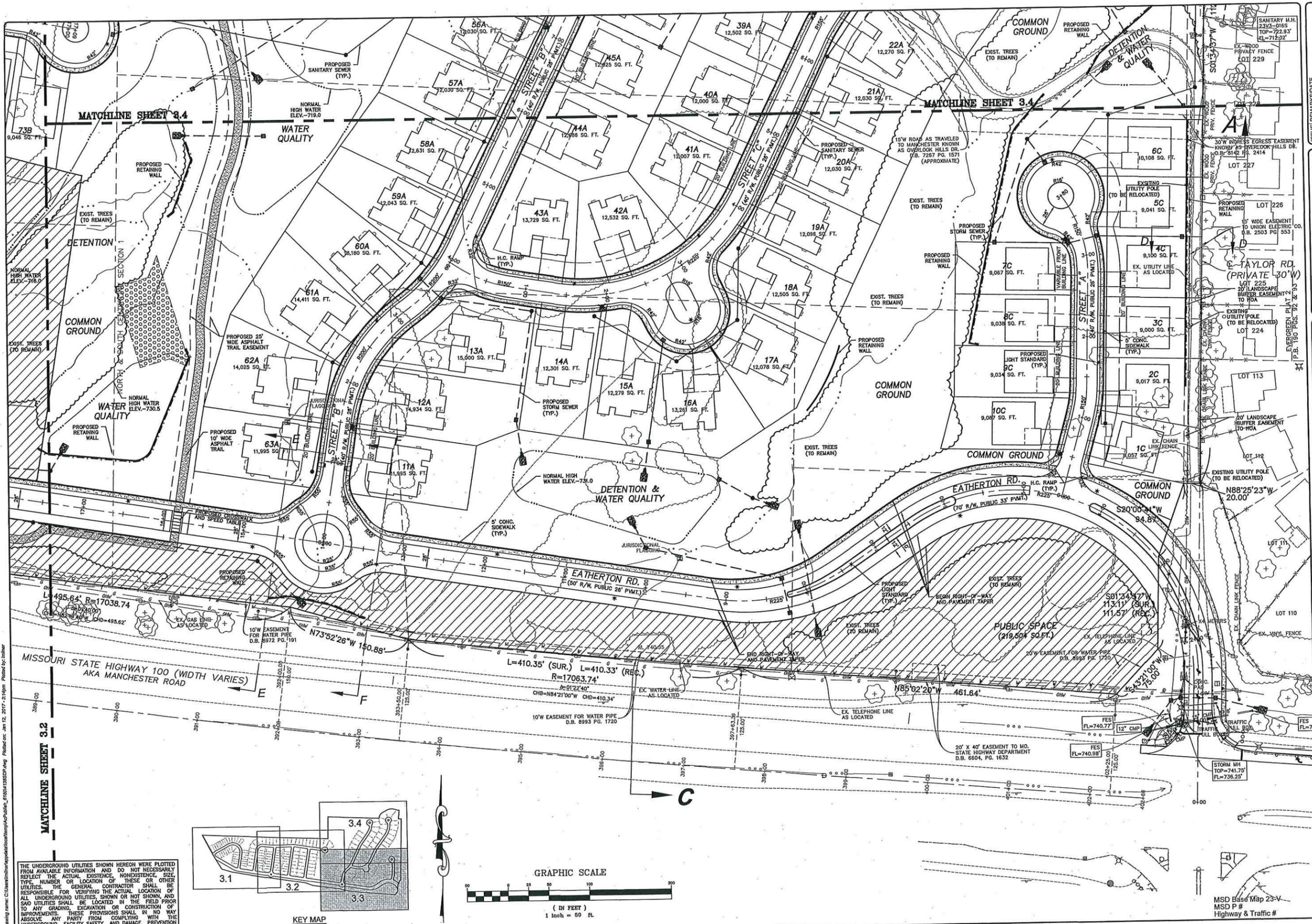
PROPOSED 4A 18,180 SQ. FT.

PROPOSED 3A 18,180 SQ. FT.

PROPOSED 2A 18,180 SQ. FT.

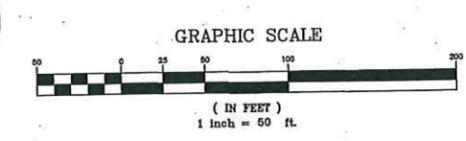
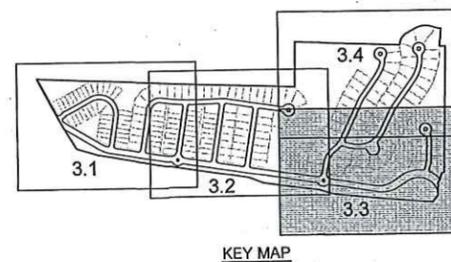
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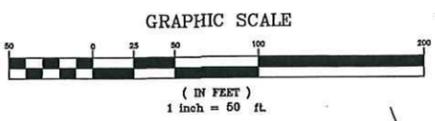
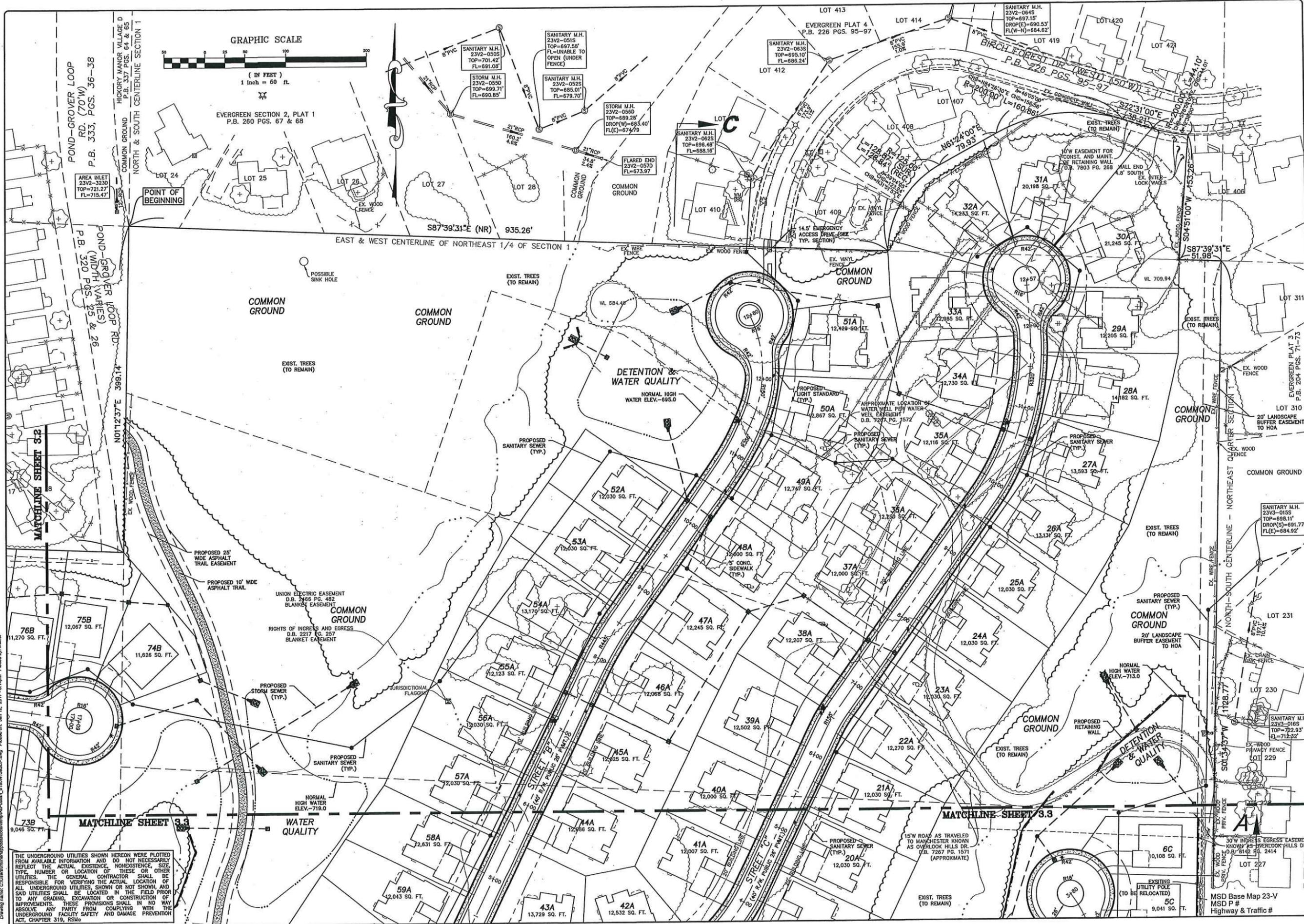
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 Corporate Certificate of Authority #001348

The Villages at Bright Leaf
 Weldon, Missouri
 SITE DEVELOPMENT PLAN
 SITE PLAN



Date: 1/12/2017
 MICHAEL G. BOERDING
 License No. E-28643
 Civil Engineer
 Job Number
14-04-138
 Date
Jan. 12, 2017
 Designed: MF Sheet
 Drawn: SL **3.3**
 Checked: SL SDP

MSD Base Map 23-V
 MSD P #
 Highway & Traffic #



POINT OF BEGINNING

MATCHLINE SHEET 3.2

MATCHLINE SHEET 3.3

MATCHLINE SHEET 3.3

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 www.sterling-eng-survey.com
 Corporate Certificate of Authority #001348

The Villages at Bright Leaf
 WILMOT, MISSOURI
 SITE DEVELOPMENT PLAN
 SITE PLAN

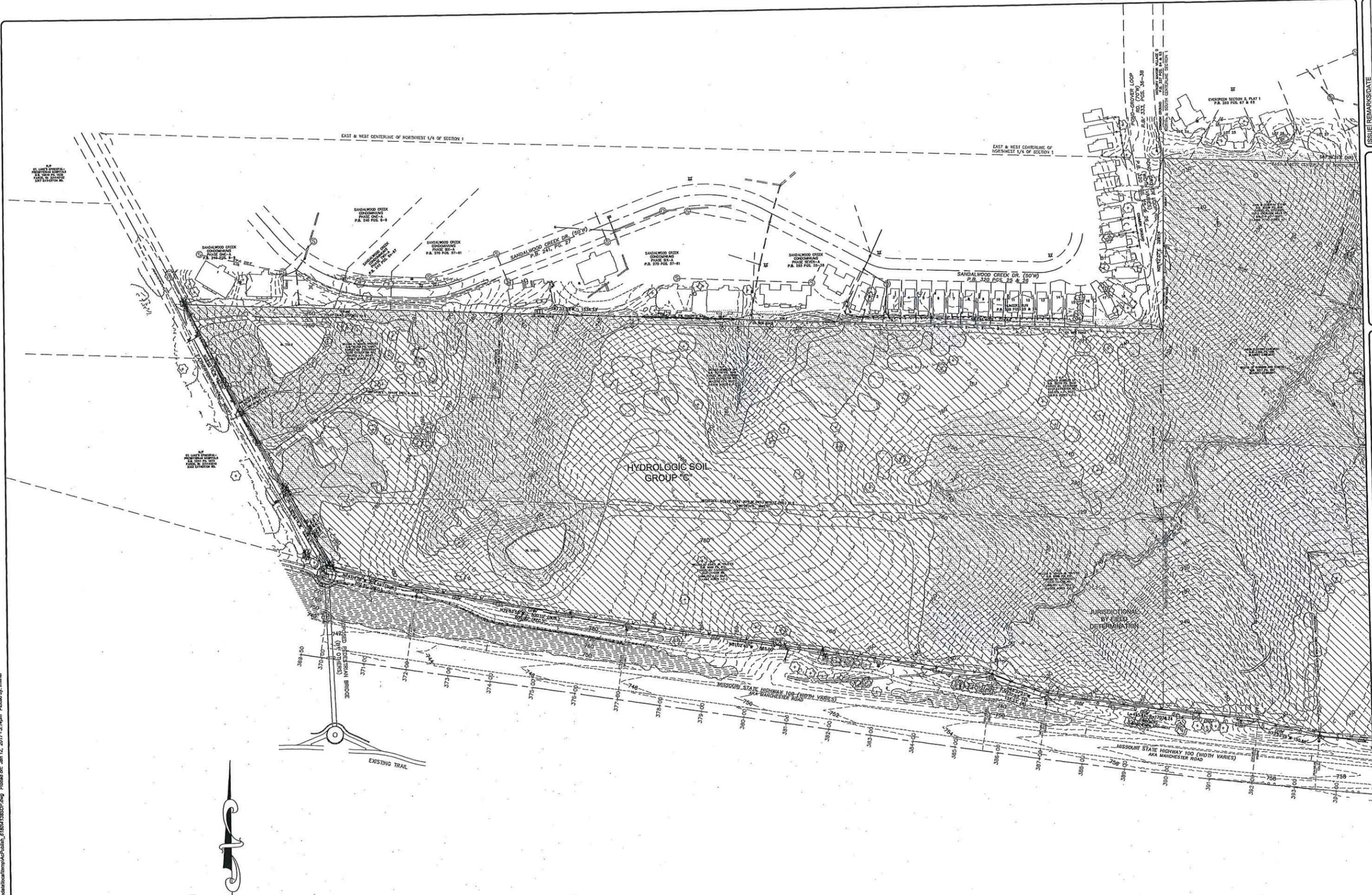


Date: 1/12/2017
 MICHAEL G. BOERDING
 License No. E-28843
 Civil Engineer

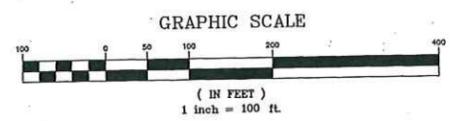
Job Number: 14-04-138
 Date: Jan. 12, 2017
 Designed: MF Sheet
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 Checked: SL SDP

MSD Base Map 23-V
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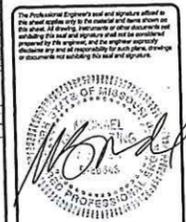


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The Villages at Bright Leaf
 Wildwood, Missouri
 SITE DEVELOPMENT PLAN
 NATURAL RESOURCES MAP



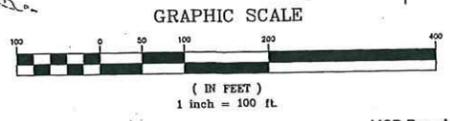
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 MICHAEL G. BOERDING
 License No. E-28643
 Civil Engineer

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 MSD P #
 Highway & Traffic #



THE UNDERGROUND UTILITIES SHOWN HEREON WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SAID UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMo



ISSUE	REMARKS/DATE
1	3-22-2016, INITIAL SUBMITTAL
2	6-4-2016 REVISED PER CITY COMMENTS
3	8-14-2016 DEVELOPER REVISIONS
4	9-16-2016 REVISED PER CITY COMMENTS
5	11-14-2016 REVISED PER CITY COMMENTS
6	1-12-2017 REVISED PER CITY COMMENTS
7	

Fischer & Frichtel Custom Homes, LLC
and Consort Homes, LLC
16640 CHESTERFIELD GROVE ROAD, SUITE 130
CHESTERFIELD, MISSOURI 63005
Ph. 636-770-7300

THE **STERLING** CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63128
www.sterling-eng.com
Ph. 314-487-0440 Fax 314-487-8944
Corporate Certificate of Authority #001348

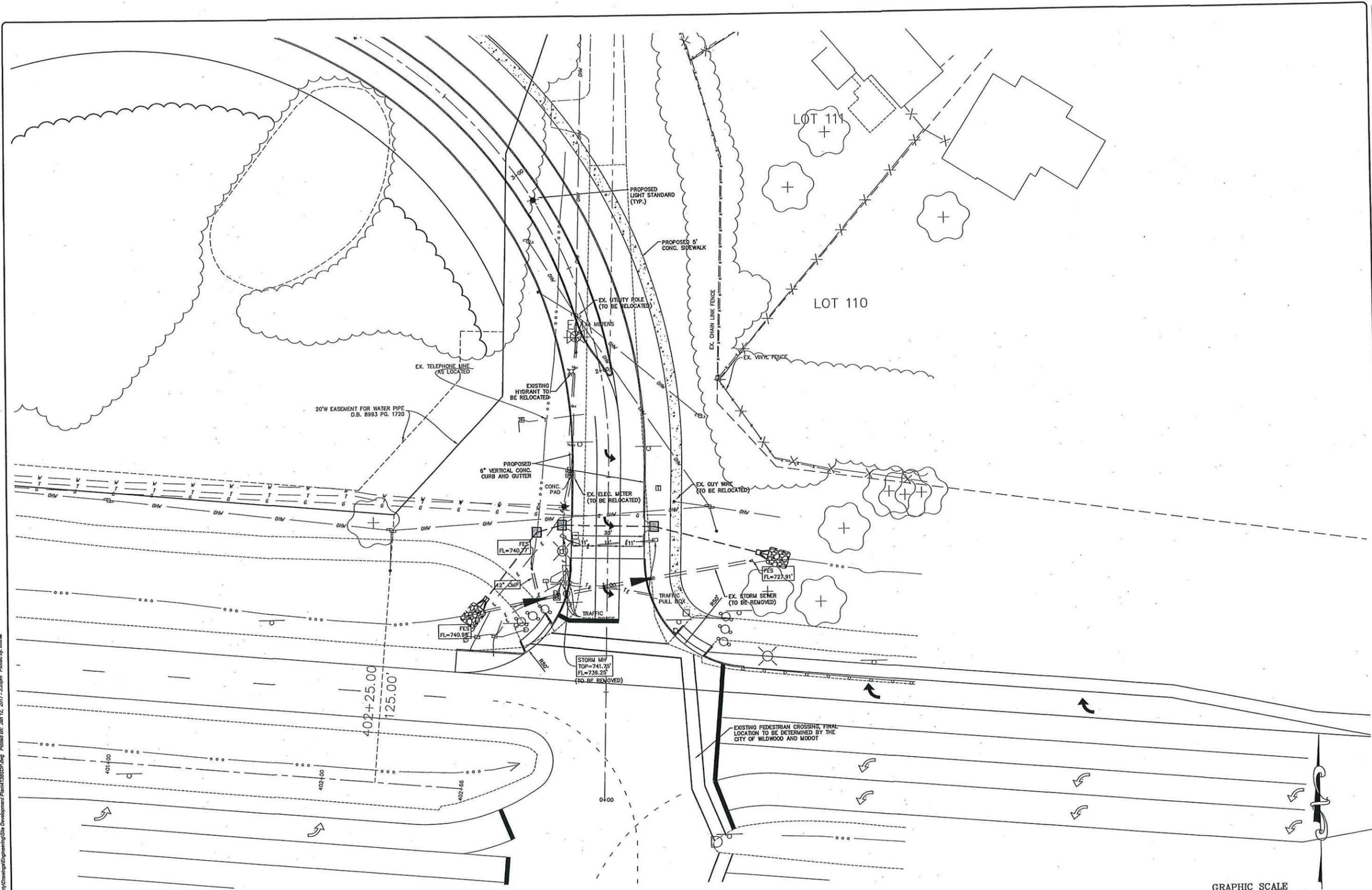
The Villages at Bright Leaf
Wilwood, Missouri
SITE DEVELOPMENT PLAN
NATURAL RESOURCES MAP

Date: 1/12/2017
MICHAEL G. BOERDING
License No. E-28643
Civil Engineer

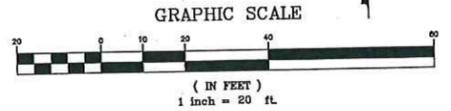
Job Number
14-04-138
Date
Jan. 12, 2017
Designed: MF Sheet
Drawn: SL **4.2**
Checked: SL **SDP**

MSD Base Map 23-V
MSD P #
Highway & Traffic #

Drawing name: V:\1404138 Jones Property\Drawings\Engineering\Site Development\Plan\1404138SDP.dwg Plotted on: Jan 12, 2017 - 3:39pm Plotted by: jmlmaw



THE UNDERGROUND UTILITIES SHOWN HEREON WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SAID UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT CHAPTER 119, RSMo.



ISSUE	REMARKS/DATE
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3	5-14-2016 DEVELOPER REVISIONS
4	5-19-2016 DEVELOPER REVISIONS
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6	11-14-2016 REVISED PER CITY COMMENTS
7	1-12-2017 REVISED PER CITY COMMENTS

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 St. Louis, Missouri 63129
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 www.sterling-eng-survey.com
 Corporate Certificate of Authority #001348

The Villages at Bright Leaf
 Wildwood, Missouri
 SITE DEVELOPMENT PLAN
 ENTRANCE DETAIL

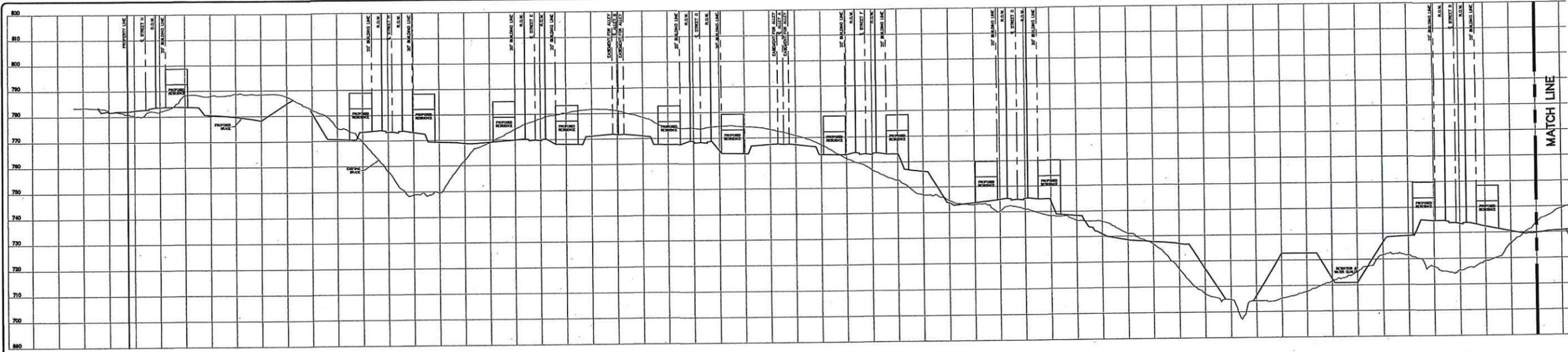
The Professional Engineer's seal and signature shall be the actual signature only in the manner that the seal is placed. All drawings, reports or other documents not prepared by the engineer, and the engineer's responsibility shall not be assumed by the seal and signature.

 Date: 1/12/2017
 MICHAEL G. BOERDING
 License No. E-26843
 Civil Engineer

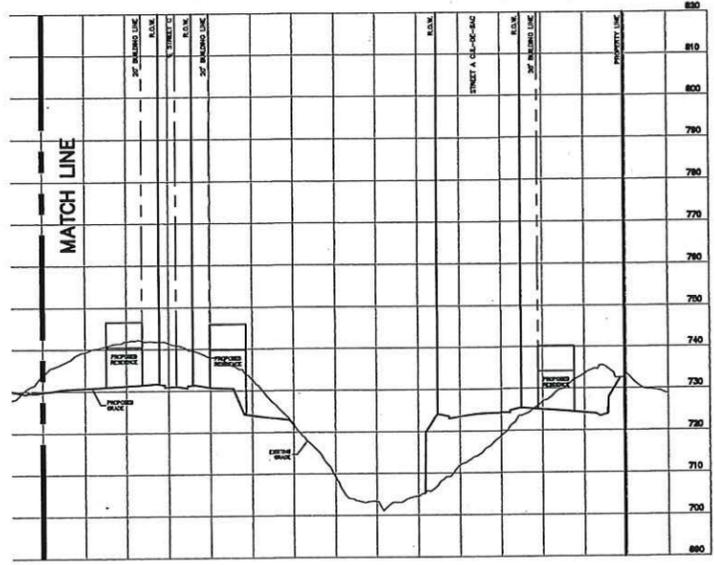
Job Number
14-04-138
 Date
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 Designed: MF Sheet
 Drawn: SL **5.1**
 Checked: SL SDP

MSD Base Map 23-V
 MSD P #
 Highway & Traffic #

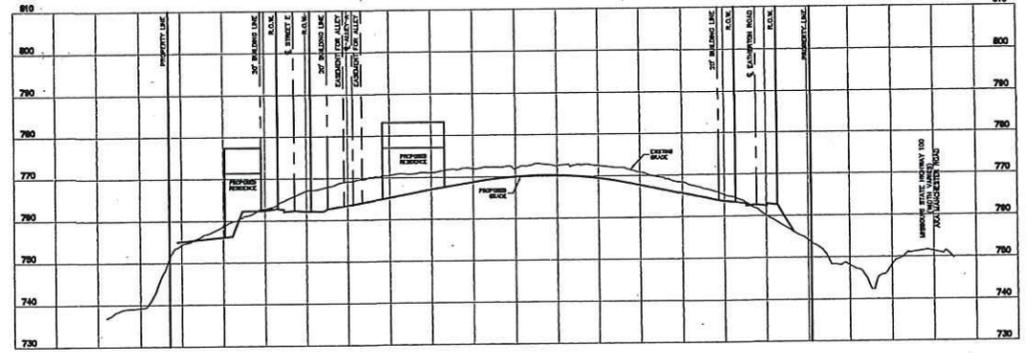
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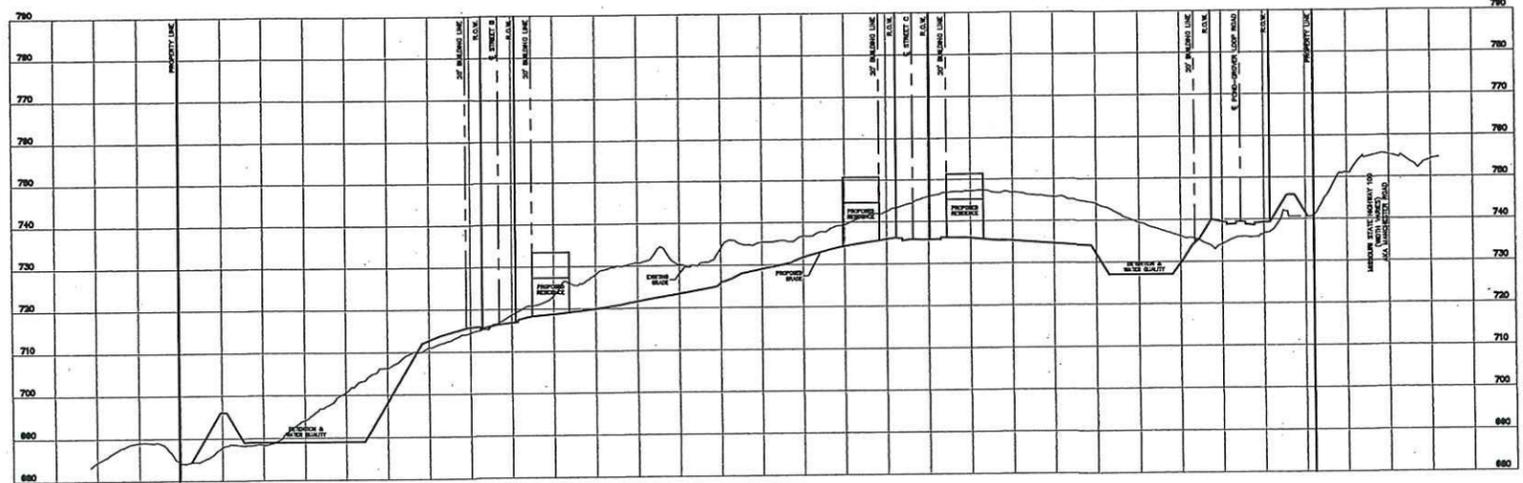
SECTION A-A



SECTION A-A CONTINUED



SECTION B-B



ID Point	Top Wall Elevation	Bottom Wall Elevation	Wall Height (ft)	Average Wall Height (ft)	Length (ft)	Area (sff)
B1	714.0	714.0	0.0	2.8	17	48
B2	714.0	708.4	5.6	6.1	3.4	21
B3	714.0	707.5	6.5	6.5	65.6	426
B4	714.0	707.5	6.5	6.5	24	156
B5	714.0	707.5	6.5	6.4	7.9	51
B6	714.0	707.7	6.3	6.1	10.9	67
B7	714.0	708.0	6.0	3.0	18.7	56
B8	714.0	714.0	0.0			
TOTALS					148	825

ID Point	Top Wall Elevation	Bottom Wall Elevation	Wall Height (ft)	Average Wall Height (ft)	Length (ft)	Area (sff)
A1	739.8	739.8	0.0	0.4	29	12
A2	738.8	738.0	0.8	1.3	31	40
A3	737.8	736.0	1.8	2.3	31	71
A4	736.8	734.0	2.8	3.8	31	116
A5	736.7	732.0	4.7	4.5	33	147
A6	734.2	730.0	4.2	3.2	73	230
A7	730.1	728.0	2.1	1.1	99	104
A8	726.0	726.0	0.0			
TOTALS					327	720

ID Point	Top Wall Elevation	Bottom Wall Elevation	Wall Height (ft)	Average Wall Height (ft)	Length (ft)	Area (sff)
C1	704.0	703.2	0.8	1.9	9.9	19
C2	706.0	703.0	3.0	4.1	10.2	42
C3	708.0	702.8	5.2	6.0	11.5	68
C4	710.0	703.3	6.7	7.9	12.8	100
C5	712.0	703.0	9.0	9.5	8.8	84
C6	714.0	704.0	10.0	10.6	9.2	98
C7	716.0	704.8	11.2	12.1	11.5	139
C8	718.0	705.0	13.0	13.5	14	189
C9	720.0	706.0	14.0	12.4	28	347
C10	721.9	707.2	14.7	8.9	38.5	345
C11	720.0	711.0	9.0	6.1	33.9	207
C12	720.0	711.7	8.3	4.1	7.5	31
C13	722.0	712.3	9.7	4.9	9.6	47
C14	724.0	713.2	10.8	7.0	110.3	772
C15	725.3	722.1	3.2	1.6	10.9	17
C16	726.0	726.0	0.0			
TOTALS					327	2505

ID Point	Top Wall Elevation	Bottom Wall Elevation	Wall Height (ft)	Average Wall Height (ft)	Length (ft)	Area (sff)
D1	718.0	718.0	0.0	1.0	25.9	26
D2	718.0	716.0	2.0	2.0	12.2	24
D3	718.0	715.3	2.7	1.4	11.4	15
D4	718.0	716.0	2.0	1.0	39.5	40
D5	718.0	718.0	0.0			
TOTALS					89	105

ID Point	Top Wall Elevation	Bottom Wall Elevation	Wall Height (ft)	Average Wall Height (ft)	Length (ft)	Area (sff)
E1	744.0	744.0	0.0	1.0	22.3	22
E2	744.0	742.0	2.0	3.6	22	80
E3	744.0	738.7	5.3	4.6	26.3	122
E4	744.0	740.0	4.0	3.0	24.4	73
E5	744.0	740.0	4.0	3.0	14	42
E6	744.0	744.0	0.0	1.0	14.7	15
TOTALS					124	355

ID Point	Top Wall Elevation	Bottom Wall Elevation	Wall Height (ft)	Average Wall Height (ft)	Length (ft)	Area (sff)
F1	725.0	725.0	0.0	1.5	18.7	28
F2	726.0	723.0	3.0	4.7	30.5	143
F3	728.0	721.6	6.4	7.2	16	115
F4	729.2	721.2	8.0	6.7	50.4	338
F5	730.0	724.6	5.4	4.2	54.2	228
F6	732.0	729.0	3.0	2.0	36.3	73
F7	734.0	733.0	1.0	0.6	30.9	17
F8	736.1	736.0	0.1			
TOTALS					237	942

ID Point	Top Wall Elevation	Bottom Wall Elevation	Wall Height (ft)	Average Wall Height (ft)	Length (ft)	Area (sff)
G1	732.0	732.0	0.0	1.8	13	23
G2	734.0	730.5	3.5	4.3	4.5	19
G3	734.0	729.0	5.0	5.0	100.4	502
G4	734.0	729.0	5.0	5.0	30	150
G5	734.0	729.0	5.0	5.5	16.3	90
G6	734.0	728.0	6.0	6.0	93.9	563
G7	734.0	728.0	6.0	4.8	7.5	36
G8	734.0	730.5	3.5	3.3	3.3	11
G9	734.0	731.0	3.0	1.5	11	17
G10	732.0	732.0	0.0			
TOTALS					280	1410

ID Point	Top Wall Elevation	Bottom Wall Elevation	Wall Height (ft)	Average Wall Height (ft)	Length (ft)	Area (sff)
H1	708.0	707.5	0.5	1.3	8.1	11
H2	709.5	707.4	2.1	2.8	4.4	12
H3	709.5	706.0	3.5	4.5	3.7	17
H4	709.5	704.0	5.5	6.5	2.8	18
H5	709.5	702.0	7.5	7.5	4.3	32
H6	709.5	702.0	7.5	6.5	2	13
H7	709.5	704.0	5.5	4.5	3	14
H8	709.5	706.0	3.5	3.5	7	25
H9	709.5	706.0	3.5	4.5	9.7	44
H10	709.5	704.0	5.5	4.9	5.3	26
H11	709.5	702.0	7.5	3.9	2.7	11
H12	709.5	702.0	7.5	3.9	1.8	7
H13	709.5	704.0	5.5	2.9	20.7	60
H14	709.5	705.2	4.3	2.3	22.9	53
H15	705.0	704.7	0.3			
TOTALS					98	341

ID Point	Top Wall Elevation	Bottom Wall Elevation	Wall Height (ft)	Average Wall Height (ft)	Length (ft)	Area (sff)
J1	737.0	737.0	0.0	0.5	10.8	5
J2	737.0	736.0	1.0	3.0	18.9	57
J3	737.0	734.0	3.0	4.0	11.7	47
J4	737.0	732.0	5.0	6.0	11.1	67
J5	737.0	730.0	7.0	8.0	4.9	39
J6	737.0	728.0	9.0	9.0	6.8	61
J7	737.0	728.0	9.0	8.0	24.6	197
J8	737.0	730.0	7.0	6.0	12	72
J9	737.0	732.0	5.0	3.0	15.1	45
J10	737.0	734.0	3.0	1.5	12.6	19
J11	737.0	736.0	1.0	0.5	3	2
J12	737.0	737.0	0.0			
TOTALS					90	502

ID Point	Top Wall Elevation	Bottom Wall Elevation	Wall Height (ft)	Average Wall Height (ft)	Length (ft)	Area (sff)
K1	762.0	762.0	0.0	1.1	12.3	14
K2	762.3	760.0	2.3	8.0	61.8	494
K3	763.7	750.0	13.7	14.9	55	817
K4	765.0	749.0	16.0	13.3	50	663
K5	764.0	753.5	10.5	9.3	50	463
K6	763.0	755.0	8.0	7.6	50	382
K7	762.0	754.7	7.3	7.5	47.8	361
K8	761.0	753.2	7.8	11.4	47.8	545
K9	760.0	745.0	15.0	19.7	47.4	934
K10	759.0	734.6	24.4	13.8	47.4	652
K11	758.0	740.7	17.3	8.6	48	415
K12	757.0	746.8	10.2	5.1	48	245
K13	756.0	752.9	3.1	1.6	46.6	72
K14	755.0	755.0	0.0			
TOTALS					612	6056

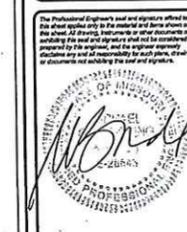
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L1	754.0	754.0	0.0	1.1	24.1	28
L2	754.3	752.0	2.3	2.9	13.9	40
L3	754.5	751.0	3.5	3.8	38.3	144
L4	755.0	751.0	4.0	3.8	43	161
L5	754.5	751.0	3.5	1.8	21.9	38
L6	754.0	754.0	0.0			
TOTALS					141	411

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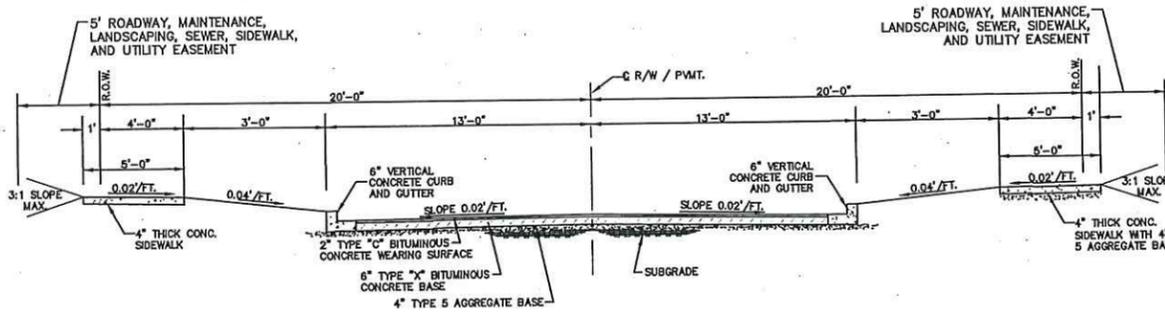
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The Villages at Bright Leaf
 Wildwood, Missouri
 SITE DEVELOPMENT PLAN
 WALL SCHEDULE

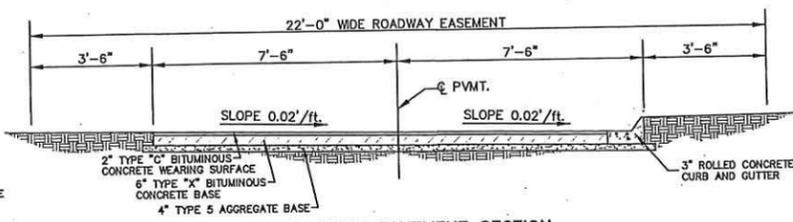


Date: 1/12/2017
 MICHAEL G. BOERDING
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 Civil Engineer

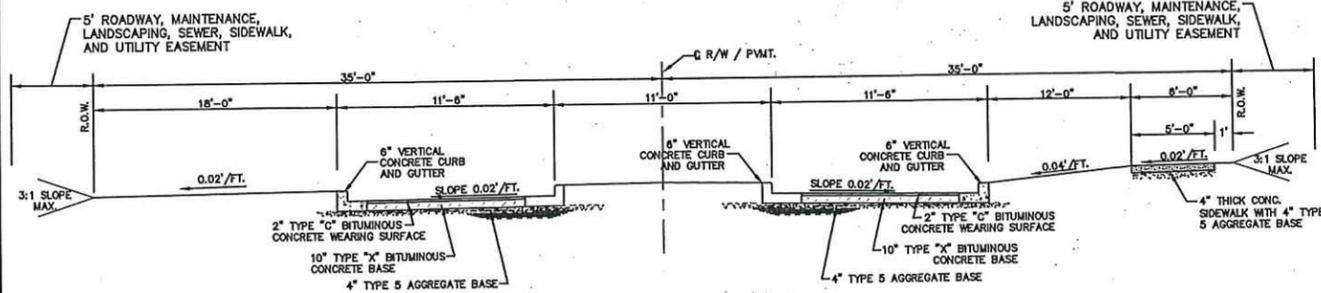
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14-04-138
 Date
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 Checked: SL SDP



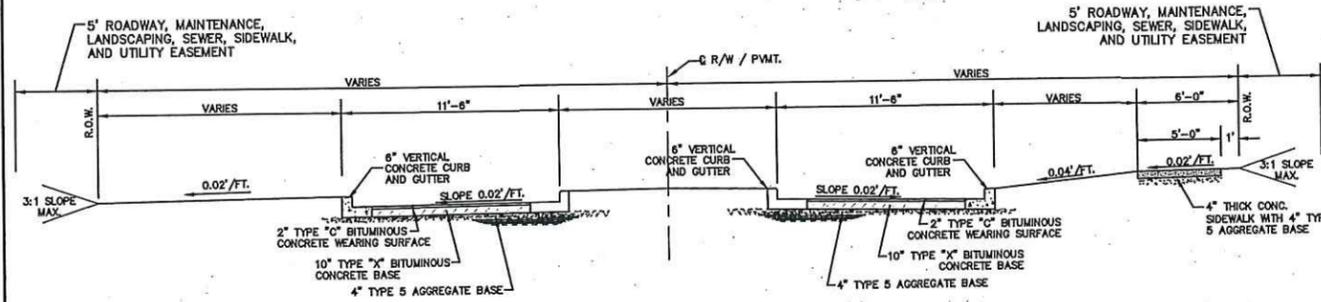
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(26' PAVEMENT / 40' R.O.W.)
N.T.S.



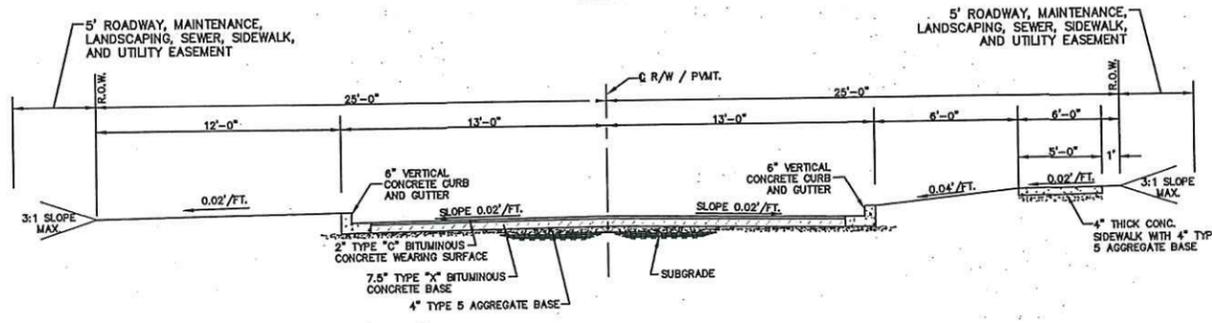
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(15' PAVEMENT / 22' ROADWAY EASEMENT)



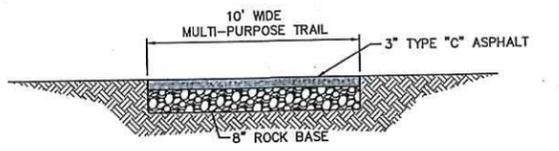
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(70' R.O.W.)
N.T.S.



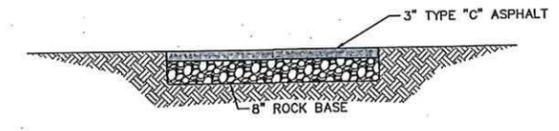
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STA. 7+48.75 TO STA. 9+16.42
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(VARIABLE R.O.W.)
N.T.S.



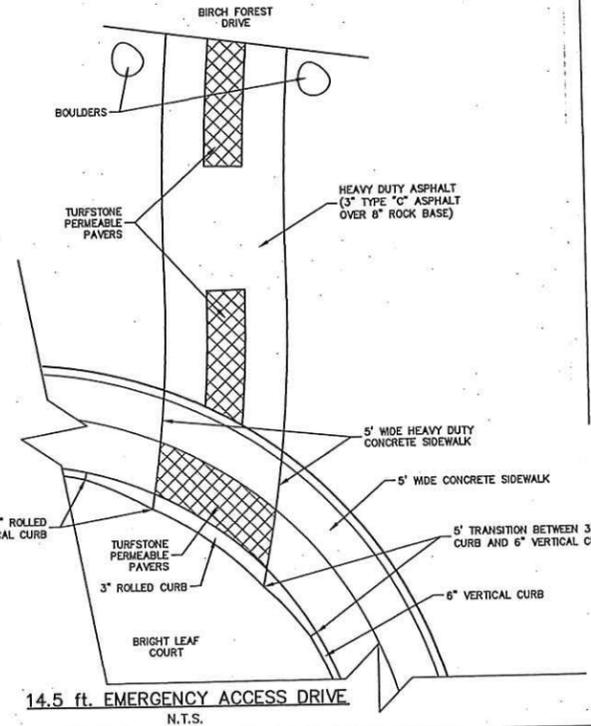
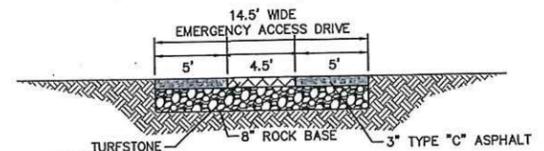
"EATHERTON ROAD"
STA. 9+16.42 TO STA. 42+85.00
TYPICAL PVMT. SECTION
(26' PAVEMENT / 50' R.O.W.)
N.T.S.



MULTI-PURPOSE TRAIL
N.T.S.



ASPHALT PARKING DETAIL
N.T.S.



14.5 ft. EMERGENCY ACCESS DRIVE
N.T.S.

Approval Drawing
Light Std: F144-L-P440-2-MOD-4PA-12

Diffuser Type: Clear
Diffuser Material: Acrylic U.V. stabilized.
Optical System: Segmented reflector type III.
Luminaire Housing: The whole luminaire is made of cast aluminum. Top is fully ribbed for easy access to lamp and ballast.
Ballast: MH High power factor mounted on removable plate. A quick disconnect wiring system allows for fast easy ballast maintenance.
Voltage - 100V (60Hz)
Voltage - 120V
Socket - Medium (E17)

Option: Decorative Chimney
Pole: Extruded 4\"/>

Lighting & Pole Supplier
Brian Brader
Simply Bright Ideas, Inc.
office: (314) 718-1888
bdr@simplybrightideas.com

Date: SEP-2015 Drawing No: 15220-V7
Model: F144-L-P440-2-MOD-4PA-12
Project: Wildwood Residential, MO
Please Note: Fabricator will not begin work until drawing is approved, signed and returned to HCI.

HCI
1225 Frederic Drive, Mississauga, Ontario, Canada L6H 6H4
www.hci-lighting.com

LIGHT DETAIL TO BE USED ON LIGHTS SHOWN ON POND-GROVER LOOP ROAD ONLY. ALL OTHER LIGHTS SHOWN WILL BE DECORATIVE STREET LIGHTS FROM LIST PROVIDED BY AMEREN UE.

Approval Drawing
Pole Std: P430-2-4PA-11

Street Sign: The street sign frame shall be a one-piece aluminum casting with a solid backing and a 1\"/>

Traffic Sign: The traffic sign frame shall be a one-piece aluminum casting with a solid backing and a 1\"/>

Pole: Extruded aluminum, thickness 0.125\"/>

Base Cover: Two-piece cast aluminum attached to shaft by 4 8.8. set screws.
Anchor bolts: 4 galvanized 1/2\"/>

Fields: Electrostatically applied thermoset polyester powder coat finish.
Color: RAL 9011 (Blue)

Lighting & Pole Supplier
Brian Brader
Simply Bright Ideas, Inc.
office: (314) 718-1888
bdr@simplybrightideas.com

Date: DEC-09-2013 Drawing No: 13705-V1
Model: P430-2-4PA-11-RAL9011-STREETSIGN
Project: WILDWOOD STREET
Please Note: Fabricator will not begin work until drawing is approved, signed and returned to HCI.

HCI
1225 Frederic Drive, Mississauga, Ontario, Canada L6H 6H4
www.hci-lighting.com

MSD Base Map 23-V
MSD P #
Highway & Traffic #

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Corporate Certificate of Authority #001348

The Villages at Bright Leaf
Wildwood, Missouri
SITE DEVELOPMENT PLAN
DETAILS

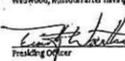
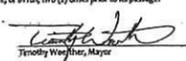
Date: 1/12/2017
MICHAEL G. BOERDING
License No. E-28643
Civil Engineer

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Checked: SL	SDP

Drawing name: C:\Users\miller\AppData\Local\Temp\AS\Pub\Pub_6180412650P.dwg Printed on: Jan 12, 2017 - 3:16pm Plotted by: mibor

- 6. The affect of existing vegetation within the P.A.D. Overlay District boundaries identified as to be retained shall be marked on the site prior to the commencement of any disturbance in accordance with the City of Willowood Ordinance 410. These areas shall be indicated on the Site Development Plan submitted to the City of Willowood for Planning and Zoning Commission review and approval. Existing mature tree canopy shall be preserved in accordance with the requirements of City of Willowood's Ordinance 410 Tree Preservation and Restoration Code.
 - 7. Landscaping with the defined common ground areas shall comply with Ordinance 410 Tree Preservation and Restoration Code requirements and landscaping Tree Manual. The Planning and Zoning Commission, on the Site Development Plan, shall approve the planting pattern, Arrangements, such as benches, lights, and walking paths shall be installed in the open space area of the residential development by the developer of these one hundred thirty-four (134) square feet (sq) of planting area.
 - 8. The developer shall provide a minimum twenty (20) foot wide, landscape buffer strip, within a perpetual easement dedicated to the Homeowners Association for its maintenance and care, along the entire eastern boundary of the site, where existing woodlands are not preserved, for planting, as reviewed and acted upon by the Planning and Zoning Commission.
 - 9. A Landscape Architect shall sign and submit all plans for review and approval for this intended development.
- Signs - Residential**
- 10. Signs for this P.A.D. Overlay District shall be erected in accordance with the Town Center Plan Architectural Guidelines and Section 415.410 Sign Regulations of the City of Willowood Zoning Ordinance for the R-3 Zoning District.
 - 11. The location of all signs shall be as approved on the Site Development Plan by the Planning and Zoning Commission. Signs not located on common ground may be erected within an easement.
- Lighting Requirements**
- 12. The location of all lighting standards shall be as approved on the Site Development Plan. No on-site illumination source shall exceed sixteen (16) feet in height or be so situated that light is cast directly on adjoining properties. Illumination levels for all lighting shall comply with the provisions of the City of Willowood's Zoning Code, Section 415.410 "Outdoor Lighting Requirements." A Lighting Study shall be submitted in conjunction with the Site Development Plan indicating compliance to these requirements. The Planning and Zoning Commission shall approve the location, design, and appearance of all light standards and fixtures as part of the Site Development Plan review process.
- Miscellaneous Conditions**
- 13. The design, color, material, and location of all garden and screen walls or fences, if placed or required, shall be consistent with the requirements of the Town Center Plan's Architectural Guidelines and be shown on the Site Development Plan for review and action by the Planning and Zoning Commission and the Architectural Review Board.

- 22. Improvements associated with public infrastructure, such as roadways, sidewalks, and access points, shall comply with general design principles that will provide for safe and efficient movement of traffic to and around these sites and improve overall circulation in the area. These improvements shall be reviewed and approved by the Department of Public Works.
 - 23. Hours of construction and grading activity shall be limited to 7:00 a.m. to 6:00 p.m. Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday. No development (grading and construction) activity shall be authorized on Sunday.
 - 24. All retaining walls exceeding three (3) feet in height per section or creating individual property lines shall be constructed of an appropriate interlocking concrete block system. Walls enclosing property lines shall be located in a maintenance easement. The design, color, material, and location of all walls shall be consistent with the requirements of the Town Center Plan's Architectural Guidelines and be shown on the Site Development Plan for review and approval by the Planning and Zoning Commission.
 - 25. The location of all utility easements for proposed service to this development shall be as approved by the Planning and Zoning Commission on the Site Development Plan. All utilities located to serve this site shall be placed underground, including any existing overhead lines located on the subject property.
 - 26. No portion of any lot that is to be located within the proposed right-of-way shall be occupied by a pond, stream, or other water feature. The design, color, material, and location of all water features shall be consistent with the requirements of the Town Center Plan's Architectural Guidelines and be shown on the Site Development Plan for review and approval by the Planning and Zoning Commission.
- TRAFFIC GENERATION ASSESSMENT FEE**
- The developer shall contribute to the East Area Traffic Generation Assessment Trust fund established by Section 14.02 of the City of Willowood's Revised Code. This assessment must be paid in full at the time of the first Zoning Authorization for any building or structure or when the individual licenses of building permits for the authorized lots are approved. This contribution shall not exceed the amount established by multiplying the number of proposed parking spaces by the following rate:
- | Type of Development | Required Contribution |
|-----------------------------------|---------------------------|
| Single Family Dwelling (detached) | \$1,000 per Parking Space |
- (Section 14.02 of the City of Willowood Zoning Code defines a parking space.)
- If type of development proposed differs than those listed, rates shall be provided by the Department of Public Works.
- As this development is located within a Trust Fund area established by the City of Willowood, any portion of the traffic generation assessment contribution, which remains, following completion of roadway improvements required by the development shall be retained in the appropriate trust fund.

- Ordinance, except as may be provided by law. Holding herein shall be deemed a notice of any subdivision zoning or other development regulation of the City whether by legislation or referendum.
- 1. This zoning approval is conditioned on compliance with the Zoning Code, Subdivision Code, and all applicable laws of the City. Such additional regulations are supplemental to the requirements herein and no modification of any applicable regulations shall result from this Planned Residential Development Overlay District ordinance, except where this ordinance has expressly modified such regulations by reference to the applicable provision authorizing such modification.
- PUBLIC SPACE REQUIREMENTS**
- 2. Developer shall construct improved public space in conformance with or otherwise satisfying the requirements of the City's Public Space Ordinance, Chapter 15.04 and 15.05 of the City of Willowood's Zoning Ordinance. The City Council accepts the findings of the Public Space Study adopted therein and determines the compliance with the Public Space Ordinance provisions will address the impact of this specific development on public space needs in a manner and amount that is equal to or greater than the amount that is roughly proportional to the actual or anticipated impact. The installation of required public space improvements shall be as required by the applicable ordinance, but shall be completed prior to issuance of any occupancy (temporary or final) permit authorized by this ordinance. Unless otherwise approved pursuant to the procedures set forth in the Public Space Ordinance, the public space attributable to this development, based upon the number of anticipated dwelling units at 1,000 sq ft per unit, shall be as follows:
 - a. One (1) square foot per unit for single family dwellings. The provision of public space shall substantially comply with the Preliminary Development Plan submitted in conjunction with the public meeting on November 3, 2015.
- Bill's Note:** Changes to the report from October 5, 2015 version to the November 3, 2015 version with a slight revision through the Public Space Ordinance by the members at that October 5, 2015 Planning and Zoning Commission meeting are indicated by blue text. No modifications have been made to the latter of recommendations, when the Planning and Zoning Commission took action on it on November 16, 2015, regarding Ordinance 14.02. This ordinance was recommended for a change as part of the meeting with the overall letter of recommendations, which, upon being a lack of response, changes to the letter of recommendations, which were approved by the City Council and included for inclusion in the proposed Bill, are indicated in brown, bold type. This bolded type reflects changes from the November 3, 2015 City Council meeting.
- Section Three:** This ordinance shall be in full force and effect on and after its passing and approval.
- This Bill was passed and approved this 22nd day of January, 2017, by the Council of the City of Willowood, Missouri after having been read by title, or in full, two (2) times prior to its passage.
-  Treckling Officer
 Timothy Weathers, Mayor

 Liz Weir
 City Clerk
 Liz Weir
 City Clerk

The amount of this required contribution, if not submitted by January 1, 2016, shall be adjusted on that date and on the first day of January in each succeeding year thereafter in accord with the construction cost index as determined by the City of Willowood Department of Public Works.

The Planning and Zoning Commission is recommending these fees be credited to the developer for the purposes of meeting with completion of required improvements within the right-of-way of the Pond-Cover Loop Road, if constructed. Additionally, credits may also be considered toward the construction of the Eastburn Road extension through the subject site, but would be solely based upon the difference in cost of a residential type street of the same dimensions, versus the arterial type roadway. Credits would only be considered for the Eastburn Road extension if Pond-Cover Loop Road were not to be constructed. The granting of these credits is at the sole discretion of the City Council.

VERIFICATIONS PRIOR TO APPROVAL OF THE SITE DEVELOPMENT PLAN

Prior to approval of the Site Development Plan, the developer shall provide the following:

Stormwater Improvements

- 1. Submit to the Planning and Zoning Commission an engineering plan approved by the City of Willowood Department of Public Works and the Metropolitan St. Louis Sewer District showing that adequate handling of the stormwater drainage of the site is provided.
- 2. The developer is required to provide adequate stormwater systems in accordance with the City of Willowood and the Metropolitan St. Louis Sewer District standards.
- 3. All stormwater shall be discharged at an adequate natural discharge point. Stormwater is not an adequate point of natural discharge and may not be directed.
- 4. Retention/detention of differential runoff of stormwater shall be required. Stormwater management shall be provided in permanent retention/detention facilities, such as ponds or other acceptable alternatives. These retention/detention facilities shall be completed and in operation prior to the issuance of building permits for an approved dwelling unit, except display lots.
- 5. All proposed retention/detention facilities and related stormwater improvements shall be located in a common ground area and assure perpetual maintenance to the Homeowners Association to be created at the time of platting of this development, unless otherwise accepted by the Metropolitan St. Louis Sewer District.
- 6. The developer of this site shall be solely responsible to provide the necessary hydrological analysis, where practices/facilities should include run gardens, vegetative swales, and other options to substantially reduce the amount of stormwater leaving the subject site.
- 7. The developer shall provide adequate detention and/or hydrologic calculations for review and approval of all stormwater that will discharge on City of Willowood/Missouri Department of Transportation (MUDOT) right-of-way.
- 8. A bond or letter of credit will be required by the City of Willowood to cover any downstream damage to adjacent properties, common ground areas, or drainage ditches caused by the developer's use of the subject site (development/grading/construction activities, etc.), which shall be used for the restoration of damaged areas to their pre-development condition, if the developers fail to meet their responsibilities in this regard. The amount of the bond and

the establishment of the process for creating an accurate baseline condition for the existing downstream facilities shall be at the discretion of the City of Willowood Department of Public Works, in conjunction with input from the petitioner's engineer.

Geotechnical Report

- 1. Provide a Geotechnical Report covering development and grading required by improvements involved with this site, as directed by the Department of Public Works. Said report shall verify the suitability of grading and improvements with soil and geologic conditions which are susceptible to rapid erosion, landslides, and/or creep. A statement of compliance with this study signed by the Geotechnical Engineer preparing the report, shall be included on all Site Development Plans. The development and construction phase shall be designed to conform to the requirements and conditions of the Geotechnical Report. The Geotechnical Engineer shall be required to sign and seal all plans with a certification the proposed construction will be completed in accordance with the grading and soils requirements and conditions contained in the report.

Stormwater Pollution Prevention Plan

- 1. Submit a Stormwater Pollution Prevention Plan, as part of the Site Development Plan review process, indicating compliance to all Federal, State, and local requirements regarding the management of stormwater runoff to prevent erosion and siltation, while preserving water quality, both upon the site and on downstream properties.

Natural Resource Protection Plan

- 1. Provide a revised and final copy of the Natural Resource Protection Plan indicating all areas of the site, which are to be designated as protected and not developable. This revised and final copy of this plan may be reviewed and signed by a qualified soil scientist, who completed the analysis, and a statement indicating compliance with all the requirements of Section 14.02 of the City of Willowood's Subdivision and Development Regulations.

Environmental Assessment - Phase One

- 1. The developer shall provide to the Planning and Zoning Commission, as part of the Site Development Plan, a Phase One Environmental Assessment Report of the property, which indicates its current condition relative to its past utilization by other owners. Determination regarding any required mitigation shall be identified and completed, prior to the approval of the Record Plat and guidelines, as set forth by the United States Environmental Protection Agency (EPA) and the Missouri Department of Natural Resources (MDNR), for any determined contaminant exceeding a residential cleanup standard/guideline, with the cost borne for such by the developer and not the City of Willowood.

Final Study and Final Wetlands Study

- 1. The developer shall provide a floodplain/wetlands study to the Department of Public Works indicating compliance to the requirements of the City of Willowood, the U.S. Army Corp of Engineers, and the Federal Emergency Management Agency (FEMA) regarding disturbance or development in

the protected wetlands and floodplain areas. This study shall minimally provide information relating to disturbance of any protected area and be reviewed and acted upon by the Department of Public Works, as part of the Site Development Plan submittal process.

RECORDING

- 1. Within thirty (30) days of approval of the Site Development Plan by the Planning and Zoning Commission, the approved plan shall be recorded with the St. Louis County Recorder of Deeds.

VERIFICATION PRIOR TO PERMITS

Notification to Department of Planning

- 1. Subsequent to approval of the Site Development Plan and prior to issuance of any grading, foundation, or building permit, all approvals from the Department of Public Works (Willowood), the Missouri Department of Transportation, the Metro West Fire Protection District, the Missouri Department of Natural Resources, and the Metropolitan St. Louis Sewer District must be received by the Department of Planning.
- 2. Prior to the issuance of a foundation or building permit for any lot, which adjoins the common ground area and/or detention basin, written certification from a Professional Engineer which verifies these areas are graded in accordance with the approved plans, must be received by the Department of Planning.

Roadway Improvements

- 1. Improvements to State Route 100 and Eastburn Road must be completed prior to the issuance of building permits in excess of ten (10) percent of the units. Any delay in utility conveyance reduction and adjustments will not constitute a cause to allow occupancy prior to completion of roadway improvements.

Land Subdivision

- 1. Record a proper subdivision of the property and comply with all other applicable Subdivision and Development Regulations sections affecting the development of land, except as otherwise specified by this ordinance.

Setbacks

- 1. With the filing of the record plat establishing separate lots, the developer shall record an approved plat, which defines the necessary setbacks and specific trustee obligations in accord with provisions of Section 415.470 and 415.510 of the City of Willowood Zoning Code.

Erosion Requirements

- 1. All improvement and landscaping costs shall be submitted to the City of Willowood through the standard subdivision escrow procedures.

ISSUE	REMARKS/DATE
1	3-22-2016 INITIAL SUBMITTAL
2	6-6-2016 REVISED PER CITY COMMENTS
3	6-14-2016 DEVELOPER REVISIONS
4	8-10-2016 REVISED PER CITY COMMENTS
5	9-16-2016 REVISED PER CITY COMMENTS
6	11-14-2016 REVISED PER CITY COMMENTS
7	1-12-2017 REVISED PER CITY COMMENTS

Fischer & Fritchel Custom Homes, LLC
 and
 Consort Homes, LLC
 16640 CHESTERFIELD GROVE ROAD, SUITE 130
 CHESTERFIELD, MISSOURI 63005
 Ph. 636-770-7300

THE STERLING CO.
 ENGINEERS & SURVEYORS
 5055 New Baumgartner Road
 St. Louis, Missouri 63114-4427-8944
 Ph 314-497-4427
 www.sterling-engineers.com
 Corporate Certificate of Authority #001348

The Villages at Bright Leaf
 Willowood, Missouri
 SITE DEVELOPMENT PLAN
 ORDINANCE #2145

The Professional Engineer's seal and signature shall be on the same sheet as the record plat and shall be shown on the plat. All grading, foundation, or other improvements and utility lines shall be shown on the record plat and shall be approved by the engineer and the engineer's seal and signature shall be on the record plat. The engineer shall be responsible for the accuracy of the information and shall be liable for any errors or omissions in making the seal and signature.


 Date: 1/12/2017
 MICHAEL G. BOERDING
 License No. E-28643
 Civil Engineer

Job Number	14-04-138
Date	Jan. 12, 2017
Designed: MF	Sheet
Drawn: SL	9.2
Checked: SL	SDP

MSD Base Map 23-V
 MSD P #
 Highway & Traffic #



Jenell Saunders - Landscape Architect
MO License # LA-007
Consultants:

The Villages at Bright Leaf

Wildwood, Missouri

Revisions:

Date	Description	No.

Drawn: BB
Checked: JAS

Ioomis Associates
Landscape Architects/Planners
10000 N. Highway 100, Suite 100
Wildwood, MO 64095
www.ioomisassociates.com

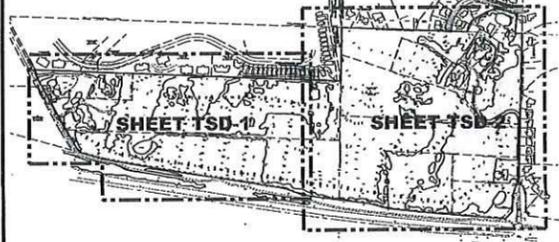
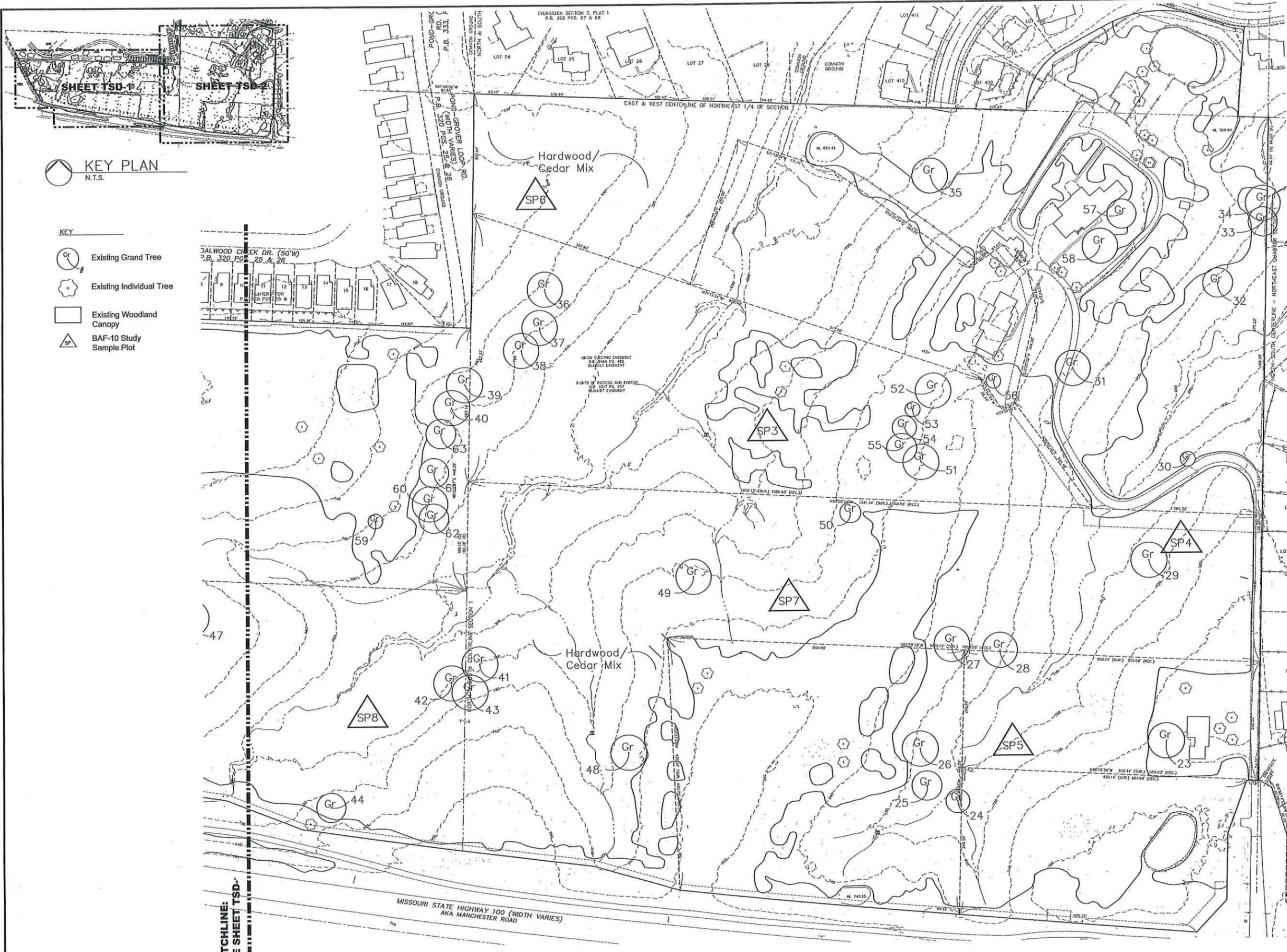
Loomis Associates Inc.
Missouri State Certificate of Authority # LAC 000019

Sheet Title: Tree Stand Delineation Plan

Sheet No: TSD-2

Date: 05/11/16

Tree Inventory
Prepared under direction of:
Brian Sages
Certified Arborist MW- 5033A



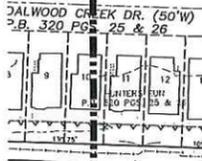
KEY PLAN
N.T.S.

- KEY
- Gr Existing Grand Tree
 - Existing Individual Tree
 - Existing Woodland Canopy
 - SP BAF-10 Study Sample Plot

MATCHLINE:
SEE SHEET TSD-1

TREE STAND DELINEATION PLAN

SCALE 1" = 60'



Grand Trees

ID	Tree Species	DBH	Canopy Diam.	Condition Rating	Comment
1	Elm	35	50	2	some bark decay at 4'
2	Sycamore	28	50	2	LITTLE MINNED
3	Collardwood	34	50	2	
4	White Ash	27	50	3	
5	Red Oak	27	40	2	
6	White Pine	20	25	3	
7	White Pine	24	30	2	broken lower limbs
8	Red Oak	24	60	2	some deadwood
9	Shingle Oak	25	50	2	ivy
10	Red Oak	25	60	3	
11	Red Oak	24	60	3	
12	Hickory	24	60	4	
13	Elm	24	50	3	
14	Elm	24	50	3	vines
15	White Oak	30	60	2	fork at 5'
16	Red Oak	25	50	2	
17	White Oak	25	60	2	some deadwood
18	Hickory	30	60	2	dork at 6'
19	White Oak	26	70	2	some deadwood
20	White Oak	37	70	2	fork at 5'
21	Hickory	24	50	3	
22	Sassafras	28	40	3	
23	Silver Maple	46	60	2	some deadwood
24	Hickory	25	40	2	fence
25	Red Oak	28	50	3	
26	Red Oak	26	70	3	fork at 4'
27	Red Oak	24	60	2	fork at 4', fence
28	White Oak	28	60	3	vines
29	Shingle Oak	26	60	3	
30	Cedar	20	25	3	vines
31	Elm	43	60	3	vines
32	Elm	26	50	2	
33	Shingle Oak	24	50	2	fork at 4'
34	White Oak	36	70	3	
35	Elm	25	60	3	lower deadwood
36	Shingle Oak	39	70	2	
37	Elm	30	70	3	
38	Elm	24	60	3	some deadwood
39	Shingle Oak	30	60	3	deadwood
40	Shingle Oak	25	60	2	
41	Shingle Oak	28	50	3	
42	White Oak	25	50	3	
43	Red Oak	25	50	2	
44	White Oak	24	50	3	
45	White Oak	25	50	3	
46	White Oak	34	60	2	lower deadwood
47	White Oak	29	70	2	some deadwood
48	White Oak	28	60	3	
49	Shingle Oak	24	60	2	lower deadwood
50	White Pine	20	35	3	
51	Shingle Oak	24	60	2	
52	Shingle Oak	27	20	2	some deadwood
53	White Pine	26	50	3	
54	Shingle Oak	27	40	3	
55	White pine	20	50	2	vines
56	Shingle Oak	27	30	2	
57	Catalpa	27	50	2	
58	Pin Oak	29	60	3	
59	Cedar	20	30	3	
60	Red Oak	34	60	2	
61	Red Oak	24	50	3	
62	Red Oak	24	50	2	
63	Red Oak	28	50	2	

RATING: 1 = Poor
2 = Fair
3 = Good
4 = Excellent

Report

A. Acreage of Stand:	1461
B. Forest Type:	Oak-Hickory Hardwoods
C. Dominant species:	Red and White Oaks, Shingle Oak, Hickory
C. Co-dominant species:	Sassafras, Elm, Cedar, Persimmon
D. Density per acre:	272 of 2.5" DBH or greater
E. Avg. Canopy diameter:	19.4'
F. Avg. overstory DBH:	7.89"
G. % of dominant species:	24% Red and White Oaks, 20% Hickory, 14% Shingle Oak,
H. Understory vegetation:	Bush Honeysuckle, Gooseberry, Multiflora Rose, Tanglefoot Honeysuckle, Virginia Creeper, Wintercreeper, May Apple
I. Apparent health problems:	Deadwood

BAF-10 Data:

Average Tree Basal Area (Sq.Ft.) / Basal Area per Acre (Sq.Ft.)

SP1: 0.593 / 1718.69
SP2: 0.633 / 1835.00
SP3: 0.307 / 1260.69
SP4: 0.386 / 1159.11
SP5: 0.443 / 753.47
SP6: 0.514 / 1079.89
SP7: 0.542 / 1355.32
SP8: 0.466 / 1070.89
SP9: 0.320 / 959.90

Total: 0.467 / 1327.34

BAF-10 Sample Plots

Plot #	ID	Tree Species	DBH	Canopy Diam.	Condition Rating	Comment
SP1	100	Hickory	14	35	3	
SP1	101	White Oak	14	35	2	
SP1	102	Red Oak	24	45	2	
SP1	103	White Oak	5	15	2	
SP1	104	Hickory	12	30	3	
SP1	105	Red Oak	14	30	2	
SP1	106	Sassafras	5	20	3	
SP1	107	Hickory	10	35	3	
SP1	108	Red Oak	7	15	2	
SP1	109	Sassafras	7	15	2	
SP1	110	Sassafras	10	20	2	
SP1	111	Dogwood	3	15	3	
SP1	112	Hickory	4	20	3	
SP1	113	White Oak	5	12	3	
SP1	114	Hickory	14	40	3	fork at 2'
SP1	115	White Oak	10	20	2	
SP1	116	White Oak	10	30	3	
SP1	117	Sugar Maple	2.5	12	4	
SP1	118	Hackberry	2.5	10	3	
SP1	119	Hackberry	6	20	2	
SP1	120	Hickory	2.5	15	3	
SP1	121	Cedar	2.5	8	4	
SP1	122	Dogwood	5	15	2	
SP1	123	Dogwood	4	12	2	
SP1	124	Elm	3	12	2	
SP1	125	Hickory	30	60	2	
SP1	126	Cedar	4	8	2	
SP1	127	Hickory	2.5	8	2	
SP1	128	Sassafras	4	15	3	
SP2	129	White Oak	8	25	2	
SP2	130	White Oak	7	15	2	
SP2	131	White Oak	12	25	2	
SP2	132	Hickory	6	20	4	
SP2	133	Hickory	6	15	4	
SP2	134	Hickory	3	8	3	
SP2	135	White Oak	10	25	3	
SP2	136	White Oak	14	35	2	
SP2	137	Shingle Oak	22	40	2	
SP2	138	Shingle Oak	7	20	2	
SP2	139	White Oak	6	20	2	
SP2	140	Hickory	7	20	3	
SP2	141	Hickory	6	25	3	
SP2	142	Red Oak	12	40	2	
SP2	143	Hickory	4	15	3	
SP2	144	Hickory	16	35	3	
SP2	145	Hickory	2.5	8	3	
SP2	146	White Oak	6	20	3	
SP2	147	White Oak	10	40	3	
SP2	148	Hickory	6	20	4	
SP2	149	White Oak	20	35	3	
SP2	150	Red Oak	18	35	1	
SP2	151	Hickory	2.5	8	3	
SP2	152	Shingle Oak	12	30	2	
SP2	153	White Oak	6	20	3	
SP2	154	Shingle Oak	14	20	2	
SP2	155	White Oak	12	40	2	
SP2	156	White Oak	14	35	3	
SP2	157	Cedar	6	12	3	
SP3	158	Shingle Oak	12	20	3	
SP3	159	Shingle Oak	20	35	2	
SP3	160	Dogwood	2.5	12	3	
SP3	161	Shingle Oak	14	30	3	
SP3	162	Shingle Oak	12	30	2	
SP3	163	Shingle Oak	8	15	3	
SP3	164	Sassafras	8	20	2	
SP3	165	Sassafras	3	6	2	
SP3	166	Persimmon	8	15	3	
SP3	167	Persimmon	8	15	3	ivy
SP3	168	Sassafras	3	6	2	
SP3	169	Hickory	5	12	3	
SP3	170	Hickory	4	12	3	
SP3	171	Sassafras	3	6	2	
SP3	172	Sassafras	4	8	2	
SP3	173	Persimmon	5	8	3	
SP3	174	Cedar	5	8	2	
SP3	175	Shingle Oak	5	8	2	
SP3	176	Shingle Oak	14	40	2	
SP3	177	Cedar	6	20	2	
SP3	178	Shingle Oak	12	40	2	
SP3	179	Persimmon	3	6	3	
SP3	180	Shingle Oak	6	15	2	
SP3	181	Sassafras	6	0	0	
SP3	182	Sassafras	8	0	0	
SP3	183	Sassafras	8	0	0	
SP3	184	Sassafras	3	0	0	
SP3	185	Sassafras	6	0	0	
SP3	186	Sassafras	4	0	0	
SP3	187	Sassafras	5	6	1	
SP3	188	Elm	6	10	3	
SP3	189	Sassafras	4	6	3	
SP3	190	Elm	6	10	3	
SP3	191	Sassafras	8	0	0	
SP3	192	Sassafras	8	0	0	
SP3	193	Shingle Oak	6	20	2	
SP3	194	Sassafras	3	6	1	
SP3	195	Sassafras	4	8	2	
SP3	196	Sassafras	4	8	2	
SP3	197	Elm	3	10	2	
SP3	198	Elm	6	20	3	
SP4	199	Shingle Oak	24	60	3	
SP4	200	Hickory	8	25	3	
SP4	201	Hickory	6	20	3	
SP4	202	Hickory	6	20	3	
SP4	203	Hickory	4	8	3	
SP4	204	Hickory	4	8	3	
SP4	205	White Oak	12	35	2	
SP4	206	Sassafras	8	15	2	
SP4	207	Hickory	10	30	4	
SP4	208	Hickory	8	25	4	
SP4	209	Hickory	5	15	3	
SP4	210	Hickory	7	25	4	
SP4	211	Hickory	6	15	4	
SP4	212	Hickory	4	10	4	
SP4	213	Elm	5	15	2	
SP4	214	Shingle Oak	12	35	2	
SP4	215	Hickory	5	12	4	
SP4	216	Hickory	8	25	4	
SP4	217	Hickory	10	25	4	
SP4	218	Hickory	7	20	4	
SP4	219	Hickory	6	20	3	
SP4	220	Hickory	6	20	4	
SP4	221	Hickory	7	20	4	
SP4	222	White Oak	10	35	3	
SP4	223	White Oak	12	35	2	
SP4	224	Elm	8	25	2	
SP4	225	Shingle Oak	4	20	3	
SP4	226	Hickory	3	15	4	
SP4	227	Hickory	3	15	4	
SP4	228	Sassafras	4	10	2	

BAF-10 Sample Plots

Plot #	ID	Tree Species	DBH	Canopy Diam.	Condition Rating	Comment
SP5	229	Hickory	6	20	3	
SP5	230	Hickory	6	20	3	
SP5	231	Hickory	4	8	3	
SP5	232	Shingle Oak	4	20	3	
SP5	233	Hickory	3	15	4	
SP5	234	Sassafras	4	10	2	
SP5	235	Elm	6	10	3	
SP5	236	Sassafras	6	12	2	
SP5	237	White Oak	12	35	2	
SP5	238	Sassafras	8	15	2	
SP5	239	Red Oak	18	35	1	
SP5	240	Hickory	2.5	8	3	
SP5	241	White Oak	14	35	2	
SP5	242	White Oak	10	30	3	
SP5	243	Sugar Maple	2.5	12	4	
SP5	244	Shingle Oak	14	20	2	
SP5	245	White Oak	12	40	2	
SP5	246	White Oak	10	25	3	
SP5	247	White Oak	14	35	2	
SP5	248	Shingle Oak	22	40	2	
SP5	249	Shingle Oak	7	20	2	
SP5	250	White Oak	6	20	2	
SP5	251	Cedar	5	8	3	
SP5	252	Cedar	7	8	4	
SP5	253	Cedar	8	8	3	
SP5	254	Cedar	4	8	4	
SP5	255	Hickory	4	8	3	
SP5	256	White Oak	12	35	2	
SP5	257	Cedar	6	20	2	
SP5	258	Sassafras	8	15	2	
SP5	259	Hickory	10	30	4	
SP5	260	White Oak	12	40	2	
SP5	261	White Oak	14	35	3	
SP5	262	Cedar	6	12	3	
SP5	263	Cedar	8	8	3	
SP5	264	Cedar	10	8	4	
SP5	265	Sassafras	5			



Jerald Saunders - Landscape Architect
MO License # LA-007

Consultants:

The Villages at Bright Leaf

Wildwood, Missouri

Revisions:

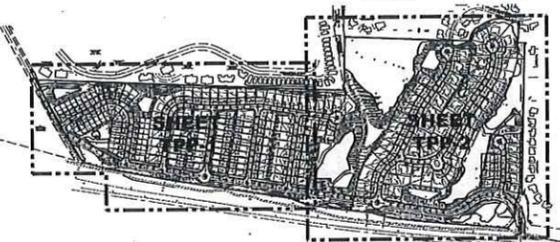
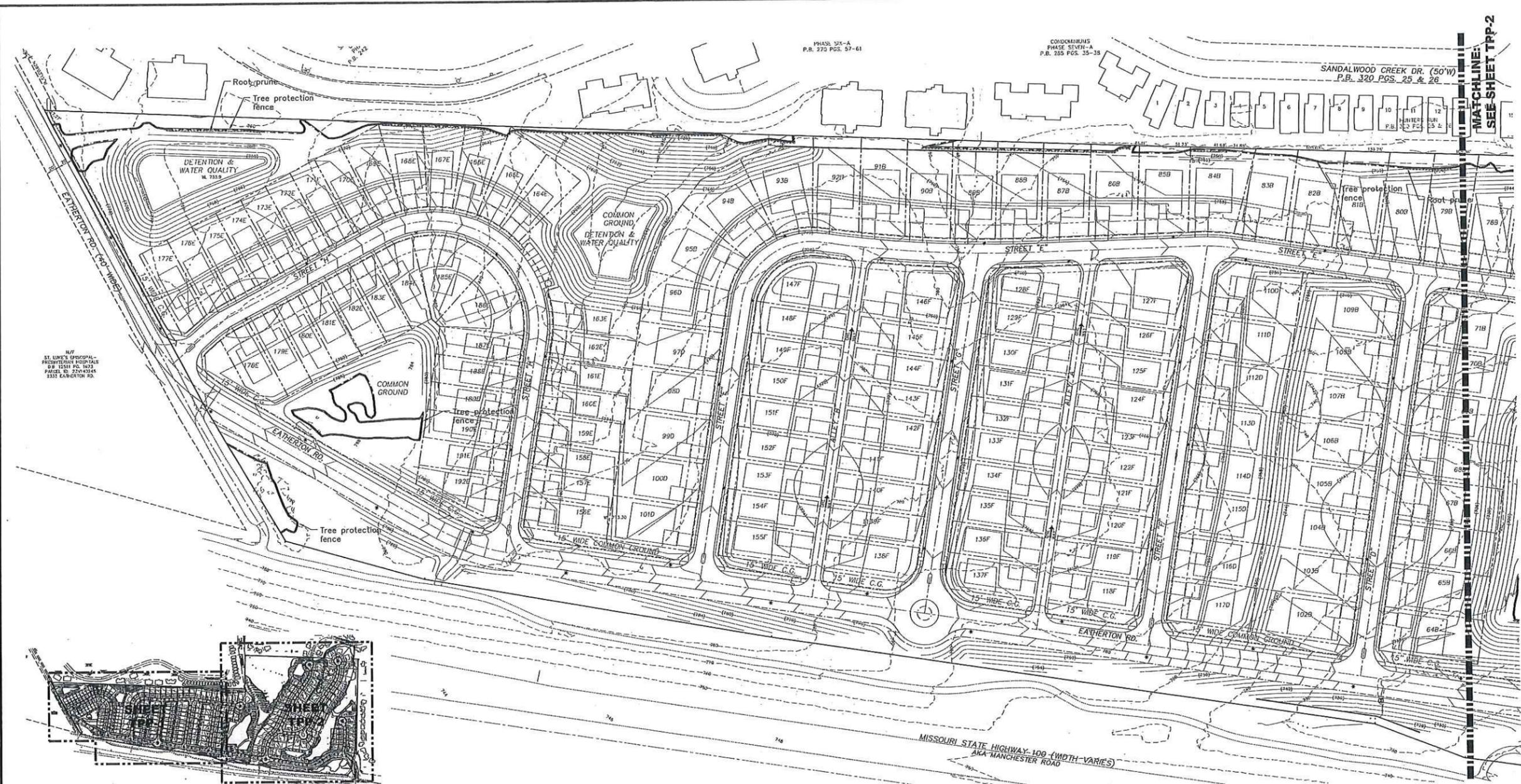
Date	Description	No.
9/16/16	Plan revisions	

Drawn: BB
Checked: JAS

Ioomis Associates

landscape architects/planners
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Wildwood, MO 64094
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Missouri State Certificate of Authority P.L.C. #002019

Sheet Title:	Tree Preservation Plan
Sheet No.:	TPP-1
Date:	05/11/16
Job #:	643.005



KEY PLAN
N.T.S.

TREE PRESERVATION PLAN
SCALE 1"=60'



- KEY**
- Existing Grand Tree to remain
 - Existing Woodland Canopy to remain
 - Tree protection fence
 - Root pruning

Zone: Single-family residential

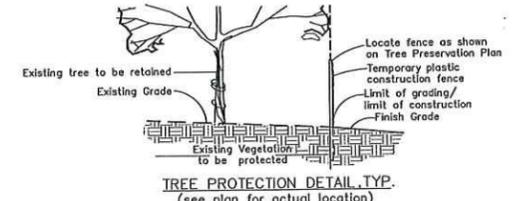
Site Area:	3,436,441 sq. ft.	or	78.88 Ac.
Existing Woodland Canopy:	2,090,744 sq. ft.	or	47.99 Ac.
Canopy Preservation Required:	30%	or	14.39 Ac.
Total Existing Canopy Preserved:	502,137 sq. ft.	or	11.52 Ac. (24.0%)
Tree Canopy Planted:	479,400 sq. ft.	or	11.00 Ac.
Total Tree Canopy Provided:	981,537 sq. ft.	or	22.52 Ac. (46.92%)
Proposed Units:	192		

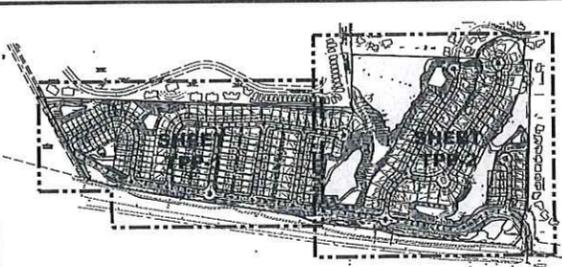
TREE PROTECTION NOTES:

- 1) Preserved woodland canopy is delineated with shading. Grand Trees designated to be preserved shall be located by surveyor.
- 2) Pre-construction meeting to be held on-site to include a presentation of tree protection measures to operators; construction supervisors; developer's representative; and city zoning inspector.
- 3) Clearing Limits to be rough staked in order to facilitate location for installation of protection fencing. No early maintenance schedule is required. Where noted on plan, contractor to trench and root prune prior to any grading activity. Required siltation devices to be installed along limit of disturbance line.
- 4) No clearing or grading shall begin in areas where the treatment and preservation measures have not been completed including the installation of tree protection fencing along all "Limit of Disturbance" lines shown on the plan.
- 5) Tree Protection Fencing shall be 4-foot high temporary plastic construction fence. No equipment traffic/parking, concrete washout, material storage or other such construction activity shall be permitted to penetrate the protection fencing or disrupt the Protected Woodland Area. Any proposed plantings shall be subject to the review and approval of the City Arborist. All ground planes shall be mulched with hardwood bark mulch. Tree Protection Signage will be placed along the Protection Fencing as shown as the dashed line on the plan.
- 6) Tree protection measures to be maintained throughout construction sequence.

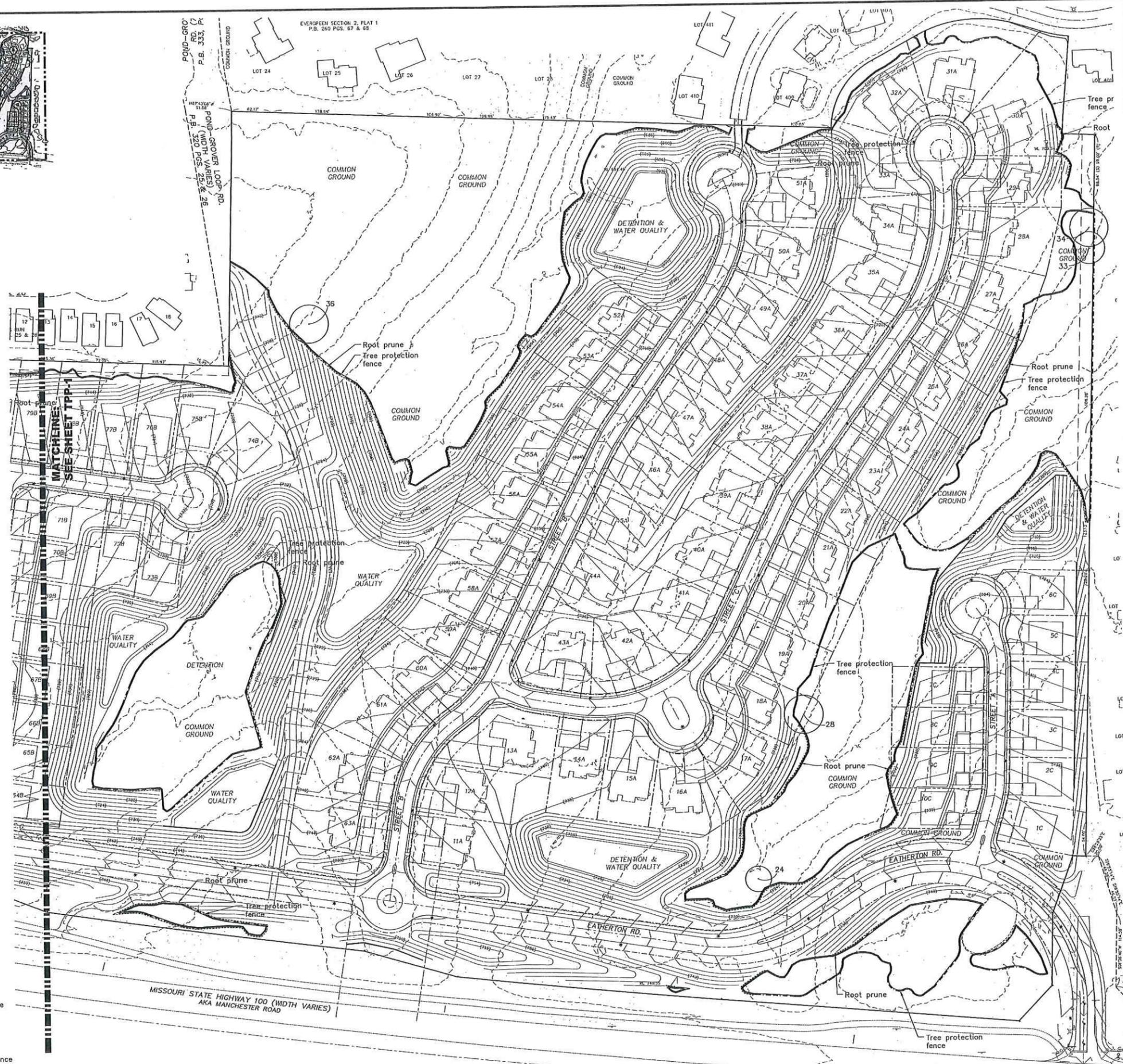
TREE PROTECTION ACTION KEY SEQUENCE:

- 1) Survey limit of disturbance.
- 2) Perform root pruning as shown on plan.
- 3) Install tree protection fencing.
- 4) Post tree protection signage on fence (No signs will be posted on trees).
- 5) Maintain tree protection area as an off-limits zone.





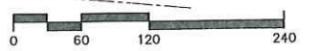
KEY PLAN
N.T.S.



- KEY
- Existing Grand Tree to remain
 - Existing Woodland Canopy to remain
 - Tree protection fence
 - Root pruning

TREE PRESERVATION PLAN

SCALE 1"=60'



9/16/18
Jarald Saunders - Landscape Architect
MO License # LA-007
Consultants:

The Villages at Bright Leaf

Wildwood, Missouri

Revisions:

Date	Description	No.
9/16/18	Plan revisions	

Drawn: BB
Checked: JAS

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Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC 0000018

Sheet Title: Tree Preservation Plan
Sheet No: TPP-2
Date: 05/11/16



Jerald Saunders, Landscape Architect
 Missouri License # LA-007
 Consultants:

The Villages at Bright Leaf

Wildwood, Missouri

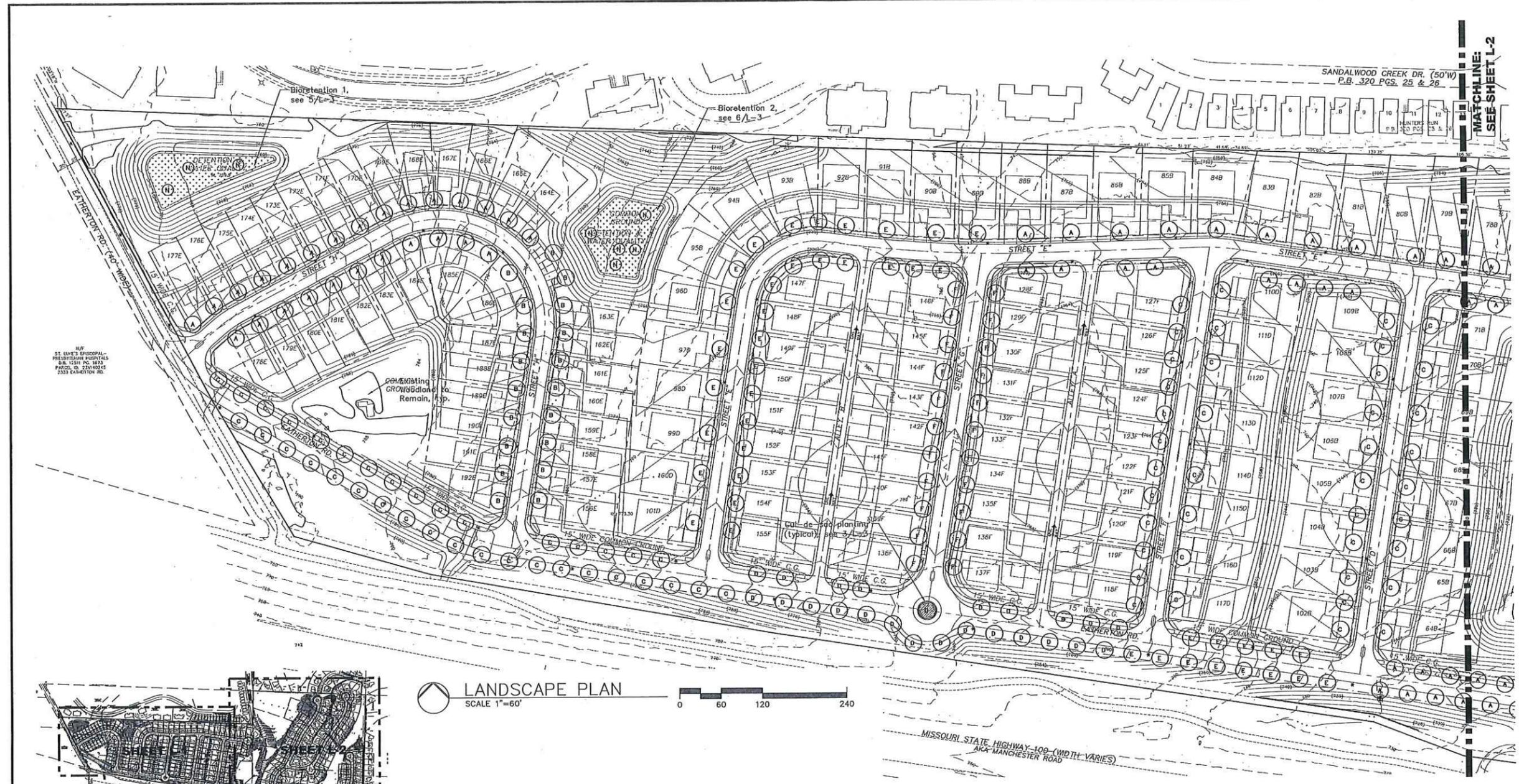
Revisions:

Date	Description	No.

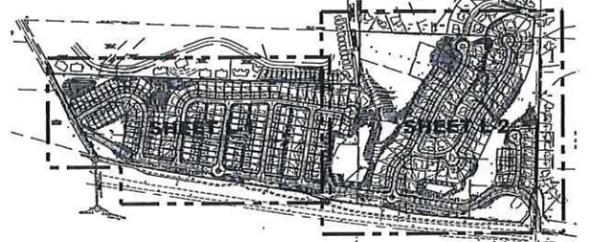
Drawn: LWH
 Checked: JAS

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Sheet Title: Landscape Plan
 Sheet No: L-1
 Date: 9/16/16
 Job #: R43 006



LANDSCAPE PLAN
 SCALE 1"=60'



KEY PLAN
 N.T.S.

- WILDWOOD GENERAL NOTES:**
- Individual homeowners must be notified at least one week prior to the installation of plants on lots that have an occupied dwelling.
 - Unless otherwise stipulated by specific requirements of the City of Wildwood Tree Manual, the landscaping shown on this plan must be planted in accordance with the latest edition of the Tree and Shrub Transplanting Manual published by the International Society of Arboriculture (P.O. Box 603, Savoy, IL 61874-9902).
 - All trees are to be located a minimum distance of 5' from all utility boxes, 5' from a storm drain inlet or manhole, 10' from a fire hydrant, 15' from public street lights, 5' from driveway aprons, 20' from any traffic control sign and at least 30' from any intersection.
 - Locations of street trees may be subject to change in order to avoid conflict with street lighting.
 - Any planting within a tree preservation area, as designated on the Tree Preservation Plan and shown on this plan, must be done to avoid any adverse impact to the roots of existing trees.
 - Plant substitutions are permitted with verbal or written approval from the City of Wildwood Planning Department.
 - All plant material will be reinspected for survival by the City of Wildwood Planning Department one year following installation and again two full growing seasons after planting.
 - All plants must meet standards of the latest edition of the American Standards for Nursery Stock sponsored by the Association of American Nurserymen.
 - No plant shall be located in areas of obvious poor drainage. If such conditions exist, contact the Landscape Architect immediately to relocate affected plant material.
 - Soil conditions must be tested, verified and adjusted by the landscape contractor to insure that appropriate soil composition and pH levels are suitable for plant material specified for that specific location.

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	CANOPY PROVIDED	PERCENTAGE
STREET TREES							
A	118	<i>Quercus rubra</i>	Red Oak	2.5"	Deciduous	1000 sq.ft.	20.0%
B	67	<i>Gleditsia triacanthos f. inermis 'Skycole'</i>	Skyline Honeylocust	2.5"	Deciduous	1000 sq.ft.	15.3%
C	114	<i>Ginkgo biloba 'Autumn Gold'</i>	Autumn Gold Ginkgo	2.5"	Deciduous	1000 sq.ft.	20.8
D	50	<i>Acer rubrum 'Franksred'</i>	Red Sunset Maple	2.5"	Deciduous	700 sq.ft.	10.7%
E	62	<i>Quercus bicolor</i>	Swamp White Oak	2.5"	Deciduous	1000 sq.ft.	20.8%
F	38	<i>Toxodiod distichum 'Mickelson'</i>	Shawnee Brave Baldcypress	2.5"	Deciduous	700 sq.ft.	12.4%
449	TOTAL STREET TREES						=100%

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	CANOPY
CUL-DE-SAC PLANTINGS					
M	6	<i>Molus x 'Spring Snow'</i>	Spring Snow Crabapple	2"	Deciduous, Understory
SHRUBS					
a	168	<i>Buxus microphylla 'Winter Gem'</i>	Winter Gem Boxwood	24-36"	Evergreen shrub
b	86	<i>Hydrangea paniculata 'Little Lime'</i>	Little Lime Hydrangea	24-36"	Deciduous shrub
c	48	<i>Physocarpus opulifolius 'Monro'</i>	Diabolo Ninebark	24-36"	Deciduous shrub
d	35	<i>Rosa 'Rodrazz'</i>	Red Knockout Rose	24-36"	Deciduous shrub

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	TYPE	PERCENTAGE
BUFFERYARD TREES (EAST PL)						
E1	2	<i>Quercus bicolor</i>	Swamp White Oak	2"	Deciduous, Canopy	
E3	1	<i>Quercus bicolor</i>	Swamp White Oak	4"	Deciduous, Canopy	
G1	2	<i>Tilia cordata</i>	Littleleaf Linden	2"	Deciduous, Canopy	
G2	1	<i>Tilia cordata</i>	Littleleaf Linden	3"	Deciduous, Canopy	
H1	2	<i>Pinus strobus</i>	Eastern White Pine	6" HL	Evergreen	
H3	1	<i>Pinus strobus</i>	Eastern White Pine	10" HL	Evergreen	
J1	2	<i>Picea abies</i>	Norway Spruce	6" HL	Evergreen	
J2	1	<i>Picea abies</i>	Norway Spruce	6" HL	Evergreen	
K1	2	<i>Cornus florida 'Cherokee Princess'</i>	Cherokee Princess Flowering Dogwood	1.5"	Deciduous, Understory	
K2	1	<i>Cornus florida 'Cherokee Princess'</i>	Cherokee Princess Flowering Dogwood	2"	Deciduous, Understory	
L1	2	<i>Cercis canadensis</i>	Eastern Redbud	1.5"	Deciduous, Understory	
L3	1	<i>Cercis canadensis</i>	Eastern Redbud	2.5"	Deciduous, Understory	
BUFFERYARD SHRUBS (EAST PL)						
k	20	<i>Viburnum x burkwoodii</i>	Burkwood Viburnum	24"	Deciduous	
m	20	<i>Ilex x meserveae 'Mesdob/Mesob'</i>	China Boy/Girl Holly	24"	Evergreen (1:9 ratio M/F)	
n	20	<i>Juniperus virginiana 'Grey Owl'</i>	Grey Owl Juniper	24"	Evergreen	

QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	CANOPY
BIORIENTATION PLANTINGS				
TREES				
N	15	<i>Carpinus caroliniana 'JFS-KW6'</i>	Native Flame Hornbeam	2"
P	14	<i>Chionanthus virginicus</i>	Fringe Tree	2"
SHRUBS				
e	263	<i>Clethra alnifolia 'Ruby Spice'</i>	Ruby Spice Summersweet	3 gal
f	365	<i>Cornus sericea 'Isontl'</i>	Isontl Red Twig Dogwood	3 gal
g	321	<i>Ilex verticillata 'Red Sprite'</i>	Red Sprite Winterberry	3 gal
h	44	<i>Ilex verticillata 'Jim Dandy'</i>	Jim Dandy Winterberry	3 gal
J	447	<i>Ilex virginiana 'Henry's Garnet'</i>	Henry's Garnet Sweetspire	3 gal
PERENNIALS AND GRASSES				
oa	3753	<i>Carex vulpinoidea</i>	Fox Sedge	plug space 18" o.c.
bb	2320	<i>Echinacea purpurea</i>	Purple Coneflower	plug space 18" o.c.
cc	4975	<i>Iris fulva</i>	Copper Iris	plug space 18" o.c.
dd	2172	<i>Liatris spicata 'Kobold'</i>	Kobold Blazing Star	plug space 18" o.c.
ee	2558	<i>Lobelia cardinalis</i>	Cardinal Flower	plug space 18" o.c.
ff	2243	<i>Monarda fistulosa</i>	Bee Balm	plug space 18" o.c.
gg	874	<i>Panicum virgatum 'Heavy Metal'</i>	Heavy Metal Switchgrass	1 gal space as shown
hh	2867	<i>Rudbeckia fulgida</i>	Black-eyed Susan	plug space 18" o.c.

LANDSCAPE CALCULATIONS:

A) Street Trees
 1. Street trees shall be installed a minimum of every 40 LF of proposed lot frontage.
 17,241 LF ÷ 40 = 431 minimum street trees required.

2. A maximum of forty percent (40%) of one (1) species may be utilized to meet planting requirements.

3. Street trees shall not be planted closer than three (3) feet to any curb.

B) Bufferyards
 1. Type "B" supplied along east property line as labeled on the plan
 (2 canopy trees, 2 evergreen trees, 2 understory trees, and 20 shrubs required per 150 LF)
 450 LF ÷ 150 LF bufferyard unit measurement = 3.0
 3 x 2 tree units = 6 = 6 canopy trees, 6 evergreen trees, and 6 understory trees
 3 x 20 shrub units = 60 = 60 shrubs

2. Required plant materials for bufferyards shall be planted in the following sizes and percentages:

Canopy Trees	Evergreen Trees	Understory Trees	Shrubs
10% 4" Caliper	10% 10' High	10% 2.5" Caliper	100% 2" High
20% 3" Caliper	20% 8' High	20% 2" Caliper	
70% 2" Caliper	70% 6' High	70% 1.5" Caliper	



Jerald Saunders - Landscape Architect
M.O. License # LA-007

Consultants:

The Villages at Bright Leaf

Wildwood, Missouri

Revisions:

Date	Description	No.

Drawn: LWH
Checked: JAS

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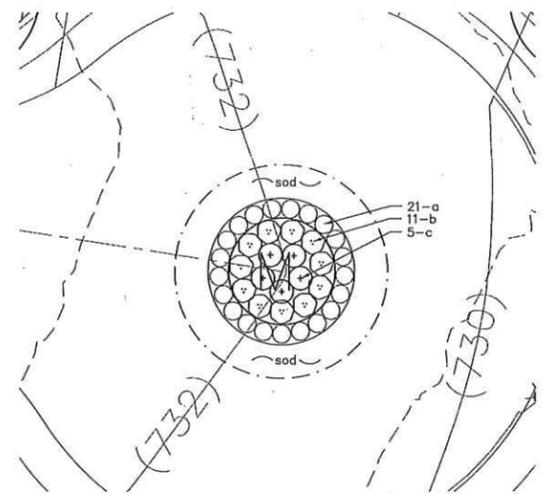
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Overland Park, MO 66204
Phone: 913.241.1000
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Missouri State Certification of Authority # LAC #000019

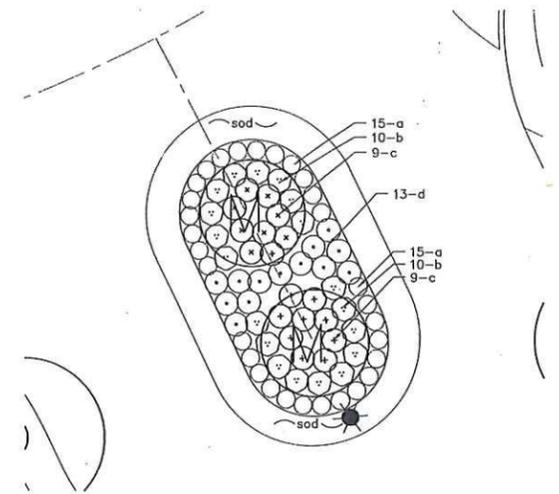
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Sheet No: L-3

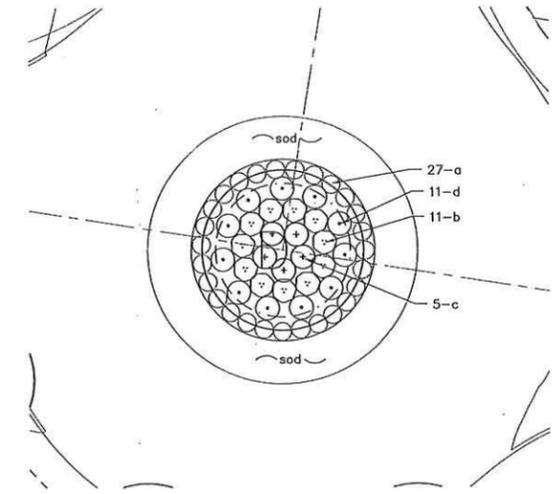
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Job #: 643.006



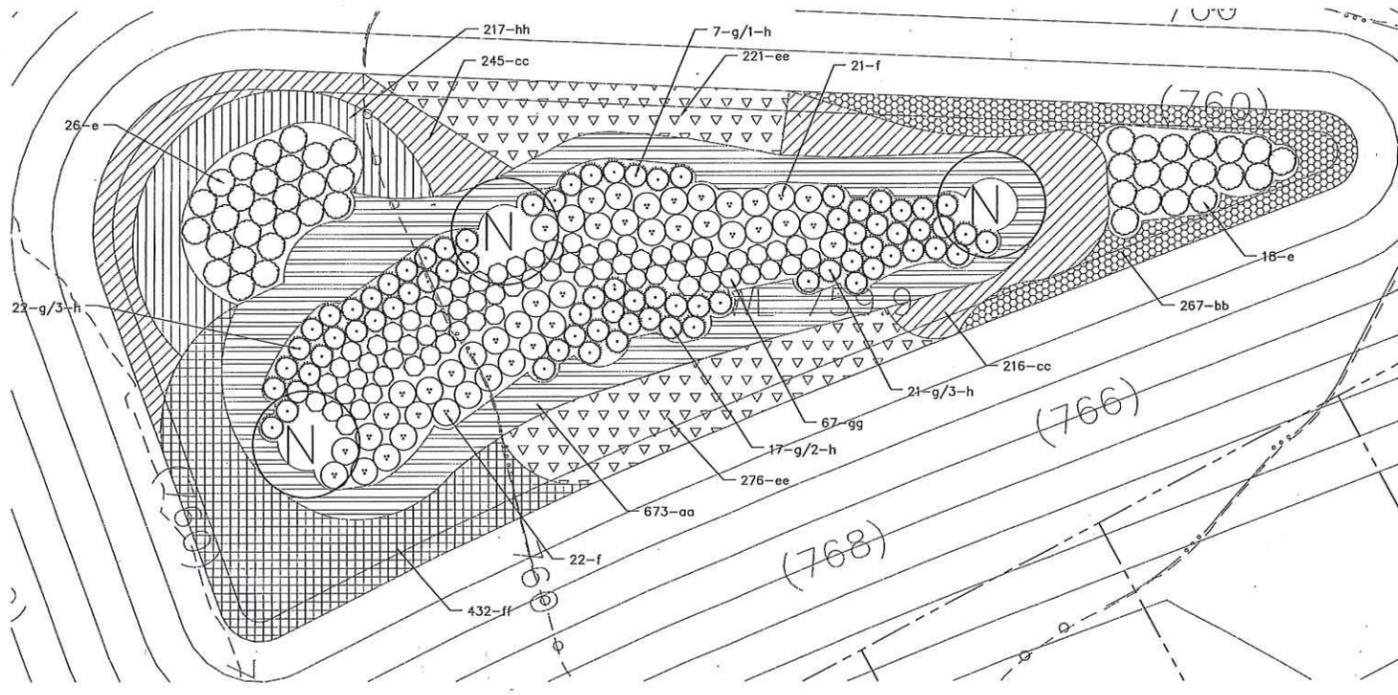
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L-3 SCALE 1"=10'



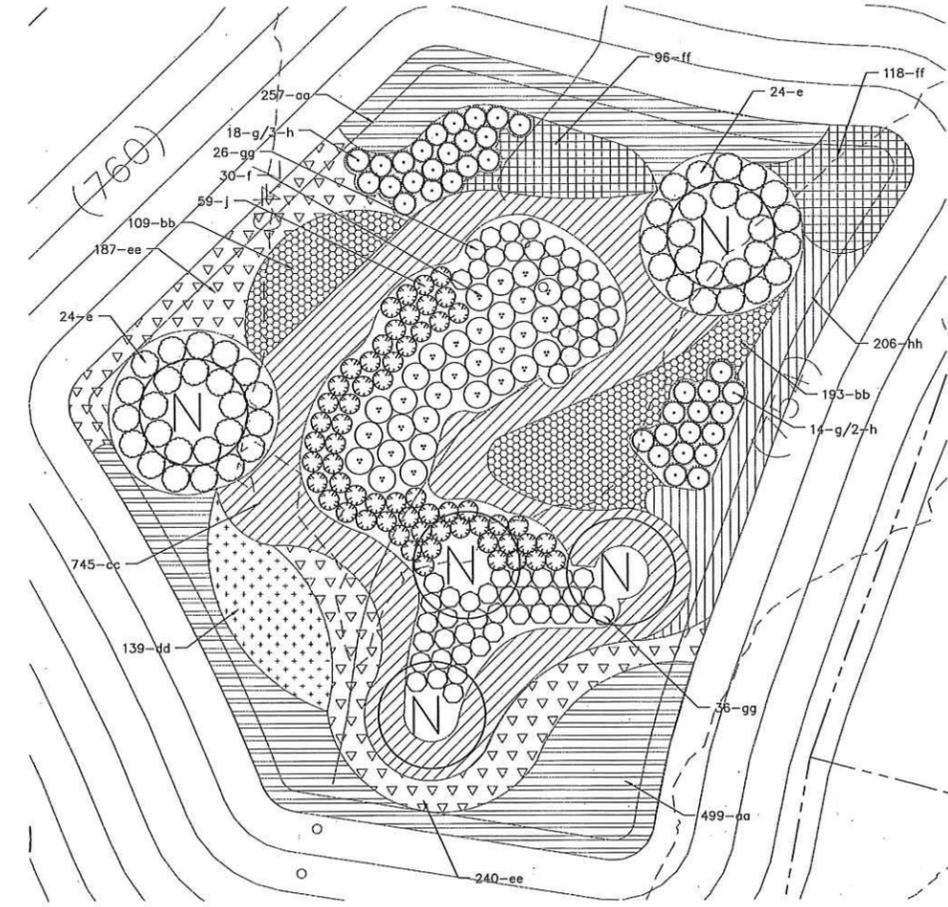
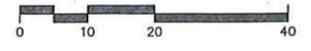
2 CUL-DE-SAC LANDSCAPE PLAN
L-3 SCALE 1"=10'



3 ROUNDABOUT LANDSCAPE PLAN
L-3 SCALE 1"=60'



5 BIORETENTION 1 LANDSCAPE PLAN
L-3 SCALE 1"=10'



6 BIORETENTION 2 LANDSCAPE PLAN
L-3 SCALE 1"=10'



Jerald Saunders - Landscape Architect
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Consultants:

The Villages at Bright Leaf

Wildwood, Missouri

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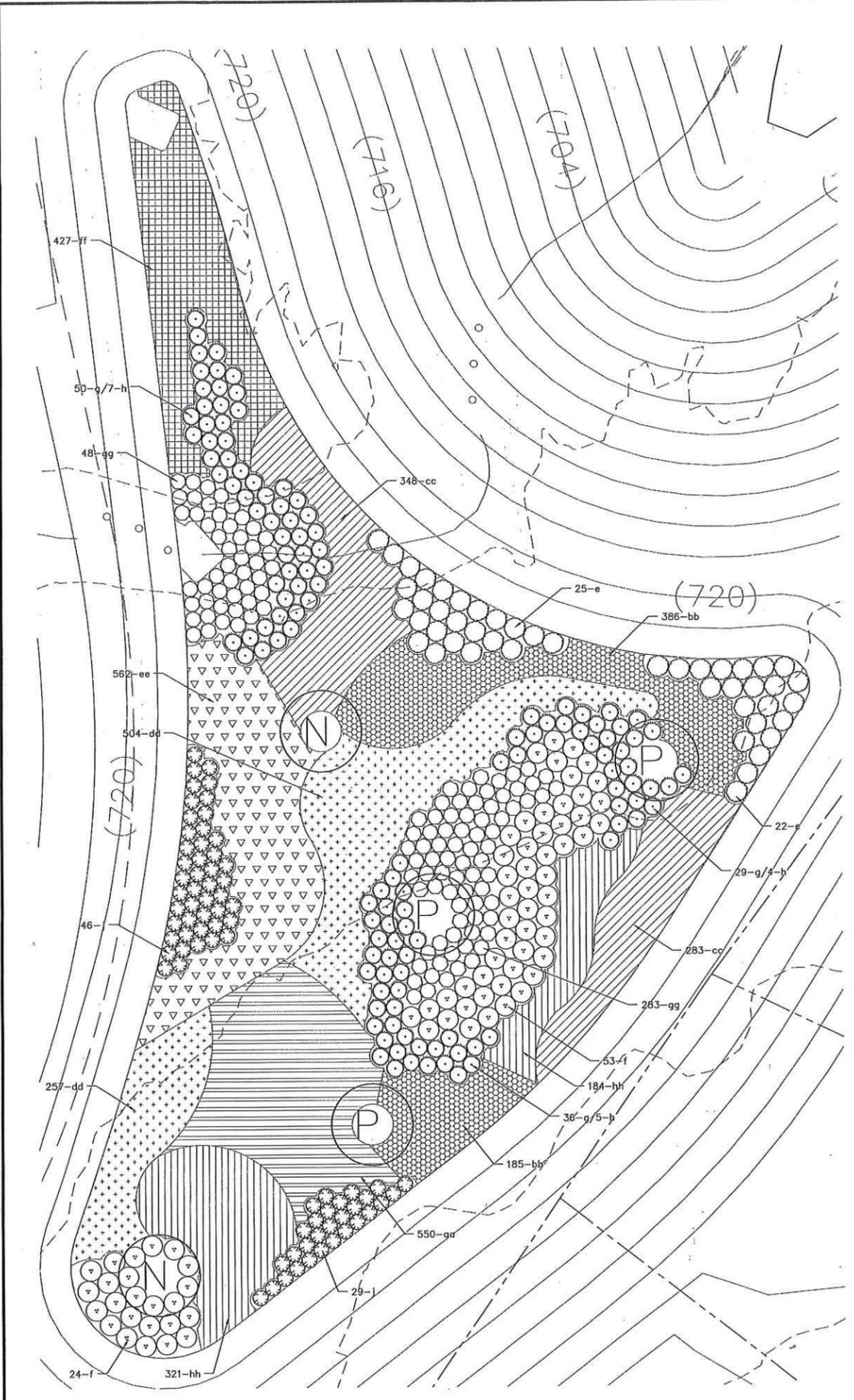
landscape architects/planners
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 Wildwood, MO 64095
 Phone: 417-568-3400
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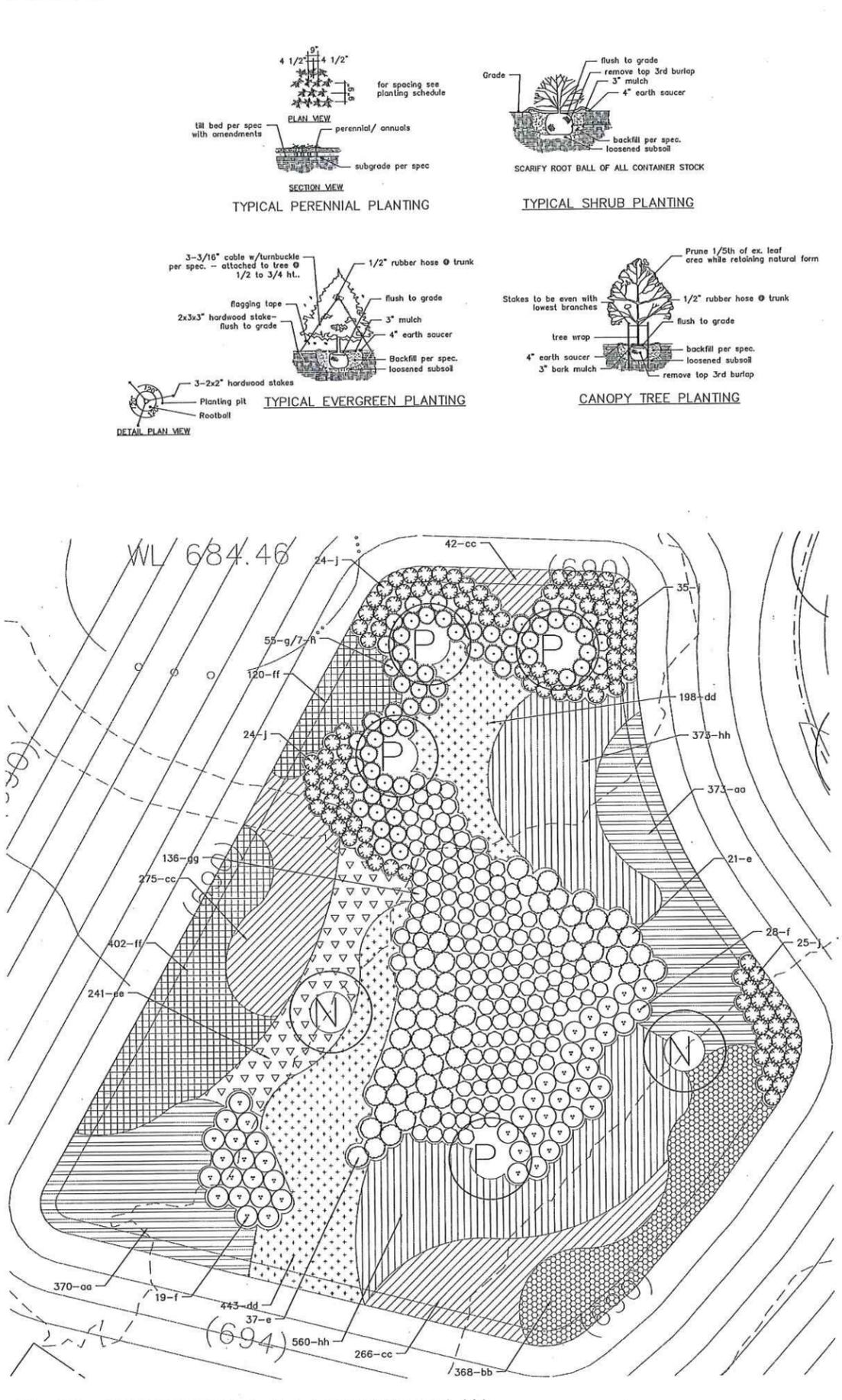
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Sheet No: L-4

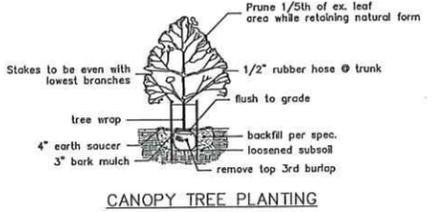
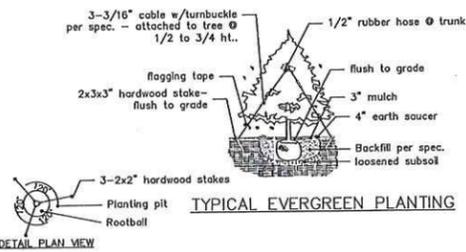
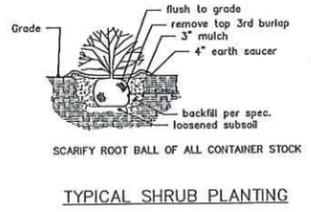
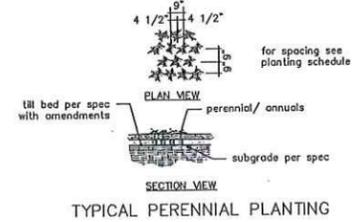
Date: 9/16/16



1 BIORETENTION 3 LANDSCAPE PLAN
 SCALE 1"=10'



2 BIORETENTION 4 LANDSCAPE PLAN
 SCALE 1"=10'



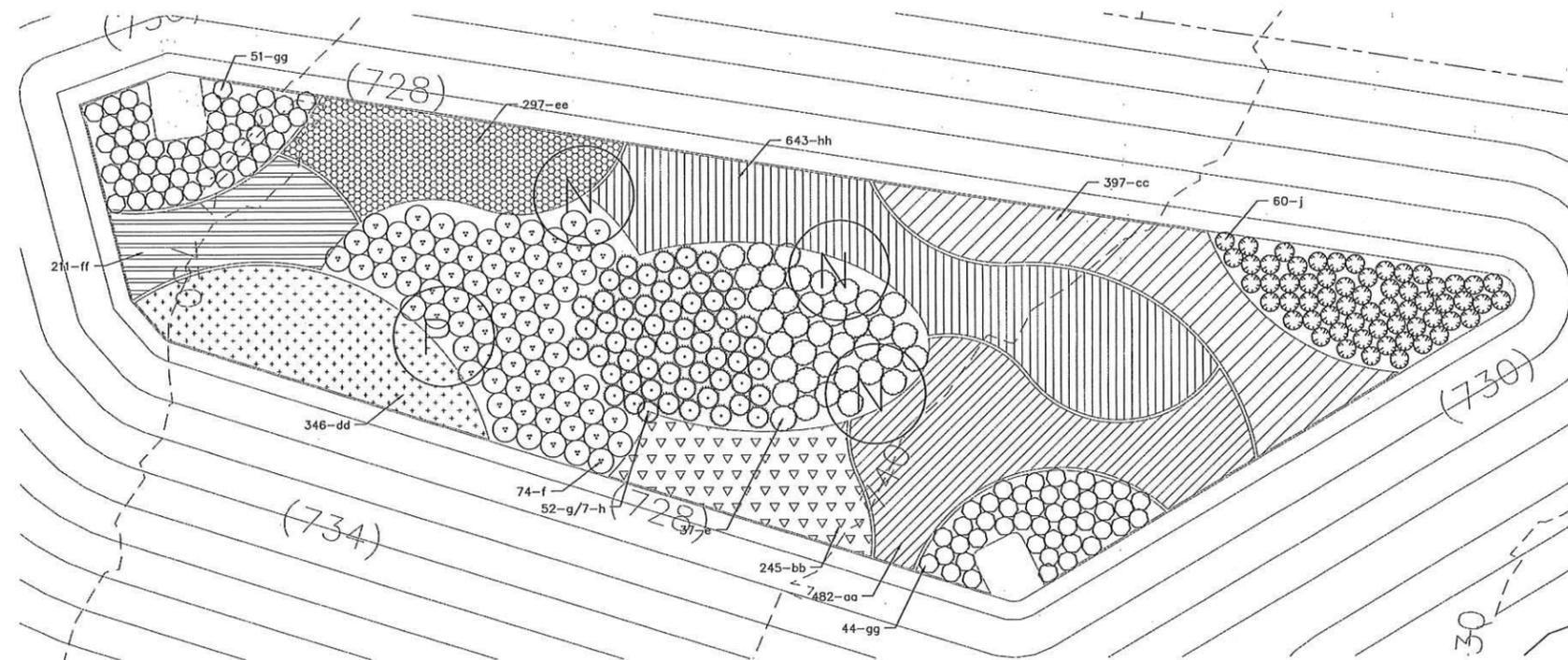


Jerad Saunders - Landscape Architect
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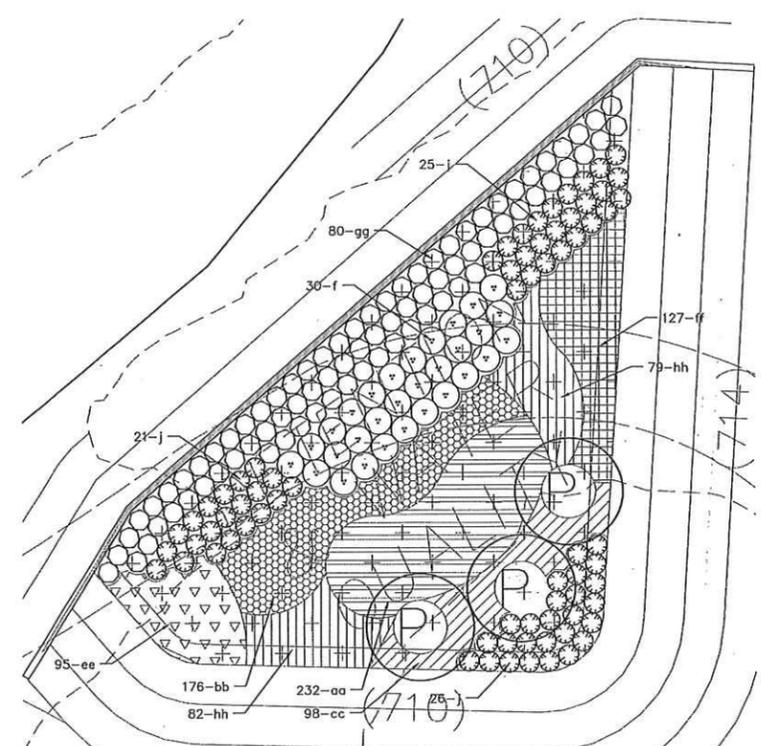
Consultants:

The Villages at Bright Leaf

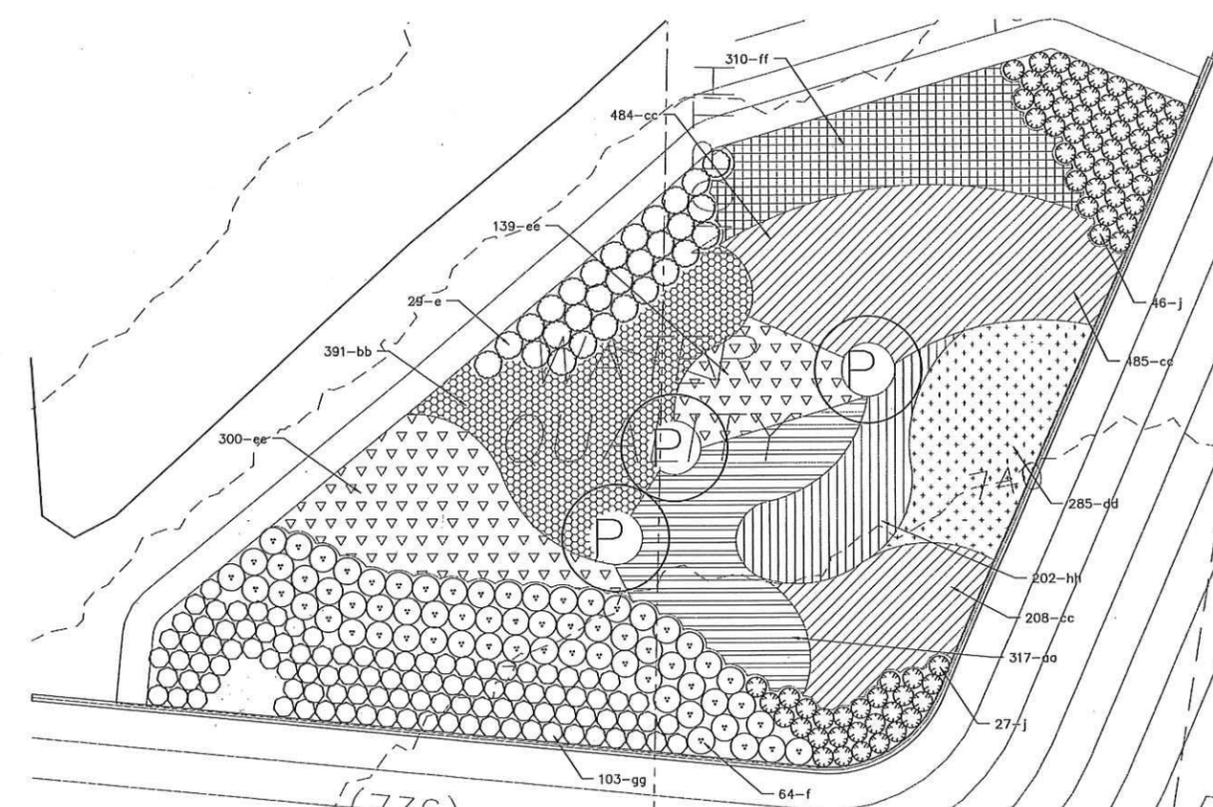
Wildwood, Missouri



1 L-5 BIORETENTION 5 LANDSCAPE PLAN
SCALE 1"=10'



2 L-5 BIORETENTION 6 LANDSCAPE PLAN
SCALE 1"=10'



3 L-5 BIORETENTION 7 LANDSCAPE PLAN
SCALE 1"=10'

Revisions:		
Date	Description	No.

Drawn: LWH
Checked: JAS

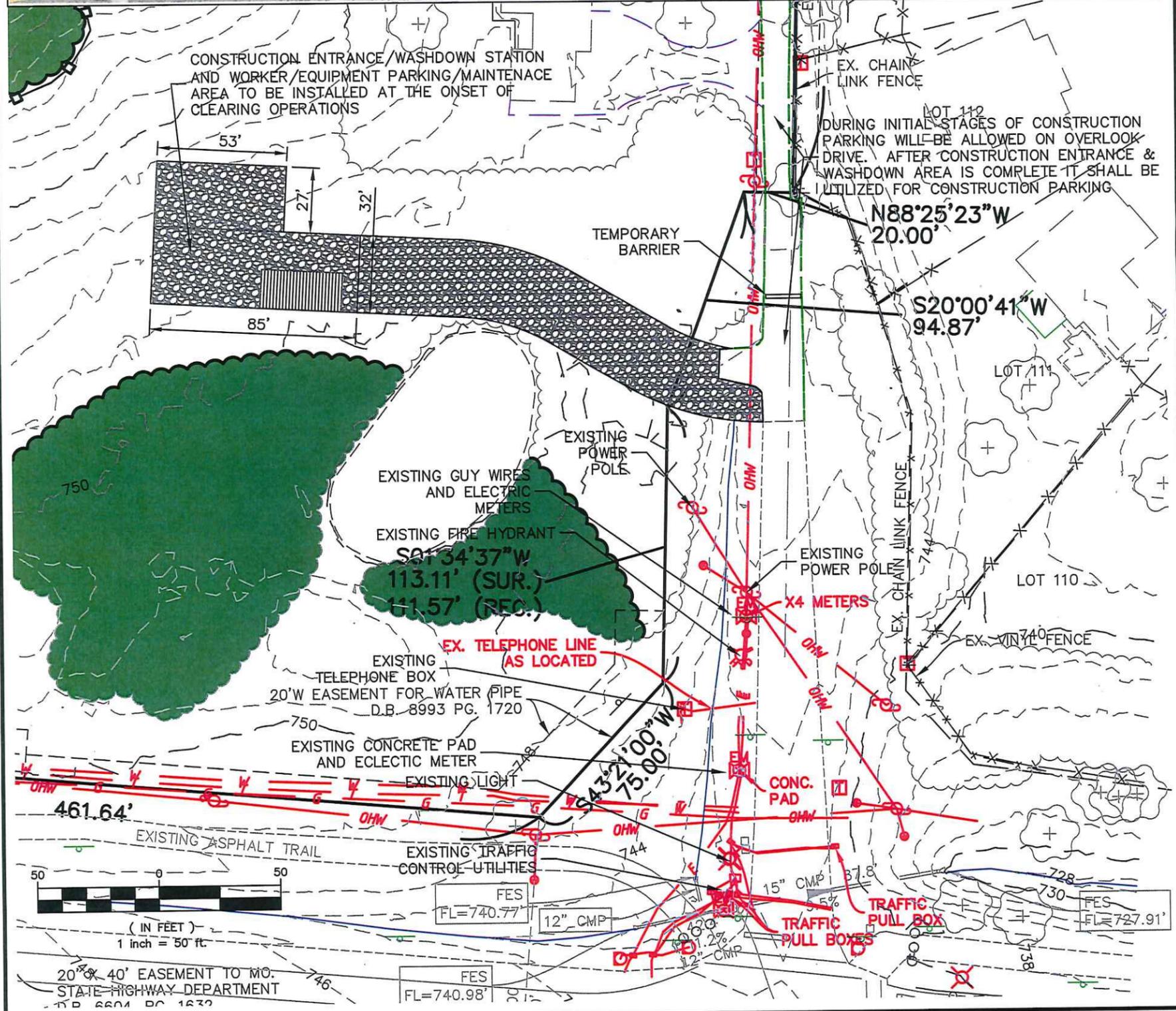
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Loomis Associates Inc.
Missouri State Commission of Authority #: LAC 0000019

Sheet Title: Bioretention Landscape Plan

Sheet No: L-5

Date: 9/16/16
Job #: 643.006

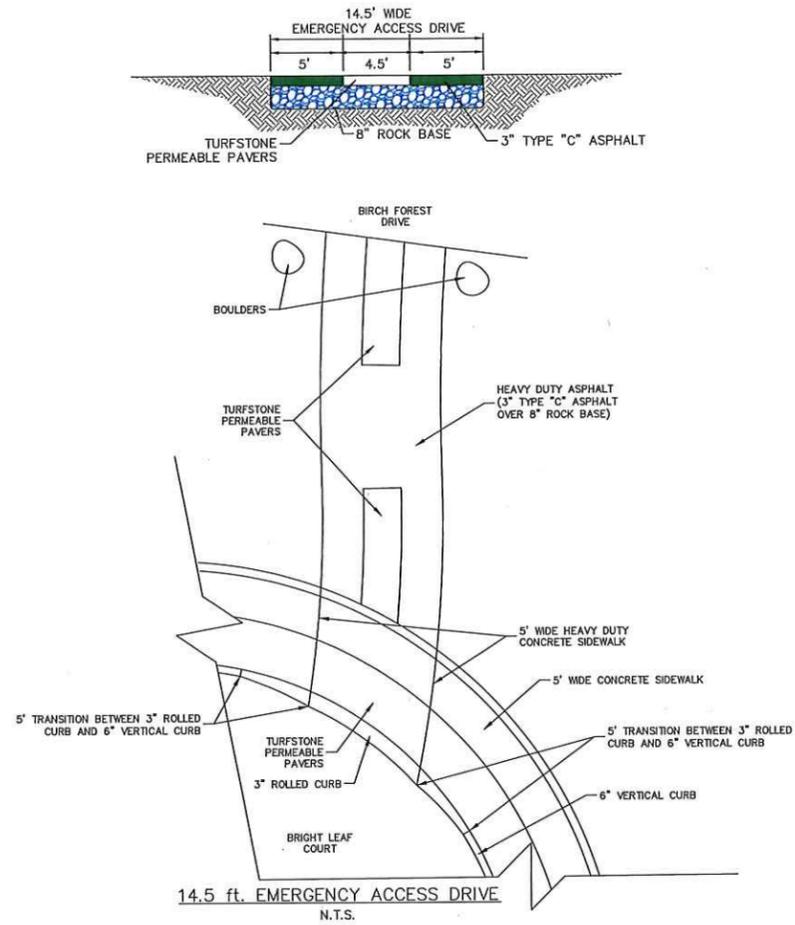
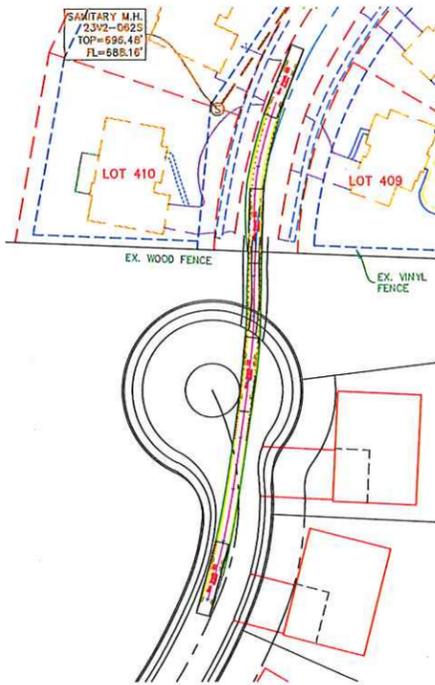


CONSTRUCTION ENTRANCE EXHIBIT

THE VILLAGES AT BRIGHT LEAF

A TRACT OF LAND LOCATED IN SECTIONS 1 & 2, TOWNSHIP 44 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI

Drawing name: V:\1404138 Jones Property\Drawings\Engineering\Improvements\1404138\1404138-000\autoturn\design\1-5-17\TAPES.dwg Plotted on: Jan 08, 2017 - 11:22am Plotted by: mlhhr



CITY OF WILDWOOD
JAN 11 2017
DEPT. OF PLANNING & PARKS

EMERGENCY ACCESS FIRE TRUCK

THE STERLING CO.
ENGINEERS & SURVEYORS
5955 New Baumgartner Road
St. Louis, MO 63121
Ph: 314-487-0440 Fax: 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

Bright Leaf Development, LLC
16141 Swingley Ridge Road, Suite 109
Chesterfield, Mo 63017
Ph: (636) 777-7171

The Villages at Bright Leaf
Wildwood, Missouri
PROPOSED EMERGENCY ACCESS
AUTOTURN MOVEMENT EXHIBIT

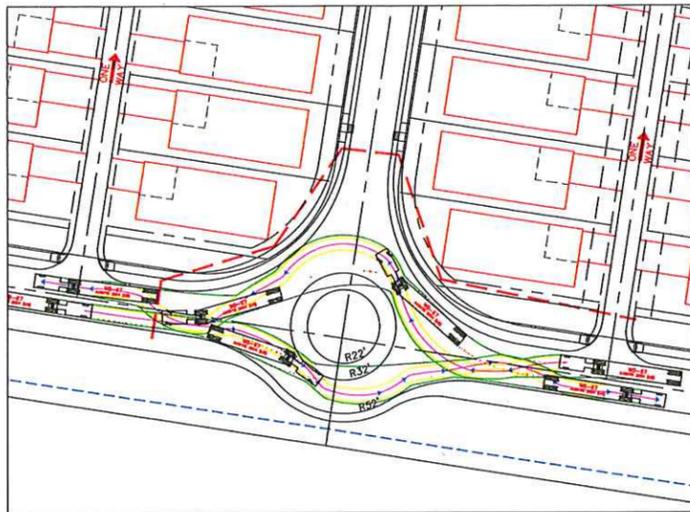
NOT APPROVED FOR CONSTRUCTION! REVIEW SET ONLY

Date: 11/11/2016
MICHAEL G. BOERDING
License No. E-28643
Civil Engineer

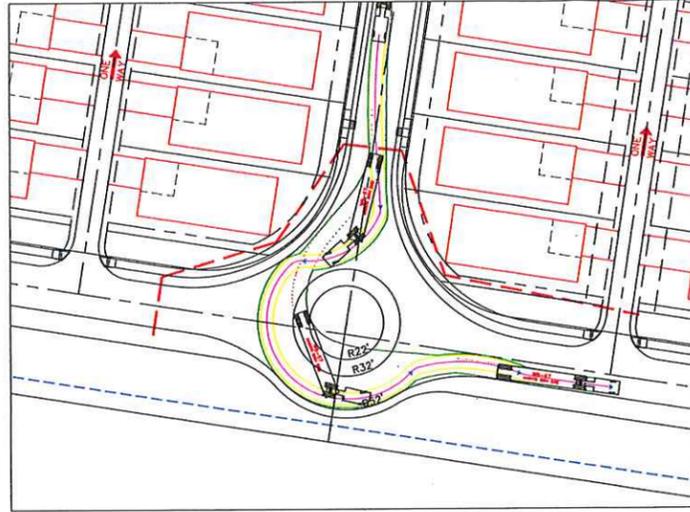
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Date: Nov. 11, 2016
Designed: JML Sheet: 1.1
Drawn: LM
Checked: JML IMP

MSD Base Map 23-V3 & 23V4
MSD P # 31037-00
Highway & Traffic #

ISSUE	REMARKS/DATE
1	11/11/2016 INITIAL SUBMITTAL



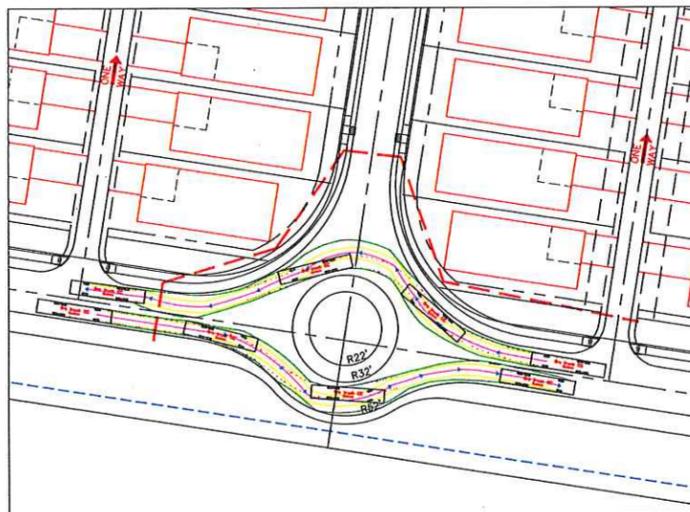
EATHERTON ROUND-A-BOUT (TYP)
WB-67



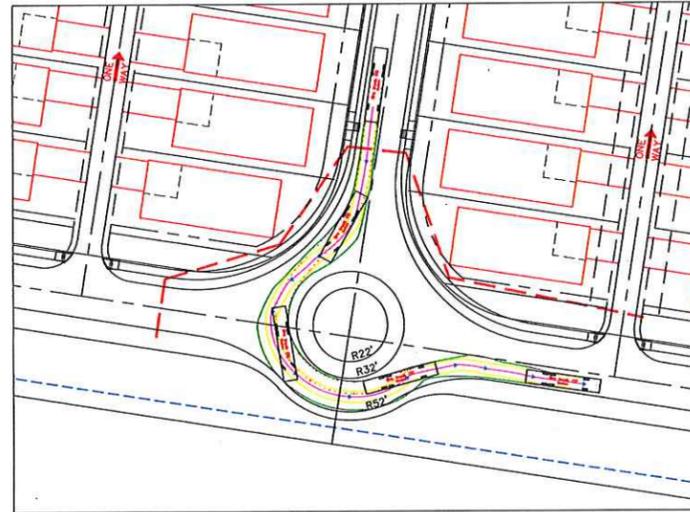
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WB-67



EATHERTON ROUND-A-BOUT (TYP)
WB-67



EATHERTON ROUND-A-BOUT (TYP)
FIRE TRUCK



EATHERTON ROUND-A-BOUT (TYP)
FIRE TRUCK



EATHERTON ROUND-A-BOUT (TYP)
FIRE TRUCK

CITY OF WILDWOOD
JAN 11 2017
DEPT OF PLANNING & PARKS

104' DIA. ROUND-A-BOUT OPTION

Drawing name: C:\Users\mherd\p\public\14-04-138\MP-roundabout\14-04-138\14-04-138.dwg Plotted on: Jan 08, 2017 - 11:14:10am Plotted by: jmlher

ISSUE	REMARKS/DATE
1	11/11/2016 INITIAL SUBMITTAL

Bright Leaf Development, LLC
16141 Swingley Ridge Road, Suite 109
Chestertown, Mo 63017
Ph. (636) 777-7171

THE STERLING CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
Ph. 314-487-0440 Fax 314-487-8944
www.sterling-eng-sur.com
Corporate Certificate of Authority #001548

The Villages at Bright Leaf
Wildwood, Missouri
PROPOSED ROUND-A-BOUT
AUTOTURN MOVEMENT EXHIBIT

**NOT APPROVED
FOR CONSTRUCTION!
REVIEW SET ONLY**

The Professional Engineer's seal and signature shall be placed on the approved copies of the contract and drawings shown on the drawings. The Professional Engineer's seal and signature shall not be used on drawings that are not approved by the engineer. The Professional Engineer's seal and signature shall not be used on drawings that are not approved by the engineer.

Date: 11/11/2016
MICHAEL G. BOERDING
License No. E-28643
Civil Engineer

Job Number	14-04-138
Date	Nov. 11, 2016
Designed: JML	Sheet
Drawn: LM	1.1
Checked: JML	IMP

MSD Base Map 23-V3 & 23V4
MSD P # 31037-00
Highway & Traffic #

Drawing name: \\11404108 Jones Property\dm\jml\Engineering\improvements\125M\PC\roadwork\re-design 1-5-17 TAPER.dwg Plotted on: Jan 08, 2017 - 11:38am Plotted by: jmlhtr



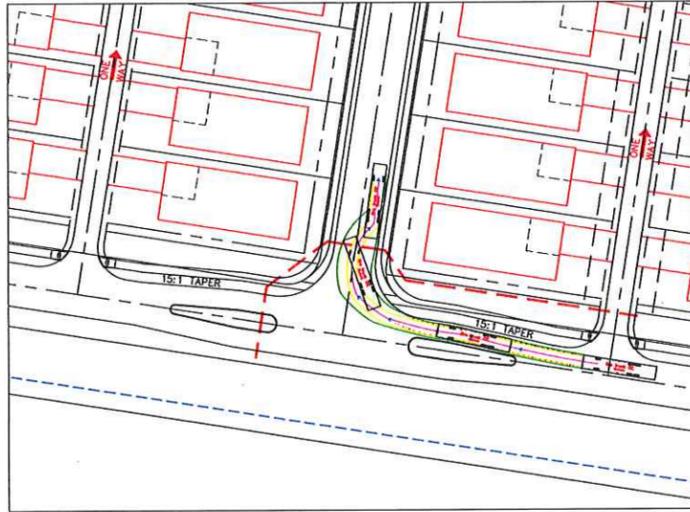
EATHERTON 15:1 TAPER (TYP)
FIRE TRUCK



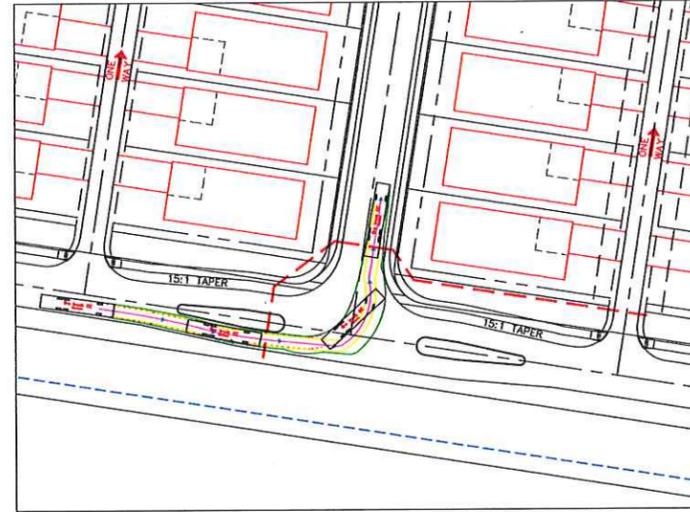
EATHERTON 15:1 TAPER (TYP)
FIRE TRUCK



EATHERTON 15:1 TAPER (TYP)
FIRE TRUCK



EATHERTON 15:1 TAPER (TYP)
FIRE TRUCK



EATHERTON 15:1 TAPER (TYP)
FIRE TRUCK

CITY OF WILDWOOD
JAN 11 2017
DEPT. OF PLANNING & PARKS

15:1 TAPER OPTION FIRE TRUCK

ISSUE	REMARKS	DATE
1	11/11/2016 INITIAL SUBMITTAL	

Bright Leaf Development, LLC
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The Villages at Bright Leaf
Wildwood, Missouri
PROPOSED 15:1 TAPER
AUTOTURN MOVEMENT EXHIBIT

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MICHAEL G. BORDING
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MSD P # 31037-00
Highway & Traffic #

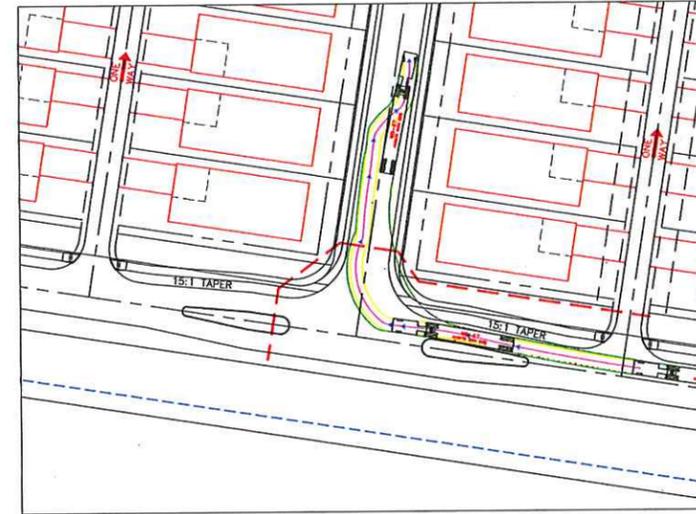
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EATHERTON 15:1 TAPER (TYP)
WB-67



EATHERTON 15:1 TAPER (TYP)
WB-67



EATHERTON 15:1 TAPER (TYP)
WB-67



EATHERTON 15:1 TAPER (TYP)
WB-67



EATHERTON 15:1 TAPER (TYP)
WB-67

CITY OF WILDWOOD
JAN 11 2017
DEPT OF PLANNING & PARKS

15:1 TAPER OPTION WB-67

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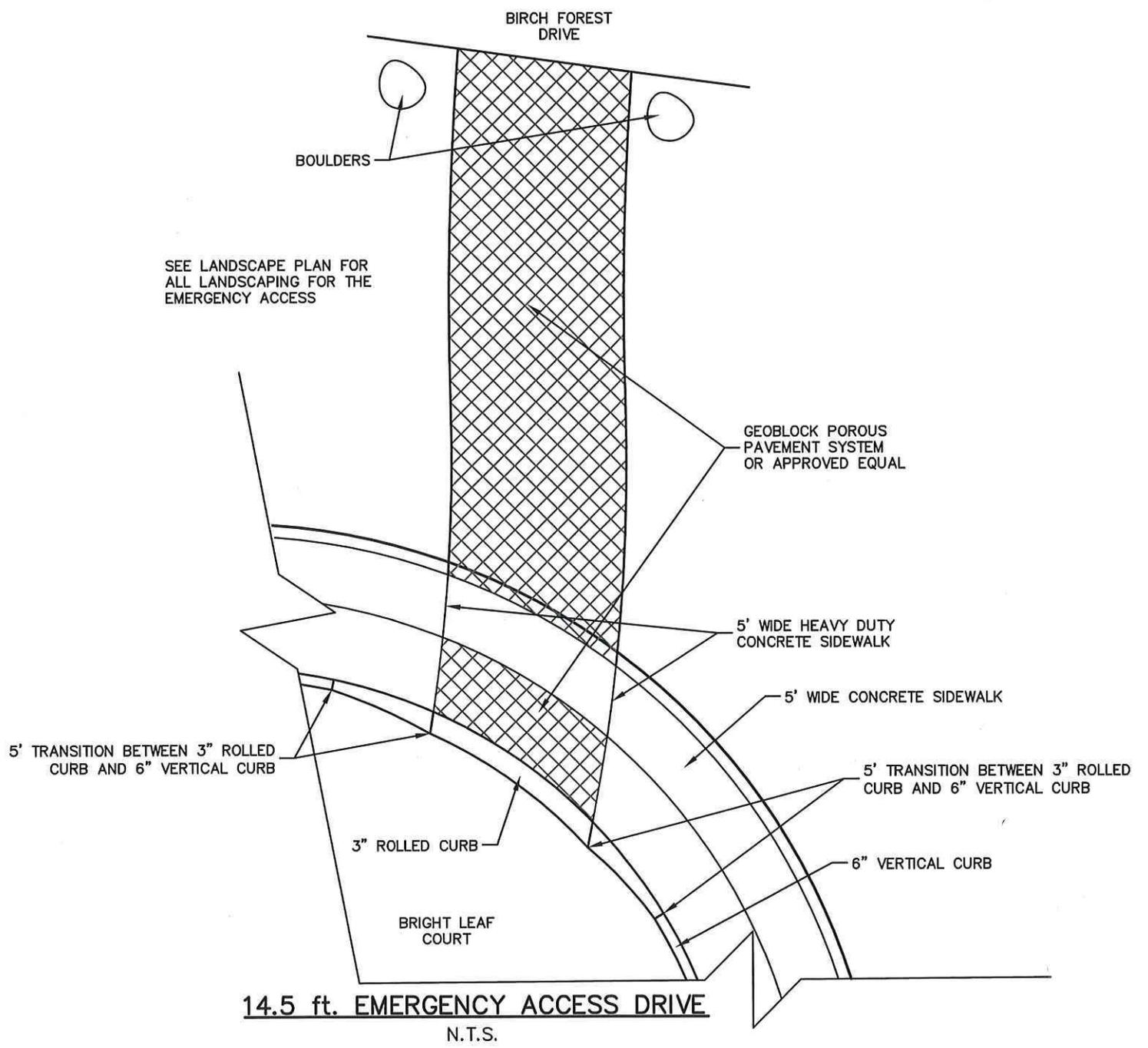
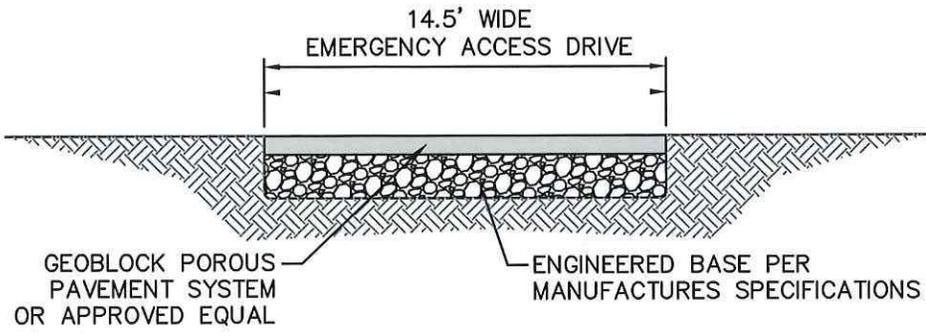
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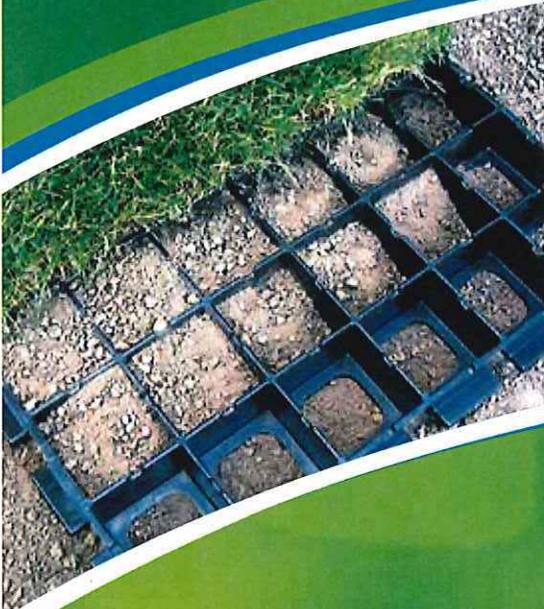
MSD Base Map 23-V3 & 23V4
MSD P # 31037-00
Highway & Traffic #





GEO SYSTEMS[®]

GLOBAL LEADER • GLOBAL PARTNER



*creating
sustainable
environments[®]*

GEOBLOCK[®]

porous pavement system

PRODUCT CATALOG

*our commitment:
providing the highest quality
products/solutions*

the natural way to manage stormwater



GEOBLOCK[®]
MADE IN THE USA



low-impact way to help manage stormwater

Environmental regulations that control and limit stormwater runoff, reduce impervious surface, and increase green space have resulted in the growth of permeable pavements for traffic areas. Presto's GEOBLOCK® system offers numerous environmental advantages over hard surface pavements that result in cost savings and aesthetic benefits to property owners. Designed to handle the most demanding load

support and turf protection requirements, the system supports a wide variety of loadings while allowing natural groundwater replenishment and reducing the need for detention or retention ponds. From pedestrian trails and walkways to emergency access lanes, to overflow parking, the GEOBLOCK® system provides high environmental benefit with low environmental impact.

environmental and economical benefits

HIGH PERMEABILITY

- Increases groundwater recharge and decreases surface runoff associated with stormwater discharge from paved areas.
- Minimizes use of valuable land space and costs associated with requirements for on-site stormwater ponds.

IMPROVES STORMWATER QUALITY

- Increases natural water infiltration and reduces non-point source pollution.

RECYCLED CONTENT

- Manufactured from up to 97% recycled polyethylene.

PROVIDES A COOLER SURFACE

- Reduces the heat island effect related to traditional hard pavements.

IMPROVES AESTHETICS

- Protects a sustainable vegetated surface or other attractive infill material.



**EARN U.S.
GREEN
BUILDING
LEED®
CREDITS**

The GEOBLOCK® system offers architects and designers achievable LEED® credits in the following categories:

- Reduced Site Disturbance
- Stormwater Management
- Reduced Heat Island Effect
- Recycled Content

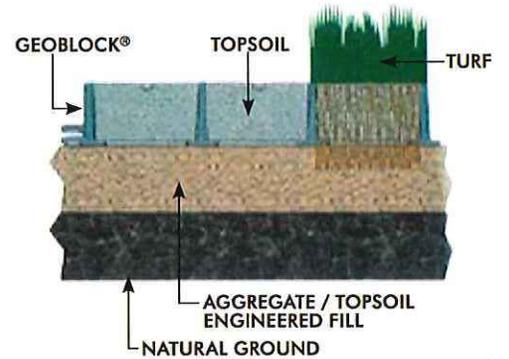
GEOBLOCK® system components

The GEOBLOCK® Porous Pavement System is comprised of the following components:

- GEOBLOCK® units
- Selected infill (topsoil/vegetation)
- Engineered base materials (if required)

The GEOBLOCK® system's unit strength and load distribution qualities allow a significant reduction in base requirements when compared to other porous pavement systems. Depending upon the subbase and loading, GEOBLOCK® units may be placed directly on the subgrade without additional base materials. For heavier loads or soft subbases, both the GEOBLOCK® units and engineered base work together to support the loading. The GEOBLOCK® system protects the topsoil from compaction and vegetative root zone from damaged by encapsulating them within the system's structure.

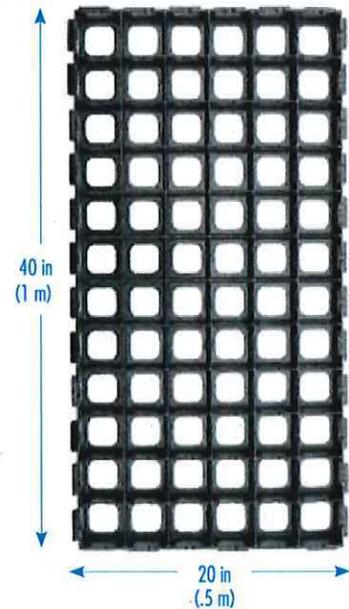
GEOBLOCK® SYSTEM CROSS SECTION:



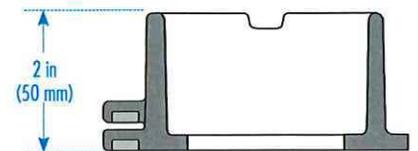
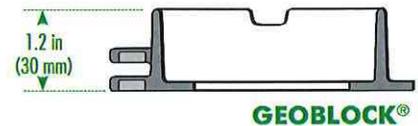
material specification

ITEM	GEOBLOCK®	GEOBLOCK®5150
Material	Up to 97% Recycled Polyethylene	
Color	Dark shades of gray to black	
Chemical Resistance	Superior	
Carbon Black for Ultraviolet Light Stabilization	1.5% - 2.0%	
Dimensions (width x length) (nominal)	20 in x 40 in (.5 m x 1 m)	
Nominal Unit Depth	1.2 in (30 mm)	2 in (50 mm)
Coverage Area	5.3 ft² (.5 m²)	
Cells per Unit	128	72
Cell Size	2.25 in x 2.25 in (57 mm x 57 mm)	3.1 in x 3.2 in (79 mm x 81 mm)
Top Open Area per Unit	88%	87%
Bottom Open Area per Unit	56%	41%
Interlocking Offset Shear Transfer Tabs	12 tabs per 40 inches (meter)	
Nominal Weight per Unit	4.7 lb (2.1 kg)	8.7 lb (4 kg)
Runoff Coefficient at 2.5 in/hr (63.5 mm) Rainfall	.15	
Units per Pallet	92	50

FULL SIZE GEOBLOCK® UNIT:



GEOBLOCK® CELL AND INTERLOCKING OFFSET TAB:



GEOBLOCK®5150



usage guideline

Description	LOAD DESCRIPTION				DEPTH OF ENGINEERED BASE			
	Maximum Tire Pressure	Single Axle Loading	Tandem Axle Loading	Gross Vehicle Loading	GEOBLOCK® 1.2 in depth (30 mm)		GEOBLOCK®5150 2 in depth (50 mm)	
					CBR 2-4	CBR >4	CBR 2-4	CBR >4
Heavy Fire Truck Access & H-20 Loading (infrequent passes)	Typical 110 psi (758 kPa)	32 kip (145 kN)	48 kip (220 kN)	80,000 lb (36.3 tonne)	14 in (350 mm)	10 in (250 mm)	6 in (150 mm)	4 in (100 mm)
Light Fire Truck Access & H-15 loading (infrequent passes)	Typical 85 psi (586 kPa)	24 kip (110 kN)		60,000 lb (27.2 tonne)	10 in (250 mm)	6-10 in (150-250 mm)	4 in (100 mm)	2 in (50 mm)
Utility & Delivery Truck Access & H-10 loading (occasional passes)	Typical 60 psi (414 kPa)	16 kip (75 kN)		40,000 lb (18.1 tonne)	6-10 in (150-250 mm)	4-8 in (100-200 mm)	2 in (50 mm)	2 in (50 mm)
Car & Pick-up Truck Access (occasional passes)	Typical 45 psi (310 kPa)	4 kip (18 kN)		8,000 lb (3.6 tonne)	4-8 in (100-200 mm)	2-4 in (50-100 mm)	None	None
Trail Use ⁽¹⁾ (loading for pedestrian, wheelchair, bicycle, motorcycle and ATV traffic)	Low	Low		Low	2-4 in (50-100 mm)	0-2 in (0-50 mm)	None	None

(1) If trail is non-vegetated, refer to the GEOBLOCK® design and construction document for more details.

NOTE: CBR refers to California Bearing Ratio. As the CBR increases, the depth of the engineered base recommendation decreases.

RECOMMENDED TOPSOIL:

Suitable topsoil should be a good quality, drainable soil and not be compacted within the GEOBLOCK® unit. The topsoil should be pulverized prior to filling the GEOBLOCK® cells and contain sufficient organic

content to support vegetative growth. Topsoil such as sandy loam is recommended. Clay and clay loam material are not recommended.

RECOMMENDED ENGINEERED BASE:

A recommended 'engineered base' is a homogenous mixture consisting of 1) a clear-stone/crushed rock having an AASHTO # 5 or similar designation blended with 2) pulverized topsoil and 3) a void component generally containing air and/or water. This homogenous mixture will promote vegetative growth and provide required structural support.

The aggregate portion shall have a particle range from 0.375 to 1.0 in (9.5 to 25 mm) with a D_{50} of 0.5 in (13 mm). The percentage void-space of the aggregate portion when compacted shall be at least 30%. The pulverized topsoil portion shall equal 25% +/- of the total volume and be added and blended to produce a homogenous mixture prior to placement. Once placed, the mixture shall be compacted to 95% Standard Proctor Density.

GEOBLOCK® *features/advantages*

- Quality product manufactured to ISO 9001:2008 standards.
- Available in two styles – GEOBLOCK® and GEOBLOCK®5150 – to meet loading frequency and budget requirements.
- Large rigid surface area and strong interlocking connections maximizes load transfer and distribution of wheel loads to 80,000 lbs. and higher.
- Requires far less depth of base than rolled pavement systems, reducing overall installation costs.
- Effectively handles vehicle turning stresses and torsional loads.
- Deeper cells protect topsoil and vegetative root zone from damage caused by repeated loadings.
- Manufactured from up to 97% recycled plastic; offers credits with USGBC LEED® program.



typical applications

Access Roads: Maintenance, Utility, Fire and Emergency Vehicles

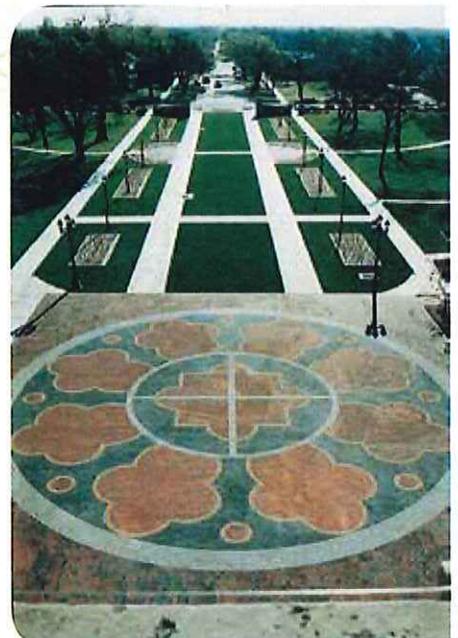
Parking Areas: Parks, Churches, Commercial Buildings, Sports Facilities, Residential

Trails: Pedestrian Greenways, Barrier-Free Access, Bicycles, Motorcycles and ATVs

Golf Courses: Edging, Pathways and Tee Areas

Residential: Driveways, Parking Areas, Campers and Boats

General: Event areas, Pedestrian Malls and Educational Campuses



In order to measure performance and evaluate the GEOBLOCK® system's capabilities, fire departments have performed rigorous tests on worst-case scenarios with exceptional results. Typical application areas include apartments, office and sports complexes, commercial/industrial buildings, shopping centers, and educational institutes.





easy installation

The GEOBLOCK® system is designed for easy installation, requiring less site preparation, less subgrade improvement, less excavation and less structural base than other porous pavement systems.

The GEOBLOCK® units are easily installed around obstructions and contours, and can be cut with ordinary hand or power tools. Irrigation systems can be easily integrated in the system. The units' large, easy-to-handle

size minimizes the quantity of blocks required on a given job, reducing labor and installation costs.

The GEOBLOCK® system is an ideal paving solution in traffic areas where sustainable vegetation or permeable infill is desired.

To find out which GEOBLOCK® system is most suitable for your application, contact Presto GEOSYSTEMS® or their authorized distributor or representative.

PRESTO GEOSYSTEMS® COMMITMENT — To provide the highest quality products and solutions.

Presto GEOSYSTEMS® is committed to helping you apply the best solution to your porous pavement requirements. Rely on the leaders in the industry when you need a solution that is

right for your application. Contact Presto GEOSYSTEMS® or their network of knowledgeable distributors/representatives for assistance with your permeable pavement needs.



PRESTO GEOSYSTEMS®

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GB/0 NOV 201
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AP-4944 R

ATTACHMENT B
Site-Specific Ordinance

AN ORDINANCE BY THE CITY COUNCIL OF THE CITY OF WILDWOOD, MISSOURI THAT AUTHORIZES THE CHANGE IN THE ZONING OF NINE (9) PROPERTIES THAT TOTAL 78.7 ACRES OF AREA FROM THE NU NON-URBAN RESIDENCE DISTRICT, THE R-3 10,000 SQUARE FOOT RESIDENCE DISTRICT, THE R-4 7,500 SQUARE FOOT RESIDENCE DISTRICT, AND THE R-6 AND R-6A 4,500 SQUARE FOOT RESIDENCE DISTRICT, WITH A PLANNED ENVIRONMENT UNIT (PEU) AND A PLANNED RESIDENTIAL DEVELOPMENT OVERLAY DISTRICT (PRD), TO THE R-3 10,000 SQUARE FOOT RESIDENCE DISTRICT (TOWN CENTER "NEIGHBORHOOD GENERAL DISTRICT" AND "NEIGHBORHOOD EDGE DISTRICT"), WITH A PLANNED RESIDENTIAL DEVELOPMENT OVERLAY DISTRICT (PRD), WHICH ARE ALL LOCATED ON THE NORTHWEST CORNER OF TAYLOR ROAD AND STATE ROUTE 100, WHICH WILL ALLOW THIS SITE'S USE FOR ONE HUNDRED NINETY-FOUR (194), SINGLE FAMILY DETACHED DWELLINGS ON INDIVIDUAL LOTS, WITH PUBLIC SPACE AND COMMON GROUND. (Ward Five)

WHEREAS, the Town Center Plan allows development proposals that are uniquely limited to this area, given their allowable densities, intensities, designs, and other characteristics that are consistent with the tenets of 'New Urbanism;' and

WHEREAS, over the years, many projects have been approved and developed in Town Center for commercial purposes, but only a limited number of residential developments have been completed, with many of the larger parcels of ground located within its boundaries not having that same level of interest; and

WHEREAS, this proposed site is the largest undeveloped property in the Town Center Area and designated for a mix of residential uses, including single family detached types on individual lots, which represents the current proposal that has been submitted and considered by the Planning and Zoning Commission and the City Council; and

WHEREAS, the proposal includes the development of a minimum of five (5) villages, with a varying number of lots and dwellings, which will total the one hundred ninety-four (194) authorized homesites and will be designed and developed consistent with many of the tenets of the Neighborhood Design Standards and Architectural Guidelines of the Town Center Plan; and

WHEREAS, the Planning and Zoning Commission was presented this proposal at a July 2015 public hearing, where many issues and other considerations were identified via the petitioners' presentation, its members' questions, and comments from nearby residents; and

WHEREAS, after this public hearing, the Planning and Zoning Commission considered those identified issues, considerations, questions, and comments, specifically relating to this proposal and particularly the construction of the Pond-Grover Loop Road, the extension of the Birch Forest Drive (a stub street), and the front-facing garages and suggested further review was warranted; and

WHEREAS, a Work Session was held by the Planning and Zoning Commission to further discuss these matters and seek resolutions to them, within the confines of the standards and requirements of the Town Center Plan; and

WHEREAS, after this Work Session, refinements were made to the design concept for this large Town Center Area site, which included revised designs of the some of the residential units relative to the proximity of the garage doors to the fronting streets, increases in public space areas, inclusion of sound mitigation efforts along State Route 100, alterations to the street network to improve safety, function, and calm traffic, and a modification to the design of a cul-de-sac and other lots to increase the bufferyard distance between them and abutting residential lots located in surrounding subdivisions; and

WHEREAS, with this direction from the Planning and Zoning Commission, the petitioner did revise the plan, but concerns lingered regarding the Pond-Grover Loop Road, Birch Forest Drive, and the front-facing garages, which led to another design that did not include the inclusion of any street extensions, i.e. Pond-Grover Loop Road and Birch Forest Drive; and

WHEREAS, this revised plan was reviewed by the Planning and Zoning Commission and it could not reach a majority vote on this project and the associated rezoning of the property and application of the special procedures permit (Planned Residential Development Overlay District); and

WHEREAS, the Planning and Zoning Commission deadlock, with a vote of 5 to 5, which meant the proposal failed for a lack of majority; and

WHEREAS, the Letter of Recommendation from the Planning and Zoning Commission was forwarded to City Council on December 14, 2015, where it conducted another public hearing on this matter, and heard from those individuals in attendance regarding this proposal; and

WHEREAS, at the conclusion of the public hearing, the City Council noted its concerns with the roadway issues and sought an appropriate solution, if possible, which was offered as the following: not connect Birch Forest Drive for all vehicular traffic, but rather design it to accommodate emergency access only, along with pedestrian and bicycle facilities, while requiring the dedication of the necessary and prescribed amount of right-of-way for the Pond-Grover Loop Road, along with requiring the developers to provide an escrow in the amount sufficient to accommodate its construction in the future, but not at this time, thereby allowing further consideration of it by the community; and

WHEREAS, with this direction for design changes to the roadway plan and other conditions, the City Council authorized the preparation of legislation in this regard for presentation on January 11, 2016, along with noting the project, notwithstanding the roadway components described above, was a positive for the Town Center Area and would address a difficult property that had been the subject of many discussions, since the update of the Town Center Plan during the years of 2008 to 2012; and

WHEREAS, the City Council, through its established authority under Chapter 89 of Missouri Revised Statutes and the Wildwood Charter, believes this action is consistent with good planning practice and will protect the public's health, safety, and general welfare by improving the conditions at this site with its redevelopment under a new owner.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF WILDWOOD, MISSOURI, AS FOLLOWS:

Section One. The City of Wildwood Zoning Ordinances and Official Zoning District Maps, which are made a part hereof, are hereby, are hereby amended to reflect the change in zoning from the NU Non-Urban Residence District, the R-3 10,000 square foot Residence District, the R-4 7,500 square foot Residence District, and the R-6 and R-6A 4,500 square Residence District, with a Planned Environment Unit (PEU) and a Planned Residential Development Overlay District (PRD), to the R-3 10,000 square foot Residence District, with a Planned Residential Development Overlay District (PRD), as set forth in this ordinance, for the following described land:

A TRACT OF LAND BEING PART OF SECTION 1, TOWNSHIP 44 NORTH, RANGE 3 EAST IN ST. LOUIS COUNTY, MISSOURI AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE NORTH AND SOUTH CENTERLINE OF SECTION 1 AND BEING THE SOUTHWEST CORNER OF EVERGREEN SECTION 2, PLAT 1, A SUBDIVISION AS RECORDED IN PLAT BOOK 260, PAGES 67 AND 68 OF THE ST. LOUIS COUNTY RECORDS; THENCE LEAVING SAID CENTERLINE AND ALONG THE SOUTH LINE OF SAID EVERGREEN SECTION 2, SOUTH 87°39'31" EAST, 935.26 FEET TO A POINT BEING THE SOUTHEAST CORNER OF LOT 409 OF EVERGREEN PLAT 4, A SUBDIVISION AS RECORDED IN PLAT BOOK 226, PAGES 95-97 OF SAID COUNTY RECORDS; THENCE LEAVING SAID SOUTH LINE AND ALONG AN ARC TO THE RIGHT HAVING A RADIUS OF 125.00 FEET, A CENTRAL ANGLE OF 59°04'05", AN ARC LENGTH OF 128.87 FEET, THE CHORD OF WHICH BEARS NORTH 31°51'57" EAST, 123.24 FEET TO A POINT; THENCE NORTH 61°24'00" EAST, 79.93 FEET TO A POINT; THENCE ALONG AN ARC TO THE RIGHT HAVING A RADIUS OF 200.00 FEET, A CENTRAL ANGLE OF 46°05'00", AN ARC LENGTH OF 160.86 FEET, THE CHORD OF WHICH BEARS NORTH 84°26'30" EAST, 156.56 FEET TO A POINT IN THE SOUTH RIGHT-OF-WAY OF BIRCH FOREST DRIVE (50' WIDE); THENCE ALONG THE SOUTHERN EDGE OF SAID RIGHT-OF-WAY SOUTH 72°31'00" EAST, 38.21 FEET TO A POINT; THENCE ALONG AN ARC TO THE LEFT HAVING A RADIUS OF 200.00 FEET, A CENTRAL ANGLE OF 12°38'00", AN ARC

LENGTH OF 44.10 FEET, THE CHORD OF WHICH BEARS SOUTH 78°50'00" EAST, 44.01 FEET TO A POINT BEING THE NORTHWEST CORNER OF LOT 406 OF SAID EVERGREEN PLAT 4; THENCE LEAVING SAID RIGHT-OF-WAY AND ALONG THE WEST LINE OF SAID LOT 406, SOUTH 04°51'00" WEST, 153.26 FEET TO THE SOUTHWEST CORNER OF SAID LOT 406, SAID POINT BEING IN THE SOUTH LINE OF SAID EVERGREEN PLAT 4; THENCE ALONG SAID SOUTH LINE SOUTH 87°39'31" EAST, 51.98 FEET TO A FOUND AXLE, SAID POINT BEING THE NORTHWEST CORNER OF EVERGREEN PLAT 3, A SUBDIVISION AS RECORDED IN PLAT BOOK 204, PAGES 71-73 OF SAID COUNTY RECORDS, FROM WHICH POINT A STONE BEARS SOUTH 01°34'37" WEST, 98.54 FEET SAID POINT ALSO BEING IN THE WEST LINE OF THE EAST HALF OF THE NORTHEAST QUARTER OF SECTION 1; THENCE ALONG THE WEST LINE OF THE EAST HALF OF THE NORTHEAST QUARTER, SOUTH 01°34'37" WEST, 1,128.77 FEET TO A POINT, SAID POINT BEING LOCATED ALONG THE WESTERN LINE OF LOT 112 OF EVERGREEN PLAT 1, A SUBDIVISION AS RECORDED IN PLAT BOOK 190, PAGE 89 OF SAID COUNTY RECORDS, SAID POINT BEING LOCATED ON THE CENTERLINE OF TAYLOR ROAD (30 FEET WIDE), THENCE LEAVING SAID CENTERLINE AND PROCEEDING NORTH 88°25'23"W, 20.00 FEET TO A POINT; THENCE SOUTH 20°00'41" WEST, 94.87 FEET; SOUTH 01°34'37" WEST, 113.11 FEET; SOUTH 43°21'00" WEST, 75.00 FEET TO A POINT BEING ON THE NORTH LINE OF MISSOURI STATE HIGHWAY 100 (ALSO KNOWN AS MANCHESTER ROAD); THENCE WITH SAID NORTH LINE NORTH 85°02'20" WEST, 461.64 FEET; ALONG AN ARC TO THE RIGHT HAVING A RADIUS OF 17,063.74 FEET, A CENTRAL ANGLE OF 01°22'40", AN ARC LENGTH OF 410.35 FEET, THE CHORD OF WHICH BEARS NORTH 84°21'00" WEST, 410.34 FEET TO A POINT; THENCE NORTH 73°52'26" WEST, 150.88 FEET; ALONG AN ARC TO THE RIGHT HAVING A RADIUS OF 17,038.74 FEET, A CENTRAL ANGLE OF 01°40'00", AN ARC LENGTH OF 495.64 FEET, THE CHORD OF WHICH BEARS NORTH 82°19'40" WEST, 495.62 FEET TO A POINT; THENCE NORTH 68°37'23" WEST, 137.03 FEET; NORTH 81°02'40" WEST, 865.00 FEET; NORTH 79°53'55" WEST, 500.10 FEET; NORTH 73°28'36" WEST, 230.48 FEET TO A POINT IN THE EAST RIGHT-OF-WAY LINE OF EATHERTON ROAD (40' WIDE); THENCE ALONG LAST SAID RIGHT-OF-WAY NORTH 27°33'18" WEST, 688.50 FEET TO A POINT BEING THE SOUTHWEST CORNER OF A 15 FOOT DEDICATION STRIP AS PER EASEMENT PLAT FOR SANDALWOOD CREEK PHASE 1, AS RECORDED IN PLAT BOOK 234, PAGE 33, AND AMENDED IN PLAT BOOK 243, PAGE 3 OF SAID COUNTY RECORDS, FROM WHICH POINT A CONCRETE MONUMENT BEARS SOUTH 87°37'57" EAST, A DISTANCE OF 17.32 FEET; THENCE ALONG THE SOUTH LINE OF SANDALWOOD CREEK CONDOMINIUMS PHASE ONE-A, (PLAT BOOK 234, PAGE 6), SANDALWOOD CREEK CONDOMINIUMS PHASE TWO-A (PLAT BOOK 242, PAGES 84-87), SANDALWOOD CREEK CONDOMINIUMS PHASE SIX-A, (PLAT BOOK 270, PAGES 57-61), AND SANDALWOOD CREEK CONDOMINIUMS PHASE SEVEN-A, (PLAT BOOK 285, PAGES 35-38) OF ST. LOUIS COUNTY RECORDS, SOUTH 87°33'57" EAST, 1,534.38 FEET TO A POINT BEING THE SOUTHEAST CORNER OF SAID SANDALWOOD CREEK CONDOMINIUMS PHASE SEVEN-A, AND ALSO BEING THE SOUTHWEST CORNER OF HUNTERS RUN, A SUBDIVISION AS RECORDED IN PLAT BOOK 320, PAGES 25-26 OF SAID COUNTY RECORDS; THENCE ALONG THE SOUTH LINE OF SAID HUNTERS RUN SOUTH 87°41'40" EAST, 771.44 FEET TO A POINT IN THE AFOREMENTIONED NORTH AND SOUTH CENTERLINE OF SECTION 1, SAID POINT ALSO BEING THE SOUTHEAST CORNER OF SAID HUNTERS RUN; THENCE ALONG SAID CENTERLINE AND EAST LINE OF SAID HUNTERS RUN NORTH 01°12'37" EAST, 399.14 FEET TO THE NORTHEAST CORNER OF SAID HUNTERS RUN AND THE POINT OF BEGINNING AND CONTAINING 3,436,441 SQUARE FEET MORE OR LESS (78.8898 ACRES MORE OR LESS.)

Section Two. The zoning authority and approval embodied in this ordinance is granted subject to compliance with the Subdivision and Development Regulations, Zoning Code, and all other City of Wildwood ordinances, rules, and regulations and the conditions of this ordinance, except as, may be modified herein, upon the requirement the development and approved Site Development Plan are carried out in accordance with the recommendation forwarded to the City Council by the Planning and Zoning Commission within the communication dated December 7, 2015, which is incorporated herein by reference as if fully set forth in this ordinance. The zoning authority granted herein is further subject to the following conditions:

1. PERMITTED USES

- a. This Planned Residential Development (P.R.D.) Overlay District shall authorize the maximum development of **one hundred ninety-four (194)¹ eighty-seven (87)**, detached single family dwellings on individual lots, with common ground and public space, and all permitted accessory structures normally found in conjunction with the primary use of each property. If the Homeowners Association should want to construct an in-ground swimming pool and related cabana, such is allowed within the boundaries of this Planned Residential Development Overlay District (PRD), but must be located in subdivision-owned common ground.

¹ These requests were advertised for 194 units; therefore, a greater number cannot be considered, unless a new public hearing is held.

2. LOT SIZES, DEPTHS, AND BUILDING REQUIREMENTS

- a. Each detached dwelling unit shall be located on an individual lot of record that meets the following requirements, per its location within the six (6) defined villages:
- Village A – Eighty (80) foot minimum lot width and lot size of 12,000 square feet.
 - Village B – Sixty-three (63) foot minimum lot width and lot size of 9,000 square feet.
 - Village C – Sixty-two (62) foot minimum lot width and lot size of 9,000 square feet. ~~excepting four (4) lots, which shall have direct frontage onto the Pond Grover Loop Road, with on-site turnaround capabilities provided on each of them. These four (4) lots shall have a minimum width of seventy (70) feet, a front yard setback distance of thirty five (35) feet, and a depth no less than one hundred sixty (160) feet.~~
 - Village D – Sixty (60) foot minimum lot width and lot size of 6,500 square feet.
 - Village E – Thirty-eight (38) foot minimum lot width and lot size of 4,000 square feet.
 - Village F - Rear-Entry Garage Lots – Forty-five (45) foot minimum lot width and lots size of 5,400 square feet.
 - Properties located within a cul-de-sac shall be as approved by the Planning and Zoning Commission on the Site Development Plan. These widths shall be measured at the front building line.
- b. All detached single family dwellings shall have a minimum finish floor elevation of their front porches of **eighteen (18) inches** in height above the adjoining sidewalk grade. All dwelling units shall have a front porch, which must extend across **at least thirty percent (30%)** of the façade's elevation facing the frontage line, at a minimum depth of no less than six (6) feet. No building facade shall show more than four (4) corners to the frontage line or as approved by the Architectural Review Board on the required elevations.
- c. No building and/or structure shall be more than two (2) stories above final grade, as measured from the front building line on any individual lot.
- d. Direct residential drive access shall be allowed for up to ~~one hundred fifty-seven (157) fifty-three (153)~~ of the single family detached units within this development from the system of internal streets, but the garage door(s) on each unit must be a minimum of **seven point five (7.5) feet** behind an imaginary line formed by an extension of the front elevation of the dwelling (including the front porch) parallel to the lot's frontage, **Units in two (2) of these villages shall be as reviewed and acted upon by the Planning and Zoning Commission on the Site Development Plan (Villages A and C). Garage door(s) associated with any unit located within Village E shall be a minimum of six (6) feet behind an imaginary line formed by an extension of the front elevation of the dwelling (including the front porch) parallel to the lot's frontage.** Individual garage doors shall not be greater than **twenty (20) feet** in width and must be **carriage types**, including windows, and incorporate other architectural treatments, as determined by the City's Architectural Review Board to be appropriate, to lessen their prominence within the visual corridor formed by these interior streets within the development, unless a suitable alternative design is provided for these openings. **The developer shall provide a minimum of two (2) options that incorporate these requirements to the Planning and Zoning Commission for its consideration, as part of the Site Development Plan review and action process, regarding the front of the garages that further reduces their prominence from the abutting street view. Architectural type shingle selections shall be required on all residential units of a minimum thirty (30) year standard.**

- e. The New Urbanism lots that are part of this Planned Residential Development Overlay District boundary shall be accessed by service lanes (alleys) that comply in their construction with the Street Specifications of the Town Center Plan. These service drives shall provide access to rear loaded garages that must be provided, as part of any single-family detached dwelling, for a minimum of thirty-seven (37) ~~thirty-three (33)~~ of the allowable one hundred ninety-four (194) ~~eighty-seven (87)~~ lots. These lots do not need to incorporate the garage offset distance noted in Condition 2(d.) of this Ordinance.
- f. The first story, interior clear height for all single family dwellings shall be not less than **nine (9) feet**.
- g. Detached single family dwelling units, which face the frontage line, but also places the side of the building along another right-of-way, shall be designed to incorporate the elements of the front facade along that portion of the structure **(in its entirety)**. The placement and design of these units shall be approved by the Planning and Zoning Commission on the Site Development Plan and the elevations of these units by the Architectural Review Board.
- h. The proposed architectural design, character, and style of all buildings and dwelling units shall adhere to the City of Wildwood's Town Center Architectural Guidelines, Neighborhood Design Standards, and any other applicable requirements of the Town Center Plan, **excepting no vinyl siding shall be allowed on any dwelling unit within the boundaries of this Planned Residential Development Overlay District (PRD). All materials used on any facade of a residential unit shall be fiber cement siding and backer board.** Approval of the required design shall be by the Architectural Review Board. Minimally, all buildings shall maintain a consistent theme throughout the boundaries of this Planned Residential Development Overlay District in terms of material, color, and style.
- i. The overall area of this Planned Residential Development Overlay District (PRD) shall be no less than 78.7 acres in total.

3. PLAN SUBMITTAL REQUIREMENTS

Within twelve (12) months of the P.R.D. Overlay District approval by the City Council, and prior to any site disturbance, the developer shall submit to the Planning and Zoning Commission for their review and approval a Site Development Plan. Where due cause is shown by the developer, time intervals may be extended once by the Planning and Zoning Commission in accord with requirements of Section 420.060 of the City of Wildwood Zoning Ordinance. Said Site Development Plan shall include, but not be limited to, the following information:

- a. Outboundary plat and legal description of the property.
- b. A general numbered lot plan with setback lines from all streets and roadways on and adjacent to the property. A typical lot diagram, indicating all site design information such as, but not limited to, right-of-way width, improvement dimensions and locations, setbacks, and building placement.
- c. The location and size of all parking areas, pavement widths, and right-of-way dedications of all internal roadway improvements and drives.
- d. A general plan indicating setback lines along the perimeter of the subject tract of land and surrounding property lines and related improvements within four hundred (400) feet of this site's boundaries.

- e. Location of all roadways adjacent to the property, including required roadway right-of-way dedication and pavement widening with existing and proposed improvements, and general location, size, right-of-way, and pavement width of all interior drives.
- f. The location and size of all freestanding signs, lighting, fences, sidewalks, and other above ground structures, except retaining walls less than two (2) feet in height per section.
- g. Existing and proposed contours at vertical intervals of not more than two (2) feet.
- h. General location of sanitary sewer facilities.
- i. Parking and density calculations.
- j. Conceptual location and size of common ground areas.
- k. A typical section of the proposed road indicating the placement and design of required streetscape improvements.
- l. A Landscape Plan including, but not limited to, the location, size, and general type of plant materials to be used in accord with the City of Wildwood's Ordinance 410 and accompanying Tree Manual.
- m. An inventory of the percent of tree canopy or individual trees to be retained on the site.
- n. Location of all existing and proposed easements.
- o. All other information not mentioned above, but required on a preliminary plat in accord with Section 420.060 of the City of Wildwood Subdivision and Development Regulations.

If the Planning and Zoning Commission determines, through its standard review processes, the Site Development Plan cannot be acted upon due to non-compliance to the site-specific ordinance, the Zoning Ordinance, or other land use regulations applicable to this type of subdivision, as interpreted by it, then the rezoning of the subject site and the application of the Planned Residential Development Overlay District shall not remain effective thereafter and the City must initiate the revocation process described in the Zoning Ordinance for this type of circumstance.

4. **SITE DEVELOPMENT PLAN DESIGN CRITERIA**

The above Site Development Plan shall adhere to the following specific design criteria:

Build-To Lines - Residential

- a. Any building or structure, other than boundary and/or retaining walls, fences, detention facilities, and/or light standards, shall adhere to the following build-to lines, as specified in the Town Center Plan's Neighborhood Design Standards:
 - (1) **Twenty (20) feet** from any right-of-way line, except any unit served by a rear entry garage, which shall have a **build-to distance of ten (10) feet** (see Condition 2(a.)).
 - (2) **Five (5) feet** for any side yard property line and ten (10) feet for side yard areas that abut the perimeter of the Planned Residential Development Overlay District.
 - (3) **Fifteen (15) feet from any rear yard property line** and thirty (30) feet for rear yard areas that abut the perimeter of the Planned Residential Development Overlay District.
 - (4) **Five (5) feet from any rear yard property line** for any unit served by a rear entry garage.

Parking Setbacks – Residential

- b. All parking stalls or loading spaces, excluding points of ingress or egress for the detached dwelling units, shall be located behind the front elevation of the dwelling a minimum of **twenty-five (25)**

feet. Driveway widths serving these required parking spaces, specifically between the edge of the public right-of-way and the front building line, shall be as approved by the Planning and Zoning Commission on the Site Development Plan, but be minimized in their respective distances to the greatest extent possible.

Access and Roadway Improvements

- c. **State Route 100** - Dedicate the required amount of right-of-way and/or easements along this property's State Route 100 frontage to the Missouri Department of Transportation (MoDOT) for public roadway purposes and, **subject to Subsection 4(d.)**, construct within this area the extension of the Pond-Grover Loop Road, all necessary intersection modifications and upgrades, and other improvements required therein. Improvements to State Route 100 shall conform to the requirements of the Missouri Department of Transportation (MoDOT) and the City of Wildwood's Street Specifications of the Town Center Plan, as directed and approved by the State of Missouri and the City of Wildwood's Department of Public Works. All streetscape requirements (street trees, lights, signs, waste receptacles, benches, and other items consisting of approved materials) shall be installed by the developer, as specified by the City of Wildwood's Town Center Plan within the right-of-way of State Route 100 and directed by the Department of Public Works.
- d. **Pond-Grover Loop Road** – **Subject to the conditions that follow in this Subsection [4 (d.)], petitioners/developer shall construct the Pond-Grover Loop Extension, as shown on the approved Preliminary Plan; deviations in modifications to the location and design of the extension from what is shown on the plan may be approved by the Directors of the Departments of Planning and Public Works, so long as the purpose of the extension, as contemplated by the Town Center Plan, is fulfilled satisfied; the final location, design and specifications of the plan extension shall be shown on the applicable plat of the subdivision, as approved by City Council.**
- i. **The extension shall be constructed pursuant to applicable City standards;**
 - ii. **The cost of constructing the extension shall be determined by petitioners/developer, subject to approval review and acceptance by the Directors of Planning and Public Works, prior to approval of the applicable plat;**
 - iii. **Upon acceptance approval of the cost by the Directors of Planning and Public Works, and prior to approval of the applicable plat, the petitioners/developer and the City shall execute an agreement that provides for the following:**
 1. **The dedication of right-of-way to the City for the extension, pursuant to the applicable plat, and such other instruments, as may be reasonably required by the City;**
 2. **A Letter of Credit, in the amount of the cost, issued to the City, as beneficiary, shall be obtained by petitioners/developer from a financial institution and with terms and conditions and an outside expiration date (including any renewal terms) that are acceptable to the Directors of Planning and Parks and the City Attorney and in accord with the terms and conditions of this Subsection [4(d.)] for the purpose of securing the performance of the construction of the extension; and the Letter of Credit shall be issued and delivered to the City, prior to approval of the applicable plat;**
 3. **Commencement of construction of the extension within ninety (90) days after a Notice to Proceed is issued by the Directors of Planning and Public Works to petitioners/developer and petitioners/developer shall proceed and complete the extension in accordance with a schedule approved by the Directors of Planning and Public Works;**

4. ~~If Notice to Proceed is not issued by the second first anniversary date of the approval of the applicable plat or if the City issues a notice to petitioners/developers stating the extension should not be constructed, petitioners/developer's obligation to construct the extension shall terminate, the Letter of Credit shall terminate, and the dedication shall be released/reconveyed to the petitioners/developers, or their successor(s), in title; the area on the plan set aside for the extension shall, in the event of such release and reconveyance, be converted to common ground, with trail(s) and associated public easements for them, as approved by the Director of Planning and Parks; and~~
 5. ~~The City shall execute and record such instruments and documents, as may be reasonably necessary to effect the foregoing terminations and release/reconveyance.~~
- e. ~~Establish a minimum seventy (70) foot wide public right-of-way dedication to the City of Wildwood and construct the Pond Grover Loop Road Extension through the site that provides a total of two (2), eleven (11) foot wide lanes (not inclusive of the concrete vertical curb and gutter), a minimum ten (10) foot wide grass median, and a five (5) foot wide sidewalk on east side of this internal roadway, and a ten (10) foot wide multiple use trail on its west side, all of which adhere to the Town Center Plan's Street Specifications and the Streetscape Design Requirements, as directed by the Department of Public Works and approved by the Planning and Zoning Commission on the Site Development Plan. Tree lawn areas and all stormwater management facilities shall be the developer's responsibility to provide and construct as well. Along with this dedication of seventy (70) feet of right of way, the developer shall provide a five (5) foot wide roadway, maintenance; landscaping, sewer, sidewalk, and utility easement along both sides of this public dedication area. All streetscape requirements (street trees, lights, signs, waste receptacles, benches, and other items consisting of approved materials) shall be installed by the developer, as specified by the City of Wildwood's Town Center Plan within the right of way of Pond Grover Loop Road and directed by the Department of Public Works.~~
- i. ~~The developer is also responsible for the construction of a roundabout at a location approved by the Planning and Zoning Commission on the Site Development Plan. This roundabout shall be designed, engineered, and constructed in accordance with the Town Center Plans Street Specifications and Streetscape Requirements. The Departments of Public Works and Planning shall direct determinations in this regard, along with final action by the Planning and Zoning Commission.~~
- e. **Internal Streets** - Complete the necessary dedication of land area within this subject site for public right-of-way purposes associated with the internal network of streets. These dedications for public rights-of-way shall be used for the construction by the developer of a network of internal residential streets for service to the authorized lots. These dedications shall be a minimum of forty (40) feet in width to accommodate the construction of two (2) lanes of asphalt roadway, with concrete curb and gutter, and five (5) foot wide sidewalks, including a three (3) foot tree lawn area, which all adhere to the Town Center Plan's Street Specifications and the Streetscape Design Requirements, as directed by the Department of Public Works and approved by the Planning and Zoning Commission on the Site Development Plan. The construction of these improvements is the sole responsibility of the developer(s) of this project. Along with this dedication of these rights-of-way areas, the developer shall provide a five (5) foot wide roadway, maintenance, landscaping, sewer, sidewalk, and utility easement along both sides of this public dedication area. All streetscape requirements (street trees, lights, signs, waste receptacles, benches, and other items consisting of approved materials) shall be

installed by the developer, as specified by the City of Wildwood's Town Center Plan within the rights-of-way of these unnamed streets and directed by the Department of Public Works.

- f. **Eatherton Road Extension** - Dedicate the required amount of right-of-way and/or easements within the boundaries of this property to the City of Wildwood for the construction of the Eatherton Road Extension for public roadway purposes, which include a minimum driving surface of two (2) lanes that total twenty-six (26) feet in width, a five (5) foot wide sidewalk on both sides of this driving surface, and street trees and lights, including a minimum seven (7) foot wide tree lawn area for these improvements. A roundabout, and related channelization islands and other improvements as set forth therein, is required within the Eatherton Road Extension right-of-way area and the developer is responsible for its construction. Improvements to Eatherton Road shall conform to all of the requirements of the City of Wildwood's Street Specifications of the Town Center Plan, as directed and approved by the City of Wildwood's Department of Public Works. All streetscape requirements (street trees, lights, signs, waste receptacles, benches, and other items consisting of approved materials) shall be installed by the developer, as specified by the City of Wildwood's Town Center Plan within the right-of-way of Eatherton Road and directed by the Department of Public Works.
- g. **Birch Forest Drive – The trail/emergency extension of ~~extend~~ Birch Forest Drive, from its current terminus into the subject site, shall be limited to a design that accommodates only emergency and pedestrian/bicyclist access. The construction and of this trail/emergency extension shall adhere to established and accepted design, engineering, and material standards and specifications, which would allow for emergency vehicles only, pedestrians, and bicyclists to access across it, while blocking any other vehicle by a system of bollards (or acceptable alternative), to be selected in terms of their types and placements, as directed by the ~~Town Center Plan's Street Specifications and the Streetscape Design Requirements~~ Department of Public Works and the Metro West Fire Protection District, all needing final action by the Planning and Zoning Commission on the Site Development Plan. Safety Components determined necessary for the design and construction/reconstruction of this alternative, ~~trail/emergency/pedestrian/bicyclist any stub street~~ extension shall be indicated on the Site Development Plan and reviewed and acted upon thereafter by the Planning and Zoning Commission.**
- h. **Service Lanes (alleys)** - Complete the necessary dedication of land area within this subject site for private access purposes. These dedications for private purposes shall be used for the construction by the developer of a system of lanes/alleys for service to the authorized lots. These dedications shall be a minimum of twenty-two (22) feet in width to accommodate the construction of a lane/alley, which all adhere to the Town Center Plan's Street Specifications and the Streetscape Design Requirements, as directed by the Department of Public Works and approved by the Planning and Zoning Commission on the Site Development Plan.
- i. Any planned traffic island/cul-de-sac shall be designed and constructed by the developer of this residential subdivision in accordance with City of Wildwood standards, and as directed by the Department of Public Works. The Planning and Zoning Commission, on the Site Development Plan, shall approve the final design of this traffic calming improvement.

Miscellaneous Roadway Requirements

- j. Installation of landscaping and ornamental entrance monument or identification signage, if proposed, shall be reviewed by the Department of Public Works for sight distance considerations and approved prior to its installation or construction.
- k. If required sight distance cannot be provided at the access location, acquisition of right-of-way, reconstruction of pavement, including correction to vertical alignment and other off-site improvements, may be required to provide the required sight distance as directed by the Department of Public Works.
- l. **Construction access shall be from State Route 100 during the development of this site, not via Birch Forest Drive and/or Eatherton Road.**
- m. Sidewalks shall be required on all public and private streets (parking lot aisles) and provide for a continuous and logical layout of this pedestrian network. Design and construction requirements for all sidewalks within the entire development shall be as established in the Street Specifications and Streetscape Elements of the Town Center Plan. Approval of their location, design, and material shall be by the Planning and Zoning Commission, as part of the Site Development Plan review process.
- n. The developer is advised that utility companies will require compensation for relocation of their utility facilities within public road right-of-way. Utility relocation cost shall not be considered as an allowable credit against the petitioner's Traffic Generation Assessment contributions. The developer should also be aware of extensive delays in utility company relocation and adjustments. Such delays will not constitute a cause to allow occupancy prior to completion of roadway improvements.
- o. All internal streets, access drives, or lanes, whether public or private, shall comply with the Streetscape Requirements of the Town Center Plan in terms of improvements, such as drive lane widths, sidewalks, stormwater drainage facilities, garden walls, street trees and lights, and pedestrian furniture. If certain streets, drives, or lanes are to be private, an easement shall be provided to the City granting public use of them for pedestrian and vehicular purposes. These easements shall be granted at the time of the Record Plat approval by the City Council.

Parking Requirements - Residential

- p. Parking spaces shall be provided as required by the Town Center Plan's Neighborhood Design Standards and Section 415.340 Off-Street Parking and Loading Requirements of the City of Wildwood Zoning Ordinance for the R-3 10,000 square foot Residence District.

Landscape Requirements - Specific

- q. Landscaping shall adhere to all requirements of Ordinance 410 and its accompanying Tree Manual, including the submittal of a Tree Preservation Plan in conjunction with the Site Development Plan.
- r. All streets, roads, and lanes shall be appropriately landscaped as required by the Streetscape Design Requirements of the Town Center Plan and approved by the Planning and Zoning Commission on the Site Development Plan.

- s. The areas of existing vegetation within the P.R.D. Overlay District boundaries identified as to be retained shall be marked on the site prior to the commencement of any disturbance in accord with the City of Wildwood's Ordinance 410. These areas shall be indicated on the Site Development Plan submitted to the City of Wildwood for Planning and Zoning Commission review and approval. Existing mature tree canopy shall be preserved in accordance with the requirements of City of Wildwood's Ordinance 410 Tree Preservation and Restoration Code.
- t. Landscaping with the defined common ground areas shall comply with Ordinance 410 Tree Preservation and Restoration Code requirements and accompanying Tree Manual. The Planning and Zoning Commission, on the Site Development Plan, shall approve the planting pattern. Amenities, such as benches, lights, and walking paths shall be installed in the open space area of the residential development by the developer of these one hundred ninety-four (194) ~~eighty-seven (187)~~ dwelling units.
- u. The developer shall provide a minimum twenty (20) foot wide, landscape buffer strip, within a perpetual easement dedicated to the Homeowners Association for its maintenance and care, along the entire eastern boundary of the site, where existing woodlands are not preserved, for plantings, as reviewed and acted upon by the Planning and Zoning Commission.
- v. A Landscape Architect shall sign and submit all plans for review and approval for this mixed-use development.

Signs - Residential

- w. Signs for this P.R.D. Overlay District shall be erected in accordance with the Town Center Plan Architectural Guidelines and Section 415.410 Sign Regulations of the City of Wildwood Zoning Ordinance for the R-3 10,000 square foot Residence District.
- x. The location of all signage shall be as approved on the Site Development Plan by the Planning and Zoning Commission. Signage not located on common ground must be erected within an easement.

Lighting Requirements

- y. The location of all lighting standards shall be as approved on the Site Development Plan. No on-site illumination source shall exceed sixteen (16) feet in height or be so situated that light is cast directly on adjoining properties. Illumination levels for all lighting shall comply with the provisions of the City of Wildwood's Zoning Code, Section 415.450 "Outdoor Lighting Requirements." A Lighting Study shall be submitted in conjunction with the Site Development Plan indicating compliance to these requirements. The Planning and Zoning Commission shall approve the location, design, and appearance of all light standards and fixtures as part of the Site Development Plan review process.

Miscellaneous Conditions

- z. The design, color, material, and location of all garden and screen walls or fences, if planned or required, shall be consistent with the requirements of the Town Center Plan's Architectural Guidelines and be shown on the Site Development Plan for review and action by the Planning and Zoning Commission and the Architectural Review Board.

- aa. Improvements associated with public infrastructure, such as roadways, sidewalks, and access points, shall comply with general design principles that will provide for safe and efficient movement of traffic in and around these sites and improve overall circulation in the area. These improvements shall be reviewed and approved by the Department of Public Works.
- bb. Hours of construction and grading activity shall be limited to 7:00 a.m. to 6:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday. No development (grading and construction) activity shall be authorized on Sundays.
- cc. All retaining walls exceeding three (3) feet in height per section or crossing individual property lines shall be constructed of an appropriate inter-locking concrete block system. Walls crossing property lines shall be located in a maintenance easement. The design, color, material, and location of all walls shall be consistent with the requirements of the Town Center Plan's Architectural Guidelines and be shown on the Site Development Plan for review and action by the Planning and Zoning Commission.
- dd. The location of all utility easements for proposed service to this development shall be as approved by the Planning and Zoning Commission on the Site Development Plan. All utilities installed to serve this site shall be placed underground, including any existing overhead lines located on the subject property.
- ee. ~~No portion of any lot that is to be located within the proposed eight (8) lot cul-de-sac solely served by Pond Grover Loop Road shall extend closer than thirty (30) feet to the abutting Planned Residential Development Overlay District (PRD) boundary to their north. This buffer area shall be protected from all land disturbance activities. Additionally, the common boundary between this site and the Sandalwood Creek and Hunters Run Subdivisions shall be separated by a minimum ten (10) foot buffer area that is common ground. This area shall also be protected from all land disturbance activities.~~

5. TRAFFIC GENERATION ASSESSMENT FEE

The developer shall contribute to the East Area Traffic Generation Assessment Trust Fund established by Section 140.210 of the City of Wildwood's Revised Codes. This assessment must be paid in full at the time of the first Zoning Authorization for any building or structure or when the individual issuances of building permits for the authorized lots are approved. This contribution shall not exceed the amount established by multiplying the number of **provided** parking spaces by the following rate:

<i>Type of Development</i>	<i>Required Contribution</i>
Single Family Dwelling (detached)	\$1,055.10/Parking Space

(Section 415.280 of the City of Wildwood Zoning Code defines a parking space.)

If type of development proposed differ than those listed, rates shall be provided by the Department of Public Works.

As this development is located within a Trust Fund area established by the City of Wildwood, any portion of the traffic generation assessment contribution, which remains, following completion of roadway improvements required by the development shall be retained in the appropriate trust fund.

The amount of this required contribution, if not submitted by January 1, 2016, shall be adjusted on that date and on the first day of January in each succeeding year thereafter in accord with the construction cost index as determined by the City of Wildwood Department of Public Works.

The Planning and Zoning Commission is recommending these fees be credited to the developer for the purposes of assisting with completion of required improvements within the right-of-way of the Pond-Grover Loop Road, **if constructed. Additionally, credits may also be considered toward the construction of the Eatherton Road extension through the subject site, but would be solely based upon the difference in cost of a residential type street, of the same dimensions, versus this arterial type roadway. Credits would only be considered for the Eatherton Road Extension, if Pond-Grover Loop Road were not to be constructed.** The granting of these credits is at the sole discretion of the City Council.

6. VERIFICATIONS PRIOR TO APPROVAL OF THE SITE DEVELOPMENT PLAN

Prior to approval of the Site Development Plan, the developer shall provide the following:

Stormwater Improvements

- a. Submit to the Planning and Zoning Commission an engineering plan approved by the City of Wildwood Department of Public Works and the Metropolitan St. Louis Sewer District showing that adequate handling of the stormwater drainage of the site is provided.
 1. The developer is required to provide adequate stormwater systems in accordance with the City of Wildwood and the Metropolitan St. Louis Sewer District standards.
 2. All stormwater shall be discharged at an adequate natural discharge point. Sinkholes are not adequate points of natural discharge and may not be disturbed.
 3. Retention/detention of differential runoff of stormwater shall be required. Stormwater management shall be provided in permanent retention/detention facilities, such as ponds or other acceptable alternatives. These retention/detention facilities shall be completed and in operation prior to the issuance of building permits for an approved dwelling unit, except display lots.
 4. All proposed retention/detention facilities and related stormwater improvements shall be located in a common ground area and insure perpetual maintenance to the Homeowners Association to be created at the time of platting of this development, unless otherwise accepted by the Metropolitan St. Louis Sewer District.
 5. The developer of this site shall be solely responsible to provide the necessary mechanisms, as part of the Site Development Plan/Improvement Plan process, to implement "best management practices" for stormwater management and the construction of related facilities. Minimally, these practices/facilities should include rain gardens, vegetative swales, and other options to substantially reduce the amount of stormwater leaving the subject site.
 6. The developer shall provide adequate detention and/or hydrologic calculations for review and approval of all stormwater that will encroach on City of Wildwood/Missouri Department of Transportation (MoDOT) rights-of-way.
 7. A bond or letter of credit will be required by the City of Wildwood to cover any downstream damage to abutting or adjacent properties, common ground areas, or drainageways caused by the developers' use of this subject site (land/disturbance/grading/construction activities, etc.), which shall be used for the restoration of damaged areas to their pre-development condition, if the developers fail to meet their responsibilities in this regard. The amount of this bond and

the establishment of the process for creating an accurate baseline condition for the existing downstream facilities shall be at the discretion of the City of Wildwood Department of Public Works, in conjunction with input from the petitioner's engineer.

Geotechnical Report

- b. Provide a Geotechnical Report covering development and grading required by improvements involved with this site, as directed by the Department of Public Works. Said report shall verify the adaptability of grading and improvements with soil and geologic conditions which are susceptible to rapid erosion, landslide, and/or creep. A statement of compliance with this study, signed by the Geotechnical Engineer preparing the report, shall be included on all Site Development Plans. The development and construction plans shall be designed to conform to the requirements and conditions of the Geotechnical Report. The Geotechnical Engineer shall be required to sign and seal all plans with a certification the proposed construction will be completed in accordance with the grading and soils requirements and conditions contained in the report.

Stormwater Pollution Prevention Plan

- c. Submit a Stormwater Pollution Prevention Plan, as part of the Site Development Plan review process, indicating compliance to all Federal, State, and local requirements regarding the management of stormwater runoff to prevent siltation and erosion, while preserving water quality, both upon the site and on downstream properties.

Natural Resource Protection Plan

- d. Provide a revised and final copy of the Natural Resource Protection Plan indicating all areas of the site, which are to be designated as protected and not developable. This revised and final copy of this map shall be reviewed and signed by a qualified soil scientist, who completed the analysis, and a statement indicating compliance with all the requirements of Section 1005.200 of the City of Wildwood's Subdivision and Development Regulations.

Environmental Assessment – Phase One

- e. The developer shall provide to the Planning and Zoning Commission, as part of the Site Development Plan submittal package, a Phase I Environmental Assessment Report of the property, which indicates its current condition relative to its past utilization by other owners. Determination regarding any required mediation shall be identified and completed, prior to the approval of the Record Plat and before the occupancy of any residential unit, all being in accordance with State and federal standards and guidelines, as set forth by the United States Environmental Protection Agency (EPA) and the Missouri Department of Natural Resources (MDNR), for any determined contaminant exceeding a residential cleanup standard/guideline, with the cost borne for such by the developer and not the City of Wildwood.

Floodplain Study and Plans/Wetlands Study

- f. The developer shall provide a floodplain/wetlands study to the Department of Public Works indicating compliance to the requirements of the City of Wildwood, the U.S. Army Corp of Engineers, and the Federal Emergency Management Agency (FEMA) regarding disturbance or development in

the protected waterways and floodplain areas. This study shall minimally provide information relating to disturbance of any protected area and be reviewed and acted upon by the Department of Public Works, as part of the Site Development Plan submittal process.

7. RECORDING

Within ninety (90) days of approval of the Site Development Plan by the Planning and Zoning Commission, the approved plan shall be recorded with the St. Louis County Recorder of Deeds.

8. VERIFICATION PRIOR TO PERMITS

Notification to Department of Planning

- a. Subsequent to approval of the Site Development Plan and prior to issuance of any grading, foundation, or building permit, all approvals from the Department of Public Works (Wildwood), the Missouri Department of Transportation, the Metro West Fire Protection District, the Missouri Department of Natural Resources, and the Metropolitan St. Louis Sewer District must be received by the Department of Planning.
- b. Prior to the issuance of a foundation or building permit for any lot, which adjoins the common ground area and/or detention, basin, written certification from a Professional Engineer which verifies these areas are graded in accordance with the approved plans, must be received by the Department of Planning.

Roadway Improvements

- c. Improvements to State Route 100 and Eatherton Road must be completed prior to the issuance of building permits in excess of ten (10) percent of the units. Any delays in utility company relocation and adjustments will not constitute a cause to allow occupancy prior to completion of roadway improvements.

Land Subdivision

- d. Record a proper subdivision of the property and comply with all other applicable Subdivision and Development Regulations sections affecting the development of land, except as otherwise specified by this ordinance.

Indentures

- e. With the filing of the record plat establishing separate lots, the developer shall record an approved indenture, which defines the necessary assessments and specific trustee obligations in accord with provisions of Section 415.470 and 415.510 of the City of Wildwood Zoning Code.

Escrow Requirements

- f. All improvement and landscaping costs shall be submitted to the City of Wildwood through the standard subdivision escrow procedures.

Improvement Plans

- g. The developer of this residential subdivision shall provide to the City Improvement Plans indicating construction details relative to public and private infrastructure associated with its development. Said plans will be used to calculate escrow requirements for these identified improvements.

Sanitary Sewage System

- h. The developer shall provide verification from the Metropolitan St. Louis Sewer District that public sewer service has been provided to this site. Verification shall be in a form acceptable to the City of Wildwood.

Potable Water Service

- i. The developer shall provide verification from the Missouri American Water Company that service to this subdivision can be provided at acceptable levels relative to the density of the project and not cause service issues to other households served by the same.

9. GENERAL DEVELOPMENT CONDITIONS

- a. Provide adequate temporary off-street parking for construction employees. Parking on non-surfaced areas shall be prohibited in order to eliminate the condition whereby mud from construction and employee vehicles is tracked onto the pavement causing hazardous roadway and driving conditions.
- b. A grading permit is required prior to any grading on the site. Interim stormwater drainage control in the form of siltation control measures is required.
- c. A copy of the most recently approved Site Development Plan for this P.R.D. Overlay District development shall be prominently displayed at all times in all sales offices for this development.
- d. The petitioner shall be responsible for obtaining all necessary permits from the Department of Natural Resources Clean Water Commission as they relate to the development of this tract of land.
- e. If cut and fill operations occur during a season not favorable for immediate establishment of a permanent ground cover, a fast germinating annual, such as Rye or Sudan Grasses, shall be utilized to retard erosion.
- f. Failure to comply with any or all of the conditions of this ordinance shall be adequate cause for revocation of permits by issuing City of Wildwood Departments or Commissions.
- g. The Zoning Enforcement Officer of the City of Wildwood, Missouri, shall enforce the conditions of this ordinance in accord with Site Development Plans approved by the Planning and Zoning Commission and the Department of Planning.
- h. Any other applicable zoning, subdivision, or other regulations or requirements of the City, whether in effect at the adoption of this ordinance or as may be hereinafter adopted, shall further apply to the development of this property as authorized by this Planned Residential Development Overlay District

Ordinance, except as may be provided by law. Nothing herein shall be deemed a waiver of any subdivision, zoning or other development regulation of the City whether by implication or reference.

- i. This zoning approval is conditioned on compliance with the Zoning Code, Subdivision Code, and all applicable laws of the City. Such additional regulations are supplemental to the requirements herein and no modification of any applicable regulations shall result from this Planned Residential Development Overlay District ordinance, except where this ordinance has expressly modified such regulations by reference to the applicable provision authorizing such modification.

10. PUBLIC SPACE REQUIREMENTS

- a. Developer shall construct improved public space in conformance with or otherwise satisfying the requirements of the City's Public Space Ordinance, Chapter 415.260 and 415.270 of the City of Wildwood's Zoning Ordinance. The City Council accepts the findings of the Public Space Study adopted therein and determines the compliance with the Public Space Ordinance provisions will address the impact of this specific development on public space needs in a manner and amount that is equal to less than an amount that is roughly proportional to the actual or anticipated impact. The installation of required public space improvements shall be as required by the applicable ordinances, but shall be completed prior to issuance of any occupancy (temporary or final) permit authorized by this ordinance. Unless otherwise approved pursuant to the procedures set forth in the Public Space Ordinance, the public space attributable to this development, **based upon the number of authorized dwelling units at a rate of 1,742.4 square feet per new single family dwelling**. The provision of public space shall substantially comply with the Preliminary Development Plan submitted in conjunction at the public meeting on November 2, 2015.

Editor's Note: Changes to the report from its October 5, 2015 version to the November 2, 2015 are with a single strike-through line. Previous changes considered by the members at their October 5, 2015 Planning and Zoning Commission meeting are indicated by blue-type. **No modifications have been made to the Letter of Recommendation, since the Planning and Zoning Commission took action upon it on November 16, 2015, excepting Condition 2(d). This condition was recommended for a change, as part of the motion and vote on the overall Letter of Recommendation, which, again, failed for a lack of majority. Changes to the Letter of Recommendation, which were supported by the City Council and authorize for inclusion in the proposed Bill, are indicated in brown, bolded type. Blue, bolded type reflects changes from the January 11, 2016 City Council meeting.**

Section Three. This ordinance shall be in full force and effect on and after its passage and approval.

This Bill was passed and approved this 25 day of January, 2016, by the Council of the City of Wildwood, Missouri after having been read by title, or in full, two (2) times prior to its passage.



Presiding Officer

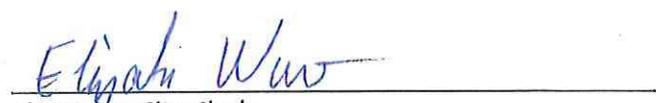


Timothy Woerther, Mayor

ATTEST:



City Clerk



Liz Weiss, City Clerk

ATTACHMENT C
Background Information

From: Mike Boerding MBoerding@sterling-eng-sur.com
Subject: FW: Bright Leaf -SDP -MSD Review for Conceptual Approval
Date: January 6, 2017 at 3:08 PM
To: Joe Vujnich JVujnich@cityofwildwood.com
Cc: Chris DeGuentz CDeGuentz@fandfhomes.com, Josh Foster jfoster@jhberra.com, John Fischer mstewart@fischerandfrichtel.com, Ken Stricker (kstricker@consort-homes.com) kstricker@consort-homes.com, John Luetkenhaus JLuetkenhaus@sterling-eng-sur.com

Joe,
For your use.
Mike

From: Mike Boerding [mailto:mboerding@sterling-eng-sur.com]
Sent: Thursday, December 01, 2016 4:34 PM
To: Joe Vujnich <joe@cityofwildwood.com>
Subject: Fwd: Bright Leaf -SDP -MSD Review for Conceptual Approval

Sent via the Samsung Galaxy Note® 4, an AT&T 4G LTE smartphone

----- Original message -----

From: Jason Peterein <JTPETE@stlmsd.com>
Date: 9/16/2016 9:23 AM (GMT-06:00)
To: Mike Boerding <MBoerding@sterling-eng-sur.com>
Cc: 'Josh Foster' <jfoster@jhberra.com>, Mike Falkner <mfalkner@sterling-eng-sur.com>, "Chris Deguentz (cdeguentz@fischerandfrichtel.com)" <cdeguentz@fischerandfrichtel.com>, George Gower <GGower@sterling-eng-sur.com>, John Luetkenhaus <JLuetkenhaus@sterling-eng-sur.com>, Joe Vujnich <JVujnich@cityofwildwood.com>
Subject: RE: Bright Leaf -SDP -MSD Review for Conceptual Approval

Mike,
MSD takes no exception to the site development plan, subject to formal plan review of the detailed engineering. MSD's expectations are that the detailed engineering that support this plan will satisfy the District's Rules and Regulations and address the issues noted in the conceptual review MSD previously provided on 7/28/16 (attached).

I do not foresee issues that would adversely detract from the overall concept or intended use level of the property. With this being a preliminary plan, please be advised that review of the detailed engineering may require deviations from the site development plan, particularly within the water quality and detention areas as they relate to pretreatment features, biocell/detention basin configuration, outlet design, etc. These items are normally identified and addressed when the detailed engineering is presented to and reviewed by District staff under a P-job.

MSD will provide further review and comment on this project during the course of formal plan review (P-job) submittal.

Please let me know if you have any questions.

Thanks

Jason

Jason T. Peterein, PE
Principal Engineer
Engineering / Development Review

Metropolitan St. Louis Sewer District

2350 Market Street
St. Louis, MO 63103
T: 314.768.2773
F: 314.768.6342

From: Mike Boerding [<mailto:MBoerding@sterling-eng-sur.com>]

Sent: Thursday, September 15, 2016 3:18 PM

To: Jason Peterein

Cc: 'Josh Foster'; Mike Falkner; 'Chris Deguentz (cdeguentz@fischerandfrichtel.com)'; George Gower; John Luetkenhaus

Subject: Bright Leaf -SDP -MSD Review for Conceptual Approval

Jason,

We spoke about the Bright Leaf SDP late last week on the phone and sent down three copies Friday afternoon for your review. You said that you were busy this week but would try to look at the SDP by tomorrow. Joe Vujnich has scheduled Bright Leaf SDP for Monday night so the City will take action on the SDP approval. However, he requested that we get an approval from MSD on the SDP. Joe said he was going to contact you on Wednesday but we do not have confirmation whether he was able to talk with you and if he has a comfort level to allow the SDP to move forward.

Joe would not accept the paid conceptual review of the SWPPP we received earlier this summer. Would you be able to send a reply to this email granting conceptual approval of our SDP? An email or phone call to Joe with a positive recommendation would be helpful at this point. Our SDP is the same as the SWPPP except the Pond-Grover loop road has been removed and a trail has been added in its place. The sewers connections, detention basins and BMPs are all shown where they are intended for final design. We understand that there are design contingencies that will have to be proved with the improvement plan calculations, submittals and review.

Your help in this matter is greatly appreciated.

Respectfully requested,

Mike

Mike Boerding, PE

Vice President

The **STERLING Company**

5055 New Baumgartner Rd

St. Louis, MO 63129

314-446-5781 direct

314-487-0440 office

314-393-3813 cell

www.sterling-eng-sur.com



Villages at
Brightl...71.pdf



**Metropolitan St. Louis
Sewer District**

2350 Market Street
St. Louis, MO 63103

July 28, 2016

The Sterling Company
Attn: Mr. Michael Boerding, P.E.
5055 New Baumgartner Road
St. Louis, MO 63129

RE: Eatherton 290'S of Sandlewood Creek
(The Villages at Brightleaf)
Basic Conceptual Review
MSD Ref. No. D-371-00

Dear Mr. Boerding:

MSD has completed a **basic conceptual review** of a SWPPP submitted by your office representing a basic concept for a proposed 194 lot single family residential subdivision located at 2350 Eatherton, 2344 Eatherton, 16721 Manchester, 2531 Taylor, 2567 Taylor, 2555 Taylor, 16602 Overlook Hills, 16618 Overlook Hills, and 16615 Overlook Hills in the City of Wildwood.

Project Overview

The project is located in the Caulks Creek watershed and Missouri River WWTP service area (Caulks Creek sanitary sub shed). Based on historic aerial photography, the approximately 78.82 ac development area consists of open meadow, woods, and existing residences. Access to the site is at its southeast corner off of Route 100 north of Taylor and along Eatherton Road to the west. Numerous tributaries feed four main channels that concentrate and convey runoff to the northern boundaries of the site.

Storm and sanitary sewers are located in the existing developments to the north and east adjacent to the site. Pond-Grover Loop Road ROW abuts the site at its north-central boundary.

Fischer and Fritchel Custom Homes LLC/Consort Homes LLC propose to construct 194 ~ single family lots, along with public streets, cul-de-sacs, sidewalks, utilities, sewers, and common ground areas on the property. Storm and sanitary sewers, along with their connection points to the existing systems were not depicted. Numerous sediment basins are depicted on the plans which also appear to be consistent with the likely location of detention basin and water quality features that will manage the site's post developed runoff.

Stormwater Management

Given the quantity of land disturbance and additional runoff proposed by this preliminary plan, post-construction storm water quality BMPs will be required. Runoff generated by all disturbed areas shall be treated. For an existing site impervious footprint of less than 20%, this site is designated as "new development" for the purpose of evaluating BMP performance and compliance with the Phase II permit. Water quality strategies and practices that provide for volume reduction shall be employed such that the site's post developed runoff condition mimics

its preconstruction runoff condition. The MSD MEP spreadsheet or site specific continuous simulation modeling may be used to demonstrate the design's compliance with this Phase II requirement.

An existing natural resource inventory map was not provided with this submittal, and should be prepared as an initial step in the site's design. The natural resource inventory should also assess the presence or absence of wetlands, streams, floodplains, and Karst; the nature of the existing topography (i.e. slopes exceeding 20%), the extents of vegetated cover and preservation, and the existing property use and surrounding property use. The extent of these features should be summarized in a table presented on the map. Please refer to MSD's Site Design Guidance document for preparation guidelines. Note that a project that affects wetlands or waters of the U.S. or State (jurisdictional waters) will likely be accompanied by an additional assessment of the feature as required by U.S. Army Corps of Engineers and/or Missouri Department of Natural Resources under the Clean Water Act section 401/404 permitting requirements. MSD will require documentation that the project has satisfied 401/404 permitting requirements necessary to begin construction prior to issuing formal plan approval, or, documentation from the appropriate agency confirming that the project's development activities are exempt.

Channel Protection (extended detention of the runoff originating from the 1yr 24 hour storm) is required. Detention is required such that the site's post developed flow rates resulting from the 2yr 24 hr and 100yr 24 hour storms are within the limits prescribed by MSD for the Caulks Creek Watershed (0.2 CFS/ac for the 2yr-24 hr storm and 1.4 cfs/ac for the 100yr-24 hour storm). These release rates shall be met at each of the site's natural outfalls.

Nested bioretention basins (to manage water quality, channel protection, and detention) may be utilized when the drainage area tributary to the biocell is less than five acres. Pretreatment in the form of forebays are necessary for point discharges for which the tributary acreage exceeds 2.5 acres. Alternatives to a forebay may be used for pretreatment for basins receiving point discharges and managing an area less than 2.5 acres. Typical details and guidance for nested bioretention, along with appropriate pretreatment features can be accessed from MSD's BMP Toolbox at the following link: <http://www.stlmsd.com/what-we-do/stormwater-management/bmp-toolbox/stormwater-quality/bioretention/nested-bioretention>

Fence placement shall not inhibit BMP/Detention basin maintenance equipment ingress/egress if access corridors will be provided between lots. Any basins that require retaining walls shall be supported by a design by a geotechnical engineer registered in Missouri, and shall be configured to allow sloped access to the basin on at least one accessible side. Walls supporting an embankment within the basin should be monolithic and watertight in order to prevent seepage.

The Sheet Flow to Buffer Credit (as outlined in Section 5.4 of the 2000 Maryland Stormwater Design Manual) may be implemented to manage runoff originating from the rear yards as depicted on the plans. Deep rooted, native vegetated buffers shall be established on the steep slopes behind lots that intend to claim this credit (for example, the 3:1 slopes separating lots 17A-29A from the existing preservation limits). Final plans will need to depict preservation limits and final grading for each lot that will benefit from the credit.

Proposed contours on grading plans shall provide overland flow paths such that proposed homes will not be subject to overland flooding. Where swales are proposed, cross sections and open channel calculations should be provided with the formal design submittal in order to demonstrate their adequacy. The grading plan shall also provide for a sufficient overland flow path for conditions in which the proposed storm sewer system becomes blocked or surcharged. If topography will not allow for an overland flow path, designated ponding areas shall be

provided based on the 100yr-24 hour storm and identified on the improvement plans. The finish floor/low sills of the proposed homes shall be positioned above the 100yr-24 hour high water ponding elevation and overland conveyance limits. As a general observation of this plan, lots that are adjacent to a low point within a public street or alleyway will need an identified ponding area and analysis of the finish floor/low sills with respect to the ponding limits. The proposed contours depicted on lot 53A imply a low area that may be problematic in this regard as well.

In order to avoid diverting additional runoff onto neighboring properties, drainage originating behind lots 32A-30A, and lots 88B – 83B should be captured onsite and conveyed via open channel or storm sewers to onsite storm water management facilities. Pond Grover Loop Road/Eatherton Road, from the entrance on Route 100 to Station 59+50, including the lots and minor streets that drain towards it, also require treatment for water quality, channel protection, and detention.

The concept of the large detention basin proposed west/adjacent to the proposed Pond Grover Loop Road extension was previously discussed. As noted in previous communication, MSD would take no exceptions to that subject to the following:

- Caulks Creek 2yr and 100yr release rates for the tributary area are satisfied, assuming a fully developed tributary area. Channel Protection for the development would need to be managed in a separate basin or nested within volume reduction based WQv BMPs. Offsite areas would receive the benefit of having flood detention provided for in this basin, however they would be expected to provide their own WQv and CPv on their own site.
- Hydraulic study required to demonstrate this configuration will not cause a rise upstream or hindrance to the hydraulic performance of upstream storm sewers. MSD does not have record of storm sewers located within Route 100 (likely MoDOT's). These systems will need to be verified and accounted for in your development plans and analysis. Approval from MoDOT will be required prior to MSD approvals if the development plans will affect their existing drainage system or require connection into it.
- Flowrate and velocity conditions downstream from the detention basin's outlet should mimic current conditions or be improved in terms of channel capacity or erosion potential.
- The detention basin's configuration would need to satisfy the City of Wildwood's requirements, including compliance with their Stream Buffer ordinance (or their indication of this requirement being not applicable or waived). Corps of Engineers/DNR approval will also be required.
- An arborist should be engaged to assess the existing trees and vegetation that will be preserved within the ponding limits of the basin. The arborist should evaluate the suitability of the existing species in light of the ponding depths and inundation conditions that would be expected to occur within the detention basin. Appropriate recommendations for species removal, new species selection, vegetation establishment, and long term maintenance should be provided by the arborist. These recommendations shall be implemented in the design, construction, long term maintenance, and operation of the basin.
- The embankment would need to be designed and supported by a geotechnical engineer's analysis. In addition, dams with a height of 35' or greater will also require DNR approval.

- Interim detention basins will be necessary to serve development within the site that may occur upstream from the basin prior to the final connection of Pond Grover Loop Road.

The diameter and condition of the receiving storm sewer system located within Sandalwood Creek that receives the outflow from the site located in the vicinity of sediment trap K is unknown. Prior to permitting a connection to it, the developer would need to do the following:

- The hydraulic capacity of the receiving system shall be analyzed from structure 23V4-005D to the development's point of tie-in. If in the existing configuration it lacks capacity, it will require upsizing.
- A review of P.B. 234 Pgs 33 and 34 indicates that sufficient easement rights exist.
- Provide MSD with a CCTV inspection of the existing sewer for review. Please contact Brian Dunn (314-335-2072) prior to doing so.
- MSD will review the findings of the inspection. Any deficiencies found in the line would need to be corrected by the developer under the permit for this project.

Sanitary

Modeled sanitary sewers are located downstream of the site as highlighted on the enclosed basemap. MSD staff evaluated the model assuming an additional peak sanitary flow of 0.44 CFS generated by the development and found that the sewers within the model have sufficient capacity for that flowrate. A hydraulic analysis of the receiving sanitary system located upstream from the limits of the model will need to be performed and submitted for formal review (either as its own P# or concurrent with the P# for the development plans). Reaches indicated by the analysis to lack the capacity to accommodate the additional peak flows generated by the development will need to be improved by the developer. Peak flows should be determined via tributary house count and criteria outlined in Chapter 3 of MSD's Rules and Regulations. Starting HGL for the analysis (per the model) are 636.66 at MH 23U4-004S and 662.65 at MH 23V2-045S. Please contact me if other HGL/locations are necessary.

Sewers and manholes shall be located out of the zone of influence of nearby buildings and retaining walls. Working room shall be provided, including a six foot diameter flat area centered at the manhole structures (Sanitary and Storm).

In accordance with the Local Plumbing Codes, proposed homes with fixture elevations lower than the rim elevation of the next upstream sanitary manhole shall have sanitary backwater valves. Note that facilities equipped with backwater valves will be inoperable until the conditions actuating the valve have been subsided.

Other Items

A Maintenance Agreement is required to ensure long term maintenance and operations of all storm water BMPs and detention basins.

A subdivision plat will be required showing the new property lines. Easements will be required for new public storm and sanitary sewers. The BMP reserve areas required for all storm water Best Management Practices should be shown on the improvement plans and established on the record plat and the Maintenance Agreement. BMP reserve areas shall not encroach upon MSD maintained sewers or easements.

Natural areas, if intended to be preserved as buffers for stormwater management credits shall be protected by a BMP Reserve Area, acceptable conservation easement, or other enforceable instrument that ensures perpetual protection of the proposed area.

Encroachments upon MSD easements and facilities, specifically by retaining walls and their tie back systems shall be avoided.

The connection fee for this project will be determined during the formal plan review. The current single family rate is \$1072/residence.

The project is located within the Caulks Creek Surcharge area, assessed at \$2750/acre.

The project will likely require offsite public sewer construction. Proof of a general liability certificate will be required of the contractor prior to pulling permits from the District. In addition to the offsite nature of both the storm and sanitary sewer construction, existing easements may be utilized if the easement language allows MSD temporary use of adjacent ground for working room. New easements allowing for working room will be necessary if the language for the existing easements considered for utilization do not provide for this.

Limitations of Conceptual Review

Formal MSD review, approval, and permits are required prior to construction.

Unless otherwise indicated, any requirements mentioned in the conceptual review should be addressed during the formal P-job plan review process. Conceptual review is normally done only once. Any new questions or other additional changes to the originally submitted plans should normally be resolved during formal plan review.

Conceptual review is subject to the requirements of detailed review of final design plans and is subordinate to the review and approval of said final design plans. This project is not currently under review of final project plans.

Sincerely,



Jason Peterein, P.E.
Principal Engineer
Engineering/Planning-Development Review

Enclosure: MSD System Map



DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT CORPS OF ENGINEERS
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103-2833

REPLY TO
ATTENTION OF:

January 6, 2017



Operations, Readiness and Regulatory Division
Regulatory Branch
Project Number: MVS-2015-397 (P-2966)

Mr. Roger Cox
Consort Homes
16141 Swingley Ridge Road
Suite 109
Chesterfield, Missouri 63017

Dear Mr. Cox:

Transmitted herewith is Department of the Army Permit No. P-2966, which authorizes the grading and discharge of fill materials into jurisdictional waters of the United States in conjunction with the project known as *Villages at Brightleaf*. The project area is located north of Hwy 100 and east of Hwy 109, in the City of Wildwood, Missouri. The project is located in Section 1, Township 44 North, Range 3 East, St. Louis County.

It is to be understood that this instrument does not give any property rights either in real estate or material, or any exclusive privileges; and that it does not authorize any injury to private property or invasion of private rights, or any infringement of Federal, state or local laws or regulations; nor does it obviate the necessity of obtaining state assent to the work authorized.

General conditions designated 1 through 6 and parts 2 through 6 of "Further Information" are standard conditions for all permits. Special condition 1 points out the Section 401 water quality certification conditions from the Missouri Department of Natural Resources, which specifies measures to protect water quality at the work site (enclosure). Special conditions 2 through 5 specify measures to ensure protection of the aquatic environment and permit compliance.

If any material changes in the scope, location and plans of the work are found necessary, due to unforeseen conditions or otherwise, revised plans detailing proposed modifications in the work must be submitted to the District Engineer for review and approval. Proposed modifications may not be placed under construction until Department of the Army "Approval of

Revised Plans" has been granted. I am forwarding a copy of this letter electronically (with special conditions only) to: Mr. Mike Irwin, MDNR-WPP; Ms. Judith Deel, MDNR-SHPO; Ms. Shauna Marquardt, USFWS; Mr. Jason Daniels, USEPA; and Ms. Audrey Beres, MDC.

BY THE AUTHORITY OF THE SECRETARY OF THE ARMY:



Danny D. McClendon
Chief, Regulatory Branch

Enclosures

Section 401 Water Quality Certification
Section 404 Permit and Special Conditions
Preliminary Jurisdictional Determination



**US Army Corps
of Engineers**
St. Louis District

**This notice of authorization must be
conspicuously displayed at the site of work.**

January 6, 2017

The applicant is issued a Department of the Army permit for the grading and discharge of fill material in waters of the United States, for the Villages at Brightleaf. The project consists of grading and filling operations within Waters of the United States for construction of a residential development within the 78.89-acre site.

The project is located north of Hwy 100 and east of Hwy 109, in the City of Wildwood. The project is located in Section 1, Township 44 North, Range 3 East, St. Louis County, Missouri.

Has been issued to: Consort Homes, c/o Mr. Roger Cox

Address of Permittee: 16141 Swingley Ridge Road, Suite 109, Chesterfield, Missouri 63017

Permit Number:

P -2966


Anthony Mitchell
Colonel, U.S. Army
District Commander
By: Danny D. McClendon
Chief, Regulatory Branch

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: December 13, 2016

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Consort Homes; c/o Mr. Roger Cox
16141 Swingley Ridge Road
Suite 109
Chesterfield, MO. 63017

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: St. Louis District, Villages at Brightleaf, MVS-2015-397

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Missouri County: St. Louis City: Wildwood

Center coordinates of site (lat/long in degree decimal format):

Lat.: 38.5848565723856 ° Long.: -90.6325541901902 °

Universal Transverse Mercator: 15

Name of nearest waterbody: Tributaries to Caulks Creek

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: 7/14/16

Field Determination. Date(s): 8/26/15

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site Number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if available)	Type of aquatic resource (i.e. wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
A	38.58542	-90.63189	1,666 linear feet	Non-wetland	Section 404
B	38.58404	-90.63153	352 linear feet	Non-wetland	Section 404
C	38.58527	-90.63058	115 linear feet	Non-wetland	Section 404
D	38.58461	-90.62823	1,175 linear feet	Non-wetland	Section 404

- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: Aerial and Project Plans
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report. Rationale: _____
- Data sheets prepared by the Corps: _____
- Corps navigable waters' study: _____
- U.S. Geological Survey Hydrologic Atlas: _____
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: _____
- Natural Resources Conservation Service Soil Survey. Citation: Google Layer
- National wetlands inventory map(s). Cite name: ORM: MO-Eureka Quad
- State/local wetland inventory map(s): _____
- FEMA/FIRM maps: ORM: MO-Eureka Quad
- 100-year Floodplain Elevation is: _____. (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Submitted by applicant on 5/21/15
or Other (Name & Date): Site Photos submitted by applicant on 5/21/15
- Previous determination(s). File no. and date of response letter: _____
- Other information (please specify): _____

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Junifer J. Seikas 12/13/16
Signature and date of
Regulatory staff member
completing PJD

Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)¹

¹ Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

DEPARTMENT OF THE ARMY PERMIT

Permittee Consort Homes c/o: Mr. Roger Cox

Permit No. P-2966

Issuing Office U.S. Army Engineer District, St. Louis

NOTE: The term "you" and its derivatives, as used in this permit, mean the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Discharge of fill material into jurisdictional waters consisting of 1,317 linear feet of fill in and impoundment of 356 linear feet of tributary, in conjunction with the construction of a residential development, submitted under the name *Villages at Brightleaf*.

Project Location: The project is located north of Hwy 100 and east of Hwy 109 in the City of Chesterfield. The project is located in Section 1, Township 44 North, Range 3 East, St. Louis County, Missouri.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2021. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

See continuation sheet, page 4 of this document for Special Conditions.

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- () Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
- () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

- a. This permit does not obviate the need to obtain other Federal, state, or local authorization required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.



(PERMITTEE)
Mr. Roger Cox
Consort Homes

1-4-2017

(Date)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



(DISTRICT ENGINEER)
Anthony P. Mitchell
Colonel, U.S. Army
District Engineer
By: Danny D. McClendon
Chief, Regulatory Branch

1-4-2017

(Date)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)

(Date)

1. That the permit may be revoked or a stop work order issued if the State of Missouri notifies the Corps that the permitted activities are not being performed in conformance with the Missouri Department of Natural Resources October 12, 2016, Section 401 Water Quality Certification conditions issued for this permit. (Attached)
2. The permittee shall compensate for unavoidable impacts to the jurisdictional waters of the United States by purchasing 7,356 stream credits from the Missouri Conservation Heritage Foundation- Stream Stewardship Trust Fund or the Land Learning Foundation. Purchase of these credits must occur before project impacts. Documentation of purchase shall be submitted to our office within 120 days of receipt of the permit.
3. Permittee shall allow representatives from the Corps office to inspect the authorized activity at any time deemed necessary to ensure compliance with permit conditions.
4. Permittee shall cease work immediately and notify the Corps if cultural resource material is discovered during construction of the project.
5. That the permittee notify the Corps should any change in size, location or methods to accomplish the work occur. Changes could potentially require additional authorizations from the Corps as well as other Federal, state or local agencies.

From: Josh Foster <JFoster@hberra.com>

Subject: Bright Leaf - Corps permit

Date: January 11, 2017 at 12:33 PM

To: Joe Vujnich <JVujnich@cityofwildwood.com>

Cc: Rick Brown <rbrown@cityofwildwood.com>, Chris DeGuentz <CDeGuentz@fandhomes.com>
CDeGuentz@fandhomes.com, Mike Boerding <MBoerding@sterling-eng-sur.com>, John Luetkenhaus
<JLuetkenhaus@sterling-eng-sur.com>, Travis Newberry <travis@cityofwildwood.com>, Travis
<travis@cityofwildwood.com>

Joe,

A copy of the Corps permit is attached for your file. In reviewing my notes from our meeting last week, I had the following outstanding items:

- Corps permit – attached.
- MSD conceptual review – Mike Boerding provided 01-06-17.
- Birch Forest connection
 - I will forward the turning movement in another e-mail copying Chief Cook.
 - 75,000 LB design capacity was verified.
 - Design is being updated addressing comments.
- Additional speed table added at pedestrian crossing.
- Left turn lane at Street A has been shortened as discussed.
- Construction entrance location – revised location now acceptable.
- Round-about: 52' radius acceptable? The turning movements for this scenario will be included in the message with Chief Cook.

Please let us know if any items are outstanding, or if you need any follow up information so that we can get the plans updated and delivered for the meeting.

Thank you.

Josh Foster

Land Development Division

J.H. Berra Construction Co.

314-487-6717 X3

314-487-6718 Fax



Corps - Bright
Leaf co...17).pdf

From: Rick Brown rbrown@cityofwildwood.com
Subject: FW: Revised Traffic Impact Study - Proposed Brightleaf Residential Subdivision
Date: December 22, 2016 at 3:01 PM
To: Joe Vujnich JVujnich@cityofwildwood.com

RB

Rick C. Brown, PE, PTOE
Director of Public Works / City Engineer
City of Wildwood

From: Lee Cannon [mailto:lcannon@cbbtraffic.com]
Sent: Thursday, December 22, 2016 12:30 PM
To: Chris DeGuentz; Rick Brown
Cc: Josh Foster; Roger
Subject: Fwd: Revised Traffic Impact Study - Proposed Brightleaf Residential Subdivision

Modot Brightleaf approval.

Sent from my iPhone.

Lee Cannon, PE, PTOE
Principal – Traffic Engineer

CBB

[12400 Olive Boulevard, Suite 430 | St. Louis, MO 63141](#)

[314-878-6644, Ext. 12 \(Office\)](#) | [314-308-6547 \(Mobile\)](#) | [314-878-5876 \(Fax\)](#)

lcannon@cbbtraffic.com | www.cbbtraffic.com



CBB_HI_RES_COLOR(DKYEL)



Begin forwarded message:

From: JEANETTE K RUGGERI <Jeanette.Ruggeri@modot.mo.gov>
Date: December 22, 2016 at 11:41:40 AM CST
To: [Brensing.cbbtraffic.com](mailto:Brensing@cbbtraffic.com) <Brensing@cbbtraffic.com>
Cc: lcannon.CBBTRAFFIC.COM <lcannon@CBBTRAFFIC.COM>, "JOHN

"JAY JAY" BRADEN" <John.Braden@modot.mo.gov>

Subject: RE: Revised Traffic Impact Study - Proposed Brightleaf Residential Subdivision

Thank you for looking at the worst case scenario. Given potential future developments in the area providing additional connections to 109, the increase in volume at this left turn may not require dual left turn lanes for some time. Knowing how the signal will operate is very beneficial and is something that can easily be changed in the future.

At this time, MoDOT approves the traffic impact study provided that the signalized intersection of Route 100 at Taylor Rd is rebuilt with a new westbound right turn lane, a southbound left turn lane and a shared southbound through / right turn lane, along with the northbound approach being converted to a single left turn lane with a flashing yellow arrow protected permissive phasing. The intersection is also required to be brought up to full ADA compliance. Given the number of lanes that a pedestrian is required to cross on Route 100, a median refuge is required for pedestrian safety.

Thank you,

Jeanette Ruggeri

----- Original Message -----

Subject: RE: Revised Traffic Impact Study - Proposed Brightleaf Residential Subdivision

From: "Brensing.cbbtraffic.com" <Brensing@cbbtraffic.com>

Date: Dec 22, 2016, 9:55 AM

To: JEANETTE K RUGGERI <Jeanette.Ruggeri@modot.mo.gov>

Hi Jeanette,

Our Synchro files kept the intersection of Route 100 and Taylor as split phase for the North-South approaches due to the shared left/through lane on the northbound approach. Since the Wildwood Town Center does not appear to be fully built-out, we did not want to assume that MoDOT would be willing to restripe the shared lane configuration on the south side, which would eliminate dual left-turn conditions exiting the Wildwood Town Center. The split phase condition we provided assumed a "worst-case" scenario.

If MoDOT is willing to restripe the northbound approach to a left, through, and right-turn lane, and go to a protected-plus-permitted Flashing Yellow Arrow, the operating conditions would improve slightly. I included revised Synchro files that included the changes noted above as well as a table summarizing the changes in the delays at the intersection.

Please review and let us know if you have any additional questions or comments.

Have a great Holiday!

-----Original Message-----

Thanks.

**** PLEASE NOTE NEW DIRECT NUMBER BELOW****

Brian Rensing, PE, PTOE
Associate - Transportation Engineer
CBB
12400 Olive Boulevard, Suite 430 | St. Louis, MO 63141
314-449-9569 (Direct) | 314-878-6644, Ext. 37 (Office) | 314-479-5022 (Mobile)
Breensing@cbbtraffic.com | www.cbbtraffic.com

-----Original Message-----

From: JEANETTE K RUGGERI [<mailto:Jeanette.Ruggeri@modot.mo.gov>]
Sent: Wednesday, December 21, 2016 4:23 PM
To: Brian Rensing <breensing@cbbtraffic.com>
Cc: Lee Cannon <lcannon@cbbtraffic.com>
Subject: RE: Revised Traffic Impact Study - Proposed Brightleaf Residential Subdivision

I was reviewing the Synchro files and noticed that you left everything split phased for NB and SB. Taking a look at going to a single NBLT and a dedicated NBTH during the AM Peak, running FYA P/P for both NB and SB, appears to be a better option. I have not looked at the PM Peak, but given what I'm seeing in the AM Peak, I would request that you take a look and see if there's more benefit by going this route. I have attached the AM Peak model with the modifications that I have made for reference.

Thank you,

Jeanette Ruggeri

Senior Traffic Studies Specialist
NEW Cell: 314-325-6719
Missouri Department of Transportation
South and West St. Louis County
jeanette.ruggeri@modot.mo.gov

-----Original Message-----

From: Breensing.cbbtraffic.com
Sent: Thursday, December 15, 2016 3:31 PM
To: JEANETTE K RUGGERI
Cc: lcannon.CBBTRAFFIC.COM
Subject: RE: Revised Traffic Impact Study - Proposed Brightleaf Residential Subdivision

Jeanette,

I have attached the Synchro files for the most recent update for the Brightleaf project.

Please reply back to me to verify that you received the files (zip folder).

Thanks.

** PLEASE NOTE NEW DIRECT NUMBER BELOW**

Brian Rensing, PE, PTOE
Associate - Transportation Engineer
CBB
12400 Olive Boulevard, Suite 430 | St. Louis, MO 63141
314-449-9569 (Direct) | 314-878-6644, Ext. 37 (Office) | 314-479-5022 (Mobile)
Brensing@cbbtraffic.com | www.cbbtraffic.com

-----Original Message-----

From: Lee Cannon
Sent: Thursday, December 15, 2016 3:08 PM
To: JOHN "JAY JAY" BRADEN <John.Braden@modot.mo.gov>; Rick Brown
<rbrown@cityofwildwood.com>
Cc: JEANETTE K RUGGERI <Jeanette.Ruggeri@modot.mo.gov>; KAREN D YEOMANS
<Karen.Yeomans@modot.mo.gov>; Roger Cox <coxforistell@gmail.com>; Chris DeGuentz
<CDeGuentz@fandfhomes.com>; Brian Rensing <brensing@cbbtraffic.com>; Joe Vujnich
<JVujnich@cityofwildwood.com>; Mike Boerding <MBoerding@sterling-eng-sur.com>; Josh
Foster <JFoster@jhberra.com>; Dan Schweiss <DSchweiss@jhberra.com>
Subject: RE: Revised Traffic Impact Study - Proposed Brightleaf Residential Subdivision

Good afternoon,

CBB has once again updated the traffic impact study previously prepared for the proposed Brightleaf residential development to reflect changes required by the City of Wildwood and MODOT. This second Addendum adds the intersection of Route 100/Route 109 south ramps terminal and also adds some school trips during the afternoon peak hour.

A previous revision, dated 10/21/16, reflected the removal of Pond Grover Loop Road extension and other internal connections to existing residential streets.

Please review the attached report.

I will ask Brian Rensing of my office to send the Synchro files to Jeanette in a separate email. Rick, please let us know if you want a copy of those as well.

Should there be any questions or need for additional information, please contact me.

Thanks,

Sent from my Dell Ultrabook PC.

Lee Cannon, PE, PTOE
Principal - Traffic Engineer
CBB
12400 Olive Boulevard, Suite 430 | St. Louis, MO 63141 314-878-6644, Ext. 12 (Office) | 314-449-8242 (Direct) | 314-308-6547 (Mobile) Lcannon@cbbtraffic.com | www.cbbtraffic.com

Revised December 14, 2016

Mr. Roger Cox
Consort Homes/Brightleaf Development LLC
16640 Chesterfield Grove Road, Suite 130
Chesterfield, Missouri 63005

RE: Traffic Impact Study Update
Proposed Brightleaf Residential Development – Jones Property
Wildwood, Missouri
CBB Job Number 049-15-1

Dear Mr. Cox:

In accordance with your request, CBB has completed an update to the traffic impact study for a proposed residential development on a tract of land in the northwest quadrant of Missouri Route 100 and Taylor Road/Overlook Hill Drive in Wildwood, Missouri. It is our understanding that the property will be developed with the construction of 192 single-family residences.

The existing site consists of an undeveloped tract of land bordered by Missouri Route 100 to the south, Eatherton Road to the west, Overlook Hill Drive to the east and existing residential developments to the north. The proposed development will support the extension of Eatherton Road from its current terminus and make a connection to Missouri Route 100 as a fourth, northern leg to the existing signalized intersection at Taylor Road. Access to the homes will be provided via the existing and planned connections of Eatherton Road to Missouri Route 100 and Missouri Route 109 via the $\frac{3}{4}$ access of Eatherton Road/Lafayette Trails Drive. The site location and surrounding properties are shown in **Figure 1**.

It should be noted that CBB previously completed a Traffic Impact Study in July 2015 for this same Brightleaf development site. That study assumed that the Pond Grover Loop Road would connect to the Brightleaf subdivision and also contemplated a new break-in-access along Route 100, west of Taylor Road. Since that time, the city determined that Pond Grover Loop Road will not connect to the Brightleaf subdivision, and the Missouri Department of Transportation (MoDOT) decreed that there will not be a new break-in-access along Route 100 to serve the development. Therefore, the subdivision would only connect to Route 100 opposite Taylor Road and to Route 109 via an extension of Eatherton Road for access.



Figure 1: Site Location Map

The purpose of this traffic impact study was to estimate the number of trips that would be generated by the proposed development; evaluate the impact of those trips on the proposed access and adjacent roadways; and determine the ability of motorists to safely enter and exit the site. As necessary, roadway improvements and/or traffic control modifications have been recommended to mitigate the impact of the proposed development. The focus of our analysis was the weekday AM and PM peak hours which represent both the peak in existing traffic levels as well as the expected peak for the proposed residential land use.

Analysis Scenarios

In order to address the current and forecasted conditions, the following off-site scenarios have been evaluated:

- Existing conditions;
- Base conditions – Existing traffic plus Approved Main Street Crossing Development to south;
- Forecasted conditions – Base traffic plus proposed Brightleaf development;
- 20-Year No-Build conditions – Base Traffic plus background traffic growth (2040); and
- 20-Year Build conditions – 20-Year No-Build Traffic Base plus proposed Brightleaf development road build-out (2040).



Existing Conditions

Missouri Route 100 is a four-lane divided east/west principal arterial road maintained by MoDOT. The posted speed limit is 55 miles per hour. According to current counts provided on MoDOT's website, the average daily traffic (ADT) along Missouri Route 100 was approximately 21,890 vehicles per day (vpd) in 2015. Taylor Road intersects Missouri Route 100 at a signalized intersection that services a few single family homes to the north (Overlook Hill Drive) and several large commercial developments to the south. Further south, Taylor Road connects to Old Manchester Road.

Within the study area, Missouri Route 109 is a four-lane median divided north/south minor arterial road also maintained by MoDOT. The posted speed limit is 45 miles per hour. According to current counts provided by MoDOT, the ADT along Route 109 was approximately 16,370 vpd in 2015. Roundabouts were recently constructed along Route 109 at the Route 100 westbound ramps and at Pond Grover Loop Road. The eastbound Route 100 ramps at Route 109 is a signalized intersection.

Eatherton Road is a two-lane City-maintained road that serves existing single-family and multi-family residences with a three-quarter access (no westbound left-turn from the side street) connection at Route 109. The road narrows to approximately 18-foot wide and terminates to the Wildwood Greenway Trail System.

Lafayette Trails Drive is a local subdivision street that has a right-in/right-out connection to Route 109 near Eatherton Road.

Since this is update addresses the changes in roadway connections to the proposed subdivision, the manual turning movement counts conducted in 2015 during the AM (7:00 - 9:00 a.m.) and PM (4:00 - 6:00 p.m.) peak periods at Missouri Route 100 at Taylor Road/Overlook Hill Drive and Missouri Route 109 at Eatherton Road/Lafayette Trails Drive were utilized as the existing condition for this update. In addition, MoDOT provided traffic counts for the roundabout located at Route 109 with Route 100 Westbound Ramps as well as the signalized intersection of Route 109 with Route 100 Eastbound Ramps. The existing peak hour traffic volumes are summarized in **Exhibit 1**.

Approved Developments (Main Street Crossing Development to the south)

It is our understanding that approximately 35 acres along Missouri Route 109 south of Missouri Route 100 has been approved for development with approximately 117 single-family homes, 10,000 square feet of medial office space and two commercial outlots, which is known as Main Street Crossing. After reviewing the Traffic Impact Study prepared for that adjacent development, the site-generated trips from that development were added to the existing traffic volumes for this study. **Exhibit 2** summarizes the site-generated traffic from the Main Street Crossing development through the study area.



Exhibit 1: Existing Traffic Volumes



Exhibit 2: Site-Generated Traffic Volumes (Main Street Development - by Others)



The existing traffic volumes (Exhibit 1) were added to the approved Main Street Crossing development trips (Exhibit 2) to get the Base Traffic Volumes as shown in **Exhibit 3**.

Existing and Base Traffic Analysis and Operations

The existing and base operating conditions were analyzed using SYNCHRO 8, a macro-level analytical traffic flow model. SYNCHRO is based on study procedures outlined in the *Highway Capacity Manual*, published by the Transportation Research Board. This manual, which is used universally by traffic engineers to measure roadway capacity, established six levels of traffic service: Level A ("Free Flow"), to Level F ("Fully Saturated"). Levels of service (LOS) are measures of traffic flow, which consider such factors as speed, delay, traffic interruptions, safety, driver comfort, and convenience. Level C, which is normally used for highway design, represents a roadway with volumes ranging from 70% to 80% of its capacity. However, Level D is considered acceptable for peak period conditions in urban and suburban areas.

The thresholds that define level of service at an intersection are based upon the type of control used (i.e., whether it is signalized or unsignalized) and the calculated delay. For signalized and all-way stop intersections, the average control delay per vehicle is estimated for each movement and aggregated for each approach and then the intersection as a whole. At intersections with partial (side-street) stop control, delay is calculated for the minor movements only since motorists on the main road are not required to stop.

Level of service is directly related to control delay. At signalized intersections, the level of service criteria differs from that at unsignalized intersections primarily because different transportation facilities create different driver expectations. The expectation is that a signalized intersection is designed to carry higher traffic volumes, and consequently may experience greater delay than an unsignalized intersection. **Table 1** summarizes the thresholds used in the analysis for signalized and unsignalized intersections.

Table 1: Level of Service Thresholds

<i>Level of Service (LOS)</i>	Control Delay per Vehicle (sec/veh)	
	<i>Signalized Intersections</i>	<i>Unsignalized Intersections</i>
A	≤ 10	0-10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50



Exhibit 3: Base Traffic Volumes (Existing Conditions + Main Street Development - by Others)



The study intersections were evaluated using the methodologies described above. **Table 2** summarizes the results of the existing and base operating conditions analyses with average delays at the study intersections during the AM and PM weekday peak hours. Sidra, a similar but different computer program was used for the analysis of the roundabout. It should be noted that while similar, the LOS and delay computations should not be directly compared between synchro and Sidra.

Table 2: Existing and Base Operating Conditions

Traffic Movement	AM Peak Hour		PM Peak Hour	
	Existing	Base	Existing	Base
MO Route 100 & Taylor Road/Overlook Hill Drive (Signalized Intersection – Synchro)				
Eastbound Route 100 Approach	B (16.9)	B (17.0)	B (17.5)	B (17.8)
Westbound Route 100 Approach	B (13.3)	B (13.3)	B (13.2)	B (13.3)
Northbound Taylor Road Approach	C (27.2)	C (28.1)	C (24.1)	C (24.6)
Southbound Overlook Hill Dr. Approach	A (0.0)	A (0.0)	A (0.0)	A (0.0)
Overall Intersection	B (16.7)	B (16.8)	B (16.0)	B (16.2)
MO Route 109 & Lafayette Trails Drive/Eatherton Road (Side Street Stop Controlled – Synchro)				
Eastbound Lafayette Trails Dr. Approach	B (11.1)	B (11.2)	B (13.4)	B (13.6)
Westbound Eatherton Road Approach	B (13.8)	C (14.0)	B (12.1)	B (12.3)
Southbound Route 109 Left-Turn	B (11.2)	B (11.4)	B (10.2)	B (10.4)
Overall Intersection	A (0.4)	A (0.4)	A (0.3)	A (0.3)
MO Route 100 Westbound Off-Ramps and MO Route 109 (Roundabout – Sidra)				
Eastbound Windsor Meadow Approach	A (6.8)	A (7.1)	A (8.5)	A (9.1)
Westbound Route 100 Off-Ramp	A (5.1)	A (6.3)	A (5.1)	A (7.3)
Northbound Route 109 Approach	B (14.0)	C (15.5)	B (11.3)	B (12.4)
Southbound Route 109 Approach	A (9.1)	A (9.8)	B (14.7)	C (17.5)
Overall Intersection	B (10.3)	B (11.4)	B (10.9)	B (13.0)
MO Route 100 Eastbound Off-Ramps and MO Route 109 (Signalized Intersection – Synchro)				
Eastbound Route 100 Off-Ramp	C (30.0)	C (29.6)	D (36.7)	D (36.1)
Northbound Route 109 Approach	B (15.1)	B (15.4)	A (9.3)	A (9.6)
Southbound Route 109 Approach	A (9.0)	A (9.5)	A (6.4)	A (7.0)
Overall Intersection	B (15.5)	B (15.6)	B (11.4)	B (11.5)

X (XX.X) - Level of Service (Vehicular delay in seconds per vehicle)



The intersections are currently functioning at very good level of services. Currently, the volume-to-capacity (v/c) ratio for the signalized intersection at Missouri Route 100 at Taylor Road/Overlook Hill Drive is 0.63 in the AM peak hour and 0.55 in the PM peak hour for the existing condition. The signalized intersection of Missouri Route 100 Eastbound Off-Ramps at Missouri Route 109 is 0.72 in the AM peak hour and 0.65 in the PM peak hour for the existing condition.

The v/c increases very slightly to 0.64 in the AM peak hour and 0.56 in the PM peak hour at Missouri Route 100 and Taylor Road/Overlook Hill Drive for the base condition. It should be noted that due to the low southbound traffic volume at Overlook Hill Drive, the existing signal essentially functions as a three-legged signalized intersection until a southbound car until a southbound car arrives which is quite infrequently. The v/c at Missouri Route 100 Eastbound Off-Ramps and Missouri Route 109 does not change. For the base condition The roundabout at Route 100 Westbound Off-Ramps and Route 109 operates at acceptable levels with v/c ratios less than 0.74 during the AM peak and 0.63 during the PM peak hour.



Proposed Development

It is our understanding that the property will be developed with the construction of 192 single-family residences. A preliminary site plan provided by the site civil engineer is shown in **Exhibit 4**. As noted above, vehicular access to the proposed development will be provided via a connection to Eatherton Road and a connection to Route 100 opposite Taylor Road.

Trip Generation

As a primary step in this analysis, traffic forecasts were prepared to estimate the amount of traffic that the proposed Brightleaf residential development would generate during the AM and PM weekday peak hours. The traffic was forecasted based upon information provided in the "Trip Generation Manual", Ninth Edition, published by the Institute of Transportation Engineers (ITE). This manual, which is a standard resource for transportation engineers, is based on a compilation of nationwide studies documenting the characteristics of various land uses.

Based on the trip generation rates provided by the ITE publication for Land Use Code (210) Single Family Dwelling Unit, the development is expected to generate 145 total trips during the AM peak hour and 190 total trips during the PM peak hour as shown in **Table 3**.

Table 3: Trip Generation Estimate

<i>Land Use (ITE 210)</i>	<i># of Lots</i>	<i>AM Peak Hour</i>			<i>PM Peak Hour</i>		
		<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>
Single Family Dwelling Unit	192	35	110	145	120	70	190

Trip Distribution

The traffic generated by the proposed residential development was assigned to the adjoining roadway system based on existing and projected traffic patterns, as well as the proximity of other similar uses and the proposed access points for the site. The anticipated directional distribution during the AM and PM peak hours for the residential trips was as follows:

- 50% to/from the east on Missouri Route 100;
- 20% to/from the north on Missouri Route 109;
- 15% to/from the west on Missouri Route 100;
- 10% to/from the south on Missouri Route 109; and
- 5% to/from the south via Taylor Road.



In order to account for the new residents oriented to the Green Pines Elementary School, CBB added an additional 10% of new residential trips to exit the residential development via Route 109 and go to the elementary school (along Pond Grover Loop Road/Green Pines Drive) during the AM peak hour. Since there are several routes to access Route 100 from the elementary school, it was assumed that half of the additional school trips would travel back to Route 109 and half travel to the south to Route 100 and the other half of the additional school trips would travel through the adjacent neighborhood and connect up to Route 100 via Westglen Farms Drive.

The review agencies also requested that school trips be addressed during the dismissal peak hours. Since no afternoon traffic counts were completed as part of the original traffic study, it was agreed with MoDOT staff that additional school trips would be added to the PM commuter peak hour counts to identify a more conservative, "worst case" impact at the study intersections. As a result, an additional 10% of new residential trips was added to enter the residential development via Route 109 from the elementary school (accessed via Pond Grover Loop Road/Green Pines Drive) during the PM peak hour. It was assumed that half of the additional PM school trips would enter the school to the east of the Taylor Road (via Forest Leaf Parkway/Westglen Farms Drive) and half would travel westbound on Route 100 through the Taylor Road intersection to northbound Route 109 at the interchange to access the school via Pond Grover Loop Road, and all of the additional school trips would exit the school and travel back to the residential development via Route 109 southbound and turn left onto Eatherton Road. The site-generated traffic volumes and trip distribution were applied as shown in **Exhibit 5**.

Forecasted Build Condition with Residential Development

This site generated traffic (Exhibit 5) was added to the Base Traffic Volumes (Exhibit 3) to reflect the forecasted Build Traffic Volumes for the AM and PM weekday peak hour build conditions as shown in **Exhibit 6**.

Forecasted Build Analyses and Operations

The study intersections were evaluated using the same methodologies as described above. **Table 4** summarizes the results of those analyses with average delays at the study intersections during the AM and PM weekday peak hours.

The summaries below assume that the southbound approach of the new Eatherton Road Extended at Missouri Route 100 (opposite Taylor Road) would consist of a southbound left-turn lane and a shared through/right-turn lane as well as a short westbound right-turn lane on Route 100 at Eatherton Road. An eastbound left-turn lane is already present.

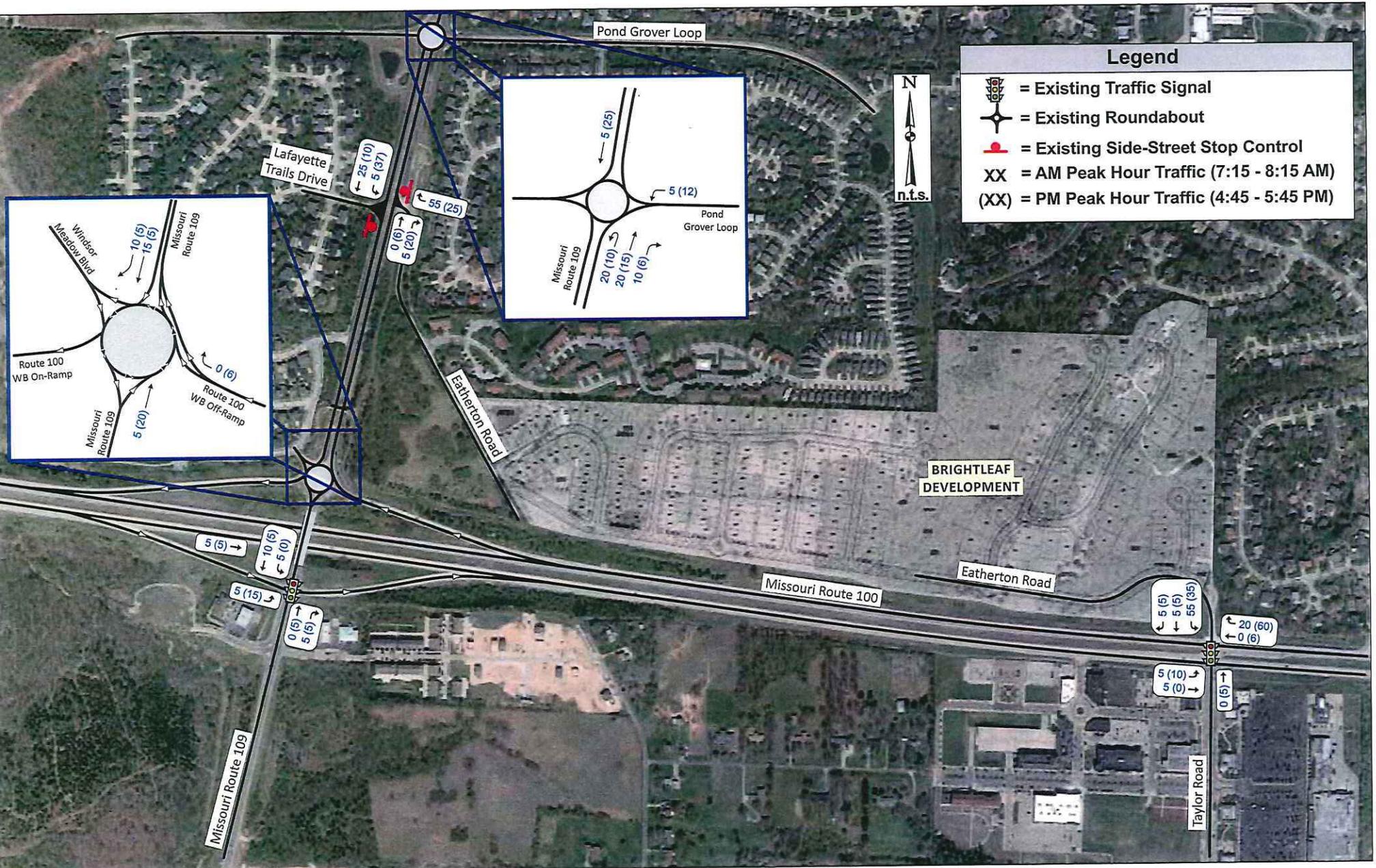


Exhibit 5: Site-Generated Traffic Volumes (Brightleaf Development)



Exhibit 6: 2016 Build Conditions (Base Condition + Brightleaf Development)



As can be seen, all approaches and intersections operate at an acceptable LOS D (or better) without any modification to signal timing. In fact, the v/c ratio for the signalized intersection at Missouri Route 100 and Taylor Road/Overlook Hill Drive in the Forecasted Build Condition is 0.69 in the AM peak hour and 0.58 in the PM peak hour. The signalized intersection at Missouri Route 100 Eastbound Off-Ramps and Missouri Route 109 is 0.73 in the AM peak hour and 0.68 in the PM peak hour for the Forecasted Build Condition. The roundabout also operates at acceptable levels with v/c ratios less than 0.75 during the AM peak and 0.68 during the PM peak hour.

Table 4: Build Operating Conditions

Traffic Movement	AM Peak Hour	PM Peak Hour
MO Route 100 & Taylor Road/Eatherton Road Extended (Signalized Intersection – Synchro)		
Eastbound Route 100 Approach	C (22.6)	C (22.2)
Westbound Route 100 Approach	B (17.6)	B (19.0)
Northbound Taylor Road Approach	D (35.1)	C (29.9)
Southbound Eatherton Rd Extension Approach	D (49.1)	D (45.1)
Overall Intersection	C (23.0)	C (21.8)
MO Route 109 & Lafayette Trails Drive/Eatherton Road (Side Street Stop Controlled – Synchro)		
Eastbound Lafayette Trails Dr. Approach	B (11.4)	B (13.7)
Westbound Eatherton Road Approach	C (15.6)	B (12.9)
Southbound Route 109 Left-Turn	B (11.5)	B (10.9)
Overall Intersection	A (0.8)	A (0.7)
MO Route 100 Westbound Off-Ramps and MO Route 109 (Roundabout – Sidra)		
Eastbound Windsor Meadow Approach	A (7.2)	A (9.2)
Westbound Route 100 Ramp	A (6.4)	A (7.5)
Northbound Route 109 Approach	C (15.8)	B (13.0)
Southbound Route 109 Approach	B (10.0)	C (17.8)
Overall Intersection	B (11.6)	B (13.4)
MO Route 100 Eastbound Off-Ramps and MO Route 109 (Signalized Intersection – Synchro)		
Eastbound Route 100 Off-Ramp	C (29.9)	D (37.8)
Northbound Route 109 Approach	B (15.5)	B (10.3)
Southbound Route 109 Approach	A (9.7)	A (7.6)
Overall Intersection	B (15.8)	B (12.5)

X (XX.X) - Level of Service (Vehicular delay in seconds per vehicle)



20-Year Conditions

20-Year No-Build Traffic (Base Traffic Plus Background Growth) Traffic Volumes

The 20-Year No-Build Traffic Volumes include an annual growth rate of 0.5%. An additional five years of background growth were included in the 20-year scenario to compensate for the five years expected to build the homes (20 years typical plus 5 years for construction of the subdivision). The 25 years of background growth at 0.5% per year will be assumed for all roadways in the study area. This represents a global increase of approximately 13.3% for the study area over the existing conditions. The 20-Year No-Build Traffic Volumes (2040) are shown in **Exhibit 7**.

2040 Build (2040 No-Build Traffic Plus Proposed Brightleaf Site-Generated Trips) Traffic Volumes

The site generated traffic volumes for the proposed Brightleaf development (Exhibit 5) were added to the 20-Year No-Build Traffic Volumes (Exhibit 7) to determine the total volumes in the 2040 Build conditions with the proposed Brightleaf development. The 20-Year Build Traffic Volumes (2040) are shown in **Exhibit 8**.

20-Year No-Build and Build Operating Conditions

The study intersections were re-evaluated for the 20-Year No-Build and 20-Year Build scenarios using the same methodologies described above. **Table 5** summarizes the results of the 20-Year No-Build operating conditions and 20-Year Build operating conditions with average delays during the AM and PM peak hours.

Again, the build condition assumes that the southbound approach of the new Eatherton Road Extended at Missouri Route 100 (opposite Taylor Road) would consist of a southbound left-turn lane and a shared through/right-turn lane as well as a short westbound right-turn lane on Route 100 at Eatherton Road.

As can be seen, all approaches and intersections operate at acceptable levels of service. The v/c ratio for the signalized intersection at Missouri Route 100 and Taylor Road/Overlook Hill Drive in the 20-Year No-Build Condition is 0.68 during the AM peak hour and 0.61 in the PM peak hour, and for the 20-Year Build Condition the v/c ratios are 0.73 in the AM peak hour and 0.67 in the PM peak hour. The v/c ratio for the signalized intersection at Missouri Route 100 Eastbound Off-Ramps and Missouri Route 109 in the 20-Year No-Build Condition is 0.76 during the AM peak hour and 0.68 during the PM peak hour, and for the 20-Year Build Condition the v/c ratios are 0.77 during the AM peak hour and 0.70 during the PM peak hour.

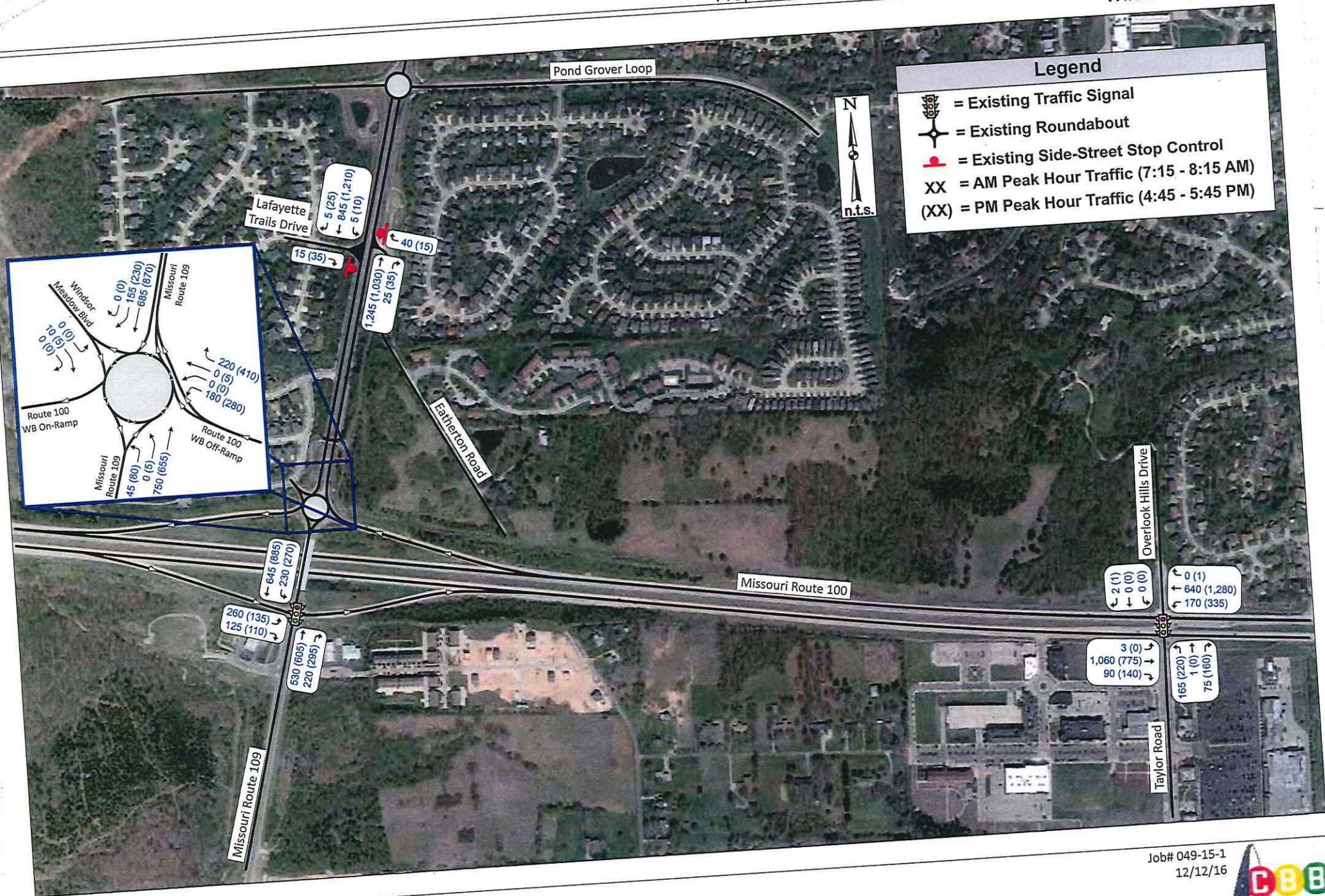
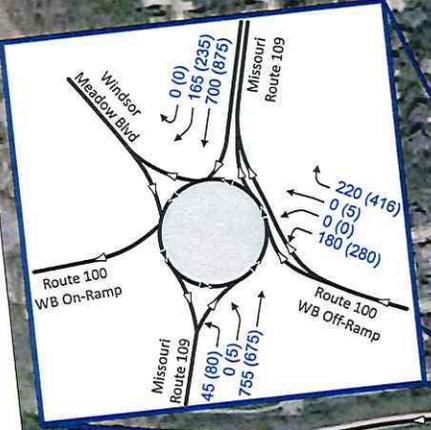


Exhibit 7: 2040 No-Build Traffic Volumes

Proposed Brightleaf Residential Development - Traffic Impact Study
 Wildwood, Missouri

Legend

-  = Existing Traffic Signal
-  = Existing Roundabout
-  = Existing Side-Street Stop Control
- XX** = AM Peak Hour Traffic (7:15 - 8:15 AM)
- (XX)** = PM Peak Hour Traffic (4:45 - 5:45 PM)





The roundabout at Route 100 Westbound Off-Ramps and Route 109 operates at acceptable levels with v/c ratios less than 0.75 during the AM peak and 0.80 during the PM peak hour in the 20-Year No-Build Condition, and v/c ratios less than 0.74 during the AM peak and 0.81 during the PM peak hour in the 20-Year Build Condition.

Table 5: 20-Year Operating Conditions (2040)

Traffic Movement	AM Peak Hour		PM Peak Hour	
	20-Year No-Build	20-Year Build	20-Year No-Build	20-Year Build
MO Route 100 & Taylor Road/Overlook Hill Drive/Eatherton Road Extension (Signalized Intersection – Synchro)				
Eastbound Route 100 Approach	B (17.8)	C (23.9)	B (19.2)	C (24.9)
Westbound Route 100 Approach	B (14.2)	B (18.6)	B (14.8)	C (22.3)
Northbound Taylor Road Approach	C (31.7)	D (39.0)	C (28.0)	C (34.1)
Southbound Eatherton Rd Extension Approach	A (0.0)	D (54.7)	A (0.0)	D (50.3)
Overall Intersection	B (18.0)	C (24.5)	B (17.9)	C (25.0)
MO Route 109 & Lafayette Trails Dr/Eatherton Rd (Side Street Stop Controlled – Synchro)				
Eastbound Lafayette Trails Dr. Approach	B (11.8)	B (11.9)	B (15.0)	C (15.2)
Westbound Eatherton Road Approach	C (15.5)	C (17.7)	B (13.1)	B (13.9)
Southbound Route 109 Left-Turn	B (12.4)	B (12.5)	B (11.1)	B (11.7)
Overall Intersection	A (0.4)	A (0.9)	A (0.4)	A (0.7)
Route 100 Westbound Off-Ramps and Route 109 (Roundabout – Sidra)				
Eastbound Windsor Meadow Approach	A (7.8)	A (8.0)	B (10.4)	B (10.5)
Westbound Route 100 Ramp	A (8.2)	A (8.3)	B (10.8)	B (11.3)
Northbound Route 109 Approach	C (21.5)	C (22.0)	C (15.4)	C (16.3)
Southbound Route 109 Approach	B (11.5)	B (11.9)	D (26.2)	D (26.8)
Overall Intersection	B (14.9)	C (15.2)	C (18.5)	C (19.2)
MO Route 100 Eastbound Off-Ramps and MO Route 109 (Signalized Intersection – Synchro)				
Eastbound Route 100 Off-Ramp	C (30.6)	C (31.0)	D (35.8)	D (37.2)
Northbound Route 109 Approach	B (18.3)	B (18.4)	B (11.4)	B (12.2)
Southbound Route 109 Approach	B (11.5)	B (11.8)	A (8.9)	A (9.7)
Overall Intersection	B (17.8)	B (18.0)	B (13.2)	B (14.2)

X (XX.X) - Level of Service (Vehicular delay in seconds per vehicle)



CBB has completed a traffic impact study for a proposed 192 single-family residential development on a tract of land in the northwest quadrant of Missouri Route 100 and Taylor Road/Overlook Hill Drive in Wildwood, Missouri. The following summary is provided:

- The new traffic from the proposed Brightleaf subdivision can be accommodated quite well at the study intersections assuming:
 - A southbound left-turn lane and shared through/right-turn lane should be provided on the new Eatherton Road extension approach at the signalized intersection with Missouri Route 100 (opposite Taylor Road). We acknowledge that the future name of the new road may be different than noted herein.
 - A separate westbound right-turn lane should also be provided on Missouri Route 100 at the new Eatherton Road/Taylor Road intersection. The eastbound left-turn lane is already present and will be acceptable as-is.

We trust that you will find this report useful in evaluating the traffic impacts associated with the proposed 192 single-family residential homes (known as Brightleaf) in Wildwood, Missouri. Please contact me in our St. Louis office (314) 878-6644, ext. 12 or Lcannon@cbbtraffic.com should you have any questions or comments concerning this material.

Sincerely,

Lee Cannon, P.E., PTOE
Principal – Traffic Engineer