AGENDA

for the

CITY OF WILDWOOD'S

PLANNING AND ZONING COMMISSION

City Hall Council Chambers · 16860 Main Street

November 7, 2016 · Monday

6:30 P.M.

Action Items on Tonight's Agenda ----------> One (1) Public Hearing, One (1) Letter of Recommendation, and Two (2) Information Reports

I. Welcome To Attendees And Roll Call Of Commission Members

II. Review Tonight's Agenda/Questions Or Comments

III. Approval Of Minutes Of The Meeting Of Monday, October 17, 2016

Documents:

III. OCTOBER 17, 2016 MINUTES.PDF

IV. Department Of Planning's Opening Remarks/Updates

V. Public Hearings – One (1) Item For Consideration

1. P.Z. 12-16 City Of Wildwood Planning And Zoning Commission, C/O Department Of Planning, 16860 Main Street, Wildwood, Missouri 63040

A request to amend Chapter 415 of the City of Wildwood's Code of Ordinances by either the addition of proposed requirements to Section 415.380 Miscellaneous Regulations or the inclusion of a new Section 415.600 Live Performance and

Outdoor Entertainment Regulations, which would establish parameters to ensure consistency in the allowance of live performances and outdoor entertainment, as well as other sound that is projected outdoors through speakers, public address systems, and other such amplification equipment. **(Wards – All)**

Documents:

V.A. P.Z. 12-16 LIVE PERFORMANCE AND OUTDOOR ENTERTAINMENT REGULATIONS (UPDATED 11-7-16).PDF

VI. Old Business – Three (3) Items For Consideration

1. Letters Of Recommendation – One (1) Item For Consideration

a. P.Z. 15-15 City Of Wildwood Planning And Zoning Commission, C/O Department Of Planning, 16860 Main Street, Wildwood, Missouri 63040

A request to amend Chapter 415 of the City of Wildwood's Code of Ordinances by adding new requirements to Section 415.380 Miscellaneous Regulations to ensure the use of drones in all zoning district designations complies with air space rights associated with public and privately-owned properties in the City of Wildwood. **(Wards – All)**

Documents:

VI.A. P.Z. 15-15 UNMANNED AIRCRAFT SYSTEMS.PDF

a.1. Public Comments On Recommendation

2. Information Reports – Two (2) Items For Consideration

a. P.Z. 6-16 Auburn Ridge, Fischer And Frichtel Custom Homes, 695 Trade Center Boulevard, Chesterfield, Missouri, 63005

A request for the application of a Planned Residential Development Overlay District (PRD) within the NU Non-Urban Residence District for a 81.4 acre tract of land that is located on the southwest side of Ridge Road, south of Lack Ridge Road (Locator Number: 25U330010 and 25U310023/Street Addresses: 1115 Ridge Road and 1513 Windwood Hills Drive). Proposed Use: A total of twenty-seven (27) individual lots, with common ground, and required public space areas. **(Ward Six)**

Documents:

VI.B. P.Z. 6-16 AUBURN RIDGE.PDF

a.1. Public Comments On Recommendation

b. P.Z. 13-16 City Of Wildwood Planning And Zoning Commission, C/O Department Of Planning, 16860 Main Street, Wildwood, Missouri 63040

A request to review and consider amendments to the City of Wildwood's Zoning Ordinance – Chapter 415 of the City of Wildwood Municipal Code – for all of its "R" Residence District designations (Chapter 415 – Sections 110 through 160), including Chapter 415.090 NU Non-Urban Residence District, along with Chapter 415.030 Definitions, which would thereby reconsider the current inclusion of 'Large Water Features' as a Conditional Land Use and Development Permits Issued By the Commission, along with any applicable

regulations relating to the same. **(Wards – All)**

Documents:

VI.C. P.Z. 13-16 LARGE WATER FEATURES.PDF

b.1. Public Comments On Recommendation

VII. New Business – No Items For Consideration

VIII. Site Development Plans - Public Space Plans - Record Plats – No Items For Consideration

IX. Other – No Items For Consideration

X. Closing Remarks And Adjournment By Chair Of Commission

If you would like to submit a comment regarding an item on this meeting agenda, please visit the Form Center.

CITY OF WILDWOOD, MISSOURI
RECORD OF PROCEEDINGS

MEETING OF THE PLANNING AND ZONING COMMISSION
CITY HALL, 16860 MAIN STREET, WILDWOOD, MISSOURI
October 17, 2016

The Planning and Zoning Commission meeting was called to order by Chair Bopp, at 6:30 p.m., on Monday, October 17, 2016, at Wildwood City Hall, 16860 Main Street, Wildwood, Missouri.

I. Welcome to Attendees and Roll Call of Commission Members

Chair Bopp requested a roll call be taken. The roll call was taken, with the following results:

PRESENT – (9)	ABSENT – (0)
Chair Bopp	
Commissioner Lee	
Commissioner Renner	
Commissioner Archeski	
Commissioner Gragnani	
Commissioner Bartoni	
Commissioner Kohn	
Council Member Manton	
Mayor Bowlin	

Other City officials present: Director of Planning Vujnich, Planner Newberry, City Attorney Young, and Rebecca Corson.

II. Review Tonight's Agenda / Questions or Comments

There were no questions or comments on the agenda.

III. Approval of Minutes from the September 19, 2016 Meeting

A motion was made by Council Member Manton, seconded by Commissioner Archeski, to approve the minutes from the October 3, 2016 meeting. A voice vote was taken regarding the motion for approval of the minutes. Hearing no objections, Chair Bopp declared the motion approved.

IV. Department of Planning Opening Remarks

No opening remarks from the Department of Planning.

V. Public Hearings – No Items for Consideration

VI. Old Business – Two (2) Items for Consideration

Letters of Recommendation – No Items for Consideration

Information Reports – Two (2) Items for Consideration

a) **P.Z. 6-16 Auburn Ridge, Fischer and Frichtel Custom Homes, 695 Trade Center Boulevard, Chesterfield, Missouri, 63005** – A request for the application of a Planned Residential Development Overlay District (PRD) within the NU Non-Urban Residence District for a 81.4 acre tract of land that is located on the southwest side of Ridge Road, south of Lack Ridge Road (Locator Number: 25U330010 and 25U310023/Street Addresses: 1115 Ridge Road and 1513 Windwood Hills Drive). Proposed Use: A total of twenty-seven (27) individual lots, with common ground, and required public space areas. **(Ward Six)**

Planner Newberry read the request into the record.

Director Vujnich noted the petitioner requested this item be postponed at tonight's meeting in order to make changes to the site design to further address the comments heard at the October 3, 2016, Planning and Zoning Commission meeting.

A motion by Mayor Bowlin, seconded by Commissioner Renner, to postpone the item until the next Planning and Zoning Commission meeting on November 7, 2016.

A voice vote was taken regarding the motion to postpone the item. Hearing no objections, Chair Bopp declared the motion approved.

b) **P.Z. 15-15 City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040** - A request to amend Chapter 415 of the City of Wildwood's Code of Ordinances by adding new requirements to Section 415.380 Miscellaneous Regulations to ensure the use of drones in all zoning district designations complies with air space rights associated with public and privately-owned properties in the City of Wildwood. **(Wards – All)**

Planner Newberry read the request into the record.

Director Vujnich explained a public hearing on this item was held before the Planning and Zoning Commission at its August 3, 2015, meeting. He stated the consideration of adding new requirements to the City's Code of Ordinances regarding drones is due to the increased use of them by private individuals and a few well-documented instances across the country that have caused concern. He noted the Federal government has been slowly developing regulations; however, many individual States and local governments have taken legislative steps to protect private properties from potential privacy issues. He also noted the potential public safety and nuisance issues that might arise with the increased personal use of drones. Director Vujnich stated the City would not seek out enforcement situations in regards to these regulations, but have them in place, if any issues arise regarding drones.

Director Vujnich reminded the Planning and Zoning Commission that, at its August 3, 2015, public hearing on the item, the Commission referred it to the Board of Public Safety for its review and recommendation. He noted Dr. John Gragnani was in attendance as a representative of the Board and would be available to answer any questions the Commission might have on the Board of Public Safety's review.

Mayor Bowlin asked the Department and City Attorney Young to research Items #11 and #12 of the proposed regulations. Mayor Bowlin asked that, if Item #11, whether the minimum height of eighty-three (83) could be increased and under Item #12 "and property" could be added after "Operators of Unmanned Aerial Systems shall not conduct surveillance or photograph persons…"

Discussion was held among Commission Members regarding the possibility these regulations could hinder the use of drones by surveyors, engineers, and the like to gather necessary information; an overall concern regarding privacy rights; and the concern these regulations might prohibit the filming by of certain school sporting events by parents and/or school officials.

Dr. John Gragnani, representing the Board of Public Safety, explained the origin of some of the components of the proposed regulations and outlined the reasoning behind the Board of Public Safety's recommendation.

A motion by Mayor Bowlin, seconded by Commissioner Bartoni, to accept the Department's recommendation, with the understanding the Department and City Attorney Young will conduct the additional research that was requested.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Lee, Commissioner Renner, Commissioner Archeski, Commissioner Gragnani, Commissioner Bartoni, Commissioner Kohn, Council Member Manton, Mayor Bowlin, and Chair Bopp
Nays: None
Absent: None
Abstain: None
Whereupon, Chair Bopp declared the motion passed by a vote of 9-0.

Correspondence Items – No Items for Consideration

VII. New Business – No Items for Consideration

VIII. Site Development Plans-Public Space Plans-Record Plats – No Items for Consideration

IX. Other – One (1) Item for Consideration

a) Discussion of Starting Time of the Planning and Zoning Commission Meetings at 6:30 p.m. **(Wards – All)**

Director Vujnich explained the Planning and Zoning Commission had previously taken action to change the meeting start time to 7:00 p.m. to 6:30 p.m., with the agreement the change would be reviewed after a two (2) month trial period during September and October. He noted the item is due for consideration by the Commission at tonight's meeting.

Discussion was held among Commission Members regarding whether the Department had received any comments or concerns regarding the start time; whether the earlier start time caused any issues with the Department of Planning; and that some Commission Members might not be able to attend Site Plan Subcommittee meetings, given the earlier time.

Director Vujnich and Planner Newberry noted no comments have been received by members of the public and the earlier start time has not caused any issues for the Department.

A motion by Council Member Manton, seconded by Mayor Bowlin, to maintain the 6:30 p.m. meeting start time for Planning and Zoning Commission meetings.
A voice vote was taken regarding the motion. Hearing no objections, Chair Bopp declared the motion approved.

X. Closing Remarks and Adjournment

Motion by Commissioner Archeski, seconded by Commissioner Renner, to adjourn the meeting. A voice vote was taken. Hearing no objections, Chair Bopp adjourned the meeting at 7:05 p.m.

Approved by: _____

Secretary – City of Wildwood Planning and Zoning Commission

Note: Recordation of the opinions, statements, and/or other meeting participation in these minutes shall not be deemed to be an acknowledgement or endorsement by the Commission of the factual accuracy, relevance, or propriety thereof.

* If comment cards were submitted indicating they did not wish to speak at tonight's meeting, they have been attached and made part of the official record.

DRAFT

WILDWOOD™

ZONING PRIMER

for

P.Z. 12-16 Planning and Zoning Commission c/o Department of Planning and Parks

City of Wildwood, Missouri

Prepared by the Department of Planning and Parks

NOVEMBER 7, 2016 Executive Meeting

"Planning Tomorrow Today"

Petition:	**P.Z. 12-16**
Petitioner:	**City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040**
Request:	A request to amend Chapter 415 of the City of Wildwood's Code of Ordinances by either the addition of proposed requirements to Section 415.380 Miscellaneous Regulations or the inclusion of a new Section 415.600 Live Performance and Outdoor Entertainment Regulations, which would establish parameters to ensure consistency in the allowance of live performances and outdoor entertainment, as well as other sound that is projected outdoors through speakers, public address systems, and other such amplification equipment.
Zoning District (s):	All "C" Commercial Districts
Wards:	All

Over the course of the last several years, the Big Chief Roadhouse has had to have a review of its use of its patio area for outdoor live performances of music due to concerns about loud noise upon its surrounding neighbors. This review also includes considerations relating to the established hours and days of operation for the music, along with a yearly meeting where surrounding property owners and the Police Department are notified and allowed to comment. Therefore, each year, the owner of this restaurant has been subject to a decision that would continue to allow live music performances on the patio of the business or not.

During the 2016 review of this outdoor music allowance, the owner of the restaurant questioned the singular nature of her process and why she was the only business of this nature to be held to an annual review. The Planning and Zoning Commission appreciated the question and held a discussion on this business and others in Town Center that offer live music in an outdoor venue and decided it would be appropriate to undertake a review of this popular activity that restaurants like to offer to bring and keep individuals at their facility longer, while having a more enjoyable time. This decision to review this matter also included a request from the Planning and Zoning Commission members that a survey of all businesses that currently, or might at some time, offer outdoor performances be undertaken and ask about their relative opinions on future regulations, as well as other considerations relating to this topic.

The survey was prepared and provided to a total of twenty (20) businesses that were determined to possibly benefit from the allowances for outdoor live performances of music and other entertainment. The Department would note that nine (9) businesses responded to the survey and those returns are attached to this Primer for the Commission's review. This return rate on this survey is very good, and needed, given the small sampling size. Generally, the results indicate the following general characteristics:

1. Not all restaurants offer live music performances, but most broadcast music through speakers to a dining area or areas.
2. Most respondents noted a limited outdoor season, generally from April to October.
3. Most respondents that do offer live music performances in an outdoor venue limit the times to no later than 11:00 p.m. to be respectful of surrounding areas.
4. Some of the respondents have live performances of outdoor music on special occasions only.
5. Almost all of the respondents noted, in some form, a desire to respect the neighborhoods around them in terms of noise levels.

Along with this information, the City Attorney has provided a set of draft regulations that were developed by his firm for another community relative to outdoor performances, which includes venues that provide live music. These draft regulations are for consideration at tonight's meeting, as a potential model for the City, if the Commission should chose to pursue such, after reviewing the other materials for tonight's public hearing.

The Department would like to identify several key points regarding current allowances and the zoning ordinances that address them on a site-by-site basis at this time. These points are as follows:

1. Any regulations that might be adopted might apply outside the City's Town Center Area, where almost all of Wildwood's commercial zoning district designations exist.
2. Any regulations that might be adopted would have to be crafted to address restrictions that may exist in site-specific ordinances approved under the regulations of the C-8 Planned Commercial District, M-3 Planned Industrial District, and Planned Residential Development Overlay Districts (PRD) that might otherwise prohibit such. Otherwise, each of the site-specific ordinances would have to be amended to comply with these possible new underlying regulations for outdoor performances.
3. Any regulations that might be adopted would also extend to other outdoor venues that generate noise besides live performances, such as broadcasting music through speakers.
4. Any regulations that might be adopted must encourage consistency in how all of these venues are treated in terms of hours and days of operation, locational aspects, acceptable noise levels, and other characteristics, so as they can operate effectively, but not cause potential issues for surrounding areas, particularly if residential in nature.

Tonight's public hearing is to accept comments in this regard, so as they can be used in the development of a recommendation by the Department for the Planning and Zoning Commission. All of the businesses that were contacted with the original survey also received a letter notifying them

of tonight's public hearing and inviting them to attend it as well. The intent is to ensure these businesses have ample opportunity to participate in this process.

As always, if any of the Planning and Zoning Commission members should have questions or comments about this information before tonight's hearing, please feel free to contact the Department of Planning at (636) 458-0440. Staff of the Department of Planning and the City Attorney will be in attendance at the public hearing to provide information and respond to questions or comments in this regard. Thank you for your consideration of this information and input on the same.

WILDWOOD

CITY OF WILDWOOD
OCT 07 2016
DEPT OF PLANNING & PARKS

Outdoor Music Survey

Instructions: Please consider taking a few minutes to complete the following questions regarding this important topic. Your input on this matter is greatly appreciated. If you prefer, you may also complete this survey on the City's website at **www.cityofwildwood.com/musicsurvey** . Thank you.

1) Please check the boxes bellow that apply to your current practices regarding live outdoor music performances, music broadcasted outdoors through speakers, public announcement systems, etc. (Please check all that apply.)

- [x] Live outdoor music performances, acoustic
- [x] Live outdoor music performances, with amplification
- [ ] Music broadcast through speakers (i.e. outdoor seating areas, etc.)
- [ ] I don't currently provide outdoor music performances or music broadcast through speakers (See Question #2)
- [ ] Other. Please specify: _____

2) If you don't currently provide live outdoor music performances and/or music broadcast outdoors through speakers, do you plan to do so in the future?

- [ ] Yes. Please specify: _____
- [ ] No

3) If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what months of the year do you typically provide this entertainment? (Please check all that apply.)

[ ] January	[ ] February	[ ] March
[ ] April	[x] May	[x] June
[x] July	[x] August	[x] September
[x] October	[ ] November	[ ] December

4) If you plan to provide live outdoor music performances and/or music broadcast outdoors through speakers in the future, what months of the year would you do so? (Please check all the apply.)

[ ] January	[ ] February	[ ] March
[ ] April	[ ] May	[ ] June
[ ] July	[ ] August	[ ] September
[ ] October	[ ] November	[ ] December

SEE NEXT PAGE FOR MORE QUESTIONS →

5) **If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what hours of the day do you typically do so?**

6-11 PM

6) **If you plan to provide live outdoor music for performances and/or music broadcast outdoors through speakers in the future, what hours of the day do would you do so?**

7) **Please provide any comments, concerns, or questions regarding any future regulations regarding live outdoor music performances, as well as music that is broadcast outdoors through speakers, public announcement systems, etc. Your input is valued and appreciated.**

The Planning and Zoning Commission and Department of Planning greatly appreciate your input on this important topic. Please return the completed survey to The City of Wildwood, 16860 Main Street, Wildwood, Missouri 63040, in the enclosed, postage paid envelope.

The City values you as a business owner and will notify you of any future meetings where this important topic is to be discussed.

Thank You

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CITY OF WILDWOOD
OCT 07 2016
TW
DEPT OF PLANNING & PARKS

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- ☐ Music broadcast through speakers (i.e. outdoor seating areas, etc.)
- ☐ I don't currently provide outdoor music performances or music broadcast through speakers (See Question #2)
- ☒ Other. Please specify: our live music shows are inside

2) If you don't currently provide live outdoor music performances and/or music broadcast outdoors through speakers, do you plan to do so in the future?

- ☐ Yes. Please specify: _____
- ☒ No — I'm afraid it would offend the neighbors

3) If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what months of the year do you typically provide this entertainment? (Please check all that apply.)

☐ January	☐ February	☐ March
☐ April	☐ May	☐ June
☐ July	☐ August	☐ September
☐ October	☐ November	☐ December

4) If you plan to provide live outdoor music performances and/or music broadcast outdoors through speakers in the future, what months of the year would you do so? (Please check all the apply.)

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SEE NEXT PAGE FOR MORE QUESTIONS →

5) **If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what hours of the day do you typically do so?**

N/A

6) **If you plan to provide live outdoor music for performances and/or music broadcast outdoors through speakers in the future, what hours of the day do would you do so?**

N/A

7) **Please provide any comments, concerns, or questions regarding any future regulations regarding live outdoor music performances, as well as music that is broadcast outdoors through speakers, public announcement systems, etc. Your input is valued and appreciated.**

Occasionally we will play instruments outside; however, never amplified! Acoustic music is often amplified! I would just say we don't play any amplified music outside!

Penn Elze
Stovall's Crew

The Planning and Zoning Commission and Department of Planning greatly appreciate your input on this important topic. Please return the completed survey to The City of Wildwood, 16860 Main Street, Wildwood, Missouri 63040, in the enclosed, postage paid envelope.

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Thank You

WILDWOOD

DEPT OF PLANNING & PARKS
OCT 11 2016
CITY OF WILDWOOD

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- [ ] Other. Please specify: _____

2) If you don't currently provide live outdoor music performances and/or music broadcast outdoors through speakers, do you plan to do so in the future?

- [ ] Yes. Please specify: _____
- [ ] No

3) If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what months of the year do you typically provide this entertainment? (Please check all that apply.)

- [ ] January
- [ ] February
- [ ] March
- [ ] April
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- [x] August
- [x] September
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- [ ] April
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- [ ] August
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- [ ] November
- [ ] December

SEE NEXT PAGE FOR MORE QUESTIONS →

5) **If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what hours of the day do you typically do so?**

6-11pm

6) **If you plan to provide live outdoor music for performances and/or music broadcast outdoors through speakers in the future, what hours of the day do would you do so?**

7) **Please provide any comments, concerns, or questions regarding any future regulations regarding live outdoor music performances, as well as music that is broadcast outdoors through speakers, public announcement systems, etc. Your input is valued and appreciated.**

We end music @ 11:00pm So to not interfere w/ the neighboring hotel.

Beth Williams
Table Three
314-581-2241

The Planning and Zoning Commission and Department of Planning greatly appreciate your input on this important topic. Please return the completed survey to The City of Wildwood, 16860 Main Street, Wildwood, Missouri 63040, in the enclosed, postage paid envelope.

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Thank You

WILDWOOD

Outdoor Music Survey

CITY OF WILDWOOD
OCT 14 2016
Via online form
DEPT OF PLANNING & PARKS

Instructions: Please consider taking a few minutes to complete the following questions regarding this important topic. Your input on this matter is greatly appreciated. If you prefer, you may also complete this survey on the City's website at **www.cityofwildwood.com/musicsurvey** . Thank you.

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- [ ] Yes. Please specify: _____
- [ ] No

3) If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what months of the year do you typically provide this entertainment? (Please check all that apply.)

- [x] January
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- [x] August
- [x] September
- [x] October
- [x] November
- [x] December

4) If you plan to provide live outdoor music performances and/or music broadcast outdoors through speakers in the future, what months of the year would you do so? (Please check all the apply.)

- [x] January
- [x] February
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- [x] June
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SEE NEXT PAGE FOR MORE QUESTIONS

5) **If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what hours of the day do you typically do so?**

9:00 a.m

2:00 a.m

6) **If you plan to provide live outdoor music for performances and/or music broadcast outdoors through speakers in the future, what hours of the day do would you do so?**

9:00 a.m.

2:00 a.m

7) **Please provide any comments, concerns, or questions regarding any future regulations regarding live outdoor music performances, as well as music that is broadcast outdoors through speakers, public announcement systems, etc. Your input is valued and appreciated.**

The Planning and Zoning Commission and Department of Planning greatly appreciate your input on this important topic. Please return the completed survey to The City of Wildwood, 16860 Main Street, Wildwood, Missouri 63040, in the enclosed, postage paid envelope.

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Thank You

WILDWOOD

CITY OF WILDWOOD
OCT 17 2016
DEPT OF PLANNING & PARKS

Outdoor Music Survey

Instructions: Please consider taking a few minutes to complete the following questions regarding this important topic. Your input on this matter is greatly appreciated. If you prefer, you may also complete this survey on the City's website at **www.cityofwildwood.com/musicsurvey** . Please return the survey by **Friday, October 28, 2016**. Thank you.

1) Please check the boxes bellow that apply to your current practices regarding live outdoor music performances, music broadcasted outdoors through speakers, public announcement systems, etc. (Please check all that apply.)

- ☐ Live outdoor music performances, acoustic
- ☐ Live outdoor music performances, with amplification
- ☐ Music broadcast through speakers (i.e. outdoor seating areas, etc.)
- ☒ I don't currently provide outdoor music performances or music broadcast through speakers (See Question #2)
- ☒ Other. Please specify: Only on May 5th (Cinco de Mayo)

2) If you don't currently provide live outdoor music performances and/or music broadcast outdoors through speakers, do you plan to do so in the future?

- ☐ Yes. Please specify: _____
- ☒ No

3) If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what months of the year do you typically provide this entertainment? (Please check all that apply.)

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SEE NEXT PAGE FOR MORE QUESTIONS →

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7) **Please provide any comments, concerns, or questions regarding any future regulations regarding live outdoor music performances, as well as music that is broadcast outdoors through speakers, public announcement systems, etc. Your input is valued and appreciated.**

★ We dont have any Comment or Concerns

The Planning and Zoning Commission and Department of Planning greatly appreciate your input on this important topic. Please return the completed survey to The City of Wildwood, 16860 Main Street, Wildwood, Missouri 63040, in the enclosed, postage paid envelope.

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WILDWOOD

CITY OF WILDWOOD
OCT 24 2016
DEPT OF PLANNING & PARKS

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- ☒ Music broadcast through speakers (i.e. outdoor seating areas, etc.)
- ☐ I don't currently provide outdoor music performances or music broadcast through speakers (See Question #2)
- ☐ Other. Please specify: _____

2) If you don't currently provide live outdoor music performances and/or music broadcast outdoors through speakers, do you plan to do so in the future?

- ☒ Yes. Please specify: POSSIBLY FOR OFF-SEASON EVENTS
- ☐ No

3) If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what months of the year do you typically provide this entertainment? (Please check all that apply.)

☒ January	☒ February	☒ March
☐ April	☐ May	☐ June
☐ July	☐ August	☐ September
☐ October	☐ November	☒ December

4) If you plan to provide live outdoor music performances and/or music broadcast outdoors through speakers in the future, what months of the year would you do so? (Please check all the apply.)

☒ January	☒ February	☒ March
☒ April	☒ May	☒ June
☒ July	☒ August	☒ September
☒ October	☒ November	☒ December

SEE NEXT PAGE FOR MORE QUESTIONS →

5) **If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what hours of the day do you typically do so?**

Week DAYS IN SEASON (DEC./JAN./FEB./MARCH) ~ 9am - 9:30PM
Week ENDS ~ 9am - 1am (CLOSE ON NON-HOLIDAY WEEKENDS - Sunday at 8:30pm. HOLIDAY Weekends (CLOSE SUNDAY AT 1AM) MLK DAY & PRESIDENTS DAY

6) **If you plan to provide live outdoor music for performances and/or music broadcast outdoors through speakers in the future, what hours of the day do would you do so?**

Possibly Similar hours AS ABOVE.

7) **Please provide any comments, concerns, or questions regarding any future regulations regarding live outdoor music performances, as well as music that is broadcast outdoors through speakers, public announcement systems, etc. Your input is valued and appreciated.**

EVENTUALLY, HIDDEN VALLEY would like TO BE CONSIDERED FOR FUTURE OUTSIDE SEATING AND DINING, PATIO IMPROVEMENTS. HIDDEN VALLEY IS ALSO EXPLORING THE POSSIBILITIES OF PROVIDING OFF-SEASON COMMUNITY RECREATIONAL ACTIVITIES AND/OR COMMUNITY-public event functions.

The Planning and Zoning Commission and Department of Planning greatly appreciate your input on this important topic. Please return the completed survey to The City of Wildwood, 16860 Main Street, Wildwood, Missouri 63040, in the enclosed, postage paid envelope.

The City values you as a business owner and will notify you of any future meetings where this important topic is to be discussed.

Thank You

WILDWOOD

CITY OF WILDWOOD
OCT 24 2016
DEPT OF PLANNING & PARKS

Outdoor Music Survey

Instructions: Please consider taking a few minutes to complete the following questions regarding this important topic. Your input on this matter is greatly appreciated. If you prefer, you may also complete this survey on the City's website at **www.cityofwildwood.com/musicsurvey** . Please return the survey by **Friday, October 28, 2016**. Thank you.

1) Please check the boxes bellow that apply to your current practices regarding live outdoor music performances, music broadcasted outdoors through speakers, public announcement systems, etc. (Please check all that apply.)

- ☐ Live outdoor music performances, acoustic
- ☐ Live outdoor music performances, with amplification
- ☑ Music broadcast through speakers (i.e. outdoor seating areas, etc.)
- ☐ I don't currently provide outdoor music performances or music broadcast through speakers (See Question #2)
- ☐ Other. Please specify: _____

2) If you don't currently provide live outdoor music performances and/or music broadcast outdoors through speakers, do you plan to do so in the future?

- ☐ Yes. Please specify: _____
- ☐ No

3) If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what months of the year do you typically provide this entertainment? (Please check all that apply.)

☐ January	☐ February	☐ March
☑ April	☑ May	☑ June
☑ July	☑ August	☑ September
☑ October	☐ November	☐ December

4) If you plan to provide live outdoor music performances and/or music broadcast outdoors through speakers in the future, what months of the year would you do so? (Please check all the apply.)

☐ January	☐ February	☐ March
☑ April	☑ May	☑ June
☑ July	☑ August	☑ September
☑ October	☐ November	☐ December

SEE NEXT PAGE FOR MORE QUESTIONS →

5) If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what hours of the day do you typically do so?

11:00 AM - 1:00 AM WED-SAT
11:00 AM - 12:00 AM MON-TUE
11:00 AM - 11:08 PM SUN

6) If you plan to provide live outdoor music for performances and/or music broadcast outdoors through speakers in the future, what hours of the day do would you do so?

SAME AS ABOVE

7) Please provide any comments, concerns, or questions regarding any future regulations regarding live outdoor music performances, as well as music that is broadcast outdoors through speakers, public announcement systems, etc. Your input is valued and appreciated.

The Planning and Zoning Commission and Department of Planning greatly appreciate your input on this important topic. Please return the completed survey to The City of Wildwood, 16860 Main Street, Wildwood, Missouri 63040, in the enclosed, postage paid envelope.

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WILDWOOD

CITY OF WILDWOOD
OCT 24 2016
DEPT OF PLANNING & PARKS

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- ☐ Music broadcast through speakers (i.e. outdoor seating areas, etc.)
- ☒ I don't currently provide outdoor music performances or music broadcast through speakers (See Question #2)
- ☐ Other. Please specify: _____

2) If you don't currently provide live outdoor music performances and/or music broadcast outdoors through speakers, do you plan to do so in the future?

- ☐ Yes. Please specify: _____
- ☒ No

3) If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what months of the year do you typically provide this entertainment? (Please check all that apply.)

☐ January	☐ February	☐ March
☐ April	☐ May	☐ June
☐ July	☐ August	☐ September
☐ October	☐ November	☐ December

4) If you plan to provide live outdoor music performances and/or music broadcast outdoors through speakers in the future, what months of the year would you do so? (Please check all the apply.)

☐ January	☐ February	☐ March
☐ April	☐ May	☐ June
☐ July	☐ August	☐ September
☐ October	☐ November	☐ December

SEE NEXT PAGE FOR MORE QUESTIONS →

5) **If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what hours of the day do you typically do so?**

6) **If you plan to provide live outdoor music for performances and/or music broadcast outdoors through speakers in the future, what hours of the day do would you do so?**

7) **Please provide any comments, concerns, or questions regarding any future regulations regarding live outdoor music performances, as well as music that is broadcast outdoors through speakers, public announcement systems, etc. Your input is valued and appreciated.**

We dont mind any of our neighbors having live music!!

The Planning and Zoning Commission and Department of Planning greatly appreciate your input on this important topic. Please return the completed survey to The City of Wildwood, 16860 Main Street, Wildwood, Missouri 63040, in the enclosed, postage paid envelope.

The City values you as a business owner and will notify you of any future meetings where this important topic is to be discussed.

Thank You

WILDWOOD

CITY OF WILDWOOD
OCT 31 2016
DEPT OF PLANNING & PARKS

Outdoor Music Survey

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- ☐ Live outdoor music performances, acoustic
- ☐ Live outdoor music performances, with amplification
- ☒ Music broadcast through speakers (i.e. outdoor seating areas, etc.)
- ☐ I don't currently provide outdoor music performances or music broadcast through speakers (See Question #2)
- ☐ Other. Please specify: _____

2) If you don't currently provide live outdoor music performances and/or music broadcast outdoors through speakers, do you plan to do so in the future?

- ☐ Yes. Please specify: If allowed
- ☐ No

3) If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what months of the year do you typically provide this entertainment? (Please check all that apply.)

☐ January	☐ February	☐ March
☐ April	☐ May	☐ June
☐ July	☐ August	☐ September
☐ October	☐ November	☐ December

4) If you plan to provide live outdoor music performances and/or music broadcast outdoors through speakers in the future, what months of the year would you do so? (Please check all the apply.)

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☒ April	☒ May	☒ June
☒ July	☒ August	☒ September
☒ October	☒ November	☐ December

There should not be a limit based on time of year.

SEE NEXT PAGE FOR MORE QUESTIONS

5) **If you currently provide live outdoor music performances and/or music broadcast outdoors through speakers, what hours of the day do you typically do so?**

The goal of live music is to provide option to customers during off peak times of business.

6) **If you plan to provide live outdoor music for performances and/or music broadcast outdoors through speakers in the future, what hours of the day do would you do so?**

Follow times already established ending @ 11pm

7) **Please provide any comments, concerns, or questions regarding any future regulations regarding live outdoor music performances, as well as music that is broadcast outdoors through speakers, public announcement systems, etc. Your input is valued and appreciated.**

Live music is a marketing tool for business to promote additional business during off peak times. Days and frequency should not be limited. Business Owners should be able to use music when needed during different seasons throughout the year. Don't put too many restrictions as long as noise ordinance & ending time is followed. I Can obtain a permit to have live music @ my house & band must end at 11pm but my business in a commercial district must end @ 9:30. Weird? Thanks! Super excited to see how the City will grow from this experience!

The Planning and Zoning Commission and Department of Planning greatly appreciate your input on this important topic. Please return the completed survey to The City of Wildwood, 16860 Main Street, Wildwood, Missouri 63040, in the enclosed, postage paid envelope.

The City values you as a business owner and will notify you of any future meetings where this important topic is to be discussed.

Thank You

CHAPTER ___: LIVE ENTERTAINMENT REGULATIONS

SECTION ___.010: DEFINITIONS

As used in this Chapter, the following terms shall have these prescribed meanings:

BUSINESS OWNER OR OPERATOR: Any person who owns or operates a commercial establishment offering live entertainment. If owned and/or operated by a partnership, each partner shall be deemed an owner and/or operator of the business. If owned and/or operated by a corporation, including a limited liability organization, each officer, director or principal stockholder shall be deemed an owner and/or operator of the business. For the purpose of this Section, a principal stockholder is a person who owns or controls twenty percent (20%) or more of the corporation or organization.

COMMERCIAL ESTABLISHMENT: Any building and the grounds used therewith or any tract of land where services are offered to the public for a consideration or things are sold or are offered for sale or orders are taken for the sale thereof to the public.

LIVE ENTERTAINMENT: Entertainment provided to an audience via amplification, excluding karaoke. Entertainment provided by televisions, juke boxes or recorded music not played on equipment operated by a disk jockey are not required to comply with the provisions of this Chapter.

LIVE ENTERTAINMENT BUSINESS LICENSE: A license issued after approval by the City Council that permits commercial establishments to offer live entertainment, including outdoor live entertainment.

LIVE ENTERTAINMENT SPECIAL EVENT PERMIT: A permit issued after approval by the City Council that permits commercial establishments to offer live entertainment, including outdoor live entertainment, at a special event, not to exceed twenty-four (24) consecutive hours.

MANAGER: Any person or persons who manage, direct, supervise or administer the affairs or conduct of a commercial establishment offering live entertainment, including assistant managers and supervisors who work with or under the direction of a manager.

OUTDOOR LIVE ENTERTAINMENT: Live entertainment which is provided in a venue which is not enclosed by a structure which has a solid roof and at least four (4) solid walls.

DRAFT

PRIVATE CLUB OR LODGE: A building or premises used for social, recreational, dining or philanthropic purposes the normal use of which is limited to specific members, patrons or otherwise listed and enumerated persons who organize for a common purpose to pursue common goals, interests and activities characterized by certain membership qualifications, payment of fees and dues, regular meetings and a constitution and bylaws.

PYROTECHNIC DISPLAY: The detonation, ignition or deflagration of display fireworks or flame effects to produce a visual or audible exhibition.

SPECIAL EVENT: Events such as, but not limited to, concerts, festivals, parades and athletic events.

TENT: A pavilion, canvas house, or other temporary shelter, typically without a foundation, sustained by poles, and enclosed with walls of cloth, fabric, or other pliable material and used for live entertainment.

SECTION ___.020: LICENSES AND PERMITS -- WHEN REQUIRED

A. *Live Entertainment Business License Required.* It shall be unlawful for any commercial establishment to operate or permit to be operated on any premises in the City any live entertainment unless the commercial establishment has a valid live entertainment business license or live entertainment special event permit.

B. *Exceptions.* Live entertainment sponsored and/or authorized by the City, schools, churches, not-for-profit organizations, banquet halls, private clubs and lodges (provided such banquet halls, private clubs and lodges are in existence on or before July 19, 2012) are excluded from the provisions of this Chapter. Any banquet hall, private club or lodge constructed and/or opened after July 19, 2012, in the City that proposes to offer live entertainment shall be required to comply with the provisions of this Chapter.

SECTION ___.030: SPECIFIC RESTRICTIONS AND REQUIREMENTS

A. Outdoor live entertainment shall not be permitted between the hours of 11:00 P.M. Friday and 6:00 A.M. Saturday, between the hours of 11:00 P.M. Saturday and 11:00 A.M. Sunday, and between 10:00 P.M. Sunday, Monday, Tuesday, Wednesday, and Thursday and 6:00 A.M. the following morning.

B. All other live entertainment shall not be permitted between the hours of 1:00 A.M. and 6:00 A.M. on Saturday, between the hours of 1:00 A.M. and 11:00 A.M. on Sunday, and between 12:00 A.M. and 6:00 A.M. on Monday, Tuesday, Wednesday, Thursday, and Friday.

C. *Noise.* No noise emitting from the premises at which live entertainment is offered shall be at such a level as to unreasonably disturb the peaceful enjoyment

of nearby properties. The provisions of Sections 215.100 through 215.180 of this Code shall apply to all live entertainment.

D. *Prohibited Individuals.* With the exception of employees, no person under the age of twenty-one (21) shall be allowed on the premises of any commercial establishment that serves alcoholic beverages during the time live entertainment is being offered unless accompanied by his or her parent or legal guardian.

E. *Pyrotechnic Displays Prohibited.* No pyrotechnic displays or devices of any nature shall be permitted in conjunction with any commercial establishment offering live entertainment.

F. *Disorderly Conduct.* No fighting or other disorderly conduct shall be allowed at any commercial establishment offering live entertainment. Furthermore, no loitering or gathering around any commercial establishment offering live entertainment shall be allowed once the business has closed for the night.

G. *Separation From Nearby Residential Structures.* A live entertainment business license shall only be issued if:

1. There is at least two hundred (200) feet between the closest point of the building (or unit in a multi-tenant building) for which the license is sought and the closest point of any structure designed for residential purposes; *except* that nothing contained in this subsection shall apply to any building located within the [SPECIAL MIXED USE ZONING]; or

2. An acoustical study prepared by a qualified acoustical engineer establishes to the satisfaction of the City Council that the sound level emitting from the licensed commercial establishment will not exceed the standards set forth in Title __, Article ___ of the City Code at the closest point on any adjoining lot upon which a structure designed for residential purposes is located. The acoustical study shall document all sound-dampening features incorporated in the commercial establishment to be licensed; all such dampening features shall remain incorporated in the commercial establishment so long as such commercial establishment possesses a valid live entertainment business license.

SECTION ___.040: LIVE ENTERTAINMENT BUSINESS LICENSES -- APPLICATION REQUIREMENTS AND REVIEW PROCEDURES

A. *Fee.* Each application for a live entertainment business license shall be accompanied by an application fee of two hundred fifty dollars ($250.00), no part of which shall be refundable.

B. *Required Information.* Each application for a live entertainment business license shall include the following:

1. A completed live entertainment business license application that includes the name and address of the commercial establishment; description of commercial establishment; description of type of live entertainment to be performed; name, address, date of birth, driver's license number, telephone number and previous addresses of applicant.

2. A copy of the business license, liquor license, and any other applicable permits or licenses issued to the commercial establishment proposing to offer live entertainment.

3. A scaled drawing showing the location of the commercial establishment and proximity to other commercial establishments and/or residences, the size of the commercial establishment, the location within the commercial establishment where live entertainment will be performed, and the building ingress and egress points. Only initial applications for a live entertainment business license must include a drawing, except that a new drawing is required if, upon renewal of a live entertainment business license, the physical characteristics and location of the commercial establishment is no longer accurately reflected in the drawing submitted with the initial application.

4. If any additional construction is proposed on the commercial establishment site or if a tent will be used for any proposed live entertainment, then a building permit must be obtained from the City and a copy thereof must be included with the application.

5. In evaluating the application for the live entertainment business license, the City Council may require additional information deemed necessary to properly review the application, including an acoustical study prepared by a qualified acoustical engineer that states the sound levels emitting from the commercial establishment where live entertainment will be performed at intervals as follows: fifty (50) feet from the front building line, and one hundred (100) feet from the nearest residence or commercial establishment excluding those in the same shopping center or multi-tenant building, if applicable. The acoustical study shall document all sound-dampening features incorporated into the commercial establishment seeking a live entertainment business license.

C. *Review Of The Live Entertainment Business License Application.* Each application for a live entertainment business license shall be reviewed in accordance with the following procedures:

1. The City Clerk shall review the application for the live entertainment business license to make certain all submission requirements have been met.

2. The application for a live entertainment business license shall be referred to the Chief of Police for investigation as to the character and fitness of the

proposed business owner(s), manager(s) or any person(s) listed as having an interest in the commercial establishment. Any individual identified on the application found to have been convicted of any violation of City, State or Federal Statute, or ordinance involving moral turpitude, or who has had any previous business license suspended or revoked may result in a recommendation of denial of the license request.

3. Upon the completion of his/her investigation, the Chief of Police shall make a recommendation to the City Council to approve, approve with conditions or deny the application for the live entertainment business license.

4. A majority vote by the City Council shall be required to approve, approve with conditions or deny the application for the live entertainment business license. In approving the live entertainment business license, the City Council may add reasonable conditions above and beyond the specific restrictions and requirements of this Chapter deemed necessary to protect the peace, health, safety, comfort, morals and general welfare of the City and its inhabitants.

5. Applications for a live entertainment business license that are denied by the City Council may not be resubmitted for a period of twelve (12) months from the date of said denial, except on the grounds of new evidence or proof of change of factors found to be valid by the City Clerk or Chief of Police. Any such application setting forth new evidence or proof of change of factors shall be treated as a new application, and must comply with all of the requirements set forth this Section.

SECTION ___.050: LIVE ENTERTAINMENT SPECIAL EVENT PERMITS -- APPLICATION REQUIREMENTS AND REVIEW PROCEDURES

A. *Fee.* Each application for a live entertainment special event permit shall be accompanied by an application fee of fifty dollars ($50.00), no part of which shall be refundable. Applications must be submitted at least thirty (30) days in advance of the date of the proposed special event. Each special event shall not exceed twenty-four (24) consecutive hours in duration. A maximum of three (3) live entertainment special event permits may be issued to any commercial establishment or for the same location within a one (1) year period between January first (1st) and December thirty-first (31st) of that same year.

B. *Required Information.* Each completed application for a live entertainment special event permit shall be submitted at least thirty (30) days prior to the special event for which the permit is sought, and shall include the following:

1. A completed live entertainment special event permit application that includes: the name and address of the owners of the property at which the special event is to occur; a description of the premises at which the special event is to

occur; a description of type of live entertainment to be performed; the name, address, date of birth, driver's license number, telephone number and previous addresses of the applicant.

2. A copy of the current business license, liquor license, special event liquor license, and any other applicable permits or licenses issued to the proposed commercial establishment to offer live entertainment.

3. A scaled drawing showing the location of the commercial establishment and proximity to other commercial establishments and/or residences, size of the commercial establishment, location within the commercial establishment where live entertainment will be performed, and building ingress and egress points.

4. If any additional construction is proposed on the commercial establishment site or if a tent will be used for any proposed live entertainment, then a building permit must be obtained from the City and a copy thereof must be included with the application.

C. *Review Of The Live Entertainment Special Event Permit.* Each application for a live entertainment special event permit shall be reviewed in accordance with the following procedures:

1. The City Clerk shall review the application for the live entertainment special event permit to make certain all submission requirements have been met.

2. The application for a live entertainment special event permit shall be referred to the Chief of Police for investigation as to the character and fitness of the proposed business owner(s), manager(s) or any person(s) listed as having an interest in the proposed special event. Any individual identified on the application found to have been convicted of any violation of City, State or Federal Statute, or ordinance involving moral turpitudes or who has had any previous business license suspended or revoked may result in a recommendation of denial of the permit request.

3. Upon the completion of his/her investigation, the Chief of Police shall make a recommendation to the City Council to approve, approve with conditions or deny the application for the live entertainment special event permit.

4. A majority vote by the City Council shall be required to approve, approve with conditions or deny the application for the live entertainment special event permit. In approving the live entertainment special event permit, the City Council may add reasonable conditions above and beyond the specific restrictions and requirements of this Chapter deemed necessary to protect the peace, health, safety, comfort, morals and general welfare of the City and its inhabitants.

5. Applications for a live entertainment special event permit that are denied by the City Council may not be resubmitted for a period of twelve (12) months from the date of said denial, except on the grounds of new evidence or proof of change of factors found to be valid by the City Clerk or Chief of Police. Any such application setting forth new evidence or proof of change of factors shall be treated as a new application, and must comply with all of the requirements set forth this Section.

SECTION ___.060: EXPIRATION AND VALIDITY OF LIVE ENTERTAINMENT BUSINESS LICENSE AND SPECIAL EVENT PERMIT

The live entertainment business license will be issued for a one (1) year period beginning on January first (1st) and expiring on December thirty-first (31st) of that same year. If a commercial establishment applies for a license for a portion of the year, the live entertainment business license application fee will not be prorated. The live entertainment special event permit shall only be valid for the date(s) and hours of operation for which it was granted. A live entertainment business license or live entertainment special event permit shall only be valid for the business owner or operator to whom it was originally issued. Any sale or transfer of the commercial establishment will void any live entertainment business license or live entertainment special event permit. The new owner/operator will be required to apply for a new live entertainment business license and live entertainment special event permit if they wish to provide live entertainment.

SECTION ___.070: REVOCATION OR SUSPENSION OF A LIVE ENTERTAINMENT BUSINESS LICENSE OR SPECIAL EVENT PERMIT

The City Clerk may suspend for a period of up to ninety (90) days or revoke any live entertainment license or permit upon the finding of one (1) or more of the following:

1. Intentional misstatements or misleading statements of fact in the application for the license or permit not discovered until after the issuance of the permit or license.

2. Permitting any conduct that would constitute a violation of the requirements of this Chapter and/or any additional conditions that were placed upon the issuance of the license or permit by the City Council.

3. Permitting any conduct that would constitute a violation of any State Statutes or City ordinances.

4. Permitting noise or other conditions which unreasonably disturb the repose of occupants of nearby properties or unreasonably disturb the peaceful enjoyment of nearby properties.

5. Upon conviction of any violation of any State Statute or City ordinance, the live entertainment license or permit shall be revoked or suspended by a length of time as determined by the City Clerk, but in no event less than ninety (90) days or more than one (1) year.

SECTION ___.080: APPEAL OF A REVOKED OR SUSPENDED LIVE ENTERTAINMENT LICENSE OR PERMIT

A. If any live entertainment license or permit is revoked or suspended by the City Clerk, the holder of the permit may request review by the City Council. Written notice of a request for review must be filed with the City Clerk within five (5) days of the date of notice of suspension or revocation, and must set forth all reasons known or asserted by the appellant as to wherein and why the Clerk's decision is erroneous.

B. The City Council shall conduct a hearing after first having given such licensee/permittee not less than ten (10) days' notice, in writing, of the hearing. The notice shall contain the alleged grounds for such suspension or revocation and shall command the licensee/permittee to be present at the regular meeting or special meeting of the City Council and show cause, if any, why such license should not be suspended or revoked. The licensee/permittee shall have the right to be represented by counsel at said hearing. Such hearing shall be conducted as other City Council proceedings are conducted. Upon the suspension or revocation of any license, no license fee paid shall be refunded to the licensee/permittee.

C. The decision of the City Council and the reasons thereof shall be sent by certified mail or hand delivered to the licensee or permittee.

D. Any licensee or permitee aggrieved by a decision of the City Council may seek review in the Circuit Court of St. Charles County pursuant to the provisions of Chapter 536, RSMo.

WILDWOOD

November 7, 2016

The Honorable City Council
City of Wildwood, Missouri
16860 Main Street
Wildwood, Missouri 63040

Council Members:

The Planning and Zoning Commission has completed its review of this posted request regarding the proposed consideration of new regulations governing the use of Unmanned Aircraft Systems in the City of Wildwood, which are intended to ensure compliance to federal requirements. Accordingly, the members have prepared the following recommendation regarding this subject for City Council's consideration. This recommendation was completed in accordance with the requirements of Chapter 89 of Missouri Revised Statutes and those regulations of the City relating to public notice, publications, and amendments to the City's codes (Chapter 415.560 of the City of Wildwood Zoning Ordinance). This recommendation and associated action are as follows:

Petition No.:	**P.Z. 15-15**
Petitioner:	City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040
Request:	A request to amend Chapter 415 of the City of Wildwood's Code of Ordinances by adding new requirements to Section 415.380 Miscellaneous Regulations to ensure the use of drones in all zoning district designations complies with air space rights associated with public and privately-owned properties in the City of Wildwood.
Location:	Citywide
Public Hearing Date:	August 3, 2015
Information Report Decision Date and Vote:	October 17, 2016 – Approval by a vote of 9 to 0 (Voting Aye – Renner, Lee, Archeski, Gragnani, Bertolino, Kohn, Manton, Bowlin, and Bopp)
Letter of Recommendation Decision Date and Vote:	November 7, 2016 - **TBD**
Report:	Attachment A
Background Information:	Attachment B
School District:	Rockwood
Fire Districts:	Eureka, Metro West, and Monarch

Wards: All

Copies of the City of Wildwood's Master Plan, Charter, and Zoning Ordinance are all on file with the City Clerk's Office.

Respectfully submitted,
CITY OF WILDWOOD PLANNING AND ZONING COMMISSION

R. Jon Bopp, Chair

ATTEST:

Joe Vujnich, Director
Department of Planning

cc: The Honorable James R. Bowlin, Mayor
Ryan S. Thomas, P.E., City Administrator
John A. Young, City Attorney
Kathy Arnett, Assistant Director of Planning and Parks
Travis Newberry, Planner

ATTACHMENT A - REPORT

BACKGROUND

The use of Unmanned Aircraft Systems, or as they are more commonly known, drones, in airspace across the world is not a new phenomenon, but has surprisingly changed from defense-related activities and governmental services to commercial applications, and now personal use much more quickly than many had anticipated. The use of drones for commercial purposes is being addressed by the federal government, albeit somewhat slowly, which has led to the individual States and local governments creating legislative initiatives to better protect private properties from a number of potential privacy issues. This approach on the part of the federal government mirrors to a degree its response to the telecommunications industry and the development of its network of towers and other facilities in the mid-1980's, within St. Louis County.

CURRENT REGULATIONS

Unmanned Aircraft Systems come in a variety of shapes and sizes and serve diverse purposes. It should be noted that there are three different types: Public (Government), Civil Operations (Commercial), and Model Aircraft. In 2012, under Public Law 112-95, the FAA Modernization and Reform Act (FMRA), the Federal Aviation Administration (FAA) is required to develop a comprehensive plan to safely accelerate the integration of civil, Unmanned Aircraft Systems into the national airspace system. After many months of work, the Federal regulations for small Unmanned Aircraft Systems were released to the public.

Small UAS Rules

Since the Congress ordered the Department of Transportation's Federal Aviation Administration in 2012 to develop rules governing how drones would share the sky with passenger planes, the FAA has worked diligently to propose a framework of regulations that would allow routine use of certain small Unmanned Aircraft Systems in today's aviation system, while maintaining flexibility to accommodate future technological innovations. In that regard, the FAA posted proposed rules last winter for comment by the public and industry. The initial 60-day comment period closed on April 24, 2015, after which the final FAA rules were made official on June 23, 2016.

The FAA's 624-page rulebook allows commercial drones weighing up to 55 pounds to fly during daylight hours and lower than four hundred (400) feet in the air, or higher if within four hundred (400) feet of a taller building or tower. The aircraft must remain within sight of the operator or an observer, who is in communication with the operator. The operators must be at least sixteen (16) years old and pass an aeronautics test every twenty-four (24) months for a certificate and a background check by the Transportation Security Administration (TSA). Evening flight is allowed, if the aircraft carries lights visible for three (3) miles. Drone operators who want to conduct night flights, flights beyond what the operator can see, or flights over people not associated with the operation, would need to demonstrate specific safety measures and seek a waiver through the FAA.

The rules govern commercial flights, such as for aerial photography or utilities inspection. The new rules do not apply to model aircraft. However, model aircraft operators must continue to satisfy all of the criteria specified in Sec. 336 of Public Law 112-95, including the stipulation they be operated only for hobby or recreational purposes.

Model Aircraft Operations

Model aircraft operations are for hobby or recreational purposes only. As noted above, the statutory parameters of a model aircraft operation are outlined in Section 336 of Public Law 112-95 (the FAA Modernization and Reform Act of 2012). Individuals who fly within the scope of these parameters do not require permission to operate their Unmanned Aircraft Systems; however, any flight outside these parameters (including any non-hobby, non-recreational operation) requires FAA authorization. For example, using an Unmanned Aircraft System to take photos for your personal use is recreational; using the same device to take photographs or videos for compensation or sale to another individual would be considered a non-recreational operation.

Organizations have partnered with the Federal Aviation Administration (FAA) to promulgate supplemental rules under a combined campaign named "Know Before You Fly", and these components include the following:

a. Follow community-based safety guidelines, as developed by organizations such as the Academy of Model Aeronautics (AMA).
b. Fly no higher than 400 feet and remain below any surrounding obstacles, when possible.
c. Keep Unmanned Aircraft System in eyesight at all times, and use an observer to assist, if needed.
d. Remain well clear of and do not interfere with manned aircraft operations, and you must see and avoid other aircraft and obstacles at all times.

e. Do not intentionally fly over unprotected persons or moving vehicles, and remain at least twenty-five (25) feet away from individuals and vulnerable property.
f. Contact the airport and control tower before flying within five (5) miles of an airport or heliport.
g. Do not fly in adverse weather conditions, such as in high winds or reduced visibility.
h. Do not fly under the influence of alcohol or drugs.
i. Ensure the operating environment is safe and that the operator is competent and proficient in the operation of the Unmanned Aircraft Systems.
j. Do not fly near or over sensitive infrastructure or property, such as power stations, water treatment facilities, correctional facilities, heavily traveled roadways, government facilities, etc.
k. Check and follow all local laws and ordinances before flying over private property.
l. Do not conduct surveillance or photograph persons in areas, where there is an expectation of privacy without the individual's permission.

While these guidelines have been applauded by the hobby industry for their relative reasonableness, there may be concerns about the extent of flexibility that might exist therein and enforcement effectiveness. Several federal legislators expressed concerns about how the privacy issues were not addressed. Some of these guidelines reflect the regulations and rules of the federal government, but all of them, regardless of origins, define a hobby or enterprise that needs to be appropriately regulated to protect the public's health, safety, and general welfare.

Summary of the FAA's Small UAS Rules (6/23/16)

Operational Limitations

- Unmanned aircraft must weigh less than 55 lbs. (25 kg).
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- At all times the small unmanned aircraft must remain close enough to the remote pilot in command and the person manipulating the flight controls of the small UAS for those people to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses.
- Small, unmanned aircraft may not operate over any persons not directly participating in the operation, not under a covered structure, and not inside a covered stationary vehicle.
- Daylight-only operations, or civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time) with appropriate anti-collision lighting.
- Must yield right of way to other aircraft.
- May use visual observer (VO), but not required.
- First-person view camera cannot satisfy "see-and-avoid" requirement, but can be used as long as requirement is satisfied in other ways.
- Maximum groundspeed of 100 mph (87 knots).
- Maximum altitude of 400 feet above ground level (AGL) or, if higher than 400 feet AGL, remains within 400 feet of a structure.
- Minimum weather visibility of 3 miles from control station.
- Operations in Class B, C, D and E airspace are allowed with the required ATC permission.
- Operations in Class G airspace are allowed without ATC permission.
- No person may act as a remote pilot in command or VO for more than one unmanned aircraft operation at one time.

- No operations from a moving aircraft.
- No operations from a moving vehicle, unless the operation is over a sparsely populated area.
- No careless or reckless operations.
- No carriage of hazardous materials.
- Requires preflight inspection by the remote pilot in command.
- A person may not operate a small, unmanned aircraft if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS.
- Foreign-registered small, unmanned aircraft are allowed to operate under part 107 if they satisfy the requirements of part 375.
- External load operations are allowed if the object being carried by the unmanned aircraft is securely attached and does not adversely affect the flight characteristics or controllability of the aircraft.
- Transportation of property for compensation or hire allowed provided that -
    - The aircraft, including its attached systems, payload and cargo weigh less than 55 pounds total;
    - The flight is conducted within visual line of sight and not from a moving vehicle or aircraft; and
    - The flight occurs wholly within the bounds of a State and does not involve transport between (1) Hawaii and another place in Hawaii through airspace outside Hawaii; (2) the District of Columbia and another place in the District of Columbia; or (3) a territory or possession of the United States and another place in the same territory or possession.
- Most of the restrictions discussed above are waivable, if the applicant demonstrates that his or her operation can safely be conducted under the terms of a certificate of waiver.

Remote Pilot in Command Certification and Responsibilities

- Establishes a remote pilot in command position.
- A person operating a small UAS must either hold a remote pilot airman certificate with a small UAS rating or be under the direct supervision of a person who does hold a remote pilot certificate (remote pilot in command).
- To qualify for a remote pilot certificate, a person must:
- Demonstrate aeronautical knowledge by either:
- Passing an initial aeronautical knowledge test at an FAA-approved knowledge testing center; or
- Hold a part 61 pilot certificate other than student pilot, complete a flight review within the previous 24 months, and complete a small UAS online training course provided by the FAA.
- Be vetted by the Transportation Security Administration (TSA).
- Be at least 16 years old.
- Part 61 pilot certificate holders may obtain a temporary remote pilot certificate immediately upon submission of their application for a permanent certificate. Other applicants will obtain a temporary remote pilot certificate upon successful completion of TSA security vetting. The FAA anticipates that it will be able to issue a temporary remote pilot certificate within 10 business days after receiving a completed remote pilot certificate application.
- Until international standards are developed, foreign-certificated UAS pilots will be required to obtain an FAA issued remote pilot certificate with a small UAS rating.

A remote pilot in command must:

- Make available to the FAA, upon request, the small UAS for inspection or testing, and any associated documents/records required to be kept under the rule.
- Report to the FAA within 10 days of any operation that results in at least serious injury, loss of consciousness, or property damage of at least $500.
- Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is in a condition for safe operation.
- Ensure that the small, unmanned aircraft complies with the existing registration requirements specified in § 91.203(a)(2).
- A remote pilot in command may deviate from the requirements of this rule in response to an in-flight emergency.

Aircraft Requirements

- FAA airworthiness certification is not required. However, the remote pilot in command must conduct a preflight check of the small UAS to ensure that it is in a condition for safe operation.

Model Aircraft

- Part 107 does not apply to model aircraft that satisfy all of the criteria specified in section 336 of Public Law 112-95.
- The rule codifies the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the National Airspace System (NAS).

FAA Requirements for UAS Registration

Anyone who owns a small, unmanned aircraft that weighs more than 0.55 lbs. (250g) and less than 55 lbs. (25kg) must register with the Federal Aviation Administration's Unmanned Aircraft System Registry before they fly outdoors. People who do not register could face civil and criminal penalties.

Who must register a UAS?

- The owner must be:
  - 13 years of age or older. (If the owner is less than 13 years of age, a person 13 years of age or older must register the small unmanned aircraft.)
  - A U.S. citizen or legal permanent resident.

Which unmanned aircraft do I have to register?

- Owners must register their UAS online if it meets the following guidelines:
  - Weighs more than 0.55 lbs. (250 g) and less than 55 lbs. (25 kg). Unmanned Aircraft weighing more than 55 lbs. cannot use this registration process and must register using the Aircraft Registry process.
- Owners must register their Unmanned Aircraft System by paper, if it meets the following guidelines:
  - Your aircraft weighs more than 55 lbs.
  - You intend to operate your aircraft outside of the United States
  - Your aircraft is owned by a trustee
  - The aircraft owner uses a voting trust to meet U.S. Citizenship requirements

CURRENT REQUEST

When this particular request was presented to the Planning and Zoning Commission at public hearing, there was a limited amount of discussion, but the members sought the City's Board of Public Safety[i] review of the matter and have it provide a recommendation. The intent of the Planning and Zoning Commission's request was to have this Board assist in determining whether Wildwood should memorialize the appropriate regulations and rules, as part of its Zoning Ordinance, and, thereby, add a local enforcement component to their application for the public's health, safety, and general welfare. Principal among the issues of discussion on this matter are individuals' right to privacy and security from trespass. These rights, although not viewed by hobbyists as being effected by the use of small drones, remain one (1) of the major focus points of discussion across the country.

ANALYSIS

The general public, a wide variety of organizations, including private sector (e.g., commercial companies), non-governmental (e.g., volunteer organizations), and governmental entities (e.g., local agencies) continue to demonstrate significant interest in Unmanned Aircraft Systems. The benefits offered by this type of aircraft are substantial and the FAA is committed to integrating them into the National Airspace System (NAS). This introduction, however, appears focused primarily on safety and security considerations with regard to that system by commercial operators, and less so the everyday use of the Unmanned Aircraft Systems by the hobbyist, and without any concern for privacy issues.

There is evidence of a considerable increase in the unauthorized use of small, inexpensive Unmanned Aircraft Systems by individuals and organizations, including companies. It is important to note the FAA retains the responsibility for enforcing Federal Aviation Regulations, including those applicable to the use of all Unmanned Aircraft Systems. The FAA recognizes that State and local Law Enforcement Agencies (LEA) are often in the best position to deter, detect, immediately investigate, and, as appropriate, pursue enforcement actions to stop unauthorized or unsafe operations.

Model Aircraft Operations

An important distinction to be aware of is whether the system is being operated for hobby or recreational purposes or for some other type. This distinction is important because there are specific requirements in the FAA Modernization and Reform Act of 2012, Public Law 112-95, (the Act) that pertains to "Model Aircraft" operations, which are conducted solely for hobby or recreational purposes. While flying model aircraft for hobby or recreational purposes does not require FAA approval, all model aircraft operators must operate safely and in accordance with the law. The FAA provides guidance and information to individual Unmanned Aircraft System operators (for hobby or recreational purpose) about how they can operate safely under current regulations and laws.

Model Aircraft that Operate in a Careless or Reckless Manner

Section 336(b) of the Act, however, makes it clear that the FAA has the authority under its existing regulations to pursue legal enforcement action against persons operating model aircraft, when it endangers the safety of the National Airspace System (NAS), even if they are operating in accordance with Section 336(a) and 336(c). So, for example, a model aircraft operation conducted in accordance with Section 336(a) and (c) may be subject to an enforcement action for violation of 14 C.F.R. § 91.13, if the operation is conducted in a careless or reckless manner so as to endanger the life or property of another.

Safety

The use of drones continues to be in the news, with frequently cited reports of unauthorized operations in close proximity to airports, encroaching into commercial airlines' flight paths, trespassing onto individuals' properties, or crashing into buildings. Collectively, the instances appear to be limited, but the discussion of needed regulations and rules in this regard should be considered sooner rather than later, so as to prevent, not react to, potential issues in the City of Wildwood, if such is determined to be appropriate by the Planning and Zoning Commission and the City Council.

In the identified list of regulations and rules regarding the hobbyists' use of drones, the important factor is controlling the aircraft and ensuring the operator maintains line of sight with it at all times. Observers, in cooperation with the operator, can be used for this purpose as well. Additionally, a consensus seems to exist that drones should not be flown over people/crowds, unless participating in the event and aware of it as well. Also creating concerns is the distraction a drone can create to the unsuspecting and unaware public. For example, a driver on a busy roadway, not expecting to encounter a drone may react in an unsafe manner, when distracted by it.

Right to Privacy / Nuisance Concerns

An additional concern is the reasonable presumption of individuals of privacy on private property. This assumption can easily be violated when a drone is flying overhead potentially with photographic or video capabilities. At the same time, a significant concern also exists with regard to the nuisance created by the operation of drones over both private and public property. It seems likely that both complaints will become common, as the use of drones is expected to increase significantly in the future.

SUMMARY AND RECOMMENDATION

The numerous benefits and potential applications of drones easily justify their popularity; however, the management of them does appear to be necessary to ensure their respective applications in the City are respectful of property rights and public safety. This need for public protection exists with regard to the use of imaging technology for aerial surveillance with radio control model aircraft having the capability of obtaining high-resolution photographs and/or video, or using any types of sensors, for the collection, retention, or dissemination of surveillance data information on individuals, homes, businesses, or property at locations where there is a reasonable expectation of privacy, the Commission recommends that this be strictly prohibited unless written express permission is obtained from the individual property owners or managers.

To this end, and based upon the report of the Board of Public Safety, which supports the creation of regulations, the Planning and Zoning Commission is recommending the following regulations be added to Title II of the City of Wildwood Municipal Code (Public Health, Safety and Welfare), by specifically enacting a new Section 236 Regulation of Unmanned Aircraft Systems, to read as follows:

DEFINITIONS:

UNMANNED AIRCRAFT - A high-powered, aerial vehicle that:

(a) Does not carry a human operator and is operated without the possibility of direct human intervention from within or on the aircraft;

(b) Uses aerodynamic forces to provide vehicle lift;

(c) Can fly autonomously or be piloted remotely; and
(d) Can be expendable or recoverable.

UNMANNED AIRCRAFT SYSTEMS (UAS) - An unmanned aircraft and associated elements (including communication links and the components that control the unmanned aircraft) that are required for the pilot in command to operate safely and efficiently in the national airspace system. To be part of a UAS, the unmanned aircraft must be:

(a) Capable of sustained flight in the atmosphere;
(b) Flown within the visual line of sight of the person operating the aircraft; and
(c) Flown for hobby or recreational purposes

VISUAL OBSERVER - A person who is designated by the operator of an Unmanned Aircraft System to assist the operator to see and avoid other air traffic or objects aloft or on the ground.

1.) All operators of Unmanned Aircraft Systems shall adhere to applicable federal and State regulations, rules, and laws regarding their use, and as may be amended from time to time, and implemented thereafter.
2.) Unmanned Aircraft Systems must remain below any surrounding obstacles within the airspace, when possible.
3.) The Unmanned Aircraft System must remain within visual line of sight of the operator of the Unmanned Aircraft System. Alternatively, the unmanned aircraft must remain within the visual line of sight of a visual observer.
4.) Operators of Unmanned Aircraft Systems shall not intentionally operate Unmanned Aircraft Systems over persons unprotected by shelter or moving vehicles, and shall remain at least twenty-five (25) feet away from any person, building, or vehicle.
5.) Operators of Unmanned Aircraft Systems shall not operate an Unmanned Aircraft System within five (5) miles of an airport or heliport without first notifying the airport and control tower.
6.) Operators of Unmanned Aircraft Systems shall not operate an Unmanned Aircraft System in adverse weather conditions, such as in high winds or reduced visibility.
7.) Operators of Unmanned Aircraft Systems shall not operate an Unmanned Aircraft System, nor shall a visual observer observe the operation of an Unmanned Aircraft System, under the influence of alcohol or controlled substances.
8.) Operators of Unmanned Aircraft Systems shall ensure the operating environment is safe and shall not operate Unmanned Aircraft Systems in a reckless or negligent manner so as to endanger the life or property of another.
9.) Operators of Unmanned Aircraft Systems shall not without the consent of the owner of the property, public utility, or appropriate governmental entity operate an Unmanned Aircraft System within twenty-five (25) feet of or over sensitive infrastructure or property, such as power stations, water treatment facilities, correctional facilities, heavily traveled roadways, government facilities, or other public utility facilities
10.) It shall be unlawful to knowingly operate an Unmanned Aircraft System directly over the private property of another without, the property owner's consent, if such operation of the Unmanned Aircraft System (a) enters into the immediate reaches of the air space next to private property, and (b) if it interferes substantially with the property owner's use and enjoyment of his/her property.

11.) All Unmanned Aircraft Systems shall be limited to daylight-only operations, or civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time), with appropriate anti-collision lighting. Notwithstanding the foregoing, a person may, with the consent of the property owner, operate an Unmanned Aircraft System between civil twilight and 10:00 p.m. directly above the areas of property that are fully lit by one or more outdoor light fixture provided that each light fixture is at a height no less than sixty (60) feet above the surface of the ground and conforms to the lighting standards set forth by City Code Section 415.

12.) Except as may be otherwise expressly permitted by federal or state law, it shall be unlawful to operate any Unmanned Aircraft Systems weighing in excess of fifty-five (55) pounds. (25 kilograms) in the City.

In addition, to address the privacy concerns addressed above, it is recommended that the following provision be added to Title II Health, Safety and Welfare, Chapter 210 Offenses, Article VII Offenses Concerning Property, by specifically enacting a new Section 210.275 Constructive Invasion of Property, to read as follows:

> "Regardless of whether there is a physical trespass pursuant to Section 210.270 of this Code, a person is liable for constructive invasion of property when a person knowingly attempts to capture or knowingly captures, in a manner that is offensive to a reasonable person, any type of visual image, visual recording, sound recording, or other physical impression of another engaging in private, personal, or familial activity in a place in which that person has a reasonable expectation of privacy and that impression could not have been achieved without a trespass unless the device was used. This section shall not be construed to impair or limit any otherwise lawful activities of law enforcement personnel or employees of governmental agencies or other entities, either public or private, who, in the course and scope of their employment, and supported by an articulable suspicion, attempt to capture any type of visual image, sound recording, or other physical impression of a person during an investigation, surveillance, or monitoring of any conduct to obtain evidence of suspected illegal activity or other misconduct, the suspected violation of any administrative rule or regulation, a suspected fraudulent conduct, or any activity involving a violation of law or business practices or conduct of public officials adversely affecting the public welfare, health, or safety."

With these basic regulations, the City can ensure the operation of Unmanned Aircraft Systems and their respective operators have the necessary direction to ensure their use does not create safety concerns or privacy considerations. Additionally, these regulations preserve the private air space of each property owner in Wildwood and set forth criteria for the use of Unmanned Aircraft Systems over private lands. Although enforcement may be interpretative at times, the promulgation of these regulations will provide a basis for addressing most cases of trespass or operators foregoing safe use of these systems.

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[i] The City's Board of Public Safety, with direct assistance from the Department of Public Works, prepared much of this report's content, while the Department of Planning added information for the purposes of the Planning and Zoning Commission's required review and action.

Note: Additions that have been made to the draft Letter of Recommendation from comments provided at Commission's meeting on October 17, 2016 are indicated by red text.

ATTACHMENT B
Background Information

From: **svcross** svcross@att.net
Subject: RE: Letter of Recommendation on UAS
Date: November 3, 2016 at 4:51 PM
To: Joe Vujnich JVujnich@cityofwildwood.com

Joe,

Thanks for the opportunity to review this document. It is very well-written and accurately documents the current issues we in the model aviation community are dealing with regarding the advent of drones. I agree with and support the recommendations contained in this document.

As a member of the model aviation community for almost 30 years, chairman of the safety committee for our private flying club and owner of 24 airplanes and 5 helicopters/drones, please let me know if I can assist in any way, now or in the future.

Thanks.

Steve

Sent from my Verizon Wireless 4G LTE Smartphone

CITY OF WILDWOOD
NOV 03 2016
DEPT OF PLANNING & PARKS

------- Original message -------
From: Joe Vujnich
Date:11/03/2016 3:33 PM (GMT-06:00)
To: svcross
Subject: Letter of Recommendation on UAS

Steve:

Please let me know what you think.

Thank you,

Joe

WILDWOOD®

INFORMATION REPORT

Prepared by the Department of Public Works

July 7, 2016 Meeting

BACKGROUND

The use of Unmanned Aerial Systems (UAS), or as they are more commonly known, drones, in airspace across the world is not a new phenomenon, but has surprisingly changed from defense-related activities and governmental services to commercial applications and now personal use much more quickly than many had anticipated. The use of drones for commercial purposes is being addressed by the federal government, albeit somewhat slowly, which has led to the individual States and local governments creating legislative initiatives to better protect private properties from a number of potential privacy issues. This approach on the part of the federal government mirrors to a degree its response to the telecommunications industry and the development of its network of towers and other facilities in the mid-1980, within St. Louis County.

UAS's come in a variety of shapes and sizes and serve diverse purposes. It should be noted that there are three different types of UAS's:

- Public (Government)
- Civil Operations (Commercial)
- Model Aircraft

CURRENT REGULATIONS

In 2012, under Public Law 112-95, the FAA Modernization and Reform Act (FMRA), the FAA is required to develop a comprehensive plan to safely accelerate the integration of civil, unmanned aircraft systems into the national airspace system. After many months of work, the Federal regulations for small UAS's have been formally released to the public.

Small UAS Rules

Since the Congress ordered the Department of Transportation's Federal Aviation Administration in 2012 to develop rules governing how drones would share the sky with passenger planes, the FAA has worked diligently to propose a framework of regulations that would allow routine use of certain small unmanned aircraft systems (UAS) in today's aviation system, while maintaining flexibility to accommodate future technological innovations. In that regard, the FAA posted proposed rules last winter for comment by the public and industry. The initial 60-day comment period closed on April 24, 2015, after which the final FAA rules were made official on June 23, 2016. It should be noted that the final rules still have a 60-day comment period and details remain to be worked out, such as the written test for commercial operators.

The FAA's 624-page rulebook allows commercial drones weighing up to 55 pounds to fly during daylight hours and lower than 400 feet in the air, or higher if within 400 feet of a taller building or tower. The

aircraft must remain within sight of the operator or an observer who is in communication with the operator. The operators must be at least 16 years old and pass an aeronautics test every 24 months for a certificate and a background check by the Transportation Security Administration. Evening flight is allowed if the aircraft carries lights visible for three (3) miles. Drone operators who want to conduct night flights, flights beyond what the operator can see, or flights over people not associated with the operation, would need to demonstrate specific safety measures and seek a waiver through the FAA.

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c. Keep UAS in eyesight at all times, and use an observer to assist if needed.
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e. Do not intentionally fly over unprotected persons or moving vehicles, and remain at least 25 feet away from individuals and vulnerable property.
f. Contact the airport and control tower before flying within five miles of an airport or heliport.
g. Do not fly in adverse weather conditions such as in high winds or reduced visibility.
h. Do not fly under the influence of alcohol or drugs.
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j. Do not fly near or over sensitive infrastructure or property such as power stations, water treatment facilities, correctional facilities, heavily traveled roadways, government facilities, etc.
k. Check and follow all local laws and ordinances before flying over private property.
l. Do not conduct surveillance or photograph persons in areas where there is an expectation of privacy without the individual's permission).

While, these guidelines have been applauded by the hobby industry for their relative reasonableness, there may be concerns about the extent of flexibility that might exist therein and enforcement effectiveness. Several federal legislators expressed concerns about how the privacy issues were not addressed. Some of these guidelines reflect the regulations and rules of the federal government, but all of them, regardless of origins, define a hobby or enterprise that needs to be appropriately regulated to protect the public's health, safety, and general welfare.

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- No operations from a moving vehicle unless the operation is over a sparsely populated area.
- No careless or reckless operations.
- No carriage of hazardous materials.

- Requires preflight inspection by the remote pilot in command.
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- Foreign-registered small unmanned aircraft are allowed to operate under part 107 if they satisfy the requirements of part 375.
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- Transportation of property for compensation or hire allowed provided that -
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    - The flight is conducted within visual line of sight and not from a moving vehicle or aircraft; and
    - The flight occurs wholly within the bounds of a State and does not involve transport between (1) Hawaii and another place in Hawaii through airspace outside Hawaii; (2) the District of Columbia and another place in the District of Columbia; or (3) a territory or possession of the United States and another place in the same territory or possession.
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- Report to the FAA within 10 days of any operation that results in at least serious injury, loss of consciousness, or property damage of at least $500.
- Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is in a condition for safe operation.
- Ensure that the small unmanned aircraft complies with the existing registration requirements specified in § 91.203(a)(2).

A remote pilot in command may deviate from the requirements of this rule in response to an in-flight emergency.

Aircraft Requirements

- FAA airworthiness certification is not required. However, the remote pilot in command must conduct a preflight check of the small UAS to ensure that it is in a condition for safe operation.

Model Aircraft

- Part 107 does not apply to model aircraft that satisfy all of the criteria specified in section 336 of Public Law 112-95.
- The rule codifies the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the National Airspace System (NAS).

FAA Requirements for UAS Registration

Anyone who owns a small unmanned aircraft that weighs more than 0.55 lbs. (250g) and less than 55 lbs. (25kg) must register with the Federal Aviation Administration's UAS registry before they fly outdoors. People who do not register could face civil and criminal penalties.

Who must register a UAS?

- The owner must be:
  - 13 years of age or older. (If the owner is less than 13 years of age, a person 13 years of age or older must register the small unmanned aircraft.)
  - A U.S. citizen or legal permanent resident.

Which unmanned aircraft do I have to register?

  - Owners must register their UAS online if it meets the following guidelines:
    - Weighs more than 0.55 lbs. (250 g) and less than 55 lbs. (25 kg). Unmanned Aircraft weighing more than 55 lbs. cannot use this registration process and must register using the Aircraft Registry process.
  - Owners must register their UAS by paper if it meets the following guidelines:
    - Your Aircraft weighs more than 55 lbs
    - You intend to operate your aircraft outside of the United States

- Your aircraft is owned by a trustee
- The aircraft owner uses a voting trust to meet U.S. Citizenship requirements

CURRENT REQUEST

The Planning and Zoning Commission is seeking the direction of the Board of Public Safety on whether Wildwood should memorialize the appropriate regulations and rules, as part of its Zoning Ordinance, and, thereby, add a local enforcement component to their application for the public's health, safety, and general welfare. Principal among the issues of discussion on this matter are individuals' right to privacy and security from trespass. These rights, although not viewed by hobbyists as being effected by the use of small drones, remain one (1) of the major focus points of discussion across the country.

ANALYSIS

The general public, a wide variety of organizations, including private sector (e.g., commercial companies), non-governmental (e.g., volunteer organizations), and governmental entities (e.g., local agencies) continue to demonstrate significant interest in UAS. The benefits offered by this type of aircraft are substantial and the FAA is committed to integrating UAS into the NAS. This introduction, however, appears focused primarily on safety and security considerations with regard to the NAS by commercial UAS operators, and less so the everyday use of UAS by the hobbyist, and without any concern for privacy issues.

There is evidence of a considerable increase in the unauthorized use of small, inexpensive Unmanned Aircraft Systems (UAS) by individuals and organizations, including companies. It is important to note that the FAA retains the responsibility for enforcing Federal Aviation Regulations, including those applicable to the use of UAS. The FAA recognizes though that State and local Law Enforcement Agencies (LEA) are often in the best position to deter, detect, immediately investigate, and, as appropriate, pursue enforcement actions to stop unauthorized or unsafe UAS operations.

Model Aircraft Operations

An important distinction to be aware of is whether the UAS is being operated for hobby or recreational purposes or for some other purpose. This distinction is important because there are specific requirements in the FAA Modernization and Reform Act of 2012, Public Law 112-95, (the Act) that pertain to "Model Aircraft" operations, which are conducted solely for hobby or recreational purposes. While flying model aircraft for hobby or recreational purposes does not require FAA approval, all model aircraft operators must operate safely and in accordance with the law. The FAA provides guidance and information to individual UAS operators (for hobby or recreational purpose) about how they can operate safely under current regulations and laws.

Model Aircraft that Operate in a Careless or Reckless Manner

Section 336(b) of the Act, however, makes it clear that the FAA has the authority under its existing regulations to pursue legal enforcement action against persons operating Model Aircraft when the operations endanger the safety of the NAS, even if they are operating in accordance with section 336(a) and 336(c). So, for example, a Model Aircraft operation conducted in accordance with section 336(a) and (c) may be subject to an enforcement action for violation of 14 C.F.R. § 91.13, if the operation is conducted in a careless or reckless manner so as to endanger the life or property of another.

Safety

The use of drones continues to be in the news with frequently cited reports of unauthorized UAS operations in close proximity to airports, encroaching into commercial airlines' flight paths, trespassing onto individuals' properties, or crashing into buildings. Collectively, the instances appear to be limited, but the discussion of needed regulations and rules in this regard should be considered sooner rather than later, so as to prevent, not react to, potential issues in the City of Wildwood, if such is determined to be appropriate by the Planning and Zoning Commission and the City Council.

In the identified list of regulations and rules regarding the hobbyists' use of drones, the important factor is controlling the aircraft and ensuring the operator maintains line of sight with it at all times. Observers, in cooperation with the operator, can be used for this purpose as well. Additionally, a consensus seems to exist that drones should not be flown over people/crowds, unless participating in the event and aware of it as well. Also creating concerns is the distraction a drone can create to the unsuspecting and unaware public. For example, a driver on a busy roadway, not expecting to encounter a UAS may react in an unsafe manner when distracted by a drone.

Right to Privacy / Nuisance Concerns

An additional concern is the reasonable presumption of individual of privacy on private property. This can easily be violated when an UAS is flying overhead potentially with photographic or video capabilities. At the same time, a significant concern also exists with regard to the nuisance created by the operation of UAS's over both private and public property. It seems likely that both complaints will become common as the use of UAS is expected to increase significantly in the future.

SUMMARY AND RECOMMENDATION

The numerous benefits and potential applications of drones easily justify their popularity; however, the management of them does appear to be an appropriate topic for discussion by the Planning and Zoning Commission.

Because a significant concern exists with regard to the use of imaging technology for aerial surveillance with radio control model aircraft having the capability of obtaining high-resolution photographs and/or video, or using any types of sensors, for the collection, retention, or dissemination of surveillance data information on individuals, homes, businesses, or property at locations where there is a reasonable expectation of privacy, the Board recommends that this be strictly prohibited unless written expressed permission is obtained from the individual property owners or managers.

Therefore the Board of Public Safety is supportive of PZ15-15, which proposes to amend Chapter 415 of the City of Wildwood's Code of Ordinances by adding new requirements to Section 415.380, Miscellaneous Regulations, to ensure the use of drones in all zoning district designations complies with air space rights associated with public and privately-owned properties in the City of Wildwood.

CITY OF WILDWOOD, MISSOURI
RECORD OF PROCEEDINGS

MEETING OF THE PLANNING AND ZONING COMMISSION
CITY HALL, 16860 MAIN STREET, WILDWOOD, MISSOURI
AUGUST 3, 2015

The Planning and Zoning Commission meeting was called to order by Chair Bopp, at 7:30 p.m., on Monday, August 3, 2015, at Wildwood City Hall, 16860 Main Street, Wildwood, Missouri.

I. Welcome to Attendees and Roll Call of Commission Members

Chair Bopp requested a roll call be taken. The roll call was taken, with the following results:

PRESENT – (9)
Chair Bopp
Commissioner Archeski
Commissioner Peasley
Commissioner Renner
Commissioner Lee
Commissioner Bauer
Commissioner Liddy
Council Member Manton
Mayor Woerther

ABSENT - (1)
Commissioner Gragnani

Other City Officials present: Director of Planning Vujnich, City Attorney Golterman, and Senior Planner Arnett.

II. Review Tonight's Agenda / Questions or Comments

There were no questions or comments on the agenda.

III. Approval of Minutes from the July 20, 2015 Meeting

A motion made by Commissioner Bauer, seconded by Council Member Manton, to approve the minutes from the July 20, 2015 meeting. A voice vote was taken regarding the motion for approval of the minutes. Hearing no objections, Chair Bopp declared the motion approved.

IV. Department of Planning Opening Remarks

The Department did not have any opening remarks.

V. Public Hearings – One (1) Item for Consideration

(a.) **P.Z. 15-15 City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040** - A request to amend Chapter 415 of the City of Wildwood's Code of Ordinances by adding new requirements to Section 415.380 Miscellaneous Regulations to ensure the use

of drones in all zoning district designations complies with air space rights associated with public and privately-owned properties in the City of Wildwood. **(Wards – All)**

Chair Bopp gave an overview of the public hearing process for all in attendance and officially opened the public hearing.

Senior Planner Arnett read the request into the record.

Director of Planning Vujnich noted the Department has prepared a primer with background information on the issue of Unmanned Aircraft Systems UMAS (drones). The primer includes the Missouri State Statute, information from the federal government, and a number of articles on the topic. He noted the federal government has spent a great deal of time discussing these items, but has not adopted formal legislation. Its goal is to allow flexibility through use, while still maintaining safety. He then outlined the "Know Before You Fly" Campaign. Director Vujnich stated the intent of the public hearing is to seek input from the public and the Commission on whether the use of drones on private property should be governed by additional regulations. He outlined a recent story in the news regarding wild fires in California, where drones were causing danger to pilots attempting to extinguish a wildfire because of the number of them that were being flown in the area by hobbyists. Finally, he noted the Department is not intending to support any regulation from four hundred (400) feet in height and above, since such is commercial airspace.

Vicki Chubb, 1615 Misty Hollow Court, 63038, noted that a neighbor was flying a drone with video and photographic capabilities over where her daughter was sunbathing on the back deck of her property. She noted that it was her belief this drone is violating a privacy issue and that there should be some type of ordinance or permit that addresses these issues.

Discussion was then held by the Commissioners regarding the following: the expectation for privacy; the lack of something specific in our current codes to address invasion of privacy, which is addressed in State Statute but would be considered a civil matter; the consideration of how the Zoning Code would address this issue; the Supreme Court case from the 1940's, which noted that homeowners owned from their home up to eighty-three (83) feet into the air; the concern with drones in right-of-ways causing safety issues; the control of radio-controlled aircraft by the Federal Communications Commission (FCC) and Federal Aviation Administration (FAA), but does not currently address drones; the distance of eighty-three (83) to four hundred (400) feet being operable space that currently the FAA has determined drones can operate within; the concern with stories of drones being flown and neighbors shooting at it; the concern with the general loss of privacy, once outside; the concern with how the eighty-three (83) foot distance would be measured and enforced; the standards that will vary based upon the type of use; the existence of any existing municipal regulations that address this item in neighboring municipalities; the degrees of privacy; the difficulty with enforcement; the issue of who would be the permitting authority and how would those be managed; the potential for future federal government regulations that apply to drones; and the similarity to this issue with the telecommunications codes.

A motion was made by Mayor Woerther, seconded by Commissioner Archeski, to send this item to the Board of Public Safety of the City Council for review and discussion. This motion was approved by a voice vote.

A motion was made by Commissioner Peasley, seconded by Council Member Manton, to close the public hearing. A voice vote was taken regarding the motion. Hearing no objections, Chair Bopp declared the motion approved.

VI. Old Business – Two (2) Items for Consideration

Letters of Recommendation – One (1) Item for Consideration

(a.) **P.Z. 11-15 Ladd Faszold, 16514 Meadow Hawk Drive, Wildwood, Missouri, 63038, c/o StraightUp Solar, Charles Melton, Jr., 10330 Page Industrial Boulevard St. Louis, Missouri, 63132** – A request for a Conditional Use Permit (CUP) in the NU Non-Urban Residence District for the installation of roof-mounted solar panels, which are to be placed on the dwelling, so as to be visible from the adjoining roadway, and located at 16514 Meadow Hawk Drive (Locator Number 25V330174). This request is to be reviewed in accordance with Chapter 415.090 NU Non-Urban Residence District Regulations of the City of Wildwood Zoning Code, which establishes standards and requirements for the installation of solar panels. The permit is required due to the panels' placement on the front facing area of the subject dwelling's roof. **(Ward Six)**

Director of Planning Vujnich read the request into the record.

Senior Planner Arnett provided the Department's recommendation noting it was for approval due to the petitioner's compliance with the criteria in the Zoning Code for issuing a Conditional Use Permit and the requirements for solar panels that are visible from the abutting roadway.

A motion was made by Council Member Manton, seconded by Commissioner Renner, to approve the Conditional Use Permit.

Ladd Faszold, 16514 Meadow Hawk Drive, noted that his only neighbor, who passes his property to get to their home, submitted a letter in support of his request for the installation of the solar panels.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Bauer, Commissioner Archeski, Commissioner Renner, Commissioner Lee, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: Commissioner Gragnani
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 9-0.

(b.) **P.Z. 7-15 James Edward Hardy, Trustee, 826 Babler Park Drive, Wildwood, Missouri 63005** - A request for a Conditional Use Permit (CUP) within the NU Non-Urban Residence District and FPNU Floodplain Non-Urban Residence District for a fourteen (14) acre tract of land that is located on the southeast side of Babler Park Drive, north of Pond Road (Locator Number 20X320136/Street Address: 826 Babler Park Drive). Proposed Use: A horse boarding and training (lessons) facility. The petitioner is not planning any additional structures or buildings in conjunction with this requested permit. **(Ward Three)**

Senior Planner Arnett read the request into the record.

Director of Planning Vujnich reviewed the Department's recommendation for approval, which noted the history of the request and its public hearing held last month. He provided information on the character of the land surrounding the request; the proposed conditions of the permit; the restriction on the number of

horses that could be boarded there - twenty-six (26) in total; the adherence to the two (2) criteria relative to land use issues and the four (4) criteria relative to issuance of a Conditional Use Permit; the existence of the use for over twenty-five (25) years at this location; the retention of the rural nature of this property, with the issuance of this permit; and the prior approval to waive the Preliminary Development Plan requirement at the time of application, but the need for a Site Development Plan, if the permit is approved.

A motion was made by Commissioner Peasley, seconded by Commissioner Lee, to approve the Conditional Use Permit.

Discussion was held regarding the following: the length of time the permit is issued for; the lack of a limit on the number of horses the owner can have; the lack of a residency requirement for the operator; the concerns of the couple who submitted an online comment form in opposition of this request; the restrictions on disturbance within the floodplain; and the requirement for a waste management plan.

James Hardy, 826 Babler Park Drive, noted he only has two (2) personal horses left and that there is plenty of space on the property for feeding and exercising the horses. He also stated that manure is placed in a dumpster and hauled away every couple of weeks and the area near the creek is fenced, so the horses cannot go into it.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Bauer, Commissioner Archeski, Commissioner Renner, Commissioner Lee, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: Commissioner Gragnani
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 9-0.

VII. New Business – No Items for Consideration

VIII. Site Development Plans-Public Space Plans-Record Plats – Two (2) Items for Consideration

(a.) A request by **McBride and Son Homes**, via the submittal of a Preliminary Plat, for the Wildhorse Ridge Estates Subdivision, which seeks its approval. This proposed subdivision is located in the NU Non-Urban Residence District, on three (3) parcels of ground totaling approximately thirty-nine (39) acres in size, and situated on the west side of State Route 100, north and south of its intersection with Wild Horse Creek Road (Street Addresses: 2230, 2300, and 2339 Wild Horse Creek Road/Locator Numbers: 23X220060, 23X240062, and 23X240071). Proposed Use: Seven (7) single family dwellings on individual lots, common ground, and public space. **(Ward One)**

Senior Planner Arnett read the request into the record.

Director of Planning Vujnich provided an overview of the project, which included the following: the draft recommendation report supporting the approval of the Preliminary Plat of the Wildhorse Ridge Estates Subdivision; the intent of the plat to authorize the property's division into seven (7) lots; the fact that all lots exceed the three (3) acre minimum; the maximum of twelve (12) lots, which could have been requested by the petitioner, based upon the lot's existing acreage; the five (5) lots, which are served by a proposed

internal cul-de-sac from Wild Horse Creek Road, which would have to be constructed to the City's Rural Roadway Standards and meet sight distance requirements; the surrounding land use pattern; the Department of Public Works' review of the development and its decision to not request improvements to Wild Horse Creek Road; the retention of fourteen (14) acres of woodlands and the protection of nine (9) acres by the Natural Resource Protection Standards; the undergrounding of all utilities; the minimal amount of traffic generation; the Department's concerns with the amount of associated clearing and the amount of Natural Resource Protected Area, recommending both be modified to reflect more protected area and less clearing, along with concerns with the width of Lot 3; the retention of the existing pond on the property; the three (3) important items identified by the Department in their review, including the adherence to the Master Plan, the compatibility of the proposed use with the surrounding development pattern, and the consistency with the Subdivision and Development Regulations. Finally, he noted that the City's Master Plan identified these properties in the Non-Urban Residential Area (three (3) acre minimum, single-family detached lots) and the Department's review found the proposal to be in compliance with the five (5) elements of the Master Plan.

Tom Fischer, 18142 Country Trails Estates, noted he was the head trustee of the Country Trails Subdivision and questioned if drainage calculations, from the additional impervious surface from this subdivision, had been completed. He also requested a copy of the Improvement Plans, when they are available.

Discussion was held regarding the following: the Tree Preservation and Restoration Code and the Natural Resource Protection Standards, which were created to address stormwater issues and both work to manage stormwater in unique ways; the amount of preservation on this site, which will address stormwater runoff; and the fact that the development is only seven (7) lots on thirty-eight (38) acres.

Jeremy Roth, with McBride and Son Homes, noted the development meets the City's requirements and that they will also be submitting Improvement Plans, which will have more specific calculations on each site.

Mike Boerding, Sterling Engineering, noted that final runoff calculations will be done as part of the Improvement Plan process, but runoff from the street will be managed in roadside ditches, as part of the Rural Roadway Standards, and rainfall events will be managed at 15-year, 20 minute storm capacities. Additionally, he commented that stormwater detention is not warranted on five (5) acre lots and the subdivision is designed using a low-impact approach, as required by the City, through the Natural Resource Protection Plan and the Tree Preservation Plan to encourage water to reabsorb into the ground.

Ken Heitkamp, 5509 Rolling Meadows Court, representing Heitkamp Farms, noted he is the property owner bordering this subdivision to the north, and that he owns fifty (50) acres. He is not opposed to the development, given the property has been in disrepair, but he wants to ensure that the existing house, which has asbestos, and the old farm equipment, that has been abandoned on the property, will all be removed properly.

Joe Grass, 1304 Kiefer Bluffs Drive, commented that he believes the tree preservation area should be cleared and replanted, because it is not woodlands, but overgrown weeds.

Robert Heitkamp, 2208 Wild Horse Creek Road, noted he supports the previously made comments.

Jeremy Roth, McBride and Sons, spoke again, and noted they are excited about the development and have the opportunity to build their highest luxury line of homes in Wildwood. He explained the product line includes approximately seven (7) or eight (8) different floor plans, including ranch, 1 ½-story, and 2-story

designs. The future homes will range in size from 2,500 to over 5,000 square feet and will be semi-custom builds. The home prices will range from $600,000 to over $1,000,000. Additionally, he explained an environmental report has been done on property and they will demolish the home, in compliance with laws on asbestos removal, and are aware of other waste on the property and it will all be removed, and not buried. Finally, he commented on the newer vegetation growth on the property, noting the home buyers who move into these units will improve the property to their own liking and increase their already high property values.

Discussion was then held among the Commissioners regarding the following: the areas of clearing; the removal of the pond; the number of structures on the property; the existence of the property outside of the Metropolitan St. Louis Sewer District (MSD) jurisdiction; and the City's enforcement of MSD's requirements, even outside of their boundary.

Steve Kummer, 2121 Wild Horse Creek Road, questioned what improvements could be installed on the two (2) acre piece along State Route 100, south of Wild Horse Creek Road, and asked if it could be commercial.

Director of Planning Vujnich noted the two (2) acre property along State Route 100 will be common ground, that is collectively owned by the seven (7) homeowners, and public space in perpetuity. He also noted this property is outside of the Town Center Area, and, therefore, could not be used for commercial activities.

A motion was made by Mayor Woerther, seconded by Commissioner Lee, to approve the Preliminary Plat for the Wild Horse Ridge Estates Subdivision.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Bauer, Commissioner Archeski, Commissioner Renner, Commissioner Lee, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: Commissioner Gragnani
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 9-0.

(b.) A recommendation report on the Landscape Plan for the redevelopment of the Cambury Subdivision (**P.Z. 3-15 Cambury Subdivision, McBride and Son Companies, L.L.C.**), now with single family detached units on forty-two (42) lots; R-6A 4,000 square foot Residence District, with a Planned Residential Development Overlay District (PRD); east side of State Route 109, south of State Route 100; which supports the submitted design, as reflected on the attached plan sheets. **(Ward Eight)**

Director of Planning Vujnich read the request into the record.

Senior Planner Arnett provided an overview of the project, noting the approval of the Landscape Plan was the final element of the Site Development Plan package for this project. She stated the Department was recommending approval of the Landscape Plan, given its compliance with the approved site-specific ordinance and applicable City Codes.

A motion was made by Mayor Woerther, seconded by Commissioner Archeski, to approve the Landscape Plan for the Cambury Subdivision.

Discussion was held regarding the following: the amount of landscaping proposed within the common ground areas; the desire to relocate the landscaping shown at the terminus of Kilare Lane; the access points to the common ground; the desire to remove white pines from the planting list; and the type of plantings proposed in different areas of the development.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Bauer, Commissioner Archeski, Commissioner Renner, Commissioner Lee, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: Commissioner Gragnani
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 9-0.

IX. Other – One (1) Item for Consideration –READY FOR ACTION

(a.) Nominating Committee's Recommendation for Officers of the Commission for Year 2015/2016 **(Wards – All)**

Commissioner Archeski noted the Nominating Committee met earlier this evening and recommended the following officers for the Commission for the year 2015 - 2016:
Chair – Bopp
Vice-Chair – Archeski
Secretary – Peasley

A motion was made by Commissioner Archeski, seconded by Council Member Manton, to approve the nominations, as proposed by the Nominating Committee.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Bauer, Commissioner Archeski, Commissioner Renner, Commissioner Lee, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: Commissioner Gragnani
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 9-0.

James Schmidt, 2470 Eatherton Road, noted he was disappointed by the Commissioner's treatment of the Lafayette High School Principal, who wanted to work with the Commission on the sign issue, especially when the City uses electronic message boards.

X. Closing Remarks and Adjournment

A motion was made by Commissioner Archeski, seconded by Commissioner Peasley, to adjourn the meeting. A voice vote was taken. Hearing no objections, Chair Bopp adjourned the meeting at 9:30 p.m.

Approved by: Donald W. Beasley

Secretary – City of Wildwood Planning and Zoning Commission

Note: Recordation of the opinions, statements, and/or other meeting participation in these minutes shall not be deemed to be an acknowledgement or endorsement by the Commission of the factual accuracy, relevance, or propriety thereof.

* If comment cards were submitted indicating they did not wish to speak at tonight's meeting, they have been attached and made part of the official record.

WILDWOOD

PRIMER

Prepared by the Department of Planning
for the
PLANNING AND ZONING COMMISSION
August 3, 2015 Executive Meeting
"Planning Tomorrow Today"

Nature of Request >>> P.Z. 15-15 City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040 - A request to amend Chapter 415 of the City of Wildwood's Code of Ordinances by adding new requirements to Section 415.380 Miscellaneous Regulations to ensure the use of drones in all zoning district designations complies with air space rights associated with public and privately-owned properties in the City of Wildwood. **(Wards – All)**

Introduction >>> The use of drones in airspace across the world is not a new phenomenon, but has surprisingly changed from defense-related activities and governmental services to commercial applications and now personal use much quicker than many had anticipated. The use of drones for commercial purposes is being addressed by the federal government, albeit somewhat slowly, which has led to the individual States and local governments creating legislative initiatives to better protect private properties from a number of potential privacy issues. This approach on the part of the federal government mirrors to a degree its response to the telecommunications industry and the development of its network of towers and other facilities in the mid-1980, within St. Louis County.

Although the Federal Aviation Administration (FAA) has promulgated regulations through its register process, these items have been applauded by the hobby industry for their relative reasonableness, which leads to concerns about the extent of flexibility that might exist therein and enforcement effectiveness. Several federal legislators expressed concerns about how the privacy issues were not addressed. A summary of the rules is as follows:

a. Fly below 400 feet and remain clear of surrounding obstacles.
b. Keep the aircraft within visual line of sight at all times.
c. Remain well clear of and do not interfere with manned aircraft operations.
d. Don't fly within 5 miles of an airport unless you contact the airport and control tower before flying.
e. Don't fly near people or stadiums.
f. Don't fly an aircraft that weighs more than 55 pounds.
g. Don't be careless or reckless with your unmanned aircraft – you could be fined for endangering people or other aircraft.

Additionally, other organizations have partnered with the Federal Aviation Administration (FAA) to promulgate supplemental rules under a combined campaign named "Know Before You Fly" and these components include the following:

a. Follow community-based safety guidelines, as developed by organizations such as the Academy of Model Aeronautics (AMA).
b. Fly no higher than 400 feet and remain below any surrounding obstacles when possible.

c. Keep your sUAS[1] in eyesight at all times, and use an observer to assist if needed.
d. Remain well clear of and do not interfere with manned aircraft operations, and you must see and avoid other aircraft and obstacles at all times.
e. Do not intentionally fly over unprotected persons or moving vehicles, and remain at least 25 feet away from individuals and vulnerable property.
f. Contact the airport or control tower before flying within five miles of an airport.
g. Do not fly in adverse weather conditions such as in high winds or reduced visibility.
h. Do not fly under the influence of alcohol or drugs.
i. Ensure the operating environment is safe and that the operator is competent and proficient in the operation of the sUAS.
j. Do not fly near or over sensitive infrastructure or property such as power stations, water treatment facilities, correctional facilities, heavily traveled roadways, government facilities, etc.
k. Check and follow all local laws and ordinances before flying over private property.
l. Do not conduct surveillance or photograph persons in areas where there is an expectation of privacy without the individual's permission (see AMA's privacy policy).

Some of these guidelines reflect the regulations and rules of the federal government, but all of them, regardless of origins, define a hobby or enterprise that needs to be appropriately regulated to protect the public's health, safety, and general welfare.

Current Request >>> To this end, the City is seeking the direction of the Planning and Zoning Commission on whether Wildwood should memorialize the appropriate regulations and rules, as part of its Zoning Ordinance, and, thereby, add a local enforcement component to their application for the public's health, safety, and general welfare. Principal among the issues of discussion on this matter are individuals' right to privacy and security from trespass. These rights, although not viewed by hobbyists as being effected by the use of small drones, remain one (1) of the major focus points of discussion across the country.

The use of drones has also been in the news lately with regards to obstructing emergency personnel and their access for equipment needed to extinguish a wildfire in California. Other instances that have been reported in the news describe drones crashing into buildings, encroaching into commercial airlines' flight paths, and trespassing onto individuals' properties. Collectively, the instances appear to be limited, but the discussion of needed regulations and rules in this regard should be considered sooner rather than later, so as to prevent, not react to, potential issues in the City of Wildwood, if such is determined to be appropriate by the Planning and Zoning Commission and the City Council.

In the identified list of regulations and rules regarding the hobbyists' use of drones, the important factor is controlling the aircraft and ensuring the operator maintains line of sight with it at all times. Observers, in cooperation with the operator, can be used for this purpose as well. Additionally, a consensus seems to exist that drones should not be flown over people/crowds, unless participating in the event and aware of it as well. Also creating concerns is the distraction a drone can create on a busy roadway, when drivers do not expect to encounter such in that type of setting. The numerous benefits and potential applications of drones easily justify their popularity, however, the management of them does appear to be an appropriate topic for discussion by the Planning and Zoning Commission and is being addressed in many locales around the country.

[1] sUAS – small unmanned aircraft system

Resources >>> The Department has provided several resources in support of this planned discussion of drones and they include the following items:

1. Missouri House Bill NO. 46 – Aerial Surveillance
2. Federal Register- Operation and Clarification of Small Unmanned Aircraft Systems – Proposed Rule
3. Overview of Small UAS Notice of Proposed Rulemaking
4. Collection of Articles and Publications on Unmanned Aircraft Systems

These resources are intended to provide needed background on this emerging and changing issue.

Next Steps >>> At tonight's public hearing, the City Attorney and the Department of Planning are seeking input on this matter in preparation of a recommendation on whether to amend the Zoning Ordinance to address this advertised matter. If any of the Commission members should have questions or comments in this regard, please feel free to contact the City Attorney (Rob Golterman) at (314) 444-7500 or the Department of Planning at (636) 458-0440. Thank you for your review of this information in preparation of tonight's hearing on this topic.

From: vwild1@aol.com [mailto:vwild1@aol.com]
Sent: Wednesday, July 01, 2015 8:44 AM
To: Brian Gramlich
Subject: Re: Online Form Submittal: Code Enforcement Request Form

Brian - We were told to take pictures of him flying it over houses and contact police. We feel the city should have an ordinance for this. Vicki Chubb

-----Original Message-----
From: Brian Gramlich <Brian@cityofwildwood.com>
To: vwild1 <vwild1@aol.com>; Frank Laughlin <frank@cityofwildwood.com>
Cc: Reiter, Jamie (JReiter@stlouisco.com) (JReiter@stlouisco.com) <JReiter@stlouisco.com>
Sent: Wed, Jul 1, 2015 8:12 am
Subject: RE: Online Form Submittal: Code Enforcement Request Form

It seems that you have been told to contact the police with some evidence of such actions. Have you followed through with the direction given to you by the Police Officer? I am forwarding this onto St. Louis County Police.

From: noreply@cityofwildwood.com [mailto:noreply@cityofwildwood.com]
Sent: Tuesday, June 30, 2015 3:17 PM
To: Brian Gramlich; Frank Laughlin
Subject: Online Form Submittal: Code Enforcement Request Form

Code Enforcement Request Form

First Name	Vicki
Last Name	Chubb
Address1	1615 Misty Hollow Ct.
Address2	*Field not completed.*
City	Wildwood
State	MO
Zip	63038
Phone Number	636-399-6260
Email	vwild1@aol.com
	(Section Break)
Description of Code Violation	I live in the Garden Valley Subdivision. My neighbor Bill Barnard has a drone with a camera on it and is flying it over our

homes and hovering. This has happened to me at least 3 times. On 2 occasions my 19 year old daughter has been sunbathing on our deck. If this drone has a camera and videotaping capabilities he could easily be able to make photo graphs of my daughter. Homeowners here feel it is an invasion of our privacy. He flies this during the day and after 10 pm. I spoke to the resource officer from Lafayette who was in our subdivision and he said he would have to speak to his sargent regarding this. He advised us to call the police and take photos of it hoovering over backyards. I feel this issue needs attention and laws to protect our privacy!

Attach An Image *Field not completed.*

Email not displaying correctly? View it in your browser.

FIRST REGULAR SESSION

[PERFECTED]

HOUSE COMMITTEE SUBSTITUTE FOR

HOUSE BILL NO. 46

97TH GENERAL ASSEMBLY

0371H.02P

D. ADAM CRUMBLISS, Chief Clerk

AN ACT

To amend chapter 305, RSMo, by adding thereto four new sections relating to aerial surveillance, with an emergency clause.

Be it enacted by the General Assembly of the state of Missouri, as follows:

Section A. Chapter 305, RSMo, is amended by adding thereto four new sections, to be known as sections 305.635, 305.637, 305.639, and 305.641, to read as follows:

305.635. 1. Sections 305.635 to 305.641 shall be known and may be cited as the "Preserving Freedom from Unwarranted Surveillance Act".

2. As used in sections 305.635 to 305.641, the following terms shall mean:

(1) "Drone", any powered, aerial vehicle that:

(a) Does not carry a human operator;

(b) Uses aerodynamic forces to provide vehicle lift;

(c) Can fly autonomously or be piloted remotely;

(d) Can be expendable or recoverable; and

(e) Can carry a lethal or non-lethal payload.

(2) "Unmanned aircraft", an aircraft that is operated without the possibility of direct human intervention from within or on the aircraft.

(3) "Manned Aircraft", an aircraft that is operated by a human on board the aircraft.

(4) "Model aircraft", an unmanned aircraft that is:

(a) Capable of sustained flight in the atmosphere;

(b) Flown within visual line of sight of the person remotely operating the aircraft; and

(c) Flown for hobby or recreational purposes.

EXPLANATION — Matter enclosed in bold-faced brackets [thus] in the above bill is not enacted and is intended to be omitted from the law. Matter in **bold-face** type in the above bill is proposed language.

(5) "Law enforcement agency", any state, county, or municipal law enforcement agency in the state. The term law enforcement agency shall not include the Missouri department of corrections, or any state, county, or municipal fire department.

305.637. 1. No person, entity, or state agency shall use a manned aircraft, drone, or unmanned aircraft to gather evidence or other information pertaining to criminal conduct or conduct in violation of a statute or regulation except to the extent authorized in a warrant.

2. No person, entity, or state agency shall use a manned aircraft, drone, or unmanned aircraft to conduct surveillance or observation under the doctrine of open fields of any individual, property owned by an individual, farm, or agricultural industry without the consent of that individual, property owner, farm or agricultural industry.

3. No person, group of persons, entity, or organization, including, but not limited to, journalists, reporters, or news organizations, shall use a drone or other unmanned aircraft to conduct surveillance of any individual or property owned by an individual or business without the consent of that individual or property owner.

305.639. 1. This act does not prohibit the use of a manned aircraft, drone, or unmanned aircraft by:

(1) A law enforcement agency when exigent circumstances exist. For the purposes of this section, exigent circumstances exist if a law enforcement agency possesses reasonable suspicion that, under particular circumstances, swift action to prevent imminent danger to life is necessary; or

(2) A Missouri-based higher education institution conducting educational, research, or training programs within the scope of its mission, grant requirements, curriculum or collaboration with the United States Department of Defense.

2. This act does not prohibit the use of a model aircraft.

305.641. 1. Any aggrieved party may in a civil action obtain all appropriate relief to prevent or remedy a violation of this act.

2. No information obtained or collected in violation of this act may be admissible as evidence in a criminal proceeding in any court of law in the state or in an administrative hearing.

3. Sovereign immunity for the state of Missouri is waived for any civil action resulting from a violation of sections 305.635 to 305.641.

Section B. Because of the need to protect Missourians from invasions of privacy in the state, section A of this act is deemed necessary for the immediate preservation of the public health, welfare, peace and safety, and is hereby declared to be an emergency act within the meaning of the constitution, and section A of this act shall be in full force and effect July 1, 2013, or upon its passage and approval, whichever later occurs.

✓

FEDERAL REGISTER

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Part III

Department of Transportation

Federal Aviation Administration

14 CFR Parts 21, 43, 45, et al.
Operation and Certification of Small Unmanned Aircraft Systems; Proposed Rule

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 21, 43, 45, 47, 61, 91, 101, 107, and 183

[Docket No.: FAA–2015–0150; Notice No. 15–01]

RIN 2120–AJ60

Operation and Certification of Small Unmanned Aircraft Systems

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA is proposing to amend its regulations to adopt specific rules to allow the operation of small unmanned aircraft systems in the National Airspace System. These changes would address the operation of unmanned aircraft systems, certification of their operators, registration, and display of registration markings. The proposed rule would also find that airworthiness certification is not required for small unmanned aircraft system operations that would be subject to this proposed rule. Lastly, the proposed rule would prohibit model aircraft from endangering the safety of the National Airspace System.

DATES: Send comments on or before April 24, 2015.

ADDRESSES: Send comments identified by docket number FAA–2015–0150 using any of the following methods:

- *Federal eRulemaking Portal:* Go to *http://www.regulations.gov* and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to Docket Operations, M–30; U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE., Room W12–140, West Building Ground Floor, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* Fax comments to Docket Operations at 202–493–2251.

Privacy: In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its rulemaking process. DOT posts these comments, without edit, including any personal information the commenter provides, to *www.regulations.gov,* as described in the system of records notice (DOT/ALL–14 FDMS), which can be reviewed at *www.dot.gov/privacy.*

Docket: Background documents or comments received may be read at *http://www.regulations.gov* at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: For technical questions concerning this action, contact Lance Nuckolls, Office of Aviation Safety, Unmanned Aircraft Systems Integration Office, AFS–80, Federal Aviation Administration, 490 L'Enfant Plaza East, SW., Suite 3200, Washington, DC 20024; telephone (202) 267–8447; email *UAS-rule@faa.gov.*

For legal questions concerning this action, contact Alex Zektser, Office of Chief Counsel, International Law, Legislation, and Regulations Division, AGC–220, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone (202) 267–3073; email *Alex.Zektser@faa.gov.*

SUPPLEMENTARY INFORMATION:

Authority for This Rulemaking

This rulemaking is promulgated under the authority described in the FAA Modernization and Reform Act of 2012 (Public Law 112–95). Section 333 of Public Law 112–95 directs the Secretary of Transportation [1] to determine whether "certain unmanned aircraft systems may operate safely in the national airspace system." If the Secretary determines, pursuant to section 333, that certain unmanned aircraft systems may operate safely in the national airspace system, then the Secretary must "establish requirements for the safe operation of such aircraft systems in the national airspace system." [2]

This rulemaking is also promulgated pursuant to 49 U.S.C. 40103(b)(1) and (2), which charge the FAA with issuing regulations: (1) To ensure the safety of aircraft and the efficient use of airspace; and (2) to govern the flight of aircraft for purposes of navigating, protecting and identifying aircraft, and protecting individuals and property on the ground. In addition, 49 U.S.C. 44701(a)(5), charges the FAA with prescribing regulations that the FAA finds necessary for safety in air commerce and national security.

Finally, the model-aircraft component of this rulemaking incorporates the statutory mandate in section 336(b) that preserves the FAA's authority, under 49 U.S.C. 40103(b) and 44701(a)(5), to pursue enforcement "against persons operating model aircraft who endanger the safety of the national airspace system."

[1] The primary authority for this rulemaking is based on section 333 of Public Law 112–95 (Feb. 14, 2012). In addition, this rulemaking also relies on FAA statutory authorities. Thus, for the purposes of this rulemaking, the terms "FAA," "the agency," "DOT," and "the Secretary," are used synonymously throughout this document.

[2] Public Law 112–95, section 333(c). In addition, Public Law 112–95, section 332(b)(1) requires the Secretary to issue "a final rule on small unmanned aircraft systems that will allow for civil operation of such systems in the national airspace system, to the extent the systems do not meet the requirements for expedited operational authorization under sections 333 of [Pub. L. 112–95]."

List of Abbreviations and Acronyms Frequently Used in This Document

AC Advisory Circular
AGL Above Ground Level
ACR Airman Certification Representative
ARC Aviation Rulemaking Committee
ATC Air Traffic Control
CAFTA–DR Dominican Republic-Central America-United States Free Trade Agreement
CAR Civil Air Regulation
CFI Certified Flight Instructor
CFR Code of Federal Regulations
COA Certificate of Waiver or Authorization
DPE Designated Pilot Examiner
FR Federal Register
FSDO Flight Standards District Office
ICAO International Civil Aviation Organization
NAFTA North American Free Trade Agreement
NAS National Airspace System
NOTAM Notice to Airmen
NPRM Notice of Proposed Rulemaking
NTSB National Transportation Safety Board
PIC Pilot in Command
Pub. L. Public Law
PMA Parts Manufacturer Approval
TFR Temporary Flight Restriction
TSA Transportation Security Administration
TSO Technical Standard Order
UAS Unmanned Aircraft System
U.S.C. United States Code

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I. Executive Summary

A. Purpose of the Regulatory Action

This rulemaking proposes operating requirements to allow small unmanned aircraft systems (small UAS) to operate for non-hobby or non-recreational purposes. A small UAS consists of a small unmanned aircraft (which, as defined by statute, is an unmanned aircraft weighing less than 55 pounds [3]) and equipment necessary for the safe and efficient operation of that aircraft. The FAA has accommodated non-recreational small UAS use through various mechanisms, such as special airworthiness certificates, exemptions, and certificates of waiver or authorization (COA). This proposed rule would be the next phase of integrating small UAS into the NAS.

The following are examples of possible small UAS operations that could be conducted under this proposed framework:

- Crop monitoring/inspection;
- Research and development;
- Educational/academic uses;
- Power-line/pipeline inspection in hilly or mountainous terrain;
- Antenna inspections;
- Aiding certain rescue operations such as locating snow avalanche victims;
- Bridge inspections;
- Aerial photography; and
- Wildlife nesting area evaluations.

Because of the potential societally beneficial applications of small UAS, the FAA has been seeking to incorporate the operation of these systems into the national airspace system (NAS) since 2008. In April 2008, the FAA chartered the small UAS Aviation Rulemaking Committee (ARC). In April 2009, the ARC provided the FAA with recommendations on how small UAS could be safely integrated into the NAS. Since that time, the FAA has been working on a rulemaking to incorporate small UAS operations into the NAS.

In 2012, Congress passed the FAA Modernization and Reform Act of 2012 (Pub. L. 112–95). Section 333 of Public Law 112–95 directed the Secretary to determine whether UAS operations posing the least amount of public risk and no threat to national security could safely be operated in the NAS and if so, to establish requirements for the safe operation of these systems in the NAS, prior to completion of the UAS comprehensive plan and rulemakings required by section 332 of Public Law 112–95. As part of its ongoing efforts to integrate UAS operations in the NAS in accordance with section 332, and as authorized by section 333 of Public Law 112–95, the FAA is proposing to amend its regulations to adopt specific rules for the operation of small UAS in the NAS.

Based on our experience with the certification, exemption, and COA process, the FAA has developed the framework proposed in this rule to enable certain small UAS operations to commence upon adoption of the final rule and accommodate technologies as they evolve and mature. This proposed framework would allow small UAS operations for many different non-recreational purposes, such as the ones discussed previously, without requiring airworthiness certification, exemption, or a COA.

[3] Public Law 112–95, sec. 331(6).

B. Summary of the Major Provisions of the Regulatory Action

Specifically, the FAA is proposing to add a new part 107 to Title 14 Code of Federal Regulations (14 CFR) to allow for routine civil operation of small UAS in the NAS and to provide safety rules for those operations. Consistent with the statutory definition, the proposed rule defines small UAS as those UAS weighing less than 55 pounds. To mitigate risk, the proposed rule would limit small UAS to daylight-only operations, confined areas of operation, and visual-line-of-sight operations. This proposed rule also addresses aircraft registration and marking, NAS operations, operator certification, visual observer requirements, and operational limits in order to maintain the safety of the NAS and ensure that they do not pose a threat to national security. Below is a summary of the major provisions of the proposed rule.

SUMMARY OF MAJOR PROVISIONS OF PROPOSED PART 107

Operational Limitations	• Unmanned aircraft must weigh less than 55 lbs. (25 kg). • Visual line-of-sight (VLOS) only; the unmanned aircraft must remain within VLOS of the operator or visual observer. • At all times the small unmanned aircraft must remain close enough to the operator for the operator to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses. • Small unmanned aircraft may not operate over any persons not directly involved in the operation. • Daylight-only operations (official sunrise to official sunset, local time). • Must yield right-of-way to other aircraft, manned or unmanned. • May use visual observer (VO) but not required. • First-person view camera cannot satisfy "see-and-avoid" requirement but can be used as long as requirement is satisfied in other ways. • Maximum airspeed of 100 mph (87 knots). • Maximum altitude of 500 feet above ground level. • Minimum weather visibility of 3 miles from control station. • No operations are allowed in Class A (18,000 feet & above) airspace. • Operations in Class B, C, D and E airspace are allowed with the required ATC permission. • Operations in Class G airspace are allowed without ATC permission • No person may act as an operator or VO for more than one unmanned aircraft operation at one time. • No operations from a moving vehicle or aircraft, except from a watercraft on the water. • No careless or reckless operations. • Requires preflight inspection by the operator. • A person may not operate a small unmanned aircraft if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS. • Proposes a microUAS category that would allow operations in Class G airspace, over people not involved in the operation, and would require airman to self-certify that they are familiar with the aeronautical knowledge testing areas.
Operator Certification and Responsibilities	• Pilots of a small UAS would be considered "operators". • Operators would be required to: o Pass an initial aeronautical knowledge test at an FAA-approved knowledge testing center. o Be vetted by the Transportation Security Administration. o Obtain an unmanned aircraft operator certificate with a small UAS rating (like existing pilot airman certificates, never expires). o Pass a recurrent aeronautical knowledge test every 24 months. o Be at least 17 years old. o Make available to the FAA, upon request, the small UAS for inspection or testing, and any associated documents/records required to be kept under the proposed rule. o Report an accident to the FAA within 10 days of any operation that results in injury or property damage. o Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is safe for operation.
Aircraft Requirements	• FAA airworthiness certification not required. However, operator must maintain a small UAS in condition for safe operation and prior to flight must inspect the UAS to ensure that it is in a condition for safe operation. Aircraft Registration required (same requirements that apply to all other aircraft). • Aircraft markings required (same requirements that apply to all other aircraft). If aircraft is too small to display markings in standard size, then the aircraft simply needs to display markings in the largest practicable manner.
Model Aircraft	• Proposed rule would not apply to model aircraft that satisfy all of the criteria specified in section 336 of Public Law 112–95. • The proposed rule would codify the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the NAS.

Operator Certification: Under the proposed rule, the person who manipulates the flight controls of a small UAS would be defined as an "operator." A small UAS operator would be required to pass an aeronautical knowledge test and obtain an unmanned aircraft operator certificate with a small UAS rating from the FAA before operating a small UAS. In order to maintain his or her operator certification, the operator would be

required to pass recurrent knowledge tests every 24 months subsequent to the initial knowledge test. These tests would be created by the FAA and administered by FAA-approved knowledge testing centers. Although a specific distant vision acuity standard is not being proposed, this proposed rule would require the operator to keep the small unmanned aircraft close enough to the control station to be capable of seeing that aircraft through his or her unaided (except for glasses or contact lenses) visual line of sight. The operator would also be required to actually maintain visual line of sight of the small unmanned aircraft if a visual observer is not used.

Visual Observer: Under the proposed rule, an operator would not be required to work with a visual observer, but a visual observer could be used to assist the operator with the proposed visual-line-of-sight and see-and-avoid requirements by maintaining constant visual contact with the small unmanned aircraft in place of the operator. While an operator would always be required to have the capability for visual line of sight of the small unmanned aircraft, this proposed rule would not require the operator to exercise this capability if he or she is augmented by at least one visual observer. No certification requirements are being proposed for visual observers. A small UAS operation would not be limited in the number of visual observers involved in the operation, but the operator and visual observer(s) must remain situated such that the operator and any visual observer(s) are all able to view the aircraft at any given time. The operator and visual observer(s) would be permitted to communicate by radio or other communication-assisting device, so they would not need to remain in close enough physical proximity to allow for unassisted oral communication.

Since the operator and any visual observers would be required to be in a position to maintain or achieve visual line of sight with the aircraft at all times, the proposed rule would effectively prohibit a relay or "daisy-chain" formation of multiple visual observers by requiring that the operator must always be capable of seeing the small unmanned aircraft. Such arrangements would potentially expand the area of a small UAS operation and pose an increased public risk if there is a loss of aircraft control.

Operational Scope: A small UAS operator would be required to see and avoid all other users of the NAS in the area in which the small UAS is operating. The proposed rule contains operating restrictions designed to help ensure that the operator is able to yield right-of-way to other aircraft at all times.

The proposed rule would limit the exposure of small unmanned aircraft to other users of the NAS by restricting small UAS operations in controlled airspace. Specifically, small UAS would be prohibited from operating in Class A airspace, and would require prior permission from Air Traffic Control to operate in Class B, C, or D airspace, or within the lateral boundaries of the surface area of Class E airspace designated for an airport. The risk of collision with other aircraft would be further reduced by limiting small UAS operations to a maximum airspeed of 87 knots (100 mph) and a maximum altitude of 500 feet above ground.

Further, in order to enable maximum visibility for small UAS operation, the proposed rule would restrict small UAS to daylight-only operations (sunrise to sunset), and impose a minimum weather-visibility of 3 statute miles (5 kilometers) from the small UAS control station.

Aircraft Maintenance: Under the proposed rule, the operator of a small UAS would be required to conduct a preflight inspection before each flight operation, and determine that the small UAS (aircraft, control station, launch and recovery equipment, etc.) is safe for operation.

Airworthiness: Pursuant to section 333(b)(2) of Public Law 112–95, the Secretary has determined that small UAS subject to this proposed rule would not require airworthiness certification because the safety concerns associated with small UAS operation would be mitigated by the other provisions of this proposed rule. Rather, this proposed rule would require the operator to ensure that the small UAS is in a condition for safe operation by conducting an inspection prior to each flight.

Registration and Marking: This proposed rule would apply to small unmanned aircraft the current registration requirements that apply to all aircraft. Once a small unmanned aircraft is registered, this proposed rule would require that aircraft to display its registration marking in a manner similar to what is currently required of all aircraft.

C. Costs and Benefits

This proposed rule reflects the fact that technological advances in small UAS have led to a developing commercial market for their uses by providing a safe operating environment for them and for other aircraft in the NAS. In time, the FAA anticipates that the proposed rule would provide an opportunity to substitute small UAS operations for some higher risk manned flights, such as inspecting towers, bridges, or other structures. The use of small unmanned aircraft would avert potential fatalities and injuries to those in the aircraft and on the ground. It would also lead to more efficient methods of performing certain commercial tasks that are currently performed by other methods. The FAA has not quantified the benefits for this proposed rulemaking because we lack sufficient data. The FAA invites commenters to provide data that could be used to quantify the benefits of this proposed rule.

For any commercial operation occurring because this rule is enacted, the operator/owner of that small UAS will have determined the expected revenue stream of the flights exceeds the cost of the flights operation. In each such case this rule helps enable new markets to develop.

The costs are shown in the table below.

TOTAL AND PRESENT VALUE COST SUMMARY BY PROVISION

[Thousands of current year dollars]

Type of cost	Total costs (000)	7% P.V. (000)
Applicant/small UAS operator:		
Travel Expense	$151.7	$125.9
Knowledge Test Fees	2,548.6	2,114.2
Positive Identification of the Applicant Fee	434.3	383.7
Owner:		
Small UAS Registration Fee	85.7	70.0
Time Resource Opportunity Costs:		

TOTAL AND PRESENT VALUE COST SUMMARY BY PROVISION—Continued

[Thousands of current year dollars]

Type of cost	Total costs (000)	7% P.V. (000)
Applicants Travel Time	296.1	245.3
Knowledge Test Application	108.9	90.2
Physical Capability Certification	20.0	17.7
Knowledge Test Time	1,307.1	1,082.9
Small UAS Registration Form	220.5	179.7
Change of Name or Address Form	14.9	12.3
Knowledge Test Report	154.9	128.5
Pre-flight Inspection	Not quantified	
Accident Reporting	Minimal cost	
Government Costs:		
TSA Security Vetting	1,026.5	906.9
FAA—sUAS Operating Certificate	39.6	35.0
FAA—Registration	394.3	321.8
Total Costs	6,803.1	5,714.0

* Details may not add to row or column totals due to rounding.

II. Background

This NPRM addresses the operation, airman certification, and registration of civil small UAS.

A small UAS consists of a small unmanned aircraft and associated elements that are necessary for the safe and efficient operation of that aircraft in the NAS. Associated elements that are necessary for the safe and efficient operation of the aircraft include the interface that is used to control the small unmanned aircraft (known as a control station) and communication links between the control station and the small unmanned aircraft. A small unmanned aircraft is defined by statute as "an unmanned aircraft weighing less than 55 pounds." [4] Due to the size of a small unmanned aircraft, the FAA envisions considerable potential business and non-business applications, particularly in areas that are hard to reach for a manned aircraft.

The following are examples of possible small UAS operations that could be conducted under this proposed framework:

- Crop monitoring/inspection;
- Research and development;
- Educational/academic uses;
- Power-line/pipeline inspection in hilly or mountainous terrain;
- Antenna inspections;
- Aiding certain rescue operations such as locating snow avalanche victims;
- Bridge inspections;
- Aerial photography; and
- Wildlife nesting area evaluations.

The following sections discuss: (1) The public risk associated with small UAS operations; (2) the current legal framework governing small UAS operations; and (3) the FAA's ongoing efforts to incorporate small UAS operations into the NAS.

A. Analysis of Public Risk Posed by Small UAS Operations

Small UAS operations pose risk considerations that are different from the risk considerations associated with manned-aircraft operations. On one hand, certain operations of a small unmanned aircraft, discussed more fully in section III.D of this preamble, have the potential to pose significantly less risk to persons and property than comparable operations of a manned aircraft. The typical total takeoff weight of a general aviation aircraft is between 1,300 and 6,000 pounds. By contrast, the total takeoff weight of a small unmanned aircraft is less than 55 pounds. Consequently, because a small unmanned aircraft is significantly lighter than a manned aircraft, in the event of a mishap, the small unmanned aircraft would pose significantly less risk to persons and property on the ground. As such, a small UAS operation whose parameters are well defined so it does not pose a significant risk to other aircraft would also pose a smaller overall public risk or threat to national security than the operation of a manned aircraft.

However, even though small UAS operations have the potential to pose a lower level of public risk in certain types of operations, the unmanned nature of the small UAS operations raises two unique safety concerns that are not present in manned-aircraft operations. The first safety concern is whether the person operating the small unmanned aircraft, who would be physically separated from that aircraft during flight, would have the ability to see manned aircraft in the air in time to prevent a mid-air collision between the small unmanned aircraft and another aircraft. As discussed in more detail below, the FAA's regulations currently require each person operating an aircraft to maintain vigilance "so as to see and avoid other aircraft." [5] This is one of the fundamental principles for collision avoidance in the NAS.

For manned-aircraft operations, "see and avoid" is the responsibility of persons on board an aircraft. By contrast, small unmanned aircraft operations have no human beings physically on the unmanned aircraft with the same visual perspective and the ability to see other aircraft in the manner of a manned-aircraft pilot. Thus, the challenge for small unmanned aircraft operations is to ensure that the person operating the small unmanned aircraft is able to see and avoid other aircraft.

In considering this issue, the FAA examined to what extent existing technology could provide a solution to this problem. The FAA notes that advances in technologies that use ground-based radar and aircraft sensors to detect the reply signals from aircraft ATC transponders have provided significant improvement in the ability to detect other aircraft in close proximity to each other. The Traffic Collision Avoidance System also has the ability to provide guidance to flight crews to maneuver appropriately to avoid a mid-air collision. Both of these technologies have done an excellent job in reducing the mid-air collision rate between manned aircraft. Unfortunately, the equipment required to utilize these widely available technologies is

[4] Sec. 331(6) of Public Law 112–95.

[5] 14 CFR 91.113(b).

currently too large and heavy to be used in small UAS operations. Until this equipment is miniaturized to the extent necessary to make it viable for use in small UAS operations, existing technology does not appear to provide a way to resolve the "see and avoid" problem with small UAS operations without maintaining human visual contact with the small unmanned aircraft during flight.

The second safety concern with small UAS operations is the possibility that, during flight, the person operating the small UAS may become unable to use the control interface to operate the small unmanned aircraft due to a failure of the control link between the aircraft and the operator's control station. This is known as a loss of positive control. This situation may result from a system failure or because the aircraft has been flown beyond the signal range or in an area where control link communication between the aircraft and the control station is interrupted. A small unmanned aircraft whose flight is unable to be directly controlled could pose a significant risk to persons, property, or other aircraft.

B. Current Statutory and Regulatory Structure Governing Small UAS

Due to the lack of an onboard pilot, small unmanned aircraft are unable to see and avoid other aircraft in the NAS. Therefore, small UAS operations conflict with the FAA's current operating regulations codified in 14 CFR part 91 that apply to general aviation. Specifically, at the heart of the part 91 operating regulations is § 91.113(b), which requires each person operating an aircraft to maintain vigilance "so as to see and avoid other aircraft."

The FAA created this requirement in a 1968 rulemaking that combined two previous aviation regulatory provisions, Civil Air Regulations (CAR) §§ 60.13(c) and 60.30.[6] Both of the provisions that were combined to create the "see and avoid" requirement of § 91.113(b) were intended to address aircraft collision-awareness problems by requiring that a pilot on board the aircraft look out of the aircraft during flight to observe whether other aircraft are on a collision path with his or her aircraft. Those provisions did not contemplate the use of technology to substitute for the human vision of a pilot on board the aircraft. Similarly, there is no evidence that those provisions contemplated a pilot fulfilling his or her "see and avoid" responsibilities from outside the aircraft. To the contrary, CAR section 60.13(c) stated that one of the problems it intended to address was "preoccupation by the pilot with cockpit duties," which indicates that the regulation contemplated the presence of a pilot on board the aircraft.

Because the regulations that resulted in the see-and-avoid requirement of § 91.113(b) did not contemplate that this requirement could be complied with by a pilot who is outside the aircraft, § 91.113(b) currently requires an aircraft pilot to have the perspective of being inside the aircraft as that aircraft is moving in order to see and avoid other aircraft. Since the operator of a small UAS does not have this perspective, operation of a small UAS could not meet the see and avoid requirement of § 91.113(b) at this time.

In addition to currently being prohibited by § 91.113(b), there are also statutory considerations that apply to small UAS operations. Specifically, even though a small UAS is different from a manned aircraft, the operation of a small UAS still involves the operation of an aircraft. This is because the FAA's statute defines an "aircraft" as "any contrivance invented, used, or designed to navigate or fly in the air." 49 U.S.C. 40102(a)(6). Since a small unmanned aircraft is a contrivance that is invented, used, and designed to fly in the air, a small unmanned aircraft is an aircraft for purposes of the FAA's statutes.[7]

Because a small UAS involves the operation of an "aircraft," this triggers the FAA's registration and certification statutory requirements. Specifically, subject to certain exceptions, a person may not operate a civil aircraft that is not registered. 49 U.S.C. 44101(a). In addition, a person may not operate a civil aircraft in air commerce without an airworthiness certificate. 49 U.S.C. 44711(a)(1). Finally, a person may not serve in any capacity as an airman on a civil aircraft being operated in air commerce without an airman certificate. 49 U.S.C. 44711(a)(2)(A).[8]

The term "air commerce," as used in the FAA's statutes, is defined broadly to include "the operation of aircraft within the limits of a Federal airway, or the operation of aircraft that directly affects, or may endanger safety in foreign or interstate air commerce." 49 U.S.C. 40102(a)(3). Because of this broad definition, the National Transportation Safety Board (NTSB) has held that "any use of an aircraft, for purpose of flight, constitutes air commerce." [9] Courts that have considered this issue have reached similar conclusions that "air commerce," as defined in the FAA's statute, encompasses a broad range of commercial and non-commercial aircraft operations.[10]

Accordingly, because "air commerce" encompasses such a broad range of aircraft operations, a civil small unmanned aircraft cannot currently be operated, for purposes of flight, if: (1) It is not registered (49 U.S.C. 44101(a)); (2) it does not possess an airworthiness certificate (49 U.S.C. 44711(a)(1)); and (3) the airman operating the aircraft does not possess an airman certificate (49 U.S.C. 44711(a)(2)(A)). However, the FAA's current processes for issuing airworthiness and airman certificates were designed to be used for manned aircraft and do not take into account the considerations associated with civil small UAS.

Specifically, obtaining a type certificate and a standard airworthiness certificate, which permits the widest range of aircraft operation, currently takes about 3 to 5 years. Because the pertinent existing regulations do not differentiate between manned and unmanned aircraft, a small UAS is currently subject to the same airworthiness certification process as a manned aircraft. However, it is not practically feasible for many small UAS manufacturers to go through the certification process required of manned aircraft. This is because small UAS technology is rapidly evolving at this time, and consequently, if a small UAS manufacturer goes through a 3-to-5-year process to obtain a type certificate, which enables the issuance of a standard airworthiness certificate, the small UAS would be technologically outdated by the time it completed the certification process. For example, advances in lightweight battery technology may allow new lightweight transponders and power sources within the next 3 to 5 years that are currently unavailable for small UAS operations.

The FAA notes that there are several other certification options available to

[6] *Pilot Vigilance*, 33 FR 10505 (July 24, 1968).

[7] Public Law 112–95 reaffirmed that an unmanned aircraft is indeed an aircraft by defining an unmanned aircraft as "an *aircraft* that is operated without the possibility of direct human intervention from within or on the aircraft." Sec. 331(8), Public Law 112–95 (emphasis added).

[8] The statutes also impose other requirements that are beyond the scope of this rulemaking. For example, 49 U.S.C. 44711(a)(4) prohibits a person from operating as an air carrier without an air-carrier operating certificate.

[9] *Administrator* v. *Barrows*, 7 N.T.S.B. 5, 8–9 (1990).

[10] *See, e.g., United States* v. *Healy*, 376 U.S. 75, 84–85 (1964) (holding that "air commerce" is not limited to commercial airplanes); *Hill* v. *NTSB*, 886 F.2d 1275, 1280 (10th Cir. 1989) ("[t]he statutory definition of "air commerce" is therefore clearly not restricted to interstate flights occurring in controlled or navigable airspace"); *United States* v. *Drumm*, 55 F. Supp. 151, 155 (D. Nev. 1944) ("any operation of any aircraft in the air space either directly affects or may endanger safety in, interstate, overseas, or foreign air commerce").

small UAS manufacturers and operators who do not wish to go through the process of obtaining a type certificate and standard airworthiness certificate. However, because each of these options has significant limitations, these options do not provide flexibility for most routine small UAS operations. These certification options are as follows:

- A special airworthiness certificate in the experimental category may be issued to UAS pursuant to 14 CFR 21.191–21.195. This certificate is time-limited, and cannot be used for any activities other than research and development, market surveys, and crew training.
- A special flight permit may be issued pursuant to 14 CFR 21.197. At this time, however, a special flight permit for a UAS is limited to production flight testing of new production aircraft.[11]
- A special airworthiness certificate in the restricted category is issued pursuant to 14 CFR 21.25(a). There are two options for obtaining this certificate.

First, pursuant to § 21.25(a)(2), a certificate may be issued for aircraft accepted by an Armed Force of the United States and later modified for a special purpose.

Second, pursuant to § 21.25(a)(1), a certificate may be issued for aircraft used in special purpose operations, which consist of:

(1) agricultural operations;
(2) forest and wildlife conservation;
(3) aerial surveying;
(4) patrolling (pipelines, power lines, and canals);
(5) weather control;
(6) aerial advertising; and
(7) any other operation specified by the FAA.

As can be seen from the above list, the current certification options are limited to very specific purposes. Accordingly, they do not provide sufficient flexibility for most routine civil small UAS operations within the NAS.

In addition to obtaining an airworthiness certificate, any person serving as an airman in the operation of a small UAS must obtain an airman certificate. 49 U.S.C. 44711(a)(2)(A). The statute defines an "airman" to include an individual who is "in command, or as pilot, mechanic, or member of the crew, who navigates aircraft when under way." 49 U.S.C. 40102(a)(8)(A). Because the person operating the small UAS is in command and is a member of the crew who navigates the aircraft, that person is an airman and must obtain an airman certificate.

Under current pilot certification regulations, depending on the type of operation, the operator of the small UAS currently must obtain either a private pilot certificate or a commercial pilot certificate. A private pilot certificate cannot be used to operate a small UAS for compensation or hire unless the flight is only incidental to the operator's business or employment.[12] Typically, to obtain a private pilot certificate, the small UAS operator currently has to: (1) Receive training in specific aeronautical knowledge areas; (2) receive training from an authorized instructor on specific areas of aircraft operation; (3) obtain a minimum of 40 hours of flight experience; and (4) obtain a third-class airman medical certificate.[13] Conversely, holding at least a commercial pilot certificate allows the small UAS to generally be used for compensation or hire, but is more difficult to obtain. In addition to the requirements necessary to obtain a private pilot certificate, applicants for a commercial pilot certificate currently need to also obtain 250 hours of flight time, satisfy extensive testing requirements, and obtain a second-class airman medical certificate.[14]

While these airman certification requirements are necessary for manned aircraft operations, they impose an unnecessary burden for many small UAS operations. This is because a person typically obtains a private or commercial pilot certificate by learning how to operate a manned aircraft. Much of that knowledge would not be applicable to small UAS operations because a small UAS is operated differently than a manned aircraft. In addition, the knowledge currently necessary to obtain a private or commercial pilot certificate would not equip the certificate holder with the tools necessary to safely operate a small UAS. Specifically, applicants for a private or commercial pilot certificate currently are not trained in how to deal with the "see-and-avoid" and loss-of-positive-control safety issues that are unique to small unmanned aircraft. Thus, requiring persons wishing to operate a small UAS to obtain a private or commercial pilot certificate imposes the cost of certification on those persons, but does not result in a significant safety benefit because the process of obtaining the certificate does not equip those persons with the tools necessary to mitigate the public risk posed by small UAS operations.

Recognizing the problem of applying the operating rules of part 91 to small UAS operations and the cost imposed on small UAS operations by existing certification processes, the FAA fashioned a temporary solution. Specifically, the FAA issued an advisory circular (AC) 91–57 and a policy statement elaborating on AC 91–57, which provide guidance for the safe operation of "model aircraft." The policy statement defines a "model aircraft" as a UAS that is used for hobby or recreational purposes.[15] The policy statement explains that AC 91–57:

> [E]ncourages good judgment on the part of operators so that persons on the ground or other aircraft in flight will not be endangered. The AC contains among other things, guidance for site selection. Users are advised to avoid noise sensitive areas such as parks, schools, hospitals, and churches. Hobbyists are advised not to fly in the vicinity of spectators until they are confident that the model aircraft has been flight tested and proven airworthy. Model aircraft should be flown below 400 feet above the surface to avoid other aircraft in flight. The FAA expects that hobbyists will operate these recreational model aircraft within visual line-of-sight.[16]

Neither AC 91–57 nor the associated policy statement contains any registration or certification requirements.[17]

To date, the FAA has used its discretion[18] to not bring enforcement action against model-aircraft operations that comply with AC 91–57. However, the use of discretion to permit continuing violation of FAA statutes and regulations is not a viable long-term solution for incorporating UAS operations into the NAS. Additionally, because AC 91–57 and the associated policy statement are limited to model aircraft, they do not apply to non-recreational UAS operations. Thus, even with the use of enforcement discretion, because of the difficulty of obtaining the

[11] A special flight permit for production flight testing is not limited to small UAS and can be obtained for unmanned aircraft weighing more than 55 pounds. We emphasize, however, that a special flight permit is limited at this time to production flight testing and will include operational requirements and limitations.

[12] *See* 14 CFR 61.113.

[13] *See* 14 CFR part 61, Subpart E and § 61.23(a)(3)(i).

[14] *See* 14 CFR part 61, Subpart F and § 61.23(a)(2).

[15] *See Unmanned Aircraft Operations in the National Airspace System*, 72 FR 6689, 6690 (Feb. 13, 2007) (explaining how AC 91–57 functions).

[16] *Id.*

[17] The policy statement did, however, explain the COA process that is currently used to allow public aircraft operations with UAS. This process is discussed in detail in section III.C of this preamble. As discussed in that section, this proposed rule would allow public aircraft operations with UAS to voluntarily comply with proposed part 107, but would otherwise leave the existing public aircraft operations COA process unchanged.

[18] As used in this context, "discretion" refers to the FAA's power to decide whether to commence an enforcement action.

requisite certification for a small UAS and because operation of a small UAS would violate the see-and-avoid requirement of § 91.113(b), non-recreational civil small UAS operations are effectively prohibited at this time.

C. Integrating Small UAS Operations Into the NAS

To address the issues discussed above, the FAA chartered the small UAS Aviation Rulemaking Committee (ARC) on April 10, 2008. On April 1, 2009, the ARC provided the FAA with recommendations on how small UAS could be safely integrated into the NAS.[19] In 2013, the U.S. Department of Transportation issued a comprehensive plan and subsequently the FAA issued a roadmap of its efforts to achieve safe integration of UAS operations into the NAS.[20]

In 2012, Congress passed the FAA Modernization and Reform Act of 2012 (Pub. L. 112–95). In section 332(b) of Public Law 112–95, Congress directed the Secretary to issue a final rule on small unmanned aircraft systems that will allow for civil operations of such systems in the NAS.[21] In section 333 of Public Law 112–95, Congress also directed the Secretary to determine whether "certain unmanned aircraft systems may operate safely in the national airspace system." To make a determination under section 333, we must assess "which types of unmanned aircraft systems, if any, as a result of their size, weight, speed, operational capability, proximity to airports and populated areas, and operation within visual line of sight do not create a hazard to users of the national airspace system or the public or pose a threat to national security." Public Law 112–95, Sec. 333(b)(1). The Secretary must also determine whether a certificate of waiver or authorization, or airworthiness certification is necessary to mitigate the public risk posed by the unmanned aircraft systems that are under consideration. Public Law 112–95, Sec. 333(b)(2). If the Secretary determines that certain unmanned aircraft systems may operate safely in the NAS, then the Secretary must "establish requirements for the safe operation of such aircraft systems in the national airspace system." Public Law 112–95, Sec. 333(c). The flexibility provided for in section 333 did not extend to airman certification and security vetting, aircraft marking, or registration requirements.

As noted above, section 333(b)(2) provided the Secretary of Transportation with discretionary power as to whether airworthiness certification should be required for certain small UAS.[22] As discussed previously, the FAA's statute normally requires an aircraft being flown outdoors to possess an airworthiness certificate.[23] However, subsection 333(b)(2) allows for the determination that airworthiness certification is not necessary for certain small UAS. The key determinations that must be made in order for UAS to operate under the authority of section 333 are: (1) The operation must not create a hazard to users of the national airspace system or the public; and (2) the operation must not pose a threat to national security.[24] In making these determinations, we must consider the following factors: Size, weight, speed, operational capability, proximity to airports and populated areas, and operation within visual line of sight. Of these factors, operation within visual line of sight is a primary factor for evaluation. At this point in time, we have determined that technology has not matured to the extent that would allow small UAS to be used safely in lieu of visual line of sight without creating a hazard to other users of the NAS or the public, or posing a threat to national security.

This construction of section 333 is a reasonable interpretation that is consistent with the statutory text and reflects Congressional intent in adopting the provision. We invite comments on whether there are well-defined circumstances and conditions under which operation beyond the line of sight would pose little or no additional risk to other users of the NAS, the public, or national security. Finally, we invite comments on the technologies and operational capabilities or procedures needed to allow UAS flights beyond visual line of sight, and how such technologies, capabilities and procedures could be accommodated under this rule or in a future rulemaking.

As a result of its ongoing integration efforts, the FAA seeks to change its regulations to take the first step in the process of integrating small UAS operations into the NAS. This proposal would utilize the airworthiness-certification flexibility provided by Congress in section 333 of Public Law 112–95, and allow some small UAS operations to commence in the NAS.[25]

In addition, to further facilitate the integration of UAS into the NAS, the FAA has selected six test sites to test UAS technology and operations. As of August 2014, all of the UAS test sites, which were selected based on geographic and climatic diversity, are operational and will remain in place for the next 5 years to help us gather operational data to foster further integration, as well as evaluate new technologies. In addition, the FAA is in the process of selecting a new UAS Center of Excellence which will also serve as another resource for these activities. The FAA invites comments on how it can improve or further leverage its test site program to encourage innovation, safe development and UAS integration into the NAS.

III. Discussion of the Proposal

As discussed in the previous section, in order to determine whether certain UAS may operate safely in the NAS pursuant to section 333, the Secretary must find that the operation of the UAS would not: (1) Create a hazard to users of the NAS or the public; or (2) pose a threat to national security. The Secretary must also determine whether small UAS operations subject to this proposed rule pose a safety risk sufficient to require airworthiness certification. The following preamble sections discuss the specific components of this proposed rule, and in section III.J below, we explain how these components work together and allow the Secretary to make the statutory findings required by section 333.

A. Incremental Approach and Privacy

The FAA began its small UAS rulemaking in 2005. In its initial approach to this rulemaking, which the FAA utilized from 2005 until November 2013, the FAA attempted to implement the ARC's recommendations and craft a rule that encompassed the widest possible range of small UAS operations. This approach utilized a regulatory structure similar to the one that the FAA uses for manned aircraft. Specifically, small UAS operations that pose a low risk to people, property, and other

[19] A copy of the small UAS ARC Report and Recommendations can be found in the docket for this rulemaking.

[20] *http://www.faa.gov/about/initiatives/uas/media/uas_roadmap_2013.pdf*

[21] As discussed in more detail further in the preamble, the FAA Modernization and Reform Act of 2012 also contained a provision prohibiting the FAA from issuing rules and regulations for model aircraft meeting certain criteria specified in section 336 of the Act.

[22] Public Law 112–95, sec. 333(b)(2).

[23] 49 U.S.C. 44711(a)(1).

[24] Public Law 112–95, sec. 333(b)(1).

[25] As discussed in section III.B.6 below, 14 CFR part 107 that would be created by this proposed rule would not apply to model aircraft that satisfy all of the statutory criteria specified in section 336 of Public Law 112–95. The FAA has recently published an interpretive rule for public comment explaining the statutory criteria of section 336. *See Interpretation of the Special Rule for Model Aircraft*, 79 FR 36172, 36175 (June 25, 2014).

aircraft would have been subject to less stringent regulation while small UAS operations posing a greater risk would have been subject to more stringent regulation in order to mitigate the greater risk.

In exploring this approach, the FAA found that, as discussed previously, there are two unique safety issues associated with UAS: (1) Extending "see and avoid" anti-collision principles to a pilot that is not physically present on the aircraft; and (2) loss of positive control of the unmanned aircraft. In addition, at the time that it was considering this approach, the FAA did not have the discretion necessary to exempt these aircraft from the statutory requirement for airworthiness certification, as the section 333 authority did not come into effect until February 14, 2012. As a result of these issues, the FAA's original broadly-scoped approach to the rulemaking effort took significantly longer than anticipated. Consequently, the FAA decided to proceed with multiple incremental UAS rules rather than a single omnibus rulemaking in order to utilize the flexibility with regard to airworthiness certification that Congress provided in section 333.

Accordingly, at this time, the FAA is proposing a rule that, pursuant to section 333 of Public Law 112–95, will integrate small UAS operations posing the least amount of risk. Because these operations pose the least amount of risk, this proposed rule would treat the entire spectrum of operations that would be subject to this rule in a similar manner by imposing less stringent regulatory burdens that would ensure that the safety and security of the NAS would not be reduced by operation of these UAS. In the meantime, the FAA will continue working on integrating UAS operations that pose greater amounts of risk, and will issue notices of proposed rulemaking for those operations once the pertinent issues have been addressed, consistent with the approach set forth in the UAS Comprehensive Plan for Integration and FAA roadmap for integration.[26] Once the entire integration process is complete, the FAA envisions the NAS populated with UAS that operate well beyond the operational limits proposed in this rule. Those UAS will be regulated differently than the UAS that would be integrated through this rule, and will be addressed in subsequent rulemakings. The FAA has selected this approach because it would allow lower-risk small UAS operations to be incorporated into the NAS immediately instead of waiting until the issues associated with higher-risk UAS operations are resolved.

The approach of this proposal is meant to address low risk operations; to the greatest extent possible, it takes a data-driven, risk-based approach to defining specific regulatory requirements for small UAS operations. It is well understood that regulations that are articulated in terms of the desired outcomes (*i.e.*, "performance standards") are generally preferable to those that specify the means to achieve the desired outcomes (*i.e.*, "design" standards). According to Office of Management and Budget Circular A–4 ("Regulatory Analysis"), performance standards "give the regulated parties the flexibility to achieve the regulatory objectives in the most cost-effective way."[27]

Design standards have a tendency to lock in certain approaches that limit the incentives to innovate and may effectively prohibit new technologies altogether. The distinction between design and performance standards is particularly important where technology is evolving rapidly, as is the case with small UAS.

In this proposal, the regulatory objectives are to enable integration of small UAS into the NAS in a manner that does not impose unacceptable risk to other aircraft, people, or property. The FAA seeks comment on whether there are additional requirements that could be specified in ways that are more performance-oriented in order to minimize any disincentives to develop new technologies that achieve the regulatory objectives at lower cost.

Recently, the FAA, with the approval of the Secretary, has been issuing exemptions in accordance with 14 CFR part 11 and section 333 of Public Law 112–95 to accommodate an increasing number of small UAS operations that are not for hobby or recreational purposes. If adopted, this rule will eliminate the need for the vast majority of these exemptions. The exemption process will continue to be available for UAS operations that fall outside the parameters of this rule. Such operations may involve the use of more advanced technologies that are not yet mature at the time of this rulemaking.

The FAA also notes that, because UAS-associated technologies are rapidly evolving at this time, new technologies could come into existence after this rule is issued or existing technologies may evolve to the extent that they establish a level of reliability sufficient to allow those technologies to be relied on for risk mitigation. These technologies may alleviate some of the risk concerns that underlie the provisions of this rulemaking like the line of sight rule. Accordingly, the FAA invites comments as to whether the final rule should relax operating restrictions on small UAS equipped with technology that addresses the concerns underlying the operating limitations of this proposed rule, for instance through some type of deviation authority (such as a letter of authorization or a waiver).

The FAA also notes that privacy concerns have been raised about unmanned aircraft operations. Although these issues are beyond the scope of this rulemaking, recognizing the potential implications for privacy and civil rights and civil liberties from the use of this technology, and consistent with the direction set forth in the Presidential Memorandum, *Promoting Economic Competitiveness While Safeguarding Privacy, Civil Rights, and Civil Liberties in Domestic Use of Unmanned Aircraft Systems* (February 15, 2015), the Department and FAA will participate in the multi-stakeholder engagement process led by the National Telecommunications and Information Administration (NTIA) to assist in this process regarding privacy, accountability, and transparency issues concerning commercial and private UAS use in the NAS. We also note that state law and other legal protections for individual privacy may provide recourse for a person whose privacy may be affected through another person's use of a UAS.

The FAA conducted a privacy impact assessment (PIA) of this rule as required by section 522(a)(5) of division H of the FY 2005 Omnibus Appropriations Act, Public Law 108–447, 118 Stat. 3268 (Dec. 8, 2004) and section 208 of the E-Government Act of 2002, Public Law 107–347, 116 Stat. 2889 (Dec. 17, 2002). The assessment considers any impacts of the proposed rule on the privacy of information in an identifiable form. The FAA has determined that this proposed rule would impact the FAA's handling of personally identifiable information (PII). As part of the PIA that the FAA conducted as part of this rulemaking, the FAA analyzed the effect this impact might have on collecting, storing, and

[26] Section 332(a) of Public Law 112–95 requires the Secretary of Transportation to develop a comprehensive plan to safely accelerate the integration of civil UAS into the NAS. This plan must be developed in consultation with representatives of the aviation industry, federal agencies that employ UAS technology in the NAS, and the UAS industry. Section 332(a) also requires the Secretary of Transportation to develop a 5-year roadmap for the introduction of civil UAS into the NAS. Both the comprehensive plan and the roadmap were published in November 2013.

[27] *http://www.whitehouse.gov/sites/default/files/omb/assets/regulatory_matters_pdf/a-4.pdf*

disseminating PII and examined and evaluated protections and alternative information handling processes in developing the proposed rule in order to mitigate potential privacy risks.

As proposed, the process for granting unmanned aircraft operator certificates with a small UAS rating would be brought in line with the process for granting traditional airman certificates. Thus, the privacy implications of this rule to the privacy of the information that would be collected, maintained, stored, and disseminated by the FAA in accordance with this rule are the same as the privacy implications of the FAA's current airman certification processes. These privacy impacts have been analyzed by the FAA in the following Privacy Impact Assessments for the following systems: Civil Aviation Registry Applications (AVS Registry); the Integrated Airman Certification and Ratings Application (IACRA); and Accident Incident Database. These Privacy Impact Assessments are available in the docket for this rulemaking and at *http://www.dot.gov/individuals/privacy/privacy-impact-assessments#Federal* Aviation Administration (FAA).

B. Applicability

To integrate small UAS operations into the NAS, this proposed rule would create a new part in title 14 of the CFR: Part 107. Subject to the exceptions discussed below, proposed part 107 would prescribe the rules governing the registration, airman certification, and operation of civil small UAS within the United States. As mentioned previously, a small UAS is a UAS that uses an unmanned aircraft weighing less than 55 pounds. This proposed rule would allow non-recreational small UAS to operate in the NAS. The operations enabled by this proposed rule would include business, academic, and research and development flights, which are hampered by the current regulatory framework.

Under this proposal, the regulations of part 107, which are tailored to address the risks associated with small UAS operations, would apply to small UAS operations in place of certain existing FAA regulations that impede civil small UAS operations. Specifically, for small UAS operations, the requirements of proposed part 107 would generally replace the airworthiness provisions of part 21, the airman certification provisions of part 61, and the operating limitations of part 91.

However, proposed part 107 would not apply to all small UAS operations. For the reasons discussed below, proposed part 107 would not apply to: (1) Air carrier operations; (2) external load and towing operations; (3) international operations; (4) foreign-owned aircraft that are ineligible to be registered in the United States; (5) public aircraft; (6) certain model aircraft; and (7) moored balloons, kites, amateur rockets, and unmanned free balloons.

1. Air Carrier Operations

When someone is transporting persons or property by air for compensation, that person is considered an air carrier by statute and is required to obtain an air carrier operating certificate.[28] Because there is an expectation of safe transportation when payment is exchanged, air carriers are subject to more stringent regulations to mitigate the risks posed to persons or non-operator-owned property on the aircraft.

The FAA notes that some industries may desire to transport property via UAS.[29] Proposed part 107 would not prohibit this type of transportation so long as it is not done for compensation and the total weight of the aircraft, including the property, is less than 55 pounds. For example, research and development operations transporting property could be conducted under proposed part 107, as could operations by corporations transporting their own property within their business under the other provisions of this proposed rule.

The FAA seeks comment on whether UAS should be permitted to transport property for payment within the other proposed constraints of the rule, *e.g.*, the ban on flights over uninvolved persons, the requirements for line of sight, and the intent to limit operations to a constrained area. The FAA also seeks comment on whether a special class or classes of air carrier certification should be developed for UAS operations.

2. External Load and Towing Operations

The FAA considered allowing small unmanned aircraft to conduct external-load operations and to tow other aircraft or objects. These operations involve a greater level of public risk due to the dynamic nature of external-load configurations and inherent risks associated with the flight characteristics of a load that is carried, or extends, outside the aircraft fuselage and may be jettisonable. These types of operations may also involve evaluation of the aircraft frame for safety performance impacts, which may require airworthiness certification.

Given the risks associated with external load and towing operations, the FAA cannot find that a certification is not required. However, the FAA invites comments, with supporting documentation, on whether external-load UAS operations and towing UAS operations should be permitted, whether they would require airworthiness certification, whether they would require higher levels of airman certification, whether they would require additional operational limitations, and on other relevant issues.

3. International Operations

At this time, the FAA also proposes to limit this rulemaking to small UAS operations conducted entirely within the United States. The International Civil Aviation Organization (ICAO) recognizes that:

> The safe integration of UAS into non-segregated airspace will be a long-term activity with many stakeholders adding their expertise on such diverse topics as licensing and medical qualification of UAS crew, technologies for detect and avoid systems, frequency spectrum (including its protection from unintentional or unlawful interference), separation standards from other aircraft, and development of a robust regulatory framework.[30]

ICAO has further stated that "[u]nmanned aircraft . . . are, indeed aircraft; therefore existing [ICAO standards and recommended practices] SARPs apply to a very great extent. The complete integration of UAS at aerodromes and in the various airspace classes will, however, necessitate the development of UAS-specific SARPs to supplement those already existing."[31] ICAO has begun to issue and amend SARPs to specifically address UAS operations. For example, the standard contained in paragraph 3.1.9 of Annex 2 (Rules of the Air) to the Convention on International Civil Aviation states that "A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the conditions specified in Appendix 4." This appendix sets forth detailed conditions ICAO Member States must require of civil UAS operations for the ICAO Member State to comply with the Annex 2, paragraph 3.1.9 standard. ICAO standards in Annex 7 (Aircraft Nationality and Registration Marks) to the Convention also require remotely

[28] 49 U.S.C. 44711(a)(4).

[29] Property that is transported as an external load is discussed in the next section of the preamble.

[30] *ICAO Circular 328 (Unmanned Aircraft Systems (UAS))* (2011).

[31] *Id.*

piloted aircraft to "carry an identification plate inscribed with at least its nationality or common mark and registration mark" and be "made of fireproof metal or other fireproof material of suitable physical properties." For remotely piloted aircraft, this identification plate must be "secured in a prominent position near the main entrance or compartment or affixed conspicuously to the exterior of the aircraft if there is no main entrance or compartment."

While we embrace the basic principle that UAS operations should minimize hazards to persons, property or other aircraft, we believe that it is possible to achieve this goal with respect to certain small UAS operations in a much less restrictive manner than current ICAO standards require. Accordingly, the FAA proposes, for the time being, to limit the applicability of proposed part 107 to small UAS operations that are conducted entirely within the United States. The FAA envisions that international operations would be dealt with in a future FAA rulemaking. The FAA believes that the experience that the FAA will gain with UAS operations under this rule will assist with future rulemakings. The FAA also anticipates that ICAO will continue to revise and more fully develop its framework for UAS operations to better reflect the diversity of UAS operations and types of UAS and to distinguish the appropriate levels of regulation in light of those differences.

The FAA notes that under Presidential Proclamation 5928, the territorial sea of the United States, and consequently its territorial airspace, extends to 12 nautical miles from the baselines of the United States determined in accordance with international law. Thus, UAS operating in the airspace above the U.S. territorial sea would be operating within the United States for the purposes of this proposed rule.

The FAA also emphasizes that proposed part 107 would not prohibit small UAS operators from operating in international airspace or in other countries; however, the proposed rule also would not provide authorization for such operations. UAS operations that do not take place entirely within the United States would need to obtain all necessary authorizations from the FAA and the relevant foreign authorities outside of the part 107 framework, as that framework would not apply to operations that do not take place entirely within the United States. It is important to note that Article 8 of the Convention on International Civil Aviation, to which the U.S. is a party, provides:

> No aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting State without special authorization by that State and in accordance with the terms of such authorization. Each contracting State undertakes to insure that the flight of such aircraft without a pilot in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft.

Accordingly, UAS operations in foreign countries may not take place without the required authorizations and permission of that country.

4. Foreign-Owned Aircraft That Are Ineligible for U.S. Registration

The FAA proposes to limit the scope of this rulemaking to U.S.-registered aircraft. Under 49 U.S.C. 44103 and 14 CFR 47.3, an aircraft can be registered in the United States only if it is not registered under the laws of a foreign country and meets one of the following ownership criteria:

- The aircraft is owned by a citizen of the United States;
- The aircraft is owned by a permanent resident of the United States;
- The aircraft is owned by a corporation that is not a citizen of the United States, but that is organized and doing business under U.S. Federal or state law and the aircraft is based and primarily used in the United States; or
- The aircraft is owned by the United States government or a state or local governmental entity.

An aircraft that does not satisfy the above criteria is typically owned by a foreign person or entity and is subject to special operating rules.[32] As previously noted, the ICAO framework for international UAS operations is at a relatively early stage in its development. Accordingly, proposed part 107 would only apply to small unmanned aircraft that meet the criteria specified in § 47.3, which must be satisfied in order for an aircraft to be eligible for U.S. registration. The FAA notes existing U.S. international trade obligations do permit certain kinds of operations, known as specialty air services. Specialty air services are generally defined as any specialized commercial operation using an aircraft whose primary purpose is not the transportation of goods or passengers, including but not limited to aerial mapping, aerial surveying, aerial photography, forest fire management, firefighting, aerial advertising, glider towing, parachute jumping, aerial construction, helilogging, aerial sightseeing, flight training, aerial inspection and surveillance, and aerial spraying services. The FAA will consult with the Secretary to determine the process through which it might permit foreign-owned small unmanned aircraft to operate in the United States. The FAA invites comments on the inclusion of foreign-registered small unmanned aircraft in this new framework.

As provided by 49 U.S.C. 40105(b)(1)(A), the FAA Administrator must carry out his responsibilities under Part A (Air Commerce and Safety) of title 49, United States Code, consistently with the obligations of the U.S. Government under international agreements. The FAA invites comments regarding whether the proposed rule needs to be modified to ensure that it is consistent with any relevant obligations of the United States under international agreements.

5. Public Aircraft Operations

This proposed rule would also not apply to public aircraft operations with small UAS that are not operated as civil aircraft. This is because public aircraft operations, such as those conducted by the Department of Defense, the National Aeronautics and Space Administration, and the National Oceanic and Atmospheric Administration, are not required to comply with civil airworthiness or airman certification requirements to conduct operations. However, these operations are subject to the airspace and air-traffic rules of part 91, which include the "see and avoid" requirement of § 91.113(b). Because unmanned aircraft operations currently are incapable of complying with § 91.113(b), the FAA has required public aircraft operations that use unmanned aircraft to obtain an FAA-issued Certificate of Waiver or Authorization (COA) providing the public aircraft operation with a waiver/deviation from the "see and avoid" requirement of § 91.113(b).

The existing COA system has been in place for over eight years, and has not caused any significant human injuries or other significant adverse safety impacts.[33] Accordingly, this proposed rule would not abolish the COA system. However, this proposed rule would provide public aircraft operations with greater flexibility by giving them the option to declare an operation to be a civil operation and comply with the provisions of proposed part 107 instead

[32] *See, e.g.*, 14 CFR part 91, subpart H (specifying operating rules for foreign civil aircraft).

[33] The FAA has been issuing COAs to public aircraft operations using UAS for over 20 years; however, prior to 2005, those COAs were issued using different processes.

of seeking a COA from the FAA. Because proposed part 107 would address the risks associated with small UAS operations, there would be no adverse safety effects from allowing public aircraft operations to be voluntarily conducted under proposed part 107.[34]

6. Model Aircraft

Proposed part 107 would not apply to model aircraft that satisfy all of the criteria specified in section 336 of Public Law 112–95. Section 336 of Public Law 112–95 defines a model aircraft as an "unmanned aircraft that is—(1) capable of sustained flight in the atmosphere; (2) flown within visual line of sight of the person operating the aircraft; and (3) flown for hobby or recreational purposes."[35] Because section 336 of Public Law 112–95 defines a model aircraft as an "unmanned aircraft," a model aircraft that weighs less than 55 pounds would fall into the definition of small UAS under this rule.

However, Public Law 112–95 specifically prohibits the FAA from promulgating rules regarding model aircraft that meet all of the following statutory criteria:[36]

- The aircraft is flown strictly for hobby or recreational use;
- The aircraft is operated in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization;
- The aircraft is limited to not more than 55 pounds unless otherwise certified through a design, construction, inspection, flight test, and operational safety program administered by a community-based organization;
- The aircraft is operated in a manner that does not interfere with and gives way to any manned aircraft; and
- When flown within 5 miles of an airport, the operator of the aircraft provides the airport operator and the airport air traffic control tower (when an air traffic facility is located at the airport) with prior notice of the operation.

Because of the statutory prohibition on FAA rulemaking regarding model aircraft that meet the above criteria, model aircraft meeting these criteria would not be subject to the provisions of proposed part 107. Likewise, operators of model aircraft excepted from part 107 by the statute would not need to hold an unmanned aircraft operator's certificate with a small UAS rating. However, the FAA emphasizes that because the prohibition on rulemaking in section 336 of Public Law 112–95 is limited to model aircraft that meet all of the above statutory criteria, model aircraft weighing less than 55 pounds that fail to meet all of the statutory criteria would be subject to proposed part 107.

In addition, although Public Law 112–95 excepted certain model aircraft from FAA rulemaking, it specifically states that the law's exception does not limit the Administrator's authority to pursue enforcement action against those model aircraft operators that "endanger the safety of the national airspace system."[37] This proposed rule would codify the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the NAS.

The FAA also notes that it recently issued an interpretive rule explaining the provisions of section 336 and concluding that "Congress intended for the FAA to be able to rely on a range of our existing regulations to protect users of the airspace and people and property on the ground."[38] In this interpretive rule, the FAA gave examples of existing regulations the violation of which could subject model aircraft to enforcement action. Those regulations include:

- Prohibitions on careless or reckless operation and dropping objects so as to create a hazard to persons or property (14 CFR 91.13 and 91.15);
- Right-of-way rules for converging aircraft (14 CFR 91.113);
- Rules governing operations in designated airspace (14 CFR part 73 and §§ 91.126 through 91.135); and
- Rules relating to operations in areas covered by temporary flight restrictions and notices to airmen (NOTAMs) (14 CFR 91.137 through 91.145).[39]

The FAA notes that the above list is not intended to be an exhaustive list of all existing regulations that apply to model aircraft meeting the statutory criteria of Public Law 112–95, section 336. Rather, as explained in the interpretive rule, "[t]he FAA anticipates that the cited regulations are the ones that would most commonly apply to model aircraft operations."[40]

7. Moored Balloons, Kites, Amateur Rockets, and Unmanned Free Balloons

Lastly, proposed part 107 would not apply to moored balloons, kites, amateur rockets, and unmanned free balloons. These types of aircraft currently are regulated by the provisions of 14 CFR part 101. Because these aircraft are already incorporated into the NAS through part 101 and because the safety risks associated with these specific aircraft are already mitigated by the regulations of part 101, there is no need to make these aircraft subject to the provisions of proposed part 107.

C. Definitions

Proposed part 107 would create a new set of definitions to address the unique aspects of a small UAS. Those proposed definitions are as follows.

1. Control Station

Proposed part 107 would define a "control station" as an interface used by the operator to control the flight path of the small unmanned aircraft. In a manned aircraft, the interface used by the pilot to control the flight path of the aircraft is a part of the aircraft and is typically located inside the aircraft flight deck. Conversely, the interface used to control the flight path of a small unmanned aircraft is typically physically separated from the aircraft and remains on the ground during aircraft flight. Defining the concept of a control station would clarify the interface that is considered part of the small UAS under this regulation.

2. Corrective Lenses

Proposed part 107 would also define "corrective lenses" as spectacles or contact lenses. As discussed in the Operating Rules section of this preamble, this proposed rule would require the operator and/or visual observer to have visual line of sight of the small unmanned aircraft with vision that is not enhanced by any device other than corrective lenses. This is because spectacles and contact lenses do not restrict a user's peripheral vision while other vision-enhancing devices may restrict that vision. Because peripheral vision is necessary in order for the operator and/or visual observer to be able to see and avoid other air traffic in the NAS, this proposed rule would limit the circumstances in which vision-enhancing devices other than spectacles or contact lenses may be used.

[34] The FAA notes that section 334(b) of Public Law 112–95 requires the FAA to develop standards regarding the operation of public UAS by December 31, 2015.

[35] Sec. 336(c) of Public Law 112–95.

[36] Sec. 336(a) of Public Law 112–95.

[37] Sec. 336(b) of Public Law 112–95.

[38] *Interpretation of the Special Rule for Model Aircraft*, 79 FR 36172, 36175 (June 25, 2014). This document was issued as a notice of interpretation and has been in effect since its issuance on June 25, 2014. However, we note that the FAA has invited comment on this interpretation, and may modify the interpretation as a result of comments that were received.

[39] *Id.* at 36175–76.

[40] *Id.* at 36176.

3. Operator and Visual Observer

Because of the unique nature of small UAS operations, this proposed rule would create two new crewmember positions: The operator and the visual observer. These positions are discussed further in section III.D.1 of this preamble.

4. Small Unmanned Aircraft

Public Law 112–95 defines a "small unmanned aircraft" as "an unmanned aircraft weighing less than 55 pounds."[41] This statutory definition of small unmanned aircraft does not specify whether the 55-pound weight limit refers to the total weight of the aircraft at the time of takeoff (which would encompass the weight of the aircraft and any payload on board), or simply the weight of an empty aircraft.

This proposed rule would define a small unmanned aircraft as an unmanned aircraft weighing less than 55 pounds, including everything that is on board the aircraft. The FAA proposes to interpret the statutory definition of small unmanned aircraft as referring to total weight at the time of takeoff because heavier aircraft generally pose greater amounts of public risk in the event of an accident. In the event of a crash, a heavier aircraft can do more damage to people and property on the ground. The FAA also notes that this approach would be similar to the approach that the FAA has taken with other aircraft, such as large aircraft, light-sport aircraft, and small aircraft.[42]

5. Small Unmanned Aircraft System (Small UAS)

This proposed rule would define a small UAS as a small unmanned aircraft and its associated elements (including communication links and the components that control the small unmanned aircraft) that are required for the safe and efficient operation of the small unmanned aircraft in the NAS. Except for one difference, this proposed definition would be similar to the definition of "unmanned aircraft system" provided in Public Law 112–95.[43] The difference between the two definitions is that the proposed definition in this rule would not refer to a pilot-in-command because, as discussed further in this preamble, this proposed rule would create a new position of operator to replace the traditional manned-aviation positions of pilot and pilot-in-command for small UAS operations.

6. Unmanned Aircraft

Lastly, this proposed rule would define an unmanned aircraft as an aircraft operated without the possibility of direct human intervention from within or on the aircraft. This proposed definition would codify the definition of "unmanned aircraft" specified in Public Law 112–95.[44]

D. Operating Rules

As discussed earlier in this preamble (section III.A), instead of a single omnibus rulemaking that applies to all small UAS operations, the FAA has decided to proceed incrementally and issue a rule governing small UAS operations that pose the least amount of risk. Subpart B of this proposed rule would specify the operating constraints of these operations. The FAA emphasizes that it intends to conduct future rulemaking(s) to incorporate into the NAS small UAS operations that pose a greater level of risk than the operations that would be permitted by this proposed rule. However, those operations present additional safety issues that the FAA needs more time to address. In the meantime, under this proposed rule, operations that could be conducted within the proposed operational constraints would be incorporated into the NAS.

The FAA also considered whether to further subdivide small UAS into different categories of unmanned aircraft that would be regulated differently based on their weight, operational characteristics, and operating environment. This subdivision would have been based on five category groups (Groups A through E). Each of these groups would have been regulated based on its specific weight and operating characteristics.

This is the framework that the FAA used in its initial approach to this rulemaking. However, because this framework attempted to integrate a wide range of UAS operations posing different risk profiles whose integration raised policy questions on which data was either limited or unavailable, the FAA's initial approach would have been unduly burdensome on all UAS groups that would have been covered under that approach. For example, UAS in Group A, which posed the least safety risk under the FAA's initial framework, would have been required to: (1) Obtain a permit to operate (PTO) from the FAA, which would have to be renewed after one year; (2) file quarterly reports with the FAA providing their operational data; (3) establish a level of airworthiness that would be sufficient to obtain an airworthiness certification (the initial approach would have merged airworthiness certification into the PTO); (4) obtain a pilot certificate by passing a knowledge test, a practical test, and completing required ground training with an FAA-certificated instructor; (5) obtain a NOTAM from the FAA prior to conducting certain UAS operations (the operator would do this by filing notice with the FAA); and (6) maintain records documenting the complete maintenance history of the UAS.

After extensive deliberation, the FAA ultimately determined that such a regulatory framework was too complex, costly, and burdensome for both the public and the FAA. The FAA then examined the entire small UAS category of aircraft (unmanned aircraft weighing less than 55 pounds) in light of the new authority provided for under section 333 of Public Law 112–95 and determined that appropriate operational risk mitigations could be developed to allow the entire category of small UAS to avoid airworthiness certification and be subject to the least burdensome level of regulation that is necessary to protect the safety and security of the NAS. Furthermore, the FAA decided to also substantially simplify the operational limitations and airman (operator) certification requirements in a manner that would equally accommodate all types of small UAS business users with the least amount of complexity and regulatory burden.

The FAA believes that treating small UAS as a single category without airworthiness certification would accommodate a large majority of small UAS businesses and other non-recreational users of UAS. The operational limits in this proposed rule would mitigate risk associated with small UAS operations in a way that would provide an equivalent level of safety to the NAS with the least amount of burden to business and other non-recreational users of even the smallest UAS. The FAA invites comments, with supporting documentation, on whether the regulation of small UAS should be further subdivided based on the size, weight, and operating environment of the small UAS.

1. Micro UAS Classification

In addition to part 107 as proposed, the FAA is considering including a

[41] Sec. 331(6) of Public Law 112–95.

[42] *See* 14 CFR 1.1 (referring to "takeoff weight" for large, light-sport, and small aircraft in the definitions for those aircraft).

[43] Sec. 331(9) of Public Law 112–95. Public Law 112–95 defines an "unmanned aircraft system" as "an unmanned aircraft and associated elements (including communication links and the components that control the unmanned aircraft) that are required for the pilot in command to operate safely and efficiently in the national airspace system."

[44] Sec. 331(8) of Public Law 112–95.

micro UAS classification. This classification would be based on the UAS ARC's recommendations, as well as approaches adopted in other countries that have a separate set of regulations for micro UAS.

In developing this micro UAS classification, the FAA examined small UAS policies adopted in other countries. In considering other countries' aviation policies, the FAA noted that each country has its unique aviation statutory and rulemaking requirements, which may include that country's unique economic, geographic, and airspace density considerations. Canada is our only North American neighbor with a regulatory framework for small UAS. The chart below summarizes Transport Canada's operational limitations for micro UAS (4.4 pounds (2 kilograms) and under) and compares it with the regulatory framework in proposed part 107 as well as the micro UAS classification that the FAA is considering.

COMPARISON OF CANADIAN RULES GOVERNING MICRO UAS CLASS WITH PROVISIONS OF PROPOSED PART 107 AND MICRO UAS SUB-CLASSIFICATION

Provision	Canada	Small UAS NPRM	Micro UAS Sub-classification
Definition of Small UAS	Up to 4.4 lbs (2 kg)	Up to 55 lbs (24 kg)	Up to 4.4 lbs (2 kg).
Maximum Altitude Above Ground	300 feet	500 feet	400 feet.
Airspace Limitations	Only within Class G airspace	Allowed within Class E in areas not designated for an airport. Otherwise, need ATC permission. Allowed within Class B, C and D with ATC permission. Allowed in Class G with no ATC permission.	Only within Class G airspace.
Distance from people and structures	100 feet laterally from any building, structure, vehicle, vessel or animal not associated with the operation and 100 feet from any person.	Simply prohibits UAS operations over any person not involved in the operations (unless under a covered structure).	Flying over any person is permitted.
Ability to extend operational area	No	Yes, from a waterborne vehicle	No.
Autonomous operations	No	Yes	No.
Aeronautical knowledge required	Yes; ground school	Yes; applicant would take knowledge test.	Yes; applicant would self-certify.
First person view permitted	No	Yes, provided operator is visually capable of seeing the small UAS.	No.
Operator training required	Yes, ground school	No	No.
Visual observer training required	Yes	No	No.
Operator certificate required	No	Yes (must pass basic UAS aeronautical test).	Yes (no knowledge test required).
Preflight safety assessment	Yes	Yes	Yes.
Operate within 5 miles of an airport	No	Yes	No.
Operate in a congested area	No	Yes	Yes.
Liability insurance	Yes, $100,000 CAN	No	No.
Daylight operations only	Yes	Yes	Yes.
Aircraft must be made out of frangible materials.	No	No	Yes.

The FAA is considering the following provisions for the micro UAS classification:

- The unmanned aircraft used in the operation would weigh no more than 4.4 pounds (2 kilograms). This provision would be based on the ARC's recommendations and on how other countries, such as Canada, subdivide their UAS into micro or lightweight UAS;
- The unmanned aircraft would be made out of frangible materials that break, distort, or yield on impact so as to present a minimal hazard to any person or object that the unmanned aircraft collides with. Examples of such materials are breakable plastic, paper, wood, and foam. This provision would be based on the ARC's recommendations;
- During the course of the operation, the unmanned aircraft would not exceed an airspeed of 30 knots. This provision would be based on the ARC's recommendation, which was concerned with damage that could be done by unmanned aircraft flying at higher speeds;
- During the course of the operation, the unmanned aircraft would not travel higher than 400 feet above ground level (AGL). This provision would be based on the ARC's recommendations;
- The unmanned aircraft would be flown within visual line of sight; first-person view would not be used during the operation; and the aircraft would not travel farther than 1,500 feet away from the operator. These provisions would be based on ARC recommendations and Canada's requirements for micro UAS;
- The operator would maintain manual control of the flight path of the unmanned aircraft at all times, and the operator would not use automation to control the flight path of the unmanned aircraft. This provision would be based on ARC recommendations and Canada's requirements for micro UAS;
- The operation would be limited entirely to Class G airspace. This provision would be based on Canada's requirements for micro UAS; and
- The unmanned aircraft would maintain a distance of at least 5 nautical miles from any airport. This provision would be based on Canada's requirements for micro UAS.

The operational parameters discussed above may provide significant additional safety mitigations. Specifically, a very light (micro) UAS operating at lower altitudes and at lower speeds, that is made up of materials that break or yield easily upon impact, may pose a much lower risk to persons, property, and other NAS users than a UAS that does not operate within these

parameters. Additionally, limiting the micro UAS operation entirely to Class G airspace, far away from an airport, and in close proximity to the operator (as well as limiting the unmanned aircraft's flight path to the operator's constant manual control) would significantly reduce the risk of collision with another aircraft. Accordingly, because the specific parameters of a micro UAS operation described above would provide additional safety mitigation for those operations, the FAA's micro UAS approach would allow micro UAS to operate directly over people not involved in the operation. Under the FAA's micro UAS approach, the operator of a micro UAS also would be able to operate using a UAS airman certificate with a different rating (an unmanned aircraft operator certificate with a micro UAS rating) than the airman certificate that would be created by proposed part 107. No knowledge test would be required in order to obtain an unmanned aircraft operator certificate with a micro UAS rating; instead, the applicant would simply submit a signed statement to the FAA stating that he or she has familiarized him or herself with all of the areas of knowledge that are tested on the initial aeronautical knowledge test that is proposed under part 107.

The FAA is also considering whether to require, as part of the micro UAS approach, that the micro UAS be made out of frangible material. A UAS that is made out of frangible material presents a significantly lower risk to persons on the ground, as that UAS is more likely to shatter if it should impact a person rather than injuring that person. Without the risk mitigation provided by frangible-material construction, the FAA would be unable to allow micro UAS to operate directly over a person not involved in the operation. The FAA notes that, currently, a majority of fixed-wing small UAS are made out of frangible materials that would satisfy the proposed requirement. The FAA invites comments on whether it should eliminate frangibility from the micro UAS framework.

The FAA also invites commenters to submit data and any other supporting documentation on whether the micro UAS classification should be included in the final rule, and what provisions the FAA should adopt for such a classification. The FAA invites further comments, with supporting documentation, estimating the costs and benefits of implementing a micro UAS approach in the final rule. Finally, the FAA invites comments to assess the risk to other airspace users posed by the lesser restricted integration of micro UAS into the NAS. The FAA notes, however, that due to statutory constraints, the FAA would be unable to eliminate the requirement to hold an airman certificate and register the unmanned aircraft even if it were to adopt a micro UAS approach in the final rule.

During the course of this rulemaking, the FAA also received a petition for rulemaking from UAS America Fund LLC. This petition presented the FAA with an alternative approach to regulating micro UAS, complete with a set of regulatory provisions that would be specific to micro UAS operations. Because the FAA was already in the process of rulemaking at the time this petition was filed, pursuant to 14 CFR 11.73(c), the FAA will not treat this petition as a separate action, but rather, will consider it as a comment on this rulemaking. Accordingly, the FAA has placed a copy of UAS America Fund's rulemaking petition in the docket for this rulemaking and invites comments on the suggestions presented in this petition. Any comments received in response to the proposals in the petition will be considered in this rulemaking.

2. Operator and Visual Observer

As briefly mentioned earlier, this proposed rule would create two new crewmember positions: An operator and a visual observer. The FAA proposes these positions for small UAS operations instead of the traditional manned-aircraft positions of pilot, flight engineer, and flight navigator. This is being proposed because, by their very nature, small UAS operations are different from manned aircraft operations, and this necessitates a different set of qualifications for crewmembers.

i. Operator

The FAA proposes to define an operator as a person who manipulates the flight controls of a small UAS. Flight controls include any system or component that affects the flight path of the aircraft. The position of operator would be somewhat analogous to the position of a pilot who controls the flight of a manned aircraft. However, the FAA proposes to create the position of an operator rather than expand the existing definition of pilot to emphasize that, even though the operator directly controls the flight of the unmanned aircraft, the operator is not actually present on the aircraft.

The FAA notes that even though a small UAS operator is not a pilot, the operator would still be considered an airman and statutorily required to obtain an airman certificate. The statutory flexibility provided in section 333 of Public Law 112–95 is limited to airworthiness certification and does not extend to airman certification. Thus, as mentioned previously, the FAA's statute prohibits a person without an airman certificate from serving in any capacity as an airman with respect to a civil aircraft used or intended to be used in air commerce.[45] The statute defines an "airman," in part, as an individual who, as a member of the crew, navigates the aircraft when under way.[46] Because under this proposed rule the operator would be a member of the crew and would navigate the small unmanned aircraft when that aircraft is under way, an operator would be an airman as defined in the FAA's statute. Accordingly, the operator would statutorily be required to obtain an airman certificate in order to fly the small unmanned aircraft.

The FAA proposes to codify this statutory requirement in § 107.13(a), which would require a person who wishes to serve as an operator to obtain an unmanned aircraft airman certificate with a small UAS rating. An unmanned aircraft airman certificate would be a new type of airman certificate that would be created by this proposed rule specifically for UAS operators to satisfy the statutory requirement for an airman certificate. The certificate necessary to operate small UAS would have a small UAS rating. The FAA anticipates that certificates used to operate UAS not subject to this proposed rule would have different certification requirements. The specific details of this certificate are discussed further in section III.E of this preamble.

The FAA also proposes to give each operator the power and responsibility typically associated with a pilot-in-command (PIC) under the existing regulations. Under the existing regulations, the PIC "is directly responsible for, and is the final authority as to the operation of [the] aircraft."[47] The PIC position provides additional accountability for the safety of an operation by: (1) Ensuring that a single person on board the aircraft is accountable for that operation; and (2) providing that person with the authority to address issues affecting operational safety.

An accountability system, such as the existing PIC concept, would provide similar benefits for small UAS operations. Accordingly, the FAA proposes, in § 107.19(a), to make each operator: (1) Directly responsible for the

[45] 49 U.S.C. 44711(a)(2)(A).
[46] 49 U.S.C. 40102(a)(8)(A).
[47] 14 CFR 91.3(a).

small UAS operation, and (2) the final authority as to the small UAS operation. To provide further clarity as to the operator's authority over the small UAS operation, proposed § 107.49(b) would require that each person involved in the small UAS operation perform the duties assigned by the operator.

The FAA also considered providing the operator with the emergency powers available to the PIC under 14 CFR 91.3(b). Under § 91.3(b), a PIC can deviate from FAA regulations to respond to an in-flight emergency. However, the FAA does not believe that this power is necessary for the operator because a small unmanned aircraft is highly maneuverable and much easier to land than a manned aircraft. Thus, in an emergency, an operator should be able to promptly land the small unmanned aircraft in compliance with FAA regulations. Accordingly, the FAA proposes not to provide an operator with the emergency powers available to the PIC under § 91.3(b). The FAA invites comments on this issue.

The FAA also does not believe that it is necessary to create a separate "operator-in-command" position for small UAS operations. The existing regulations create a separate PIC position because many manned aircraft are operated by multiple pilots. Thus, it is necessary to designate one of those pilots as the accountable authority for the operation. By contrast, only one operator is needed for a small UAS flight operation even though additional non-operator persons could be involved in the operation. Thus, at this time, it is not necessary to create an operator-in-command position. The FAA invites comments on whether a separate operator-in-command position should be created for small UAS operations.

The FAA finally notes that the term "operate" is currently a defined term in 14 CFR 1.1 that is used in manned-aircraft operations. While, for purposes of proposed part 107, the proposed definition of "operator" would supersede any conflicting definitions in § 1.1, the FAA invites comments as to whether defining a new crewmember position as an "operator" would cause confusion with the existing terminology. If so, the FAA invites suggestions as to an alternative title for this crewmember position.

ii. Visual Observer

To assist the operator with the proposed see-and-avoid and visual-line-of-sight requirements discussed in the next section of this preamble, the FAA proposes to create the position of a visual observer. Under this proposed rule, a visual observer would be defined as a person who assists the small unmanned aircraft operator in seeing and avoiding other air traffic or objects aloft or on the ground. The visual observer would do this by augmenting the operator as the person who must satisfy the see-and-avoid and visual-line-of-sight requirements of this proposed rule. As discussed in more detail below, an operator must always be capable of seeing the small unmanned aircraft. However, if the operation is augmented by at least one visual observer, the operator is not required to exercise this capability, as long as the visual observer maintains a constant visual-line-of-sight of the small unmanned aircraft.

The FAA emphasizes that, as proposed, a visual observer is not a required crewmember, as the operator could always satisfy the pertinent requirements him- or herself. Under this proposed rule, an operator could, at his or her discretion, use a visual observer to increase the flexibility of the operation. The FAA notes, however, that as discussed in III.D.3.i of this preamble, even if a visual observer is used to augment the operation, a small unmanned aircraft would still be required by § 107.33(c) to always remain close enough to the control station for the operator to be capable of seeing that aircraft.

To ensure that the visual observer can carry out his or her duties, the FAA proposes, in § 107.33(b), that the operator be required to ensure that the visual observer is positioned in a location where he or she is able to see the small unmanned aircraft in the manner required by the proposed visual-line-of-sight and see-and-avoid provisions of §§ 107.31 and 107.37. The operator can do this by specifying the location of the visual observer. The FAA also proposes to require, in § 107.33(d), that the operator and visual observer coordinate to: (1) Scan the airspace where the small unmanned aircraft is operating for any potential collision hazard; and (2) maintain awareness of the position of the small unmanned aircraft through direct visual observation. This would be accomplished by the visual observer maintaining visual contact with the small unmanned aircraft and the surrounding airspace and then communicating to the operator the flight status of the small unmanned aircraft and any hazards which may enter the area of operation so that the operator can take appropriate action.

To make this communication possible, this proposed rule would require, in § 107.33(a), that the operator and visual observer maintain effective communication with each other at all times. This means that the operator and visual observer must work out a method of communication prior to the operation that allows them to understand each other, and utilize that method in the operation. The FAA notes that this proposed communication requirement would permit the use of communication-assisting devices, such as radios, to facilitate communication between the operator and visual observer from a distance. The FAA considered requiring the visual observer to be stationed next to the operator to allow for unassisted oral communication, but decided that this requirement would be unduly burdensome, as it is possible to have effective oral communication through a communication-assisting device. The FAA invites comments on whether the visual observer should be required to stand close enough to the operator to allow for unassisted verbal communication.

Under this proposed rule, the visual observer would not be permitted to manipulate any controls of the small UAS, share in operational control, or exercise operation-related judgment independent of the operator. Because the visual observer's role in the small UAS operation would be limited to simply communicating what he or she is seeing to the operator, the visual observer would not be an "airman" as defined in the FAA's statute.[48] Consequently, as proposed, the visual observer would not statutorily be required to obtain an airman certificate.[49]

While an airman certificate for a visual observer is not statutorily mandated, the FAA considered requiring that the visual observer obtain an airman certificate.[50] However, due to the fact that this proposed rule would not permit the visual observer to

[48] 49 U.S.C. 40102(a)(8). This statute defines an "airman" as an individual: "(A) in command, or as pilot, mechanic, or member of the crew, who navigates aircraft when under way; (B) except to the extent the Administrator of the Federal Aviation Administration may provide otherwise for individuals employed outside the United States, who is directly in charge of inspecting, maintaining, overhauling, or repairing aircraft, aircraft engines, propellers, or appliances; or (C) who serves as an aircraft dispatcher or air traffic control-tower operator." The visual observer's limited role in the operation of a small UAS would not meet any of these criteria.

[49] *See* 49 U.S.C. 44711(a)(2)(A) (prohibiting a person without an airman certificate from serving in any capacity as an airman with respect to a civil aircraft used or intended to be used in air commerce).

[50] This requirement would be imposed pursuant to 49 U.S.C. 44701(a)(5), which gives FAA the power to prescribe regulations that it finds necessary for safety in air commerce.

manipulate the small UAS controls or exercise any independent judgment or operational control, the FAA believes that certification of visual observers would not result in significant safety benefits. Accordingly, the FAA is not proposing to require airman certification for visual observers. The FAA invites comments on whether an airman certificate should be required to serve as a visual observer. If so, what requirements should an applicant meet in order to obtain a visual observer airman certificate? The FAA also invites comments regarding the costs and benefits of requiring airman certification for visual observers.

3. See-and-Avoid and Visibility Requirements

Turning to the see-and-avoid and visibility requirements mentioned in the previous section, one of the issues with small UAS operations is that the small UAS operator cannot see and avoid other aircraft in the same manner as a pilot who is inside a manned aircraft. Because at this time there is no technology that can provide an acceptable see-and-avoid replacement for human vision for small UAS operations, this proposed rule would limit small UAS operations to within the visual line of sight of the operator and a visual observer. This proposed rule would also impose requirements to ensure maximum visibility for the operation of the small UAS and ensure that small unmanned aircraft always yield the right-of-way to other users of the NAS.

i. See-and-Avoid

Currently, 14 CFR 91.113(b) imposes a requirement on all aircraft operations that, during flight, "vigilance shall be maintained by each person operating an aircraft so as to see and avoid other aircraft." This see-and-avoid requirement is at the heart of the FAA's regulatory structure mitigating the risk of aircraft colliding in midair. As such, in crafting this proposed rule, the FAA sought a standard under which the small UAS operator would have the ability to see and avoid other aircraft similar to that of a manned-aircraft pilot.

The FAA considered proposing that a UAS operator be permitted to exercise his or her see-and-avoid responsibilities through technological means, such as onboard cameras. We recognize that technology is developing that could provide an acceptable substitute for direct human vision in UAS operations. FAA does not, however, believe this technology has matured to the extent that would allow it to be used safely in small UAS operations in lieu of visual line of sight. The FAA has not identified an acceptable technological substitute for the safety protections provided by direct human vision in small UAS operations at this time. For these reasons and consistent with the statutory direction provided for in section 333, the FAA proposes to require, in §§ 107.31 and 107.37(a)(1), that the operator (and visual observer, if used) must be capable of maintaining a visual line of sight of the small unmanned aircraft throughout that aircraft's entire flight with human vision that is unaided by any device other than spectacles or contact lenses.

If a visual observer is not used, the operator must exercise this capability and maintain watch over the small unmanned aircraft during flight. However, if an operation is augmented by at least one visual observer, then the visual observer can be used to satisfy the visual-line-of-sight requirements, as long as the operator always remains situated such that he or she can exercise visual-line-of-sight capability.

The FAA notes that this proposed requirement does not require the person maintaining visual line of sight to constantly watch the unmanned aircraft for every single second of that aircraft's flight. The FAA understands and accepts that this person may lose sight of the unmanned aircraft for brief moments of the operation. This may be necessary either because the small UAS momentarily travels behind an obstruction or to allow the person maintaining visual line of sight to perform actions such as scanning the airspace or briefly looking down at the small UAS control station. The visual-line-of-sight requirement of this proposed rule would allow the person maintaining visual line of sight brief moments in which he or she cannot directly see the small unmanned aircraft provided that the person is able to see the surrounding operational area sufficiently well to carry out his or her visual-line-of-sight-related responsibilities. Anything more than brief moments during which the person maintaining visual line of sight is unable to see the small unmanned aircraft would be prohibited under this proposed rule.

To ensure that the operator's vision (and that of a visual observer, if used) of the small unmanned aircraft is sufficient to see and avoid other aircraft in the NAS, the proposed rule would require that the operator's or visual observer's vision of the small unmanned aircraft must be sufficient to allow him or her to: (1) Know the small unmanned aircraft's location; (2) determine the small unmanned aircraft's attitude, altitude, and direction; (3) observe the airspace for other air traffic or hazards; and (4) determine that the small unmanned aircraft does not endanger the life or property of another. Because maintaining this type of awareness in real-time is a concentration-intensive activity, proposed § 107.35 would limit an operator or visual observer to operating no more than one small UAS at the same time.[51]

Binoculars, onboard cameras, and other vision-enhancing devices (aside from spectacles or contact lenses) cannot be used to satisfy this proposed requirement because those devices restrict the user's peripheral field of vision. Since a pilot often uses peripheral vision to identify other aircraft in the NAS,[52] a device that restricts peripheral vision hinders the user's ability to see other aircraft. However, the FAA recognizes that there are advantages to using vision-enhancing devices, such as those used when utilizing camera video transmitted to a screen at the operator's station (also known as first person view) when conducting inspections of bridges or towers. This proposed rule is not intended to prohibit the use of those devices. Rather, the proposed visual-line-of-sight requirement requires simply that at least one person involved in the operation, either the operator or a visual observer, must maintain an unenhanced visual line of sight of the small unmanned aircraft. Anyone else involved in the operation may use a vision-enhancing device (including first-person view) so long as that device is not used to meet the proposed requirements of §§ 107.31 and 107.37. The FAA invites comments on this proposed visual-line-of-sight requirement. The FAA also invites suggestions, with supporting documentation, for other ways in which a first-person-view device could be used by the operator without compromising the risk mitigation provided by the proposed visual-line-of-sight requirement. The FAA also invites comments on whether it should permit operations beyond visual line of sight in its final rule, for example through deviation authority, once the pertinent technology matures to the extent that it

[51] The use of a visual observer would not be sufficient to allow an operator to operate more than one small UAS because the operator would still need to maintain sufficient concentration to react to the information provided to him or her by the visual observer.

[52] Pilot Safety brochure: "Pilot Vision." *http://www.faa.gov/pilots/safety/pilotsafetybrochures/media/pilot_vision.pdf.* A copy of this document is also available in the docket for this rulemaking.

can be used to safely operate beyond visual line of sight. If so, what level of validation should the technology be subject to in order to demonstrate reliability? For example, should the FAA use its existing certification or validation methodologies to evaluate UAS technology?

ii. Additional Visibility Requirements

To further ensure that a small UAS operator/visual observer can see and avoid other aircraft, the FAA proposes (1) to limit the operation of small UAS to daylight-only operations, and (2) to impose weather-minimum visibility requirements

First, the FAA proposes, in § 107.29, to prohibit the operation of a small UAS outside the hours of official sunrise and sunset. The Federal Air Almanac provides tables which are used to determine sunrise and sunset at various latitudes. The FAA considered proposing to allow small UAS operations outside the hours of official sunrise and sunset, recognizing that this would integrate a greater quantity of small UAS operations into the NAS. However, the FAA has decided to propose limiting small UAS use to daylight-only operations due to the relatively small size of the small unmanned aircraft and the difficulty in being able to see it in darker environments to avoid other airspace users. The FAA also notes that most small unmanned aircraft flights under this proposed rule would take place at low altitudes, and flying at night would limit the small UAS operator's ability to see people on the ground and take precautions to ensure that the small unmanned aircraft does not pose a hazard to those people. Moreover, allowing small UAS operations outside of daylight hours would require equipage specifications (such as a lighting system emitting a certain minimum amount of light) and airworthiness certification requirements that are contrary to the FAA's goal of a minimally burdensome rule for small unmanned aircraft. The FAA also notes that, for manned aircraft operations, the regulations provide for very specific lighting systems necessary to safely operate in the NAS. Those regulations require, among other things: (1) Lighting system angles; (2) lighting system intensity; (3) lighting system color and position; (4) lighting system installation; and (5) lighting system configuration.[53] This level of regulation and airworthiness certification would be beyond the level of a minimally burdensome rule encompassing low-risk operation that is contemplated by section 333 of Public Law 112–95.

The FAA realizes the proposed daylight-only operations requirement may affect the ability to use small unmanned aircraft in more northern latitudes (specifically Alaska), and is willing to consider any reasonable mitigation which would ensure that an equivalent level of safety is maintained while operating in low-light areas. The FAA welcomes public comments with suggestions on how to effectively mitigate the risk of operations of small unmanned aircraft during low-light or nighttime operations.

In addition, to ensure that small UAS operators and visual observers have the ability to see and avoid other aircraft, the FAA is proposing to require, in § 107.51(c), a minimum flight visibility of 3 statute miles (5 kilometers) from the control station for small UAS operations. A visibility of 3 statute miles currently is required for aircraft operations in controlled airspace.[54] The FAA also requires a 3-mile visibility in the context of other unmanned aircraft operations (moored balloons and kites).[55] The reason for the increased visibility requirement is to provide the small UAS operator with additional time after seeing a manned aircraft to maneuver and avoid an accident or incident with the manned aircraft.

In addition, the FAA is proposing to require, in § 107.51(d), that the small unmanned aircraft must be no less than: (1) 500 feet (150 meters) below clouds; and (2) 2,000 feet (600 meters) horizontal from clouds. This is similar to the requirements imposed by 14 CFR 91.155 on aircraft operating in controlled airspace under visual flight rules. The FAA proposes to impose these cloud-clearance requirements on small UAS operations because, as mentioned previously, small UAS operators do not have the same see-and-avoid capability as manned-aircraft pilots.

iii. Yielding Right of Way

Now that we have discussed how a small UAS operator sees other users of the NAS, we turn to how that operator avoids those users. In aviation, this is accomplished through right-of-way rules, which pilots are required to follow when encountering other aircraft. These rules specify how pilots should respond to other NAS users based on the types of aircraft or the operational scenario.

The operation of small UAS presents challenges to the application of the traditional right-of-way rules. The smaller visual profile of the small unmanned aircraft makes it difficult for manned pilots to see and, therefore, avoid the unmanned aircraft. This risk is further compounded by the difference in speed between manned aircraft and the often slower small unmanned aircraft. Because of these challenges, the FAA proposes to require, in § 107.37(a)(2), that the small UAS operator must always be the one to initiate an avoidance maneuver to avoid collision with any other user of the NAS. Optimally, the small UAS operator should give right-of-way to all manned aircraft in such a manner that the manned aircraft is never presented with a see-and-avoid decision or the impression that it must maneuver to avoid the small UAS.

When a small UAS operator encounters another unmanned aircraft, each operator must exercise his or her discretion to avoid a collision between the aircraft. In extreme situations where collision is imminent, the small UAS operator must always consider the safety of people, first and foremost, over the value of any equipment, even if it means the loss of the unmanned aircraft. To further mitigate the risk of a mid-air collision, the FAA also proposes to codify, in § 107.37(b), the existing requirement in 14 CFR 91.111(a), which prohibits a person from operating an aircraft so close to another aircraft as to create a collision hazard.

4. Containment and Loss of Positive Control

As discussed above, one of the issues unique to UAS operations is the possibility that during flight, the UAS operator may become unable to directly control the unmanned aircraft due to a failure of the control link between the aircraft and the operator's control station. This failure is known as a loss of positive control. Because the UAS operator's direct connection to the aircraft is funneled through the control link, a failure of the control link could have significant adverse results.

To address this issue, the FAA proposes a performance-based operator-responsibility standard built around the concept of a confined area of operation. Confining the flight of a small unmanned aircraft to a limited area would allow the operator to become familiar with the area of operation and to create contingency plans for using the environment in that area to mitigate the risk associated with possible loss of positive control. For example, the operator could mitigate loss-of-control risk to people on the ground by setting up a perimeter and excluding people

[53] *See* 14 CFRs 23.1381 through 23.1401.

[54] *See* 14 CFR 91.115.

[55] 14 CFR 101.13(a)(3).

not involved with the operation from the operational area. The operator could also mitigate risk to other aircraft by notifying the local air traffic control of the small UAS operation and the location of the confined area in which that operation will take place. As a result of risk-mitigation options that are available to the operator in a confined area of operation, the FAA proposes to mitigate the risk associated with loss of aircraft control by confining small unmanned aircraft to a limited area of operation.

As an alternative method of addressing this issue, the FAA considered technological approaches such as requiring a flight termination system that would automatically terminate the flight of the small unmanned aircraft if the operator lost positive control of that aircraft. However, as previously discussed, due to the size and weight of a small UAS, operations subject to this proposed rule would not pose the same level of risk as other operations regulated by the FAA. Since small UAS operations subject to this rule pose a lower level of risk, there are operational alternatives available to mitigate their risk to an acceptable level without imposing an FAA requirement for technological equipage and airworthiness certification requirements. Therefore, this proposed rule would not mandate the use of a flight termination system nor would this proposed rule mandate the equipage of any other navigational aid technology. Instead, the FAA invites comments on whether a flight termination system or other technological equipage should be required and how it would be integrated into the aircraft for small UAS that would be subject to this proposed rule. The FAA also invites comments, with supporting documentation, as to the costs and benefits of requiring a flight termination system or other technological equipage.

i. Confined Area of Operation Boundaries

The FAA notes that the proposed visual-line-of-sight requirement in § 107.31 would create a natural horizontal boundary on the area of operation. Due to the distance limitations of human vision, the operator or visual observer would be unable to maintain visual line of sight of the small unmanned aircraft sufficient to satisfy proposed § 107.31 if the aircraft travels too far away from them. Accordingly, the proposed visual-line-of-sight requirement in proposed § 107.31 would effectively confine the horizontal area of operation to a circle around the person maintaining visual contact with the aircraft with the radius of that circle being limited to the farthest distance at which the person can see the aircraft sufficiently to maintain compliance with proposed § 107.31.

The FAA notes that there are two issues with defining the horizontal boundary of the area of operation in this manner. First, a small UAS operation could use multiple visual observers to expand the outer bounds of the horizontal circle created by the visual-line-of-sight requirement. To address this issue, the FAA proposes to require, in § 107.33(c), that if an operation uses a visual observer, the small unmanned aircraft must remain close enough to the operator at all times during flight for the operator to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses. This approach would prevent the use of visual observers to expand the horizontal outer bounds of the confined area of operation. This approach would also create a safety-beneficial redundancy in that, while the operator is not required to look at the small unmanned aircraft in an operation that uses a visual observer, should something go wrong, the operator would be able to look up and see for him- or herself what is happening with the aircraft.

As an alternative method of addressing this issue, the FAA considered imposing a numerical limit on how far away a small unmanned aircraft can be from the operator. The FAA ultimately decided not to propose this approach, as it currently lacks sufficient data to designate a specific numerical limit. However, the FAA invites comments on whether the horizontal boundary of the contained area of operation should be defined through a numerical limit. If the boundary is defined through a numerical limit, what should that limit be?

The second way that the horizontal boundary of the confined operational area could be expanded is by stationing the operator on a moving vehicle or aircraft. If the operator is stationed on a moving vehicle, then the horizontal area-of-operation boundary tied to the operator's line of sight would move with the operator, thus increasing the size of the small unmanned aircraft's area of operation. To prevent this scenario, the FAA proposes, in § 107.25, consistent with the ARC recommendations,[56] to prohibit the operation of a small UAS from a moving aircraft or land-borne vehicle. However, proposed § 107.25 would make an exception for water-borne vehicles. This is because there are far less people and property located over water than on land. Consequently, a loss of positive control that occurs over water would have a significantly smaller chance of injuring a person or damaging property than a loss of positive control that occurs over land. Allowing use of a small UAS from a water-borne vehicle would also increase the societal benefits of this proposed rule without sacrificing safety by incorporating small UAS operations such as bridge inspections and wildlife nesting area evaluations into the NAS.

The FAA is considering alternatives for regulation of the operation of small UAS from moving land vehicles, while protecting safety. It invites comments, with supporting documentation, on whether small UAS operations should be permitted from moving land-based vehicles, and invites comment on a regulatory framework for such operations. The FAA specifically invites comments as to whether distinctions could be drawn between different types of land-based vehicles or operating environments such that certain operations from moving land-based vehicles could be conducted safely. The FAA also invites comments on whether deviation authority should be included in the final rule to accommodate these types of operations.

Next, we turn to the vertical boundary of the confined area of operation. With regard to the vertical boundary, the FAA proposes, in § 107.51(b), to set an altitude ceiling of 500 feet above ground level (AGL) for small UAS operations that would be subject to this proposed rule. The FAA chose to propose 500 feet as the vertical area-of-operation boundary because most manned aircraft operations take place above 500 feet. Specifically, most manned aircraft operations conducted over uncongested areas must be flown at an altitude above 500 feet AGL, while most manned aircraft operations conducted over congested areas must be flown at an even higher altitude.[57] Thus, a 500-foot altitude ceiling for small UAS operations would create a buffer between a small unmanned aircraft and most manned aircraft flying in the NAS.

The FAA notes that while most manned aircraft operations fly above the 500-foot ceiling proposed in this rule, there are some manned-aircraft operations that could fly below this altitude. For example, aerial applicators, helicopter air ambulance services, and military operations conducted on military training routes often fly at an

[56] ARC report and recommendations, Sec. 6.11

[57] *See* 14 CFR 91.119(b) and (c).

altitude below 500 feet. However, even though some manned aircraft operations take place at an altitude below 500 feet, there is significantly less air traffic at or below 500 feet than there is above 500 feet altitude. As a result of this difference in air-traffic density, the FAA has determined that small UAS operations would not pose a significant risk to manned aircraft operations taking place below 500 feet altitude if proper precautions are taken by the small UAS operator.

The FAA also considered whether the vertical boundary should be set at a higher level. However, because most manned-aircraft operations transit the airspace above the 500-foot level, UAS operations at that altitude would likely require greater levels of operator training, aircraft equipage, and some type of aircraft certification in order to avoid endangering other users of the NAS. Since these provisions would be contrary to the goal of this rulemaking, which is to regulate the lowest-risk small UAS operations while imposing a minimal regulatory burden on those operations, this proposed rule would not allow small UAS to travel higher than 500 feet AGL. The FAA invites comments, with supporting documentation, on whether this proposed 500-foot ceiling should be raised or lowered.

ii. Mitigating Loss-of-Positive-Control Risk

Now that we have defined the confined area of operation, we turn to the question of how loss-of-positive-control risk can be mitigated within that area of operation. The FAA notes that there is significant diversity in both the types of small UAS that are available and the types of operations that those small UAS can be used in. Accordingly, small UAS operators need significant flexibility to mitigate hazards posed by their individual small UAS operation, as a mitigation method that works well for one type of small UAS used in one type of operation may not work as well in another operation that uses another type of small UAS. For example, in a loss-of-positive-control situation, a rotorcraft that loses operator inputs or power to its control systems would tend to descend straight down or at a slight angle while a fixed wing aircraft would glide for a greater distance before landing. Since the loss-of-positive-control risk posed by different types of small unmanned aircraft in various operations is different, the FAA proposes to create a performance-based standard under which, subject to certain broadly-applicable constraints, small UAS operators would have the flexibility to create operational and aircraft-specific loss-of-control mitigation measures.

The broadly applicable constraints that the FAA proposes to impose on a small UAS operator's risk-mitigation decisions are as follows. First, the FAA proposes to require, in § 107.49(a)(3), that prior to flight, the operator must ensure that all links between the control station and the small unmanned aircraft are working properly. The operator can do this by verifying control inputs from the control station to the servo actuators [58] in the small unmanned aircraft. If the operator finds, during this preflight check, that a control link is not functioning properly, the operator would not commence flight until the problem with the control link is resolved. This proposed constraint would significantly mitigate the risk of a loss-of-positive-control scenario by reducing the possibility that small unmanned aircraft flight commences with a malfunctioning control link.

Second, the FAA proposes to impose a speed limit of 87 knots (100 miles per hour) on small unmanned aircraft calibrated airspeed at full power in level flight. This is because, if there is a loss of positive control, an aircraft traveling at a high speed poses a higher risk to persons, property, and other aircraft than an aircraft traveling at a lower speed. A speed limit would also have safety benefits outside of a loss-of-positive-control scenario because a small unmanned aircraft traveling at a lower speed is generally easier to control than a higher-speed aircraft.

In determining the specific speed limit, the FAA decided to propose 87 knots (100 mph) as the limit. This proposed speed limit is based on the ARC recommendation of a 100 mph speed limit for small UAS operations. The ARC determined that "aircraft flying faster than 100 mph are considered a high performance aircraft" that "are perceived as having greater risks." [59] Accordingly, the FAA proposes to limit the speed of small unmanned aircraft to 87 knots (100 mph). The FAA invites comments on whether this speed limit should be raised or lowered or whether a speed limit is necessary.

Third, the FAA proposes, in § 107.39, to prohibit the operation of a small unmanned aircraft over a person who is not directly participating in the operation of that small unmanned aircraft. One of the possible consequences of loss-of-positive-control is that the aircraft will immediately crash into the ground upon loss of control inputs from the operator. Because a loss of positive control can happen at any moment, the FAA's proposed prohibition on operating small unmanned aircraft over most persons will minimize the risk that a person is standing under a small unmanned aircraft if that aircraft terminates flight and returns to the surface. This prohibition would not apply to persons inside or underneath a covered structure that would protect the person from a falling small unmanned aircraft.

The FAA's proposed prohibition on operating over people would provide an exception for persons directly participating in the operation of the small unmanned aircraft. The FAA considered prohibiting the operation of a small unmanned aircraft over any person, but rejected this approach as unduly burdensome because the operator or visual observer may, at some points of the operation, need to stand under the small unmanned aircraft in order to maintain visual line of sight and/or comply with other provisions of this proposed rule. As an alternative to prohibiting these persons from standing under the small unmanned aircraft, the FAA proposes, in § 107.49(a)(2), that prior to flight, the operator must ensure that all persons directly involved in the small unmanned aircraft operation receive a briefing that includes operating conditions, emergency procedures, contingency procedures, roles and responsibilities, and potential hazards. A person is directly involved in the operation when his or her involvement is necessary for the safe operation of the small unmanned aircraft. By receiving a pre-flight briefing on the details of the operation and the hazards involved, the persons involved in the operation would be made aware of the small unmanned aircraft's location at all times and would be able to avoid the flight path of the small unmanned aircraft if the operator were to lose control or the aircraft were to experience a mechanical failure.

Within these constraints, the FAA proposes the following performance-based standards for mitigating loss-of-positive-control risk. First, the FAA proposes, in § 107.49(a)(1), that, prior to flight, the operator must become familiar with the confined area of operation by assessing the operating environment and assessing risks to persons and property in the immediate vicinity both on the surface and in the air. As part of this preflight assessment, the operator would need to consider conditions that could pose a hazard to

[58] A "servo actuator" is generally defined as a device used to provide a wide range of remote movement based on signals from the system on which it is used.

[59] ARC Report, p. 20, section 6.12.

the operation of the small UAS as well as conditions in which the operation of the small UAS could pose a hazard to other aircraft or persons or property on the ground. Accordingly, the FAA proposes to require that the preflight assessment include the consideration of: (1) Local weather conditions; (2) local airspace and any flight restrictions; (3) the location of persons and property on the ground; and (4) any other ground hazards.

Second, the FAA proposes that, after becoming familiar with the confined area of operation and conducting a preflight assessment, the operator be required, by § 107.19(b), to ensure that the small unmanned aircraft will pose no undue hazard to other aircraft, people, or property in the event of a loss of control of the aircraft for any reason. This proposed requirement would provide the operator with significant flexibility to choose how to mitigate the hazards associated with loss of aircraft control. For example, in addition to the examples mentioned previously, if the operation takes place in a residential area, the operator could ask everyone in the area of operation to remain inside their homes while the operation is conducted.[60] If the operation takes place in an area where other air traffic could pose a hazard, the operator would advise local air traffic control as to the location of his or her area of operation and add extra visual observers to the operation so that they can notify the operator if other aircraft are approaching the area of operation.

The above are just some examples of mitigation strategies that could be employed by the operator to ensure that the small unmanned aircraft will pose no hazard to other aircraft, people or property in the event of lost positive control. These examples are not intended to provide an exhaustive list, as there are different ways to mitigate loss of positive control. The proposed requirement in § 107.19(b) would provide the operator with the flexibility to choose which mitigation method is appropriate for his/her specific operation to ensure any hazards posed by loss of positive aircraft control are sufficiently mitigated. The FAA also anticipates creating guidance that provides additional examples of how operators can mitigate loss of positive control in small UAS operations. However, the FAA emphasizes that no matter what mitigation option(s) the operator employs under this proposed rule, the operator must strive to always maintain positive control of the small unmanned aircraft. The operator would be in violation of proposed § 107.19(b) if he or she intentionally operates the small unmanned aircraft in a location where he or she will not have positive control over that aircraft.

5. Limitations on Operations in Certain Airspace

This proposed rule would place limitations small UAS operations in three areas related to airspace: (1) Controlled airspace (airspace other than Class G); (2) prohibited or restricted airspace; and (3) airspace where aviation activity is limited by a Notice to Airmen (NOTAM). The FAA is proposing these requirements to reduce the threat to other users of the NAS in busy airspace or where most or all aviation activities would otherwise be limited.

i. Controlled Airspace

The FAA is seeking to limit the exposure of the small unmanned aircraft to other users of the NAS to minimize the risk of collision, which can occur both during controlled flight of the UAS or if the operator loses positive control of the small unmanned aircraft. This proposed rule would prohibit small unmanned aircraft operations in Class A airspace. Class A airspace starts at 18,000 feet mean sea level and extends up to 60,000 feet (Flight Level 600). As discussed above, this rule would prohibit small UAS operations above 500 feet AGL and outside of visual line of sight. Operations in Class A airspace would be inconsistent with that requirement, and therefore this proposed rule would prohibit operations in Class A airspace.

Small UAS operations would also be prohibited in Class B, Class C, Class D, and within the lateral boundaries of the surface area of Class E airspace designated for an airport without prior authorization from the ATC facility having jurisdiction over the airspace. The FAA factors information such as traffic density, the nature of operations, and the level of safety required when determining whether to designate controlled airspace.[61] Pilots must have an ATC clearance to enter certain controlled airspace. In other words, the FAA requires ATC to have knowledge of aviation operations in the airspace due to the greater amount of activity in that area compared to uncontrolled airspace.

The FAA believes that restricting use of controlled airspace to approved operations would reduce the risk of interference with other aircraft activities. Interference could occur for many reasons, including the location of the proposed small UAS operation in the airspace, or how the small unmanned aircraft would behave if there is a loss of positive control. These limitations would also be consistent with the general requirement for aircraft operating in controlled airspace to have ATC approval prior to entering the airspace. Therefore, the FAA proposes that small UAS receive approval from the ATC facility with jurisdiction over the airspace in which the operator would like to conduct operations. That ATC facility would have the best understanding of local airspace, its usage, and traffic patterns and would be in the best position to ascertain whether the proposed small UAS operation would pose a hazard to other users or the efficiency of the airspace, and procedures to implement to mitigate hazards. This proposed rule would not establish equipment requirements for small UAS operating in controlled airspace as the FAA does for other users of controlled airspace. Rather, the FAA believes that local ATC approval would provide a safer and more efficient operating environment at less cost to the operator.

The FAA notes that normal aircraft operations inside controlled airspace in the vicinity of an airport require prior authorization from ATC. Per part 91, ATC currently requires two-way radio communication for departures, through flights, arrivals, and operations inside the airspace. The FAA understands that not all small UAS will be able to comply with the provisions of part 91, and that is why this proposed rule would not require strict compliance with part 91. However, because the air-traffic provisions of part 91 are intended to ensure safe operation in the NAS, a small UAS operator that intends to operate in controlled airspace must ensure that the proposed operations are planned and conducted in the safest manner possible. The small UAS operator can do this by working closely with the ATC facility that controls the airspace.

The ATC facility has the authority to approve or deny aircraft operations based on traffic density, controller workload, communication issues, or any other type of operations that could potentially impact the safe and expeditious flow of air traffic in that airspace. The more that a small UAS is able to show that it would satisfy the provisions of part 91 and comply with

[60] The FAA notes that this proposed requirement would not require people not involved with the operation to comply with the operator's warnings. The operator would simply be unable to commence the operation until the pertinent area has been made safe for operation.

[61] *See* FAA Aeronautical Information Manual, Para. 3–1–1.

the local operating procedures, the easier the access to the airspace would be. These items should be outlined in a prior agreement with the ATC facility to identify shortfalls and establish operating procedures for small UAS to integrate into the existing air traffic operation. This agreement would ensure all parties involved are aware of limitations and special interest items and would enable the safe flow of aircraft operations in that airspace. The FAA seeks comments related to part 91 compliance issues small UAS operators may encounter.

ii. Prohibited or Restricted Areas

The proposed rule would prohibit small UAS operations in prohibited and restricted areas without permission from the using or controlling agency as applicable. Prohibited and restricted areas are designated in 14 CFR part 73. Prohibited areas are established when necessary to prohibit flight over an area on the surface in the interest of national security or welfare. No person may operate an aircraft without permission of the using agency in a prohibited area.[62] Restricted areas are areas established when determined necessary to confine or segregate activities considered hazardous to non-participating aircraft. Although aircraft flight is not wholly prohibited in these areas, it is subject to restriction.[63] The proposed provision concerning prohibited and restricted areas would be similar to the part 91 restriction on operations in these areas.[64]

iii. Areas Designated by Notice to Airmen

This proposed rule would also prohibit operation of small UAS in airspace restricted by NOTAMs unless authorized by ATC or a certificate of waiver or authorization. This would include NOTAMs issued to designate a temporary flight restriction (TFR). NOTAMs contain time-critical aeronautical information that is either temporary in nature, or not sufficiently known in advance to permit publication on aeronautical charts or other publications.[65] For example, NOTAMs may be used to limit or restrict aircraft operations during emergency situations or presidential or VIP movements. They may also be used to limit aircraft operations in the vicinity of aerial demonstrations or sporting events. NOTAMs are available to the public on the FAA's Web site.[66]

Like other users of the airspace, small UAS operators would be required to review and comply with NOTAMs. As with other airspace restrictions in this rule, an operator could seek authorization from ATC or through a certificate of waiver or authorization to conduct operations in otherwise restricted airspace. The FAA believes that this process would permit an assessment of the operation in relation to the airspace restriction to determine whether the operation can be safely conducted.

6. Airworthiness, Inspection, Maintenance, and Airworthiness Directives

i. Inspections and Maintenance

As discussed in section III.J.3 of this preamble, pursuant to section 333(b)(2) of Public Law 112–95, we have determined that a small UAS should not be required to obtain airworthiness certification if satisfying the provisions of this proposal. However, without an airworthiness certification process, the FAA still needs to ensure that a small UAS is in a condition for safe operation. In considering how to address this issue, the FAA notes that the current regulations applicable to manned civil aircraft generally require an annual aircraft inspection every 12 months.[67] The inspection and any maintenance that might be necessary as a result of the inspection currently are governed by the provisions of 14 CFR part 43. Part 43 requires that the inspection examine every component of the aircraft in detail to determine whether any hazardous characteristics are present that would render the aircraft unairworthy.[68] If the inspection reveals any hazardous characteristics that would render the aircraft unairworthy, then maintenance, conducted pursuant to the regulations of part 43, must be performed in order to return the aircraft to an airworthy condition.

In addressing the issue of airworthiness for small UAS, the FAA considered several approaches, including requiring small UAS operators to comply with the existing inspection and maintenance requirements of this chapter. The FAA also considered requiring a separate permit to operate (PTO) in addition to aircraft registration and airman certification. A PTO would have included airworthiness certification requirements that would have required an applicant to:

- Describe the entire small UAS, including airframe, control station, and communications link;
- Comply with a set of unvalidated consensus standards;
- Test the design features required by the unvalidated consensus standards and determine that the UAS satisfies those standards;
- Inspect the aircraft for compliance with the manufacturer's requirements;
- Determine whether the aircraft has been manufactured in compliance with unvalidated production acceptance and quality assurance consensus standards acceptable to the FAA;
- Complete ground and flight testing of required UAS components and determine whether they demonstrated acceptable performance and safe operation.
- Create a process for addressing unsafe conditions in the aircraft; and
- Create a monitoring program to identify and correct safety-of-flight issues.

After further consideration, the FAA decided that neither of these approaches is proportionate to the risk posed by small UAS. FAA noted that, as mentioned previously, due to their light weight, small unmanned aircraft generally pose a significantly lower risk to people and property on the ground than manned aircraft. This relatively low risk is mitigated even further by the see-and-avoid and loss-of-positive-control provisions of this proposed rule, which are discussed above. Accordingly, based on existing information, the FAA believes that requiring small UAS operators to conduct inspection and maintenance of the small UAS pursuant to the existing regulations of part 43, or to obtain a PTO, would not result in significant safety benefits. As a result, this proposed rule would not require small UAS compliance with part 43 or the application for, or issuance of, a PTO.

Instead, this proposed rule would require, in § 107.21(b), that prior to each flight, the operator must inspect the small UAS to ensure that it is in a condition for safe operation. The operator could do this by, for example, performing a manufacturer-

[62] *See* 14 CFR 1.1.

[63] *See id.*

[64] *See* 14 CFR 91.133.

[65] *See* FAA Aeronautical Information Manual, para. 5–1–3.

[66] See, *e.g., https://www.notams.faa.gov/dinsQueryWeb/* and *http://www.faa.gov/pilots/flt_plan/notams/.*

[67] *See* 14 CFR 91.609. Different components of the aircraft are also currently subject to additional component-specific inspection schedules. For example, in addition to the above general inspection requirements, altimeter instruments on airplanes and helicopters operating in controlled airspace under instrument flight rules must be inspected every 24 months. *See* 14 CFR 91.411(a)(1).

[68] *See* 14 CFR part 43, Appendix D (listing aircraft components that must be inspected and the hazardous characteristics that the inspection should look for).

recommended preflight inspection or performing an on-the-ground test of the small UAS to determine whether safety-critical systems and components are working properly.

If, as a result of the inspection, the operator determines that the small UAS is no longer in a condition for safe operation, then proposed §§ 107.21(a) and 107.15(a) would prohibit the operation of the small UAS until the necessary maintenance has been made and the small UAS is once again in a condition for safe operation. First, proposed § 107.21(a) would require that the operator must maintain the small UAS in a condition for safe operation. An example of how the operator could satisfy this proposed requirement would be performing the manufacturer's recommended maintenance at manufacturer-recommended regular intervals. Second, § 107.15(a) would prohibit a person from operating a small UAS unless that UAS is in a condition for safe operation. Thus, if an operator notices during inspection, maintenance, or preflight action, that the small UAS is not in a condition for safe operation, then the operator would be in violation of § 107.15(a) if he or she flies the small unmanned aircraft while the UAS is not in a condition safe for operation.

The FAA also notes that a small UAS that appears to be in a condition for safe operation prior to flight may become unsafe for operation during flight. For example, the small unmanned aircraft could sustain damage during flight rendering that aircraft unsafe for continuing the flight. As such, this proposed rule would require, in § 107.15(b), that the operator must discontinue the flight of the small unmanned aircraft when he or she knows or has reason to know that continuing the flight would pose a hazard to other aircraft, people, or property. This proposed requirement is similar to a requirement that currently exists in § 91.7(b), which requires the PIC to "discontinue the flight [of an aircraft] when unairworthy mechanical, electrical, or structural conditions occur."

The FAA invites comments on the issues discussed in this section. The FAA also invites comments as to the costs and benefits of requiring small UAS operators to perform maintenance and inspections pursuant to existing regulations.

ii. Airworthiness Directives

The FAA typically issues airworthiness directives to correct an existing unsafe condition in a product when the condition is likely to exist or develop in other products of the same type design. Airworthiness directives currently are issued for engines, propellers, and other products that are either: (1) Approved under a type certificate or a supplemental type certificate; or (2) that are manufactured under a production certificate, a parts manufacturer approval (PMA), or technical standard order (TSO) authorization.

As discussed in section III.J of this preamble, the FAA does not propose to require a type certificate, a production certificate, a PMA or TSO authorization for small UAS or any part installed on the small UAS. However, to provide manufacturers with flexibility, manufacturers would not be prohibited from installing parts that are FAA-certificated, have received PMA, or are TSO-authorized for manned-aircraft use on the small UAS, provided the small unmanned aircraft remains under 55 pounds after the installation of the part. The FAA anticipates that some manufacturers may choose to use these parts on the small UAS in order to obtain a higher level of reliability associated with a certificate, approval, or authorization.

However, because parts that are FAA-certificated, have received PMA, or are TSO-authorized may have airworthiness directives that are applicable to those parts, the FAA proposes to require, in § 107.13(d), that the owner or operator of the small UAS must comply with all applicable airworthiness directives. The FAA notes that it used a similar approach in its 2004 light-sport aircraft rulemaking. In that rulemaking, the FAA did not require a type or production certificate for light-sport aircraft but allowed the installation on the aircraft of parts that are FAA-certificated, have received PMA, or are TSO-authorized as long as the owner or operator complied with all applicable airworthiness directives.[69]

7. Miscellaneous Operating Provisions

i. Careless or Reckless Operation

The existing FAA regulations prohibit a person from operating an aircraft in a careless or reckless manner so as to endanger the life or property of another.[70] These regulations also prohibit the PIC from allowing any object to be dropped from an aircraft in flight if doing so would create a hazard to persons or property.[71] The FAA proposes to apply similar regulations to small UAS operations, in § 107.23 to ensure that a small UAS is not operated in a hazardous manner.

ii. Drug and Alcohol Prohibition

Proposed § 107.27 would require small UAS operators and visual observers to comply with the alcohol and drug use prohibitions that are currently in place in part 91 of the FAA's regulations. Small UAS operators and visual observers would also be subject to the existing regulations of § 91.19, which prohibit knowingly carrying narcotic drugs, marijuana, and depressant or stimulant drugs or substances.

The purpose of these regulations is to ensure that the safety of small UAS operations are not impeded by alcohol or drug use and to prohibit the use of aircraft for drug trafficking. Section 91.17 specifically prohibits use of alcohol or drugs during or for a time period prior to an operation. Moreover, operators and visual observers would need to submit to testing to determine alcohol concentration in the blood due to a suspected violation of law or § 91.17. Operators or visual observers would be required to submit these tests to the FAA if the FAA has a reasonable basis to believe that the person has violated § 91.17.

This section would also subject persons operating small UAS who knowingly carry illegal substances to FAA enforcement action, which could include certificate revocation. An exception exists for substances authorized by or under any Federal or State statute or by any Federal or State Agency.

iii. Medical Conditions

As discussed in section III.E of this preamble, this proposed rule would not require a small UAS operator or visual observer to hold an airman medical certificate. However, the FAA recognizes the possibility that a person acting as an operator or visual observer may have a medical condition that could interfere with the safe operation of the small UAS. Accordingly, the FAA proposes, in § 107.17, to prohibit a person from acting as an operator or visual observer if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS. This proposed provision is similar to the regulatory provision of 14 CFR 61.53(b), which currently applies to operations that do not require a medical certificate.

iv. Sufficient Power for the Small UAS

Proposed § 107.49(a)(4) would require a small UAS operator to ensure that, if

[69] *Certification of Aircraft and Airmen for the Operation of Light-Sport Aircraft Final Rule*, 69 FR 44772, 44855 (July 27, 2004).

[70] 14 CFR 91.13(a).

[71] 14 CFR 91.15.

powered, the small UAS has enough power to operate for its intended operational time and an additional five minutes. The 5-minute buffer would ensure that the small UAS has sufficient power to return to the operator, or another location, and be able to make a controlled landing. Additionally, control inputs to a small UAS may degrade as batteries lose charge because power to the flight control system(s) may be lost. Accordingly this proposed rule would help to ensure that the small UAS remains controllable throughout its intended operational time. The FAA notes that a small UAS travelling at 10 miles per hour would be able to cover nearly one mile in 5 minutes.

v. Registration and Marking

As mentioned earlier, the FAA's statute prohibits a person from operating a civil aircraft that is not registered.[72] The FAA proposes to codify this statutory requirement in § 107.13(b). In addition, all aircraft currently are required to display their registration number on the aircraft.[73] The FAA proposes to impose a similar requirement, in § 107.13(c), on small unmanned aircraft subject to this proposed rule. The specific manner in which the small unmanned aircraft would register and display its registration number is discussed in section III.G of this preamble.

E. Operator Certificate

As discussed earlier in this preamble, the FAA proposes to satisfy the statutory requirement for an airman to possess an airman certificate[74] by requiring small UAS operators to obtain and hold an unmanned aircraft operator certificate with a small UAS rating in order to operate a small UAS. An unmanned aircraft operator certificate would be a new type of airman certificate created by this proposed rule, and this section explains the FAA's proposal concerning this certificate.

1. Applicability

The FAA is proposing to require that individuals obtain an unmanned aircraft operator certificate with a small UAS rating as a prerequisite to operating a small UAS. As with airman certificates that the FAA requires for operating other aircraft, an operator certificate would ensure that the operator is able to safely operate the small UAS. The FAA notes that airman certificates are currently issued to pilots who engage in commercial and non-commercial activities. The FAA is proposing to issue a new type of certificate for UAS operators, rather than require a private or commercial pilot certificate with UAS type rating, because many of the requirements for private and commercial pilots are not necessary for the types of operations that would be permitted under this rule.

Moreover, the FAA wants to maintain a distinction between an unmanned aircraft operator certificate and the airman certificates issued under parts 61, 63 and 65.[75] As such, proposed § 61.8 would prohibit activities under this rule from being used to meet part 61 requirements. Activities would include any training, certification, or flights associated with small UAS under proposed part 107. This proposal is consistent with the FAA's statement in the 2013 Pilot Certification and Qualification Requirements for Air Carrier Operations Final Rule that "regulations do not currently permit the time acquired while operating [a UAS] to be logged to meet aeronautical experience requirements for FAA [manned-aircraft] certification."[76] Additionally, that rule did not extend an exception from a flight time standard to graduates of training programs designed to qualify a military pilot solely for operation of UAS to qualify for a reduced flight time.[77]

The FAA considered proposing to require an individual to obtain a commercial pilot certificate with a UAS type endorsement before operating a small UAS. Issuance of such a certificate would require that the applicant obtain a Class II airman medical certificate, pass an aeronautical knowledge test, and demonstrate flight proficiency and aeronautical experience with a certificated flight instructor. However, given the lower level of public risk posed by small UAS operations, the FAA decided that imposing such requirements would be unduly burdensome to small UAS operators. Moreover, as explained in further detail in preamble section III.E.2.iii.a below, the FAA believes that the training, testing, proficiency and experience requirements for obtaining a commercial pilot license have limited relevance to the nature of small UAS operations. The FAA invites public comment on its proposal to create a new category of airman certificate for small UAS operators.

2. Unmanned Aircraft Operator Certificate—Eligibility & Issuance

This rule would establish the eligibility requirements to apply for an unmanned aircraft operator certificate with a small UAS rating and specify when a certificate would be issued. Military and former military pilots would be able to apply based on experience operating unmanned aircraft in the United States Armed Forces.

i. Minimum Age

Proposed § 107.61 would establish the eligibility requirements for an unmanned aircraft operator certificate with a small UAS rating. First, an applicant would need to be at least 17 years of age. This minimum age is consistent with existing FAA minimum age requirements for the Sport Pilot, Recreational Pilot, and Private Pilot airman certificates—the base-level certificates authorizing pilots to operate aircraft while not under the supervision of an instructor. Because this rule would permit commercial small UAS operations, the FAA considered setting the minimum age at 18 years, consistent with the Commercial Pilot Certificate requirements which permit carrying persons or property for compensation or hire. However, the FAA determined that the higher age limit was not necessary because the proposed operational limitations will create an environment that minimizes risk to persons and property.

The FAA notes that the minimum age necessary to apply for an airman certificate to operate a glider or a balloon category aircraft is 16 years old. The FAA invites comments on whether the minimum age necessary to apply for an unmanned aircraft operator certificate should similarly be reduced to 16 years old in the final rule. The FAA also invites comments as to whether reducing the minimum applicant age to 16 years old would further enable academic use of small UAS.

ii. English Language Proficiency

A person would need to be able to read, speak, write and understand the English language to be eligible for an unmanned aircraft operator certificate with a small UAS rating. This requirement is consistent with all other airman certificates issued by the FAA.[78] The English language has generally been

[72] 49 U.S.C. 44101(a).

[73] *See* 14 CFR part 45.

[74] 49 U.S.C. 44711(a)(2)(A).

[75] Parts 61, 63, and 65 currently apply to all airman certificates, which include small UAS airmen. However, under this proposed rule, these parts would no longer apply to small UAS airmen. Thus, the distinction discussed in this paragraph would segregate experience acquired while operating a small UAS from experience acquired while operating a manned aircraft.

[76] 78 FR 42324 (July 15, 2013).

[77] *Id.*

[78] *See, e.g.*, 14 CFR 61.83(c).

accepted as the international standard for aircraft operations by ICAO.

However, this proposed rule would create an exception for people who are unable to meet one of the English language requirements due to medical reasons, as is the case for other airman certificates. Such a person would still be eligible for a certificate; however, the FAA would be able to specify limitations on that person's small UAS operator certificate to account for the medical condition. For example, if an applicant is unable to communicate using speech then the FAA may impose a limitation that the operator may not conduct a small UAS operation requiring more than one person.

iii. Pilot Qualification

The third proposed requirement to obtain an unmanned aircraft operator certificate with a small UAS rating would be to pass an initial aeronautical knowledge test. To ensure that a pilot is qualified to control an aircraft, the FAA generally requires that the applicant for a pilot certificate demonstrate the following three things: (1) Aeronautical knowledge; (2) flight proficiency (*i.e.* that the applicant has the requisite piloting skills); and (3) aeronautical experience.[79] For the reasons stated below, the FAA has determined that a flight proficiency demonstration and aeronautical experience should not be required for issuance of an unmanned aircraft operator certificate with a small UAS rating. Instead, the FAA proposes to require that applicants for this certificate simply demonstrate their aeronautical knowledge by passing an initial knowledge test and then passing a recurrent knowledge test every 24 months thereafter.

a. Flight Proficiency and Aeronautical Experience

As mentioned in the previous paragraph, the FAA currently requires applicants for a pilot certificate to demonstrate that they have the requisite flight proficiency and aeronautical experience to properly control the flight of an aircraft. These existing regulations are intended to ensure that an aircraft can take off safely and arrive back on the ground: (1) With everyone on board the aircraft unharmed; (2) without harming people on the ground; and (3) without interfering with other users of the NAS.

The first consideration for requiring a flight-proficiency demonstration and aeronautical experience (to prevent possible harm to people on board the aircraft) does not apply to small UAS operations because if a small unmanned aircraft was to crash, there would be no one on board the aircraft to be harmed by that crash. The second consideration for these requirements (to prevent harm to people on the ground) is addressed by the operating requirements of this rule, which limit the operation of the small unmanned aircraft to a confined area and require the operator to ensure that the aircraft will pose no hazard to people on the ground if there is a loss of positive control. An operator does not necessarily need special operating skills or aeronautical experience to ensure that the aircraft will not pose a hazard to people on the ground. For example, if an operator plans to fly the small unmanned aircraft in a residential area, the operator could approach the people who live in that area prior to the operation, inform them of the details of the operation, and ask them to either stay out of the area or stay indoors during the operation. Doing this would ensure the safety of people on the ground but would not require the use of special operating skills or aeronautical experience.

The third consideration for requiring a flight-proficiency demonstration and aeronautical experience (to avoid interference with other users of the NAS) is mitigated by the fact that a small unmanned aircraft is generally: (1) Relatively easy to control; (2) highly maneuverable; and (3) much easier to terminate flight than a manned aircraft. Specifically, the control station for a small UAS is typically less complex than the interface used to control the flight of a manned aircraft. Many small UAS control stations currently consist of a basic two-joystick interface where one joystick controls the aircraft's altitude and the other joystick controls the aircraft's speed and direction. Other control stations utilize basic programs, such as smart-phone or tablet applications, to control the small unmanned aircraft. These programs are generally easy to learn and utilize. By contrast, the flight deck interface used to control a manned aircraft requires coordinated use of flight control inputs, interpretation of aircraft instrumentation, and onboard equipment operation. Some of this equipment includes communication and sophisticated navigation equipment. A manned-aircraft pilot must learn to properly use all of these flight-deck-interface components in order to control the flight of the manned aircraft.

In addition, because a small unmanned aircraft is highly maneuverable and easy to land, an operator who finds the small unmanned aircraft to be difficult to control would still be able to easily land the aircraft. For instance, in the two-joystick control station example provided above, the operator could land a small unmanned rotorcraft simply by pressing the altitude joystick down until the rotorcraft descends to the ground. By contrast, a manned aircraft pilot would need to go through a significantly more complex process that includes adjusting aircraft attitude with flight controls, reducing engine power, and scanning for other traffic, in order to land the aircraft on the ground after takeoff.

There are two additional considerations for not requiring a flight proficiency demonstration or aeronautical experience for small UAS operators. First, unlike the pilot of a manned aircraft, the small UAS operator has the option to sacrifice the small unmanned aircraft in response to an emergency. Second, as discussed previously, proposed §§ 107.19(b) and 107.39 would require the operator to control the confined area of operation in order to ensure that the small unmanned aircraft will not pose a hazard to people on the ground in an emergency situation. Other operating rules proposed in this NPRM, such as the prohibition on operating within restricted areas without permission, the requirement to give way to manned aircraft, and the 500 feet AGL height limitation, would also mitigate the risk that a small unmanned aircraft interferes with other users of the NAS or poses a hazard to people on the ground.

Because the considerations underlying the current flight proficiency demonstration and aeronautical experience requirements have, at best, a limited applicability to small UAS operations that would be subject to this proposed rule, the FAA proposes not to require that applicants for an unmanned aircraft operator certificate with a small UAS rating demonstrate flight proficiency or aeronautical experience. The FAA invites comments on whether these applicants should be required to demonstrate flight proficiency and/or aeronautical experience. If so, what flight proficiency and/or aeronautical experience requirements should the FAA impose? The FAA also invites comments as to the costs and benefits of imposing these requirements.

b. Initial Aeronautical Knowledge Test

Turning to the remaining component of airman certification (aeronautical knowledge), the FAA proposes to require that applicants for an unmanned aircraft operator certificate with a small UAS rating pass an initial knowledge test to demonstrate that they have

[79] *See, e.g.*, 14 CFR 61.105–61.109.

sufficient aeronautical knowledge to safely operate a small UAS. The FAA proposes a knowledge test rather than a required training course in order to provide applicants with flexibility as to the method that they use to acquire aeronautical knowledge. For example, some individuals who wish to become small UAS operators may also hold a pilot certificate, and those individuals would already have acquired extensive aeronautical knowledge in order to obtain a pilot certificate. Other individuals may be able to acquire the necessary knowledge through self-study. Still other individuals may choose to use a commercial training course designed to provide them with the knowledge necessary to pass the initial knowledge test. In any case, passage of a knowledge test would ensure that the applicant has demonstrated the aeronautical knowledge necessary to safely operate a small UAS regardless of how the applicant happened to acquire that knowledge. The FAA invites comments as to whether other requirements, such as passage of an FAA-approved training course, should be imposed either instead of or in addition to the proposed knowledge test.

c. Areas of Knowledge Tested on the Initial Knowledge Test

This proposed initial knowledge test would test the following areas of knowledge. First, the knowledge test would test whether the applicant knows the regulations applicable to small UAS operations. By testing the applicant's knowledge of the applicable regulations, the proposed initial knowledge test would ensure that the applicant understands what those regulations require and does not violate them through ignorance.

Second, the initial knowledge test would test whether the applicant understands how to determine the classification of specific airspace and what the requirements are for operating in that airspace. To comply with the proposed airspace operating requirements, a small UAS operator would need to know how to determine the classification of the airspace in which he or she would like to operate.

Third, the initial knowledge test would test whether the applicant understands flight restrictions affecting small unmanned aircraft operations. The proposed initial knowledge test would test whether the applicant knows how to determine which areas are prohibited, restricted, or subject to a TFR in order to comply with the proposed flight restrictions in §§ 107.45 and 107.47.

Fourth, the initial knowledge test would test whether the applicant understands how to clear an obstacle during flight. As discussed previously, proposed § 107.37(b) prohibits a person from creating a collision hazard with, among other things, a ground structure. The proposed initial knowledge test would test whether the applicant understands what types of small unmanned aircraft maneuvers would create a collision hazard with a ground structure.

Fifth, the initial knowledge test would test whether the applicant understands the effects of weather and micrometeorology (weather on a localized and small scale) on small unmanned aircraft operation. Knowledge of weather is necessary for safe operation of a small unmanned aircraft because, due to the light weight of the small unmanned aircraft, weather could have a significant impact on the flight of that aircraft. For example, space around buildings, smokestacks and trees, which is safe during clear weather, could easily become hazardous in a windy situation. Accordingly, the proposed initial knowledge test would test whether an applicant understands the effect that different types of weather have on small unmanned aircraft performance and how to react to that weather. The proposed knowledge test would also test whether an applicant has knowledge of official sources that he or she can use to obtain weather information and predictions in order to plan the operation of the small UAS.

Sixth, the proposed knowledge test would test whether an applicant understands how to calculate the weight and balance of the small unmanned aircraft to determine impacts on performance. In order to operate safely, operators need knowledge and understanding of some fundamental aircraft performance issues, which include load balancing and weight distribution as well as available power for the operation.

Seventh, the operator of a small UAS may be presented with an emergency situation during an operation. Accordingly, the proposed initial knowledge test would test whether the applicant understands how to properly respond to an emergency.

Eighth, the proposed initial knowledge test would test the applicant's understanding of aeronautical decision-making/judgment and crew resource management. Even though this proposed rule would limit the flight of a small unmanned aircraft to operations at or below 500 feet AGL, some manned aircraft will still operate in the same airspace as the small unmanned aircraft. Accordingly, the small UAS operator would need to understand the aeronautical decision-making and judgment that manned-aircraft pilots engage in so that he or she can anticipate how the manned aircraft will react to the small unmanned aircraft. The small UAS operator would also need to understand how to function in a team environment (this is known as crew resource management) because this proposed rule would permit the use of visual observers to assist the small UAS operator and would place the operator in charge of those observers.

Ninth, the proposed initial knowledge test would test the applicant's understanding of airport operations and radio communication procedures, which would include standard terminology. While this proposed rule would limit small UAS operations in the vicinity of an airport, there are some instances where these operations would be permitted. For example, this proposed rule would allow a small unmanned aircraft to operate in Class B, C, or D airspace if the operator obtains prior ATC authorization. In order to operate safely near an airport, the operator would need to have knowledge of airport operations so that the small unmanned aircraft does not interfere with those operations. The operator would also need to have knowledge of radio communication procedures so that the operator can communicate with ATC.

Lastly, the proposed initial knowledge test would test whether the applicant understands the physiological effects of drugs and alcohol. Many prescription and over-the-counter medications can significantly reduce an individual's cognitive ability to process and determine what is happening around him or her. Accordingly, an operator needs to understand how drugs and alcohol can impact his or her ability to safely operate the small UAS.

The FAA invites comments on the proposed areas of knowledge to be tested on the initial knowledge test. The FAA also invites comments as to whether the initial knowledge test should test any other areas of knowledge. If so, what additional areas of knowledge should be tested? What would be the costs and benefits of testing these other areas of knowledge?

d. Administration of the Initial Knowledge Test

Knowledge tests currently administered to prospective pilots under 14 CFR part 61 are created by the FAA and administered by FAA-approved knowledge testing centers. A knowledge testing center is a private

entity that has received FAA approval to administer airman knowledge tests. These centers are all certificated and regularly evaluated to ensure that the testing center meets FAA certification requirements. There are currently about 650 knowledge testing center spread throughout the country. The FAA proposes to apply its existing knowledge development and administration framework to knowledge tests that would be administered to prospective small UAS operators. Under this framework, the initial knowledge test would be created by the FAA and administered by an FAA-approved knowledge testing center. Just as it does now, the FAA will specify the minimum grade necessary to pass the knowledge test,[80] and applicants who take the test will be issued an airman knowledge test report showing the results of the knowledge test.

To ensure that the knowledge test is properly administered, this proposed rule would also impose the following requirements. First, proposed § 107.69 would prohibit an applicant from cheating or engaging in unauthorized conduct during a knowledge test. This would include: (1) Copying or intentionally removing a knowledge test; (2) giving a copy of a knowledge test to another applicant or receiving a copy of the knowledge test from another applicant; (3) giving or receiving unauthorized assistance while the knowledge test is being administered; (4) taking any part of a knowledge test on behalf of another person; (5) being represented by or representing another person for a knowledge test; and (6) using any material not specifically authorized by the FAA while taking a knowledge test. Cheating or engaging in unauthorized conduct during a knowledge test in violation of proposed § 107.69 would be grounds for suspending or revoking the certificate or denying an application for a certificate. In addition, a person who engages in unauthorized conduct would be prohibited from applying for a certificate or taking a knowledge test for a period of one year after the date of the unauthorized conduct.

Second, to ensure that the person taking the knowledge test is correctly identified, proposed § 107.67 would require an applicant for a knowledge test to have proper identification at the time of the application. To ensure correct identification, the applicant for an unmanned aircraft operator certificate would have to have his or her identification verified in person just like any other applicant for an FAA-issued airman certificate. The proposed requirements for proper identification would be the same as the identification requirements currently imposed on applicants who wish to take a knowledge test.[81] Specifically, an applicant's identification would need to include the applicant's: (1) Photograph; (2) signature; (3) date of birth, which shows the applicant meets or will meet the proposed age requirements for an operator certificate; and (4) the applicant's current residential address if the permanent mailing address is a post office box number.

Finally, proposed § 107.71 would address circumstances in which an applicant wishes to retake a knowledge test after failure. To ensure that an applicant receives additional training after failing a knowledge test, the FAA currently requires an applicant who fails a knowledge test to receive additional training from a flight instructor and an endorsement from that instructor indicating that the instructor has determined that the applicant is now proficient to pass the test.[82] However, as discussed previously, this proposed rule would not require any specific form of training or studying in order to pass a knowledge test. Accordingly, the FAA proposes to require that a person who fails a knowledge test wait 14 calendar days before retaking the knowledge test. This 14-day waiting period would provide sufficient time for an applicant who fails a knowledge test to obtain additional training of his or her choice.

The FAA also considered whether to offer an option for the knowledge test to be administered online. However, in examining this approach the FAA ultimately determined that there would be significant risk in the integrity of a knowledge test becoming compromised if that test was to be administered outside of a controlled environment. This could be accomplished through someone copying and circulating the test questions, using unauthorized materials to take the test, or even taking the test for another person. Using the identity of another person to take the knowledge test may also allow an applicant to manipulate the security vetting procedures that take place once the applicant's identity is verified.

In addition, the FAA determined that it would be more difficult to safeguard the personally identifiable information (PII) of a test-taker that would be collected online rather than in-person at a knowledge testing center. Accordingly, the FAA has decided against proceeding with an online test-taking option. The FAA invites comments on whether the small UAS aeronautical knowledge test should have an option for online test-taking and, if so, what safeguards should be implemented to protect the integrity of the small UAS knowledge test, assure the FAA of the identity of the test taker, and protect the test-taker's PII that would be provided online. The FAA also invites comment on different UAS testing location options that might provide the lowest cost option for individuals, while protecting the integrity of the test and the information provided as part of the test-taking process.

e. Recurrent Aeronautical Knowledge Test

i. General Requirement and Administration of the Recurrent Knowledge Test

The FAA also proposes to require small UAS operators to pass a recurrent aeronautical knowledge test after they receive their operator certificate. The FAA proposes this requirement because this proposed rule would not require small UAS operators to regularly conduct small UAS operations, and consequently, some operators may conduct small UAS operations infrequently and may not fully retain some of the knowledge that they acquired in order to pass the initial knowledge test. The FAA also notes that even operators who regularly conduct small UAS operations may not fully retain pieces of knowledge that they do not use during their regular operations. For example, a small UAS operator who conducts operations only in Class G airspace may not retain the knowledge that he or she needs ATC authorization in order to conduct operations in Class B, C, or D airspace. Some aeronautical knowledge that the small UAS operator learned for the initial knowledge test may also become outdated over time.

Accordingly, the FAA proposes to require that the operator pass a recurrent knowledge test every 24 months. The FAA proposes 24 months as the appropriate recurrent testing frequency because that is the frequency of the recurrent flight review that pilots currently complete under 14 CFR 61.56. This requirement has been in place for approximately 40 years. Based on the FAA's experience with the existing 24-month flight review cycle, a recurrent knowledge test that is given every 24 months would ensure that the small UAS operator properly maintains the pertinent aeronautical knowledge. The

[80] *See* 14 CFR 61.35(b).

[81] The current knowledge-test identification requirements can be found at 14 CFR 61.35(a)(2).

[82] 14 CFR 61.49(a).

FAA invites comments on this proposed requirement.

The FAA also proposes that the recurrent aeronautical knowledge test be administered using the same framework as the initial aeronautical knowledge test. Specifically, under this proposed rule, the recurrent knowledge test would be created by the FAA and administered by FAA-approved knowledge testing centers. An applicant would be required to have proper identification in order to take the test, and he or she would be required to wait 14 days after failure before retaking the knowledge test. A certificate holder or applicant[83] would also be prohibited from cheating or engaging in unauthorized conduct during the recurrent knowledge test.

Just as with the initial knowledge test, the FAA invites comments on whether the small UAS recurrent aeronautical knowledge test should have an option for online test-taking and, if so, what safeguards should be implemented to protect the integrity of the small UAS knowledge test, assure the FAA of the identity of the test taker, and protect the test-taker's PII that would be provided online.

ii. Recurrent Test Areas of Knowledge

Under this proposed rule, the recurrent knowledge test would test the following areas of knowledge. First, the knowledge test would test the operator's knowledge of the regulations that govern small UAS operation to ensure that his or her knowledge is up to date regarding all aspects of small UAS operations permitted under the certificate, as the operator may not encounter all of these aspects in his or her regular operation. In the example provided earlier, an operator who regularly conducts small UAS operations in Class G airspace may not retain the knowledge concerning regulations governing operation in other classes of airspace.

Second, the recurrent knowledge test would test the operator's knowledge of airspace classification and operating requirements, obstacle clearance requirements, and flight restrictions. This is because: (1) Airspace that the operator is familiar with could become reclassified over time; (2) the location of existing flight restrictions could change over time; (3) new ground-based obstacles could be created as a result of new construction; and (4) some operators may not regularly encounter these issues in their regular operations.

Third, the recurrent knowledge test would ensure that the operator has the latest knowledge concerning sources of weather and airport operations. This is because the official sources of weather could change over time. Market turnover could also affect a change in airport operations as new airports are built and old airports are demolished or repurposed. The FAA notes that airports can also change their operations in response to changes in operating environment by, for example, changing the approaches that manned aircraft use to line up for a landing. The recurrent knowledge test would ensure that the small UAS operator is familiar with the latest sources of weather and the latest information concerning airport operations.

Fourth, the recurrent knowledge test would test the operator's knowledge of emergency procedures, crew resource management, and aeronautical decision-making/judgment. A small UAS operator may not encounter any of these situations over a 24-month operating period because: (1) An emergency situation may not present itself; (2) the operator may be involved in operations that do not use visual observers; and (3) the operator may be involved in operations that do not take place in the vicinity of any manned aircraft. Accordingly, including these areas of knowledge on the recurrent knowledge test would ensure that the operator retains knowledge on these areas even if he or she does not regularly encounter them in his or her small UAS operations.

iv. Issuance of an Unmanned Aircraft Operator Certificate with Small UAS Rating

Proposed § 107.63 specifies that the FAA will issue the certificate to an airman eligible under § 107.61 if the airman submits an application including an airman knowledge test report showing that he or she passed the initial aeronautical knowledge test required for the certificate. The certificate will not have an expiration date, and once issued, it will remain valid until surrendered, suspended, or revoked. The FAA invites comments as to whether this certificate should expire after a certain period of time. If so, when should the certificate expire?

The method of submission of the application is discussed further in section III.E.5.i of this preamble. The FAA notes that, as discussed in that section, all applicants for an airman certificate will be vetted by the Transportation Security Administration (TSA) pursuant to 49 U.S.C. 46111 to determine whether they pose a security threat. An applicant will not be issued an unmanned aircraft operator certificate until the TSA determines that the applicant will not pose a security threat.

v. Not Requiring an Airman Medical Certificate

The FAA also considered whether to require an applicant seeking an unmanned aircraft operator certificate with a small UAS rating to obtain an airman medical certificate as part of the application process. With certain exceptions, under 14 CFR part 61, the FAA currently requires an airman medical certificate for a student pilot certificate, a recreational pilot certificate, a private pilot certificate, a commercial pilot certificate, and an airline transport pilot certificate.[84] Flight instructors are also required to have a valid medical certificate when required to act as pilot in command.

The primary reason for medical certification is to determine if the airman has a medical condition that is likely to manifest as subtle or sudden incapacitation that could cause a pilot to lose positive control of the aircraft, or impair the pilots ability to "see and avoid."

The FAA has determined that traditional FAA medical certification may not be warranted for small UAS operators subject to this proposed rule mainly because small UAS operators and visual observers are operating within a "confined area of operation," and subject to other operational limitations, discussed previously in this preamble. This is because the proposed visual-line-of-sight requirement for the operator and/or visual observer to be able to see the aircraft's direction and attitude of flight in the proposed rule is preferable to a vision standard. Even with normal vision it is foreseeable that a small unmanned aircraft may be so small that the operational space must be reduced to meet the operational requirements proposed in this rule. As such, prescriptive medical standards may not be as critical as they are for individuals exercising pilot privileges and therefore are not proposed under this action.

Rather, the FAA is proposing that operators self-certify, at the time of their airman application, that they do not have a medical condition that could interfere with the safe operation of a small UAS. As proposed in § 107.61(d), an applicant for an unmanned aircraft operator certificate with a small UAS

[83] As discussed in more detail further in the preamble, proposed § 107.75 would allow military or former military UAS operator applicants to take the recurrent test instead of the initial test in order to obtain an FAA-issued unmanned aircraft operator certificate.

[84] 14 CFR 61.23(a).

rating would be ineligible for the certificate if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS. The FAA also proposes, in § 107.63(a), that the applicant be required to make a certification to that effect. Both of these proposed requirements are similar to the regulatory provision of § 61.53(b), which prohibits operations during medical deficiency for individuals conducting operations that do not require a medical certificate. FAA also considered proposing to require a medical certificate for a visual observer, but decided not to propose this requirement for the same reason a medical certificate for an operator is not being proposed. The FAA, however, does invite public comment as to whether an FAA medical certificate should be required. The FAA also invites comments as to the costs and benefits of requiring an airman medical certificate for an operator or visual observer.

4. Military Equivalency

This proposed rule would allow pilots with military experience operating unmanned aircraft to take the recurrent knowledge test in lieu of the initial knowledge test in order to be eligible for an unmanned aircraft operator certificate with a small UAS rating. The U.S. Armed Forces use many types and sizes of UAS in combat and non-combat operations, both in the United States and abroad, and have done so for many years. During that time, many servicemen and women have been trained to operate UAS. The FAA has established special rules for current or former military pilots allowing them to be issued FAA pilot certificates based on their military flight experience and passing a military knowledge check.[85]

Accordingly, the FAA is proposing to allow current or former military operators of unmanned aircraft to take a more limited recurrent aeronautical knowledge test rather than the initial aeronautical knowledge test to obtain an unmanned aircraft operator certificate with a small UAS rating. They may not rely on that experience if they were subject to certain disciplinary action described in § 107.75(a).

The FAA also considered whether to allow individuals who have been conducting UAS operations under a COA as a non-military UAS operator to take a recurrent test instead of an initial test in order to obtain an unmanned aircraft operator certificate with a small UAS rating. However, the FAA decided not to include this provision in the proposed rule because: (1) There is no formally recognized recordation system for non-military COA pilots as there is for military pilots; and (2) non-military COA pilots are currently subject to different requirements than military COA pilots for operations above 400 feet AGL. The FAA invites comments on whether non-military COA pilots should be permitted to take the recurrent knowledge test instead of the initial knowledge test in order to obtain an unmanned aircraft operator certificate.

5. Unmanned Aircraft Operator Certificate: Denial, Revocation, Suspension, Amendment, and Surrender

This rule would establish specific instances for when an unmanned aircraft operator certificate with a small UAS rating can be denied, revoked, suspended, amended, or surrendered. This rule would allow the FAA to deny, suspend, or revoke the certificate for reasons including security risk posed by the applicant, drug or alcohol offenses, refusal to submit to an alcohol test or furnish the results. Certificate holders would also be able to voluntarily surrender certificates.

i. Transportation Security Administration Vetting and Positive Identification

The FAA will deny an application for a certificate or take certificate action if the TSA determines that a person poses a security threat. Specifically, under 49 U.S.C. 46111, once an unmanned aircraft operator certificate application is received, the FAA will verify compliance and the accuracy of the application and provide the applicant's information to TSA for security vetting prior to certificate issuance. Under this proposed rule, the FAA would transmit a student pilot's biographic information for security vetting to TSA and issue an unmanned aircraft operator certificate only after receiving a successful response from TSA. However, if the TSA determines that an airman certificate applicant poses a security risk, section 46111 requires the FAA to deny the application for a certificate or amend, modify, suspend, or revoke (as appropriate) any part of an airman certificate based on the TSA's security findings.

The FAA may issue certificates to individuals who have first successfully completed a security threat assessment (STA) conducted by the TSA.[86] TSA would conduct STAs of applicants for a UAS certificate and notify the applicant and/or the FAA when the STA is complete. The STA would consist of a check of intelligence-related databases, including Interpol and international databases, terrorist watch lists, and other sources relevant to determining whether an individual poses or may pose a threat to transportation security, and that confirm the individual's identity. A successful STA is generally valid for five years, but may be revoked during that time if TSA's recurrent vetting reveals that the individual poses or may pose a security threat.

Congress requires TSA to recover the costs of vetting and credentialing services through user fees.[87] The fees for vetting UAS certificate applicants would cover TSA's costs for enrolling, processing, and replying to the application, as well as the costs of conducting the intelligence-related checks themselves. TSA is developing a process, through rulemaking, by which TSA's vetting fees can be collected from applicants during the application process, as TSA currently does in other vetting and credentialing programs, and used to cover the cost of the security screening. Thus, while this rulemaking projects that these costs are currently governmental costs, these costs would be passed on to individuals in the future.

As a result of the processes that go into the issuance of an airman certificate, the FAA estimates that it could take about 6 to 8 weeks after receipt of an application for the FAA to issue an applicant an unmanned aircraft operator certificate with a small UAS rating. The FAA invites comments with suggestions for how this period could be reduced. The FAA also notes that the TSA will continue to examine certificate holders after FAA issuance of a certificate.

In addition, in order for the TSA to be able to make the security assessments specified in 49 U.S.C. 46111, the agency must be sure of the identity of the person that it is assessing. Otherwise, a person who poses a security threat could evade TSA scrutiny simply by using someone else's identity. To address this issue, the FAA currently requires all applicants for a pilot certificate to apply in person and present positive identification at the time of application.[88] The identification must include an official photograph of the applicant, the applicant's signature, and the applicant's residential address,

[85] *See* 14 CFR 61.73.

[86] See 49 U.S.C. 44903(j)(2)(D).

[87] See 6 U.S.C. 469.

[88] FAA Order 8900.1, vol. 5, ch. 1, sec. 3, para. 5–54; FAA Order 8900.2, ch. 7, sec. 2, para. 25, pg. 7–36.

if different from the mailing address.[89] Acceptable methods of identification currently include, but are not limited to, U.S. driver's licenses, government identification cards, and passports.[90]

Because positive identification of the applicant is necessary for TSA to be able to determine whether the applicant poses a security threat, this proposed rule would require an applicant for a small unmanned aircraft operator certificate with a small UAS rating to submit the application to a Flight Standards District Office (FSDO), a designated pilot examiner (DPE), an airman certification representative (ACR) for a pilot school, a certificated flight instructor (CFI), or other persons authorized by the Administrator. The person accepting the application submission would be required to verify that the identity of the applicant matches the identity that is provided on the application.

This proposed rule would allow a DPE, an ACR for a pilot school, or a CFI to accept an application and verify the identity of the applicant because to do otherwise would severely limit the number of locations where an applicant for a certificate could submit his or her application. This is because of the limited number of FSDOs and qualified personnel in each FSDO needed to accept the anticipated number of application submissions each year. There are only 81 FDSOs in the United States, which are only open 5 days per week (excluding Federal holidays). However, there are an approximate combined total of 100,000 DPEs, ACRs, and CFIs potentially available to accept an application 7 days per week. Though there is no fee required to submit an application to a FSDO, there may be a nominal processing fee charged by the authorized FAA representative, none of which goes to the FAA. The FAA believes that this nominal fee (estimated average of $50), if charged by the FAA representative, would offset the average cost of travelling to a FSDO as well as the delay in submitting the application (measured possibly in weeks) due to having to make an appointment with the FSDO during the work week.

DPEs represent the FAA, and are already required to positively identify an applicant for certification when the applicant takes the practical test for the certificate. ACRs are also currently required to positively identify the student/applicant for airman certification as part of the responsibility of the part 141 flight school with which the ACR is affiliated.

CFIs are currently required to verify a pilot-certificate applicant's identity pursuant to TSA regulations codified at 49 CFR 1552.3(h)(1). That section requires a flight school[91] to endorse a pilot logbook verifying that a student is a U.S. citizen and presented identification prior to flight training, which likely would be at the same time that a person would apply for a student pilot certificate.

Because DPEs, ACRs, and CFIs already have experience verifying an applicant's identity, this proposed rule would allow these persons to accept an application for an unmanned aircraft operator certificate with a small UAS rating and verify the identity of the applicant. Sections 61.193, 61.413, and 183.23 would be revised accordingly.

The FAA has also considered allowing knowledge testing centers to verify an applicant's identity and accept an application for an unmanned aircraft operator certificate. However, the FAA is proposing to limit positive identification and acceptance of an application to those persons who are either: (1) Already authorized to accept and sign airman applications (FAA personnel, DPEs, and ACRs); or (2) are already required to verify identity under the TSA's regulations (CFIs). Knowledge testing centers do not fit into either of these categories, and thus, this proposed rule would not allow them to accept airman applications. The FAA invites comments on whether knowledge testing centers should be allowed to accept airman applications.

ii. Drugs and Alcohol Violations

Proposed § 107.57 would authorize the FAA to deny a certificate application or take other certificate action for violations of Federal or State drug laws. Certificates could also be denied, suspended or revoked for committing an act prohibited by § 91.17 or § 91.19—which are discussed in section III.D.6 of this document. Specifically, proposed § 107.59 specifies that certificate action could be taken for: (1) Failure to submit for a blood alcohol test or to release test results to the FAA as required by § 91.17; or (2) carriage of illegal drugs in violation of § 91.19. This proposal mirrors current regulations that apply to all airman certificates.[92]

iii. Change of Name

The FAA recognizes that individuals who hold airman certificates may change their names. Accordingly, the regulations governing pilot certificates currently issued under part 61 allow the holder of a pilot certificate to change the name on a certificate by submitting appropriate paperwork to the FAA.[93] This proposed rule would provide operators with the same opportunity in § 107.77(a). Specifically, proposed § 107.77(a) would allow a person holding an unmanned aircraft operator certificate with a small UAS rating to change the name on the certificate by submitting a name-change application to the FAA accompanied by the applicant's: (1) Operator certificate; and (2) a copy of the marriage license, court order, or other document verifying the name change. After reviewing these documents, the FAA would return them to the applicant.

iv. Change of Address

To ensure that the FAA has an airman certificate holder's proper contact information, part 61 currently requires the holder of a pilot, flight instructor, or ground instructor airman certificate who has made a change in permanent mailing address to notify the FAA within 30 days of making the address change.[94] Failure to do so prohibits the certificate holder from exercising the privileges of the airman certificate until he or she has notified the FAA of the changed address.[95] Because this regulatory provision helps ensure that the FAA is able to contact airman certificate holders, proposed § 107.77(c) would extend the existing change-of-mailing-address requirement to holders of an unmanned aircraft operator certificate with a small UAS rating.

v. Voluntary Surrender of Certificate

The FAA also recognizes that some individuals who obtain an unmanned aircraft operator certificate with a small UAS rating may decide to stop serving as a small UAS operator. Accordingly, proposed § 107.79 would allow a holder of an unmanned aircraft operator certificate to voluntarily surrender it to the FAA for cancellation. However, the FAA emphasizes that cancelling the operator certificate pursuant to § 107.79 would mean that the certificate no longer exists, and the individual who surrendered the certificate would need to again go through the entire certification process (including passing the initial aeronautical knowledge test) if he/she subsequently changes his/her mind. Accordingly, proposed § 107.79(b) would require the individual surrendering the certificate to include

[89] *Id.*

[90] *Id.*

[91] TSA defines a flight school as any pilot school, flight training center, air carrier training facility, or flight instructor certificated under 14 CFR parts 61, 121, 135, 141, or 142.49 CFR 1552.1(b).

[92] *See* 14 CFR 61.15(a) and (b), 63.12, and 65.12.

[93] 14 CFR 61.25.

[94] 14 CFR 61.60.

[95] *Id.*

the following signed statement (or an equivalent) in his or her cancellation request:

> I voluntarily surrender my unmanned aircraft operator certificate with a small UAS rating for cancellation. This request is made for my own reasons with full knowledge that my certificate will not be reissued to me unless I again complete the requirements specified in §§ 107.61 and 107.63.

F. Registration

As mentioned earlier, the FAA's statute prohibits a person from operating a civil aircraft that is not registered,[96] and this proposed rule would codify this statutory requirement. The registration of aircraft and the assignment of an identifying registration number to be displayed on the aircraft are primary foundation blocks in the regulatory structures that provide for safe and orderly aircraft activity within the NAS. The registration number provides a quick call-sign for communications between air traffic control and aircraft in flight. It also provides a link to information about the aircraft and the owner responsible for its operations. This information may assist the FAA and law enforcement agencies to respond to inappropriate behavior, to share safety information, respond to emergency situations, and populate data fields for studies that track trends and help shape future management decisions.

Part 47 of 14 CFR currently governs the registration process applicable to aircraft that are not registered under the laws of a foreign country and that meet one of the following ownership criteria:

- The aircraft is owned by a citizen of the United States;
- The aircraft is owned by a permanent resident of the United States;
- The aircraft is owned by a corporation that is not a citizen of the United States, but that is organized and doing business under U.S. Federal or State law and the aircraft is based and primarily used in the United States; or
- The aircraft is owned by the United States government or a state or local governmental entity.[97]

This proposed rule would not apply to UAS operations that have certain international ownership components. This would exclude any aircraft whose ownership fails to meet the criteria for registration under part 47. Because this proposed rule would apply only to aircraft that are eligible for registration under part 47, the FAA proposes to satisfy the statutory aircraft-registration requirement by requiring all small unmanned aircraft subject to this proposed rule to be registered pursuant to the existing registration process of part 47.

The FAA also proposes to make a single change to part 47 to accommodate small unmanned aircraft registration. Specifically, small unmanned aircraft, which can easily be obtained for as low as several hundred dollars, are significantly smaller assets than manned aircraft, which can cost hundreds of thousands or millions of dollars. Because small unmanned aircraft are small assets, the FAA proposes to exempt small unmanned aircraft which have not previously been registered anywhere from the regulatory requirements of § 47.15, which were designed to apply to large-asset manned aircraft.

Thus, under this proposed rule, a small unmanned aircraft would generally be registered as follows. The aircraft's owner would send the following items to the FAA: (1) An Aircraft Registration Application providing information about the aircraft and contact information for the aircraft owner; (2) evidence of ownership (such as a bill of sale); and (3) the $5.00 registration fee. If the application and supporting materials satisfy the criteria of part 47, the FAA would then assign a registration number ("N" number) to the aircraft and issue a Certificate of Aircraft Registration to the applicant. If the aircraft was last previously registered in the U.S., once the new application has been sent to the Registry, its second copy (pink copy) may be used to operate the aircraft for a reasonable time while the application is being processed and the new certificate issued.

The FAA also notes that a Certificate of Aircraft Registration issued under part 47 currently expires every three years.[98] This is because ownership of the aircraft may change hands or the aircraft owner could move after registering. A requirement to periodically reregister the aircraft increases the likelihood that the FAA's registration database contains the latest information concerning each registered aircraft. The aircraft owner can easily reregister the aircraft by submitting to the FAA: (1) An application for registration renewal containing updated information about the aircraft and its owner; and (2) a $5.00 reregistration fee.[99] Because the current three-year registration expiration provision in part 47 would increase the likelihood that the FAA's registration database contains the latest information on small unmanned aircraft and their owners, the FAA proposes to retain this requirement for small unmanned aircraft registration.

In addition, the FAA notes that because most manned aircraft are type-certificated, the FAA currently possesses a significant amount of information about each aircraft type (as a result of the type-certification process) that it can use to supplement information in an individual registration application. This results in the current registration requirements of part 47 asking for a minimal amount of information for most manned aircraft.

However, small unmanned aircraft, which would not be type-certificated under this proposed rule, come in a variety of forms, many of which are not currently standardized. This situation is likely to continue as the small UAS market will continue broad innovation until designs emerge that are well balanced against the tasks found to be best served by this segment of aviation. To enable the FAA to both identify particular aircraft against a stated description as well as to identify and share safety related information as it develops, the FAA invites comments as to whether small unmanned aircraft owners should be required to provide additional information during the registration process. The FAA anticipates that the additional information requirement imposed on small unmanned aircraft could be similar to the requirements imposed on amateur-built aircraft under 14 CFR 47.33(c), as amateur aircraft pose the same lack-of-standardization issues as a small UAS.

G. Marking

1. Display of Registration Number

Subpart C of 14 CFR part 45 currently requires an aircraft to display its registration number on the aircraft. This requirement is intended to allow aircraft identification for oversight purposes. The number must generally be: (1) Painted on the aircraft or affixed to the aircraft by some other permanent means; (2) have no ornamentation; (3) contrast in color with the background; and (4) be legible.[100]

To increase the likelihood of aircraft identification during flight, part 45, Subpart C specifies highly visible surfaces on the aircraft where the aircraft registration number must be displayed. Those surfaces differ based on the type of aircraft that is used. For

[96] 49 U.S.C. 44101(a).

[97] 14 CFR 47.3. This limitation on the applicability of part 47 stems from a statute (49 U.S.C. 44103), which allows the FAA to only register aircraft that meet the above criteria.

[98] *See* 14 CFR 47.40.

[99] *Id.*

[100] 14 CFR 45.21(c).

example, a rotorcraft is required to display its registration number horizontally on the fuselage, boom or tail.[101] Conversely, a fixed wing unmanned aircraft is generally required to display its registration number on either the vertical tail surfaces or the sides of its fuselage.[102]

To ensure maximum visibility, Subpart C also specifies a minimum size for the registration number display.[103] For fixed-wing aircraft and rotorcraft, the registration number display must generally be at least 12 inches high.[104] Characters in the display must also be: (1) Generally two thirds as wide as they are high; (2) formed by solid lines that are one-sixth as thick as the character is high; and (3) spaced out so that the space between the characters is at least one-fourth of the character width.[105] Because some aircraft subject to part 45 may be small, § 45.29(f) allows aircraft that are too small to comply with the size requirements to display the registration number on the aircraft in as large a manner as practicable.[106]

This proposed rule would require a small unmanned aircraft to display its registration number in the manner specified in Subpart C of part 45. For unmanned aircraft that are not too small to comply with the display-size requirements discussed above, this proposed rule would require compliance with all of those requirements. This is because small unmanned aircraft present the same identification and oversight concerns as manned aircraft. For example, if a bystander was to observe a small unmanned aircraft being flown in a dangerous manner, the FAA would be able to determine the aircraft's owner if the bystander is able to see the aircraft's registration number. Because the current requirements in Subpart C of part 45 are intended to provide for the maximum visibility of an aircraft's registration number, compliance with those requirements would greatly increase the probability of a small unmanned aircraft being identified during a small UAS operation.

The FAA acknowledges that some small unmanned aircraft may be too small to comply with the minimum-display-size requirements of part 45. However, as mentioned previously, part 45 already contains a provision, § 45.29(f), that would address this issue by allowing the too-small aircraft to simply display its registration number in as large a manner as practicable. Accordingly, the size of the small unmanned aircraft would not be a barrier to compliance with the provisions of Subpart C of part 45.

The FAA also notes that, as discussed above, the registration-display-location requirements of part 45, Subpart C are specific to different types of aircraft.[107] Under this proposed rule, the FAA would expect small unmanned aircraft to comply with the display-location provisions that apply to the specific type of small unmanned aircraft being used. For example, rotorcraft small unmanned aircraft would be expected to comply with the display-location provisions that are applicable to rotorcraft. Conversely, fixed-wing small unmanned aircraft would be expected to comply with the provisions that are applicable to fixed-wing aircraft.

The FAA invites comments on whether a small unmanned aircraft should be required to display its registration number in accordance with Subpart C of part 45. If compliance with Subpart C should not be required, what standard should the FAA impose for how a small unmanned aircraft displays its registration number in order to fulfill its safety oversight obligation regarding small unmanned aircraft operations? The FAA invites comments with supporting documentation on this issue.

2. Marking of Products and Articles

The FAA also considered requiring small unmanned aircraft to comply with the marking of products and articles requirement of Subpart B of part 45. This subpart requires the manufacturer of an aircraft or aircraft component to attach a fireproof identification plate to the aircraft and/or component containing the manufacturer's name, model designation, serial number, and, if applicable, the type certificate. The purpose of these requirements is to allow the FAA to trace the pertinent aircraft and/or aircraft parts back to the manufacturer if an issue arises with the aircraft and/or aircraft parts.

The FAA does not believe that requiring small unmanned aircraft manufacturers to comply with the requirements of Subpart B of part 45 would be cost-justified. Under Executive Orders 12866 and 13563, the FAA may "propose or adopt a regulation only upon a reasoned determination that [the regulation's] benefits justify its costs."[108] As discussed elsewhere in this preamble, the FAA's primary safety concerns with regard to small UAS operations are: (1) The ability to "see and avoid" other aircraft with no pilot on board; and (2) the operator losing positive control of the small unmanned aircraft. Here, both of these safety concerns would be mitigated by the other provisions of this proposed rule. Accordingly, the FAA does not believe that the safety benefits of requiring small UAS manufacturers to install fireproof plating with their identification information would be sufficient to justify the costs of doing so.

The FAA invites comments, with supporting documentation, as to the costs and benefits of mandating compliance with Subpart B of part 45. The FAA also invites comments, with supporting documentation, on whether alternative methods of small-UAS manufacturer marking should be required.

H. Fraud and False Statements

Currently, the U.S. criminal code prohibits fraud and falsification in matters within the jurisdiction of the executive branch.[109] The FAA too may impose civil sanctions in instances of fraud and falsification in matters within its jurisdiction.[110]

Similarly, in § 107.5(a), this proposed rule would prohibit a person from making a fraudulent or intentionally false record or report that is required for compliance with the provisions of this proposed rule. Proposed § 107.5(a) would also prohibit a person from making any reproduction or alteration, for a fraudulent purpose, of any certificate, rating, authorization, record, or report that is made pursuant to proposed part 107. Finally, proposed § 107.5(b) would specify that the commission of a fraudulent or intentionally false act in violation of § 107.5(a) could result in the suspension or revocation of a certificate or waiver issued by the FAA pursuant to this proposed rule. This proposed civil sanction would be similar to the sanctions that the FAA currently imposes on fraudulent and false statements pursuant to §§ 61.59(b), 67.403(c), and 121.9(b).

[101] 14 CFR 45.27(a). Section 45.27(a) also allows the number to be displayed on both surfaces of the cabin, but an unmanned aircraft will not have a cabin.

[102] 14 CFR 45.25(a).

[103] 14 CFR 45.29(f).

[104] 14 CFR 45.29(b)(1) and (3).

[105] 14 CFR 45.29(c)–(e).

[106] *See* 14 CFR 45.29(f).

[107] *See, e.g.*, 14 CFR 45.25(a) and 45.27(a).

[108] Executive Order 13563, section 1(b) (summarizing and reaffirming Executive Order 12866).

[109] 18 U.S.C. 1001

[110] The FAA has exercised this power in 14 CFR 61.59, 67.403, 121.9, and 139.115, which currently impose civil prohibitions on fraud and false statements made in matters within the FAA's jurisdiction.

I. Oversight

1. Inspection, Testing, and Demonstration of Compliance

The FAA's oversight statutes, codified at 49 U.S.C. 44709 and 46104, provide the FAA with broad investigatory and inspection authority for matters within the FAA's jurisdiction. Under section 46104, the FAA may subpoena witnesses and records, administer oaths, examine witnesses, and receive evidence at a place in the United States that the FAA designates. Under section 44709, the FAA may "reinspect at any time a civil aircraft, aircraft engine, propeller, appliance, design organization, production certificate holder, air navigation facility, or agency, or reexamine an airman holding a certificate issued [by the FAA]."

This rule would codify the FAA's oversight authority in proposed § 107.7. Proposed § 107.7(b) would require the operator, visual observer, or owner of a small UAS to, upon FAA request, allow the FAA to make any test or inspection of the small unmanned aircraft system, the operator, and, if applicable, the visual observer to determine compliance with the provisions of proposed part 107.

Section 107.7(a) would require an operator or owner of a small UAS to, upon FAA request, make available to the FAA any document, record, or report required to be kept by the provisions of proposed part 107. This would include the operator's unmanned aircraft operator certificate with a small UAS rating and the certificate of aircraft registration for the small UAS being operated.

2. Accident Reporting

The FAA notes that UAS is a relatively new industry and that operators of small UAS may not have prior experience with aviation regulations or FAA oversight. In addition, because of the newness of the small UAS industry, the FAA currently does not have the oversight experience with small UAS that it has with manned aircraft operations. Accordingly, to ensure proper oversight of small UAS operations, this proposed rule, in § 107.9, would require a small UAS operator to report to the FAA any small UAS operation that results in: (1) Any injury to a person; or (2) damage to property other than the small unmanned aircraft. The report would have to be made within 10 days of the operation that resulted in injury or damage to property.[111] After receiving this report, the FAA may conduct further investigation to determine whether any FAA regulations were violated.

The FAA emphasizes that this proposed reporting requirement would be triggered only during operations that result in injury to a person or property damage. The FAA invites comments as to whether this type of accident-reporting should be required. The FAA also invites suggestions for alternative methods of ensuring compliance with the regulations governing small UAS operations. The FAA specifically invites comments as to whether small UAS accidents that result in minimal amounts of property damage should be exempted from the reporting requirement. If so, what is the threshold of property damage that should trigger the accident reporting requirement?

J. Section 333 Statutory Findings

As mentioned previously, in order to determine whether certain UAS may operate safely in the NAS pursuant to section 333 of Public Law 112–95, the Secretary must find that the operation of the UAS would not: (1) Create a hazard to users of the NAS or the public; or (2) pose a threat to national security. The Secretary must also determine whether small UAS operations subject to this proposed rule pose a safety risk sufficient to require airworthiness certification.

1. Hazard to Users of the NAS or the Public

Section 333 of Public Law 112–95 requires the Secretary to determine whether the operation of the UAS subject to this proposed rule would create a hazard to users of the NAS or the public. As discussed in the Background section of this preamble, due to their extremely light weight, small UAS could pose a significantly smaller public risk than do manned aircraft.

Two primary safety concerns associated with small UAS operations are: (1) The ability to "see and avoid" other aircraft with no pilot on board; and (2) the operator losing positive control of the small unmanned aircraft. Here, both of these safety concerns would be mitigated by the other provisions of this proposed rule. Specifically by requiring operations to be conducted within visual line of sight; limiting maximum gross weight of the small unmanned aircraft to be below 55 pounds; limiting the operating altitude to below 500 feet AGL; requiring operators to be certificated; defining the area of operation; and prohibiting operations over any person not directly participating in the operation, the risk associated with this group of aircraft would be significantly reduced when compared with other categories of aircraft that weigh more, fly higher, and faster.

Accordingly, the Secretary proposes to find that small UAS operations subject to this proposed rule would not create a hazard to users of the NAS or the public. We invite comments on this proposed finding.

2. National Security

Section 333 of Public Law 112–95 also requires the Secretary to determine whether the operation of UAS subject to this proposed rule would pose a threat to national security. Proposed part 107 would expand small UAS operations in the NAS to include commercial operations. Under proposed part 107, these operations would be subject to specific requirements, such as being able to operate only during daylight and only within visual line of sight of the operator and, if applicable, a visual observer. The small unmanned aircraft would also have to be registered with the FAA and display its FAA-issued registration marking prominently on the aircraft.

In addition, the operator of the small unmanned aircraft would be required to obtain an FAA-issued unmanned aircraft operator certificate with a small UAS rating. The process for obtaining this certificate would include the same TSA-review procedures that are currently used under 49 U.S.C. 46111 in order to screen out airman-certificate applicants who pose a security risk.

Because the above provisions would limit the security risk that could be posed by small UAS operations subject to this proposed rule, the Secretary proposes to find that these small UAS operations would not pose a threat to national security. We invite comments on this proposed finding.

3. Airworthiness Certification

Finally, section 333(b)(2) of Public Law 112–95 requires the Secretary to determine whether small UAS operations subject to this proposed rule pose a safety risk sufficient to require airworthiness certification. The Secretary has determined that airworthiness certification should not be required for small UAS subject to this proposed rule due to their low-risk operational characteristics. Specifically, as mentioned previously, because of the other provisions in this proposed rule, the risk associated with small UAS

[111] The proposed 10-day timeframe to submit a report is similar to the 10-day timeframe that is currently required by the NTSB for accident reporting. *See* 49 CFR 830.15(a).

subject to this proposed rule is significantly reduced.

The FAA emphasizes that, under this proposed rule, the operator would not need to determine design conformity or reliability probabilities when evaluating the airworthiness of small UAS. Instead, the operator would need to make a determination of whether the small UAS is in a safe condition during flight operations and ground operations conducted for the purpose of flight. During preflight and post flight inspections, a small UAS operator should look for simple inspection items such as dents, corrosion, mis-alignment, loose wires, binding controls, loose fasteners, and excessive wear. This simple but not all-inclusive list will identify most problems that could impact the airworthiness and reliability of the aircraft.

Another inspection method unique to small UAS that would be governed by this proposed rule would be a check of the control link. This check can be accomplished by using the control station to verify proper flight control deflection prior to flight. The check can also be used to ensure the flight controls deflect freely, without binding. Like the aforementioned inspection items, this too is a simple visual inspection that should not require any specialized training.

Because the proposed airworthiness provisions discussed above would sufficiently ensure that the small UAS is in a condition for safe operation and because the other provisions of this rule would ensure that the risk posed by small unmanned aircraft is significantly smaller than public risk posed by other groups of aircraft, the Secretary finds, pursuant to section 333(b)(2) of Public Law 112–95, that airworthiness certification would be unnecessary for small UAS subject to this proposed rule. We invite comments on this finding.

IV. Regulatory Notices and Analyses

A. Regulatory Evaluation

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 and Executive Order 13563 direct that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96–354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Public Law 96–39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of $100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this proposed rule. Readers seeking greater detail can read the full regulatory evaluation, a copy of which has been placed in the docket for this rulemaking.

In conducting these analyses, FAA has determined that this proposed rule: (1) Has benefits that justify its costs; (2) is an economically "significant regulatory action" as defined in section 3(f) of Executive Order 12866; (3) is "significant" as defined in DOT's Regulatory Policies and Procedures; (4) would have a significant positive economic impact on a substantial number of small entities; (5) would not create unnecessary obstacles to the foreign commerce of the United States; and (6) would not impose an unfunded mandate on state, local, or tribal governments, or on the private sector by exceeding the threshold identified above. These analyses are summarized below.

1. Total Benefits and Costs of This Rule

This proposed rule reflects the fact that technological advances in small unmanned aircraft systems (small UAS) have led to a developing commercial market for their uses by providing a safe operating environment for them and for other aircraft in the NAS. In time, the FAA anticipates that the proposed rule would provide an opportunity to substitute small UAS operations for some risky manned flights, such as photographing houses, towers, bridges, or parks, thereby averting potential fatalities and injuries. It would also lead to more efficient methods of performing certain commercial tasks that are currently performed by other methods.

For any commercial operation occurring because this rule is enacted, the operator/owner of that small UAS will have determined the expected revenue stream of the flights exceeds the cost of the flights' operation. In each such case this rule helps enable new markets to develop. The FAA identified how the proposed rule would improve the safety of the NAS when small UAS are operated in place of a hazardous manned operation or a laborer working at heights.

The estimated out-of-pocket cost for a small UAS operator to be FAA-certified is less than $300. As this proposal enables new businesses to be established, the private sector benefits would exceed private sector costs when new entrepreneurs earn a profit. As more profitable opportunities increase, so will the social benefits. Therefore, each new small UAS operator will have determined that their expected benefits exceed their costs. In addition, if the use of a small UAS replaces a dangerous non-UAS operation and saves one human life, that alone would result in benefits outweighing the costs of this proposed rule. The costs are shown in the table in the "Cost Summary" section below.

2. Who is potentially affected by this rule?

Manufacturers and operators of small unmanned aircraft systems.

3. Assumptions

- Because the commercial small UAS industry is not yet established and may evolve differently from current expectations, the FAA determined that a five-year time frame of analysis would be appropriate.
- The base year is 2014.
- The FAA uses a seven percent discount rate for the benefits as prescribed by OMB in Circular A–4.[112]
- Since the year that the proposed rule is published is unknown, the FAA uses Year 1 as the current year so that the first discounting occurs in Year 2.
- In the small UAS future fleet forecast, the FAA assumes that 20 percent of the fleet would retire or leave the fleet every year.[113]
- Because only one operator is required to operate a small UAS, the FAA assumes that there would be one qualified FAA-approved operator per

[112] *http://www.whitehouse.gov/omb/circulars_a004_a-4*

[113] A copy of the forecast can be found in the rulemaking docket. The FAA notes that a small UAS could incur a cost for registration and then retire or leave the fleet during the analysis interval. The FAA also notes that our small UAS forecast may be understated if operators choose to own more than one FAA-registered aircraft (for example, as a backup in case one aircraft is disabled). To account for this possibility, as a sensitivity analysis, if there were an additional 20 percent increase in our small UAS forecast, then the costs in Table 7 and Table 10, found in the regulatory evaluation accompanying this NPRM, would increase by 20 percent. The FAA requests comments, with supporting documentation, on this sensitivity analysis.

registered and operating small UAS. Even though 20 percent of the small UAS equipment leaves the fleet each year, the FAA expects that small UAS operators, once tested and certificated, would remain employable and some would take jobs as small UAS operators in the following years of the analysis interval. Also, operators would incur a cost for recurrent knowledge testing every 24 months. This will be explained in detail in the "Costs" section below.

- The FAA assumes that the failure rate of applicants [114] taking the small UAS initial and recurrent knowledge based test would be 10 percent.[115] However, applicants and operators who fail are assumed to pass the knowledge test on the second attempt.
- Since this proposed rule allows knowledge test centers (KTC) to administer small UAS operator initial or recurrent knowledge tests, the FAA assumes that the KTC would collocate themselves with a Designated Pilot Examiner (DPE), Certificated Flight Instructor (CFI) or Other Designated Authority to validate an applicant's identity, accept the knowledge test results and the small UAS operator application for review and submission to the FAA AFS–760 Airman Certification Branch for processing.
- The cost to administer an FAA approved small UAS knowledge test, including compliance fees, to a small UAS applicant or operator is $150.[116]
- The FAA estimates that a small UAS operator applicant would need to travel 19 miles one way to reach their closest KTC location.[117]
- The 2014 published IRS variable cost mileage rate of $0.235 per mile is used to estimate the cost of Vehicle usage.[118]
- The FAA assigns the hourly value for personal time to equal $25.09 for Year 1.[119]
- The FAA assigns the hourly value for travel time to equal $24.68 for Year 1.[120]
- The FAA assigns the hourly value of FAA or KTC clerical time to $20.06 by calculating the mean for a Level 2 (FG 5/6) Clerical Support person from the Core Compensation Plan Pay Bands, effective January 12, 2014 working in the Washington DC locality.[121] The FAA then divides the mean of the annual salaries by 2,080 for an hourly rate.
- The FAA assigns the value of $28.00 as the estimate for the FAA's cost to register an aircraft. This estimate is based on an internal cost model developed in September 2014 by the FAA civil aviation registry to use for managerial estimates.
- The FAA uses a $50 fee to validate the identity of an applicant.

The FAA requests comments, with supporting documentation, on each of these assumptions and data values.

4. Benefit Summary

The potential benefits from this proposed rule would arise from improved safety and from opening up new commercial aviation activities. The FAA currently does not permit commercial activity involving small UAS due to the potential hazards they could pose to other aircraft and to the civilian population. This proposed rule would allow certain types of unmanned aerial observational operations to replace manned aerial observational operations that are currently being conducted under potentially hazardous conditions. The proposed rule would also allow small UAS to replace laborers inspecting high towers or in certain other hazardous locations. This proposed rule would allow the creation and development of new industries able to operate with minimal potential risks to operators and the public.

Specifically, with respect to the potential safety benefits from substituting small unmanned aircraft for aerial photography, the FAA reviewed 17 aerial aviation photography accidents and incidents that occurred between 2005 and 2009. Of these accidents, the FAA determined that a small UAS could have substituted for the manned operation in two cases. If the use of a small UAS replaces a dangerous non-UAS operation and saves one human life, that alone would result in benefits outweighing the costs of this proposed rule.

The potential benefits would be driven by the market and small UAS airspace availability. In the Regulatory Evaluation, the FAA explores only four of the many potential small UAS markets this proposal could enable. The four potential small UAS markets are:

1. Aerial photography,
2. Precision agriculture,
3. Search and rescue/law enforcement, and
4. Bridge inspection.

The FAA estimates that the proposed rule could not only enable numerous new industries, but also provide safety benefits and create a safe operating environment. The FAA has not quantified the specific benefits due to a lack of data. The FAA invites commenters to provide data that could be used to quantify benefits of this proposed rule.

5. Cost Summary

Several provisions in the proposed rule would impose compliance costs on potential commercial small UAS operators. However, the FAA assumes that commercial small UAS operators would incur these costs only if they anticipated revenues that would more than offset these costs. The business decision to enter a previously non-existent market is borne by each operator who knowingly chooses to operate a small UAS within the regulated environment of this proposal. In the Regulatory Evaluation, the FAA estimates these costs by provision. As summarized in the following table, the FAA estimates the total cost of the proposed rule for the 5 year period of analysis.

[114] The FAA notes that a person first must apply to become a small UAS operator. During the application process, this analysis will refer to a person applying to become a small UAS operator as an applicant. After the applicant has successfully passed the application process, this analysis will refer to the person as a small UAS operator.

[115] The FAA has not yet created or administered the knowledge test proposed in the NPRM. However, the weighted average failure rate for all categories of airman taking knowledge tests in 2013 was 10%. See Appendix 3 of the regulatory evaluation accompanying this NPRM for details.

[116] *http://www.catstest.com/airman-testing-exams/recreational-private-pilot.php*

[117] See "Travel Expense" section for methodology and source information.

[118] *http://www.irs.gov/2014-Standard-Mileage-Rates-for-Business,-Medical-and-Moving-Announced*

[119] Source: Revised Departmental Guidance on The Valuation of Travel time in Economic Analysis (published June 9, 2014). Per this guidance, median Household income divided by 2,080 hours is used to establish a wage rate (see Table 3). This wage rate, as noted in this guidance, serves as an approximate value for leisure time. Consistent with this guidance wage rates are augmented by 1.2 percent per year to reflect projected annual growth of real median household income. Year 1 (2012$) wage rates estimates are calculated as $24.50 * $1.012^2 = $25.09; Year 2 as $24.50 * $1.012^3 = $25.39; Year 3 as $24.50 * $1.012^4 = $25.70; Year 4 as $24.50 * $1.012^5 = $26.01; and Year 5 as $24.50 * $1.012^6 = $26.32.

[120] Source: Revised Departmental Guidance on The Valuation of Travel time in Economic Analysis (published June 9, 2014)-Local Travel (Business). Per this guidance future Travel Time Saving estimates are also augmented by 1.2 percent per year to reflect projected annual growth of real median household income. Year 1 (2012$) travel time savings estimates are calculated as $24.10 * $1.012^2 = $24.68; Year 2 as $24.10 * $1.012^3 = $24.98; Year 3 as $24.10 * $1.012^4 =$25.28; Year 4 as $24.10 * $1.012^5 = $25.58; and Year 5 as $24.10 * $1.012^6 = $25.89. See table 4.

[121] *https://my.faa.gov/content/dam/myfaa/org/staffoffices/ahr/program_policies/policy_guidance/hr_policies/hrpm/comp/comp_ref/media/core_salary_with_conversion.xls.*

TOTAL AND PRESENT VALUE COST SUMMARY BY PROVISION

[Thousands of current year dollars]

Type of cost	Total costs (000)	7% P.V. (000)
Applicant/small UAS operator:		
Travel Expense	$151.7	$125.9
Knowledge Test Fees	$2,548.6	2,114.2
Positive Identification of the Applicant Fee	$434.3	383.7
Owner:		
Small UAS Registration Fee	$85.7	70.0
Time Resource Opportunity Costs:		
Applicants Travel Time	$296.1	245.3
Knowledge Test Application	$108.9	90.2
Physical Capability Certification	$20.0	17.7
Knowledge Test Time	$1,307.1	1,082.9
Small UAS Registration Form	$220.5	179.7
Change of Name or Address Form	$14.9	12.3
Knowledge Test Report	$154.9	128.5
Pre-flight Inspection	Not quantified	
Accident Reporting	Minimal cost	
Government Costs:		
TSA Security Vetting	$1,026.5	906.9
FAA—sUAS Operating Certificate	$39.6	35.0
FAA—Registration	$394.3	321.8
Total Costs	$6,803.1	5,714.0

*Details may not add to row or column totals due to rounding.

B. Initial Regulatory Flexibility Determination (IRFA)

The Regulatory Flexibility Act of 1980 (Pub. L. 96–354) (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration." The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA.

The FAA believes that this proposed rule would have a significant impact on a substantial number of entities. Therefore, under section 603(b) of the RFA, the initial analysis must address:

- Description of reasons the agency is considering the action.
- Statement of the legal basis and objectives for the proposed rule.
- Description of the record keeping and other compliance requirements of the proposed rule.
- All federal rules that may duplicate, overlap, or conflict with the proposed rule.
- Description and an estimated number of small entities to which the proposed rule will apply.
- Describe alternatives considered.

1. Description of Reasons the Agency Is Considering the Action

The FAA is proposing to amend its regulations to adopt specific rules to allow the operation of small unmanned aircraft system (small UAS) operations in the National Airspace System (NAS). These changes would address the operation of small UAS, certification of their operators, registration, and display of registration markings. The proposed requirements would allow small UAS to operate in the NAS while minimizing the risk they may pose to manned aviation operations and the general public.

If the proposed rule were adopted, operators would be permitted to participate in certain commercial activities from which they are currently prohibited. The proposed requirements are intended to enable the opportunity for the private sector to develop commercial small UAS businesses and facilitate legal and safe operations. Currently commercial activity using a small UAS is prohibited by federal regulation unless the civil aircraft has an airworthiness certificate in effect and operations are approved by the FAA on a case by case basis via an exemption from the pertinent regulations.

2. Statement of the Legal Basis and Objectives for the Proposed Rule

This rulemaking is promulgated under the authority described in the FAA Modernization and Reform Act of 2012 (Pub. L. 112–95). Section 333 of Public Law 112–95 directs the Secretary of Transportation to determine whether "certain unmanned aircraft systems may operate safely in the national airspace system." If the FAA determines, pursuant to section 333, that certain unmanned aircraft systems may operate safely in the NAS, then the FAA must "establish requirements for the safe operation of such aircraft systems in the national airspace system." [122]

This rulemaking is also promulgated pursuant to 49 U.S.C. 40103(b)(1) and (2), which charge the FAA with issuing regulations: (1) To ensure the safety of aircraft and the efficient use of airspace; and (2) to govern the flight of aircraft for purposes of navigating, protecting and identifying aircraft, and protecting individuals and property on the ground. In addition, 49 U.S.C. 44701(a)(5)

[122] Public Law 112–95, section 333(c). In addition, Public Law 112–95, section 332(b)(1) requires the FAA to issue "a final rule on small unmanned aircraft systems that will allow for civil operation of such systems in the national airspace system, to the extent the systems do not meet the requirements for expedited operational authorization under section 333 of [Pub. L. 112–95]."

charges the FAA with prescribing regulations that the FAA finds necessary for safety in air commerce and national security.

Finally, the model-aircraft component of this rulemaking is promulgated pursuant to Public Law 112–95, section 336(b), which clarifies that the FAA's existing authority, under 49 U.S.C. 40103(b) and 44701(a)(5), provides the FAA with the power to pursue enforcement "against persons operating model aircraft who endanger the safety of the national airspace system."

3. Description of the Record Keeping and Other Compliance Requirements of the Proposed Rule

The FAA's statute[123] prohibits a person from serving as an airman without an airman certificate. This proposed rule would create a new airman certificate for small UAS operators to satisfy the statutory requirement. The airman certificate would be called an unmanned aircraft operator certificate with a small UAS rating, and in order to obtain it, a person would have to: (1) Take and pass an aeronautical knowledge test; and (2) submit an application for the certificate.

To take and pass an aeronautical knowledge test, a person would have to: (1) Apply to take the test at an FAA-approved Knowledge Testing Center; (2) spend time taking the test; and (3) obtain an airman knowledge test report showing that he or she passed the test. After passing a knowledge test, the person would then apply for the certificate by: (1) Filling out and submitting an application for the certificate, which would include a certification stating that the applicant is physically capable of safely operating a small UAS; and (2) attaching a copy of the airman knowledge test report to the application. This proposed rule would also require a small UAS operator to report to the FAA any accident that results in: (1) Any injury to a person; or (2) damage to property other than the small unmanned aircraft.

The FAA's statute also prohibits the operation of an aircraft that is not registered.[124] Consequently this proposed rule would require owners of a small unmanned aircraft to register that aircraft with the FAA. The owner of a small unmanned aircraft can do this simply by sending the following items to the FAA: (1) An Aircraft Registration Application providing information about the aircraft and contact information for the aircraft owner; (2) evidence of ownership (such as a bill of sale); and (3) the $5.00 registration fee.

4. All Federal Rules That May Duplicate, Overlap, or Conflict With the Proposed Rule

The FAA is unaware that the proposed rule will overlap, duplicate or conflict with existing federal rules.

5. Description and an Estimated Number of Small Entities To Which the Proposed Rule Will Apply

The FAA believes that the proposed rule would enable numerous new industries, while maintaining a safe operating environment in the NAS.

Because the commercial small UAS industry is not yet established and legal operation of commercial small UAS in the NAS constitutes a new market, available data for these operations is sparse. Accordingly, the FAA has not quantified number of small entities to which the proposed rule would apply because the FAA cannot reasonably predict how the market will develop for individual commercial uses of small UAS.

With respect to the potential operator costs, the FAA assumes that each operator would be a new entrant into the commercial market and that each operator would have one small UAS. The following table shows the proposed rule's estimated out-of-pocket startup and recurrent direct compliance costs for a new small UAS operator or owner.

SMALL UAS OPERATOR STARTUP AND RECURRENT COSTS

[Current dollars]

Type of cost	Cost	
	Initial	Recurrent
Applicant/small UAS operator:		
Travel Expense	$9	$9
Knowledge Test Fees	150	150
Positive Identification of the Applicant Fee	50	
Total applicant/small UAS operator	209	159
Owner:		
Small UAS Registration Fee	5	5
Total Owner	5	5
Total	214	164

*Details may not add to row or column totals due to rounding.

The FAA does not believe that $214 per operator would be a significant negative economic impact to small entity operators because $214 is relatively inexpensive to be licensed for operation of a commercial vehicle.

The FAA expects this proposed rule would be a significant positive economic impact because it enables new businesses to operate small UAS for hire and would stimulate a manufacturing support industry. The FAA believes that most, if not all, of these new commercial activities would be conducted by operators of small UAS who are small business entities. Therefore, the FAA believes that this proposed rule would have a positive significant impact on a substantial number of entities.

6. Alternatives Considered

The FAA considered both more costly and less costly alternatives as part of its NPRM. The FAA rejected the more costly alternatives due to policy considerations and undue burden that would be imposed on small UAS operators. The less costly alternatives and the FAA's reasons for rejecting

[123] 49 U.S.C. 44711(a)(2)(A).

[124] 49 U.S.C. 44101.

those alternatives in the NPRM are discussed below.

- Allowing knowledge testing centers to verify ID and accept airman applications. The FAA decided, as part of its proposal, to limit positive identification and acceptance of an application to those persons who are either: (1) Already authorized to accept and sign airman applications (FAA personnel, DPEs, and ACRs); or (2) are already required to verify identity under the TSA's regulations (CFIs). Knowledge testing centers do not fit into either of these categories, and thus, after considering the alternative of allowing them to accept airman applications, the FAA decided not to include this alternative in the NPRM.
- Allowing individuals who have been conducting UAS operations under a COA as a non-military UAS operator to take a recurrent test instead of an initial test in order to obtain an unmanned aircraft operator certificate with a small UAS rating. However, the FAA decided not to include this provision in the proposed rule because: (1) There is no formally recognized recordation system for non-military COA pilots as there is for military pilots; and (2) non-military COA pilots are currently subject to different requirements than military COA pilots for operations above 400 feet AGL.

Therefore this proposed rule would have a significant positive economic impact on a substantial number of small entities. The FAA solicits comments regarding this determination.

C. International Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39), as amended by the Uruguay Round Agreements Act (Pub. L. 103–465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such as the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards.

The FAA invites comments on the inclusion of foreign-registered small unmanned aircraft in this new framework. In particular, FAA invites comments on foreign experiences with differing levels of stringency in their UAS regulation. The FAA recognizes that several other countries have adopted different standards with regard to the commercial operation of UAS in their respective airspaces. Data from their experiences regarding safety outcomes and economic activity could form the basis for studying the effect of these different regulatory approaches.

D. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of $100 million or more (in 1995 dollars) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action." The FAA currently uses an inflation-adjusted value of $151.0 million in lieu of $100 million. This proposed rule does not contain such a mandate; therefore, the requirements of Title II of the Act do not apply.

E. Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. According to the 1995 amendments to the Paperwork Reduction Act (5 CFR 1320.8(b)(2)(vi)), an agency may not collect or sponsor the collection of information, nor may it impose an information collection requirement unless it displays a currently valid Office of Management and Budget (OMB) control number.

This action contains the following proposed information collection requirements:

- Submission of an application for an unmanned aircraft operator certificate with a small UAS rating;
- submission of an application to register a small unmanned aircraft; and
- reporting any accident that results in injury to a person or damage to property other than the small unmanned aircraft.

Below, we discuss each of these information-collection requirements in more detail. As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), the FAA has submitted these proposed information collection amendments to OMB for its review.

1. Obtaining an Unmanned Aircraft Operator Certificate With a Small UAS Rating

Summary: The FAA's statute [125] prohibits a person from serving as an airman without an airman certificate. This proposed rule would create a new airman certificate for small UAS operators to satisfy the statutory requirement. The airman certificate would be called an unmanned aircraft operator certificate with a small UAS rating, and in order to obtain it, a person would have to: (1) Take and pass an aeronautical knowledge test; and (2) submit an application for the certificate.

To take and pass an aeronautical knowledge test, a person would have to: (1) Apply to take the test at an FAA-approved Knowledge Testing Center; (2) spend time taking the test; and (3) obtain an airman knowledge test report showing that he or she passed the test. After passing a knowledge test, the person would then apply for the certificate by: (1) Filling out and submitting an application for the certificate, which would include a certification stating that the applicant is physically capable of safely operating a small UAS; and (2) attaching a copy of the airman knowledge test report to the application.

The above requirements would not result in a new collection of information, but would instead expand an existing OMB-approved collection of information that is approved under OMB control number 2120–0021. This collection of information governs information that the FAA collects to certificate pilots and flight instructors. The above requirements would increase the burden of this already-existing collection of information.

Use: The above requirements would be used by the FAA to issue airman certificates to UAS operators in order to satisfy the statutory requirement that an airman must possess an airman certificate.

Estimate of Increase in Annualized Burden (there are 7,896 unique applicants):

[125] 49 U.S.C. 44711(a)(2)(A).

			Total			Annual		
Final Rule Requirement	Pages Per Application	Applicant Time (Hours)	Total Time (Hours)	Total Number of Pages	Total Cost	Annual Time (Hours)	Annual Number of Pages	Annual Cost
Application for an Operator Certificate	1	0.25	3,862	7,896	$39,598	772	1579	$7,920
Knowledge Test Application	3	0.25	4,248	46,338	$108,928	850	9268	$21,786
Physical Capability Certification	1	0.10	1,545	7,896	$20,016	309	1579	$4,003
Knowledge Test Time	70	3.00	50,972	1,081,220	$1,307,131	10194	216244	$261,426
Airman Knowledge Test Report	1	0.50	3,948	15,446	$154,923	790	3089	$30,985

* Details may not add to row or column totals due to rounding.

2. Registering a Small Unmanned Aircraft

Summary: The FAA's statute [126] prohibits the operation of an aircraft unless the aircraft is registered. Pursuant to this statutory prohibition, this proposed rule would require small unmanned aircraft to be registered with the FAA using the current registration process found in 14 CFR part 47. In order to register a small unmanned aircraft with the FAA, the aircraft's owner would have to submit to the FAA an Aircraft Registration Application providing information about the aircraft and contact information for the aircraft owner. This registration would need to be renewed every three years.

The above requirements would not result in a new collection of information, but would instead expand an existing OMB-approved collection of information that is approved under OMB control number 2120–0042. This collection of information governs information that the FAA collects in order to register an aircraft. The above requirements would increase the burden of this already-existing collection of information.

Use: The above requirements would be used by the FAA to register small unmanned aircraft in order to satisfy the statutory requirement that an aircraft must be registered in order to operate.

Estimate of Increase in Annualized Burden:

			Total			Annual		
Final Rule Requirement	Pages Per Application	Applicant Time (Hours)	Total Time (Hours)	Total Number of Pages	Total Cost	Annual Time (Hours)	Annual Number of Pages	Annual Cost
Aircraft Registration Application	1	0.5	8,571	17,142	$220,464	1,714	3,428	$44,093

* Details may not add to row or column totals due to rounding.

3. Accident Reporting

Summary: To ensure proper oversight of small UAS operations, this proposed rule would require a small UAS operator to report to the FAA any small UAS operation that results in: (1) Any injury to a person; or (2) damage to property other than the small unmanned aircraft. After receiving this report, the FAA may conduct further investigation to determine whether any FAA regulations were violated. This proposed requirement would constitute a new collection of information. However, the FAA emphasizes that this proposed reporting requirement would be triggered only during operations that result in injury to a person or property damage.

Use: The above requirements would be used by the FAA to ensure proper oversight of small UAS operations. A report of an accident that resulted in an injury to a person or property damage may serve to initiate an FAA investigation into whether FAA regulations were violated.

Annualized Burden Estimate:

There is one page of paperwork associated with reporting an accident. The FAA calculated the probability of an accident by dividing the accident rate for general aviation pilots by the total number of hours and estimated that an accident would occur .001% of the time. Applying .001% to the small UAS in the analysis interval shows that the probability of an accident where property damage, injury, or death occurs is negligible; therefore the FAA estimates that there are no costs for this provision.

4. Total Annualized Burden Estimate

The total annualized burden estimate of the information-collection requirements associated with this proposed rule is as follows:

[126] 49 U.S.C. 44101.

Final Rule Requirement	Total Number of Pages	Total Cost	Annual Cost
Operator Certificate	1,158,796	$1,630,596	$326,119
Aircraft Registration	17,142	$220,464	$44,093
Accident Reporting	Negligible	Negligible	Negligible

* Details may not add to row or column totals due to rounding.

The agency is soliciting comments to—

- Evaluate whether the proposed information requirement is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility;
- Evaluate the accuracy of the agency's estimate of the burden;
- Enhance the quality, utility, and clarity of the information to be collected; and
- Minimize the burden of collecting information on those who are to respond, including by using appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology.

Individuals and organizations may send comments on the information collection requirement to the address listed in the **ADDRESSES** section at the beginning of this preamble by April 24, 2015. Comments also should be submitted to the Office of Management and Budget, Office of Information and Regulatory Affairs, Attention: Desk Officer for FAA, New Executive Office Building, Room 10202, 725 17th Street NW., Washington, DC 20053.

F. International Compatibility and Cooperation

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to conform to International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to these proposed regulations.

Additionally, Executive Order 13609, Promoting International Regulatory Cooperation, promotes international regulatory cooperation to meet shared challenges involving health, safety, labor, security, environmental, and other issues and to reduce, eliminate, or prevent unnecessary differences in regulatory requirements. The FAA has analyzed this action under the policies and agency responsibilities of Executive Order 13609, and has determined that this action would have no effect on international regulatory cooperation.

G. Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this rulemaking action qualifies for the categorical exclusion identified in paragraph 312f and involves no extraordinary circumstances.

H. Regulations Affecting Intrastate Aviation in Alaska

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the Administrator, when modifying 14 CFR regulations in a manner affecting intrastate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish appropriate regulatory distinctions. Because this proposed rule would limit small unmanned aircraft operations to daylight hours only, it could, if adopted, affect intrastate aviation in Alaska. The FAA, therefore, specifically requests comments on whether there is justification for applying the proposed rule differently in intrastate operations in Alaska.

V. Executive Order Determinations

A. Executive Order 13132, Federalism

The FAA has analyzed this proposed rule under the principles and criteria of Executive Order 13132, Federalism. The agency has determined that this action would not have a substantial direct effect on the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, would not have Federalism implications.

B. Executive Order 13211, Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA analyzed this proposed rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). The agency has determined that it would not be a "significant energy action" under the executive order and would not be likely to have a significant adverse effect on the supply, distribution, or use of energy.

VI. Additional Information

A. Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. The agency also invites comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

The FAA will file in the docket all comments it receives, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, the FAA will consider all comments it receives on or before the closing date for comments. The FAA will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. The agency may change this proposal in light of the comments it receives.

B. Availability of Rulemaking Documents

An electronic copy of rulemaking documents may be obtained from the Internet by—

1. Searching the Federal eRulemaking Portal (*http://www.regulations.gov*);
2. Visiting the FAA's Regulations and Policies Web page at *http://www.faa.gov/regulations_policies* or
3. Accessing the Government Printing Office's Web page at *http://www.gpo.gov/fdsys/*.

Copies may also be obtained by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM–1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267–9680. Commenters must identify the docket or notice number of this rulemaking.

All documents the FAA considered in developing this proposed rule, including economic analyses and technical reports, may be accessed from the Internet through the Federal eRulemaking Portal referenced in item (1) above.

List of Subjects

14 CFR Part 21

Aircraft, Aviation safety, Recording and recordkeeping requirements.

14 CFR Part 43

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

14 CFR Part 45

Aircraft, Signs and symbols.

14 CFR Part 47

Aircraft, Reporting and recordkeeping requirements.

14 CFR Part 61

Aircraft, Airmen, Alcohol abuse, Aviation safety, Drug abuse, Recreation and recreation areas, Reporting and recordkeeping requirements, Security measures, Teachers.

14 CFR Part 91

Air traffic control, Aircraft, Airmen, Airports, Aviation safety, Reporting and recordkeeping requirements.

14 CFR Part 101

Aircraft, Aviation Safety.

14 CFR Part 107

Aircraft, Airmen, Aviation safety, Reporting and recordkeeping requirements, Security measures, Signs and symbols, Small unmanned aircraft, Unmanned aircraft.

14 CFR Part 183

Airmen, Authority delegations (Government agencies).

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend chapter I of title 14, Code of Federal Regulations as follows:

PART 21—CERTIFICATION PROCEDURES FOR PRODUCTS AND PARTS

■ 1. The authority citation for part 21 is revised to read as follows:

Authority: 42 U.S.C. 7572; 49 U.S.C. 106(f), 106(g), 40101 note, 40105, 40113, 44701–44702, 44704, 44707, 44709, 44711, 44713, 44715, 45303; Sec. 333 of Pub. L. 112–95.

■ 2. Amend § 21.1 by revising paragraph (a) introductory text to read as follows:

§ 21.1 Applicability and definitions.

(a) Except for aircraft subject to the provisions of part 107 of this chapter, this part prescribes—

* * * * *

PART 43—MAINTENANCE, PREVENTIVE MAINTENANCE, REBUILDING, AND ALTERATION

■ 3. The authority citation for part 43 is revised to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701, 44703, 44705, 44707, 44711, 44713, 44717, 44725.

■ 4. Amend § 43.1 by revising paragraph (b) to read as follows:

§ 43.1 Applicability.

* * * * *

(b) This part does not apply to—

(1) Any aircraft for which the FAA has issued an experimental certificate, unless the FAA has previously issued a different kind of airworthiness certificate for that aircraft;

(2) Any aircraft for which the FAA has issued an experimental certificate under the provisions of § 21.191(i)(3) of this chapter, and the aircraft was previously issued a special airworthiness certificate in the light-sport category under the provisions of § 21.190 of this chapter; or

(3) Any aircraft subject to the provisions of part 107 of this chapter.

* * * * *

PART 45—IDENTIFICATION AND REGISTRATION MARKING

■ 5. The authority citation for part 45 is revised to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40103, 40113–40114, 44101–44105, 44107–44111, 44504, 44701, 44708–44709, 44711–44713, 44725, 45302–45303, 46104, 46304, 46306, 47122.

■ 6. Add § 45.9 to subpart B to read as follows:

§ 45.9 Small unmanned aircraft systems.

Notwithstanding any other provision of this part, this subpart does not apply to aircraft subject to part 107 of this chapter.

PART 47—AIRCRAFT REGISTRATION

■ 7. The authority citation for part 47 is revised to read as follows:

Authority: 4 U.S.T. 1830; Pub. L. 108–297, 118 Stat. 1095 (49 U.S.C. 40101 note, 49 U.S.C. 44101 note); 49 U.S.C. 106(f), 106(g), 40113–40114, 44101–44108, 44110–44113, 44703–44704, 44713, 45302, 46104, 46301.

■ 8. Amend § 47.15 by revising paragraph (a) introductory text to read as follows:

§ 47.15 Registration number.

(a) *Number required.* An applicant for aircraft registration must place a U.S. registration number (registration mark) on the Aircraft Registration Application, AC Form 8050–1, and on any evidence submitted with the application. There is no charge for the assignment of numbers provided in this paragraph. This paragraph does not apply to an aircraft manufacturer who applies for a group of U.S. registration numbers under paragraph (c) of this section; a person who applies for a special registration number under paragraphs (d) through (f) of this section; a holder of a Dealer's Aircraft Registration Certificate, AC Form 8050–6, who applies for a temporary registration number under § 47.16; or an owner of a small unmanned aircraft weighing less than 55 pounds that has not previously been registered anywhere.

* * * * *

PART 61—CERTIFICATION: PILOTS, FLIGHT INSTRUCTORS, AND GROUND INSTRUCTORS

■ 9. The authority citation for part 61 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701–44703, 44707, 44709–44711, 45102–45103, 45301–45302.

■ 10. Amend § 61.1 by revising paragraph (a) introductory text to read as follows:

§ 61.1 Applicability and definitions.

(a) Except as provided in part 107 of this chapter, this part prescribes:

* * * * *

■ 11. Add § 61.8 to read as follows:

§ 61.8 Inapplicability of unmanned aircraft operations.

Any action conducted pursuant to part 107 of this chapter or Subpart E of part 101 of this chapter cannot be used to meet the requirements of this part.

■ 12. Revise § 61.193 to read as follows:

§ 61.193 Flight instructor privileges.

(a) A person who holds a flight instructor certificate is authorized within the limitations of that person's flight instructor certificate and ratings to train and issue endorsements that are required for:

(1) A student pilot certificate;
(2) A pilot certificate;
(3) A flight instructor certificate;
(4) A ground instructor certificate;
(5) An aircraft rating;
(6) An instrument rating;
(7) A flight review, operating privilege, or recency of experience requirement of this part;
(8) A practical test; and
(9) A knowledge test.

(b) A person who holds a flight instructor certificate is authorized to accept an application for an unmanned aircraft operator certificate with a small UAS rating and verify the identity of the applicant in a form and manner acceptable to the Administrator.

■ 13. Revise § 61.413 to read as follows:

§ 61.413 What are the privileges of my flight instructor certificate with a sport pilot rating?

(a) If you hold a flight instructor certificate with a sport pilot rating, you are authorized, within the limits of your certificate and rating, to provide training and endorsements that are required for, and relate to—

(1) A student pilot seeking a sport pilot certificate;
(2) A sport pilot certificate;
(3) A flight instructor certificate with a sport pilot rating;
(4) A powered parachute or weight-shift-control aircraft rating;
(5) Sport pilot privileges;
(6) A flight review or operating privilege for a sport pilot;
(7) A practical test for a sport pilot certificate, a private pilot certificate with a powered parachute or weight-shift-control aircraft rating or a flight instructor certificate with a sport pilot rating;
(8) A knowledge test for a sport pilot certificate, a private pilot certificate with a powered parachute or weight-shift-control aircraft rating or a flight instructor certificate with a sport pilot rating; and
(9) A proficiency check for an additional category or class privilege for a sport pilot certificate or a flight instructor certificate with a sport pilot rating.

(b) A person who holds a flight instructor certificate with a sport pilot rating is authorized to accept an application for an unmanned aircraft operator certificate with a small UAS rating and verify the identity of the applicant in a form and manner acceptable to the Administrator.

PART 91—GENERAL OPERATING AND FLIGHT RULES

■ 14. The authority citation for part 91 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 1155, 40101, 40103, 40105, 40113, 40120, 44101, 44111, 44701, 44704, 44709, 44711, 44712, 44715, 44716, 44717, 44722, 46306, 46315, 46316, 46504, 46506–46507, 47122, 47508, 47528–47531, 47534, articles 12 and 29 of the Convention on International Civil Aviation (61 Stat. 1180), (126 Stat. 11).

■ 15. Amend § 91.1 by revising paragraph (a) introductory text and adding paragraph (e) to read as follows:

§ 91.1 Applicability.

(a) Except as provided in paragraphs (b), (c), and (e) of this section and §§ 91.701 and 91.703, this part prescribes rules governing the operation of aircraft within the United States, including the waters within 3 nautical miles of the U.S. coast.

* * * * *

(e) Except as provided in §§ 107.27, 107.47, 107.57, and 107.59 of this chapter, this part does not apply to any aircraft or vehicle governed by part 103 of this chapter, part 107 of this chapter, or subparts B, C, or D of part 101 of this chapter.

PART 101—MOORED BALLOONS, KITES, AMATEUR ROCKETS AND UNMANNED FREE BALLOONS

■ 16. The authority citation for part 101 is revised to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40101 note, 40103, 40113–40114, 45302, 44502, 44514, 44701–44702, 44721, 46308, Sec. 336(b), Pub. L. 112–95.

■ 17. Amend § 101.1 by adding paragraph (a)(5) to read as follows:

§ 101.1 Applicability.

(a) * * *

(5) Any model aircraft that meets the conditions specified in § 101.41. For purposes of this part, a model aircraft is an unmanned aircraft that is:

(i) Capable of sustained flight in the atmosphere;

(ii) Flown within visual line of sight of the person operating the aircraft; and

(iii) Flown for hobby or recreational purposes.

* * * * *

■ 18. Add subpart E, consisting of §§ 101.41 and 101.43, to read as follows:

Subpart E—Special Rule for Model Aircraft

§ 101.41 Applicability.

This subpart prescribes the rules governing the operation of a model aircraft that meets all of the following conditions as set forth in section 336 of Public Law 112–95:

(a) The aircraft is flown strictly for hobby or recreational use;

(b) The aircraft is operated in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization;

(c) The aircraft is limited to not more than 55 pounds unless otherwise certified through a design, construction, inspection, flight test, and operational safety program administered by a community-based organization;

(d) The aircraft is operated in a manner that does not interfere with and gives way to any manned aircraft; and

(e) When flown within 5 miles of an airport, the operator of the aircraft provides the airport operator and the airport air traffic control tower (when an air traffic facility is located at the airport) with prior notice of the operation.

§ 101.43 Endangering the safety of the National Airspace System.

No person may operate model aircraft so as to endanger the safety of the national airspace system.

■ 19. Add part 107 to read as follows:

PART 107—SMALL UNMANNED AIRCRAFT SYSTEMS

Subpart A—General

Sec.
107.1 Applicability.
107.3 Definitions.
107.5 Falsification, reproduction or alteration.
107.7 Inspection, testing, and demonstration of compliance.
107.9 Accident reporting.

Subpart B—Operating Rules

107.11 Applicability.
107.13 Registration, certification, and airworthiness directives.
107.15 Civil small unmanned aircraft system airworthiness.
107.17 Medical condition.
107.19 Responsibility of the operator.
107.21 Maintenance and inspection.
107.23 Hazardous operation.
107.25 Operation from a moving vehicle or aircraft.
107.27 Alcohol or drugs.
107.29 Daylight operation.
107.31 Visual line of sight aircraft operation.
107.33 Visual observer.
107.35 Operation of multiple small unmanned aircraft systems.

107.37 Operation near aircraft; right-of-way rules.
107.39 Operation over people.
107.41 Operation in certain airspace.
107.45 Operation in prohibited or restricted areas.
107.47 Flight restrictions in the proximity of certain areas designated by notice to airmen.
107.49 Preflight familiarization, inspection, and actions for aircraft operation.
107.51 Operating limitations for small unmanned aircraft.

Subpart C—Operator Certification

107.53 Applicability.
107.57 Offenses involving alcohol or drugs.
107.59 Refusal to submit to an alcohol test or to furnish test results.
107.61 Eligibility.
107.63 Issuance of an unmanned aircraft operator certificate with a small UAS rating.
107.65 Aeronautical knowledge recency.
107.67 Knowledge tests: General procedures and passing grades.
107.69 Knowledge tests: Cheating or other unauthorized conduct.
107.71 Retesting after failure.
107.73 Initial and recurrent knowledge tests.
107.75 Military pilots or former military pilots.
107.77 Change of name or address.
107.79 Voluntary surrender of certificate.

Subpart D—Small Unmanned Aircraft Registration and Identification.

107.87 Applicability.
107.89 Registration and identification.

Authority: 49 U.S.C. 106(f), 40101 note, 40103(b), 44701(a)(5); Sec. 333 of Pub. L. 112–95.

Subpart A—General

§ 107.1 Applicability.

(a) Except as provided in paragraph (b) of this section, this part applies to the registration, airman certification, and operation of civil small unmanned aircraft systems within the United States.

(b) This part does not apply to the following:

(1) Air carrier operations;

(2) Any aircraft subject to the provisions of part 101 of this chapter;

(3) Any aircraft conducting an external load operation;

(4) Any aircraft towing another aircraft or object; or

(5) Any aircraft that does not meet the criteria specified in § 47.3 of this chapter.

§ 107.3 Definitions.

The following definitions apply to this part. If there is a conflict between the definitions of this part and definitions specified in § 1.1 of this chapter, the definitions in this part control for purposes of this part:

Control station means an interface used by the operator to control the flight path of the small unmanned aircraft.

Corrective lenses means spectacles or contact lenses.

Operator means a person who manipulates the flight controls of a small unmanned aircraft system.

Small unmanned aircraft means an unmanned aircraft weighing less than 55 pounds including everything that is on board the aircraft.

Small unmanned aircraft system (small UAS) means a small unmanned aircraft and its associated elements (including communication links and the components that control the small unmanned aircraft) that are required for the safe and efficient operation of the small unmanned aircraft in the national airspace system.

Unmanned aircraft means an aircraft operated without the possibility of direct human intervention from within or on the aircraft.

Visual observer means a person who assists the small unmanned aircraft operator to see and avoid other air traffic or objects aloft or on the ground.

§ 107.5 Falsification, reproduction or alteration.

(a) No person may make or cause to be made—

(1) Any fraudulent or intentionally false record or report that is required to be made, kept, or used to show compliance with any requirement under this part.

(2) Any reproduction or alteration, for fraudulent purpose, of any certificate, rating, authorization, record or report under this part.

(b) The commission by any person of an act prohibited under paragraph (a) of this section is a basis for denying an application for certificate, or suspending or revoking the applicable certificate or waiver issued by the Administrator under this part and held by that person.

§ 107.7 Inspection, testing, and demonstration of compliance.

(a) An operator or owner of a small unmanned aircraft system must, upon request, make available to the Administrator:

(1) The operator's unmanned aircraft operator certificate with a small UAS rating;

(2) The certificate of aircraft registration for the small unmanned aircraft system being operated; and

(3) Any other document, record, or report required to be kept by an operator or owner of a small unmanned aircraft system under the regulations of this chapter.

(b) The operator, visual observer, or owner of a small unmanned aircraft system must, upon request, allow the Administrator to make any test or inspection of the small unmanned aircraft system, the operator, and, if applicable, the visual observer to determine compliance with this part.

§ 107.9 Accident reporting.

No later than 10 days after an operation that meets the criteria of either paragraph (a) or (b) of this section, an operator must report to the nearest Federal Aviation Administration Flight Standards District Office any operation of the small unmanned aircraft that involves the following:

(a) Any injury to any person; or

(b) Damage to any property, other than the small unmanned aircraft.

Subpart B—Operating Rules

§ 107.11 Applicability.

This subpart applies to the operation of all civil small unmanned aircraft systems to which this part applies.

§ 107.13 Registration, certification, and airworthiness directives.

No person may operate a civil small unmanned aircraft system for purposes of flight unless:

(a) That person has an unmanned aircraft operator certificate with a small UAS rating issued pursuant to subpart C of this part and satisfies the requirements of § 107.65;

(b) The small unmanned aircraft being operated has been registered with the FAA pursuant to subpart D of this part;

(c) The small unmanned aircraft being operated displays its registration number in the manner specified in subpart D of this part; and

(d) The owner or operator of the small unmanned aircraft system complies with all applicable airworthiness directives.

§ 107.15 Civil small unmanned aircraft system airworthiness.

(a) No person may operate a civil small unmanned aircraft system unless it is in a condition for safe operation. This condition must be determined during the preflight check required under § 107.49 of this part.

(b) The operator must discontinue the flight when he or she knows or has reason to know that continuing the flight would pose a hazard to other aircraft, people, or property.

§ 107.17 Medical condition.

No person may act as an operator or visual observer if he or she knows or has reason to know that he or she has a physical or mental condition that would interfere with the safe operation of a small unmanned aircraft system.

§ 107.19 Responsibility of the operator.

(a) The operator is directly responsible for, and is the final authority as to the operation of the small unmanned aircraft system.

(b) The operator must ensure that the small unmanned aircraft will pose no undue hazard to other aircraft, people, or property in the event of a loss of control of the aircraft for any reason.

§ 107.21 Maintenance and inspection.

An operator must:

(a) Maintain the system in a condition for safe operation; and

(b) Inspect the small unmanned aircraft system prior to flight to determine that the system it is in a condition for safe operation.

§ 107.23 Hazardous operation.

No person may:

(a) Operate a small unmanned aircraft system in a careless or reckless manner so as to endanger the life or property of another; or

(b) Allow an object to be dropped from a small unmanned aircraft if such action endangers the life or property of another.

§ 107.25 Operation from a moving vehicle or aircraft.

No person may operate a small unmanned aircraft system—

(a) From a moving aircraft; or

(b) From a moving vehicle unless that vehicle is moving on water.

§ 107.27 Alcohol or drugs.

A person acting as an operator or as a visual observer must comply with the provisions of §§ 91.17 and 91.19 of this chapter.

§ 107.29 Daylight operation.

No person may operate a small unmanned aircraft system except between the hours of official sunrise and sunset.

§ 107.31 Visual line of sight aircraft operation.

With vision that is unaided by any device other than corrective lenses, the operator or visual observer must be able to see the unmanned aircraft throughout the entire flight in order to:

(a) Know the unmanned aircraft's location;

(b) Determine the unmanned aircraft's attitude, altitude, and direction;

(c) Observe the airspace for other air traffic or hazards; and

(d) Determine that the unmanned aircraft does not endanger the life or property of another.

§ 107.33 Visual observer.

If a visual observer is used during the aircraft operation, all of the following requirements must be met:

(a) The operator and the visual observer must maintain effective communication with each other at all times.

(b) The operator must ensure that the visual observer is able to see the unmanned aircraft in the manner specified in §§ 107.31 and 107.37.

(c) At all times during flight, the small unmanned aircraft must remain close enough to the operator for the operator to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses.

(d) The operator and the visual observer must coordinate to do the following:

(1) Scan the airspace where the small unmanned aircraft is operating for any potential collision hazard; and

(2) Maintain awareness of the position of the small unmanned aircraft through direct visual observation.

§ 107.35 Operation of multiple small unmanned aircraft systems.

A person may not act as an operator or visual observer in the operation of more than one unmanned aircraft system at the same time.

§ 107.37 Operation near aircraft; right-of-way rules.

(a) Each operator must maintain awareness so as to see and avoid other aircraft and vehicles and must yield the right-of-way to all aircraft, airborne vehicles, and launch and reentry vehicles.

(1) In order to maintain awareness so as to see other aircraft and vehicles, either the operator or a visual observer must, at each point of the small unmanned aircraft's flight, satisfy the criteria specified in § 107.31.

(2) Yielding the right-of-way means that the small unmanned aircraft must give way to the aircraft or vehicle and may not pass over, under, or ahead of it unless well clear.

(b) No person may operate a small unmanned aircraft so close to another aircraft as to create a collision hazard.

§ 107.39 Operation over people.

No person may operate a small unmanned aircraft over a human being who is:

(a) Not directly participating in the operation of the small unmanned aircraft; or

(b) Not located under a covered structure that can provide reasonable protection from a falling small unmanned aircraft.

§ 107.41 Operation in certain airspace.

(a) A small unmanned aircraft may not operate in Class A airspace.

(b) A small unmanned aircraft may not operate in Class B, Class C, or Class D airspace or within the lateral boundaries of the surface area of Class E airspace designated for an airport unless the operator has prior authorization from the Air Traffic Control (ATC) facility having jurisdiction over that airspace.

§ 107.45 Operation in prohibited or restricted areas.

No person may operate a small unmanned aircraft in prohibited or restricted areas unless that person has permission from the using or controlling agency, as appropriate.

§ 107.47 Flight restrictions in the proximity of certain areas designated by notice to airmen.

No person may operate a small unmanned aircraft in areas designated in a Notice to Airmen under §§ 91.137 through 91.145, or § 99.7 of this chapter, unless authorized by:

(a) Air Traffic Control (ATC); or

(b) A Certificate of Waiver or Authorization issued by the FAA.

§ 107.49 Preflight familiarization, inspection, and actions for aircraft operation.

(a) Prior to flight, the operator must:

(1) Assess the operating environment, considering risks to persons and property in the immediate vicinity both on the surface and in the air. This assessment must include:

(i) Local weather conditions;

(ii) Local airspace and any flight restrictions;

(iii) The location of persons and property on the surface; and

(iv) Other ground hazards.

(2) Ensure that all persons involved in the small unmanned aircraft operation receive a briefing that includes operating conditions, emergency procedures, contingency procedures, roles and responsibilities, and potential hazards;

(3) Ensure that all links between ground station and the small unmanned aircraft are working properly; and

(4) If the small unmanned aircraft is powered, ensure that there is enough available power for the small unmanned aircraft system to operate for the intended operational time and to operate after that for at least five minutes.

(b) Each person involved in the operation must perform the duties assigned by the operator.

§ 107.51 Operating limitations for small unmanned aircraft.

An operator must comply with all of the following operating limitations when operating a small unmanned aircraft system:

(a) The airspeed of the small unmanned aircraft may not exceed 87 knots (100 miles per hour) calibrated airspeed at full power in level flight;

(b) The altitude of the small unmanned aircraft cannot be higher than 500 feet (150 meters) above ground level;

(c) The minimum flight visibility, as observed from the location of the ground control station must be no less than 3 statute miles (5 kilometers); and

(d) The minimum distance of the small unmanned aircraft from clouds must be no less than:

(1) 500 feet (150 meters) below the cloud; and

(2) 2,000 feet (600 meters) horizontally away from the cloud.

Subpart C—Operator Certification

§ 107.53 Applicability.

This subpart prescribes the requirements for issuing an unmanned aircraft operator certificate with a small UAS rating.

§ 107.57 Offenses involving alcohol or drugs.

(a) A conviction for the violation of any Federal or State statute relating to the growing, processing, manufacture, sale, disposition, possession, transportation, or importation of narcotic drugs, marijuana, or depressant or stimulant drugs or substances is grounds for:

(1) Denial of an application for an unmanned aircraft operator certificate with a small UAS rating for a period of up to 1 year after the date of final conviction; or

(2) Suspension or revocation of an unmanned aircraft operator certificate with a small UAS rating.

(b) Committing an act prohibited by § 91.17(a) or § 91.19(a) of this chapter is grounds for:

(1) Denial of an application for an unmanned aircraft operator certificate with a small UAS rating for a period of up to 1 year after the date of that act; or

(2) Suspension or revocation of an unmanned aircraft operator certificate with a small UAS rating.

§ 107.59 Refusal to submit to an alcohol test or to furnish test results.

A refusal to submit to a test to indicate the percentage by weight of alcohol in the blood, when requested by a law enforcement officer in accordance with § 91.17(c) of this chapter, or a refusal to furnish or authorize the release of the test results requested by the Administrator in accordance with § 91.17(c) or (d) of this chapter, is grounds for:

(a) Denial of an application for an unmanned aircraft operator certificate with a small UAS rating for a period of up to 1 year after the date of that refusal; or

(b) Suspension or revocation of an unmanned aircraft operator certificate with a small UAS rating.

§ 107.61 Eligibility.

Subject to the provisions of §§ 107.57 and 107.59, in order to be eligible for an unmanned aircraft operator certificate with a small UAS rating under this subpart, a person must:

(a) Be at least 17 years of age;

(b) Be able to read, speak, write, and understand the English language. If the applicant is unable to meet one of these requirements due to medical reasons, the FAA may place such operating limitations on that applicant's certificate as are necessary for the safe operation of the small unmanned aircraft;

(c) Pass an initial aeronautical knowledge test covering the areas of knowledge specified in § 107.73(a); and

(d) Not know or have reason to know that he or she has a physical or mental condition that would interfere with the safe operation of a small unmanned aircraft system.

§ 107.63 Issuance of an unmanned aircraft operator certificate with a small UAS rating.

An applicant for an unmanned aircraft operator certificate with a small UAS rating under this subpart must make the application in a form and manner acceptable to the Administrator.

(a) The application must include:

(1) An airman knowledge test report showing that the applicant passed an initial aeronautical knowledge test, or recurrent aeronautical knowledge test for those individuals that satisfy the requirements of § 107.75; and

(2) A certification signed by the applicant stating that the applicant does not know or have reason to know that he or she has a physical or mental condition that would interfere with the safe operation of a small unmanned aircraft system.

(b) The application must be submitted to a Flight Standards District Office, a designated pilot examiner, an airman certification representative for a pilot school, a certified flight instructor, or other person authorized by the Administrator. The person accepting the application submission must verify the identity of the applicant in a manner acceptable to the Administrator.

§ 107.65 Aeronautical knowledge recency.

A person may not operate a small unmanned aircraft system unless that person has completed one of the following, within the previous 24 calendar months:

(a) Passed an initial aeronautical knowledge test covering the areas of knowledge specified in § 107.73(a); or

(b) Passed a recurrent aeronautical knowledge test covering the areas of knowledge specified in § 107.73(b).

§ 107.67 Knowledge tests: General procedures and passing grades.

(a) Knowledge tests prescribed by or under this part are given at times and places, and by persons designated by the Administrator.

(b) An applicant for a knowledge test must have proper identification at the time of application that contains the applicant's:

(1) Photograph;

(2) Signature;

(3) Date of birth, which shows the applicant meets or will meet the age requirements of this part for the certificate sought before the expiration date of the airman knowledge test report; and

(4) If the permanent mailing address is a post office box number, then the applicant must provide a current residential address.

(c) The minimum passing grade for the knowledge test will be specified by the Administrator.

§ 107.69 Knowledge tests: Cheating or other unauthorized conduct.

(a) An applicant for a knowledge test may not:

(1) Copy or intentionally remove any knowledge test;

(2) Give to another applicant or receive from another applicant any part or copy of a knowledge test;

(3) Give assistance on, or receive assistance on, a knowledge test during the period that test is being given;

(4) Take any part of a knowledge test on behalf of another person;

(5) Be represented by, or represent, another person for a knowledge test;

(6) Use any material or aid during the period that the test is being given, unless specifically authorized to do so by the Administrator; and

(7) Intentionally cause, assist, or participate in any act prohibited by this paragraph.

(b) An applicant who the Administrator finds has committed an act prohibited by paragraph (a) of this section is prohibited, for 1 year after the date of committing that act, from:

(1) Applying for any certificate, rating, or authorization issued under this chapter; and

(2) Applying for and taking any test under this chapter.

(c) Any certificate or rating held by an applicant may be suspended or revoked if the Administrator finds that person has committed an act prohibited by paragraph (a) of this section.

§ 107.71 Retesting after failure.

An applicant for a knowledge test who fails that test may not reapply for the test for 14 calendar days after failing the test.

§ 107.73 Initial and recurrent knowledge tests.

(a) An initial aeronautical knowledge test covers the following areas of knowledge:

(1) Applicable regulations relating to small unmanned aircraft system rating privileges, limitations, and flight operation;

(2) Airspace classification and operating requirements, obstacle clearance requirements, and flight restrictions affecting small unmanned aircraft operation;

(3) Official sources of weather and effects of weather on small unmanned aircraft performance;

(4) Small unmanned aircraft system loading and performance;

(5) Emergency procedures;

(6) Crew resource management;

(7) Radio communication procedures;

(8) Determining the performance of small unmanned aircraft;

(9) Physiological effects of drugs and alcohol;

(10) Aeronautical decision-making and judgment; and

(11) Airport operations.

(b) A recurrent aeronautical knowledge test covers the following areas of knowledge:

(1) Applicable regulations relating to small unmanned aircraft system rating privileges, limitations, and flight operation;

(2) Airspace classification and operating requirements, obstacle clearance requirements, and flight restrictions affecting small unmanned aircraft operation;

(3) Official sources of weather;

(4) Emergency procedures;

(5) Crew resource management;

(6) Aeronautical decision-making and judgment; and

(7) Airport operations.

§ 107.75 Military pilots or former military pilots.

(a) *General.* Except for a person who has been removed from unmanned aircraft flying status for lack of proficiency or because of a disciplinary action involving any aircraft operation, a U.S. military unmanned aircraft pilot or operator or former U.S. military unmanned aircraft pilot or operator who meets the requirements of this section may apply, on the basis of his or her U.S. military unmanned aircraft pilot or operator qualifications, for an unmanned aircraft operator certificate with small UAS rating issued under this part.

(b) *Military unmanned aircraft pilots or operators and former military unmanned aircraft pilots or operators in the U.S. Armed Forces.* A person who qualifies as a U.S. military unmanned aircraft pilot or operator or former U.S. military unmanned aircraft pilot or operator may apply for an unmanned aircraft operator certificate with a small UAS rating if that person—

(1) Passes a recurrent aeronautical knowledge test covering the areas of knowledge specified in § 107.73(b); and

(2) Presents evidentiary documents that show:

(i) The person's status in the U.S. Armed Forces;

(ii) That the person is or was a U.S. military unmanned aircraft pilot or operator.

§ 107.77 Change of name or address.

(a) *Change of Name.* An application to change the name on a certificate issued under this subpart must be accompanied by the applicant's:

(1) Operator certificate; and

(2) A copy of the marriage license, court order, or other document verifying the name change.

(b) The documents in paragraph (a) of this section will be returned to the applicant after inspection.

(c) *Change of address.* The holder of an unmanned aircraft operator certificate issued under this subpart who has made a change in permanent mailing address may not, after 30 days from that date, exercise the privileges of the certificate unless the holder has notified the FAA of the change in address using one of the following methods:

(1) By letter to the FAA Airman Certification Branch, P.O. Box 25082, Oklahoma City, OK 73125 providing the new permanent mailing address, or if the permanent mailing address includes a post office box number, then the holder's current residential address; or

(2) By using the FAA Web site portal at *www.faa.gov* providing the new permanent mailing address, or if the permanent mailing address includes a post office box number, then the holder's current residential address.

§ 107.79 Voluntary surrender of certificate.

(a) The holder of a certificate issued under this subpart may voluntarily surrender it for cancellation.

(b) Any request made under paragraph (a) of this section must include the following signed statement or its equivalent: "I voluntarily surrender my unmanned aircraft operator certificate with a small UAS rating for cancellation. This request is made for my own reasons, with full knowledge that my certificate will not be reissued to me unless I again complete the requirements specified in §§ 107.61 and 107.63."

Subpart D—Small Unmanned Aircraft Registration and Identification

§ 107.87 Applicability.

This subpart prescribes the rules governing the registration and identification of all civil small unmanned aircraft to which this part applies.

§ 107.89 Registration and identification.

(a) All small unmanned aircraft must be registered in accordance with part 47 of this chapter.

(b) All small unmanned aircraft must display their nationality and registration marks in accordance with the requirements of subpart C of part 45 of this chapter.

PART 183—REPRESENTATIVES OF THE ADMINISTRATOR

■ 20. The authority citation for part 183 is revised to read as follows:

Authority: 31 U.S.C. 9701; 49 U.S.C. 106(f), 106(g), 40113, 44702, 45303.

■ 21. Amend § 183.23 by revising paragraphs (b) and (c) and adding paragraph (d) to read as follows:

§ 183.23 Pilot examiners.

* * * * *

(b) Under the general supervision of the appropriate local Flight Standards Inspector, conduct those tests;

(c) In the discretion of the appropriate local Flight Standards Inspector, issue temporary pilot certificates and ratings to qualified applicants; and

(d) Accept an application for an unmanned aircraft operator certificate with a small UAS rating and verify the identity of the applicant in a form and manner acceptable to the Administrator.

Issued under the authority provided by 49 U.S.C. 106(f), 40101 note; and Sec. 333 of

Public Law 112–95, in Washington, DC, on February 15, 2015.

Anthony R. Foxx,

Secretary of Transportation.

Michael P. Huerta,

Administrator.

[FR Doc. 2015–03544 Filed 2–18–15; 11:15 am]

BILLING CODE 4910–13–P

Overview of Small UAS Notice of Proposed Rulemaking

Summary of Major Provisions of Proposed Part 107 The following provisions are being proposed in the FAA's Small UAS NPRM.	
Operational Limitations	• Unmanned aircraft must weigh less than 55 lbs. (25 kg). • Visual line-of-sight (VLOS) only; the unmanned aircraft must remain within VLOS of the operator or visual observer. • At all times the small unmanned aircraft must remain close enough to the operator for the operator to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses. • Small unmanned aircraft may not operate over any persons not directly involved in the operation. • Daylight-only operations (official sunrise to official sunset, local time). • Must yield right-of-way to other aircraft, manned or unmanned. • May use visual observer (VO) but not required. • First-person view camera cannot satisfy "see-and-avoid" requirement but can be used as long as requirement is satisfied in other ways. • Maximum airspeed of 100 mph (87 knots). • Maximum altitude of 500 feet above ground level. • Minimum weather visibility of 3 miles from control station. • No operations are allowed in Class A (18,000 feet & above) airspace. • Operations in Class B, C, D and E airspace are allowed with the required ATC permission. • Operations in Class G airspace are allowed without ATC permission • No person may act as an operator or VO for more than one unmanned aircraft operation at one time. • No careless or reckless operations. • Requires preflight inspection by the operator. • A person may not operate a small unmanned aircraft if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS. • Proposes a microUAS option that would allow operations in Class G airspace, over people not involved in the operation, provided the operator certifies he or she has the requisite aeronautical knowledge to perform the operation.

Operator Certification and Responsibilities	• Pilots of a small UAS would be considered "operators".
	• Operators would be required to:
	  ○ Pass an initial aeronautical knowledge test at an FAA-approved knowledge testing center.
	  ○ Be vetted by the Transportation Security Administration.

	○ Obtain an unmanned aircraft operator certificate with a small UAS rating (like existing pilot airman certificates, never expires). ○ Pass a recurrent aeronautical knowledge test every 24 months. ○ Be at least 17 years old. ○ Make available to the FAA, upon request, the small UAS for inspection or testing, and any associated documents/records required to be kept under the proposed rule. ○ Report an accident to the FAA within 10 days of any operation that results in injury or property damage. ○ Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is safe for operation.
Aircraft Requirements	• FAA airworthiness certification not required. However, operator must maintain a small UAS in condition for safe operation and prior to flight must inspect the UAS to ensure that it is in a condition for safe operation. Aircraft Registration required (same requirements that apply to all other aircraft). • Aircraft markings required (same requirements that apply to all other aircraft). If aircraft is too small to display markings in standard size, then the aircraft simply needs to display markings in the largest practicable manner.
Model Aircraft	• Proposed rule would not apply to model aircraft that satisfy all of the criteria specified in Section 336 of Public Law 112-95. • The proposed rule would codify the FAA's enforcement authority in part 101 by prohibiting model aircraft operators from endangering the safety of the NAS.

radio

Drone Wars: Who Owns The Air?

MAY 30, 2014 3:03 AM ET

STEVE HENN

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Morning Edition

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There are lots of entrepreneurs who would love to fly drones — tiny unmanned aircraft — all over the country. They dream of drones delivering packages and taking photos, but there's a battle in the courts right now standing in their way. The battle is about whether it's legal for drones to take to the sky.

The question at the core of the battle: Who owns the air?

It's a question that goes back to the Middle Ages, to a Latin phrase that translates to "he owns the soil owns up to the heavens." In England, this phrase was the law of the land for centuries, and it worked well when disputes involved simple things like overhanging tree branches and lopsided buildings.

But once hot air balloons and airplanes came into the picture, things got a lot more complicated. In 1926, Congress created what we now call the FAA, and declared that the air above 500 feet is the public domain. But what about the air below that?

Thomas Causby was a chicken farmer in North Carolina who lived near a tiny airport. During World War II, the Army took over the airport, and suddenly big military planes were flying over Causby's chicken coops all the time. The planes scared Causby's chickens. They flew into the walls of the coop and died.

PLANET MONEY
The Fight Over Drones, As Seen From A Drone

ALL TECH CONSIDERED
FAA Head: Safety, Privacy Concerns Abound In Regulating Drones

Causby sued the government, and the case went all the way to the Supreme Court. In the end, the court sided with Causby, ruling that landowners own the sky above their homes up to at least 83 feet.

But the decision still left a gap. If the air above 500 feet is public property, and the air below 83 feet is private property, what about the space in between?

This is the territory that entrepreneurs dreaming of drones have their eyes on.

Cy Brown, for example, wants to use drones to tackle the problem of feral wild pigs. In Louisiana, where Brown lives, feral pigs run around wrecking crops, causing problems for farmers.

Brown's idea was to use drones to track the pigs and then relay their locations to hunters in the fields who could kill the pigs. He tested it out, and it worked. Farmers liked it. Even the U.S. Department of Agriculture wanted to copy it.

But when I called Cy last month to ask if he'd take me hunting, he said no. His drone had been grounded. When I asked why, he referred me to his lawyer.

Cy's lawyer told me that the FAA has been sending out cease-and-desist letters to commercial drone pilots all over the country, threatening big fines for flying little

drones. The FAA says that, for safety reasons, it is regulating the airspace between 83 and 500 feet.

Drone pilots are fighting this in court, trying to reclaim that airspace.

You can find lots more drone coverage from our colleagues over at All Tech Considered.

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Integration of Drones into Domestic Airspace: Selected Legal Issues

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April 4, 2013

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CRS Report for Congress
Prepared for Members and Committees of Congress

Summary

Under the FAA Modernization and Reform Act of 2012, P.L. 112-95, Congress has tasked the Federal Aviation Administration (FAA) with integrating unmanned aircraft systems (UASs), sometimes referred to as unmanned aerial vehicles (UAVs) or drones, into the national airspace system by September 2015. Although the text of this act places safety as a predominant concern, it fails to address significant, and up to this point, largely unanswered legal questions.

For instance, several legal interests are implicated by drone flight over or near private property. Might such a flight constitute a trespass? A nuisance? If conducted by the government, a constitutional taking? In the past, the Latin maxim *cujus est solum ejus est usque ad coelum* (for whoever owns the soil owns to the heavens) was sufficient to resolve many of these types of questions, but the proliferation of air flight in the 20th century has made this proposition untenable. Instead, modern jurisprudence concerning air travel is significantly more nuanced, and often more confusing. Some courts have relied on the federal definition of "navigable airspace" to determine which flights could constitute a trespass. Others employ a nuisance theory to ask whether an overhead flight causes a substantial impairment of the use and enjoyment of one's property. Additionally, courts have struggled to determine when a government-operated overhead flight constitutes a taking under the Fifth and Fourteenth Amendments.

With the ability to house surveillance sensors such as high-powered cameras and thermal-imaging devices, some argue that drone surveillance poses a significant threat to the privacy of American citizens. Because the Fourth Amendment's prohibition against unreasonable searches and seizures applies only to acts by government officials, surveillance by private actors such as the paparazzi, a commercial enterprise, or one's neighbor is instead regulated, if at all, by state and federal statutes and judicial decisions. Yet, however strong this interest in privacy may be, there are instances where the public's First Amendment rights to *gather* and *receive* news might outweigh an individual's interest in being let alone.

Additionally, there are a host of related legal issues that may arise with this introduction of drones in U.S. skies. These include whether a property owner may protect his property from a trespassing drone; how stalking, harassment, and other criminal laws should be applied to acts committed with the use of drones; and to what extent federal aviation law could preempt future state law.

Because drone use will occur largely in federal airspace, Congress has the authority or can permit various federal agencies to set federal policy on drone use in American skies. This may include the appropriate level of individual privacy protection, the balancing of property interests with the economic needs of private entities, and the appropriate safety standards required.

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Introduction

The integration of drones into U.S. skies is expected by many to yield significant commercial and societal benefits.[1] Drones could be employed to inspect pipelines, survey crops, and monitor the weather.[2] One newspaper has already used a drone to survey storm damage,[3] and real estate agents have used them to survey property.[4] In short, the extent of their potential domestic application is bound only by human ingenuity.

In an effort to accelerate this introduction, in the FAA Modernization and Reform Act of 2012, Congress tasked the Federal Aviation Administration (FAA) with safely integrating drones into the national airspace system by September 2015.[5] Likewise, sensing the opportunities that unmanned flight portend, lobbying groups and drone manufacturers have joined the chorus of those seeking a more rapid expansion of drones in the domestic market.[6]

Yet, the full-scale introduction of drones into U.S. skies will inevitably generate a host of legal issues. This report will explore some of those issues. To begin, this report will describe the regulatory framework for permitting the use of unmanned vehicles and the potential rulemaking that will occur over the next few years. Next, it will discuss theories of takings and property torts as they relate to drone flights over or near private property. It will then discuss the privacy interests implicated by drone surveillance conducted by private actors and the potential countervailing First Amendment rights to gather and receive news. Finally, this report will explore possible congressional responses to these privacy concerns, discuss how the FAA has approached these concerns, and identify additional potential legal issues.

Development of Aviation Law and Regulations

The predominant theory of airspace rights applied before the advent of aviation derived from the Roman Law maxim *cujus est solum ejus est usque ad coelum*, meaning whoever owns the land

[1] A "drone" is simply an aircraft that can fly without a human operator. They are sometimes referred to as unmanned aerial vehicles (UAV), and the whole system—including the aircraft, the operator on the ground, and the digital network required to fly the aircraft—is referred to as an unmanned aircraft system (UAS). *See generally* CRS Report R42718, *Pilotless Drones: Background and Considerations for Congress Regarding Unmanned Aircraft Operations in the National Airspace System*, by Bart Elias.

[2] *See* GOV'T ACCOUNTABILITY OFFICE, UNMANNED AIRCRAFT SYSTEMS: MEASURING PROGRESS AND ADDRESSING POTENTIAL PRIVACY CONCERNS WOULD FACILITATE INTEGRATION INTO THE NATIONAL AIRSPACE SYSTEM (2012).

[3] It is reported that News Corp. has used a small drone to monitor storm damage in Alabama and flooding in North Dakota. Kashmir Hill, *FAA Looks Into News Corp's Daily Drone, Raising Questions About Who Gets to Fly Drones in the U.S.*, FORBES, (August 2, 2011 3:52 P.M.), http://www.forbes.com/sites/kashmirhill/2011/08/02/faa-looks-into-news-corps-daily-drone-raising-questions-about-who-gets-to-fly-drones-in-the-u-s/.

[4] Nick Wingfield & Somini Sengupta, *Drones Set Sights on U.S. Skies*, N.Y. TIMES (February 17, 2012), *available at* http://www.nytimes.com/2012/02/18/technology/drones-with-an-eye-on-the-public-cleared-to-fly.html?pagewanted=all&_r=0.

[5] FAA Modernization and Reform Act of 2012, P.L. 112-95, 126 Stat. 11.

[6] Groups such as the Association for Unmanned Vehicle Systems International, which boasts 7,200 members, including defense contractors, educational institutions, and government agencies, have been formed to advance the interests of the UAV community. Association for Unmanned Vehicle Systems International; http://www.auvsi.org/Home.

possesses all the space above the land extending upwards into the heavens.[7] This maxim was adopted into English common law and eventually made its way into American common law.[8] At the advent of commercial aviation, Congress enacted the Air Commerce Act of 1926[9] and later the 1938 Civil Aeronautics Act.[10] These laws included provisions stating that "to the exclusion of all foreign nations, [the United States has] complete sovereignty of the airspace" over the country.[11] Additionally, Congress declared a "public right of freedom of transit in air commerce through the navigable airspace of the United States."[12] This right to travel in navigable airspace came into conflict with the common law idea that each landowner owned the airspace above the surface in perpetuity. If the common law idea was to be followed faithfully, there could be no right to travel in navigable airspace without constantly trespassing in private property owners' airspace. This conflict was directly addressed by the Supreme Court in *United States v. Causby*, discussed extensively below.

With the passage of the Federal Aviation Act in 1958,[13] the administrator of the FAA was given "full responsibility and authority for the advancement and promulgation of civil aeronautics generally.... "[14] This centralization of responsibility and creation of a uniform set of rules recognized that "aviation is unique among transportation industries in its relation to the federal government—it is the only one whose operations are conducted almost wholly within federal jurisdiction.... "[15] The FAA continues to set uniform rules for the operation of aircraft in the national airspace. In the FAA Modernization and Reform Act of 2012 (FMRA), Congress instructed the FAA to "develop a comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system."[16] These regulations must provide for this integration "as soon as practicable, but not later than September 30, 2015."[17]

Current FAA Regulations of Navigable Airspace

Fixed-Wing Aircraft

FAA regulations define the minimum safe operating altitudes for different kinds of aircraft. Generally, outside of takeoff and landing, fixed-wing aircraft must be operated at an altitude that allows the aircraft to conduct an emergency landing "without undue hazard to persons or property on the surface."[18] In a congested area, the aircraft must operate at least "1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft."[19] The minimum safe

[7] Colin Cahoon, *Low Altitude Airspace: A Property Rights No-Man's Land*, 56 J. AIR L. & COM. 157, 161 (1990).

[8] *Id*; *see also* R. WRIGHT, THE LAW OF AIRSPACE 11-65 (1968).

[9] Air Commerce Act of 1926, P.L. 69-254, 44 Stat. 568.

[10] Civil Aeronautics Act of 1938, P.L. 75-706, 52 Stat. 973.

[11] Codified as amended at 49 U.S.C. § 40103 (2012).

[12] Codified as amended at 49 U.S.C. § 40101 (2012).

[13] P.L. 85-726; 72 Stat. 737 (1958).

[14] H. Rept. 2360, 85th Cong., 2d Sess. (1958).

[15] S. Rept. 1811, 85th Cong., 2d Sess. (1958).

[16] P.L. 112-95, §332(a)(1).

[17] *Id.* at §332(a)(3).

[18] 14 C.F.R. §91.119(a).

[19] *Id.* at §91.119(b).

operating altitude over non-congested areas is "500 feet above the surface."[20] Over open water or sparsely populated areas, aircraft "may not be operated closer than 500 feet to any person, vessel, vehicle, or structure."[21] Navigable airspace is defined in statute as the airspace above the minimum safe operating altitudes, including airspace needed for safe takeoff and landing.[22]

Helicopters

While a fixed-wing aircraft is subject to specific minimum safe operating altitudes based on where it is flying, regulation of helicopter minimum altitudes is less rigid. According to FAA regulations, a helicopter may fly below the minimum safe altitudes prescribed for fixed-wing aircraft if it is operated "without hazard to person or property on the surface."[23] Therefore, arguably a helicopter may be lawfully operated outside the zone defined in statute as navigable airspace.[24]

Drones

The FAA does not currently regulate safe minimum operating altitudes for drones as it does for other kinds of aircraft. Defining navigable airspace for drone operation may be one way that the FAA responds to Congress's instruction, in FMRA, to write rules integrating civil drones into the national airspace, which is discussed in more detail below.[25] One possibility is for the FAA to create different classes of drones based on their size and capabilities. Larger drones that physically resemble fixed-wing aircraft could be subject to similar safe minimum operating altitude requirements whereas smaller drones could be regulated similar to helicopters.

Current FAA Regulation of Drones

In 2007, the FAA issued a policy notice stating that "no person may operate a UAS in the National Airspace without specific authority."[26] Therefore, currently all drone operators who do not fall within the recreational use exemption discussed below must apply directly to the FAA for permission to fly.[27]

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[20] *Id.* at § 91.119(c).

[21] *Id.*

[22] 49 U.S.C. § 40102(32).

[23] 14 C.F.R. § 91.119(d).

[24] *See* People v. Sabo, 185 Cal. App. 3d 845, 852 (1986) ("While helicopters may be operated at less than minimum altitudes so long as no hazard results, it does not follow that such operation is conducted within navigable airspace. The plain meaning of the statutes defining navigable airspace as that airspace above specified altitudes compels the conclusion that helicopters operated below the minimum are not in navigable airspace. The helicopter hovering above the surface of the land in such fashion as not to constitute a hazard to persons or property is, however, lawfully operated.").

[25] *See id.* at § 332(b).

[26] FAA, "Unmanned Aircraft Operations in the National Airspace System," 72 Fed. Reg. 6689 (Feb. 13, 2007).

[27] *See id.*

Public and Civil Operators

Drones operated by federal, state, or local agencies must obtain a certificate of authorization or waiver (COA) from the FAA.[28] After receiving COA applications, the FAA conducts a comprehensive operational and technical review of the drone and can place limits on its operation in order to ensure its safe use in airspace.[29] In response to a directive in FMRA, the FAA recently streamlined the process for obtaining COAs, making it easier to apply on their website.[30] It also employs expedited procedures allowing grants for temporary COAs if needed for time-sensitive missions.[31]

Civil operators, or private commercial operators, must receive a special airworthiness certificate in the experimental category in order to operate.[32] These certificates have been issued on a limited basis for flight tests, demonstrations, and training. Presently, there is no other method of obtaining FAA approval to fly drones for commercial purposes. It appears these restrictions will be loosened in the coming years, since the FAA has been instructed to issue a rulemaking that will lead to the phased-in integration of civilian unmanned aircraft into national airspace.[33]

Recreational Users

The FAA encourages recreational users of model aircraft, which certain types of drones could fall under, to follow a 1981 advisory circular.[34] Under the circular, users are instructed to fly a sufficient distance from populated areas and away from noise-sensitive areas like parks, schools, hospitals, or churches. Additionally, users should not fly in the vicinity of full-scale aircraft or more than 400 feet above the surface. When flying within three miles of an airport, users should notify the air traffic control tower, airport operator, or flight service station. Compliance with these guidelines is voluntary.

Future FAA Regulation of Drones

FMRA instructs the FAA to integrate civil unmanned aircraft systems into the national airspace by the end of FY2015 and implement new standards for public drone operators. This law included provisions describing the comprehensive plan and rulemaking the agency must create to address different aspects of integrating civil drones, restricting the FAA's ability to regulate "model aircraft," and requiring the creation of drone test sites.

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[28] *Id.*

[29] *See generally* FAA "Unmanned Aircraft Systems," *available at* http://www.faa.gov/about/initiatives/uas/cert/.

[30] *See* P.L. 112-95, § 334(a) (instructing the issuance of "guidance regarding the operation of public unmanned aircraft systems to ... expedite the issuance of a certificate of authorization process ... "); *see also* "Certificates of Authorization or Waiver (COA)," *available at* http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/aaim/organizations/uas/coa/.

[31] "FAA makes progress with UAS integration," *available at* http://www.faa.gov/news/updates/?newsId=68004.

[32] 72 Fed. Reg. 6689; *see* 14 C.F.R. §§ 21.191, 21.193 (experimental certificates generally); 14 C.F.R. § 91.319 (operating limitations on experimental certificate aircraft).

[33] P.L. 112-95, § 332(2).

[34] *See* 72 Fed. Reg. 6689; Advisory Circular 91-57, "Model Aircraft Operating Standards" (June 1981), *available at* http://www.faa.gov/documentLibrary/media/Advisory_Circular/91-57.pdf.

Civil Operators

The statute instructs the FAA to create a "comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace"[35] and submit the plan to Congress within one year of enactment.[36] The statute contains a non-exhaustive list of elements that the plan must address, including predictions on how future rulemaking will address the certification process for drones; drone sense and avoid capabilities; and establishing operator or pilot standards, including a licensing and registration system.[37] The plan must also include a timeline for a phased-in approach to integration and ways to ensure the safe operation of civil drones with publicly operated drones in the airspace.[38] The FAA has not yet submitted this comprehensive plan to Congress.

FMRA also directs the FAA to promulgate a series of rules, including rules governing the civil operation of small drones in the national airspace and rules implementing the comprehensive plan described above.[39] Additionally, the FAA must update its 2007 policy statement that established the current scheme of drone authorizations.[40]

Public Operators

As noted above, the FAA has already implemented a streamlined process for public operators to obtain COAs.[41] In addition to this streamlining, FMRA instructs the FAA to "develop and implement operations and certification requirements for the operation of public unmanned aircraft systems in the national airspace."[42] Similar to the provisions governing civil users, these standards must be in place by the end of 2015.

Recreational Users

In FMRA, the FAA was prohibited from promulgating rules regarding certain kinds of model aircraft flown for hobby or recreational use.[43] This prohibition applies if the model aircraft is less than 55 pounds, does not interfere with any manned aircraft, and is flown in accordance with a community-based set of safety guidelines.[44] Additionally, the aircraft must be flown within the line of sight of the operator and be used solely for hobby or recreational purposes.[45] If flown within five miles of an airport, the operator of the model aircraft must notify both the airport operator and air traffic control tower.[46] While the FAA is prohibited from writing rules or

[35] P.L. 112-95, § 332(a)(1).

[36] *Id.* at § 332(a)(4).

[37] *Id.* at § 332(a)(2).

[38] *Id.*

[39] *Id.* at § 332(b).

[40] *Id.* at § 332(b)(3).

[41] P.L. 112-95, § 334(a), (c).

[42] *Id.* at § 334(b).

[43] *Id.* at § 336.

[44] *Id.* at § 336(a).

[45] *Id.* at § 336(c).

[46] *Id. at* § 336(a)(5).

regulations governing these aircraft, it is not prohibited from pursuing enforcement actions "against persons operating model aircraft who endanger the safety of the national airspace system."[47]

Test Ranges

As part of its efforts to integrate drones into the national airspace, FMRA also directed the FAA to establish six test ranges that will serve as integration pilot projects.[48] As part of the test range program, the FAA must designate airspace for the operation of both manned and unmanned flights, develop certification and air traffic standards for drones at the test ranges, and coordinate with both NASA and the Department of Defense during development. The test ranges should address both civil and public drone operations.[49]

In February 2013, the FAA published a notice in the Federal Register announcing the process for selection of the sites.[50] In its words, "The overall purpose of this test site program is to develop a body of data and operational experiences to inform integration and the safe operation of these aircraft in the National Airspace System."[51] As directed in the statute, factors for site selection include geographic and climactic diversity and a consideration of the location of the ground infrastructure needed to support the sites.[52] Additionally, in the notice the FAA announced privacy requirements that will be applicable to operations at test sites. These provisions are discussed in more detail below.[53]

The FAA received 50 applications spread across 37 states and is in the process of making its test range site selections.[54]

Airspace and Property Rights

Since the popularization of aviation, courts have had to balance the need for unobstructed air travel and commerce with the rights of private property owners. The foundational case in explaining airspace ownership rights is *United States v. Causby*.[55]

United States v. Causby

In *United States v. Causby*, the Supreme Court directly confronted the question of who owns the airspace above private property.[56] The plaintiffs filed suit against the U.S. government arguing

[47] *Id.* at § 336(b).

[48] *Id.* at § 332(c).

[49] *Id.* at § 332(c)(2).

[50] Unmanned Aircraft System Test Site Program, 78 Fed. Reg. 12259 (Feb. 22, 2013).

[51] *Id.*

[52] *Id.*; *see* P.L. 112-95, § 332(c)(3).

[53] *See infra* "FAA Regulation of Privacy".

[54] FAA, "UAS Test Site Map," *available at* http://www.faa.gov/about/initiatives/uas/media/UAS_testsite_map.pdf.

[55] United States v. Causby, 328 U.S. 256 (1946).

[56] *Id.*

that flights of military planes over their property constituted a violation of the Fifth Amendment Takings Clause, which states that private property shall not "be taken for public use, without just compensation." Generally, takings suits can only be filed against the government when a government actor, as opposed to a private party, causes the alleged harm.[57]

Causby owned a chicken farm outside of Greensboro, North Carolina, that was located near an airport regularly used by the military. The proximity of the airport and the configuration of the farm's structures led the military planes to pass over the property at 83 feet above the surface, which was only 67 feet above the house, 63 feet above the barn, and 18 feet above the tallest tree.[58] While this take-off and landing pattern was conducted according to the Civil Aeronautics Authority guidelines, the planes caused "startling" noises and bright glare at night.

As the Court explained, "as a result of the noise, respondents had to give up their chicken business. As many as six to ten of their chickens were killed in one day by flying into the walls from fright. The total chickens lost in this manner was about 150.... The result was the destruction of the use of the property as a commercial chicken farm."[59] The Court had to determine whether this loss of property constituted a taking without just compensation.

At the outset, the Court directly rejected the common law conception of airspace ownership: "It is ancient doctrine that at common law ownership of the land extended to the periphery of the universe—*Cujus solum ejus est usque ad coelum.* But that doctrine has no place in the modern world."[60] The Court noted that Congress had previously declared a public right of transit in air commerce in navigable airspace and national sovereignty in the airspace.[61] These statutes could not be reconciled with the common law doctrine without subjecting aircraft operators to countless trespass suits. In the Court's words, "common sense revolts at the idea."[62]

Even though it rejected the idea that the Causbys held complete ownership of the air up to the heavens, the Court still had to determine if they owned any portion of the space in which the planes flew such that a takings could occur. The government argued that flights within navigable airspace that do not physically invade the surface cannot lead to a taking. It also argued that the landowner does not own any airspace adjacent to the surface "which he has not subjected to possession by the erection of structures or other occupancy."[63]

The Court did not adopt this reasoning, finding instead that "the landowner owns at least as much space above the ground as he can occupy or use in connection with the land. The fact that he does not occupy it in a physical sense—by the erection of building and the like—is not material."[64] Therefore, it found that the landowner owns the airspace in the immediate reaches of the surface necessary to use and enjoy the land and invasions of this space "are in the same category as

[57] Takings claims filed against state government actors would not be filed under the Fifth Amendment. Rather, they would arise as state constitutional claims. For more information on takings, *see* CRS Report RS20741, *The Constitutional Law of Property Rights "Takings": An Introduction*, by Robert Meltz.

[58] *Causby*, 328 U.S. at 258.

[59] *Id.* at 259.

[60] *Id.* at 260-61.

[61] *Id.* at 260 (citing statutes then codified at 49 U.S.C. §§ 176(a), 403).

[62] *Id.*

[63] *Id.*

[64] *Id.* at 264 (citing Hinman v. Pacific Air Transport, 84 F.2d 755 (9th Cir. 1936)).

invasions of the surface."[65] Above these immediate reaches, the airspace is part of the public domain, but the Court declined to draw a clear line. The Court also noted that the government's argument regarding the impossibility of a taking based on flights in navigable airspace was inapplicable in this case because the flights over Causby's land were not within navigable airspace.[66] At the time, federal law defined navigable airspace as the space above the minimum safe flying altitudes for specific areas, but did not include the space needed to take off and land. Even though these flights were not within navigable airspace, the Court seemed to suggest that if they were, the inquiry would not immediately end. Instead, the Court would then have to determine if the regulation itself, defining the navigable airspace, was valid.[67]

Ultimately, in the context of a taking claim, the Court concluded that "flights over private land are not a taking, unless they are so low and so frequent to be a direct and immediate interference with the enjoyment and use of the land."[68] With regard to the Causbys' chicken farm, the Court concluded that the military flights had imposed a servitude upon the land, similar to an easement, based on the interference with the use and enjoyment of their property. Although the land did not lose all its economic value, the lower court's findings clearly established the flights led directly to a diminution in the value of the property, since it could no longer be used for its primary purpose as a chicken farm.

Post-*Causby* Theories of Airspace Ownership

Causby clearly abandoned the ancient idea that private landowners each owned their vertical slice of the airspace above the surface in perpetuity as incompatible with modern life. The case set up three factors to examine in a takings claim that courts still utilize today: (1) whether the planes flew directly over the plaintiff's land; (2) the altitude and frequency of the flights; and (3) whether the flights directly and immediately interfered with the plaintiff's use and enjoyment of the surface land.[69]

However, it left many questions unanswered. Where is the dividing line between the "immediate reaches" of the surface and public domain airspace? Can navigable airspace intersect with the "immediate reaches" belonging to the private property? Can aircraft flying wholly within navigable airspace, as defined by federal law, ever lead to a successful takings claim? How does one assess claims based on lawfully operated aircraft, such as helicopters, flying below navigable airspace?

Subsequent cases have been brought using many different legal claims, including trespass and nuisance, as discussed below, and various ways of describing the resulting injury. Claims could include an "inverse condemnation," another way of describing a taking, or the establishment of an avigation, air, or flying easement. While these legal claims may have different names, it appears

[65] *Id.* at 265.

[66] *Id.* at 264.

[67] *Id.* at 263.

[68] *Id.* at 266.

[69] *See e.g.*, Andrews v. United States, 2012 U.S. Claims LEXIS 1644, *10 (explaining that the "The United States Court of Appeals for the Federal Circuit (Federal Circuit) has derived from Causby three factors for consideration 'in determining whether noise and other effects from overflights ... constitute a taking.... '"). *But see* Argent v. United States, 124 F.3d 1277, 1284 (Fed. Cir. 1997) (finding a taking claim may be based on "a peculiarly burdensome pattern of activity, including both intrusive and non-intrusive flights").

that courts use *Causby* as the starting point for analyzing all property-based challenges to intrusions upon airspace. Several different interpretations of *Causby* have emerged in the attempt to articulate an airspace ownership standard, a few of which are described here.

Following *Causby*, several lower courts employed a fixed-height theory and interpreted the decision as creating two distinct categories of airspace. On the one hand, the stratum of airspace that was defined in federal law as "navigable airspace" was always a part of the public domain. Therefore, flights in this navigable airspace could not lead to a successful property-right based action like a takings or trespass claim because the property owner never owned the airspace in the public domain. On the other hand, the airspace below what is defined as navigable airspace could be "owned" by the surface owner and, therefore, intrusions upon it could lead to a successful takings or property tort claim. Since this fixed-height theory of airspace ownership relies heavily on the definition of navigable airspace, the expansion of the federal definition of "navigable airspace" to include the airspace needed to take-off and land[70] greatly impacts what airspace a property owner could claim.

This strict separation between navigable airspace and the airspace a landowner can claim seems to have been disavowed by the Supreme Court. First, in dicta in *Braniff Airways v. Nebraska State Board of Equalization & Assessment*,[71] a case primarily dealing with the question of federal preemption of state airline regulations, the Court left open the possibility of a taking based on flights occurring in navigable airspace. It summarized *Causby* as holding "that the owner of land might recover for a taking by national use of navigable air space resulting in destruction in whole or in part of the usefulness of the land property."[72] Next, in *Griggs v. Allegheny County* the Supreme Court found that the low flight of planes over the plaintiff's property, taking off from and landing at a nearby airport's newly constructed runway, constituted a taking that had to be compensated under the Fifth Amendment.[73] The noise and fear of a plane crash caused by the low overhead flights made the property "'undesirable and unbearable'" for residential use, making it impossible for people in the house to converse or sleep.[74] The Court reached this conclusion that a taking occurred based on this injury, despite the fact that the flights were operated properly under federal regulations and never flew outside of navigable airspace.[75] Despite this holding, some lower courts have continued to lend credence to a fixed-height ownership theory as a reasonable interpretation of *Causby*.[76]

Another interpretation of *Causby* essentially creates a presumption of a non-taking when overhead flights occur in navigable airspace. This presumption would recognize the importance of unimpeded travel of air commerce and that Congress placed navigable airspace in the public domain. However, the presumption could be rebutted by evidence that the flights, while in navigable airspace, interfered with the owner's use and enjoyment of the surface enough to justify compensation. As one court reasoned, "as the height of the overflight increases... the Government's interest in maintaining sovereignty becomes weightier while the landowner's

[70] 49 U.S.C. §40102(32) (2012).

[71] 347 U.S. 590 (1954).

[72] *Id.* at 596.

[73] Griggs v. Allegheny County, 369 U.S. 84, 90 (1962).

[74] *Id.* at 87.

[75] *Id.* at 86-89.

[76] *See, e.g.*, Aaron v. United States, 311 F.2d 798 (Ct. Cl. 1963); Powell v. United States, 1 Cl. Ct. 669 (1983).

interest diminishes, so that the damage showing required increases in a continuum toward showing absolute destruction of all uses of the property."[77]

Finally, some courts have concluded that the altitude of the overhead flight has no determinative impact on whether a taking has occurred. One federal court noted that the government's liability for a taking is not impacted "merely because the flights of Government aircraft are in what Congress has declared to be navigable airspace and subject to its regulation."[78] Under this approach, "although the navigable airspace has been declared to be in the public domain, 'regardless of any congressional limitations, the land owner, as an incident to his ownership, has a claim to the superjacent airspace to the extent that a reasonable use of his land involves such space.'"[79] Under this theory, the court would only need to examine the effect of the overhead flights on the use and enjoyment of the land, and would not need to determine if the flight occurred in navigable airspace.

While the definition of navigable airspace impacts each theory differently, it is clear that under each interpretation a showing of interference with the use and enjoyment of property is required. Cases have clearly established that overhead flights leading to impairment of the owner's livelihood or that cause physical damage qualify as an interference with use and enjoyment of property.[80] Additionally, flights that cause the surface to become impractical for its intended use by the current owner also satisfy the use and enjoyment requirement.[81] For example, in *Griggs*, the noise, vibration, and fear of damage caused by overhead flights made it impossible for the plaintiffs to converse with others or sleep within their house, leading to their retreat from the property, which had become "undesirable and unbearable for their residential use."[82] Some courts have recognized a reduction in the potential resale value of the property as an interference with its use and enjoyment, even if the property continues to be suitable for the purposes for which it is currently used.[83] One court explained: "Enjoyment of property at common law contemplated the entire bundle of rights and privileges that attached to the ownership of land.... Owners of fee simple estates ... clearly enjoy not only the right to put their land to a particular present use, but also to hold the land for investment and appreciation.... "[84] However, other courts have rejected the idea that restrictions on uses by future inhabitants, without showing loss of property value, are relevant to a determination of the owner's own use and enjoyment of the property.[85]

Trespass and Nuisance Claims Against Private Actors

Although *Causby* arose from a Fifth Amendment takings claim, its articulation of airspace ownership standards is also often used in determining state law tort claims such as trespass and nuisance. These state law tort claims could be used to establish liability for overhead flights

[77] Stephens v. United States, 11 Cl. Ct. 352, 362 (1986).

[78] Branning v. United States, 654 F.2d 88, 99 (1981).

[79] *Id.* at 98-99 (citing Palisades Citizens Association, Inc. v. C.A.B, 420 F.2d 188, 192 (D.C. Cir. 1969)).

[80] *See, e.g.*, *Causby*, 328 U.S. 256.

[81] *See, e.g., Griggs*, 369 U.S. 84; Pueblo of Sandia v. Smith, 497 F.2d 1043 (10th Cir. 1974) ("appellant failed to show interference with actual, as distinguished from potential, use of its land.").

[82] *Griggs*, 369 U.S. at 87.

[83] *See, e.g.*, Brown v. United States, 73 F.3d 1100 (1996); *Branning*, 654 F.2d 88.

[84] *Brown*, 73 F.3d 1100.

[85] Stephens v. United States, 11 Cl. Ct. 352 (1986).

operated by private actors, where a lack of government involvement precludes a takings claim. Generally, the tort of trespass is any physical intrusion upon property owned by another. However, unlike with surface trespass claims, simply proving that an object or person was physically present in the airspace vertically above the landowner's property is generally not enough to establish a trespass in airspace. Since *Causby* struck down the common law idea of *ad coelum*, landowners generally do not have an absolute possessory right to the airspace above the surface into perpetuity. Instead, airspace trespass claims are often assessed using the same requirements laid out in the *Causby* takings claim. Arguably, these standards are used in property tort claims because there can be no trespass in airspace unless the property owner has some possessory right to the airspace, which was the same question at issue in *Causby*.

To allege an actionable trespass to airspace, the property owner must not only prove that the interference occurred within the immediate reaches of the land, or the airspace that the owner can possess under *Causby*, but also that its presence interferes with the actual use of his land. As one court explained, "a property owner owns only as much air space above his property as he can practicable use. And to constitute an actionable trespass, an intrusion has to be such as to subtract from the owner's use of the property."[86] This standard for airspace trespass was also adopted by the Restatement (Second) of Torts.[87]

Nuisance is a state law tort claim that is not based on possessory rights to property, like trespass, but is rooted in the right to use and enjoy land.[88] Trespass and nuisance claims arising from airspace use are quite similar, since trespass to airspace claims generally require a showing that the object in airspace interfered with use and enjoyment of land. However, unlike trespass, nuisance claims do not require a showing that the interference actually occupied the owner's airspace. Instead, a nuisance claim can succeed even if the interference flew over adjoining lands and never directly over the plaintiff's land, as long as the flight constitutes a substantial and unreasonable interference with the use and enjoyment of the land.

Potential Liability Arising from Civilian Drone Use

The integration of drones into domestic airspace will raise novel questions of how to apply existing airspace ownership law to this new technology. How courts may apply the various interpretations of *Causby*, discussed above, to drones will likely be greatly impacted by the FAA's definition of navigable airspace for drones.

The potential for successful takings, trespass, or nuisance claims from drone use will also be impacted by the physical characteristics of the drone, especially given that current case law heavily emphasizes the impact of the flight on use and enjoyment of the surface property. Several characteristics of drones may make their operation in airspace less likely to lead to liability for drone operators than for aircraft operators. First, the noise attributed to drone use may be significantly less than noise created by helicopters or planes powered by jet engines. Second, drones commonly used for civilian purposes could be much smaller than common aircraft used today. This decreased size is likely to lead to fewer physical impacts upon surface land such as

[86] Geller v. Brownstone Condominium, 82 Ill. App. 3d 334, 336-37 (1980).

[87] RESTATEMENT (SECOND) OF TORTS §159(2) (1965) (stating that "Flights by aircraft in the airspace above the land of another is a trespass if, but only if, (a) it enters into the immediate reaches of the airspace next to the land, and (b) it interferes substantially with the other's use and enjoyment of the land.").

[88] RESTATEMENT (SECOND) OF TORTS §821D (1979); 2 DAN B DOBBS ET AL., THE LAW OF TORTS §398 (2d ed. 2011).

vibration and dust, which are common complaints arising from overhead aircraft and helicopter flights. Finally, it is unknown at this time how most drones will be deployed into flight. Will drone "airports" be used to launch the aircraft or will they take off and land primarily from individual property? If drone use remains decentralized and is not organized around an "airport," then drones are less likely to fly repeatedly over the same piece of property, creating fewer potential takings, trespass, or nuisance claims. Additionally, the majority of drones are more likely to operate like helicopters, taking off and landing vertically, than like traditional fixed-wing aircraft. This method of takeoff reduces the amount of surface the aircraft would have to fly over before reaching its desired flying altitude, minimizing the potential number of property owners alleging physical invasion of the immediate reaches of their surface property.

Alternatively, the potential ability for drones to fly safely at much lower altitudes than fixed-wing aircraft or helicopters could lead to a larger number of property-based claims. Low-flying drones are more likely to invade the immediate reaches of the surface property, thus satisfying part of the requirement for a takings or trespass claim.

Privacy

Perhaps the most contentious issue concerning the introduction of drones into U.S. airspace is the threat that this technology will be used to spy on American citizens. With the ability to house high-powered cameras, infrared sensors, facial recognition technology, and license plate readers, some argue that drones present a substantial privacy risk.[89] Undoubtedly, the government's use of drones for domestic surveillance operations implicates the Fourth Amendment and other applicable laws.[90] In like manner, privacy advocates have warned that private actors might use drones in a way that could infringe upon fundamental privacy rights.[91] This section will focus on the privacy issues associated with the use of drones by private, non-governmental actors. It will provide a general history of privacy law in the United States and survey the various privacy torts, including intrusion upon seclusion, the privacy tort most applicable to drone surveillance. It will then explore the First Amendment right to gather news. Application of these theories to drone surveillance will be discussed in the section titled "Congressional Response."

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[89] *See* Jennifer Lynch, *Are Drones Watching You?*, ELECTRONIC FRONTIER FOUNDATION (January 10, 2012), https://www.eff.org/deeplinks/2012/01/drones-are-watching-you; M. Ryan Calo, *The Drone as Privacy Catalyst*, 64 STAN. L. REV. ONLINE 29 (December 12, 2011), http://www.stanfordlawreview.org/sites/default/files/online/articles/64-SLRO-29_1.pdf.

[90] For an analysis of the Fourth Amendment implications of government drone surveillance, see CRS Report R42701, *Drones in Domestic Surveillance Operations: Fourth Amendment Implications and Legislative Responses*, by Richard M. Thompson II.

[91] *See* Press Release, Rep. Ed Markey, Markey Releases Discussion Draft of Drone Privacy and Transparency Legislation (August 1, 2012), *available at* http://markey.house.gov/press-release/markey-releases-discussion-draft-drone-privacy-and-transparency-legislation.

> Drones are already flying in U.S. airspace – with thousands more to come – but with no privacy protections or transparency measures in place. We are entering a brave new world, and just because a company soon will be able to register a drone license shouldn't mean that company can turn it into a cash register by selling consumer information. Currently, there are no privacy protections or guidelines and no way for the public to know who is flying drones, where, and why. The time to implement privacy protections is now.

Id.

Early Privacy Jurisprudence

Although early Anglo-Saxon law lacked express privacy protections, property law and trespass theories served as proxy for the protection of individual privacy. Lord Coke pronounced in 1605 that "the house of everyone is to him as his castle and fortress, as well for his defence against injury and violence, as for his respose[.]"[92] This proposition that individuals are entitled to privacy while in their homes crossed the Atlantic with the colonists and appeared prominently in early revolutionary thinking.[93] In one early American common law decision, the court noted that "[t]he law is clearly settled, that an officer cannot justify the breaking open an outward door or window, in order to execute process in a civil suit; if he doth, he is a trespasser."[94] In cases lacking physical trespass, prosecutors relied on an eavesdropping theory, which protected the privacy of individuals' conversations while in their home.[95]

These century-old theories of trespass and eavesdropping, however, failed to keep up with a rapidly changing society fueled by advancing technologies. As with today's celebrity-obsessed society, late-19th century society experienced the birth and spread of "yellow journalism," a new media aimed at emphasizing the "curious, dramatic, and unusual, providing readers a 'palliative of sin, sex, and violence.'"[96] Faster presses and instantaneous photography enabled journalists to exploit and spread gossip.[97] Louis D. Brandeis (then a private attorney) and Samuel Warren were bothered with the press's constant intrusions into the private affairs of prominent Bostonians.[98] In 1890, they published a seminal law review article formulating a new legal theory—the right to be let alone.[99] Brandeis and Warren understood that existing tort doctrines such as trespass and libel were insufficient to protect privacy rights, as "only a part of the pain, pleasure, and profit of life lay in physical things."[100] They noted that this new right to privacy derived not from "the principle of private property, but that of an inviolate personality."[101] The authors observed that "instantaneous photographs and newspaper enterprise have invaded the sacred precincts of private and domestic life; and numerous mechanical devices threaten to make good the prediction that 'what is whispered in the closet shall be proclaimed from the house-tops.'"[102] Although this new theory had its detractors,[103] it found its way into the common law of several states.[104]

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[92] Semayne's Case, 5 Co. Rep. 91 (K. B. 1604).

[93] In contesting the use of general warrants by officials of the British Crown, known then as writs of assistance, James Otis argued that "one of the most essential branches of English liberty, is the freedom of one's house. A man's house is his castle; and while he is quiet, he is as well guarded as a prince in his castle." II LEGAL PAPERS OF JOHN ADAMS 142.

[94] *See* State v. Armfield, 9 N.C. 246, 247 (1822).

[95] Note, *The Right to Privacy in Nineteenth Century America*, 94 HARV. L. REV. 1892, 1896 (1981). In an early case from Pennsylvania, in recognizing eavesdropping as an indictable offense, the court noted: "Every man's home is his castle, where no man has a right to intrude for any purpose whatever. No man has a right to pry into your secrecy in your own house." Commonwealth v. Lovett, 4 Pa. L.J. Rpts. (Clark) 226, 226 (Pa. 1831); *see also* State v. Williams, 2 Tenn. 108, 108 (1808) (recognizing eavesdropping as an indictable offense).

[96] Ken Gromley, *One Hundred Years of Privacy*, 1992 WIS. L. REV. 1335, 1351 (1992) (quoting EDWIN EMERY & MICHAEL C. EMERY, THE PRESS AND AMERICA: AN INTERPRETATIVE HISTORY OF THE MASS MEDIA 349-50 (3d ed. 1972).

[97] *Id.* at 1350-51.

[98] William M. Prosser, *Privacy*, 48 Cal. L. Rev. 383, 383 (1960).

[99] Louis D. Brandeis & Samuel D. Warren, *The Right to Privacy*, 4 HARV. L. REV. 193, 205 (1890).

[100] *Id.* at 195.

[101] *Id.* at 205.

[102] *Id.* at 195.

[103] Herbert Spencer Hadley, *Right to Privacy*, 3 N.W. L. REV. 1, 3-4 (1894) ("The writer believes that the right to (continued...)

Privacy Torts

In 1939, the First Restatement of Torts (a set of model rules intended for adoption by the states) created a general tort for invasion of privacy.[105] By 1940, a minority of states had adopted some right of privacy either by statute or judicial decision, and six states had expressly refused to adopt such a right.[106] Twenty years later, Dean William Prosser surveyed the case law surrounding this right and concluded that the right to privacy entailed four distinct (yet, sometimes overlapping) rights: (1) intrusion upon seclusion; (2) public disclosure of private facts; (3) publicity which puts the target in a false light; and (4) appropriation of one's likeness.[107] These four categories were incorporated into the Restatement (Second) of Torts.[108]

Section 652B of the Restatement (Second) of Torts creates a cause of action for intrusion upon seclusion,[109] the privacy tort most likely to apply to drone surveillance.[110] It has been adopted either by common law or statute in an overwhelming majority of the states.[111] Section 652B provides: "One who intentionally intrudes, physically or otherwise, upon the solitude or seclusion of another or his private affairs or concerns, is subject to liability to the other for invasion of his privacy, if the intrusion would be highly offensive to a reasonable person."[112] Courts have developed a set of rules for applying Section 652B. First, it requires an objective person standard, testing whether a person of "ordinary sensibilities" would be offended by the alleged invasion.[113] Thus, someone with an idiosyncratic sensitivity—say, an aversion to cameras—could not satisfy this standard by simply having his photograph taken. Likewise, the intrusion must not only be offensive, but "*highly* offensive,"[114] or as one court put it, "outrageously unreasonable conduct."[115] Generally, a single incident will not suffice; instead, the intrusion must be "repeated with such persistence and frequency as to amount to a course of hounding" and "becomes a burden to his existence.... "[116] However, in a few cases a single intrusion was adequate.[117] The

(...continued)

privacy does not exist; that the arguments in its favor are based on a mistaken understanding of the authorities cited in its support[.]").

[104] *Compare* Roberson v. Rochester Folding Box Co., 171 N.E. 538, 542 (N.Y. 1902) (declining to adopt right of privacy), *with* Pavesich v. New England Life Ins. Co., 50 S.E. 68 (Ga. 1905) (recognizing a right to privacy).

[105] RESTATEMENT (FIRST) OF TORTS §867 (1939).

[106] *See* Louis Nizer, *Right of Privacy – A Half Century's Development*, 39 MICH. L. REV. 526, 529-30 (1940).

[107] Prosser, *supra* note 98, at 385.

[108] RESTATEMENT (SECOND) OF TORTS §§652B (intrusion upon seclusion), 652C (appropriation of name or likeness), 652D (publicity given to private fact), 652E (publicity placing person in false light).

[109] *Id.* at §652B.

[110] Because the use of drones for surveillance primarily concerns the collection, and not necessarily the dissemination, of information, this section will focus on the tort of intrusion upon seclusion, which has no publication requirement for recovery. *Id.* cmt. a.

[111] North Dakota and Wyoming are the only states not to adopt the privacy tort of intrusion upon seclusion. *See* Tigran Palyan, *Common Law Privacy in a Not So Common World: Prospects for the Tort of Intrusion Upon Seclusion in Virtual Worlds*, 38 SW. L. REV. 167, 180 n.106 (2008).

[112] *Id.*

[113] Shorter v. Retail Credit Co., 251 F. Supp. 329, 322 (D.S.C. 1966).

[114] RESTATEMENT (SECOND) OF TORTS §652B (emphasis added).

[115] N.O.C., Inc. v. Schaefer, 484 A.2d 729, 733 (N.J. Super. Ct. Law Div. 1984).

[116] RESTATEMENT (SECOND) OF TORTS §652B cmt. d.

[117] *See, e.g.*, Miller v. National Broadcasting Co., 187 Cal. App. 3d 1463 (Cal. Ct. App. 1986) (videotaping man in his (continued...)

invasion of privacy must been intentional, meaning the defendant must desire that the intrusion would occur, or as with other torts,[118] knew with a substantial certainty that such an invasion would result from his actions.[119] An accidental intrusion is not actionable. Finally, in some states, the intrusion must cause mental suffering, shame, or humiliation to permit recovery.[120]

A review of the case law demonstrates that the location of the target of the surveillance is, in many cases, determinative of whether someone has a viable claim for intrusion upon seclusion. For the most part, conducting surveillance of a person while within the confines of his home will constitute an intrusion upon seclusion.[121] The illustrations to Section 652B offer an example of a private detective who photographs an individual while in his home with a telescopic camera as a viable claim.[122] Likewise, as one court observed, "when a picture is taken of a plaintiff while he is in the privacy of his home, ... the taking of the picture may be considered an intrusion into the plaintiff's privacy just as eavesdropping or looking into his upstairs windows with binoculars are considered an invasion of his privacy."[123]

The likelihood of a successful claim is diminished if the surveillance is conducted in a public place. The comments to Section 652B explain that there is generally no liability for photographing or observing a person while in public "since he is not then in seclusion, and his appearance is public and open to the public eye."[124] Likewise, Prosser observed:

> On the public street, or in any other public place, the plaintiff has no right to be alone, and it is no invasion of his privacy to do no more than follow him about. Neither is it such an invasion to take a photograph in such a place, since this amounts to nothing more than making a record, not differing essentially from a full written description, of a public sight which anyone present would be free to see.[125]

The case law also supports this proposition. The Alabama Supreme Court dismissed a claim of wrongful intrusion against operators of a race track who photographed the plaintiffs while they were in the "winner's circle" at the track.[126] Similarly, a federal district court dismissed a claim by a husband and wife who had been photographed by Forbes Magazine while waiting in line at the Miami International Airport as it was taken in "a place open to the general public."[127] Likewise, a Vietnam veteran lost a claim for invasion of privacy based on photographs that depicted him and

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home while being resuscitated after having suffered a heart seizure); Nader v. General Motors Corp., 25 N.Y.2d 560, 570 (1970) (surveilling plaintiff in bank in an "overzealous" manner).

[118] RESTATEMENT (SECOND) OF TORTS §652B.

[119] *See* DOBBS ET AL., *supra* note 88, at §29.

[120] DeAngelo v. Fortney, 515 A.2d 594, 596 (Pa. Sup. 1986); Burns v. Masterbrand Cabinets, Inc., 369 Ill. App. 3d 1006, 1012 (Ill. App. Ct. 2007).

[121] *See, e.g.,* Wolfson v. Lewis, 924 F. Supp. 1413 (E.D. Penn. 1996).

[122] RESTATEMENT (SECOND) OF TORTS §652B cmt. b, illus. 2.

[123] Lovgren v. Citizens First Nat. Bank of Princeton, 534 N.E.2d 987 (Ill. 1989); *see also* Souder v. Pendleton Detectives, 88 So.2d 716, 718 (La. Ct. App. 1956) (peeping into plaintiff's windows); Egan v. Schmock, 93 F. Supp. 2d 1090, 1094-95 (N.D. Cal. 2000) (filming plaintiff and family while in their home).

[124] RESTATEMENT (SECOND) OF TORTS §652B cmt. c.

[125] Prosser, *supra* note 98, at 392.

[126] Schifano v. Green County, 624 So. 2d 178 (Ala. 1993).

[127] Fogel v. Forbes, 500 F. Supp. 1081, 1084, 1087 (E.D. Pa. 1980).

other soldiers during a combat mission in Vietnam—again, a public setting.[128] Other examples include the recording of license plate numbers of cars parked in a public parking lot[129] and photographing a person while walking on a public sidewalk.[130]

Indeed, even plaintiffs who were videotaped or photographed while on their own property have generally been unsuccessful in their privacy claims so long as they could be viewed from a public vantage point. Rejecting one plaintiff's claim for intrusion upon seclusion, the Supreme Court of Oregon held that even though the investigators trespassed on the plaintiff's property to film him, the investigation did not "constitute an unreasonable surveillance 'highly offensive to a reasonable man[,]'"[131] as the plaintiff could have been viewed from the road by his neighbors or passersby.[132] In another case, the wife of a prominent Puerto Rican politician sought damages from a newspaper for invasion of privacy allegedly committed when an agent of the newspaper photographed her house as part of a news story about her husband.[133] The court dismissed her claim as the photographers were not "unreasonably intrusive," and the photographs depicted only the outside of the home and no persons were photographed.[134] Similarly, in one case a couple sued a cell phone company for intrusion upon seclusion when the company's workers looked onto their property each time they serviced a nearby cell tower.[135] The court rejected their claim, holding that "[t]he mere fact that maintenance workers come to an adjoining property as part of their work and look over into the adjoining yard is legally insufficient evidence of highly offensive conduct."[136] There are many other examples.[137]

However, there have been some successful claims for intrusion upon seclusion involving surveillance conducted in public.[138] The comments to Section 652B explain: "Even in a public place, however, there may be some matters about the plaintiff, such as his underwear or lack of it, that are not exhibited to the public gaze, and there may still be invasion of privacy when there is intrusion upon these matters."[139] One of the most famous cases concerning this "public gaze" theory involved a suit for invasion of privacy against a newspaper when it published a picture of

[128] Tellado v. Time-Life, 643 F. Supp. 904, 907 (D.N.J. 1986).

[129] *See* International Union v. Garner, 601 F. Supp. 187, 191-92 (M.D. 1985); Tedeschi v. Reardon v. 5 F. Supp. 2d 40, 46 (D. Mass. 1998).

[130] Jackson v. Playboy Enterprises, Inc., 574 F. Supp. 10, 13 (S.D. Ohio 1983).

[131] McClain v. Boise Cascade Corp., 271 OR 549, 556 (1975). It should be noted that the court also relied on previous case law which held that one who seeks damages for alleged injuries "waives his right to privacy to the extent of a reasonable investigation." *Id.* at 554-555.

[132] *Id.* at 556.

[133] Mojica Escobar v. Roca, 926 F. Supp. 30, 32-33 (D.P.R. 1996).

[134] *Id.* at 35 (citing Dopp v. Fairfax Consultants, Ltd., 771 F. Supp. 494, 497 (D.P.R. 1990)).

[135] GTE Mobilnet of South Texas, LTD. Partnership v. Pascouet, 61 S.W. 3d 599, 605 (Tex. App. 2001).

[136] *Id.* at 618.

[137] *See, e.g.*, Aisenson v. American Broadcasting Co, 220 Cal. App. 3d 146, 162-63 (1990) (holding that broadcast of plaintiff while in his driveway and car was not an intrusion upon seclusion); Wehling v. Columbia Broadcasting System, 721 F.2d 506, 509 (5th Cir. 1983) (holding that broadcast of the outside of plaintiff's home taken from public street was not an invasion of privacy); Munson v. Milwaukee Bd. of School Directors, 969 F.2d 266, 271 (7th Cir. 1992) (same).

[138] *See* Kramer v. Downey, 684 S.W. 2d 524, 525 (Tex. Ct. App. 1984) ("[W]e now hold that the right to privacy is broad enough to include the right to be free of those willful intrusions into one's personal life at home and at work which occurred in this case.").

[139] RESTATEMENT (SECOND) OF TORTS §652B cmt. c.

the plaintiff with her dress blown up as she was leaving a fun house at a county fair.[140] In upholding the plaintiff's claim, the court observed: "To hold that one who is involuntarily and instantaneously enmeshed in an embarrassing pose forfeits her right of privacy merely because she happened at the moment to be part of a public scene would be illogical, wrong, and unjust."[141] In *Huskey v. National Broadcasting Co. Inc.*, a prisoner sued NBC, a television broadcasting company, alleging that by filming him without consent while he was working out in the exercise yard at the prison, NBC invaded his privacy.[142] NBC countered that depictions of persons in a "publicly visible area" could not support the claim for invasion of seclusion.[143] Ultimately, the court permitted the prisoner's claim to go forward, observing that "[o]f course [the prisoner] could be seen by guards, prison personnel and inmates, and obviously he was in fact seen by NBC's camera operator. But the mere fact a person can be seen by others does not mean that person cannot legally be 'secluded.'"[144] Although relief is available for certain cases of public surveillance, recovery seems to be the exception rather than the norm.[145]

First Amendment and Newsgathering Activities

Based on the foregoing discussion, safeguarding privacy from intrusive drone surveillance is clearly an important societal interest. However, this interest must be weighed against the public's countervailing concern in securing the free flow of information that inevitably feeds the "free trade of ideas."[146] Unmanned aircraft can improve the press and the public's ability to gather news: they can operate in dangerous areas without putting a human operator at risk of danger; can carry sophisticated surveillance technology; can fly in areas not currently accessible by traditional aircraft; and can stay in flight for long durations. However, challenges arise in attempting to find an appropriate balance between this interest in newsgathering and the competing privacy interests at stake.

The First Amendment to the United States Constitution provides that "Congress shall make no law ... abridging the freedom of speech, or of the press.... "[147] The Court has construed this phrase to cover not only traditional forms of speech, such as political speeches or polemical articles, but also conduct that is "necessary for, or integrally tied to, acts of expression,"[148] such as distribution of political literature[149] or door-to-door solicitation.[150] Additionally, the Court has pulled within

[140] Daily Times Democrat v. Graham, 276 Ala. 380, 381 (1964).

[141] *Id.* at 383.

[142] Huskey v. National Broadcasting Co., Inc., 632 F. Supp. 1282, 1285 (1986).

[143] *Id.* at 1286.

[144] *Id.* at 1287-88 (emphasis in original).

[145] Jennifer R. Scharf, *Shooting for the Stars: A Call for Federal Legislation to Protect Celebrities' Privacy Rights*, 3 BUFF. INTELL. PROP. L.J. 164, 183 (2006) ("Modifying intrusion to apply in public places would be necessary in order to provide any relief.").

[146] Abrams v. United States, 250 U.S. 616, 630 (1919) (Holmes, J., dissenting). Justice Stevens described this as a "conflict between interests of the highest order—on the one hand, the interest in the full and free dissemination of information concerning public issues, and, on the other hand, the interest in individual privacy and, more specifically, in fostering private speech." Bartnicki v. Vopper, 532 U.S. 514, 518 (2001).

[147] U.S. CONST. amend. I.

[148] Barry P. McDonald, *The First Amendment and the Free Flow of Information: Towards a Realistic Right to Gather Information in the Information Age*, 65 OHIO ST. L. J. 249, 260 (2004).

[149] Lovell v. City of Griffin, 3030 U.S. 444, 452 (1938).

[150] Watchtower Bible and Tract Soc'y of New York , Inc. v. Vill. of Stratton 536 U.S. 150, 168-69 (2002).

the First Amendment's protection other conduct that is not expressive in itself, but is "necessary to accord full meaning and substance to those guarantees."[151] For example, the Court has said that the public is entitled to a "right to receive news" as a correlative of the right to free expression.[152]

Like this right to receive news, the Court has intimated in a series of cases beginning in the 1960s that the public and the press may be entitled to *a right to gather news* under the First Amendment. Initially, in *Zemel v. Rusk*, the Court observed that the right "to speak and publish does not carry with it the unrestrained right to gather information."[153] The Court's reluctance to extend this right may have signaled its concern that an unconditional newsgathering right could subsume almost any government regulation that places a slight restriction on the ability to gather news.[154] However, several years later the Court indicated in *Branzburg v. Hayes* that although laws of general applicability apply equally to the press as to the general public, that "[n]ews gathering is not without its First Amendment protections,"[155] and that "without some protection for seeking out the news, freedom of the press could be eviscerated."[156] The Court, however, failed to clearly delineate the parameters of such a protection. In the Court's most recent case, *Cohen v. Cowles Media Co.*, the Court adhered to the "well-established line of decisions holding that generally applicable laws do not offend the First Amendment simply because their enforcement against the press has incidental effects on its ability to gather and report the news."[157] The Court noted that it is "beyond dispute 'that the publisher of a newspaper has no special immunity from the application of general laws. He has no special privilege to invade the rights of others.'"[158]

The lower federal courts have explored this right to gather news in the context of photographing or video recording. In *Dietemann v. Time, Inc.* the Ninth Circuit Court of Appeals explored the extent to which reporters could use surreptitious means to carry out their newsgathering.[159] There, defendants Time Life sent undercover reporters to a man's house where he claimed to use minerals and other materials to heal the sick. The reporters used a hidden camera to take pictures of the man, and a hidden microphone to transmit the conversation to other operatives. The defendants claimed that the First Amendment's right to freedom of the press shielded its newsgathering activities. In rejecting this claim, the court observed that although an individual accepts the risk when inviting a person into his home that the visitor may repeat the conversation to a third party, "he does not and should not be required to take the risk that what is heard and seen will be transmitted by photograph or recording, or in our modern world, in full living color and hi-fi to the public at large or to any segment of it that the visitor may select."[160] The court held that "hidden mechanical contrivances" are not indispensable tools of investigative reporting, and that the "First Amendment has never been construed to accord newsman immunity from torts

[151] McDonald, *supra* note 148, at 260.

[152] Kleindienst v. Mandel, 408 U.S. 753, 762–63 (1972).

[153] Zemel v. Rusk, 381 U.S. 1, 17 (1965).

[154] *Id.* at 16-17 ("There are few restrictions on action which could not be clothed by ingenious argument in the garb of decreased data flow. For example, the prohibition of unauthorized entry into the White House diminishes the citizen's opportunities to gather information he might find relevant to his opinion of the way the country is being run, but that does not make entry into the White House a First Amendment right.").

[155] Branzburg v. Hayes, 408 U.S. 665, 707 (1972).

[156] *Id.* at 681.

[157] *Id.* at 669.

[158] Cohen v. Cowles Media Co., 501 U.S. 663, 666 (1991).

[159] Dietemann v. Time, Inc., 449 F.2d 245 (9th Cir. 1971).

[160] *Id.* at 249.

or crimes committed during the course of newsgathering."[161] In *Galella v. Onassis*, Galella, a self-proclaimed "paparazzo," constantly followed around, harassed, and photographed Jacqueline Kennedy Onassis and her children.[162] As part of an ongoing lawsuit, Onassis sued Galella for, *inter alia*, invasion of her and her family's privacy. Galella argued that he was entitled to the absolute "wall of immunity" that protects newsmen under the First Amendment. The Second Circuit Court of Appeals quickly rejected this absolutist position: "There is no such scope to the First Amendment right. Crimes and torts committed in news gathering are not protected. There is no threat to a free press in requiring its agents to act within the law."[163] By contrast, the Seventh Circuit in *Desnick v. American Broadcast Companies, Inc.* held that surreptitious recording was not a privacy invasion because the target of the surveillance was a party to the conversation, thereby vitiating any claim to privacy in those conversations.[164]

Congressional Response

If Congress chooses to act, it could create privacy protections to protect individuals from intrusive drone surveillance conducted by private actors.[165] Such proposals would be considered in the context of the First Amendment rights to gather and receive news. Several bills have been introduced in the 113th Congress that would regulate the private use of drones. Additionally, there are other measures Congress could adopt.

Drone Aircraft Privacy and Transparency Act of 2013 (H.R. 1262)

In the 113th Congress, Representative Ed Markey introduced the Drone Aircraft Privacy and Transparency Act of 2013 (H.R. 1262).[166] This bill would amend FMRA to create a comprehensive scheme to regulate the private use of drones, including data collection requirements and enforcement mechanisms. First, this bill would require the Secretary of Transportation, with input from the Secretary of Commerce, the Chairman of the Federal Trade Commission, and the Chief Privacy Officer of the Department of Homeland Security, to study any potential threats to privacy protections posed by the introduction of drones in the national airspace. Next, the bill would prohibit the FAA from issuing a license to operate a drone unless the application for such use included a "data collection statement." This statement would require the following items: a list of individuals who would have the authority to operate the drone; the location in which the drone will be used; the maximum period it will be used; and whether the drone would be collecting information about individuals. If the drone will be used to collect personal information, the statement must include the circumstances in which such information will be used; the kinds of information collected and the conclusions drawn from it; the type of data minimization procedures to be employed; whether the information will be sold, and if so, under what circumstances; how long the information would be stored; and procedures for destroying irrelevant data. The statement must also include information about the possible impact on privacy protections posed by the operation under that license and steps to be taken to mitigate

[161] *Id.*

[162] Galella v. Onassis, 487 F.2d 986, 991-92 (2d Cir. 1973).

[163] *Id.* at 996-97 (internal citations omitted).

[164] Desnick v. American Broadcast Corporation, 44 F.3d 1345, 1353 (7th Cir. 1995).

[165] For legislation that would regulate public actors, see Thompson, *supra* note 90.

[166] H.R. 1262, 113th Cong. 1st Sess. (1st Sess. 2013).

this impact. Additionally, the statement must include the contact information of the drone operator; a process for determining what information has been collected about an individual; and a process for challenging the accuracy of such data. Finally, the FAA would be required to post the data collection statement on the Internet.

H.R. 1262 includes several enforcement mechanisms. First, the FAA may revoke any license of a user that does not comply with these requirements. The Federal Trade Commission would have the primary authority to enforce the data collection requirements just stated. Additionally, the Attorney General of each state, or an official or agency of a state, is empowered to file a civil suit if there is reason to believe that the privacy interests of residents of that state have been threatened or adversely affected. H.R. 1262 would also create a private right of action for a person injured by a violation of this legislation.

Preserving American Privacy Act of 2013 (H.R. 637)

Representative Poe introduced the Preserving American Act of 2013 (H.R. 637) which would prohibit the use of drones to capture images in a manner highly offensive to a reasonable person where the person is engaging in a personal or familial activity under circumstances in which the individual has a reasonable expectation of privacy, regardless of whether there is a physical trespass.[167]

Other Proposals

Additionally, Congress could create a cause of action for surveillance conducted by drones similar to the intrusion upon seclusion tort provided under Restatement Section 652B.[168] How would a court assess whether drone surveillance violated this type of tort? First, generally speaking, the location of the search would be determinative of whether a person is entitled to an expectation of privacy. Although courts have posited that the common law, like the Fourth Amendment, is intended to "protect people, not places[,]"[169] the *location* of an alleged intrusion factors heavily in a privacy analysis. The greatest chance for liability occurs when a person photographs or videotapes another while in the seclusion of his home. While technology has increasingly shrunk other spheres of privacy in the digital age, the home is still accorded significant legal protection. Using a drone to peer inside the home of another—whether looking through a window or utilizing extra-sensory technology such as thermal imaging—would likely constitute an intrusion upon seclusion. Moving from the home to a public space, or even a space on private property where one can be seen from a public vantage point, significantly reduces the chance of tort liability. However, certain instances of highly offensive surveillance in public may be actionable.

This leads to the second factor that will inform a reviewing court's analysis: the degree of offensiveness of the surveillance. The Ninth Circuit Court of Appeals, applying California law,

[167] H.R. 637, 113th Cong (1st Sess. 2013).

[168] As with the enactment of any federal statute, Congress must act within one of its constitutionally delegated powers when creating a federal privacy tort or a crime based on intrusion of privacy. It would appear that Congress could regulate this area under its Commerce Clause power, U.S. Const. art. I, §8, cl. 3, which it acts under when regulating similar federal airspace issues. *See* Braniff Airways v. Nebraska Bd. of Equalization and Assessment, 347 U.S. 590 (1954); United States v. Helsley, 615 F.2d 784 (9th Cir. 1979).

[169] Pearson v. Dodd, 410 F.2d 701, 704 (D.C. Cir. 1969) (quoting Katz v. United States, 389 U.S. 347, 351 (1967)).

observed that, in determining offensiveness, "common law courts consider, among other things: 'the degree of intrusion, the context, conduct and circumstances surrounding the intrusion as well as the intruder's motives and objectives, the setting into which he intrudes, and the expectations of those whose privacy is invaded.'" Several of these factors—especially, the context of the intrusion and the motive of the intruder—are fact intensive and require application in a particular case to fully understand. However, some generalizations can be made. The cases discussed above that did find an intrusion upon seclusion in a public place required highly offensive activity, such as closely following another person for an extended period or photographing another in a highly embarrassing shot. Likewise, a court might recognize liability if one were to use a drone to follow another for an extended period of time, particularly at a close distance. It is not clear, however, whether knowledge of being surveilled makes the monitoring more or less offensive. For example, one court seemed to rely on the fact that the defendant was unaware that her house was being photographed to hold that she did not have a viable privacy claim.[170] A drone flying at several thousand feet may not significantly disturb the target of the surveillance and could fall within this rationale. Nevertheless, filming someone in a compromising or embarrassing situation without his knowledge can be equally offensive. Here, the facts of the particular case would determine liability.

Congress could also create a privacy statute tailored to drone use similar to the anti-voyeurism statutes, or "Peeping Tom" laws, enacted in many states.[171] These laws prohibit persons from surreptitiously filming others in various circumstances and places.[172] Some states prohibit surreptitious surveillance of a person while on private property, usually a private residence.[173] Nevada employs this model, prohibiting a person from entering the property of another with the intent to peep through a window of the building.[174] Likewise, New Jersey prohibits a person from peering into the window of the dwelling of another "under circumstances in which a reasonable person in the dwelling would not expect to be observed."[175] Other states require a prurient intent when conducting the surveillance. Under Washington State's statute, a person commits the crime of voyeurism if, for the purpose of arousing or gratifying his sexual desire, he films or photographs (1) a person in a place where he or she would expect privacy; or (2) the intimate areas of another person, whether he or she is in a public or private place.[176]

Similarly, Congress could adopt an "anti-paparazzi" statute, like that enacted in California, to prevent intrusive drone surveillance.[177] In fact, Congress considered a similar measure in the 105th

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[170] Mojica Escobar v. Roca, 926 F. Supp. 30, 35 (D.P.R. 1996).

[171] Federal law does prohibit certain acts of voyeurism on federal property. Section 1801, Title 18 provides: "Whoever, in the special maritime and territorial jurisdiction of the United States, has the intent to capture an image of a private area of an individual without their consent, and knowingly does so under circumstances in which the individual has a reasonable expectation of privacy, shall be fined under this title or imprisoned not more than one year, or both." 18 U.S.C. §1801(a). As discussed in note 168, *supra*, it appears Congress would have the authority to extend this section to voyeurism committed not only on federal property but that committed from federal airspace.

[172] Timothy J. Hortstmann, *Protecting Traditional Privacy Rights in Brave New Digital World: The Threat Posed by Cellular Phone-Cameras and What States Should Do to Stop It*, 111 PENN. ST. L. REV. 739, 742 (2007).

[173] *See, e.g*, GA. CODE ANN. §16-11-61; MONT. CODE ANN. §45-5-223.

[174] NEV. REV. STAT. §200.603.

[175] N.J. STAT. ANN. §2C:18-3c.

[176] WASH. REV. CODE §9A.44.115; *see also* CAL. PENAL CODE §647; R.I. GEN. LAWS §11-64-2.

[177] California Civil Code §1708.8 provides:

> A person is liable for constructive invasion of privacy when the defendant attempts to capture, in a manner that is offensive to a reasonable person, any type of visual image, sound recording, or other

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Congress. The Privacy Protection Act of 1998 and the Personal Intrusion Act of 1998 would have made it unlawful to persistently follow or chase another person for the purpose of obtaining a visual image of that person if the plaintiff met the following elements: (1) the image was transferred in interstate commerce or the person taking the photograph traveled in interstate commerce; (2) the person had a reasonable expectation of privacy from such intrusion; (3) the person feared death or bodily injury from being chased; and (4) the taking of the image was for commercial purposes.[178] Also, these bills would have created a civil remedy for an individual whose privacy was intruded upon. Congress could use this model to make it unlawful to persistently monitor another person using drone surveillance.

FAA Regulation of Privacy

Some observers have questioned whether the FAA has the legal authority to create privacy protections as it begins to integrate drones in the national airspace.[179] This section will explore the FAA's legal authority to establish privacy protections when it engages in rulemaking and establishes the six drone test ranges as required under FMRA.

It is well settled that agencies do not wield inherent powers, and that any authority they do have must be delegated by Congress.[180] Thus, when engaging in rulemaking or any other administrative action, the agency must be able to identify a specific statutory source of authority. In *Chevron v. Natural Resources Defense Council*, the Supreme Court established a two-part test (now known as the *Chevron* two step) that assesses whether a federal agency should be accorded deference in interpreting and implementing its authorizing statute or a statute it administers.[181] First, this test asks "whether Congress has directly spoken to the precise question at issue."[182] If so, the analysis ends there and the court and the agency "must give effect to the unambiguously expressed intent of Congress."[183] If, however, "the statute is silent or ambiguous" the court must

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> physical impression of the plaintiff engaging in a personal or familial activity under circumstances in which the plaintiff had a reasonable expectation of privacy, through the use of a visual or auditory enhancing device, regardless of whether there is a physical trespass, if this image, sound recording, or other physical impression could not have been achieved without a trespass unless the visual or auditory enhancing device was used.

[178] H.R. 3224, H.R. 2448, 105th Cong., 2d sess. (1998).

[179] *See. e.g.*, Press Release, Association for Unmanned Vehicle Systems International, AUVSI to FAA: Focus on your Mission, Proceed with UAS Integration (Nov. 28, 2012) ("As an industry, we support a continued, civil dialogue on privacy, but any such conversations should take place concurrent with the integration. The selection process for the six test sites are a separate issue and should be treated as such. Meanwhile, the FAA should adhere to its mission and do what it does best – focus on the safety of the U.S. airspace – while other, more appropriate institutions consider privacy issues."), *available at* http://www.auvsi.org/AUVSINews/AssociationNews.

[180] *See* Louisiana Pub. Serv. Comm'n v. FCC, 476 U.S. 355, 374 (1986).

[181] Chevron v. Natural Resources Defense Council, 467 U.S. 837 (1984). It should be noted that there is a disagreement among the circuit courts as to whether *Chevron* deference should be accorded to an agency's interpretation of its own jurisdictional statute. *Compare* Hydro Res., Inc. v. EPA, 608 F.3d 1131, 1445-46 (10th Cir. 2010) (en banc) (applying *Chevron* deference) *with* N. Ill. Steel Supply Co. v. Sec'y of Labor, 294 F.3d 844, 846-47 (7th Cir. 2002) (applying de novo standard). The Supreme Court has granted a petition for writ of certiorari in *City of Arlington v. FCC*, 133 S. Ct. 524 (2012) and may potentially resolve this circuit split. *See* CRS Report WSLG373, *Can an Agency Determine the Scope of its Jurisdiction? Supreme Court Hears Argument Regarding Chevron Deference*, by Daniel T. Shedd.

[182] *Chevron*, 467 U.S. at 842.

[183] *Id.* at 843.

but appears to contain no *express* authority to regulate privacy. They may further argue that the FAA has not historically regulated privacy as it pertains to persons or things on the ground in relation to traditional air flight, and currently does not have the technical expertise to undertake such regulations. These arguments could support the theory that Congress intentionally omitted privacy regulation from the FAA's purview when conducting this required rulemaking.

Next, as to the comprehensive plan rulemaking, Congress has provided some guidance as to the factors the FAA should take into consideration, but none of the factors discuss privacy concerns.[191] Thus, like the rulemaking for small drones, under the *Chevron* first step, Congress has not spoken directly to the issue in question. Moving to the second step, would it be reasonable for the FAA to include privacy regulations in its rulemaking implementing this comprehensive plan? First, the use of the term "at a minimum" as a preface to the list of factors to be considered in this comprehensive plan and rulemaking make it illustrative, not exhaustive. This phrasing

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airspace in the interest of the safety and efficiency of both of those operations.

(5) consolidating research and development for air navigation facilities and the installation and operation of those facilities.

(6) developing and operating a common system of air traffic control and navigation for military and civil aircraft.

(7) providing assistance to law enforcement agencies in the enforcement of laws related to regulation of controlled substances, to the extent consistent with aviation safety.

49 U.S.C. § 40101(d).

[191] The "comprehensive plan" must contain, "at a minimum," recommendations on:

(A) the rulemaking to be conducted under subsection (b), with specific recommendations on how the rulemaking will—

(i) define the acceptable standards for operation and certification of civil unmanned aircraft systems;

(ii) ensure that any civil unmanned aircraft system includes a sense and avoid capability; and

(iii) establish standards and requirements for the operator and pilot of a civil unmanned aircraft system, including standards and requirements for registration

and licensing;

(B) the best methods to enhance the technologies and subsystems necessary to achieve the safe and routine operation of civil unmanned aircraft systems in the national

airspace system;

(C) a phased-in approach to the integration of civil unmanned aircraft systems into the national airspace system;

(D) a timeline for the phased-in approach described under subparagraph (C);

(E) creation of a safe

(F) airspace designation for cooperative manned and unmanned flight operations in the national airspace

system;

(G) establishment of a process to develop certification,

flight standards, and air traffic requirements for civil unmanned aircraft systems at test ranges where such systems are subject to testing;

(H) the best methods to ensure the safe operation of civil unmanned aircraft systems and public unmanned aircraft systems simultaneously in the national airspace system; and

(I) incorporation of the plan into the annual NextGen Implementation Plan document (or any successor document) of the Federal Aviation Administration.

§ 332(a).

arguably suggests that Congress understood that the FAA might address other factors, perhaps including privacy, beyond those enumerated in section 332. Second, section 332 provides that the FAA must "define the acceptable standards for operation and certification of civil unmanned aircraft systems."[192] Viewing this language in light of *Chevron* deference, a court could find that regulating requirements that protect privacy fall within the "acceptable standards for operation" of drones in the national airspace.

In sum, it appears that the open-ended nature of Congress's instructions to the FAA, coupled with the prominence of privacy concerns, would likely persuade a court that the FAA's potential regulation of privacy as part of formal rulemaking is a reasonable interpretation of FMRA that should be accorded deference under a *Chevron* analysis.

Test Ranges and Privacy

In addition to the rulemaking described above, section 332(c) of FMRA requires the FAA Administrator to "establish a program to integrate unmanned aircraft systems into the national airspace system at 6 test ranges."[193] On February 22, 2013, the FAA issued a request for comment on the privacy rules that will apply to test range operators.[194] In its request for comment, the FAA proposed several requirements that might apply to the operation of these test ranges.[195] Once the

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[192] § 332(a)(2).

[193] P.L. 112-95, § 332(c)(1), 126 Stat. 11, 74.

[194] Unmanned Aircraft System Test Site Program, 78 Fed. Reg. 12259 (Feb. 22, 2013).

[195] The FAA has proposed that the OTA include the following privacy requirements:

> (1) The Site Operator must ensure that there are privacy policies governing all activities conducted under the OTA, including the operation and relevant activities of the UASs authorized by the Site Operator. Such privacy policies must be available publically, and the Site Operator must have a mechanism to receive and consider comments on its privacy policies. In addition, these policies should be informed by Fair Information Practice Principles. The privacy policies should be updated as necessary to remain operationally current and effective. The Site Operator must ensure the requirements of this paragraph are applied to all operations conducted under the OTA.
>
> (2) The Site Operator and its team members are required to operate in accordance with Federal, state, and other laws regarding the protection of an individual's right to privacy. Should criminal or civil charges be filed by the U.S. Department of Justice or a state's law enforcement authority over a potential violation of such laws, the FAA may take appropriate action, including suspending or modifying the relevant operational authority (e.g., Certificate of Operation, or OTA), until the proceedings are completed. If the proceedings demonstrate the operation was in violation of the law, the FAA may terminate the relevant operational authority.
>
> (3) If over the lifetime of this Agreement, any legislation or regulation, which may have an impact on UAS or to the privacy interests of entities affected by any operation of any UAS operating at the Test Site, is enacted or otherwise effectuated, such legislation or regulation will be applicable to the OTA and the FAA may update or amend the OTA to reflect these changes.
>
> (4) Transmission of data from the Site Operator to the FAA or its designee must only include those data listed in Appendix B to the OTA.

78 Fed. Reg. 12260. Appendix B to the OTA is available at https://faaco.faa.gov/index.cfm/attachment/download/29581.

The FAA notes that these rules are not permanent but are intended to:

> help inform the dialogue among policymakers, privacy advocates, and the industry regarding broader questions concerning the use of UAS technologies. The privacy requirements proposed here are not intended to pre-determine the long-term policy and regulatory framework under which commercial UASs would operate. Rather, they aim to assure maximum transparency of privacy policies associated with UAS test site operations in order to engage stakeholders in discussion

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FAA selects the site operators, each must enter into an Other Transaction Agreement (OTA) with the FAA—a legally binding agreement setting out the terms and conditions under which the site will be operated. This request for comment is intended to provide the public the ability to comment on "potential privacy considerations, associated reporting requirements, and how the FAA can help ensure privacy considerations are addressed through mechanisms put in place as a result of the OTA."[196]

This FAA announcement raises another legal question: does the FAA have the authority to regulate privacy via OTA agreements entered into with the test range operators? As a threshold issue, it is not clear what level of deference a court would apply to this administrative action. In certain instances, agency actions that do not amount to formal rulemaking have not been accorded *Chevron* deference. In *Christensen v. Harris County*, the Supreme Court held that a Department of Labor opinion letter interpreting the Family Medical Leave Act was not entitled to deference under *Chevron*.[197] The Court observed that "[i]nterpretations such as those in opinion letters—like interpretations contained in policy statements, agency manuals, and enforcement guidelines, all of which lack the force of law—do not warrant *Chevron*-style deference."[198] Instead, interpretations contained in administrative pronouncements such as opinion letters are entitled to some deference under the rule pronounced in *Skidmore v. Swift & Co.*,[199] "but only to the extent that those interpretations have the 'power to persuade.'"[200] In *United States v. Mead*, the Court again ruled that *Skidmore*, not *Chevron*, deference applied to a United States Custom Service opinion letter setting tariff levels on certain imports.[201]

A reviewing court could apply the *Christensen-Mead* line of cases to hold that the lower level deference accorded under *Skidmore* should apply to the FAA's use of the OTAs in establishing the test ranges. As in those cases, the OTAs would not have the force of law and would not be the product of formal agency adjudication or rulemaking. These factors weigh against applying *Chevron*'s deferential approach.

However, *Mead* suggested that *Chevron* deference may be due when the agency conducts notice and comment procedures as part of its interpretive process, which were not utilized in either

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> about which privacy issues are raised by UAS operations and how law, public policy, and the industry practices should respond to those issues in the long run.

78 Fed. Reg. 12260.

[196] 78 Fed. Reg. 12260.

[197] Christensen v. Harris County, 529 U.S. 576, 587 (2000).

[198] *Id.*

[199] Skidmore v. Swift & Co., 323 U.S. 134 (1944). In *Skidmore*, the Court was required to determine what level of deference should be accorded the Department of Labor in its issuance of bulletins interpreting a wage provision in the Fair Labor Standard Act. *Id.* at 138. The Court ruled:

> We consider that the rulings, interpretations and opinions of the Administrator under this Act, while not controlling upon the courts by reason of their authority, do constitute a body of experience and informed judgment to which courts and litigants may properly resort for guidance. The weight of such a judgment in a particular case will depend upon the thoroughness evident in its consideration, the validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control.

Id. at 140.

[200] *Christensen*, 529 U.S. at 588 (citing *Skidmore*, 323 U.S. at 140).

[201] United States v. Mead, 533 U.S. 218 (2001).

Christensen or *Mead*.[202] Here, the FAA has issued a notice for comment on the proposed privacy regulations that will be included in the OTAs. This fact might persuade a court into applying the more deferential *Chevron* test.

Under either level of scrutiny, it is not at all clear whether the FAA would have the authority to regulate privacy as part of the OTAs. Congress did not speak to this issue in FMRA.[203] Thus, a reviewing court would have to determine if the agency's regulation of privacy is either a reasonable interpretation of the statute under *Chevron* or has the "power to persuade" under *Skidmore*. Some of the same factors that arguably support the inclusion of privacy in the formal rulemaking could apply equally to the test ranges. The idea that Congress left it to the FAA to fill in the gaps in establishing the test ranges, and that privacy is one of the primary concerns surrounding the integration of drones into U.S. airspace, could be offered as an argument to uphold the FAA's regulation of privacy. On the other side of the ledger, the act's enumerated list of factors to be addressed at these test ranges is primarily focused on safety issues and does not expressly permit the FAA to regulate privacy. One could argue that this formulation evinces Congress's intent for the FAA to focus on safety, the FAA's stock and trade, rather than privacy, an area in which the FAA appears to have little experience.

Related Legal Issues

In addition to the legal issues described above, there are a host of other issues that may arise when introducing drones into the U.S. national airspace system.

Preemption of State and Local Regulations. The increased presence of drones in domestic airspace raises the question of potential federal preemption of state or local efforts to regulate different aspects of drone use. The doctrine of preemption derives from the Supremacy Clause of the Constitution, which states that federal law, treaties, and the Constitution are the "supreme

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[202] *Mead*, 533 U.S. at 230 ("The overwhelming number of our cases applying Chevron deference have reviewed the fruits of notice-and-comment rulemaking or formal adjudication."); *Christensen*, 529 U.S. at 587 ("Here, however, we confront an interpretation contained in an opinion letter, not one arrived at after, for example, a formal adjudication or notice-and-comment rulemaking.") *See also Mead*, 533 U.S. at 231 ("The authorization for classification rulings, and Custom's practice in making them, present a case far removed ... from notice-and-comment process.... ").

[203] The FAA Reform Act provides that in setting up the test sites, the Administrator shall:

> (A) safely designate airspace for integrated manned and unmanned flight operations in the national airspace system;
>
> (B) develop certification standards and air traffic requirements for unmanned flight operations at test ranges;
>
> (C) coordinate with and leverage the resources of the National Aeronautics and Space Administration and the Department of Defense;
>
> (D) address both civil and public unmanned aircraft systems;
>
> (E) ensure that the program is coordinated with the Next Generation Air Transportation System; and
>
> (F) provide verification of the safety of unmanned aircraft systems and related navigation procedures before integration into the national airspace system.[203]The second is FAA's mandate to come up with a comprehensive plan to integrate drones in the national airspace and subsequent rule-making based on this plan.

§ 332(c)(1).

Law of the Land."[204] A federal law may preempt state or local action in one of three ways: if the statute expressly states its intent to preempt state or local action (express preemption); if a court concludes that Congress intended to occupy the regulatory field, implicitly preventing state or local action in that area (field preemption); or if the state or local action directly conflicts with or frustrates the purpose of the federal provisions (conflict preemption).[205]

With regard to traditional aviation laws, generally, state regulations of aviation safety, airspace management, and aviation noise are preempted by federal laws and regulations.[206] Congress vested sole responsibility for the aviation industry and domestic airspace with the federal government in the Federal Aviation Act of 1958.[207] According to the legislative history, the FAA was to have "full responsibility and authority for the advancement and promulgation of civil aeronautics generally, including promulgation and enforcement of safety regulations."[208] In *City of Burbank v. Lockheed Air Terminal, Inc.*, the Supreme Court struck down a local city ordinance that prohibited planes from taking off during certain hours of the day as preempted by the federal regulatory scheme.[209] Expressing its fear regarding local control of airspace, the Court stated, "If we were to uphold the Burbank ordinance and a significant number of municipalities followed suit, it is obvious that fractionalized control of the timing of takeoffs and landings would severely limit the flexibility of the FAA in controlling air traffic flow."[210] The Supreme Court has, however, upheld state regulations imposing taxes on aircraft equipment located within the state.[211]

State proposals seeking to regulate the use of drones are currently pending in many state legislatures throughout the country.[212] The Virginia General Assembly has passed a two-year moratorium on the use of drones by state and local law enforcement.[213] The bill prohibits the use of drones by agencies with jurisdiction over criminal law enforcement or regulatory violations, but includes exceptions for emergency situations. Following passage of the bill, the Governor neither signed nor vetoed the bill, but rather sent it back to the General Assembly with amendments, where it now awaits further action. Several other states have introduced bills similarly targeting the use of drones for surveillance.[214] Other states, like Texas, have introduced

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[204] U.S. CONST. art. VI, cl 2.

[205] *See, e.g.*, Crosby v. Nat'l Foreign Trade Council, 530 U.S. 363, 373 (2000); English v. Gen. Elec. Co., 496 U.S. 72, 78-79 (1990); Schneidewind v. ANR Pipeline Co., 485 U.S. 293, 300 (1988).

[206] *See, e.g.*, City of Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624 (1973); Abdullah v. American Airlines, Inc., 181 F.3d 363 (3d Cir. 1999); San Diego Unified Port Dist. v. Gianturco, 651 F.2d 1306, 1316 (9th Cir. 1981); Price v. Charter Township, 909 F. Supp. 498 (E.D. Mich. 1995).

[207] P.L. 85-726; 72 Stat. 737 (1958).

[208] H.R. Rept. No. 2360, 85th Cong. (1958).

[209] *City of Burbank*, 411 U.S. at 639..

[210] *Id.*

[211] Braniff Airways v. Nebraska Board, 347 U.S. 590 (1954). Additionally, several courts have determined that state law tort claims based on injuries caused by aircraft are not federally preempted. *See, e.g.*, Bieneman v. City of Chicago, 864 F.2d 463 (7th Cir. 1988) (overturning Luedtke v. County of Milwaukee, 521 F.2d 387 (7th Cir. 1975), which ruled that *City of Burbank* preempted application of state tort laws, such as negligence and nuisance, to flights that complied with federal laws and regulations); Greater Westchester Homeowners Association v. City of Los Angeles, 603 P.2d 1329 (Sup. Ct. Cali. 1979).

[212] *See* CRS Report WSLG447, *Congress and the States Grapple with Drones in U.S. Skies*, by Alissa M. Dolan.

[213] "An Act to place a moratorium on the use of unmanned aircraft systems," HB2012, Virginia General Assembly, *available at* http://lis.virginia.gov/cgi-bin/legp604.exe?131+ful+HB2012ER+pdf.

[214] *See, e.g.*, S. 395, South Carolina General Assembly, 120th Session; S. 524, 77th Oregon Legislative Assembly, 2013 Regular Session; SB 92, Florida Legislature, 2013 Regular Session.

bills attempting to address privacy concerns related to widespread drone use. The Texas proposal would create a new state misdemeanor when a person uses a drone to capture an image without the consent of the landowner who owns the property captured in the image.[215]

If these proposals were implemented, questions about federal preemption may be raised. It appears that field preemption or conflict preemption would be the most likely grounds for finding preemption of such state regulations based on current federal law, if at all, since FMRA does not contain an express preemption clause. The extent to which the state can regulate drone use without being preempted by federal law may depend on the scope of the forthcoming federal regulations, the nature of the state regulations, and a reviewing court's analysis of whether Congress intended to "occupy the field" of regulation on that issue. The Court has determined that field preemption can be inferred when "the pervasiveness of the federal regulation precludes supplementation by the States, where the federal interest in the field is sufficiently dominant, or where the object sought to be obtained by the federal law and the character of obligations imposed by it reveal the same purpose."[216]

Right to Protect Property from Trespassing Drones. There may be instances where a landowner is entitled to protect his property from intrusion by a drone. Under Restatement (Second) of Torts Section 260, "one is privileged to commit an act which would otherwise be a trespass to a chattel or a conversion if the act is, or is reasonably believed to be, necessary to protect the actor's land or chattels or his possession of them, and the harm inflicted is not unreasonable as compared with the harm threatened."[217] What this means is, in certain instances, a landowner would not be liable to the owner of a drone for damage necessarily or accidentally resulting from removing it from his property. However, there appear to be no cases where a landowner was permitted to use force to prevent or remove an aircraft from his property. Additionally, as discussed above, determining whether a drone in flight is trespassing upon one's property may be unusually challenging.

Stalking, Harassment, and Other Crimes. Traditional crimes such as stalking, harassment, voyeurism, and wiretapping may all be committed through the operation of a drone. As drones are further introduced into the national airspace, courts will have to work this new form of technology into their jurisprudence, and legislatures might amend these various statutes to expressly include crimes committed with a drone.

Wiretap Laws. Under the federal wiretap statute, it is unlawful to intentionally intercept an "oral communication"[218] by a person "exhibiting an expectation that such communication is not subject to interception under circumstances justifying such expectation.... "[219] Currently, commercial microphones can record sounds upwards of 300 feet.[220] Use of such a microphone on a drone to record private conversations could implicate the federal wiretap statute.

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[215] H.B. 912, Texas Legislature, 83rd Session, *available at* http://www.capitol.state.tx.us/BillLookup/History.aspx?LegSess=83R&Bill=HB912.

[216] *Schneidewind*, 485 U.S. at 300.

[217] RESTATEMENT (SECOND) OF TORTS §260.

[218] 18 U.S.C. §2511(1)(a).

[219] 18 U.S.C. §2510(2).

[220] *See, e.g.*, Electromax International, Inc., http://www.electromax.com/penmics.html.

Conclusion

The legal issues discussed in this report will likely remain unresolved until the civilian use of drones becomes more widespread. To that end, the FAA has been tasked with developing "a comprehensive plan to safely accelerate the integration" of drones into the national airspace, which focuses on the safety of the drone technology and operator certification. While the deadline for development of the plan has already elapsed, the FAA has until the end of FY2015 to implement such a plan.[221] Additionally, the FAA must identify six test ranges where it will integrate drones into the national airspace. This deadline, 180 days after enactment of the act, has also elapsed without FAA compliance. Once these regulations are tested and promulgated, the unique legal challenges that could arise based on the operational differences between drones and already ubiquitous fixed-wing aircraft and helicopters may come into sharper focus.

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[221] *See* P.L. 112-95, §332(a) (requiring development of a plan within 270 days of enactment of the act, falling in November 2012).

Federal Aviation Administration

Busting Myths about the FAA and Unmanned Aircraft

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February 26–There are a lot of misconceptions and misinformation about unmanned aircraft system (UAS) regulations. Here are some common myths and the corresponding facts.

Myth #1: The FAA doesn't control airspace below 400 feet

Fact—The FAA is responsible for the safety of U.S. airspace from the ground up. This misperception may originate with the idea that manned aircraft generally must stay at least 500 feet above the ground

Myth #2: Commercial UAS flights are OK if I'm over private property and stay below 400 feet.

Fact—The FAA published a Federal Register notice (PDF) in 2007 that clarified the agency's policy: You may not fly a UAS for commercial purposes by claiming that you're operating according to the Model Aircraft guidelines (below 400 feet, 3 miles from an airport, away from populated areas.) Commercial operations are only authorized on a case-by-case basis. A commercial flight requires a certified aircraft, a licensed pilot and operating approval. To date, only one operation has met these criteria, using Insitu's ScanEagle, and authorization was limited to the Arctic.(http://www.faa.gov/news/updates/?newsId=73981)

Myth #3: Commercial UAS operations are a "gray area" in FAA regulations.

Fact—There are no shades of gray in FAA regulations. Anyone who wants to fly an aircraft—manned or unmanned—in U.S. airspace needs some level of FAA approval. Private sector (civil) users can obtain an experimental airworthiness certificate to conduct research and development, training and flight demonstrations. Commercial UAS operations are limited and require the operator to have certified aircraft and pilots, as well as

operating approval. To date, only two UAS models (the Scan Eagle and Aerovironment's Puma) have been certified, and they can only fly in the Arctic. Public entities (federal, state and local governments, and public universities) may apply for a Certificate of Waiver or Authorization (COA)

The FAA reviews and approves UAS operations over densely-populated areas on a case-by-case basis.

Flying model aircraft solely for hobby or recreational reasons does not require FAA approval. However, hobbyists are advised to operate their aircraft in accordance with the agency's model aircraft guidelines (see Advisory Circular 91-57). In the FAA Modernization and Reform Act of 2012 (Public Law 112-95, Sec 336), Congress exempted model aircraft from new rules or regulations provided the aircraft are operated "in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization."

The FAA and the Academy of Model Aeronautics recently signed a first-ever agreement that formalizes a working relationship and establishes a partnership for advancing safe model UAS operations. This agreement also lays the ground work for enacting the model aircraft provisions of Public Law 112-95, Sec 336. Modelers operating under the provisions of P.L. 112-95, Sec 336 must comply with the safety guidelines of a nationwide community-based organization.

Myth #4: There are too many commercial UAS operations for the FAA to stop.

Fact—The FAA has to prioritize its safety responsibilities, but the agency is monitoring UAS operations closely. Many times, the FAA learns about suspected commercial UAS operations via a complaint from the public or other businesses. The agency occasionally discovers such operations through the news media or postings on internet sites. When the FAA discovers apparent unauthorized UAS operations, the agency has a number of enforcement tools available to address these operations, including a verbal warning, a warning letter, and an order to stop the operation.

Myth #5: Commercial UAS operations will be OK after September 30, 2015.

Fact—In the 2012 FAA reauthorization legislation, Congress told the FAA to come up with a plan for "safe integration" of UAS by September 30, 2015. Safe integration will be incremental. The agency is still developing regulations, policies and standards that will cover a wide variety of UAS users, and expects to publish a proposed rule for small UAS – under about 55 pounds – later this year. That proposed rule will likely include provisions for commercial operations.

Myth #6: The FAA is lagging behind other countries in approving commercial drones.

Fact – This comparison is flawed. The United States has the busiest, most complex airspace in the world, including many general aviation aircraft that we must consider when planning UAS integration, because those same airplanes and small UAS may occupy the same airspace.

Developing all the rules and standards we need is a very complex task, and we want to make sure we get it right the first time. We want to strike the right balance of requirements for UAS to help foster growth in an emerging industry with a wide range of potential uses, but also keep all airspace users and people on the ground safe.

Myth #7: The FAA predicts as many as 30,000 drones by 2030.

Fact—That figure is outdated. It was an estimate in the FAA's 2011 Aerospace Forecast. Since then, the agency has refined its prediction to focus on the area of greatest expected growth. The FAA currently estimates as many as 7,500 small commercial UAS may be in use by 2018, assuming the necessary regulations are in place. The number may be updated when the agency publishes the proposed rule on small UAS later this year.

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Federal Aviation Administration

Model Aircraft Operations

Model aircraft operations are for hobby or recreational purposes only.

The FAA has partnered with several industry associations to promote Know Before You Fly, a campaign to educate the public about using unmanned aircraft safely and responsibly. Individuals flying for hobby or recreation are strongly encouraged to follow safety guidelines, which include:

- Fly below 400 feet and remain clear of surrounding obstacles
- Keep the aircraft within visual line of sight at all times
- Remain well clear of and do not interfere with manned aircraft operations
- Don't fly within 5 miles of an airport unless you contact the airport and control tower before flying
- Don't fly near people or stadiums
- Don't fly an aircraft that weighs more than 55 lbs
- Don't be careless or reckless with your unmanned aircraft – you could be fined for endangering people or other aircraft

The statutory parameters of a model aircraft operation are outlined in Section 336 of Public Law 112-95 (the *FAA Modernization and Reform Act of 2012*) (PDF). Individuals who fly within the scope of these parameters do not require permission to operate their UAS; any flight outside these parameters (including any non-hobby, non-recreational operation) requires FAA authorization (www.faa.gov/uas/civil_operations/). For example, using a UAS to take photos for your personal use is recreational; using the same device to take photographs or videos for compensation or sale to another individual would be considered a non-recreational operation.

More about the Know Before You Fly campaign

Read the FAA's Interpretation of the Special Rule for Model Aircraft (www.faa.gov/uas/media/model_aircraft_spec_rule.pdf) (PDF)

Read the Do's and Don'ts of Model Aircraft Operations

View FAA YouTube videos on safe model aircraft operations.

The "Model Aircraft Do's and Don'ts"
(www.faa.gov/uas/publications/model_aircraft_operators/assets/media/model-aircraft-infographic.pdf) (PDF)

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This page was originally published at: https://www.faa.gov/uas/model_aircraft/

Federal Aviation Administration

Fact Sheet – Unmanned Aircraft Systems (UAS)

For Immediate Release

February 15, 2015
Contact: Les Dorr or Alison Duquette
Phone: (202) 267-3883

Unmanned aircraft systems (UAS (Unmanned aircraft systems)) come in a variety of shapes and sizes and serve diverse purposes. They may have a wingspan as large as a jet airliner or smaller than a radio-controlled model airplane.

Because they are inherently different from manned aircraft, introducing UAS into the nation's airspace is challenging for both the FAA and aviation community. UAS must be integrated into the busiest, most complex airspace in the world — one that is evolving from ground-based navigation aids to a GPS-based system in NextGen. And because UAS technology also continues to evolve, the agency's rules and policies must be flexible enough to accommodate that progress.

Integration of UAS has to be safe, efficient and timely. Safety is the FAA's primary mission, the agency is committed to reducing delays and increasing system reliability. This new technology has significant potential safety and economic benefits to help achieve these goals.

The FAA is taking an incremental approach to safe UAS integration as the agency acquires a better understanding of operational issues such as training requirements, operational specifications, and technology considerations.

Safety First

The FAA maintains the world's safest aviation system. As a provider of air traffic control services, the agency also must ensure the safety and efficiency of the nation's entire airspace.

Since 1990, the agency has allowed limited use of UAS for important public missions such as firefighting, disaster relief, search and rescue, law enforcement, border patrol, scientific research, and testing and evaluation. Recently, the FAA has authorized some non-recreational UAS operations in controlled, low-risk situations.

UAS operations potentially range from ground level to above 50,000 feet, depending on the specific type of aircraft. However, no operations are currently authorized in the airspace that exists over major urban areas and contains the highest density of manned aircraft.

Flying model aircraft/UAS for a hobby or recreational purpose does not require FAA approval, but all model aircraft operators must fly according to the law.

The FAA authorizes non-recreational UAS operations on a case-by-case basis, and there are several ways to gain agency approval.

Civil UAS Operations

In February 2015, the Department of Transportation and the FAA released a proposed set of regulations that will pave the way for small UAS — those under 55 pounds — to enter the mainstream of U.S. civil aviation. The rulewould allow routine use of small UAS in today's aviation system, and is flexible enough to accommodate future technological innovations.

The proposal offers safety rules addressing non-recreational small UAS operations and for model aircraft operations that do not meet the criteria in Section 336 of Public Law 112-95. The rule would limit small UAS to daylight flights and visual-line-of-sight operations. The proposed rule also addresses issues such as height restrictions, operator certification, optional use of a visual observer, aircraft registration and marking, and operational limits. The proposed rule also includes extensive discussion of a possible "micro" classification for UAS under 4.4 pounds. The FAA is asking the public to comment on whether it should include this option as part of a final rule (www.faa.gov/news/press_releases/news_story.cfm?newsId=18295).

Private sector manufacturers and technology developers currently can obtain a Special Airworthiness Certificate in the experimental category to conduct research and development, crew training, market surveys, and flight demonstrations. Experimental certificates preclude carrying people or property for compensation or hire and typically include operating limitations such as altitude and geographical area.

Commercial firms also may fly a UAS that has an FAA Restricted Category Type Certificate. The agency issues these certificates to UAS models previously flown by the military. They allow limited operations, such as wildlife conservation flights, aerial surveying, and oil/gas pipeline patrols. As of October 2014, the FAA had approved

operations using two certificated UAS.

Since June 2014, the agency has received petitions for exemptions under Section 333 of Public Law 112-95 to permit non-recreational UAS operations before the small UAS rule is finalized. Under that section of the law, the Secretary of Transportation can determine whether certain airworthiness requirements are necessary to authorize specific UAS to fly safely in narrowly-defined, controlled, low-risk situations.

Commercial entities ask for relief from airworthiness certification requirements as allowed under Section 333, in addition to relief from regulations that address general flight rules, pilot certificate requirements, manuals, and maintenance and equipment mandates.

Model Aircraft

On June 23, 2014, the FAA issued an interpretation of Public Law 112-95 providing clear guidance to model operators on the "do's and don'ts" of flying safely in accordance with the Act.

In the document, the FAA restates the law's definition of "model aircraft," including requirements that they not interfere with manned aircraft, be flown within sight of the operator, and be operated only for hobby or recreational purposes. The agency also explains that model aircraft operators flying within five miles of an airport must notify the airport operator and air traffic control tower.

The FAA reaffirms that the law's model aircraft provisions apply only to hobby or recreation operations and do not authorize the use of model aircraft for non-recreational operations.

Government (Public) UAS Operations (www.faa.gov/uas/public_operations/)

A "Certificate of Waiver or Authorization" (COA (Certificate of Waiver or Authorization)) is available to government entities that want to fly a UAS in civil airspace. Common uses include law enforcement, firefighting, border patrol, disaster relief, search and rescue, military training and other government operational missions.

Applicants must submit their COA request through an online system. The FAA then evaluates the proposed operation to see if it can be conducted safely. If granted, the COA allows an operator to use a defined block of airspace, and includes special provisions unique to the proposed operation. For instance, a COA may require flying only under Visual Flight Rules (VFR (Visual Flight Rules)) and/or only during daylight hours.

Today, the average time to obtain an authorization for non-emergency operations is less than 60 days, and the renewal period is two years. The agency has expedited procedures to grant one-time COAs for time-sensitive emergency missions such as disaster relief and humanitarian efforts — sometimes in just a few hours.

Most COAs require coordination with an appropriate air traffic control facility and may require a transponder on the UAS to operate in certain types of airspace. Because UAS technology cannot yet comply with "see and avoid" rules that apply to all aircraft, a visual observer or an accompanying "chase plane" must maintain visual contact with the UAS and serve as its "eyes" when operating outside airspace restricted from other users.

COAs Issued, by year

Year	2009	2010	2011	2012	2013	2014
COAs Issued	146	298	313	257	423	609

Operating and Certification Standards

Integrating UAS into the nation's airspace presents both opportunities and challenges. However, everything the FAA does is focused on ensuring the safety of the nation's aviation system. New policies, procedures, and approval processes are needed to deal with the increasing desire by civilian operators to fly UAS. Developing and implementing these new UAS standards and guidance is a long-term effort.

In November 2013, the Department and the FAAreleased its first annual Integration of Civil UAS in the National Airspace System (NAS) Roadmap (www.faa.gov/uas/media/UAS_Roadmap_2013.pdf) (PDF)outlining efforts needed to safely integrate unmanned aircraft into the nation's airspace. The Roadmap addresses current and future policies, regulations, technologies, and procedures that will be required as demand moves from today's limited accommodation of UAS operations to the extensive integration of UAS into the NextGen aviation system in the future.

The Department of Transportation also released a Comprehensive Plan (PDF) that dovetails with the Roadmap. This Comprehensive Plan details the multi-agency approach to the safe and timely integration of unmanned aircraft. The plan establishes goals to integrate both small and larger unmanned aircraft, and to foster America's leadership in advancing this technology.

The FAA chartered a UAS Aviation Rulemaking Committee in 2011, which is still active. The group's goal is to develop inputs and recommendations on appropriate operational procedures, regulatory standards and policies before allowing routine UAS access to the nation's airspace.

The FAA also has asked RTCA — a group that facilitates expert advice to the agency on technical issues — to work with industry to help develop UASstandards. RTCA's technical group (Special Committee 228) is addressing how UAS will handle communication, command and control and how they will "sense and avoid" other aircraft.

The FAA continues to work closely with its international aviation counterparts to harmonize standards, policies, procedures, and regulatory requirements.

UAS Test Sites (www.faa.gov/uas/legislative_programs/test_sites/)

After a rigorous selection process, the Federal Aviation Administration chose six UAS test sites on December 30, 2013. These six test sites have geographic and climatic diversity and help the FAA meet its UASresearch needs.

The six Test Sites, which were operational as of mid-August 2014, include:

- University of Alaska — Fairbanks
- State of Nevada
- Griffiss International Airport (Rome, NY)
- North Dakota Department of Commerce
- Texas A&M University — Corpus Christi
- Virginia Polytechnic Institute and State University (Virginia Tech)

Each test site operator manages the site in a way that gives access to parties interested in using the site. The FAA's role is to ensure each site sets up a safe testing environment and operates under strict safety standards.

First Responders

The FAA Modernization and Reform Act of 2012 also directed the agency to expedite the COA process for government public safety agencies that want to use small UAS. In May 2013, the FAA and the Justice Department signed an agreement to streamline the COAprocess for law enforcement — an agreement that meets the mandate. The agreement expanded the allowable UASweight up to 25 pounds, an increase from the 4.4 pounds specified in the Act.

Today, a law enforcement organization first receives a COA for training and performance evaluation. When the organization has shown proficiency in flying its UAS, it receives a "jurisdictional" COA.

Meeting the Challenge

For more than 50 years, the FAA has maintained a proven track record of introducing new technology and aircraft safely into the national airspace system. The agency will successfully meet the challenges posed by UAStechnology in a thoughtful, careful manner that ensures safety and addresses privacy issues while promoting economic growth.

While aviation is unquestionably an industry known for innovation, it is also an industry with a strong history of collaboration between government and industry. This collaboration has helped the FAA achieve a position of international leadership. By working together, government and industry will overcome the challenges UAS

integration presents and open the door to a more diverse and dynamic aviation future for both manned and unmanned aircraft.

For more information: www.faa.gov/uas/ (www.faa.gov/uas/)

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RECREATIONAL USERS

Currently, small unmanned aircraft systems (sUAS) may be operated for hobby and recreational purposes under specific safety guidelines as established by Congress. Small UAS flown for recreational purposes are typically known as model aircraft.

Under the Special Rule for Model Aircraft, recreational UAS must be operated in accordance with several requirements, including a community-based set of safety guidelines and within the programming of a nationwide community-based organization such as the Academy of Model Aeronautics (AMA). Operators not operating within the safety program of a community-based organization should follow the FAA's guidance here.

What is recreational use of sUAS?

The recreational use of sUAS is the operation of an unmanned aircraft for personal interests and enjoyment. For example, using a sUAS to take photographs for your own personal use would be considered recreational; using the same device to take photographs or videos for compensation or sale to another individual would be considered a commercial operation. You should check with the FAA for further determination as to what constitutes commercial or other non-hobby, non-recreational sUAS operations.

What are the safety guidelines for sUAS recreational users?

- Follow community-based safety guidelines, as developed by organizations such as the Academy of Model Aeronautics (AMA).
- Fly no higher than 400 feet and remain below any surrounding obstacles when possible.
- Keep your sUAS in eyesight at all times, and use an observer to assist if needed.
- Remain well clear of and do not interfere with manned aircraft operations, and you must see and avoid other aircraft and obstacles at all times.
- Do not intentionally fly over unprotected persons or moving vehicles, and remain at least 25 feet away from individuals and vulnerable property.
- Contact the airport or control tower before flying within five miles of an airport.
- Do not fly in adverse weather conditions such as in high winds or reduced visibility.
- Do not fly under the influence of alcohol or drugs.
- Ensure the operating environment is safe and that the operator is competent and proficient in the operation of the sUAS.
- Do not fly near or over sensitive infrastructure or property such as power stations, water treatment facilities, correctional facilities, heavily traveled roadways, government facilities, etc.
- Check and follow all local laws and ordinances before flying over private property.
- Do not conduct surveillance or photograph persons in areas where there is an expectation of privacy without the individual's permission (see AMA's privacy policy).

For more safety information, please download the Know Before You Fly brochure here.

Resources

Federal Aviation Administration
AMA Safety Code
Increasing Human Potential
Academy of Model Aeronautics
Why Model Aircraft

Contact

contact@knowbeforeyoufly.org

Latest Tweet

The @FAANews issues temporary flight restrictions (TFRs) through Nov. around firefighting ops in CA tfr.faa.gov/tfr2/list.html #Knowbeforeyoufly

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OLD BUSINESS **AGENDA ITEM**

WILDWOOD

INFORMATION REPORT

City of Wildwood, Missouri
Prepared by the Department of Planning
Draft Date: November 7, 2016
(First Publication - September 19, 2016; 2nd Publication - October 3, 2016)
"Planning Tomorrow Today"

Petition No.:	**P.Z. 6-16 Auburn Ridge**
Petitioner:	**Fischer and Frichtel Custom Homes, 695 Trade Center Boulevard, Chesterfield, Missouri, 63005**
Request:	A request for the application of a Planned Residential Development Overlay District (PRD) within the NU Non-Urban Residence District. **Proposed Use: A total of twenty-two (22) ~~twenty-four (24)~~ ~~twenty-five (25)~~ individual lots, with common ground, and required public space areas.**
Location:	Southwest side of Ridge Road, south of Lack Ridge Road
Tract Size:	81.4 acres
Locator Numbers:	25U330010 and 25U310023
Street Addresses:	1115 Ridge Road and 1513 Windwood Hills Drive
Public Hearing Date:	August 1, 2016
Information Report Decision Date and Vote:	November 7, 2016 – **TBD**
Report:	Attachment A
Conditions:	Attachment B
Preliminary Development Plan:	Attachment C
Background Information:	Attachment D
School District:	Rockwood
Fire District:	Metro West
Ward:	Six

Recommendation: The Department of Planning is recommending the Planning and Zoning Commission support the requested application of the Planned Residential Development Overlay District (PRD) on this NU Non-Urban Residence District zoned property.

1. The Department has determined, based upon the review and analysis of the petitioner's proposal, the requested Planned Residential Development Overlay District (PRD) is consistent with the City's Master Plan.
2. The revised proposal for the development of this residential subdivision complies with the Planned Residential Development Overlay District (PRD) requirements of the Zoning Code.
3. The increase in overall sizes of each of the proposed lots is compatible with the surrounding land use pattern.

ATTACHMENT A - REPORT

Area Synopsis (includes land use and zoning information) >>>

The site of petitioner's request is an 81.36 acre tract of land located at the west side of Ridge Road, south of Old State Road (in Ward Six). The tract of land consists of two (2) lots of record and somewhat irregular in shape. These lots are 61.50 and 19.84 acres in size respectively. The subject site's frontage along Ridge Road exceeds 558 feet.

Ridge Road is a City-maintained roadway, which is rural in nature. This roadway is considered rural due to its width and limited stormwater improvements, shoulders, and sidewalks. The width of this roadway is approximately twenty-six (26) feet in size, striped for two (2) full lanes of traffic, and has a limited system of earthen swales for stormwater drainage. Traffic volumes are moderate, along with a low-density residential land use pattern. Ridge Road, from its southern terminus at St. Paul Road, to its northern terminus at Old State Road, has a north-south orientation.

The site is one (1) of the last parcels of ground of this size that has had limited use over the last twenty (20) years. Parts of the site were used for residential purposes, which appears to have ended about a decade or more ago. The site is almost entirely wooded and these trees are large in caliper size and mature. The site has a major drainageway, which trends through it, from east to west. A number of small tributaries intersect this larger feature, giving the site a varied topography. Slopes range between relatively flat and narrow ridgelines to greater than thirty (30) percent, with an overall relief of the tract of land being almost over three hundred (300) feet. Soils are typical of this area of the City and very rocky at some locations. This site has a natural beauty associated with its vegetative cover, topography, and views, making it a natural landmark in this area of Wildwood.

The site also has no structures located upon it and this circumstance reflects past activities associated with it. These structures were removed several years ago by the current owner and included a residence and two (2) outbuildings. The City, including the historic residence that was located there, authorized the removal of these structures. These structures were located in the center portion of the property, closer to Ridge Road, its eastern boundary, than its western side, given the slope in that area.

The site is zoned NU Non-Urban Residence District and has been since 1995. Prior to 1995, the site was zoned NU Non-Urban District by St. Louis County. This designation was applied in 1965 and this date is important due to the St. Louis County Council's adoption of a comprehensive Zoning Ordinance and Map for all properties located in the unincorporated areas. The NU District designation was chosen to act as a holding category for future development, since no clear land use pattern had been established in these urban fringe areas at that time. Subsequently, as development proceeded, the land use pattern would be set. The City of Wildwood changed this holding pattern designation with the incorporation of this community and gave it true standing as a residential district. Surrounding properties have generally retained this 1965 zoning district designation. This pattern can be witnessed by a review of zoning and land use in the vicinity of the site.

To the North: Bounding the northern portion of the site is a small, large-lot subdivision of three (3) single family dwellings (Lack Ridge Estates). These lots exceed three (3) acres in size and are zoned NU Non-Urban Residence District. Abutting this subdivision is the Estates at Quail Ridge Subdivision, which is thirteen (13) lots on thirty-nine (39) acres, with single family residences located upon them, which is zoned NU Non-Urban Residence District, with a Planned Residential Development Overlay District (PRD). Lots range from a minimum of one (1) acre to approximately two (2) acres in size. Further north is the Antler Ridge Subdivision, another large-lot subdivision in the NU Non-Urban Residence District. These lots are three (3) acres or greater in size and used for residential purposes.

To the East: Abutting to the east is Ridge Road. Crossing Ridge Road is a series of large lots zoned NU Non-Urban Residence District, which are utilized for single family dwellings. Included in this direction is Ridgetree Estates, a Density Development Procedure (DDP) approved by St. Louis County, which maintained three (3) acre minimum lot sizes, but allowed for dedication of common ground and flexibility in lot widths.

To the West: Adjoining to the west are properties owned by St. Louis County, Missouri, but leased to the City of Wildwood for the Rock Hollow Trail. These properties generally exceed one hundred (100) acres in size and are zoned PS Park and Scenic District. Beyond these public holdings of properties is the Old State Farms Subdivision, which is zoned NU Non-Urban Residence District and utilized for single family detached dwellings on three (3) acre or greater lots.

To the South: Located in this direction are the Windwood Hills and Ridge Road Farms Subdivisions, which are zoned NU Non-Urban Residence District. These lots are three (3) acres or greater in size and used for residential purposes.

Petitioner's 3rd ~~2nd~~-REVISED Request >>>

The petitioner, Fischer and Frichtel Custom Homes, is requesting the authorization of a Planned Residential Development Overlay District (PRD) in the NU Non-Urban Residence District for the development of ***twenty-two (22)*** ~~(24) twenty-five (25) twenty-seven (27)~~ single family residences on individual lots. The lots would range in size from approximately ***three (3)*** ~~two (2)~~ **acres** ~~one (1) acre~~ to over **eight (8)** ~~seven (7) three (3)~~ acres in area. The development does **not** include an area of land dedicated as common ground, while under petitioner's proposal, approximately **sixty-seven (67)** ~~seventy four (74)~~ acres of the site will be **one hundred percent (100%)** protected due to the analysis required by the Natural Resource Protection Standards of the City's Subdivision and Development Regulations. The site is to be served by the Metropolitan St. Louis Sewer District (MSD) for sanitary or storm sewers, while all other utilities are in proximity to the site or the general area.

At a public hearing, petitioner's representative noted the dwellings would be a mix of one (1), one and one-half (1½), and two (2) story type units and would be consistent, if not greater, than the size of dwellings in the immediate area. Price information and sizes was not provided at that time, but will be very similar to

the residences underway or just completed in the Wakefield Forest Subdivision (State Route 100) or the Estates at Deer Hollow Subdivision (State Route 100).

Other design elements of this proposal, as reflected either in the petitioner's presentation or indicated on the Preliminary Development Plan, are as follows:

1. This residential subdivision will dedicate a forty (40) foot private roadway dedication for access purposes, and be constructed according to the City of Wildwood's 'Rural Roadway Standards,' to serve the proposed lots. No sidewalks are proposed. No stub streets are planned to the properties located immediately in its vicinity.
2. The development will be served from Ridge Road. Access is provided by a single curb cut onto Ridge Road, which is located in the middle of the property's frontage thereon. An allocation of twenty (20) feet of the property's Ridge Road frontage is being indicated to the City of Wildwood for public roadway dedication purposes.
3. The design of the site incorporates **a public space dedication to the City of Wildwood to provide access through the site to the Rock Hollow Valley**. ~~the dedication of a short, variable width trail easement to the west, from a proposed cul-de-sac area~~.
4. The clustering of lots is ***no longer being requested, given all of the proposed building sites are now three (3) acres or greater in size.*** ~~intended to locate the proposed two (2) acre parcels of ground in the center of site, surrounded by the three (3) acre or greater tracts of land. address the soil and slope characteristics of the site~~.
5. The development's design concept indicates the use of **twenty (20)** ~~thirty (30)~~ foot front yard setback areas, ~~**ten (10) foot**~~ **fifteen (15)** foot for all side yard areas, **with a minimum of forty (40) feet between any structures**, and thirty (30) foot for all rear yard areas on the individual lots. Along with these requirements, the petitioner's plan indicates a **fifteen (15)** ~~twenty-five (25)~~ foot foundation setback from the proposed 'Final Resource Protection Line.'
6. This development utilizes lot widths and depths that vary, but comply with City standards in this regard. The proposed minimum lot width is ~~**one hundred sixty to**~~ **two hundred (~~160 to~~ 200)** feet at the front building line, except for the two (2) cul-de-sac areas.
7. The development will preserve approximately sixty-seven (67) acres of the eighty-one (81) acres of existing tree cover on the subject site.
8. The development's design concept includes the provision of a minimum of two (2) parking spaces for each single family dwelling.
9. The Metropolitan St. Louis Sewer District will serve the site and related residences for both sanitary and storm sewer designs and permitting.
10. The petitioner plans on providing public potable water to the residences that will be included as part of this subdivision.
11. The proposed design of this subdivision indicates compliance to the City's Lighting Code and no standard is to exceed sixteen (16) feet in height.
12. The site will be served by underground utilities, according to the City's Subdivision and Development Regulations.

Major concerns and considerations identified by comments that were provided at the Planning and Zoning Commission's public hearing included the following:

1. The traffic added to Ridge Road and other rural roadways in the area.
2. The use of the Planned Residential Development Overly District (PRD) procedure and the need for only three (3) acre or greater lots being developed upon this site.
3. The impact of stormwater runoff onto surrounding properties caused by the development of the subject site.
4. The view of other residences and the noise, light, and activity they produce impacting current residents of the area.
5. The extent of clearing to accommodate the proposed roadway and homesites on the development site.

Analysis >>>

The Department of Planning has considered petitioner's proposal for the use of the Planned Residential Development Overlay District (PRD) in the NU Non-Urban Residence District by comparing it to certain components necessary to determine its appropriateness relative to the City's planning documents and land use codes. These components are: (1.) compliance to the Master Plan; (2.) consistency with the City's Zoning Ordinance and related land use codes; and (3.) the compatibility of the proposed design of the subdivision to the general area where it is to be located. If these components are determined to meet the requirements of the City, then the Planned Residential Development Overlay District (PRD) can be applied at the subject location, particularly if its application preserves the sensitive physical characteristics of the site.

Master Plan

The Department would first note the importance of the City's Master Plan in guiding its decisions on development requests. The City's Master Plan was intended to provide fundamental principles to be followed by future development decisions with a substantial amount of the detail provided for implementing such principles to ensure the tenets of this document were not circumvented. Accordingly, the City has been able to apply its plan with greater certainty and consistency than was the case with development decisions utilizing St. Louis County plans.

Formulation of Plan

Within the framework of the Master Plan, the community set forth to create specific land use classifications for the entire City. These classifications were to reflect the input from the community, the environmental assessment completed by a consultant to the City, and the existing level of development and zoning patterns within Wildwood. To this end, the City created and retains four (4) general land use classifications for the entire sixty-eight (68) square miles comprising this community. These classifications include the **Industrial Category, the Town Center Category, the Sub-Urban Category, and the Non-Urban Category**. Each of these categories includes a list of requirements for the future development of properties. The categories are clearly designated on a map of the City, as dictated by the planning principles noted above and in the Master Plan. It is important to note, that in 2002, the City Council approved the creation of the **5th Land Use Category** for historic assets. This category is intended to provide

the needed incentives to encourage property owners of historic assets to consider their protection, preservation, and adaptive reuse. With this category, the density of residential uses, or the type of activities, can be modified relative to the other land use categories in the Master Plan, to provide the needed incentives or capital to accomplish the City's goal of historic preservation.

The Non-Urban Residential Area description is as follows:

> **NON-URBAN RESIDENTIAL** - This category contains the areas of the City currently zoned NU Non-Urban Residence District, including one (1) commercially zoned property (Amended C-8 Planned Commercial District). Principally located west of the State Route 109 corridor, but additional properties of similar zoning and nature are found in all quadrants of the City. The Non-Urban Residential Area is generally not served by public sewer or water and is dependent upon individual systems for these services. Characteristically, the land area is steeply sloping, heavily vegetated, and relatively undeveloped in terms of traditional urban densities. The adjoining land use pattern is principally low density residential or parkland and access is limited to a network of rural roadways characterized by narrow widths, one-lane bridges, no shoulders, steep hills, and poor alignments. These characteristics are aesthetically desirable, but also at the same time dictate a low-density residential pattern (generally three (3) acre lots or greater in size) for the future. Additionally, existing developments on lots of three (3) acres or more in these areas strongly weigh against any new development of higher densities in this land use designation. Regarding the one (1) commercially zoned property located at the southeast corner of State Route 109/Wild Horse Creek Road, its designation should be retained, as part of an Amended C-8 Planned Commercial District classification within this land use area, but for the sale of beer and wine only. However, no further commercial designations of properties located beyond this site should be considered, thereby acknowledging this previous zoning was part of St. Louis County's rejected land use policy and not the City of Wildwood.

Previous Applications

The City has been applying the City's Master Plan for over twenty (20) years, since its adoption in February 1996. In this twenty (20) year period, the Department has always advised potential developers of properties within this community of the requirements of the Master Plan in terms of its land use classifications. In these pre-development conferences, the requirements of the Master Plan are explained in terms of the allowable uses and related densities. Ultimately, developers submitting proposals not complying are encouraged to modify them, since inconsistencies with the plan would not justify the Commission's support in many cases and would not comply with the ordinances of the City, which have further reinforced the Master Plan.

With the application of the Master Plan, the City has been able to obtain development concepts that comply with it. In these instances, development densities and designs were in compliance with the Master Plan, or comparable enough to be addressed, as part of the overall zoning process through discussion. The City has yet to approve a rezoning which is not compliant to the Master Plan in terms of the Land Use Classifications of the Master Plan. Residential development has occurred throughout the City, with many in

the Non-Urban Residential Areas of it. Major examples of all of these three (3) acre projects that utilized the Planned Residential Development Overlay District (PRD) process, in conjunction with its NU Non-Urban Residence District zoning, include the following:

Subdivision Name (PRD[1] is referenced)	Master Plan Designation	Characteristics	Density
Meridien (PRD)	Non-Urban Area	Thirty (30) lots on ninety-nine (99) acres	3 lots less than allowed by NU District
Bartizan Pointe Estates (PRD)	Non-Urban Area	Twelve (12) lots on forty (40) acres	1 lot less than allowed by NU District
Shepard Oaks Estates (PRD)	Non-Urban Area	Thirteen (13) lots on forty-two (42) acres	1 lot less than allowed by NU District
Radcliffe Place (PRD)	Non-Urban Area	Sixteen (16) lots on forty-nine (49) acres	Meets 3 acre density
Wills Trace (PRD)	Non-Urban Area	Twenty-one (21) lots on sixty-six (66) acres	1 lot less than allowed by NU District
Woodland Hills (PRD)	Non-Urban Area	Five (5) lots on sixteen (16) acres	Meets 3 acre density
Quail Ridge (PRD)	Non-Urban Area	Thirteen (13) lots on thirty-nine (39) acres	Meets 3 acre density
Homestead Estates (PRD)	Non-Urban Area	Sixty (60) lots on two hundred (200) acres	6 lots less than allowed by NU District
Breton Woods (PRD)	Non-Urban Area	Twelve (12) lots on forty (40) acres	1 lot less than allowed by NU District
Arbor Trace (PRD)	Non-Urban Area	Seven (7) lots on twenty-five (25) acres	1 lot less than allowed by NU District
Saddlebrook (PRD)	Non-Urban Area	Eight (8) lots on twenty-seven (27) acres	1 lot less than allowed by NU District
Auburn Ridge	***Non-Urban Areas***	***Twenty-two (22) lots on eighty-one (81) acres***	***5 lots less than allowed by the NU District***

[1] PRD – Planned Residential Development Overlay District

Compliance of the Request to the Master Plan – P.R.D. in the NU District

With this submittal of the request for the development of this site, it is apparent to the Department of Planning that petitioner's proposal does comply with the Master Plan and can be supported in its current form. Accordingly, the Department would support the approval of the Planned Residential Development Overlay District (PRD) for the subject site to allow no more than twenty-two (22) lots. The reduction in the proposed lots reflects a desire to have a lot width standard (at the front building line) that is no less than one hundred sixty (160) feet in length and preserve a three (3) acre minimum area for all future homesites. This two hundred (200) foot standard is required on any three (3) acre lot created in the City of Wildwood and now matches the surrounding minimum frontages of other properties in its general vicinity, of which were approved by St. Louis County many years ago.

A comparison of the requirements of the Master Plan to the components of the petitioner's proposal clearly indicates a number of consistencies with it and meeting the intended purpose of this designation, i.e. maintain rural land use pattern. This comparison is provided below.

Master Plan Component – Non-Urban Residential Area	**Petitioner's Proposal**	**Compliance/Non-Compliance Issues**
Low density residential development – one (1) dwelling per every three (3) acres. No range in districts provided, only NU Non-Urban Residence District with the use of a Planned Residential Development Overlay District (PRD) on a majority of the site.	NU Non-Urban Residence District with a Planned Residential Development Overlay District (PRD) – ~~twenty four (24)~~ ***twenty-two (22)*** units in total	The allowable density of future residential units on this 81 acre site is based upon the gross acreage of the property. In this case, the net acreage of the site is the same as its gross acreage, since no public rights-of-way dedications are planned, nor is their any designated floodplain located on the site. This net acreage would allow a yield of twenty-seven (27) lots under the NU Non-Urban Residence District zoning regulation requirements. Since the petitioner is requesting ***twenty-two (22)*** ~~twenty four (24) lots~~, the density is consistent with the Master Plan requirements in this regard, as well as with the regulations of the NU Non-Urban Residence District.
Type of use limited to single family dwellings on individual lots.	Single family detached dwellings.	The permissible zoning districts identified in the Master Plan only allow single family detached uses, which are planned on this site.
Lot size cannot be less than one (1) acre in area.	Minimum lot sizes are ***three (3)*** ~~one (1)~~ acres in area.	All lots meet or exceed the minimum size requirement of the 'Non-Urban Area' of the Master Plan and the requirements of the City's Zoning Code in this regard.

Of the three (3) major requirements of the 'Non-Urban Residential Area' of the Master Plan, petitioner's proposal does comply with each of them.

Goals, Objectives, and Policies of the Master Plan via its Elements

A comparison of the requirements of the Master Plan to the components of the petitioner's proposal clearly indicates a number of consistencies with it and meeting the intended purpose of this designation, i.e. maintain rural land use pattern. This comparison is provided below.

In the case of petitioner's proposal, a number of the policies within the different elements of the Master Plan are adhered to by its design and the use of the City's Planned Residential Development Overlay District (PRD). This adherence is critical in the analysis of this request by the Department of Planning. In summary, the consistencies between the request and the key elements of the Master Plan are as follows:

Environmental Element -

Policy 1. Implement the conservation principles put forward in the St. Louis County General Plan Update (see Attachment D).
Petitioner's Proposal: request adheres to eight (8) of the applicable list of eight (8) items noted as policies to limit the amount of stormwater runoff generated by a development and control its erosional tendencies downstream.

Policy 2. Recognize that terrain in the City varies and the more environmentally sensitive areas are located in the west and southern portions of the community.
Petitioner's Proposal: request is for Planned Residential Development Overlay District (PRD) in the NU District, which minimizes developed area of the site and maintains three (3) acre density in this area as well.

Policy 4. Require that natural drainageways remain undisturbed.
Petitioner's Request: very limited disturbance in the area of this site's watercourses.

Policy 5. Require that areas of steep slopes and highly erodible soils remain in their natural state.
Petitioner's Request: slopes greater than 30% are completely preserved, while others between 7% to 29% are partially protected from development. Overall, over eighty-three (83) percent of the entire 81 acre tract of land is preserved and will remain undeveloped forever. This preservation amount is based upon the soil and slope characteristics of the site.

Policy 7. Continue to employ the current procedure, as part of the City's development regulations, for the mapping of landforms and soil conditions and evaluate their suitability for development.
Petitioner's Request: Natural Resource Protection Maps A and B have been completed.

Policy 8. Maintain the current flexible procedure within the development regulations that allows an owner of land to better utilize the site's natural characteristics through the application of innovative design and construction practices and the clustering of units, while offering community amenities and open spaces. The application of this procedure should be consistent with the environmental parameters of the site.
Petitioner's Request: the use of the Planned Residential Development Overlay District (PRD) is proposed and necessary to assist with lot dimensions, setbacks, and grading designs. The intent in allowing NU District zoned properties to use the Planned Residential Development Overlay District (PRD) was primarily to limit the amount of site disturbance on any property.

Policy 9. Require all developments to submit a plan that includes the delineation of the site's natural drainageways.
Petitioner's Request: both the Preliminary Development Plan and the Natural Resource Protection Attribute Maps define the property's natural drainageways.

Policy 16. Require tertiary treatment of sewage effluent.
Petitioner's Request: A connection to the Metropolitan St. Louis Sewer District (MSD) system is planned by the developer for this essential service

Policy 17. Encourage the extension of public potable water to all areas of the City to prevent future safety and health problems relating to fire protection and sewage effluent from non-public systems contaminating area waterways and aquifers.
Petitioner's Request: The Department is recommending this developer extend public potable water to the site. Water service is available to the subdivision from a line located along Ridge Road to the north.

Planning Element -

Policy 3. Continue the Non-Urban Residence District zoning as the major land use designation in the City of Wildwood. In addition, maintaining an existing NU District designation is especially appropriate in areas of steep topography and highly erodible soil profiles.
Petitioner's Request: underlying zoning designation of NU District remains unchanged in this proposal.

Community Services -

Policy 2. Follow a policy of fiscal prudence in considering major new development initiatives.
Petitioner's Request: The petitioner is attempting to introduce a major residential development into this area, where infrastructure is limited in some regards. The Department is seeking the extension of public potable water to the site to meet the demands of this development upon the utility network in this area. This request for public potable water is prudent in this regard. Additionally, the Department is recommending the petitioner's participation in required roadway improvements along the subject site's frontage of Ridge Road.

Transportation Element -

Policy 1. Promote a policy that supports the creation of a street network, which includes safe and ecologically responsible two (2) lane arterial roadways. Make only improvements required for traffic safety.
Petitioner's Proposal: request will provide for improvements to a portion of Ridge Road, which will include the dedication of right-of-way and the installation of an access point.

Policy 5. Require local access streets within individual subdivisions to be built to City standards, but consider having them remain private.
Petitioner's Request: streets are to be built to the City's minimum requirements and will be private.

Policy 8. Preserve and enhance the scenic environmental qualities that exist along many of the City's roadways through the application of appropriate design standards reflecting sensitivity toward the area's unique environmental

characteristics.

Petitioner's Proposal: the use of the Planned Residential Development Overlay District (PRD) allows for the more difficult portions of the site, where topography is prohibitive, to be protected, while utilizing the ridgetops for development purposes.

It is the opinion of the Department of Planning the requested Planned Residential Development Overlay District (PRD) is consistent with, and adheres to, the City's Master Plan. In fact, the comparison completed above indicates the proposal is in full compliance with the applicable policies of this plan.

Clustering of Lots as a Land Use Tool

The discussion of Planned Residential Development Overlay Districts (PRD) has recently focused on the impact of the clustered sized lots on the nearby community located around the proposed site and the tax impacts of the common ground that is formed, when the overlay district is applied. These considerations also include statements regarding the commitment of the City, from its inception, to provide only three (3) acre lots in the Non-Urban Residence District zoned areas of Wildwood, particularly west of State Route 109. These considerations are appropriate questions to ask in regards to the application of any Planned Residential Development Overlay District (PRD) and need to be answered, regardless of the outcome of this application at this current site.

In the City's Master Plan, the document contains a description of the land use considerations and allowances in the Non-Urban Residential Area, which references the NU Non-Urban Residence District as the only and principal zoning district designation for application in it. With this singular reference, no other zoning district designation can be considered in the Non-Urban Residential Areas of the City from a land use perspective for permitted and conditional uses. This prohibition guarantees that all residential development in the Non-Urban Residential Areas of the City will be at a density of one (1) unit per every three (3) acres of a site. However, the above-referenced description notes that "generally all lots will be a minimum of three (3) acres in size," but that statement is not written as 'only, singularly, or solely.' Therefore, those first City Councils and Planning and Zoning Commissions understood the desire to maintain a rural land use pattern in much of Wildwood, but understood that physical characteristics of these areas dictated a potentially different approach to the organization of the lots and improvements.

The approach that was chosen after much discussion was to improve the County's old application for clustering in the rural areas, the Density Development Procedure (DDP), and create a better mechanism for use by the City for environmental protection and creating a tool to complement the Grading Code, the Tree Preservation and Restoration Code, and the Natural Resource Protection Standards of the Subdivision and Development Regulations. In combination, these land use codes, taken into account with the reduced zoning densities across the City, except in Town Center, the outcome would be site-sensitive development, more contiguous open space, environmental fragile landscapes in common ownership, and improved wildlife habitat. These outcomes from the appropriate application of the regulations of the City's Planned Residential Development Overlay District (PRD) are the reasons that ten (10) of these applications have been authorized in the rural areas of the City. These applications have been situated across the City, with

the majority of them located on the east side of State Route 109. Each of these applications were scrutinized and determined to be appropriate. At an average rate of one (1) approved application of the Planned Residential Development Overlay District (PRD) every two (2) years, since the City's incorporation, this Department, past Planning and Zoning Commissions, and previous City Councils have exercised careful consideration in this regard.

Planned Residential Development Overlay District

When the City Council approved a new Zoning Code for the City, it deleted the St. Louis County's former Planned Environment Unit (PEU) and replaced it with a new procedure called the Planned Residential Development Overlay District (PRD). This new procedure was intended to address the shortcomings of the previous special procedure and set clear and precise requirements for its use in the future. A list of standards was compiled to create these requirements. These standards include the following:

- Conformity with the land use objectives and policies of the City of Wildwood's Master Plan (Standard One);
- Open Space, including without limitation, parks, recreation areas, playgrounds, and natural areas (Standard Two);
- Adequate landscaping, screening, and buffering (Standard Three);
- Adequate internal traffic circulation and the provision of an appropriate transportation system that serves the property (Standard Four);
- Adequate parking (Standard Five);
- Livability (Standard Six);
- Building design and relationship to surrounding neighborhoods (Standard Seven); and
- The Planned Residential Development Overlay District (PRD) is in the best interest of the community (Standard Eight).

These standards analyzed on an individual basis provide the following information relative to the petitioner's request:

Standard One: The first of these standards is compliance with the objectives and policies of the City's Master Plan. This standard is detailed earlier in this report (Master Plan subtitle).

One (1) of the more discussed aspects of this plan is its use of clustering of the units upon smaller lots to create larger, more contiguous, areas of open space. The Department is aware the majority of lots in this area of Wildwood were platted at a three (3) acre or greater size and this proposal was originally submitted with lots being one (1) acre plus parcels of ground. Now, with revisions, all of the lots are three (3) acres or greater in size. This design eliminates all common ground from the project, which places all site-sensitive areas on private lots, but with certain City protections from its land use codes.

With these changes, the Department does believe the concerns of the residents of the area are better addressed from a transitioning standpoint, while placing portions of the private lots in protected zones. Such an action is consistent with the *Environmental Element's* goals and objectives to "minimize environmental disturbance and damage within the existing developed areas, restore watersheds where erosion has negatively impacted the natural equilibrium, and prevent future disturbance or damage to both non-impacted and impacted areas. This protection and restoration is to be encouraged through the implementation of appropriate zoning densities and the clustering of lots to limit disturbance[i]."

Additionally, this same element emphasizes "improving standards and development practices to address the sensitive nature of the City's environment. The overall direction of these policies is to better manage the development process through the continued implementation of the City's environmental regulations, including the tree preservation and restoration and grading and excavation codes, while exerting greater control over activities, which could potentially degrade the environment, such as, unmaintained stormwater control and sewage facilities[ii]."

Standard Two:

The second of these standards is open space. This standard is further defined by three (3) subcategories, which include (1.) open space is accessible, functional, and useable; (2.) open space is provided on all private lots; and (3.) the Planned Residential Development Overlay District (PRD) ensures the preservation of the site's natural features.

Under the proposed design, the first and second subcategories regarding useable open space is easily met by the larger lot sizes. The Department, as part of its recommendation, is guaranteeing this protection of open space areas of the site, specifically where slopes exceed thirty (30) percent, which defines much of the planned properties. Within the conditions associated with this recommendation, the Department is limiting initial grading to the roadway itself, with future individual lot disturbances to be based upon the selected house types and their individual footprints. This approach allows the developer, homebuyer, and the City to minimize unnecessary tree removal, while placing the improvements on the most suitable areas of the lots.

The petitioner has submitted an analysis from a professional soil scientist indicating 74.34 acres of the development tract of land must be preserved from use or disturbance. Included in this protected area are the site's ephemeral drainageways, steep slopes, and poor conditions caused by soil content or restrictive layers. Accordingly, some seven (7) acres of the subject site can be disturbed by development activity related to the preparation of the parcel of ground for building pads and infrastructure and utility installation. Petitioner's analysis indicates the protection of approximately 67 acres of the site, with disturbance of approximately 14 acres of the property for the construction of these proposed homesites.

Such an arrangement means the petitioner is utilizing more area of the site for development purposes than allowed by the Natural Resource Protection Standards Analysis. Such a development design is reflective of the difficult site characteristics, which supports the allowance for a variance to the amount of protected area on the overall site. This variance will be limited to the five (5) percent allowed by the regulations to the discretion of the Director of Planning and any additional amounts to be on a lot-by lot basis consistent with the placement of the dwellings and improvements. Collectively, the extent of variance in this regard cannot extend beyond ten (10) percent variance to the allowable disturbance limits.

With the application of the City's Public Space Ordinance, this development is now required to provide qualifying amounts consistent with its requirements. The petitioner is planning on providing the required 41,818 square feet of qualifying public space in the following manner: a public space dedication and the creation of a public easement for pedestrians and bicyclists on a portion of the private street system to access the planned public space, which adjoins the Rock Hollow Valley and Trail. The amount of these dedications and improvements would equate to full compliance for the purposes of the Public Space Ordinance.

Two (2) major components must be discussed in regards to the Public Space Ordinance requirements, as it relates to this design. The first component, which is alluded to in the above paragraph, seeks to allow the public pedestrian-bicycle easement upon a portion of the private street dedication to be used for qualifying public space, which acceptable and needed to provide access to the public space area. This area provides the route to the Rock Hollow Trail. In combination, these two (2) areas of the public space do meet the requirements of the City's Public Space Requirements. To ensure sufficient area for the installation of this natural surface trail, variable width easements shall be provided on either side of the dedication strip, thereby allowing its construction to address potential grade issues.

Standard Three: The third of these standards is landscaping, buffering, and screening. This standard is further defined by five (5) subcategories, which include (1.) the use of a variety of plants, colors, and hard surfaces for character in the development; (2.) the use of appropriate sized plantings; (3.) the inclusion of attractive streetscapes; (4.) the use of buffering between activities by landscaping; and (5.) the creation of continual maintenance provisions as part of the Planned Residential Development Overlay District (PRD).

With regards to the variety of plants, colors, and surfaces and sizing and maintenance, the City's Tree Manual requires that all developments comply with these requirements. The conditions of the Planned Residential Development Overlay District (PRD) allow the City to impose requirements consistent with the intent of this standard, and specifically in the area of the development's entry area. This area is visible from adjoining roadways or properties or need softening for the residents

who will reside near them or pass by when entering or leaving the development. In the instance of this request, the standards of the Tree Manual will be applied.

The need for buffering throughout the site is lessened, given the size of lots and their proposed layout. Additionally, the preservation of existing tree masses at the proposed percentages by the petitioner provides an excellent buffer as well. This amount of tree preservation is well over sixty-five (65) acres of the site and meets the City's requirements in this regard.

The petitioner is proposing to create a Homeowners Association, which will be responsible for maintenance and upkeep of the planned improvements, including the private roadway. This association will be created at the time of the platting of this development and the City requires certain considerations be placed in the indentures to provide for this continual maintenance responsibility for improvements. Therefore, this subcategory will be met under the current requirements of the City's Zoning Ordinance and Subdivision and Development Regulations.

Standard Four:

The fourth of these standards is internal circulation and appropriate linkages. This standard is further defined by five (5) subcategories, which include (1.) reductions in the speed of vehicular movements; (2.) reductions in pedestrian-vehicle conflicts; (3.) encouragement of connections between the new streets and the existing network; (4.) reductions in land area devoted to streets; and (5.) institution of appropriate design and construction standards.

With regards to the petitioner's request, the Department would note a two (2) cul-de-sac street design is to be built, which will serve the twenty-two (22) recommended lots. This street will be placed in a standard right-of-way dimension (thirty-four (34) feet), with a twenty (20) foot pavement area. Given the nature of this development and the width of the ridgelines, where this development is planned, no sidewalks are proposed. Eliminating sidewalks will reduce site grading to a degree. Conversely, an easement is being requested on one (1) area of the proposed right-of-ways to allow for its use by the public for access to the Rock Hollow Valley.

The location of the proposed access point onto Ridge Road for this development was discussed by many parties at the public hearing, all noting their concerns about safety of it at this proposed location. This location has been reviewed by the City's Department of Public Works and it has determined that minimum sight distance is provided for such and its location there can be accommodated, based upon compliance to Wildwood design criteria. Therefore, the Department is supporting the location of the development's access point.

Given certain segments of the internal roadway do exceed a ten (10) percent grade, it is important to note such and identify if acceptable or not, as part of this subdivision's design. This grade is not normally acceptable to many developers or

buyers in new residential communities, but, given the characteristics of this site, the need for this grade is premised on limiting site disturbance and following a cleared area already existing on the site. With these roadways intended to be private, the City's 'Rural Roadway Standards' allow for this grade to be considered favorably and, in the Department's opinion, is acceptable.

The Department is recommending the dedication of right-of-way along Ridge Road to the City for further widening of the pavement area and other future improvements to the roadway. The petitioner has indicated this dedication on the submitted Preliminary Development Plan, but does not indicate any improvements therein.

Standard Five: The fifth of these standards is parking. This standard is further defined by three (3) subcategories, which include (1.) the utilization of appropriate design considerations to reduce the impact on the development's character; (2.) the reduction in land area used for parking; and (3.) the adherence to City standards.

The design of this development is typical of most rural subdivisions. Parking is provided in an enclosed structure, which supports a minimum of two (2) spaces per household. The Zoning Ordinance requires two (2) spaces for each residence.

Standard Six: The sixth of these standards is livability. This standard is further defined by four (4) subcategories, which include (1.) noise reduction; (2.) visual separation; (3.) lighting limits; and (4.) amount of cut and fill.

The petitioner's design, with the larger lots and their placement addresses many of the issues relative to noise reduction and visual separation between the individual lots and residences themselves. In most instances, the minimum distance between dwellings is well over sixty (60) feet. Additional tree preservation within the side yard setback areas between the respective dwellings is anticipated by the Department of Planning to further improve the character of this subdivision in that specific regard. All street lighting will meet the City's requirement for reducing trespass and pollution. The issue of cut and fill is minimized by the petitioner's use of the Planned Residential Development Overlay District (PRD) and compliance to the Natural Resource Protection Standards.

Standard Seven: The seventh of these standards is building and neighborhood design. This standard is further defined by five (5) subcategories, which include (1.) variety and quality of design; (2.) compatibility; (3.) orientation; (4.) density; and (5.) view.

The petitioner's proposal appears to address many of these considerations. Although single family dwellings are proposed, in an area of similar uses, the type and design will be different than what currently exists there. The Department has, by its earlier recommendation, determined the density of this development adheres to the appropriate underlying zoning district classification that supports the Master Plan.

The building orientation in this proposed development is a reflection of topography and the ridgelines formed by them. These site factors generally create an east/west street with homesites facing north and south. Heating considerations are a factor, given the direction of movement of the morning and evening sun in the winter months.

Standard Eight: The eighth standard is community interest. The development of this site for residential uses is consistent with the Master Plan's recommendation for conceptual land use in this area of the City. The use of the Planned Residential Development Overlay District (PRD) would appear to be in the overall, and best, interest of the City, since it allows better protection of the site's natural characteristics, while allowing for the utilization of the property for its permitted use – single family dwellings.

Compatibility of the Use

The Department, in reviewing this request, would note its compatibility with the area land use and zoning pattern, which also supports the recommendation for its approval. Principally, the issues of compatibility are reflected as follows:

1) The development is at a three (3) acre density, which is already part of the area's pattern with the Estates at Quail Ridge and Ridge Tree Trail subdivisions.
2) This pattern is no more than one (1) dwelling unit for every three (3) acres of property involved in the proposed development.
3) The development is for single family uses on individual lots, which is the predominant pattern of land use in this area, as defined by those neighboring subdivisions, such as Windwood Hills, Lack Ridge Estates, and Ridge Road Farms Subdivisions, and other properties along Ridge Road.
4) The design the petitioner has employed will preserve much of the picturesque hillside areas that define this property.
5) The development's other design qualities and components can be addressed through the application of conditions as part of the site-specific ordinance to protect the quality of life in this area.

These other issues further support the recommendation for approval.

Summary and Recommendation

The Department has found, based upon the review and analysis of the petitioner's proposal, the requested Planned Residential Development Overlay District (PRD) is consistent with the City's Master Plan; complies with the Planned Residential Development Overlay District (PRD) requirements of the Zoning Code, and is compatible with the surrounding land use pattern. Therefore, it is the recommendation of the Department of Planning the requested Planned Residential Development Overlay District (PRD) in the NU Non-Urban Residence District (the current zoning district designation of this property and not changing under this

proposal) be supported by the Planning and Zoning Commission and such action be contingent upon the petitioner adhering to all the requirements of Attachment B of this Information Report.

Editor's Note: Changes reflecting the revised 22-lot plan are indicated by bolded, black, and italicized type.

ATTACHMENT B - CONDITIONS

1. PERMITTED USES

This Planned Residential Development (P.R.D.) Overlay District shall authorize the maximum development of **twenty-two (22)** ~~twenty-five (25)~~, detached single family dwellings on individual lots and all permitted accessory structures. The minimum area of this Planned Residential Development Overlay District shall be eighty-one (81) acres.

2. LOT SIZES, DEPTHS, AND BUILDING REQUIREMENTS

a. Each dwelling unit shall be located on an individual lot of record, which shall not be less than three (3) acres in overall size.

b. The minimum width of any lot within this P.R.D. Overlay District shall be **two hundred (200)** ~~one hundred fifty (150)~~ feet in distance at the front building line, except for parcels of ground located within any cul-de-sacs. These lot frontages (within the cul-de-sacs) shall be as approved on the Site Development Plan by the Planning and Zoning Commission, **but be no less than one hundred (100) feet, as set forth in the City's *Subdivision and Development Regulations*.**

c. The depth of all lots within this residential subdivision shall be a minimum two hundred (200) feet in size.

d. 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 at street elevation.

e. The maximum area of this 81.2 acre tract of land, which can be used for development and related land disturbance for the permitted and accessory uses, shall not exceed **13.7** ~~fourteen (14)~~ acres, including the Director of Planning's five (5) percent variance. Other allowances, thereby increasing the useable area of the overall property shall be granted on a lot-by-lot basis, based on the individual house plan and associated improvements, but shall not exceed a total of a **nine (9)** percent ~~ten (10)~~ total variance (13.7 acres).

f. The minimum amount of this 81.2 acre tract of land, which must be preserved as part of this development, shall be 67.5 acres in overall size, including the Director of Planning's five (5) percent variance. Other allowances, thereby increasing the useable area of the overall property shall be granted on a lot-by-lot basis, based on the individual house plan and associated improvements, but shall not exceed a total of a ten (10) percent total variance (13.7 acres).

g. Lot sizes, configurations, and locations shall comply with the City's general lot design standards set forth in its *Subdivision and Development Regulations*. Variations to these lot design standards referenced therein must be submitted and acted upon by the Planning and Zoning Commission, as part of its current review process. Any requested modifications to these lots shall be based

upon locations that are most suitable for disturbance and consistent with the Natural Resource Protection Standards of the City's *Subdivision and Development Regulations.*

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, this time interval may be extended once by the Planning and Zoning Commission in accord with requirements of Chapter 415.510 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 configuration for a lot indicating all site design information such as, but not limited to, right-of-way width, improvement dimensions and locations, setbacks, and building placement, along with minimum and maximum sizes.
c. A general plan indicating setback lines along the perimeter of the subject tract of land and surrounding property lines and related improvements within one hundred (100) feet of this site's boundaries, i.e. curb cut and access locations, stormwater facilities, and utility installations.
d. Location of all roadways adjacent to the property, including required roadway right-of-way dedication and pavement widening, with existing and proposed improvements and sidewalks, and general location, size, right-of-way, and pavement width of all interior drives.
e. The location and size of all freestanding signs, lighting, fences, and other above ground structures, except retaining walls less than two (2) feet in height per section.
f. Existing and proposed contours at vertical intervals of not more than two (2) feet.
g. General location of sanitary sewer and stormwater facilities.
h. Parking and density calculations.
i. Conceptual location and size of common ground areas, if provided.
j. 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 Chapter 410 and accompanying Tree Manual.
k. An inventory of the percent of tree canopy or individual trees to be retained on the site indicated on a Tree Preservation Plan completed in accordance with the City of Wildwood Chapter 410 Tree Preservation and Restoration Code and accompanying Tree Manual.
l. Location of all existing and proposed easements.
m. All other information not mentioned above, but required on a Preliminary Plat in accord with Chapter 420.060 of the City of Wildwood *Subdivision and Development Regulations.*

4. SITE DEVELOPMENT PLAN DESIGN CRITERIA

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

Building Setbacks – Residential

a. All buildings or structures, other than boundary and/or retaining walls, approved fences, detention/retention facilities, and/or light standards, shall adhere to the following setbacks, as specified in Chapter 415.090 NU Non-Urban Residence District of the City of Wildwood's Zoning Ordinance, except as noted below:

1.) Twenty (20) feet from any roadway right-of-way, whether public or private.
2.) **Fifteen (15)** ~~ten (10)~~ feet from any side yard property line of any individual lot, but a minimum of forty (40) feet shall be maintained between buildings/structures on adjoining lots
3.) Thirty (30) feet from any rear yard property line of any individual lot.

Parking Setbacks - Residential

b. All parking stalls or loading spaces, excluding points of ingress or egress and streets and roads, shall comply with the requirements of Chapter 415.090 NU Non-Urban Residence District of the City of Wildwood's Zoning Ordinance, excepting enclosed spaces may be within twenty (20) feet of the edge of the private roadway dedication.

Miscellaneous Setbacks - Right-of-Way and Other Locations

c. No portion of any residential building foundation shall encroach within fifteen (15) feet of the 'Final Resource Protection Line.' However, no land disturbance, as defined by the City's Grading Code, shall be authorized upon a slope of greater than thirty (30) percent in measurement.

Access and Roadway Improvements

d. Access to Ridge Road shall be limited to one (1) residential street approach located to provide required sight distance access to all lots and constructed by the developer to conform to the requirements of the Department of Public Works in this regard. All work within the right-of-way shall be as directed by the Department of Public Works and no work in the same shall commence until authorized by the Department of Public Works.

e. The developer shall dedicate land area along the property's entire frontage that abuts Ridge Road to the City of Wildwood, at a minimum width of twenty (20) feet, as directed by the City of Wildwood Department of Public Works for the widening of the existing shoulder by a minimum of distance of five (5) feet. This required infrastructure work of the developer of the project shall include all stormwater improvements, as directed by the Metropolitan St. Louis Sewer District and the City of Wildwood.

f. The developer shall construct an internal private roadway system, within a forty (40) foot right-of-way dedication, for vehicles and pedestrians/bicyclists to serve the residential lots within this development that complies with the requirements of the City of Wildwood's 'Rural Roadway

Standards' and as approved by the Department of Public Works. Street widths shall be as approved on the Site Development Plan by the Planning and Zoning Commission. Along with this forty (40) foot right-of-way area, provide eight (8) foot wide roadway maintenance, and utility easements on either side of this roadway dedication.

i. As part of this dedication, the developer shall establish as part of the private roadway dedication the rights for the City of Wildwood, and its successors and assignees, to utilize a portion of this area for a pedestrian and bicycle easement for public purposes. This easement area shall be indicated on the required Site Development Plan and reviewed and acted upon by the Planning and Zoning Commission. The City Attorney shall also review the wording and rights associated with said easement as part of the site's platting process to ensure its comprehensiveness and use.

Miscellaneous Roadway Requirements

g. 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. Monument signs shall be located in an easement on a private lot or common ground.

h. 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.

Parking Requirements

i. Parking spaces shall be provided as required by Chapter 415.340 Off-Street Parking and Loading Requirements of the City of Wildwood Zoning Ordinance for the NU Non-Urban Residence District. Minimally, two (2) parking spaces for each single family dwelling shall be provided.

Landscape Requirements - Specific

j. Landscaping shall adhere to all requirements of Chapter 410 of the City's Tree Preservation and Restoration Code and its accompanying Tree Manual, including the submittal of a Tree Preservation Plan in conjunction with the Site Development Plan.

k. All streets and roads shall be appropriately landscaped as required by Chapter 410 Tree Preservation and Restoration Code and be approved by the Planning and Zoning Commission on the Site Development Plan.

l. 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 Chapter 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 Chapter 410 Tree Preservation and Restoration Code. Initial clearing and grubbing of the site shall be limited to the installation of the internal roadway system.

m. Landscaping within the defined access area along Ridge Road shall comply with Chapter 410 Tree Preservation and Restoration Code requirements and accompanying Tree Manual. Those areas of common ground to be used for stormwater detention/retention shall comply with the City of Wildwood requirements in this regard. The Planning and Zoning Commission on the Site Development Plan shall approve the planting pattern.

n. A registered Landscape Architect shall prepare, submit, and sign all plan(s).

Signs

o. Signs for this P.R.D. Overlay District shall be erected in accordance with Chapter 415.410 Sign Regulations of the City of Wildwood Zoning Ordinance for the NU Non-Urban Residence District.

p. 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

q. 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. Minimally, lighting levels and their design specifications shall be approved by the Planning and Zoning Commission, as part of a Lighting Plan submitted in conjunction with the Site Development Plan, and comply with City of Wildwood's Lighting Code – Chapter 415.450 of the Zoning Ordinance.

Miscellaneous Conditions

r. Parking, circulation, and other applicable site design features shall comply with Chapter 1101, Section 512.4 "Physically Handicapped and Aged" of the S.L.C.R.O. 1974, as amended.

s. 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.

t. 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 or boulders. Walls crossing property lines shall be located in a maintenance easement. The Planning and Zoning Commission, as part of the Site Development Plan review process, shall approve said materials and design.

u. The generalized location of all utility easements for proposed service to this development shall be shown on a Typical Lot Diagram, as approved by the Planning and Zoning Commission on the Site Development Plan. Installation of utilities within the respective easements shall adhere to the requirements of the Natural Resource Protection Standards Analysis and, whenever practical, be placed in areas of existing or proposed disturbance relating to previous site activity, the construction of streets, or the layout of building lots.

v. All utilities serving this site shall be installed underground in accord with the requirements of the City of Wildwood's Subdivision and Development Regulations. Any existing easements located on the subject site, which are not being utilized, shall be vacated under the standard procedures of the City of Wildwood Subdivision and Development Regulations.

w. Grading associated with the site shall occur in a minimum of two (2) phases. The first phase shall be limited to the installation of entry/exit area onto Ridge Road and the internal street network, including utilities. Thereafter, grading shall only be authorized on a lot-by-lot basis, when a particular house model has been chosen for it.

5. PUBLIC SPACE REQUIREMENTS

Developer shall construct improved public space in conformance with or otherwise satisfying the requirements of the City's Public Space Ordinance, Chapter 415.260 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 or 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 ordinance, but shall be completed prior to issuance of any zoning authorizations for building permits in excess of fifty (50) percent of the total dwellings 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 permitted lots, shall be 41,818 square feet or its equivalent. Qualifying public space shall be deemed to include, in this instance only, the public space dedication and the public easement areas and designed in accordance with the recommendations contained therein. The design and construction shall conform to the City of Wildwood requirements and be as directed by the Department of Public Works.

6. 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 may be paid in full at the time of the first Zoning Authorization for any building or structure, or at the time of each Zoning Authorization for the individual dwellings. This contribution shall not exceed the amount established by multiplying the ordinance-required number of parking spaces by the following rate:

Type of Development	*Required Contribution*
Single Family Dwelling	$1,212.72 /Parking Space

(Parking space, as defined by Chapter 415.340 of the City of Wildwood Zoning Ordinance.)

Credits to this fee are at the sole discretion of the City Council of the City of Wildwood. If the type of proposed development differs from that listed, rates shall be provided by the Department of Public Works.

The amount of this required contribution, if not submitted by January 1, 2017, 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.

7. 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 Metropolitan St. Louis Sewer District and the Department of Public Works 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 Metropolitan St. Louis Sewer District and City of Wildwood standards.
2) All stormwater shall be discharged at an adequate natural discharge point.
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.
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 right-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 that 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.

Natural Resource Protection Standard Plan

c. 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.

Archeological Inventory

d. The archeological assets of this subject site, such as remnants of buildings, structures, or other improvements, shall be cataloged, photographed, and preserved, if possible, by a professional/firm with expertise in this field. This survey shall meet generally accepted industry practices and procedures for the delineation of areas, assets, and other considerations to guarantee that these features are catalogued, recorded, and addressed before any land disturbance can occur on the site. The City of Wildwood's Historic Preservation Commission shall approve the professional/firm chosen by the developer of this project to conduct this assessment and survey, before any of this related activity occurs on the site.

Stormwater Pollution Prevention Plan

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

Environmental Assessment – Phase One

f. 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.

7. RECORDING

Within sixty (60) 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, the Metro West Fire Protection District, the U.S. Army Corp of Engineers, the Metropolitan St. Louis Sewer District, and the Missouri Department of Natural Resources must be received by the Department of Planning.

b. Prior to issuance of foundation or building permits for any lot adjoining a common area or detention facility, written certification from a professional engineer, which verifies these areas are graded in accordance with approved plans, must be received by the Department of Public Works.

Land Subdivision

c. 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

d. 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 the provisions of Chapters 415.470 and 415.510 of the City of Wildwood Zoning Ordinance.

Public Potable Water

e. The developer shall be required to provide public potable water from the Missouri American Water Company to the property, and related homesites. Verification of this service shall be in a form acceptable to the City of Wildwood. Additionally, the design and location of this water system shall be reviewed and acted upon by the Planning and Zoning Commission, as part of the Site Development Plan submittal process.

Escrow Requirements

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

Traffic Generation Assessment

g. Traffic Generation Assessment contributions shall be deposited with the City of Wildwood in the form of a cash escrow prior to the issuance of building permits. If development phasing is anticipated, the developer shall provide the Traffic Generation Assessment Contribution prior to the issuance of building permits for each phase of the development.

Roadway Improvements

h. Based upon the preliminary development plan, improvements to the Ridge Road right-of-way must be completed prior to issuance of the building permits in excess of twenty (20) percent of the total.

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 and must comply with the Stormwater Pollution Prevention Plan for this development (SWPPP). The developer shall be solely responsible for obtaining any temporary slope and construction licenses needed to address the installation of public and private improvements on this site that require the use of adjoining parcels of ground that are not under their ownership or control.

c. A copy of the most recently approved Site Development Plan for this P.R.D. Overlay District subdivision shall be prominently displayed at all times in all sales offices of this project.

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. The developer is advised that utility companies will require compensation for relocation of their utility facilities within public right-of-way. 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 infrastructure improvements.

f. 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. This restoration must occur within thirty (30) days of the conclusion of preliminary grading as determined by the Director of Public Works.

g. 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.

h. 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.

i. 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.

j. This zoning approval is conditioned on compliance with the Zoning Ordinance, Subdivision and Development Regulations, 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, except where this ordinance has expressly modified such regulations by reference to the applicable provision authorizing such modification.

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[i] * - Excerpted from City of Wildwood Master Plan (2016), Page 80.

[ii] * - Excerpted from City of Wildwood Master Plan (2016), Page 80.

ATTACHMENT C
Preliminary Development Plan

Auburn Ridge

A Tract of Land Being Part of Section 17, Township 44 North, Range 4 East of The Fifth Principal Meridian, City Of Wildwood, St. Louis County, Missouri

Preliminary Development Plan

GENERAL NOTES:

1. THIS SITE IS IN THE FOLLOWING DISTRICTS AND UTILITY SERVICE AREAS:
   WARD SIX
   METRO WEST FIRE PROTECTION DISTRICT
   ST. LOUIS COUNTY POLICE DEPARTMENT – CITY OF WILDWOOD (6TH) PRECINCT
   ROCKWOOD R-6 SCHOOL DISTRICT
   AMEREN MISSOURI
   AT&T
   LACLEDE GAS COMPANY
   MISSOURI AMERICAN WATER COMPANY
   CHARTER CABLE SERVICES
   METROPOLITAN ST. LOUIS SEWER DISTRICT
2. 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.
3. STORMWATER SYSTEM DESIGN SHALL BE PURSUANT TO THE CITY OF WILDWOOD AND MSD REQUIREMENTS AND SHALL DISCHARGE AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.
4. 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.
5. ALL GRADING AND DRAINAGE SHALL BE PER CITY OF WILDWOOD AND METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD) STANDARDS. SOURCE OF TOPOGRAPHY– LIDAR.
6. NO SLOPES SHALL EXCEED 3 (HORIZONTAL) TO 1 (VERTICAL), UNLESS JUSTIFIED BY A GEOTECHNICAL REPORT WHICH HAS BEEN ACCEPTED/APPROVED BY THE CITY OF WILDWOOD AND METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD).
7. ALL PROPOSED UTILITIES WILL BE LOCATED UNDERGROUND WITHIN THIS SITE.
8. 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.
9. MAXIMUM HEIGHT OF STREET LIGHTING FIXTURES SHALL BE 16 FEET AND SHALL BE IN COMPLIANCE WITH THE CITY OF WILDWOOD CODE REQUIREMENTS – SECTION 415.450 OUTDOOR LIGHTING REQUIREMENTS – ZONING ORDINANCE.
10. STREET TREES AND SITE LANDSCAPING SHALL BE AS REQUIRED BY THE CITY OF WILDWOOD.
11. BUILDING HEIGHT SHALL NOT EXCEED 60 FEET.
12. THE NEAREST MAJOR INTERSECTION IS MANCHESTER RD AND OLD STATE RD APPROXIMATELY 2.3 MILES TO THE NORTH NORTHEAST.
13. ENTRANCES, STREET INTERSECTIONS, CUL-DE-SACS SHALL BE CONSTRUCTED TO CITY OF WILDWOOD STANDARDS.

DEVELOPMENT NOTES:

LOCATOR NUMBER: 25U330010, 25U310023

1. SITE ADDRESS: 1115 RIDGE RD. WILDWOOD, MO 63021 — 1513 WINDWOOD HILLS DR WILDWOOD, MO 63021

   CURRENT OWNER: TOM & DENISE REID 4073 MONTGOMERY LN PACIFIC, MO 63021 — TOM & DENISE REID 4073 MONTGOMERY LN PACIFIC, MO 63021
2. EXISTING ZONING: NU – NON-URBAN RESIDENCE DISTRICT
3. PROPOSED USE: PLANNED RESIDENTIAL DEVELOPMENT ("PRD") OVERLAY DISTRICT
4. GROSS AREA OF SITE: 81.36 ACRES
5. DENSITY = 81.36 AC. x 43,560 S.F./AC. / 130,680 SQ.FT. = 27 LOTS ALLOWABLE
6. NUMBER OF LOTS PROPOSED: 22
7. PARKING REQUIREMENTS:
   2 EA. X 22 LOTS = 44 SPACES
   PROVIDED = 44 SPACES
8. EXISTING TREE AREA = 80.7 AC.
   TREES TO REMAIN = 75.5 AC. (93.55%)
9. COMMON GROUND = 1,881 SQ.FT. (0.03 AC.)

LOT SPECIFICATIONS:

MINIMUM AREA	– 3 AC.
FRONT SETBACK	– 20'
SIDE YARD SETBACK	– 15'
REAR YARD SETBACK	– 30'

FLOOD NOTE:

ACCORDING TO THE FLOOD INSURANCE RATE MAP OF SAINT LOUIS COUNTY, MISSOURI, AND UNINCORPORATED AREAS (COMMUNITY PANEL NUMBER 29189C0290k DATED FEBRUARY 4, 2015), THIS PROPERTY LIES ENTIRELY OUTSIDE THE 500-YEAR FLOODPLAIN.

PUBLIC SPACE REQUIREMENTS

Standard Public Space Calculation: Total Tract: 81.36 Acres; 22 Lots x 1,742.4 s.f. = 38,332.8 s.f.	Four (4) Acres for every one hundred (100) Single Family Dwelling Units (1,742.4 square feet per new single family dwelling)
Amount of Required Public Space	38,322 Square Feet
Amount of Provided Public Space	180,464 Square Feet
~ Multiple Use Trail	Square Feet
~ Underground Detention Area	Square Feet
~ Public Land Dedication	63,160 Square Feet
~ Privately-Held Common Ground	0,000 Square Feet
List of Installed Improvements	Total Number (list below on lines)
~ Picnic Tables	
~ Benches	
~ Trash Receptacles	
~ Bicycle Racks	
~ Other Street Right-of-Way	117,304
Other Public Space Items (if provided)	
Fee In Lieu	

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

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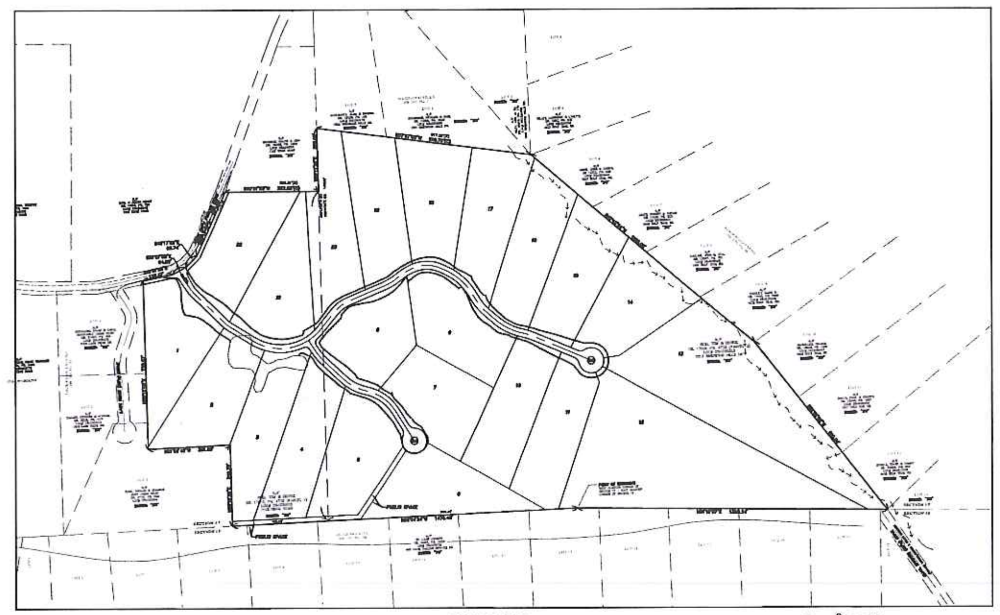
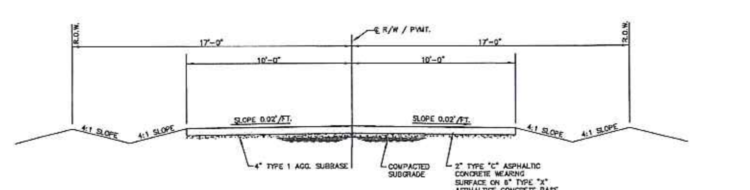


KEY MAP
N.T.S.

PROPERTY DESCRIPTION:

A TRACT OF LAND BEING PART OF SECTION 17, TOWNSHIP 44 NORTH, RANGE 4 EAST OF THE FIFTH PRINCIPAL MERIDIAN, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

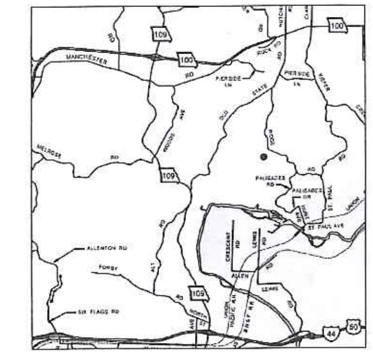
BEGINNING AT THE WEST QUARTER CORNER OF SAID SECTION 17, SAID POINT ALSO BEING ON THE EAST LINE OF QUAIL HOLLOW, A SUBDIVISION RECORDED IN PLAT BOOK 197, PAGE 48 OF THE ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE ALONG THE WEST LINE OF SAID SECTION 17, NORTH 02° 04' 24" WEST, 1470.49 FEET TO THE SOUTHWEST CORNER OF LOT 3 OF LACK RIDGE ESTATES, A SUBDIVISION RECORDED IN PLAT BOOK 260, PAGE 43 OF SAID ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE DEPARTING LAST SAID WEST LINE, AND ALONG THE SOUTH LINE OF LOTS 3, 2 AND 1 OF SAID LACK RIDGE ESTATES THE FOLLOWING COURSES AND DISTANCES: NORTH 89° 15' 26" EAST, 346.75 FEET; NORTH 01° 59' 40" WEST, 351.89 FEET AND NORTH 89° 12' 05" EAST, 720.67 FEET TO THE SOUTHEAST CORNER OF SAID LACK RIDGE ESTATES, SAID POINT ALSO BEING ON THE WEST LINE OF RIDGE ROAD, 40 FEET WIDE; THENCE DEPARTING LAST SAID SOUTH LINE, AND ALONG THE WEST LINE OF SAID RIDGE ROAD, THE FOLLOWING COURSES AND DISTANCES: SOUTH 10° 51' 55" EAST, 130.47 FEET; SOUTH 26° 57' 55" EAST, 64.06 FEET; SOUTH 45° 17' 55" EAST, 68.74 FEET AND SOUTH 65° 13' 49" EAST, 294.92 FEET TO THE NORTHWEST CORNER OF A TRACT OF LAND CONVEYED TO RALPH & GINA BICKNESE BY INSTRUMENT RECORDED IN DEED BOOK 19495, PAGE 2360 OF SAID ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE DEPARTING LAST SAID WEST LINE, AND ALONG THE WEST AND SOUTH LINES OF SAID BICKNESE TRACT, SOUTH 00° 21' 23" WEST, 397.88 FEET AND NORTH 89° 11' 26" EAST, 269.09 FEET TO THE NORTHWEST CORNER OF LOT 5 OF WINDWOOD HILLS, A SUBDIVISION RECORDED IN PLAT BOOK 245, PAGE 7 OF SAID ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE ALONG THE WEST LINE OF LOTS 5 AND 4 OF SAID WINDWOOD HILLS, SOUTH 07° 57' 00" WEST, 916.70 FEET TO THE SOUTHWEST CORNER OF LOT 3 OF SAID WINDWOOD HILLS, SAID POINT ALSO BEING THE NORTHERNMOST CORNER OF LOT 6 OF RIDGE ROAD FARMS, A SUBDIVISION RECORDED IN PLAT BOOK 179, PAGE 48 OF SAID ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE ALONG THE NORTHWEST LINE OF LOTS 6 THROUGH 9 OF SAID RIDGE ROAD FARMS, SOUTH 40° 43' 54" WEST, 1250.00 FEET TO THE SOUTHWEST CORNER OF SAID LOT 9 OF RIDGE ROAD FARMS; THENCE ALONG THE NORTHWEST LINE OF LOTS 10, 11 AND 12 OF SAID RIDGE ROAD FARMS, SOUTH 52° 52' 03" WEST, 910.04 FEET TO THE SOUTHWEST CORNER OF SAID LOT 12 OF RIDGE ROAD FARMS, SAID POINT ALSO BEING ON SAID WEST LINE OF SECTION 17; THENCE DEPARTING LAST SAID NORTHWEST LINE, AND ALONG SAID WEST LINE OF SECTION 17, SAID LINE ALSO BEING THE EAST LINE OF QUAIL HOLLOW, NORTH 01° 16' 07" EAST, 1320.24 FEET TO THE POINT OF BEGINNING, CONTAINING 3,543,933 SQUARE FEET OR 81.3575 ACRES, MORE OR LESS, ACCORDING TO CALCULATIONS PERFORMED BY THE STERLING COMPANY DURING FEBRUARY, 2016 UNDER ORDER NO. 15-10-329.



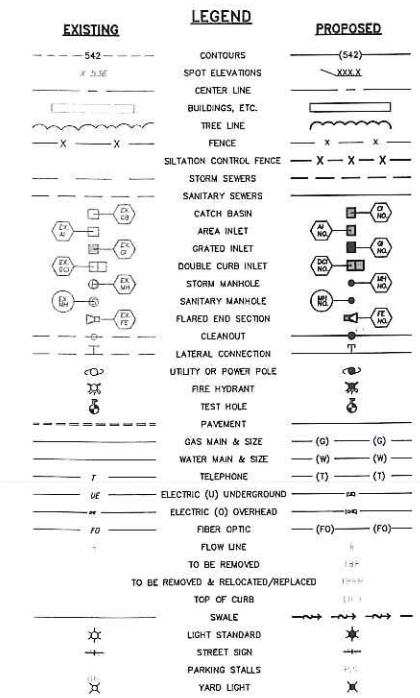
TYPICAL PVMT. SECTION
(20' PAVEMENT/34' R.O.W.)
N.T.S.

SHEET INDEX

1.1	COVER SHEET
2.1-2.4	PRELIMINARY DEVELOPMENT PLAN
3.1	NATURAL RESOURCE PROTECTION PLAN
4.1	SIGHT DISTANCE STUDY



LOCATION MAP
N.T.S.



CITY OF WILDWOOD
NOV 03 2016
DEPT OF PLANNING & PARKS

REVISED PLAN 11/3/2016

SURVEYOR'S CERTIFICATION:

THIS IS TO CERTIFY THAT WE HAVE, DURING THE MONTH OF MARCH, 2016, AT THE REQUEST OF FISCHER & FRICHTEL CUSTOM HOMES, PREPARED A PRELIMINARY DEVELOPMENT PLAN OF "AUBURN RIDGE".

A TRACT OF LAND BEING PART OF SECTION 17, TOWNSHIP 44 NORTH, RANGE 4 EAST OF THE FIFTH PRINCIPAL MERIDIAN, 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

11/3/16

JAMEY HENSON
MO. REG. L.S. – #2007017963

STATE OF MISSOURI — JAMEY A. HENSON — NUMBER PLS-2007017963 — PROFESSIONAL LAND SURVEYOR

MSD Base Map - 25U, 26U

ISSUE	REMARKS/DATE
1	3-25-2016, INITIAL SUBMITTAL
2	6-10-2016, CITY COMMENTS
3	6-20-2016, CITY COMMENTS
4	7-28-2016, RESUBMITTAL
5	9-16-2016, REVISED PLAN
6	9-28-2016, CITY COMMENTS
7	11-2-2016, CITY & CLIENT COMMENTS

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THE STERLING CO.
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www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

Auburn Ridge
Wildwood, Missouri
Preliminary Development Plan
Cover Sheet

The Professional Engineer's seal and signature affixed to this sheet applies only to the material and items shown on this sheet. All drawing, instruments or other documents not exhibiting this seal and signature shall not be considered prepared by this engineer, and the engineer expressly disclaims any and all responsibility for such plans, drawings or documents not exhibiting this seal and signature.

STATE OF MISSOURI — MICHAEL G. BOERDING — PROFESSIONAL ENGINEER

Date: 11-2-2016
MICHAEL G. BOERDING
License No. MO E-28643
Civil Engineer

Job Number	15-10-329
Date	Nov. 2, 2016
Designed: MF	Sheet 1.1
Drawn: LG	
Checked:	PRE

REVISED PLAN 11/3/2016

ISSUE	REMARKS/DATE
1	5-25-2016, INITIAL SUBMITTAL
2	6-10-2016, CITY COMMENTS
3	6-20-2016, CITY COMMENTS
4	7-26-2016, RESUBMITTAL
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Auburn Ridge
Wentzville, Missouri

Preliminary Development Plan

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Missouri.

Date: 11/3/2016
MICHAEL O. BERNING
License No. NO. E-28643
My License Expires 12/31/2016

Job Number	15-10-329
Date	Nov. 2, 2016
Designed	MF
Sheet	2.1
Drawn	BL
Checked	PRE

MSD Base Map - 250, 26U

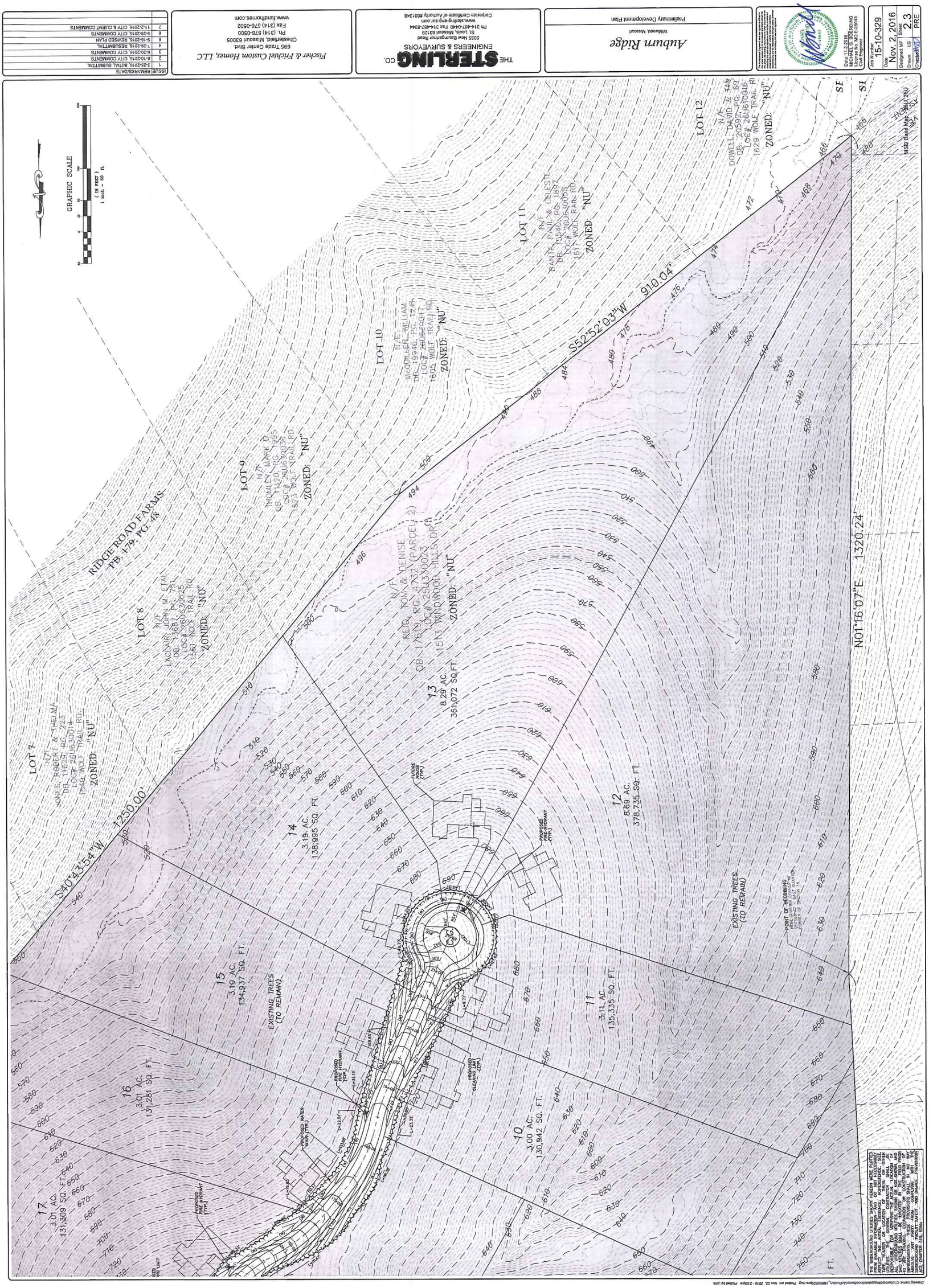
GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

THE UNDERGROUND UTILITIES SHOWN HEREON, WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL NUMBER OR LOCATION OF ALL UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES SHOWN OR NOT SHOWN, AS WELL AS ANY ADDITIONAL UTILITIES WHICH MAY BE ENCOUNTERED. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OR MUNICIPALITIES OF ANY CONFLICTS OR DISCREPANCIES WITH THEIR FACILITIES AND ARRANGE FOR ANY NECESSARY ADJUSTMENTS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES AS REQUIRED BY LAW. (MISSOURI ONE CALL SYSTEM, INC. 1-800-DIG-RITE) (REFERENCE: MISSOURI REVISED STATUTES, CHAPTER 319, SECTIONS 010 THROUGH 030)

Drawing name: V:\15\10\29 1115 Rough Grading\Preliminary\Grading.dwg Plotted on: Nov 02, 2016 - 2:23pm Plotted by: jack

REVISED PLAN 11/3/2016

REVISED PLAN 11/3/2016



REVISED PLAN 11/3/2016

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www.sterling-stl.com

Auburn Ridge
Wildwood, Missouri
Preliminary Development Plan
Offsite Sanitary Sewer

Date: 11-2-2016
MICHAEL G. BERDING
Number 2012-029843
Date of Expiration: 12/31/2017

Job Number	15-10-329
Date	Nov. 2, 2016
Designed	MF
Drawn	LG
Checked	MB
Sheet	2.4
	PRE

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

MSD Base Map - 25U, 26U

THE UNDERGROUND UTILITIES SHOWN HEREON WERE PLOTTED FROM AVAILABLE RECORDS AND/OR FIELD LOCATIONS. THERE MAY BE REGULAR, ABOVE OR ACTUAL LOCATIONS DIFFERENT FROM THOSE SHOWN. THE EXACT LOCATIONS, SIZES AND NUMBERS OF ALL UNDERGROUND UTILITIES SHOWN OR NOT SHOWN AND THE EXISTENCE OF OTHER UNDERGROUND UTILITIES NOT REPORTED TO OR KNOWN BY THE UTILITIES HERE ON SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITIES PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND ANY DAMAGE, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH OR RESULTING FROM ANY DAMAGE TO UNDERGROUND UTILITIES. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF MISSOURI ONE CALL SYSTEM, INC. LAW, MISSOURI REVISED STATUTES, CHAPTER 319, RSMo.

Drawing name: C:\Users\jdavis\Documents\Auburn Ridge\Auburn Ridge Offsite Sanitary Sewer_1605022.dwg Plotted on: Nov 02, 2016 - 2:09pm Plotted by: jdavis

SSI#	REMARKS/DATE
1	3-35-2016, INITAL SUBMITTAL
2	6-10-2016, CITY COMMENTS
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Auburn Ridge

Wildwood, Missouri

Preliminary Development Plan
Natural Resource Protection Plan

REVISED PLAN 11/3/2016

NATURAL RESOURCE PROTECTION STANDARD ANALYSIS – PREPARED BY ON-SITE SOILS, INC.

MAP UNIT	AREA (ACRES)	% REQUIRED TO BE PRESERVED	AREA REQUIRED TO BE PRESERVED (SQ. FT./AC)	ACRES PRESERVED	% PRESERVED	ACRES DISTURBED	% DISTURBED	ACRES USABLE
A6PL	2.14	0	0	0.13	6	1.41	66	2.14
B6VE	1.58	30	20,647/0.47	0.64	41	0.56	33	1.11
B6VEr	3.80	50	82,764/1.90	1.00	26	1.78	47	1.90
C6VEr	6.09	70	185,696/4.26	4.67	77	0.52	9	1.83
C6CAr	5.39	100	234,788/5.39	3.31	61	0.63	12	0.00
C2VEr	0.59	100	25,700/0.59	0.59	100	0.00	0	0.00
D+EPH	48.67	100	2,120,065/48.67	48.26	99	0.15	0.3	0.00
D	1.46	100	63,597/1.46	1.46	100	0.00	0	0.00
B6PLr(AF)	0.23	80	8015/0.18	0.23	100	0.00	0	0.05
GLADE	6.97	100	303,613/6.97	6.97	100	0.00	0	0.00
FP	4.44	100	193,406/4.44	4.44	100	0.00	0	0.00
TOTAL	81.36	-----	3,238,291/74.34	71.70	88	5.05	6	7.02

NOTES:

TOTAL AREA OF	81.36 AC.
AREA REQUIRED TO BE PRESERVED	74.34 AC.
TOTAL USABLE AREA	7.02 AC.
TOTAL AREA DISTURBED	<5.053> AC.
VARIANCE REQUIRED FOR GRADING	<0.780> AC.
DIRECTOR OF PLANNING VARIANCE 5%	3.72 AC.
TOTAL	4.50 AC.

5% VARIANCE BY PLANNING COMMISSION TO BE ADMINISTERED BY THE DIRECTOR OF PLANNING ON A LOT-BY-LOT BASIS. = 3.72 AC.

SOIL LANDFORM	MAP SYMBOL
SLOPE CLASSES (PERCENT)	SYMBOL
0-6	A
7-15	B
16-30	C
>30	D

SOIL SCIENTIST CERTIFICATION:

THIS IS TO CERTIFY THAT WE HAVE, DURING THE MONTH OF MARCH 2016, PREPARED A REPORT REGARDING THE SOILS AND NATURAL RESOURCE EVALUATION OF THE SUBJECT PROPERTY. THE REPORT AND INFORMATION CONTAINED ON THIS PLAN RELATING TO SAME IS IN COMPLIANCE WITH SECTION 420.200, "NATURAL RESOURCE PROTECTION STANDARDS AND PROCEDURES" OF THE CITY OF WILDWOOD, MISSOURI.

SOIL SCIENTIST _____ DATE _____

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

MSD Base Map - 25U, 26U

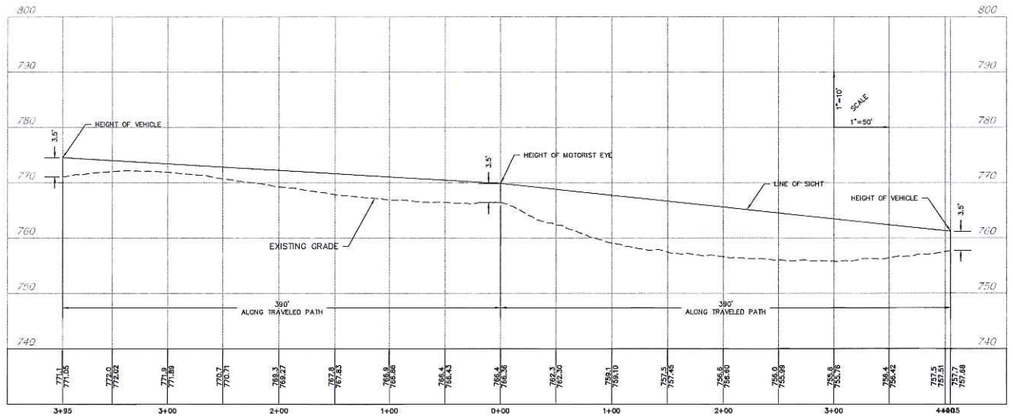
The professional Engineer's seal and signature affixed to these plans certifies only that the plans comply with the laws of the State of Missouri. Any statements or implications that exceed this seal and signature shall not be considered part of the certification. The Engineer shall not be responsible for alterations to the plans, drawings or documents not bearing this seal and signature.

MICHAEL G. BOERDING NOTARY PUBLIC E-28643

Date: 11-2-2016
MICHAEL G BOERDING
License No. MO E-28643
Civil Engineer

Job Number	15-10-329
Date	Nov. 2, 2016
Designed	MF
Drawn	LG
Checked	PRE
Sheet	3.1

Drawing name: C:\Users\mf\Appdata\Local\Temp\AcPublish_15600\3D[Preview].dwg Plotted on: Nov 02, 2016 - 2:09pm Plotted by: jdfk



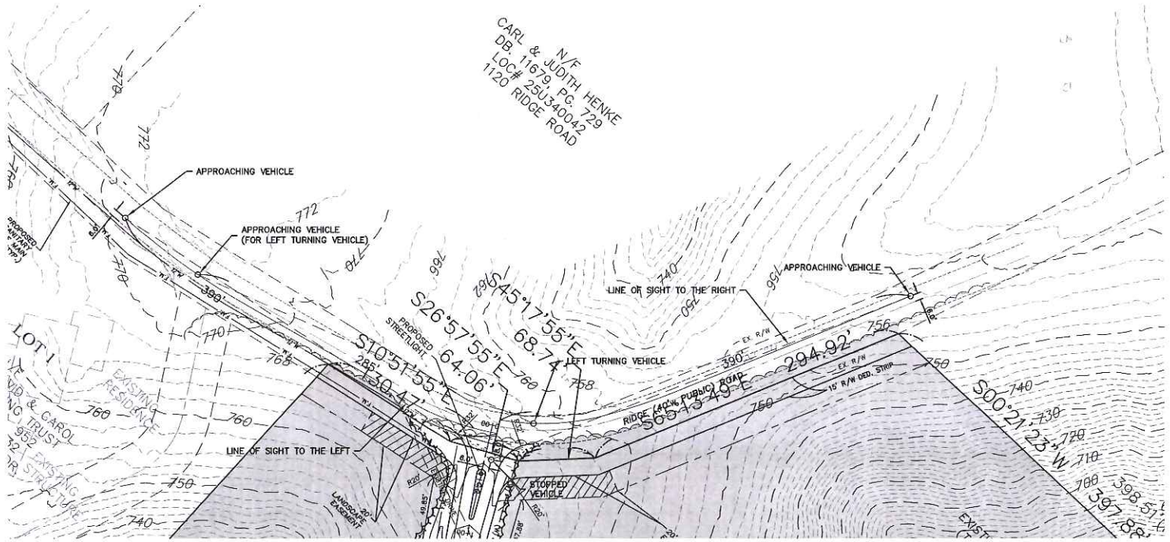
SIGHT DISTANCE TO THE LEFT

SIGHT DISTANCE TO THE RIGHT

POSTED SPEED LIMIT: 30 MPH
DESIGN SPEED: 35

SIGHT DISTANCE FOR LEFT TURN FROM MINOR ROAD (X & Z) - 390'

PER ST. LOUIS COUNTY 'SIGHT DISTANCE AT INTERSECTIONS' DWG. 40.25-1



THE UNDERGROUND UTILITIES SHOWN HEREON WERE PLOTTED FROM AVAILABLE INFORMATION, AND HAVE NOT BEEN FIELD EXPOSED (POTHOLED), 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

MSD Base Map - 25U, 26U

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www.landhomes.com

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Auburn Ridge
Wildwood, Missouri

Preliminary Development Plan
Sight Distance Study

The Professional Engineer's seal and signature affixed to this cover sheet, title sheet and above affixed to this sheet, all drawing instruments or other documents for which they are applied. Any alteration of the seal and signature shall not be considered valid unless the alteration is authorized by the seal and assumes any and all responsibility for such parts, changes or alterations not bearing the seal and signature.

Date: 11-2-2016
MICHAEL G. BOERDING
License No. MO E-26643
Civil Engineer

Job Number	15-10-329
Date	Nov. 2, 2016
Designed: MF	Sheet 4.1
Drawn: LG	
Checked: MF	PRE

REVISED PLAN 11/3/2016

Drawing name: C:\Users\publicpostmaster\plan\AcPublish_15\0033\Sht4.dwg Plotted on: Nov 02, 2016 - 2:05pm Plotted by: psb

Auburn Ridge

A Tract of Land Being Part of Section 17, Township 44 North, Range 4 East of The Fifth Principal Meridian, City Of Wildwood, St. Louis County, Missouri

Preliminary Development Plan

GENERAL NOTES:

1. THIS SITE IS IN THE FOLLOWING DISTRICTS AND UTILITY SERVICE AREAS:
   WARD SIX
   METRO WEST FIRE PROTECTION DISTRICT
   ST. LOUIS COUNTY POLICE DEPARTMENT – CITY OF WILDWOOD (6TH) PRECINCT
   ROCKWOOD R-6 SCHOOL DISTRICT
   AMEREN MISSOURI
   AT&T
   LACLEDE GAS COMPANY
   MISSOURI AMERICAN WATER COMPANY
   CHARTER CABLE SERVICES
   METROPOLITAN ST. LOUIS SEWER DISTRICT
2. 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.
3. STORMWATER SYSTEM DESIGN SHALL BE PURSUANT TO THE CITY OF WILDWOOD AND MSD REQUIREMENTS AND SHALL DISCHARGE AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.
4. 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.
5. ALL GRADING AND DRAINAGE SHALL BE PER CITY OF WILDWOOD AND METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD) STANDARDS. SOURCE OF TOPOGRAPHY– LIDAR.
6. NO SLOPES SHALL EXCEED 3 (HORIZONTAL) TO 1 (VERTICAL), UNLESS JUSTIFIED BY A GEOTECHNICAL REPORT WHICH HAS BEEN ACCEPTED/APPROVED BY THE CITY OF WILDWOOD AND METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD).
7. ALL PROPOSED UTILITIES WILL BE LOCATED UNDERGROUND WITHIN THIS SITE.
8. 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.
9. MAXIMUM HEIGHT OF STREET LIGHTING FIXTURES SHALL BE 16 FEET AND SHALL BE IN COMPLIANCE WITH THE CITY OF WILDWOOD CODE REQUIREMENTS – SECTION 415.450 OUTDOOR LIGHTING REQUIREMENTS – ZONING ORDINANCE.
10. STREET TREES AND SITE LANDSCAPING SHALL BE AS REQUIRED BY THE CITY OF WILDWOOD.
11. BUILDING HEIGHT SHALL NOT EXCEED 60 FEET.
12. THE NEAREST MAJOR INTERSECTION IS MANCHESTER RD AND OLD STATE RD APPROXIMATELY 2.3 MILES TO THE NORTH NORTHEAST.
13. ENTRANCES, STREET INTERSECTIONS, CUL-DE-SACS SHALL BE CONSTRUCTED TO CITY OF WILDWOOD STANDARDS.

DEVELOPMENT NOTES:

LOCATOR NUMBER: 25U330010, 25U310023

1. SITE ADDRESS: 1115 RIDGE RD. WILDWOOD, MO 63021 — 1513 WINDWOOD HILLS DR WILDWOOD, MO 63021

   CURRENT OWNER: TOM & DENISE REID 4073 MONTGOMERY LN PACIFIC, MO 63021 — TOM & DENISE REID 4073 MONTGOMERY LN PACIFIC, MO 63021
2. EXISTING ZONING: NU – NON-URBAN RESIDENCE DISTRICT
3. PROPOSED USE: PLANNED RESIDENTIAL DEVELOPMENT ("PRD") OVERLAY DISTRICT
4. GROSS AREA OF SITE: 81.36 ACRES
5. DENSITY = 81.36 AC. x 43,560 S.F./AC. / 130,680 SQ.FT. = 27 LOTS ALLOWABLE
6. NUMBER OF LOTS PROPOSED: 24
7. PARKING REQUIREMENTS:
   2 EA. X 24 LOTS = 48 SPACES
   PROVIDED = 48 SPACES
8. EXISTING TREE AREA = 80.7 AC.
   TREES TO REMAIN = 71.2 AC. (88%)
9. COMMON GROUND = 1,881 SQ.FT. (0.03 AC.)

LOT SPECIFICATIONS;

MINIMUM AREA – 2 AC.
FRONT SETBACK – 20'
SIDE YARD SETBACK – 15'
REAR YARD SETBACK – 30'

FLOOD NOTE:

ACCORDING TO THE FLOOD INSURANCE RATE MAP OF SAINT LOUIS COUNTY, MISSOURI, AND UNINCORPORATED AREAS (COMMUNITY PANEL NUMBER 29189C0290K DATED FEBRUARY 4, 2015), THIS PROPERTY LIES ENTIRELY OUTSIDE THE 500-YEAR FLOODPLAIN.

PUBLIC SPACE REQUIREMENTS

Standard Public Space Calculation: Total Tract: 81.36 Acres; 24 Lots x 1,742.4 s.f. = 41,818 s.f.	Four (4) Acres for every one hundred (100) Single Family Dwelling Units (1,742.4 square feet per new single family dwelling)	
Amount of Required Public Space	41,818	Square Feet
Amount of Provided Public Space	63,160	Square Feet
~ Multiple Use Trail		Square Feet
~ Underground Detention Area		Square Feet
~ Public Land Dedication	18,185	Square Feet
~ Privately-Held Common Ground		Square Feet
List of Installed Improvements	Total Number (list below on lines)	
~ Picnic Tables		
~ Benches		
~ Trash Receptacles		
~ Bicycle Racks		
~ Other Street Right-of-Way	117,139	
Other Public Space Items (if provided)		
Fee in Lieu		

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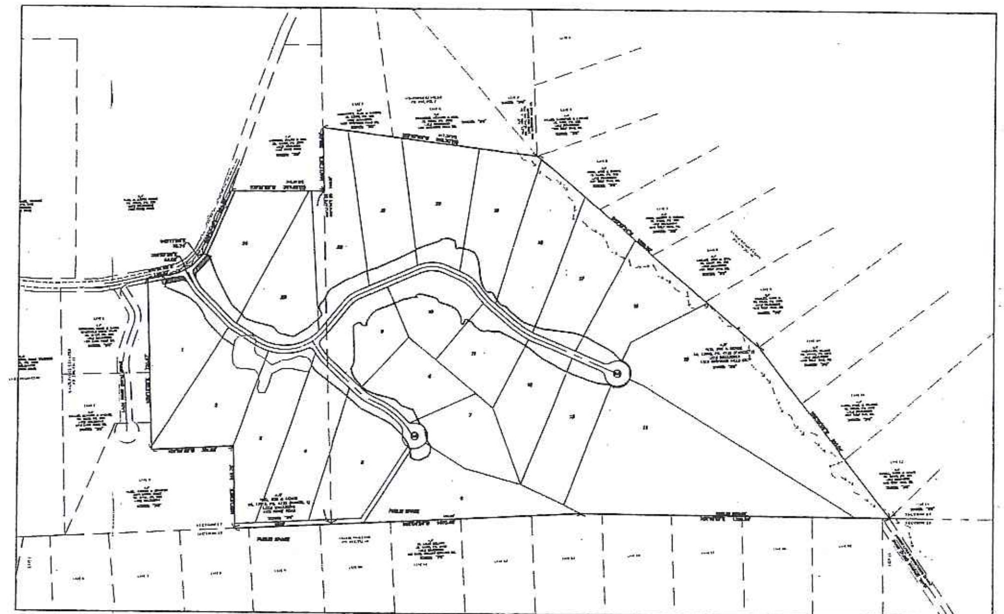
Drawing name: V:\15\10329 1115 Ridge Road\Drawings\Preliminary\Preliminary\10329prel(revised).dwg Plotted on: Sep 28, 2016 - 1:20pm Plotted by: slovelace

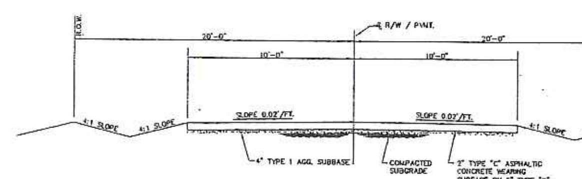


KEY MAP
N.T.S.

PROPERTY DESCRIPTION:

A TRACT OF LAND BEING PART OF SECTION 17, TOWNSHIP 44 NORTH, RANGE 4 EAST OF THE FIFTH PRINCIPAL MERIDIAN, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE WEST QUARTER CORNER OF SAID SECTION 17, SAID POINT ALSO BEING ON THE EAST LINE OF QUAIL HOLLOW, A SUBDIVISION RECORDED IN PLAT BOOK 197, PAGE 48 OF THE ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE ALONG THE WEST LINE OF SAID SECTION 17, NORTH 02° 04' 24" WEST, 1470.49 FEET TO THE SOUTHWEST CORNER OF LOT 3 OF LACK RIDGE ESTATES, A SUBDIVISION RECORDED IN PLAT BOOK 260, PAGE 43 OF SAID ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE DEPARTING LAST SAID WEST LINE, AND ALONG THE SOUTH LINE OF LOTS 3, 2 AND 1 OF SAID LACK RIDGE ESTATES THE FOLLOWING COURSES AND DISTANCES: NORTH 89° 15' 26" EAST, 346.75 FEET; NORTH 01° 59' 40" WEST, 351.89 FEET AND NORTH 89° 12' 05" EAST, 720.67 FEET TO THE SOUTHEAST CORNER OF SAID LACK RIDGE ESTATES, SAID POINT ALSO BEING ON THE WEST LINE OF RIDGE ROAD, 40 FEET WIDE; THENCE DEPARTING LAST SAID SOUTH LINE, AND ALONG THE WEST LINE OF SAID RIDGE ROAD, THE FOLLOWING COURSES AND DISTANCES: SOUTH 10° 51' 55" EAST, 130.47 FEET; SOUTH 26° 57' 55" EAST, 64.06 FEET; SOUTH 45° 17' 55" EAST, 68.74 FEET AND SOUTH 65° 13' 49" EAST, 294.92 FEET TO THE NORTHWEST CORNER OF A TRACT OF LAND CONVEYED TO RALPH & GINA BICKNESE BY INSTRUMENT RECORDED IN DEED BOOK 19495, PAGE 2360 OF SAID ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE DEPARTING LAST SAID WEST LINE, AND ALONG THE WEST AND SOUTH LINES OF SAID BICKNESE TRACT, SOUTH 00° 21' 23" WEST, 397.88 FEET AND NORTH 89° 11' 26" EAST, 269.09 FEET TO THE NORTHWEST CORNER OF LOT 5 OF WINDWOOD HILLS, A SUBDIVISION RECORDED IN PLAT BOOK 245, PAGE 7 OF SAID ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE ALONG THE WEST LINE OF LOTS 5 AND 4 OF SAID WINDWOOD HILLS, SOUTH 07° 57' 00" WEST, 916.70 FEET TO THE SOUTHWEST CORNER OF LOT 3 OF SAID WINDWOOD HILLS, SAID POINT ALSO BEING THE NORTHERNMOST CORNER OF LOT 6 OF RIDGE ROAD FARMS, A SUBDIVISION RECORDED IN PLAT BOOK 179, PAGE 48 OF SAID ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE ALONG THE NORTHWEST LINE OF LOTS 6 THROUGH 9 OF SAID RIDGE ROAD FARMS, SOUTH 40° 43' 54" WEST, 1250.00 FEET TO THE SOUTHWEST CORNER OF SAID LOT 9 OF RIDGE ROAD FARMS; THENCE ALONG THE NORTHWEST LINE OF LOTS 10, 11 AND 12 OF SAID RIDGE ROAD FARMS, SOUTH 52° 52' 03" WEST, 910.04 FEET TO THE SOUTHWEST CORNER OF SAID LOT 12 OF RIDGE ROAD FARMS, SAID POINT ALSO BEING ON SAID WEST LINE OF SECTION 17; THENCE DEPARTING LAST SAID NORTHWEST LINE, AND ALONG SAID WEST LINE OF SECTION 17, SAID LINE ALSO BEING THE EAST LINE OF QUAIL HOLLOW, NORTH 01° 16' 07" EAST, 1320.24 FEET TO THE POINT OF BEGINNING, CONTAINING 3,543,933 SQUARE FEET OR 81.3575 ACRES, MORE OR LESS, ACCORDING TO CALCULATIONS PERFORMED BY THE STERLING COMPANY DURING FEBRUARY, 2016 UNDER ORDER NO. 15-10-329.



TYPICAL PVMT. SECTION
(20' PAVEMENT-40' R.O.W.)
N.T.S.

SHEET INDEX

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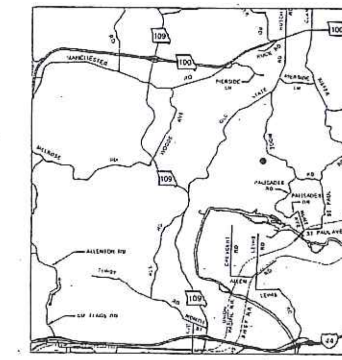
2.1-2.4	PRELIMINARY DEVELOPMENT PLAN
3.1	NATURAL RESOURCE PROTECTION PLAN
4.1	SIGHT DISTANCE STUDY



LOCATION MAP
N.T.S.

LEGEND

EXISTING	LEGEND	PROPOSED
542	CONTOURS	(542)
X 536	SPOT ELEVATIONS	XXX.X
	CENTER LINE	
	BUILDINGS, ETC.	
	TREE LINE	
X X	FENCE	x x
	SILTATION CONTROL FENCE	X X X
	STORM SEWERS	
	SANITARY SEWERS	
EX. CB	CATCH BASIN	CI NO.
EX. AI	AREA INLET	AI NO.
EX. GI	GRATED INLET	GI NO.
EX. DCI	DOUBLE CURB INLET	DCI NO.
EX. MH	STORM MANHOLE	MH NO.
EX. MH	SANITARY MANHOLE	MH NO.
EX. FE	FLARED END SECTION	FE NO.
	CLEANOUT	
	LATERAL CONNECTION	
	UTILITY OR POWER POLE	
	FIRE HYDRANT	
	TEST HOLE	
	PAVEMENT	
	GAS MAIN & SIZE	(G) (G)
	WATER MAIN & SIZE	(W) (W)
T	TELEPHONE	(T) (T)
UE	ELECTRIC (U) UNDERGROUND	(U)
OE	ELECTRIC (O) OVERHEAD	(O)
FO	FIBER OPTIC	(FO) (FO)
	FLOW LINE	
	TO BE REMOVED	
	TO BE REMOVED & RELOCATED/REPLACED	
	TOP OF CURB	
	SWALE	
	LIGHT STANDARD	
	STREET SIGN	
	PARKING STALLS	
	YARD LIGHT	

Revised Plan 9/28/2016

CITY OF WILDWOOD
SEP 28 2016
DEPT OF PLANNING & PARKS

SURVEYOR'S CERTIFICATION:

THIS IS TO CERTIFY THAT WE HAVE, DURING THE MONTH OF MARCH, 2016, AT THE REQUEST OF FISCHER & FRICHTEL CUSTOM HOMES, PREPARED A PRELIMINARY DEVELOPMENT PLAN OF "AUBURN RIDGE".

A TRACT OF LAND BEING PART OF SECTION 17, TOWNSHIP 44 NORTH, RANGE 4 EAST OF THE FIFTH PRINCIPAL MERIDIAN, 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

9/28/16
JAMEY HENSON
MO. REG. L.S. – #2007017963

STATE OF MISSOURI — JAMEY A. HENSON — NUMBER PLS-2007017963 — PROFESSIONAL LAND SURVEYOR

MSD Base Map - 25U, 26U

ISSUE	REMARKS/DATE
1	3-25-2016, INITIAL SUBMITTAL
2	6-10-2016, CITY COMMENTS
3	6-20-2016, CITY COMMENTS
4	7-28-2016, RESUBMITTAL
5	9-16-2016, REVISED PLAN
6	9-28-2016, CITY COMMENTS

Fischer & Frichtel Custom Homes, LLC
695 Trade Center Blvd.
Chesterfield, Missouri 63005
Ph. (314) 576-0500
Fax (314) 576-0502
www.fandfhomes.com

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 #001348

Auburn Ridge
Wildwood, Missouri
Preliminary Development Plan
Cover Sheet

Date: 9-28-2016
MICHAEL G. BOERDING
License No. MO E-28643
Civil Engineer

Job Number 15-10-329
Date Sept. 28, 2016
Designed: MF
Drawn: LG
Sheet 1.1

MSD Base Map - 25U, 26U

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ISSUE	REMARKS/DATE
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Auburn Ridge

Wildwood, Missouri

Preliminary Development Plan

The Professional Engineer's seal and signature affixed to the plans applies only to the material and data contained on the sheet, all drawing, specifications or other documents or instruments bearing the seal and signature of the Professional Engineer shall not be used, reused or copied for any purpose or project other than that for which it was prepared by the Professional Engineer and all responsibility for such project, drawings or documents and contained thereon shall cease and terminate.

Date: 9-28-2016
MICHAEL G. BOERDING
License No. MO E-28843
Civil Engineer

Job Number	
15-10-329	
Date	
Sept. 28, 2016	
Designed: MF	Sheet
Drawn: SL	2.1

Auburn Ridge

N

RIDGE ROAD

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PUBLIC SPACE

PUBLIC SPACE

EXISTING ROCK HOLLOW TRAIL

THE STERLING CO.
ENGINEERS & SURVEYORS
1055 WEST BALLWIN/WEIR ROAD
ST. LOUIS, MISSOURI 63021
(314) 227-2776 FAX 227-2545
www.sterling-group.com

fischer & frichtel
common sense, uncommon value

Revised Plan 9/28/16

Auburn Ridge

A Tract of Land Being Part of Section 17, Township 44 North, Range 4 East of The Fifth Principal Meridian, City Of Wildwood, St. Louis County, Missouri

Preliminary Development Plan

GENERAL NOTES:

1. THIS SITE IS IN THE FOLLOWING DISTRICTS AND UTILITY SERVICE AREAS:
   WARD SIX
   METRO WEST FIRE PROTECTION DISTRICT
   ST. LOUIS COUNTY POLICE DEPARTMENT – CITY OF WILDWOOD (6TH) PRECINCT
   ROCKWOOD R-6 SCHOOL DISTRICT
   AMEREN MISSOURI
   AT&T
   LACLEDE GAS COMPANY
   MISSOURI AMERICAN WATER COMPANY
   CHARTER CABLE SERVICES
   METROPOLITAN ST. LOUIS SEWER DISTRICT
2. 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.
3. STORMWATER SYSTEM DESIGN SHALL BE PURSUANT TO THE CITY OF WILDWOOD AND MSD REQUIREMENTS AND SHALL DISCHARGE AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.
4. 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.
5. ALL GRADING AND DRAINAGE SHALL BE PER CITY OF WILDWOOD AND METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD) STANDARDS. SOURCE OF TOPOGRAPHY– LIDAR.
6. NO SLOPES SHALL EXCEED 3 (HORIZONTAL) TO 1 (VERTICAL), UNLESS JUSTIFIED BY A GEOTECHNICAL REPORT WHICH HAS BEEN ACCEPTED/APPROVED BY THE CITY OF WILDWOOD AND METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD).
7. ALL PROPOSED UTILITIES WILL BE LOCATED UNDERGROUND WITHIN THIS SITE.
8. 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.
9. MAXIMUM HEIGHT OF STREET LIGHTING FIXTURES SHALL BE 16 FEET AND SHALL BE IN COMPLIANCE WITH THE CITY OF WILDWOOD CODE REQUIREMENTS – SECTION 415.450 OUTDOOR LIGHTING REQUIREMENTS – ZONING ORDINANCE.
10. STREET TREES AND SITE LANDSCAPING SHALL BE AS REQUIRED BY THE CITY OF WILDWOOD.
11. BUILDING HEIGHT SHALL NOT EXCEED 60 FEET.
12. THE NEAREST MAJOR INTERSECTION IS MANCHESTER RD AND OLD STATE RD APPROXIMATELY 2.3 MILES TO THE NORTH NORTHEAST.
13. ENTRANCES, STREET INTERSECTIONS, CUL-DE-SACS SHALL BE CONSTRUCTED TO CITY OF WILDWOOD STANDARDS.

DEVELOPMENT NOTES:

LOCATOR NUMBER: 25U330010, 25U310023

1. SITE ADDRESS: 1115 RIDGE RD. WILDWOOD, MO 63021 — 1513 WINDWOOD HILLS DR WILDWOOD, MO 63021
   CURRENT OWNER: TOM & DENISE REID 4073 MONTGOMERY LN PACIFIC, MO 63021 — TOM & DENISE REID 4073 MONTGOMERY LN PACIFIC, MO 63021
2. EXISTING ZONING: NU – NON-URBAN RESIDENCE DISTRICT
3. PROPOSED USE: PLANNED RESIDENTIAL DEVELOPMENT ("PRD") OVERLAY DISTRICT
4. GROSS AREA OF SITE: 81.36 ACRES
5. DENSITY = 81.36 AC. x 43,560 S.F./AC. / 130,680 SQ.FT. = 27 LOTS ALLOWABLE
6. NUMBER OF LOTS PROPOSED: 25
7. PARKING REQUIREMENTS: 2 EA. X 25 LOTS = 50 SPACES; PROVIDED = 50 SPACES
8. EXISTING TREE AREA = 80.7 AC. TREES TO REMAIN = 71.2 AC. (88%)
9. COMMON GROUND = 1,881 SQ.FT. (0.03 AC.)

LOT SPECIFICATIONS:

MINIMUM AREA – 2 AC.
FRONT SETBACK – 20'
SIDE YARD SETBACK – 15'
REAR YARD SETBACK – 30'

FLOOD NOTE:

ACCORDING TO THE FLOOD INSURANCE RATE MAP OF SAINT LOUIS COUNTY, MISSOURI, AND UNINCORPORATED AREAS (COMMUNITY PANEL NUMBER 29189C0250k DATED FEBRUARY 4, 2015), THIS PROPERTY LIES ENTIRELY OUTSIDE THE 500-YEAR FLOODPLAIN.

PUBLIC SPACE REQUIREMENTS

Standard Public Space Calculation: Total Tract: 81.36 Acres; 25 Lots x 1,742.4 s.f. = 43,560 s.f.	Four (4) Acres for every one hundred (100) Single Family Dwelling Units (1,742.4 square feet per new single family dwelling)	
Amount of Required Public Space	43,560	Square Feet
Amount of Provided Public Space	63,160	Square Feet
~ Multiple Use Trail		Square Feet
~ Underground Detention Area		Square Feet
~ Public Land Dedication	63,160	Square Feet
~ Privately-Held Common Ground		Square Feet
List of Installed Improvements	Total Number (list below on lines)	
~ Picnic Tables		
~ Benches		
~ Trash Receptacles		
~ Bicycle Racks		
~ Other		
Other Public Space Items (if provided)		
Fee in Lieu		

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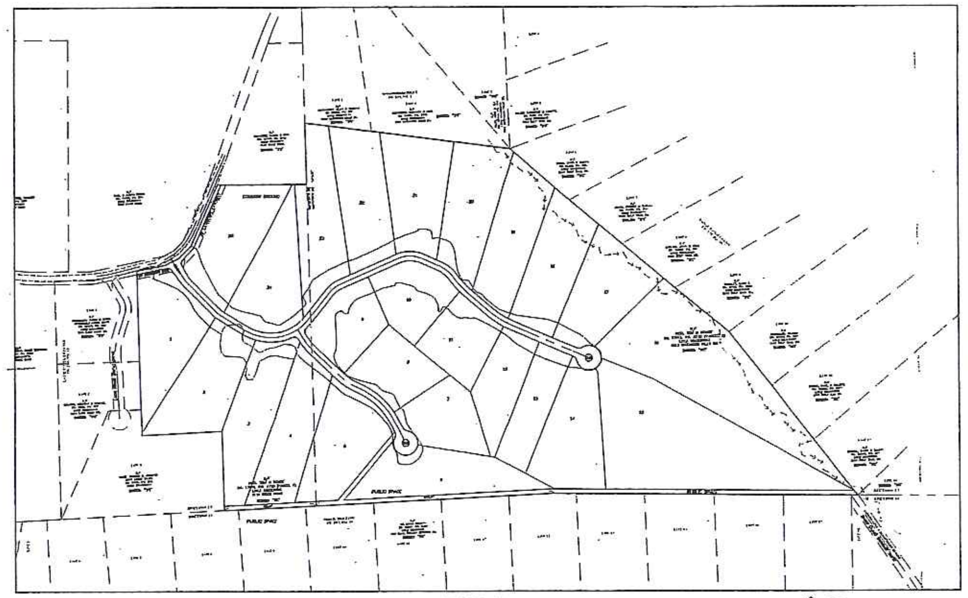

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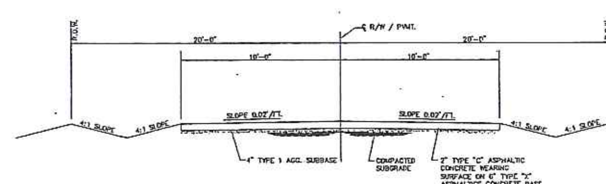

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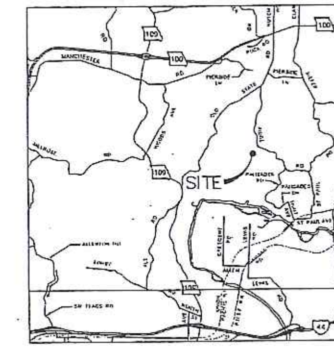

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CITY OF WILDWOOD
SEP 16 2016
DEPT OF PLANNING & PARKS

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THE STERLING COMPANY

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

STATE OF MISSOURI — GEORGE J. GOWER — NO. LS 2336 — PROFESSIONAL LAND SURVEYOR — 9/16/16

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Auburn Ridge
Wildwood, Missouri
Preliminary Development Plan
Cover Sheet

Date: 9-16-2016
MICHAEL G. BOERDING
License No. MO E-28643
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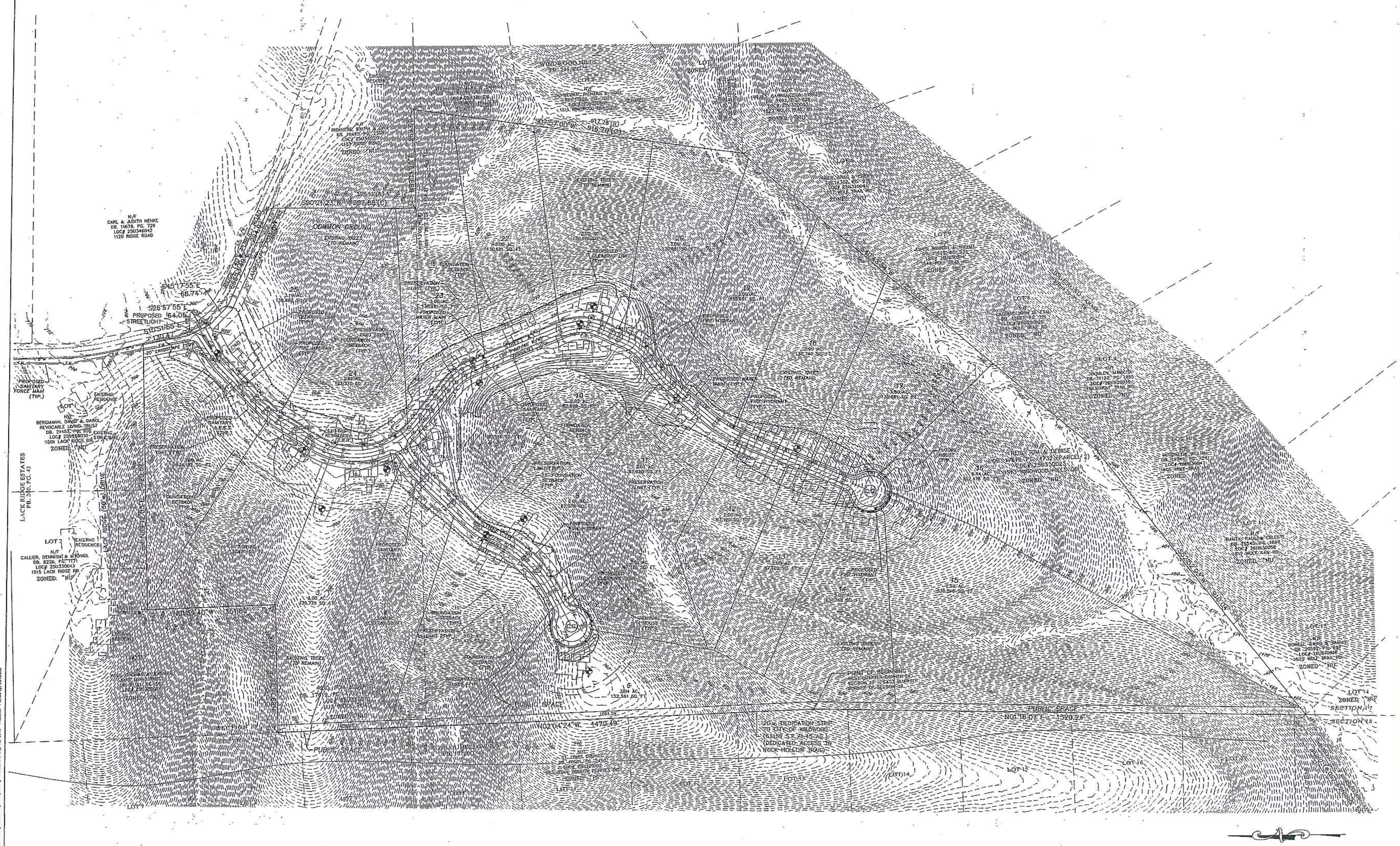
Date: Sept. 16, 2016
Designed: MF
Drawn: LG
Checked:
Sheet: 1.1 PRE

Revised Submittal 9/16/16



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GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

MSD Base Map - 25U, 26U

ISSUE	REMARKS/DATE
1	3-25-2016, INITIAL SUBMITTAL
2	5-10-2016, CITY COMMENTS
3	6-20-2016, CITY COMMENTS
4	7-28-2016, RESUBMITTAL
5	9-16-2016, REVISED PLAN

Fischer & Frichtel Custom Homes, LLC
695 Trade Center Blvd.
Chesterfield, Missouri 63005
Ph. (314) 576-0500
Fax (314) 576-0502
www.fandfhomes.com

THE **STERLING** CO.
ENGINEERS & SURVEYORS
5055 New Baumgartner Road
St. Louis, Missouri 63129
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www.sterling-eng-sur.com
Corporate Certificate of Authority #001348

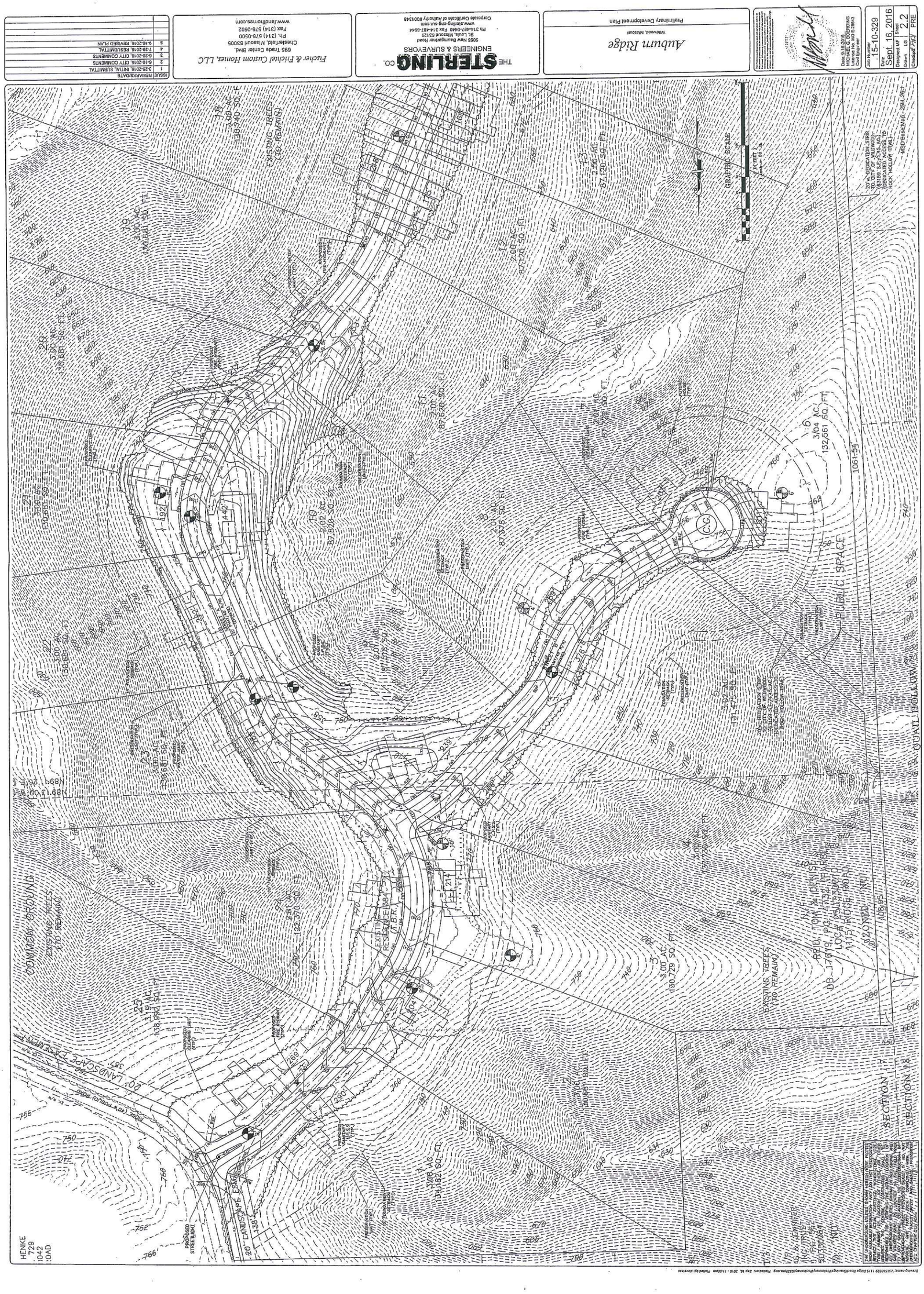
Auburn Ridge
Wildwood, Missouri
Preliminary Development Plan

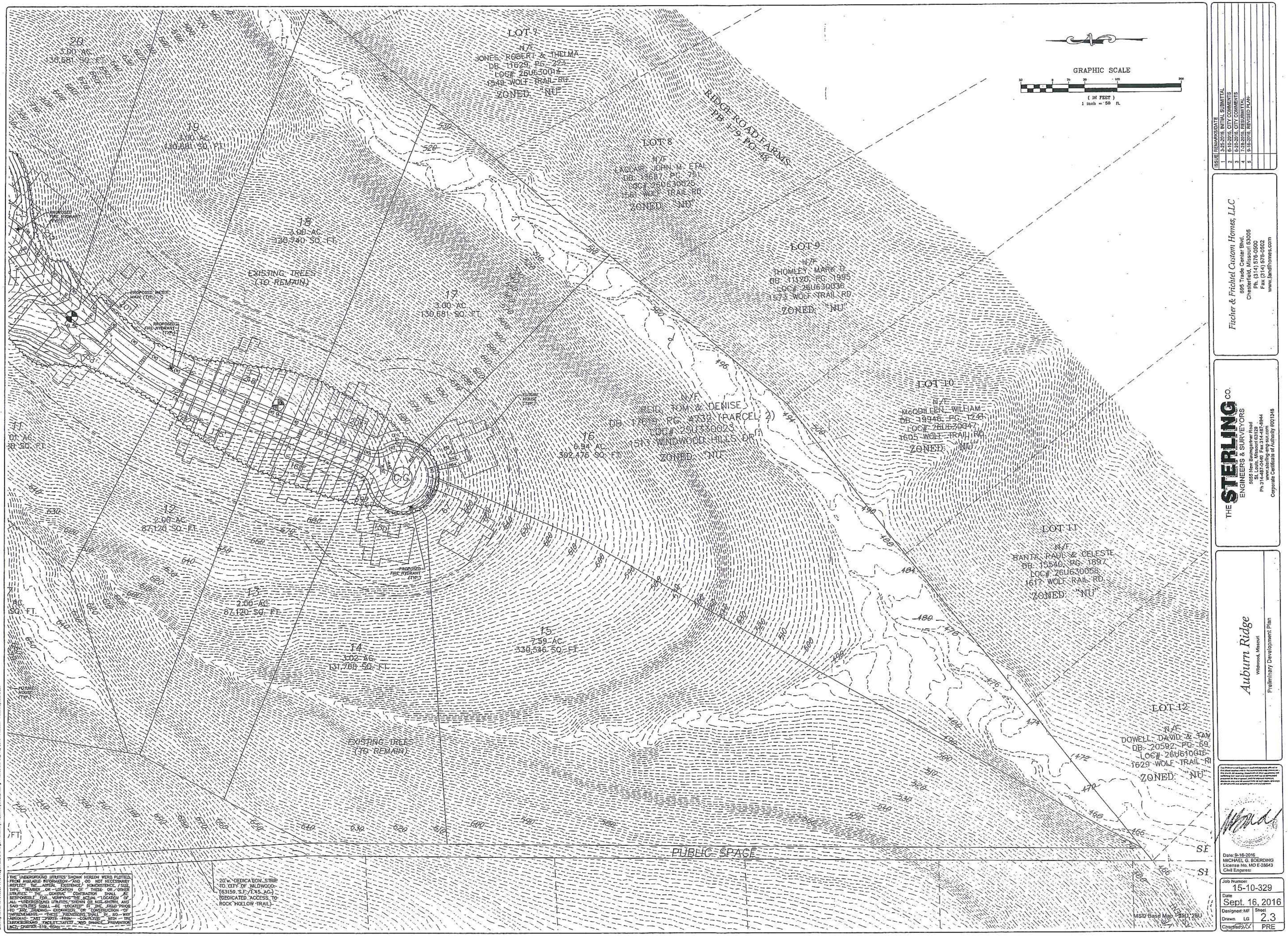
Date 9-16-2016
MICHAEL G. BOERDING
License No. MO E-28543
Civil Engineer

Job Number 15-10-329
Date Sept. 16, 2016
Designed: MF
Drawn: LG
Sheet 2.1

Revised Submittal 9/16/16

Revised Submittal 9/16/16





Revised Submittal 9/16/16

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Corporate Certificate of Authority #001346

Auburn Ridge
Wildwood, Missouri
Preliminary Development Plan
Offsite Sanitary Sewer

Date: 9-16-2016
MICHAEL G. BOBBINS
Missouri PE-2003018822
Civil Engineer

Job Number
15-10-329
Date
Sept. 16, 2016
Designed by
MGB
Drawn by
PRE
Checked by
MGB

Sheet No.
2.4

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

MSD Base Map - 250J, 250J

THE UNDERGROUND UTILITIES SHOWN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT ACCURATELY TYPE ALL UTILITIES OR LOCATIONS OF THOSE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE BEGINNING ANY CONSTRUCTION AND SHALL ASSUME SOLE RESPONSIBILITY FOR ANY DAMAGE OCCURRING TO ANY UTILITIES DUE TO HIS CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AT LEAST TWO WORKING DAYS BEFORE ANY EXCAVATION IS STARTED AND SHALL COMPLY WITH THE REQUIREMENTS OF MISSOURI ONE CALL SYSTEM, INC. ACT, CHAPTER 319, RSMo.

Drawing name: V:\15-10-329 Auburn Ridge\Engineering\Preliminary\15-10-329.dwg Plotted on: Sep 16, 2016 - 11:53am Plotted by: mbobbins

Revised Submittal 9/16/16

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4	7-28-2016, RESUBMITTAL
5	8-16-2016, NO UNDERLAY

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Auburn Ridge

Wildwood, Missouri

Preliminary Development Plan
Natural Resource Protection Plan

NATURAL RESOURCE PROTECTION STANDARD ANALYSIS – PREPARED BY ON-SITE SOILS, INC.							
MAP UNIT	AREA (ACRES)	% REQUIRED TO BE PRESERVED	AREA REQUIRED TO BE PRESERVED (SQ. FT./AC)	ACRES PRESERVED	% PRESERVED	ACRES DISTURBED	% DISTURBED	ACRES USABLE
A6PL	2.14	0	0	0.13	6	2.01	94	2.14
B6VE	1.58	30	20,647/0.47	0.64	41	0.94	59	1.11
B6VEr	3.80	50	82,764/1.90	1.00	26	2.80	74	1.90
C6VEr	6.09	70	185,696/4.26	4.67	77	1.42	23	1.83
C6CAr	5.39	100	234,788/5.39	3.31	61	2.08	39	0.00
C2VEr	0.59	100	25,700/0.59	0.59	100	0.00	0	0.00
D+EPH-	48.67	100	2,120,065/48.67	48.26	99	0.41	1	0.00
D	1.46	100	63,597/1.46	1.46	100	0.00	0	0.00
B6PLr(AF)	0.23	80	8015/0.18	0.23	100	0.00	0	0.05
GLADE	6.97	100	303,613/6.97	6.97	100	0.00	0	0.00
FP	4.44	100	193,406/4.44	4.44	100	0.00	0	0.00
TOTAL	81.36	-----	3,238,291/74.34	71.70	88	9.66	12	7.02

NOTES:

TOTAL AREA OF	81.36 AC.
AREA REQUIRED TO BE PRESERVED	74.34 AC.
TOTAL USABLE AREA	7.02 AC.
TOTAL AREA DISTURBED	<9.66> AC.
VARIANCE REQUIRED FOR GRADING	<2.64> AC.
DIRECTOR OF PLANNING VARIANCE SE	3.72 AC.
TOTAL	1.08 AC.

5% VARIANCE BY PLANNING COMMISSION TO BE ADMINISTERED BY THE DIRECTOR OF PLANNING ON A LOT-BY-LOT BASIS. = 3.72 AC.

SOIL LANDFORM	MAP SYMBOL
SLOPE CLASSES (PERCENT)	SYMBOL
0–6	A
7–15	B
16–30	C
>30	D

SOIL SCIENTIST CERTIFICATION:

THIS IS TO CERTIFY THAT WE HAVE, DURING THE MONTH OF MARCH 2016, PREPARED A REPORT REGARDING THE SOILS AND NATURAL RESOURCE EVALUATION OF THE SUBJECT PROPERTY. THE REPORT AND INFORMATION CONTAINED ON THIS PLAN RELATING TO SAME IS IN COMPLIANCE WITH SECTION 420.200, "NATURAL RESOURCE PROTECTION STANDARDS AND PROCEDURES" OF THE CITY OF WILDWOOD, MISSOURI.

SOIL SCIENTIST

DATE

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

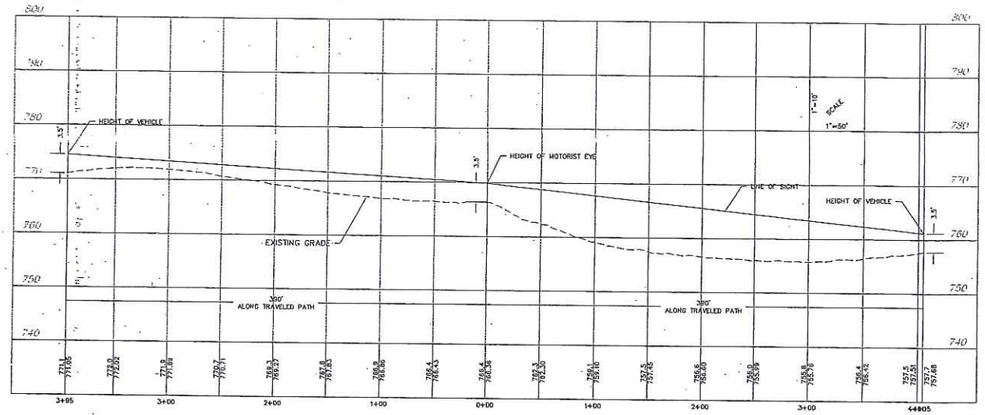
MSD Base Map - 25U, 26U

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI. ANY UNAUTHORIZED CHANGES TO AND USES OF THIS PLAN WILL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO THE ENGINEER. ANY USE OF THIS PLAN FOR PURPOSES OTHER THAN THOSE FOR WHICH IT WAS PREPARED OR OTHER EXTENSIONS OF THE PROJECT SHALL BE WITHOUT LIABILITY TO THE ENGINEER, UNLESS HE HAS GIVEN PRIOR WRITTEN APPROVAL FOR SUCH USE.

Date: 9-16-2016
MICHAEL G BOERDING
License No. MO E-28643
Civil Engineer

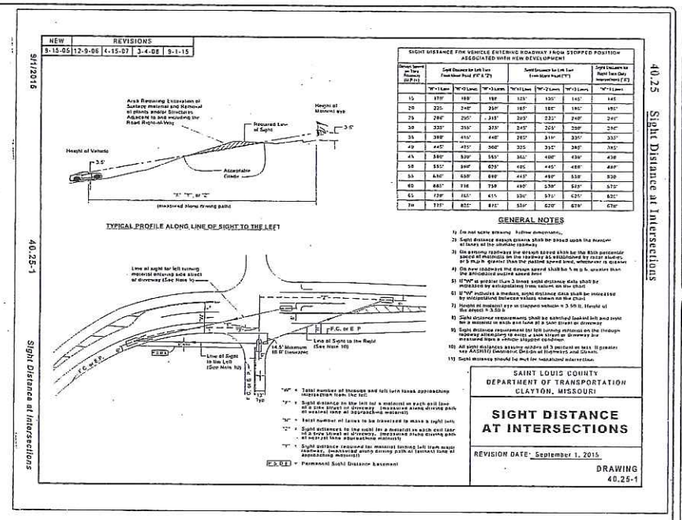
Job Number	15-10-329
Date	Sept. 16, 2016
Designed: MF	Sheet 3.1
Drawn: LG	
Checked: MV	PRE

Drawing name: V:\15\329 1115 Ridge Road\Drawings\Preliminary\15329cd.dwg Plotted on: Sep 16, 2016 - 11:05am Plotted by: dwilliams



SIGHT DISTANCE TO THE LEFT

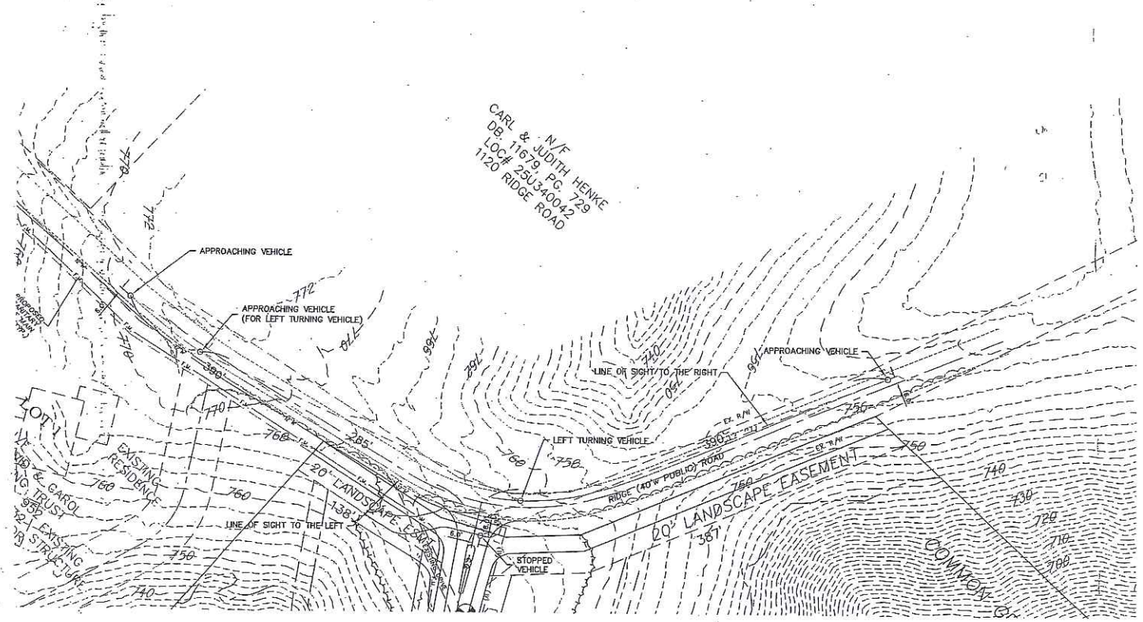
SIGHT DISTANCE TO THE RIGHT

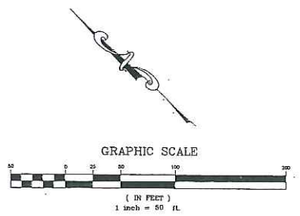


POSTED SPEED LIMIT: 30 MPH
DESIGN SPEED: 35

SIGHT DISTANCE FOR LEFT TURN FROM MINOR ROAD (X & Z) - 390'

PER ST. LOUIS COUNTY 'SIGHT DISTANCE AT INTERSECTIONS' DWG. 40.25-1





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MSD Base Map - 25U, 26U

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Auburn Ridge
Wildwood, Missouri
Preliminary Development Plan
Sight Distance Study

Date: 9-16-2016
MICHAEL G. BOERDING
License No. MO E-28643
Civil Engineer

Job Number: 15-10-329
Date: Sept. 16, 2016
Designed: MF
Drawn: LG
Sheet: 4.1
Checked: RPE

Revised Submittal 9/16/16

Auburn Ridge

A Tract of Land Being Part of Section 17, Township 44 North, Range 4 East of The Fifth Principal Meridian, City Of Wildwood, St. Louis County, Missouri

Preliminary Development Plan

GENERAL NOTES:

1. THIS SITE IS IN THE FOLLOWING DISTRICTS AND UTILITY SERVICE AREAS:
   WARD SIX
   METRO WEST FIRE PROTECTION DISTRICT
   ST. LOUIS COUNTY POLICE DEPARTMENT – CITY OF WILDWOOD (6TH) PRECINCT
   ROCKWOOD R-6 SCHOOL DISTRICT
   AMEREN MISSOURI
   AT&T
   LACLEDE GAS COMPANY
   MISSOURI AMERICAN WATER COMPANY
   CHARTER CABLE SERVICES
   METROPOLITAN ST. LOUIS SEWER DISTRICT
2. 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.
3. STORMWATER SYSTEM DESIGN SHALL BE PURSUANT TO THE CITY OF WILDWOOD AND MSD REQUIREMENTS AND SHALL DISCHARGE AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.
4. 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.
5. ALL GRADING AND DRAINAGE SHALL BE PER CITY OF WILDWOOD AND METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD) STANDARDS. SOURCE OF TOPOGRAPHY– LIDAR.
6. NO SLOPES SHALL EXCEED 3 (HORIZONTAL) TO 1 (VERTICAL), UNLESS JUSTIFIED BY A GEOTECHNICAL REPORT WHICH HAS BEEN ACCEPTED/APPROVED BY THE CITY OF WILDWOOD AND METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD).
7. ALL PROPOSED UTILITIES WILL BE LOCATED UNDERGROUND WITHIN THIS SITE.
8. 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.
9. MAXIMUM HEIGHT OF STREET LIGHTING FIXTURES SHALL BE 16 FEET AND SHALL BE IN COMPLIANCE WITH THE CITY OF WILDWOOD CODE REQUIREMENTS – SECTION 415.450 OUTDOOR LIGHTING REQUIREMENTS – ZONING ORDINANCE.
10. STREET TREES AND SITE LANDSCAPING SHALL BE AS REQUIRED BY THE CITY OF WILDWOOD.
11. BUILDING HEIGHT SHALL NOT EXCEED 60 FEET.
12. THE NEAREST MAJOR INTERSECTION IS MANCHESTER RD AND OLD STATE RD APPROXIMATELY 2.3 MILES TO THE NORTH NORTHEAST.
13. ENTRANCES, STREET INTERSECTIONS, CUL-DE-SACS SHALL BE CONSTRUCTED TO CITY OF WILDWOOD STANDARDS.

DEVELOPMENT NOTES:

LOCATOR NUMBER: 25U330010, 25U310023

1. SITE ADDRESS: 1115 RIDGE RD. WILDWOOD, MO 63021 — 1513 WINDWOOD HILLS DR WILDWOOD, MO 63021

   CURRENT OWNER: TOM & DENISE REID 4073 MONTGOMERY LN PACIFIC, MO 63021 — TOM & DENISE REID 4073 MONTGOMERY LN PACIFIC, MO 63021
2. EXISTING ZONING: NU – NON-URBAN RESIDENCE DISTRICT
3. PROPOSED USE: PLANNED RESIDENTIAL DEVELOPMENT ("PRD") OVERLAY DISTRICT
4. GROSS AREA OF SITE: 81.36 ACRES
5. DENSITY = 81.36 AC. x 43,560 S.F./AC. / 130,680 SQ.FT. = 27 LOTS ALLOWABLE
6. NUMBER OF LOTS PROPOSED: 27
7. PARKING REQUIREMENTS:
   2 EA. X 27 LOTS = 54 SPACES
   PROVIDED = 54 SPACES
8. EXISTING TREE AREA = 80.7 AC.
   TREES TO REMAIN = 68.8 AC. (85.2%)
9. COMMON GROUND = 42.09 AC.

LOT SPECIFICATIONS:

MINIMUM AREA – 1 AC.
MINIMUM FRONTAGE – 125'
FRONT SETBACK – 20'
SIDE YARD SETBACK – 15'
REAR YARD SETBACK – 30'

FLOOD NOTE:

ACCORDING TO THE FLOOD INSURANCE RATE MAP OF SAINT LOUIS COUNTY, MISSOURI, AND UNINCORPORATED AREAS (COMMUNITY PANEL NUMBER 29189C0290K DATED FEBRUARY 4, 2015), THIS PROPERTY LIES ENTIRELY OUTSIDE THE 500-YEAR FLOODPLAIN.

PUBLIC SPACE REQUIREMENTS

Standard Public Space Calculation: Total Tract: 81.36 Acres; 27 Lots x 1,742.4 s.f. = 47,045 s.f.	Four (4) Acres for every one hundred (100) Single Family Dwelling Units (1,742.4 square feet per new single family dwelling)	
Amount of Required Public Space	47,045	Square Feet
Amount of Provided Public Space	66,833	Square Feet
~ Multiple Use Trail	0,000	Square Feet
~ Underground Detention Area	0,000	Square Feet
~ Public Land Dedication	43,310	Square Feet
~ Privately-Held Common Ground	23,523	Square Feet
List of Installed Improvements	Total Number (list below on lines)	
~ Picnic Tables		
~ Benches		
~ Trash Receptacles		
~ Bicycle Racks		
~ Other		
Other Public Space Items (if provided)		
Fee In Lieu		

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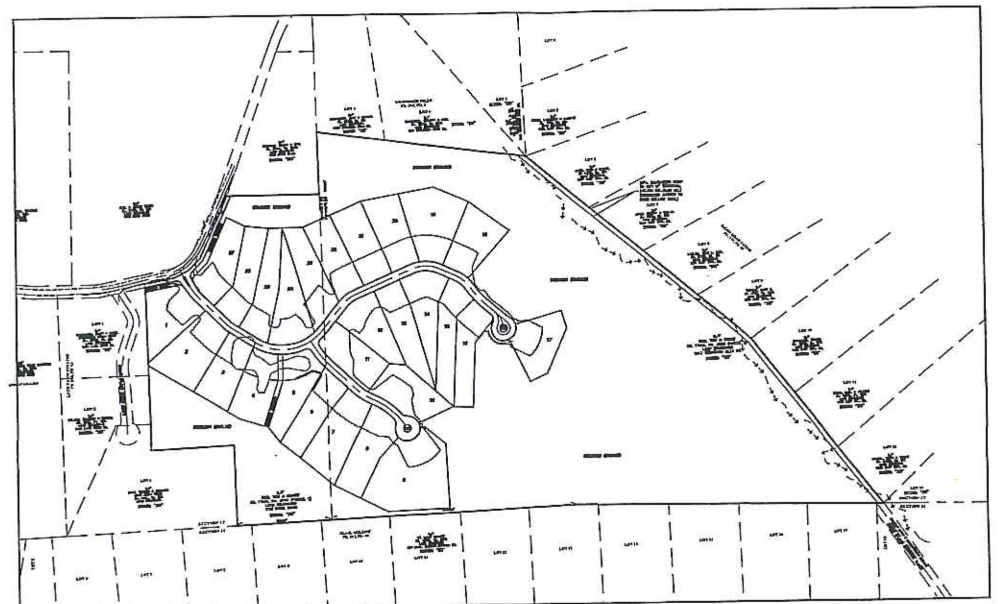
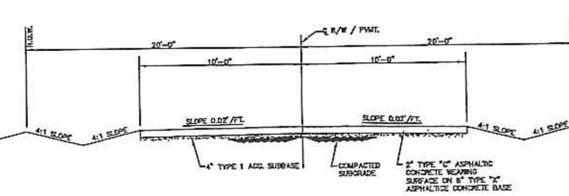


KEY MAP
N.T.S.

PROPERTY DESCRIPTION:

A TRACT OF LAND BEING PART OF SECTION 17, TOWNSHIP 44 NORTH, RANGE 4 EAST OF THE FIFTH PRINCIPAL MERIDIAN, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

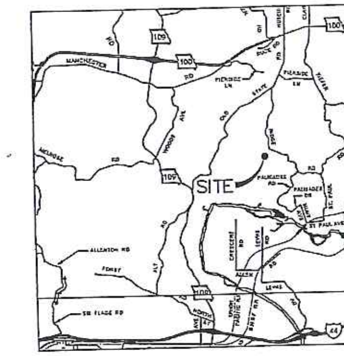
BEGINNING AT THE WEST QUARTER CORNER OF SAID SECTION 17, SAID POINT ALSO BEING ON THE EAST LINE OF QUAIL HOLLOW, A SUBDIVISION RECORDED IN PLAT BOOK 197, PAGE 48 OF THE ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE ALONG THE WEST LINE OF SAID SECTION 17, NORTH 02° 04' 24" WEST, 1470.49 FEET TO THE SOUTHWEST CORNER OF LOT 3 OF LACK RIDGE ESTATES, A SUBDIVISION RECORDED IN PLAT BOOK 260, PAGE 43 OF SAID ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE DEPARTING LAST SAID WEST LINE, AND ALONG THE SOUTH LINE OF LOTS 3, 2 AND 1 OF SAID LACK RIDGE ESTATES THE FOLLOWING COURSES AND DISTANCES: NORTH 89° 15' 26" EAST, 346.75 FEET; NORTH 01° 59' 40" WEST, 351.89 FEET AND NORTH 89° 12' 05" EAST, 720.67 FEET TO THE SOUTHEAST CORNER OF SAID LACK RIDGE ESTATES, SAID POINT ALSO BEING ON THE WEST LINE OF RIDGE ROAD, 40 FEET WIDE; THENCE DEPARTING LAST SAID SOUTH LINE, AND ALONG THE WEST LINE OF SAID RIDGE ROAD, THE FOLLOWING COURSES AND DISTANCES: SOUTH 10° 51' 55" EAST, 130.47 FEET; SOUTH 26° 57' 55" EAST, 64.06 FEET; SOUTH 45° 17' 55" EAST, 68.74 FEET AND SOUTH 65° 13' 49" EAST, 294.92 FEET TO THE NORTHWEST CORNER OF A TRACT OF LAND CONVEYED TO RALPH & GINA BICKNESE BY INSTRUMENT RECORDED IN DEED BOOK 19495, PAGE 2360 OF SAID ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE DEPARTING LAST SAID WEST LINE, AND ALONG THE WEST AND SOUTH LINES OF SAID BICKNESE TRACT, SOUTH 00° 21' 23" WEST, 397.88 FEET AND NORTH 89° 11' 26" EAST, 269.09 FEET TO THE NORTHWEST CORNER OF LOT 5 OF WINDWOOD HILLS, A SUBDIVISION RECORDED IN PLAT BOOK 245, PAGE 7 OF SAID ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE ALONG THE WEST LINE OF LOTS 5 AND 4 OF SAID WINDWOOD HILLS, SOUTH 07° 57' 00" WEST, 916.70 FEET TO THE SOUTHWEST CORNER OF LOT 3 OF SAID WINDWOOD HILLS, SAID POINT ALSO BEING THE NORTHERNMOST CORNER OF LOT 6 OF RIDGE ROAD FARMS, A SUBDIVISION RECORDED IN PLAT BOOK 179, PAGE 48 OF SAID ST. LOUIS COUNTY, MISSOURI, RECORDS; THENCE ALONG THE NORTHWEST LINE OF LOTS 6 THROUGH 9 OF SAID RIDGE ROAD FARMS, SOUTH 40° 43' 54" WEST, 1250.00 FEET TO THE SOUTHWEST CORNER OF SAID LOT 9 OF RIDGE ROAD FARMS; THENCE ALONG THE NORTHWEST LINE OF LOTS 10, 11 AND 12 OF SAID RIDGE ROAD FARMS, SOUTH 52° 52' 03" WEST, 910.04 FEET TO THE SOUTHWEST CORNER OF SAID LOT 12 OF RIDGE ROAD FARMS, SAID POINT ALSO BEING ON SAID WEST LINE OF SECTION 17; THENCE DEPARTING LAST SAID NORTHWEST LINE, AND ALONG SAID WEST LINE OF SECTION 17, SAID LINE ALSO BEING THE EAST LINE OF QUAIL HOLLOW, NORTH 01° 16' 07" EAST, 1320.24 FEET TO THE POINT OF BEGINNING, CONTAINING 3,543,933 SQUARE FEET OR 81.3575 ACRES, MORE OR LESS, ACCORDING TO CALCULATIONS PERFORMED BY THE STERLING COMPANY DURING FEBRUARY, 2016 UNDER ORDER NO. 15-10-329.



TYPICAL PVMT. SECTION
(20' PAVEMENT/40' R.O.W.)
N.T.S.

SHEET INDEX

1.1	COVER SHEET
2.1-2.3	PRELIMINARY DEVELOPMENT PLAN
3.1	NATURAL RESOURCE PROTECTION PLAN
4.1	SIGHT DISTANCE STUDY



LOCATION MAP
N.T.S.

LEGEND

EXISTING	LEGEND	PROPOSED
542	CONTOURS	(542)
X 535	SPOT ELEVATIONS	XXX.X
	CENTER LINE	
	BUILDINGS, ETC.	
	TREE LINE	
X X	FENCE	X X
	SILTATION CONTROL FENCE	X X X
	STORM SEWERS	
	SANITARY SEWERS	
EX CB	CATCH BASIN	CI NO.
EX AI	AREA INLET	AI NO.
EX GI	GRATED INLET	GI NO.
EX DCI	DOUBLE CURB INLET	DCI NO.
EX MH	STORM MANHOLE	MH NO.
EX SMH	SANITARY MANHOLE	SMH NO.
EX FE	FLARED END SECTION	FE NO.
	CLEANOUT	
	LATERAL CONNECTION	
	UTILITY OR POWER POLE	
	FIRE HYDRANT	
	TEST HOLE	
	PAVEMENT	
	GAS MAIN & SIZE	(G) (G)
	WATER MAIN & SIZE	(W) (W)
T	TELEPHONE	(T) (T)
UE	ELECTRIC (U) UNDERGROUND	
OE	ELECTRIC (O) OVERHEAD	
FO	FIBER OPTIC	(FO) (FO)
	FLOW LINE	
	TO BE REMOVED	TBR
	TO BE REMOVED & RELOCATED/REPLACED	TBRR
	TOP OF CURB	TC
	SWALE	
	LIGHT STANDARD	
	STREET SIGN	
	PARKING STALLS	P.S.
	YARD LIGHT	

SURVEYOR'S CERTIFICATION:

THIS IS TO CERTIFY THAT WE HAVE, DURING THE MONTH OF MARCH, 2016, AT THE REQUEST OF FISCHER & FRICHTEL CUSTOM HOMES, PREPARED A PRELIMINARY DEVELOPMENT PLAN OF "AUBURN RIDGE".

A TRACT OF LAND BEING PART OF SECTION 17, TOWNSHIP 44 NORTH, RANGE 4 EAST OF THE FIFTH PRINCIPAL MERIDIAN, 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

STATE OF MISSOURI — GEORGE J. GOWER — NO. LS. 2336 — PROFESSIONAL LAND SURVEYOR — 7/28/16

CITY OF WILDWOOD — JUL 28 2016 — DEPT. OF PLANNING & PARKS

MSD Base Map - 25U, 26U

ISSUE	REMARKS/DATE
1	3-25-2016, INITIAL SUBMITTAL
2	CITY COMMENTS/06-10-16
3	CITY COMMENTS/06-20-16
4	RESUBMITTAL/07-20-16

Fischer & Frichtel Custom Homes, LLC
695 Trade Center Blvd.
Chesterfield, Missouri 63005
Ph. (314) 576-0500
Fax (314) 576-0502
www.fandfhomes.com

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 #001348

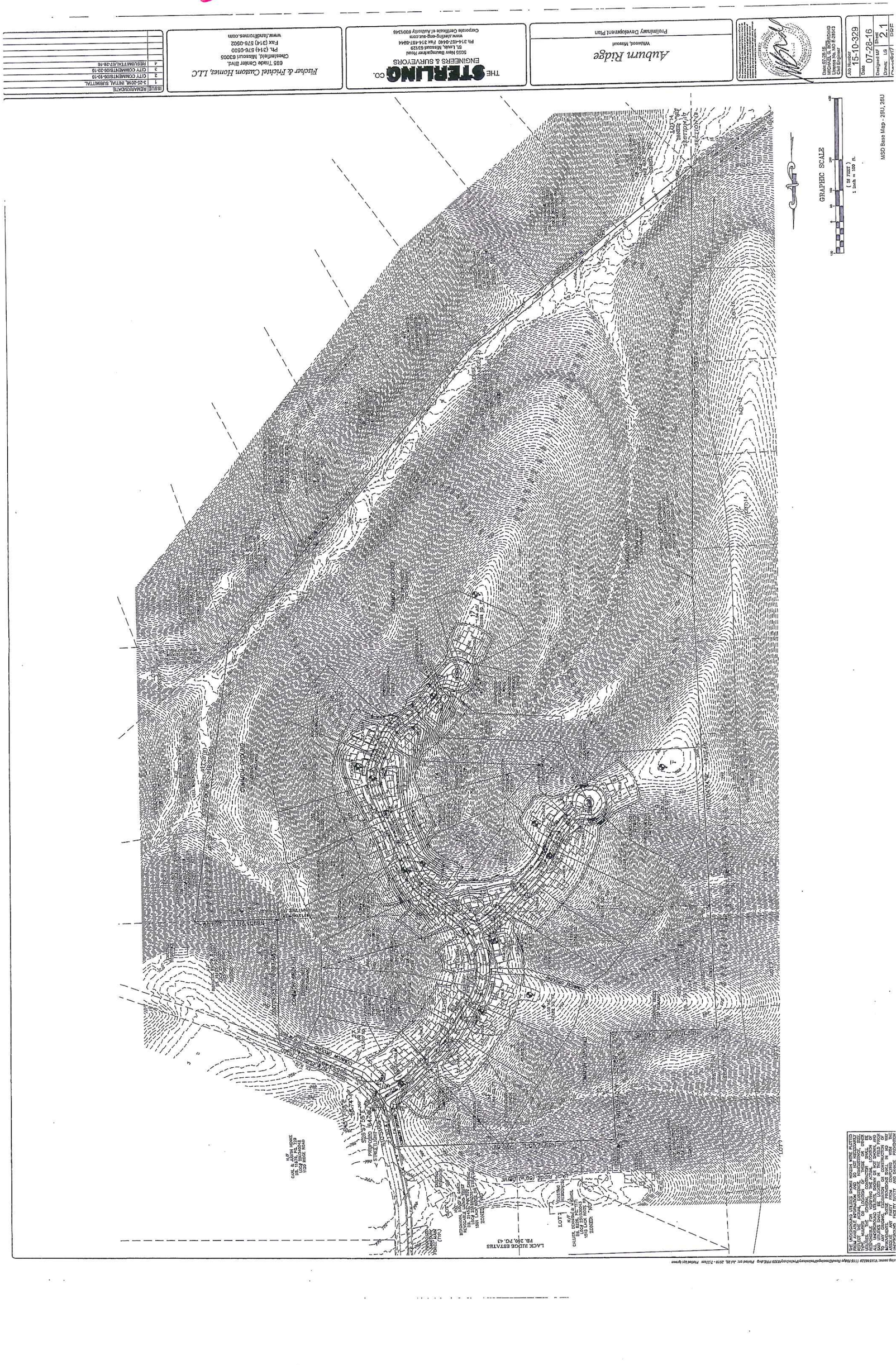
Auburn Ridge
Wildwood, Missouri
Preliminary Development Plan
Cover Sheet

Date: 07-28-16
MICHAEL G. BOERDING
License No. MO E-28543
Civil Engineer

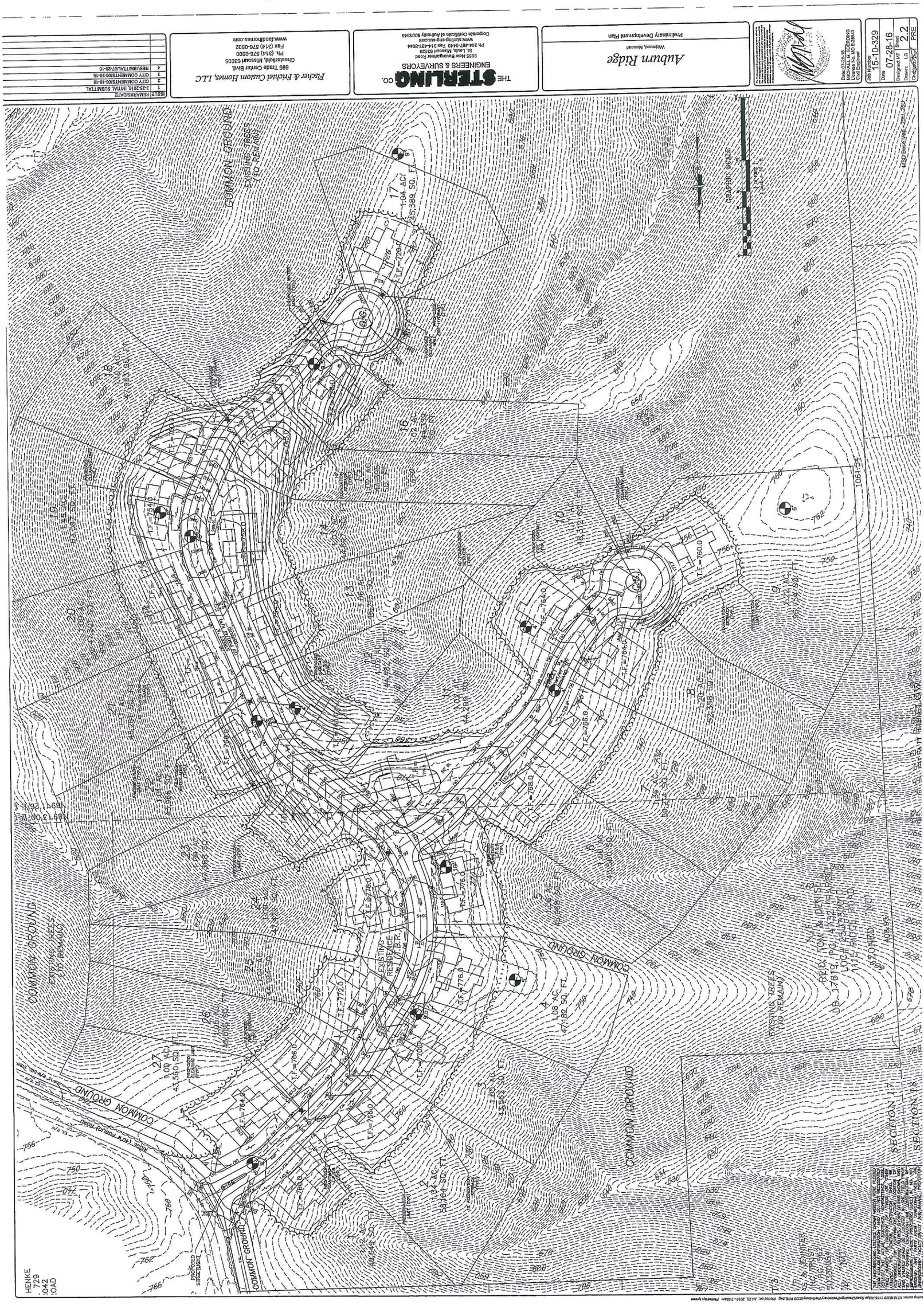
Job Number: 15-10-329
Date: 07-28-16
Designed: MF
Drawn: LG
Checked:
Sheet: 1.1 PRE

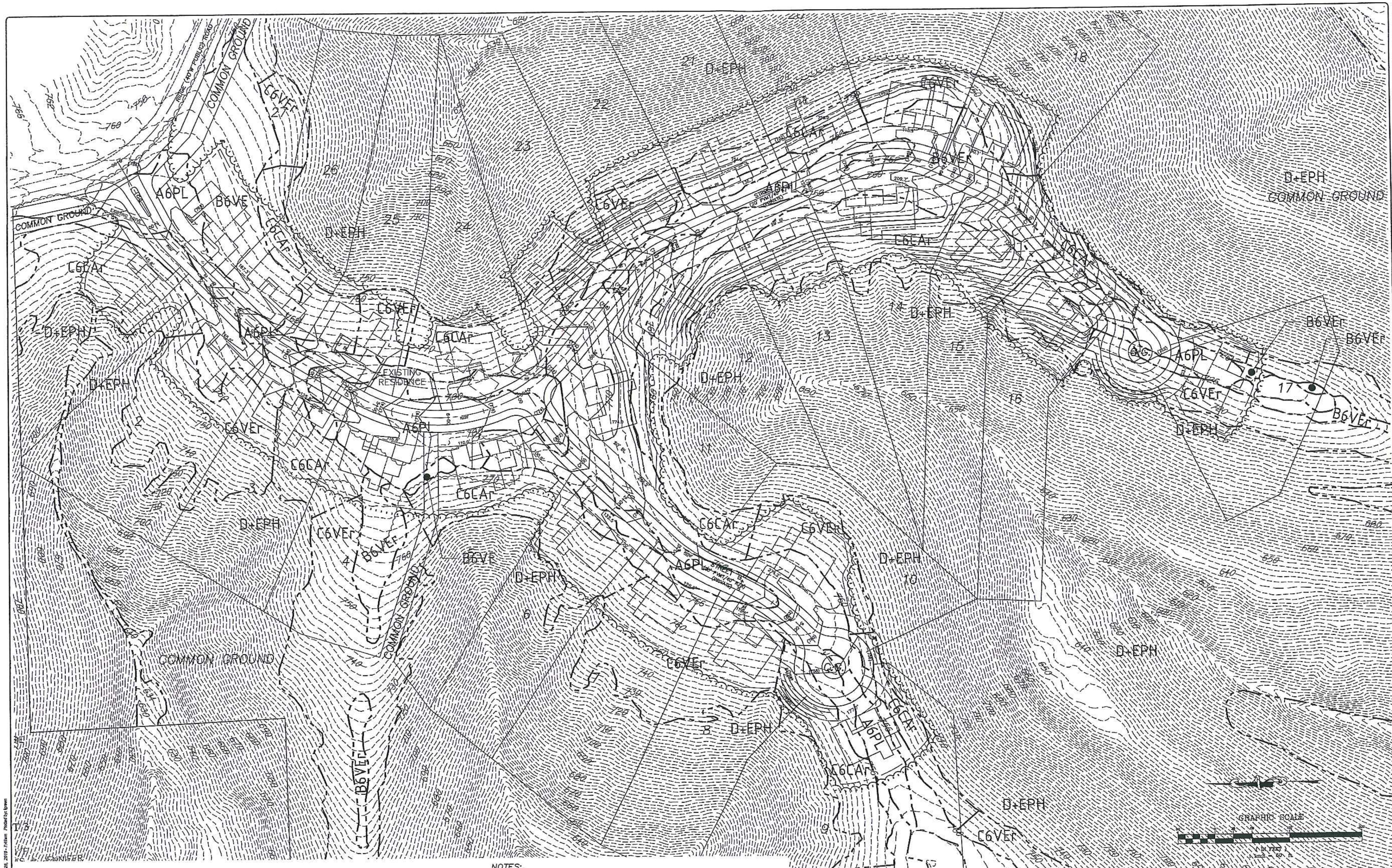
Original Submittal 7/20/16

Original Submittal 7/20/16



Original Submittal 7/20/16





NATURAL RESOURCE PROTECTION STANDARD ANALYSIS – PREPARED BY ON-SITE SOILS, INC.								
MAP UNIT	AREA (ACRES)	% REQUIRED TO BE PRESERVED	AREA REQUIRED TO BE PRESERVED (SQ. FT./AC)	ACRES PRESERVED	% PRESERVED	ACRES DISTURBED	% DISTURBED	ACRES USABLE
A6PL	2.14	0	0	0.26	12	1.88	88	2.14
B6VE	1.58	30	20,647/0.47	0.51	32	1.07	68	1.11
B6VEr	3.80	50	82,764/1.90	0.95	25	2.85	75	1.90
C6VEr	6.09	70	185,696/4.26	4.11	67	1.98	33	1.83
C6CAr	5.39	100	234,788/5.39	1.89	35	3.50	65	0.00
C2VEr	0.59	100	25,700/0.59	0.59	100	0.00	0	0.00
D+EPH	48.67	100	2,120,065/48.67	48.06	99	0.61	1	0.00
D	1.46	100	63,597/1.46	1.46	100	0.00	0	0.00
B6PLr(AF)	0.23	80	8015/0.18	0.23	100	0.00	0	0.05
GLADE	6.97	100	303,613/6.97	6.97	100	0.00	0	0.00
FP	4.44	100	193,406/4.44	4.44	0	0.00	0	0.00
TOTAL	81.36	———	3,238,291/74.34	69.47	85	11.89	15	7.03

NOTES:

1) AREA REQUIRED TO BE PRESERVED: 74.34 ACRES
2) TOTAL USABLE AREA REMAINING: 7.03 ACRES
3) TOTAL AREA REQUIRED FOR DEVELOPMENT OF THIS PLAN: 11.89 AC. (15% OF TOTAL SITE AREA)
4) REQUESTED INCREASE IN USABLE AREA AS PERMITTED BY THE DIRECTOR OF PLANNING: 3.72 AC. (5% OF 74.34 AC.)
5) AREA INCREASE REQUESTED OF THE PLANNING COMMISSION IN EXCESS OF ITEM #4: 1.68 AC. (2.2% OF TOTAL SITE AREA)
6) TOTAL REQUESTED DEVELOPMENT AREA FOR THIS PROJECT: 11.89 AC. 7.03 AC. (NOW PERMITTED)
3.72 AC. (DIRECTOR OF PLANNING VARIANCE, 5%)
1.14 AC. (PLANNING COMMISSION VARIANCE, 1.5%)
11.89 AC.

SOIL LANDFORM	MAP SYMBOL
SLOPE CLASSES (PERCENT)	SYMBOL
0–6	A
7–15	B
16–30	C
>30	D

SOIL SCIENTIST CERTIFICATION:

THIS IS TO CERTIFY THAT WE HAVE, DURING THE MONTH OF MARCH 2016, PREPARED A REPORT REGARDING THE SOILS AND NATURAL RESOURCE EVALUATION OF THE SUBJECT PROPERTY. THE REPORT AND INFORMATION CONTAINED ON THIS PLAN RELATING TO SAME IS IN COMPLIANCE WITH SECTION 420.200, "NATURAL RESOURCE PROTECTION STANDARDS AND PROCEDURES" OF THE CITY OF WILDWOOD, MISSOURI.

SOIL SCIENTIST ____________ DATE ____________

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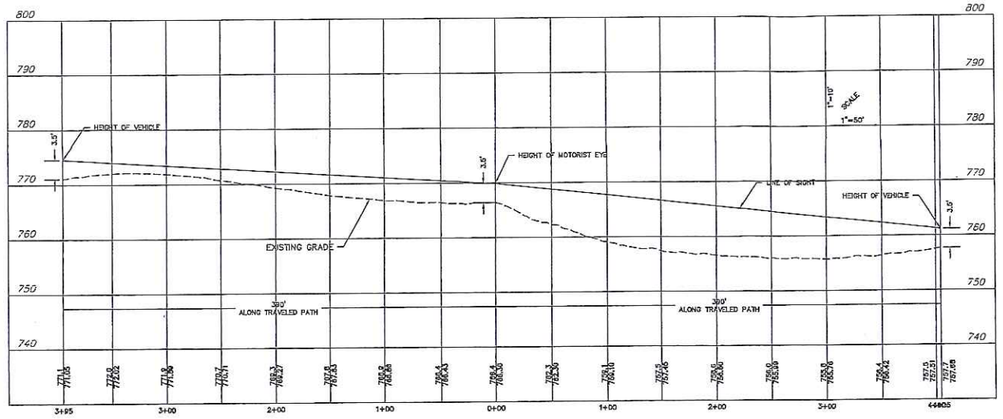
Auburn Ridge
Wildwood, Missouri
Preliminary Development Plan
Natural Resource Protection Plan

Date: 07-28-16
MICHAEL G. BOERDING
License No. MO E-28543
Civil Engineer

Job Number 15-10-329
Date 07-28-16
Designed: MF
Drawn: LG
Checked:
Sheet 3.1
PRE

Original Submittal 7/20/16



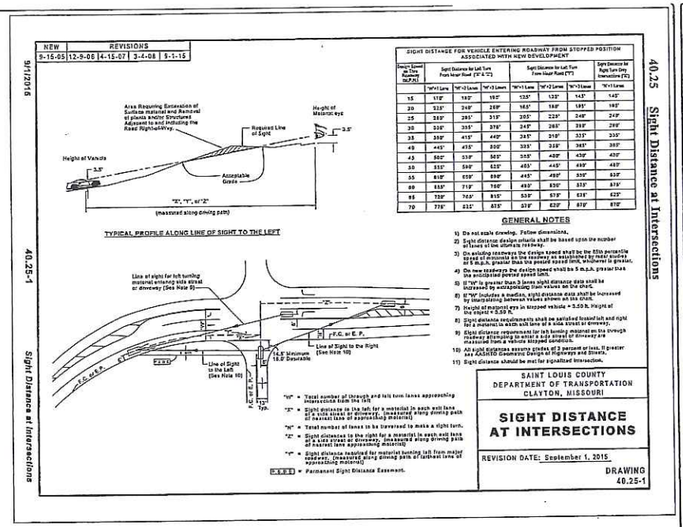
SIGHT DISTANCE TO THE LEFT

SIGHT DISTANCE TO THE RIGHT

POSTED SPEED LIMIT: 30 MPH
DESIGN SPEED: 35

SIGHT DISTANCE FOR LEFT TURN FROM MINOR ROAD (X & Z) – 390'

PER ST. LOUIS COUNTY 'SIGHT DISTANCE AT INTERSECTIONS' DWG. 40.25-1



NEW | REVISIONS
9-16-05 | 12-9-08 | 4-15-07 | 3-4-08 | 9-1-15

SIGHT DISTANCE FOR VEHICLE ENTERING ROADWAY FROM STOPPED POSITION ASSOCIATED WITH NEW DEVELOPMENT

Design Speed (85th Percentile Speed) (M.P.H.)	Sight Distance for Left Turn From Minor Road ("X" & "Z")		Sight Distance for Left Turn From Major Road ("Y")		Sight Distance for Right Turn (Any Intersection) ("Z")
	"N"=1 Lane	"N"=2 Lanes	"N"=1 Lane	"N"=2 Lanes	"N"=1 Lane
15	170'	190'	180'	135'	145'	145'
20	230'	260'	280'	165'	180'	185'
25	290'	335'	375'	205'	225'	240'
30	350'	395'	470'	245'	265'	295'
35	390'	450'	560'	285'	310'	355'
40	445'	510'	650'	325'	355'	415'
45	500'	570'	745'	365'	400'	475'
50	550'	630'	840'	405'	440'	540'
55	610'	695'	940'	445'	490'	605'
60	655'	750'	1050'	490'	535'	675'
65	720'	765'	1150'	530'	575'	735'
70	775'	825'	1250'	570'	620'	810'

Area Requiring Extension of Surface Material and Removal of plants and/or Structures Adjacent to and including the Road Right-of-Way.

Height of Motorist Eye

Height of Vehicle

Acceptable Grade

Required Line of Sight

"X", "Y", or "Z"
(measured along driving path)

TYPICAL PROFILE ALONG LINE OF SIGHT TO THE LEFT

Line of sight for left turning motorist entering into street or driveway (See Note 5)

Line of Sight to the Right (See Note 10)

Line of Sight to the Left (See Note 10)

14.5' Minimum 15.5' Desirable

P.C.C. or E. P.

"N" = Total number of through and left turn lanes approaching intersection (see line 1a)

"X" = Sight distance to the left for a motorist in each exit lane of minor road (measured along driving path of nearest lane of approaching traffic)

"M" = Total number of lanes to be traversed to make a right turn.

"Z" = Sight distance to the right for a motorist in each exit lane of minor road (measured along driving path of nearest lane approaching traffic)

"Y" = Sight distance required for motorist leaving left from major roadway. (measured along driving path of farthest lane of approaching traffic)

= Permanent Sight Distance Easement.

GENERAL NOTES

1) Do not scale drawing. Follow dimensions.
2) Sight distance design criteria shall be based upon the number of lanes of the roadway.
3) On existing roadways the design speed shall be the 85th percentile speed or the posted speed limit, whichever is greatest, or 5 m.p.h. greater than the posted speed limit, whichever is greater.
4) On new roadways the design speed shall be 5 m.p.h. greater than the anticipated posted speed limit.
5) If "M" is greater than 3 lanes sight distance data shall be increased by adding one (1) foot per lane on line 3a.
6) If "N" includes a median, sight distance shall be increased by one foot per foot of median width over 10 feet.
7) The line of sight of any motorist vehicle = 3.5 ft. height of eye + 0.50 ft.
8) Sight distance requirements shall be satisfied toward left and right for a motorist to watch exit lane of a side street or driveway.
9) Sight distance requirements for left turning motorist on the through roadway attempting to enter a side street or driveway are satisfied by providing sight distance for line 3a.
10) All sight distances assume grades of 3 percent or less. If greater see AASHTO Geometric Design of Highways and Streets.
11) Sight distance should be met for all unsalified intersection.

SAINT LOUIS COUNTY
DEPARTMENT OF TRANSPORTATION
CLAYTON, MISSOURI

SIGHT DISTANCE AT INTERSECTIONS

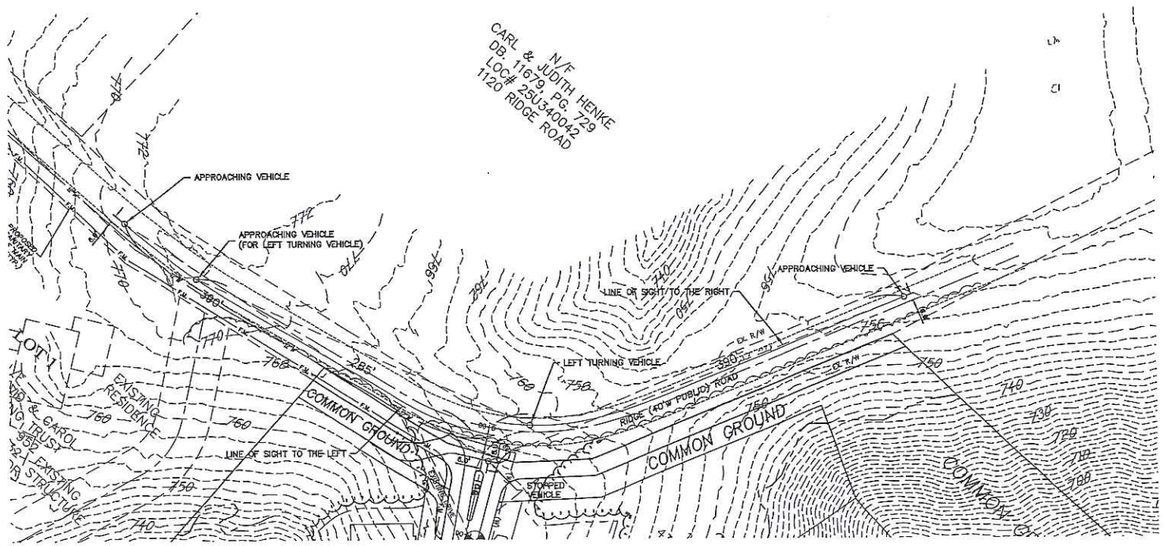
REVISION DATE: September 1, 2015

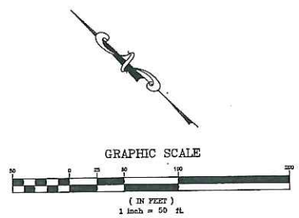
DRAWING 40.25-1

40.25 Sight Distance at Intersections

SLDT12/15

SIGHT DISTANCE AT INTERSECTIONS 4.25-1





THE UNDERGROUND UTILITIES SHOWN HEREON WERE PLOTTED FROM AVAILABLE INFORMATION, AND HAVE NOT BEEN FIELD EXPOSED (POTHOLED), 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 ASSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMo

MSD Base Map - 25U, 26U

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Auburn Ridge
Wildwood, Missouri
Preliminary Development Plan
Sight Distance Study

Date: 07-28-16
MICHAEL G. BIERDING
License No. MO E-28543
Civil Engineer

Job Number	15-10-329
Date	07-28-16
Designed: MF	Sheet 4.1
Drawn: LG	
Checked: MJ	PRE

Original Submittal 7/20/16

Drawing name: C:\SES\PWA\Public_FY2015\2015 FISE.dwg Plotted on: Jul 28, 2016 - 7:23am Plotted by: tgreen

/F
DITH HENKE
', PG. 729
U340042
GE ROAD

RIDGE (40'W PUBLIC) ROAD

Existing drive

KEY

- Existing tree
- Existing tree - dead
- Existing tree to be removed
- Existing canopy

ID	Tree Name	DBH	Canopy Diam.	Condition Rating	Comment
1	Red Oak	24	30	2	UTIL
2	Red Oak	24	25	2	UTIL
3	White Oak	24	60	3	some deadwood
4	White Oak	14	30	3	
5	Walnut	10	25	2	
6	White Oak	10	20	3	
7	Hickory	8	20	3	
8	Walnut	10	25	1	
9	Hickory	14	25	2	
10	Walnut	14	35	1	
11	Hickory	10	25	2	
12	Maple	14	40	2	
13	White Oak	14	35	3	
14	White Oak	14	35	3	
15	White Oak	16	35	3	UTIL
16	White Oak	20	40	2	
17	White Oak	12	40	3	
18	White Oak	14	50	3	
19	White Oak	20	50	3	
20	Hickory	10	35	3	
21	Maple	12	35	3	
22	White Oak	14	30	2	
23	White Oak	24	40	2	
24	Walnut	10	30	3	
25	White Oak	24	50	2	
26	White Oak	10	30	2	
27	White Oak	8	40	3	clump
28	Hickory	10	25	3	
29	White Oak	8	30	2	
30	White Oak	12	35	2	
31	Hickory	12	30	3	
32	White Oak	24	50	1	
33	White Oak	14	35	2	
34	Hickory	6	20	4	
35	Hickory	6	20	3	
36	White Oak	16	40	2	
37	White Oak	14	40	2	
38	Hickory	6	20	3	
39	Red Oak	15	35	3	
40	Hickory	6	20	3	
41	Walnut	10	30	2	
42	Hickory	6	20	3	
43	Red Oak	16	30	3	UTIL
44	Red Oak	16	30	3	UTIL
45	Red Oak	28	50	1	split trunk
46	White Oak	12	30	2	UTIL, trunk damage
47	White Oak	12	30	2	UTIL
48	White Oak	12	30	2	UTIL
49	White Oak	24	50	3	
50	Walnut	10	25	2	
51	Red Oak	24	45	3	
52	Red Oak	20	40	2	
53	Red Oak	20	30	1	
54	Red Oak	14	35	2	multistem
55	Red Oak	24	40	3	
56	Red Oak	12	-		
57	Red Oak	14	-	0	dead
58	White Oak	26	60	2	
59	Red Oak	6	-	0	dead
60	Hickory	12	30	3	
61	White Oak	18	45	2	
62	Hickory	8	30	4	
63	Hickory	6	20	3	
64	White Oak	24	50	2	
65	Hickory	8	25	2	
66	Hickory	6	25	3	
67	Red Oak	18	45	2	
68	Red Oak	14	35	2	
69	Hickory	8	25	2	
70	Hickory	8	25	3	

PARTIAL EXISTING TREE PLAN
SCALE 1"=20'

0 20 40 80

CITY OF WILDWOOD
JUL 29 2016

STATE OF MISSOURI
JERALD SAUNDERS
NUMBER LA-7
LANDSCAPE ARCHITECT
7/22/16

Jerald Saunders - Landscape Architect
MO License # LA-007

Consultants:

Auburn Ridge

Wildwood, Missouri

Revisions:

Date	Description	No.

Drawn: BS
Checked: RS

loomisAssociates

landscapearchitects/planners
Loomis Associates Inc.
Missouri State Certificate of Authority #: LAC #000316

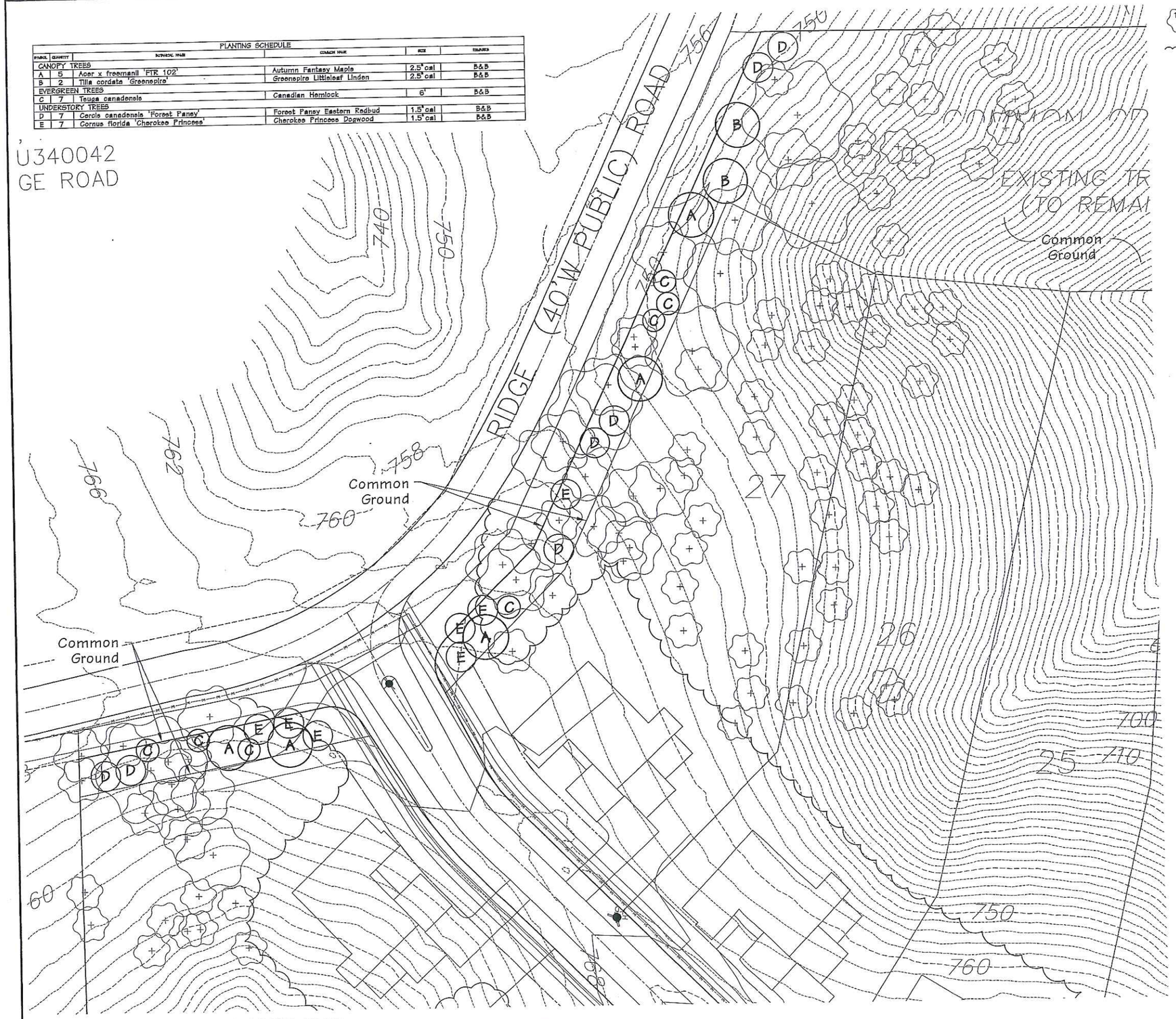
Sheet Title: Partial Existing Tree Plan

Sheet No: L-1

Date: 07/26/16
Job #: 955.004

Original Submittal 7/29/16

PLANTING SCHEDULE					
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
CANOPY TREES					
A	5	Acer x freemanii 'FTR 102'	Autumn Fantasy Maple	2.5" cal	B&B
B	2	Tilia cordata 'Greenspire'	Greenspire Littleleaf Linden	2.5" cal	B&B
EVERGREEN TREES					
C	7	Tsuga canadensis	Canadian Hemlock	6'	B&B
UNDERSTORY TREES					
D	7	Cercis canadensis 'Forest Pansy'	Forest Pansy Eastern Redbud	1.5" cal	B&B
E	7	Cornus florida 'Cherokee Princess'	Cherokee Princess Dogwood	1.5" cal	B&B



PARTIAL LANDSCAPE PLAN
SCALE 1"=20'

0 20 40 80

KEY

Existing tree to remain

Existing canopy to remain

Jerald Saunders - Landscape Architect
MO License # LA-007

7/28/16

Consultants:

Auburn Ridge

Wildwood, Missouri

Revisions:

Date	Description	No.

Drawn: BB
Checked: RS

loomisAssociates

landscapeArchitectsplanners
7073 Hillside Park Drive, Suite 135
Chesterfield, Missouri 63005-1954
(800)319-3656 fax:(800)319-3657
e-mail: info@loomisassociates.com

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

Sheet Title: Landscape Plan

Sheet No: L-2

Date: 07/28/16
Job #: 955.004

Original Submittal 7/20/16

ATTACHMENT D
Background Information

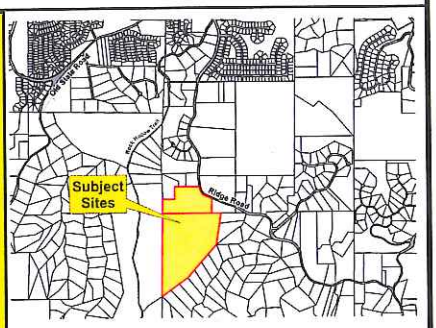
WILDWOOD

16860 Main Street
Wildwood, MO 63040

CITY OF WILDWOOD
NOTICE OF
PUBLIC MEETING
before the Planning and Zoning Commission
Monday, November 7, 2016, at 6:30 p.m

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 3,000 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.**



Street Addresses of Subject Site:
1115 Ridge Road and 1513 Windwood Hills Drive

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

Listed below is a request that was presented to the Planning and Zoning Commission at a public hearing that was held on August 1, 2016. You and many of your neighbors may have expressed interest in the outcome of this matter and the Commission is scheduled to hear/act upon the Department of Planning's report upon this item at its upcoming meeting. If inclined, the Commission encourages you to attend this meeting and participate in its discussion. The meeting will be held on **Monday, November 7, 2016, 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:

P.Z. 6-16 Auburn Ridge, Fischer and Frichtel Custom Homes, 695 Trade Center Boulevard, Chesterfield, Missouri, 63005 – A request for the application of a Planned Residential Development Overlay District (PRD) within the NU Non-Urban Residence District for a 81.4 acre tract of land that is located on the southwest side of Ridge Road, south of Lack Ridge Road (Locator Number: 25U330010 and 25U310023/Street Addresses: 1115 Ridge Road and 1513 Windwood Hills Drive). **The petitioner has made additional revisions to the Preliminary Development Plan and the subdivision's overall design, based on comments expressed at the October 3, 2016 Planning and Zoning Commission meeting. The revisions will be discussed at this meeting. (Ward Six)**

***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.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Sunday, October 30, 2016 4:16 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	Allowing another developement like Quail Hollow of high density housing lookng subdivision
Position on Request	Do Not Support
General Comments	As a Wildwood resident since 1988, and having lived off Ridge Rd on Palisades Rd for those 28 years, I've had to endure various mayors and councils with varying views. I moved to Wildwood to get away from tightly built subdivisions. Developements like Quail Hollow were allowed because the council was loaded with developers and a stoneless mayor. I say "HELL NO" to allowing any more of these types of developments. Where will it all end? I believe city hall has to take a stand and see that our town will be ruined if it keeps allowing builders to push into areas that have to this point been out of bounds. Keep Wildwood wild!
Suggestions	Keep the high density housing in the areas where there are existing utilities. Pushing the utilities further and further down Ridge Rd will only bring more developers to breach our unfettered surroundings.
	(Section Break)
Name	Jim Armbruster
Address	1449 Palisades Rd

City	Wildwood
State	Missouri
Zip	63021
Phone Number	3142671697
Email	armbldgco@gmail.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Thursday, October 13, 2016 8:31 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	Terrible idea to build tract homes
Suggestions	Build less homes with at least 100 feet between homes and insist on a tree preservation plan
	(Section Break)
Name	Phil dario
Address	1500
City	Wildwood
State	MO
Zip	63021
Phone Number	3149545720
Email	Phil@showcaseremodelingstl.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: Dennis Church <denochu@gmail.com>
Sent: Thursday, October 13, 2016 1:32 PM
To: Travis Newberry
Subject: Re: P.Z. 6-16 Auburn Ridge

Thank you Travis. Those of us who live close to this proposed development feel very strongly that a 3 acre minimum lot size should be required. We also hope that the Dept will request clarification from F&F about home styles/price points as they've been rather vague in prior meetings ....saying only that they'd be similar to other subdivisions (i.e. Wakefield Forest) being built. We do not want cookie cutter tract homes in this special part of Wildwood.
Respectfully,
Dennis Church

On Thursday, October 13, 2016, Travis Newberry <travis@cityofwildwood.com> wrote:

Good Afternoon,

Over the course of the last several months, you have participated in many of the meetings relating to **P.Z. 6-16 Auburn Ridge c/o Fischer and Frichtel**. This petition was scheduled for further discussion at the Commission's upcoming meeting on October 17, 2016. The petitioner has requested more time and is seeking a postponement of the matter from this upcoming Monday night. Given this request for postponement was received prior to the end of business day on the Thursday, before the scheduled meeting date, Commission policy is to grant the request. Therefore, this matter will be discussed at the October 17, 2016, but only to consider continuing the postponement to November 7, 2016. Please forward this e-mail on to any other neighbors who might have been planning on attending this meeting. The Department would appreciate it very much.

If you should have any questions regarding this postponement, please contact the Department of Planning at (636) 458-0440. Thank you again.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Friday, October 07, 2016 8:28 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Categories: Red Category

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	3 acre minimum means 3 acre minimum per lot period. Clustet homes are out of character for the area. The 3 acre minimum lot size assumes that in addition to the minimum lot size there will also be undeveloped land as an additional buffer. If the parcel of land is 40% unbuildable that is the builders issue not the surrounding resident's concern.
Suggestions	Reject all higher density housing requests And cluster home projects
	(Section Break)
Name	Bart collida
Address	828 st paul rd
City	Wildwood
State	Mo
Zip	63021
Phone Number	636 391 0220

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Friday, October 07, 2016 10:48 AM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	*Field not completed.*
Suggestions	3 acre home sites only. Preserve the values & principles upon which our city was conceived.
	(Section Break)
Name	Theresa Strong
Address	1412 Mayapple Trail
City	Glencoe
State	MO
Zip	63038
Phone Number	314-496-1104
Email	theresa.a.strong@gmail.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Thursday, October 06, 2016 5:11 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	Do not allow less than three acre lots outside of Town Center. We moved to Wildwood for the larger acreages and elbow room. Do not allow this development.
Suggestions	Make sure lots are 3 acres or more.
	(Section Break)
Name	Dan Daugherty
Address	1448 Palisades Rd.
City	Wildwood
State	Missouri
Zip	63021
Phone Number	6365273456
Email	daughertydj@yahoo.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: Church, Dennis O. <Dennis.Church3@va.gov>
Sent: Tuesday, October 04, 2016 3:15 PM
To: Joe Vujnich
Cc: Travis Newberry
Subject: RE: auburn ridge

Thanks much for the prompt response. Those of us who live in the area feel very strongly that lots should be a minimum of 3 acres in this proposed development.
Dennis

From: Joe Vujnich [mailto:JVujnich@cityofwildwood.com]
Sent: Tuesday, October 04, 2016 1:04 PM
To: Church, Dennis O.
Cc: Travis Newberry
Subject: [EXTERNAL] Re: auburn ridge

Mr. Church:

The matter was postponed to the October 17, 2016 meeting, after significant discussion upon it.

It is important to note a motion was made and seconded to approved the PRD for 24 lots, but the postponement request ensued, which closed discussion.

Thank you for your inquiry.

Joe Vujnich

> On Oct 4, 2016, at 3:01 PM, Church, Dennis O. <Dennis.Church3@va.gov> wrote:
>
> HI Joe and Travis--
> I'm wondering if you have any information on the status of the Auburn Ridge proposal. I believe the P&Z committee was voting on it last night but I wasn't able to attend the meeting.
> Regards-
> Dennis Church
> 1453 Ridge Rd
> 636-399-2500

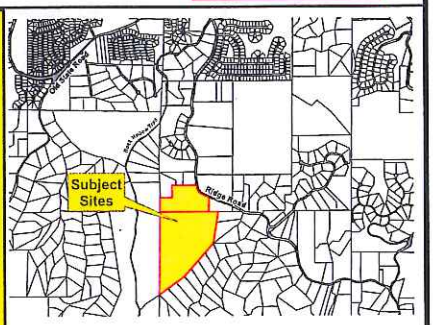
WILDWOOD

16860 Main Street
Wildwood, MO 63040

CITY OF WILDWOOD
NOTICE OF
PUBLIC MEETING
before the Planning and Zoning Commission
Monday, October 3, 2016, at 6:30 p.m.

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 3,000 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.**



Street Addresses of Subject Site:
1115 Ridge Road and 1513 Windwood Hills Drive

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

PLEASE NOTE, STARTING
TUESDAY, SEPTEMBER 6, 2016,
THE PLANNING AND ZONING COMMISSION MEETINGS WILL BEGIN AT
6:30 P.M.

Listed below is a request that was presented to the Planning and Zoning Commission at a public hearing that was held on August 1, 2016. You and many of your neighbors may have expressed interest in the outcome of this matter and the Commission is scheduled to hear/act upon the Department of Planning's report upon this item at its upcoming meeting. If inclined, the Commission encourages you to attend this meeting and participate in its discussion. The meeting will be held on **Monday, October 3, 2016, 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:

P.Z. 6-16 Auburn Ridge, Fischer and Frichtel Custom Homes, 695 Trade Center Boulevard, Chesterfield, Missouri, 63005 – A request for the application of a Planned Residential Development Overlay District (PRD) within the NU Non-Urban Residence District for a 81.4 acre tract of land that is located on the southwest side of Ridge Road, south of Lack Ridge Road (Locator Number: 25U330010 and 25U310023/Street Addresses: 1115 Ridge Road and 1513 Windwood Hills Drive). **Proposed Use: A revised total of twenty-four (24) individual lots, with common ground, and required public space areas. The proposed number of lots had previously been reduced from twenty-seven (27) to twenty-five (25) in total. (Ward Six)**

PLEASE NOTE, STARTING **SEPTEMBER 6, 2016** , THE PLANNING AND ZONING COMMISSION MEETINGS WILL BEGIN AT **6:30 P.M.**

***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.

Travis Newberry

From: Larry Miner <bubbaqminer@yahoo.com>
Sent: Friday, September 30, 2016 9:25 AM
To: Travis Newberry
Cc: Jim Bowlin; Joe Vujnich; 'R. Jon Bopp'; 'Becker, Bob & Carol'; 'Bill & Karin Stawiarski'; 'Bob & Marilyn Snyders'; 'Brubach, Dave & Renee'; 'David E & Tammy Y Dowell'; 'Early, Don & Linda'; 'Eric J & Lisa M LaBarge'; 'Gerald & Linda Halbrook Sexauer'; 'Gray, Wendy'; 'Halley, Geoffrey & Sylvia'; 'Hockenbury, Don & Barb'; 'James A & Paulette R Winkelmann'; 'Jones, Robert & Thelma'; 'Kiger, Greg & Cheryl'; Travis Newberry; 'Kris & Patricia Sachtleben'; 'LaClair, John & Cynthia'; 'Majeski, Deanna'; 'Mark & Bonnie Stevenson Duitsman'; 'Mark & Mary Gebhart'; 'Michael J Gudeman'; 'Milles, Larry & Lynette'; 'Moll, Jane Klein'; 'Mutrux, Max & Jill Wagenknecht'; 'Nuetzel, Bill & Judy'; 'Paul & Celeste Banta'; 'Price, Larry & Joan'; 'Reuben Rigel'; 'Sites, Randy & Jane'; 'Smith, Jerry & Lois'; 'Stapf, Julia A'; 'Thomley, Mark'; 'Veth, John & Jackie'; 'William & Ann Stremme McQullen'; 'Ashley Krueger'; 'Dave Helfrich'; 'Susan Prosperi'; 'Ben Bracken'; 'Berryl F. Bader Sr.'; 'Charles T. Koenig'; 'Dennis Church'; Greg Alexander; 'Harry Billiot'; Jerry Porter; 'John P. Miller'; 'Pat McManemy'; 'Richard Schneider'; 'Sarah Bracken'; 'Nedra Klohr, I. C. E.'; Larry Goodson; dself@earthlink.net; 'Dean Klohr'; sbowess@aol.com
Subject: Auburn Ridge P.Z. 6- 16 Proposal

Travis,
As a resident before Wildwood existed, I wrote previously about my objections with going forward with the Auburn Ridge Proposal. Unfortunately, I will be on vacation and unable to attend Monday's meeting where this proposal will again be discussed.
I have one question that I would like discussed in my absence:
"Given that none of the surrounding neighbors want this proposal to be approved, what inspires you to irresponsibly ignore the community's rejection of this proposal, ignore the City of Wildwood's Master Plan, and arbitrarily override the Planning and Zoning Ordinances? Is this the New and Improved Wildwood where you bend or ignore the rules anytime you choose to despite what the residents want?
Larry Miner
1556 Wolf Trail Road

From: Don Self [mailto:dself@earthlink.net]
Sent: Saturday, September 24, 2016 6:11 AM
To: Dean Klohr; Travis Newberry

Travis, et al.

As a fairly new Wildwood homeowner, I agree with the comments of my neighbors. I would also like to add that the
P&Z Committee is messing with the foundation that has made Wildwood such a great place to live. I am sure you are
aware of the city's national stature, but for anyone that does not realize what we have here, visit this link:

http://www.missouripartnership.com/Sites-Incentives-Data/Data-Center/Industry-Insight-Blog/itemid/2508/amid/717/eight-missouri-cities-rank-among-the-best-small-cities-in-america

I have not seen any comments in support of the proposal to violate the 3 acre rule, except from those that stand to gain
financially from the variance. If you ask for input, and all of the affected residents are against the proposed action, how
can you justify going forward? You are treading on a slippery slope that will set a troubling precedent for future activity.
Put me down for a solid "no" vote.

Don Self
1362 Bear Canyon Rd

On 9/23/2016 12:38 PM, Dean Klohr wrote:

> Travis,
> Please pass my email on to the Planning and Zoning Committee Members.and Joe Vujunic in particular.
> Thank you.
>
> As a retired business person, my question to the P&Z Committee is, what is the **objective** of Wildwood and the Planned Residential Development Overlay District, is it to increase the population of Wildwood, to increase the tax revenue, to keep developers happy or what?
>
> Maybe, if I understood what the **objective** is, it would make sense to me why we want to cram housing into the Non-Urban Residence District in what seems to me is a violation of the the basic founding idea behind the incorporation of Wildwood. Why not just require 3 acre lots?
>
> I struggle with why those of us who built out here, followed the 3 acre rule, spent extra monies to build retaining walls and to maintain the trees on our slopped lots, did it. Ed Holthaus could have just bulldozed down the ridge tops and cleared the trees to make it less expensive for us to build..
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> I don't see the Quail Hollow PRD development as being a justification to do more of the "same." I believe at least one Quail Ridge resident has even come out against Auburn Ridge. What will be next, the property on the east side of Ridge Road?
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> At the second meeting on September 19, there was included "a public space dedication to the City of Wildwood to provide access through the site to the Rock Hollow Valley." Will parking spaces be provided for automobiles and bicycles?, Being a little facetious maybe a pavilion and BBQ pits for city dwellers?
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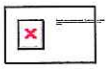
> Joe Vujunic,
> I was personally taken back by your presentation as an employee of Wildwood and we citizens, at the September 19 meeting.
> Your eloquent presentation sounded like you were an employee of Fischer and Frichtel instead of Wildwood. A retired cardiac surgeon neighbor sitting next to me, who missed the initial meeting and did not who you are or your position, leaned over to me and asked if you were the Fischer and Frichtel representative. Since then one other neighbor and an email contact, who was present asked, why you wanted to favor Fischer and Frichtel instead of Wildwood or at least make a neutral presentation.
> Maybe if I understand the **objective** I will understand your presentation.

--

Dean H. Klohr, P.E.



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Travis Newberry

From: Greg Kiger <greg@oncefilms.com>
Sent: Friday, September 30, 2016 7:42 AM
To: John P. Miller
Cc: Jim Bowlin; Travis Newberry; Joe Vujnich; Richard Schneider; Larry Goodson; Phil Dario; Tom Eisenbies; Jerry Porter; Miller Bari; Joe Garritano; Greg Alexander
Subject: Re: Auburn Ridge

Excellent points John.

Wildwood is at a crossroads and rules or lack thereof regarding PRDs in NU areas need to be reexamined and codified. Allowing each developer to cut their best deal with Dept of Planning is a recipe for losing the Wildwood we love.

Can we put a hold on PRDs and have that discussion / process? Maybe spearheaded by a citizens committee? I know so many residents are who like John are reasonable and interested in the fate of our community…

Long may you run,

Greg Kiger

636-207-8000

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www.what2eat.TV

> On Sep 29, 2016, at 8:20 PM, John P. Miller <John.Miller@kpff.com> wrote:
>
> Hi Jim:
>
> I just received a notice in the mail this evening about another public meeting for Monday Oct 3 regarding the subject proposed development. Due to short notice I cannot attend, so I thought I'd share a few of my additional comments with you via email.
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> I urge the commission to insist on the following before approving this development:
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> 1. Limit the minimum lot size to 3 acres. No exceptions.

2. Obtain a clear explanation and understanding of the clearing limits, set backs, and preservation line, especially as it pertains to the roadway construction. The fear is that a large swath of the ridge tops will be plowed flat and giant homes will be constructed, ruining the views of all of the homes on the surrounding ridges whose homes blend in rather than stick out.

3. Require a tree clearing plan for each lot to be submitted with every individual building permit application. This plan should establish up front tree clearing limits around the home, grading restrictions such as a maximum height of a retaining wall, maximum height of the ridge line, etc. See #2 above.

4. Require a minimum distance between houses of say 100 feet or more.

5. Require a clear plan on how storm water will be handled and how water quality will be maintained per MSD requirements.

6. Require a traffic study to be performed for Ridge Road, Old State Road, and the intersection of Ridge and Old State. Safety and traffic congestion is already a big problem.

7. Require a legacy tree inventory and preservation plan.

8. Require a tasteful landscape treatment of the entry to blend in with the character of the surrounding area.

I'm sure I can think of a couple more, but we residents have probably already mentioned them.

I really appreciate your support of the residents who are opposed to this development, and the other council persons who are also in our camp. I know this site will be developed some day, by some developer, but let's make sure it is done is a way that enhances Wildwood's image and brand, rather than creating something out of character. This holds true for the many large tracts ripe for similar developments.

Going forward, I believe the PRD should be overhauled completely, and it should not be so ambiguous or developer-friendly, or subject to interpretation. This is probably easier said than done, as evidenced by the controversy over whether this particular development meets the PRD or not.

It seems very obvious to me that essentially everyone who lives around this development who cares about Wildwood opposes it, and I hope you and the City Council will reject it in its current state and require the above stipulations as a minimum.

Thank you for listening.

John P. Miller, PE, SE
KPFF
16202 Thornberry Ridge Lane

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Hopefully over the next few years changes will come about, from the top down all the way to municipal government, and we move back to where citizens speak and elected officials listen. Going on being around for soon to be 80 years, I know old habits die hard, but if the likes of you and many others in Western Wildwood will continue your efforts, we will prevail.

Jerry W Porter
Ward 6 Councilman

Sent from my iPad

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> Travis, et al.
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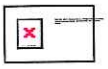
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Cc: Travis Newberry; Joe Vujnich; Kiger, Greg & Cheryl; Richard Schneider; Larry Goodson; Phil Dario; Tom Eisenbeis; Jerry Porter; Bari Miller; Joe Garritano; Greg Alexander
Subject: Re: Auburn Ridge

John:

Thank you for your email and thoughts. You make many good points.

Jim

James R. Bowlin
Mayor
City of Wildwood
636-458-0440, ext. 300
www.cityofwildwood.com

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Maybe, if I understood what the **objective** is, it would make sense to me why we want to cram housing into the Non-Urban Residence District in what seems to me is a violation of the the basic founding idea behind the incorporation of Wildwood. Why not just require 3 acre lots?

I struggle with why those of us who built out here, followed the 3 acre rule, spent extra monies to build

retaining walls and to maintain the trees on our slopped lots, did it. Ed Holthaus could have just bulldozed down the ridge tops and cleared the trees to make it less expensive for us to build..

I don't see the Quail Hollow PRD development as being a justification to do more of the "same." I believe at least one Quail Ridge resident has even come out against Auburn Ridge. What will be next, the property on the east side of Ridge Road?

At the second meeting on September 19, there was included "a public space dedication to the City of Wildwood to provide access through the site to the Rock Hollow Valley." Will parking spaces be provided for automobiles and bicycles?, Being a little facetious maybe a pavilion and BBQ pits for city dwellers?

Joe Vujunic,
I was personally taken back by your presentation as an employee of Wildwood and we citizens, at the September 19 meeting.
Your eloquent presentation sounded like you were an employee of Fischer and Frichtel instead of Wildwood. A retired cardiac surgeon neighbor sitting next to me, who missed the initial meeting and did not who you are or your position, leaned over to me and asked if you were the Fischer and Frichtel representative. Since then one other neighbor and an email contact, who was present asked, why you wanted to favor Fischer and Frichtel instead of Wildwood or at least make a neutral presentation.
Maybe if I understand the **objective** I will understand your presentation.

--
Dean H. Klohr, P.E.

Virus-free. www.avast.com

Travis Newberry

From: Jerry Porter
Sent: Sunday, September 25, 2016 1:08 PM
To: dself@earthlink.net
Cc: Dean Klohr; Travis Newberry; Jim Bowlin; Joe Vujnich; R. Jon Bopp; Becker, Bob & Carol; Bill & Karin Stawiarski; Bob & Marilyn Snyders; Brubach, Dave & Renee; David E & Tammy Y Dowell; Early, Don & Linda; Eric J & Lisa M LaBarge; Gerald & Linda Halbrook Sexauer; Gray, Wendy; Halley, Geoffrey & Sylvia; Hockenbury, Don & Barb; James A & Paulette R Winkelmann; Jones, Robert & Thelma; Kiger, Greg & Cheryl; Kris & Patricia Sachtleben; LaClair, John & Cynthia; Majeski, Deanna; Mark & Bonnie Stevenson Duitsman; Mark & Mary Gebhart; Michael J Gudeman; Milles, Larry & Lynette; Miner, Larry & Debbie; Moll, Jane Klein; Mutrux, Max & Jill Wagenknecht; Nuetzel, Bill & Judy; Paul & Celeste Banta; Price, Larry & Joan; Reuben Rigel; Sites, Randy & Jane; Smith, Jerry & Lois; Stapf, Julia A; Thomley, Mark; Veth, John & Jackie; William & Ann Stremme McQullen; Ashley Krueger; Dave Helfrich; Susan Prosperi; Ben Bracken; Berryl F. Bader Sr.; Charles T. Koenig; Dennis Church; Greg Alexander; Harry Billiot; John P. Miller; Pat McManemy; Richard Schneider; Sarah Bracken; Nedra Klohr, I. C. E.; Larry Goodson
Subject: Re: Auburn Ridge P.Z. 6- 16 Proposal

Don, thanks for your coming out verbally with your comments to the "powers to be" at city hall. Hopefully, it will make my job as Ward 6 councilman more understanding as I try to convince the majority of the 75 percent of my peers that those 8000 to 10, 000 of us residents living west of 109 don't want to live on top of each other. That we didn't move out here, before and after Wildwood was born, to live in another Webster Groves, Kirkwood, Manchester, etc.

Hopefully over the next few years changes will come about, from the top down all the way to municipal government, and we move back to where citizens speak and elected officials listen. Going on being around for soon to be 80 years, I know old habits die hard, but if the likes of you and many others in Western Wildwood will continue your efforts, we will prevail.

Jerry W Porter
Ward 6 Councilman

Sent from my iPad

On Sep 24, 2016, at 6:14 AM, Don Self <dself@earthlink.net> wrote:

> Travis, et al.
>
> As a fairly new Wildwood homeowner, I agree with the comments of my neighbors. I would also like to add that the
> P&Z Committee is messing with the foundation that has made Wildwood such a great place to live. I am sure you are
> aware of the city's national stature, but for anyone that does not realize what we have here, visit this link:
>
> http://www.missouripartnership.com/Sites-Incentives-Data/Data-Center/Industry-Insight-Blog/itemid/2508/amid/717/eight-missouri-cities-rank-among-the-best-small-cities-in-america

I have not seen any comments in support of the proposal to violate the 3 acre rule, except from those that stand to gain
financially from the variance. If you ask for input, and all of the affected residents are against the proposed action, how
can you justify going forward? You are treading on a slippery slope that will set a troubling precedent for future activity.
Put me down for a solid "no" vote.

Don Self
1362 Bear Canyon Rd

On 9/23/2016 12:38 PM, Dean Klohr wrote:

> Travis,
> Please pass my email on to the Planning and Zoning Committee Members.and Joe Vujunic in particular.
> Thank you.
>
> As a retired business person, my question to the P&Z Committee is, what is the **objective** of Wildwood and the Planned Residential Development Overlay District, is it to increase the population of Wildwood, to increase the tax revenue, to keep developers happy or what?
>
> Maybe, if I understood what the **objective** is, it would make sense to me why we want to cram housing into the Non-Urban Residence District in what seems to me is a violation of the the basic founding idea behind the incorporation of Wildwood. Why not just require 3 acre lots?
>
> I struggle with why those of us who built out here, followed the 3 acre rule, spent extra monies to build retaining walls and to maintain the trees on our slopped lots, did it. Ed Holthaus could have just bulldozed down the ridge tops and cleared the trees to make it less expensive for us to build..
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> I don't see the Quail Hollow PRD development as being a justification to do more of the "same." I believe at least one Quail Ridge resident has even come out against Auburn Ridge. What will be next, the property on the east side of Ridge Road?
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> Joe Vujunic,
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Since then one other neighbor and an email contact, who was present asked, why you wanted to favor Fischer and Frichtel instead of Wildwood or at least make a neutral presentation.
Maybe if I understand the **objective** I will understand your presentation.

--
Dean H. Klohr, P.E.

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Travis Newberry

From: Phil Dario <phil@showcaseremodelingstl.com>
Sent: Tuesday, September 27, 2016 7:14 PM
To: sbowess@aol.com; Jerry Porter; Joe Vujnich; Travis Newberry; Jim Bowlin; rbopp@cityofwildwood.com
Subject: RE: P.Z. 6-16 Proposal

As a resident of Wildwood as well, I also concur with Ms Bowess assessment. If for no other reason this "subdivision" does NOT follow the plan for Wildwood, period! This PRD stuff is getting out of control and is being abused

While no one is really expecting the site to go undeveloped, the collective voice you are hearing is build with strong limitations for all the reasons detailed in this email.

It is my understanding that a PRD on Pond and Manchester was rejected and access to that site, etc is far more favorable than Auburn Ridge

Auburn Ridge should have a maximum of 12-15 homes located on this land

If you want to see how a development in Wildwood should and needs to look, go two block over and observe the Windwood Hills " subdivision". Plenty of setback, abundant amount of timber left. It's very apparent the developer(and the city council) had respect for the residents and the land

Phil and Ivy Dario

From: sbowess@aol.com [mailto:sbowess@aol.com]
Sent: Tuesday, September 27, 2016 6:41 PM
To: JPorter@cityofwildwood.com; JVujnich@cityofwildwood.com; travis@cityofwildwood.com; JBowlin@cityofwildwood.com; rbopp@cityofwildwood.com
Subject: P.Z. 6-16 Proposal

As a resident of Wildwood for close to 17 years now, I am writing to strongly voice my OPPOSITION to the proposed subdivision Auburn Ridge Rd. P.Z. 6-16 proposal. From my understanding the proposal does NOT follow the footprint planned for Wildwood. I have been getting emails all week from neighbors and fellow Wildwood residents contacting me with their concerns about this. I believe Wildwood has bymade a principle of listening to its residents when it comes to changing any part of the master plan and I believe residents are loudly declaring displeasure with this plan. The plan to clear cut the lot does NOT fit in with Wildwood's policy of conservation and preservation. Neither does the plan to allow ANY lots sizes below the 3 acres required by zoning code. How many residents are you waiting for to come forward? Is there a magic number?

I have concerns about the houses being close to the road. I think they need to follow the rule of being 50 feet back from the road.

I also have concerns about the increase in traffic on Old State. In the years I have lived here, traffic has increased a great deal. I often have to wait quite a while now to turn onto Old State. Has anyone done studies of what the increase in traffic? I regularly see more accidents on Old State than I used to and I have grave concerns about the safety of that road with more traffic being added.

My own home is across the ridge from the site. My husband and I have invested a great deal in our property in the last three years because we love the area and our neighborhood. We bought our home here knowing it needed work because we loved the beauty of the area and towns commitment to conservation. I come from a town in Ohio that committed to a

two acre minimum and in spite of my parents buying their home there in the 1950's, property values had remained high and the area had maintained its low crime rates because of that commitment. I, in turn, bought my first house there in mid 1990's. I believed our investment here in Wildwood to be prudent because of your stated commitment. Why would you consider making such a big change to that plan? If you do so, not only are you setting a precedent that I believe will, in the long run, devalue all the homes in Wildwood, but it will more quickly affect my own property value by marring my beautiful view.

Currently I look on a lovely wooded ridge. I can see for miles. All the homes are nestled in the trees and DO NOT affect the view. Clearcutting will ruin the view for many many residents all up and down the valley. With all the work my husband and I have done here we HAVE maintained our own setback of over 50 feet. We have LIMITED the number of trees we have removed and have made sure the work we have done on our home is NOT unsightly to homes across the valley. Our house remains nestled in the trees. We have FOLLOWED THE RULES AND ASK OTHERS BE HELD TO THOSE SAME RULES!

As a mother with new drivers, a resident whose view will be decimated, and a resident who is very concerned about maintaining our property value and the values on which Wildwood itself was founded, I ask you to restrict this subdivision. Please UPHOLD the three acre rule. Please UPHOLD the 50 foot setback. Please STUDY traffic as Ridge Road already gets congested and backs up onto Old State at times due to the traffic from Ridge Meadows and rush hour traffic multiple times a day.

Travis Newberry

From: sbowess@aol.com
Sent: Tuesday, September 27, 2016 9:13 PM
To: Jerry Porter; Joe Vujnich; Travis Newberry; Jim Bowlin; rbopp@cityofwildwood.com
Subject: Re: P.Z. 6-16 Proposal

Sorry. I forgot to sign my email.

Sarah and Ben Bracken
Old State Farms

Sent from my iPhone

On Sep 27, 2016, at 6:40 PM, "sbowess@aol.com" <sbowess@aol.com> wrote:

As a resident of Wildwood for close to 17 years now, I am writing to strongly voice my OPPOSITION to the proposed subdivision Auburn Ridge Rd. P.Z. 6-16 proposal. From my understanding the proposal does NOT follow the footprint planned for Wildwood. I have been getting emails all week from neighbors and fellow Wildwood residents contacting me with their concerns about this. I believe Wildwood has bymade a principle of listening to its residents when it comes to changing any part of the master plan and I believe residents are loudly declaring displeasure with this plan. The plan to clear cut the lot does NOT fit in with Wildwood's policy of conservation and preservation. Neither does the plan to allow ANY lots sizes below the 3 acres required by zoning code. How many residents are you waiting for to come forward? Is there a magic number?

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My own home is across the ridge from the site. My husband and I have invested a great deal in our property in the last three years because we love the area and our neighborhood. We bought our home here knowing it needed work because we loved the beauty of the area and towns commitment to conservation. I come from a town in Ohio that committed to a two acre minimum and in spite of my parents buying their home there in the 1950's, property values had remained high and the area had maintained its low crime rates because of that commitment. I, in turn, bought my first house there in mid 1990's. I believed our investment here in Wildwood to be prudent because of your stated commitment. Why would you consider making such a big change to that plan? If you do so, not only are you setting a precedent that I believe will, in the long run, devalue all the homes in Wildwood, but it will more quickly affect my own property value by marring my beautiful view.

Currently I look on a lovely wooded ridge. I can see for miles. All the homes are nestled in the trees and DO NOT affect the view. Clearcutting will ruin the view for many many residents all up and down the valley. With all the work my husband and I have done here we HAVE maintained our own setback of over 50 feet. We have LIMITED the number of trees we have removed and have made sure the work we have done on our home is NOT unsightly to homes across the valley. Our house remains nestled in the trees. We have FOLLOWED THE RULES AND ASK OTHERS BE HELD TO THOSE SAME RULES!

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setback. Please STUDY traffic as Ridge Road already gets congested and backs up onto Old State at times due to the traffic from Ridge Meadows and rush hour traffic multiple times a day.

Travis Newberry

From: John LaClair <john@bavarianstl.com>
Sent: Tuesday, September 27, 2016 9:45 AM
To: Travis Newberry; Jim Bowlin; Joe Vujnich; Jerry Porter; deanklohr@gmail.com; Greg Alexander; Terri Gaston
Subject: Another Auburn Ridge note

Good day'

Just another plea and view into the result of approving Auburn Ridge as it is.
I bought my lot on Wolf trail 12 years ago with the intent of building my retirement home in the woods.
I am/was about to submit plans to the city for a custom home designed by a noted architect.

The plan you have before you puts no less than 5 homes directly across from my lot.
I bought this thinking maybe 1 or 2 homes would be there someday but this is the worst thing I can think of happening to my dream of getting away to the "protected" Wildwood environment.
What is proposed may nearly conform to the 3 acre rule but it does so at the expense of bringing in a tightly packed subdivision to stain the view of tens of long term residents and 1 newcomer at least.

I would propose/request, if this must happen, decreasing the number of sites and increasing space between them.
The present plan shows 2 or 3 lots at 2 acres. That shouldn't happen. It also shows homes squeezed together ala Ellisville or any of a number of municipalities. That also should be modified.

Please protect the promise of Wildwood and give us all a view we can enjoy in peace.

Thanks for listening
John LaClair
1561 Wolf Trail
(Look at my lot and what I'll be forced to see in the plans. You'll see my very valid complaint)

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Friday, September 16, 2016 2:43 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Categories: Red Category

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	*Field not completed.*
Suggestions	why not restrict these lots to 3 acres as zoned? 25 homes are still too many. What will do to my fabulous view Why not restrict the lots to 3 acres as zoned? 25 homes are still too many. What is going to happen to my fabulous view?
	(Section Break)
Name	Rose Dawson
Address	1136 Ridge Rd.
City	WILD WOOD
State	MO
Zip	63021
Phone Number	636 256 3773
Email	dawsonroseu@gmail.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Saturday, September 17, 2016 4:53 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Categories: Red Category

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	Value of Zoning?
Position on Request	Do Not Support
General Comments	What use is zoning if it can be easily modified? Those of us who built and own homes based on the belief 3 acre lots were the minimum have been duped. What is the next change, change the zoning for High Meadows Farm, then what was the wildlife preserve at about 1025 Ridge Road, then at 1058 Ridge Road, then Ridgefield Stables/Arena? Somewhere a line must be drawn. What is Wildwood's objective, more population, more tax revenue, to be like Ellisville or Ballwin or what Wildwood was founded on two decades ago?
Suggestions	Require 3 minimum acre lots as stated in the Wildwood Master Plan for non-urban areas without non taxed common ground.
	(Section Break)
Name	Dean H. Klohr, PE and Nedra Klohr
Address	1614 Wolf Trail Road
City	Wildwood
State	MO

Zip	63021- 5929
Phone Number	636 227 8202
Email	Deanklohr@gmail.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Sunday, September 18, 2016 7:44 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	*Field not completed.*
Suggestions	Clear-cut should never be allowed! It's one reason we all choose Wildwood. Leave that to Ellisville. Also min 3 acres should be enforced - again, build/buy somewhere else if you can't meet Wilwood standards. We should never have to lower our standards, rather let's have them raise their's in order to be a part of Wildwood!
	(Section Break)
Name	TJ Lindhorst
Address	1407 Bald Eagle Ed
City	Wildwood
State	Mo
Zip	63038
Phone Number	636-230-8158
Email	Tjlindhorst@hotmail.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Sunday, September 18, 2016 7:03 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	We bought our home because we value the privacy and the beautiful woods that the valley behind our home overlooks. We do not want to look on a subdivision that is a scar on the hill and will lower our property value by both marring our view and also increasing the already busy traffic on Old State.
Suggestions	My wife previously owned property in an Ohio town that ensured property values stayed high and that the town stayed a high end one by restricting lot sixes to three acres per home. I suggest you do the same here. Protect the beauty and home values of Wildwood by not allowing another quickly built low quality housing development to change the flavor of the area.
(Section Break)	
Name	Ben Bracken
Address	1430 Bald Eagle Rd.
City	Wildwood
State	MO
Zip	63038

Phone Number	636-527-3320
Email	cayhab@aol.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Sunday, September 18, 2016 6:58 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	I have grave concerns about what this development would mean or traffic on Old State Rd and on Ridge Rd. Both of those roads get very congested and backed up during rush hours and frankly we moved out here close to 17 years ago now to get away from traffic and hectic nature. We loved Wildwood because it was heavily wooded and so close to conveniences but yet remote and private. We want to remain private and we do not want to lose value in our home. We have recently added on and taken pains to make sure we did not create an unsightly view from across the valley.
Suggestions	We feel that restrictions of how many trees can be cut down should be placed on these houses and that for the benefit of traffic and property values from those of us across the valley, that homes should be built on no smaller that 3 acres per house sites so that the houses will not be too close together and the neighborhood won't be clearcut.There is a development that was allowed that is clearcut and it remains a scar on the hillside. When it was built the noise of them banging out the foundations really was noie pollution that echoed through the valley for more than a year. I am concerned that will happen again. Whatever building is allowed here needs to reflect the flavor of the homes in the area. It should be left wooded and the homes should be spaced out.

(Section Break)

Name	Sarah Bracken
Address	1430 Bald Eagle Rd.
City	Wildwood
State	MO
Zip	63038
Phone Number	636-527-3320
Email	sbowess@aol.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Sunday, September 18, 2016 11:16 AM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	The proposed development is not consistent with the city's Master Plan or the intent of the zoning codes. It would represent a negative change to the character of the area. It would also negatively impact the unique topography and viewscape of the area, would introduce traffic safety and congestion problems, and would cause noise and light pollution that is highly inconsistent with the character of the area.
Suggestions	Amend the city's Zoning Regulations, Section 415.090 "NU" Non-Urban Residence District Regulations, to more explicitly prohibit the creation of new individual residential lots of less than 3 acres. Specifically prohibit the application of "averaging" methods when determining lot size.
	(Section Break)
Name	Rick and Christy Hoppe
Address	1469 Ridgetree Trails Dr
City	Wildwood
State	Missouri (MO)
Zip	63021

Phone Number	314-795-7738
Email	rrick571@hotmail.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Friday, September 16, 2016 5:54 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	With the reduction in lots from 27 to 25 there is still the potential for 50 to 75 additional vehicles using Ridge Rd. on a daily basis. I would like to know who wouild be responsible for infrastructure improvements to Ridge Rd. that would include road maintenance, the addition of a 3 way traffic signal at the intersection of Ridge Rd. and Old State Rd., and the installation of barriers in front of at least 3 utility poles along Ridge Rd.hat have been hit and have caused 7 hour power outages twice within the last 2 years. I would also like to know if feasibility studies have been completed by MSD and Missouri American Water to determine if they can provide the necessary sewer and water services for the proposed lots without causing problems for these services to the existing homes and subdivision in this area. I would like to know who is responsible for the above infrastructure improvements and when would they be done.
Suggestions	The number of lots should be reduced substantially to a maximum of 10 in order to reduce additional traffic on Ridge Rd.,and only on the condition that the above infrastructure improvements and feasibility studies by MSD and Missouri American Water for sewer and water services will be acceptable for the existing homes and subdivision in this area.

(Section Break)

Name	Charles T. Koenig
Address	1530 Quail Hollow Ct.
City	Wildwood
State	MO
Zip	63021
Phone Number	636-227-5390
Email	c.koenig@sbcglobal.net

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, September 19, 2016 10:21 AM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	Reducing the number of homes by 2 and slightly increasing the size of the lots to still be under 3 acres does not conform to the Wildwood Master Plan.
Suggestions	Follow the master plan. If not now, when? There is no reason for the master plan if no on ever follows it.
(Section Break)	
Name	Mark Thomley
Address	1573 Wolf Trail Road
City	Wildwood
State	MO
Zip	63021
Phone Number	6362273860
Email	MarkThomley@computrolllc.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, September 19, 2016 10:43 AM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	Disapproval of Zoning
Position on Request	Do Not Support
General Comments	Proposed subdivision Auburn Ridge off of Ridge Road needs to comply with the already established 3 acre zoning law that we have had to abide by for over 30 years. Each lot in Wildwood needs to have at least 3 acres in order to build a home on it. This is what has made Wildwood so desirable over the years. Keep the lots to a minimum of 3 acres.
Suggestions	Require 3 minimum acre lots as stated in the Wildwood Master Plan for non-urban areas without non taxed common ground.

(Section Break)

Name	Karin Stawiarski
Address	1626 Wolf Trail Road
City	Wildwood
State	MO
Zip	63021
Phone Number	314-307-0670
Email	chskarin@yahoo.com

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, September 19, 2016 10:59 AM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	I have lived in Wildwood (Bear Canyon Rd.) for 25 years and do not support the development of Auburn Ridge as proposed. Wildwood was formed specifically to prevent the development of subdivisions such as this and so please do not go back on what you promised.... and what we voted on! The master plan was written for a reason and we live (and built) where we are specifically because we wanted the natural beauty as it is. This is an opportunity to hold true to that plan and we are depending on you (the p&z committee) to represent the people of wildwood and not those who want to profit from a vacant piece of land. I appreciate that the builder was willing to submit a revised plan, but please hold true to our charter and make them revise further to get closer to what the area is supposed to have. Lots should not be less than 3 ac each. Thank you.
Suggestions	*Field not completed.*
	(Section Break)
Name	Julie Stapf
Address	1350 Bear Canyon Road
City	Wildwood

State	MO
Zip	63021
Phone Number	314-704-7441
Email	jstapf@armstrongteasdale.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, September 19, 2016 11:43 AM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	development
Position on Request	Do Not Support
General Comments	Rules are rules. NO clear cutting allowed in Wildwood. We all moved out here for the serenity. This development would severely alter our serenity and home values if taken away. Clear restrictions and penalties on tree removal should be enforced and each house should sit on 3 acres. Tell them that failing to follow those restrictions will affect the views and property values of homes in this subdivision.
Suggestions	DENY this project in full. Have officials stop by my home to see for them selves what this would do to our views.You cannot tell or make a proper assessment unless you do. Paperwork and maps don't tell the story. Please call me for an appointment.
	(Section Break)
Name	Dave Helfrich
Address	1438 Bald Eagle Rd
City	Wildwood
State	MO
Zip	63038

Phone Number	3146237883
Email	davestuff1@gmail.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, September 19, 2016 4:08 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	I am not in favor of site development with lot sizes of less than three acres. The recent (several years ago) development on Ridge Road is an eyesore. If the parcels could be developed into minimum three acre lots like those adjacent then there is no good reason to change. These were built 30 years ago so I am sure a motivated builder could do the same today. I am not opposed to developing this land, but the proposed plan with the smaller lots is in direct conflict with the original intent of Wildwood non urban areas. Ridge Road also already backs up to Old State Road during the school year. Is the developer going to support all the additional infrastructure required on Ridge Road and Old State Road or will that be picked up by Wildwood?
Suggestions	Consider development that maintains a minimum of three acres per lot like adjoining developments.
	(Section Break)
Name	Ben Young
Address	1403 Bald Eagle Road
City	Wildwood

State	MO
Zip	63038
Phone Number	314-406-2612
Email	byoung@youngsolutions.net

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, September 19, 2016 2:57 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	Spot zoning and non conforming to the non urban master plan. Too many mature trees will be removed to allow the density as proposed. Does the P&Z committee really believe that a reduction of only two homes a significant change and improvement to the original proposal?!
Suggestions	Less dwellings....3 acer minimum lots as per the masterplan
	(Section Break)
Name	Mark Duitsman
Address	1602 Wolf Trail Road
City	Wildwood
State	Missouri
Zip	63021-5929
Phone Number	314-712-0655
Email	mdduitsman9@gmail .com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, September 19, 2016 3:03 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	No clear cut development should be allowed.
Suggestions	Clearing restrictions and penalties on tree removal should be enforced and each house should sit on 3 acres. Failure to follow those restrictions will affect the views and property values of homes in the Old State Farms subdivision at Old State and Eagle Ridge roads. A clear cut development in this location diminishes the Wildwood mission statement promoting a quality of life based upon careful stewardship of the magnificent natural environment, and ensuring that this legacy is passed on to future generations as a result of planned, responsible, sustainable growth.
(Section Break)	
Name	Vince Prosperi
Address	1428 Bald Eagle Rd
City	Wildwood
State	MO
Zip	63038

Phone Number	6362369666
Email	vprosperi@gmail.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, September 19, 2016 12:36 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	25 home revised plan for large acreage between Bear Canyon/Ridge and Whittsetts Fk
Position on Request	Do Not Support
General Comments	We lived in Wildwood for 17 years, loving the idea of a planned community which would protect the areas zoned 3-5 acres. We eventually down sized and in the year we rented a home in Chesterfield while home searching, we were miserable. Just riding on Old State Rd. could get me choked up that year, missing Wildwood. Now we love our woodsy home on Wolf Trail Rd. and are very saddened to see Ridge Rd. moving towards looking like Ballwin. Please stick with the excellent ideas behind this planned community. Do not clear cut any area and please do not put homes on less than 3 acres in the places designated for more rural feel development.
Suggestions	Larger lots and developments that attempt to preserve as much of the natural landscape as possible.
	(Section Break)
Name	James and Paulette Winkelmann
Address	1504 Wolf Trail Rd.
City	Wildwood

State	MO
Zip	63021
Phone Number	636 220 8484
Email	winkwoods@charter.net

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, September 19, 2016 12:49 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	Allowing this development to move forward sends a clear message to developers that "anything goes" in the City of Wildwood. I should have saved myself some money and just moved to Chesterfield, because Wildwood is going to look like all of the cookie cutter subdivisions in Chesterfield, Ballwin and the rest of St. Louis County. Next the developers are going to want all of the unused property condemned so that they can take it by eminent domain. Where does it stop? I urge you to please not allow this subdivision to go through.
Suggestions	Force the lot sizes to be at least 3 acres just like most of the subdivisions around this suggested development
	(Section Break)
Name	Mary Gebhart
Address	1645 Wolf Trail Road
City	Wildwood
State	Missouri
Zip	63021

Phone Number	3147992921
Email	Gebhart5629@gmail.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, September 19, 2016 9:23 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	Value of Zoning?
Position on Request	Do Not Support
General Comments	What use is zoning if it can be easily modified? Those of us who built our homes on the belief that 3 acre lots were the minimum have been duped. What changes are in store, zoning of High Meadows Farm, the Wildlife Preserve o Ridge Rd., Ridgefield Stables, etc.... until we are like Ellisville and Ballwin????This needs to stop now. What is Wildwood's objective? (more population, more taxes? What about the concept Wildwood was founded on two decades ago?
Suggestions	require 3 minimum acre lots as stated in Wildwood Master Plan for non-urban areas without not-taxed common ground.
	(Section Break)
Name	Gerald Sexauer
Address	1343 Bear Canyon Rd.
City	Wildwood
State	Mo.
Zip	63021
Phone Number	636-386-0051

Email gerald2527@sbcglobal.net

Email not displaying correctly? View it in your browser.

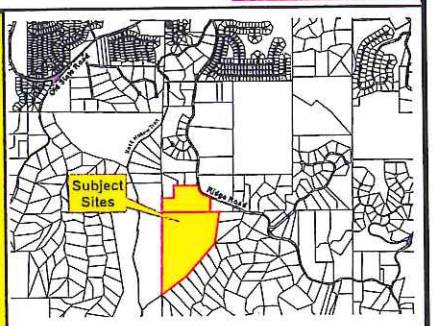
WILDWOOD

16860 Main Street
Wildwood, MO 63040

CITY OF WILDWOOD
NOTICE OF
PUBLIC MEETING
before the Planning and Zoning Commission
Monday, September 19, 2016, at 6:30 p.m.

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 3,000 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.



Street Addresses of Subject Site:
1115 Ridge Road and 1513 Windwood Hills Drive

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

PLEASE NOTE, STARTING
TUESDAY, SEPTEMBER 6, 2016,
THE PLANNING AND ZONING COMMISSION MEETINGS WILL BEGIN AT
6:30 P.M.

Listed below is a request that was presented to the Planning and Zoning Commission at a public hearing that was held on August 1, 2016. You and many of your neighbors may have expressed interest in the outcome of this matter and the Commission is scheduled to hear/act upon the Department of Planning's report upon this item at its upcoming meeting. If inclined, the Commission encourages you to attend this meeting and participate in its discussion. The meeting will be held on **Monday, September 19, 2016, 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:

P.Z. 6-16 Auburn Ridge, Fischer and Frichtel Custom Homes, 695 Trade Center Boulevard, Chesterfield, Missouri, 63005 – A request for the application of a Planned Residential Development Overlay District (PRD) within the NU Non-Urban Residence District for a 81.4 acre tract of land that is located on the southwest side of Ridge Road, south of Lack Ridge Road (Locator Number: 25U330010 and 25U310023/Street Addresses: 1115 Ridge Road and 1513 Windwood Hills Drive). **Proposed Use: A total of twenty-five (25) individual lots, with common ground, and required public space areas. The proposed number of lots was previously twenty-seven (27) in total. (Ward Six)**

PLEASE NOTE, STARTING **SEPTEMBER 6, 2016**, THE PLANNING AND ZONING COMMISSION MEETINGS WILL BEGIN AT **6:30 P.M.**

***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.

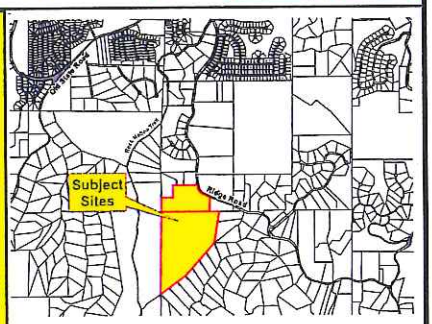
WILDWOOD

16860 Main Street
Wildwood, MO 63040

CITY OF WILDWOOD
NOTICE OF
PUBLIC MEETING
before the Planning and Zoning Commission
Tuesday, September 6, 2016, at 6:30 p.m.

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 3,000 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.**



Street Addresses of Subject Site:
1115 Ridge Road and 1513 Windwood Hills Drive

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

PLEASE NOTE, STARTING
TUESDAY, SEPTEMBER 6, 2016,
THE PLANNING AND ZONING COMMISSION MEETINGS WILL BEGIN AT
6:30 P.M.

POSTPONED

Listed below is a request that was presented to the Planning and Zoning Commission at a public hearing held on August 1, 2016. You and many of your neighbors may have expressed interest in the outcome of this matter and the Commission was scheduled to take action upon this item at its upcoming meeting. The meeting was to be held on **Tuesday, September 6, 2016, at 6:30 p.m.**, in the City Hall Council Chambers, 16860 Main Street, Wildwood, Missouri 63040. The specific request under consideration was as follows:

P.Z. 6-16 Auburn Ridge, Fischer and Frichtel Custom Homes, 695 Trade Center Boulevard, Chesterfield, Missouri, 63005 – A request for the application of a Planned Residential Development Overlay District (PRD) within the NU Non-Urban Residence District for a 81.4 acre tract of land that is located on the southwest side of Ridge Road, south of Lack Ridge Road (Locator Number: 25U330010 and 25U310023/Street Addresses: 1115 Ridge Road and 1513 Windwood Hills Drive). **Proposed Use: A total of twenty-seven (27) individual lots, with common ground, and required public space areas. (Ward Six) - THE PETITIONER IS POSTPONING THIS ITEM IN ORDER TO CONDUCT FURTHER SITE ANALYSIS AND ADDRESS COMMENTS HEARD AT THE AUGUST 1, 2016, PUBLIC HEARING.**

PLEASE NOTE, STARTING **SEPTEMBER 6, 2016**, THE PLANNING AND ZONING COMMISSION MEETINGS WILL BEGIN AT **6:30 P.M.**

***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.

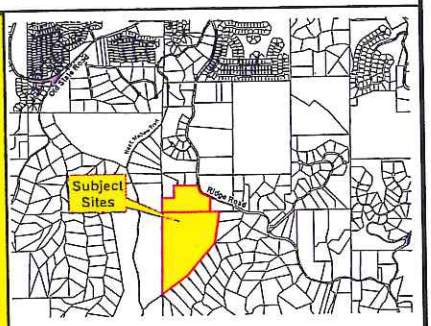
WILDWOOD

16860 Main Street
Wildwood, MO 63040

CITY OF WILDWOOD
NOTICE OF
PUBLIC MEETING
before the Planning and Zoning Commission
Tuesday, September 6, 2016, at 6:30 p.m.

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 3,000 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.



Street Addresses of Subject Site:
1115 Ridge Road and 1513 Windwood Hills Drive

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

PLEASE NOTE, STARTING
TUESDAY, SEPTEMBER 6, 2016,
THE PLANNING AND ZONING COMMISSION MEETINGS WILL BEGIN AT
6:30 P.M.

Listed below is a request that was presented to the Planning and Zoning Commission at a public hearing held on August 1, 2016. You and many of your neighbors may have expressed interest in the outcome of this matter 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 Department of Planning's recommendation on this matter and participate in its discussion. The meeting will be held on **Tuesday, September 6, 2016, 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:

P.Z. 6-16 Auburn Ridge, Fischer and Frichtel Custom Homes, 695 Trade Center Boulevard, Chesterfield, Missouri, 63005 – A request for the application of a Planned Residential Development Overlay District (PRD) within the NU Non-Urban Residence District for a 81.4 acre tract of land that is located on the southwest side of Ridge Road, south of Lack Ridge Road (Locator Number: 25U330010 and 25U310023/Street Addresses: 1115 Ridge Road and 1513 Windwood Hills Drive). **Proposed Use: A total of twenty-seven (27) individual lots, with common ground, and required public space areas. (Ward Six)**

PLEASE NOTE, STARTING **SEPTEMBER 6, 2016**, THE PLANNING AND ZONING COMMISSION MEETINGS WILL BEGIN AT **6:30 P.M.**

***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.

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WILDWOOD

16860 Main Street
Wildwood, MO 63040

CITY OF WILDWOOD
NOTICE OF
PUBLIC HEARING
before the Planning and Zoning Commission
Monday, August 1, 2016, at 7:00 p.m.

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 3,000 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.

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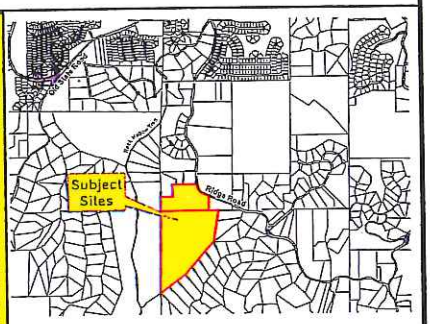

Street Addresses of Subject Site:
1115 Ridge Road and 1513 Windwood Hills Drive

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

The Planning and Zoning Commission of the City of Wildwood will conduct a public hearing on **Monday, August 1, 2016, at 7:00 p.m., in the City Hall Council Chambers, 16860 Main Street, Wildwood, Missouri 63040** for the purposes of obtaining testimony regarding request(s) for either the modification of zoning district designations, application of special procedures, change in the underlying regulations of the Zoning Ordinance, action on Record Plats, update on zoning matters, or amendment of the Master Plan, which will then be considered for action. This hearing is open to all interested parties to comment upon this request, whether in favor or opposition, or provide additional input for consideration. If you do not have comments regarding this request, no action is required on your part. Written comments are requested to be submitted prior to this hearing and should be addressed to the Planning and Zoning Commission, City of Wildwood, 16860 Main Street, Wildwood, Missouri 63040 or via the City's website at **www.cityofwildwood.com/comment**. The following request will be considered at this time:

P.Z. 6-16 Auburn Ridge, Fischer and Frichtel Custom Homes, 695 Trade Center Boulevard, Chesterfield, Missouri, 63005 – A request for the application of a Planned Residential Development Overlay District (PRD) within the NU Non-Urban Residence District for a 81.4 acre tract of land that is located on the southwest side of Ridge Road, south of Lack Ridge Road (Locator Number: 25U330010 and 25U310023/Street Addresses: 1115 Ridge Road and 1513 Windwood Hills Drive). **Proposed Use: A total of twenty-seven (27) individual lots, with common ground, and required public space areas. (Ward Six)**

***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.

CITY OF WILDWOOD

MAR 28 2016

DEPT OF PLANNING & PARKS

P.Z. Number(s): _____
(as assigned by department)

PETITION

before the

CITY OF WILDWOOD'S
PLANNING AND ZONING COMMISSION

FOR THE PURPOSE OF HEARING REQUESTS
FOR ONE OR A COMBINATION OF THE FOLLOWING:
(PLEASE CHECK THOSE ITEMS WHICH ARE APPLICABLE)

___ Change in Zoning
___ Conditional Use Permit
✓ Approval of a Planned District or other special procedure (C-8/M-3/PRD)

APPLICANT/OWNER INFORMATION

Applicant's Name: Fischer & Frichtel Custom Homes
Mailing Address: 695 Trade Center Blvd
Chesterfield, Mo. 63005
Telephone Number, with Area Code: 314-576-0500
Fax Number, with Area Code: 314-576-0502
E-Mail Address: CDeGruentz@fandfhomes.com
Interest in Property (Owner or Owner Under Contract):
Owner under contract

If owner under contract, please attach a copy of the contract.

Owner's Name (if different than applicant):
Tom & Denise Reid
Address: 4073 Montgomery Lane
Pacific, Mo. 63021
Telephone Number, with Area Code: _____

SITE INFORMATION

Postal Address of the Petitioned Property(ies):
1115 Ridge Road
Ballwin, Mo. 63021

Locator Number(s) of the petitioned Property(ies):
25U330010 & 25U310023

Total Acreage of the Site to the Nearest Tenth of an Acre:
81.4

Current Zoning District Designation: NU - Non-Urban

Proposed Zoning District Designation:

Proposed Planned District or Special Procedure: Planned Residential Development (PRD) Overlay District

USE INFORMATION

Current Use of Petitioned Site: Vacant

Proposed Use of Site: 27 single family lots

Proposed Title of Project: Auburn Ridge

Proposed Development Schedule (include approximate date of start and completion of the project):
Fall 2016 - Summer 2017

CONSULTANT INFORMATION

Engineer's/Architect's Name: Sterling Engr & Surv. Co.
Address: 5055 New Baumgartner Road
St. Louis, Mo. 63129
Telephone Number, with area code: 314-487-0440
Fax Number, with area code: 314-487-8944
E-Mail Address: mfalkner@sterling-eng-surv.com
Soil Scientist/Forester's Name: Home and Farm Soil Consulting
Address: 835 Gerling Lane
New Haven, Mo. 63068
Telephone Number, with area code: (573) 237-5081
Fax Number, with area code:
E-Mail Address:

CITY OF WILDWOOD
MAR 28
DEPT OF PLANNING & PA

ACKNOWLEDGEMENT INFORMATION

The petitioner(s) state(s) they (he) (she) will comply with all the requirements of the city of wildwood with regard to the procedures relating to its administration of land use and development controls within its boundaries, including the payment of all applicable fees.

The petitioner(s) further represent(s) and agree(s) that they (he) (she) has (have) not made any arrangement to pay any commission, gratuity, or consideration, directly or indirectly, to any official, employee, or appointee of the City of Wildwood with respect to this application.

The petitioner(s) hereby certify(ies) that (indicate one):

(✓) I (we) have a legal interest in the hereinabove described property.

( ) I am (we are) the duly appointed agent of the petitioner(s) and that all information given and represented on this application is an accurate and true statement of fact. Any misrepresentation of information on this application or accompanying information shall constitute grounds for the City of Wildwood, Missouri to terminate review of this petition and return all materials, minus any fees, associated with its review up to and through that point.

SIGNATURE: Christopher T. DeGuentz

NAME (PRINTED): CHRISTOPHER T. DEGUENTZ

ADDRESS: FISCHER & FRICHTEL CUSTOM HOMES LLC
695 TRADE CENTER BLVD. SUITE 200
CHESTERFIELD MO. 63005

TELEPHONE NUMBER: 314.576.0500

[PLEASE NOTE: THE ABOVE NAMED PERSON SHALL RECEIVE ALL OFFICIAL NOTICES REGARDING THIS REQUEST, INCLUDING THE PUBLIC HEARING NOTICE.]

SEAL: MARIA C. MADDEN
Notary Public - Notary Seal
STATE OF MISSOURI
St. Charles County
My Commission Expires: May 18, 2018
Commission # 14434713

SUBSCRIBED AND SWORN BEFORE ME THIS 24th DAY OF MARCH, 2016.

SIGNED: Maria C. Madden
(NOTARY PUBLIC)

NOTARY PUBLIC MARIA C. MADDEN
STATE OF MISSOURI.

MY COMMISSION EXPIRES MAY 18, 2018

FOR OFFICE USE ONLY

1ST SUBMITTAL DATE: _____

FEE: _____; RECEIVED BY: _____

PRELIMINARY DEVELOPMENT PLAN: YES NO

PACKET COMPLETE: YES NO

2ND SUBMITTAL DATE: _____

PACKET COMPLETE: YES NO

3RD SUBMITTAL DATE: _____

PACKET COMPLETE: YES NO

4TH SUBMITTAL DATE: _____

PACKET COMPLETE: YES NO

CITY OF WILDWOOD
MAR 28 2016
DEPT OF PLANNING & PARK

WILDWOOD

May 18, 2016

Chris DeGuentz
Fischer and Frichtel
695 Trade Center Boulevard, Suite #200,
Chesterfield, Missouri 63005

Re: Comment letter from first review of the submittal package for **Auburn Ridge**; a Planned Residential Development Overlay District in the NU Non-Urban Residence District

Dear Mr. DeGuentz:

The Departments of Planning and Public Works has completed their respective reviews of the submitted packet of information for the requested Planned Residential Development Overlay District (PRD) on the subject site. This application packet consisted of the plan, application, and associated fee. These items were compared to the applicable codes of the City, the design criteria for these types and extent of improvements, and the Zoning Ordinance/Subdivision and Development Regulations of the City. The outcome of this review was the identification of a number for items that must be addressed before the matter can be presented to the Planning and Zoning Commission at an upcoming meeting for the required public hearing. These items identified by the aforementioned review include the following:

Sheet 1.1

1. Please change "Preliminary Plat" to "Preliminary Development Plan" in the Title Block.
2. Please change General Note #5 to read: "All grading and drainage shall be per City of Wildwood and Metropolitan St. Louis Sewer District (MSD) standards."
3. Please change General Note #6 to include the Metropolitan St. Louis Sewer District as a review authority in this regard.
4. Please include in General Note #9, at the end of the current sentence, the following phrase: "- Section 415.450 Outdoor Lighting Requirements – Zoning Ordinance.
5. Please be advised the Public Space Table does not provide the extent of information needed in this regard. The common ground area, despite its size, can only be used to constitute one-half of the required amount of public space, which means there is a shortfall of 23,522.4 square feet. This amount must be provided in some other fashion. Additionally, are any improvements, as required by the Public Space Regulations, planned for these areas?
6. Please be advised the cross section detail for the proposed roadway does not indicate the City's required Rural Roadway Standards in terms of material type and associated construction specification. Please revise or provide an explanation for a concrete driving surface and no reference relative to the depth of the base material.

Sheet 2.1

7. Please provide dimensions for the proposed cul-de-sacs and roundings at the project's intersecting streets.
8. Please provide details on the proposed sewage treatment pump station relative to its size, etc.

9. Please be aware the grading design on Lots 12 through 16 and Lots 22 and 23 appear to be very different than the depictions of the other remaining lots in this project. Please provide a detailed explanation of such.
10. Please be advised the Department will recommend that areas between dwellings, where feasible, should not be blankly graded and trees preserved to the greatest extent possible. Additionally, this approach to tree preservation shall also be applied at the entry/exit of the project to Ridge Road.
11. Please show the approximate location of existing structures on all adjacent lots.
12. Please show the width of all lots at their front building lines.
13. Please provide dimensions and typical cross section for the access road to the proposed sanitary pump station, as well as details of any screening that is proposed.
14. The Department of Public Works has expressed a concern about the sight distance at Ridge Road and its intersection with the planned private street. Please provide more data regarding the sight distance analysis that is shown on Sheet 4.1 of the submittal package.
15. Please indicate Ridge Road as "Public."
16. Please advise if the development plans a dedicated access through the site to the City's Rock Hollow Trail.

Sheet 3.1:

16. Please be advised the plan for the protection of sensitive areas of the site (Natural Resource Protection Standards) identifies a variance of almost of one hundred (100) percent, which far exceeds any type of allowance ever considered before by the City. The Department can grant the requested five (5) percent variance, but the remainder will be at the discretion of the Planning and Zoning Commission. Please be prepared to describe why the variance is needed versus reducing the lot count and preserving more of the sensitive lands.

Other:

17. Please provide conceptual approval of this Preliminary Development Plan from the Metropolitan St. Louis Sewer District (MSD).
18. Please provide conceptual approval of this Preliminary Development Plan from the Metro West Fire Protection District.
19. Please provide a lighting plan. Please note, only one (1) street light is required by the City of Wildwood's Subdivision and Development Regulations, which is at the intersection of a private street and, in this case, Ridge Road.
20. Please provide a landscaping plan for this proposed development. Of particular interest is the landscaping design that is planned for the entrance to the subdivision off Ridge Road.

If you should have any questions or comments regarding this review process, please feel free to contact the Department of Planning at (636) 458-0440. Thank you for your patience during this review and your anticipated cooperation in this regard.

Respectfully submitted,
CITY OF WILDWOOD

Joe Vujnich

Joe Vujnich, Director
Department of Planning

Cc: The Honorable James R. Bowlin, Mayor
Council Members Alexander and Porter, Ward Six
Ryan S. Thomas, P.E., City Administrator

Rick Brown, P.E. and P.T.O.E., Director of Public Works
Rob Golterman, City Attorney
Kathy Arnett, Assistance Director of Planning and Parks
Travis Newberry, Planner

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Thursday, September 15, 2016 5:58 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Categories: Red Category

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	As I said at the last meeting, I am really upset that you are even considering this proposal. The subdivision that was put in just southeast of this one is horribly loud and has ruined our quit area and lives. We were told this would not happen and we said it would and now you want to do it again. If this goes through we are going to form our own committee and hire a lawyer. Our lives are being totally assaulted so Wildwood can have some more revenue. Really, What a travesty. Follow the guidelines we have now and do not warp them into something that was not intended. I cannot make the meeting because I have to work and earn a living. Just do what is right.
Suggestions	Follow the guidelines we now have and make the developer put one house per three acres. Not a bunch of houses all together on the same amount of land. I really do not wish to pursue a legal avenue, however what we worked hard for is being destroyed. My wife and I have already contacted our lawyer and discussed our recourses. We are asking that you do the right thing. Thank you

(Section Break)

Name	Berryl F. Bader Sr.
Address	16113 Canyon Ridge Court
City	Wildwood
State	Missouri
Zip	63021
Phone Number	314-258-2881
Email	redab1102@sbcglobal.net

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Tuesday, August 30, 2016 12:14 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	*Field not completed.*
Suggestions	Keep to the Wildwood promise of 3 acre homesites and not put an eysore on Ridge Road viewable by long term residents all around the site.
	(Section Break)
Name	Cynthia LaClair
Address	1561 Wolf Trail
City	Wildwood
State	Mo
Zip	63021
Phone Number	314-960-2507
Email	cyn@bavarianstl.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Thursday, August 25, 2016 11:39 AM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	I spoke my opposition to this PRD on AUG1. I will be on vacation SEP 6, and will not be able to attend, so I would like to amplify here my concerns about this proposed development on Ridge Road. The main reasons I am adamantly opposed to this development are: This development will cluster homes much much too close together. This development will NOT look like it belongs in Wildwood. This development will look more like Quail Ridge down the road, which is not well received by anyone that I know of, and could have the same environmental mudslide potential during construction due to the nature of the bulldoze mentality. This development will mar the views of all other Wildwood residents on all the surrounding ridges since the plan is to bulldoze off the top of the ridges in a 200-foot wide swath exposing all proposed big-box homes for all to see. The use of PRD for this development stretches all intentions of the PRD concept in favor of the developer and to the detriment of all surrounding residents. This development does not work with the existing view corridors, solar orientations, land forms, environmental responsibility, or monarch trees. This development indiscriminately places the importance of packing in as many houses as possible above all other criteria.
Suggestions	Reject this development outright and immediately and wait for a responsible plan to come forward. This piece of property is so

	important and special, there will be another plan brought forward that fits the aesthetic of Wildwood.
	(Section Break)
Name	John Miller
Address	16202 Thornberry Ridge Lane
City	Wildwood
State	MO
Zip	63038
Phone Number	6362562596
Email	john.miller@kpff.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: Jim Bowlin
Sent: Wednesday, August 17, 2016 4:49 PM
To: Dean Klohr
Cc: Greg Alexander; Jerry Porter; Becker, Bob & Carol; Bill & Karin Stawiarski; Bob & Marilyn Snyders; Brubach, Dave & Renee; David E & Tammy Y Dowell; Eric J & Lisa M LaBarge; Gerald & Linda Halbrook Sexauer; Gray, Wendy; Halley, Geoffrey & Sylvia; Hockenbury, Don & Barb; James A & Paulette R Winkelmann; Jones, Robert & Thelma; Kiger, Greg & Cheryl; Kris & Patricia Sachtleben; LaClair, John & Cynthia; Majeski, Deanna; Mark & Bonnie Stevenson Duitsman; Mark & Mary Gebhart; Michael J Gudeman; Milles, Larry & Lynette; Miner, Larry & Debbie; Moll, Jane Klein; Mutrux, Max & Jill Wagenknecht; Nuetzel, Bill & Judy; Paul & Celeste Banta; Reuben Rigel; Sites, Randy & Jane; Smith, Jerry & Lois; Stapf, Julia A; Thomley, Mark; Veth, John & Jackie; William & Ann Stremme McQullen; Price, Larry & Joan; rbopp@cityofwildwood.com; Nedra Klohr, I. C. E.; Joe Vujnich; Travis Newberry
Subject: RE: Auburn Ridge PRD Ward Six

Mr. Klohr:

Thank you for your email and excellent input, and I'm glad you liked my Mayor's Message.

There is another point I would like to mention. We have three types of residential areas (non-urban, suburban, and Town Center). Auburn Ridge is designated non-urban. The *Master Plan* specifically references PRD's as an option in both suburban and Town Center areas. However, there is no such reference as to non-urban areas, and in fact, the *Plan* states that less than three-acre lots in the non-urban areas is "strongly weighed against."

Thanks again, and thanks for being part of Wildwood.

Jim

James R. Bowlin
Mayor
City of Wildwood
636-458-0440, ext. 300
www.cityofwildwood.com

From: Dean Klohr [deanklohr@gmail.com]
Sent: Wednesday, August 17, 2016 4:28 PM
To: Jim Bowlin
Cc: Greg Alexander; Jerry Porter; Becker, Bob & Carol; Bill & Karin Stawiarski; Bob & Marilyn Snyders; Brubach, Dave & Renee; David E & Tammy Y Dowell; Eric J & Lisa M LaBarge; Gerald & Linda Halbrook Sexauer; Gray, Wendy; Halley, Geoffrey & Sylvia; Hockenbury, Don & Barb; James A & Paulette R Winkelmann; Jones, Robert & Thelma; Kiger, Greg & Cheryl; Kris & Patricia Sachtleben; LaClair, John & Cynthia; Majeski, Deanna; Mark & Bonnie Stevenson Duitsman; Mark & Mary Gebhart; Michael J Gudeman; Milles, Larry & Lynette; Miner, Larry & Debbie; Moll, Jane Klein; Mutrux, Max & Jill Wagenknecht; Nuetzel, Bill & Judy; Paul & Celeste Banta; Reuben Rigel; Sites, Randy & Jane; Smith, Jerry & Lois; Stapf, Julia A; Thomley, Mark; Veth, John & Jackie; William & Ann Stremme McQullen; Price, Larry & Joan; rbopp@cityofwildwood.com; Nedra Klohr, I. C. E.; Joe Vujnich; Travis Newberry
Subject: Auburn Ridge PRD Ward Six

Jim,

I was pleased to read in the current issue of the "Wildwood Gazette" in your "Mayor's Message" about your commitment to "preserving our surroundings and responsible development" among other items and your top priorities of, "1. Adherence to the Master Plan, particularly in the area of rules relating to minimum lot sizes."

As I stated at the August 1, 2016 Planning and Zoning Commission meeting, my wife and I have lived in our home on Wolf Trail Road in the Ridge Road Farms subdivision for 37 years since we built it in 1978-1979.

At that time our area was in unincorporated St. Louis County with some pretty loose zoning rules, but we felt Ed Holthaus Realty had put together a sound "Restriction Agreement For Ridge Road Farms" dated 1 February,1978 in Book 7829 page 290 of the St. Louis County Recorder of Deeds for our development. We had to have a minimum of 3 acres, a minimum of 1,500 square feet of living space. A 75 foot set back from our roads amendment was added in 1987.

Again as I stated on August 1, 2016 my wife and I had to have a 90 foot long, 20 foot high poured concrete retaining wall constructed along the back of our home to meet the requirements of Ridge Road Farms Restriction Agreement. Most of our neighbors had to do the same to build homes on our heavily sloped lots. We incurred the extra expense to be able to live in our private wooded surroundings.

After Wildwood was incorporated our Ridge Road Farms subdivision president partitioned Wildwood to include our subdivision in the Wildwood City limits to obtain what we believed to be stronger Zoning restrictions than those of St. Louis County.
We had just earlier successfully fought the plan of a developer to locate a financial institution's commercial satellite dish farm on the acreage that is now the Ridge Tree subdivision on Ridge Road.

I feel at some point a line has to be drawn to stop developments like Quail Ridge or this whole area will look like Ellisville or Ballwin.

I also feel Greg Kiger's statement on August 1 about "brands" or "city brands or images" was right on.
Do we want Wildwood to remain as the founders of it wanted, a City to be admired like Kirkwood or Webster Groves or should we just become another Ellisville or Ballwin?

--
Dean H. Klohr, P.E.

cc Greg Alexander and Jerry Porter, Ward 6,
Jon Bopp P&Z Chair,
Joe Vujnich, Travis Newberry City of Wildwood

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Tuesday, August 09, 2016 10:38 AM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	Do not take away the charm of this area of Wildwood by allowing homes on less than 3 acre lots. By clustering homes and using common ground, it still looks like a subdivision. This practice is opening up a lot of other possible cluster home sites, as there are several large tracts of property along Ridge and Saint Paul. Everyone who has built out here followed the rules, don't change them now.
Suggestions	Build on lots of 3 acres or more.
	(Section Break)
Name	Pat McManemy
Address	1314 Forest Splendor Trail
City	Wildwood
State	MO
Zip	63021
Phone Number	314-606-2881

Email patmcmanemy@gmail.com

Email not displaying correctly? View it in your browser.

1508 Windwood Hills Drive
RAY Amann

First of all I would like to thank the Board of Wildwood, the landowners, & concerned citizens for a few minutes of your time.

Some of us property owners would like to voice our concerns for the Development & Re-zoning of 81 acres off of Ridge Road.

None of us are naive enough to think the 81 acre tract will always remain Virgin Wood (Nature Forest) on the other hand, How it is developed is our utmost concern.

I know of no-one in the Vicinity of the proposed 81 Acre tract, who is in favor of a typical suburbia like subdivision.

Most, if not all, people who invest in Wildwood for their Residence do it for several Reasons

People build in Wildwood for the natural aesthitic beauty of the "WILDWOOD" way of life.

The open airy ridges, diving into the steep mini canyons with pristine wet weather creeks

Most folks have had to & in the future need to follow all the guide lines set up By Wildwood,

The zoning of this property is a minimom of 3 acres per Residence,

There are many Good! Rules & Reqs. We who have built & invested have had to Adhere to!

There are set back Rules. There are tree preservation Rules. All of which we have had to follow.

It is quite expensive for any of us, who have Built, To conform to all the rules

Again we do it for the beauty, "the WILD WOODS experience & the investment.

We all love where we live or we would have moved into a condo or a typical subdivision. After all that would be cheaper & certainly easier.

We have all had to Follow the WILDWOOD GUIDE LINES Following the Wildwood zone Restrictions is expensive but to most of us, is worth it.

We just ask the board to respect all of the present Homeowners & WILDWOOD PROPERTY TAX payers in the Ridge Road Area.

This is our FRONT YARD, OUR BACKYARD & OUR RETIREMENT Account!! RAY AMANN

THE END

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Tuesday, August 02, 2016 10:24 AM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	I attended the August 1 meeting. There was a lot of opposition to Auburn Ridge and for good reason. I have lived in this area for nine years, so I can relate to this opposition 100%, even though I don't live all that close to the proposed Auburn Ridge. My biggest opposition comes from two areas: 1) Ridge Road was not designed for a lot of traffic and has no shoulders. It already has a lot of traffic from residents, commercial vehicles of all kinds, frequent EMS vehicles and during warmer weather a number of cyclists, sometimes in large groups. The other route out of this area is St. Paul, which is much worse than Ridge Road. Also, it is currently very difficult and somewhat dangerous to turn left from Ridge Road to Old State Road. Another problem affecting Ridge Road is high speed traffic from reckless young drivers of cars and motorcycles. The speed limit is 30 MPH but they drive way, way beyond this. I believe that in the past nine years, three or four light poles have been hit, knocking out power for about seven or more hours. Also, there have been at least a couple of vehicles that have hit trees instead of poles. 2) At the August 1 meeting, no one mentioned the impact of Auburn Ridge on wildlife. In this area, we have a lot of wildlife (turkey, deer, raccoons, owls, hawks, Eagles, Pileated woodpeckers, etc. etc.) that depend on sufficient habitat and food for survival. Clear cutting for

	twenty-seven homes on these two ridge tops (and other similar developments in the future) will only hurt wildlife. With the 3 acre minimum, it gives wildlife room to thrive. Nine years ago my wife and I moved from Chesterfield to Wildwood to escape the noise, heavy traffic and development. I lived in Chesterfield for ten years and witnessed continual destruction of large stands of trees in the name of progress; all the while, city hall was telling us to grow trees and wildlife habitat in our yards. What a joke. I love the peace and quiet that our area provides due to the spacious lots. I see Auburn Ridge as a turning point for the area of south Ridge Road and for Wildwood. You can go down the path of Chesterfield with their "progress" or stay true to "wild wood." Thank you for taking the time to listen to my opinion.
Suggestions	Stay true to the three acre minimum lot size. Improve Ridge Road with shoulders and sight lines near curves Control excessive speeding. Work with Ellisville and St. Louis County/State: Add street side parking near Ridge Meadows Elementary school, since cars routinely block one lane of Ridge Road. Add round-about or traffic light at Old State and Ridge Road.
	(Section Break)
Name	Jerry Q. Smith
Address	1514 Hawk Forest Rd
City	Wildwood
State	Missouri
Zip	63021-8607
Phone Number	636-346-4796
Email	jerry.q.smith@charter.net

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, August 01, 2016 2:06 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Categories: Red Category

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	new home developments
Position on Request	Do Not Support
General Comments	My wife and I are adamantly opposed to this development for too many reasons to state here.
Suggestions	Have Fischer and Frichtel look elsewhere. Not in my back yard.
	(Section Break)
Name	Dave Helfrich
Address	1438 Bald Eagle Rd
City	Wildwood
State	MO
Zip	63038
Phone Number	3146237883
Email	davestuff1@gmail.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, August 01, 2016 3:37 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Categories: Red Category

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	I live on Bald Eagle Road and my house backs to the proposed development on Ridge Rd. I am very concerned about the development for several reasons, firstly I do not want to view an ugly new subdivision. One was allowed on Ridge Rd. a while back that I feel affected my view and therefore the value of our property here. I grew up in Ohio in a small town called Moreland Hills that very strictly held to its rule of allowing only homes on 2 acres or more of land, and only homes that fit into the landscape. The community stayed high in value and stayed safe relative to crime. I ended up buying a home there as a result. Thus I ask you to please consider making sure that the proposed development does not end up as a scar on the hill with ugly McMansions. Right now the homes I can see for more than a mile from my property are mostly brown and nestled on big tracts of land with an abundance. They are not noticeable and I do not feel affect my property value. But if you allow that development to clear cut the lots it will be a scar on the hill like the one closer to Old State is. When it was put in our neighborhood was in an uproar just horrified at the noise ringing through the valley as they banged out foundations and the ugliness of the clear cutting that really does not fit into the

	community as a whole. Please consider limiting the size of the lots to at least 3 acres and strictly controlling the number of trees that can be removed. My husband and I bought in Wildwood and recently put a very large amount of money into our home putting in a pool and adding on to our home. We were very judicious about the trees that were removed and were very considerate of what the people across the valley would be looking at. We did not want to affect anyones property values adversely and ask the same respect for our. I also am concerned about the increase in traffic on Old State Rd. That stop at Ridge and Old State is already extremely congested With Ridge Meadows traffic and people leaving for work. It can and has already backed up Old State Rd. My last request with making the lots large is also a concern I have relative to crime. I know often when subdivisions are allowed that are crammed together the population can end up having more likelihood of robbery and I have not been pleased to see several smaller lot developments allowed in Wildwood. It was very tempting to sell our home and move out of Wildwood rather than invest in our addition, but we stayed hoping our vision of this area is shared by our representatives in the City of Wildwood. Thank you for your time.
Suggestions	I would like to suggest the development be very clearly and strictly limited in how many trees they can remove in addition to placing a limit on the number of homes allowed on the land. I would suggest no less than three acres per lot.
	(Section Break)
Name	Sarah Bracken
Address	1430 Bald Eagle Rd.
City	Wildwood
State	MO
Zip	63038
Phone Number	636-527-3320
Email	sbowess@aol.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, August 01, 2016 4:20 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Categories: Red Category

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	My fear with a project of this magnitude is the destruction of trees and the possibility of ruining the beauty and integrity of the area. Please limit the size of the lots to no less than 3 acres and greatly limit the destruction of trees to preserve the whole area.
Suggestions	*Field not completed.*
	(Section Break)
Name	Susan Prosperi
Address	1428 bald eagle road
City	Wildwood
State	MO
Zip	63038
Phone Number	636-236-8155

Email Svprosperi@gmail.com

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Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, August 01, 2016 4:44 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Categories: Red Category

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	I would like to know the acreage per lot, as well as the cost and square footage of each model home. Also the acreage of the common ground. I have a real concern about the additional traffic expected on Ridge Rd., as well as the the long duration power outages caused when vehicles hit the utility poles in close proximity to the curved sections along Ridge Road
Suggestions	Less dwellings would be helpful. At least three of the utility poles in close proximity to the curved sections of Ridge Road should have a greater setback or crash barriers installed in front of them to avoid long duration power outages. In addition, a three way traffic light should be installed at the intersection of Ridge Road and Old State Road. It would also be helpful to have arrows marked in the outside lane of southbound Old State Road to encourage drivers to move to the inside lane well before it reduces from 4 lanes to 2.
	(Section Break)
Name	Charles T. Koenig

Address	1530 Quail Hollow Ct.
City	Wildwood
State	MO
Zip	63021
Phone Number	636-227-5390
Email	c.koenig@sbcglobal.net

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, August 01, 2016 6:59 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	My wife and I have lived in Wildwood for over 16 years. We ought our home because of the woods and trees and the lovely view of the valley. We feel the views are what make some of the homes in this area exceptional and that is what we have felt our home has been. As we have lived here Old State road has become more and more busy and we have been very disappointed to see some subdivisions allowed that didn't reflect the character of the area like the ones across from Larry's Tavern on Old Manchester and the ones currently being built behind the BP station off 109 between 100 and Old Manchester. We believe the best way yo keep value to homes in Wildwood is to limit traffic problems, create acreage rules, and be much more strict when it comes to the removal of trees from properties. We have a heavily wooded property and have spent hundred to replace trees killed by lightening because we care about our property values and they views of our neighbors.
Suggestions	Limit number of traffic being added to Old State Rd., have acreage be at least 3 acres per lot and do not allow the removal of many trees

(Section Break)

Name	Ben Bracken
Address	1430 Bald Eagle Rd.
City	Wildwood
State	MO
Zip	63038
Phone Number	636-527-3320
Email	cayhab@aol.com

Email not displaying correctly? View it in your browser.

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, August 01, 2016 12:59 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Categories: Red Category

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	I request that the Planning and Zoning Commission support the current zoning of this area as Non-Urban by rejecting the "Auburn Ridge" planned development.
Suggestions	Find a more suitable area that doesn't require zoning law changes.
	(Section Break)
Name	Harry Billiot
Address	1529 Lookout Mountain Drive
City	Wildwood
State	Missouri
Zip	63021
Phone Number	6365272424
Email	gamecock_alum@yahoo.com

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Travis Newberry

From: noreply@cityofwildwood.com
Sent: Sunday, July 31, 2016 11:16 AM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Categories: Red Category

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	planned distruction of forest between our house above subdivision
Position on Request	Do Not Support
General Comments	We bought and built our house on two tracks of land in 1995 for the purpose of having a quit place to live and reitire in. We were under the impression that the land surrounding us was to belong to the conservation department or for park purposes. Sound from the existing subdivisions carries down the valley already. A new subdivision this close would defeat the purpose that we built our home for in the first place.
Suggestions	Do not really have a suggestion other than not to put in new subdivision. If they have to put it in than the only two pieces of property that it affects will be mine and our neighbor Kaleb Krueger. We would like for Fischer and Frichtel to connect both our homes to the existing county septic and water lines. This way I can sell our home and move to a more quiet area.
	(Section Break)
Name	Berryl F. Bader Sr.
Address	16113 Canyon Ridge Court

City	Wildwood
State	Missouri
Zip	63021
Phone Number	314-258-2881
Email	redab1102@sbcglobal.net

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Travis Newberry

From: noreply@cityofwildwood.com
Sent: Sunday, July 31, 2016 4:24 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Categories: Red Category

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	We are a young couple who recently purchased a home off Ridge Ridge to start our family. What drew us to the area is the privacy and seclusion, so we are very disappointed to hear of the possibility of this development. We share the concerns of our neighbors about impact to roads, cutting down trees, etc. and wonder steps can be taken moving forward.
Suggestions	Fewer dwellings
	(Section Break)
Name	Kaleb and Ashley Krueger
Address	16102 Canyon Ridge Court
City	Wildwood
State	MO
Zip	63021
Phone Number	3144797259

Email ashley.krueger50@gmail.com

Email not displaying correctly? View it in your browser.

1400 Ridgetree Trails Dr
Wildwood, Mo 63021
July 23, 2016

Planning and Zoning,

I am writing in regards to the proposed development at 115 Ridge Rd and 1573 Wildwood Hills Dr.

We feel the planned number of homes for the area would be too many, due to the traffic increase on Ridge Rd and also the increase in traffic at the intersection of Old State and Ridge Rd. The road is windy and hilly without any shoulders or side walks. Also bicyclists frequent this road which leads to an increase risk of accidents, hence more homes more traffic possible fatalities.

Another concern is the development would remove trees and take away from the beauty of this area. This is not what Wildwood stands for.

If this development does go thru it needs to be less homes and the road would need to have sidewalks and possibly widened

My husband and I have lived here for 23 years and we feel strongly about making this development so populous. We will be out of town for the meeting but please consider this proposal very carefully.

Thanks,
Don & Kathy Julian

Travis Newberry

From: noreply@cityofwildwood.com
Sent: Sunday, July 17, 2016 12:52 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Other
General Comments	This is a very special property...Ridge Road has some of the best views in West County. I would hope that the price point would reflect that. I would like to see the developer offer their Signature series style of home ..quality should be at least as high as the Miceli development (Quail Run) up the road. Unlike that development, I would like to see the homes spaced out to preserve the rural nature of this part of Wildwood.
Suggestions	*Field not completed.*
	(Section Break)
Name	Dennis Church
Address	1453 Ridge Road
City	Wildwood
State	MO
Zip	63021
Phone Number	636-399-2500

Email denochu@gmail.com

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Travis Newberry

From: noreply@cityofwildwood.com
Sent: Wednesday, July 20, 2016 2:37 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	In keeping with City Charter's "... to preserve adequate open space, protect public parks and green space, conserve soil and reduce erosion, protect water quality, preserve trees and natural areas, and conserve and protect natural resources..." no residential development should be allowed to substantively modify the natural pre-existing grade or elevation, other than that in the immediate footprint of the dwelling which is required to construct basements or foundations. Area-wide elevation changes must NOT be permitted just to allow higher dwelling density or higher developer revenues. This area of Wildwood is a naturally steep, hilly terrain that should NOT be compromised for the sake of a subdivision.
Suggestions	Require the developer to modify the plan proposal so as to not change any of the existing terrain's elevation by more than 10 feet, and not in any areas more than 40 feet of any proposed dwelling. Wildwood does not need another 'stripped-flat' subdivision.
(Section Break)	
Name	Robert E Jones

Address	1549 Wolf Trail Rd
City	Wildwood
State	MO
Zip	63021
Phone Number	6362309223
Email	robertejones@juno.com

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Travis Newberry

From: noreply@cityofwildwood.com
Sent: Monday, July 25, 2016 5:59 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

By utilizing this form, your comments will be considered by the Department of Planning in its development of a recommendation of this request. Additionally, the Planning and Zoning Commission, the City Council, and/or the applicable board or committee will also receive copies of your comments, as they consider the merits of these land use proposals being reviewed by the city. You must submit a separate form for each public hearing for which you have comments.

Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	I do not support the zoning change as requested by the builder. The zoning change does not conform to the original intent of the zoning codes and should not be allowed.
Suggestions	Build on the land the same way others have. 200-300 feet road frontage per home and each home residing on no less than 3 acres. Just like the original zone ordnances define it.

(Section Break)

Name	Mark Thomley
Address	1573 Wolf Trail Road
City	Wildwood
State	MO
Zip	63021
Phone Number	314-401-4902
Email	MarkThomley@computrollllc.com

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Travis Newberry

From: noreply@cityofwildwood.com
Sent: Wednesday, July 27, 2016 6:52 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	Less dwellings and more landscaping.
Suggestions	*Field not completed.*
	(Section Break)
Name	Paulette Winkelmann
Address	1504 Wolf Trail Road
City	Wildwood
State	MO
Zip	63021
Phone Number	314-503-4805
Email	winkwoods@charter.net

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Travis Newberry

From: noreply@cityofwildwood.com
Sent: Wednesday, July 27, 2016 7:02 PM
To: Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Travis Newberry; Steve Vogel; Travis Newberry
Subject: Online Form Submittal: Public Hearing Comment Form

Public Hearing Comment Form

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Request Being Considered	P.Z. 6-16 Auburn Ridge
Item Description	*Field not completed.*
Position on Request	Do Not Support
General Comments	As a resident of Wildwood before it was incorporated, one of the key principles was the establishment of minimum 3 acre lot size to preserve the winderness, the wildlife and "country-like" settings for each home. I do not support the request for variance for the following reasons: a) the average lot size is 1.44 acres, less than half of code requirements. b) it would appear from the building plans that the entire building site would be clear-cut of all trees to facilitate construction. c) the result will be homes tightly grouped like a typical maximum build subdivision. Averaging the acreage does not meet code, nor does it meet the spirit and principle of why the code was adopted in the first place - to keep Wildwood country-like. I strongly urge the Planning Committee to reject this variance request.
Suggestions	Bulid less dwelling in order to meet the 3 acre/per home building code.
	(Section Break)
Name	Larry Miner
Address	1556 Wolf Trail Rd

City	Wildwood
State	MO
Zip	63021
Phone Number	636-346-3321
Email	bubbaqminer@yahoo.com

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OLD BUSINESS **AGENDA ITEM**

WILDWOOD

Information Report

P.Z. 13-16 Planning and Zoning Commission c/o Department of Planning and Parks

City of Wildwood, Missouri

Prepared by the Department of Planning and Parks

November 7, 2016 Executive Meeting

"Planning Tomorrow Today"

Petition Number:	**P.Z. 13-16**
Petitioner:	**City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040**
Request:	A request to review and consider amendments to the City of Wildwood's Zoning Ordinance, which would thereby reconsider the current inclusion of 'Large Water Features' as a Conditional Land Use and Development Permits Issued By the Commission, along with any applicable regulations relating to the same.
Zoning District (s):	NU Non-Urban Residence District and all "R" Residence Districts of the City of Wildwood Zoning Ordinance
Wards:	All
Location:	Citywide
Public Hearing Date:	October 3, 2016
Vote and Date of Action On Information Report:	November 7, 2016 - **TBD**
Attachment A:	Report
Attachment B:	Flow Chart, Map, and Background Information
Fire District:	Eureka, Monarch, and Metro West
School District:	Rockwood
Police:	St. Louis County Police Department – Wildwood Precinct #6

ATTACHMENT A - Report

INTRODUCTION - As the members of the Planning and Zoning Commission may recall, the City Council approved changes to the Zoning Ordinance to address concerns that was raised about large water features and their impacts on the environment of Wildwood and other considerations relating to public safety aspects relative to downstream properties. This action, and the discussion that led to the changes in the Zoning Ordinance's residential districts, was identified when an individual proposed a thirteen (13) acre lake within the main channel of Wild Horse Creek. These characteristics were of concern to all parties and,

due to recognition the City may not have had in place the necessary protections to address a situation such as this type, a review of possible approaches was needed. In this case, the lake was not constructed, but served as an example of why the City needed to review this matter.

Before these new regulations were adopted by the City Council, the permitting of large water features was under study for over a year by the Planning and Zoning Commission and Planning/Economic Development/Parks Committee, before a recommendation was made to City Council to proceed forward with certain changes to the Zoning Ordinance. In recommending and acting upon changes to the residential zoning districts of the City's Zoning Ordinance, including the NU Non-Urban Residence District, the City Council noted the main components of the proposed permitting process would include the following items:

1. The permitting process would not allow any impoundments in the main channel of a named creek located in the City of Wildwood;
2. The permitting process would not allow any high hazard water impoundments to be permitted;
3. The permitting process for water features would be premised on the size threshold of one (1) acre in area;
4. The permitting process for large water features, those types one (1) acre or greater in size, would be reviewed under the conditions and requirements of the Conditional Use Permit (CUP) Regulations of the Zoning Ordinance;
5. The permitting process for water features less than one (1) acre in size would be reviewed against the Grading Permit requirements of the Grading Code only;
6. The permitting process would include the submittal of pertinent information sooner in the process, not later;
7. The permitting process would require the submittal of an Emergency Action Plan (EAP);
8. The permitting process would allow for ample public notification and participation, when one (1) acre or greater sized water features are proposed on a lot;
9. The permitting process would ensure that water features approved under either permit requirement are subject to inspections and regular reporting; and
10. The permitting process would encourage the coordination of reviews, permitting, and sharing of information between the involved parties by the sequencing associated with the two (2) tracks for applications associated with large water features in Wildwood.

The City Council heard from a number of different parties in this regard. In the end, the permitting process that was adopted categorized these large water features, those types with a surface area one (1) acre or greater in size, as conditional types in the residential zoning districts of the City. Thereafter, water features less than one (1) acre in size would only require a Grading Permit from the Department of Public Works. With the division of water features by size, which corresponded to the Missouri Department of Natural Resources' requirement for a Land Disturbance Permit (one (1) acre), the City could ensure that larger water features were fully studied and all potential impacts or concerns identified as part of the planned process.

BACKGROUND – Again, the impetus for the current legislation now again under consideration was a proposal that was submitted to the City by a resident for the development of a large water feature on an

approximately eighty (80) acre tract of land located on the north side of Melrose Road, west of State Route 100. This submittal identified a lake that would be thirteen (13) acres in size, have a dam height of approximately thirty-five (35) feet, and be placed in the main channel of Wild Horse Creek. The placement of this water feature in the main channel of Wild Horse Creek created an issue for many in the community, including the City Council, which was further compounded by expected, and negative, impacts on downstream properties. The factors, and the limited amount of engineered information required by the permitting process of the City in place at that time, led its officials to place a Stay on all permits or zoning actions relating to these types of large water features. With the Stay in place, City staff was given the responsibility to review the permitting process of these features and, if found deficient, make recommendations for improvements.

The conclusion of this review was the process was deficient and changes should be implemented to improve all aspects of it that are associated with the permitting of large water features. The conclusions identified by this review included the following:

1. The allowance for these water features to be placed in the main channel of named watersheds was contrary to the environmental regulations of the City, but not necessarily prohibited by the same.
2. The process at that time did not include public notification about these types of requests.
3. The process at that time did not take into account high-risk dams and their impact on downstream properties.
4. The process at that time did not include the filing of an Emergency Action Plan for problems that may arise with large water features and on-going stability of their respective dams, after construction is completed.
5. The process at that time did not include regular inspections and reporting to the City of Wildwood.

Inevitably, with so many major issues associated with that process, the City's Planning/Economic Development/Parks Committee, and then the City Council, agreed changes were needed and more protections should be established for all parties. Both the City Council Committee and the City Council supported these changes unanimously.

It is important to note that, when the legislation was developed and ultimately adopted, the Departments of Public Works and Planning used a multitude of resources to create the process that is depicted in the attached flow chart. Of those resources, the provision of comments from the series of meetings with the Planning/Economic Development/Parks Committee, input from the participating public, and insights from a Wildwood resident - Bill Kennedy - were all important to the development of this process. Additionally, other communities were contacted and the internet was utilized to develop background information. Collectively, these resources were employed for the development purposes of this legislation.

CURRENT REQUEST

The City Council has questioned the need for this level of review for certain large water features that were just over one (1) acre in size and the impact the process has had on completing the project in a timely manner. This questioning was premised on the lake that Ms. Laurie Taylor wanted to construct on her property that is located on Manchester Road. Ms. Taylor questioned the need for all of the conditions of

the permit, when she fully intended to be a good steward of her property. Therefore, the City Council requested a review of these requirements, so as to determine if a greater size threshold for water features associated with the Conditional Use Permit (CUP) process could be used. With this direction, the Department of Planning has completed the steps to bring this matter to the Planning and Zoning Commission for its consideration and action.

Some of the options the Planning and Zoning Commission is being asked to consider in terms of changes to the current legislation governing large water features is the requirement for a Conditional Use Permit (CUP) for any such impoundment over one (1) acre in overall size. The discussion has also focused on the one (1) acre size being too small for the extensive process associated with obtaining a Conditional Use Permit (CUP). Some of the comments suggested the threshold of a large water feature for such a permit be increased to three (3) acres, five (5) acres, or more, while a suggestion was made for it to be eliminated in its entirety.

ANALYSIS

The Department of Planning would note the current legislation is a product of many meetings of the Planning and Zoning Commission, the Planning/Economic Development/Parks Committee of the City Council, and the City Council, where those collective members considered a proposal from the Departments of Public Works and Planning relating to a revised permitting process for large water features. The development of this process was interactive, in that, comments were provided from a number of sources, changes were made to the process, and the logic of it improved as well. Importantly, after almost a year of study, all of the aforementioned parties supported these changes to the Zoning Ordinance for large water features. It is important to identify the level of support associated with such a thorough and comprehensive process, given concerns about its reasonableness at that time.

Through this process and the accompanying legislation that followed, the many identified shortcomings of the past permitting system were addressed, while providing an improved oversight structure for all parties over the life of the large water feature. These improvements to the permitting process included the following items:

1. The process eliminated all high hazard dams from being constructed in the City.
2. The process does not allow for water features to be placed in the main channel of a steam or creek of a named watershed in the City of Wildwood.
3. The process provides for notification of surrounding property owners about the proposal, before any decisions are made in its regard.
4. The process requires greater amounts of information at its start, thereby allowing all parties have better data to make determinations relating to the consideration of these water features.
5. The process allows certain smaller features, those presenting less of a risk, to have an expedited review under the requirements of the Grading Code.
6. The process requires Planning and Zoning Commission action and City Council review for all water features one (1) acre or greater in size, but not considered high-risk or in the main channel of a named watershed located in the City.

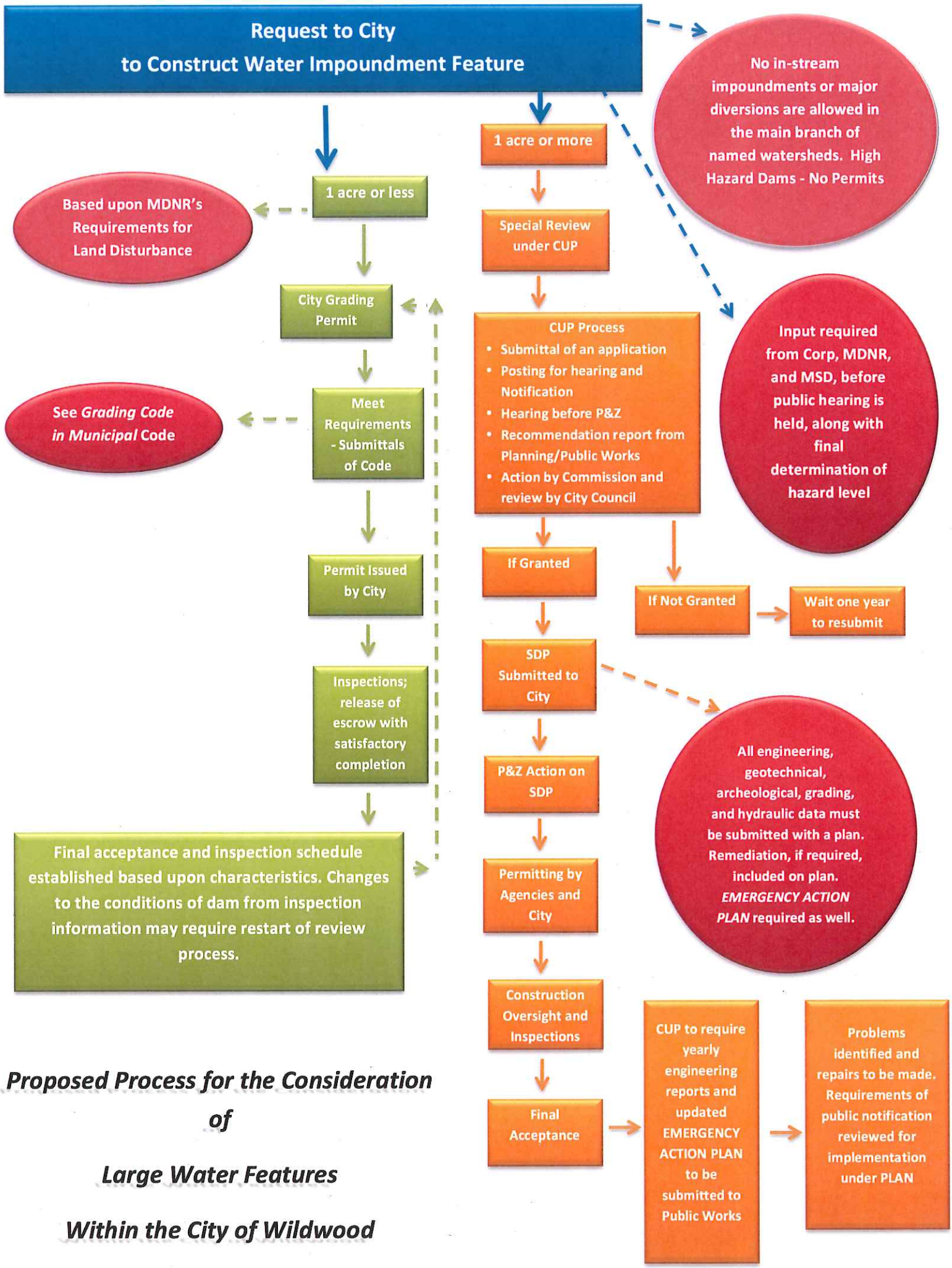
7. The process requires the preparation of an Emergency Action Plan for protection of the lot owner, as well as downstream property owners.
8. The process, for water features one (1) acre or greater in size, guarantees an escrow for maintenance and other actions, if the property owner fails to comply with on-going requirements of the City's Conditional Use Permit (CUP).
9. The process requires inspections of these water features to occur on regular intervals, so as they receive appropriate maintenance over their existence.
10. The process places the responsibility on the property owner to be a good steward of the land.

Again, all of these components were determined to define a process that was appropriate for the City and would ensure the public's health, safety, and welfare would be protected. Conversely, any changes at this time would lead to less oversight of proposed large water features and is not justified in the opinion of the Department of Planning, given only one (1) application has been processed and, even that, achieved the considerations identified in the list above, despite the statements of the single property owner. In fact, the current regulations create a partnership between the property owner and the City regarding maintenance and upkeep of large water features, and related dams, to the benefit of them, and the owners of parcels of ground that are downstream from these impoundments. This maintenance component, in many regards, is as important, if not more, than permitting the initial water feature itself.

SUMMARY AND RECOMMENDATION –

The Department of Planning is not supporting any changes to the current legislation relating to large water features. The current legislation does add time and certain requirements that might be considered onerous by some, but certainly protects the environment and the neighborhoods that are located near these types of large water features. The current legislation eliminated the shortcomings of the past review, permitting, and inspection process, as it relates to these features. The Department believes the current regulations lessens the impact of large water features and ensures, when permitted, the effects of them are primarily limited to the lot, where it is located, and not onto abutting properties or the main channel of the creek or stream providing the source of water for it.

ATTACHMENT B
Flow Chart, Map, and Background Information

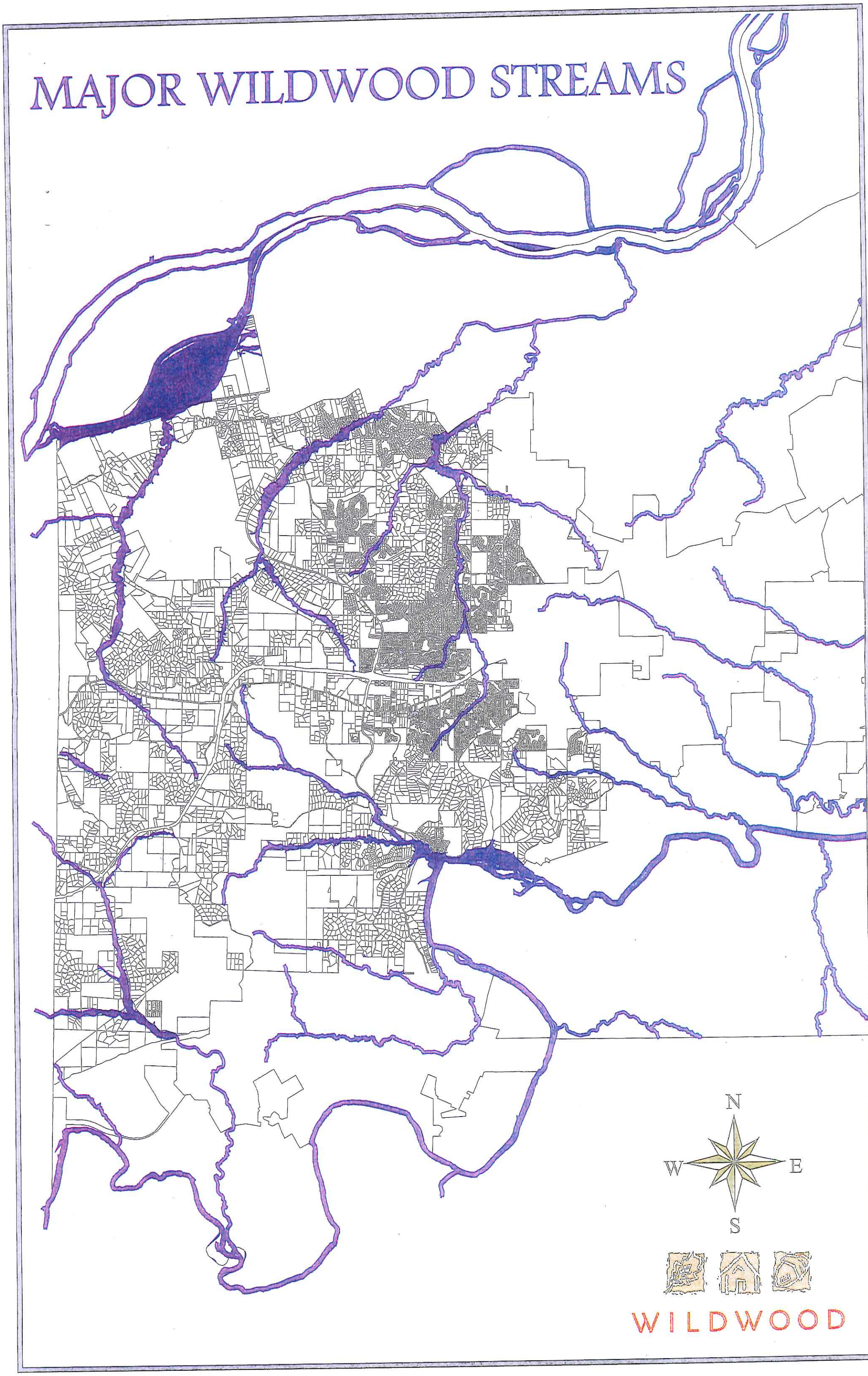


Proposed Process for the Consideration of

Large Water Features

Within the City of Wildwood

MAJOR WILDWOOD STREAMS



WILDWOOD

CITY OF WILDWOOD
RECORD OF PROCEEDINGS

MEETING OF THE PLANNING AND ZONING COMMISSION
CITY HALL, 183 PLAZA DRIVE, WILDWOOD, MISSOURI
JULY 2, 2012

The Planning and Zoning Commission meeting was called to order by Chair Bopp at 7:30 p.m. on Monday, July 2, 2012, at Wildwood City Hall, 183 Plaza Drive, Wildwood, Missouri.

I. Welcome to Attendees and Roll Call of Commission Members

Chair Bopp requested a roll call be taken. The roll call was taken, with the following results:

PRESENT – (9)
Chair Bopp
Commissioner Archeski
Commissioner Gragnani
Commissioner Taylor
Commissioner Hayek
Commissioner Peasley
Commissioner Topik
Council Member Geile
Mayor Woerther

ABSENT – (1)
Commissioner Finnegan

Other City Officials present: Director of Planning Vujnich, City Attorney Golterman, and Planner Montalbano.

II. Review Tonight's Agenda / Questions or Comments

Chair Bopp reviewed the items to be discussed on tonight's agenda.

III. Approval of Minutes from the Meeting of June 18, 2012

A motion was made by Commissioner Topik, seconded by Commissioner Peasley, to approve the minutes from the June 18, 2012 meeting. A voice vote was taken regarding the motion for approval of the minutes. Hearing no objections, Chair Bopp declared the motion approved.

IV. Department of Planning Opening Remarks

V. Public Hearings – No Items

VI. Old Business – One (1) Item

Letter of Recommendation – One (1) Item

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Hayek, Commissioner Peasley, Commissioner Topik, Commissioner Gragnani, Commissioner Archeski, Commissioner Taylor, Council Member Geile, Mayor Woerther, and Chair Bopp
Nays: None
Absent: Commissioner Finnegan
Abstain: None
Whereupon, Chair Bopp declared the motion approved 9 to 0.

VII. New Business – One (1) Item

Correspondences – One (1) Item

1.) A request to the Tree Advisory Board of the City of Wildwood by Joshua Stevenson, 209 Bountiful Court, Wildwood, Missouri 63040 regarding the removal of several existing trees from the Natural Resource Protection Area of the lot; R-1A 22,000 square foot Residence District with a Planned Residential Development Overlay District (PRD); Enclaves at Cherry Hills Subdivision; including a report on the matter from the Department of Planning. **(Ward Eight)**

Planner Montalbano read the request into the record.

Director of Planning Vujnich explained the nature of the request to the Planning and Zoning Commission, which is also the City's Tree Advisory Board. He noted a lot owner in the Enclaves at Cherry Hills Subdivision is seeking the right to remove three (3) trees that are located in a protected area of the property. He went on to note the trees were inspected by Department of Planning Staff, Ray's Tree Service, and the City's Landscape Architect, who contacted the Missouri Botanical Garden to learn more about their condition. It was determined by Ray's Tree Service that the three (3) persimmon trees have "basal rot", which is the reason for their current condition and identified them as a hazard.

Director of Planning Vujnich stated that, if the owner agrees to the replanting of these removed trees, the Department would support the removal of the existing trees. He went on to note in telephone conversations earlier in the day, the owner, Mr. Stevenson, agreed to the replanting of three (3) trees in the protected area of the property and comply with the Natural Resource Protection Standards and Procedures.

Discussion was held among Commission Members regarding the following items: what type of trees would be planted; if a size and location requirement has been determined; and if the owner is required to water said trees.

Director of Planning Vujnich noted the owner would be provided a copy of the City's Sustainable Plantings Guide for tree types and that a size of 3 to 3.5 inches or 8 to 10 feet in height would be required. He also noted, the Department would recommend the trees be planted in the fall to avoid the heat of summer and they are allowed to be placed anywhere within the protected area of the property.

Commissioner Archeski made a motion to remove the Christopher Burrows' request from the agenda's 'Items Not Ready for Action'. Commissioner Gragnani seconded the motion. A voice vote was taken regarding the motion. Hearing no objections, Chair Bopp declared the motion approved.

Commissioner Archeski made a motion to remove S.O.I Outdoor, c/o Sherwood Sachtleben, regarding signage for the Wildwood Hotel (P.Z. 2 and 3-04 Koman Properties) from the agenda's 'Items Not Ready for Action'. Commissioner Topik seconded the motion. A voice vote was taken regarding the motion. Hearing no objections, Chair Bopp declared the motion approved.

X. **Closing Remarks and Adjournment**

A motion made by Commissioner Topik, seconded by Commissioner Peasley, to adjourn the meeting. A voice vote was taken. Hearing no objections, Chair Bopp adjourned the meeting at 8:12 p.m.

Approved by: _____

Secretary – City of Wildwood Planning and Zoning Commission

Note: Recordation of the opinions, statements, and/or other meeting participation in these minutes shall not be deemed to be an acknowledgement or endorsement by the Commission of the factual accuracy, relevance, or propriety thereof.

* If comment cards were submitted indicating they did not wish to speak at tonight's meeting, they have been attached and made part of the official record.

CITY OF WILDWOOD
RECORD OF PROCEEDINGS

MEETING OF THE PLANNING AND ZONING COMMISSION
CITY HALL, 183 PLAZA DRIVE, WILDWOOD, MISSOURI
JUNE 4, 2012

The Planning and Zoning Commission meeting was called to order by Chair Bopp at 7:30 p.m. on Monday, June 4, 2012, at Wildwood City Hall, 183 Plaza Drive, Wildwood, Missouri.

I. Welcome to Attendees and Roll Call of Commission Members

Chair Bopp requested a roll call be taken. The roll call was taken, with the following results:

PRESENT – (10)	ABSENT – (0)
Chair Bopp	
Commissioner Archeski	
Commissioner Gragnani	
Commissioner Finnegan	
Commissioner Hayek	
Commissioner Peasley	
Commissioner Taylor	
Commissioner Topik	
Council Member Geile	
Mayor Woerther	

Other City Officials present: Director of Planning Vujnich, City Attorney Golterman, and Planner Montalbano.

II. Review Tonight's Agenda / Questions or Comments

Chair Bopp reviewed the items to be discussed on tonight's agenda.

III. Approval of Minutes from the Meeting of May 21, 2012

A motion was made by Commissioner Peasley, seconded by Commissioner Archeski, to approve the minutes from the May 21, 2012 meeting. A voice vote was taken regarding the motion for approval of the minutes. Hearing no objections, Chair Bopp declared the motion approved.

IV. Department of Planning Opening Remarks

Mayor Woerther noted he attended the St. Louis County Municipal League's first "Muni Awards" Event at the Kemp Auto Museum and the City of Wildwood was awarded the "Muni" for Parks and Trails Development. He went on to thank the Commission and City staff for their vision and making the City's parks and trails a reality, along with all their efforts in this regard.

Director of Planning Vujnich concluded by noting that due to the fact amendments are being recommended to the City's Zoning Ordinance by the Planning/Economic Development/Parks Committee of the City Council, this requires the Planning and Zoning Commission's review and consideration. He also noted, once the review of the Commission is completed, a report will be prepared, acted upon, and then sent to City Council for final consideration and action. He then asked the Commission for their input and any questions on the information prepared and presented and also noted Director of Public Works, Ryan Thomas, is attendance to address comments as well.

Discussion was held among Commission Members regarding the following items: if any construction has occurred on the thirteen (13) acre lake that would impound water within the main channel of Wild Horse Creek and caused this review and Stay; changes that may occur to potential residential properties; what would occur if a Conditional Use Permit (CUP) was revoked for a large water feature and how would this impact surrounding properties; if permitted large water features would cause a reduction in property values surrounding them; clarification regarding where main channel areas begin; if potential large water features could be filled by tapping into existing aquifers, thus potentially depleting them; clarification regarding high hazard dams; the importance of creating an inventory of existing lakes and water features; if water features located in subdivisions are inspected by MDNR (Missouri Department of Natural Resources); and how these regulations may affect residents' homeowners insurance.

Director of Planning Vujnich responded by noting the following: an escrow would be required, if a Conditional Use Permit (CUP) were to be granted for a large water feature, which would ensure monies for maintenance or possible removal; a reduction in property values could occur, since the downstream areas could be treated as inundation areas; and, due to the Commission's comments, it brings up the fact that the City's Grading Permit regulations would be reviewed, as part of this process as well.

Director of Public Works Thomas noted that City staff will be creating an inventory of existing lakes that are one (1) acre or larger in size and implement the proposed process of review described by Director Vujnich, if approved.

A motion was made by Commissioner Archeski, seconded by Commissioner Hayek, to close the public hearing. A voice vote was taken regarding the motion. Hearing no objections, Chair Bopp declared the motion approved.

VI. Old Business – One (1) Item

1.) An Information Report for the Site Development Plan (SDP) that is being submitted by the **City of Wildwood c/o Department of Planning and Parks and Department of Public Works, 183 Plaza Drive, Wildwood Missouri 63040** for the proposed salt storage facility to be located within the City of Wildwood's community park property; NU Non-Urban Residence District (under review for PS Park and Scenic District); north side of State Route 100, west of State Route 109 (Locator Number 23V410423/Street Address: 2153 Highway 109); said submittal is required under Chapter 89 of the Missouri Revised Statutes, as it relates to public projects within a municipality that has an adopted Master Plan. **(Ward One)**

Planner Montalbano read the request into the record.

harmful to the environment.

Ron James, Council Member Ward 6, stated the need for the salt storage facility within the City of Wildwood in order to cut costs in the long run by avoiding storing salt at several contractors' yards throughout the City. He also noted the issues surrounding the design of this facility, which have been discussed for several years by the Administration/Public Works Committee of City Council and that he endorses the current design of the site and building.

Director of Planning Vujnich suggested the Planning and Zoning Commission postpone action on this request in order for the Departments to further review and investigate options concerning the comments made by the Commission.

A motion was made by Commissioner Archeski, seconded by Commissioner Gragnani, to postpone the request. A voice vote was taken regarding the motion to postpone. Hearing no objections, Chair Bopp declared the motion approved

VII. **New Business – No Items**

VIII. **Site Development Plans – One (1) Item**

1.) A recommendation on an Amended Site Development Plan (SDP) for the Wildwood Historical Society, c/o Jim Martin, President, P.O. Box 125, Wildwood, Missouri 63040 regarding **P.Z. 4-10 Wildwood Historical Society**; a Conditional Use Permit (CUP) in the NU Non-Urban Residence District; south side of State Route 100, west of Hencken Road (Locator Number 26Y630111/Street Address: 18750 Highway 100); that would allow an approximately 1,200 square foot building addition at this 5.4 acre site, which will provide new meeting space for this community facility. **(Ward Six)**

Director of Planning Vujnich read the request into the record.

Planner Montalbano gave an overview of the Wildwood Historical Society's property and a description of the request for the approval of an Amended Site Development Plan to allow for the construction of a building addition onto the existing 'chicken coop' structure. She went on to note the property is zoned NU Non-Urban Residence District, with a Conditional Use Permit (CUP), 5.4 acres in size, and located on the south side of State Route 100, west of Hencken Road.

She noted the Conditional Use Permit (CUP) for this facility was granted by the Planning and Zoning Commission on May 3, 2010 and, shortly thereafter, the society submitted the required Site Development Plan (SDP) to the Commission for consideration and action. She noted with this approval, the petitioner began completing the required improvements on the site that were indicated on the plan. However, she noted, the petitioner is required to submit an Amended Site Development Plan to the Commission, when new improvements are planned in the area governed by the permit. She stated the current request is to construct a thirty-six (36) by thirty-two (32) foot meeting room addition onto the existing chicken coop structure, which would provide seating for approximately seventy (70) people, while the existing structure would be used for restroom facilities, a refreshment area, and an entry foyer.

Planner Montalbano read the update item into the record.

Director of Planning Vujnich gave an overview of the Action Plan 2007 that was completed and intended to better focus the community's decision-makers on a short list of goals that were to be achieved in no more than ten (10) years from its adoption. He then reviewed the goals and key components of this Action Plan and gave a five (5) year update on the progress and success of its application.

Discussion was held among Commission Members regarding the following items: the belief the City has done a great job implementing the goals of this plan and if a sales tax funding increase for such projects has been discussed for the future.

2.) Establish Nominating Committee for Officers of the Planning and Zoning Commission for 2012-2013 Year (Ward – All)

Chair Bopp requested this item be tabled until the Planning and Zoning Commission Meeting on June 18, 2012 due to the fact two (2) of the Commission Members terms are due to expire at the end of the month and the City Council is scheduled to review their re-appointments.

X. Closing Remarks and Adjournment

A motion made by Commissioner Archeski, seconded by Commissioner Hayek, to adjourn the meeting. A voice vote was taken. Hearing no objections, Chair Bopp adjourned the meeting at 9:36 p.m.

Approved by: Ronald W Beasley

Secretary – City of Wildwood Planning and Zoning Commission

Note: Recordation of the opinions, statements, and/or other meeting participation in these minutes shall not be deemed to be an acknowledgement or endorsement by the Commission of the factual accuracy, relevance, or propriety thereof.

* If comment cards were submitted indicating they did not wish to speak at tonight's meeting, they have been attached and made part of the official record.

CITY OF WILDWOOD
RECORD OF PROCEEDINGS

MEETING OF THE PLANNING AND ZONING COMMISSION
CITY HALL, 183 PLAZA DRIVE, WILDWOOD, MISSOURI
JUNE 18, 2012

The Planning and Zoning Commission meeting was called to order by Chair Bopp at 7:30 p.m. on Monday, June 18, 2012, at Wildwood City Hall, 183 Plaza Drive, Wildwood, Missouri.

I. Welcome to Attendees and Roll Call of Commission Members

Chair Bopp requested a roll call be taken. The roll call was taken, with the following results:

PRESENT – (9)
Chair Bopp
Commissioner Archeski
Commissioner Gragnani
Commissioner Finnegan
Commissioner Hayek
Commissioner Peasley
Commissioner Topik
Council Member Geile
Mayor Woerther

ABSENT – (1)
Commissioner Taylor

Other City Officials present: Director of Planning Vujnich, Assistant City Attorney Byram, and Planner Montalbano.

II. Review Tonight's Agenda / Questions or Comments

Chair Bopp reviewed the items to be discussed on tonight's agenda.

III. Approval of Minutes from the Meeting of June 4, 2012

A motion was made by Commissioner Topik, seconded by Commissioner Peasley, to approve the minutes from the June 4, 2012 meeting. A voice vote was taken regarding the motion for approval of the minutes. Hearing no objections, Chair Bopp declared the motion approved.

IV. Department of Planning Opening Remarks

Director of Planning Vujnich welcomed Attorney Marisa Byram, who he noted will be substituting in for City Attorney Golterman at this evening's meeting. He also noted the Council Chamber's audio system has been serviced in order to avoid previous on-going issues with the microphones' sound quality.

V. Public Hearings – One (1) Item

1.) **P.Z. 4 and 5-12 Karim Abdian, 300 State Route 109, Wildwood, Missouri 63005** – A request to modify the City's Master Plan and Comprehensive Zoning Map of the Wildwood Charter to accommodate a change in use of this property, given its current Conceptual Land Use Category is 'Non-Urban Residential Area'. With this current Master Plan designation, it requires an amendment to accommodate a requested change in zoning from the Amended C-8 Planned Commercial District to an Amended C-8 Planned Commercial District (Second Amendment) for a 1.6 acre tract of land located on the southeast corner of State Route 109 and Wild Horse Creek Road (Locator Number 19W420224/300 State Route 109). **Proposed Use: To add alcohol sales of beer and wine to the existing convenience store and gas pump facility. (Ward One)**

Planner Montalbano read the request into the record.

Director of Planning Vujnich, before beginning of the Department's presentation, introduced the following items into the official record: the City of Wildwood's Charter; Master Plan; Municipal Code; Chapter 415 of the Zoning Ordinance; and the file created for this request.

A motion was made by Mayor Woerther, seconded by Commissioner Archeski, to accept the aforementioned items into the official record. A voice vote was taken regarding the motion for approval. Hearing no objections, Chair Bopp declared the motion approved.

Director of Planning gave an overview and background regarding this request. He noted the Department prepared a summary of the proposals by the petitioner to assist in tonight's discussion, which have occurred on multiple occasions and there exists a long history of discussion within the nearby community.

Chair Bopp called the petitioner, Karim Abdian, to the podium.

Karim Abdian, 1219 Willow View Drive, Kirkwood, thanked the Commission for their consideration of his request. He went on to note the following in support of his request to allow the sale of beer and wine at the BP Amaco Station, which he and his brother operate: the economic downturn has caused a decrease in gasoline sales and liquor sales would increase profits; their customers would like more convenience items provided, such as liquor; and every gas station in Wildwood sells liquor and they would like to be able to compete in this market. Mr. Abdian went on to give examples of the declining financial situation of their facility and stated it was his belief the prohibition of liquor sales puts it at a disadvantage. He also stated, although they were aware of the prohibition of liquor sales at this location, when they purchased it, they believed the market place was evolving and that amendments are sometimes necessary. Mr. Abdian concluded by stating the importance of business development within the City and helping such that are failing.

Discussion was held among Commission Members regarding the following items: at what point would this location be closed by the Wallis Corporation due to decreased profit margins; the fact that a car wash is permitted, but cannot be accommodated at this time due to the lack of a connection to public water supply; if food sales at this location have declined, along with gasoline sales over the past few years; if enlarging the retail building has been considered and if there is ample cooler space

to accommodate beer and wine; who would the liquor license be issued to, if approved; and what is the average age of Mr. Abdian's clientele.

Larry McGowen, Council Member Ward One, provided a transcript of his statements to the Department of Planning and a copy of the results of his canvasing efforts of the surrounding community to determine their feelings toward the request (these two (2) items are attached to this document). In conclusion, he noted it was his belief that Mr. Abdian should be allowed to sell beer and wine at this location, but he would like the City to find a way to accommodate this allowance, without amending the Master Plan.

Debbie Strobl, 2260 Crimson View Drive, stated it was her belief that Mr. Abdian's business has a positive impact on the City of Wildwood and that the sale of beer and wine should be accommodated to allow equality and support of small businesses within the City.

Chad Wallis, Wallis Oil Company, 16775 Eagle Bluff Court, noted overall gasoline sales have decreased over the last few years. However, he stated, beer sales account for the third most profitable item at their locations and would benefit Mr. Abdian. He also noted that Wallis Oil Company has plans to re-build this facility in the next three (3) years, but would not consider this investment, if liquor sales are not allowed. He also added that Wallis Oil Company would like to construct a car wash facility at this site and that they are more profitable than liquor sales in the long-term.

Stuart Morse, 401 Laurey Lane, stated it was his belief that his family values the Abdian's as members of the community and their business. He also stated they should be able to compete equally with other gas stations.

Bill Kennedy, 48 Rockwood Forest Ridge, stated he was speaking on behalf of several Wildwood residents (Rhonda Loggia, Sue Cullinane, Judy Sahm, and Patricia Thibeault) that could not attend tonight's meeting. He went on to note his concern with changing the Master Plan in order to accommodate this request and the belief that gasoline sale trends coincide with the decline in the use of automobile transportation by younger generations because they are finding other alternatives. He added it was his belief that it is not the City's responsibly to guarantee profits for businesses. Mr. Kennedy also raised questions pertaining to the posting of the public hearing sign on the property. He noted the sign was facing towards the building and not visible to cars on the roadway.

Sandy Reiner, 739 Windy Path Lane, stated she is not a Wildwood resident and has also decided to boycott Wildwood business because of her belief the City is unfair in its business practices. She went on to note it would be to the City's advantage to ensure this business remains opened and believed the sign was placed in an appropriate location to allow people to read it.

Max Huber, 1703 Shiloh Ridge Road, stated it was his belief the BP Amaco Station should be given a fair chance to compete with other gas station facilities in the area. He also noted that the Constitution of the United States has been amended and, therefore, a change to the City's Master Plan should be approved in this instance.

Edward Thibeault, 19300 Deer Point Estates Drive, stated it was his belief this issue is not about the sale of beer and wine, but upholding the integrity of the City's Master Plan. He went on to note the

City is not responsible for guaranteeing economic success of an individual business, but to be responsive to all citizens by upholding the Master Plan. He inquired, if a solution could be accommodated to allow beer and wine sales without changing the Master Plan, such as a Conditional Use Permit (CUP).

John Gragnani, 1510 Scofield Valley Lane, stated he does not have any objections to the sale of beer and wine at this business, but believes in upholding the Master Plan. He inquired, if there is another mechanism to allow this change, such as a variance from the Board of Adjustment.

Discussion was held among Commission Members regarding the following items: the public hearing sign placement and if a postponement of this request should be considered; if there is a way to accommodate this request for beer and wine sales without an amendment to the Master Plan; and if Mr. Abdian is required to be a Wildwood resident to obtain a liquor license.

Director of Planning Vujnich stated that public hearing signs are required to be placed facing an adjoining right-of-way and he would inquire with members of staff as to where the sign was placed and provide an explanation to the Commission. He also noted the Commission could chose to continue or postpone the public hearing to ensure the sign placement is corrected for an upcoming meeting. Director Vujnich went on to state that, over the years, the Department has reviewed several options and contacted experts with regards to the inquiries by Commission Members that if this request could be accommodated without a change to the Master Plan.

A motion was made by Commissioner Hayek, seconded by Commissioner Topik, to close the public hearing.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Hayek, Commissioner Finnegan, and Commissioner Topik
Nays: Commissioner Peasley, Commissioner Archeski, Commissioner Gragnani, Council Member Geile, Mayor Woerther, and Chair Bopp
Absent: Commissioner Taylor
Abstain: None
Whereupon, Chair Bopp declared the motion failed 3 to 6.

A motion was made by Mayor Woerther, seconded by Commissioner Gragnani, to continue the public hearing in order for Director of Planning Vujnich to inquire about the placement of the sign and review alternatives that do not require an amendment to the Master Plan.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Hayek, Commissioner Peasley, Commissioner Topik, Commissioner Gragnani, Commissioner Archeski, Commissioner Finnegan, Council Member Geile, Mayor Woerther, and Chair Bopp
Nays: None
Absent: Commissioner Taylor

Abstain: None
Whereupon, Chair Bopp declared the motion approved 9 to 0.

VI. Old Business – Two (2) Items

1.) **P.Z. 3-12 City of Wildwood Planning and Zoning Commission c/o Department of Planning and Parks, 183 Plaza Drive, Wildwood, Missouri 63040** – A request for modifications to the City of Wildwood's Zoning Ordinance, specifically Chapter 415.090 NU Non-Urban Residence District and Chapters 415.110 through 415.160 all "R" Residence Districts which would authorize the inclusion of 'Large Water Features' as a *Conditional Land Use And Development Permit Issued By The Planning and Zoning Commission* for the purposes of protecting streams and creeks, the preserving of flood-prone areas, and ensuring the logical development of property relative to the sequencing of permitted and accessory activities relating to large water features in terms of public safety considerations. **(Wards – All)**

Planner Montalbano read the request into the record.

Director of Planning Vujnich reviewed the background regarding this request. Director Vujnich noted that, due to the fact amendments are being recommended to the City's Zoning Ordinance by the Planning/Economic Development/Parks Committee of the City Council, such action requires the Planning and Zoning Commission's review and consideration. Therefore, he noted a report has been prepared for the Commission's consideration with input from Ryan Thomas, Director of Public Works and City Engineer, and Bill Kennedy, consulting engineer. Director of Planning Vujnich also noted that City Attorney Golterman provided an e-mail with recommended changes to the recommendation the Department believes are warranted and would be incorporated into the report, before any action is taken upon it.

Director Vujnich noted a City Council Committee has been working on this issue and developed the following components: the permitting process would not allow any impoundments in the main channel of a named watershed in the City; the permitting process would not allow any high hazard water impoundments to be permitted; the permitting process for water features is premised on the size threshold of one (1) acre in area; the permitting process for large water features, those types over one (1) acre is size, would be reviewed under the conditions and requirements of the Conditional Use Permit (CUP) Regulations of the Zoning Ordinance; the permitting process for water features less than one (1) acre in size would be reviewed against the Grading Permit requirements of the Grading Code only; the permitting process includes the submittal of pertinent information on a timely basis; the permitting process requires the submittal of an Emergency Action Plan (EAP); the permitting process allows for ample public notification and participation, when the one (1) acre or greater sized water features are proposed on the lot; the permit process will ensure that water features approved under either permit requirement are subject to inspections and regular reporting; and the permitting process encourages the coordination of reviews, permitting, and sharing of information between the involved parties by the sequencing associated with the proposed two (2) tracks for applications associated with large water features in Wildwood.

Director Vujnich noted, to this end, the Council Committee heard from a number of different parties and the public in creating the attached, endorsed flow chart that describes the two (2) proposed processes for permitting or related zoning actions for large water features. He also noted the City's

Grading Code would be reviewed separately, since it was not posted and advertised for consideration with these amendments.

Director of Planning Vujnich concluded by noting that, due to the fact amendments are being recommended to the City's Zoning Ordinance by the Planning/Economic Development/Parks Committee of the City Council, these changes require the Planning and Zoning Commission's review and recommendation. Therefore, he noted, the Department is available to answer any questions or comments the Commission may have regarding this Information Report, after a motion and second is made.

A motion was made by Commissioner Archeski, seconded by Commissioner Topik, to approve the recommendation, including the additional items recommended by City Attorney Golterman.

Discussion was held among Commission Members regarding the following items: the belief the prohibition of the use of groundwater from aquifers should be prohibited in all districts.

Director of Planning Vujnich responded by noting that, in some cases, such as a lake being less than one (1) acre in size, the use of groundwater could be appropriate. He also noted the Conditional Use Permit (CUP) process is rigorous and gives the Planning and Zoning Commission the authority to review each lake on a case-by-case basis and would allow them to prohibit the use of groundwater in certain cases.

A motion was made by Commissioner Peasley, seconded by Commissioner Gragnani, to prohibit the use of groundwater in all large water features for the purposes of preserving aquifers.

Bill Kennedy, 48 Rockwood Forest Ridge, consulting engineer, stated that he believed in some instances the use of groundwater may be acceptable for lakes less than one (1) acre in size.

Discussion was held among Commission Members regarding the following: the lack of State regulations with regards to utilizing groundwater and the request the Commission visit the thirteen (13) acre lake that would impound water within the main channel of Wild Horse Creek and caused this review and stay.

Chair Bopp called the question on the motion to prohibit the use of groundwater for large water features in all zoning districts.

A roll call vote was taken, with the following results:
Ayes: Commissioner Peasley, Commissioner Topik, Commissioner Gragnani, Commissioner Archeski, Commissioner Finnegan, Council Member Geile, and Chair Bopp
Nays: Commissioner Hayek and Mayor Woerther
Absent: Commissioner Taylor
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 7 to 2.

Chair Bopp called the question on the original motion, as amended, to approve the recommendation.

A roll call vote was taken, with the following results:

Ayes: Commissioner Peasley, Commissioner Topik, Commissioner Gragnani, Commissioner Archeski, Commissioner Finnegan, Council Member Geile, Mayor Woerther, and Chair Bopp
Nays: Commissioner Hayek
Absent: Commissioner Taylor
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 8 to 1.

2.) An **UPDATE** on **STORMWATER AND SALT RUNOFF ISSUES** identified in the Information Report on the Site Development Plan (SDP) that is being submitted by the **City of Wildwood c/o Department of Planning and Parks and Department of Public Works, 183 Plaza Drive, Wildwood Missouri 63040** for the proposed salt storage facility to be located within the City of Wildwood's community park property; NU Non-Urban Residence District (under review for PS Park and Scenic District); north side of State Route 100, west of State Route 109 (Locator Number 23V410423/Street Address: 2153 Highway 109); said submittal is required under Chapter 89 of the Missouri Revised Statutes, as it relates to public projects within a municipality that has an adopted Master Plan. **(Ward One)**

Planner Montalbano read the request into the record.

Director of Planning Vujnich provided an update relating to information the Departments of Planning and Public Works have been obtaining relating to design issues associated with the spillage of salt through the operations of this planned facility and the impact on the bio-detention basin and surrounding environment associated with Bonhomme Creek. He noted the Departments have received revised comments from the Metropolitan St. Louis Sewer District (MSD) that were attached to the update for the Commission's review. He also noted Commissioner Archeski and Dr. John Gragnani provided information relating to efforts of other local governments in this regard and information was provided by Director of Public Works Thomas as how the City of Ellisville handles their salt storage facility with regards to stormwater runoff. Director of Planning Vujnich concluded by noting it is the City's collective desire to improve the design of the stormwater management facility and not create any environmental issues, before action is taken upon this item at an upcoming meeting.

Discussion was held among Commission Members regarding the following items: thanking the Department, Commissioner Archeski, and Dr. Gragnani for the additional information; and if the Metropolitan St. Louis Sewer District (MSD) accepts the solutions being proposed.

VII. **New Business – No Items**

VIII. **Site Development Plans – No Items**

IX. **Other – One (1) Item**

1.) Establish Nominating Committee for Officers of the Planning and Zoning Commission for 2012-2013 Year (Ward – All)

Chair Bopp suggested the following Planning and Zoning Commission Members to form and serve on the Nominating Committee: Commissioner Peasley – Chair; Commissioner Topik; Commissioner

Archeski; and Commissioner Gragnani. He noted this Committee is anticipated to provide a recommendation to the Planning and Zoning Commission at its July 16, 2012 meeting.

Director of Planning Vujnich noted the Department will send an e-mail with an available meeting date and time and make the conference room available for the Nominating Committee.

X. **Closing Remarks and Adjournment**

A motion made by Mayor Woerther, seconded by Commissioner Archeski, to adjourn the meeting. A voice vote was taken. Hearing no objections, Chair Bopp adjourned the meeting at 9:45 p.m.

Approved by: _____

Secretary – City of Wildwood Planning and Zoning Commission

Note: Recordation of the opinions, statements, and/or other meeting participation in these minutes shall not be deemed to be an acknowledgement or endorsement by the Commission of the factual accuracy, relevance, or propriety thereof.

* If comment cards were submitted indicating they did not wish to speak at tonight's meeting, they have been attached and made part of the official record.

WILDWOOD

July 18, 2016

The Honorable City Council
City of Wildwood, Missouri
16860 Main Street
Wildwood, Missouri 63040

Re:	A response to a request from the Wildwood City Council regarding **P.Z. 25-15 Laurie Taylor, 17715 Manchester Road, Wildwood, Missouri, 63038, c/o Volz, Inc.;** Conditional Use Permit (CUP) in the NU Non-Urban Residence District; north side of Manchester Road, west of Pond Road; which addresses the property owner's application to modify the governing permit to eliminate the current seven (7) year renewal requirement for this large water feature. **(Ward One)**
Petitioner:	**P.Z. 25-15 Laurie Taylor, 17715 Manchester Road, Wildwood, Missouri, 63038, c/o Volz, Inc.**
Zoning:	Conditional Use Permit (CUP) in the NU Non-Urban Residence District
Location:	North side of Manchester Road, west of Pond Road
Tract Size:	32.05 acres
Locator Numbers	23X340061
Ward:	One

Council Members:

INTRODUCTION AND ACTION >>> The Planning and Zoning Commission is in receipt of the item from City Council regarding the matter of this large water feature on this 32.05 acre tract of land. The matter was requested for review by the City Council, given the property owner's concerns relating to the governing permit. Given the request, the Planning and Zoning Commission has reviewed the files relating to this site and completed a recommendation in this regard. Accordingly, acting at its July 18, 2016 Executive Session, and by a vote of 6 to 2, hereby submits its report and recommendation to the City Council for its consideration and action. The development of this information has complied with the requirements of the Zoning Ordinance for the amendment of a special procedures permit.

BACKGROUND >>> The Planning and Zoning Commission is in receipt of the request from the property owner to review an existing Conditional Use Permit (CUP) that was recently granted for a large water feature on this thirty plus (30+) acre site. This permit was the first issued for a large water feature in the City of Wildwood, since new regulations governing lakes and ponds were adopted by the City Council. These regulations were intended to protect the natural environment of Wildwood's watersheds and ensure that, when large water features are constructed, they are completed and maintained to the highest standard possible.

As part of this first permit to be considered and acted upon by the City, the Department recommended, and the Planning and Zoning Commission concurred, to establish a list of conditions to ensure the water feature would be designed to the highest standards, constructed to accepted design criteria, and maintained

consistently over the years of its existence. One of the conditions was to require the property owner to renew the permit after seven (7) years of its existence, so as to ensure all of the conditions that were applied were being met and the integrity of the structure had been maintained for the public's safety. This timeframe was selected, so as not to require a review too early, but also not allow too much time to pass that any potential correction that might be warranted to the feature would not become major, given too much time had passed from its identification to repair. Again, the timeframe was meant to create a balance between regulation and safety.

CURRENT REQUEST >>> This seven (7) year timeframe has become a point of contention and been described as an impediment of the future sale of the property. This concern has led the property owner to consider amending the size of the lake to negate the need for a Conditional Use Permit (CUP) on the site, while also seeking the Planning and Zoning Commission's support to eliminate the requirement altogether. Regardless of approach, the property owner is still seeking a water feature on the property, but at a size and type not requiring a review period at some distant point in the future.

ANALYSIS >>> First, the Commission would note that, while the owner believes the renewal process and its associated timeframe to be an issue, it has been a standard practice of the City in many recently granted permits. Part of the benefit of Wildwood's Conditional Use Permit (CUP) process is the property owner and City's ability to consider its requirements, as the process moves from its initial step at a public hearing to approval of a site development plan. This iterative process ensures that conditions needed to address major issues are included and retained, while others can be reconsidered, if determined to be problematic. With this process, no action of the City is irreversible until such time the permit is effective, particularly as more information and input is received relating to the matter.

Given this permitting process, the action to reduce the size of the water feature is not necessary, in the opinion of the Planning and Zoning Commission, since other options for consideration do exist, including amending the current permit, as has been requested. The Planning and Zoning Commission believes a reduction in the size of the water feature, given the current design and engineering associated with this 1.75 acre lake, would not make it safer or better due to it appears to address all needed standards to ensure its long-term stability and integrity. Therefore, the reduction in size is arbitrary and intended only to avoid the regulation that is in place.

The Commission would also note the intent of this timeframe was to provide assurances by the City to neighboring residents that large features are safe and pose no threat for the future. This assurance does not necessarily exist for water features constructed many years ago in Wildwood. Currently, many large water features exist in the City, but have not been permitted and, therefore, no guarantee exists that construction, as completed, was to the highest possible standard, along with maintenance programs that ensure their long-term stability and integrity. This situation was to be corrected by the City's permitting process it has adopted, along with requiring timeframes for more formal reviews of these features in the future. However, the permitting process and associated conditions, regardless of type of water feature, were not intended to stop the approval of them.

In this case, the Commission would note the size of the large water feature is not much greater in area than a lake or pond that would not require a Conditional Use Permit (CUP), which is one (1) acre of area. With the limited size of this feature, it may not need the full complement of requirements of a larger lake or pond, which can include a renewal timeframe. Therefore, the Planning and Zoning Commission is agreeable to amending the governing permit to eliminate the renewal requirement for a water feature of this size. Accordingly, in the future, lakes of less than two (2), three (3), or more acres in size may be considered for

not being subject to renewal requirement and such would only be asked in those circumstances associated with the larger water features proposed within the City.

SUMMARY AND RECOMMENDATION >>> In considering this request, the Commission members believe that, despite its size being greater than one (1) acre in area, the water feature is not large enough to justify a renewal timeframe, as is needed for lakes and ponds greater in area than in this specific case. The Planning and Zoning Commission hereby grants the requested change sought by the property owner relative to this permit for a large water feature and the seven (7) year timeframe is removed from the Conditional Use Permit (CUP), along with the nuisance bond requirement as well (this last item was added during the discussion of this matter at the Commission's July 18, 2016 meeting). Accordingly, the Planning and Zoning Commission has hereby amended the Conditional Use Permit (CUP) to read as follows:

1. PERMITTED USES

This Conditional Use Permit (CUP) shall authorize a large water feature, as defined by Chapter 415.030 Definitions of the City of Wildwood's Zoning Ordinance.

2. LOT, SIZE, AND USE REQUIREMENTS

a. The authorized large water feature shall not exceed 1.75 acres in overall size.

b. The height of the dam shall not exceed thirty-one (31) feet, as measured from final finish grade at the base of it, outside the water impoundment area.

c. The depth of the lake, at normal pool elevation, shall not exceed fourteen (14) feet.

d. The extent of land disturbance in association with the construction of this large water feature shall be as authorized by the Planning and Zoning Commission on the Site Development Plan.

e. The large water feature authorized by this permit, although created by the construction of a dam that is less than thirty-five (35) feet in height, shall meet all Missouri Department of Natural Resources (MDNR) requirements for design, engineering, and on-going maintenance, including inspection frequencies and criteria. These requirements will be reviewed and acted upon by the Planning and Zoning Commission, as part of the Site Development Plan process, and as directed by the Department of Public Works.

3. PLAN SUBMITTAL REQUIREMENTS

Within twelve (12) months of the Conditional Use Permit (CUP) being granted by the Planning and Zoning Commission, and prior to any further site disturbance, the operator shall submit to the Planning and Zoning Commission for their review and approval a Site Development Plan. Where due cause is shown by the operator, this time interval may be extended once by the Planning and Zoning Commission in accord with requirements of Chapter 415.510 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. Location and extent of all existing improvements, including all buildings and accessory structures, along with the planned large water feature and all improvements in association with it.

c. A general plan indicating setback lines along the perimeter of the subject tract of land and surrounding property lines and related improvements within two hundred (200) feet of this site's boundaries, i.e. curb cut and access locations, stormwater facilities, and utility installations and easements.
d. Location of all roadways adjacent to the property, including required roadway right-of-way dedication and pavement widening, with existing and proposed improvements and trails, and general location, size, right-of-way, and pavement width of all interior drives.
e. Existing and proposed contours at vertical intervals of not more than two (2) feet.
f. General location of sanitary sewer and stormwater facilities.
g. 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 Chapter 410 and accompanying Tree Manual.
h. An inventory of the percent of tree canopy or individual trees to be retained on the site indicated on a Tree Preservation Plan completed in accordance with the City of Wildwood Chapter 410 Tree Preservation and Restoration Code and accompanying Tree Manual.
i. Location of all existing and proposed easements.
j. All other information not mentioned above, but required on a preliminary plat in accord with Chapter 420.060 of the City of Wildwood Subdivision and Development Regulations.
k. A Stormwater Pollution Prevention Plan (SWPPP) for the site, which shall include the developer's signature and acknowledgment of its requirements.
l. A maintenance plan for this large water feature that is based on annual inspections and reports to be submitted to the City of Wildwood's Department of Planning. This plan shall indicate all steps and procedures that will be used to maintain the large water feature and ensure its stability and safety.

4. SITE DEVELOPMENT PLAN DESIGN CRITERIA

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

Large Water Feature Setbacks

a. No large water feature and related improvements shall be located within the following setbacks:

   i. One hundred eighty (180) feet from the State Route 100 right-of-way.
   ii. Four hundred (400) feet from any side yard property line of the site.
   iii. Five hundred fifty (550) feet from the right -of-way of Manchester Road.

Landscape Requirements

b. Landscaping shall adhere to all requirements of Chapter 410 of the City's Tree Preservation and Restoration Code and its accompanying Sustainable Plantings Guide and Tree Manual, including the submittal of a Tree Preservation Plan, in conjunction with the Site Development Plan. All roadway frontages shall be appropriately landscaped, as required by Chapter 410 Tree Preservation and Restoration Code, and be approved by the Planning and Zoning Commission on the Site Development Plan.

c. The areas of existing vegetation within the Conditional Use Permit (CUP) 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 Chapter 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 Chapter 410 Tree Preservation and Restoration Code. Initial clearing and grubbing of the site shall be limited to the installation of any new building and structure.

d. All disturbed areas of the site shall be restored in compliance to the City's Sustainable Plantings Guide and Tree Manual by a combination of ground cover, landscaping, berms, natural stones, and other means to address stormwater runoff and erosion, as well as improve overall site aesthetics. The restoration of disturbed areas shall be indicated on the required Landscape Plan and acted upon by the Planning and Zoning Commission.

e. A registered Landscape Architect shall prepare, submit, and sign all plan(s).

Miscellaneous Conditions

f. The hours of construction and grading activity in association with this large water feature 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.

g. 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 or boulders. The Planning and Zoning Commission, as part of the Site Development Plan review process, shall review and act upon said materials and design.

h. The generalized 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.

i. All utilities serving this site shall be installed underground in accord with the requirements of the City of Wildwood's Subdivision and Development Regulations. Any existing easements located on the subject site, which are not being utilized, shall be vacated under the standard procedures of the City of Wildwood Subdivision and Development Regulations.

j. The property owner, or any assignee or successor, shall provide annual maintenance of this authorized large water feature on the subject property, with such being in accordance with State regulations for the same. A plan for this maintenance and upkeep shall be provided to the Planning and Zoning Commission, as part of the required Site Development Plan. Preventative maintenance shall be authorized on an as-need basis, along with any repairs, but does require an engineered plan be submitted to the City of Wildwood's Department of Public Works for review and action. This plan will then be submitted to the Planning and Zoning Commission for receipt and filing.

5. 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 showing that adequate handling of the stormwater drainage of the site is provided.

i. The developer is required to provide adequate stormwater systems in accordance with the City of Wildwood standards.
ii. All stormwater shall be discharged at an adequate natural discharge point.
iii. 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/water quality and the construction of related facilities. Minimally, these practices/facilities should include rain gardens, vegetated swales, and other options to substantially reduce the amount of stormwater discharging from the subject site.
iv. The developer shall provide adequate detention and/or hydrologic calculations for review and approval of all stormwater that will encroach on City of Wildwood rights-of-way.

Stormwater Pollution Prevention Plan

b. Prior to any land disturbance on this subject site, submit a Stormwater Pollution Prevention Plan, as part of the Site Development Plan review process, indicating compliance to Federal, State, and local requirements regarding the management of stormwater runoff to prevent siltation and erosion, both on-site and upon downstream properties.

6. RECORDING

Within sixty (60) days of granting of the Conditional Use Permit (CUP) by the Planning and Zoning Commission, the approved permit language and legal description of the property shall be recorded with the St. Louis County Recorder of Deeds.

7. 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 or permit, all approvals from the Missouri Department of Transportation (MoDOT), the Department of Public Works, the U.S. Army Corp of Engineers, the Missouri Department of Natural Resources (MDNR), and the Metro West Fire Protection District must be received by the Department of Planning.

~~**Nuisance Bond**~~

b. ~~Provide to the City of Wildwood a bond, letter of credit, or cash deposit in the amount of three thousand dollars ($3,000.00) for use to undertake any inspections or maintenance of the large water feature and dam, if the property and improvements are not maintained in accordance with said conditions of this permit. The City shall hold this deposit and it will be pre-authorized by the owner/operator, in writing, to exercise its use, if violations are noted and not abated in a timely manner.~~

8. 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 controls in the form of siltation control measures are required and must comply with the Stormwater Pollution Prevention Plan for this development (SWPPP). The developer shall be solely responsible for obtaining any temporary slope and construction licenses needed to address the installation of public and private improvements on this site that require the use of adjoining parcels of ground that are not under their ownership or control.

c. 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.

d. The developer is advised that utility companies will require compensation for relocation of their utility facilities within public right-of-way. 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 infrastructure improvements.

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 prevent erosion. This restoration must occur within thirty (30) days of the conclusion of preliminary grading as determined by the Director of Public Works.

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 the Site Development Plan approved by the Planning and Zoning Commission and the Department of Planning. The owner/operator must acknowledge in writing that access to this site for inspection purposes by personnel of the City of Wildwood shall be authorized and, if refused, such action is grounds for revocation of said permit by the City.

h. Any other applicable zoning, subdivision, or other regulations or requirements of the City shall further apply to the development of this property, as authorized by this Conditional Use Permit (CUP), 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 Ordinance, Subdivision and Development Regulations, 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 Conditional Use Permit (CUP), except where this ordinance has expressly modified such regulations by reference to the applicable provision authorizing such modification.

j. ~~This Conditional Use Permit (CUP) shall be authorized for a period of seven (7) years, with renewals based upon compliance to the requirements of the same. Renewal requests shall be the responsibility of the owner/operator to submit to the City and must be provided a minimum two (2) months in advance of each renewal for consideration and action by the Planning and Zoning Commission following this initial period of time. Renewals shall be on a seven (7) year basis as well.~~

All other conditions remain unchanged and in full force.

Respectfully submitted,
CITY OF WILDWOOD PLANNING AND ZONING COMMISSION

R. Jon Bopp, Chair

ATTEST:

Joe Vujnich, Director
Department of Planning

Cc: The Honorable James R. Bowlin, Mayor
Council Members De Hart and McGowen, Ward One
Ryan S. Thomas, P.E., City Administrator
John A. Young, City Attorney
Kathy Arnett, Assistant Director of Planning and Parks
Travis Newberry, Planner
Laurie Taylor, Property Owner

WILDWOOD

16860 Main Street
Wildwood, MO 63040

CITY OF WILDWOOD
NOTICE OF
PUBLIC MEETING
before the Planning and Zoning Commission
Monday, July 18, 2016 at 7:00 p.m.

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 3,000 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.

Street Addresses of Subject Sites:
17715 Manchester Road, Wildwood, Missouri 63038

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

The Planning and Zoning Commission of the City of Wildwood will conduct a public meeting on **Monday, July 18, 2016, at 7:00 p.m.**, in **the City Hall Council Chambers, 16860 Main Street, Wildwood, Missouri 63040** for the purposes of obtaining testimony regarding request(s) for either the modification of zoning district designations, application of special procedures, change in the underlying regulations of the Zoning Ordinance, action on Record Plats, update on zoning matters, or amendment of the Master Plan, which will then be considered for action. This meeting is open to all interested parties to comment upon this request, whether in favor or opposition, or provide additional input for consideration. If you do not have comments regarding this request, no action is required on your part. Written comments are requested to be submitted prior to this meeting and should be addressed to the Planning and Zoning Commission, City of Wildwood, 16860 Main Street, Wildwood, Missouri 63040 or via the City's website at www.cityofwildwood.com/comment. The following request will be considered at this time:

A response to a communication from Laurie Taylor, which is dated May 20, 2016, regarding **P.Z. 25-15 Laurie Taylor,** that seeks the Planning and Zoning Commission's review and action on a requested change to the existing Conditional Use Permit (CUP) for this thirty-two point one (32.1) acre tract of land that is located on the west side of Mueller Road, south of State Route 100, and north of Manchester Road (Locator Number 23X340061/Street Address: 17715 Manchester Road); NU Non-Urban Residence District, with a Conditional Use Permit (CUP); which, if granted, would thereby remove the condition requiring renewal of the permit on a seven (7) year basis.

Please note, as of June 6, 2016, all Planning and Zoning Commission meetings will begin at 7:00 p.m.

***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.

Travis Newberry

From: Laurie Taylor <ltaylor@compuspace-usa.com>
Sent: Friday, May 20, 2016 3:21 PM
To: Joe Vujnich
Cc: Travis Newberry
Subject: 17715 Manchester Rd. CUP amendment

Attn: Mr. Joe Vujnich
C/O City Hall
City of Wildwood
16860 Main Street
Wildwood, MO 63040

RE: CUP for 17715 Manchester Road, Wildwood, MO 63038 - 1.74 acre pond and dam.

Dear Mr. Vujnich,

Please let this email serve as my written request to the Planning and Zoning Commission to amend the conditions of the permit in regards to the CUP renewal.

I ask that the CUP be amended to remove the requirement for a formal review after the 7 year period.

Thank you.

Kind regards,

Laurie Taylor
Mobile: 314-805-1321
CompuSpace LC - PlenaForm Systems
Email: ltaylor@compuspace-usa.com
Phone: 636-537-0007
Check out our new website: www.plenaform.com

WILDWOOD

May 2, 2016

The Honorable City Council
The City of Wildwood, Missouri
16860 Main Street
Wildwood, Missouri 63040

Council Members:

The Planning and Zoning Commission has completed its review of the requested Conditional Use Permit (CUP) application that was submitted to it for a large water feature (1.7 acre lake), and prepared the following recommendation report in that regard. This recommendation report, which includes an associated action, reflects the Planning and Zoning Commission's vote to grant the permit, which is now being forwarded to the City Council for its consideration. This recommendation and action were completed in accordance with the requirements of Chapter 89 of Missouri Revised Statutes, the City's Charter, and those regulations of the City relating to public notice and publications (Chapter 415.560 of the City of Wildwood Zoning Ordinance). This recommendation and action are as follows:

Petition No.:	P.Z. 25-15
Petitioner:	Laurie Taylor, 17715 Manchester Road, Wildwood, Missouri, 63038, c/o Volz, Inc., Mark Kilgore, 10849 Indian Head Industrial Boulevard, St. Louis, Missouri 63132
Request:	A request for a Conditional Use Permit (CUP) in the NU Non-Urban Residence District for a thirty-two point one (32.1) acre tract of land. **Proposed Use: A large water feature – a lake – (as defined by §415.030 of the City of Wildwood's Zoning Regulations), which exceeds one (1) acre in overall size – one point seven four (1.74) acres.**
Location:	West side of Mueller Road, south of State Route 100, and north of Manchester Road (Locator Number 23X340061/Street Address: 17715 Manchester Road).
Public Hearing Date:	April 4, 2016
Date and Vote On Information Report:	April 18, 2016 - Approval to Grant the Permit by a vote of 10 to 0 (Voting Aye - Renner, Lee, Archeski, Kohn, Gragnani, Bauer, Liddy, Manton, Woerther, and Bopp)
Date and Vote On Letter of Recommendation:	May 2, 2016 - April 18, 2016 - Approval to Grant the Permit by a vote of 10 to 0 (Voting Aye - Renner, Lee, Archeski, Kohn, Gragnani, Bauer, Liddy, Manton, Bowlin, and Bopp)
Report:	Attachment A
Conditions:	Attachment B
Plan Sheets:	Attachment C
Background Information:	Attachment D
Ward:	One

Copies of the City of Wildwood Master Plan, Parks and Recreation Plan, Action Plan for Parks and Recreation 2007, Model Telecommunications Ordinance, Zoning Ordinance, and Charter are all on file with the City Clerk's Office.

Respectfully submitted,
CITY OF WILDWOOD PLANNING AND ZONING COMMISSION

R. Jon Bopp, Chair

ATTEST:

Joe Vujnich, Director
Department of Planning

Cc: The Honorable James R. Bowlin, Mayor
Ryan S. Thomas, P.E. City Administrator
Rob Golterman, City Attorney
Rick Brown, P.E. and P.T.O.E., Director of Public Works
Travis Newberry, Planner
Laurie Taylor, Property Owner
Tom Kelpe, Contractor
Dave Volz, Volz Engineering

ATTACHMENT A - REPORT

BACKGROUND AND ZONING HISTORY >>> The site of this request is a 32.05 acre site that is located on the north side of Manchester Road, east of its intersection with Glencoe Road. This lot has frontage on State Route 100 and Mueller Road as well. Given the size of this lot, the frontages have significant lengths, which are as follows:

1. State Route 100 (public) - 1,350 feet
2. Manchester Road (public) - 882 feet
3. Mueller Road (private) - 1,080 feet

These right-of-ways define the three (3) sides of the subject site. The site forms a rectangle and is a single lot of record.

Descriptions of these roadways are as follows:

1. *State Route 100 (public)* - State Route 100 is an arterial roadway maintained by the Missouri Department of Transportation (MoDOT). The width of this roadway is four (4) lanes, with additional turn bays at the intersection with Mueller Road. The design of this roadway provides for limited access to it, with traffic volumes being high, and speeds substantial. The alignment of the roadway is east/west, bisecting the City in two (2) unequal halves, and it serves a diverse land use pattern of residential, commercial, recreational, and institutional activities along its entire length through the City of Wildwood. This roadway has an interstate design along petitioners' frontage. This roadway provides for inter-county traffic movements.

2. *Manchester Road (public)* - Manchester Road is a City-maintained roadway, which includes two (2) driving lanes and limited improvements along this site's frontage. These improvements include stabilized shoulders, earthen ditches, and signage, with striping. The roadway lacks sidewalks and other turn lanes for service to the current use of this property (residence). Manchester Road is the City's main east-west arterial roadway, which extends from its eastern boundary to Route 100 several miles to the west. The roadway serves a mix of land uses, including commercial, residential, institutional, and recreational activities. Traffic volumes along the roadway range from a high of approximately 7,000 vehicles per day on the east end of Manchester Road to less than 2,000 vehicles per day on the westernmost end.

   Beyond Manchester Road's integral role as a major transportation corridor in Wildwood, it is also a major historic asset to the community. Manchester Road was part of the original Historic Route 66 between the years 1926 to 1932. Route 66 provided a continuous link between Chicago, Illinois and Los Angeles, California. Manchester Road remains an important part of this community and is one of the historic assets the City's Historic Preservation Commission is attempting to protect as part of its overall mission. Additionally, other local, State, and national organizations are making concerted efforts to maintain the roadway within its historical context. Markers are located along Manchester

Road throughout the City reflecting this designation. One (1) is located to the west of the subject site.

3. *Mueller Road (private)* - this private roadway is forty (40) feet in width, with a narrow gravel roadway located within it. The roadway provides a connection between State Route 100 on the north and Manchester Road on the south. The roadway provides access to no more than four (4) properties, but currently two (2) of them, including the petitioner's site, utilize Manchester Road for ingress/egress into them. The roadway has a north/south orientation and traffic volumes are very low. The surrounding land use pattern along its 1,080 feet of length is low-density residential.

The physical characteristics of the site are varied. The site is rolling, with the slope of it toward the northwest corner of property. Overall relief is approximately sixty (60) feet. Approximately one-half of the site is wooded and, for the most part, these woodlands are located in the north half of the property, while the remainder is grass, some of which has been planted in the last calendar year. The current owner of the property has been active in addressing the condition of it, since it has been vacant for many years. These actions have led to a number of issues that caused a Stop Work Order to be issued. The Stop Work Order was due to extensive clearing in the area of the requested lake.

The property, as noted, has been vacant for a number of years and received very limited maintenance and its appearance was poor. The current owner recently removed the original residence. Additionally, the current owner also removed a small outbuilding as well. At this time, the property does not have any existing buildings and structures located upon it.

The property is currently zoned NU Non-Urban Residence District and has been since the incorporation of the City in 1995. This zoning district designation allows a limited range of uses, of which single family dwellings on lots of three (3) acres or greater in size are most prevalent. The surrounding land use pattern in the vicinity of the subject site is rural, but consistent with the allowable uses of the NU Non-Urban Residence District. This land use pattern can be described as follows:

To the North: Abutting in this direction is State Route 100, an arterial roadway. Beyond the roadway is a seven (7) lot residential subdivision named the Oaks at Wildwood. These seven (7) lots are zoned NU Non-Urban Residence District and six (6) of them have single family dwellings located upon them at this time. To the northeast of the subject site, and across State Route 100, is the West County Community Church. This place of worship is zoned NU Non-Urban Residence District, with a Planned Residential Development Overlay District (PRD). This property has the sanctuary building, a youth center, athletic fields, a lake, a centralized wastewater treatment system, and parking.

To the South: Adjoining in this direction is Manchester Road. Across this City roadway is Rockwoods Reservation, a Missouri Department of Conservation property. This site is zoned PS Park and Scenic District.

To the West: Adjacent in this direction is a small parcel of ground, with a dwelling located upon it. This lot is zoned NU Non-Urban Residence District and forms a notch out of the

subject site in its southwest corner. Abutting the subject site's western boundary is a group of lots, all zoned NU Non-Urban Residence District, that have single family dwellings located on four (4) of the five (5) properties.

To the East: Located in this direction are several large parcels of ground that are used for single family dwellings. These lots are zoned NU Non-Urban Residence District and were part of a four (4) lot subdivision approved by the City of Wildwood. One (1) of these four (4) lots is vacant and it occupies the intersection of State Route 100 and Mueller Road

CURRENT REQUEST >>> The petitioner, Laurie Taylor, is requesting to construct a 1.75 acre lake on a portion of the 32.05 acre subject site. The lake will have the following characteristics:

1. The lake will have a dam height of thirty point five (30.5) feet.
2. The lake's depth will be fourteen (14) feet.
3. The back slope of the dam in association with the constructed lake will be 3.5:1.
4. The overflow of water from the lake will be piped to the downstream drainage feature and includes a number of structures and pipes for this purpose.
5. The design of the dam includes a thirty (30) foot access path on its top.
6. The height of the dam does not require this construction to meet Missouri Department of Natural Resource dam requirements.
7. The location of the dam in the relative watershed provides approximately five (5) acres of runoff to it.
8. The property has a natural spring located upon it, which drains to the north, and will be directed into the lake for use to fill and maintain its normal pool elevation of 797 feet above mean sea level.
9. The design of the lake and dam provide a minimum of four (4) feet of freeboard to protect overtopping in high volume storm events.
10. The lake's location on this property provides an ample supply of clay materials for use in its construction.
11. The dam will be planted in ground cover to protect its slopes from erosion.

The area of the proposed lake has already been partially disturbed without a permit, so some of the planned tree removal has taken place in the subject area of the water feature.

ANALYSIS >>> The Planning and Zoning Commission has reviewed the request, along with receiving support from the City's Department of Public Works. In reviewing this request, the Planning and Zoning Commission would note that it is the first large water feature to be subject to the new regulations governing an installation in the City of Wildwood. These regulations were created to protect the natural environment of Wildwood and properties that would be located downstream from large water impoundments in a karsted area of this State. Specifically, placement of large water features in the main channel of named watersheds and using groundwater sources to fill and maintain them appeared to be contrary to the goals, objectives, and policies of the City's Master Plan. Accordingly, large water features were then to be designated as a conditional type of use in the NU Non-Urban Residence District, thereby providing a greater level of control over their placement, design, use, and maintenance.

In the case of this request, the Commission would note the following items in this regard:

1. The height of the dam is below the thirty-five (35) foot standard set by the State of Missouri for its permitting requirements, but, through the City's permit process, all pertinent requirements of Department of Natural Resources can be included for integration into the dam and lake's design, engineering, and maintenance.
2. The highest point on the dam, at a mean sea level, is at a greater elevation than the roadway surface of State Route 100 (see attached detail). However, given intervening terrain between the two (2) aforementioned features, the dam's water on release would be trapped between it and existing grade abutting the roadway.
3. The design of the lake and dam provides for water storage capacity beyond that of the current natural system, which will provide some relief to the State's current system of stormwater management along the edge of its right-of-way and the subject site.
4. The materials to be used for the dam's construction appear to provide satisfactory characteristics for this purpose, based upon the attached Geotechnical Report.
5. The use of the existing spring on the site will supplement the five (5) acre drainage area to be used for filling and maintaining the proposed lake.
6. The planning/engineering of this water feature includes a spillway from the top of the dam, which parallels along its western side. At the top of the dam, an outfall structure, with associated piping, are to be installed to divert water as well, in the event of a major storm event or catastrophe.

These items indicate to the Commission that a dam constructed on this property for a lake can be accomplished with a minimum level of risk to surrounding properties.

However, the Commission does believe this large water feature must be subject to the highest standards that exist in current law and meet them in all aspects of its design, operation, and on-going maintenance. If these standards are applied to a lake of this size, the Commission has the opinion the impact from it and any emergency associated with it can be minimized and have a limited impact on properties. Accordingly, the Planning and Zoning Commission believes that granting the requested Conditional Use Permit (CUP) for this large water feature meets the requirements of the Zoning Ordinance, but is including the certain conditions along with this action to achieve a safe and functional outcome for its existence in the City.

Specifically, this support is premised on the following reasons:

1. The dam is relatively small in size and depth.
2. The placement of the lake in the center of the property allows for any emergency issue or problem to occur first upon it, and not downstream properties.
3. The design of the lake and the characteristics of the site can accommodate a major catastrophic failure and not threaten immediate downstream properties.
4. The installation of lakes reflects a longstanding history in Wildwood of building such water features and many of them exist from past actions by other property owners. Therefore, this request is not unusual in that regard.

5. The petitioner has provided engineered plans, a Geotechnical Report, and other items in support of this request, which is indicative of the level of planning and engineering being used in the consideration of this large water feature.

Incumbent to the Commission's support is the property owner agreeing to the conditions of the recommended permit and meeting a regular, thorough maintenance and inspection program for the dam and lake to ensure its long-term stability and integrity. With this condition included in the proposed permit, the Commission does believe the large water feature can be constructed on this site with minimal impacts and threats to the area.

SUMMARY AND RECOMMENDATION >>> The Commission has provided in its Letter of Recommendation upon this request the reasons for its support for the granting of this Conditional Use Permit (CUP). These reasons focus on the large water feature being engineered to the highest available standards, compliance to recommendations from all participating review agencies and other authorities during its construction, and on-going, long-term maintenance of it to ensure its integrity and safety. Accordingly, the Planning and Zoning Commission hereby grants the requested permit for this large water feature, based upon its adherence to the conditions contained in Attachment B of this Information Report.

ATTACHMENT B - CONDITIONS

1. PERMITTED USES

This Conditional Use Permit (CUP) shall authorize a large water feature, as defined by Chapter 415.030 Definitions of the City of Wildwood's Zoning Ordinance.

2. LOT, SIZE, AND USE REQUIREMENTS

a. The authorized large water feature shall not exceed 1.75 acres in overall size.

b. The height of the dam shall not exceed thirty-one (31) feet, as measured from final finish grade at the base of it, outside the water impoundment area.

c. The depth of the lake, at normal pool elevation, shall not exceed fourteen (14) feet.

d. The extent of land disturbance in association with the construction of this large water feature shall be as authorized by the Planning and Zoning Commission on the Site Development Plan.

e. The large water feature authorized by this permit, although created by the construction of a dam that is less than thirty-five (35) feet in height, shall meet all Missouri Department of Natural Resources (MDNR) requirements for design, engineering, and on-going maintenance, including inspection frequencies and criteria. These requirements will be reviewed and acted upon by the Planning and Zoning Commission, as part of the Site Development Plan process, and as directed by the Department of Public Works.

3. PLAN SUBMITTAL REQUIREMENTS

Within twelve (12) months of the Conditional Use Permit (CUP) being granted by the Planning and Zoning Commission, and prior to any further site disturbance, the operator shall submit to the Planning and Zoning Commission for their review and approval a Site Development Plan. Where due cause is shown by the operator, this time interval may be extended once by the Planning and Zoning Commission in accord with requirements of Chapter 415.510 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. Location and extent of all existing improvements, including all buildings and accessory structures, along with the planned large water feature and all improvements in association with it.
c. A general plan indicating setback lines along the perimeter of the subject tract of land and surrounding property lines and related improvements within two hundred (200) feet of this site's boundaries, i.e. curb cut and access locations, stormwater facilities, and utility installations and easements.
d. Location of all roadways adjacent to the property, including required roadway right-of-way dedication and pavement widening, with existing and proposed improvements and trails, and general location, size, right-of-way, and pavement width of all interior drives.
e. Existing and proposed contours at vertical intervals of not more than two (2) feet.
f. General location of sanitary sewer and stormwater facilities.
g. 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 Chapter 410 and accompanying Tree Manual.
h. An inventory of the percent of tree canopy or individual trees to be retained on the site indicated on a Tree Preservation Plan completed in accordance with the City of Wildwood Chapter 410 Tree Preservation and Restoration Code and accompanying Tree Manual.
i. Location of all existing and proposed easements.
j. All other information not mentioned above, but required on a preliminary plat in accord with Chapter 420.060 of the City of Wildwood Subdivision and Development Regulations.
k. A Stormwater Pollution Prevention Plan (SWPPP) for the site, which shall include the developer's signature and acknowledgment of its requirements.
l. A maintenance plan for this large water feature that is based on annual inspections and reports to be submitted to the City of Wildwood's Department of Planning. This plan shall indicate all steps and procedures that will be used to maintain the large water feature and ensure its stability and safety.

4. SITE DEVELOPMENT PLAN DESIGN CRITERIA

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

Large Water Feature Setbacks

a. No large water feature and related improvements shall be located within the following setbacks:

   i. One hundred eighty (180) feet from the State Route 100 right-of-way.
   ii. Four hundred (400) feet from any side yard property line of the site.
   iii. Five hundred fifty (550) feet from the right-of-way of Manchester Road.

Landscape Requirements

b. Landscaping shall adhere to all requirements of Chapter 410 of the City's Tree Preservation and Restoration Code and its accompanying Sustainable Plantings Guide and Tree Manual, including the submittal of a Tree Preservation Plan, in conjunction with the Site Development Plan. All roadway frontages shall be appropriately landscaped, as required by Chapter 410 Tree Preservation and Restoration Code, and be approved by the Planning and Zoning Commission on the Site Development Plan.

c. The areas of existing vegetation within the Conditional Use Permit (CUP) 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 Chapter 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 Chapter 410 Tree Preservation and Restoration Code. Initial clearing and grubbing of the site shall be limited to the installation of any new building and structure.

d. All disturbed areas of the site shall be restored in compliance to the City's Sustainable Plantings Guide and Tree Manual by a combination of ground cover, landscaping, berms, natural stones, and other means to address stormwater runoff and erosion, as well as improve overall site aesthetics. The restoration of disturbed areas shall be indicated on the required Landscape Plan and acted upon by the Planning and Zoning Commission.

e. A registered Landscape Architect shall prepare, submit, and sign all plan(s).

Miscellaneous Conditions

f. The hours of construction and grading activity in association with this large water feature 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.

g. 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 or boulders. The Planning and Zoning Commission, as part of the Site Development Plan review process, shall review and act upon said materials and design.

h. The generalized 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.

i. All utilities serving this site shall be installed underground in accord with the requirements of the City of Wildwood's Subdivision and Development Regulations. Any existing easements located on the subject site, which are not being utilized, shall be vacated under the standard procedures of the City of Wildwood Subdivision and Development Regulations.

j. The property owner, or any assignee or successor, shall provide annual maintenance of this authorized large water feature on the subject property, with such being in accordance with State regulations for the same. A plan for this maintenance and upkeep shall be provided to the Planning and Zoning Commission, as part of the required Site Development Plan. Preventative maintenance shall be authorized on an as-need basis, along with any repairs, but does require an engineered plan be submitted to the City of Wildwood's Department of Public Works for review and action. This plan will then be submitted to the Planning and Zoning Commission for receipt and filing.

5. 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 showing that adequate handling of the stormwater drainage of the site is provided.

   i. The developer is required to provide adequate stormwater systems in accordance with the City of Wildwood standards.
   ii. All stormwater shall be discharged at an adequate natural discharge point.
   iii. 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/water quality and the construction of related facilities. Minimally, these practices/facilities should include rain gardens, vegetated swales, and other options to substantially reduce the amount of stormwater discharging from the subject site.
   iv. The developer shall provide adequate detention and/or hydrologic calculations for review and approval of all stormwater that will encroach on City of Wildwood rights-of-way.

Stormwater Pollution Prevention Plan

b. Prior to any land disturbance on this subject site, submit a Stormwater Pollution Prevention Plan, as part of the Site Development Plan review process, indicating compliance to Federal, State, and local requirements regarding the management of stormwater runoff to prevent siltation and erosion, both on-site and upon downstream properties.

6. RECORDING

Within sixty (60) days of granting of the Conditional Use Permit (CUP) by the Planning and Zoning Commission, the approved permit language and legal description of the property shall be recorded with the St. Louis County Recorder of Deeds.

7. 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 or permit, all approvals from the Missouri Department of Transportation (MoDOT), the Department of Public Works, the U.S. Army Corp of Engineers, the Missouri Department of Natural Resources (MDNR), and the Metro West Fire Protection District must be received by the Department of Planning.

Nuisance Bond

b. Provide to the City of Wildwood a bond, letter of credit, or cash deposit in the amount of three thousand dollars ($3,000.00) for use to undertake any inspections or maintenance of the large water feature and dam, if the property and improvements are not maintained in accordance with said conditions of this permit. The City shall hold this deposit and it will be pre-authorized by the owner/operator, in writing, to exercise its use, if violations are noted and not abated in a timely manner.

8. 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 controls in the form of siltation control measures are required and must comply with the Stormwater Pollution Prevention Plan for this development (SWPPP). The developer shall be solely responsible for obtaining any temporary slope and construction licenses needed to address the installation of public and private improvements on this site that require the use of adjoining parcels of ground that are not under their ownership or control.

c. 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.

d. The developer is advised that utility companies will require compensation for relocation of their utility facilities within public right-of-way. 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 infrastructure improvements.

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 prevent erosion. This restoration must occur within thirty (30) days of the conclusion of preliminary grading as determined by the Director of Public Works.

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.

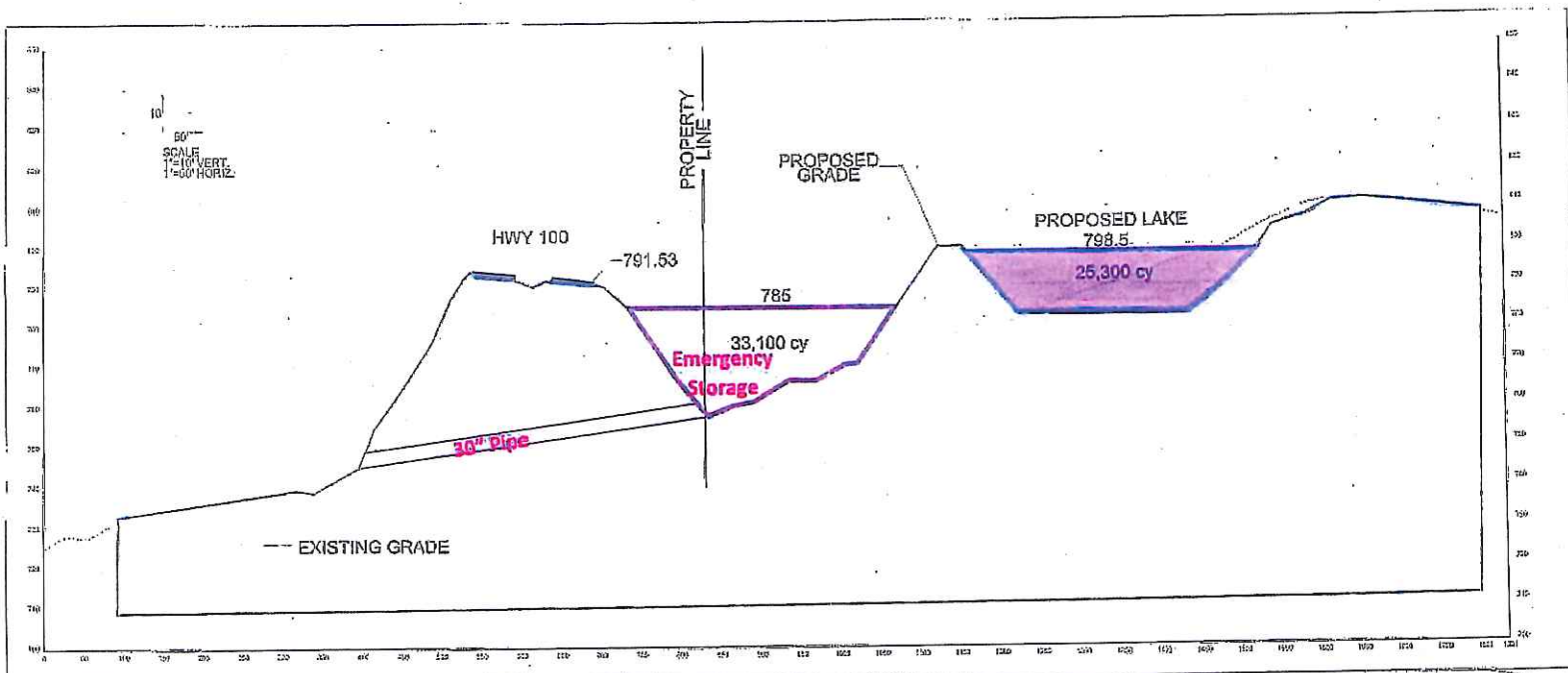
g. The Zoning Enforcement Officer of the City of Wildwood, Missouri, shall enforce the conditions of this ordinance in accord with the Site Development Plan approved by the Planning and Zoning Commission and the Department of Planning. The owner/operator must acknowledge in writing that access to this site for inspection purposes by personnel of the City of Wildwood shall be authorized and, if refused, such action is grounds for revocation of said permit by the City.

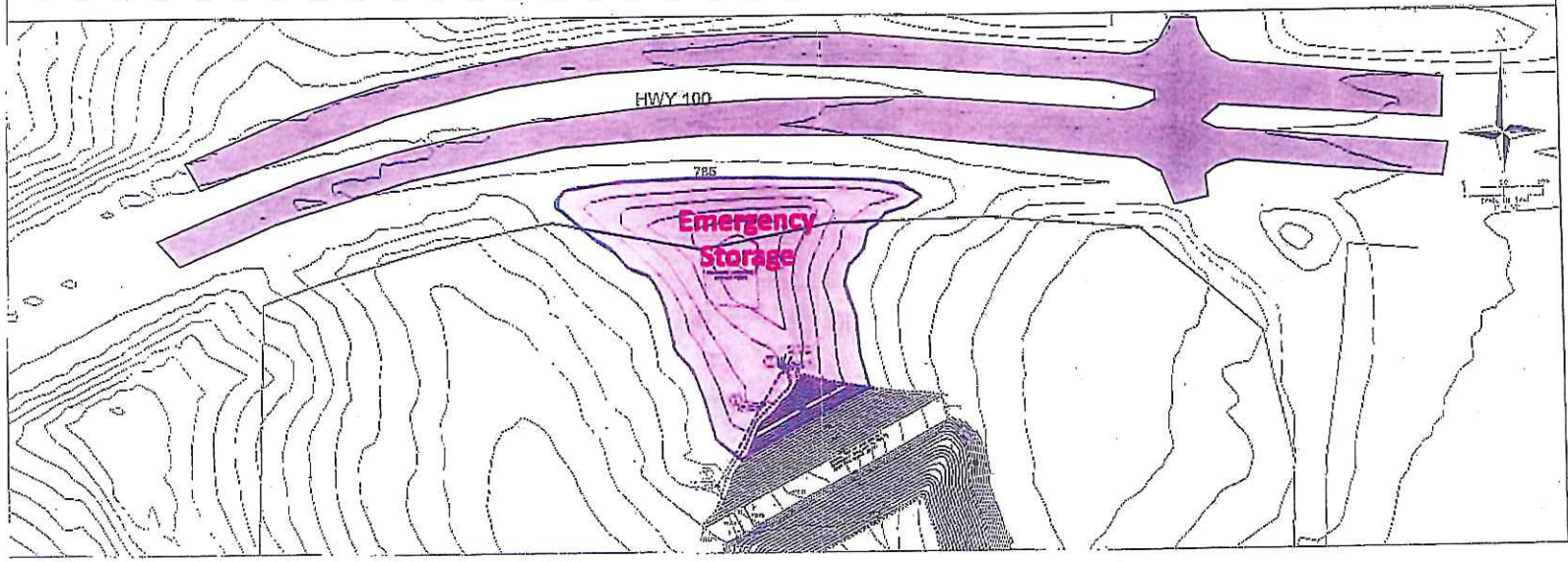
h. Any other applicable zoning, subdivision, or other regulations or requirements of the City shall further apply to the development of this property, as authorized by this Conditional Use Permit (CUP), except as may be provided by law. Nothing herein shall be deemed a waiver of any subdivision, zoning, or other development regulation of the City whether by implication or reference.

i. This zoning approval is conditioned on compliance with the Zoning Ordinance, Subdivision and Development Regulations, 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 Conditional Use Permit (CUP), except where this ordinance has expressly modified such regulations by reference to the applicable provision authorizing such modification.

j. This Conditional Use Permit (CUP) shall be authorized for a period of seven (7) years, with renewals based upon compliance to the requirements of the same. Renewal requests shall be the responsibility of the owner/operator to submit to the City and must be provided a minimum two (2) months in advance of each renewal for consideration and action by the Planning and Zoning Commission following this initial period of time. Renewals shall be on a seven (7) year basis as well.

ATTACHMENT C
Preliminary Development Plan



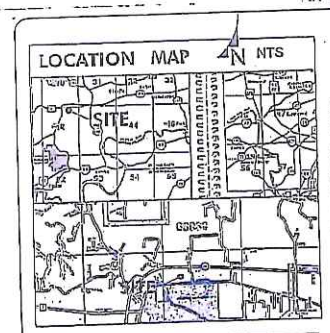


VOLZ Incorporated

17715 MANCHESTER ROAD
WILDWOOD, MO 63038

DAM EXHIBIT
APRIL 14, 2016
SHEET 1

PRELIMINARY DEVELOPMENT PLAN
17715 MANCHESTER ROAD



LEGEND

CO	CLEAN OUT
CMP	CORRUGATED METAL PIPE
E.M.	ELECTRIC METER
F.F.	FINISHED FLOOR
F.H.	FIRE HYDRANT
G.I.	GRATE INLET
G.M.	GAS METER
G.V.	GAS VALVE
O.H.	OAK TREE
S.L.	LIGHT STANDARD
MH	MANHOLE
T.P.	TELEPHONE PEDESTAL
U.P.	UTILITY PEDESTAL
P	UTILITY POLE
VCP	VITRIFIED CLAY PIPE
RCP	REINFORCED CONCRETE PIPE
W.M.	WATER METER
W.V.	WATER VALVE
	YARD LIGHT
	GAS LINE
	OVERHEAD UTILITIES
	SANITARY SEWER
	TELEPHONE LINE
	WATER LINE
	FENCE
TBR	TO BE REMOVED
TBRAR	TO BE REMOVED AND REPLACED
UIP	USE IN PLACE

BENCHMARKS:

SITE BENCHMARK =1 LARGE NAIL EL 814.60

TIE =1 84' FROM 24" TREE
TIE =2 113' FROM 30" TREE

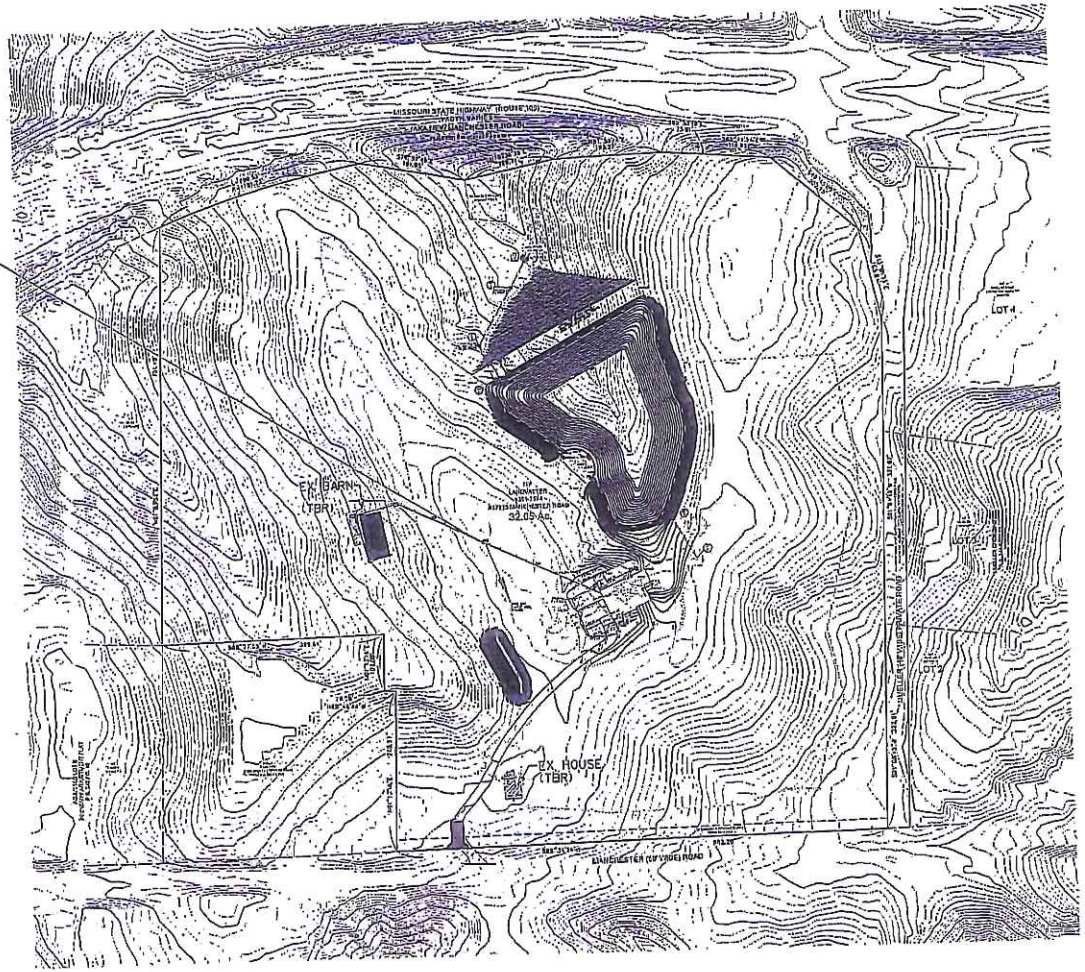
BOTH TREES ARE IMMEDIATELY WEST OF PROPOSED HOUSE

SHEET INDEX

C1 COVER
C2 SITE GRADING PLAN
C3 EXISTING DRAINAGE AREA MAP
C4 DRAINAGE AREA MAP
C5 STORM SEWER PROFILES & DETAILS
C6 SWPPP
C7 SWPPP DETAILS & NOTES
C8 TREE PRESERVATION PLAN

N

100 0 100 200
Scale in Feet
1" = 100'



NOTE: THIS VIEW IS AN OVERALL VIEW. FOR MORE DETAIL SEE OTHER SHEETS.

CONTRACTOR TO BE RESPONSIBLE FOR TRAFFIC CONTROL AND STREET RESTORATION

CONSTRUCTION DISCLAIMER

VOLZ INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO INSPECT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL SUBSEQUENT IMPROVEMENTS SHOWN ON OTHER CONSTRUCTION DRAWINGS WHERE THE UNDERSIGNED ENGINEERS SEAL APPEARS. THE CONSTRUCTION MEANS AND METHODS ARE THE SOLE RESPONSIBILITY OF THE OWNER AND CONTRACTOR. VOLZ INC. HAS NO RESPONSIBILITY TO VERIFY THE FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

STORM WATER MANAGEMENT AND LAND DISTURBANCE NOTE:

PROPOSED AREA OF LAND DISTURBANCE = 4.2 ACRES.
A LAND DISTURBANCE PERMIT FROM MODNR SHALL BE OBTAINED.

ANY FUTURE LAND DISTURBANCE OR IMPERVIOUS AREA INCREASE ON THIS SITE, BEYOND THESE ACTIVITIES, MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER CITY OF WILDWOOD REGULATIONS. SAID IMPOSITION OF THESE ADDITIONAL MANAGEMENT REQUIREMENTS SHALL BE AT THE DISCRETION OF THE CITY OF WILDWOOD DEPARTMENT OF PUBLIC WORKS.

UTILITY DISCLAIMER

THE UNDERGROUND UTILITIES SHOWN HEREON WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, OR 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 IN THE FIELD, BOTH ON AND OFF SITE, PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. NEITHER PROVIDING SAID PLANS IN ANY ABSOLVE ANY PARTY FROM COMPLYING WITH THE MISSOURI ONE CALL SYSTEM, INC. DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.

CITY OF WILDWOOD
MAR 31 2016
DEPT OF PLANNING & PARKS

REVISED
02-01-2016
02-16-2016
3-30-2016

VOLZ Incorporated
ENGINEERS
LAND PLANNING
SURVEYING
TRANSPORTATION
CONST. MANAGEMENT
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St. Louis, Missouri 63131
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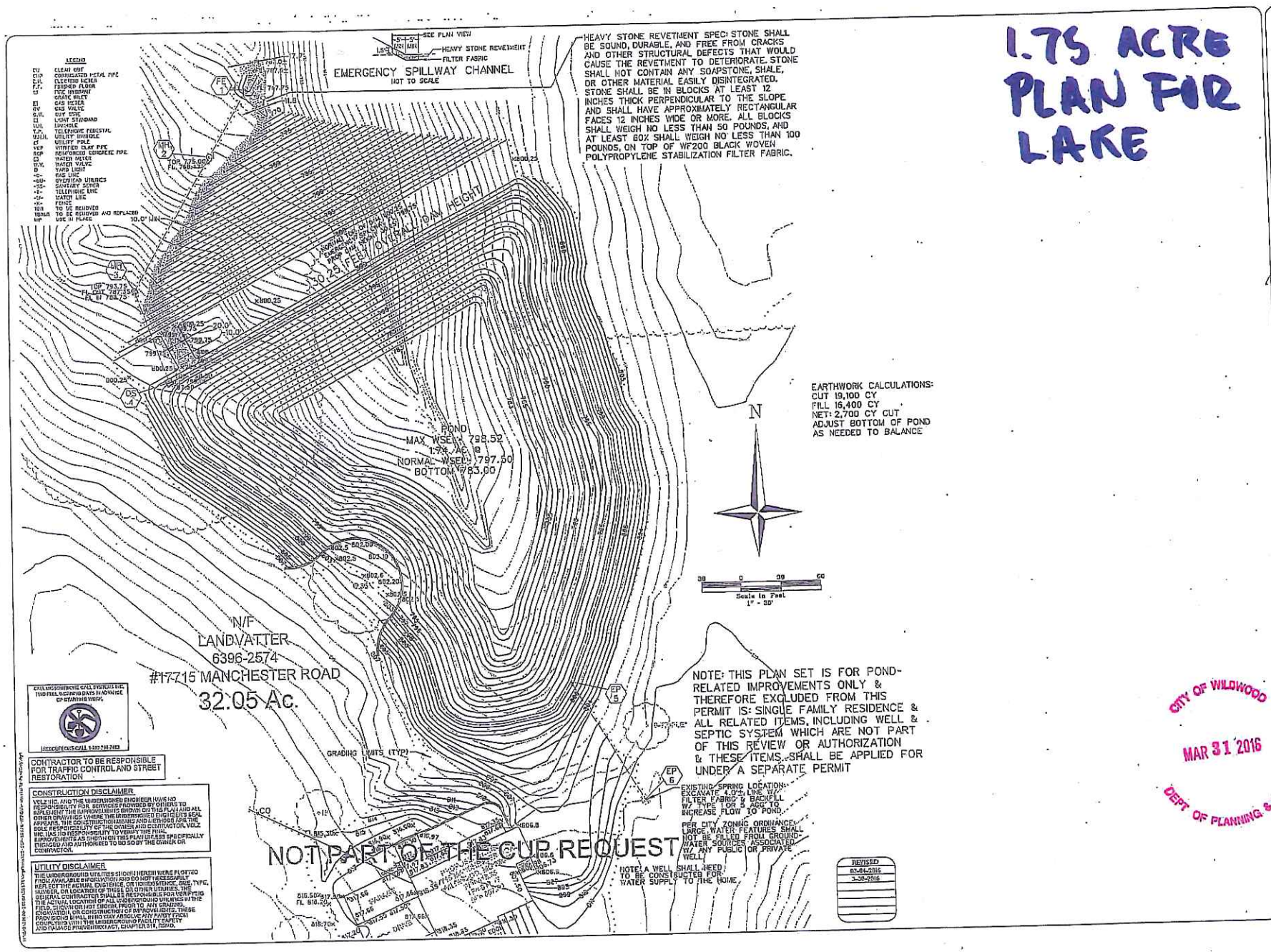
CLIENT:
MR. MARK TAYLOR
17715 MANCHESTER
ST. LOUIS, MO 63011
314-805-1321

PROJECT ADDRESS:
17715 MANCHESTER ROAD
WILDWOOD, MO 63038

COVER

Design By:	MJS
Drawn By:	MJS
Checked By:	MJS
Field Book:	

11-03-2015
C1


1.75 ACRE PLAN FOR LAKE
SEE PLAN VIEW
HEAVY STONE REVETMENT
FILTER FABRIC
EMERGENCY SPILLWAY CHANNEL
NOT TO SCALE
HEAVY STONE REVETMENT SPEC: STONE SHALL BE SOUND, DURABLE, AND FREE FROM CRACKS AND OTHER STRUCTURAL DEFECTS THAT WOULD CAUSE THE REVETMENT TO DETERIORATE. STONE SHALL NOT CONTAIN ANY SOAPSTONE, SHALE, OR OTHER MATERIAL EASILY DISINTEGRATED. STONE SHALL BE IN BLOCKS AT LEAST 12 INCHES THICK PERPENDICULAR TO THE SLOPE AND SHALL HAVE APPROXIMATELY RECTANGULAR FACES 12 INCHES WIDE OR MORE. ALL BLOCKS SHALL WEIGH NO LESS THAN 50 POUNDS, AND AT LEAST 60% SHALL WEIGH NO LESS THAN 100 POUNDS, ON TOP OF WF200 BLACK WOVEN POLYPROPYLENE STABILIZATION FILTER FABRIC.
30.25 FEET (OVERALL) DAM HEIGHT
POND
MAX WSEL: 798.52
1.74 AC. @
NORMAL WSEL: 797.50
BOTTOM: 783.00
EARTHWORK CALCULATIONS:
CUT 19,100 CY
FILL 16,400 CY
NET: 2,700 CY CUT
ADJUST BOTTOM OF POND AS NEEDED TO BALANCE
N
Scale in Feet
1" = 30'
N/F
LANDVATTER
6396-2574
#17715 MANCHESTER ROAD
32.05 Ac.
GRADING LIMITS (TYP.)
NOT PART OF THE CUP REQUEST
NOTE: THIS PLAN SET IS FOR POND-RELATED IMPROVEMENTS ONLY & THEREFORE EXCLUDED FROM THIS PERMIT IS: SINGLE FAMILY RESIDENCE & ALL RELATED ITEMS, INCLUDING WELL & SEPTIC SYSTEM WHICH ARE NOT PART OF THIS REVIEW OR AUTHORIZATION & THESE ITEMS SHALL BE APPLIED FOR UNDER A SEPARATE PERMIT
EXISTING SPRING LOCATION: EXCAVATE 4.0'± LINE W/ FILTER FABRIC & BACKFILL W/ TYPE 1 OR 5 AGG TO INCREASE FLOW TO POND.
PER CITY ZONING ORDINANCE, LARGE WATER FEATURES SHALL NOT BE FILLED FROM GROUND-WATER SOURCES ASSOCIATED W/ ANY PUBLIC OR PRIVATE WELL.
NOTE: A WELL SHALL NEED TO BE CONSTRUCTED FOR WATER SUPPLY TO THE HOME.
REVISED
03-04-2016
3-30-2016
CONTRACTOR TO BE RESPONSIBLE FOR TRAFFIC CONTROL AND STREET RESTORATION
CONSTRUCTION DISCLAIMER
UTILITY DISCLAIMER
CITY OF WILDWOOD
MAR 31 2016
DEPT OF PLANNING & PARKS
CLIENT:
MS. LAURA TAYLOR
17718 MANCHESTER RD
ST. LOUIS, MO 63038
314.606.5331
VOLZ
Incorporated
PROJECT ADDRESS:
17715 MANCHESTER ROAD
WILDWOOD, MO 63038
SITE GRADING PLAN
11-03-2015
C2

CALL BEFORE YOU DIG! CALL DIGGERS HOTLINE TWO FULL WORKING DAYS IN ADVANCE OF EXCAVATION WORK.

DIGGERS HOTLINE - CALL 1-800-344-7483

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CLIENT:
HS LAND TRUST
17715 MANCHESTER RD
ST. LOUIS, MO 63038
314-258-1321

VOLZ
Incorporated
ENGINEERS
LAND PLANNERS
LAND SURVEYORS
TRANSPORTATION
ENVIRONMENT
Civil Engineering Consultants
St. Louis, Missouri Office
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314.965.0100 phone
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www.volzinc.com
Authority #000

MARK E. VOLCKMANN
Professional Engineer
E-2003135055
12/31/2015

PROJECT ADDRESS:
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WILDWOOD, MO 63038

CITY OF WILDWOOD
MAR 31 2016
DEPT OF PLANNING & PUBLIC WORKS

REVISED

EXISTING DRAINAGE AREA MAP

Design By: MEC
Drawn By: SJC
Checked By: MEC
Project # 15079
11-03-2015
C3

VOLZ Incorporated
CIVIL ENGINEERS
LAND PLANNING
PROJECT MANAGEMENT
TRANSPORTATION
CONSTRUCTION ENVIRONMENTAL
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Fenton, Missouri 63026
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MARK L. KILGORE
Professional Engineer
E-2006039016

PROJECT ADDRESS:
17715 MANCHESTER ROAD
WILDWOOD, MO 63038

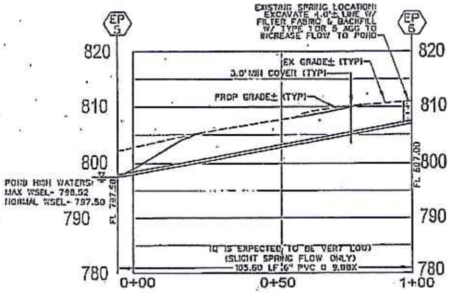
PROPOSED DRAINAGE AREA MAP

11-03-2015

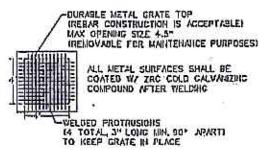
C4

REVISED
02-29-2016
3-30-2016

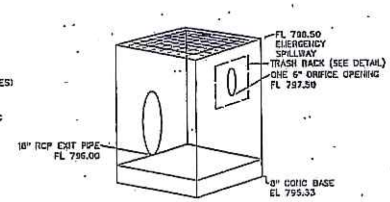
REFERENCE METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD)
STANDARD CONSTRUCTION SPECIFICATIONS FOR
SEWERS AND DRAINAGE FACILITIES
FOR ALL STORM SEWER CONSTRUCTION



STORM SEWER PROFILE
SCALE: 1"= 20' HOR, 1"= 10' VERT

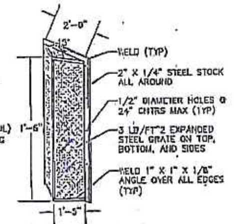


GRATED TOP PLAN
SCALE: 1"= 5' HOR & VERT



OPENINGS & EXIT
NO SCALE

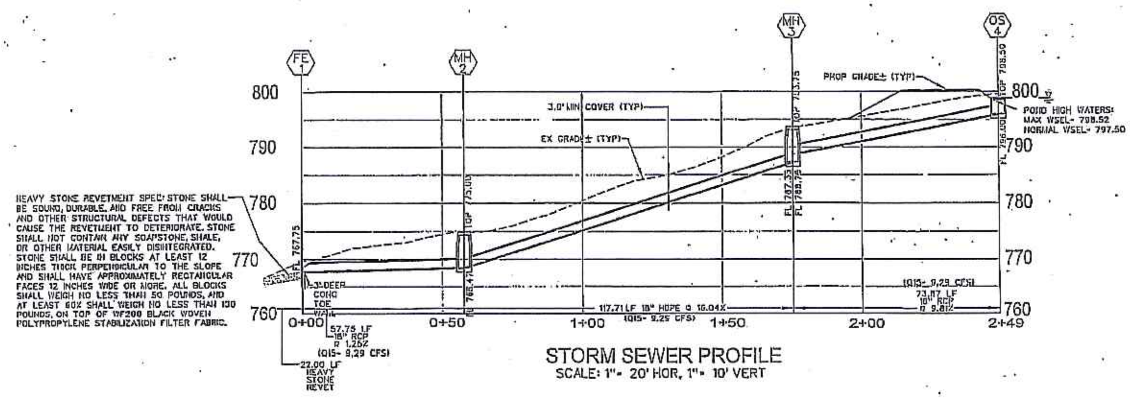
OUTLET STRUCTURE
REINFORCEMENT NOT SHOWN FOR CLARITY
BASE, WALLS & REINFORCEMENT SHALL BE
PER TYPICAL MSD AREA INLET



NOTES FOR TRASH RACK

1. TRASH RACK SHALL BE CENTERED OVER OPENING.
2. STEEL TO CONFORM TO ASTM A-36.
3. ALL SURFACES SHALL BE COATED WITH ZRC COLD GALVANIZING COMPOUND AFTER WELDING.
4. TRASH RACK SHALL BE FASTENED TO THE WALL WITH 1/2" MASONRY ANCHORS. TRASH RACK SHALL BE REMOVABLE.

TRASH RACK DETAIL
NO SCALE



STORM SEWER PROFILE
SCALE: 1"= 20' HOR, 1"= 10' VERT

St Charles County Government — Hydraulic Review Output Data — Calculations Under Full Flow

	Ups Str	Low Str	PL	D	Ups FL IN	Low FL IN	PS	Ups GT EL	Depth HYGR	Ups HY EL	Low HY EL	Hydr Grade	FR Head	VEL	VEL Head	Junc Loss	Turn Loss	Curve Loss	STR Grade	Inl Cap	DR Area	RI	Q	TQ	Pipe Cap	Remarks
1	OS4	MH3	74	18	796.00	788.75	9.81	797.50	1.05	798.54*	798.58	0.00780	0.58	0.26	0.43	0.13	0.40	0.00			3.22	1.78	9.29	9.29	33.93	Q15
2	MH3	MH2	118	18	787.33	775.47	10.05	790.25	0.72	787.33*	776.57	0.00780	0.92	0.29	0.43	0.07	0.07	0.03					0.00	9.29	43.07	Q15
3	MH2	FE1	58	18	768.47	767.75	1.20	773.00	0.00	769.21	769.23	0.00780	0.43	0.26	0.43	0.00	0.21	0.00					9.00	9.29	11.74	Q15

St Charles County Government — Hydraulic Review Output Data — Calculations Under Full Flow

	Ups Str	Low Str	PL	D	Ups FL IN	Low FL IN	PS	Ups GT EL	Depth HYGR	Ups HY EL	Low HY EL	Hydr Grade	FR Head	VEL	VEL Head	Junc Loss	Turn Loss	Curve Loss	STR Grade	Inl Cap	Dr Area	RI	Q	TQ	Pipe Cap	Remarks
1	OS4	MH3	74	18	796.00	788.75	9.81	798.50	1.87	799.54*	790.29	0.01470	1.09	7.00	0.78	0.38	0.00	0.00			3.22	3.37	12.52	17.52	33.93	Q100
2	MH3	MH2	118	18	787.33	775.47	10.01	790.25	0.81	787.01*	776.59	0.01430	1.67	7.00	0.78	0.00	0.00	0.00					0.00	12.52	43.07	Q100
3	MH2	FE1	58	18	768.47	767.75	1.25	775.00	0.50	770.20	769.23	0.01430	0.82	7.00	0.78	0.00	0.43	0.23					0.00	12.52	11.74	Q100

CALL BEFORE YOU DIG — CALL TWO FULL WORKING DAYS IN ADVANCE OF STARTING WORK — MISSOURI ONE-CALL 1-800-344-7483

CONTRACTOR TO BE RESPONSIBLE FOR TRAFFIC CONTROL AND STREET RESTORATION

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CITY OF WILDWOOD
MAR 31 2016
DEPT OF PLANNING & PARKS

CLIENT: MS. LAURIE TAYLOR 17715 MANCHESTER RD ST. LOUIS, MO 63038 314-605-1321

VOLZ Incorporated — ENGINEERS, LAND PLANNING, LAND SURVEYING, TRANSPORTATION, CONST. MANAGEMENT — 10849 Indian Head Ind. Blvd. St. Louis, Missouri 63132 — 314.426.6212 Main — 314.890.1365 Fax — www.volzinc.com — Authority 4303

MARK L. KILGORE — Professional Engineer — E-26091[illegible]

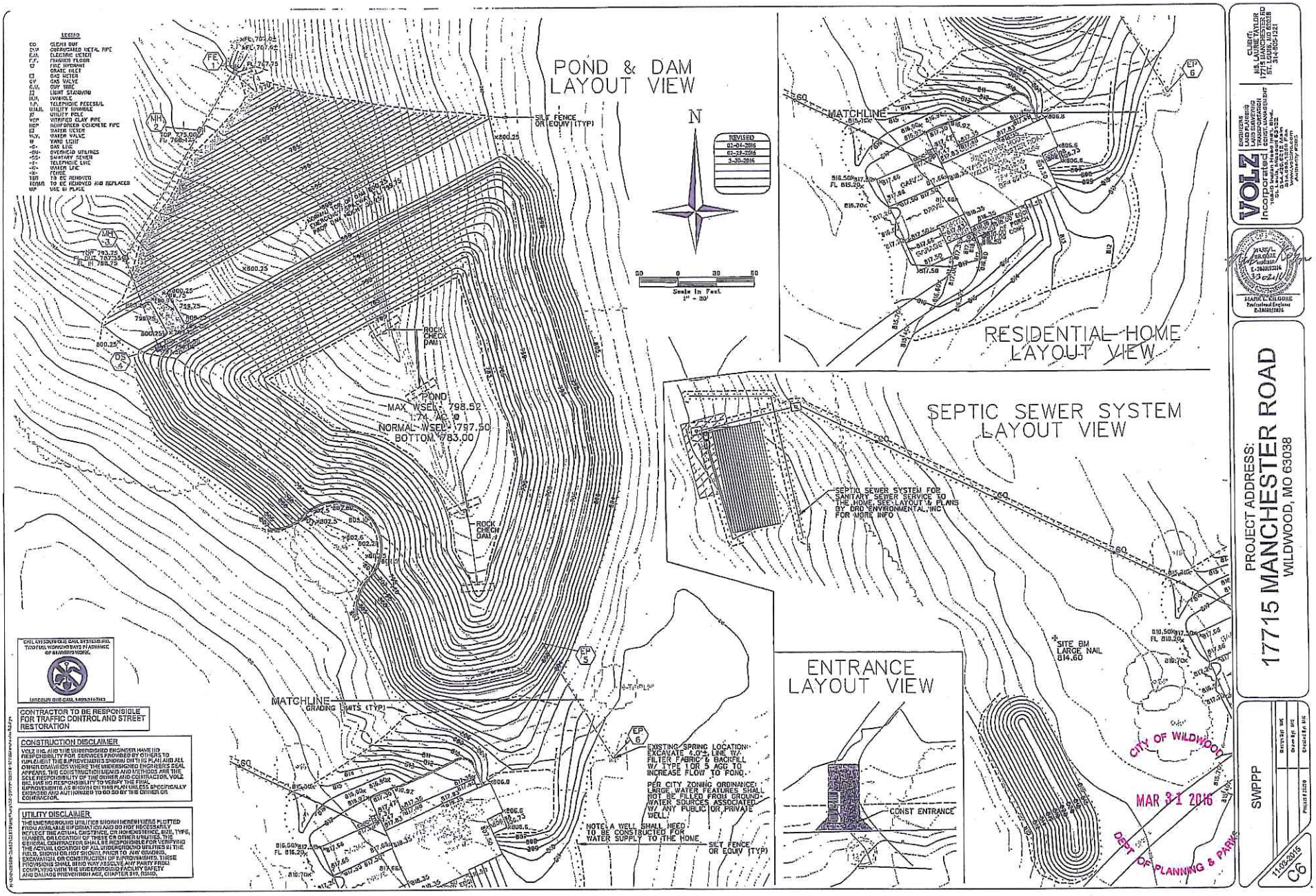
PROJECT ADDRESS:
17715 MANCHESTER ROAD
WILDWOOD, MO 63038

STORM SEWER PROFILES & DETAILS

REVISED

11-03-2015

C5


POND & DAM
LAYOUT VIEW
N
REVISED
02-04-2016
02-29-2016
3-30-2016
Scale In Feet
1" = 30'
SILT FENCE
OR EQUIV (TYP)
ROCK
CHECK
DAM
POND
MAX WSEL: 798.52
1.74 AC @
NORMAL WSEL: 797.50
BOTTOM 783.00
MATCHLINE
GRADING LIMITS (TYP)
EXISTING SPRING LOCATION:
EXCAVATE 4.0'± LINE W/
FILTER FABRIC & BACKFILL
W/ TYPE 1 OR 5 AGG TO
INCREASE FLOW TO POND.
PER CITY ZONING ORDINANCE:
LARGE WATER FEATURES SHALL
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WATER SOURCES ASSOCIATED
W/ ANY PUBLIC OR PRIVATE
WELL.
NOTE: A WELL SHALL NEED
TO BE CONSTRUCTED FOR
WATER SUPPLY TO THE HOME
SILT FENCE
OR EQUIV (TYP)
MATCHLINE
RESIDENTIAL HOME
LAYOUT VIEW
SEPTIC SEWER SYSTEM
LAYOUT VIEW
SEPTIC SEWER SYSTEM FOR
SANITARY SEWER SERVICE TO
THE HOME. SEE LAYOUT & PLANS
BY DRD ENVIRONMENTAL, INC
FOR MORE INFO
SITE BM
LARGE NAIL
814.60
ENTRANCE
LAYOUT VIEW
CONST ENTRANCE
CITY OF WILDWOOD
MAR 31 2016
DEPT OF PLANNING & PARKS
CONTRACTOR TO BE RESPONSIBLE
FOR TRAFFIC CONTROL AND STREET
RESTORATION
CONSTRUCTION DISCLAIMER
UTILITY DISCLAIMER
VOLZ
Incorporated
CLIENT:
MS. LAURIE TAYLOR
17715 MANCHESTER RD
ST. LOUIS, MO 63038
314-805-1321
PROJECT ADDRESS:
17715 MANCHESTER ROAD
WILDWOOD, MO 63038
SWPPP
11-03-2015
C6

SEEDING

PHYSICAL DESCRIPTION - Establishment of vegetation by spreading grass seed designed to protect exposed soil from erosion by minimizing direct impact of precipitation and slowing overland flow rates. Once established, the vegetative cover will also filter pollutants from the runoff. Use only perennial vegetation for final stabilization.

WHERE BMP IS TO BE INSTALLED - To exposed soil after a phase of rough or finish grading has been completed, or areas where no activity will occur for 30 days.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow:	Sheet flow
Contributing Slope Length:	50 feet maximum for 3:1 slopes 60 feet maximum for slopes between 3:1 and 10% 100 feet maximum for slopes under 10%
Minimum Dates:	See attached chart(s)
Acceptable Dates:	See attached chart

WHEN BMP IS TO BE INSTALLED - Immediately after rough or finished grading is completed.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Install upstream BMPs to protect area to be seeded.
- ✓ Rough grade area and remove all debris larger than 1-inch in diameter and concentrated areas of smaller debris.
- ✓ Install stabilization grids, if needed.
- ✓ Use soil amendments (lime, fertilizer, etc.) into top 3 to 6 inches of soil as needed.
- ✓ Plant seed 1/4 to 1/2 inch deep.
- ✓ Rake lightly to firm surface.
- ✓ Cover seeded area with mulch unless seeding completed during optimum spring and summer dates.
- ✓ Install additional stabilization (netting, landfill (bio)mats, etc.) as required.
- ✓ Water immediately - ensure the soil 4 inches into soil without causing runoff.
- ✓ If contract / permit allows seeding to be used for final stabilization, only perennial vegetation seeds shall be used.
- ✓ For additional information see Sections 803 and 806.50 of St. Louis County's Standard Specification for Road and Bridge Construction.

O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Protect area from vehicular and foot traffic.
- ✓ Reseed areas that have not sprouted within 21 days of planting.
- ✓ Repair damaged or eroded areas and reseed and stabilize as needed.
- ✓ Do not mow until 4 inches of growth occurs.
- ✓ During the first 4 months, mow no more than 1/3 the grass height.
- ✓ Re-fertilize during 2nd growing season.

SITE CONDITIONS FOR REMOVAL - Does not require removal, but temporary seeding can be removed immediately prior to wash returning to an area.

SEEDING REQUIREMENTS

Permanent Seeding	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Tall Fescue			O	O	O			O	O			
Smooth Brome			O	O	O			O	O			
Crop & Fescue			O	O	O	O		O	O			
[illegible]	A	A	O	O	O	F	F	O	O	F	F	A

Temporary Seeding	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Cereal Grain	A	A	O	O	O	O	O	O	O	O	A	A
Oats			A	O	O	O	O	O	O	O		

O = Optimum planting dates
A = Acceptable planting dates
F = [illegible]

Permanent Seeding	Minimum Fertilizer and Seeding Rates	
	[illegible]	[illegible]
Tall Fescue	210	10
Smooth Brome	210	42
Mixture #1	180	12
Mixture #2	210	43

Mixture #1 = Tall fescue ... [illegible]
Mixture #2 = Tall fescue ... [illegible]
[illegible]

Temporary Seeding	[illegible]	[illegible]
Cereal Grain	675	11
Oats	120	15

Fertilizer	Permanent Seeding	Temporary Seeding
Nitrogen	45	25
Phosphate	65	35
Potassium	45	15
[illegible]	600	600

Note: [illegible]

CHECK DAM

PHYSICAL DESCRIPTION - A small dam built within a drainage swale or temporary diversion channel designed to pond water and cause sediment to settle out. Dams can be constructed of rock, sand bags, filter rolls / wattles, triangular dikes, or gravel bags. Silt fence shall not be used to construct check dams.

WHERE BMP IS TO BE INSTALLED - At intervals along drainage swales or channels. The top of the downstream check dam should be level with the base of the upstream check dam.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Type of Flow:	Moderate concentrated flow
Contributing Area:	Maximum of 2 acres
Channel Slope:	Maximum of 3%

WHEN BMP IS TO BE INSTALLED - Prior to disturbance of natural vegetation in contributing drainage area; or immediately after construction of drainage way.

For additional information see Section 806.30 of St. Louis County's Standard Specification for Road and Bridge Construction.

INSTALLATION / CONSTRUCTION PROCEDURES

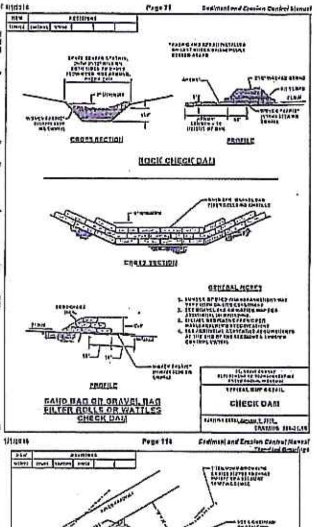
- ✓ Grade drainage way and compact area of check dam.
- ✓ Place rock, sand bags, filter rolls / wattles or gravel bags in required configuration perpendicular to flow.

O&M PROCEDURES*

- ✓ Inspect every week and after every storm.
- ✓ Remove trash and leaf accumulation.
- ✓ Remove sediment buildup once it reaches 1/2 depth of check dam or 12" depth, whichever is less.
- ✓ Restore dam structure to original configuration to protect banks.
- ✓ Replace rock on upstream face of dam if ponding does not drain in reasonable timeframe.

SITE CONDITIONS FOR REMOVAL - Remove after contributing drainage areas have been adequately stabilized and vegetation is adequately established in drainage way. Re-grade and vegetate area of check dam.

TYPICAL DETAIL - 080-35.00



WASHDOWN STATION

PHYSICAL DESCRIPTION - An area located at construction entrances designed to wash sediment from the tires and undercarriage of exiting vehicles and prevent sediment from being tracked onto existing roadways.

WHERE BMP IS TO BE INSTALLED - Across or immediately adjacent to exit paths from exposed construction sites.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Drainage: Downstream BMPs should be in place to treat dirty runoff from washdown station

WHEN BMP IS TO BE INSTALLED - First order of work, along with construction entrance, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION/CONSTRUCTION PROCEDURES

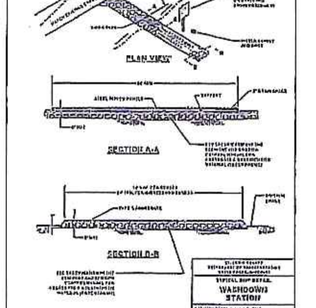
- ✓ Grade and compact area for drainage under washdown pad.
- ✓ Install steel ribbed plate on frame or other support to allow a 2" drain space.
- ✓ Grade and vegetate downstream BMPs (V-ditch shown on detail).
- ✓ Install water supply and hose.
- ✓ Post sign in advance of station indicating that all exiting vehicles and equipment must use station prior to exiting site.

O&M PROCEDURES:

- ✓ Remove sediment daily.
- ✓ Repair soiled areas.
- ✓ Replace rock if necessary to maintain clean surface.

SITE CONDITIONS FOR REMOVAL - Remove when vehicles and equipment will no longer access unpaved areas.

TYPICAL DETAIL - 003-40.00



TYPICAL DETAILS - Minimum 10 inch spacing and acceptable dates for work attached.

INSTALLATION / CONSTRUCTION PROCEDURES

- ✓ Excavate diversion area except for area of upstream connection.
- ✓ Compact as required to place diversion properly.
- ✓ Install pipe bedding or channel lining as required.

SILT FENCE

PHYSICAL DESCRIPTION - Silt fences are used as temporary perimeter controls, appropriate to the BMP, at sites where construction activities will disturb the soil. They can also be used on the interior of the site. A silt fence consists of a length of filter fabric stretched between anchoring posts spaced at regular intervals along the site at low and down slope areas. The filter fabric should be entrenched in the ground. When installed correctly and inspected frequently, silt fences can be an effective barrier to silt leaving the site in storm water runoff.

WHERE BMP IS TO BE INSTALLED - Silt fences apply to construction sites with relatively small drainage areas. They are appropriate in areas where runoff will occur as low-level flow, not exceeding 0.5 c.f.s. The drainage area for silt fences should not exceed 0.25 acre per 100-foot fence length (100 square feet per foot of fence). The slope length above the fence should not exceed 100 feet (IAHB, 1998). The fence should be designed to withstand the runoff from a 10-year peak storm event.

CONDITIONS FOR EFFECTIVE USE OF BMPs - Spacing of parallel lengths of silt fence along slopes is relative to slope steepness as follows:

Type of Flow:	Sheet flow only.
Contributing Slope Length:	30 feet maximum for 3:1 slopes. 60 feet maximum for slopes between 3:1 and 10%. 100 feet maximum for slopes under 10%.

For additional information see Section 806.10 of St. Louis County's Standard Specification for Road and Bridge Construction.

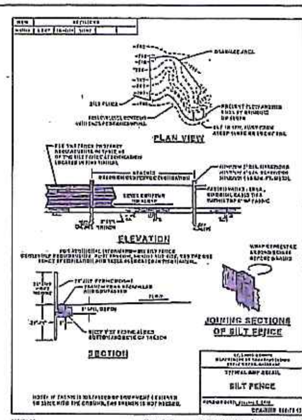
WHEN BMP IS TO BE INSTALLED - Prior to disturbance of natural vegetation and at intervals during construction of fill slopes. Install on the perimeter of the site (where storm water exits the site) prior to disturbance of natural vegetation, around material stockpiles and interior to the site along slopes, at the base of slopes and at intervals during construction of slopes.

INSTALLATION/CONSTRUCTION PROCEDURES

- ✓ Drive post for fence line.
- ✓ Dig trench to required dimensions in front of posts for fabric install.
- ✓ Attach wire mesh to posts.
- ✓ Attach fabric to posts, allowing required length below ground level to run fabric along bottom of trench.
- ✓ Backfill and compact soil in trench to protect and anchor fabric.

If a standard-strength fabric is used, it can be reinforced with wire mesh behind the filter fabric. This increases the effective life of the fence. The maximum life expectancy for synthetic fabric silt fences is about 6 months, depending on the amount of rainfall and runoff.

The stakes used to anchor the filter fabric should be wood or metal. Wooden stakes should have minimum dimensions of 2 by 2 inches if a hardwood like oak is used. Stakes from soft woods like fir, 2 Southern Pine, should have minimum dimensions of 4 by 4 inches. When using steel (standard U, T, L or C shape sections) posts in place of wooden stakes, they should weigh no less than 1.0 lb/linear foot. If metal posts are used, attachment points are needed for fastening the filter fabric with wire ties. Posts should be at least 3 feet long and driven or placed at a slight upstream angle into the ground to a



minimum depth of 18 inches. Depth shall be increased to a minimum of 22 inches if fence is placed on a slope of 3:1 or greater. When the post embedment depth is impossible to obtain, the posts shall be adequately secured to prevent overturning of the fence due to sediment loading.

Erect silt fence in a continuous fashion from a single roll of fabric to eliminate gaps in the fence. If a continuous roll of fabric is not available, overlap the fabric from both directions only at stakes or posts. Overlap at least 6 inches.

The Geosynthetic filter fabric and wire mesh (when applicable) shall be no less than 30 inches above ground and are stapled or wired to the upslope side of the post. Staples should be a 17-gauge wire and 1/2 inch long. Excavate a trench to bury the bottom of the fabric fence in a "J" configuration at least 8 inches below the ground surface. The trench shall be backfilled with native soil and the soil compacted over the geotextile. This helps to prevent gaps from forming near the ground surface. Gaps would make the fencing useless as a sediment barrier.

The height of the fence posts should be 30 inches (22-inch embedment) to 42 inches (18-inch embedment) above the original ground surface. If standard-strength fabric is used with 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength), space the posts no more than 6 feet apart. If extra-strength fabric is used without wire mesh reinforcement, space the posts no more than 4 feet apart with woven or 6 feet apart with non-woven geosynthetic.

Alternate Construction: Install fence by slicing it into ground with specialized equipment. Install posts at reduced spacing indicated on detail.

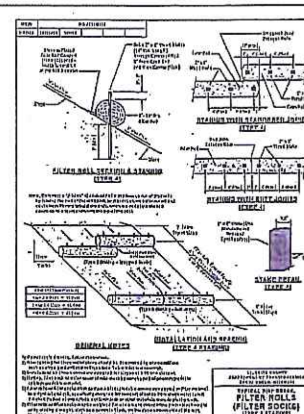
LIMITATIONS - Do not install silt fences along areas where rocks or other hard surfaces will prevent you from uniformly anchoring the fence posts and entrenching the filter fabric. Installing fences in such an area greatly reduces their effectiveness and can create runoff channels leading offsite. Silt fences are not suitable for areas where large amounts of concentrated runoff are likely. Fence shall not be used when slope is 1:1 or greater and water flow rates exceed 2 cubic feet per minute. Open, windy areas present a maintenance challenge, too, because high winds can make the filter fabric deteriorate faster. Do not install silt fences across streams, ditches, or waterways (Smolen et al., 1993).

When the pores of the fence fabric become clogged with sediment, pools of water are likely to form on the uphill side of the fence. Siting and design of the silt fence should account for this. Take care to avoid unnecessary diverting stormwater from these pools, causing further erosion damage.

MAINTENANCE CONSIDERATIONS - Inspect silt fences regularly and frequently, as well as after each storm event, to make sure that they are intact and that there are no gaps where the fence meets the ground or tears along the length of the fence. If you find gaps or tears, repair or replace the fabric immediately. Remove accumulated sediments from the fence base when the sediment reaches one-third to one-half the fence height. Remove sediment more frequently if accumulated sediment is creating noticeable strain on the fabric and the fence might fail from a sudden storm event. When you remove the silt fence, remove the accumulated sediment, dress the area disturbed to give it a pleasing appearance and vegetate all bare areas as well.

O&M PROCEDURES

- ✓ Inspect every week and after every storm.
- ✓ Remove sediment buildup deeper than 1/3 the fence height or 12", whichever is less.
- ✓ Replace torn or clogged fabric; repair loose fabric.



- ✓ Repair unstable or broken posts.
- ✓ Stabilize any areas susceptible to undermining.
- ✓ Extend fence or add additional row(s) of fence if necessary to provide adequate protection.

SIZING AND DESIGN CONSIDERATIONS - The material for silt fences should be a pervious sheet of synthetic fabric such as polypropylene, nylon, and polyester or polyethylene yarn. Choose the material based on the minimum synthetic fabric requirements shown in Table 1 below.

Table 1 - Temporary Silt Fence Property Requirements

Physical Property	Test Method	Units	MARV Geotextile Requirements: Supported Silt Fence[2]	Unsupported Silt Fence: Woven Elongation ≥ 50%[1]	Unsupported Silt Fence: Non-Woven Elongation ≥ 50%[1]
Post Spacing (Maximum)		feet	4	4	8
Height of Wire / Polymer Fence (Minimum)		inches	30	—	—
Grab Strength (Minimum): Machine Direction / Cross Machine Direction	ASTM D 4632	pounds	90 / 90	125 / 100	125 / 100
Permittivity (Minimum)	ASTM D 4491	sec⁻¹	0.05	0.05	0.05
Apparent Opening Size (AOS)[3]	ASTM D 4751	Sieve Number	30	30	30
Ultraviolet Stability (Minimum) Retained strength	ASTM D 4355		70% after 500 hrs of exposure		

Notes:

MARV - Minimum Average Roll Value

[1] Elongation measured in accordance with ASTM D 4632

[2] Silt Fence Support - 14-gauge steel wire with a mesh spacing of 6 inches by 6 inches (or a prefabricated polymeric mesh of equivalent strength)

[3] Maximum Average Roll Value

SITE CONDITIONS FOR REMOVAL - After permanent vegetation of slope is established. Remove fence and post, re-grade trench area and vegetate.

TYPICAL DETAIL - 003-70.0

CONSTRUCTION ENTRANCE

PHYSICAL DESCRIPTION - A stabilized entrance to a construction site designed to minimize the amount of sediment tracked from the site on vehicles and equipment. Stabilization generally consists of aggregate over geogrid and geosynthetic material. Mud and sediment fall off of tires as they travel along the stabilized entrance; however, additional measures in the form of a washdown area should also be included on site. The stabilized entrance also distributes the axle load of vehicles over a larger area thereby mitigating the rutting impact vehicles normally have on unpaved areas. See additional information in the "Construction Site Access Requirements" section of this manual.

WHERE BMP IS TO BE INSTALLED - At locations where it is safe for construction vehicles and equipment to access existing streets - preferably at location of future streets or drives.

CONDITIONS FOR EFFECTIVE USE OF BMPs

Drainage: Ditches or pipes, if needed, sized for 15 year, 20 minute storm; HGL 6" below surface of entrance

WHEN BMP IS TO BE INSTALLED - First order of work, along with washdown area, prior to vehicles or equipment accessing unpaved areas.

INSTALLATION / CONSTRUCTION PROCEDURES

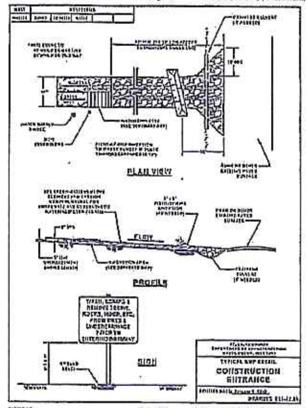
- ✓ Grade and compact area of construction entrance.
- ✓ Install culvert under entrance if needed to maintain positive drainage.
- ✓ Place geosynthetic material next to compacted soil, lay geogrid on top of this, and cover with aggregate, forming diversion across entrance if needed to divert runoff away from roadway.
- ✓ See Washdown Station BMP for additional steps.

O&M PROCEDURES:

- ✓ Immediately remove any mud or debris tracked onto paved surfaces.
- ✓ Remove sediment and clods of dirt from construction entrance continuously.
- ✓ Replace rock if necessary to maintain clean surface.
- ✓ Repair soiled areas.

SITE CONDITIONS FOR REMOVAL - Remove when vehicles and equipment will no longer access unpaved areas.

TYPICAL DETAIL - 003-100.1



CITY OF WILDWOOD
MAR 31 2016
DEPT OF PLANNING & PARKS

REVISED
02-04-2016

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314-805-1321

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314.426.6212 Main
314.890.1253 Fax
www.volzinc.com
Authority #202

MARK L. KILGORE
Professional Engineer
E-2000150034

PROJECT ADDRESS:
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WILDWOOD, MO 63038

SWPPP DETAILS & NOTES

Design By: MK
Drawn By: MK
Checked By: MK
Project #15072

11-03-2015

C7

GENERAL NOTES:

ZONING DISTRICT:	NU NON-URBAN
SITE AREA:	32.05 AC
WOODED AREA:	20.70 AC
TREE CANOPY REQ'D:	30% OF 20.70= 6.21 AC
CLEARING LIMITS:	4.14 AC TOTAL FOR 2016
TREE CANOPY SAVED:	16.56 AC= 80.0%
TREE CANOPY PLANTED:	0
TREE CANOPY PROVIDED:	16.56 AC= 80.0%
PROPOSED UNITS:	ONE (1) SINGLE FAMILY RESIDENCE

TREE PROTECTION NOTES:

1. PRE-CONSTRUCTION MEETING, HELD ON-SITE TO INCLUDE A PRESENTATION OF TREE PROTECTION MEASURES TO OPERATORS, CONSTRUCTION SUPERVISORS, DEVELOPER'S REPRESENTATIVE, AND CITY ZONING INSPECTORS.

2. CLEARING LIMITS SHALL BE ROUGH STAKED BY DEVELOPER IN ORDER TO FACILITATE LOCATION FOR TRENCHING & FENCING INSTALLATION.

3. NO CLEARING OR GRADING SHALL BEGIN IN AREAS WHERE TREE TREATMENT & PRESERVATION MEASURES HAVE NOT BEEN COMPLETED.

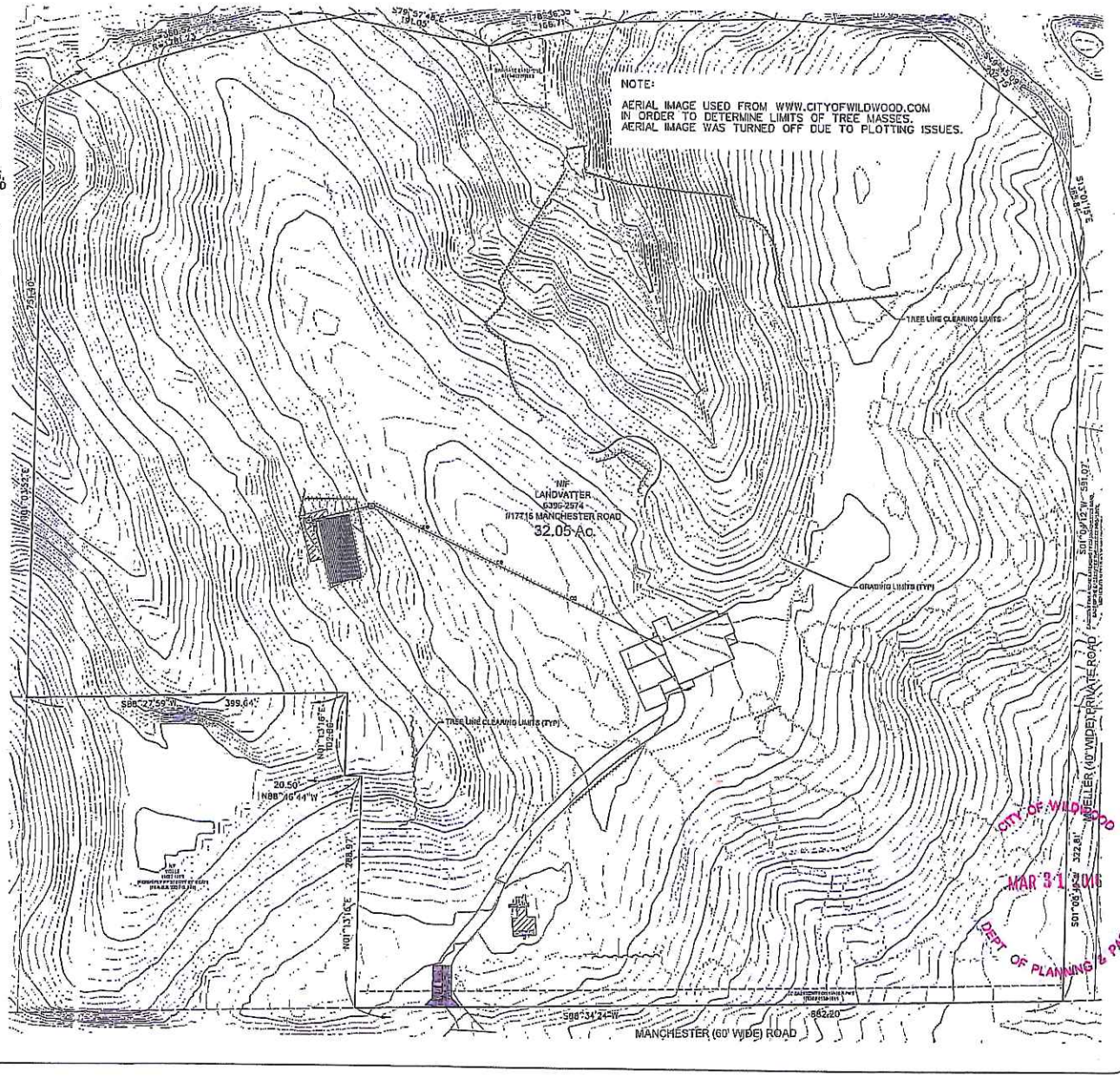
4. THE SEQUENCE OF TREE TREATMENT & PRESERVATION MEASURES SHALL BE:
   A. ROOT PRUNING TRENCHING
   B. TREE PROTECTION FENCING
   C. TREE PRUNING & CHEMICAL TREATMENT
   D. AERATION SYSTEMS INSTALLED
   E. SIGN INSTALLATION

*NRP FENCING MUST BE INSTALLED BEFORE A ZONING AUTHORIZATION WILL BE RELEASED.

DATE OF CALCULATION OF LAND DISTURBANCE AS REQUESTED BY CITY OF WILDWOOD: CALCULATED ON NOV 23±, 2015. CALCULATION IS FOR ULTIMATE MAX DISTURBANCE IN EXPECTED 2016 CONSTRUCTION

N

0 30 60 120 180
Scale In Feet
1" = 60'



REVISIONS
02-01-2016
02-25-2016
3-30-2016

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CLIENT:
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314-805-1321

MARK L. TILLSCHER
Professional Engineer
E-2009138014
3-31-2016

PROJECT ADDRESS:
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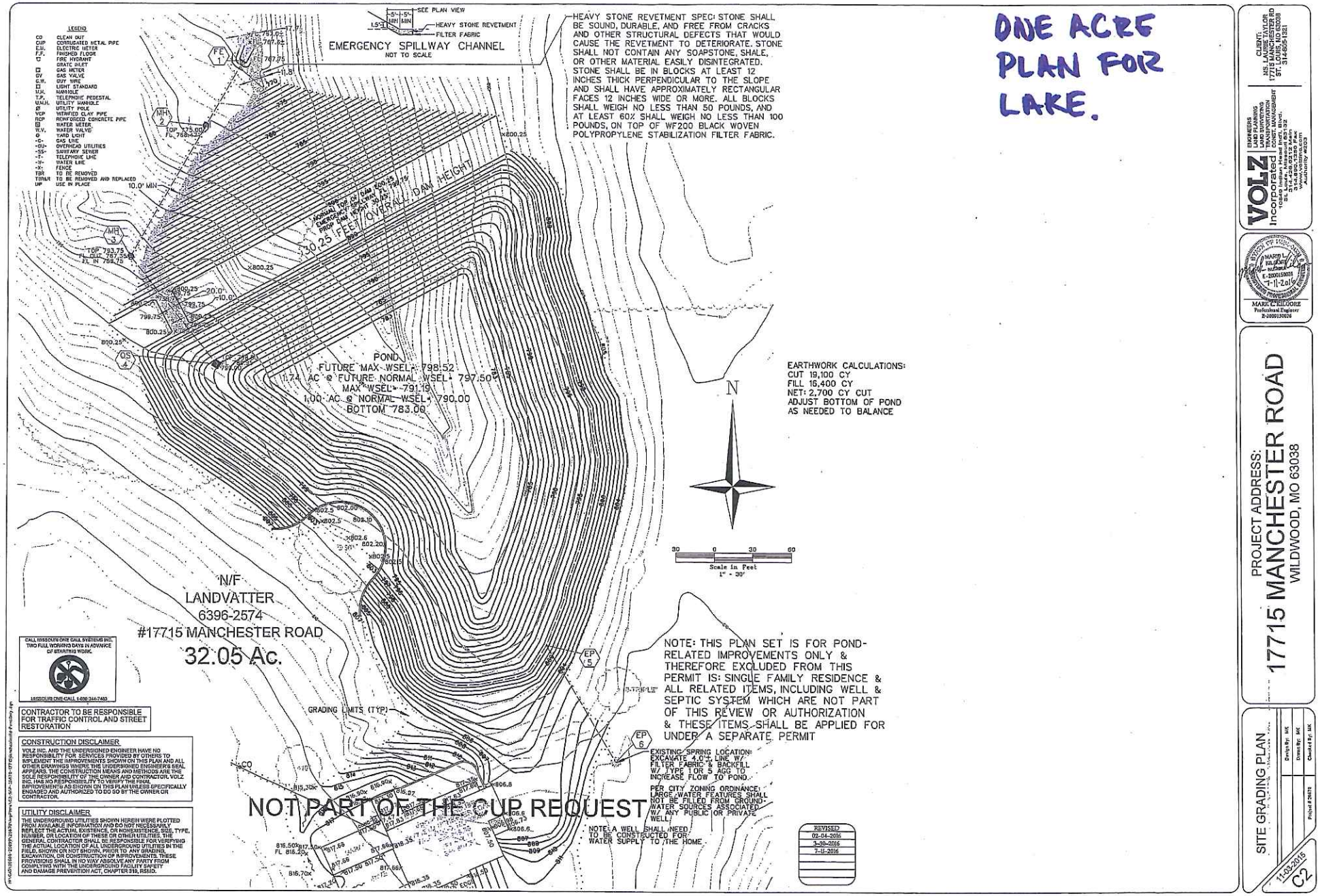
WILDWOOD, MO 63038

TREE PRESERVATION PLAN

11-23-2015	Design By: MLT
C8	Drawn By: MLT
Project 2015	Checked By: LJT


LEGEND
CO CLEAN OUT
CMP CORRUGATED METAL PIPE
E.M. ELECTRIC METER
F.F. FINISHED FLOOR
FH FIRE HYDRANT
GI GRATE INLET
GM GAS METER
GV GAS VALVE
O.H. OVY WIRE
LS LIGHT STANDARD
M.H. MANHOLE
T.P. TELEPHONIC PEDESTAL
U.M.H. UTILITY MANHOLE
UP UTILITY POLE
VCP VITRIFIED CLAY PIPE
RCP REINFORCED CONCRETE PIPE
W.M. WATER METER
W.V. WATER VALVE
YL YARD LIGHT
-G- GAS LINE
-OU- OVERHEAD UTILITIES
-SS- SANITARY SEWER
-T- TELEPHONIC LINE
-W- WATER LINE
-X- FENCE
TBR TO BE REMOVED
TBR&R TO BE REMOVED AND REPLACED
UIP USE IN PLACE
EMERGENCY SPILLWAY CHANNEL
NOT TO SCALE
SEE PLAN VIEW
HEAVY STONE REVETMENT
FILTER FABRIC
HEAVY STONE REVETMENT SPEC: STONE SHALL BE SOUND, DURABLE, AND FREE FROM CRACKS AND OTHER STRUCTURAL DEFECTS THAT WOULD CAUSE THE REVETMENT TO DETERIORATE. STONE SHALL NOT CONTAIN ANY SOAPSTONE, SHALE, OR OTHER MATERIAL EASILY DISINTEGRATED. STONE SHALL BE IN BLOCKS AT LEAST 12 INCHES THICK PERPENDICULAR TO THE SLOPE AND SHALL HAVE APPROXIMATELY RECTANGULAR FACES 12 INCHES WIDE OR MORE. ALL BLOCKS SHALL WEIGH NO LESS THAN 50 POUNDS, AND AT LEAST 60% SHALL WEIGH NO LESS THAN 100 POUNDS, ON TOP OF WF200 BLACK WOVEN POLYPROPYLENE STABILIZATION FILTER FABRIC.
ONE ACRE PLAN FOR LAKE.
30.25 FEET OVERALL DAM HEIGHT
POND
FUTURE MAX WSEL= 798.52
1.74 AC @ FUTURE NORMAL WSEL= 797.50
MAX WSEL= 791.19
1.00 AC @ NORMAL WSEL= 790.00
BOTTOM 783.00
EARTHWORK CALCULATIONS:
CUT 19,100 CY
FILL 16,400 CY
NET: 2,700 CY CUT
ADJUST BOTTOM OF POND AS NEEDED TO BALANCE
N
30 0 30 60
Scale in Feet
1" = 30'
N/F
LANDVATTER
6396-2574
#17715 MANCHESTER ROAD
32.05 Ac.
NOTE: THIS PLAN SET IS FOR POND-RELATED IMPROVEMENTS ONLY & THEREFORE EXCLUDED FROM THIS PERMIT IS: SINGLE FAMILY RESIDENCE & ALL RELATED ITEMS, INCLUDING WELL & SEPTIC SYSTEM WHICH ARE NOT PART OF THIS REVIEW OR AUTHORIZATION & THESE ITEMS SHALL BE APPLIED FOR UNDER A SEPARATE PERMIT
EXISTING SPRING LOCATION: EXCAVATE 4.0'± LINE W/ FILTER FABRIC & BACKFILL W/ TYPE 1 OR 5 AGG TO INCREASE FLOW TO POND.
PER CITY ZONING ORDINANCE: LARGE WATER FEATURES SHALL NOT BE FILLED FROM GROUND WATER SOURCES ASSOCIATED W/ ANY PUBLIC OR PRIVATE WELL.
NOTE: A WELL SHALL NEED TO BE CONSTRUCTED FOR WATER SUPPLY TO THE HOME
NOT PART OF THE CUP REQUEST
GRADING LIMITS (TYP.)
CALL MISSOURI ONE CALL SYSTEMS INC. TWO FULL WORKING DAYS IN ADVANCE OF STARTING WORK.
MISSOURI ONE-CALL 1-800-344-7483
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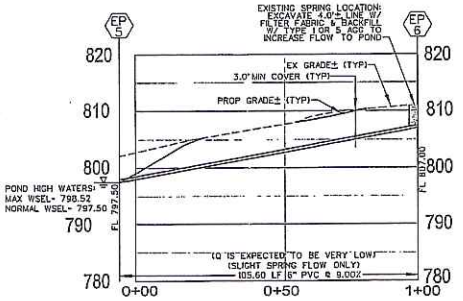
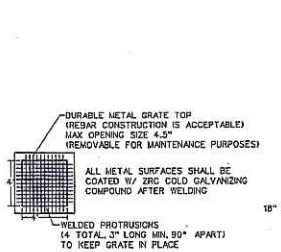
REVISED
02-04-2016
3-30-2016
7-11-2016
VOLZ Incorporated
ENGINEERS LAND PLANNING LAND SURVEYING TRAFFIC ENGINEERING CONST. MANAGEMENT
10849 Indian Head Ind'l. Blvd. St. Louis, MO 63132 314-426-6212 Main 314-426-6213 Fax www.volzinc.com Authority #003
CLIENT: MS. LAUREN TAYLOR 17715 MANCHESTER RD ST. LOUIS, MO 63038 314-954-1531
MARC L. MOORE Professional Engineer E-2000150026 7-11-2016
PROJECT ADDRESS: 17715 MANCHESTER ROAD WILDWOOD, MO 63038
SITE GRADING PLAN
11-09-2015
C2
Drawn By: MK
Drawn By: MK
Checked By: MK
Project # 2470

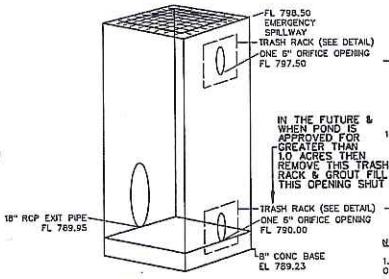
REFERENCE METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD)
STANDARD CONSTRUCTION SPECIFICATIONS FOR
SEWERS AND DRAINAGE FACILITIES
FOR ALL STORM SEWER CONSTRUCTION



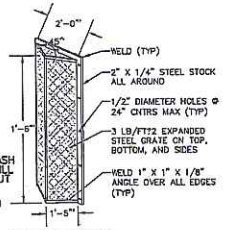
STORM SEWER PROFILE
SCALE: 1"= 20' HOR, 1"= 10' VERT



GRATED TOP PLAN
SCALE: 1"= 5' HOR & VERT



OPENINGS & EXIT
NO SCALE



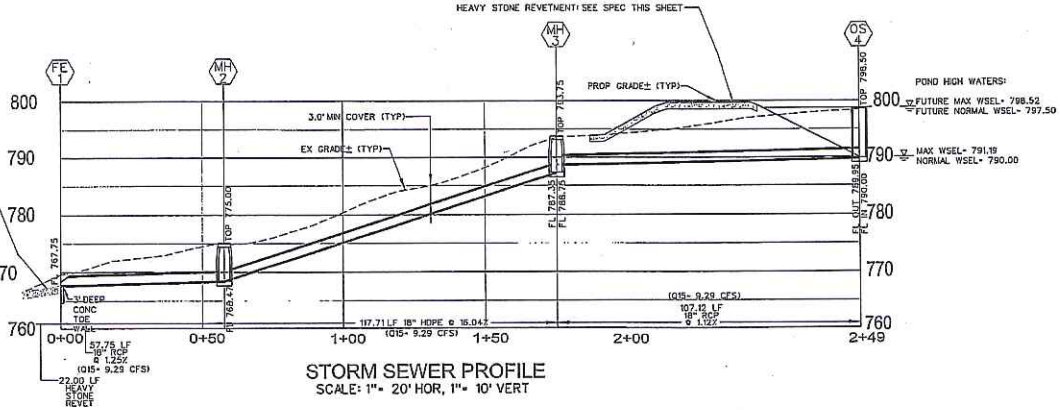
NOTES FOR TRASH RACK

1. TRASH RACK SHALL BE CENTERED OVER OPENING.
2. STEEL TO CONFORM TO ASTM A-36.
3. ALL SURFACES SHALL BE COATED WITH ZRC COLD GALVANIZING COMPOUND AFTER WELDING.
4. TRASH RACK SHALL BE FASTENED TO THE WALL WITH 1/2" MASONRY ANCHORS. TRASH RACK SHALL BE REMOVABLE.

TRASH RACK DETAIL
NO SCALE

OUTLET STRUCTURE

REINFORCEMENT NOT SHOWN FOR CLARITY
BASE, WALLS & REINFORCEMENT SHALL BE
PER TYPICAL MSD AREA INLET



STORM SEWER PROFILE
SCALE: 1"= 20' HOR, 1"= 10' VERT

St Charles County Government — Hydraulic Review Output Data — H:\CAD\21600-21699\21670\SWM\21670-17715ManchesterRd-Q15Hyd-7-11-2016.lvl — 7/11/2016 — Calculations Under Full Flow

Upe Str	Low Str	PL	S	Upe FLIN	Low FLIN	Low FLLH	PS	Upe STEL	Depth HYDR	Upe HYDR	Low HYEL	Low MEEL	Hydr Grade	FR Head	VEL	VEL Head	Junc Loss	Junc Loss	Turn Loss	Curve Loss	Curve Grade	STR Cap	Inf Cap	DR Area	DR Q	Q	YD	Pipe Cap	Pipe Grade	Remarks
1	CO 4	MH 3	107	18	789.85	788.75	1.03	798.50	8.65	789.85	791.32	789.25	0.00700	0.84	5.25	0.43	0.42	0.00	0.00					3.26	1.76	9.23	0.29	11.12	Q15	
2	MH 3	MH 2	118	18	789.25	788.47	10.04	793.75	0.93	789.85*	789.97	788.97	0.00700	0.92	5.29	0.43	0.00	0.00	0.00							0.00	0.29	42.97	Q15	
3	MH 2	FE 1	59	18	788.47	787.59	1.28	772.00	0.98	788.94	789.25	788.25	0.00700	0.13	5.29	0.43	0.00	0.24	0.00							0.00	0.29	11.24	Q15	

St Charles County Government — Hydraulic Review Output Data — H:\CAD\21600-21699\21670\SWM\21670-17715ManchesterRd-Q100Hyd-7-11-2016.lvl — 7/11/2016 — Calculations Under Full Flow

Upe Str	Low Str	PL	S	Upe FLIN	Low FLIN	Low FLLH	PS	Upe STEL	Depth HYDR	Upe HYDR	Low HYEL	Hydr Grade	FR Head	VEL	VEL Head	Junc Loss	Turn Loss	Curve Loss	Curve Grade	STR Cap	Inf Cap	DR Area	DR Q	Q	YD	Pipe Cap	Pipe Grade	Remarks
1	CO 4	MH 3	107	18	789.85	788.75	1.13	798.50	9.25	789.85	792.25	789.25	0.01420	1.52	7.09	0.78	0.00	0.00	0.00			8.26	3.27	12.52	0.52	11.12	Q100	
2	MH 3	MH 2	118	18	789.25	788.47	10.04	793.75	5.84	792.81*	792.93	792.81	0.01420	1.67	7.09	0.78	0.00	0.00	0.00					0.00	0.52	42.97	Q100	
3	MH 2	FE 1	59	18	788.47	787.59	1.28	772.00	4.59	792.08	792.25	792.08	0.01420	0.82	7.09	0.78	0.00	0.43	0.00					0.00	0.52	11.24	Q100	

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1(800)DIG-RITE (1-800-344-7483)

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REVISED
7-15-2016

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314-660-1361

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MARK L. KILGORE
Professional Engineer
E-2006015936

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WILDWOOD, MO 63038

STORM SEWER PROFILES & DETAILS

11-03-2015
C5