City of Wildwood
Council Planning/Economic Development/Parks Committee
Agenda for the
Tuesday, January 26, 2016 Meeting
6:30 PM to 8:30 PM
City Hall Community Room ~ 16860 Main Street

Eight (8) Items Ready for Action at Tonight's Meeting **– Action Items in Bold**

I. Welcome And Roll Call By Chair Baugus

II. Approval Of Minutes From The Meeting Of November 17, 2015

Documents: II. MINUTES FROM THE NOVEMBER 17 2015 MEETING.PDF

III. Public Comment

IV. Executive Session Pursuant To RSMO 610.021(2) Lease, Purchase, Or Sale Of Real Estate – Part I

V. Planning Issues

a. Ready For Action – Two (2) Items

1. Windsor Crest Retention Basin Transfer To City Of Wildwood (Ward - One)

Documents: V.A.1 WINDSOR CREST RETENTION BASIN TRANSFER TO CITY.PDF

2. Electronic Message Boards – Referred To Committee By City Council (Wards – All)

Documents: V.A.2. ELECTRONIC MESSAGE BOARDS PEP REPORT.PDF, PZ 14-15 CITY OF WW-DEPT OF PLANNING-ELECTRONIC MESSAGE BOARDS-PART 1.PDF, PZ 14-15 CITY OF WW-DEPT OF PLANNING-ELECTRONIC MESSAGE BOARDS-PART 2.PDF

b. Not Ready For Action – Seven (7) Items

1. Timber Harvest Permits (Wards - All)

2. Explosives Code Modification (Wards - All)

3. Pollution Reduction Plan (Wards – All)

4. Town Center Development Manual – Update Process (Wards - All)

5. Directional Signage For The Town Center Area (Wards One, Four, Five, Seven, And Eight)

6. Acceptance Of The Essen Log Cabin By The City Of Wildwood From Private Donors (Wards – All)

7. Strategic Planning Goals – March 2015 Session Of City Council (Wards – All)

VI. Economic Development Issues

a. Ready For Action – No Items

b. Not Ready For Action – No Items

VII. Parks Issues

a. Ready For Action – Five (5) Items

1. Connector Trail Proposal – Bluff View Park To Rock Hollow Valley (Ward – Six)

   Documents: VII.A.1 CONNECTOR TRAIL PROPOSAL - BLUFF VIEW PARK TO ROCK HOLLOW.PDF

2. Phase II Of Community Park – Roadway Construction (Ward – One)

   Documents: VII.A.2. PHASE II OF COMMUNITY PARK - ROADWAY CONSTRUCTION.PDF

3. Pond Athletic Association Accounting – 2015 Season (Ward – One)

   Documents: VII.A.3. PAA ACCOUNTING FROM 2015 SEASON.PDF

4. On-Going And Long-Term Maintenance Costs For Parks And Trail Facilities (Wards – All)

   Documents: VII.A.4. ON-GOING MAINTENANCE OF PARKS-TRAILS.PDF

5. Update On Parks And Recreation Action Plan (Wards – All)

   Documents: VII.A.5. UPDATE ON PARKS AND RECREATION ACTION PLAN.PDF

b. Executive Session – One (1) Item

1. Executive Session Pursuant To RSMO 610.021(2) Lease, Purchase, Or Sale Of Real Estate – Part II

c. Not Ready For Action – Nine (9) Items

1. Dog Park Entry Management System (Wards – All)

2. Community Park – Phase One Additions – Swings (Wards – All)

3. Wet Weather Trail Policy (Wards – All)
4. Kohn Park Project Opportunity (Ward – One)
5. Use Of Public Property For Bee Hives (Wards One And Eight)
6. Woodcliff Heights Neighborhood Park (Ward Two)
7. Park And Stormwater Sales Tax (Wards – All)
8. Tree Art In Community Park – (Wards – All)
9. Fund Raising, Donations, And Volunteer Participation Activities In Community Park (Wards – All)

VIII. Other/Additional Public Comment

IX. Closing Remarks And Adjournment

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

Note: The Council Planning/Economic Development/Parks Committee of the City Council will consider and act upon these matters listed above and any such others as may be presented at the meeting and determined appropriate for discussion at that time.

City of Wildwood
Council Planning/Economic Development/Parks Committee
"Planning Tomorrow Today"
Minutes from the
November 17, 2015 Meeting

The Council Planning/Economic Development/Parks Committee meeting was called to order by Chair Baugus, at 6:30 p.m., on November 17, 2015, at Wildwood City Hall, 16860 Main Street, Wildwood, Missouri.

I. Welcome and Roll Call:

The roll call was taken, with the following results:

PRESENT – (5)	ABSENT – (3)
Council Member DeHart	Council Member Sewell
Council Member Manton	Council Member Levitt
Council Member McCutchen	Council Member Cox
Council Member Goodson	
Chair Baugus	

Other City Officials present:

Tim Woerther, Mayor
Ryan Thomas, City Administrator
Joe Vujnich, Director of Planning and Parks
Kathy Arnett, Assistant Director of Planning and Parks
Gary Crews, Superintendent of Parks and Recreation

II. Approval of Minutes from the Meeting of October 20, 2015:

A motion was made by Council Member Manton, seconded by Council Member Dehart, to approve the minutes of the October 20, 2015 meeting. A voice vote was taken to approve the motion, with all noting approval, except Council Member McCutchen, who abstained from the vote. The motion failed for a lack of majority.

III. Public Comment (on non-Agenda and other items):

None

IV. Planning Considerations:

1. Expenditures for 2016 relating to Strecker Forest Subdivision and Celebrate Wildwood Event (Wards – All)

Director of Planning and Parks Vujnich provided an overview to the Committee of past meeting discussions relative to the operating budget of the Department of Planning and Parks for Fiscal Year 2016. He noted that two areas of discussion generated substantial concern from Committee Members relative to funding, how it would be utilized, and if enough had been budgeted to meet the needs of the projects. These two (2) areas of concern were:

1. Strecker Forest Environmental Assessment ($10,000.00 requested at the October meeting); and
2. Celebrate Wildwood Event, which is noted in the operating budgets as "Art Festival and Founder's Day" ($80,000.00 for both events requested at the October budget meeting).

During discussion at the October 20, 2015 Committee Meeting, Committee Members suggested the budgets of these two (2) areas of concern may require an increase in funding.

Discussion among Committee Members at this evening's meeting included the following: the fact the 2015 budget reflected twenty-five thousand dollars ($25,000.00) for the Strecker Road Environmental Assessment and seventy thousand dollars ($70,000.00) for the Art Festival/Founder's Day Weekend; the fact that the 20th Anniversary Celebration in 2015 was actually over budget by almost twenty thousand dollars ($20,000.00); the fact over budget costs of the Celebrate Wildwood Weekend in 2015 was off-set by sponsorships associated with the event and fees and related charges to the vendors and artists; the question as to whether the City utilized the budgeted funds or 2015 concerning Strecker Forest; the fact that consultants in the environmental field are expensive; and the belief that *field work* concerning Strecker Forest should be limited from this point forward.

In view of the aforementioned discussion, Director of Planning and Parks Vujnich advised the Committee the Department is requesting to add twenty thousand dollars ($20,000.00) to the budget for the Strecker Farms Environmental Assessment in 2016, but feels the budgeted amount for the 2016 Celebrate Wildwood Event is reasonable and did not need to be increased.

A motion was made by Council Member Manton, seconded by Council Member Goodson, to increase the 2016 budgeted amount for the Strecker Forest Environmental Assessment from ten thousand dollars ($10,000.00) to thirty thousand dollars ($30,000.00). A voice vote was taken to approve the motion, with unanimous, affirmative result, and the motion was declared approved by Chair Baugus.

2. Strategic Planning Goals – March 2015 Session of City Council (Wards – All)

Director of Planning and Parks Vujnich reminded the Committee of the March 2015 *Strategic Planning* meeting and the fact the Chair of the Committee has asked that its goals be an on-going effort of this Committee. He noted, however, the Committee meeting agendas, since that meeting have been full and, unfortunately, the discussion of the three (3) goals most applicable to this Committee has been limited. To assist in this regard, Director of Planning and Parks Vujnich advised the Department had prepared a table that provides the three (3) goals, the objectives associated with each of them, and the accompanying action items for implementation. He noted the intent of providing this table to the Committee members is to re-orientate them to the information, select a goal to begin the process, and then schedule it through 2016 for the implementation of the action items associated with it. Director of Planning and Parks Vujnich ended his presentation advising the Committee the Department is seeking the direction of the Committee on which goal it would like to begin with this year and whether the Committee felt the presented goals and objectives were appropriate.

Discussion among Committee Members included the following: the belief the first two (2) goals on the chart (#1 and #3) could actually be incorporated into the third goal on the chart (#4); the general feeling the first two (2) charted goals (#1 and #3) are not being deemphasized, but focus should be placed on the third goal (#4); the opinion the Committee should direct the Department to concentrate on the third goal (#4); and the suggestion the Committee should receive an update at each meeting on the progress in meeting the objectives on the third goal (#4).

No further action taken at this time.

V. Economic Development Issues:

1. Houseal Lavigne's Report – Comments for Final Submittal (Wards – All).

Director of Planning and Parks Vujnich reminded/advised the Committee the Houseal Lavigne Report is nearing completion. Comments, suggestions, and recommendations concerning the draft report need to be submitted to the consultant at the earliest opportunity to ensure consideration/inclusion in the final report. He noted the Department is seeking any input from the Committee at this evening's meeting. Director of Planning and Parks Vujnich advised that if not submitted at this evening's meeting, comments must be given to the Department by 5:00 p.m., on November 20, 2015. At this evening's meeting, the Committee was most concerned with making sure the consultant was capturing all the comments from the Economic Development Task Force.

VI. Parks Issues:

1. Connector Trail Proposal – Bluff View Park to Rock Hollow Valley (Ward – Six)

Director of Planning and Parks Vujnich familiarized the Committee with the planned trail segment that will connect the Bluff View Trail to the natural surface trail being developed in the Rock Hollow Valley (near/around the Rock Hollow Trail). He noted now that both of the recreational areas are complete (Bluff View Trail/Park and the Rock Hollow Trail Area, this connecting trail is exceedingly important. Director of Planning and Parks Vujnich advised the Department initiated the process to develop a concept plan for this trail and all involved parties approved it (St. Louis County, Missouri Department of Natural Resources, and Wildwood). With the design and engineering plans for the trail being complete, he ask the Committee to consider them and offer comments for action. Director of Planning and Parks Vujnich advised the Committee it is the Department's hope that the plans will be approved by the Committee, so they can be sent to the City Council for its consideration.

Discussion among Committee members included the following: the exact location of the planned trail connection (showed to the Committee on a large map); whether the Department had any idea on the maintenance costs of this trail; whether there would be any problem with the railroad concerning this trail connection; the estimated cost of the project ($190,000.00); and the fact the bid results would be shared with the Committee, before any action is taken.

A motion was made by Council Member McCutchen, seconded by Council Member Goodson, to forward the design and engineering plans for the trail connection to the City Council for its consideration, along with an estimated maintenance cost for the completed project. A voice vote was taken to approve the motion, with unanimous, affirmative result, and the motion was declared approved by Chair Baugus.

2. On-Going and Long-Term Maintenance Costs for Parks and Trail Facilities – (Wards – All).

Director of Planning and Parks Vujnich advised the Committee of discussions occurring during the March 2015 Strategic Planning Process involving the need to ensure that, as facilities are added to the City's system of parks and trails, the costs associated with the maintenance and upkeep of them are addressed as well. He noted the ultimate outcome of this discussion was the following Goal Statement and related Objectives/Action Steps:

Goal #3: Implement the Parks and Recreation Action Plan - Objective#3: Determine Means for Funding Future Parks and Trails

Action Steps:

a. Pursue grant funding and private donors
b. Pursue community partnerships for recreation opportunities and services
c. Consider Parks Sales Tax ballot measure
d. *Develop long-term maintenance plan for parks and trails.*

Director of Planning and Parks Vujnich reminded the Committee that, when it first discussed this matter in August 2015, it was decided to delay any further discussion until the budget process had begun and the Department would have completed its presentation of its operating and capital items for its consideration. This process being complete, Director of Planning and Parks Vujnich presented a chart, clearly showing budget allocations and actual cost of park and trail maintenance, for each of the last nine (9) years and the allocation budgeted for 2016. He noted for the Committee that maintenance costs have always been adequately addressed and fallen under budget projections every year, except 2012 (the Department has not determined, at this writing, why maintenance costs exceeded budget projections in 2012). He advised the Committee that with the opening of the new community park, the maintenance allocation for parks and trail maintenance in the 2016 Fiscal Year Budget has been increased.

Discussion among Committee Members included the following: the fact the Department is always looking for guidance/suggestions on how to fund future projects and how to maintain the parks and trail facilities; the fact that some maintenance issues are funded through the Capital Improvements Program Fund; the opinion the environment is much better now with regards to soliciting a parks sales tax than it was in 2008; the belief the park sales tax would equate to a ½ cent point of sale tax generating approximately one million dollars a year; the belief the current tax in Wildwood is 7.65%, therefore the additional ½ cent point of sale tax would bring the total tax to just over 8%; the fact the intent of this discussion is to keep the information in front of the Committee; the belief that work invoices would allow the Department to identify how the maintenance funds support each park/trail; and a request that, moving forward, the Department should closely monitor the cost of maintaining each park and trail system.

3. Park Sales Tax – Initial Feasibility Discussion (Wards – All)

Director of Planning and Parks Vujnich summarized for the Committee how the park and trail system has evolved, since the incorporation of the City. He followed that summary with a small history of the *The Citizens Committee for Park Progress* and how a *park sales tax* was identified by it, as a major funding initiative to be pursued by the City in its final *Action Plan* adopted in 2007. To establish this type of sales tax, voters must approve it, at an election, by a simple majority. Director of Planning and Parks Vujnich advised a *sales tax* was in fact part of the ballot in 2008, but it did not receive the necessary majority of voters to support it. He informed the Committee that much was learned during the process in 2008, which should assist the City Council and Department staff in preparing another ballot initiative. Recent discussions among Committee Members, the City Council, and the Department have suggested another *sales tax option* attempt would be well timed during the April 2017 Municipal Election. Director of Planning and Parks Vujnich informed the Committee the Department feels the April 2017 suggestion would provide plenty of time to complete the election process, form a citizen committee for its advocacy, and engage the community regarding the *park sales tax.*

Discussion among Committee Members included the following: the fact that numerous communities surrounding the City of Wildwood benefit from a *park sales tax*; the fact a park sales tax would not only benefit the City's parks and trails, but also stormwater

problems; the opinion a public relations firm might be helpful in promoting a park sales tax; the opinion it is too early to ask the community for a park sales tax and the City should wait until additional phases of community park are completed; the opinion the City Council and Department needs to be entirely comfortable with the timing of the park sales tax effort, before proceeding; the opinion all data needs to be collected, relative to what the City spends on parks and trails, before proceeding with plans for a park sales tax; and the general feeling early plans for a park sales tax should remain with the Committee, but a date for the issue to be put on a ballot should be eliminated from the planning process at this time.

4. Tree Art in Community Park – Wards – All)

Director of Planning and Parks Vujnich provided an overview of the status of a possible tree carving in the new community park. At the October meeting, the Department had noted a large tree trunk is located in a prominent location near the playground at Community Park that offers a great opportunity for a wood carving that would complement the location. He reminded the Committee, it was noted at that time, the St. Louis Community College might be able to assist in having the tree carved for this art effort. Since the October meeting, Director of Planning and Parks Vujnich met with Mark Weber, Chair of the Art Department at the Community College and Patrick Vaughn, the Vice-President of Academic Affairs, at the Community College to discuss this opportunity. He noted this information was being brought to the Committee's attention to make sure the approach was endorsed and, if not, provide other suggestions or recommendations. Director of Planning and Parks Vujnich closed the discussion by advising the Committee it would be consulted, before any decisions were made.

Discussion among Committee Members included the following: the fact the Department is waiting for some response from the Community College relative to the wood carving; the opinion that some sort of *mock-up* should be created of the carving, before any decisions are made; and the suggestion to remove the tree entirely and replace with some sort of totem pole art.

5. Fund Raising, Donations, and Volunteer Participation Activities in Community Park (Wards – All)

Director of Planning and Parks Vujnich briefed the Committee on existing opportunities/programs associated with the City's memorial and fund raising programs. He noted the three (3) most popular programs involved memorial benches and trees, with associated plaques, and engraved brick placements for fund raising efforts. Director of Planning and Parks Vujnich advised the City Council recently discussed a shortage of seating in the new dog park area of Community Park and inquired whether our existing programs could be utilized to allow citizens to provide direct support with issues of this nature. He noted for the Committee the Department is looking for authorization to organize a more formal process for fund raising opportunities, donations, and volunteer opportunities at the community park for the Committee's future consideration. However, before attempting to construct a process of this nature, the Department is requesting the input of the Committee members.

Discussion among Committee Members included the following: the cost of benches via the current process; the fact the Department is contacted frequently with project requests from scouting organizations; the fact the Department is approached by various groups and individuals inquiring about volunteer projects; and the opinion a waiver form of some sort should be created for volunteers to sign, before work is performed.

6. Update on Parks and Recreation Action Plan (Wards – All)

Superintendent of Parks and Recreation Gary Crews summarized the major items that were the focus of the City, since the Committee's October 2015 meeting.

VII. Other

A motion was made by Chair Baugus, seconded by Council Member Manton, to cancel the December 22, 2015 Committee Meeting, since it is so close to the Christmas Holiday. A voice vote was taken to approve the motion with unanimous, affirmative result, and the motion was declared approved by Chair Baugus.

Committee Members requested the Department to secure a cost breakdown from the Pond Athletic Association for 2015 concerning how/where the City's $10,000.00 donation is being spent.

Director of Planning and Parks Vujnich advised the Committee of a recent request of the Pond Athletic Association seeking its support/sponsorship for an International Baseball Tournament the week of July 29, 2016 through August 7, 2016 (tentative date at this time). Participants in this event would represent Japan, Australia, and Europe. The Committee was advised it would be provided more details, as they become available.

Director of Planning and Parks Vujnich informed the Committee on the most recent information available concerning bringing electrical power to Community Park. He advised Ameren Missouri finalized a plan, which will require some tree removal, but it appears power could be brought to the community park in the next few months. The cost of the project has not been determined.

VIII. Additional Public Comment

None

IX. Closing Remarks and Adjournment

Director of Planning and Parks Vujnich and Chair Baugus summarized the evening's meeting and a motion was made by Council Member Manton, seconded by Council Member Goodson, to adjourn. A voice vote was taken to approve the motion, with unanimous, affirmative result, and it was declared approved by Chair Baugus at 8:10 p.m.

WILDWOOD

January 26, 2016

MEMORANDUM

To: The Planning/Economic Development/Parks Committee

From: Department of Planning and Parks

Re: Windsor Crest Easement Agreement for Stormwater Drainage and Retention Easement

Cc: The Honorable Timothy Woerther, Mayor
Administration/Public Works Committee Members
Ryan S. Thomas, P.E., Director of Public Works
Rick Brown, P.E. and P.T.O.E., Director of Public Works
Kathy Arnett, Assistant Director of Planning and Parks

The Department of Planning and Parks is in receipt of the final agreement from the trustees of the Windsor Crest Homeowners Association relative to their retention facility that was constructed on the City's community park site, before Wildwood purchased it from the owner who had previously granted the easement for its development there. This agreement transfers all the current responsibilities of the subdivision relative to this facility to the City and allows its to assume its maintenance and upkeep. The City sought this release from the Homeowners Association for the following reasons:

1. The retention facility is located on City-owned property, since Wildwood's purchase of the larger tract of land in 2009. With the easement transferred to the City, any liability issue is eliminated and Wildwood has control over its maintenance and upkeep as well, thereby ensuring its condition does not create a legal issue in the future.
2. The change in the facility's ownership is a plus for the homeowners of the Windsor Crest Subdivision in terms of their liability for this facility, now located on a popular park site.
3. The approved Concept Plan for Community Park indicates this facility being changed and becoming a part of a series of lakes, which will make it an amenity of the park, and for the overall area.
4. The release of the easement allows the City greater control over access in this area, particularly after-hours. This change improves security associated with this portion of the park.

The trustees of the Homeowners Association did consult with their legal counsel and two (2) changes were requested to the agreement, as part of its review. The Department requested the

subdivision's attorney contact the City Attorney to discuss the changes, which were characterized as minor, and the parties agreed upon amendments. These changes are as follows from the original agreement that had been submitted to the Committee in 2015.

1. A stipulation guaranteeing the City would not obstruct stormwater flow from the subdivision to this facility.
2. A limited indemnification to the subdivision relative to stormwater flow, if the facility is blocked or otherwise becomes non-functional.

With these changes agreed upon by the parties, the document is now ready for review and action by the Committee, so as, with a favorable recommendation by the members, it can be forwarded to City Council for its consideration. The Department is supportive of this agreement, in its current and attached form.

If any of the Committee Members have questions or comments about this information, please feel free to contact the Department of Planning and Parks at (636) 458-0440. A presentation of this information is planned on this item at tonight's meeting. Thank you for your consideration of this information and providing direction on the same.

Space Above for Recorder's Use Only

DOCUMENT COVER SHEET

TITLE OF DOCUMENT:	FIRST AMENDMENT TO STORM WATER DRAINAGE AND RETENTION EASEMENT AGREEMENT
DATE OF DOCUMENT:	December __, 2015
GRANTOR(S): **MAILING ADDRESS:**	**CITY OF WILDWOOD, MISSOURI** 16860 Main Street Wildwood, Missouri 63040
GRANTEE(S): **MAILING ADDRESS:**	**WINDSOR CREST HOMEOWNERS' ASSOCIATION** C/O Community Managers Associates, Inc. 14323 S. Outer Forty Road, Ste. 301N Chesterfield, Missouri 63017
LEGAL DESCRIPTION:	See **Exhibit B** attached hereto
REFERENCE BOOK AND PAGE:	Book 15078, Page 0513; Book 15078, page 0518

FIRST AMENDMENT
TO
STORM WATER DRAINAGE AND RETENTION EASEMENT AGREEMENT

This First Amendment to Storm Water Drainage and Retention Easement Agreement (this "Amendment"), is entered into as of this _____ day of December, 2015 (the "Effective Date"), by and between **CITY OF WILDWOOD, MISSOURI**, a municipality organized under the laws of the State of Missouri, having an address of 16860 Main Street, Wildwood, Missouri 63040 (the "City") and **WINDSOR CREST HOMEOWNERS' ASSOCIATION**, a Missouri nonprofit corporation, having an address of c/o Community Managers Associates, Inc., 14323 S. Outer Forty Road, Ste. 301N, Chesterfield, MO 63017 (the "Association") (collectively, the foregoing may be referred to herein as the "Parties").

RECITALS:

A. Pursuant to that certain Storm Water Drainage and Retention Easement Agreement dated July 14, 2003 and recorded July 16, 2003, in Book 15078, page 0518 in the Office of the Recorder of Deeds for the County of St. Louis, Missouri (the "Easement Agreement"), the City, as successor in interest to the Mildred E. Schneider Revocable Living Trust dated 1/17/01, has granted to the Association, as successor in interest to McBride & Son Homes, Inc., an easement for the construction and maintenance of a storm water retention and drainage system, which consists of a pond or lake, intake facilities and spillways (the "Retention Facilities") upon the certain real property located in the City of Wildwood, St. Louis County, Missouri, as more fully described on Exhibit A, attached hereto and made a part hereof by this reference (the "Property").

B. The Parties desire for the City to maintain the Retention Facilities.

NOW, THEREFORE, in consideration of good and valuable consideration (the receipt, sufficiency and adequacy of which is hereby acknowledged by the Parties), the Parties agree as follows:

1. Definitions. All capitalized terms used in this Amendment and not defined herein shall have the same meanings as set forth in the Easement Agreement.

2. Maintenance. The Parties hereby agree that, notwithstanding Section 1.1 of the Easement Agreement, the City shall have the sole right and responsibility to construct, repair, reconstruct, replace, alter, modify, improve and maintain the Improvements described or depicted on Exhibit B at the City's sole expense. The City may alter the size or location of the Improvements in its discretion after prior written notice to the Association, provided that the Improvements meet the reasonable storm water discharge, drainage and retention needs of the Association, and shall not prohibit, obstruct or otherwise decrease the speed or volume of intake flow of storm water.

2.1 Indemnification. Because the City agrees to control and be responsible for the Retention Facilities on its Property, the City shall indemnify, defend and hold harmless the Association for any potential claims, complaints, lawsuits or damages pursued against the Association relating to the Retention Facilities that arise after the execution of this Amendment.

3. Retention Easement Dated July 14, 2003. In addition to the Easement Agreement, the Parties acknowledge that they are parties to a certain Retention Easement dated July 14, 2003 and recorded July 16, 2003, in Book 15078, page 0513 in the Office of the Recorder of Deeds for the County of St. Louis, Missouri (the "Retention Easement"), wherein the City, as successor in interest to the Mildred E. Schneider Revocable Living Trust dated 1/17/21, has granted to the Association a retention

easement for the exclusive right to build and maintain sewers on certain land identified therein. The Parties hereby acknowledge and agree that all rights, responsibilities and expense incurred to the City with regard to the Improvements described in Section 2 above shall also apply to the sewers described in the Retention Easement. Further, the City shall provide prior written notice to the Association of any additional sewers proposed to be installed.

4. St. Louis Metropolitan Sewer District. The Parties acknowledge and agree that the approval of the St. Louis Metropolitan Sewer District is required to amend the Easement Agreement and such approval has been duly given.

5. Ratification. As amended hereby, the Easement Agreement is ratified by the Parties and shall remain in full force and effect. Except as set forth in this Amendment, all terms of the Easement Agreement shall remain in full force and effect from and after full execution of this Amendment by the Parties, and the Easement Agreement shall thereafter include all provisions in this Amendment.

6. Counterparts. This Amendment may be executed in multiple counterparts, each of which shall be deemed an original and all of which together shall constitute a single instrument. This Amendment, or any counterparts thereof, may be executed and transmitted by facsimile or by electronic mail, which will have the same force and effect as an originally executed document.

[Remainder of page intentionally blank]

IN WITNESS WHEREOF, the Parties have caused their duly authorized representatives to execute this Easement Agreement as of the Effective Date.

CITY OF WILDWOOD, MISSOURI,
a municipality organized under the laws of
the State of Missouri

By: _____
Name: _____
Title: _____

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

On this _____ day of _____, 2015, before me appeared _____, to me personally known, who, being by me duly sworn (or affirmed) did say that he/she is the _____, of **CITY OF WILDWOOD, MISSOURI**, a municipality organized under the laws of the State of Missouri, and that said instrument was signed on behalf of said municipality, and said _____ acknowledged said instrument to be the free act and deed of said municipality.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the _____ and State set forth above on the date last written above.

_____
Notary Public

My term expires:

WINDSOR CREST HOMEOWNERS' ASSOCIATION,
a Missouri nonprofit corporation

By: _____
Name: _____
Title: _____

STATE OF MISSOURI)
) SS
COUNTY OF ST. LOUIS)

On this _____ day of _____, 2015, before me appeared _____, to me personally known, who, being by me duly sworn (or affirmed) did say that he/she is the _____, of **WINDSOR CREST HOMEOWNERS' ASSOCIATION**, a Missouri nonprofit corporation, and that said instrument was signed on behalf of said association, and said _____ acknowledged said instrument to be the free act and deed of said association.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the County and State set forth above on the date last written above.

_____
Notary Public

My term expires:

EXHIBIT A

Order Number: 00-05-098
Date: June 16, 2003
Page 1 of 1 By: DLG

PROPERTY DESCRIPTION

Project: MANCHESTER @ 109 (BOWERS TRACT)
Description: SCHNEIDER PROPERTY (12833/631)

A TRACT OF LAND BEING PART OF THE SOUTHWEST QUARTER OF SECTION 35 AND THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 44 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

PARCEL 1:
A TRACT OF LAND IN THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF SECTION 35, TOWNSHIP 45 NORTH, RANGE 3 EAST, CONTAINING 4 ACRES, MORE OR LESS, AND DESCRIBED AS; BEGINNING AT THE SOUTHWEST CORNER OF SAID SOUTHEAST QUARTER; THENCE EAST ALONG THE SOUTH LINE OF SAID SECTION 35, 9.25 CHAINS TO A STONE; THENCE NORTH TO A BRANCH WHICH RUNS WEST; THENCE DOWN SAID BRANCH TO THE WEST LINE OF THE SOUTHEAST QUARTER AND THENCE SOUTH TO THE POINT OF BEGINNING.

PARCEL 2:
ALL THAT PORTION OF THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 44 NORTH, RANGE 3 EAST, LYING NORTH OF HIGHWAY 100 AS ESTABLISHED BY CAUSE # 338339 OF THE ST. LOUIS COUNTY CIRCUIT COURT AND DEEDED TO THE STATE OF MISSOURI BY DEED RECORDED BOOK 6641 PAGE 1064 OF THE ST. LOUIS COUNTY RECORDS. EXCEPTING THEREFROM A GRAVEYARD 30.00 FEET SQUARE IN THE SOUTHWEST CORNER OF THE NORTH HALF OF THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 2, RESERVED IN DEED RECORDED IN BOOK 12 PAGE 116 OF THE ST. LOUIS COUNTY RECORDS

EXHIBIT B

EXHIBIT 1

WINDSORCREST
OFFSITE-RETENTION
P#25334

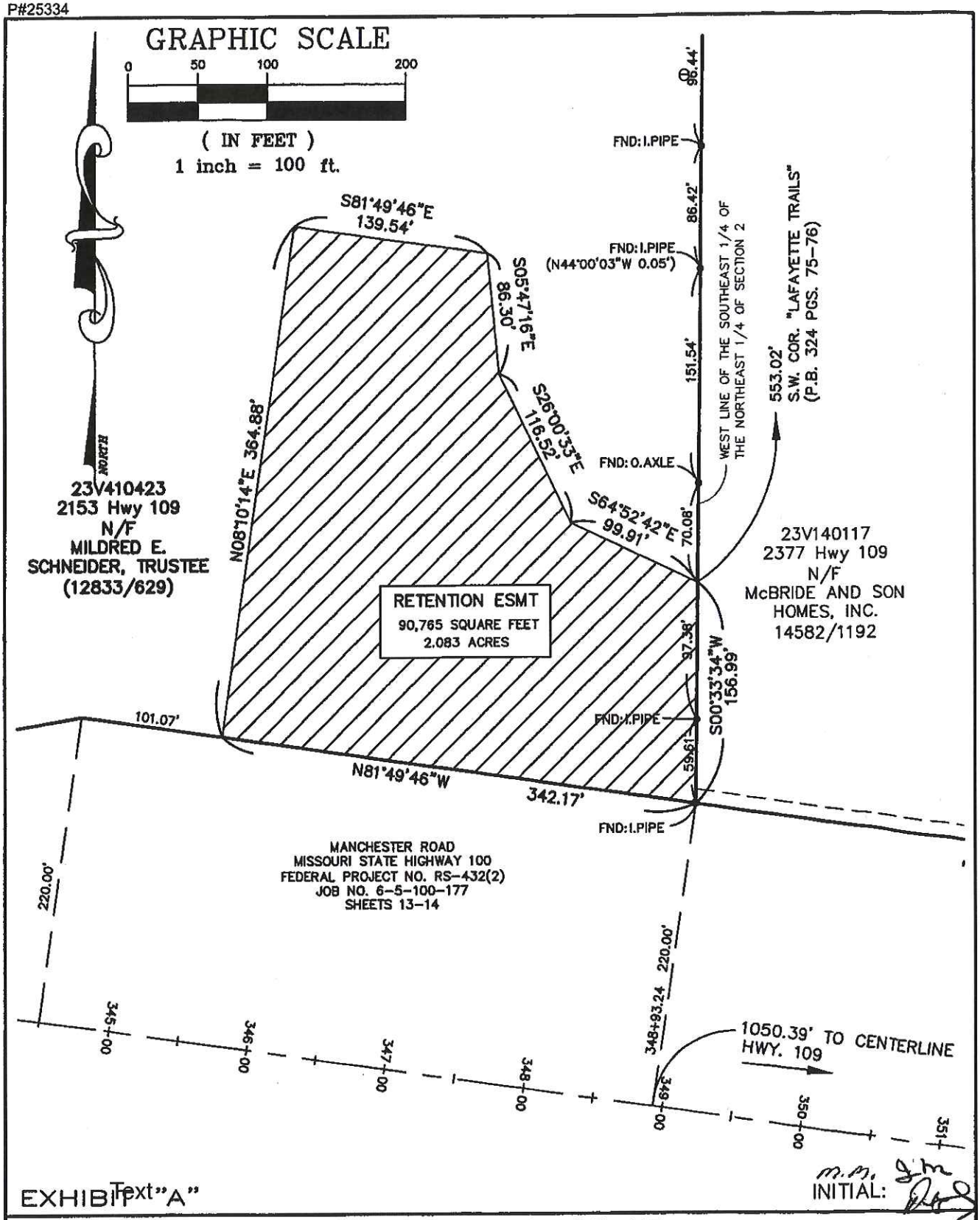


EXHIBIT "A"

INITIAL:

EASEMENT PLAT

A TRACT OF LAND BEING PART OF THE SOUTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 2, TOWNSHIP 44 NORTH. RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI

G:\D\0005098 Wildwood Hwy 109\SCHNEIDER.dwg 05/14/2003 08:48:52 AM CDT

THE STERLING CO
ENGINEERS & SURVEYORS
5055 New Baumgartner Rd
St. Louis, Missouri 63129
Tel 314.487.0440
Fax 314.487.8944

Order Number: 00-05-098
Date: June 16, 2003
Page 1 of 1 By: DLG

PROPERTY DESCRIPTION

Project: MANCHESTER @ 109 (SCHNEIDER TRACT)
Description: OFFSITE RETENTION EASEMENT - REVISED 07-02-03 TJH

A TRACT OF LAND BEING PART OF THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 44 NORTH, RANGE 3 EAST, CITY OF WILDWOOD, ST. LOUIS COUNTY, MISSOURI AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A COMMON POINT ON THE EAST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 2 AND THE NORTH OF HIGHWAY 100 AS ESTABLISHED BY CAUSE # 338339 OF THE ST. LOUIS COUNTY CIRCUIT COURT AND DEEDED TO THE STATE OF MISSOURI BY DEED RECORDED BOOK 6641 PAGE 1064 OF THE ST. LOUIS COUNTY RECORDS, SAID POINT ALSO BEING THE SOUTHEAST CORNER OF A TRACT OF LAND CONVEYED TO MILDRED E. SCHNEIDER AS RECORDED IN DEED BOOK 12833 PAGE 629 OF THE ST. LOUIS COUNTY RECORDS; THENCE WITH THE NORTH LINE OF SAID HIGHWAY 100, NORTH 81°49'46" WEST A DISTANCE OF 342.17 FEET TO A POINT; THENCE DEPARTING SAID NORTH LINE, NORTH 08°10'14" WEST A DISTANCE OF 364.88 FEET TO A POINT; THENCE SOUTH 81°49'46" EAST A DISTANCE OF 139.54 FEET TO A POINT; THENCE SOUTH 05°47'16" EAST A DISTANCE OF 86.30 FEET TO A POINT; THENCE SOUTH 26°00'33" EAST A DISTANCE OF 116.52 FEET TO A POINT; THENCE SOUTH 64°52'42" EAST A DISTANCE OF 99.91 FEET TO A POINT ON THE EAST LINE ON THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 2; THENCE SOUTH 00°33'34" WEST A DISTANCE OF 156.99 FEET TO THE POINT OF BEGINNG AND CONTAINING 90,765 SQUARE FEET (2.083 ACRES) MORE OR LESS.

WILDWOOD

January 26, 2016

MEMORANDUM

To: The Planning/Economic Development/Parks Committee

From: Department of Planning and Parks

Re: **Electronic Message Boards – Referred to Committee by City Council (Wards – All)**

Cc: The Honorable Timothy Woerther, Mayor
Administration/Public Works Committee Members
Ryan S. Thomas, P.E., Director of Public Works
Rick Brown, P.E. and P.T.O.E., Director of Public Works
Kathy Arnett, Assistant Director of Planning and Parks

At the last meeting of the City Council, a public hearing was held on the matter of electronic message boards, after the Planning and Zoning Commission had completed its review, but did not reach a consensus, and forwarded a recommendation that indicated the matter had failed for a lack of majority. The Letter of Recommendation described an approach to allowing these types of signs, which are currently prohibited, through a Conditional Use Permit (CUP) process, along with creating the basic regulations for these types of displays and their unique characteristics in the Zoning Ordinance (Sign Regulations). The Conditional Use Permit (CUP) process and its application to requests for these types of signs was determined to be the best approach, if the current prohibition was to be eliminated in this regard.

At the aforementioned public hearing of the City Council, a discussion ensued on the merits of making a change to the regulations, which currently prohibit these types of signs, and the reasons they are not allowed in the City. As this discussion continued forward, it was apparent the members wanted additional information about this matter and more time to study the potential benefits and issues, if the current regulations were to be changed. Accordingly, the City Council agreed, by vote, to forward this matter to the Planning/Economic Development/ Parks Committee for its consideration, review, and recommendation.

Attached to this Memorandum is the Planning and Zoning Commission's Letter of Recommendation on this matter, which describes the proposed process, if electronic message boards were to be allowed in the City and a list of the key requirements that any such sign would have to meet to even be allowed to be considered for said allowance. This list, along with the characteristics of the graphics that are displayed on these reader boards, was never fully developed, given the

Commission could not reach a majority in terms of whether or not to allow these types of signs. Therefore, these components are critical to the Committee discussion in this regard.

The first item the Department believes is essential to understanding if these types of signs are suitable for the community of Wildwood is the planned process an application for such would follow upon submittal:

1. An application would be filed by a not-for-profit or public entity to the City of Wildwood for the Planning and Zoning Commission's review and action.
2. The location of this application would have to be on a property that is zoned NU Non-Urban Residence District or any "R" Residence District designated lot to be allowed for this type of consideration.
3. If these first two (2) requirements were not met, the application would not be accepted for processing by the Department of Planning.
4. If these first two (2) requirements can be met, the Department would then review the application and determine its completeness for the required public hearing.
5. The Department would consider this application first based upon the standard zoning regulations of the Conditional Use Permit (CUP) process, i.e. completed application, fee, Preliminary Development Plan, and sign renderings and descriptions of operating parameters for the selected display.
6. If this information is not submitted, in whole or part, the application is rejected and a comment letter would be sent to the applicant noting such and reasons for this action.
7. If the application's shortfalls are corrected, then the specifics of the sign are analyzed for compliance to the underlying code's noted criteria, specifically the following items:

    a. The signs, notwithstanding their specific characteristics associated with the display boards, would have to comply with the City's underlying Sign Regulations for placement (setbacks) and other similar requirements.
    b. The lighting of these signs, particularly their brightness, would minimally have to comply with the City's Outdoor Lighting Requirements of its Zoning Ordinance. Additionally, all sign applications for these types of electronic message boards would have to be reviewed by the City's Lighting Consultant.
    c. The sign must be placed/incorporated into a monument (base) type design, with all materials used for this purposes matching the primary building located on the same lot as the sign.
    d. The owner of the sign would have to provide landscaping at the base of the monument, which would be consistent with the City's Landscape Manual and Sustainable Plantings Guide.
    e. The sign would be required to have a primary background color that is dark, with light lettering used. Graphics would have to comply as well.
    f. The display of messages would not be authorized after 10:30 p.m., to help preserve the night sky. The operation of these types of signs in the morning hours would not be authorized until 6:30 a.m.
    g. The sign would have to be located on the lot, where the primary use is situated.

h. The number of these signs on a single lot would be regulated by the City's current requirements for monument signs in conjunction with institutional and other uses, but no more than one (1) electronic message board per location, regardless of total users.
i. The size of these signs would be regulated by the City's current requirements for monument signs in conjunction with institutional uses – 50 square feet.

8. If the Preliminary Development Plan and related information indicates these components are addressed to the minimum levels, then the matter could be scheduled for a public hearing before the Planning and Zoning Commission to consider its merits based upon compliance to the Sign Regulations, as well as the four (4) components of the Conditional Use Permit (CUP) regulations that must be considered for all applications for these types of considerations. These four (4) criteria include the following items:

    a. such developments and uses are deemed consistent with good planning practice;
    b. can be operated in a manner that is not detrimental to the permitted developments and uses in the district;
    c. can be developed and operated in a manner that is visually compatible with the permitted uses in the surrounding area; and
    d. deemed essential or desirable to preserve and promote the public health, safety and general welfare of the City of Wildwood.

9. The Planning and Zoning Commission would conduct its public hearing on the matter and then prepare a report, with recommendation, regarding its review. If this report were to be favorable for a sign application, the specifics of the sign would be addressed therein, which would include the following: Brightness; Message Hold Time (how long a single message is visible); Transition Method (a.k.a. the "Frame Effect" - how the message changes to the next); and Transition Duration (how long that change takes to complete).

Once the process that is administered by the Planning and Zoning Commission is completed, the recommendation and action is forwarded to the City Council for review and consideration. The City Council can exercise its 'power of review' and start the process over again, beginning with the request's consideration by the Planning/Economic Development/Parks Committee. The Committee, once completed with its review and recommendation, then forwards it to City Council. Therefore, no application could be allowed, without numerous steps to ensure its appropriateness.

This process, if applied appropriately and fairly, however, does not guarantee a minimum number of signs will be allowed within the City. The process only guarantees the signs that are authorized meet the levels of review to ensure the four (4) criteria of the Zoning Ordinance are met, while minimizing the impacts of their respective installations. The concern of too many signs in one (1) location, such as Clayton Road and State Route 109, can only be controlled by this process. Therefore, if multiple locations in a single area could all meet these high standards, then the potential for a grouping of these types of signs is possible.

The Department will provide greater detail in regards to this matter at tonight's meeting and divide the components into separate parts to provide more background regarding each of them. If any of the Committee Members have questions or comments about this information, please feel free to contact the Department of Planning and Parks at (636) 458-0440. A presentation of this information is planned on this item at tonight's meeting. Thank you for your consideration of this information and providing direction on the same.

WILDWOOD

December 7, 2015

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 potential changes to the City of Wildwood Zoning Code (Chapter 415 of the Wildwood Municipal Code) for the consideration of changes and additions to its sign Regulations for the allowance of electronic message boards in the NU Non-Urban Residence District, all "R" Residence Districts, and all "C" and "M" Districts and prepared the following recommendation regarding this matter for City Council's consideration. This recommendation was completed in accordance with the requirements of the Zoning Code of the City of Wildwood relative to the review and consideration of rezoning requests (Chapter 415.560), as defined by those specific regulations. This recommendation is as follows:

Petition No.:	**P.Z. 14-15**
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 415.410 Sign Regulations for "FP," "PS," "NU," and all "R" Districts and Chapter 415.420 Sign Regulations for all "C" and "M" Districts of the City of Wildwood's Zoning Ordinance to consider the addition of new language to allow electronic message boards for certain institutional, not-for-profit, and commercial organizations. Currently, these types of displays are prohibited within the City of Wildwood.
Wards:	All
Public Hearing Date:	July 20, 2015
1st Presentation of Information Report:	August 17, 2015
Date and Vote on Information Report:	November 16, 2015 – Motion to approve the Department's recommendation by a vote of 5 to 5, thereby failing for a lack of majority (Voting Aye – Renner, Lee, Archeski, Peasley, and Woerther; Voting Nay – Gragnani, Bauer, Liddy, Manton, and Bopp)
Date and Vote on Letter of Recommendation:	December 7, 2015 - Vote of 7 to 3 to approve the Letter of Recommendation, which reflects a 5 to 5 action and the matter failing for a lack of majority (Voting Aye –

Renner, Lee, Gragnani, Bauer, Liddy, Manton, and Bopp; Voting Nay – Archeski, Peasley, and Woerther)

Report: Attachment A

Background Information: Attachment B

A copy of the City of Wildwood Zoning Code (Chapter 415 of the Municipal Code) is on file in the City Clerk's Office.

Respectfully submitted,
CITY OF WILDWOOD PLANNING AND ZONING COMMISSION

R. Jon Bopp, Chair

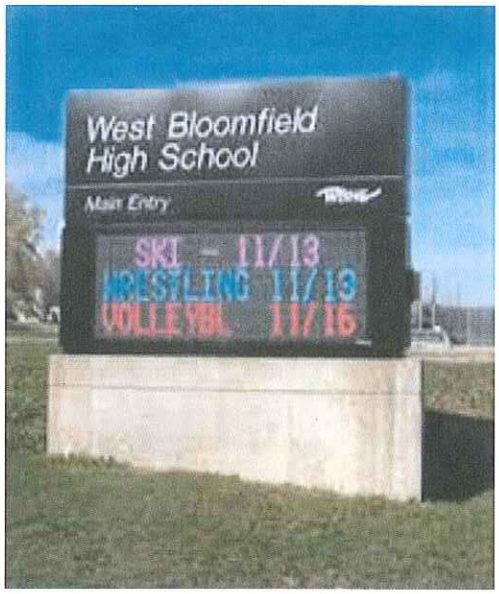
ATTEST:

Joe Vujnich, Director
Department of Planning

Cc: The Honorable Timothy Woerther, Mayor
Ryan S. Thomas, P.E., City Administrator
Rob Golterman, City Attorney
Kathy Arnett, Assistant Director of Planning and Parks
Travis Newberry, Planner
John Shaughnessy, Principal, Lafayette High School

< Background >

The City of Wildwood has been contacted by a number of different parties over the last few years about electronic message boards and their application in this community. These parties have primarily been groups affiliated with schools, churches, and businesses located in the City. Signs of this nature, which display a programmable message on their faces, are very popular and located in many of the surrounding municipalities. Specifically, a few examples of these signs are provided below for the City Council's review.



Such signs are currently prohibited in the City of Wildwood. The prohibition on this type of sign is due to the impact the flashing and changeable copy of the reader board can have on the surrounding area, where they might be installed. In Wildwood, with its dark sky environment, particularly in areas west of State Route 109, signs of this nature can have profound effects. Additionally, for one (1) type of sign user, businesses in the Town Center Area, its specific sign regulations are designed to achieve more than providing advertising information to an individual or individuals in an automobile, but rather with a more pedestrian approach, which also complements the architecture of the buildings and streetscape, where they are placed. Therefore, electronic message boards are not in keeping with the design standards and architectural guidelines of the City's Town Center Plan.

One (1) potential user of this type of sign is Lafayette High School, which currently has a changeable copy type of monument sign along its Clayton Road frontage, which includes the sign frame and an internally illuminated sign face that allows individual letters to be placed on it to convey school-related information. According to district officials, Lafayette High School is the only facility of its four (4) high schools that does not have an electronic message board for its primary signage. The school raised money for this type of electronic message board. Those plans for this sign are attached to this report. As mentioned earlier, however, other institutional uses and businesses have inquired about these signs as well, so certainly, the high school would not be the only application the City would receive in this regard.

In considering these types of signs, the Commission would note that much of the current literature regarding them focuses on five (5) areas of regulations, if they are allowed in a community. These five (5) areas include the following:

1. Brightness
2. Message Hold Time (how long a single message is visible)
3. Transition Method (a.k.a. the "Frame Effect" - how the message changes to the next)
4. Transition Duration (how long that change takes to complete)
5. Area or Square Footage of Sign – % of allowable square feet

Each of these areas of regulations must be addressed, if requirements are developed for the purposes of these types of signs. It is important to note that much of the discussion that has occurred about these types of signs in the past has related to their brightness and impacts and what might be acceptable levels, in the context of sign size and distance for viewing it. The next three (3) areas of regulation relate to how fast or slow the messages are transitioned on the board and the manner how that is accomplished. The final area is size, which is already addressed in the City's current Sign Regulations, and cannot generally exceed fifty (50) square feet. Regardless of these five (5) areas, differing opinions exist on this type of sign's impact on traffic safety, with the industry noting they are "traffic neutral." Regardless, the impact of these signs would be substantial, given they are completely different than any other types currently allowed in the City of Wildwood.

< Current Request >

The City Council is being requested to consider amending the current Sign Regulations for all zoning districts to potentially add an allowance for electronic message boards in the City of Wildwood. This type of sign is currently prohibited in the City of Wildwood. Specifically, the request again is as follows: **P.Z. 14-15 City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040** - A request to amend Chapter 415.410 Sign Regulations for "FP," "PS," "NU," and all "R" Districts and Chapter 415.420 Sign Regulations for all "C" and "M" Districts of the City of Wildwood's Zoning Ordinance to consider the addition of new language to allow electronic message boards for certain institutional, not-for-profit, and commercial organizations. Currently, these types of displays are prohibited within the City of Wildwood. (Wards – All)

< Analysis >

The Planning and Zoning Commission's consideration of this request identified several components associated with it. These components were the determinants used in evaluating if the City's Sign Regulations should be modified to accommodate electronic message boards of the nature described above. These components were as follows:

1. The impact on the character of the City by the introduction of these types of signs;
2. The potential number of applications, if these types of signs are authorized in the City;
3. The necessity of these types of signs; and
4. The regulations and requirements used for these types of signs, where allowed by other communities.

Each of these components must be studied and addressed, resulting in a determination for each, which can only be positive, if the Planning and Zoning Commission is to recommend to the City Council a favorable action in this regard. Accordingly, this study of these components has determined the following outcomes.

>>> The Impact on the Character of the City by the Introduction of These Types of Signs >>>

The Commission would first note that advancements in the technology supporting these types of electronic reader boards have been very quick over the last few years. Since 1995/1996, signs could display electronic messages, but not to the quality and quantity as today. Signs of this nature, when the City first incorporated, did not have the capabilities of today's technology to control the lighting, message, transitions, and fade. With these advancements, these message boards have become more commonplace, particularly along roadways where so many of them are located, given the competition that exists between users for the limited viewing time of a driver that passes them.

Given the improvements in sign technology, many of these former characteristics that once were inappropriate can now be controlled, but not completely eliminated. Therefore, regardless of how the message board is conditioned through the City's Sign Regulations, some impact should be expected. Is that impact too great for the Wildwood community? In the Commission's opinion, such is not the case. The Commission does believe these types of signs could be allowed in Wildwood, but only under a set of specific conditions administered under the City's Conditional Use Permit (CUP) process. This process, as was the case in the discussions of outdoor game courts and roof-mounted solar panels, can assure the City that each application is reviewed based upon the site-specific characteristics associated with it and conditions added to ensure impacts are minimized to the immediate area, if granted.

As with any Conditional Use Permit (CUP) request, the responsibility to provide proof the criteria of this process can be met is that of the petitioner, not the City, so each of them must be positive or the permit cannot be granted ('the petitioner shall have the burden of establishing that the requested use satisfies these standards and further there is a public necessity for such use'). Those four (4) criteria are as follows:

(1.) The Planning Commission may permit those developments and uses only where such developments and uses are deemed consistent with good planning practice; (2.) can be operated in a manner that is not detrimental to the permitted developments and uses in the district; (3.) can be developed and operated in a manner that is visually compatible with the permitted uses in the surrounding area; and (4.) are deemed essential or desirable to preserve and promote the public health, safety and general welfare of the City of Wildwood.

Additionally, the permitting process does require a public hearing, so all nearby property owners can have an opportunity to comment on the request and provide direct input into its outcome. If impacts are determined to be too great at the suggested location for the sign, the permit should not be granted and the area preserved from such.

Accordingly, the Commission believes that, if such electronic reader boards are authorized in the City, the appropriate zoning district designations should be amended to consider them conditional uses, thereby elevating their discussion and review to the City's highest levels of review. The zoning districts that would be suitable for these types of signs would be the NU Non-Urban Residence District, R-1 One Acre Residence District, the R-1A 22,000 square foot Residence District, the R-2 15,000 square foot Residence District, the R-3 10,000 square foot Residence District, the R-4 7,500 square foot Residence District, and the R-6A 4,500

square foot Residence District, given almost all appropriate users are located in that category, such as schools, churches, recreation facilities, and other institutional type users. Along with this modification to the Sign Regulations, they would need to establish minimum requirements for such in terms of brightness, message hold time (how long a single message is visible), transition method (a.k.a. the "Frame Effect" - how the message changes to the next), transition duration (how long that change takes to complete), and area or square footage of the sign – % of allowable square feet. These minimum standards could be made more restrictive, as part of the permitting process associated with the Conditional Use Permit (CUP). Again, with the required steps associated with this permitting process, impacts would be considered first and foremost.

<<< The Potential Number of Applications, if These Types of are Authorized in the City >>>

As the Planning and Zoning Commission was discussing this issue, the members requested to understand the implications of this change relative to the potential number of applications that might be expected, if the City's Sign Regulations were amended to allow electronic reader boards of this nature. This question can only first be addressed by defining the zoning districts where the signage is allowed. In terms of the Commission's recommendation of potentially allowing these types of signs via a Conditional Use Permit (CUP) in the NU Non-Urban Residence District and all "R" Residence Districts, but with none of the City's commercial or industrial zoning district designations being authorized for such.

With the application involving only the residential zoning districts of the City, a total of twenty-six (26) total locations may be submitted at some point in the future. This total number of applications is reflective of all of the existing churches or schools in Wildwood, as shown on the attached map, along with the Wildwood Family YMCA and the Pond Athletic Association. This number is significant and certainly creates concerns for the Department. However, the Commission believes it is appropriate to assume that not all of these potential locations will seek such, given the cost of these types of signs, the permitting process associated with them, and need.

>>>The Necessity of These Types of Signs>>>

Over the past few years, the City has modified its Sign Regulations on several occasions to address considerations relating to comments or concerns about their restrictiveness and the negative impact they have had on business development and visibility of sites for a range of users. These changes have included more signs, banners, and sponsorship advertisement for certain types of activities. Collectively, such an approach has expanded the number of regulations to the point that, now, some are criticizing the City for the complexity of the Sign Regulations it applies. These changes were based upon the comments indicating a necessity for such.

The necessity of these types of signs appears to be growing, given the ease of displaying the messages, the safety associated with placing the messages upon/within the signs, and the variability this media provides in terms of the number of messages that can be programmed for display in any given day of use. The placement of these signs in residential areas notwithstanding, where most schools and churches are located, does not appear to be an issue to the entity seeking the sign, but rather the desire to offer this new technology to interested parties that drive-by the roadway for advertisement and informational purposes[1]. From the Commission's perspective, the necessity of these types of signs is not caused solely by need, since many other options exist, but convenience and flexibility. Therefore, the allowance for these

[1] Seems contrary to all new mediums for communication, like websites, Facebook, Instagram, Twitter, e-mail, etc.

types of signs in dark environments must be balanced against those two (2) characteristics – convenience and flexibility.

As technology advances in terms of hardware, applications, and costs, the support of these signs will not lessen among potential users. Additionally, as these advances have been introduced into sign applications, the controls to better address their impacts have also been added, which include the selection of background colors, lettering colors, intensity of lighting, amount of time the message is displayed, and the transition method and duration from one message to another. These controls allow any governing entity to address the character of the sign.

>>>The Regulation of Such Signs, when Allowed by Other Communities>>>

In this current instance, this type of sign is a major departure from any allowed to date along a roadway in the City of Wildwood. Monument type signs, both in commercially and residentially-zoned areas have been limited to exterior lighting or internal lighting, but with a dark background and light-colored lettering to limit their respective impacts. These signs, if not appropriately regulated, can have far-reaching impacts, which is why they are currently prohibited in Wildwood and some other communities, such as Ellisville. However, the Cities of Ballwin, Chesterfield, and Town and Country do reference these types of displays in their respective Sign Regulations. Therefore, not all communities believe them to be necessary, but some do. This situation certainly does not make the City of Wildwood the only exception to this allowance.

However, if the City of Wildwood were to allow these types of signs, the Commission would recommend the following regulations be considered in this regard:

1. The allowance for these signs in the City of Wildwood would be limited to the NU Non-Urban Residence District and all "R" Residence Districts, but only if granted by a Conditional Use Permit (CUP) via the Planning and Zoning Commission and City Council.
2. The signs, notwithstanding their specific characteristics associated with the display boards, would have to comply with the City's underlying Sign Regulations for placement (setbacks) and other similar requirements.
3. The lighting of these signs, particularly their brightness, would minimally have to comply with the City's Outdoor Lighting Requirements of its Zoning Ordinance. Additionally, all sign applications for these types of electronic message boards would have to be reviewed by the City's Lighting Consultant.
4. The owner of the sign would have to provide landscaping at the base of the monument, which would be consistent with the City's Landscape Manual and Sustainable Plantings Guide.
5. The sign would be required to have a primary background color that is dark, with lighting lettering used. Graphics would have to comply as well.
6. The message hold time and the transition method and duration would all have to be programmed to ensure the driver can reasonably see the information being displayed, but cannot be programmed in a manner that it is intermittent, flashing, or otherwise viewed as a nuisance to the driving public by any of its aspects, including brightness.
7. The display of messages would not be authorized after 10:30 p.m., to help preserve the night sky. The operation of these types of signs in the morning hours would not be authorized until 6:30 a.m.
8. The sign must be placed/incorporated into a monument (base) type design, with all materials used for this purposes matching the primary building located on the same lot as the sign.
9. The sign would have to be located on the lot, where the primary use is situated.
10. The signs must be maintained regularly and in good operating condition always.

11. The number of these signs would be regulated by the City's current requirements for monument signs in conjunction with institutional and other uses.
12. The size of these signs would be regulated by the City's current requirements for monument signs in conjunction with institutional uses – 50 square feet.

The Commission believes this list of conditions would address many of the concerns associated with these signs, while ensuring the City and its residents have ample notification and opportunity to comment and understand their applications in their neighborhoods. As with all regulations, the application of them with the initial installation of the sign is critical, but also, thereafter, when time passes and others not associated with the first approval follow and make changes inconsistent with these conditions. Accordingly, these situations become enforcement actions, which generally create issues for all parties. Given this knowledge, the Commission believes it is necessary to ensure the on-going use of these signs, if allowed in the City, remain compliant.

< Summary and Recommendation >

In this report, the Commission has identified these types of signs will have impacts on the areas where they are allowed, given their nature, but these can be minimized, but not eliminated, by utilizing the City's Conditional Use Permit (CUP) process to oversee their applications. The Commission has noted the extent of potential applications in the City, along with suggesting the necessity of this type of sign is not premised on the impacts of the City, but the benefits to the user, while all parties discount current electronic means of communication and other sign options. Other communities allow and prohibit these types of signs as well. However, if allowed by the City, the Commission has developed a list of requirements that should be included to any changes to the Sign Regulations of the Zoning Ordinance to address them to the greatest extent possible for the benefit to all parties. However, when tallied on this matter, the Commission split on its vote, therefore lacking a majority to proceed with the submittal of a report indicating a favorable action in this regard. Accordingly, the matter failed for a lack of majority amongst the ten (10) members of the Commission (a 5 to 5 vote).

WILDWOOD

2nd ADDENDUM

to

Department of Planning's Information Report (first issued on August 17, 2015)

for the

City of Wildwood Planning and Zoning Commission

November 16, 2015 Executive Meeting

"Planning Tomorrow Today"

Petition No.:	**P.Z. 14-15**
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 415.410 Sign Regulations for "FP," "PS," "NU," and all "R" Districts and Chapter 415.420 Sign Regulations for all "C" and "M" Districts of the City of Wildwood's Zoning Ordinance to consider the addition of new language to allow electronic message boards for certain institutional, not-for-profit, and commercial organizations. Currently, these types of displays are prohibited within the City of Wildwood.
Location:	Citywide
Hearing Date:	July 20, 2015
Presentation of Information Report:	August 17, 2015 – Postponed for Further Research October 5, 2015 – Postponed for Further Research

The Department of Planning has been researching the issues the Planning and Zoning Commission identified at its last meeting, where this matter of electronic message boards was last heard. This meeting date was October 5, 2015. These issues were developed, after a long discussion on the merits of possibly allowing electronic message boards in the City of Wildwood. Specifically, the issues that were identified included the following:

1. **Traffic Safety** - The concerns associated with these types of signs, given their brightness, flashing graphics, and rotating messages, on drivers' safety and the potential for increased accidents.
2. **Sign Characteristics, particularly Brightness** - The relative brightness of these types of signs compared to the current monument type that is in place at the high school location and their effects on the night sky.
3. **Legal Issues** - The legality of allowing a test sign at the high school to determine its impact on an area like Wildwood that is still rural in many regards.

To address these issues, the Department engaged several resources to assist it at the aforementioned meeting. These resources included the St Louis County Police Department – Wildwood Precinct, the City Attorney, and Randy Burkett Lighting Design. These resources were provided the concerns and considerations of the Planning and Zoning Commission that were identified in this regard and requested their study of them and to provide any opinions and comments on such, as part of their review. Attached to this addendum are the reports of these outside resources.

The results of this study indicated the following information in regard to the major issues noted above:

1. **Traffic Safety** – the St. Louis County Police Department – Wildwood Precinct was asked to study the impact of signage on traffic flow and safety, where electronic message boards are placed, as well as existing signage at Lafayette High School, Eureka High School, Rockwood Summit High School in unincorporated St. Louis County, and Taylor Road and Main Street. Captain Tim Tanner, Commander, of the Wildwood Precinct of the St. Louis County Police Department, undertook this analysis and provided the attached information to this Addendum. Along with this information, the police department also provided a report from two (2) professors at Texas A&M University about the correlation of electronic message boards and their operation and the impact on traffic safety. This report is also attached to this Addendum.

   In reviewing this provided information, the Department of Planning would note the impact of electronic message boards on traffic safety is debatable and no direct casual relationship can be developed from the information provided by the police department. However, the study from the two (2) professors seems to indicate no direct effect and, therefore, it not being an issue. The industry that fabricates and installs these types of signs identifies this matter of traffic safety as being 'traffic neutral.' Therefore, the industry supports their use and does not concur with any type of prohibition of these types of signs on traffic safety concerns.

   The Department does continue to believe any distractions to any drivers are not appropriate and, if these signs are allowed by the City, restrictions on brightness, graphics, transitions, colors, and other operational parameters need to be in place. These restrictions would control these parameters and, in principle, address traffic safety, as reasonably as possible. All of these restrictions would be a function of the Conditional Use Permit (CUP) process.

2. **Sign Characteristics** – The Department of Planning engaged Randy Burkett Lighting Design to study the issues relating to the brightness of the current sign that is in place at the high school property and how it compares to an electronic message board, specifically the newly-installed structure at Marquette High School. The analysis of these two (2) existing signs is included as an attachment to this Addendum. The information contained in this report also addresses the character of the environment, where the Lafayette High School sign would be located.

In reviewing this information, the consultant notes the current sign located at Lafayette High School has a greater brightness than the electronic message board at Marquette High School, even with the changeable graphics and transitioning messages. The Department also requested the lighting consultant review the ambient environment in the vicinity of the proposed sign at the high school and, in the letter provided in this regard, it is noted the environment is somewhat different at this location versus just to the east on Clayton Road. However, in the consultant's summary statement, it is noted that both areas do not exhibit an over-lighted condition, given their different development patterns, relative ages in terms of construction, and the existence, or lack thereof, of associated woodland areas.

The analysis does indicate a managed electronic message board may emit less luminance than a more traditional sign. Given the area, over-lighting should remain an important consideration, since any addition would, in all likelihood, have an impact on the current condition, regardless of where they might be placed. Therefore, if electronic message boards are authorized in the City, the Conditional Use Permit (CUP) process must be employed to ensure these types of signs are carefully reviewed and managed.

3. **Legal Issues** – The Department would note the City Attorney was consulted in this regard and noted the Board of Adjustment could consider such a temporary allowance for a test of these types of signs. However, as was noted at the Planning and Zoning Commission's meeting on October 5, 2015, the cost of these signs, in the tens of thousands of dollars, would either negate anyone from agreeing to a test or, more likely, once installed very difficult to remove, if the test is considered unsuccessful or too impactful.

   The more likely approach for this testing of the sign would be to determine if a portable type is available, which has generally the same characteristics, and place it at this location and utilize it there for the purposes of understanding the impacts and benefits. The Department has not determined a specific supplier of this type of portable sign, but would believe such does exist in some appropriate form for its use in this test. If a test is still desired by the Planning and Zoning Commission, the Department will investigate this option further.

As has been noted in the Department's Information Report, it believes the desire of potential users of these electronic message boards will continue to increase in interest, given the derived benefits for this type of display and the changes in lighting technology. Despite the pressure for the City to consider them, it does not have to change its current sign regulations, given other cities across the country prohibit them as well. However, if allowed in the City, these types of signs should only be considered on a case-by-case basis and through the City's established Conditional Use Permit (CUP) process.

If any of the Commission Members should have questions or comments in this regard, please feel free to contact the Department of Planning at (636) 458-0440. Thank you for direction on this matter and consideration of this information.

VEHICLE CRASH DATA
2012 - PRESENT
CLAYTON ROAD (ENTRANCE TO LAFAYETTE HIGH SCHOOL)

DATE	REPORT #	INJURY Y/N	# INJURED	# VEHICLES	DEER Y/N	PC CIRCUMSTANCE
2012						
3/5/2012	12-13492	N		2	N	Inattention
6/18/2012	12-36042	N		2	N	Following Too Close
10/11/2012	12-60782	N		2	N	Failed To Yield
10/16/2012	12-61814	Y	1	2	N	Violation Signal/Sign
2012 Total	4					
2013						
1/4/2013	13-000788	N		2	N	Failed To Yield
4/2/2013	13-018368	N		2	N	Failed To Yield
12/19/2013	13-071747	N		3	N	Following Too Close
2013 Total	3					
2014						
2/27/2014	14-011041	N		2	N	Failed To Yield
12/12/2014	14-064759	N		2	N	Improper Passing
2014 Total	2					
2015						
5/1/2015	15-026157	N		2	N	Following Too Close
5/5/2015	15-026706	N		2	N	Following Too Close
8/21/2015	15-046824	N		2	N	Failed To Yield
9/17/2015	15-051915	N		2	N	Following Too Close
2015 Total	4					
Cumulative Total		13				

VEHICLE CRASH DATA
2012 - PRESENT
CLAYTON ROAD (ENTRANCE TO LAFAYETTE HIGH SCHOOL)

2012 CIRCUMSTANCE TOTALS:		
Alcohol	0	0.0%
Failed To Yield	1	25.0%
Following Too Close	1	25.0%
Improper Backing	0	0.0%
Improper Lane Use/Change	0	0.0%
Improper Passing	0	0.0%
Inattention	1	25.0%
None	0	0.0%
Physical Impairment	0	0.0%
Speed - Exceeded Limit	0	0.0%
Too Fast for Conditions	0	0.0%
Unknown	0	0.0%
Violation Signal/Sign	1	25.0%
Deer Strikes	0	0.0%
Injury Crashes	1	25.0%
Persons Injured	1	
Total Vehicles Involved	8	

2013 CIRCUMSTANCE TOTALS:		
Alcohol	0	0.0%
Failed To Yield	2	66.7%
Following Too Close	1	33.3%
Improper Backing	0	0.0%
Improper Lane Use/Change	0	0.0%
Improper Passing	0	0.0%
Inattention	0	0.0%
None	0	0.0%
Physical Impairment	0	0.0%
Speed - Exceeded Limit	0	0.0%
Too Fast for Conditions	0	0.0%
Unknown	0	0.0%
Violation Signal/Sign	0	0.0%
Deer Strikes	0	0.0%
Injury Crashes	0	0.0%
Persons Injured	0	
Total Vehicles Involved	7	

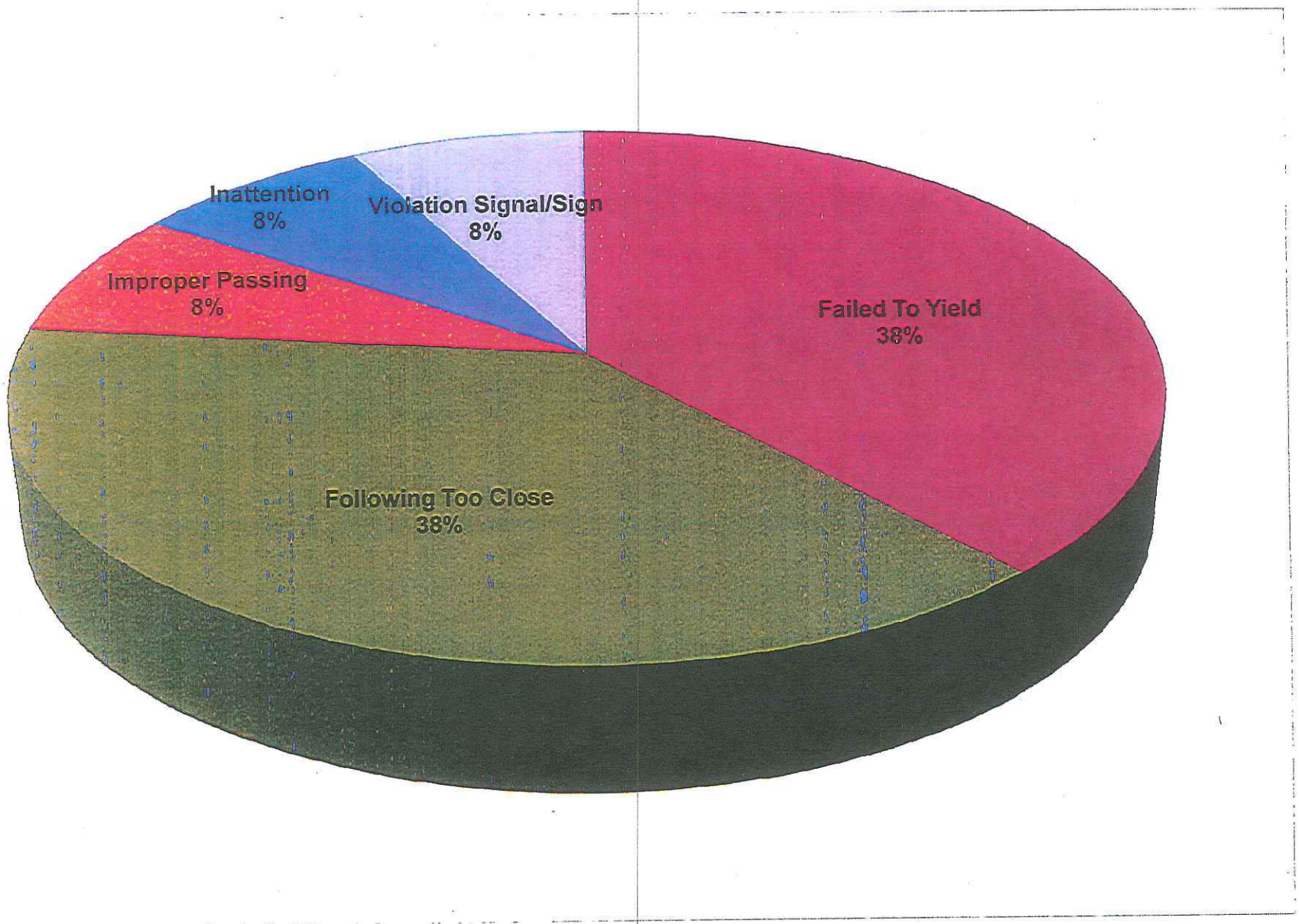
CUMULATIVE CIRCUMSTANCE TOTALS:		
Alcohol	0	0.0%
Failed To Yield	5	38.5%
Following Too Close	5	38.5%
Improper Backing	0	0.0%
Improper Lane Use/Change	0	0.0%
Improper Passing	1	7.7%
Inattention	1	7.7%
None	0	0.0%
Physical Impairment	0	0.0%
Speed - Exceeded Limit	0	0.0%
Too Fast for Conditions	0	0.0%
Unknown	0	0.0%
Violation Signal/Sign	1	7.7%
Deer Strikes	0	0.0%
Injury Crashes	1	7.7%
Persons Injured	1	
Total Vehicles Involved	27	

2014 CIRCUMSTANCE TOTALS:		
Alcohol	0	0.0%
Failed To Yield	1	50.0%
Following Too Close	0	0.0%
Improper Backing	0	0.0%
Improper Lane Use/Chang	0	0.0%
Improper Passing	1	50.0%
Inattention	0	0.0%
None	0	0.0%
Physical Impairment	0	0.0%
Speed - Exceeded Limit	0	0.0%
Too Fast for Conditions	0	0.0%
Unknown	0	0.0%
Violation Signal/Sign	0	0.0%
Deer Strikes	0	0.0%
Injury Crashes	0	0.0%
Persons Injured	0	
Total Vehicles Involved	4	

2015 CIRCUMSTANCE TOTALS:		
Alcohol	0	0.0%
Failed To Yield	1	25.0%
Following Too Close	3	75.0%
Improper Backing	0	0.0%
Improper Lane Use/Chang	0	0.0%
Improper Passing	0	0.0%
Inattention	0	0.0%
None	0	0.0%
Physical Impairment	0	0.0%
Speed - Exceeded Limit	0	0.0%
Too Fast for Conditions	0	0.0%
Unknown	0	0.0%
Violation Signal/Sign	0	0.0%
Deer Strikes	0	0.0%
Injury Crashes	0	0.0%
Persons Injured	0	
Total Vehicles Involved	8	

CUMULATIVE TOTALS:		
Single Vehicle	0	0.0%
Multi Vehicle	13	100.0%
Total Crashes	13	

Probable Contributing Circumstance Crash Data
2012 to Present
Entrance to Lafayette High School



VEHICLE CRASH DATA
2012 - PRESENT
MO 109 at Eureka High School

DATE	REPORT #	INJURY Y/N	# INJURED	# VEHICLES	DEER Y/N	PC CIRCUMSTANCE
2012						
2012 Total	0					
2013						
2013 Total	0					
2014						
2014 Total	0					
2015						
1/25/2015	15-108	N		2	N	Failed To Yield
2/5/2015	15-151	N		2	N	Too Fast for Conditions
7/30/2015	15-971	Y		1	N	None
2015 Total	3					
Cumulative Total		3				

VEHICLE CRASH DATA
2012 - PRESENT
MO 109 at Eureka High School

2012 CIRCUMSTANCE TOTALS:		
Alcohol	0	#DIV/0!
Failed To Yield	0	#DIV/0!
Following Too Close	0	#DIV/0!
Improper Backing	0	#DIV/0!
Improper Lane Use/Change	0	#DIV/0!
Improper Passing	0	#DIV/0!
Inattention	0	#DIV/0!
None	0	#DIV/0!
Physical Impairment	0	#DIV/0!
Speed - Exceeded Limit	0	#DIV/0!
Too Fast for Conditions	0	#DIV/0!
Unknown	0	#DIV/0!
Violation Signal/Sign	0	#DIV/0!
Deer Strikes	0	#DIV/0!
Injury Crashes	0	#DIV/0!
Persons Injured	0	
Total Vehicles Involved	0	

2013 CIRCUMSTANCE TOTALS:		
Alcohol	0	#DIV/0!
Failed To Yield	0	#DIV/0!
Following Too Close	0	#DIV/0!
Improper Backing	0	#DIV/0!
Improper Lane Use/Change	0	#DIV/0!
Improper Passing	0	#DIV/0!
Inattention	0	#DIV/0!
None	0	#DIV/0!
Physical Impairment	0	#DIV/0!
Speed - Exceeded Limit	0	#DIV/0!
Too Fast for Conditions	0	#DIV/0!
Unknown	0	#DIV/0!
Violation Signal/Sign	0	#DIV/0!
Deer Strikes	0	#DIV/0!
Injury Crashes	0	#DIV/0!
Persons Injured	0	
Total Vehicles Involved	0	

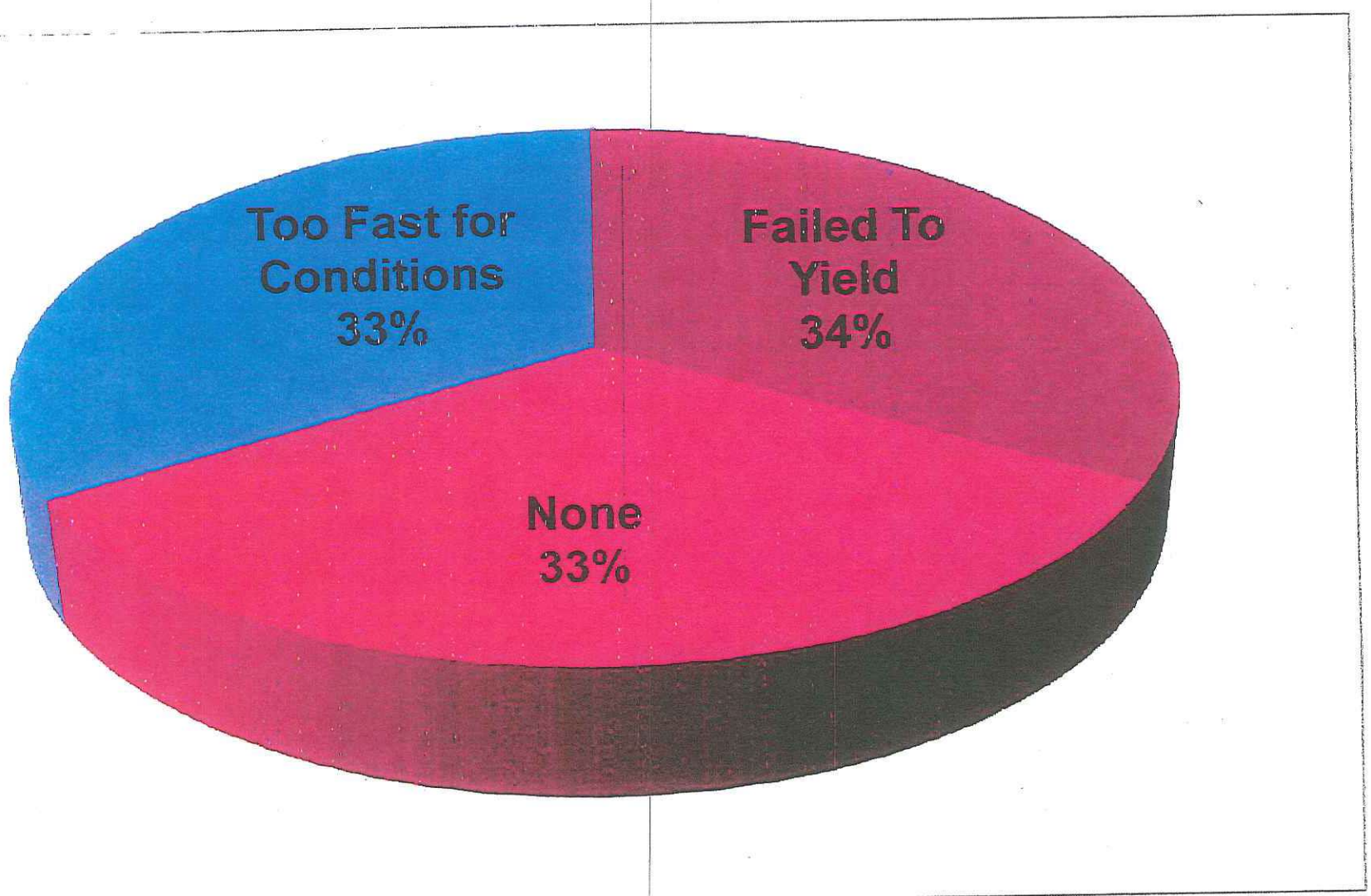
CUMULATIVE CIRCUMSTANCE TOTALS:		
Alcohol	0	0.0%
Failed To Yield	1	33.3%
Following Too Close	0	0.0%
Improper Backing	0	0.0%
Improper Lane Use/Change	0	0.0%
Improper Passing	0	0.0%
Inattention	0	0.0%
None	1	33.3%
Physical Impairment	0	0.0%
Speed - Exceeded Limit	0	0.0%
Too Fast for Conditions	1	33.3%
Unknown	0	0.0%
Violation Signal/Sign	0	0.0%
Deer Strikes	0	0.0%
Injury Crashes	1	33.3%
Persons Injured	0	
Total Vehicles Involved	5	

2014 CIRCUMSTANCE TOTALS:		
Alcohol	0	#DIV/0!
Failed To Yield	0	#DIV/0!
Following Too Close	0	#DIV/0!
Improper Backing	0	#DIV/0!
Improper Lane Use/Chang	0	#DIV/0!
Improper Passing	0	#DIV/0!
Inattention	0	#DIV/0!
None	0	#DIV/0!
Physical Impairment	0	#DIV/0!
Speed - Exceeded Limit	0	#DIV/0!
Too Fast for Conditions	0	#DIV/0!
Unknown	0	#DIV/0!
Violation Signal/Sign	0	#DIV/0!
Deer Strikes	0	#DIV/0!
Injury Crashes	0	#DIV/0!
Persons Injured	0	
Total Vehicles Involved	0	

2015 CIRCUMSTANCE TOTALS:		
Alcohol	0	0.0%
Failed To Yield	1	33.3%
Following Too Close	0	0.0%
Improper Backing	0	0.0%
Improper Lane Use/Chang	0	0.0%
Improper Passing	0	0.0%
Inattention	0	0.0%
None	1	33.3%
Physical Impairment	0	0.0%
Speed - Exceeded Limit	0	0.0%
Too Fast for Conditions	1	33.3%
Unknown	0	0.0%
Violation Signal/Sign	0	0.0%
Deer Strikes	0	0.0%
Injury Crashes	1	33.3%
Persons Injured	0	
Total Vehicles Involved	5	

CUMULATIVE TOTALS:		
Single Vehicle	1	33.3%
Multi Vehicle	2	66.7%
Total Crashes	3	

Probable Contributing Circumstance Crash Data
2012 to Present
MO 109 at Eureka High School



VEHICLE CRASH DATA
2012 - PRESENT
Taylor Road and Main Street

DATE	REPORT #	INJURY Y/N	# INJURED	# VEHICLES	DEER Y/N	PC CIRCUMSTANCE
2012						
12/4/2012	12-71515	N		2	N	Inattention
2012 Total	1					
2013						
1/21/2013	13-4240	N		2	N	Failed To Yield
2/13/2013	13-9058	N		2	N	Following Too Close
6/24/2013	13-35973	N		1	N	Physical Impairment
9/28/2013	13-56008	Y		2	N	Following Too Close
2013 Total	4					
2014						
7/14/2014	14-38890	N		2	N	Following Too Close
2014 Total	1					
2015						
5/30/2015	15-31538	N		2	N	Following Too Close
3/26/2015	15-12912	N		2	N	Following Too Close
2015 Total	2					
Cumulative Total		8				

VEHICLE CRASH DATA
2012 - PRESENT
Taylor Road and Main Street

2012 CIRCUMSTANCE TOTALS:		
Alcohol	0	0.0%
Failed To Yield	0	0.0%
Following Too Close	0	0.0%
Improper Backing	0	0.0%
Improper Lane Use/Change	0	0.0%
Improper Passing	0	0.0%
Inattention	1	100.0%
None	0	0.0%
Physical Impairment	0	0.0%
Speed - Exceeded Limit	0	0.0%
Too Fast for Conditions	0	0.0%
Unknown	0	0.0%
Violation Signal/Sign	0	0.0%
Deer Strikes	0	0.0%
Injury Crashes	0	0.0%
Persons Injured	0	
Total Vehicles Involved	2	

2013 CIRCUMSTANCE TOTALS:		
Alcohol	0	0.0%
Failed To Yield	1	25.0%
Following Too Close	1	25.0%
Improper Backing	0	0.0%
Improper Lane Use/Change	0	0.0%
Improper Passing	0	0.0%
Inattention	0	0.0%
None	0	0.0%
Physical Impairment	1	25.0%
Speed - Exceeded Limit	0	0.0%
Too Fast for Conditions	0	0.0%
Unknown	0	0.0%
Violation Signal/Sign	0	0.0%
Deer Strikes	0	0.0%
Injury Crashes	0	0.0%
Persons Injured	0	
Total Vehicles Involved	7	

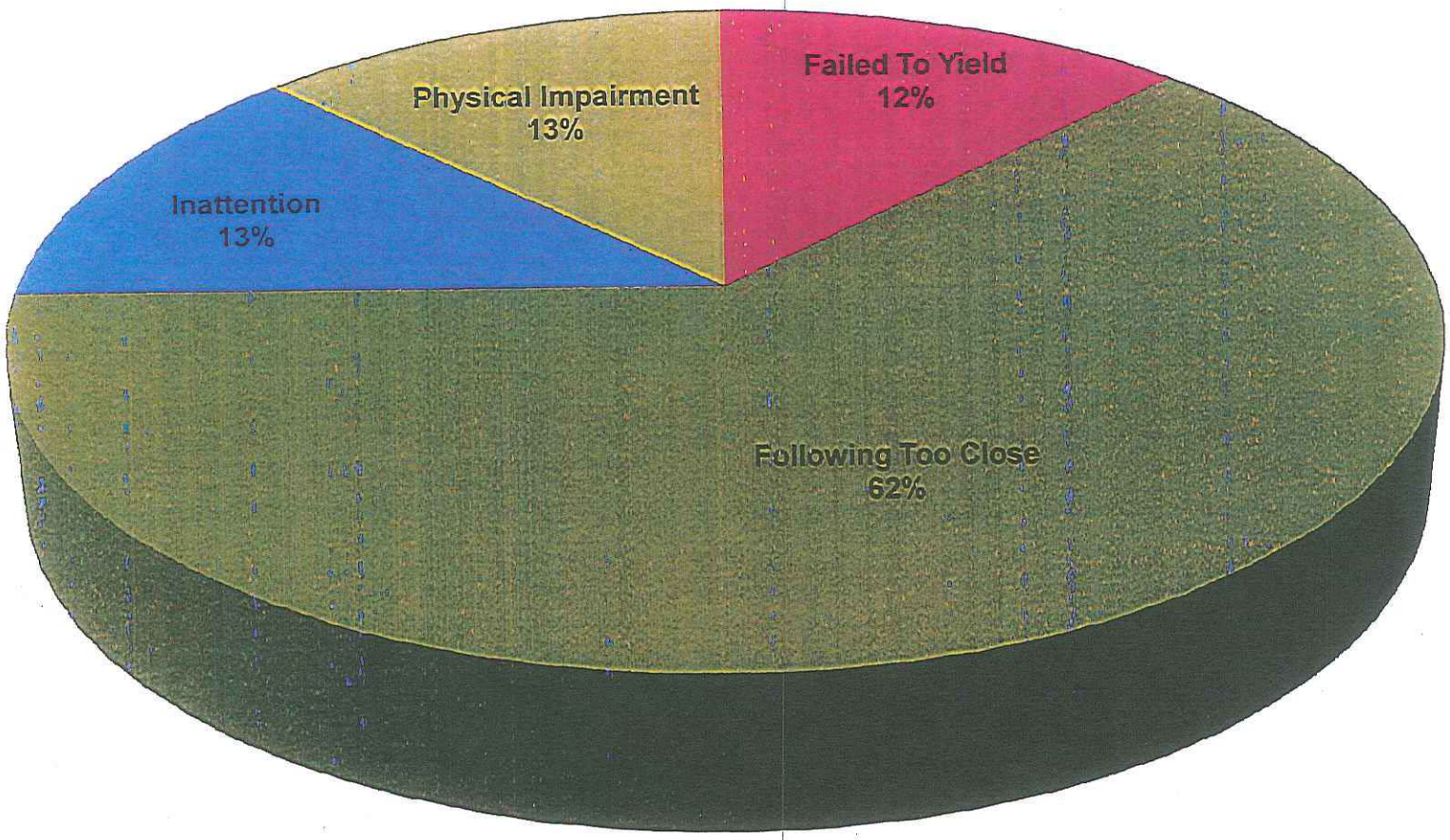
CUMULATIVE CIRCUMSTANCE TOTALS:		
Alcohol	0	0.0%
Failed To Yield	1	12.5%
Following Too Close	5	62.5%
Improper Backing	0	0.0%
Improper Lane Use/Change	0	0.0%
Improper Passing	0	0.0%
Inattention	1	12.5%
None	0	0.0%
Physical Impairment	1	12.5%
Speed - Exceeded Limit	0	0.0%
Too Fast for Conditions	0	0.0%
Unknown	0	0.0%
Violation Signal/Sign	0	0.0%
Deer Strikes	0	0.0%
Injury Crashes	1	12.5%
Persons Injured	0	
Total Vehicles Involved	15	

2014 CIRCUMSTANCE TOTALS:		
Alcohol	0	0.0%
Failed To Yield	0	0.0%
Following Too Close	1	100.0%
Improper Backing	0	0.0%
Improper Lane Use/Chang	0	0.0%
Improper Passing	0	0.0%
Inattention	0	0.0%
None	0	0.0%
Physical Impairment	0	0.0%
Speed - Exceeded Limit	0	0.0%
Too Fast for Conditions	0	0.0%
Unknown	0	0.0%
Violation Signal/Sign	0	0.0%
Deer Strikes	0	0.0%
Injury Crashes	0	0.0%
Persons Injured	0	
Total Vehicles Involved	2	

2015 CIRCUMSTANCE TOTALS:		
Alcohol	0	0.0%
Failed To Yield	0	0.0%
Following Too Close	2	100.0%
Improper Backing	0	0.0%
Improper Lane Use/Chang	0	0.0%
Improper Passing	0	0.0%
Inattention	0	0.0%
None	0	0.0%
Physical Impairment	0	0.0%
Speed - Exceeded Limit	0	0.0%
Too Fast for Conditions	0	0.0%
Unknown	0	0.0%
Violation Signal/Sign	0	0.0%
Deer Strikes	0	0.0%
Injury Crashes	0	0.0%
Persons Injured	0	
Total Vehicles Involved	4	

CUMULATIVE TOTALS:		
Single Vehicle	1	12.5%
Multi Vehicle	7	87.5%
Total Crashes	8	

Probable Contributing Circumstance Crash Data
2012 to Present
Taylor and Main



RANDY
BURKETT
LIGHTING
DESIGN

To: Joe Vujnich

From: Ron Kurtz

Subject: City of Wildwood – Sign Brightness Studies

Date: October 29, 2015

Copies: File/

As requested, during the nighttime hours of October 22, 2015 (nominally between the hours of 7:30 and 9:00 PM) we reviewed the monument signage for Lafayette High School and Marquette High School, as well as lighting conditions in residential areas to the north and east of Lafayette High School. Our results and impressions are summarized herein.

Signage

Measurements were taken of brightness (luminance) of the monument signs at both Lafayette and Marquette High Schools using a Minolta LS-110 1/3° luminance meter. Luminance is the intensity of light from a surface per unit area in a given direction. The most common unit for luminance is candelas per square meter (cd/m^2), otherwise known in the signage industry as a "nit". Luminance measurement is an indication of brightness, but not necessarily glare. Glare is a function of brightness in relation to the surrounding ambient light conditions.

The Lafayette High School sign consists of a luminous (white) background and black applied lettering. Atop the luminous section are individual halo-lit letters, silhouetted against a dark painted metal background.

The Marquette High School sign is comprised primarily of RGB LED, pixelated points used to create changing messages. Atop this reader board is a luminous box with a blue background and white typography.

The Lafayette High School luminous sign does not meet the City of Wildwood Lighting Ordinance, Section 415.450.D.4.f regarding sign construction and luminous material.

Actual measurements of luminance was as follows:

Lafayette High School

Luminous face: 600 cd/m^2
Backlit amber letters: 35 cd/m^2

Luminance is similar from most typical viewing directions.

Marquette High School

Static, backlit luminous panel

Blue background: 5 cd/m^2
White typography: 190 cd/m^2 max

LED Reader Board ("black" LED's not considered)

Scrolling info of different colors 30 – 280 cd/m^2 on sign axis

Values are diminished when measured off-axis

Subjective Review of Residential Areas

Generally described, much of Clayton Road area east from Lafayette High School to Strecker Road has a more rural lighting character. Ambient levels of light are relatively low. Distances between residences and the substantial tree canopy are key contributors to the ambient character. There is, however, evidence that visible light is making an impact on the night environment within this area.

1. The use of retrofit style LED replacement lamps (bulbs) in coach lanterns and post top lights are becoming common place. LED replacement is a valid option; however, most of those installed have very cool color temperatures (4000^{O}K or greater). Cool color temperatures are seen as brighter than a warm temperature of equivalent output (incandescent is quite warm 2200^{O} to 2500^{O} for example). Therefore some homes have fixtures that seem more glarey than others.

2. Several homes have had substantial installations of landscape/hardscape/floodlights. Where occurring, this changes the ambient character of the immediate surround.

The neighborhood immediately north of Lafayette High School has a more suburban character. Houses are close together, the tree canopy is immature to non-existent, streetlight are more prevalent with fixtures of greater brightness.

Here, cool color temperature sources seem to be more often used, adding to the overall feelings of brightness and glare.

While the neighborhood has a greater ambient light condition, we would not describe the area as overlighted, since, it does not exhibit the more rural character to the east.

Upon your review please contact us with any questions.

RK:vh

Statistical Analysis of the Relationship between On-Premise Digital Signage and Traffic Safety

by

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Texas A&M University

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Texas A&M Transportation Institute

and

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Sponsored by

Signage Foundation, Inc.
P.O. Box 14392
Washington, DC 20044

Texas Engineering Extension Service
The Texas A&M University System
College Station, TX 77843

December 17, 2012

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ACKNOWLEDGMENT

The authors wish to recognize the Signage Foundation, Inc., for providing the funding for this research effort. The authors also wish to acknowledge the sign companies that provided proprietary information regarding the installation of the digital signs that were used to create the databases analyzed in this project. Although they are not recognized by name in order to protect the proprietary nature of the information, their contributions are greatly appreciated.

ABBREVIATIONS

The abbreviations shown below are used in this report.

AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
AIC	Akaike Information Criterion
ANOVA	Analysis of Variance
BIC	Bayesian Information Criterion
CEVMS	Commercial Electronic Variable Message Signs
CG	Control Group
DF	Degrees of Freedom
EB	Empirical Bayes
EBB	Electronic Billboard
FHWA	Federal Highway Administration
HSIS	Highway Safety Information System
HSM	*Highway Safety Manual*
LCD	Liquid Crystal Display
LED	Light-Emitting Diode
MS	Mean of Sum of Squares
MSE	Error Mean Square
MST	Treatment Mean Square
RTM	Regression to the Mean
SAR	Spatial Autoregressive Model
SEM	Spatial Error Model
SFI	Signage Foundation, Inc.
SPF	Safety Performance Function
SS	Sum of Squares
SSE	Sum of Squares for Error
SST	Total Sum of Squares
TTI	Texas A&M Transportation Institute

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EXECUTIVE SUMMARY

The use of digital on-premise signs, which are typically business-related signs that have the ability to change the displayed message, has increased significantly in recent years. On-premise digital signs are located on the same property as the businesses they promote, and some part — or a significant part in some cases — of the sign contains a digital display that can be programmed to change the message at pre-set intervals. Because the use of these signs has increased, jurisdictions have used local sign codes or ordinances to regulate the manner in which digital messages are displayed. Jurisdictions typically justify these regulations by citing traffic safety impacts. However, no comprehensive and scientifically based research efforts have evaluated the relationship between on-premise digital signs and traffic safety.

In this study, researchers collected large amounts of sign and crash data in order to conduct a robust statistical analysis of the safety impacts of on-premise digital signs. The statistical tools used the latest safety analysis theory developed for analyzing the impacts of highway safety improvements. The research team acquired the crash data from the Highway Safety Information System, which is a comprehensive database of crash records from several states. One of the advantages of these data is that they also include information about roadway characteristics, such as the number of lanes, speed limit, and other factors. The research team then acquired information about the location of on-premise digital signs from two sign manufacturing companies. Through significant effort by the researchers, these two datasets were merged into a single dataset that represented potential study locations in California, North Carolina, Ohio, and Washington. Of the initial set of over 3,000 possible sites, the research team was able to identify 135 sign locations that could be used for the safety analysis. Potential sites were eliminated from consideration due to any of the following factors:

- The sign location was not on a roadway that was included in the crash dataset; only major roads were represented in the crash data.
- The sign location provided by a sign manufacturing company could not be verified through online digital images of the location.
- Only signs installed in calendar years 2006 or 2007 could be included in order to have adequate amounts of crash data before and after the sign was installed.

The research team then used the empirical Bayes method to perform a before-after statistical analysis of the safety impacts of the on-premise digital signs. In a before-after study, the safety impact of a treatment (in this case, the installation of an on-premise digital sign) is defined by the change in crashes between the periods before and after the treatment was installed. However, simply comparing the crash frequencies (known as a naïve before-after analysis) is not adequate to account for factors such as regression to the mean (a statistical concept that explains why after data can be closer to the mean value than the before data) and to provide a means of controlling for external factors that can also cause a difference in crash frequencies. The empirical Bayes method represents the recommended procedure for evaluating the impacts of safety treatments because it overcomes the deficiencies of the naïve method. The safety impacts are represented by the safety index, which is indicated by the symbol θ. In simple terms, the safety index represents a ratio of safety in the after period compared to safety in the before period, although it is not as

simple as dividing the crashes in the after period by the crashes in the before period. A safety index greater than 1.0 indicates an increase in crashes in the after period, and a value less than 1.0 indicates a reduction in crashes in the after period. However, because of the variability in the crash data, the analysis must have statistical validity. Statistical variability is established by defining the 95 percent confidence interval for the safety index, which is based on factors such as sample size and the variability of the data. If the 95 percent confidence interval includes the value of 1.0, then there is a 95 percent chance that there is no statistically significant change in crashes between the before and after periods.

The results of the statistical analysis are presented in Figure 1. This figure shows that the safety index for all of the states was 1.0 with a 95 percent confidence interval that ranged from 0.93 to 1.07. This indicates that, for the 135 sites included in the analysis, there was no statistically significant change in crashes due to the installation of on-premise digital signs. The same can also be said about the results for each of the four states on an individual basis because the confidence interval for safety index for each state includes 1.0. The larger confidence intervals for some of the states are due to greater variability in the data and/or smaller sample sizes. The researchers also analyzed single-vehicle and multi-vehicle crashes and found the same result of no statistically significant change in crashes. Finally, the researchers performed an analysis of variance for the sign factors of color, size, and type of business and found no statistically significant differences in the mean safety index values for individual factors.

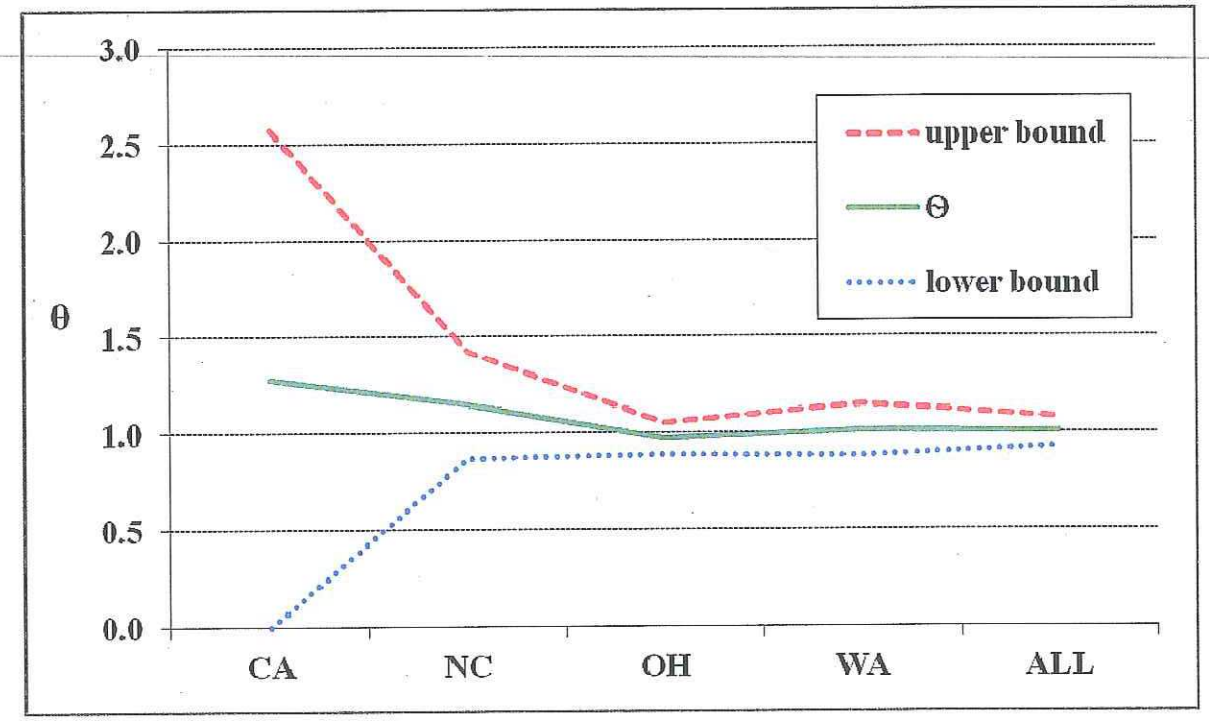

Figure 1. Summary of study results

The results of this study provide scientifically based data that indicate that the installation of digital on-premise signs does not lead to a statistically significant increase in crashes on major roads.

CHAPTER 1:
INTRODUCTION

For many generations, most signs — including both traffic and business signs — were static. They displayed only one message that did not change with time. Advances in information display technologies in recent years have led to an increase in the use of many types of digital signs, particularly in the area of on-premise and off-premise business signs. On-premise digital signs provide the ability to communicate a wide variety of messages and to change the manner in which the message is presented over time. As such, these digital signs represent a significant advancement in communication technologies and the ability to deliver valuable marketing information to potential customers. However, some groups have raised questions related to the traffic safety aspects of business signs that change messages on a frequent basis. The traffic safety concerns are often related to issues of potential driver distraction from the roadway due to the dynamic nature of these signs. These safety concerns are sometimes addressed through local regulation of these types of signs, which may prohibit or limit the use of on-premise digital signs. These regulations tend to be developed at the local level and do not have a significant level of scientific, nationally based research supporting the regulations.

The traffic safety concerns associated with on-premise digital signs have existed for some time, but there has been little research, particularly on a national level, that directly addresses the safety impacts of on-premise digital signs. In part, this is due to the fact that the use of such signs has grown only in the last 5–10 years. The research described in this report was conducted to provide a scientifically based, national analysis of on-premise digital signs so that the traffic safety impacts of such signs can be better understood.

RESEARCH APPROACH

The basic research method used in this study is a before-after statistical analysis of the change in traffic crashes at locations where digital signs were installed. The research team used digital sign installation information provided by sign manufacturers to identify locations in selected states where digital signs had been installed in the 2006–2007 time frame (this time frame was selected to provide adequate numbers of crashes in both the before and after periods). The analysis locations were limited to California, North Carolina, Ohio, and Washington because these states are part of the Federal Highway Administration (FHWA) Highway Safety Information System (HSIS). The HSIS is a database of crash records that includes detailed information about the roadway and crashes, including such factors as the number of lanes, the speed limit, crash severity, and other factors. The researchers then mapped the sign sites to the crash datasets to identify locations with crashes. These locations were then analyzed to compare the crashes before installation of the digital sign to the crashes after installation of the sign using statistical analysis procedures.

DESCRIPTION OF A DIGITAL SIGN

For the purposes of this study, a digital sign is defined as a sign that uses an electrical display, such as a liquid crystal display (LCD) or light-emitting diode (LED), to provide changeable

messages or graphics. There are several types of digital signs, including digital billboards, indoor video advertisements, and street-level advertisements (such as LED signs on bus shelters). For this study, the researchers focused only on on-premise digital signs, which are signs located on the same property as the business with which they are associated. The research effort did not include or address off-premise signs or billboards.

RESEARCH ACTIVITIES AND REPORT ORGANIZATION

There were five major activities associated with this research effort. The study began by reviewing and evaluating previous research on the safety aspects of digital signs and the statistical methods that other researchers have used to evaluate the safety aspects of signs. Chapter 2 describes the results of the review of background information. The researchers then began to collect information related to digital signs and crash data in the selected states. The sign information included the location and date of installation, and the crash data included the location and date. The researchers then devoted extensive effort to matching the locations and dates of the signs and crash datasets. Chapter 3 describes the sign and crash data and how the two datasets were merged together. Once this was accomplished, the next step was to develop a valid and scientifically based statistical analysis procedure to determine if there were any statistically significant changes in crashes after installation of digital signs. Chapter 4 describes the development of a statistical methodology, including a comparison of the advantages of the different options for conducting the statistical analysis. Finally, the research team used the results of the statistical analysis to define the key study findings, which are described in Chapter 5. Chapter 6 presents the conclusions and recommendations for the research study.

CHAPTER 2:
BACKGROUND INFORMATION

This chapter provides a review of the literature related to on-premise digital signs and their impacts on traffic safety. The review also includes a summary of statistical methods that can be used for evaluating the safety effects for these types of signs. Although the majority of the work has been related to off-premise digital signs, key studies associated with off-premise signs are nonetheless briefly discussed here. It should be pointed out that compared to other types of roadway-related operational and design features, such as access point density on urban arterials or on-street parking designs, the number of documents that are related to either on- or off-premise signs is relatively small.

On-premise signs are signs that are located on the same property as the activity described in the sign, while off-premise signs are located away from the activity identified in the sign. Off-premise signs are also known as third-party signs or outdoor advertising, and the most common example is a billboard. In general, off-premise signs have a larger visible area, which is attributed to the fact that these signs usually have greater surface areas and have higher mounting heights than on-premise signs. Furthermore, off-premise signs have a larger viewership because they are usually located adjacent to freeways and major highways with higher traffic volume. On the other hand, on-premise signs are installed on private property where a company conducts its business, and most are located along urban streets or local roadways. According to *The Signage Sourcebook* (U.S. Small Business Administration, 2003), the viewing opportunities for outdoor advertising (typically 333,350 cars per day) are much greater than those for an on-premise sign (30,000 cars per day).

The literature review is divided into two sections. The first section summarizes studies related to on-premise digital signs. The second section presents the summary of two key studies associated with off-premise digital signs.

ON-PREMISE DIGITAL SIGNS

This section describes the characteristics of the studies that have examined the relationship between safety and on-premise digital signs. To the knowledge of the authors, only two studies have investigated this relationship. It should be pointed out that the safety relationships identified in these research documents were not based on crash data but more on opinions and hypotheses, which limits their value as a direct measure of on-premise sign safety. The first study was conducted by Mace (2001). This author performed a literature review and listed two hypotheses about how on-premise signs can influence crash risk. The first hypothesis states that on-premise business signs distract drivers' attention from their primary driving tasks, resulting in higher crash risks. The second hypothesis asserts that on-premise business signs may mask the visibility of regulatory and warning road signs, which also can negatively influence crash risk.

On the other hand, Mace (2001) noted positive effects associated with commercial signs. He reported that commercial signs could reduce unnecessary traffic exposure by providing adequate navigation information for drivers, such as providing restaurant information for hungry drivers.

However, only measuring the frequency and duration of drivers' distraction may not represent the safety impacts of on-premise signs because a study published earlier showed that half of the objects that drivers see are not related to driving tasks (Hughes and Cole, 1986). In other words, besides on-premise signs, other roadside features may also distract drivers. The possible solution to minimize the negative effects of an on-premise sign, but still keep its positive effects, is to separate the sign's content to primary (navigation) and secondary (commercial) information.

Although, in the past, on-premise signs and off-premise signs were treated as distinct signage, they are becoming more homogeneous in terms of characteristics. In the second study, Wachtel (2009) mentioned that more roadside businesses, especially those with multiple users (e.g., shopping centers, auto malls, sports complexes, and entertainment places), now install larger-sized on-premise digital signs because of the lower cost and better performance of the LED display. Wachtel indicated that the largest digital advertising sign in the world is an on-premise sign in New York City. This sign is 90 ft tall and 65 ft wide, and is mounted on a 165-ft-tall steel post on the roof of the warehouse. The visible distance is over 2 miles. Wachtel also suggested that some on-premise signs affect traffic safety more than some off-premise digital signs because the locations and elevations of on-premise signs might be closer to the road users. In addition, the angles of on-premise signs may be out of the cone of vision and require extreme head movements to read.

In summary, these two studies showed more research is needed for understanding the relationship between on-premise digital signs and crash risk.

OFF-PREMISE DIGITAL SIGNS

This section is divided into two parts. The first part describes two key studies that have examined the safety effects of off-premise digital signs. The second part covers methodologies that have been used for estimating these effects.

Safety Effects

There are two reports that provide reviews of the findings, methods, and key factors related to the safety effects of off-premise digital signs. The first systematic study related to the impacts of off-premise signs was conducted 11 years ago by Farbry et al. (2001). Their study reviewed earlier reports and analyses (including those about electronic billboards and tri-vision signs) and provided the foundation for the second study written by Molino et al. (2009). In the second report, Molino et al. (2009) reviewed 32 related studies, which included those initially reviewed by Farbry et al. (2001), and noted that the majority of studies reported a negative effect between digital billboards and traffic safety. Although the number of studies that showed harmful impacts is five times more than the number of studies that showed no harmful impacts, the authors suggested that this ratio may not be strong evidence to prove the negative effects linked to electronic billboards (EBBs). The individual studies considered by these researchers had very different study methods and statistical powers, which can have a significant effect on the quality and results of the research.

Another important finding in the Molino et al. (2009) report is that drivers usually have spare attention capacities, and they can be distracted from their driving tasks by roadside objects (such as EBBs). However, these distractions may be riskier when the driving demands increase, such as in fixed hazard areas (e.g., intersections, interchanges, and sharp curves), in transient risky conditions (e.g., adverse weather, vehicle path intrusions, and slow traffic), or when other important information is processed at the same time (e.g., an official traffic sign). In other words, not only will the sign's internal characteristics (overall size, legend size, color, contrast, luminance level, etc.) affect crash risk, but so will external environmental factors (type of road, speed, weather conditions, time of day, etc.). Hence, Molino et al. list all possible key factors and suggest further studies to examine how they could influence safety. These factors are categorized into two groups: independent and dependent variables. The independent variables are separated by subject into five subgroups: billboard, roadway, vehicle, driver, and environment. It should be noted that the relationship between EBBs and on-premise signs is discussed in the environment subgroup, and dynamic factors of on-premise signs, such as change rate, motion, video, and sound, are listed as extremely important. The dependent variables are separated into vehicle behavior, driver/vehicle interaction, driver attention/distraction, and crash categories. Since there are hundreds of related key factors, the authors claimed that "No single experiment can provide the solution" and suggested future research programs to address the following topics: (1) determining when distraction caused by commercial electronic variable message signs (CEVMSs) affects safe driving, (2) investigating the relationship between distraction and various CVEMS parameters, and (3) examining the relationship between distraction and safety surrogate measures, such as eye glance and traffic conflicts.

Table 1 summarizes the literature review results from these two reports. This table shows that the results of crash studies are not consistent, and most studies have some important weaknesses, such as neglecting biases related to the regression to the mean (RTM) (discussed below) and site-selection effects (using the naïve method), low statistical power, and analysis results based on erroneous assumptions. It should be noted that only post-hoc crash studies are listed here because this study focuses on the change of crash rate caused by on-premise digital signs.

As mentioned, Table 1 shows that the results related to the safety effects of off-premise signs are inconsistent. The inconsistencies can be fully or partly attributed to various study limitations. For instance, the studies in the Wachtel and Netherton report (1980) and Wisconsin Department of Transportation report (1994) both used a naïve before-after study methodology (methodology approaches are described in Chapter 4), and they did not account for the RTM bias, which may change their estimates of crash rate and safety effects of signs. The general idea of RTM is that when observations are characterized by very high (or low) values in a given time period and for a specific site (or several sites), it is anticipated that observations occurring in a subsequent time period are more likely to regress toward the long-term mean of a site (Hauer and Persaud, 1983). Also, these studies should provide the variance of estimators (that is the uncertainty associated with the estimator) for judging the statistical significance of their results. Moreover, grouping studies where the objectives or types of signs are different is not appropriate. For example, the goal of the report prepared by Tantala and Tantala (2007) was to study the safety impacts caused by converting traditional billboards to digital billboards, while other studies focused on the safety impacts after installation of new digital billboards. Those are two distinct effects that are examined and should not be grouped together to evaluate the safety effects of on-premise digital

signs. Wachtel (2009) also noted other limitations in Tantala and Tantala's study, such as a lack of adequate before-after and comparison group data; no clear definition and reasonable calculation of the visual range and legibility range of EBBs; and no crash data related to adverse weather, impaired drivers, and interchanges.

Table 1. Safety effects of off-premise digital signs

Study	Methods	Data Type	Results	Location	Sample Size
Wachtel and Netherton (1980)	Naïve before-after study	Crash frequency	The crash reduction of target area was 10% less than the overall reduction (after the installation of the signs)	Tele-Spot sign, Boston	Not provided
Wisconsin Department of Transportation (1994)	Naïve before-after study	Crash frequency, Average daily traffic (ADT)	Crash rate (eastbound): all crashes increased 36%, sideswipe crashes increased 8%, and rear-end crashes increased 21%	Milwaukee, Wisconsin	2
			Crash rate (westbound): all crashes increased 21%, sideswipe crashes increased 35%, and rear-end crashes increased 35%		
Smiley et al. (2005)	Before-after study (empirical Bayes)	Crash frequency, ADT, safety performance function	Downtown intersection sites: no significant change in crash rate (all crashes increased 0.6%, injury crashes increased 43%, and rear-end crashes increased 13%)	Toronto, Canada	3
	Before-after study (control group)	Crash frequency, ADT, control group	Rural sites: no significant change in crash rate based on most compared sites	Toronto, Canada	1
Tantala and Tantala (2007)	Naïve before-after study	Crash frequency, control group, ADT	No significant change in crash rate	Cuyahoga, Ohio	7
Tantala and Tantala (2009)	No description of the method		No significant change in crash rate	Cuyahoga, Ohio	7

The second shortcoming in Tantala and Tantala (2007) is that they used a simple correlation analysis between sign density and crash rate to examine safety effects of billboards. Using this approach, they found that the correlation coefficients among the scenarios analyzed were very low (around 0.20), indicating that the installation of billboards did not increase the number of crashes. This may well be true, but they did not use the right analysis tool. For investigating the relationship between sign density and the number of crashes, it is more appropriate to develop one or several regression models since the safety analyst can have a better control over other factors that can influence the number and severity of crashes (Lord and Mannering, 2010). In a regression model, several independent variables can be included, which is better to estimate the variable of interest (such as the installation of digital signs). However, it should be pointed out that the before-after study, as performed in this study, still remains the best methodological approach for estimating the safety effects of an intervention.

Among all studies in Table 1, Smiley et al. (2005) provides the more reliable results since they used a before-after method using a control group (CG) and empirical Bayes (EB) approach. The

only limitation is related to the small sample size. The authors of the study only evaluated three sites. Even with a small sample size, the EB method can still be successfully used to evaluate the safety effects of an intervention, as was done by Ye et al. (2011). Ye et al. (2011) used the EB method to estimate the safety impacts of gateway monument signs, which can be categorized as one type of off-premise sign. Gateway monuments are roadside structures used to introduce a city or town. These monuments usually have the name of the city or town and are located at the city limits.

According to Wachtel et al. (2009) and Farbry, (2001), using crash data might not be a precise method because crashes usually have multiple causal events, which are difficult to extract from crash datasets. For example, they noted that sign internal variables (such as size, brightness, viewing angle, etc.) might play main roles in drivers' distraction or ignoring of official traffic signs, while other external factors affect conflicts and crash risk. Although those reasons may be legitimate, utilizing crash data is still the best approach for evaluating the safety effects of interventions as well as those associated with operational and design features (Hauer 1997). As stated by Hauer, "*It follows that, in the final account, to preserve the ordinary meaning of words, the concept of safety must be linked to accidents.*" Furthermore, using crash data have other advantages: lower cost and fewer artificial errors. Firstly, the cost of conducting a before-after crash study is much lower than human-centered methods because the researchers do not need to purchase equipment and hire participants for conducting driving tests. Secondly, crash data are based on crash reports, which can provide a more accurate measure of safety than surrogate measures such as speed, driver behavior, or other measures. Only by conducting a before-after crash study can one provide results that combine multiple casual variables in the real world. Other methods cannot displace the above advantages, which explain why the research team selected the before-after methodology for estimating the safety effects of digital signs.

Characteristics of the Evaluation Methods Used in Previous Studies

This section describes the characteristics of other methods used in previous studies for examining the safety effects of off-premise digital signs. In addition to a crash before-after study approach, the most common study methods that have been used for examining the safety impacts of off-premise signs include eye fixations, traffic conflicts, headways and speeds, and public surveys. Most studies used one or more of the above methods to examine the impacts of off-premise signs (Molino et al., 2009). For instance, Smiley et al. (2005) used four different methods (eye fixation, conflict study, before-after crash study, and public survey) for examining a video sign located in Toronto. On the other hand, Lee et al. (2007) used eye fixations and a questionnaire for their study. It should be noted that the results from multiple measurements are usually inconsistent.

Briefly, the eye fixation study method uses an eye-tracking system to record drivers' eye movements. The results (e.g., eye glances and durations) can provide direct evidence of where drivers are looking while driving, leading to assumptions as to whether drivers are distracted when they are driving near or toward a sign (or at other roadside features). Traffic conflicts, often referred to as surrogate measures of safety, can be used for identifying risky driving behaviors, such as braking without good reason, inappropriate lateral lane displacement, and delays at the start of the green traffic signal phase. Headways and vehicle speed can be used to

assess distracted drivers since those drivers tend to have shorter headways and higher speed variances.

Most details about experiment design, such as the participant number, study site size, driving route length, and experiment duration can be found in Appendix B of the report prepared by Molino et al. (2009). In the current study, the researchers focus the discussion on the before-after crash data study method for two reasons. First, Molino et al. (2009) did not provide a detailed experimental design for using crash data, and some studies were criticized for inappropriate methodology (Tantala and Tantala, 2007; 2009). Second, the costs associated with other experimental methods are significant and are greater than the resources that were allocated for the current research study. According to Molino et al. (2009), the budgetary costs to conduct research using other experimental methods vary between $0.4 million and $0.8 million for using on-road instrumented vehicles, $2 million and $4 million for conducting a naturalistic driving study, and $1 million and $3 million for using an unobtrusive observation approach.

CHAPTER 3:
STUDY DATA

To conduct the safety analysis, the research team had to develop plans for collecting the necessary data, manipulating the data into a format that could be used for the safety analyses, and then conducting the statistical analysis to identify the safety impacts of on-premise digital signs. The success of this project relied upon the ability to acquire two distinct sets of data and the robustness of the individual datasets. The two datasets needed for the analysis included (1) information regarding the location and installation dates for on-premise digital signs, and (2) data regarding crash histories on the roadways in the vicinity of the on-premise digital signs. The latter also included information about operational (e.g., traffic flow and speed limit) and geometric (e.g., functional class and lane width) design features located at and adjacent to the on-premise digital signs. From the beginning of the project, the research team expected to use the HSIS crash data for the crash history dataset. The real challenge of this project was identifying specific information about on-premise digital signs for the states represented in the HSIS, and the researchers encountered numerous challenges in acquiring this information. Once the data for both groups were acquired, the researchers had to overcome differences in the datasets so that the data could be merged into a single dataset for analysis. The activities associated with the acquisition of the crash data, acquisition of the sign data, and the merging of the two datasets are described in this chapter.

CRASH DATA

The HSIS is operated and maintained by the FHWA, and is widely used for safety research programs that provide input for public policy decisions. The HSIS is a multistate relational database that contains crash, roadway, and vehicle information. Crash information/files contain basic crash information, such as location (based on reference location or mile-point), time of day, lighting condition (e.g., daylight, dark and no lighting, dark and roadway lighting, etc.), weather conditions, crash severity, the number of related vehicles, and the type of crash (e.g., head-on, right angle, sideswipe, etc.). Each row in the spreadsheet file contains crash information for individual crashes and a unique ID number, and each column represents a variable. The roadway information/files provide traffic and geographic information for each roadway segment, such as annual average daily traffic (AADT), speed limit, beginning mile-point, end mile-point, number of lanes, lane and median width, shoulder width and type, rural or urban designation, and functional classification. The vehicle information/files contain driver and vehicle information, such as a crash identification number, driver gender, driver age, contributing factor (possible casual factor), vehicle type, and others. These individual file types can be linked together as a whole dataset. For example, crash files and road files can be linked by their location information (route number and mileage), or crash files and vehicle files can be linked together by their crash identification number.

Currently, there are seven states that actively participate in the HSIS: California, Illinois, Maine, Minnesota, North Carolina, Ohio, and Washington. However, the HSIS has an upper limit on the amount of data that can be requested by researchers (including the number of states, the request area, and total variables). To maximize the value of the crash data that they could request, the

research team held discussions with the research advisory panel to identify the states (from the list of seven HSIS participating states) where there would be higher concentrations of on-premise digital signs. Based on this input, the research team requested HSIS data for California, North Carolina, Ohio, and Washington in order to get a maximum number of study sites. All crash datasets were downloaded from the HSIS website and stored in a spreadsheet format. The definitions for the variables in a state's crash data were found in the HSIS guidebooks. It should be noted that each state has its own guidebook and data record format. In other words, one specific variable might be available for some states, but this variable may have different meanings or category types, or even be unavailable for other states. The inconsistent definitions among different states' crash datasets can affect the quality of analysis and results when selecting specific variables for identifying target crashes (such as rear-end crash) needed for more advanced analysis. The differences between states also create challenges when trying to merge data into a single dataset for analysis.

Although the HSIS dataset provides the most comprehensive crash data from different states, the HSIS has some limitations. First, the HSIS only includes crashes that occur on major roads, such as interstate highways, U.S. highways, and state highways. The HSIS dataset may not include crash-related data for secondary roads in rural areas or city streets in urban areas, including arterial streets that are major roads in a city but are not on the state highway system. Table 2 identifies the level of crash coverage and roadway length for each state selected for the analysis.

Table 2. HSIS crash coverage and roadway length by state

California	1. More than 500,000 crashes occur each year; HSIS includes about 38% of those crashes. 2. HSIS includes 15,500 miles of mainline (non-ramp) roadways.
North Carolina	1. About 230,000 crashes occur each year; HSIS includes 70% of those crashes. 2. Of the 77,000 miles of roadway on the North Carolina state system, approximately 62,000 miles are included in the database.
Ohio	1. About 380,000 crashes occur each year; HSIS includes 40% of those crashes. 2. In Ohio, about 116,000 miles of highway in total; HSIS includes approximately 19,500 miles of roadway.
Washington	1. 130,000 crashes occur each year; HSIS includes 37% of those crashes. 2. HSIS contains 7,000 miles of mainline (non-ramp) roadway.

Another limitation of the HSIS data is that the dataset is not continuously updated. The HSIS data represent the final crash datasets from each state after the state has processed the crash data. As a result, the HSIS dataset may not include the last several months or more of crash data from a state. Currently, the most updated HSIS crash data are through 2009 (California is updated to 2008), so the most recent one or two years of crashes are not included in the HSIS data. Also, the oldest HSIS crash data extend back only through 2004. Limiting crash data to the period from 2004 to 2009 was a significant consideration in this research project because the large growth of on-premise digital signs is relatively recent, having mostly grown since the mid- to late 2000s. The lack of data for the last two to three years created challenges with respect to developing a robust statistical analysis procedure. For a comparison of safety impacts of a treatment (such as installation of a digital sign) to be meaningful, both the before and after analysis periods need to be about equal and as long as possible. This meant that, to have two-year analysis periods (two years before and two years after) in the safety analysis, on-premise digital signs needed to be

installed in either 2006 or 2007. In order to focus the safety analysis on the long-term impacts of on-premise digital signs, the researchers did not include the calendar year of installation of a sign in the analysis. For example, if a sign was installed in 2006, the before period was calendar years 2004 and 2005, and the after period was calendar years 2007 and 2008.

An additional limitation of the HSIS crash data is that the crash location within the HSIS is identified to the nearest 0.1 mile (528 ft) on the roadway. This required the safety analysis to be conducted for the tenth of a mile length of roadway that a sign was located within. The level of accuracy is the primary reason that 0.1 miles was chosen as the effective area of the sign.

The researchers viewed the limitations mentioned above as minor and ones that had minimal impact on the study results. There are no comparable crash datasets available to researchers that could be used for a similar type of analysis of crashes. The only alternative available to the researchers would have been to try and obtain crash data from individual agencies where on-premise digital signs have been installed. Such an approach may have provided more specific data about individual signs and site characteristics, but would have resulted in an extremely small dataset. The researchers felt that such small sample sizes would not provide sufficient robustness for statistical analysis and that the approach using the HSIS data provided greater scientific validity and robustness, as discussed in the previous chapter.

SIGN DATA

With the acquisition of the HSIS data, the research team had information to analyze crashes but had no idea about where to conduct the analysis. Determining the location for the crash analysis required information regarding the location of on-premise digital signs. Furthermore, due to the date limitations of the HSIS data, only sign sites where the sign was installed in 2006 or 2007 could be used for the crash analysis. So the research team began the process of identifying locations in California, North Carolina, Ohio, and Washington where on-premise digital signs had been installed on major roads in 2006 or 2007.

Initial attempts to identify sign locations focused upon getting information from the Signage Foundation, Inc., (SFI) research advisory panel. However, the results did not provide a large enough sample size for a robust statistical analysis. The research team began to contact sign installation companies but encountered challenges in acquiring the large amount of data needed to conduct the research. The primary challenge associated with contacting sign installation companies (which are the same companies that market the signs to individual businesses) was the proprietary nature of the business information the research team was requesting. Another challenge was the large number of individual companies that needed to be contacted to develop a robust sample size.

Because of the challenges of working with sign installation companies, the research team shifted the focus to sign-manufacturing companies. Eventually, the research team was able to work with two electronic sign-manufacturing companies to get a list of on-premise digital signs installed in any of the four study states during 2006 or 2007. Each of the two lists was converted into datasets for use in the research effort. The first dataset (dataset #1) contained 2,953 sign sites and 27 variables, which included the characteristics of signs and roads, such as sign order date, sign

address (road, county, and state), the nearest cross street and its distance from the sign, the nearby cross street with the highest volume and its distance from the subject intersection, and traffic volume on the subject road. The research team did not use the road information from dataset #1, relying instead upon the road data in the HSIS crash dataset. This ensured consistency in the approach with the different sign datasets. Also, the sign installation date was considered to be the sign order date plus two weeks. This assumption was based on input from the sign-manufacturing company. Since the entire year that the sign was installed was excluded from the analysis, this was considered not to be a critical issue.

The second dataset (dataset #2) had 63 site addresses and 10 variables. Unlike the first dataset, most variables in dataset #2 were related to product information, such as installation data, sales representative, product name, matrix, color, customer ID (address), and status of signs.

For the analysis, these two datasets were combined as one for use in analyzing the crashes by individual state. The combined dataset was further refined by removing all sign locations that were not installed in either 2006 or 2007. The calendar year that a sign was installed was treated as the construction year, and the crashes that occurred in that year were removed from the analysis. The entire calendar year was removed from the analysis due to uncertainty over the actual installation date of the sign since the data provided only the order date for the sign. Removing the entire calendar year associated with installation also eliminated the novelty effect associated with implementing a new feature. The second variable, the sign installation address, was used to select related crashes by the sign's location and default sign-effective areas. For example, the researchers defined the crashes located within 0.1 miles from the target signs as related crashes. In reality, the effective area could be larger or smaller depending upon the sign size. The procedure used for this analysis did not adjust the effective area based on sign size or other factors. Overall, significant effort was put into ensuring the accuracy of the sign datasets because the quality of the data had a huge impact on the precision and accuracy of the analysis.

DATA-MERGING PROCEDURE

The previous sections explain how the researchers obtained their study data (the sign dataset and the crash dataset) and the characteristics of each dataset. This section gives more details about the dataset-merging procedure. Several steps were involved in merging the crash and sign location datasets into a single dataset that could be used for statistical analysis. The early steps focused on confirming that the digital sign was still in place and near the road that it is related to. This was needed because a site could have an address on one road but have the sign facing traffic on another road bordering the site property. The later steps focused upon converting the street address of the sign location to a route and milepost value that could be used with the crash dataset. This complex effort was necessary due to the fact that the sign and crash datasets used different location methods. The sign dataset was based on the site address, while the crash database was based on route number and milepost. For example, a location in the sign dataset would record a location with "1234 North Highway 101, Anytown, WA 98584," but the HSIS would show the same location as "route number = 23101" and "mile post = 335.72." In order to define the related crashes that were adjusted to the target signs, the researchers needed to transfer sign locations into the HSIS location system. The basic steps are described below and illustrated in Figure 2.

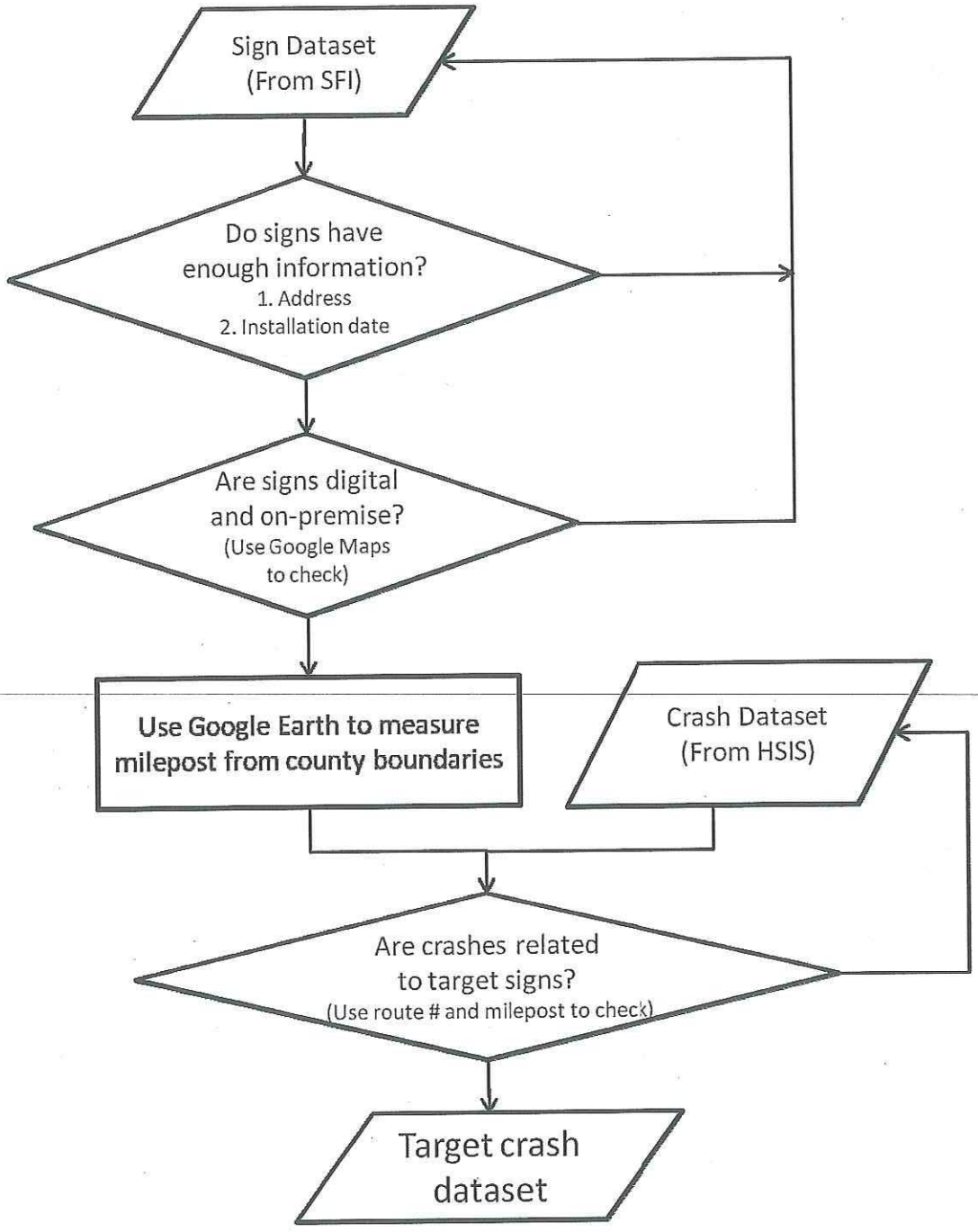

Figure 2. The flow chart for data collection and merging procedure

1. For each record of the combined sign dataset (3,016 total records), the research team evaluated the location information (typically a street address) and the sign order date. Records with missing or incomplete location information or with assumed sign installation dates that were not in 2006 or 2007 were deleted from the dataset.

2. Research team members then verified the location of the sign using the site address in the sign dataset and taking the steps listed below. Figure 3 shows an example table that the researchers used for the above data collection, including screenshots of Google Maps and Google Earth (Google Earth, 2008). Columns 1–3 are the address information given by the sign companies. Columns 4–7 are determined through Google Maps, and Columns 8–11 are determined through Google Earth.
   a. The sign was located in Google Maps using the site address.
   b. Using the Street View feature of Google Maps, a member of the research team identified the sign on the site or deleted the record with a note that the on-premise digital sign could not be identified. There were some challenges associated with finding digital signs using the Street View pictures from Google Maps, including fuzzy pictures with low resolution, which made it difficult to evaluate some signs, and digital signs that were not obvious during the daytime (Street View provides only daytime pictures).
   c. The screen image of the subject sign was saved, and basic sign characteristics were identified and/or estimated. Examples include sign color, size, and business type.
   d. An initial determination was made as to whether the sign was located on a major road that would be part of the HSIS crash dataset. If the road was not expected to be a major road, the record was deleted from the dataset.
3. The sign location was entered into Google Earth to determine the county in which the sign was located and the mileage from the county border. This included identifying the county identification code in the appropriate HSIS manual for a given state. This provided the milepost location information needed to relate the sign location to the location information in the crash dataset. Defining the milepost information required doing the following:
   a. Identifying the neighboring county, which was used to determine in which direction the mileposts were increasing.
   b. If the county had mileposts restarting at zero at the county borders, determining in which direction they were increasing, based on the number of lanes at the borders. If the direction could not be determined, a general rule of increasing from west to east or south to north was used.
   c. Using the path tool in Google Earth to measure the distance from the county border to the sign. This distance and the beginning milepost at the county border established the milepost of the sign.

An example (using the above procedure) can be founded in Appendix A. After target sign locations were transferred into the HSIS locating system, a statistics software package, "R," was used to select the related crashes among the whole HSIS dataset.

Sign ID	Address	Installation date	Google Map				Google Earth				Note
			Picture	Color (Single/ Multi.)	Dimension	Business Type	County ID	Route #	Distance	Mile post	

Figure 3. Example work table of site data collection

CHAPTER 4:
STUDY METHODOLOGY

Evaluating the effects of treatment on the number and severity of crashes is a very important topic in highway safety. For the last 30 years, various methods have been proposed for evaluating safety treatments (Abbess et al., 1981; Danielsson, 1986; Davis, 2000; Hauer, 1980a; Hauer, 1980b; Hauer et al., 1983; Maher and Mountain, 2009; Miranda-Moreno, 2006; Wright et al., 1988). The methods are classified under two categories: the before-after study and the cross-sectional study. In a before-after study, the safety impacts of an improvement or treatment at a given location are determined by comparing the change in crashes before and after the improvement/treatment was installed. In a cross-sectional study, crashes or crash rates on two different facilities with similar characteristics except for the improvement of interest are compared. The before-after study is typically more desirable because it provides a more direct evaluation of the safety impacts. Although they have been used by some researchers (Noland, 2003; Tarko et al., 1998), cross-sectional studies are more difficult to conduct because different facilities are rarely identical in all features except the one of interest. Hence, the cross-sectional approach was not used in this research. The before-after type of study can be further divided into several types:

- naïve before-after study,
- before-after study with control group,
- before-after study using the EB method, and
- before-after study using the full Bayes approach.

The before-after study using the full Bayes approach is a more recent development in statistical safety analysis, developed and used by several noted safety researchers (Hauer and Persaud, 1983; Hauer et al., 1983; Hauer, 1997; Li et al., 2008; Persaud and Lyon, 2007). The advantages and disadvantages for each of the above before-after methods are described in more detail in this chapter.

A BEFORE-AFTER STUDY AND A CROSS-SECTIONAL STUDY

As mentioned previously, observational crash studies can be grouped into two types: the before-after study and the cross-sectional study. The selection of the study type is based on the availability of historical crash data, traffic volume, or the comparison group. The following sections provide details about the before-after methodology.

The Before-After Study

The before-after study is a commonly used method for measuring the safety effects of a single treatment or a combination of treatments in highway safety (Hauer, 1997). Short of a controlled and full randomized study design, this type of study is deemed superior to cross-sectional studies since many attributes linked to the converted sites where the treatment (or change) was implemented remain unchanged. Although not perfect, the before-after study approach offers a

better control for estimating the effects of a treatment. In fact, as the name suggests, it implies that a change actually occurred between the "before" and "after" conditions (Hauer, 2005).

As described by Hauer (1997), the traditional before-after study can be accomplished using two tasks. The first task consists of predicting the expected number of target crashes for a specific entity (i.e., intersection, segment where an on-premise sign was installed, etc.) or series of entities in the after period, had the safety treatment not been implemented. In other words, the before-after approach described by Hauer compares the expected number of crashes in the after period with the treatment installed to the expected number of crashes in the after period had the treatment not been installed. The calculation for each expected number of crashes is based on numerous factors, including the actual number of crashes in the before condition, the actual number of crashes in the after period, and incorporation of site-specific and statistical considerations. The symbol π is used to represent the expected number of crashes in the after period (a summary of all statistical symbols used in this report are presented in Appendix B). The second task consists of estimating the number of target crashes (represented by the symbol λ) for the specific entity in the after period. The estimates of π and λ are $\hat{\pi}$ and $\hat{\lambda}$ (the caret or hat represents the estimate of an unknown value). Here, the term "after" means the time period after the implementation of a treatment; correspondingly, the term "before" refers to the time before the implementation of this treatment (an on-premise digital sign in this study). In most practical cases, either $\hat{\pi}$ or $\hat{\lambda}$ can be applied to a composite series of locations (the sum of i's below) where a similar treatment was implemented at each location.

Hauer (1997) proposed a four-step process for estimating the safety effects of a treatment. The process is described as follows (see also Ye and Lord, 2009):

- Step 1: For $i = 1, 2, ..., n$, estimate $\lambda(i)$ and $\pi(i)$. Then, compute the summation of the estimated and predicted values for each site i, such that $\hat{\lambda} = \sum \hat{\lambda}(i)$ and $\hat{\pi} = \sum \hat{\pi}(i)$.
- Step 2: For $i = 1, 2, ..., n$, estimate the variance for each, $Var\{\hat{\lambda}(i)\}$ and $Var\{\hat{\pi}(i)\}$. For each single location, it is assumed that observed data (e.g., annual crash counts over a long time frame) are Poisson distributed and $\hat{\lambda}(i)$ can be approximated by the observed value in the before period. On the other hand, the calculation of $Var\{\hat{\pi}(i)\}$ will depend on the statistical methods adopted for the study (e.g., observed data in naïve studies, method of moments, regression models, or EB technique). Assuming that crash data in the before and after periods are mutually independent, then $Var\{\hat{\lambda}\} = \sum Var\{\hat{\lambda}(i)\}$ and $Var\{\hat{\pi}\} = \sum Var\{\hat{\pi}(i)\}$.
- Step 3: Estimate the parameters δ and θ, where $\hat{\delta} = \hat{\pi} - \hat{\lambda}$ (again, referring to estimated values) is defined as the reduction (or increase) in the number of target crashes between the predicted and estimated values, and $\hat{\theta} = \hat{\lambda} / \hat{\pi}$ is the ratio between these two values. When θ is less than one, the treatment results in an improvement in traffic safety, and when it is larger than one, the treatment has a negative effect on traffic safety. The term θ has also been referred to in the literature as the index of effectiveness (Persaud et al., 2001). Hauer (1997) suggests that when less than 500 crashes are used in the before-after study, θ should be corrected to remove the bias caused by the small sample size using

the following adjustment factor: $1/[1+Var\{\hat{\pi}\}/\hat{\pi}^2]$. The total number of crashes was over 500, but the adjustment factor had to be applied when subsets of the data, such as single- or multi-vehicle crashes, were analyzed.

- Step 4: Estimate the variances $Var\{\hat{\delta}\}$ and $Var\{\hat{\theta}\}$. These two variances are calculated using the following equations (note: $Var\{\hat{\theta}\}$ is also adjusted for the small sample size):
  - $Var\{\hat{\delta}\} = Var\{\hat{\lambda}\} + Var\{\hat{\pi}\}$ (Eq. 1)
  - $Var\{\hat{\theta}\} = \frac{\hat{\theta}^2[(Var\{\hat{\lambda}\}/\hat{\lambda}^2) + (Var\{\hat{\pi}\}/\hat{\pi}^2)]}{[1+(Var\{\hat{\pi}\}/\hat{\pi}^2)]^2}$ (Eq. 2)

The four-step process provides a simple way for conducting before-after studies. Three common before-after methods will be introduced in the following sections. All three methods use the same four-step process.

COMMON METHODS FOR CONDUCTING A BEFORE-AFTER STUDY

Having selected the before-after study approach, the research team then needed to decide which specific before-after method would be the most appropriate for analyzing the safety impacts of on-premise digital signs. This section of the report describes the methodologies and data needs associated with three before-after study types: naïve before-after studies, before-after studies with a CG, and the EB method.

Naïve Method

Among all the before-after methods, the naïve method is the simplest. The estimation of θ is simply equal to the ratio between the number of crashes in the after period and the number of crashes in the before period (which is used to predict the number of crashes in the after period if the treatment was not implemented). Equation 3 illustrates how the index of safety effectiveness is calculated. This method is very straightforward, but it is seldom used in the current safety study because it does not account for the RTM bias. Not including the RTM bias could overestimate the effects of the treatment or underestimate the safety impacts. The naïve method does not account for external factors that occur at the local or regional level, such as changes in weather patterns or economic conditions.

$$\hat{\theta}_{naive} = \frac{\hat{\lambda}}{\hat{\pi}} = \frac{\sum_{i=1}^{n}\sum_{j=1}^{t} N_{ij2}^{T}}{\sum_{i=1}^{n}\sum_{j=1}^{t} N_{ij1}^{T}} \quad \text{(Eq. 3)}$$

Where

$\hat{\theta}_{naive}$ = the estimate of safety effectiveness by using the naïve method,

$\hat{\pi}$ = the predicted number of crashes for the treatment group in the after period,

$\hat{\lambda}$ = the estimated number of crashes for the treatment group in the after period,

n = the sample size,

t = the time period,

N_{ij1}^{T} = the observed response for site i (T = treatment group) and year j (in the before period), and

N_{ij2}^{T} = the observed response for site i (T = treatment group) and year j (in the after period).

The result can be adjusted when the traffic flow and time interval are different between the before and after periods. It is adjusted by modifying the predicted number of crashes as shown in Equation 4:

$$\pi = r_d r_f \sum_{i=1}^{n} \sum_{j=1}^{t} N_{ij1}^{T} \quad \text{(Eq. 4)}$$

Where

r_d = the ratio of the duration between the after and before periods, and

r_f = the ratio of the traffic flow between the after and before periods.

Control Group Method

The CG method can be used to help control for external factors. The number of crashes collected at the control sites is defined as μ (before) and ν (after). The adjusting factor, the ratio of ν to μ, is used to remove the effects caused by other external factors from π in the theorem. Equation 5 illustrates how to adjust the naïve estimate. It should be pointed out that the RTM could technically be removed if the characteristics of the control group are exactly the same as those of the treatment group. However, getting control group data with the exact same characteristics may not be possible in practice, as discussed in Kuo and Lord (2012). Collecting control group data usually adds extra cost and time compared to the naïve method since more data needs to be collected.

$$\hat{\theta}_{CG} = \frac{\hat{\lambda}}{\hat{\pi} \times \frac{\hat{\nu}}{\hat{\mu}}} = \frac{\sum_{i=1}^{n} \sum_{j=1}^{t} N_{ij2}^{T}}{\sum_{i=1}^{n} \sum_{j=1}^{t} N_{ij1}^{T} \times \sum_{i=1}^{n} \sum_{j=1}^{t} \frac{N_{ij2}^{C}}{N_{ij1}^{C}}} \quad \text{(Eq. 5)}$$

Where

$\hat{\theta}_{CG}$ = the estimate of safety effectiveness by using the control group method,

$\hat{\lambda}$ = the estimated number of crashes for the treatment group in the after period,

$\hat{\pi}$ = the predicted number of crashes for the treatment group in the after period,

$\hat{\nu}$ = the estimated number of crashes for the control group in the after period,

$\hat{\mu}$ = the estimated number of crashes for the control group in the before period,

N_{ij1}^{T}, N_{ij1}^{C} = the observed responses for site i (T = treatment group and C = control group) and year j (in the before period), and

N_{ij2}^{T}, N_{ij2}^{C} = the observed responses for site i (T = treatment group and C = control group) and year j (in the after period).

Empirical Bayes Method

The EB method is recommended in the *Highway Safety Manual* (HSM), published by the American Association of State Highway and Transportation Officials (AASHTO) and approved for use by the FHWA (AASHTO, 2010). The HSM is a recent document that defines standardized procedures for conducting safety analyses of highway safety improvements. The EB method combines short-term observed crash numbers with crash prediction model data in order to get a more accurate estimation of long-term crash mean. The EB method is used to refine the predicted value by combining information from the site under investigation and the information from sites that have the same characteristics, such as range of traffic flow, number of lanes, lane width, etc.

As an illustration, Hauer et al. (2002) use a fictional "Mr. Smith" to illustrate use of the EB method: Mr. Smith is a new driver in a city. He has no crash records during his first year of driving. Based on past crash histories for the city, a new driver in that city has 0.08 accidents per year. Based only on Mr. Smith's record, it is not reasonable to say that he will have zero accidents or have 0.08 accidents for the next year (based on the average of all new drivers but disregarding Smith's accident record). A reasonable estimate should be a mixture of these two values. Therefore, when estimating the safety of a specific road segment, the accident counts for this segment and the typical accident frequency of such roads are used together.

The index of safety effectiveness is illustrated in Equation 6. With the EB method, the analyst first estimates a regression model or safety performance function (SPF) using the data collected with the control group. Then, the model is applied to the sites where the treatment was implemented to get a preliminary predicted value for the after period. The EB method is then used to refine the estimate to account for the RTM bias and the external factors. It is possible for the EB method to be biased if the characteristics of the treatment and control groups are not the same (Lord and Kuo, 2012).

$$\hat{\theta}_{EB} = \frac{\hat{\lambda}}{\hat{\pi}} = \frac{\sum_{i=1}^{n}\sum_{j=1}^{t} N_{ij2}^{T}}{\sum_{i=1}^{n}\sum_{j=1}^{t} M_{ij1}^{T}} \qquad \text{(Eq. 6)}$$

Where

$\hat{\theta}_{EB}$ = the estimate of safety effectiveness based on the EB method;

$\hat{\pi}$ = the predicted number of crashes for the treatment group in the after period;

$\hat{\lambda}$ = the estimated number of crashes for the treatment group in the after period;

M_{ij1} = the expected responses for site i for the EB method,

$$\mathrm{M_{ij1}} = \mathrm{W} \times (\hat{\Lambda}_1) + (1 - \mathrm{W}) \times (\sum_{\mathrm{j=1}}^{\mathrm{t}} N_{\mathrm{ij1}});$$

W = the weight for sites for the EB method, $W = \frac{1}{1 + \hat{\Lambda}_1 \times \hat{\alpha}}$;

$\hat{\Lambda}_1$ = the estimate for the average number of crashes of all sites in the before period; and

$\hat{\alpha}$ = the estimate of the dispersion parameter.

$\hat{\Lambda}_1$ and $\hat{\alpha}$ can be estimated using two different approaches (Hauer, 1997). They can be estimated based on a regression model or the method of moment. Both are calculated using data collected as part of the control group. For this research, the average number of crashes and dispersion parameter were estimated using a regression model.

CALCULATION PROCEDURES AND EXAMPLES

The EB before-after method was applied to this study with the regression models or SPFs selected from the HSM (AASHTO, 2010), which includes road types from two to five lanes. As for sites located on wider roads (six lanes and eight lanes, which are not covered in the HSM), the researchers used the SPFs from a Texas A&M Transportation Institute (TTI) study (Bonneson and Pratt, 2009). The number of crashes in each year during the before period (Λ_i) was estimated using the regression model shown in Equation 7:

$$\Lambda_i = \exp(a + bLn(AADT_i) + Ln(L_i)) \quad \text{(Eq. 7)}$$

Where
Λ_i = the estimator for the average number of crashes per year for site i,
a, b = the coefficients in the regression model,
$AADT_i$ = the average daily traffic volume for site i,
L_i = the road length for site i, and
Ln = natural logarithm.

Table 3 shows the regression coefficients (a, b) used in Equation 7 for multi- and single-vehicle crashes.

One of the sign sites in Ohio provides an example of the detailed calculation of $M_{i,EB}$. This site is on an urban 4-lane divided highway segment in Allen County. As shown in Table 3, its intercept is -12.34 for multi-vehicle crashes and -5.05 for single-vehicle crashes, while the coefficients for the AADT are 1.36 and 0.47, respectively. For the analysis used in this report, a multi-vehicle crash is one involving two or more vehicles in the same collision.

Using the EB method, the analysis procedure to get the expected number of crashes in the before period has the following steps:

1. Identify the route number and milepost by the site's address. More specifically, the address of the example site is "1234 ABC St, Name of City, Allen County, OH." Follow the data analysis procedures discussed in Chapter 3 to identify that the route number is 657676309 and the milepost is 7.58.

Table 3. Coefficients for multi and single-vehicle crash regression model

Crash Type	Road Type*	Regression Coefficients		Dispersion Parameter (α)
		Intercept (a)	AADT (b)	
Multi-vehicle	2U	−15.22	1.68	0.84
	3T	−12.4	1.41	0.66
	4U	−11.63	1.33	1.01
	4D	−12.34	1.36	1.32
	5T	−9.7	1.17	0.81
Single-vehicle	2U	−5.47	0.56	0.81
	3T	−5.74	0.54	1.37
	4U	−7.99	0.81	0.91
	4D	−5.05	0.47	0.86
	5T	−4.82	0.54	0.52

Note: *U = undivided road, T = road with two-way left turn lane, D = divided road.

2. Based on the route number and milepost obtained above, use R statistical software to select the related crashes and road files from the HSIS dataset, which includes (1) the observed crashes near the target sign site, (2) the observed crashes in the control group sites (10 sites, which are adjusted to the target sign site on the same road), and (3) the target road file, such as traffic volume, the number of lanes, and median type. For example, the number of observed crashes at the example site is 1 in 2004, and the crash counts of the related 10 control group sites are 0, 0, 1, 1, 0, 0, 0, 0, 1, and 1. The AADT of the site is 19,753 (vehicles/day), and it has four lanes.
3. Use Equation 9 to predict the crash number of the example site:

$$\hat{\Lambda}_{2004} = \exp(a + b(Ln(AADT)) + Ln(L)$$

$$\hat{\Lambda}_{2004,multi} = \exp(-12.34 + 1.36 \times Ln(19753) + Ln(0.2)) = 0.61$$

$$\hat{\Lambda}_{2004,single} = \exp(-5.05 + 0.47 \times Ln(19753) + Ln(0.2)) = 0.13$$

$$\hat{\Lambda}_{2004} = \hat{\Lambda}_{2004,multi} + \hat{\Lambda}_{2004,single} = 0.74 \text{ (crashes/year)}$$

The estimated crash counts of the site and its control group sites are 0.74 and 6.64, respectively (the estimated multi-and single crash counts of its control group are 5.36 and 1.28).
4. Due to using the SPFs from the HSM instead of the local SPFs from any existing studies conducted in the same study area, it is necessary to multiply the results by a calibration factor to adjust the prediction value (refer to Appendix A in the HSM for more details). The calibration factor of single-vehicle crashes at the example site in 2004 is 3.13, which is equal to the ratio of observed crashes in the control group divided by the predicted crash number in the control group (3.13 = (1×4+0×6)/1.28). By multiplying the above calibration factor, the final crash number estimation for the example site in 2004 should be 0.42 (=0.13×3.13). A calibration factor was calculated for each site and each year included in the study.

5. Repeat steps 3 and 4 to get the final prediction crash number for the example site for each year in the before period. By doing so, the estimated multi- and single-vehicle crash counts of the site in 2005 are 4.65 and 0.21, respectively. Using the summary of this prediction crash number and dispersion parameter (obtained from Table 3) results in the weights (W) for this site for the multi- and single-vehicle crashes, which are 0.07 and 0.65, respectively:

$$W = \frac{1}{1+\hat{\Lambda}_1 \times \hat{\alpha}}$$

$$W_{multi} = \frac{1}{1+(5.43+4.65)\times 1.32} = \frac{1}{1+10.08\times 1.32} = 0.07,$$

$$W_{single} = \frac{1}{1+(0.42+0.21)\times 0.86} = \frac{1}{1+0.63\times 0.86} = 0.65$$

6. Because traffic volume and other explanatory variables may change between the before and after periods, the researchers used one factor to account for this difference. The crash counts of the example site in 2007 and 2008 can be estimated by repeating steps 3 and 4. The estimated multi- and single-vehicle crash counts of the site in the after period are 0.84 and 0.67, respectively. Factors are estimated by:

$$r = \hat{\Lambda}_{after} / \hat{\Lambda}_{before}$$

$$r_{i,multi} = (12.76/3)/(10.08/2) = 0.84$$

$$r_{i,single} = (0.63/3)/(0.63/2) = 0.67$$

Also, if the time periods (Y) of the before and after periods are different, one factor is needed to adjusted it. Here, the before and after period are both two years:

$$t_i = Y_{i,after} / Y_{i,before} = 3/2 = 1.5$$

7. Using the EB method, the expected total number of crashes that would occur during the after period had the on-premise digital sign not been installed was 2.63:

$$M_{i,EB} = \left[W\times(\hat{\Lambda}_1) + (1-W)\times(\sum_{j=1}^{t} N_{ij1}) \right] \times r_i \times t_i$$

$$M_{i,multi,EB} = [0.07\times 10.08 + (1-0.07)\times 0]\times 0.84\times 1.5 = 1.14$$

$$M_{i,single,EB} = [0.65\times 0.63 + (1-0.65)\times 3]\times 0.67\times 1.5 = 1.49$$

$$M_{i,all,EB} = 1.14+1.49 = 2.63$$

8. The variance of the EB estimate at the example site is calculated by:

$$Var(M_{1,EB}) = (1-W)\times M_{1,EB}\times r_i \times t_i$$

$$Var(M_{1,multi,EB}) = (1-0.07)\times 1.14\times 0.84\times 1.5 = 1.31$$

$$Var(M_{1,single,EB}) = (1-0.65)\times 1.49\times 0.67\times 1.5 = 0.54$$

$$Var(M_{1,all,EB}) = 1.31+0.54 = 1.85$$

9. The safety index of the example site is:

$$\hat{\theta}_{EB} = \frac{\hat{\lambda}}{\hat{\pi}} = \frac{\sum_{i=1}^{n}\sum_{j=1}^{t} N_{ij2}^{T}}{\sum_{i=1}^{n}\sum_{j=1}^{t} M_{ij1}^{T}} = \frac{9}{2.63} = 3.43$$

10. The 95 percent confidence interval of the example site is given as.

$$\hat{\theta} \pm Z_{0.25}\sqrt{Var\left(M_{1,EB}\right)} = \left[3.43 \pm 1.96 \times \sqrt{1.85}\right] = \left[0.76, 6.10\right]$$

The same method was applied to other locations using the appropriate SPFs. The next chapter provides the final results of the completed safety analysis.

CHAPTER 5:
RESULTS

The previous chapter explained why the research team chose to use the EB analysis procedure and provided an example of how the EB analysis was conducted. The first section of this chapter provides the results of the before-after study for each state and all the states combined. The second section provides more details about how digital on-premise signs impact traffic safety for multi-vehicle and single-vehicle crashes. The third section provides a description of an analysis of variance of the means of the safety index (θ) among the different sign characteristics such as sign color, sign size, and type of business.

INDIVIDUAL AND COMBINED RESULTS

As described in Chapter 3, the research team acquired the sign dataset from sign manufacturers. However, many signs were excluded from the analysis because of missing information in the dataset provided by the sign manufacturers or limitations in the HSIS crash dataset. The researchers retained only sign sites satisfying the following conditions:

1. the sign was located in Washington, North Carolina, Ohio, or California;
2. the sign was installed in 2006 or 2007 in order to have adequate time in both the before and after analysis periods to compare crash histories; and
3. the sign was located on a major road because the HSIS crash dataset usually does not include crashes that are located on minor roads or private driveways.

Table 4 shows the progression in sample sizes based on sites meeting the conditions identified above. For example, the original dataset for Washington included 413 site addresses that might have an on-premise digital sign. In order to make sure there was an adequate before-after crash data period for further analysis, the researchers had to filter these site addresses. The first filter excluded sites where the sign was not installed in 2006 or 2007, which was needed so that there was adequate time before and after the sign was installed to perform the safety analysis. About 40 percent of the Washington sites (159 sites) met this criterion. Then, the research team used the Street View function in Google Maps to double-check whether a digital sign was present at the given addresses and whether the sign was on a major road since the HSIS crash dataset only included crashes on major roads. Only 33 sites fit this criterion. The result was that in Washington, the research team was able to use about 33 of the 400 original sites, giving an 8.0 percent yield on the raw data.

Chapter 3 mentions that the main advantage of this study is the large sample size of data and advanced statistical methods that provide more accurate results than in similar studies. Figure 4 shows the sample size of this study in relation to other published papers and reports. This study has 135 sites from four states, a number much higher than the sample size of other similar studies. Hence, the results of this study are more robust and accurate.

Table 4. Sign site sample size yield

Number of Sites	California	North Carolina	Ohio	Washington	All States
Included in original list from sign manufacturers	86	249	372	413	1,120
Sign installation time between 2006–2007	27	94	178	159	458
Digital signs & located on major roads	6	40	73	34	153
With HSIS crash data (all crashes)	6	33	63	33	135
Data yield rate	7.0%	13.3%	16.9%	8.0%	12.1%
With HSIS crash data (multiple-vehicle crashes)	6	31	61	33	131
With HSIS crash data (single-vehicle crashes)	6	32	63	33	134

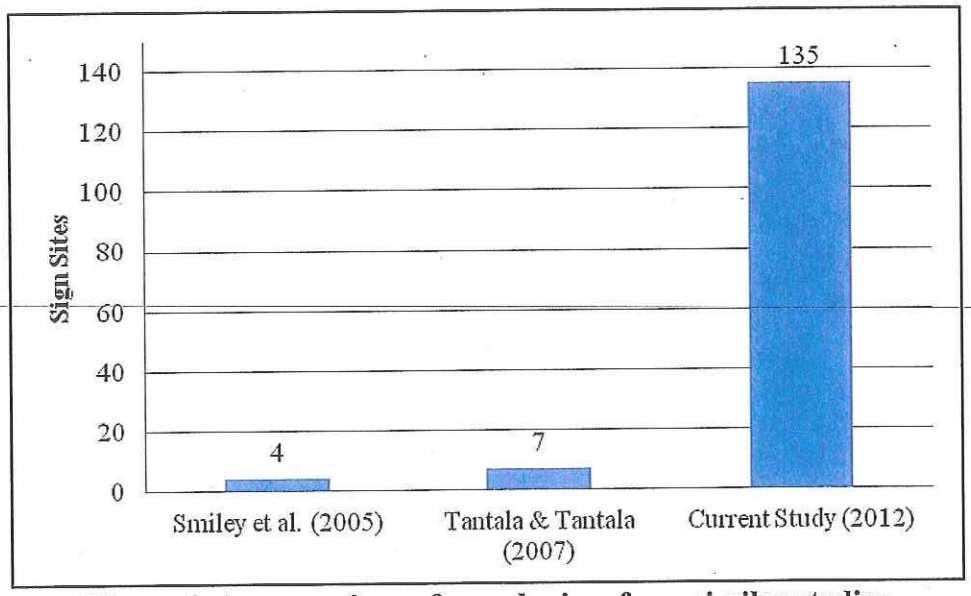

Figure 4. A comparison of sample sizes from similar studies

Table 5 presents the before-after results from the EB and the naïve statistical analysis methods. The naïve method results are provided only for comparison purposes as the naïve analysis method does not provide as meaningful results as the EB method. The results are also presented graphically in Figure 5. A safety effectiveness index (θ) of 1.0 indicates that there was no change in crashes between the before and after conditions. An index greater than 1.00 indicates that there was an increase in crash frequency in the after condition, while a value less than 1.00 indicates a decrease in crash frequency. The upper and lower bounds indicate the limits of statistical significance. If the value for θ is between the upper and lower bounds, then the change in crashes is not statistically significant at a 95 percent confidence level. A larger sample size usually leads to a smaller difference between the upper and lower bounds, but this may not always be the case since it is also governed by the variability observed in the data.

Table 5. Results of statistical analysis of before-after crash condition

State	EB Method			Naïve Method		
	Lower Bound	θ	Upper Bound	Lower Bound	θ	Upper Bound
California	0.00	1.25	2.53	0.28	0.85	1.41
North Carolina	0.87	1.14	1.41	0.88	1.13	1.39
Ohio	0.89	0.97	1.05	0.95	1.05	1.15
Washington	0.88	1.01	1.15	0.79	0.90	1.01
All states*	0.93	1.00	1.07	0.93	1.00	1.07

Notes: *"All states" represents the combined data of the four states.
Naïve method values provided for comparison purposes only.

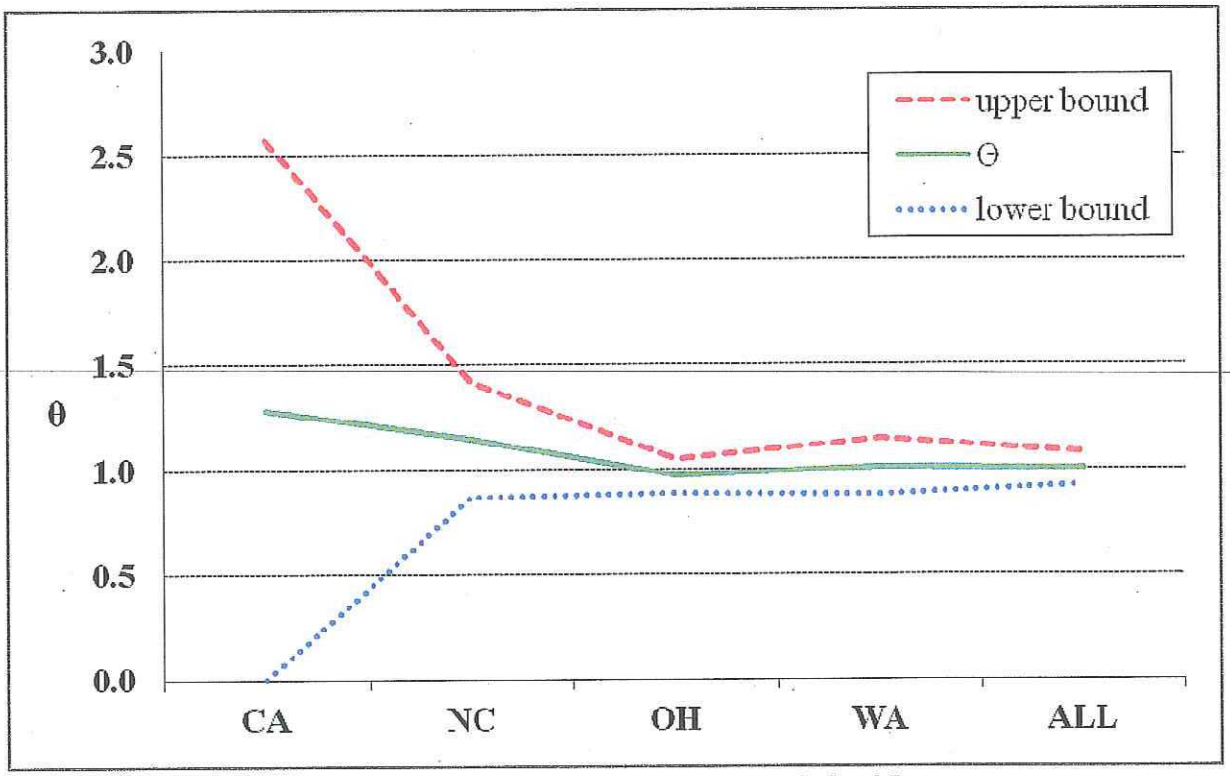

Figure 5. The safety effectiveness index and the 95 percent confidence interval for each state (all crash types)

The overall results show that there is no statistically significant increase in crash frequency after installing the on-premise digital sign because the safety effectiveness index (θ) for the entire dataset (all states) is 1.00, and the 95 percent confidence interval is 0.93–1.07 (which includes the index value of 1.00). The results for individual states are similar: no statistically significant safety impacts were observed after the installation of digital signs. In addition, one can see the width of the 95 percent confidence interval is largest for the California data. This is due to the variability of the California data and the small size of the sample set (only 6 sites). Comparing the width of the confidence intervals, from the widest to narrowest, the order is California > North Carolina > Washington > Ohio > All States.

RESULTS FOR CRASHES RELATED TO MULTIPLE AND SINGLE VEHICLES

The next analysis effort evaluated the possible safety impacts of on-premise digital signs on different types of crashes. There are several common methods to group crashes into different categories, such as the number of related vehicles, the injury levels, the collision types, and so on. Such groupings may provide some insight into the safety impacts of specific crash types, but the estimated impacts might not be precise because of a smaller sample size.

The additional analysis separated crashes into two subgroups: single- and multi-vehicle crashes. All calculations and notations were the same as used previously. By using the EB method to analyze crash data related to multiple vehicles, the researchers determined that the safety effectiveness index is equal to 1.00 for all states, and the 95 percent confidence interval varies between 0.96 and 1.21. Because the confidence interval of the safety effectiveness includes 1.00, there is no statistically significant change in crash frequency after installing the on-premise digital sign. Figure 6 graphically illustrates the results for multi-vehicle crashes. The 95 percent confidence intervals are slightly larger in this figure than in Figure 5.

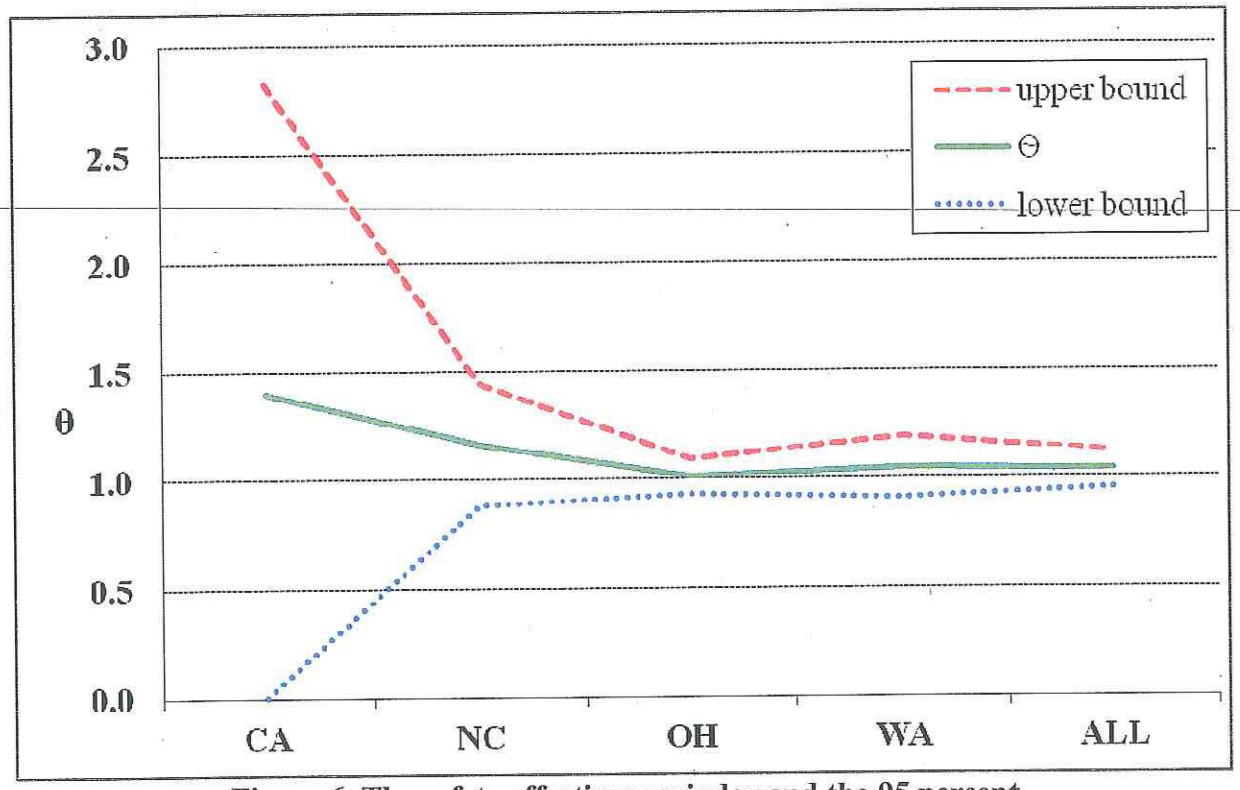

Figure 6. The safety effectiveness index and the 95 percent confidence interval for each state (multi-vehicle crashes)

The results for single-vehicle crashes are presented in Figure 7. The overall results are the similar: there are no statistically significant safety impacts from digital signs, except for California. The California results for single-vehicle crashes indicate a statistically significant decrease in crash frequency in the after period. Although the before-after results of California show a decrease in the after period, it does not affect the overall result because the low sample

size (6 sites) makes it more difficult to establish statistical significance in the analysis results. It is also worth noting that the North Carolina data has the largest confidence interval, due to the variability in the North Carolina single-vehicle crash data.

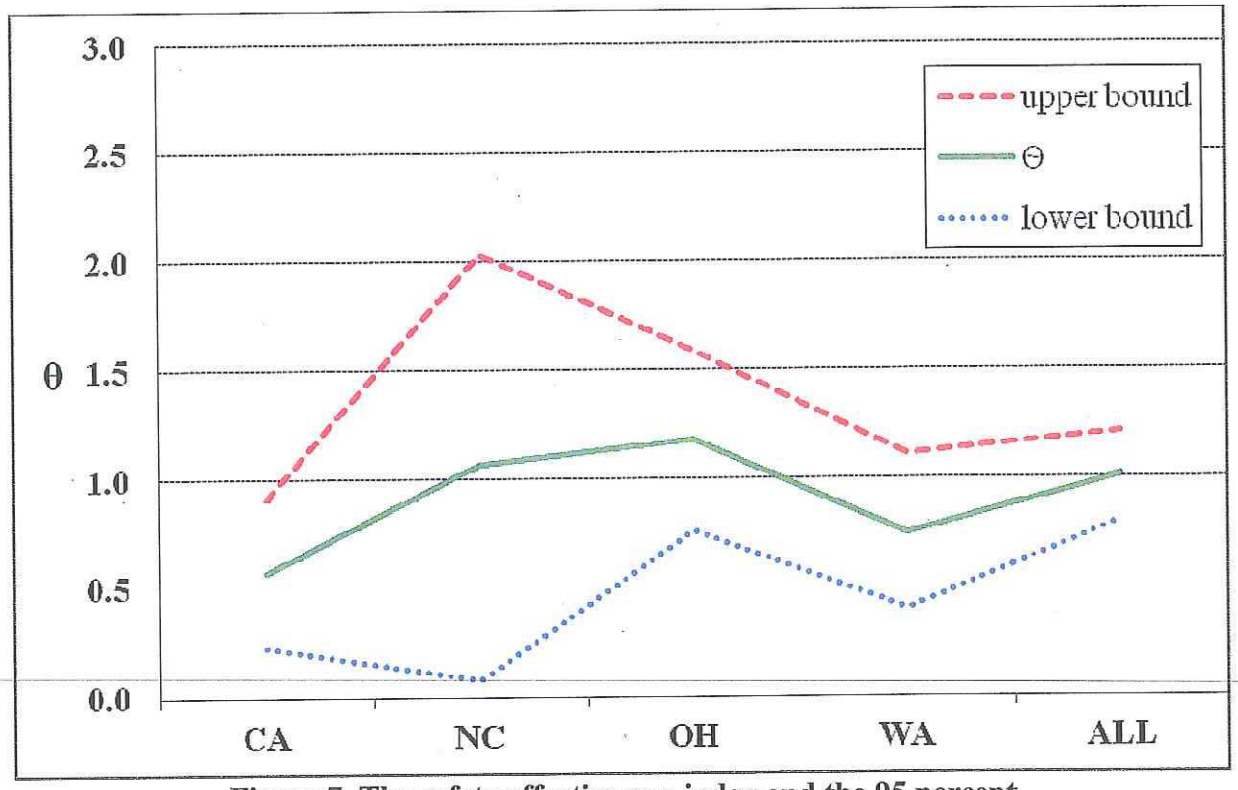

Figure 7. The safety effectiveness index and the 95 percent confidence interval for each state (single-vehicle crashes)

RESULTS FOR CRASHES RELATED TO DIFFERENT TYPES OF SIGNS

The research team also conducted an analysis to investigate the impacts of specific on-premise digital sign characteristics on the safety impacts of those signs. Specific sign characteristics that the research team evaluated included color (single or multi-color), size (small, medium, or large), and type of business. The research team used the analysis of variance (ANOVA) analysis method to evaluate whether the means of the safety index (θ) among the different characteristics of signs are equal.

An ANOVA is one of the most common statistical methods used to compare two or more means in the analysis of experimental data. In short, ANOVA provides a statistical test of whether or not the means of multiple groups are all equal, while a t-test is suitable only for the two-group case because doing multiple two-sample t-tests would increase the risk of a Type I error (for datasets containing more than 30 observations). In addition, when there are only two means to compare, the t-test and the ANOVA are equivalent. As a result, the research team chose the one-way ANOVA as the study tool to simplify the methodology, although some digital sign characteristics, such as sign color, have only two subgroups (i.e., single color and multi-color).

The theory of an ANOVA test is to separate the total variation in the data into a portion due to random error (sum of squares for error [SSE]) and portions due to the treatment (total sum of squares [SST]). Table 6 shows the typical form of a one-way ANOVA table. If the calculated F value (= treatment mean square [MST] / error mean square [MSE]) is significantly larger than F (k-1, N-k), the null hypothesis is rejected. F (k-1, N-k) is the critical value when the means of each group are equal. Most statistic software will also provide the corresponding p-value for researchers making their decisions in different confidence intervals.

Table 6. The typical form of a one-way ANOVA table

Source	SS	DF	MS	F	P(>F)
Treatments	SST	k-1	SST / (k-1)	MST/MSE	
Error	SSE	N-k	SSE / (N-k)		
Total (corrected)	SS	N-1			

Notes: *SS* = sum of squares, *DF* = degrees of freedom, *MS* = mean of sum of squares, *F* = F-distribution (because the test statistic is the ratio of two scaled sums of squares, each of which follows a scaled chi-squared distribution), *P(>F)* = the p-value when the F value (= MST/MSE) is larger than F (k-1, N-k), *k* = number of treatments, and *N* = total number of cases.

There are three data assumptions for applying the ANOVA method:

1. Independence: The study data are independently, identically, and normally distributed.
2. Normality: The distributions of the data or the residuals are normal. This assumption is true when the sample size is larger than 30.
3. Homogeneity of variability: Equality of variances — the variance of data between groups — should be the same.

If the above conditions do not exist, the ANOVA results may not be reliable. However, if the sample size of each group is similar, one can usually ignore independence and homogeneity problems. Or statisticians may transform data (such as into the logarithmic form) to satisfy these assumptions of the ANOVA.

Based on the existing sign dataset, the research team focused on three digital sign characteristics: color (single color or multi-color), sign dimension (small, medium, or large), and business type (restaurants, pharmacies and retail stores, hotels, gas stations, auto shops, or others). The definitions of sign dimension level are based on the balance principle (making the sample size of each group equal). Figure 8 shows the distribution of signs as a function of different dimensions, and the research team defined signs with an area less than 10 ft^2 as small signs. The medium sign size had an area of at least 10 ft^2 but no more than 15 ft^2, and the large sign size had an area greater than 15 ft^2. The sign size represents the area of the electronic display, not the overall size of the complete sign. It was estimated from the Street View image in Google Maps and may not be an accurate assessment of the sign dimensions.

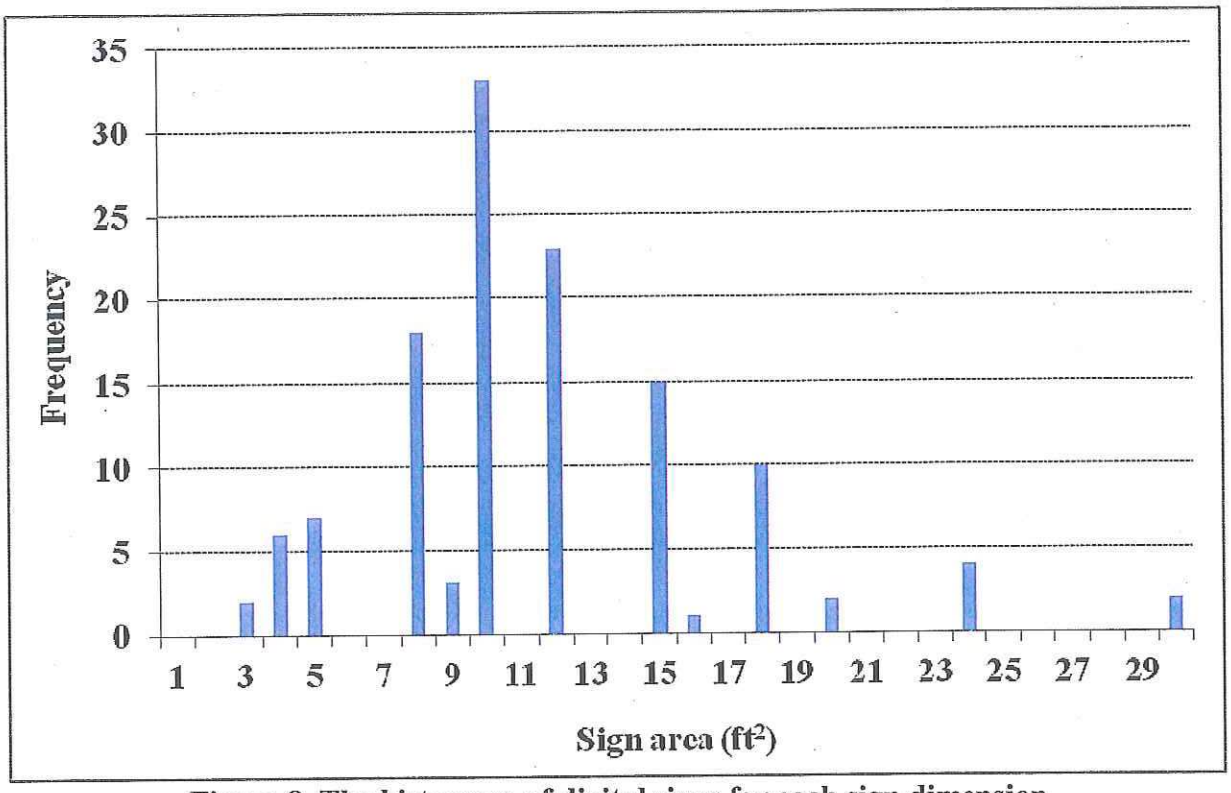

Figure 8. The histogram of digital signs for each sign dimension

Using the ANOVA method to analyze crash data related to specific design characteristics of the sign led to the conclusion that there is no statistically significant difference among the population means of the safety effectiveness index. The following descriptions provide more detail for each of the digital sign characteristics:

- **Color:** According to images obtained from the Street View feature of Google Maps, 89 signs are single-color signs, and 37 signs are multi-colored signs. Table 7 shows the ANOVA results. The test statistic (F value) is 2.07, and its p-value is 0.1527. Because the probability is larger than the critical value (0.05 for 95 percent confidence interval), the null hypothesis of equal population means cannot be rejected. In other words, the ANOVA table shows no significant difference between the mean of safety index (θ_{EB} = crash mean in the before period/crash mean in the after period) among signs having a single color or multiple colors.

Table 7. Analysis of variance table (color)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Group	1	4.464	4.4640	2.0704	0.1527
Residuals	124	267.352	2.1561		

- **Sign dimensions:** In the final sign dataset, 36 signs have a sign area less than 10 ft^2, 56 signs have a sign area 10–15 ft^2, and 34 signs have a sign area greater than 15 ft^2. In Table 8, the F value is 0.7767, and its p-value is 0.4622. Because the probability is larger

than the critical value (0.05 for 95 percent confidence interval), the null hypothesis of equal population means cannot be rejected. Accordingly, researchers conclude that there is no (statistically) significant difference among the population means.

Table 8. Analysis of variance table (sign dimension)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Group	2	3.39	1.6950	0.7767	0.4622
Residuals	123	268.43	2.1823		

- **Business type:** In the final sign dataset, 7 signs are for restaurants, 18 for pharmacies and retail stores, 3 for hotels, 3 for gas stations, 7 for auto shops, and 84 for other business types. Based on Table 9, the F value is 0.5401, and its p-value is 0.7455. As with the above types, the null hypothesis of equal population means cannot be rejected because the p-value is much larger than the critical value (0.05). The sample size of some business type groups is less than 30, so the research team combined all categories of business types with less than 20 samples into one large group, the "other" category. The resulting ANOVA analysis (Table 10) provides similar results: there is no significant difference among the population means.

Table 9. Analysis of variance table (six business types)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Group	5	5.983	1.1966	0.5401	0.7455
Residuals	120	265.833	2.2153		

Table 10. Analysis of variance table (two business types)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Group	1	0.728	0.7289	0.333	0.5649
Residuals	123	271.088	2.18619		

IMPACT OF SIGN HOLD TIME

As an additional effort for this research effort, the research team worked with members of the SFI advisory panel to identify the potential impact of hold time on the relationship between on-premise digital signs and traffic safety. One of the advantages of digital signs is the ability to change the displayed message. The minimum length of time that a message must be displayed is often an element of local sign codes because some believe that frequent changing of sign messages can increase driver distraction and lead to increased crashes. Because the researchers were working with a large number of individual sites and crash records for the after period that spanned two years, it was not possible within the available resources of this project to determine what message(s) were displayed at the time of a crash or the hold time used at a particular site at the time of a crash.

As a surrogate for including hold times as part of the individual site characteristics, the research team acquired information for the hold time regulations in the jurisdictions where the signs were

located. The 135 sign sites were located in 108 jurisdictions. A member of the SFI advisory panel contacted these jurisdictions and was able to identify hold time regulations for 66 of them. The hold time regulations of these 66 jurisdictions are summarized in Table 11. Input from the advisory panel indicated that when a jurisdiction has no statutory language regarding digital sign hold times, it most often means that sign users are able to program their sign to change messages as often as they see fit. In some cases, it could mean that the state standard for digital signs applies, which ranges from 6 to 8 seconds in the four states included in the analysis.

Table 11. Summary of sign hold times

Minimum Hold Time	Number of Jurisdictions
2–6 seconds	14
7–10 seconds	12
20 seconds	3
1–60 minutes	2
24 hours	2
Variance required*	4
No specific restriction	29
Total	66

* Hold times were established by variance on a case-by-case basis.

CHAPTER 6:
SUMMARY AND CONCLUSIONS

While there have been significant amounts of research devoted to the safety impacts of geometric design features and other aspects of the publicly owned transportation infrastructure, the same cannot be said about research on the safety impacts of privately owned signs that are directed to users of public roads. This research effort focused on addressing the safety impacts of on-premise digital signs. Previous research by others has documented the safety effects of on- and off-premise digital signs and their potential influence on crash risk to some extent. However, the results of recent crash studies are not consistent, and most studies have some important weaknesses, such as neglecting biases related to the regression-to-the-mean effects, low statistical power, and analysis results based on erroneous assumptions. In addition, Molino et al. (2009) report that the results from these studies are not comparable because of their different study methods, statistical powers, and cares of execution, which affected the quality of the research.

The research effort described in this report examined the safety impacts of on-premise digital signs using a large sample size of data and advanced statistical methods that provide more accurate results than previous studies. With the help of sign data provided by sign-manufacturing companies and crash data obtained from the Federal Highway Administration Highway Safety Information System, the research team obtained extensive datasets for signs and crashes in four states. The research team began the safety analysis with 1,120 potential study sites, but only 135 sites were usable due to limitations related to the individual signs or the related crash data. Although the yield of usable data was only 11.3 percent, the final sample size of 135 sites was much higher than the sample size of other published papers and reports related to on- and off-premise signs, indicating the results of this research are more robust and accurate.

The research team used the empirical Bayes (EB) statistical analysis method, which is the method recommended in the *Highway Safety Manual*, to conduct the safety analysis described in this report. The *Highway Safety Manual* is a recently published document that is recognized within the transportation profession as the authoritative document for analyzing the safety impacts of various transportation improvements or treatments. The EB analysis procedure uses a before-after approach, with the before and after values modified to address local safety characteristics, regression to the mean, and other factors. The EB method reports the safety impacts through the use of a safety index indicator (represented by θ). A value greater than 1 indicates an increase in crashes, and a value less than 1 indicates a decrease in crashes from the before to the after period. However, for the results to be statistically significant, the θ value must be outside the limits of the 95 percentile confidence interval.

For the entire sample size of 135 sites, the results from the EB method show that there is no statistically significant change in crash frequency associated with installing on-premise digital signs because the safety effectiveness index (θ) is determined to be 1.00, and the 95 percent confidence interval is equal to 0.93 to 1.07 (which includes 1.00, indicating no statistically significant change). The research team also conducted the analysis for each of the four individual states and obtained the same results: there are no statistically significant safety impacts from

installing on-premise digital signs. In addition, the researchers analyzed the safety impacts related to both single- and multi-vehicle crashes. The results for these analyses were also the same: there is no statistically significant increase in crashes associated with the installation of on-premise digital signs. Chapter 5 includes plots that illustrate the safety index values and confidence intervals for all of these results. As a final analysis, the research team performed an ANOVA to evaluate whether the means of the safety index (θ) varied as a function of sign factors (color, size, and type of business). The color analysis evaluated whether there was a difference in the means of the safety index for single- and multi-colored signs, and the results did not find a difference. The size analysis divided the signs in the study into three categories (<10 ft^2, 10–15 ft^2, and >15 ft^2), and the results did not find a difference. Signs were also categorized by the type of business (restaurants, pharmacies and retail stores, hotels, gas stations, auto shops, and others). Once again, there were no differences in the means. Overall, the ANOVA analysis did not identify any factor that led to an increase or decrease in traffic safety for the subcategories evaluated in the ANOVA.

Based on the analysis performed for this research effort, the authors are able to conclude that there is no statistically significant evidence that the installation of on-premise signs at the locations evaluated in this research led to an increase in crashes.

CHAPTER 7:
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APPENDIX A:
STEP-BY-STEP INSTRUCTIONS FOR STUDENTS TO RECORD SIGN DATA

1. Open one SFI sign dataset (e.g., "Washington_2006-2007.xls"). This dataset includes about 150 signs located in the state of Washington during 2006–2007.
2. Input the address information (such as Primary Street Address, City, ZIP Code, County Name, and State) of each sign in Google Maps and use the Street View function to identify the target signs. Please see this link, http://maps.google.com/help/maps/starthere/index.html#streetview&utm_campaign=en&utm_medium=et&utm_source=en-et-na-us-gns-svn&utm_term=gallery, for a demo about how to use the Street View. If you did not find any on-premise digital signs near this site, please make a note in Table 12. Check the characteristics of each sign (including colors, dimensions, and business types) and fill out Table 12. Then, use the "Print Screen" button to copy each sign's picture, and paste it in this document (such as Figure 9). The different business types are classified as (1) Restaurant, (2) Pharmacy and Retail Store, (3) Hotel, (4) Gas Station, (5) Auto Shop, and (6) Other.

Table 12. Example work table of site data collection procedure

Sign ID	Address	Installation Date	Google Maps				Google Earth				Note
			Picture	Color (Single/ Multi.)	Dimension (Estimated)	Business Type	County ID	Route #	Distance	Mile-post	
79016	19330 N US HIGHWAY 101 Shelton 98584 Mason County, WA	2006/9/15	Fig 2	S	3 ft × 6 ft	6	Mason (23)	101	19.3	335.72	

3. Then, use Google Earth to determine the county and route number, and to measure the distance between the closet county boundaries and sign location along the route (recorded in the distance column). The corresponding ID for county and route number is based on the HSIS data manual (file name: guidebook_WA[1].pdf). Then, estimate the milepost value of the sign by the distance and the milepost of the route in the boundaries (based on the HSIS road file, such as wa04road.xls). Take Figure 10; for example, the end mile point of Highway 101 in the county boundary is 355.18, and the distance between the sign and the county boundary is 19.3; so, the milepost of our sign is 335.72. Generally, the milepost value increases from south to north and from west to east. However, the best way to check it is to compare the value of the milepost of adjusted counties. For example, the milepost of US 101 in Mason County is 313.96~355.18, and the milepost of US 101 in Thurston County (located south of Mason) is 355.18~365.56. So, it is known that the mileposts increase from north to south in Mason County. The above variables will be used in the R software to select target crashes from HSIS crash datasets.
4. Write down any questions or comments in the note column. Feel free to ask us if you have any questions.

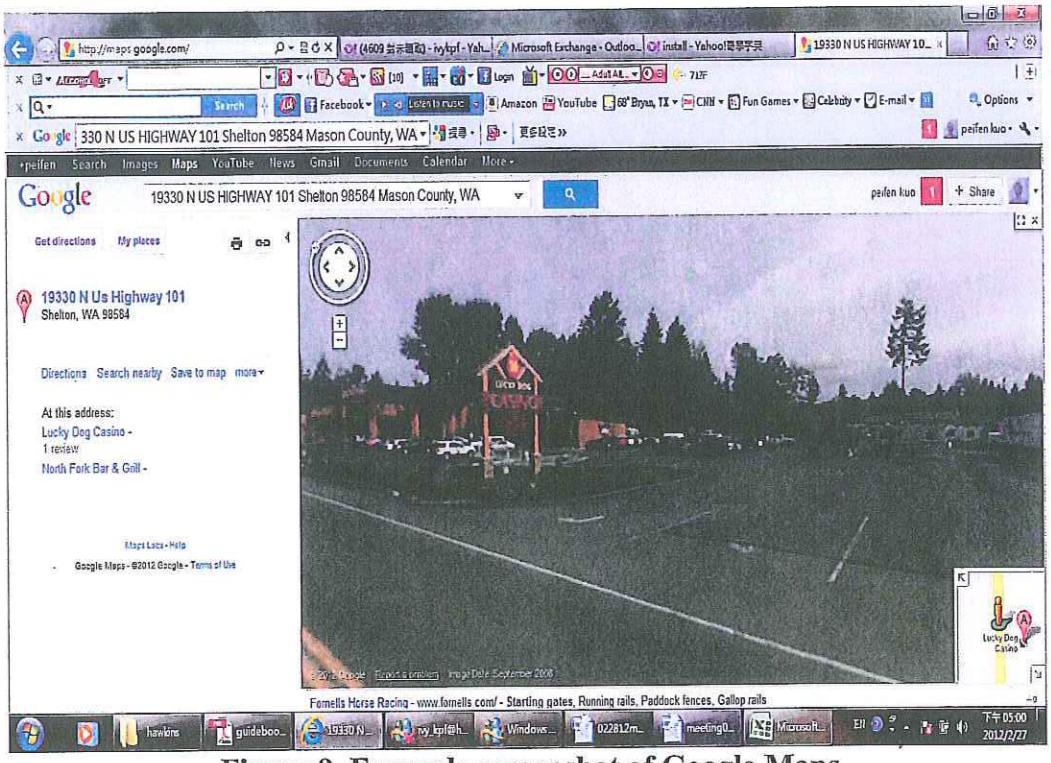

Figure 9. Example screenshot of Google Maps

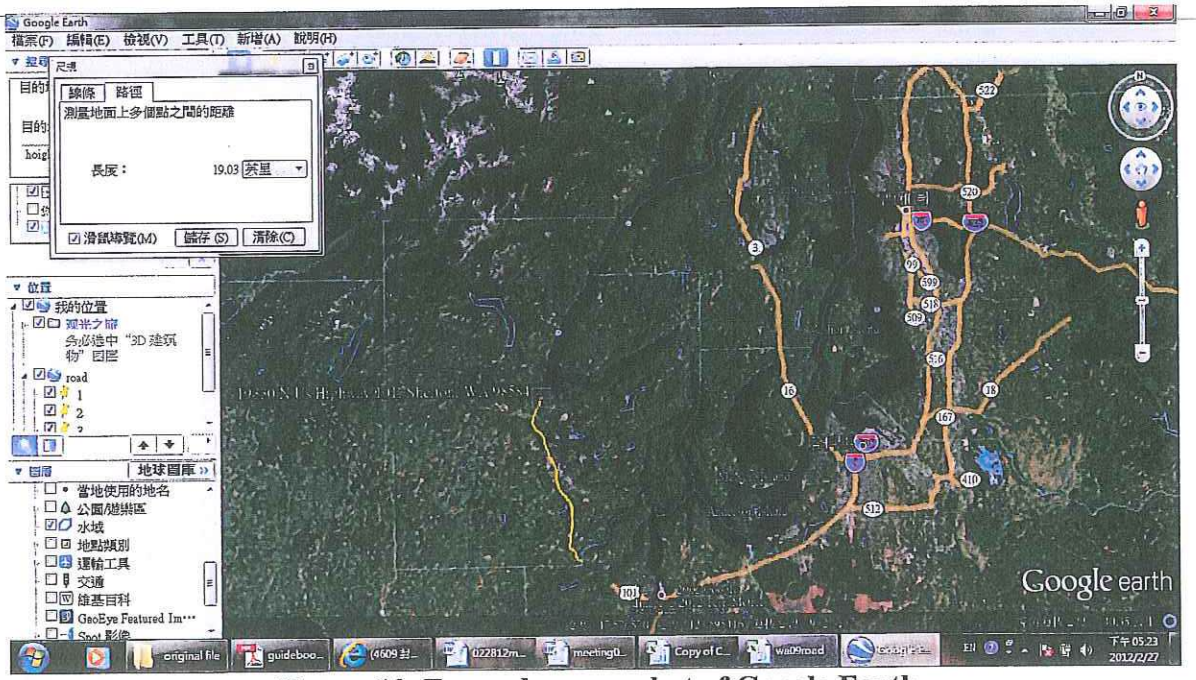

Figure 10. Example screenshot of Google Earth

APPENDIX B:
STATISTICAL SYMBOLS

The following statistical symbols are used throughout this report.

θ = the safety effectiveness, $0 < \theta \leq 1$ (can be theoretically higher, but not in this study).
n = the sample size.
α = the dispersion parameter (of the negative binomial model).
t = the time period.
$\hat{\theta}_{CS}$ = the estimate of safety effectiveness by using the CS method.
$\hat{\theta}_{naive}$ = the estimate of safety effectiveness by using the naïve method.
$\hat{\theta}_{CG}$ = the estimate of safety effectiveness by using the control group method.
$\hat{\theta}_{EB}$ = the estimate of safety effectiveness by using the EB method.
$\hat{\lambda}$ = the estimated number of crashes for the treatment group in the after period.
$\hat{\pi}$ = the estimated number of crashes for the treatment group in the before period.
$\hat{\nu}$ = the estimated number of crashes for the control group in the after period.
$\hat{\mu}$ = the estimated number of crashes for the control group in the before period.
N_{ij1}^{T}, N_{ij1}^{C} = the observed responses for site i (T = treatment group and C = control group) and year j (in the before period).
N_{ij2}^{T}, N_{ij2}^{C} = the observed responses for site i (T = treatment group and C = control group) and year j (in the after period).
M_{ij1} = the expected responses for site i for the EB method,

$$M_{ij1} = W \times (\hat{\Lambda}_1) + (1 - W) \times (\sum_{j=1}^{t} N_{ij1})$$

W = the weight for sites for the EB method, $W = \dfrac{1}{1 + \hat{\Lambda}_1 \times \hat{\alpha}}$.
$\hat{\Lambda}_1$ = the estimate for the average crash rate of all sites in the before period.
$\hat{\alpha}$ = the estimate of the dispersion parameter (from the negative binomial model).

WILDWOOD

ADDENDUM

to

Department of Planning's Information Report (first issued on August 17, 2015)

for the

City of Wildwood Planning and Zoning Commission

November 16, 2015 Executive Session (First issued on October 5, 2015)

"Planning Tomorrow Today"

Petition No.:	**P.Z. 14-15**
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 415.410 Sign Regulations for "FP," "PS," "NU," and all "R" Districts and Chapter 415.420 Sign Regulations for all "C" and "M" Districts of the City of Wildwood's Zoning Ordinance to consider the addition of new language to allow electronic message boards for certain institutional, not-for-profit, and commercial organizations. Currently, these types of displays are prohibited within the City of Wildwood.
Location:	Citywide
Hearing Date:	July 20, 2015
Presentation of Information Report:	August 17, 2015 – Postponed for Further Research

The Department of Planning has been considering the comments and questions the Planning and Zoning Commissioners offered, when this matter was presented to them during its presentation of the Information Report on August 17, 2015. The discussion of the Department's Information Report and associated recommendation was thorough, but did not conclude with a formal action, given the ramifications associated with this proposed change due to the very different nature of these types of signs, i.e. electronic message boards. The discussion at this meeting concluded with a postponement on any action to allow the Department more time to conduct additional research. The Department has been undertaking this additional research over the past month and is ready to respond to this matter.

The Department's responses to the Commission's comments and questions and findings of its additional research are as follows:

QUESTIONS >>>

Comments-Questions of Commissioners	Responses from Department
The methods the school currently uses to communicate information.	Many, from social media to the existing changeable copy monument sign located in the front of the school on Clayton Road. Additionally, parents groups and others promote special events as well. It was noted by a student, who attended a City Council meeting, the changeable copy sign is hard to manage and unsafe during inclement weather for whoever is responsible for its maintenance.

Comments-Questions of Commissioners	Responses from Department
The advertisement for this public hearing.	The Department followed the required procedures for a request of this nature, which included the following: posting in the newspaper (St. Louis Countian), posting at City Hall, placement on the City's website and social media forums, and direct contacts to interested parties.
The options on these types of signs.	Many types of signs exist for use, but none offer the ease to modify or update the message on the board as these types, while also offering graphics and colors. These signs, as noted in the Department's Information Report, are very popular at this time and will only become less expensive to purchase and install in the future, as the technology in them becomes less costly.
The variability of brightness during the day versus at night.	The technology of these signs can address this matter to a certain degree and can be required as a condition of revised regulations.
The high potential for negative comments from the public, if this is approved.	The community has, on many occasions, noted its appreciation of, and concern about, preserving the night sky in Wildwood, so comments against these signs, if allowed and installed, would be expected.
The ability to turn off the sign at night.	The ability to manage the sign appears to exist with the current technology and can be required as a condition of revised regulations.
The potential for it to distract drivers and other safety concerns.	The industry identifies these signs as "traffic neutral," but the Department is aware of issues, where these signs, if too bright, can create light trespass and nuisance glare and be a public safety nuisance.
The potential for setting a precedent and the possible proliferation of these types of signs.	Both of these concerns are appropriate, but the Department would recommended, as noted in its Information Report, their allowance be limited to residential districts and institutions legally allowed there.
The proposed location for the sign at Lafayette High School.	The current freestanding monument sign is located on the school's Clayton Road frontage, but it, and any new sign, could remain there or be located to the State Route 109 area as well. Additionally, with the recent changes made to the Sign Regulations, this use could have two (2) signs, one (1) of them situated on each frontage onto an arterial roadway.
The money for the sign at the high school, which was raised by it and not part of a bond issue.	The money for the purchase of the sign was collected through fund raising efforts of the students, faculty, and staff. This matter is not in the purview of the Commission.
The desire to have the high school use the money raised for the sign to go to the hiring of a new teacher, instead of this installation.	The money for the purchase of the sign was collected through fund raising efforts of the students, faculty, and staff. This matter is not in the purview of the Commission.
The ability to differentiate the approval of signage on institutional properties versus commercial users.	The City Attorney has been asked about this matter and believes it to be allowable and legal and the City, in many regards, already makes this differentiation with certain other signs, i.e. institutional uses located outside of Town Center.
The desire for research on these types of signs and other cities' ordinances.	The Department had conducted research in this regard, prior to its preparation of its Information Report on this matter. Additional research is noted in the next section.
The desire to understand other potential locations, where these signs might be requested.	The Department noted in its Information Report that approximately twenty-six (26) other locations exist in the City that would be eligible for these types of signs, under its recommendation. These locations are institutional uses located in the residential zoning district designations of Wildwood, but would be primarily situated in the NU Non-Urban Residence District.

Comments-Questions of Commissioners	Responses from Department
The determination for treating commercial uses differently than institutional uses.	See above.
The place within the Zoning Code, where this requirement would exist.	Chapter 415.410 Sign Regulations for the "FP," "NU," and all "R" Districts.
The contradiction to New Urbanism of electronic message boards;	The concepts of New Urbanism promote different approaches to the use of signage than traditional models of development in suburban and rural environments. The intent is to let the streetscapes, architecture of the buildings, and other coordinated features define the location, not signs that blot out each other due to size, shape, location, and lighting.
The addition of a restriction on any proposed sign to have its intensity based upon ambient light.	This restriction can be required as a condition of the revised regulations.
The review of the proposed modification by the City's Lighting Consultant.	The Department would support this review at all levels.
The size requirements that would be placed on the sign portion and the monument portion of these signs.	The sign size is determined on the area defined as follows, but not the support structure, per se: *"the outline area of a monument sign shall include the area within a continuous perimeter of a plane enclosing the limits of writing, representation, logo or any figure or similar character together with the outer extremities of any frame or other material or color forming an integral part of the display which is used as a background for the sign. The area of a monument sign of individually cut out writing, representation, logo or any figure or similar character which is not enclosed by framing and which projects from a sign support or main body of a sign is the sum of the areas of all of the triangles or parallelograms necessary to enclose each writing, representation, logo or any figure or similar character, including the space between individual letters comprising a word, but not including the space between individual words."*
The list of other locations, besides Lafayette High School, which have requested these types of signs, including the Wildwood Family YMCA, Wildwood Christian Church, LaSalle Springs Middle School, and St. Alban Roe Church and School.	This item is addressed in the associated question, i.e. Wildwood Family YMCA, Wildwood Christian Church, LaSalle Springs Middle School, and St. Alban Roe Church and School.
The concern these signs are a distraction to drivers; and the concern that, with off-site locations paying to advertise on these signs, but this consideration being prohibited by other locations within the Code.	See above and, if used to advertise another location or activity, other than those types located on the property, where the sign is erected, it would be an advertising type and another set of requirements exist for such in the City's Zoning Ordinance.
The necessary restriction on moving graphics and specifics on the proposed regulations.	This restriction can be required as a condition of the revised regulations.

ADDITIONAL RESEARCH >>>

The Department had provided a sampling of Sign Regulations from surrounding communities in regards to their respective treatments of these types of signs. These communities, which included Chesterfield, Ballwin, and Ellisville, were referenced, given their proximity to Wildwood and the impact they have on residents of this community due to the network of roadways that provides access into and through them as well. More recently, the Department reviewed a few other communities having similar characteristics as Wildwood, with the findings provided below:

CASTLE ROCK, COLORADO - 19.04.054 - Electronic message signs.
In addition to any other applicable requirement or restriction imposed by this Title, the common sign plan or a sign program approved as part of a planned development, electronic message signs shall be subject to the following conditions:

A. New electronic message signs, or any electronic message sign that requires a structural permit, must be compatible with the site design and building architecture.
B. Commercial messages displayed on the electronic message signs shall not direct attention to a business, product or service or entertainment conducted, sold or offered off the premises that is not also conducted, sold or offered on the premises on which the electronic message sign is located. Noncommercial community event messaging shall be permitted on any electronic message sign.
C. Message screens or contents appearing on the electronic message sign shall remain on the screen and not change for a minimum of ten seconds. The electronic message sign shall contain static messages only, changed only through dissolve or fade transitions, but which may otherwise not have movement, or the appearance or optical illusion of movement or varying light intensity, of any part of the sign structure, design or pictorial segment of the sign. The change of messages using a dissolve or fade transition shall not exceed three-tenths seconds of time between each message displayed on the sign.
D. Electronic message signs shall not exceed a maximum illumination of 5,000 nits during daylight hours and a maximum illumination of 500 nits between one-half hour before sunset and one-half hour after sunrise.
E. Electronic message signs shall have automatic dimmer software or solar sensors to control brightness for nighttime viewings. The intensity of the light source shall not produce disability glare as defined by the illumination code (Section 17.69.040 of this Code), the effect of which constitutes a traffic hazard or is otherwise detrimental to the public health, safety and welfare.

GERMANTOWN, TENNESSEE - Prohibited signs.
The following types of signs are prohibited under this chapter:

(7) Changing signs (automatic or flashing), including all changing exterior signs and any changing interior signs that are visible from outside the building within which the signs are located;

Changing sign (automatic) means a sign, such as an electronically or electrically controlled public service time, temperature and date sign, message center or reader board, where different copy changes are shown on the same lamp bank.

Flashing sign means any sign, which contains an intermittent or flashing light source, or which includes the illusion of intermittent or flashing light by means of animation, or an externally mounted light source. Automatic changing signs such as public service time, temperature and date signs or electronically controlled message centers are classified as flashing signs.

SHAWNEE MISSION, KANSAS - 5.64.045 Prohibited Signs and Devices:
The following are prohibited signs and devices:

E. Flashing signs or lights, which intermittently go on or off or appear to go on or off including electronic message center signs. This restriction shall also apply to signs, devices or lights located within buildings if readily visible from outside the building;

WELLINGTON, FLORIDA –
Electronic Message Board Signs. An electronic message board sign shall be permitted for any of the following uses: public and private elementary, secondary and post-secondary schools, including colleges and universities; places of worship; public or private hospitals; public or private not-for-profit artistic and cultural agencies; and public facilities operated by a federal, state, county or municipal government or agency. Electronic message board signs shall comply with the standards listed below.

1. Maximum Size. The maximum size of sign shall not exceed eight (8) feet in height and ten (10) feet in length. The sign shall not exceed thirty-two (32) square feet in sign area.
2. Illumination. External illumination is prohibited. Internal illumination is permitted. Use of neon lighting is prohibited, and illumination shall not include colored lighting, unless otherwise provided herein. Illumination shall consist of light emitting diodes or similar technology in a white or neutral color suitable for and commonly used with this type of sign.
3. Size of Lettering, Numbering and Graphics. The letters and numbers shall not exceed thirty-six (36) inches in height. Graphics may exceed the maximum permitted size of letters and numbers.
4. Message Content. Commercial messages are prohibited. The sign content of an electronic message sign must relate to providing information for events and activities associated with the principal use or information of a public or community nature.
5. Number and Location.
   a. Number permitted. One (1) electronic message board sign is permitted per principal use. The sign must be located along the principal street frontage of the project.
   b. Minimum set back. Signs shall maintain a minimum setback of at least ten (10) feet from all property lines.
   c. Off-premise sign standards. Off-premise signs may be permitted, subject to the standards listed below.
      i. The sign is approved by the Architectural Review Board.
      ii. The sign is located within a public right-of-way in an easement approved by the Village Council or the sign is approved by the property owner for a location within a private road right-of-way or easement.
      iii. The sign is included within an approved Master Sign Plan for a residential or nonresidential development, including size, location, appearance, colors and materials.
      iv. The sign is located on an arterial or collector road.
6. Nonconforming Signs. If an electronic message board sign exists as of August 1, 2009, the sign shall be considered a legal nonconforming structure. Repair or replacement of such sign shall be subject to the provisions of Article 1, Chapter 8, regarding nonconforming structures.
7. Landscaping. All signs shall be landscaped immediately around the base of the sign. The area of landscaping shall be not less than twice the area of the sign face and shall consist of materials that do not affect the visibility of the sign face.

As indicated in reviewing these four (4) cities, two (2) of them do not allow these types of signs, like Wildwood at this time, while two (2) others have created regulations for them within their respective communities. It appears to the Department that no distinctive pattern exists in this regard, whether a community allows them or not, given it depends on the individual circumstances associated with each of them. However, those communities that do allow electronic message boards, regulate them extensively, which is the approach the Department would recommend in this regard.

The Department has attached its updated Information Report to this Addendum in this regard for discussion at tonight's meeting. If any of the Commission Members should have questions or comments in this regard, before

tonight's meeting, please contact the Department of Planning in this regard at (636) 458-0440. Thank you for your consideration of this information.

ATTACHMENT B
Background Materials

CITY OF WILDWOOD, MISSOURI
RECORD OF PROCEEDINGS

MEETING OF THE PLANNING AND ZONING COMMISSION
CITY HALL, 16860 MAIN STREET, WILDWOOD, MISSOURI
DECEMBER 7, 2015

The Planning and Zoning Commission meeting was called to order by Chair Bopp, at 7:30 p.m., on Monday, December 7, 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 – (10)	ABSENT- (0)
Chair Bopp	
Commissioner Archeski	
Commissioner Peasley	
Commissioner Renner	
Commissioner Lee	
Commissioner Gragnani	
Commissioner Liddy	
Commissioner Bauer	
Council Member Manton	
Mayor Woerther	

Other City Officials present: Director of Planning Vujnich, Director of Public Works Brown, City Administrator Thomas, City Attorney Golterman, Planner Newberry, and Assistant Director of Planning and Parks Arnett.

II. Review Tonight's Agenda / Questions or Comments

There were no questions or comments on the agenda.

III. Approval of Minutes from the November 16, 2015 Meeting

A motion was made by Commissioner Archeski, seconded by Council Member Manton, to approve the minutes from the November 16, 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

Director Vujnich introduced Planner Newberry to the Commission.

V. Public Hearings – No Items for Consideration

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

Letter of Recommendations – Two (2) Items for Consideration

(a.) **P.Z. 14-15 City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040** - A request to amend Chapter 415.410 Sign Regulations for "FP," "PS," "NU," and all "R" Districts and Chapter 415.420 Sign Regulations for all "C" and "M" Districts of the City of Wildwood's Zoning Ordinance to consider the addition of new language to allow electronic message boards for certain institutional, not-for-profit, and commercial organizations. Currently, these types of displays are prohibited within the City of Wildwood.

Assistant Director Arnett read the request into the record.

Director Vujnich provided an overview of the draft of the Commission's Letter of Recommendation, which reflected the tie vote on the Department's Information Report. The 5-5 vote resulted in a Letter of Recommendation which will be forwarded to the City Council reflecting neither its support nor denial of the recommendation, since it failed for a lack of majority.

Dr. John Shaughnessy, Principal of Lafayette High School (LHS), noted the current sign was erected in 1989, and the school funded a $3,500 renovation of it four (4) years ago. He noted the sign looks nice, but is stagnant, and, in the evening, the brightness exceeds what an electronic message board would produce. He expressed his frustration with the sign's inefficiency, since it takes three (3) people to change the type and the message is limiting. He then stated it was his belief the sign does not meet the needs at the high school, which is a hub of community events and information. He then cited two (2) random weeks this school year noting the number of events at it, which exceeded fifty-five (55) and many of them were community related types, not just school events. He then showed a one (1) minute video of the potential digital marquee. He concluded by noting it was his belief that all of the Commission's concerns expressed in previous meetings could be addressed with the latest technology and offered his services to the City to be part of a group that would determine a way to move forward with permitting these signs and honor the history of the City and its natural environment.

Discussion was held regarding the type of events held at the high school that are not school-sponsored.

Becca Leslie, 19200 Brookhollow Drive, noted she is a student at Lafayette High School and that she has completed research and found that there are studies showing electronic message boards do not cause traffic issues. She supports the permission of this type of sign to allow for the high school to better communicate with the student body and community.

Drew Cusumano, 2719 Valley Road, noted his support for the electronic message boards due to the following: the replacement of the existing sign would benefit the area, because it is too bright; the safety of people who change the sign; the availability of new technology, which is more up to date; and the aesthetically appealing nature of the digital marquee.

Denise Foley, 1513 Garden Valley Drive, noted her support of the conditional use permit process for the permission of electronic message boards. She noted that LHS is an important part of the community and should be allowed to provide their information in this fashion and she finds these signs no more distracting than other types.

Gary Schroeder, 16642 Evergreen Forest Drive, noted his support of these types of marquee signs for the high school. He has no investment in this issue, but wanted to speak on behalf of LHS.

Director Vujnich reviewed the Department's support of these types of signs, but only authorized for not-for-profit institutions and only through a conditional use permit. He noted the Department believes electronic

message boards are a trend that the City should be out in front of and is requesting a motion, and vote, to forward this recommendation to City Council for public hearing.

Discussion was then held among the Commission Members regarding the following: the lack of clear direction to City Council, if the vote is a tie and moves forward with a lack of majority; the current request to determine if the Commission wants to move forward with a sign ordinance modification; the review process, on a site-by-site basis, that would be covered by this ordinance, if changed; and the process the Commission would use to review these types of requests.

A motion was made by Mayor Woerther, seconded by Commissioner Peasley, to have the Department draft a Letter of Recommendation which would include the potential conditions that, if the Conditional Use Permit process was established, how such would address the identified issues and concerns with these types of signs.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Renner, Commissioner Archeski, Commissioner Peasley, and Mayor Woerther.
Nays: Commissioner Lee, Commissioner Gragnani, Commissioner Bauer, Commissioner Liddy, Council Member Manton, and Chair Bopp.
Absent: None
Abstain: None
Whereupon, Chair Bopp declared the motion failed by a vote of 4-6.

A motion was made by Commissioner Lee, seconded by Commissioner Liddy, to forward the Letter of Recommendation, as written, and reflecting a tie vote, which failed for lack of a majority to the City Council.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Renner, Commissioner Lee, Commissioner Gragnani, Commissioner Bauer, Commissioner Liddy, Council Member Manton, and Chair Bopp.
Nays: Commissioner Archeski, Commissioner Peasley, and Mayor Woerther.
Absent: None
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 7-3.

b.) **P.Z. 12 and 13-15 The Villages at Bright Leaf, Fischer & Frichtel Custom Homes L.L.C. and Consort Homes L.L.C., 16640 Chesterfield Grove Road, Suite 130, Chesterfield, Missouri, 63005** – A request for a change in zoning from the NU Non-Urban Residence District, the R-3 10,000 square foot Residence District, the R-4 7,500 square foot Residence District, the R-6 and R-6A 4,500 square foot Residence District, with a Planned Environment Unit (PEU) and a Planned Residential Development Overlay District (PRD), to the R-3 10,000 square foot Residence District (Town Center "Neighborhood General District" and "Neighborhood Edge District"), with a Planned Residential Development Overlay District (PRD), for nine (9) properties that total 78.7 acres of area, which are located on the north side of State Route 100, east of State Route 109 (Locator Numbers 23V230041, 23V230050, 23V240327, 23V310064, 23V330022, 23V330031, 23V330206, 23V330215, 23V330233, and 23V610917/Street Addresses: 2350 and 2344 Eatherton Road, 2531, 2555, and 2567 Taylor Road, 16721 Manchester Road, and 16615, 16602, and 16618 Overlook Hills Drive). **Proposed Use: A total of one hundred ninety-four (194), detached single-family dwellings (Town Center Building**

Type – House), with common ground, and required public space areas. Included in these requests is the construction of a portion of the Pond-Grover Loop Road. **(Ward Five)**

Assistant Director Arnett read the request into the record.

Director Vujnich first noted that several items have been provided to the Commission members, since their last meeting, including a revised Preliminary Development Plan, which does not show the connection of Pond-Grover Loop Road or Birch Forest Drive, and public comments that had been submitted online, since the packet was posted on Friday afternoon. He then reviewed the Department's addendum to the Letter of Recommendation, which noted the following: the Town Center Plan, which is an addendum to the Master Plan, should be followed; the Town Center Plan, which was used to forestall commercial development on this property, cannot be applied only when popular; the variety of ways the City has allowed for comment on this project and the changes that have been made to the plan due to them; the letters from agency providers supporting the extensions, including Rockwood School District and Metro West Fire Protection District. Finally, he noted the Letter of Recommendation drafted reflects the tie vote from the previous meeting.

Discussion was then held regarding the following: the potential future issues that will be caused by the lack of connection of the Pond-Grover Loop Road; the proposed design of Pond-Grover Loop Road; the alleviation of traffic with the construction of Old Fairway Drive at the time of the construction of the Enclaves at Cherry Hills Subdivision; and the only subdivision within the City, not just within the Town Center Area, to not have stub streets connected was Wynncrest Subdivision.

Gary Cassell, 16584 Birch Forest Drive, noted he supports the development, but opposes the extension of Birch Forest Drive due to safety concerns and the disruption of the environment on his street.

Christy Pitney, 16919 Hickory Crest Drive, noted the confusion by residents of where the Town Center boundary exists. She also noted her opposition to the street extensions, given her safety concerns and preference for the new plan submitted by the petitioner, which includes an increase in trails and the lack of road extensions.

Joyce Furmanek, 2405 Evergreen Forest Court, noted she selected to build her house in the Evergreen Subdivision in 1987 due to the amount of trees retained in the area. She is opposed to the extension of the Pond-Grover Loop Road, given its proximity to her residence and the noise the traffic would generate.

Debra Smith McCutchen, 16548 Birch Forest Drive, noted she was speaking on her behalf and as her role as the Council Member for Ward 5. She noted her opposition to the development and connection of the streets because the Town Center criteria shouldn't apply to the areas around the development, which are outside of its boundaries. She distributed a handout to the Commission with additional comments, which has been made a part of these minutes.

Scott Johnson, 2407 Winter Forest Court, noted he is in support of the revised plan that does not extend the Pond-Grover Loop Road or Birch Forest Drive. He supports the trail extensions to connect the existing neighborhoods with the proposed development.

Gary Schroeder, 16642 Evergreen Forest Drive, noted he supports the newest plan, since it is what the people in the area have requested.

Paula Clark, 16916 Hickory Crest Drive, noted she is opposed to the extension of the Pond-Grover Loop Road due to safety concerns and the effect it will have on the environment behind her home.

Paul Pohlers, 2323 Sandalwood Creek Court, noted his support for the extension of the roads, as an important part to the City's street network. He noted the Wildwood Business Association is in approval of the extension of Pond-Grover Loop Road, as is the Fire District and the School District.

Susan Treiber, 15912 Sandalwood Creek Drive, noted her support of the new plan that does not extend the Pond-Grover Loop Road or Birch Forest Drive. She questioned who makes up the Department of Planning, and why streets should be connected into the Suburban Residential Area around the Town Center Area.

Michael Tarr, 16575 Birch Forest Drive, noted he opposes the extension of Pond-Grover Loop Road and especially, Birch Forest Drive, due to safety concerns.

Larry Ball, 16632 Green Pines Drive, noted his opposition to the extension of the roads due to safety and noise concerns.

John Gragnani, 1510 Scofield Valley, noted the Master Plan and Town Center Plan are not the Bible, nor are they written in stone, and both should be modified if citizens are opposed to the plans' content.

Lauren Oliver, 16630 Evergreen Forest Drive, did not wish to speak at the meeting, but completed a Speaker's Card, so her comments could be included in the record. Her comments were as follows: My household is not in favor of building near the cul-de-sac behind Evergreen Forest. Thank you!

Chief John Bradley, Metro West Fire Protection District, noted two (2) of the five (5) fire stations of the District, serving over 100,000 residents, are located in Wildwood. He stated he understands the importance and emotion surrounding this proposal, but the District supports the extension of the streets within this development. If the road does not go through, however, they will still provide service, but these connections would improve their response time. Their computer-aided dispatch system also benefits from multiple points of access.

Discussion was then held among the Commission Members regarding the following: the construction of a trail extension, if used for fire equipment access, would have to support a 60,000 pound truck; the preference of the Fire District that if only one (1) of the two (2) roads were to be connected, it would be Pond-Grover Loop Road; the type of pavers that could be used for a trail and support the weight of the fire trucks; the previous votes in 2010 authorizing the extension of these roads, as part of the Town Center Plan update; and the current plan, which does not comply with the Town Center Street Network Plan and was not advertised as a variation to it, and if the recently submitted plan is approved, the need for a public hearing to amend the Town Center Street Network Plan.

Mike Doster, attorney representing the development team, noted the petitioner has complied with requests from residents, staff, and the Commission over the past five (5) months. The petitioners can build any of the plans they have submitted, but requested something move forward to the City Council with a favorable vote, since they are approaching their contractual deadlines.

Discussion was then held among the Commission Members regarding the following: the application of the Town Center Plan; and the policy of the City to extend all stub streets, not just in the Town Center Area.

Linda Crothers, 16915 Crestview Drive, noted she understands the residents' concerns with not wanting their neighborhood disrupted, but she will be moving to the Evergreen Subdivision area soon and supports the connection of the streets, as part of this development.

Discussion was then held among the Commission Members regarding the possible votes that could take place tonight.

A motion was made by Commissioner Peasley, seconded by Mayor Woerther, to reconsider the action taken on the Letter of Recommendation at the November 16th meeting.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Peasley and Mayor Woerther.
Nays: Commissioner Lee, Commissioner Renner, Commissioner Liddy, Commissioner Archeski, Commissioner Gragnani, Commissioner Bauer, Council Member Manton, and Chair Bopp.
Absent: None
Abstain: None
Whereupon, Chair Bopp declared the motion failed by a vote of 2-8.

Discussion was then held regarding the type of vote needed at the City Council, if the tie vote is forwarded by the Commission to the City Council.

A motion was made by Mayor Woerther, seconded by Council Member Manton, to extend the meeting past 10:00 p.m. A voice vote was taken regarding the motion for extending the meeting. Hearing no objections, Chair Bopp declared the motion approved.

A motion was made by Mayor Woerther, seconded by Commissioner Peasley, to forward the Letter of Recommendation to the City Council reflecting the tie vote, which failed for lack of a majority.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Renner, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: Commissioner Lee, Commissioner Archeski, Commissioner Gragnani, and Commissioner Bauer.
Absent: None
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 6-4.

Information Reports – No Items for Consideration

VII. New Business – One (1) Item for Consideration

a.) Review and action by the Planning and Zoning Commission upon the City's Five (5) Year Capital Improvement Plan, as required by Chapter 89 of the Missouri Revised Statutes, which states this administrative body must review and act on this planning program, so as to ensure consistency with the City's Master Plan (Transportation Element). **(Ward – All)**

Director Vujnich noted the Planning and Zoning Commission is required to review public improvements proposed by the City, as part of its Five (5) Year Capital Improvement Plan. He then reviewed the proposed plan, which extends through the time period of 2016 to 2020. This plan addresses road and bridge projects, as well as park and trail facility projects. He then outlined the major projects proposed throughout the City for 2016, which total over $6,000,000 for the road and bridge projects and $6,000,000 for park and trail projects, as well.

Discussion was then held among the Commission Members regarding the following: the revenue sources used for funding capital improvements; the longevity of concrete and asphalt; the projected completion of the community park; the property acquisition line item, which can't be discussed specifically outside of an Executive Session; the budgeting for improvements to Pond-Grover Loop Road; the potential for athletic fields on a portion of the St. Louis Community College Campus; and the reallocation of funds that are not used within the designated fiscal year.

A motion was made by Mayor Woerther, seconded by Commissioner ARcheski, to approve the Capital Improvement Plan, as presented.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Peasley, Commissioner Lee, Commissioner Renner, Commissioner Archeski, Commissioner Gragnani, Commissioner Bauer, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: None
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 10-0.

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

IX. Other – No Items for Consideration

X. Closing Remarks and Adjournment

A motion was made 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 10:22 p.m.

Approved by: Gerald W. Peasley

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.

Kathy Arnett

From: Jim Bowlin
Sent: Monday, November 16, 2015 3:47 PM
To: Kathy Arnett
Cc: Tim Woerther; Ray Manton
Subject: PZ 14-15

Kathy:

I am unable to attend the hearing on this item tonight, and am sending this to be provided to P&Z members and included in the record of the matter.

I would like to reiterate the points I made at an earlier hearing of this matter.

1. I cannot imagine anything more inconsistent with Wildwood than electronic message boards/signs. The fact that other municipalities may allow them is irrelevant - Wildwood is not like other municipalities, and Wildwood should decide what is best for Wildwood based on the unique characteristics of our City and the matter at hand.

2. It strains reason to think that these types of signs will not be additionally distracting. The data demonstrate that. Allowing them, at of all places a school with children, seems ill-advised.

Thanks,
Jim

James R. Bowlin
Council Member - Ward 6
City of Wildwood
636-458-0440, ext. 210
www.cityofwildwood.com

Miriam Krajewski
17511 Adams Way Court
Wildwood MO 63005

November 13th, 2015

Planning and Zoning Commission
City of Wildwood
16860 Main Street
Wildwood MO 63040

Dear Commission,

P.Z. 14-15 City of Wildwood – Sign Regulations – Electronic Message Boards

I attended the Wildwood Planning and Zoning Commission meeting in October and spoke in support of Lafayette High School at that time, but in the moment became flustered and didn't say quite what I wanted to, so I'd like to put my arguments forward in more organized way.

Preserving Wildwood's Character

It was brought up by many people at the last meeting that Wildwood appeals because of its semi-rural nature. I moved here 3 years ago from Sydney, Australia. Sydney is a big city with all the benefits of that, but also with all the negative aspects – gritty streets, trash on the sidewalks, too much traffic and of course, plenty of flashy billboard advertising. The very opposite of Wildwood and everything it doesn't want to be. I am very much appreciating the wide open spaces, the trees and wildlife (LOVE the deer), and the complete lack of advertising and litter in Wildwood. This place has a very different feel to a big city and I completely understand why it would want to stay that way and would want to resist moves to change it.

However, billboards and flashing advertising signs are absolutely not in the same category as school (or church) information boards. The notices on these boards help to create a sense of community. They let me know about events going on, achievements being made (with my tax dollars, after all), thank you shout outs to bus drivers or teachers that remind me to be grateful myself, and more. If there is a big event going on that is likely to affect traffic flow, I know to avoid the area that day. I get the value of those signs from all schools in the area including those which my children do not attend. This is not the same as being bombarded by advertising messages at all.

Staying Semi-Rural but also Being Modern

If we accept the usefulness of having a community based sign outside a not-for-profit or community funded facility, then there is no reason that it needs to be low tech. The

Wildwood community wants to live in a semi-rural city, but I think this relatively young community also wants to live in a modern one.

I didn't see Wildwood or Lafayette High School before I moved here (although my husband did). We chose this neighbourhood to live because of two factors – proximity to our workplace and the reputation of the school district. Out of several choices we eventually decided on proximity to LHS as our first priority. Having made this decision, when I finally saw the school I recall commenting to my husband with some disappointment that it looked dated. I'm not sure exactly what aspect of the school gave me the impression it was dated, but thinking about it now, the information board at the front has to have been a part of that. As it turns out I have not been disappointed with the school (AT ALL), but it was a disappointing first impression.

It is possible to have a beautiful semi-rural city and still be modern. These are not two conflicting concepts. The problem with digital signs in big cities isn't that they are digital, it is that they are ubiquitous, huge, intrusive (through animations) and almost universally are projecting advertising messages.

Since I became aware of the petition by the school to update the sign, and the reasons that so far the City has disallowed this, I have spoken to many people in the community about it (including those who do not have an association with the school). The main reaction is one of disbelief that this is even an issue. I've found myself arguing the City's case that you simply want to preserve the semi-rural character of the city. But while people agree that that is a good and worthwhile goal, it is more about quantity and qualities of signs that is the issue rather than the medium the sign employs. I really don't think there will be any major community backlash if you allow Lafayette to upgrade its sign to a modern format.

The Risk of Digital Sign Spread

There was also concern that if this is allowed for the high school, that all the other schools and churches in the city would want to upgrade, and then that businesses would want to. I think if other schools and churches have the resources to upgrade (which many won't for some foreseeable time) they should be able (and even encouraged) to do so. This is a still a small number of signs overall, they are generally small signs, and I think the digital signs would be much less intrusive than the existing backlit signs.

But in saying this I think the City should continue to say no to commercial digital signs. Businesses are much more likely to have the resources to purchase digital signage, and many would want larger signs with more animated features. Allowing commercial digital signs would likely mean a higher number of signs, larger signs, more animated signs, and all for the purpose of advertising for profit rather than sharing information. This definitely would change the character of Wildwood and I support the City in continuing to resist such change. However I think it is a very easy distinction to make, and a concern that businesses might ask for permission to erect digital signs shouldn't be the reason to disallow Lafayette from having one.

Alternate Sources of Information

Another argument put up against the sign is that the school can disseminate that information to the school community in other ways. This seems slightly irrelevant to me, given that there is no argument that the current sign is going to be taken away. We are not arguing the case between having a sign or having no sign. Nonetheless, there are several other reasons that this isn't really relevant.

- The school does already share information through its website, its newspaper, bulletin boards, notices pinned on the school walls, social media, reminders in class, emails and notes sent home. However, it still finds value in putting notices on the information board outside of the school because this particular method is succinct, highly visible and very timely. That advertisers, schools, churches and even the council rely on this kind of sign suggests that it is an effective communication tool in a way that other options are not.

- There is a LOT that goes on at this high school that I as a parent am not given information about. I know a lot about the sports and activities that my kids are involved in. I don't know much at all about those things they are not involved in. I like to have timely notice about a school concert, the volleyball team playing in finals, auditions for the school play or a weekend fundraiser because otherwise I wouldn't hear about those things, and I may very well want to be involved or at least be aware of those events.

- Many of the notices support the school community but many are of equal interest to the community at large that does not access the various sources of information produced by the school. The school hosts a number of community events and this is a very effective way of letting the community know about them. Even if you don't want to attend a high school event, surely as a local resident being aware of likely traffic issues or congestion on the day of the event is valuable.

Safety of the Sign

There is an argument that the sign will be such a distraction that it will cause accidents – potentially fatal ones. I'm not sure why the new sign would do this any more than the current sign does. I'm not sure there is any evidence that accidents are caused by drivers reading such signs. Apart from within the City of Wildwood, advertising and community signs in our area are so ubiquitous that drivers have learned to juggle them. We can select to ignore them while we drive, and select to read them when we are stopped or driving slowly. If there was a strong correlation between accidents and signs then cities like Sydney where there is at least one sign of some sort at every junction would be simply too dangerous to drive in at all.

- No doubt there is a lot of traffic at the school at certain hours of the day, but it is generally slow moving. Also there is very little pedestrian traffic and of those pedestrians, very few are young children. The argument made at the last meeting about the increased traffic near the elementary school interfering with parents walking their children to school is very relevant to that situation but not to this one.

First because there is nothing about the new sign that will increase traffic flow compared to the existing sign. Second because distracted drivers are usually moving slowly in this environment and any accident is likely to be bumping into each other into the car park, rather than hitting people or children or each other which such force that there is a likelihood of increased deaths (as was suggested).

- Even so, the raft of distractions available to teenagers is so wide that this particular one of the digital sign barely rates a mention. The information on those signs is generally of low relevance to students who are in the best position to be already aware of what is going on at the school (through the previously mentioned channels let alone chatting to their friends at the lunch table). Those signs are directed mostly at parents, visitors and the community around the school. I think if you polled student drivers about what was written on the sign on any particular day they would have very low awareness. (Students who are passengers will more likely notice the sign). Student drivers are far more likely to be distracted by the conversations going on with passengers in their car, with drivers or pedestrians outside their car, adjusting their music channels, or (sadly) reading their phones, than they are by a new digital sign vs the backlit one already there.

- At any rate, the new sign would be arguably much easier to ignore than the existing sign, at least at dusk and evening. The existing backlit sign is very bright. It glows in the night from a long way away (as do other church and school signs in the area). The new sign could have a dark background and be far less intrusive, and easier (and faster) to read. While the technology can allow flashing, transitional affects, bright colors and quick changing graphics the City of Wildwood could decide to limit use of those features. I don't think Lafayette is looking to use those features anyway.

- I think it is also worth mentioning that being able to change a digital sign is safer for the students and staff at the school than manually changing the current one, especially in poor weather. I understand from my teenage daughter that the sign is notoriously awkward and slow to change. Furthermore there is much efficiency to be gained by one person being able to update the sign essentially instantly rather than having to send out a team to laboriously slide in the individual letters while holding up the heavy glass cover. Clearly a new sign would eliminate a time consuming task and simultaneously allow the sign to be more accurate and timely by being updated more frequently. As a taxpayer I'm happy for the school to reap such efficiencies and as a parent, I'd rather my daughter was engaged in active learning or other more meaningful service than spending half an hour helping to change a sign that in the modern era, is entirely unnecessary.

Thank you for the opportunity to contribute my views to this matter.

Miriam Krajewski

WILDWOOD
16860 Main Street
Wildwood, MO 63040

CITY OF WILDWOOD
NOTICE OF
PUBLIC MEETING
before the Planning and Zoning Commission
Monday, November 16, 2015, at 7:30 p.m.

AS A RESIDENT OR PROPERTY OWNER THAT HAS ATTENDED A RECENT PLANNING AND ZONING COMMISSION MEETING TO PARTICIPATE IN DISCUSSION REGARDING THE CITY'S SIGN REGULATIONS, THE CITY OF WILDWOOD WOULD LIKE TO ENSURE YOU ARE AWARE OF THIS REQUEST/PROPOSAL. 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.**

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

Listed below is a request that was presented to the Planning and Zoning Commission at a public hearing held on July 20, 2015. You and many of your neighbors may have expressed interest in its outcome and the Commission is scheduled to take action upon this item at their 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 **Monday, November 16, 2015, at 7:30 p.m.** in the City Hall Council Chambers, 16860 Main Street, Wildwood, Missouri 63040. The specific request under consideration is as follows:

P.Z. 14-15 City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040 - A request to amend Chapter 415.410 Sign Regulations for "FP," "PS," "NU," and all "R" Districts and Chapter 415.420 Sign Regulations for all "C" and "M" Districts of the City of Wildwood's Zoning Ordinance to consider the addition of new language to allow electronic message boards for certain institutional, not-for-profit, and commercial organizations. Currently, these types of displays are prohibited within the City of Wildwood. **(Wards – All)**

***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, MISSOURI
RECORD OF PROCEEDINGS

MEETING OF THE PLANNING AND ZONING COMMISSION
CITY HALL, 16860 MAIN STREET, WILDWOOD, MISSOURI
NOVEMBER 16, 2015

The Planning and Zoning Commission meeting was called to order by Chair Bopp, at 7:30 p.m., on Monday, November 16, 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 – (10)	ABSENT- (0)
Chair Bopp	
Commissioner Archeski	
Commissioner Peasley	
Commissioner Renner	
Commissioner Lee	
Commissioner Gragnani	
Commissioner Liddy	
Commissioner Bauer	
Council Member Manton	
Mayor Woerther	

Other City Officials present: Director of Planning and Parks Vujnich, Director of Public Works Brown, City Administrator Thomas, City Attorney Golterman, and Assistant Director of Planning and Parks Arnett.

II. Review Tonight's Agenda / Questions or Comments

There were no questions or comments on the agenda.

III. Approval of Minutes from the November 2, 2015 Meeting

A motion was made by Commissioner Peasley, seconded by Council Member Manton, to approve the minutes from the November 2, 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 – No Items for Consideration

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

Letter of Recommendations – One (1) Item for Consideration

(a.) **P.Z. 12 and 13-15 The Villages at Bright Leaf, Fischer & Frichtel Custom Homes L.L.C. and Consort Homes L.L.C., 16640 Chesterfield Grove Road, Suite 130, Chesterfield, Missouri, 63005** – A request for a change in zoning from the NU Non-Urban Residence District, the R-3 10,000 square foot Residence District, the R-4 7,500 square foot Residence District, the R-6 and R-6A 4,500 square foot Residence District, with a Planned Environment Unit (PEU) and a Planned Residential Development Overlay District (PRD), to the R-3 10,000 square foot Residence District (Town Center "Neighborhood General District" and "Neighborhood Edge District"), with a Planned Residential Development Overlay District (PRD), for nine (9) properties that total 78.7 acres of area, which are located on the north side of State Route 100, east of State Route 109 (Locator Numbers 23V230041, 23V230050, 23V240327, 23V310064, 23V330022, 23V330031, 23V330206, 23V330215, 23V330233, and 23V610917/Street Addresses: 2350 and 2344 Eatherton Road, 2531, 2555, and 2567 Taylor Road, 16721 Manchester Road, and 16615, 16602, and 16618 Overlook Hills Drive). **Proposed Use: A total of one hundred ninety-four (194), detached single-family dwellings (Town Center Building Type – House), with common ground, and required public space areas.** Included in these requests is the construction of a portion of the Pond-Grover Loop Road. **(Ward Five)**

Assistant Director Arnett read the request into the record.

Director Vujnich first noted that public comments had been submitted online, since the packet was posted for tonight's meeting and this information has been provided at each Commissioner's chair. He then presented the Letter of Recommendation, which outlined the Commission's vote of support of this rezoning request and special procedure, which occurred at the previous meeting.

Dalton Jayaraj, 2449 Forest Leaf Parkway, noted he and his friends spend a lot of time playing in the area, where the roads would be extended, and he is opposed to the street extensions. He is concerned with safety, if the roads would be extended.

Ginger Jackson, 16920 Hickory Crest Drive, noted she backs to Pond-Grover Loop Road and she is opposed to its extension, given her safety concerns.

Christy Pitney, 16919 Hickory Crest Drive, noted her opposition to the extension of the roads, due to safety concerns and the additional traffic. She then requested a meeting between the Commission Members and the neighbors to discuss a compromise for residents and the City.

Betsy Vanderheyden, 16560 Birch Forest Drive, noted her opposition to the road extensions, as part of this proposed development, due to safety concerns and her desire to increase walkability of her neighborhood.

Dale Ireland, 16535 Oak Forest Court, thanked the Commission for its time and then noted that he and his wife are avid walkers and have noticed the amount of speeding traffic on the streets around this area. He is opposed to the extension of Birch Forest Drive, which he believes will increase the amount of speeding in the neighborhood.

Gary Schroeder, 16642 Evergreen Forest Drive, noted he abuts the eight (8) lot cul-de-sac on the north end of the Pond-Grover Loop Road and that he appreciates the thirty (30) foot separation distance between that street and his lot, but he believes a one hundred (100) foot separation would be more appropriate. He noted his belief that connectivity is not necessary in an urban design.

Debra Smith McCutchen, 16548 Birch Forest Drive, proposed an alternate configuration of the lots for this development, which does not include the extension of the streets, as shown on the current plans. Her proposal includes trail connections and public space in the area where the streets are currently shown to be

extended. A copy of this configuration is included with these minutes.

Paul Pohlers, 2323 Sandalwood Creek Court, noted his support of the extension of the Pond-Grover Loop Road and the other proposed road extensions for better circulation, connectivity, emergency access, and access to the Community Park.

Susan Treiber, 15912 Sandalwood Creek Drive, noted her opposition to the road extensions due to safety concerns. She requested the Commission listen to the residents, who are coming to speak at the meetings.

Betsy Ragelis, 15960 Sandalwood Creek Drive, noted she is opposed to the extension of the Pond-Grover Loop Road due to safety concerns, decrease in property values, and the loss of a grassy view and wildlife from her backyard.

Tim Gau, 2427 Forest Leaf Parkway, supports the development, but opposes the extension of Birch Forest Drive, due to the increase of traffic on Forest Leaf Parkway from this road extension. He noted the Pond-Grover Loop Road extension would place additional traffic behind all of the houses nearby, but Birch Forest Drive is in front of homes.

John Gragnani, 1510 Scofield Valley, noted he is not in support of one side or the other, but he believes the Commission needs to listen to the people in attendance, who are the most affected by this development.

Joyce Furmanek, 2405 Evergreen Forest Court, submitted a card to have comments made part of the record, but did not wish to speak at the meeting. Her comments were: Living at the end of the cul-de-sac on Evergreen Forest Court, I do not want Pond-Grover Loop Road to expand behind my house. Nor do I want a six (6) foot plastic fence put up as a barrier to noise of traffic. I built my home in 1987.

Linda Thompson, 16571 Birch Forest Drive, submitted a card to have comments made part of the record, but did not wish to speak at the meeting. Her comments were: Let's keep Birch Forest West safe. No extensions.

Discussion was held among the Commission members regarding the following: the lack of adherence to the Town Center design standards, particularly the garage setbacks; the issues that can be addressed during the Site Development Plan process; the remaining steps in the process; the number of homes currently permitted on the site; the density permissible in the Town Center Area; the safe route to school for future homeowners in this development; the dispersion of traffic, when connectivity happens, and there are multiple choices of routes; the previous attempts to slow traffic on roads in the area; the difference between the design standards of St. Louis County and the City regarding streets; the possibility of increasing the buffer on the northern cul-de-sac and the eastern most cul-de-sac; the transition within the eastern portion of the development from the Evergreen Subdivision by utilizing traditional styles and lots and, then, the neo-traditional portion of the development on the western side of the project; the interconnectivity of the development and adjacent neighborhoods; and the desire to see a plan that does not extend the roads.

Mike Doster, attorney for the petitioners, noted the ordinance is drafted to allow the setback distances of garages in Villages A, C, and E to be discussed at Site Development Plan review time and the petitioner is fine with this process. He noted the petitioner has always been told the roads needed to be connected and they have done what they could to meet requests of staff, Commission Members, and citizens. If there are further delays, they may run into issues with their time constraints on their contract.

Director Brown noted the proposed budget item relative to the Pond-Grover Loop Road would be to first

conduct a traffic study to evaluate the impact on the existing roads and develop a design for traffic calming on the existing part of Pond-Grover Loop Road.

Director Vujnich noted that Villages A and C contain the traditional residences and would have garage setbacks similar to the abutting Evergreen Subdivision, but Village E is the cottages that have varying setbacks of two feet (2') to ten feet (10'). All other villages would have a minimum garage setback of seven and one-half feet (7 ½').

Commissioner Lee noted he would like to postpone the request to have the petitioner submit a revised plan that does not show the road extensions.

Mike Doster noted the petitioner is comfortable with a six (6) foot minimum garage setback in Village E.

Discussion was then held regarding the following: the work that needs to be completed, before the roads are connected; and the width of the right-of-way and pavement on the portion of Pond-Grover Loop Road within the development.

Rod Holman, 2457 Forest Leaf Parkway, noted he lives at the intersection of Forest Leaf Parkway and Birch Forest Drive and has never seen a patrolman on Forest Leaf Parkway in the ten (10) years he has lived there. He noted Forest Leaf Parkway currently takes all of the traffic and he supports the extension of the Pond-Grover Loop Road to help alleviate the traffic on his street.

Roger Pierson, 16587 Birch Forest Drive, urges the Commission to delay, while there is still time to have flexibility in the design.

A motion was made by Mayor Woerther, seconded by Council Member Manton, to approve the Letter of Recommendation and include a six (6) foot minimum garage setback in Village E.

Tyler Thomas, 16578 Birch Forest Drive, noted the Commission should not extend the roads and should listen to the residents.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Peasley, Commissioner Renner, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: Commissioner Archeski, Commissioner Gragnani, Commissioner Lee, Commissioner Liddy, and Commissioner Bauer.
Absent: None
Abstain: None
Whereupon, Chair Bopp declared the motion failed for lack of a majority by a vote of 5-5.

A motion was made by Commissioner Lee, seconded by Commissioner Liddy, to postpone forwarding the final recommendation to the City Council and retain the item at the Planning and Zoning Commission to allow the petitioner the opportunity to submit a new plan that shows the same development, but without the road extensions, while also including a system of trails that can accommodate emergency vehicle access in the area of the Pond-Grover Loop Road right-of-way on the subject site.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Peasley, Commissioner Renner, Commissioner Archeski, Commissioner Gragnani, Commissioner Lee, and Commissioner Liddy.
Nays: Commissioner Bauer, Council Member Manton, Mayor Woerther, and Chair Bopp.
Absent: None
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 6-4.

Information Reports – Two (2) Items for Consideration

(b.) **P.Z. 14-15 City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040** - A request to amend Chapter 415.410 Sign Regulations for "FP," "PS," "NU," and all "R" Districts and Chapter 415.420 Sign Regulations for all "C" and "M" Districts of the City of Wildwood's Zoning Ordinance to consider the addition of new language to allow electronic message boards for certain institutional, not-for-profit, and commercial organizations. Currently, these types of displays are prohibited within the City of Wildwood.

Assistant Director Arnett read the request into the record.

Director Vujnich provided an overview of the Department's recommendation for the addition of this type of signage, but only through a Conditional Use Permit (CUP) process, and for institutional uses. He provided the information that was gathered since the last meeting on this request, which including research conducted by Captain Tanner regarding the lack of an impact on traffic related issues by these types of signs at the high schools within the Rockwood School District and an evaluation completed by Randy Burkett Lighting Design, which noted the existing sign at Lafayette High School (LHS) is brighter than the existing electronic message board at Marquette High School. He then noted the possibility of utilizing a temporary sign at Lafayette High School, as a test of the effectiveness and brightness of these types of signs. Finally, he noted the Department still wants a few questions answered, before it would request a final action, but would ask for the opportunity to bring back the proposed conditions the CUP process would contain.

A motion was made by Mayor Woerther, seconded by Commissioner Archeski, to begin discussion. A voice vote was taken regarding the motion to open discussion. Hearing no objections, Chair Bopp declared the motion approved.

Discussion was then held regarding the following: the items that should be part of the CUP process, including a pre-lighting study; the limitation of only one (1) electronic message board per property; the limitations on colors of the text; a prohibition on moving graphics; the transition timing; the limitation of additional onsite signs; a prohibition on these types of signs for commercial entities; the limitation on times the sign can be in operation; the location of the proposed sign at LHS; the potential for twenty-six (26) locations for these types of signs; the possibility for approving the change in the sign code, but only allowing applications for a brief amount of time and then establishing a moratorium for future applications; the concern with setting a precedent; the difficulty with enforcing lighting and other compliance issues with the CUP; the potential traffic issues; the parties who benefit from these signs; the need for this change, when there has not been an overwhelming public outcry; the potential to limit these types of signs to arterial roadways; and the issue of whether the current sign at LHS complies with the City's Outdoor Lighting Requirements.

Paul Huensch, 2575 Hickory Manor, noted his opposition to these types of signs because of safety issues and

his belief they are a distraction and traffic statistics show that distractions of two (2) seconds can cause an accident. Finally, he noted these types of signs should definitely not be located near residential properties.

A motion was made by Commissioner Lee, seconded by Commissioner Archeski, to approve the Department's recommendation to authorize these types of signs and draft the Conditional Use Permit conditions they would have to meet.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Peasley, Commissioner Lee, Commissioner Renner, Commissioner Archeski, and Mayor Woerther.
Nays: Commissioner Liddy, Commissioner Gragnani, Commissioner Bauer, Council Member Manton, and Chair Bopp.
Absent: None
Abstain: None
Whereupon, Chair Bopp declared the motion failed for lack of majority by a vote of 5-5.

(c.) **P.Z. 18-15 Villas of Wildwood Senior Residences, c/o Scott Puffer, Gardner Capital Development, Inc., 8000 Maryland Avenue, Suite 910, Clayton, Missouri 63105** – A request for the modification of the Town Center Plan's Regulating Plan for two (2) lots that are a 3.7 acre area of Phase II of the Wildwood Town Center Project, thereby altering their current designation from "Downtown" District to "Neighborhood General" District to accommodate a change in zoning from the C-8 Planned Commercial District to the Amended C-8 Planned Commercial District for this same area of the site, being located on the south side of State Route 100, north of Plaza Drive, and west of Fountain Place (Locator Numbers 23V220242 and 23V220233/Street Addresses 251 and 261 Plaza Derive). **Proposed Use: A three (3), story senior housing facility, which would allow a maximum of forty-eight (48) units. (Ward Eight)**

Assistant Director Arnett read the request into the record.

A motion was made by Mayor Woerther, seconded by Council Member Manton, to extend the meeting past 10:00 p.m. A voice vote was taken regarding the motion to extend the meeting. Hearing no objections, Chair Bopp declared the motion approved.

Director Vujnich provided an overview of the Department's recommendation for denial of the Regulating Plan change and cited the following reasons in support of it: the lack of compliance with the Regulating Plan of the Town Center Plan; the reduction in land area for the Downtown District designated properties; the low level of lot coverage ratio; the lack of mixed use; the low utilization of the property; the issues that are anticipated with the future residents of this development when they would be surrounded by Downtown District properties; and the lack of community benefit.

Scott Puffer, 333 Par Lane, representative of Gardner Capital, noted his surprise of the recommendation, since they have done what was requested by the City throughout the process. He also noted that active seniors are an important element to the Town Center Area and there is no research showing senior housing negatively impacts neighboring commercial properties. Finally, he noted they would be happy to accommodate modifications to the architectural design and materials.

Paul Olsen, 1909 Prospector Ridge Drive, noted he was excited to hear about this development, as a place for his in-laws to live close to him in a quality, affordable development. He believes these units would have

active residents, who choose to live in the urban center.

Scott Haley, 8025 Forsyth Boulevard, representing Koman Properties, provided a letter to the Commission that has been made a part of these minutes. He noted, as the property owner, they have tried to get a user for nine (9) years on this property and he believes residential would be a benefit to the area. He then questioned why this project's recommendation is for denial, when they have a site-specific ordinance that encourages residential uses on their property.

Joe Garritano, 16312 Cherry Orchard Drive, Council Member Ward 8, noted he is in agreement with the Department's recommendation and has heard from a number of residents, who also oppose this development. He is concerned with the City's economic benefits from this development and the loss of prime real estate for commercial uses, in the heart of the Town Center, would be detrimental to the future success of it.

Tim Gau, 2427 Forest Leaf Parkway, believes that more commercial will be necessary, with the increase in residential lots.

Director Vujnich noted a letter was sent to the developer on August 28, 2015 for the petitioner to begin its process through HUD/State for tax credits. Mr. Golterman noted this letter included a statement noting zoning compliance was still necessary and did not preclude the City's process.

Director Vujnich noted the Department has not met extensively with the petitioner and, while it supports this type of use within the Town Center, it does not support it on this property. He also noted the Department's initial review letter seeks compliance with the minimum zoning standards, but does not deny applications, as that would preclude the need for the Planning and Zoning Commission and City Council. Finally, he noted the Charter requires compliance with the Master Plan Conceptual Land Use Categories Map, and the site-specific ordinance governing these tracts of land showed mixed use on these properties and at a different scale than the proposal.

A motion was made by Commissioner Archeski, seconded by Council Member Manton, to accept the Department's recommendation.

Discussion was held regarding the following: the desire for this use, but in a different location; the amount of residential that is currently under review by the City, which will help boost the Town Center; the extent of the boundary of the Downtown District; the other senior housing development in Wildwood, and in the vicinity of Wildwood; and the focus of the recommendation on land use and not the quality of the development.

Scott Haley noted his belief that most of the commercial entities in the Town Center are not thriving.

Scott Puffer noted the units are not rent-subsidized and the program is through the federal tax credit process, not HUD. He then requested a postponement, so dialogue could take place between the petitioner and the City to make this a viable project.

A motion was made by Mayor Woerther, seconded by Commissioner Archeski, to postpone this request.

Chair Bopp called the question.

A roll call vote was taken, with the following results:

Ayes: Commissioner Peasley, Commissioner Lee, Commissioner Renner, Commissioner Gragnani, Commissioner Liddy, Commissioner Bauer, Mayor Woerther, and Chair Bopp.
Nays: Commissioner Archeski and Council Member Manton.
Absent: None
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 8-2.

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

A motion was made by Council Member Manton, seconded by Commissioner Peasley, to adjourn the meeting. A voice vote was taken. Hearing no objections, Chair Bopp adjourned the meeting at 10:47 p.m.

Approved by: Gerald D Peasley
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, MISSOURI
RECORD OF PROCEEDINGS

MEETING OF THE PLANNING AND ZONING COMMISSION
CITY HALL, 16860 MAIN STREET, WILDWOOD, MISSOURI
OCTOBER 5, 2015

The Planning and Zoning Commission meeting was called to order by Chair Bopp, at 7:30 p.m., on Monday, October 5, 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 – (10)	ABSENT - (0)
Chair Bopp	
Commissioner Archeski	
Commissioner Peasley	
Commissioner Renner	
Commissioner Lee	
Commissioner Gragnani	
Commissioner Liddy	
Commissioner Bauer	
Council Member Manton	
Mayor Woerther	

Other City Officials present: Director of Planning Vujnich, Director of Public Works Brown, 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 September 21, 2015 Meeting

A motion made by Commissioner Peasley, seconded by Commissioner Bauer, to approve the minutes from the September 21, 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 – No Items for Consideration

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

Information Reports – Two (2) Items for Consideration/Reconsideration

(a.) **P.Z. 12 and 13-15 The Villages at Bright Leaf, Fischer & Frichtel Custom Homes L.L.C. and Consort Homes L.L.C., 16640 Chesterfield Grove Road, Suite 130, Chesterfield, Missouri, 63005 –** A request for a change in zoning from the NU Non-Urban Residence District, the R-3 10,000 square foot Residence District, the R-4 7,500 square foot Residence District, the R-6 and R-6A 4,500 square foot Residence District, with a Planned Environment Unit (PEU) and a Planned Residential Development Overlay District (PRD), to the R-3 10,000 square foot Residence District (Town Center "Neighborhood General District" and "Neighborhood Edge District"), with a Planned Residential Development Overlay District (PRD), for nine (9) properties that total 78.7 acres of area, which are located on the north side of State Route 100, east of State Route 109 (Locator Numbers 23V230041, 23V230050, 23V240327, 23V310064, 23V330022, 23V330031, 23V330206, 23V330215, 23V330233, and 23V610917/Street Addresses: 2350 and 2344 Eatherton Road, 2531, 2555, and 2567 Taylor Road, 16721 Manchester Road, and 16615, 16602, and 16618 Overlook Hills Drive). **Proposed Use: A total of one hundred ninety-four (194), detached single-family dwellings (Town Center Building Type – House), with common ground, and required public space areas.** Included in these requests is the construction of a portion of the Pond-Grover Loop Road. **(Ward Five)**

Senior Planner Arnett read the request into the record.

Director of Planning Vujnich noted the petitioner, after reviewing the proposed Information Report, submitted a request earlier in the day, which requested this item be postponed, so they have additional time to review the recommended conditions. He noted that, since the mailing had already been sent to the neighboring property owners and the item had also been posted on the website for several days, the decision to postpone was at the discretion of the Planning and Zoning Commission. Finally, he noted that due to the importance of this proposal, the Department does not object to the postponement request.

A motion was made by Mayor Woerther, seconded by Council Member Manton, to postpone P.Z. 12 and 13-15 The Villages at Bright Leaf, following discussion.

Discussion was held regarding the rationale for the postponement request, particularly the reduction in the ten (10) lot cul-de-sac to four (4) lots on the north end of the site.

Mike Doster, petitioner's legal representative, noted the petitioner is generally supportive of the modifications, but does not believe the four (4) lots granted would be marketable and wishes further time to study.

There was no opposition to allowing public comment.

Jane Finnegan, 2517 Rain Forest Court, questioned the following items: the access location for construction traffic to the site; if there has been an update on the Caulks Creek Study; and if the bridges and roads at risk in the Caulks Creek Watershed, which were identified a number of years ago, have been repaired. She also expressed a desire for a light study to be completed, before the trees are removed, and noted her concern with the lack of buffer on the eastern portion of the subject site.

Marianne Tow, 16626 Evergreen Forest Drive, noted she moved in about a year and a half ago for green space and trees and is opposed to the ten (10) lot cul-de-sac on the north end of the Pond-Grover Loop Road and she is concerned with water runoff.

Susan Treiber, 15912 Sandalwood Creek Drive, presented a petition requesting the Pond-Grover Loop Road not be extended and an alternative trail corridor be developed from Birch Forest Drive, and a pocket park be created at the terminus of the Pond-Grover Loop Road. *[Petition is made a part of these minutes and available, upon request, from the City Clerk's office.]* She is opposed to the extension of the Pond-Grover Loop Road and believes it should be a park.

Andrea Darmon, 16936 Hickory Crest Drive, noted she is opposed to the extension of the Pond-Grover Loop Road. She would prefer a park be located along the right-of-way.

Christy Pitney, 16919 Hickory Crest Drive, is opposed to the extension of the Pond-Grover Loop Road. She commented on her family's patterns of walking to and from Green Pines Elementary and worries about the additional traffic volume creating safety concerns for children.

Paul Pohlers, 2323 Sandalwood Creek Court, noted his support of the Pond-Grover Loop Road extension, since it is in compliance with the Master Plan, the Town Center Street Network Plan, and the Fire Department's requirements. He presented a petition supporting the extension of the Pond-Grover Loop Road. *[Petition is made a part of these minutes and available, upon request, from the City Clerk's office.]* He also noted he wants better buffers between existing homes and the proposed development.

Debbie Sinden, 2426 Forest Leaf Parkway, noted her support of the extension of the Pond-Grover Loop Road, which has always been planned, and believes it will help dissipate traffic. She has talked with a number of residents in her area, who support this extension.

Betsy Vanderheyden, 16560 Birch Forest Drive, is opposed to the extension of Birch Forest Drive and the Pond-Grover Loop Road.

Discussion was then held regarding the following: the letter from the Fire Marshal; the traffic counts on Pond-Grover Loop Road; and the date for rescheduling this request.

A voice vote was taken regarding the motion for postponement. Hearing no objections, Chair Bopp declared the motion approved.

(b.) **P.Z. 14-15 City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040** - A request to amend Chapter 415.410 Sign Regulations for "FP," "PS," "NU," and all "R" Districts and Chapter 415.420 Sign Regulations for all "C" and "M" Districts of the City of Wildwood's Zoning Ordinance to consider the addition of new language to allow electronic message boards for certain institutional, not-for-profit, and commercial organizations. Currently, these types of displays are prohibited within the City of Wildwood.

Senior Planner Arnett read the request into the record.

Director of Planning Vujnich reviewed the history of this particular request, including the additional research conducted by the Department, since the public hearing. He then noted the following: there is not a pattern among communities similar to Wildwood, in regards to if they allow these types of signs or not; the approximation of twenty-six (26) locations in Wildwood that may be effected by this ordinance addition; the Department's belief these types of signs could be designed with today's technology to meet the City's requirements and the desire to lessen the impact on the night sky; and the proposal to review these types of signs via the conditional use permit process, if there is support.

Discussion was then held regarding the following: if there is enough weight in the requirements to ensure compliance with the codes and achievement of the restrictions sought by residents in the CUP; and the possibility of requiring the CUPs be renewed on specific timeframes.

Jim Bowlin, 2165 Timerline Valley Drive, Council Member Ward 6, noted his belief that electronic message signs are wholly opposed to Wildwood. He cited research he conducted on safety studies done on these signs, particularly the study done by the City of Minnetonka, MN. *[This study is made a part of these minutes and available, upon request, from the City Clerk's office.]* The study noted that driver distraction is the cause in one (1) of every four (4) accidents and that a relationship was concluded in this study between distractions and these types of signs. Additionally, he noted that, if the City is going to compromise and allow these signs, it shouldn't compromise at a school location.

Melissa Greenstein, 17914 Homestead Bluffs Drive, representing Lafayette High School PTO, moved to Wildwood because of the high school. She noted her belief that Wildwood is behind from an innovation standpoint and, since these signs can achieve Wildwood standards, from a technological perspective, they should be considered. A favorable action by the Commission is a great way to embrace the community.

Marc Cox, 1782 Timber Ridge Estates, Council Member Ward 4, noted his support of this modification to the Sign Regulations. He believes the illumination of the current sign is similar to the electronic message board at Marquette High School.

Debra Smith McCutchen, 16548 Birch Forest Drive, stated her opposition to these types of signs and believes they would be a distraction. She noted there is not a place for these signs in Wildwood.

Miriam Krajewski, 17511 Adams Way Court, moved here because of the school and loves the green environment of Wildwood. She does not understand the opposition, noting that illuminated signs are brighter than the electronic message signs, where it can be controlled. She also noted the current sign is difficult to change and dangerous.

Kathy Gettinger, 17729 Westhampton Woods Drive, President of Lancer Parent Organization, noted the LPO has been working to promote community outside of families that go to the high school. This sign would be appreciated to get information out to the community, who may be interested in things like the current speaker series, which is for all ages. She noted the current sign is difficult to read and she has to turn around to read it, which she believes is more dangerous than an electronic sign.

Tammy Shea, Ward 3, questioned who this request is coming from, since there is no name on the petition. She believes these signs qualify as visual pollution and there are ways to identify and communicate happenings without them. There will be more requests for these types of signs and the Commission should be worried about the precedent. Regulating signs is not unique to Wildwood.

Jim Bowlin, noted that texting is a danger and shouldn't be compared to the distraction of a sign. He questioned when was the last time the City approved a sign ordinance modification that was only from a single user.

Discussion was then held regarding the following: the need for these types of signs in the digital age; the beneficiaries from these types of signs; the number of accidents outside Lafayette High School in the last year; the current lumens of the existing sign, which are unknown because it predates Wildwood; the Outdoor Lighting Requirements of the City require a dark background with lighter letters; the restrictions that could be placed on the sign, including font, color, transition, hold time, shutoff time, etc.; the possibility

of increasing the benefit of the sign because of new technology; the issue of how the regulations would be enforced; the need/desire for these types of signs at other institutions; the possibility of the Board of Adjustment considering a single sign as a test case; the maintenance of annual CUP renewals; the desire to include notification on the City's website or the Gazette about the State law prohibiting texting and driving under the age of 21; the concerns about the number of not-for-profit organizations that might seek these types of signs; the concern with being on the front of the curve and regulating these types of signs because they are a trend in signs; the possibility for limiting these types of signs to a certain use, with appropriate rationalization; and the variation in locations and the desire to establish the CUP process to control the brightness and other characteristics on a site-specific basis.

John Gragnani, 1510 Scofield Valley, noted the City was incorporated for local control and supports the idea of permitting the sign at Lafayette High School, as a test for this type.

Karen Calcattera, 16913 Bordeaux Estates, Associate Principal at Lafayette High School, noted the City itself, in addition to its social media outlets, uses electronic message boards. She requested if research has been done to correlate an increase in traffic accidents, where these signs have been placed.

Director of Planning Vujnich noted the Department would like additional time to conduct research and would request a postponement until early November. The Department's research would include the following: determine the lumens of the current sign at Lafayette High School; calculate the number of accidents in the vicinity of Lafayette, Eureka, and Rockwood Summit High Schools within the last year; the level to which this definition could be limited to a specific user; the accident information at Taylor Road and Main Street; and the quantification of data regarding when a school gets this type of sign, does the sign increase attendance by non-school community members.

A motion was made by Mayor Woerther, seconded by Commissioner Archeski, to postpone P.Z. 14-15. A voice vote was taken regarding the motion for postponement. Hearing no objections, Chair Bopp declared the motion approved.

VII. New Business – One (1) Item for Consideration

(a.) A response to a communication from Charlie St. Onge, c/o St. Onge Management, P.O. Box 14, Wildwood, Missouri, 63040, which is dated September 1, 2015, regarding **St. Louis County's P.C. 112-89 Cliff Rufkahr;** Amended C-8 Planned Commercial District; south side of Manchester Road, east of East Avenue (Street Address: 2612 East Avenue/Locator Number: 24V510441); seeking an interpretation by the Planning and Zoning Commission of the definition of artisan shops and manufacturing, as part of the permitted uses within the Workplace District of the Town Center Plan, thereby, if favorable, seeking the approval of a new tenant to conduct business in the manufacture of furniture. **(Ward Eight)**

Director of Planning Vujnich read the request into the record.

Senior Planner Arnett presented the Department's recommendation in response to the submitted request by Mr. St. Onge to amend the permitted uses for this property. She noted the limited scale of the proposed fabrication business, along with the completed sound study, which concluded no discernible sound at the property lines. She then outlined the proposed modifications to the site-specific ordinance.

Larry Goodson, Council Member Ward 8, is supportive of this request and believes the use will complement other businesses in the area, such as Three French Hens, The Porch, and Imogene's.

Charlie St. Onge, real estate broker, speaking on behalf of the petitioner, noted Mr. Black will be the owner, not the tenant.

A motion was made by Mayor Woerther, seconded by Commissioner Liddy, to extend the meeting past 10:00 p.m. A voice vote was taken regarding the motion to extend the meeting. Hearing no objections, Chair Bopp declared the motion approved.

Charlie St. Onge continued by outlining his power point presentation detailing Mr. Black's limited operation and the comparison between his work and the definition of manufacturing. He went on to note the public portion of the workshop would be open from 9:00 a.m. to 5:00 p.m., but Mr. Black would like the private fabrication hours to be less limiting, given his desire to have more flexibility to go in early or work late. He inquired about how the square footage calculation was completed and if Mr. Black could park his truck and trailer onsite. Finally, he explained that he spoke with a representative from the firm of Duany Plater-Zyberk, who stated this use would enliven the area and be in keeping with New Urbanism.

Discussion was then held regarding the following: the residential use in the smaller building on the property; the lack of outside storage of all wood, equipment, and materials; the limit of the hours of operation on the retail business versus the fabrication portion; the adjacent land uses; the waste products that would be produced from the business; the type of truck that the business uses; the size of the current signage; the distance between the adjacent residences and this building; the sound study results; and the square footage calculation, based upon the information provided by Mr. St. Onge.

A motion was made by Mayor Woerther, seconded by Commissioner Archeski, to approve the Department's recommendation.

Mitch Martin, 2645 Rockwood Pointe Court, noted his appreciation of the notification of the meeting and his concern with the sound emitting from woodworking power equipment. He stated the sewer service in the area is by pressurized lines and has issues with odor and concerned about additional use on the system. He requested the uses be limited and not include the fabrication portion, given his concerns with safety and noise.

John and Kimberly Mikloiche, 2628 Rockwood Pointe Court, believes the decibel level is loud and that the fabrication portion of the business will be disruptive. Additionally, the truck traffic is a concern.

Bruce Winsborough, 2633 Rockwood Pointe Court, noted he is opposed to this business at this location.

Maria Winsborough, 2633 Rockwood Point Court, did not speak, but wanted her comments included in the record. She noted that she does not agree with changing the ordinance and having manufacturing in the subject building. She has concerns with traffic, plumbing, and would have never moved here and bought her house, if she were going to be living so close to a manufacturing building.

Julie Matthews, 16909 Bordeaux Estates, did not speak, but wanted her comments included in the record. She is against the request because of sound concerns, the length of hours in the showroom, stating that 7:00 p.m. is too late, and her concern with truck traffic.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Archeski, Commissioner Gragnani, Commissioner Peasley, Commissioner Lee, Commissioner Liddy, Commissioner Renner, Mayor Woerther, and Chair Bopp.
Nays: Commissioner Bauer and Council Member Manton.
Absent: None
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 8-2.

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

IX. Other – No Items for Consideration

X. Closing Remarks and Adjournment

A motion was made by Mayor Woerther, seconded by Council Member Manton, to adjourn the meeting. A voice vote was taken. Hearing no objections, Chair Bopp adjourned the meeting at 10:47 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.

"DYNAMIC" SIGNAGE:

RESEARCH RELATED TO DRIVER DISTRACTION AND ORDINANCE RECOMMENDATIONS

Submitted by

SRF Consulting Group, Inc.

Prepared for

City of Minnetonka

June 7, 2007

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1.0 INTRODUCTION

This study was precipitated by concerns raised by the City of Minnetonka, Minnesota in regard to the installation of two LED ("light emitting diode") billboards along Interstate 394 and Interstate 494. The LED function was applied to two existing "static" image billboards located adjacent to the interstate. Following installation of the LED function, the City turned off the power to the signs though a stop work order based on current city ordinance prohibiting flashing signs, which is broadly defined, as well as permitting requirements for the retrofitting of the signs to the upgraded technology. The billboard owner sued the City, and the court response to this legal action as of the writing of this study has been to allow limited use of the LED billboards. A moratorium on further signage of this type was established by the City to facilitate the study of issues related to driver distraction and safety and appropriate regulatory measures for LED and other types of changeable signage.

This study was undertaken on behalf of the City of Minnetonka to examine these issues. While the concerns were precipitated by LED billboards in particular, this report examines more broadly "dynamic" display signage which is defined as any characteristics of a sign that appear to have movement or that appear to change, caused by any method other than physically removing and replacing the sign or its components, whether the apparent movement or change is in the display, the sign structure itself, or any other component of the sign. This includes a display that incorporates a technology or method allowing the sign face to change the image without having to physically or mechanically replace the sign face or its components. This also includes any rotating, revolving, moving, flashing, blinking, or animated display and any display that incorporates rotating panels, LED lights manipulated through digital input, "digital ink" or any other method or technology that allows the sign face to present a series of images or displays. These capabilities may be provided by a variety of technologies which are discussed later in this report.

As the study progressed, additional communities within the Twin Cities Metropolitan Area, as well as the League of Minnesota Cities, expressed interest in these issues. However, it is not the intention of this report to provide a comprehensive study of all issues raised by dynamic signage, or other types of billboards, but rather to focus narrowly on the issues of concern to the City of Minnetonka.

2.0 PURPOSE OF STUDY AND METHODOLOGY

Driving a motor vehicle is a complex task that requires the ability to divide one's attention. Simultaneously maintaining a steady and legal speed, changing lanes, navigating traffic and intersections, reading and interpreting street signs, drivers are often challenged by conditions that can change in the blink of an eye. Internal and external physical conditions can affect how safely the driving task is accomplished. Drug or alcohol intoxication, fatigue and/or distractions in the driving environment all can play a role in motor vehicle crashes. However, these conditions are rarely the sole reason for a crash. Rather, these conditions serve to exacerbate an already-complex driving environment and subsequent mistakes in judgment can lead to crashes.

Increasingly complex traffic and roadway environments require greater attention to and focus on the driving task.

The purpose of this study is to understand what existing transportation research tells us about the effects of dynamic signs on motorists. This study also explores regulatory measures enacted in other jurisdictions to address concerns related to driver distraction. Due to time and scope constraints, this report is not comprehensive, but rather addresses the most frequently cited and easily accessible information available. The report concludes with a discussion of regulatory options for the City of Minnetonka to consider in their formulation of policies to address dynamic signage.

Information collected for this report draws from a variety of sources including interviews with subject matter experts, government and academic research, and policies developed to regulate various types of signage.

Several city and county sign ordinances were used as references for policy and regulatory research. In some cases, ordinances were brought to our attention by planners and others following the sign ordinance issue. In others, Internet searches were conducted using words and references that apply specifically to dynamic signs.

Several sign manufacturers and sign companies provided an industry perspective through a workshop with the SRF Consulting Group and the City of Minnetonka staff on February 27, 2007. This meeting yielded information about sign characteristics that can be addressed through policy and regulatory measures. Daktronics, a company that manufactures and markets LED signs, was also helpful in this regard, providing informational materials about characteristics of signs that can be regulated and examples of city sign ordinances with which they are familiar.

3.0 SELECTED RESEARCH FINDINGS

This following section presents a summary of expert opinions and selected driver distraction research conducted by government and academic researchers examining roadside signage and its effects on the driving task. Studies are organized around critical questions with serious research ramifications.

- *Is there reason to believe that billboards are a source of distraction?*
- *Is there reason to believe that "dynamic" billboards are an additional source of distraction?*
- *How much distraction is a problem?*
- *How does "brightness" affect driver safety concerns?*
- *How should billboards and other signage be regulated from a driver safety perspective?*

3.1 Expert Opinions

A combination of researchers and public policy experts were interviewed for this study. Individuals were identified while conducting background research into driver distraction and were interviewed because of their credibility in the field.

Kathleen Harder, a researcher at the University of Minnesota, has conducted driver distraction research for a variety of applications, including research for Mn/DOT. She is an expert in the field of human factors and psychology. She indicated that electronic billboards pose a driver distraction threat because of their ability to display high resolution color images, their ability to change images, and their placement in relationship to the roadway, particularly in areas where the road curves, exits and entrances are present, merges, lane drops, weaving areas, key locations of official signs, and/or areas where roadways divide.

Greg Davis, a researcher with the FHWA Office of Safety Research and Development, in Washington, DC was involved in the 2001 FHWA study on electronic billboards. He was interviewed to gain a deeper understanding of this critical study and to learn of recent research in this area. Davis stated that while no research has established a direct cause and effect relationship between electronic outdoor advertising signs and crash rates, the lack of such a research finding does not preclude a causal relationship between electronic billboards and crashes. He advocated for a new study that can control all variables and determine if a cause and effect relationship exists.

Scott Robinson, an outdoor advertising regulator for Mn/DOT, wrote the 2003 technical memorandum that addresses allowable changes for outdoor advertising devices. Mr. Robinson indicated that the memo was originally written in 1998 to establish a permitted rate of change for tri-vision signs and that the application to electronic billboards was not considered. The minimum change rate of 4.9 seconds for 70 mph roadways and 6.2 seconds for 55 mph roadways was based on the travel time between static signs spaced at the minimum allowed distance apart. Mr. Robinson also indicated that the memo is not a Mn/DOT policy, statute or rule, but rather it was written to provide internal guidance.

Jerry Wachtel, an Engineering Psychologist and highway safety expert in private practice, was the lead author for the FHWA's original (1980) study on electronic billboards. He has continued his active involvement in this field, and advises Government agencies as well as the outdoor advertising industry on sign ordinances, sign operations, and the implications of the latest research on road safety. Mr. Wachtel believes that it is neither feasible from the perspective of research design and methodology, nor necessary from a regulatory perspective, to demonstrate a causal relationship between digital billboards and road safety. Rather, he believes that we have a strong understanding, based on many years of research, of driver information processing capabilities and limitations, and of the contributions to, and consequences of, driver distraction, on crash risk; and that this understanding is sufficient to support development of guidelines and ordinances for the design, placement, and operation of digital billboards so as to lessen their potentially adverse impact on road safety and traffic operations.

Wachtel also offered comments on drafts of this report. In later conversations related to his review, Wachtel stated his belief that even though visual fixations on roadway signs decrease as route familiarity increases, a strength of the new digital billboards is that they can present messages *that are always new.* Thus, the conclusion from the 1980 FHWA study is another argument against these billboards; namely, drivers spend more time looking at the unfamiliar signs than at familiar ones, suggesting digital billboards are more dangerous than traditional fixed billboards. Wachtel also suggested his preference for a goal to have any given driver experience only one, or a maximum of two, messages from an individual roadside sign.

3.2 Billboards: a Source of Driver Distraction? [1]

The purpose of a sign is to attract the attention of passersby so that a message is conveyed. To the degree signs attract the attention of vehicle drivers, they may distract them from the activity of driving. While this report primarily examines the impact of *dynamic* roadside advertising, the role traditional *static* advertising plays in driver distraction is discussed below.

The relationship between roadside advertising and crash rates has been the subject of several studies. The majority of this research was conducted in the 1950s, 60s and 70s. While some of the earliest studies have been subsequently criticized for flawed methodologies and improper statistical techniques, some findings emerge when the totality of the studies are examined. One of these findings is that the correlation between crash rates and roadside advertising is strongest in complex driving environments. For example, higher crash rates were found at intersections (generally considered a complex environment) that have advertising than those intersections that do not have advertising. A few of the studies that are important in this field are summarized below.

Minnesota Department of Transportation Field Study (1951) and Michigan State Highway Department Field Study (1952) [2]

These two studies from the early 1950s used similar methods but came to significantly different conclusions. Recognized as the more scientifically rigorous study, the Minnesota study found that increases in the number of advertising signs per mile are correlated with increases in motor vehicle crash rates. It also found that intersections with at least four advertising signs experienced three times more crashes than intersections with no advertising signs. Conversely, the less rigorous Michigan study found the presence of advertising signs had no effect on the number of crashes.

Iowa State College, Do Road Signs Affect Accidents? (Lauer & McMonagle, 1955)[3]

A laboratory test was created to determine the effect of advertising signs on driver behavior. The results of this study found removing all advertising signs from the driver's field of vision did not improve driver performance. When signs were included, driver performance was slightly better. Note that laboratory methods used in this study are considered to be dated by today's standards.

Faustman (California Route 40) Field Study (1961)[4] and Federal Highway Administration, Reanalysis of Faustman Field Study (1973)[5]

Two studies that appear to have stood the test of time are Faustman's original analysis of California Route 40 and its re-examination by FHWA more than a decade later. The original analysis tried to improve upon previous research by limiting variables, such as roadway geometric design and roadway access controls. The FHWA reanalysis focused on disaggregating the data and converting actual crashes to expected crash rates on specific roadway sections. Each of the sections was given a value based on the number of billboards on the section. A linear regression was performed to determine the expected crash rates. An analysis of variance of the regression coefficients found that the number of billboards on a section was statistically significant. The reanalysis found a strong correlation between the number of billboards and crash rates as shown in Table 1.

Table 1. FHWA Reanalysis of Faustman's Findings.

No. of Billboards	Expected No. of Accidents in a 5-year Period	Cumulative Increase in Accident Rate
0	5.92	
1	6.65	12.3
2	7.38	24.2
3	8.11	37.0
4	8.84	49.3
5	9.57	61.7

Federal Highway Administration
***Safety and Environmental Design Considerations in the Use of Commercial Electronic Variable-Message Signage* (Wachtel & Netherton, 1980)[6]**

This extensive review provides a comprehensive discussion of roadside advertising research as of 1980. The study authors noted "attempts to quantify the impact of roadside advertising on traffic safety have not yielded conclusive results." The authors found that courts typically rule on the side of disallowing billboards because of the "readily understood logic that a driver cannot be expected to give full attention to his driving tasks when he is reading a billboard." Because the distraction evidence is not conclusive, these decisions were generally not based on empirical evidence.

The research review noted that accident reports often cite "driver distraction" as a default category used by uncertain law enforcement officers who must identify the cause of a crash. As a result, the authors believe crashes due to driver distraction are not always properly identified. In addition, law enforcement officers often fail to indicate the precise crash locations on crash reports, making it difficult to establish relationships between crashes and roadside features.

Accident Research Unit, School of Psychology, University of Nottingham
Attraction and distraction of attention with roadside advertisements **(Crundall et al., 2005)** [7]

This research used eye movement tracking to measure the difference between street-level advertisements and raised advertisements in terms of how they held drivers' attention at times when attention should have been devoted to driving tasks. The study found that street-level advertising signs are more distracting than raised signs.

3.3 "Dynamic" Billboards: an Additional Source of Distraction?

Signage owners or leasers want to incorporate dynamic features into their signage for a number of reasons: to enhance the sign's ability to attract attention, to facilitate display of larger amounts of information within the same sign area, to conveniently change message content, and to enhance profitability. As mentioned earlier, this report uses the term "dynamic" signs to refer to non-static signs capable of displaying multiple messages. Several studies documented the ability of a sign to accomplish the first of these goals.

University of Toronto
Observed Driver Glance Behavior at Roadside Advertising Signs **(Beijer & Smiley, 2004)** [8]

Research done at the University of Toronto compared driver behavior subject to passive (static) and active (dynamic) signs. The study found that about twice as many glances were made toward the active signs than passive signs. A disproportionately larger number of long glances (greater than 0.75 seconds) taken were toward the active signs. The duration of 0.75 seconds is important because it is close to the minimum perception-reaction time required for a driver to react to a slowing vehicle. For vehicles with close following distances, or under unusually complex driving conditions, a perception delay of this length could increase the chance of a crash. The following findings were reported in this study:

- 88% of the subjects made long glances (greater than 0.75 seconds).
- 22% of all glances made at all signs were long glances (greater than 0.75 seconds).
- 20% of all the subjects made long glances of over two seconds.
- As compared to static and scrolling text signs, video and tri-vision signs attracted more long glances.
- Video and scrolling text signs received the longest average maximum glance duration.
- All three of the moving sign types (video, scrolling text and tri-vision) attracted more than twice as many glances as static signs.

University of Toronto
Impact of Video Advertising on Driver Fixation Patterns (Smiley et al., 2001) [9]

Another study completed at the University of Toronto used similar eye fixation information in urban locations to show that drivers made roughly the same number of glances at traffic signals and street signs with and without full-motion video billboards present. This may be interpreted to mean that while electronic billboards may be distracting, they do not appear to distract drivers from noticing traffic signs. This study also found that video signs entering the driver's line of sight directly in front of the vehicle (e.g., when the sign is situated at a curve) are very distracting.

City of Seattle Report (Wachtel, 2001) [10]

The City of Seattle commissioned a report in 2001 to examine the relationship between electronic signs with moving/flashing images and driver distraction. The report found that electronic signs with moving images contribute to driver distraction for longer intervals than electronic signs with no movement. Following are major points made in the report:

- New video display technologies produce images of higher quality than previously available technologies. These signs have improved color, image quality and brightness.
- New video display technologies use LEDs with higher viewing angles. Drivers can read the sign from very close distances when they are at a large angle from the face of the sign.
- Signs with a visual story or message that carries for two or more frames are particularly distracting because drivers tend to focus on the message until it is completed rather than the driving task at hand.
- Research has shown that drivers expend about 80 percent of their attention on driving related tasks, leaving 20% of their attention for non-essential tasks.
- The Seattle consultant suggests a "10 second rule" as the maximum display time for a video message.

The expanded content of a dynamic sign also contributes to extended distraction from the driving task. The Seattle Report examined how this may be due in part to the *Zeigarnik effect* which describes the psychological need to follow a task to its conclusion. People's attention is limited by the ability to only focus on a small number of tasks at a time, and by the tendency to choose to complete one task before beginning another. In a driving environment, drivers' attention might be drawn to the sign rather than the task of driving because they are waiting to see a change in the message. This loss of attention could lead to unsafe driving behaviors, such as prolonged glances away from the roadway, slowing, or even lane departure.

While the Zeigarnik effect may be present in a wide variety of driving situations, possible scenarios that could affect drivers include:

- A scrolling message requires the viewer to concentrate as the message is revealed. Based on the size and resolution of the sign, and the length of the message, this could range from less than one second to many seconds.
- A sequence of images or messages that tell a story, during which the driver's attention may be captured for the entire duration that the sign is visible. Instead of merely glancing at the sign and then returning concentration to the driving task, more attention may be given to the message.
- Anticipation of a new image appearing, even if the expected new image is not related to the first image. In this case, the driver may be distracted while waiting for the change.

Federal Highway Administration
***Safety and Environmental Design Considerations in the Use of Commercial Electronic Variable-Message Signage* (Wachtel & Netherton, 1980)** [11]

This research provides information on the use of on-premise Commercial Electronic Variable-Message Signs (CEVMS) that display public service information (i.e,. time and temperature) and advertising messages along the Interstate highway system. The research found the following major considerations:

- Highway Safety Considerations

  The link between changing messages that attract drivers' attention and crashes has been an issue of concern since the earliest forms of electronic signage became available. This study thoroughly reviewed the literature seeking information regarding a potential link between CEVMS and crashes:

  > *"Although a trend in recent findings has begun to point to a demonstrable relationship between CEVMS and accidents, the available evidence remains statistically insufficient to scientifically support this relationship."*

  The study also noted that studies have not documented information about "such occurrences as 'near misses' or traffic impedances that are widely recognized as relevant to safety, and which may or may not be attributable to the presence of roadside advertising."

- Human Factors Considerations

  Human factors relate to all the elements that explain driver behavior, such as eye glances and driver responses to a variety of driving-related stimuli. The study makes the point that simple driving-related tasks consume relatively little information processing capacity. However, when other conditions, such as congestion, complicated roadway geometries, or weather are also considered, the marginal extra

amount of attention required to read roadside advertisements could lead to driving errors that could cause crashes.

> *"The enormous flexibility of display possessed by CEVMS makes it possible to use them in ways that can attract drivers' attention at greater distances, hold their attention longer, and deliver a wider variety of information and image stimuli than is possible by the use of conventional advertising signs."*

Texas Transportation Institute for FHWA, Impacts of Using Dynamic Features to Display Messages on Changeable Message Signs (Dudek et al., 2005) [12]

This study examined the comprehension times for three different scenarios for DOT-operated changeable message signs. The scenarios evaluated were:

- Flashing an entire one-phase message
- Flashing one line of a one-phase message while two other lines of the message remain constant
- Alternating text on one line of a three-line CMS while keeping the other two lines of text constant on the second phase of the message

The findings of this study were:

- Flashing messages did not produce faster reading times.
- Flashing messages may have an adverse effect on message comprehension for unfamiliar drivers.
- Average reading times for flashing line messages and two-phase messages were significantly longer than for alternating messages.
- Message comprehension was negatively affected by flashing line messages.

While this research did not evaluate advertising-related signs, it does demonstrate that flashing signs require more of the driver's time and attention to comprehend the message. In the case of electronic billboards, this suggests that billboards that flash may require more time and attention to read than static ones.

3.3.1 OTHER INFORMATION

NHTSA Driver Distraction Internet Forum (2000) [13]

The National Highway Traffic Safety Administration held an internet forum to gather research and public comment related to driver distraction with an emphasis on the use of cell phones, navigation systems, wireless Internet and other in-vehicle devices. During this forum, participants were invited to take a poll to determine the most prominent driver

distraction issues. Electronic billboards were identified as one of six noted sources of distraction.

Parliament of Victoria, Australia, Report of the Road Safety Committee on the Inquiry into Driver Distraction (2006) [14]

This report identified road signs and advertising as one of the largest sources of driver distraction. At least three billboards near Melbourne, Australia display moving images.

> *"The Committee considers these screens to be at the high end of potential visual distraction and accordingly, present a risk to drivers."*

The study also included a quote from the Manager of the Road User Behaviour group at VicRoads (the State's road and traffic authority) from a December 2005 hearing:

> *What we do know is when there is movement involved, such as flicker or movement in the visual periphery, that this is more likely to capture a driver's attention. We actually are hard-wired as human beings to movement, so particularly moving screens and information that scrolls at intersections and in highly complex driving situations – these are risky, and in particular researchers have been most concerned about those sort of advertising materials.*

This opinion would suggest that electronic signs can present a distraction to drivers.

3.4 How Much Distraction Is a Problem?

A number of studies were identified that discussed concerns with driver distraction generally. It should be noted that some of the studies cited use specific crash data that is ten or more years old. Direct comparison of distraction sources to influences of today may not be completely valid due to increased technological sophistication of distracting influences. These could include in-vehicle technology (e.g., navigation systems, MP3 players, DVD players, CD players, computer systems, etc.) as well as other potentially distracting influences (e.g., cell phones, text messaging, dynamic signage, other roadway elements, etc.) that were not commonplace when the data for these studies was collected:

Australian Road Research Board
***Investigations of Distraction by Irrelevant Information* (Johnston & Cole, 1976)** [15]

This research used five experiments to test whether drivers could maintain efficient performance in their driving tasks while being subjected to content that was information rich, but irrelevant to driving. The findings were that a small, but statistically significant amount of performance degradation was observed when the participant was under a critical load of stimuli.

National Highway Traffic Safety Administration/ Virginia Tech Transportation Institute

***Impact of Driver Inattention on Near-Crash/Crash Risk: An Analysis Using the 100-Car Naturalistic Driving Study Data* (Klauer et al., 2006)** [16]

This study analyzed the data from a driving database developed by the National Highway Traffic Safety Administration. This database contained exhaustive data recorded by instrumented vehicles that measured glance position, impairment, drowsiness, risk taking and many other parameters potentially involved in crash causation. Vehicles were instrumented so that an observer did not need to be in the vehicle to collect data. Automated data collection reduced the problem of an observer influencing driver behavior. The study found that glances of two seconds or greater doubled the risk of crashes or near-crashes. The study also found that 22 percent of crashes are accompanied by "secondary-task" distraction whether inside or outside the vehicle.

National Highway Traffic Safety Administration/ Virginia Tech Transportation Institute

***Driver Inattention is a Major Factor in Serious Traffic Crashes* (2001)** [17]

The National Highway Traffic Safety Administration commissioned a study to examine the causes of crashes. The study gathered information from four areas throughout the country and used data from the National Automotive Sampling System (NASS) from April 1996-April 1997 for analysis. The geographic areas were selected because they had good crash investigation practices and high interview completion rates. The results of this study are summarized in Table 2.

Table 2. Crash Causation Summary

Causal Category	Percentage of Drivers Contributing to Causation
Driver Inattention	22.7
Vehicle Speed	18.7
Alcohol Impairment	18.2
Perceptual Errors	15.1
Decision Errors	10.1
Incapacitation	6.4
Other	8.8

Association for the Advancement of Automotive Medicine

***The Role of Driver Inattention in Crashes; New Statistics from the 1995 Crashworthiness Data System* (Wang, 1996)** [18]

This report analyzed the NHTSA 1995 Crash Worthiness Data System (CDS). It found that the greatest source of driver distraction (3.2 percent) was due to a specified person, object or event outside the vehicle. The full results of the study are presented in Table 3.

Table 3. Percentage of CDS Crashes Involving Inattention-Distraction Related Crash Causes

Data Element	% of Drivers	% of Crashes
Attentive or not distracted	46.6%	28.4%
Looked but did not see	5.6%	9.7%
Distracted by other occupant [specified]	0.9%	1.6%
Distracted by moving object in vehicle [specified]	0.3%	0.5%
Distracted while dialing, talking, or listening to cellular phone [location and type of phone specified]	0.1%@	0.1%@
Distracted while adjusting climate controls	0.2%@	0.3%@
Distracted while adjusting radio, cassette, CD [specified]	1.2%	2.1%
Distracted while using other device/object in vehicle [specified]	0.1%	0.2%
Sleepy or fell asleep	1.5%	2.6%
Distracted by outside person, object, or event [specified]	2.0%	3.2%
Eating or drinking	0.1%	0.2%
Smoking-related	0.1%	0.2%
Distracted/inattentive, details unknown	1.5%	2.6%
Other distraction [specified]	1.3%	2.2%
Unknown/No Driver	38.5%	46.0%

Weighted driver N = 4,627,000 (7,943, unweighted); weighted crash N = 2,619,000 (4,536); In order for a *crash* to classified "attentive," all involved drivers had to be classified "attentive."
@ - estimate based on 5-9 cases.

University of North Carolina Highway Safety Research Center
The Role of Driver Distraction in Traffic Crashes (Stutts et al., 2001) [19]

A study prepared by the University of North Carolina Highway Safety Research Center for the AAA Foundation for Traffic Safety examined the sources of driver distraction in traffic crashes. The data came from the CDS from 1995-1999. Of the thirteen specific sources of distraction tracked by the study, the greatest source of distraction was an outside person, object or event. While the study does not break down the sources of outside distraction, it does show that distractions outside the vehicle are the largest factor in distraction-related crashes. The results of this study are presented in Table 4.

Table 4. Specific Sources of Distraction Among Drivers in Distraction–Related Crashes

Specific Distraction	Percentage of Drivers
Outside person, object or event	29.4
Adjusting radio, cassette, CD	11.4
Other occupant in vehicle	10.9
Moving object in vehicle	4.3
Other device/object brought into vehicle	2.9
Adjusting vehicle/climate controls	2.8
Eating or drinking	1.7
Using/dialing cell phone	1.5
Smoking related	0.9
Other distraction	25.6
Unknown distraction	8.6
Total	100.0

Three studies were found which attempted to measure driver behavior specifically in response to dynamic signage. Two of these studies demonstrated a potential relationship between dynamic signage and crash rates:

Minnesota Department of Transportation, The Effectiveness and Safety of Traffic and Non-Traffic Related Messages Presented on Changeable Message Signs (CMS) (Harder, 2004) [20]

This study used a driving simulator to measure the effect of Department of Transportation changeable message signs on traffic flow. The two messages evaluated were a "crash ahead" warning and an AMBER Alert (child abduction information). The research found that just over half of the participants used the "crash ahead" message and 60 percent could recall the AMBER Alert with scores of Good or Better. Over one fifth of the participants slowed down by at least 2 mph upon seeing the AMBER Alert, demonstrating that messages relevant to drivers are associated with changes in at least some drivers' travel speed .

***Decision of the Outdoor Advertising Board in the Matter of John Donnelly & Sons, Permitee, Telespot of New England, Inc., Intervenor, and Department of Public Works, Intervenor, with Respect to Permit Numbered 19260 as Amended* (1976)** [21]

This proceeding documents the Commonwealth of Massachusetts Outdoor Advertising Board's ruling regarding one of the first changeable signs. This sign was located near an arterial road in Boston and used magnetic discs to portray a message that changed every 30 seconds. The original sign permit was rejected based on four criteria, one of which was safety. Upon appeal, the Massachusetts Department of Public Works allowed the permit based on the fact that the sign would give the public a benefit. However, they ultimately determined that the sign was a safety hazard based on crash rates before and after the sign was installed. Tables 5 and 6 show the change in crash rates.

Table 5. Telespot Sign Crash Rates - Expressway Southbound

	Average per year (1/1/1970-12/31/1972)	Average per year (1/1/1973-3/31/1975)	Average Percent Change
Crashes where the sign was viewable (north of sign)	29.0	20.0	-31.0
Crashes where the sign was not viewable (south of sign)	39.0	15.6	-60.0

Table 6. Telespot Sign Crash Rates - Expressway Northbound

	Average per year (1/1/1970-12/31/1972)	Average per year (1/1/1973-3/31/1975)	Average Percent Change
Crashes where the sign was viewable (south of sign)	46.3	42.7	-7.8
Crashes where the sign was not viewable (north of sign)	8.0	1.8	-77.5

This analysis shows that while crash rates decreased on comparable sections in the years after the sign was installed, the sections where the sign was visible experienced smaller crash rate decreases. Due to these arguments, the Board ruled that the operation of the sign must be terminated.

Wisconsin Department of Transportation
Milwaukee County Stadium Variable Message Sign Study – Impacts of an Advertising Variable Message Sign on Freeway Traffic (1994) [22]

A study prepared by the Wisconsin Department of Transportation (WisDOT) examined crash rates before and after an advertising variable message sign was installed in 1984 on the Milwaukee County Stadium, home of the Milwaukee Brewers professional baseball team. Crash statistics were analyzed for the three years before and the one and three years after the sign was installed. As they are often associated with driver distraction, side-swipe and rear-end crashes, as well as total crashes, were examined for both the eastbound and westbound directions. The sign was much more visible to eastbound traffic due to the stadium's proximity to the roadway and the amount of visual obstructions for westbound traffic.

The analysis found an increase in crash rates for all crash types in the eastbound direction after the sign was installed. Most pronounced was an 80 percent increase in side-swipe crashes after the first year of installation. Results in the westbound direction were mixed, with a 29 percent decrease in crashes the first year the sign was in place and a 35 percent increase in the three years the sign was in place. Although no control roadway sections were studied, an interview with the study author revealed that the introduction of a sign on a high volume curving roadway may have introduced enough distraction to an already demanding driving environment to explain the higher crash rate in the eastbound direction. The study author also stated that the study was not able to establish a causal relationship between the sign and the crash rates.[23]

Federal Highway Administration
Research Review of Potential Safety Effects of Electronic Billboards on Driver Attention and Distraction (2001) [24]

The Federal Highway Administration published a comprehensive report in 2001 that consisted of a literature search, literature review and a description of research needs for

the topic of electronic billboards (EBBs). While the study did not conduct any new research, it does provide an excellent summary of the role electronic billboards play in traffic safety and includes good descriptions of the terminology related to electronic billboards. Selected findings from that synthesis are provided below:

> *"In most instances, researchers were not able to verify that an EBB was a major factor in causing a crash. Only one study since the 1980 review and one lawsuit were identified."*
>
> *"Studies were identified that verified that: an increase in distraction, a decrease in conspicuity, or a decrease in legibility may cause an increase in the crash rate."*
>
> *"Commercial EBBs are designed to 'catch the eye' of drivers. Their presence may distract drivers from concentrating on the driving task and visual surrounds."*
>
> *"There is indication that individual differences in age and driving experience may be important considerations in driver distraction, and are relevant to understanding driver responses to the external environment. Furthermore, research regarding driver familiarity of their route demonstrated that visual fixations on roadway signs decreases as route familiarity increases. This research may show that there is a difference between commuter and visiting drivers."*

Based on these findings, the FHWA recommended additional research to further demonstrate how roadway characteristics, sign characteristics and legibility, driver characteristics and other potential driver distractions affect traffic safety. FHWA was contacted to see if any new information was available. Greg Davis, a Research Psychologist with the FHWA Office of Safety R&D, indicated that the FHWA has not performed additional studies on the topic since the report was published. He stated that there is "no direct correlation between electronic outdoor advertising signs and crash rates". He referred to a before/after study of electronic signs installed along a freeway in Las Vegas that found no change in crash rates. He went on to say that the lack of a research finding that links signs with crash rates does not mean that a causal relationship does not exist. He indicated that he has been contacted by several law enforcement agencies regarding the link between driver distraction and dynamic message signs/electronic billboards. He indicated that this is a timely and pertinent topic for many states due to the increasing popularity and capabilities of electronic outdoor advertising devices, and he expects further research to be forthcoming. He advocates for a new study that can control for all variables and determine if a cause and effect relationship exists.[25]

3.5 How Does "Brightness" Affect Driver Safety Concerns?

The brightness of any sign, static or dynamic, raises concerns with discomfort or disability glare to the driver that may arise when viewing any lighted object. *Disability Glare* occurs when a

driver is exposed to a light source so bright that it temporarily blinds the driver, impairing their ability to perform driving tasks. This temporary blindness is brief, but can be dangerous. *Discomfort Glare* occurs when a light source is bright enough to distract or encourage the driver to look away from the light, but is not blinding. Discomfort glare is of particular concern in cases where a bright sign is located in the same line of sight as a traffic sign, signal or another vehicle.

While concerns about glare are not unique to dynamic signs, newer sign technologies, which often include dynamic components, have the technical capability to emit more light and/or respond to ambient light conditions, raising additional concerns about sign brightness in areas where signs compete with regulatory traffic signs or signals.

3.6 Billboards and Other Signage Regulation: a Minnesota Perspective

Roadside signage is governed by policies and laws at the federal, state and local levels. Minnesota Statute, Chapter 173 seeks to "reasonably and effectively regulate and control the erection or maintenance of advertising devices on land adjacent to such highways." The statute requires adherence to federal statutes with respect to interstate and primary systems of highways.

Minnesota Statute Ch. 173.16 Subd. 3. regulates lighting of signs. Signs which are "illuminated by any flashing light or lights, except those giving public service information" (time, date, temperature, weather or news) are prohibited. This section also states:

> (b) Advertising devices shall not be erected or maintained which are not effectively shielded so as to prevent beams or rays of light from being directed at any portion of the traveled way of an interstate or primary highway, of such intensity or brilliance as to cause glare or impair the vision of the operator of any motor vehicle; or which otherwise interfere with any driver's operation of a motor vehicle are prohibited.
>
> and
>
> (c) Outdoor advertising devices shall not be erected or maintained which shall be so illuminated that they interfere with the effectiveness of or obscure any official traffic sign, device or signal.

3.7 Billboard and Other Signage Regulation: Other Perspectives

During the course of this study, several articles were found which summarize regulation of dynamic signage in other states:

Wisconsin Department of Transportation
***Electronic Billboards and Highway Safety* (2003)** [26]

The Wisconsin Department of Transportation also published a literature review report to further explain the current state of EBB research. Although much of the information is

mentioned in other sections of this report, the Wisconsin review did summarize Wisconsin's regulations for electronic billboards.

- No message may be displayed for less than one-half second;
- No message may be repeated at intervals of less than two seconds;
- No segmented message may last longer than 10 seconds;
- No traveling message may travel at a rate slower than 16 light columns per second or faster than 32 columns per second (light column defined as pixel column);
- No variable message sign lamp may be illuminated to a degree of brightness that is greater than necessary for adequate visibility.

National Alliance of Highway Beautification Agencies (1999) [27]

Although this survey is eight years old, it generated the following information related to electronic billboards:

- Nine states had specific regulations governing signs,
- Nine states had regulations on tri-vision signs that were either being drafted or in pending legislation,
- Fifteen states had regulations regarding moving parts and/or lights,
- Nine state had no regulations on tri-vision signs, and
- Six states and Washington, DC, prohibited tri-vision signs.

An investigation into state outdoor advertising regulations was also conducted.

- Thirty-six states had prohibitions on signs with red, flashing, intermittent, or moving lights,
- Twenty-nine states prohibited signs that were so illuminated as to obscure or interfere with traffic control devices, and
- Twenty-nine states prohibited signs located on interstate or primary highway outside of the zoning authority of incorporated cities within 500 ft of an interchange or intersection at grade or safety roadside area.

Parliament of Victoria, Australia, Report of the Road Safety Committee on the Inquiry into Driver Distraction (2006) [28]

This report, cited earlier for its driver distraction opinions, identifies road signs and advertising as one of the largest sources of driver distraction. VicRoads, the state's road and traffic authority, has implemented the following regulations.

Figure 1. VicRoads' Ten Point Road Safety Checklist

An advertisement, or any structure, device or hoarding for the exhibition of an advertisement, is considered to be a road safety hazard if it:

1. obstructs a driver's line of sight at an intersection, curve or point of egress from an adjacent property; or
2. obstructs a driver's view of a traffic control device, or is likely to create a confusing or dominating background which might reduce the clarity or effectiveness of a traffic control device; or
3. could dazzle or distract drivers due to its size, design or colouring, or it being illuminated, reflective, animated or flashing; or
4. is at a location where particular concentration is required (eg. high pedestrian volume intersection); or
5. is likely to be mistaken for a traffic control device, for example, because it contains red, green or yellow lighting, or has red circles, octagons, crosses or triangles, or arrows; or
6. requires close study from a moving or stationary vehicle in a location where the vehicle would be unprotected from passing traffic; or
7. invites drivers to turn where there is fast moving traffic or the sign is so close to the turning point that there is no time to signal and turn safely; or
8. is within 100 metres of a rural railway crossing; or
9. has insufficient clearance from vehicles on the carriageway; or
10. could mislead drivers or be mistaken as an instruction to drivers.

VicRoads also gives operational requirements for electronic advertising message signs. Signage must:

- not display animated or moving images, or flashing or intermittent lights;
- remain unchanged for a minimum of 30 seconds;
- not be visible from a freeway; and
- satisfy the ten-point checklist.

4.0 SUGGESTED REGULATORY APPROACH

Local governments regulate electronic outdoor advertising devices in widely varying degrees. Some cities completely prohibit the use of all electronic signs (sometimes specifying LED signs), while others have no regulations specific to electronic signs. Between those two extremes, there are many levels and types of control that can be applied.

The primary concerns to keep in mind when considering sign regulations are 1) First Amendment rights, which can be affected by regulations that affect the content of a sign's message, and therefore should be avoided, and 2) changing technology, which can quickly make a sign ordinance no longer applicable if the ordinance has been specifically written to address a certain type of sign technology. Performance based measures may therefore be preferable as they remain viable even as sign technology advances.

4.1 Definitions

Signage discussions often include a number of different words or phrases used to describe the technical characteristics of signage devices or their components (such as LEDs). For the purpose of zoning, some additional terms are also used to describe sign characteristics. Any regulatory efforts should take care to precisely define terminology. One possible resource in this effort is "Street Graphics and the Law," published by the American Planning Association (APA) Planning Advisory Service[29].

4.2 Types of Regulatory Measures

4.2.1 Complete or Partial Prohibition of Electronic Signs

Some cities have completely prohibited the use of electronic outdoor advertising devices. For example, the City of Maple Valley, WA prohibits all types of electronic outdoor advertising devices including animated signs, electronic changeable message signs, flashing signs or displays, moving signs, scrolling displays, and traveling displays. This applies to both on-premise and off-premise signs.

Other cities are very selective about where electronic signs are allowed, allowing them only in certain zoning districts. There are very few "standard" approaches. For the most part, each local

government tailors their regulations to their own situation. One approach adopted by cities is to prohibit electronic outdoor advertising devices in residential zoning districts, and for a certain distance away from residential zoning districts, similar to the zoning limitations placed on illuminated signs. Some ordinances require that electronic signs be situated such that the sign face is not visible from nearby residences.

4.2.2 Size Limitations on Electronic Signs

Another way of regulating electronic signs is to limit their size. Again, there is no set standard for this. One ordinance reviewed for the purpose of this study limits the electronic portion of a sign to no more than 50 percent of the sign face with the overall size determined by whatever the sign ordinance allows for a particular zoning district. Other examples of electronic sign size limitations include five square feet, 1,000 square inches, 20 square feet, and so forth. In other ordinances, there is no differentiation made between the size of electronic signs and other signs.

According to input from representatives of the sign industry, the smaller the size of the electronic sign, the more desirable it is for businesses to use frequent message changes, or sequenced messages, where more than one screen of text is used to convey an entire message.

4.2.3 Rate-of-Change Limitations on Electronic Signs

Many communities that allow electronic signs also regulate the rate at which the messages on the signs can be changed. Research on sign codes has shown this to range from as little as four seconds to as long as 24 hours.

The Interstate 394 sign between Ridgedale Drive and Plymouth Road is visible for approximately 45 seconds at free flow traffic speeds. Depending on text size, the message may not be readable by drivers during this entire duration, but the message changes can attract attention from long distances. Depending on how often the message changes occur and the speed of traffic, drivers on this segment could see a varying number of discrete messages. Table 7 provides the number of message changes a driver would see at different change durations and traffic speeds.

Table 7. Number of New Messages Seen at Various Driver Speeds and Time Intervals Between Messages

		Number of Messages Seen					
		Message Display Time (seconds)					
Speed (mph)	**Time sign is clearly visible* (seconds)**	**6**	**8**	**10**	**60**	**1800 (30 minutes)**	**3600 (1 hour)**
30	60	11	9	7	2	1	1
45	40	8	6	5	2	1	1
55	33	7	5	4	2	1	1

*Assuming the sign is clearly visible from one-half mile away.

Prohibiting displays from changing quickly can minimize potential driver distraction, but it would significantly limit the message owner's ability to convey information that does not fit on one screen of the sign. Using two or more successive screens to convey a message is referred to as sequencing. Based on the studies summarized in part 3 of this Report, including the glance duration studies performed by Klaur for the FHWA in 2006 and by Beijer & Smiley in 2004, and Wachtel's analysis for Seattle of the Zeigarnik effect, a message delivery system such as sequencing that requires or induces a driver to watch the sign for several seconds increases the likelihood of driver distraction. Based on information from the sign industry, for sequencing to be effective in a marketing sense, a brief rate-of-change (1-2 seconds) is generally used before transitioning into the next screen.

Some codes specify how an image changes, while other codes prohibit the use of transitions. The change from one image to another can be accomplished by various techniques: no transition – simply a change from one screen to another, or fading or dissolving one image into the next. Flashing, spinning, revolving, or other more distracting transition methods can be prohibited, allowing businesses to use sequencing in an effective manner without making the signs overly distracting. Another way of regulating distracting transitions is to require a very short time of a dark or empty screen between images.

4.2.4 Motion, Animation, or Video Limitations on Electronic Signs

Motion on a sign can consist of everything from special text effects (spinning, revolving, shaking, flashing, etc.) to simple graphics, such as balloons or bubbles rising across the screen, to more realistic moving images that have the appearance of a television screen. According to sign industry representatives, video imagery on a sign is referred to as "animation" if the sign is limited to the capability of 10 frames per second. Fewer frames per second make the moving image look more like animation. Imagery produced by signs that have the capability of processing up to 30 frames per second is accurately referred to as "video" imaging.

Many communities that allow dynamic signs do not allow the application of any type of motion, animation, or video on the signs. However, Seattle was obliged to allow video imagery on their signs after earlier signage code regulating certain types of signs was not strictly enforced. In addition to requiring a dark period between successive messages to overcome the Zeigarnik effect, Seattle also limits the duration of the video message to a minimum of two seconds and a

maximum of 10 seconds. This time frame was established based upon careful calculations of the streets from which these signs could be seen, speed limits and traffic volumes in addition to the community's concern over the extent to which moving images could distract drivers. However, Seattle also limits the size of their electronic signs to a maximum of 1,000 square inches, with no single dimension greater than three feet, thus minimizing the effect of video images.

4.2.5 Sign Placement and Spacing

Regulating the number of dynamic sign potentially visible to a driver at any one time as well as the position of the sign in relationship to the roadway may reduce distraction to drivers. Spacing requirements should consider the speed, width and horizontal and vertical alignment of the roadway.

Some communities have established minimum distances between electronic signs. Establishing an adequate distance between these types of devices seems particularly important if a fairly fast rate of change is allowed for the purpose of facilitating sequenced messages or if animation and video imaging is allowed. Closely spaced signs attempting to convey sequenced messages may simply create visual overload and an over-stimulated driving environment. Research conducted to date has not yielded information about optimal electronic sign spacing. Seattle adopted a 35-foot spacing requirement for their electronic signs based upon multiple levels of analysis of the downtown city environment in which these signs are present.

Due to the varying characteristics of individual roadways in this regard, overlay districts allowing dynamic signage with conditions specific to that area could be considered. Overlay districts could also take into account other locational factors such as offset from the roadway and conspicuity. Determining appropriate offsets from the roadway must consider roadway clear zone requirements as well as spacing of frontage roads and access points, while also considering the signage too far outside the driver's line of sight may be a further distraction. Conspicuity, a sign's ability to stand out from its surroundings, should also be considered.

4.2.6 Text Size

Legibility is another important property of signage. The preferred approach used within highway signing is that drivers can read text that is 1 inch high from 30 feet away. Larger text is needed for signs to be legible at greater distances. Large, legible text allows the driver to read the billboard from varying distances and focus on the driving task. Conversely, with small text, the driver is more likely to focus on the sign for a longer period of time and possibly be more adversely distracted. However, the size or type of text or the amount of text due is rarely regulated.

4.2.7 Brightness Limitations on Electronic Signs

One of the main concerns about the use of electronic signs, regardless of whether they consist of changeable text, animation, or video, is the brightness of the image. The brightness of an object can be characterized in two ways. *Iluminance* is the total brightness of all the light at a point of measurement. Illuminance often describes ambient light and can be measured with a standard light meter such as is used in photography. *Luminance* is the measure of the light emanating from an object with respect to its size and is the term is used to quantify electronic sign brightness. The unit of measurement for luminance is nits, which is the total amount of light emitted from a sign divided by the surface area of the sign (candelas per square meter).

Many, but not all, LED-type signage can be time-programmed to respond to day and nighttime light levels. Higher-end signage types are equipped with photo cells to respond to ambient light conditions. Despite these controls, LED signs have been observed that are considered to be excessively bright. Sign industry representatives indicate that excessive brightness can be the result of 1) sign malfunction or improper wiring, 2) lack of photo cell and/or dimming mechanism, or 3) operator error or lack of understanding that brightness is not necessarily an advantage, especially if it makes a sign unreadable or unpleasant to look at. They also maintain that the intent of the electronic sign industry is to establish a brightness level that is similar to a traditional internally or externally lit sign. Recent observations of sign technicians calibrating the Interstate 394 LED billboard noted that the brightness controls are not calibrated to specific nit levels, but rather vary in proportion to a set maximum level, like a volume control dial on a typical car radio.

To control the extent to which electronic signs are a distraction or the extent to which they are readable, many local governments have adopted regulations that limit nit levels. At this time, ordinances that use nit level limitations typically differentiate between day time and night time nit levels. A common daytime nit limitation ranges from 5,000 to 7,000 nits. A common nighttime limitation is 500 nits, although in areas that are extremely dark at night, with very little in the way of ambient light levels, less than 500 nits may be appropriate. Other communities have taken this farther, such as Lincoln, Nebraska, whose sign code incorporates a graph of varying ambient light levels ranging from night time to a bright sunny day and all conditions between those two extremes, and has correlating nit limitations for the various ambient light levels.

Enforcement of these types of regulations is challenging as luminance of electronic signs is very difficult to measure in the field. Typically, sign luminance is measured and calibrated in a controlled factory setting using a spectral photometer to measure the light output. This calibration setting is then used in conjunction with a photo cell to control the brightness of the sign. The higher the ambient light levels, the brighter the sign. There are different nit thresholds for various colors. White is most often used to set dimming levels because at a constant nit level, white has the most intensity as perceived by the human eye.

Lincoln uses a light meter to conduct testing on electronic signs and found a wide range of luminance levels. One small electronic sign had luminance levels of 13,000 nits. The process that Lincoln uses to check luminance levels is to hold a luminance meter close to the face of the sign so that it captures only the light emitted from the sign. They have not had any requests to

measure the brightness of LED billboards, so the viability of using this approach on billboards has not been explored.

In Seattle, sign luminance was found too difficult to measure, so signs are visually inspected when complaints from the public are received. Sign owners are then contacted and asked to adjust sign luminance accordingly.

Both Mesa, Arizona and Lincoln, Nebraska have included a requirement for written certification from the sign manufacturer that the light intensity has been preset not to exceed the illumination levels established by their code, and the preset intensity level is protected from end user manipulation by password protected software or other method approved by the appropriate city official. This language appears to offer the advantage of ensuring that electronic signs, at a minimum, cannot exceed a certain established level of brightness.

At a minimum, it is important for communities to require all electronic signs to be equipped with a dimmer control. A requirement for both a dimmer control and a photo cell, which constantly keeps track of ambient light conditions and adjusts sign brightness accordingly, is optimal.

Over time, the LEDs used in electronic signs have a tendency to lose some of their intensity, and an owner may choose to have the sign adjusted and calibrated, which involves adjusting the level of electrical current in a manner that affects the brightness of the sign. This occurs over the course of two or three years. Having maximum nit levels established would ensure that the sign company has upper limits to work with as far as adjusting the sign is concerned.

4.3 Public Review

Most communities establish rules within their sign code and do not create opportunities for electronic signs to be approved through conditional use permits or special use permits. Some communities with special overlay districts, or areas that are oriented toward entertainment and night life, have established a review process for electronic signs, or for various functions of electronic signs such as animation and video.

Other communities take the opposite approach, where they allow electronic signs with no controls whatsoever, except in certain special areas, such as a historic overlay district, or a historic downtown district, where the signs are prohibited. Each community needs to tailor their application of electronic signs to meet their needs.

As of the writing of this report, no ordinances have been discovered that have a special review committee just for the purpose of electronic signs. Typically, sign regulations established in the zoning ordinance would be reviewed in accordance with existing review and approval processes. As with other development features, dynamic signage should be either prohibited, permitted, or conditional depending upon the zoning district and/or the specific features of the sign as established within the city's regulations (i.e. size, specific location with respect to the adjacent roadway, zoning district, proximity of sensitive uses). The recommended review process for permitted dynamic signs should be the same as procedures already in place for administrative

review. For dynamic signs requiring a Conditional Use Permit (CUP), the standard process for public notification and a public hearing before the planning commission should apply.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Driver distraction plays a significant role in traffic safety. Driver distraction is a factor in one in four crashes, and of those crashes involving driver distraction, one in four involves distractions outside the vehicle. The extent to which dynamic signage contributes to traffic safety has been examined in this study. Following are some of the major findings from a review of available research.

- Drivers that are subjected to information-rich content that is irrelevant to the driving task (such as digital advertising) may be temporarily distracted enough to cause a degradation in their driving performance. This degradation could lead to a crash.
- The unlimited variety of changing content allows dynamic signage to attract drivers' attention at greater distances and hold their attention longer than traditional static billboards.
- Several studies have found a correlation between crashes and the complexity of the driving environment. For example, crash rates are higher at intersections because the difficulty of the driving task is increased by the roadway's complexity. Complex driving environments place a high demand on drivers' attention. Introducing a source of distraction in an already demanding driving environment is more likely to result in crashes. This is illustrated by the 1994 Wisconsin DOT study that examined crash rates before and after installation of an electronic sign on a high-volume curving roadway. Introduction of this sign was identified as a likely factor of the 80 percent increase in side-swipe crashes that was experienced.
- Many studies have noted a correlation between outdoor advertising signs and crash rates, but have not established a *causal* relationship between the signs and crash rates. Driving is a complex task influenced by multiple factors. It is not necessary to establish a direct causal relationship between outdoor advertising signs and crash rates to show that they can make the driving task less safe. While the research shows that driver distraction is a key factor in many motor vehicle crashes, this often includes many interacting factors that distract drivers. The specific driver distraction danger that advertising signs contribute is difficult to quantify. A study that could control for multiple variables (human factors, vehicle, enforcement and the roadway environment) would be needed to provide a definitive statement on the level of driver distraction that signs produce. Such a study would likely find that not all advertising signs cause distraction that would lead to crashes, but some signs in some situations are more likely to contribute to crashes than others.

Overall, the literature review conducted for the purpose of this study identifies a relationship between driver distraction and electronic outdoor advertising devices. As indicated, driver distraction is a significant factor in crashes. The purpose of dynamic signage is to attract the attention of people in vehicles, so a natural conclusion from that knowledge is that drivers may be distracted by them. Professional traffic engineering judgment concludes that driver distraction generally contributes to a reduction in safe driving characteristics.

For this reason, state departments of transportation have carefully studied the design and location of dynamic signs within the highway right-of-way. Their goal is to convey a message to the traveling public in a manner that is as straight-forward and readable as possible without being a visual "attraction". The goal of the outdoor advertising sign is to be a visual attraction outside the right-of-way, possibly making it a source of driver distraction. Nevertheless, the actual change in crash rates influenced by the presence of any specific device has not been quantified in a manner that fully isolates the impacts of an electronic sign. Recent studies conducted by FHWA and others have cited the need for further research.

In the interest of promoting public safety, this report recommends that electronic signs be viewed as a form of driver distraction and a public safety issue. Therefore, the ordinance recommendations identified here should be considered. These recommendations should be reviewed in the future as additional research becomes available.
With respect to regulatory measures for electronic outdoor advertising signs, it is important that local governments take a thorough approach to updating their ordinances to address this issue. For example, an ordinance that addresses sign motion, but does not address brightness and intensity levels may leave the door open for further controversy. This report seeks to identify all of the aspects of electronic outdoor advertising devices that are subject to regulation. It does not specifically state what those regulations should be (e.g. the size of electronic signs), since these are all things that policy makers and staff must take into careful consideration. Further, as driver distraction and resulting influences on safety do not, in a practical sense, distinguish between on-premise and off-premise signage, this distinction is not highlighted in the recommendations below.

Regulatory Measures recommended for consideration

To properly address the issue of dynamic signage, it is recommended that the sign code address the following:

1. Identify specific areas where dynamic signs are prohibited. This would typically be done by specifying certain zoning districts where they are not allowed under any circumstances. If dynamic signs are to be allowed in specific areas, this could be done by zoning district (only higher level commercial districts are recommended for consideration) or by zoning overlay related to specific purposes (e.g. entertainment or sports facility district) or to specific roadway types.

2. Determine the acceptable level of operational modes in conjunction with such zoning districts or overlays. The various levels include:

    a. Static display only, with no transitions between messages,

    b. Static display with fade or dissolve transitions, or transitions that do not have the effect of moving text or images,

    c. Static display with scrolling, traveling, spinning, zooming in, or similar special effects that have the appearance of movement, animation, or changing in size, or get revealed sequentially rather than all at once (e.g. letters dropping into place, etc.), and

d. Full animation and video.

3. If one of the forms of static display is identified as the preferred operational mode, a minimum display time should be established. This display time should correspond to the operation roadway speed (rather than posted speed limit), allowing at most one image transition during the time that the sign if visible to a driver traveling at the operational speed.

   If a shorter minimum display time is considered, the effects of message sequencing should be considered. Wait intervals of more than 1-2 seconds between sequenced messages have the potential to become more of a distraction as viewers wait impatiently for the next screen, in an effort to view the complete message.

4. If the community wishes to accommodate animation or video in some or all locations where dynamic are permitted, a minimum and maximum duration of a video image should be established. The purpose for establishing a time limit is to ensure that the message is conveyed in a short, concise time frame that does not cause slowing of traffic to allow drivers to see the entire message. Given the creativity of advertising, these video images may be seen as a form of entertainment, and people typically like to see an entertaining message through to the end.

   Differentiate between zoning districts where dynamic signs are permitted by right, and zoning districts, overlay districts, or special districts where they should only be allowed through the approval of a Conditional Use Permit. A CUP would involve public notification and review and approval by the Planning Commission. Other options would include a design review board or other dispute resolution process.

5. Consider the establishment of minimum distance requirements between electronic outdoor advertising devices in relation to the zoning district or roadway context in which the signs are allowed.

6. Consider size limitations on dynamic signs for zoning districts where they are allowed. This may vary from one district to another.

7. Consider if dynamic signs are allowed independently, or if they must be incorporated into the body of another sign, and therefore become a limited percentage of the overall sign face.

8. Establish a requirement for that all dynamic signs that emit light be equipped with mechanisms that allow brightness to be set at specific nit levels and respond accurately to changing light conditions. The City must establish the authority to disable or turn the device off if it malfunctions in a manner that creates excessive glare or intensity that causes visual interference or blind spots, and require that the device remain inoperable until such time that the owner demonstrates to the appropriate city official that the device is in satisfactory working condition. If such technology is not available, consideration should be give to banning dynamic signs that emit light until such time as the technology allows brightness levels to be precisely controlled.

9. Consider maximum brightness levels that correlate to ambient (day or night condition, lighting of surrounding context) light levels. A maximum daytime and separate nighttime nit/footcandle level should be established. Consider wording that requires the sign to automatically adjust its nit level based on ambient light conditions.

10. Consider a requirement for a written certification from the sign manufacturer that the individual sign's maximum light intensity has been preset not to exceed the maximum daytime illumination levels established by the code, and that the maximum intensity level is protected from end user manipulation by password protected software or other method approved by the appropriate city official.

11. Require sign owners to provide an accurate field method of ensuring that maximum light levels are not exceeded. If such a method cannot technically be provided, consider banning dynamic signs that emit light until such time as the technology is available.

APPENDICES

Appendix A

Current Sign Technologies

Appendix A – Current Sign Technologies

Roadside signage has long been used to alert and direct travelers to retail businesses, lodging, attractions and other destinations. Until the 20th century much of this image was "static" in nature, presenting a single image that could only be altered by repainting or otherwise removing an image and replacing it with another. With the advent of motorized travel, signage became more "dynamic" or active in its efforts to attract the traveler's attention as they moved at ever increasing speeds. Initially, motion was created by flashing bulbs or alternating sets of neon tubes.

Today's technologies allow for an increasingly sophisticated display of images that can be manipulated by a few strokes of a keyboard. Simpler forms of signs capable of displaying multiple images include "tri-vision" signs which present a series of images through mechanical rotation of multi-sided vertical strips. The rotation occurs at regular intervals presenting a series of static images. Other forms are electronically produced, allowing for a wide range of colors, messages and images depending on the level of technology, and typically produced by light emitted by the sign face. Basic levels of technology present letters or numbers in a single color of light, such as "time and temperature" signs or gas pricing signs. Many of these signs can present longer images in a scrolling fashion, or can provide simple animations.

Recent advances have introduced a variety of technologies to the outdoor advertising arena. The largest impact has been made with LED signs which offer an inexpensive yet powerful approach that combines full motion, brilliant colors and a readable display. Other technologies are in development, including "digital ink" signs that offer a changeable medium on a surface that looks like a normal vinyl billboard. These signs manipulate ink on the surface, allowing for a dynamic presentation of images without being internally illuminated.

The various sign technologies are referenced by a wide array of terms: "changeable message signs," "electronic billboards," "animated signs." In general, this report focuses on the broad range of signage types which are capable of displaying multiple images through electronic manipulation, which we will refer to as "dynamic" signing. Reference to specific signage types is made when necessary to discussion of specific issues (e.g. the brightness of LED signage).

Appendix B

Outdoor Advertising Sign Brightness Definitions

Appendix B – Outdoor Advertising Sign Brightness Definitions

This appendix defines various technical terms that are used to describe the operational aspects of electronic billboards.

Billboard Illuminance

Billboard illumination is typically discussed using two terms: illuminance and luminance. Because this section includes some technical jargon, a glossary that further defines terms used in outdoor advertising is provided in Appendix C.

Illuminance: The amount of light that is incident to the surface of an object. This is the method for describing ambient light levels or the amount of light that is projected onto a front-lit sign. This parameter is typically measured in lux (footcandles x meters). For the purposes of dimming, illuminance is discussed to describe the ambient light that hits the photocell.

Luminance: The amount of light that emanates from an internally illuminated sign. This parameter is measured in nits. The nit levels necessary for the sign to be legible vary with the ambient light conditions. On a sunny day, the nit levels must be very high, while at night, the levels must be very low to prevent the image from distorting and to prevent glare.

Billboard Luminance (Brightness)

Luminance is measured in nits (candelas/square meter) and describes how bright the image is. In essence, it is the amount of light that is radiated from the sign divided by the amount of surface area of the sign. No matter how big the sign is, the luminance of the sign is consistent. For example, the brightness of computer monitors is also measured in nits.

The European standard "EN 12966" specifies that at certain ambient light levels, the sign should output a given number of nits. There are different tables for each color due to the properties of how the human eye interprets each color. The color that is most often used to set dimming levels is white.

The FHWA has developed recommended practices for dynamic message signs installed within the roadway right-of-way. The standard is NEMA's TS-4 "Hardware Standards for Dynamic Message Signs (DMS) With NTCIP Requirements." Note that these standards were prepared for message signs deployed within the roadway right-of-way and should not be taken as recommended luminance levels for advertising signs. Table A-1 provides a simplified version of the NEMA TS-4 standard for the color white.

Table A-1 - Luminance Standards

Ambient Light (lux)	Approximate Light	Minimum Luminance (nits)	Maximum Luminance (nits)
40,000	Sunlight	12,400	62,000

10,000	Cloudy	12,400	-
4,000	Overcast	2,200	11,000
400	Sunrise/Sunset	600	3,000
40	Candlelight	250	1,250
less than 4	Moonlight	75	375

Source: NEMA TS-4 (2005)

Billboard Resolution

Billboards require far less resolution than print advertisements. For example, Clear Channel's LED "Digital Outdoor Network" LED bulletin-size (14' x 48') billboards require dimensions of only 208 pixels high by 720 pixels wide. If this image were to be printed at 300 dots per inch (dpi), a typical print resolution, the entire image would be less than 1.7 square inches. Therefore, it is ideal to keep the message on these signs simple and clear because they do not currently allow resolutions similar to printed images.

Dimming

To maintain readability, the brightness of a sign must be adjusted to match ambient light conditions. If this is not done, the image will appear too bright and can even degrade the image quality through a phenomenon called "blooming." If the image blooms, the brightest areas of the image bleed over into darker parts and the image clarity is degraded.

Dimming is typically controlled by a photocell, which measures the ambient light conditions and varies the light output of the sign based on preconfigured settings. As ambient light conditions darken, the photocell senses the decrease and lowers the light output of the sign. Some sign manufacturers do not incorporate photocells in their electronic signs.

Electronic billboard dimming can also be controlled by scheduled dimming according to time of day or manual dimming. On-premise signs may use any of these methods, but most, if not all, off-premise standard size electronic billboards are auto dimmed by photocell. Some signs include user-defined dimming curve capability allowing total control over sign brightness and adjustability to accommodate local brightness ordinances.

Appendix C

Electronic Outdoor Advertising Device
Visual Performance Definitions

Appendix C – Electronic Outdoor Advertising Device Visual Performance Definitions

Conspicuity

Conspicuity is the property that related to the contrast between a sign and its background and its ability to stand out from its surroundings. This is a subjective property that depends on many factors of both the environment and the viewer.

Contrast

Contrast is the property that defines the relationship between the brightness of the brightest color possible to the darkest color possible on a sign. In times when ambient conditions are very bright, such as a sunny day, the darkest color may still be very bright due to the sun's reflection off the sign. In these cases, the lighter colored areas of the billboard's image must be much brighter than the contrasting dark areas.

Legibility

The ability of the driver to read a sign is related to its legibility. Large, legible text allows the driver to read the billboard from varying distances and focus on the driving task. Conversely, with small text the driver is more likely to focus on the sign for a longer period of time and possibly wait until the sign is very close.

State departments of transportation use NEMA's TS-4 document for this criterion. This document specifies many characteristics related to legibility including character height, resolution and color.

Glare

Disability Glare

The first form of glare is disability glare. This occurs when a driver is exposed to a light source so bright that it temporarily blinds the driver, impairing their ability to perform driving tasks. This temporary blindness is brief, but can be dangerous.

Discomfort Glare

Discomfort glare is when a light source is bright enough to distract or encourage the driver to look away from the light, but is not blinding. Discomfort glare is of particular concern in cases where a bright sign is located in the same line of sight as a traffic sign, signal or another vehicle.

Frequency of Change

The frequency of change is determined by the interval of time between sign image changes. The rate of change can usually be adjusted by the owner and operator of the sign. Frequency

of change is highly variable, with some on-premise signs changing faster than once per second. While no standard is generally accepted, local government agencies have used ordinances to limit the frequency to anywhere from 5 seconds to 24 hours.

Interactive signs

Interactive signs change their message based on the person viewing it. For example, the carmaker MINI has installed variable message signs that display a customized message to car owners who have special key dongles containing a radio frequency identification (RFID) chips when the dongle is in close proximity to the sign.

Another example is a microphone system that identifies the radio stations passing drivers are listening to and displays a specific message for that station.

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SRF CONSULTING GROUP, INC.

Transportation • Civil • Structural • Environmental • Planning • Traffic • Landscape Architecture • Parking • Right of Way

MEMORANDUM

TO: Tom Grundhoefer
League of Minnesota Cities

FROM: Karen Sprattler, Senior Associate
SRF Consulting Group, Inc.

DATE: June 21,2007

SUBJECT: DYNAMIC" SIGNAGE: RESEARCH RELATED TO DRIVER DISTRACTION AND ORDINANCE RECOMMENDATIONSREPORT

This study was originally commissioned in response to litigation brought by Clear Channel Communications, Inc. in response to actions taken by the City of Minnetonka, Minnesota in regard to the installation of two LED ("light emitting diode") billboards along Interstate 394 and Interstate 494. This study was undertaken to examine issues surrounding the Minnetonka billboards. While the concerns were precipitated by LED billboards in particular, this report examines more broadly "dynamic" display signage. However, this report is not the intended to be a comprehensive study of all issues raised by dynamic signage or other types of billboards,

As the study progressed, additional communities and the League of Minnesota Cities expressed interest in these issues. While it is true that the study was prepared for the City of Minnetonka, it is acknowledged that the many of the findings and conclusions, and the broader discussion of many of the issues of concern may be useful to other communities involved in similar situations.

H:\Projects\5995\Final Report\Study disclaimer 062007 KS.doc

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CITY OF WILDWOOD, MISSOURI
RECORD OF PROCEEDINGS

MEETING OF THE PLANNING AND ZONING COMMISSION
CITY HALL, 16860 MAIN STREET, WILDWOOD, MISSOURI
AUGUST 17, 2015

The Planning and Zoning Commission meeting was called to order by Chair Bopp, at 7:30 p.m., on Monday, August 17, 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 – (8)
Chair Bopp
Commissioner Archeski
Commissioner Peasley
Commissioner Renner
Commissioner Gragnani
Commissioner Liddy
Council Member Manton
Mayor Woerther

ABSENT - (2)
Commissioner Lee
Commissioner Bauer

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

II. Review Tonight's Agenda / Questions or Comments

There were no questions or comments on the agenda.

III. Approval of Minutes from the August 3, 2015 Meeting

A motion made by Commissioner Peasley, seconded by Council Member Archeski, to approve the minutes from the August 3, 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. 17-15 City of Wildwood Planning and Zoning Commission c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040** – A request for review and consideration of modifications to the Zoning Performance Standard Regulations – Noise Code Section (Section 415.250) of the City of Wildwood Zoning Ordinance that would address noise emissions from equipment that occurs for extended periods of

time, over any timeframe, including all day, week, month, or year, in all appropriate zoning district designations, including the "NU", "R", "C", and "M" District categories. **(Wards – All)**

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

Senior Planner Weiss read the request into the record.

Director of Planning Vujnich noted the Department prepared a primer with background information on the City's Noise Code and will combine its experiences with public comments received tonight, to determine if a change to the code is necessary. He then explained about a fish farming operation on ten (10) acres in the western portion of the City. This farming operation is permitted by right, but requires aerators to run 24 hours a day to provide oxygen to the fish. These aerators have caused an inordinately high volume of complaints from adjacent property owners. The City has hired an independent consultant to test the noise level of the aerators on multiple occasions and, in each instance, determined them to be within the current requirements relative to decibel level. The Department believes, however, that due to the duration of the noise (24 hours a day, seven days a week) the sound is not typical. The contemplated change to the code would address duration of noise, even if the sound was under the maximum decibel levels of the Noise Code. He concluded, noting the Department would like to hear testimony, before determining if any recommendation for change would be made.

Charles Gulas, 2054 Wild Horse Creek Road, noted he has lived on his property since 2003 and that he supports modifications to the code to address the duration of the noise. He believes the aerator noise at the fish farm is unreasonable and should be considered a nuisance. He also suggested changes to address these types of operations, including an increased buffer; a greater setback distance; increased fines; harsher consideration on repeated violations; and the inclusion of protective equipment.

Nancy and Dan Fischer, 2066 Wild Horse Creek Farm, noted they, too, believe the continual noise is a nuisance and they can no longer enjoy their outdoor space at their home. Mr. Fischer had discussed options for muffling the sound with Mr. Lisk, such as covers for the aerators, but he will not accommodate any suggestion to decrease the noise. They distributed comments to the Commission, which are included as part of these minutes.

Margo Begley, 18322 Shiloh Woods Court, noted she is also negatively impacted by the constant aerator noise and distributed comments to the Commission, which are included as part of these minutes.

Robert Pagliaro, 16219 Bear Branch Court, noted that, in fairness to the fish farm owner, he should be allowed to run his business, since it is permitted. He believes the owner is a good person and a member of the community.

Erin Pagliaro, 16219 Bear Branch Court, noted that, when she has been to the fish farm, she doesn't hear the sound and it doesn't impact activity, when moving around the property.

Andrew Lindberg, 2467 Eatherton Road, noted there are ways to reduce the noise and those methods should be pursued by the fish farm owner.

Michael Lisk, 1354 Katsura Court, noted he is the owner of the fish farm. He stated that sound studies have been done and he is not in violation. The studies are engineering reports that stated the facts. He stated he has done things to reduce the aerator noise. He also noted he intends to build a house on the property.

Director of Planning Vujnich noted that the majority of cities adopt the applicable County Code, but it would not be out of the realm to address unique issues in Wildwood with its own regulations.

Discussion was then held by the Commissioners regarding the following: the number and type of aerator units; the frequency levels of the aerators; the lack of need for a permit for the aerators; the issuance of a grading permit to install the lake; and the need for a Site Development Plan, as requested by the Department of Planning, of the fish farm operation, but was contested by the owner.

Larry McGowen, 18538 Wild Horse Creek Road, noted that he has visited the fish farm and, in a short duration of time, the noise levels would be okay, but would be an issue over the long term. He has met with the owner three (3) times and heard from the neighbors, and is unsure if a solution could be found that would satisfy everyone. He concluded noting that the ordinance does not address the sustained noise from his perspective.

Additional discussion was then held by the Commissioners regarding the following: the frequency of the noise; the differentiation between a discreet tone and a higher frequency, but the effect of lower frequencies, when at a sustained level; the desire to gather research on studies completed on the impacts of long-term noise; the issue of if any new regulations could be applied to the existing use; and the dismissal, by the Prosecuting Attorney, of warning letters and summonses based upon the current code.

A motion was made by Mayor Woerther, seconded by Commissioner Gragnani, 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 – Three (3) Items for Consideration

Letters of Recommendation – One (1) Item for Consideration

(a.) **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 Weiss read the request into the record.

Director of Planning Vujnich presented the Letter of Recommendation, noting it reflected the Commission's input throughout the discussions of this request and its approval of the Department's recommendation at the previous meeting. This Letter of Recommendation is for approval of the Conditional Use Permit for the horse boarding operation.

A motion was made by Mayor Woerther, seconded by Commissioner Peasley, to approve the Letter of Recommendation granting the permit.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Renner, Commissioner Archeski, Commissioner Gragnani, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: Commissioner Lee and Commissioner Bauer
Abstain: None
Whereupon, Chair Bopp declared the motion approved by a vote of 8-0.

Information Reports – Two (2) Items for Consideration

(a.) **P.Z. 10-15 St. Charles Tower, c/o Kathryn Roderique, 4 West Drive, Suite 100, Chesterfield, Missouri, 63017** - A request for a Conditional Use Permit (CUP) within the NU Non-Urban Residence District for a 10.6 acre tract of land, of which two thousand (2,000) square feet of this total lot's area is to be utilized for a telecommunications tower facility and encumbered by a lease area established for this purpose. This tract of land is generally located northwest of the intersection of Babler Park Drive and Old Eatherton Road (Locator Number 21W310270/Street Addresses: 1400 Babler Park Drive – Lifepointe Church). Proposed Use - A one hundred twenty (120) foot telecommunications tower and related equipment shelter area. The tower is proposed to be a monopole type, with exterior antenna arrays. **(Ward Three)**

Senior Planner Weiss read the request into the record.

Director of Planning Vujnich reviewed the Department's recommendation for approval, with two (2) changes to the petitioner's request: require the tower height to be one hundred ten (110) feet in height, a ten (10) foot reduction to the petitioner's request; and utilize flush-mounted antennas. He noted the history of the request and the discussion points from the public hearing held last month. He provided information on the character of the land near the subject site; the proposed conditions of the permit; the requested RF Charts; the recommendation to determine the area as a Multiple-Use Interest Area; and the existence of the extensive number of towers in the area, as part of Ameren Missouri's power line.

A motion was made by Commissioner Peasley, seconded by Commissioner Gragnani, to discuss this item. A voice vote was taken regarding the motion. Hearing no objections, Chair Bopp declared the motion approved.

Discussion was held regarding the following: the changes to colocation in Ameren Missouri towers after 9/11 and modifications to its security procedures; the closest towers to this site, including: Metro West Headquarters, St. Paul's Church property, the Jesuit property (which allowed platform arrays); and the number of carriers, who responded to the petitioner's letter announcing a new tower would be available.

Greg Yocom, St. Charles Tower, 4 West Drive, noted he is the RF Engineer for this site. He explained that, as the petitioner, they were agreeable to the reduction in tower height, but wanted the Commission to be aware that this meant a reduction in the number of co-locators. A tower at the proposed height could accommodate a total of three (3) carriers. The noted they have built towers with flush-mounted antennas in the past, but these don't allow enough room to accommodate the radio equipment and, so, they were requesting the platform arrays be approved.

A motion was made by Commissioner Peasley, seconded by Commissioner Renner, to close the discussion. A voice vote was taken regarding the motion. Hearing no objections, Chair Bopp declared the motion approved.

A motion was made by Commissioner Archeski, seconded by Commissioner Liddy, to approve the Department's recommendation.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Archeski, Commissioner Renner, Commissioner Gragnani, Commissioner Peasley, Commissioner Liddy, Council Member Manton, and Chair Bopp.
Nays: None
Absent: Commissioner Lee and Commissioner Bauer
Abstain: Mayor Woerther
Whereupon, Chair Bopp declared the motion approved by a vote of 7-0, with 1 abstention.

(b.) **P.Z. 14-15 City of Wildwood Planning and Zoning Commission, c/o Department of Planning, 16860 Main Street, Wildwood, Missouri 63040** - A request to amend Chapter 415.410 Sign Regulations for "FP," "PS," "NU," and all "R" Districts and Chapter 415.420 Sign Regulations for all "C" and "M" Districts of the City of Wildwood's Zoning Ordinance to consider the addition of new language to allow electronic message boards for certain institutional, not-for-profit, and commercial organizations. Currently, these types of displays are prohibited within the City of Wildwood. **(Wards – All)**

Senior Planner Weiss read the request into the record.

Director of Planning Vujnich reviewed the Department's favorable recommendation for changes to the City's Sign Regulations relative to electronic message boards. The review of these regulations was prompted by Lafayette High School, who is seeking to replace their existing monument sign with an electronic type. These have been prohibited in the City, due to the dark sky, but now, with improved technology, many of these concerns can be addressed. The Director noted that the Department's recommendation for approval included conditions to address the potential impact, including the following: the provision for a Conditional Use Permit (CUP), similar to game courts and street-facing solar panel installations; the fact there could be a total number of twenty-six (26) applications throughout the City for this type of sign installation; the need for other forms of communication, besides electronic media, such as email, social media, etc., but signs are always criticized; the review of other municipalities requirements in this regard and the fact that most, except the City of Ellisville, allow these types of signs; and the twelve (12) components that would be reviewed, as part of the proposed CUP process.

A motion was made by Commissioner Peasley, seconded by Commissioner Liddy, to discuss this item. A voice vote was taken regarding the motion. Hearing no objections, Chair Bopp declared the motion approved.

Discussion was then held regarding the following: the determination for treating commercial uses differently than institutional uses; the place within the Zoning Code, where this requirement would exist; the contradiction to New Urbanism of electronic message boards; the addition of a restriction on any proposed sign to have its intensity based upon ambient light; the review of the proposed modification by the City's Lighting Consultant; the size requirements that would be placed on the sign portion and the monument

portion of these signs; the list of other locations, besides Lafayette High School, which have requested these types of signs, including the Wildwood Family YMCA, Wildwood Christian Church, LaSalle Springs Middle School, and St. Alban Roe Church and School; the concern these signs are a distraction to drivers; and the concern that, with off-site locations paying to advertise on these signs, but this consideration being prohibited by other locations within the Code.

A motion was made by Mayor Woerther, seconded by Commissioner Liddy, to extend the meeting past 10:00 p.m. A voice vote was taken regarding the motion. Hearing no objections, Chair Bopp declared the motion approved.

Discussion continued regarding the necessary restriction on moving graphics and specifics on the proposed regulations.

A motion was made by Mayor Woerther, seconded by Commissioner Archeski, to close discussion and postpone action on this item, so the Department can conduct additional research and return its final recommendation at whatever time they see fit. A voice vote was taken regarding the motion. Hearing no objections, Chair Bopp declared the motion approved.

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

A motion was 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 10:04 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, MISSOURI
RECORD OF PROCEEDINGS

MEETING OF THE PLANNING AND ZONING COMMISSION
CITY HALL, 16860 MAIN STREET, WILDWOOD, MISSOURI
JULY 20, 2015

The Planning and Zoning Commission meeting was called to order by Chair Bopp, at 7:30 p.m., on Monday, July 20, 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 Gragnani
Commissioner Lee
Commissioner Bauer
Commissioner Liddy
Council Member Manton
Mayor Woerther

ABSENT - (1)
Commissioner Renner

Other City Officials present: Director of Planning Vujnich, Director of Public Works Rick Brown, P.E. P.T.O.E., City Administrator Ryan Thomas, P.E., 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 6, 2015 Meeting

A motion made by Commissioner Peasley, seconded by Council Member Manton, to approve the minutes from the July 6, 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 – Four (4) Items for Consideration

(a.) **P.Z. 12 and 13-15 The Villages at Bright Leaf, Fischer & Frichtel Custom Homes L.L.C. and Consort Homes L.L.C., 16640 Chesterfield Grove Road, Suite 130, Chesterfield, Missouri, 63005** – A request for a change in zoning from the NU Non-Urban Residence District, the R-3 10,000 square foot Residence District, the R-4 7,500 square foot Residence District, the R-6 and R-6A 4,500 square foot Residence District, with a

the eastern portion of the site, the planned parkway, the lot sizes and housing types' compatibility with existing neighborhoods, the more level and less treed western portion of the site, which supports neo-traditional development; the concept for the linear park along the southern limits of the site; and the proposed architecture style in each different village of the property. Finally, he reiterated the request for a Work Session with the Commission.

Debra Smith McCutchen, 16548 Birch Forest Drive West, noted she is speaking as both a resident and one of the City Council representatives for Ward 5. She stated it was her belief that, most residents are happy the proposed development is for single family homes, but then outlined a number of concerns relative to drainage, grading, construction, and density. She then noted her biggest concern is with the street plan and the belief this design will negatively impact residents and decrease property values. Ms. Smith McCutchen noted she has not reviewed the traffic study, but hopes the issue of quality of life will be considered, when the Commission reviews this proposal. Her two (2) greatest concerns with the street connections were the increased traffic through neighborhoods and the loss of potential for a Ward 5 park. She then noted that the Master Plan does not support the Pond-Grover Loop Road Extension and outlined her request to not extend it or Birch Forest Drive. Finally, she noted she wants a park on the right-of-way of the Pond-Grover Loop Road, past its current terminus.

Jim Hubert, 15972 Sandalwood Creek Drive, noted that the extension of Pond-Grover Loop Road would go behind his house. He noted his concerns, as a retired teacher and current substitute teacher, with the safety of children due to the increased traffic. He noted he is not opposed to overall development, but is requesting consideration this project, and other future developments, be designed to not have connecting streets.

Paul W. Pohlers, 2323 Sandalwood Creek Court, likes the extension of the Pond-Grover Loop Road. He noted that, due to the existence of utilities, especially sewers, higher density developments should be expected east of State Route 109, but he is glad this proposal does not include apartments. He has spoken to the Fire Marshal, and, for fire access, the district needs multiple points of entry, and the Fire Marshal has spoken unequivocally that the road extensions need to occur. He stated he believes the intent of the Master Plan's opposition to the Pond-Grover Loop Road is to abandon the full loop concept, but still proceed with this quadrant being built. Mr. Pohlers noted the graded roadbed for Pond-Grover Loop Road has been there for a long time, so its construction should not be a surprise. He also commented that a Ward 5 park could still be accommodated in this development's dedicated public space and the Community Park also provides Ward 5 with close recreation options. Finally, he stated he is in favor of the project, but would also like to see villas, which may attract retirees, and then ultimately may bring more restaurants. He also does not like the name of the subdivision.

Sheldon Glass, 16874 Hickory Crest Drive, President Trustee for Hickory Manor Estates, noted his two (2) main concerns are traffic and the Pond-Grover Loop Road Extension. He commented the current Pond-Grover Loop Road is a speedway because the way the road was designed previously did not work. He supports progress, but believes they will have major problems, if this road is extended. Finally, he noted his concern with the density and his belief that ninety (90) homes would be better, and have less of an impact on the displaced wildlife from that property. He questioned, if the Pond-Grover Loop Road is connected, who will maintain those trees and what will the cost be?

Susan Treiber, 15912 Sandalwood Creek Drive, noted she has lived in her home for over nineteen (19) years and she likes the proposed homes and the subdivision looks nice, but she is opposed to the road system. She noted the roundabouts on State Route 109 have increased traffic along Sandalwood Creek Drive, and she

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)**

Chair Bopp reminded all in attendance of the public hearing process and officially opened the public hearing.

Director of Planning Vujnich read the request into the record.

Senior Planner Arnett narrated a slide show of photographs illustrating the subject site and the surrounding roadways and adjacent properties.

Ladd Faszold, 16514 Meadow Hawk Drive, outlined his reasons for selecting the proposed location for solar panels, which prominently were because of the south facing eaves. The rear of the house is shaded and not the best location to gather sunlight. He provided a study he had completed over two (2) days of sunshine and, noted, the two (2) south facing eaves received the most sunshine. He stated he has a letter from the Homeowner's Association showing approval of the requested panels. He then noted the proposed panels will be black in color and will not be obtrusive. Finally, he commented that his neighbors in the Estates at La Salle Subdivision support his request.

Charles Melton, Jr., 10330 Page Industrial Boulevard, with StraightUp Solar, spoke on behalf of this request, as the petitioner's contractor. He noted the trustees have signed the approval letter, after all six (6) lot owners supported the installation. He then gave details on the proposed system, noting it will provide over 10,000 kilowatt hours over a year, which is over fifty percent (50%) of the homeowner's electric needs. If the proposed location of panels were not to be on the south facing eaves, which are visible from the street, the effectiveness of the system would be reduced by over fifty percent (50%). Finally, he noted that StraightUp Solar is a fully licensed company, with their own electricians, designers, architects, and engineers, and reviewed the technical plans for the solar panels, created by these specialists.

Discussion was then held by the Commission regarding the following: the location of the solar panels; the neighbors' opinions; the size of the petitioner's lot; the capacity of the solar panels; the ability of the system to have net metering, which will sell the excess power to the electric company; the contents of the application packet; the preservation of all trees on the property; and the lack of a desire on the homeowner's part to install a future ground array to reach one hundred percent (100%) production.

A motion was made by Mayor Woerther, seconded by Commissioner Lee, to close the public hearing. A voice vote was taken regarding the motion. Hearing no objections, Chair Bopp declared the motion approved.

(c.) **P.Z. 10-15 St. Charles Tower, c/o Kathryn Roderique, 4 West Drive, Suite 100, Chesterfield, Missouri, 63017** - A request for a Conditional Use Permit (CUP) within the NU Non-Urban Residence District for a 10.6 acre tract of land, of which two thousand (2,000) square feet of this total lot's area is to be utilized for a telecommunications tower facility and encumbered by a lease area established for this purpose. This tract of land is generally located northwest of the intersection of Babler Park Drive and Old Eatherton Road (Locator Number 21W310270/Street Addresses: 1400 Babler Park Drive – Lifepointe Church). Proposed Use: A one hundred twenty (120) foot telecommunications tower and related equipment shelter area. The tower is proposed to be a monopole type, with exterior antenna arrays. **(Ward Three)**

boards for certain institutional, not-for-profit, and commercial organizations. Currently, these types of displays are prohibited within the City of Wildwood. **(Wards – All)**

Chair Bopp again reminded all in attendance of the public hearing process and officially opened the public hearing.

Senior Planner Arnett read the request into the record.

Director of Planning Vujnich noted the Department has had a history of requests for electronic message boards from both institutional and commercial users. He noted these types of signs have never been allowed in Wildwood, mostly due to their impact on the night sky. The Department, however, believes that a discussion should be had by the Planning and Zoning Commission on this topic. The need for this discussion is based upon a request by Rockwood School District. He noted the discussion should focus on five (5) characteristics that will need to be addressed in considering this item. These discussion items include the following: 1) brightness; 2) message hold time; 3) transition method; 4) transition duration; and 5) area or square footage. Finally, he noted this public hearing is intended to gauge if there is interest in allowing these types of signs and, if so, how to address them.

John Shaughnessy, Principal of Lafayette High School, noted his school is the only one of four in Rockwood School District without an electronic marquee sign. He commented on the issue that temporary signs have been an issue in the past, caused by the lack of his ability to provide information on a number of events and issues at one time. Finally, he noted that he has done research on many different types of signs and he believes they would be able to meet the City's requirements, while also satisfying the school's need for a digital marquee.

Discussion was held among the Commission Members regarding the following: the methods the school currently uses to communicate information; the advertisement for this public hearing; the options on these types of signs; the variability of brightness during the day versus at night; the high potential for negative comments from the public, if this is approved; the ability to turn off the sign at night; the potential for it to distract drivers and other safety concerns; the potential for setting a precedent and the possible proliferation of these types of signs; the proposed location for the sign at Lafayette High School; the money for the sign at the high school, which was raised by it and not part of a bond issue; the desire to have the high school use the money raised for the sign to go to the hiring of a new teacher, instead of this installation; the ability to differentiate the approval of signage on institutional properties versus commercial users; the desire for research on these types of sign and other cities' ordinances; the desire to understand other potential locations, where these signs might be requested.

A motion was made by Mayor Woerther, seconded by Council Member Manton, to extend the meeting past 10:00 p.m. A voice vote was taken, with no objections, and Chair Bopp declared the motion approved.

Matt Landuehr, 2513 Forest Leaf Parkway, stated he is a Wildwood resident, as well as, a Lafayette High School alumnus and current teacher there. He noted he would encourage the Commission to complete its research and look further into this technology. He believes it is of value to the community to encourage these types of signs and the City is currently using these types of signs, as an effective means of communication, and it should be researched to discover the possibility and technology potential for allowing them, while making them as least obtrusive on the surrounding area.

Whereupon, Chair Bopp declared the motion approved by a vote of 8 to 0, with 1 abstention.

VIII. **Site Development Plans-Public Space Plans-Record Plats – One (1) Item for Consideration**

(a.) A report, with recommendation, regarding a City of Wildwood, Missouri project relating to the **resurfacing and installation of new bicycle lanes on Manchester Road (Historic Route 66)** from State Route 109 (on the east) to State Route 100 (on the west); NU Non-Urban Residence District, NU Non-Urban Residence District, with a Planned Residential Development Overlay District (PRD), and C-8 Planned Commercial District designations; public right-of-way only; endorsing and approving this plan due to the linkage it will provide between Town Center, the Pond Historic District and Rockwoods Reservation for pedestrians, runners, and bicyclists, while providing improved safety for all users of the roadway. **(Ward One)**

Senior Planner Arnett read the request into the record.

Director of Planning Vujnich provided on overview of the project, which included the following: the area dedicated for Share the Road; the receipt of a federal grant covering eighty percent (80%) of the project costs; the State Statute requiring the Planning and Zoning Commission to review and take action upon this type of project; the lack of long-term road closures; the construction details of the retaining walls to match the built environment; the proposed six (6) month timeframe for this project, scheduled to begin this winter; and the fact the plans will also be reviewed by the City's Historic Preservation Commission, given this roadway is the original Route 66.

A motion was made by Commissioner Archeski, seconded by Mayor Woerther, to approve the Site Development Plan for the resurfacing and bike lane project.

Discussion was held regarding the presentation of the plans to the Historic Preservation Commission.

Chair Bopp called the question.

A roll call vote was taken, with the following results:
Ayes: Commissioner Bauer, Commissioner Archeski, Commissioner Gragnani, Commissioner Lee, Commissioner Peasley, Commissioner Liddy, Council Member Manton, Mayor Woerther, and Chair Bopp.
Nays: None
Absent: Commissioner Renner
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)**

Director of Planning Vujnich noted the Nominating Committee has decided to meet on August 3rd, at 7:15 pm, to discuss their slate of candidates to be presented for consideration.

TO: Planning and Zoning Commission, City of Wildwood

RE: Bright Leaf Development and Extension of Pond-Grover Loop

Based on the information presented at the Ward 5 Town Hall meeting on July 6, we understand the proposed Bright Leaf development may also result in the extension of both Birch Forest and Pond-Grover Loop ("PGL"). Our comments and concerns with the proposed plan are described below.

I. Accountability
   A. Upon review of the Master Plan, the essential reasons for the incorporation of Wildwood included accountability to the people of the area, and residential development consistent with long-range planning and prudent land utilization[1]. The Master Plan explicitly states "Do not adopt other arterials and new roadways that may have been projected as part of previous St. Louis County plans, in particular, the Pond-Grover Loop Road.[2]" To be accountable to the people of Wildwood, this Master Plan should be followed and the road not extended. This will keep the town accountable to the current residents, rather than cater to potential future residents.

II. Increased traffic on PGL and throughout Ward 5 (including but not limited to Forest Leaf Parkway, Green Pines Drive, and Birch Forest)
   A. A transportation goal listed in the Master Plan includes safe streets need to be maintained throughout Wildwood[3]. Children frequently play in the street, and people use sidewalks to run, walk, and bike throughout Ward 5. Traffic has already been acknowledged as an issue with the installation of speed bumps on Green Pines Drive and Forest Leaf Parkway. Further increasing traffic on these roads will make them more dangerous to pedestrians and residents.
   B. The Master plan states the expansion of Hwy 109 would result in negative impacts, including "environmental degradation associated with its construction and increased traffic, [and] the loss of parkland through direct acquisition for roadway right-of-ways.[4]" The same logic should be applied to the extension of PGL. Extending PGL would have a similar negative impact of increased traffic and loss of park land (specifically the potential Ward 5 neighborhood park; see additional discussion in section IV below).

III. Connectivity
   A. Creating a walking path from PGL terminus to the Bright Leaf development (without extension of the roadway) would allow for the desired connectivity discussed at the July 6 meeting
      - Allows Bright Leaf residents access to the potential Ward 5 park, Green Pines elementary, and other areas of Ward 5 without increasing vehicular traffic to the existing neighborhoods

[1] Master Plan, page 22
[2] Master Plan, page 56
[3] Master Plan, page 53
[4] Master Plan, page 54-55

B. It was stated that subdivisions should have two access points. There are several in Wildwood with only one or two access points. The two access points to Bright Leaf at Eatherton and Taylor should fulfill this safety concern.
    - The second entrance to Turnberry neighborhood on Strecker Road was actually blocked off, removing an access point.

C. Based on the preliminary drawing of the Bright Leaf development shown at the July 6th meeting, new homes would be built directly adjacent to homes on Birch Forest. It did not appear that additional roadway would have to be constructed to extend Birch Forest. However, substantial construction would need to be completed to extend PGL to connect it to Bright Leaf.

D. To allow a third emergency vehicle access point, it seems easiest to use Birch Forest as the road is complete as shown in the Bright Leaf conceptual drawing. This could be structured to only allow emergency vehicles, and not permit regular vehicular traffic (potentially similar to the blocked access to Turnberry subdivision from Strecker Road). This would keep the additional traffic off Forest Leaf / Birch Forest / Green Pines Drive while allowing emergency vehicles an additional way to access Bright Leaf.

E. Three emergency access points should be sufficient, as other subdivisions in Wildwood have only one or two. PGL as a fourth access point is unnecessary.

Suggested resolutions include:

- Do not allow Bright Leaf development.
- Allow Bright Leaf development, with only access points from Taylor Road and Eatherton. Create walking trail from PGL terminus to Bright Leaf development. Results in no extension of PGL or Birch Forest.
- Allow Bright Leaf development, with access points from Taylor Road and Eatherton. Have emergency vehicle access point at Birch Forest (no residential traffic allowed). Create walking trail from PGL terminus to Bright Leaf development, but do not extend roadway of PGL.

In summary, the costs of extending PGL (increased traffic, loss of potential Ward 5 park, inconsistent with Master Plan) negatively impact current Wildwood residents and outweigh the benefit to current non-residents of having a fourth emergency vehicle access point to a planned subdivision. Using the PGL terminus as a Ward 5 neighborhood park rather than extending the roadway to Bright Leaf would be consistent with the Master Plan, help implement the Parks and Recreation Action Plan, and keep the city of Wildwood accountable to its residents.

Thank you,

Christine & Kyle Brown

16916 Hickory Way Ct.
christinebrown1009@gmail.com

From: **Karen Calcaterra** calcaterrakaren@rockwood.k12.mo.us
Subject: RE: Next steps....
Date: February 17, 2015 at 10:05 AM
To: Joe Vujnich JVujnich@cityofwildwood.com
Cc: John Shaughnessy shaughnessyjohn@rockwood.k12.mo.us

Joe,

Thanks for your response. We are just wanting to move forward so that we can improve communications with our school community. Please let me know if John or I need to do anything else at this time.

Thanks,
Karen

Dr. Karen Calcaterra
Associate Principal
Lafayette High School
17050 Clayton Road
Wildwood, Missouri 63011
636.733.4114

"Be an opener of doors for such as come after thee..." -Ralph Waldo Emerson

From: Joe Vujnich [mailto:JVujnich@cityofwildwood.com]
Sent: Monday, February 16, 2015 11:27 AM
To: Karen Calcaterra
Subject: RE: Next steps....

Karen:

The Department is working through the sponsorship banner issue at this time, but will be taking up the other matter regarding electronic reader boards sometime in March or early April.

Sorry for the delay, but the Planning and Zoning Commission's schedule is filling fast and keeping the Department busy.

Joe Vujnich

From: Karen Calcaterra [calcaterrakaren@rockwood.k12.mo.us]
Sent: Thursday, February 12, 2015 2:11 PM
To: Joe Vujnich

To: Joe Vujnich
Subject: Next steps....

Hi Joe,

I just wanted to check back in with you regarding our plans to replace our existing marquee with a new one. We are wondering what the next steps are and if we need to get anyone additional information? Thanks for your assistance.

Karen

Dr. Karen Calcaterra
Associate Principal
Lafayette High School
17050 Clayton Road
Wildwood, Missouri 63011
636.733.4114

"Be an opener of doors for such as come after thee..." -Ralph Waldo Emerson

From: **Karen Calcaterra** calcaterrakaren@rockwood.k12.mo.us
Subject: FW: Marquee Info for Wildwood Council
Date: February 2, 2015 at 2:36 PM
To: Joe Vujnich (JVujnich@cityofwildwood.com) JVujnich@cityofwildwood.com

Joe,

Please see the attached information for the replacement of our current marquee that we have at Lafayette. Please let me know if you need anything else at this time.

Thanks!

Karen

Dr. Karen Calcaterra
Associate Principal
Lafayette High School
17050 Clayton Road
Wildwood, Missouri 63011
636.733.4114

"Be an opener of doors for such as come after thee..." -Ralph Waldo Emerson

From: Jill Ralph
Sent: Monday, February 02, 2015 1:09 PM
To: Karen Calcaterra
Subject: Marquee Info for Wildwood Council

See attached.

Jill Ralph

Secretary to Principal John Shaughnessy
Lafayette High School
17050 Clayton Road
Wildwood, MO 63011
636-733-4113

DALE SIGN SERVICE INC
SIGNS

QUOTE
LAFAYETTE HIGH SCHOOL

13652 Manchester Rd St. Louis, Missouri 63131

314-966-2620

TO Lafayette High School
17050 Clayton Rd.
Wildwood, Mo. 63011
John Shaughnessy
636-733-4100

NOVEMBER 24, 2014

EXPIRATION DATE: 2/24/2015

PO#

			DUE DATE

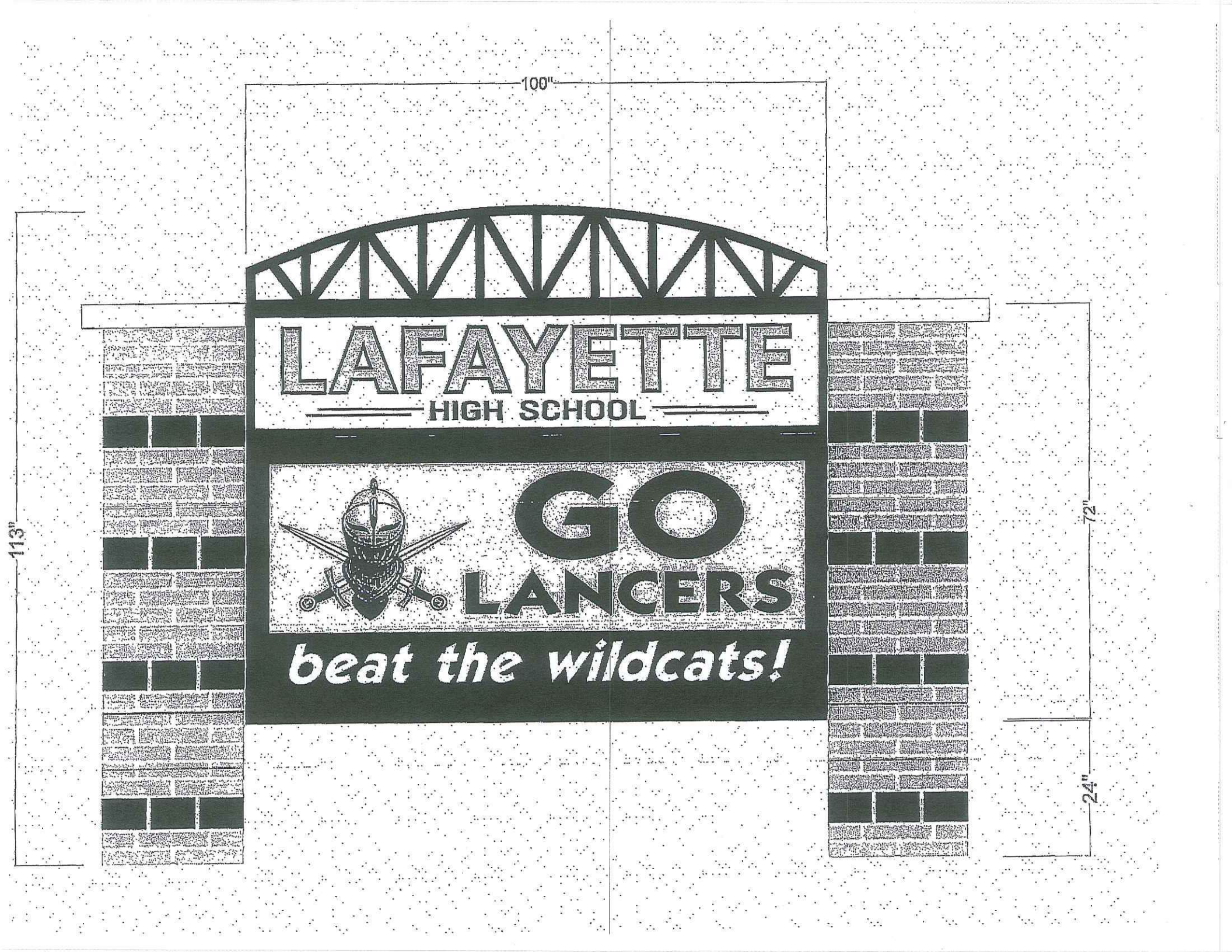
QTY	DESCRIPTION	UNIT PRICE	LINE T
	RE: New LED Message Center: Furnish (1) DAKTRONIC Galaxy 20MM RGB Full Color outdoor LED message center 4' 2" x 8' 4" installed back to back on Steel structure. Active area of LED sign is 3' 5" x 7' 9". Lafayette sign is 22" tall x 8 '4" wide with 3/6" white acrylic faces decorated per approved sketches and illuminated with LED lighting. Custom Black aluminium top cap 100" wide. Remove existing sign and install new sign on 4"x 4" steel poles with 2" square horizontal steel supports. Install Radio on building. Communication cable from Building Radio to controlling computer completed by School; District. Footing and brick columns with limestone caps included. Up to 4 hours of Software training included. NOTE: PERMIT ACQUISITION AND FEES FROM CITY OF WILDWOOD ADDITIONAL AT OUR COST: ALL ELECTRICAL WORK COMPLETED BY SCHOOL DISTRICT. 50% deposit required to get started with balance due upon completion		$ 47,150.00

Quotation prepared by: Dennis Caldwell

This is a quotation on the goods named, subject to the conditions noted below: (Describe any conditions pertaining to these prices and any additional terms of the agreement. You may want to include contingencies that will affect the quotation.)

To accept this quotation, sign here and return with deposit: _____
All signs & materials remain property of Dale Sign Service Inc until paid in full.

THANK YOU FOR YOUR BUSINESS!


100"
113"
72"
24"
LAFAYETTE
HIGH SCHOOL
GO
LANCERS
beat the wildcats!

Sec. 22-6. - Dynamic display signs.

(1) Dynamic display signs may be made a part of or used as ground, wall or directory signs in the C-1 zoning district within 150 feet of the Manchester Rd. or Clayton Rd. rights-of-way. Such signs shall be at least 200 feet from any single-family residential zoning district on the same side of the roadway and 100 feet from any single family zoning district on the opposite side of the roadway.

(2) Dynamic display signs may be made a part of or used as ground or wall signs (but not signs located at subdivision entrances) in single-family residential zoning districts in conjunction with and on the premises of elementary and secondary public schools and private schools offering curricula similar to that offered by such public schools, churches, philanthropic and fraternal order not-for-profit institutions and governmental buildings and facilities provided the signs are at least 250 feet from a residential dwelling unit.

(3) Dynamic display signs may have no more than 35 percent of the actual copy and graphic area of the sign as a dynamic display area. The remainder of the sign area must not have the capacity to have dynamic displays even if not used.

(4) Only one dynamic display area is allowed on a sign face.

(5) A dynamic display may not change or move more often than once every 20 seconds, except one for which changes are necessary to correct local hour, minute, date or temperature information. Time, date or temperature information is considered one dynamic display and may not be included as a component of any other dynamic display. A display of time, date or temperature must remain for at least 20 seconds before changing to a different display, but the time, date or temperature information itself may change no more often than once every three seconds.

(6) The images and messages displayed on a dynamic display sign must be static and the transition from one static display to another must be instantaneous without any special or transitional effects.

(7) Every line of copy and graphics in a dynamic display must be at least seven inches in height along a road with a speed limit of less than 34 miles per hour and nine inches along a road with a speed limit of 35 to 45 miles per hour. If there is insufficient room for copy and graphics of this size in the area allowed for such signs per subsection (3) of this section, then no dynamic display is allowed.

(8) Dynamic display signs must be designed and equipped to freeze the device in one position if a malfunction occurs. The displays must also be equipped with a means to immediately discontinue the display if it malfunctions and the sign owner must immediately stop the dynamic display when notified by the city that it is not complying with the standards of this chapter.

(9) Dynamic display signs existing on January 10, 2011 must comply with the operational standards listed above. An existing dynamic display sign that does not meet the spacing requirements in subsections (1) and (2) of this section may continue as a legally nonconforming use. Any nonconforming sign that cannot meet the minimum copy and graphic height requirements of subsection (7) of this section must use the largest copy and graphic height possible for one line of copy to fit the available space.

(10) Brightness standards for dynamic display signs.

(a) All dynamic display signs must meet the following brightness standards:

1. No sign may be brighter than is necessary for clear and adequate visibility.
2. No sign may be of such intensity or brilliance as to impair the vision of a motor vehicle driver with average eyesight or to otherwise interfere with the driver's operation of a motor vehicle.

3. No sign may be of such intensity or brilliance that it interferes with the effectiveness of an official traffic sign, device or signal.

(b) The person owning or controlling the sign must adjust the sign to meet the brightness standards in accordance with the city's instructions. The adjustments must be made within five working days after notice of noncompliance from the city as provided in section 22-4. The person owning or controlling the sign may appeal the city's determination through the following appeal procedure:

1. After making the adjustment required by the city, the person owning or controlling the sign may appeal the city's determination by delivering a written appeal to the city clerk within ten days after the city's noncompliance notice if the required adjustment is not made as provided herein, the appeal shall be dismissed. The written appeal must include the name of a person unrelated to the person and business making the appeal, who will serve on the appeal panel.
2. Within five business days after receiving the appeal, the city must name a person who is not an official or employee of the city to serve on the appeal panel. Within five business days after the city names its representative, the city's representative must contact the owner's representative and the two of them must appoint a third member to the panel who has no relationship to either party.
3. The appeal panel may develop its own rules of procedure, but it must hold a hearing within five days after the third member is appointed. The city and the sign owner must be given the opportunity to present testimony and the panel may hold the hearing or a portion of it at the sign location. The panel must issue its decision on what level of brightness is needed to meet the brightness standards with five business days after the hearing commences. The decision will be binding on both parties.

(c) All signs installed after January 10, 2011 that will have illumination by a means other than natural light must be equipped with a mechanism that automatically adjusts the brightness in response to ambient light conditions. These signs must also be equipped with a means to immediately turn off the display or lighting if it malfunctions and the sign owner or operator must immediately turn off the sign or lighting when notified by the city that it is not complying with the standards in this section.

(11) A dynamic display sign owned and operated by the City of Ballwin or other governmental agency for the purpose of warning motorists, providing notification of a dangerous condition, announcing non-commercial, City-sponsored and community events or otherwise operated in furtherance of the public safety and police power authority of the City of Ballwin shall be exempt from the standards contained in Chapter 22 with respect to dynamic display signs.

(Ord. No. 11-02, § 4, 1-10-11; Ord. No. 11-54, § 1, 11-28-11; Ord. No. 13-36, § 1, 9-9-13)

City of Ellisville, MO
Wednesday, August 12, 2015

Chapter 410. Signs and Advertising Devices

Article III. General Regulations

Section 410.070. Prohibited Signs.

[Ord. No. 2753 §1, 3-1-2006; Ord. No. 2756 §1, 3-15-2006; Ord. No. 2873 §§1 — 2, 1-16-2008; Ord. No. 3005 §1, 1-5-2011; Ord. No. 3789 §1, 11-19-2014; Ord. No. 3201 §1, 1-7-2015]

A. The following signs are prohibited:

1. Any sign not permitted by this Code.
2. Off-site signs, except as may be otherwise allowed herein.
3. Pole signs.
4. Portable signs, except as provided herein.
5. Any sign constituting a traffic hazard, including, but not limited to, any sign that:
   a. Obstructs or otherwise interferes with the effectiveness of an official traffic sign, signal or device;
   b. Conflicts with, or may be confused with, any authorized traffic sign, signal or device;
   c. Obstructs or interferes with a motor vehicle operator's view of approaching, merging or intersecting traffic;
   d. Produces a glare or otherwise interferes with a motorist's vision; or
   e. Uses the words "stop," "look," "drive-in," "danger" or any other word, phrase, symbol or character in such manner as to interfere with, mislead or confuse traffic.
6. Any sign that by reason of inadequate maintenance, dilapidation, location, size, obsolescence or other circumstance creates a hazard to the public health, safety or welfare.
7. Any sign that directs attention toward a business, product, commodity, service or entertainment by means of a wind-operated mechanism, flashing lights, revolving sign, searchlight or any other type of fluttering, flashing, mechanical movement, including any person or animal used for such purpose.
8. Electronic message boards.
9. Any sign using lighting that is not constant and fixed or on which colors change.
10. Any sign that is unpleasant, offensive or unattractive, including any pornographic, obscene or lewd

sign that would offend the senses or sensibilities of a reasonable person.

11. Any sign with light levels exceeding those needed for the task and resulting in glare and indirect glare, where illuminated objects are too bright compared to their surroundings.

12. Any sign which physically projects more than eighteen (18) inches beyond the plane of the wall or structure on which the sign is erected or attached.

13. Any flashing, fading, moving sign (only fixed, non-moving, non-animated letters, characters may be utilized).

14. Any sign painted directly on a wall, window or structure.

15. Signs on public lands or rights-of-way.

16. V-shaped signs.

17. Living signs.

18. Vehicles displaying signage (vehicle signs) may not be parked in parking areas nearest to the street or in a manner where the vehicle(s) serve(s) as a de facto advertisement or signage. Generally, vehicles with vehicle signs should be parked behind the building not visible from the street except for brief loading and unloading.

City of Manchester, MO
Wednesday, August 12, 2015

Chapter 405. Zoning Regulations

Article VII. Supplementary Regulations — Sign Regulations

Section 405.320. Construction Requirements.

[Ord. No. 99-1145 Art. 6 §3(3.2), 9-20-1999; Ord. No. 02-1364 §1, 7-1-2002; Ord. No. 02-1374 §1, 8-19-2002; Ord. No. 04-1514 §2, 6-21-2004; Ord. No. 08-1912 §2, 11-3-2008; Ord. No. 12-2039 §§1 — 4, 10-15-2012]

A. *General.* The provisions of this Article shall govern the construction, alteration, repair and maintenance of all signs and outdoor display structures together with their appurtenant and auxiliary devices in respect to structural and fire safety.

B. *Plans, Specifications And Permits.*

1. Before any permit is granted for the erection of a sign or outdoor display structure, plans and specifications shall be filed with the Building Official showing the dimensions, materials and required details of construction, including loads, stresses and anchorage. The application shall be accompanied by the written consent of the owner or lessee of the premises upon which the sign is to be erected.

2. A sign shall not be erected, constructed, altered or maintained except as herein provided and until after a permit has been issued by the Building Official.

3. A sign shall not be enlarged or relocated except in conformity to the provisions of this Section, nor until a proper permit has been secured. The changing of movable parts of an approved sign that is designed for such changes, or the repainting or reposting of display matter, shall not be deemed an alteration, provided the conditions of the original approval and the requirements of this Section are not violated.

C. *Exemptions.*

1. A permit shall not be required for the signs or outdoor display structures covered by the provisions of this Subsection. Such exceptions, however, shall not be construed to relieve the owner of the sign from responsibility for its erection and maintenance in a safe manner.

2. The wall signs listed in the following Subsections shall not require a permit.

a. Non-illuminated signs erected over a show window or over the door of a store or business establishment which announce the name of the proprietor and the nature of the business conducted therein,

b. Signs erected on a municipal, State or Federal building which announce the name, nature of

the occupancy and information as to use of or admission to the premises, and

c. Any wall sign erected on a building or structure which is not more than one (1) square foot in area.

3. The ground signs listed in the following Subsections shall not require a permit.

a. Signs erected to announce the sale or rental of the property so designated, provided such signs are not over six (6) feet in height nor more than sixty (60) square feet in area,

b. All ground signs less than six (6) square feet in area,

c. The erection or maintenance of a sign designating the location of a transit line, a railroad station or other public carrier, when not more than three (3) square feet in area, and

d. Signs erected by a jurisdiction for street direction.

4. The temporary signs listed in the following Subsections shall not require a permit.

a. Construction signs, engineers' and architects' signs and other similar signs which may be authorized by the Building Official in connection with construction operations, and

b. Special decorative displays used for holidays, public demonstrations or promotion of civic, welfare or charitable purposes, when authorized by the Building Official, on which there is not commercial advertising.

D. *Unsafe Signs.*

1. When any sign becomes insecure, in danger of falling or otherwise unsafe, or if any sign shall be unlawfully installed, erected or maintained in violation of any of the provisions of this Section, the owner thereof, or the person or firm maintaining same, shall, upon written notice of the Building Official, forthwith, in the case of immediate danger, and, in any case within not more than ten (10) days, make such sign conform to the provisions of this Section or shall remove it. If, within ten (10) days, the order is not complied with, the Building Official may remove such sign at the expense of the owner or lessee thereof and without liability to the City.

2. The Building Official shall notify the owner or lessee of the building or structure by mail whenever a sign is so erected as to obstruct free ingress to or egress from a required door, window, fire escape or other required exitway element.

3. A projecting display sign erected at other than right angles to the wall of a building or structure outside of the building line, which extends above the roof cornice or parapet wall, or above the roof level, when there is not a cornice or parapet wall, and which obstructs access to the roof, is hereby deemed unlawful. Such signs shall be reconstructed or removed as herein required.

E. *Maintenance And Inspection.*

1. The Building Official may order the removal of any sign that is not maintained in accordance with the provisions of this Section.

2. All signs for which a permit is required, together with all their supports, braces, guys and anchors, shall be kept in repair in accordance with the provisions of this Section and the BOCA Code; and, when not galvanized or constructed of approved corrosion-resistive non-combustible materials, shall be painted when necessary to prevent corrosion.

3. It shall be the duty and responsibility of the owner or lessee of every sign to maintain the immediate premises occupied by the sign in a clean, sanitary and healthful condition.

4. Every sign for which a permit has been issued, and every existing sign for which a permit is

required, including roof, wall, marquee and pole signs, may be inspected at any time determined appropriate by the Building Official.

F. *Existing Signs.*

1. A sign heretofore approved and erected shall not be repaired, altered or moved, nor shall any sign, or any substantial part thereof, which is blown down, destroyed or removed, be re-erected, reconstructed, rebuilt or relocated unless it is made to comply with all applicable requirements of this Section.

2. This Section shall not be construed to prevent the repair or restoration to a safe condition, as directed by the Building Official, of any part of an existing sign when damaged by storm or other accidental emergency.

3. Any sign that is moved to another location, either on the same or to other premises, shall be considered a new sign and a permit shall be secured for any work performed in connection therewith when required by this Section.

G. *General Requirements For All Signs.*

1. All signs shall be designed and constructed in conformity to the provisions for materials, load and stresses of the BOCA Code.

2. The effect of special local wind pressures shall be thoroughly considered in the design; but the wind load shall not be assumed less than twenty (20) psf for ground signs over fifty (50) feet in height and fifteen (15) psf for ground signs not more than fifty (50) feet in height.

3. Signs adequately designed to withstand wind pressures shall generally be considered capable of withstanding earthquake shocks.

4. A sign shall not be illuminated by other than electrical means and electrical devices and wiring shall be installed in accordance with the requirements of the National Electric Code. Any open spark or flame shall not be used for display purposes unless specifically approved by the Building Official for locations outside of the fire limits.

5. A sign shall not be erected, constructed or maintained so as to obstruct any fire escape, required exitway, window or door opening used as an element of a means of egress, or to prevent free passage from one (1) part of a roof to another part thereof or access thereto as required by the provisions of the BOCA Code or for the fire-fighting forces having jurisdiction.

6. A sign shall not be attached in any form, shape or manner which will interfere with any opening required for ventilation by the provisions of the BOCA Code, except that such signs may be erected in front of and may cover transom windows when not in violation of the provisions of this Section.

7. Wood, approved plastic or other materials of combustible characteristics similar to wood may be used for moldings, cappings, mailing blocks, letters and latticing when permitted in the BOCA Code and for other purely ornamental features of signs.

8. Sign facings may be made of approved combustible plastics provided the area of each face is not more than one hundred (100) square feet and the wiring for electric lighting is entirely enclosed in metal conduit and installed with a clearance of not less than two (2) inches from the facing material.

H. *Ground Signs:*

1. A ground sign shall not be erected so as to obstruct free access to egress from any building.

2. A ground sign shall not be set nearer to the street lot line than the established building line.

3. The bottom capping of all ground signs shall be at least thirty (30) inches above the ground, but the intervening space may be filled with open lattice work or platform decorative trim.

I. (Reserved)

J. *Wall Signs.*

1. Wall signs which have an area exceeding forty (40) square feet shall be constructed of metal or other approved non-combustible materials, except for nailing rails.

2. Lighting reflectors may project eight (8) feet beyond the face of the wall, provided such reflectors are at least twelve (12) feet above the sidewalk level; but such reflectors shall not project beyond a vertical plane two (2) feet inside the curb line.

3. Wall signs shall not be erected to extend above the top of the wall to which they are attached, unless meeting all the requirements for projecting signs or ground signs, as the case may be.

K. *Projecting Signs.*

1. Projecting signs shall be constructed entirely of metal or other approved non-combustible materials.

2. A projecting sign shall not extend over a street or other public space more than ten (10) feet from the face of the building or structure nor, in any case, beyond a vertical plane two (2) feet inside the curb line.

3. A clear space of not less than ten (10) feet shall be provided below all parts of such signs.

L. *Marquee Signs.*

1. Marquee signs shall be constructed entirely of metal or other approved non-combustible materials.

2. Such signs shall not exceed seven (7) feet in height, nor shall they project below the fascia of the marquee, nor lower than ten (10) feet above the sidewalk.

3. Marquee signs may extend the full length, but they shall not project beyond the ends of the marquee.

M. *Pole Signs.* Pole signs shall be constructed entirely of non-combustible materials and shall conform to the requirements for ground signs, as the case may be.

N. *Temporary Signs.* Temporary signs are permitted subject to the following conditions:

1. A temporary sign announcing the opening of a new business or a special sale event or promotion shall require submission of an application to and approval by the Planning and Zoning Administrator. Applications must be received at least fourteen (14) days in advance of the requested installation date and be accompanied by a twenty-five dollar ($25.00) processing fee. Signs erected subject to this Section shall not exceed thirty-two (32) square feet in area.
A sign announcing the opening of a new business may be erected for a time period not to exceed thirty (30) days.
A business may receive administrative approval to utilize temporary signage to announce a special event or promotion for no more than sixty (60) days in a calendar year. The Planning and Zoning Administrator may approve the erection of a temporary sign, subject to the following options:

a. No more than two (2) permits, for a maximum period of thirty (30) days each, in a calendar year;

b. No more than three (3) permits, for a maximum period of twenty (20) days each, in a calendar year; or

c. No more than four (4) permits, for a maximum period of fifteen (15) days each, in a calendar year.

Each of the aforementioned administrative approvals may only be granted if forty-five (45) days have elapsed from the prior administrative approval granted.

2. A temporary sign advocating the candidacy of any person for election to public office or advocating or opposing any proposition appearing on an election ballot may be erected or affixed for not more than a sixty (60) day period. Such temporary sign shall have a total area not exceeding nine (9) square feet within the residential districts of the City of Manchester or exceeding sixty (60) square feet within the commercial districts of the City of Manchester.

3. In addition to the conditions noted in Subparagraphs (1) and (2) above, all temporary signs shall be subject to the following conditions:

a. No temporary sign may be erected or affixed by any person other than the occupant or owner, or the agent of either, on or to any property without the consent of such occupant or owner of such property.

b. No temporary sign may be erected or affixed to any public property, right-of-way, or utility pole, including park property and governmental buildings, except as provided for herein. A temporary sign advocating the candidacy of any person for election to public office or advocating or opposing any proposition appearing on an election ballot may be placed, subject to the approval of the affronting property owner(s) and the remaining provisions hereof, within that portion of the right-of-way that does not extend into or over any street or sidewalk. At no time may any sign be placed on or extend into or over any street or sidewalk or interfere with pedestrian, biking, rollerskating, rollerblading, skateboarding or vehicular traffic.

c. No temporary sign may be illuminated in any way.

4. Nothing herein shall be construed as applying to signs advertising real property as "for sale" or "for lease" or to any temporary sign erected or affixed by the City of Manchester.

O. *Illuminated Signs.*

1. All electrically illuminated signs shall be certified as to electric wiring and devices by the St. Louis County Department of Public Works — Electrical Permit Division and all wiring and accessory electrical equipment shall conform to the requirements of the Electrical Code for the City of Manchester.

2. Permits shall be issued for the erection or maintenance of illuminated signs within the limitations set forth in this Section for the location, size and type of sign or outdoor display.

3. The requirements of this Section shall not apply to the relettering of illuminated signs, except where such relettering requires a change of wiring or piping of the sign.

P. *Window Sign.*

1. A window sign may not, in the aggregate, exceed fifty percent (50%) of the total area of all windows within the wall in which the window sign is proposed to be located.

2. If illuminated, a window sign shall not exceed twenty-five percent (25%) of the total area of all windows within the wall in which the window sign is proposed to be located.

3. Combined, illuminated and non-illuminated window signs shall not exceed fifty percent (50%) of the total area of all windows within the wall in which the window sign is proposed to be located.

4. A window sign shall not include any sign that indicates a business as "open" and/or such business' hours of operation except that such sign may not exceed an additional five percent (5%) of the total area of all windows within the wall in which the proposed sign is intended to be located.

Q. *Electronic Message Sign.*

1. The location of the sign shall be erected only by attachment to or placement as a ground or monument sign. The ground or monument sign with an electronic message sign shall not exceed nine (9) feet in height. No electronic message signs shall be added to an existing or new pole, pylon, wall or window signs.

2. The maximum area of such sign shall not exceed forty-five (45) square feet or be more than fifty percent (50%) of the total sign area for the ground or monument sign, whichever is less. The base of the ground or monument sign shall not be included in the sign area calculations.

3. Only one (1) electronic message sign per establishment is allowed.

4. The leading edge of the sign must be a minimum distance of one hundred (100) feet from an abutting City residential district boundary.

5. Animation that does not flash or blink may be used as background in non-residential zone districts. This shall not include video signs which in all circumstances are prohibited.

6. The text displayed per line on the message signs at any one (1) time shall be limited to fifteen (15) words.

7. The use of flashing, blinking characters or continuous message movement is prohibited.

8. The maximum brightness of electronic message signs shall not exceed five thousand (5,000) candelas per square meter during the daylight hours or five hundred (500) candelas per square meter between dusk to dawn. The sign must have an automatic dimmer control or other photosensitive device which automatically adjusts the brightness and contrast of the sign from the higher allowed illumination level to the lower allowed level for the time period between one-half (½) hour before sunset and one-half (½) hour after sunrise.

9. In non-residential districts ("C-1", "C-2", "H" and "PCD"), any portion of the message must have a minimum duration of five (5) seconds and must be a static display. Transition time must be no longer than one (1) second.

10. In residential districts, the message displayed on such sign may be changed no more than twice in any twelve-hour period. Electronic signs shall not be allowed in any dwelling or home occupation. Churches and schools are allowed electronic signs provided that they comply with the regulations set forth in this Chapter.

11. Electronic signs such as gas prices, time and temperature will not be restricted in time change but must follow all signage regulations set forth in this Chapter.

12. Audio speakers or any form of pyrotechnics are prohibited.

13. Portable electronic signs will be allowed as temporary signs provided they comply with the temporary sign regulations set forth in this Chapter.

14. Changes to the text on an electronic message signs will not require subsequent permits, however, it is expected that all graphics and lettering shall meet the public decency standards of the City.

15. Electronic message signs shall contain a default design that will freeze the design in one (1)

position if a malfunction occurs.

City of Town And Country, MO
Wednesday, August 12, 2015

Chapter 420. Sign Regulations

Section 420.010. In General.

[Ord. No. 1327 §3(4200), 9-25-1989]
The sign regulations hereinafter set forth supplement the district regulations for each district in Chapter 405.

Section 420.020. Purpose.

[Ord. No. 1327 §3(4200-A), 9-25-1989; Ord. No. 2008 §1, 11-11-1996]

A. The purpose of this Chapter is to ensure that signs serve as identification of the building or business on that premises and not as an advertisement. Such signs and lights shall not overload the public's capacity to receive information.

1. Signs shall not cause visual confusion or create any interference with pedestrian or vehicular traffic, or distract public attention from devices regulating such traffic. Signs shall generally conform to the character of the neighborhood and enhance the visual harmony of a commercial center. Signs shall not be permitted which constitute a hazard to public health, convenience, welfare and/or safety.

2. It is the intent of this Chapter to encourage excellence in design of signs, to encourage competition toward attractive signs, and to discourage the type of competition which produces signs of ever-increasing size, brightness and garishness. Colors shall be used with restraint, and excessive brightness shall be avoided.

3. The provisions of this Chapter shall govern the erection of all signs and outdoor display structures, together with their appurtenant and auxiliary devices in respect to size, color, content, construction, location and fire safety.

4. For the purpose of assuring compliance with these requirements, no person shall erect or maintain within the City any sign except as specified in this Chapter. Signs not in conformance with this Chapter shall not be permitted in any district as an accessory use or structure.

Section 420.030. Definitions.

[Ord. No. 1327 §3(4200-B), 9-25-1989; Ord. No. 2008 §2, 11-11-1996]

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

ADVERTISING SIGN

A sign which directs attention to a business or profession conducted, or to a commodity or service sold, offered or manufactured, or to an entertainment offered on the premises where the sign is located.

ANIMATED SIGN

See *"Moving Sign"* in this Section.

AWNING

A structure entirely supported by the wall or canopy to which it is attached and which is covered by canvas, cloth or other similar temporary material and/or which can be retracted or rolled to the structure by which it is supported.

BULLETIN BOARD SIGN

A sign which identifies an institution or organization on the premises on which it is located and which contains the names of the institution or organization, the name of the individuals connected with it, and general announcements of events or activities occurring at the institution, or similar messages.

BUSINESS IDENTIFICATION SIGN

A sign that identifies the name of a business or company on the premises to which the sign relates. A company emblem, logo, or trademark shall be considered to be a business identification sign when used alone or when combined with lettering identifying the business.

CANOPY

A structure other than an awning attached to a building at the inner end and supported on the outer end. A portico shall be considered a canopy for the purposes of this Chapter.

CIVIC SIGN

A sign which identifies or describes the services or functions of premises or facilities used, maintained, or owned by any educational institution, church, religious society or public utility.

COMMERCIAL CENTER SIGN

A freestanding, non-movable sign depicting a name, logo, trademark or other similar symbol, address or any combination of name, symbol or address, the use of which is limited to the identification of a commercial and/or office center.

CONSTRUCTION SIGN

A temporary sign used during construction of new buildings or reconstruction of or additions to existing buildings, which identifies the project and denotes the owner, architect, engineer, contractor and/or financing institutions of the project.

CREDIT OR CHARGE CARD SIGN

A sign advertising the acceptance of, or being a replica of, any credit cards or charge plates whether national, local or otherwise.

DIRECTIONAL SIGN

A sign which indicates a direction for vehicular or pedestrian traffic or other movement, and does not contain advertising.

DIRECTORY SIGN

Identification sign containing more than one (1) name within a single sign.

DISPLAY AREA

See *"Sign Facing or Surface"*.

ELECTRIC AWNING

A space frame structure with translucent flexible reinforced vinyl covering designed in awning form, which is internally illuminated by fluorescent or other light sources in fixtures approved under national and local Codes.

ERECT

To build, construct, attach, hang, rehang, place, affix, or relocate and includes the painting and repainting of permanent window signs.

ESTABLISHMENT

A single building in which one (1) or more business activities are conducted, provided however, that when a building is divided into separate parts by unpierced walls extending from the floor to the ceiling, each part is a separate establishment.

FLAGPOLE

A pole on which governmental and non-governmental signs are flown. Flagpoles shall be considered structures for the purpose of this Chapter and shall require a building permit.

FLAGS

Flags of any nation, State, and/or City shall not be considered signs. They may be displayed subject to the provisions of this Chapter. Should such flags be used to call attention to a given property as an advertising sign, they shall be considered signs. See also *"Non-Governmental Flags"*.

FLASHING SIGN

An Illuminated sign on which artificial or reflected light is not steady or on which colors change.

FLUTTERING SIGN

A sign which flutters, and includes pennants, banners, or other flexible material which moves with the wind or by some artificial means.

FREESTANDING SIGN

Any non-movable sign not affixed to a building.

GASOLINE SERVICE STATION PRICE SIGN

A sign containing thereon the price per gallon of gasoline or diesel fuel sold at said station. The words "Gas, Ethyl, Self-Service, Mini-Service, Cash, Credit Card, Regular, Premium, Diesel, or Unleaded" or a combination thereof, also may be placed on said sign face.

GOVERNMENTAL SIGN

A sign identifying a governmental facility.

GROUND SIGN

A sign which has its bottom portion erected upon or supported by the ground, a ground planter box or other supports.

HANGING SIGN

A sign which hangs more than eight (8) inches beyond the plane of the wall on which it is erected or attached, and which has its message perpendicular to the vertical axis of the wall.

IDENTIFICATION SIGN

A sign identifying the name of a person(s) occupying a building, or identifying the address of a building.

ILLUMINATED SIGN

A sign which is illuminated by light sources located on or in the sign or at some other location.

INFORMATIONAL SIGN

An informational sign which gives parking, building address, fire protection, traffic flow (other than directional signs), height clearance, pedestrian or other similar information, and which does not advertise the business or use located on said lot.

LICENSED SIGN ERECTOR

A person, his/her agents and employees, who have secured a sign erector's license issued by St. Louis County or other governmental agencies.

MARQUEE

A permanent structure supported entirely or largely by the building and which projects from the wall of the building.

MARQUEE, CANOPY AND AWNING SIGN

A sign attached to or illustrated on a marquee, canopy or awning respectively.

MEMORIAL OR TABLET SIGN

The permanent part of a building which denotes the name of the building, date of erection, historical significance, dedication, or other similar information.

MONUMENT SIGN

A sign which has its bottom portion or base erected upon the ground. See illustration in Subsection **(B)** of this Section.

MOVING SIGN

A sign, all or any part of which moves by any means. Such sign includes a fluttering sign.

NON-GOVERNMENTAL FLAGS

Flags of fraternal, civic or corporate organizations. Such flags are considered signs.

PERMANENT WINDOW SIGN

A sign of permanent construction materials that is permanently affixed to either side of the glass of an exterior door or window. For the purpose of this Chapter, a glass block wall shall be deemed a window.

POST SIGN

A detached sign which is supported by one (1) stationary post longer than three (3) feet above the mean grade line of the ground at its base, provided that this shall not include a permitted real estate sign, residential subdivision sign, or informational sign, as set forth and regulated herein.

POLITICAL SIGN

A temporary sign advocating or opposing any political proposition or candidate for public office.

PORTABLE SIGN

A sign which is not securely affixed to the ground or otherwise affixed in a permanent manner to an approved supporting structure.

PREMISES

That portion of a lot or building occupied by a single occupant, exclusive of common area, if any, shared with adjacent occupants. Permitted sign area shall be separately calculated for multi-tenant commercial buildings only when said tenants have a separate entrance for their exclusive use. If the building is permitted a ground sign, the permitted sign area for tenants shall be reduced accordingly.

PRIVATE SALE OR EVENT SIGN

A temporary sign advertising private sales of personal property such as "house sales", "garage sales", "rummage sales", and the like, or not-for-profit events such as picnics, carnivals, bazaars,

game night, art fairs, craft shows, and Christmas tree sales.

PROJECTING SIGN

A sign which projects more than eight (8) inches beyond the plane of the wall on which the sign is erected or attached.

REAL ESTATE SIGN

A sign pertaining to the rental, lease or sale of property. Real estate signs shall be excluded from the definition of pole signs.

REAL ESTATE SUBDIVISION SIGN

A temporary real estate sign advertising an entire residential subdivision.

ROOF SIGN

A sign erected on a roof. Marquee, canopy, wall, or hanging signs which do not project more than twelve (12) inches above a parapet wall shall not be construed as a roof sign, provided however, that the projection above said parapet wall shall not exceed the amount of the sign below the parapet wall level. The generally vertical plane of a mansard type roof shall be interpreted as a wall of a building.

SEASONAL DISPLAY

Decorations and displays celebrating or denoting religious holidays or events, the seasons of the year, State and National holidays and similar occasions; provided however, that this shall not include pennants, non-permitted fluttering flags or similar materials prohibited herein. Such seasonal displays may be in place for a period no longer than thirty (30) days. If any seasonal display conveys a commercial message or bears the name of the business, it shall be considered a sign.

SIGN

A device, a structure or part of a structure, including structural trim, or monument which displays or upon which is displayed any colors, message, name or symbol of any kind for the purpose of advertising, announcing, directing or attracting attention from the outside of a building. A cross or other religious symbol on a religious building shall not be considered a sign, nor shall a work of art which in no way identifies a business product be considered a sign. Sign supports or a monument base are not a part of the sign.

SIGN AREA

The area of the sign face. See *"Sign Facing or Surface"* in this Section for further details.

SIGN FACING or SURFACE

Any surface of a sign upon, against or through which a message is displayed or illustrated on the sign, including structural trim, which displays or upon which is displayed any color, message, name or symbol of any kind for the purpose of advertising, announcing, directing or attracting attention from the outside of a building and which can be seen from a single location on an adjacent street provided that the side, or thickness, of a sign shall not be counted as a separate sign face unless an advertising message is conveyed thereon. Where a sign has two (2) display faces back to back, the area of only one (1) face shall be considered the sign face area. Where such signs have multiple sides or faces, including signs in the form of cylinders, spheres, or other types of three dimensional figures, the entire surface is a sign face. Where a sign has more than one (1) display face, all areas which can be viewed simultaneously shall be considered a sign face area. A monument base shall not be considered part of the sign face provided that no advertising message is conveyed thereon. Where a sign or letters are attached to a building where there is no apparent confining border, the sign area shall be measured as follows: See illustration in Subsection **(B)** of this Section.

SIGN STRUCTURE

The sign and all parts associated with its construction.

SIGN SUPPORTS

All structures by which a sign is held up, including, for example, poles, braces, guys and anchors.

SPECIAL DISPLAY SIGN

A sign not exceeding twelve (12) square feet, used for holidays, public demonstrations or the promotion of civic welfare or charitable purposes.

STANDARD OUTDOOR ADVERTISING STRUCTURE AND/OR BILLBOARD

All signs which advertise products, services or businesses which are not located on the same premises as the sign, including billboards, detached pole signs on separate parcels, wall signs and signs otherwise attached to buildings and/or supported by uprights or braces on the ground. Real estate signs are excluded from this definition.

STRUCTURAL SUPPORT

The structure supporting a freestanding sign. This shall not be considered part of the sign face, providing it is not part of the sign message.

STRUCTURAL TRIM

The molding, battens, cappings, nailing strips, latticing and platforms which are attached to the sign structure.

SUBDIVISION IDENTIFICATION SIGN

A permanent sign identifying a residential subdivision or street name within a subdivision. Residential subdivision signs shall be excluded from the definition of post signs.

SUBDIVISION MONUMENT SIGN

A monument sign identifying an entrance to a subdivision.

TEMPORARY WINDOW SIGN

A sign of paper, cardboard, canvas, cloth or other non-permanent materials affixed to the inside of an interior window or glass door.

TEMPORARY SIGN

A sign intended for a limited or intermittent period of display.

VEHICULAR ADVERTISING SIGNS

Advertising signs on vehicles or trailers parked consistently and prominently near a business establishment or store for the purpose of advertising that company. Such signs shall not include construction trailers parked at a working construction site.

WALL SIGN

A sign attached to the wall of any building or against the generally vertical plane of a mansard type roof with the plane of the sign face parallel to the plane of the wall below the roof line.

WARNING SIGN

A sign limited to messages of warning, danger or caution.

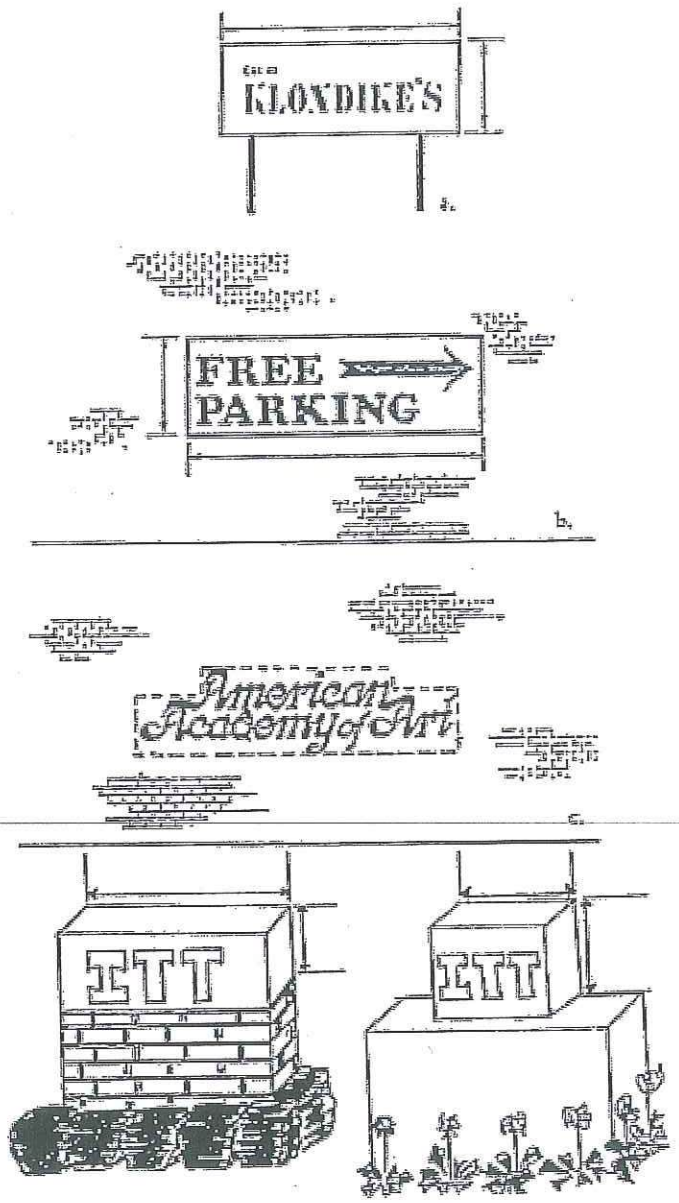
WINDOW SIGN

Any sign which is posted on, painted on, or otherwise constantly attached to and is visible through a display window.

ZONING CODE

The Zoning Code of the City of Town and Country and the Zoning District Map related thereto.

B. *Measurement Of Signs.* This Table shows illustrations referred to by certain definitions above in Subsection **(A)**.



Section 420.040. Intent.

[Ord. No. 1327 §3(4200-C), 9-25-1989]
It is hereby declared to be the intent of this Chapter that wherever any Section of this Chapter does not specify a particular sign, the sign shall be deemed to be the type defined herein which is most nearly descriptive of its content, physical type, or characteristics.

Section 420.050. Exempt Signs.

[Ord. No. 1327 §3(4210), 9-25-1989]

A. Subject to the limitations and restrictions set forth below with respect to the following signs, the provisions of this Chapter shall not apply to the placement of any of the following signs:

1. *Official notices.* Official public notices and notices posted by public officers in the performance of their duties.

2. *Regulatory, traffic and warning signs.* Governmental and other signs for control of traffic and other regulatory purposes, including street signs, danger signs and signs of public service companies indicating danger or aids to service or safety, including signs showing the placement or location of underground public utility facilities and signs necessary to identify the location of public telephones.

3. *Temporary display posters.* Temporary display posters in connection with civic and non-commercial health, safety and welfare campaigns, provided that such posters shall be removed within ten (10) days after the conclusion of the campaign, signs not to exceed twelve (12) square feet.

4. *Historic signs.* Commemorative signs, symbols, memorial plaques and historical tablets, not to exceed three (3) square feet, placed by historical societies.

5. Signs in the interior of a building, not visible from the exterior of the building.

6. Mailbox name/address in a residential district, signs not to exceed two (2) square feet.

B. The following types of signs shall be exempt from the provisions of this Chapter relating to permits and the payment of permit fees:

1. Directional.

2. Governmental.

3. Holiday or seasonal display, not to exceed twelve (12) square feet.

4. Informational sign painted on a door or a window, not in excess of two (2) square feet in sign face area.

5. Memorial or tablet.

   a. In residential districts, not in excess of three (3) square feet in sign face area.

   b. In all other districts, not in excess of six (6) square feet in sign face area.

6. Nameplate name/address/profession not in excess of two (2) square feet in sign face area.

7. Informational.

8. Political.

9. Real estate on a residential lot.

10. Temporary window.

11. Non-commercial window signs.

Section 420.060. Sign Permits Required.

[Ord. No. 1327 §3(4220), 9-25-1989; Ord. No. 3077 §1, 10-24-2005]

A. *Permit Required.* Unless specifically exempted by this Sign Code, no sign shall be erected, altered, or relocated after the effective date of this Chapter until a sign permit has been secured from the Director. Sign permits shall be renewed prior to their expiration dates as specified below.

B. *Fee.* Payment of a seventy-five dollar ($75.00) fee shall be required for each sign permit issued. Payment of an annual fee may be required in an amount set by the Board of Aldermen.

C. *Expiration Of Permits.*

1. Permits for each sign, except temporary signs, shall expire on December thirty-first (31st) of the second (2nd) year following the year of issuance. All renewals of such permits shall be for three (3) years.

2. Permits for temporary signs shall expire ninety (90) days from the date of issuance of such permit unless otherwise provided by this Sign Code.

D. *Applications For Sign Permits.* All applications for sign permits shall be made in writing on a form supplied by the City and shall contain or have attached thereto the following information:

1. Name, address, and telephone number of applicant.

2. Location of building, structure, or lot to which or upon which the sign is to be attached or erected.

3. Two (2) blueprints or ink drawings of the plans, specifications, and method of construction and attachment (i.e., either to a building or in the ground) of all proposed signs, including scale drawings and other pertinent graphics which will clearly illustrate size, height and appearance of the sign in relation to its surroundings.

E. *Revocation Of Sign Permit.*

1. Any sign permit granted in accordance with the terms of this Sign Code may be revoked by the Board of Aldermen if the Board finds that any of the following conditions have occurred:

a. Violation of any of the conditions or terms of the sign permit.

b. Failure to begin and diligently advance the project or construction so authorized within one (1) year from the date the sign permit is issued.

c. Discontinuance of the authorized project or construction for a period of one (1) year.

d. Violation of any requirements of the Zoning Code or the Sign Code of the City of Town and Country.

2. *Procedure.* Upon its own motion or at the request of the Director, the Board of Aldermen shall hold a hearing on the proposed revocation, after giving written notice to the permittee at least ten (10) days prior to the hearing. The Board shall make its findings in writing and shall forward to the permittee a copy of the written decision. The decision shall become effective ten (10) calendar days after the meeting at which said decision is made.

Section 420.070. Administration and Enforcement.

[Ord. No. 1327 §3(4225), 9-25-1989]

A. It shall be the duty of the Director to interpret, administer and enforce the Sign Code.

B. *Conditional Sign Permits And Variances.*

1.

a. Appeals from decisions of the Director regarding the interpretation and application of the Sign Code may be made to the Board of Aldermen.

b. Applications for variances from the strict application of the Sign Code may be made to the Board of Aldermen.

2. The Board of Aldermen is authorized to grant variances from the strict application of the Sign Code when it finds that compliance with the strict application of the Sign Code is not practicable under the circumstances and conditions appertaining to the particular situation and it further finds that the proposed sign:

   a. Is compatible with the surrounding area;

   b. Is appropriate for the activity identified;

   c. Is legible in the circumstances in which it is to be seen;

   d. Shall not detract from the appearance of the surrounding area and the community as a whole; and

   e. Shall not constitute a safety hazard to pedestrians or vehicular traffic.

3. The Board of Aldermen is authorized to grant conditional sign permits when required by this Code, if it finds that the proposed sign:

   a. Is compatible with its surroundings;

   b. Is appropriate for the activity identified;

   c. Is legible in the circumstances in which it is to be seen;

   d. Shall not detract from the appearance of the surrounding area and the community as a whole; and

   e. Shall not constitute a safety hazard to pedestrians or vehicular traffic.

4. The Board shall not grant any variances from the strict application of the Sign Code and shall not grant any conditional sign permits until holding a public hearing on the proposed sign. Notice of such hearing shall:

   a. Be posted on the property for which the sign is proposed; and

   b. Delivered or mailed to those persons owning property within three hundred (300) feet of the property for which the sign is proposed. The owners of the property to receive such notice shall be determined solely from the tax rolls of the City at such time as the notice is given.

C. *Enforcement.* Failure to comply with this Sign Code may result in revocation of sign permits as set forth in Section **420.060(E)** herein. In addition, any person, as owner, agent, or lessee of the building or premises on which a violation of the Sign Code exists, and who commits, takes part in, or assists in that violation shall, upon construction thereof, be guilty of a misdemeanor, and shall be fined not less than ten dollars ($10.00) nor more than one hundred dollars ($100.00) for each and every day that such violation continues. Any person who has been served with an order by the Director to remove or cease any violation of any provision of this Sign Code, and who fails to comply with said order within ten (10) days after receipt of such notice, shall be subject to a civil penalty of two hundred fifty dollars ($250.00).

Section 420.080. Non-Conforming Signs.

[Ord. No. 1327 §2(4226), 9-25-1989]

A. No non-conforming sign shall be changed, expanded, or altered in any manner which would increase the degree of its non-conformity, or be structurally altered to prolong its useful life, or be moved in whole or in part to any other location where it would remain non-conforming.

B. *Termination Of Non-Conforming Signs.*

1. *Immediate termination.* The following signs or sign features shall be terminated within three (3) months after the effective date of this Chapter except as otherwise expressly permitted by this Chapter: Flashing signs, animated and moving signs, signs which obstruct free ingress to or egress from a fire escape, door, window, or other required access way, signs which by reason of size, location, content, coloring, or manner of illumination obstruct the vision of drivers, or obstruct or detract from the visibility or effectiveness of any traffic sign or control device on the streets and roads within the City, and signs which advertise a business no longer conducted, or a product no longer sold, on the premises where such sign is located or signs for which no building permit has been issued. Termination of the non-conformity shall consist of removal of the sign or its alteration to eliminate fully all non-conforming features.

2. *Termination by abandonment.* Any non-conforming sign structure, the use of which as a sign is discontinued for a period of ninety (90) consecutive days, regardless of any intent to resume or not to abandon such use, shall be presumed to be abandoned and shall not thereafter be reestablished except in full compliance with this Chapter. Any period of such discontinuance caused by government actions, strikes, material shortages, or acts of God, and without any contributing fault by the non-conforming user, shall not be considered in calculating the length of discontinuance for purposes of this Subsection.

3. *Termination by change of business.* Any non-conforming sign advertising or relating to a business on the premises on which it is located shall be terminated upon any change in ownership of such business.

4. *Termination by damage or destruction.* Any non-conforming sign damaged or destroyed, by any means, to the extent of one-third (⅓) of its replacement cost new shall be terminated and shall not be restored.

5. *Termination by amortization.* Any non-conforming sign not terminated pursuant to any other provision of this Chapter shall be terminated no later than the date stated below:

Original Value Of Sign As Shown On Building Permit	Time Period (following effective date of this Chapter) By Which Termination Of Non-conformity Is Required
Less than $4,000.00	12 months
$4,001.00 to $10,000.00	18 months
More than $10,000.00	24 months

Section 420.090. General Sign Regulations.

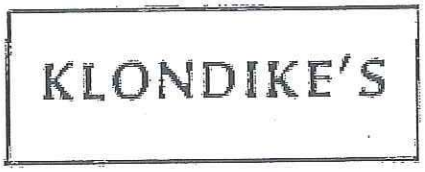
[Ord. No. 1327 §3(4227), 9-25-1989; Ord. No. 2008 §3, 11-11-1996]

A. *Compliance With Building Code.* No Person shall erect or maintain within the City any sign without first complying with the Building Code of the City. Nothing in this Chapter shall exempt signs from meeting the requirements of the City Electrical and Building Codes.

B. *Prohibited Signs.* The following types of signs shall be prohibited in the City.

1. Electric awnings.

2. Flashing signs.
3. Fluttering signs.
4. Illuminated signs in the interior of a window for the purpose of being seen from the exterior.
5. Internal signs:



INTERNAL SIGN
Entire Face Is Illuminated
Not Permitted

6. Moving signs (operated mechanically, electrically, electronically, or by wind or other forces of nature).
7. Paper, cloth, cardboard, or other similar non-permanent material signs located on the exterior of a building.
8. Portable signs.
9. Post signs.
10. Roof signs.
11. Signs painted on exterior building walls.
12. Signs, other than directional signs, constructed of or painted with "Day-Glo", fluorescent, or similar materials.
13. Standard outdoor advertising structures and/or billboards, except as permitted under Section **420.150(B)(15)**.
14. Vehicular advertising signs.

Section 420.100. Miscellaneous Sign Regulations.

[Ord. No. 1327 §3(4230), 9-25-1989; Ord. No. 2008 §§4 — 5, 11-11-1996]

A. In addition to the above, the following regulations shall apply in all districts with respect to signs:

1. No sign shall be erected on premises to which the sign message does not relate, except as permitted under Section **420.150(B)(15)**.
2. Posting of signs on public or private property shall be prohibited without written evidence of the property owner's permission.
3. No sign heretofore approved and erected shall be repaired, altered, or moved, nor shall any sign or any part thereof which is blown down, destroyed, or removed be reerected, reconstructed, rebuilt, or relocated unless it complies with all the applicable requirements of this Chapter.
4. Permanent signs exceeding twenty-four (24) square feet in sign area or weighing fifty (50) pounds or more or any sign to be erected over a pedestrian entry shall be erected by a licensed sign erector.
5. All signs attached to any building shall be constructed and braced to withstand wind pressure of not less than thirty (30) pounds per square foot of exposed surface and shall be securely attached

to the building or wall.

6. Signs in residential districts are restricted to not more than three (3) colors except as otherwise provided herein. Colors shall be restricted to black, white, and one (1) other color. Unpainted or stained natural wood, where permitted, shall not be counted as a color for the purpose of this Section.

7. Signs in all other districts are restricted to not more than three (3) colors, one (1) of which shall be black or white. Unpainted or stained natural wood, where permitted, shall not be counted as a color for the purpose of this Section. The color restriction in this Subsection shall not apply to standard outdoor advertising structures and/or billboards.

8. Signs not meeting the restrictions of Subparagraphs (6) and (7) above may be approved by a majority vote of the Board of Aldermen upon filing of an appropriate appeal for a variance. The Board of Aldermen may approve screening or various shades of any of the colors allowed under Subparagraphs (6) and (7) above, which shall be considered one (1) color for the purpose of this Section.

9. If, in the opinion of the Director, any particular sign becomes hazardous to pedestrian or vehicular traffic by reason of, but not limited to, deterioration, damage, obstruction of walkways or fire access or exit lanes, restricting sight distances for vehicular or pedestrian traffic or is located so close to travel lanes or parking areas that it is struck by maneuvering vehicles, then such signs shall be relocated, removed, or protected by the owner, agent, or person having beneficial use of the premises or lot within ten (10) days of notification from the Director that such hazard does exist. If, in the opinion of the Director, the condition or location of the sign presents imminent danger to the public, it shall be removed or corrected by the owner, agent, or person having beneficial use of the premises or lot promptly upon receipt of written notice from the Director.

10. All outdoor signs and supports shall be weather resistant and shall be maintained in good repair so as to prevent rust, peeling, flaking or fading. Broken panels, missing letters, flaking or peeling paint and other visual damage to a sign shall be repaired within forty-five (45) days of occurrence or within thirty (30) days of notification from the Director, whichever occurs first.

11. Every Permanent sign shall be constructed of rigid weatherproof materials and provisions shall be made for electric grounding of all metallic parts.

12. No sign shall be erected or maintained so that, by its position, shape, wording, device, or color, it might interfere with, obstruct the view of, or be confused with any authorized traffic sign, signal or device.

13. No sign regulated by this Chapter shall make use of the words "Stop", "Look", "Yield", "Danger", or any other word, phrase, symbol or character in such a manner as to interfere with, mislead or confuse traffic.

14. Any sign which is no longer applicable to the premises on which it is located shall be removed. Any sign which identifies a business no longer conducted or a product no longer sold on the premises or lot shall be removed by the owner, agent, or person having beneficial use of the premises or lot upon which the sign is erected within thirty (30) days after the business or product is no longer present.

15. Non-governmental flags shall be rectangular dimensions, not to exceed six (6) feet by ten (10) feet. When a non-governmental flag is flown on the same pole as a governmental flag, it shall be one (1) foot less in each dimension than the governmental flag; on adjacent poles both flags may be of equal size.

16. A construction sign in any district may contain a color rendering of a building that has been approved for the site. The rendering shall not be restricted as to number of colors or size.

Section 420.110. Illumination.

[Ord. No. 1327 §3(4240), 9-25-1989]

A. Sign illumination shall be governed by the following regulations:

1. *General restrictions.*

a. All illumination shall be oriented so as to prevent undue glare onto adjacent streets or residential properties.

b. All illuminated signs shall be extinguished at the time of business closing, or 11:00 P.M., whichever is later, except those bordering Highway 270 or Highway 40, provided that this shall not prohibit continuous illumination of permitted flags, subdivision signs, and directional signs.

c. All electrical illumination devices shall be designed to be weather-resistant and shatter-proof.

d. All electrical sign components shall bear the Underwriters' Laboratory label; their fabrication and installation must comply with all national and local Building and Electrical Codes.

e. Where practicable, all transformers, conductors and other equipment shall be concealed behind fascia. Where construction of a building does not allow the building to be backwired for a sign, exposed raceways and conduits shall be allowed, provided that such raceways or conduits shall be constructed or painted to match the building fascia. All attaching bolts shall be of non-corrosive material.

f. Threaded rods or anchor bolts shall be used to mount sign letters which are spaced out from background panel. Angle clips attached to letter sides will not be permitted.

g. Illuminated signs must be made of rust-resistant material(s).

h. No sign maker's labels or other identification will be permitted on the exposed surface of signs.

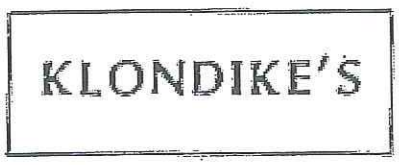
i. *Composition of general non-illuminated or externally illuminated signs.*

(1) General non-illuminated or externally illuminated signs shall be composed of solid wood or rust-resistant metal.

(2) General non-illuminated or externally illuminated signs shall be composed either of individually attached letters or letters displayed in plaque form on a solid background.

2. Illuminated signs shall be restricted to the following types:

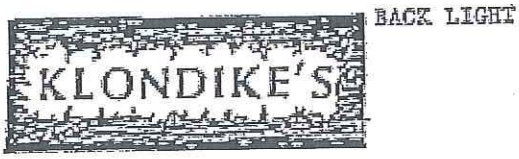
a. *General non-illuminated.* The sign itself is neither lighted internally nor has an external source of light specifically directed at it. Rather, the sign depends on the general illumination of the area (e.g., parking lot, traffic or pedestrian areas) for its illumination.

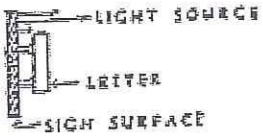


GENERAL NON-ILLUMINATED
No Illuminated Area

b. *Back light.* The letters are raised beyond the sign's background and the cover-lighting sources which illuminate the background. Letters are reverse channel and are illuminated through a

"halo effect". See illustration below.





(1) They must be completely opaque, with no light leaks.

(2) The face must be welded or permanently affixed to the return.

(3) The clearance between the building wall and the exterior face of the sign at its point of greatest protrusion must be no greater than eight (8) inches. This provision does not apply to signs which are on exposed raceways pursuant to Section 420.110(1)(e).

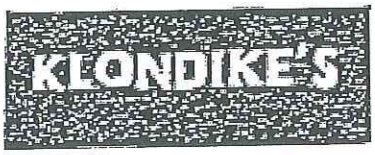
(4) Signs must be painted with satin finish, acrylic polyurethane paint in a color that complements the facade and design of the building.

(5) The transformer size is to be that which is recommended by the manufacturer and it must be UL approved.

(6) At no point shall the "halo" of light be greater than seventy-five (75) foot-candles as measured by a one (1) spot meter.

(7) The neon tube must be placed not less than three (3) inches into the sign as measured from the rear face.

c. *Internally illuminated letters.*



INTERNALLY ILLUMINATED LETTERS
Illuminated Letters Only

(1) Signs may be made of metal, wood, or other material that is not translucent, with letters cut out of the material and lighted from within the sign itself. Sign boxes and internally lighted signs where the entire face is illuminated shall not be permitted. Letters must be white in color.

(2) Signs shall be composed of individual illuminated white letters. Letters are to be channel type with three-sixteenths (3/16) inch plexiglas faces lighted behind with neon tubing. Letter returns and backs are to be aluminum. Minimum return depth is to be five (5) inches for even dispersion of illumination.

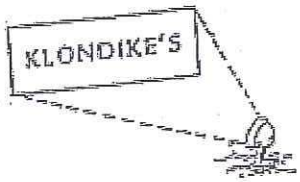
(3) A company emblem, logo, or trademark may be combined with individually illuminated white letters to compose a single sign but shall meet all size, color and other requirements of this Chapter.

d. *External light source.* Signs may be lit from an exterior light source with the following restrictions:

(1) Such exterior light sources shall not be unduly bright.

(2) Such exterior light sources shall not be composed of colored lights.

(3) Such exterior light sources shall shine only on the sign to be illuminated.



EXTERNAL LIGHT SOURCE

Face Illuminated by External Light

Section 420.120. Residential Districts.

[Ord. No. 1327 §3(4250), 9-25-1989; Ord. No. 2166 §1, 1-26-1998]

A. The signs listed below in this Section are permitted in all residential districts and the Major Educational District, subject to the restrictions set forth for each sign category:

1. *Ground signs — directional.*

   a. All sign supports and frames shall be of wood or metal. If of metal, then such shall be treated to resist corrosion unless they are non-corrodible. If of wood, such shall be treated to be weather and water resistant.

   b. Signs shall be double-faced, not to exceed six (6) square feet per sign face area, in a rectangular shape of either two (2) feet by three (3) feet or one and one-half (1½) feet by four (4) feet, vertical by horizontal measurement. Smaller signs in the same proportion shall be permitted. Said dimensions shall be exclusive of sign trim or supports.

   c. The maximum height of any sign, including supports, structural trim, frame, etc., shall be three and one-half (3½) feet above the elevation of the driveway at the point where said driveway meets the street lot line.

2. *Holiday or seasonal display.* Property owners and tenants shall be permitted to put up and display decorations and displays celebrating or denoting religious holidays or events, the seasons of the year, State and National holidays, and similar occasions; provided however, that this shall not allow pennants, non-governmental fluttering signs or similar materials prohibited herein; nor shall such seasonal displays be in place for a period longer than thirty (30) days. Should any seasonal display fail to meet these criteria, it shall be considered a sign under this Section. If any seasonal display conveys a commercial advertising message or bears the name of the business, it shall be considered a sign.

3. *Memorial or tablet signs.*

   a. All memorial or tablet signs in existence on the effective date of this Chapter are exempt from this Section.

   b. Any new memorial or tablet sign shall not exceed three (3) square feet unless such signs or tablets are placed by ordinance of, or Commission of, the United States Government, State of Missouri, St. Louis County, or the City of Town and Country or agencies thereof.

   c. Any new memorial or tablet sign shall be made of non-combustible material.

4. Non-commercial window signs indicating burglar alarm, Ident-kit, Block Home, or Child Safety Home.

5. *Official governmental flags.*

   a. May be flown at all times, subject to the guidelines concerning their use set forth by the

United States Flag Code of August, 1976.

b. May be illuminated as approved by the Director.

c. No more than two (2) flags may be flown from a single flagpole at any one time.

d. The long dimension of the flag shall be no larger than one-fourth (¼) the length of the pole.

e. Pole height shall not exceed thirty-five (35) feet and shall be able to withstand winds of ninety (90) miles per hour.

f. Location of flagpole shall be approved by the Director to ensure that it does not encroach on lot lines, endanger the safety, or obstruct visibility of surrounding property owners.

6. On-site informational signs which prohibit trespassing, or indicate privacy of premises, driveways, or roads shall not exceed two (2) square feet in sign face area nor a height of four (4) feet from the ground.

7. *Political signs.* Temporary signs advertising political parties or candidates for election may be erected or displayed and maintained provided that:

a. The size of any such sign is not in excess of six (6) square feet.

b. The signs shall not be erected or displayed earlier than fourteen (14) days prior to the election to which they pertain.

c. The erector of such sign or an authorized agent of the political party or candidate deposits with the Director the sum of fifty dollars ($50.00) per each one hundred (100) such signs, or fraction thereof, as a guarantee that all such signs will be removed within seven (7) days after the date of the election to which such signs relate. If such signs are not removed at the end of the seven (7) day period, the City shall have them removed and keep the full sum deposited to reimburse the expenses thereby incurred.

d. Political signs are not permitted on public property or public rights-of-way and are only permitted on private property with the property owner's permission.

e. Political signs are restricted to not more than three (3) colors, one (1) of which shall be black or white. No more than one (1) yard sign per candidate or per issue shall be allowed on any lot, except that on corner lots one (1) yard sign per candidate or per issue shall be allowed on each street frontage.

8. Private sale or event signs (with permit).

9. *Real estate signs.*

a. Shall be non-illuminated.

b. Not more than one (1) sign shall be permitted on each lot frontage.

c. Shall not be located within ten (10) feet of any adjacent roadway surface.

d. Shall not be greater than six (6) square feet per sign face area.

e. Shall be removed within ten (10) days of sale closing or lease-initiation.

10. *Signs for subdivisions.*

a. Temporary subdivision signs are permitted in accordance with Section 410.200(12) of this Title.

b. Each subdivision identification sign and subdivision monument sign must have a sign permit.

c. No subdivision identification sign or subdivision monument sign may be internally illuminated or located so as to obstruct vision at any intersection or any vehicular entry or exit within or from any subdivision.

d. Each subdivision entry may have one (1) or two (2) pole signs or one (1) or two (2) monuments, or both a pole sign and a monument.

e. Subdivision monument signs shall not exceed seven (7) feet in height and one hundred twenty-five (125) square feet in size. If two (2) subdivision monuments are desired for an entry to a subdivision, the size of each entry monument shall not exceed one hundred twenty-five (125) square feet. Letters on subdivision signs shall not exceed eighteen (18) inches in size.

f. Subdivision pole signs shall not exceed twelve (12) square feet and shall be mounted on a pole not exceeding ten (10) feet in height.

Section 420.130. Signs in Residential and Major Educational Districts For Non-Residential Use Only.

[Ord. No. 1327 §3(4260), 9-25-1989]

A. The following signs are permitted in residential and major educational districts for non-residential uses only and subject to the following restrictions:

1. All signs (and flags) permitted in Section **420.120**.

2. A building shall be restricted to one (1) ground sign (identification) or one (1) wall sign (identification) per street frontage designating the name of the building or principal tenant.

3. One (1) bulletin board shall be allowed on a lot, as defined in Chapter **405** — Zoning Regulations, occupied by a church. Such bulletin board shall not exceed twenty-four (24) square feet and shall not exceed a height of five (5) feet.

4. *Ground signs, governmental.*

   a. Shall not exceed fifty (50) square feet in aggregate sign face area, nor exceed a total height of six (6) feet above grade at its base.

   b. Not more than one (1) sign shall be placed on each road frontage.

   c. Shall be located only on a site occupied by a governmental agency.

   d. Shall not be located within ten (10) feet of any adjacent roadway surface, provided that the Director may allow a sign to be placed closer to the roadway surface if he/she finds that doing so is in the public interest and would not create an unsafe condition.

   e. This does not include directional signs.

5. *Ground signs, non-governmental.*

   a. Shall not be located within forty (40) feet of any adjacent roadway surface, provided that the Director may allow a sign to be placed closer to the roadway surface if he/she finds that doing so is in the public interest and would not create an unsafe condition.

b. Shall be located so as not to obstruct vision at an intersection or vehicular entry or exit from the property.

c. May be supported by posts or poles that do not exceed three (3) feet to the bottom of the sign, plus a planter box, if used, at least six (6) inches but not more than twenty-four (24) inches in height. In no event shall posts, poles, planter boxes and sign elevation exceed a height of eight (8) feet above the average ground elevation around the sign. If the sign would be below the level of the centerline of the public road, the sign may be raised to no more than six (6) feet above that level.
In lieu of the above, the sign may be supported by or be part of a solid monument. The sign and base are not to exceed eight (8) feet in height. Monument signs where the monument base and sign exceed eight (8) feet in height may be permitted with the approval of the Board of Aldermen where topography problems exist, but in no event shall the monument and sign exceed ten (10) feet above the average ground level.

d. Shall not exceed eight percent (8%) of the surface of the building wall which they are in front of or relate to, but not to exceed seventy-five (75) square feet in aggregate sign face area, whichever is less.

e. Landscaping or appropriate ground cover shall be placed at the base of and around any ground sign for a minimum distance of four (4) feet.

f. Ground signs may be located within the median of interior roadways but shall not be located within forty (40) feet of any adjacent roadway surface of a major street unless the Director finds that doing so is in the public interest and would not create an unsafe condition. This does not include directional signs.

g. An emblem, logo or trademark shall be considered a letter for purposes of this Chapter. Letter sizes shall not exceed eighteen (18) inches.

6. *Wall signs.*

a. Shall be composed of solid wood or rust-resistant metal.

b. Shall be composed either of individually attached letters or letters displayed in plaque form on a solid background.

c. Informational signs shall not exceed ten (10) square feet per sign.

d. Letters shall be no taller than twelve (12) inches in height.

e. One (1) informational sign shall be allowed on each building frontage.

f. Wall signs may be illuminated from an exterior light source.

g. An identification sign shall not exceed eight percent (8%) of the surface area on the side of the building to which it is attached, or forty (40) square feet, whichever is less.

7. *Construction signs.* One (1) construction sign with maximum sign area of forty-eight (48) square feet shall be permitted. Construction signs shall be erected after issuance of a building permit and shall be removed upon building occupancy.

8. One (1) bulletin board sign for each school, provided that:

a. Such school shall be located on a lot of at least four (4) acres;

b. Such sign does not exceed twenty-four (24) square feet and the height thereof does not exceed five (5) feet; and

c. In no event shall there be more than one (1) bulletin board per lot as that term is defined in Chapter **405**, Zoning Regulations, notwithstanding any other provisions of the City Code.

Section 420.140. Office and Nursing Home, Assisted Living or Continuum of Care Facility Districts.

[Ord. No. 1327 §3(4270), 9-25-1989; Ord. No. 2588 §1, 6-12-2001; Ord. No. 2803 §1, 3-25-2003]

A. The following signs are permitted in Campus Office, Office or Nursing Home, Assisted Living or Continuum of Care Facility Districts subject to the following restrictions:

1. All signs (and flags) permitted in Sections **420.120** and **420.130** except that all ground signs shall meet the requirements of this Section.

2. All signs located on or related to buildings in the Campus Office and Office Districts located generally at the intersection of Ballas and Clayton Roads shall be general non-illuminated only.

3. *Construction signs.* One (1) construction sign with a maximum sign area of sixty-four (64) square feet shall be permitted. Construction signs shall be erected after issuance of a building permit and shall be removed upon issuance of occupancy permit.

4. *Directory signs.* One (1) directory sign with a maximum sign area of sixteen (16) square feet shall be permitted.

5. *Flags.*

   a. May be flown at all times, subject to the guidelines concerning their use set forth by the government which they represent.

   b. May be illuminated as approved by the Director.

   c. No more than two (2) flags may be flown from a single flagpole at any one time.

   d. The long dimension of the flag shall be no larger than one-fourth (¼) the length of the pole.

   e. Pole height shall not exceed forty (40) feet and shall be able to withstand winds of ninety (90) miles per hour.

   f. No more than three (3) flagpoles per lot.

   g. Non-governmental flags to be permitted as defined. See Section 420.100(15).

   h. Location of flagpole shall be approved by the Director to ensure that it does not encroach on lot lines, endanger the safety, or obstruct visibility of surrounding property owners. Where feasible its location shall be indicated on the site plan.

6. *Ground signs and monument signs — identification.*

   a. Shall not be located within forty (40) feet of any adjacent roadway surface, provided that the Director may allow a sign to be placed within forty (40) feet of a roadway surface but in no event closer than twenty (20) feet of a roadway surface if he/she finds that doing so is in the public interest and would not create an unsafe condition.

   b. Shall be located so as not to obstruct vision at an intersection or vehicular entry or exit from the property.

c. May be supported by posts or poles that do not exceed three (3) feet to the bottom of the sign, plus a planter box, if used, at least six (6) inches but not more than twenty-four (24) inches in height. In no event shall posts, poles, planter boxes and sign elevation exceed a height of eight (8) feet above the average ground elevation around the sign. If the sign would be below the level of the centerline of the public road, the sign may be raised to no more than six (6) feet above that level.
In lieu of the above, the sign may be supported by or be part of a solid monument. The sign and base are not to exceed eight (8) feet in height. Monument signs where the monument base and sign exceed eight (8) feet in height may be permitted with the approval of the Board of Aldermen when topography problems exist, but in no event shall the monument and sign exceed ten (10) feet above the average ground level.

d. Shall not exceed eight percent (8%) of the surface of the building wall which they are in front of or relate to, but not to exceed seventy-five (75) square feet, whichever is less.

e. An emblem, logo or trademark shall be considered a letter for purposes of this Chapter. Letter sizes shall not exceed eighteen (18) inches.

7. *Ground signs — informational.*

a. Shall not be located within ten (10) feet of any adjacent roadway surface, provided that the Director may allow a sign to be placed closer to the roadway surface if he/she finds that doing so is in the public interest and would not create an unsafe condition.

b. The size of said sign shall not be more than six (6) square feet per sign face area, but may be increased up to a maximum of ten (10) square feet by written authority of the Director after the Director's review of the public necessity and/or safety purpose of said sign.

c. Shall be non-illuminated unless, in the opinion of the said Director, safety would be enhanced by allowing either the internal or indirect illumination thereof. Said Director may grant a permanent or temporary permit to illuminate any such sign and may revoke a temporary illumination permit upon fifteen (15) days' notice.

d. Shall be constructed of permanent, weather-proof materials except that temporary signs may be permitted by said Director for a period up to sixty (60) days, provided that the Director finds public need or safety purposes will be served by said temporary signs.

e. Except as otherwise permitted in writing by said Director, on-site informational signs shall not exceed a height of three (3) feet from the ground level in any area within ten (10) feet of any adjacent roadway surface or within ten (10) feet of any lot line nor shall such signs elsewhere on the property exceed a height of four (4) feet from the adjacent ground level.

f. Shall not be hazardous to vehicles. If damaged or defaced, said signs shall be immediately removed and either restored or replaced.

g. An emblem, logo or trademark shall be considered a letter for purposes of this Chapter. Letter sizes shall not exceed eighteen (18) inches.

8. A single office or nursing home, assisted living or continuum of care facility building may have a wall identification sign or one (1) ground identification sign for each street upon which the building fronts. When an office building has multiple tenants, the ground identification sign may identify the building and contain the name of at least one (1) tenant. The ground identification sign may also contain the names of additional tenants provided that those tenants identified on the sign occupy the equivalent of at least one (1) floor of the building.

9. *Office subdivision or office center.* An office subdivision containing two (2) or more office buildings shall be permitted a ground or monument sign, not to exceed seventy-five (75) square

feet in sign face area, at each entry from a public street into the office subdivision.

10. *Real estate signs.* Real estate signs advertising premises for sale or available space for lease shall be permitted, with permit, subject to the following restrictions:

    a. One (1) real estate sign per building shall be permitted for each public roadway frontage.

    b. Shall not exceed eight percent (8%) of the surface area of the side of the building to which it relates, or forty-eight (48) square feet, whichever is less.

    c. All supports of freestanding signs shall be painted and maintained.

    d. Shall be no closer than twenty (20) feet, for safety, from any public roadway.

    e. Shall be removed no later than ten (10) days after sale closing or lease commencement.

    f. Shall not be internally or directly illuminated.

    g. An emblem, logo or trademark shall be considered a letter for purposes of this Chapter. Letter sizes shall not exceed eighteen (18) inches.

11. *Wall signs — identification.*

    a. Shall be either internally illuminated, back light type, non-illuminated, or externally illuminated as specified in Section **420.110**.

    b. Shall not project perpendicularly more than eight (8) inches beyond the plane of the wall to which it is attached, except that this distance may be modified by conditions of a conditional use permit where an exposed raceway is involved.

    c. Letter sizes shall not exceed eighteen (18) inches in height, except that letters on a sign located in the Planned Office Park (POP) Zoning District on a minimum three (3) story building, identifying a tenant occupying at least forty thousand (40,000) square feet or two (2) floors of the building, shall not exceed thirty (30) inches in height, provided the sign faces an interstate highway.

    d. A company emblem, logo or trademark may be combined with letters to compose a sign, but shall meet all size, color, and other requirements of this Section.

    e. Shall not exceed eight percent (8%) of the surface area of the side of the building or other structure to which it is attached, or sixty (60) square feet, whichever is less. Where more than one (1) wall of a building or structure is used for signing, then the limitation shall be five percent (5%) for each side, or forty (40) square feet, whichever is less.

    f. Letters shall not exceed the height of the roof of the building, nor overlap either the top or bottom edge of the building fascia or mansard roof area and must be a minimum of six (6) inches from either of these edges.

    g. Internally illuminated signs shall be composed of individual illuminated white letters. Sign boxes and cabinets where the sign background is illuminated shall not be permitted.

    h. Non-illuminated signs and externally illuminated signs shall be composed either of individually attached letters or letters displayed in plaque form on a solid background.

12. *Wall signs — address numerals.* Non-illuminated address numerals not to exceed thirty-six (36) inches in height may be erected on no more than two (2) building walls of any building at least three (3) stories high in the Planned Office Park (POP) Zoning District.

13. *Telephone switching stations.* Exterior signs identifying or advertising a telephone switching

station occupying interior floor space of office buildings in the Campus Office, Office or Planned Office Park Districts shall not be permitted.

Section 420.150. Commercial District.

[Ord. No. 1327 §3(4280), 9-25-1989; Ord. No. 2008 §§6 — 7, 11-11-1996]

A. The following signs in Commercial Districts shall be subject to the following general restrictions:

1. On multi-tenant commercial buildings, a unified sign plan shall be presented to the Board of Aldermen for approval, in which case as many signs of the same type shall be permitted on the same site frontage of a building facing a public street as there are separate main entrances for the businesses therein.

   a. Signs shall be of uniform height, proportions, background color(s), materials, and location in relationship to the business and generally uniform thickness, appearance and illumination as approved in the plan.

   b. Each business therein shall be allowed one (1) business identification sign facing the adjoining street or parking area. If a business is located on a corner space, with one (1) exterior frontage entrance in each direction, then one (1) business identification sign per side will be permitted, not to exceed two (2) signs.

   c. Businesses located in a shopping mall where a majority of businesses face interior courts or walkways, shall be permitted, in addition to Subparagraph (b) above, one (1) business identification sign on a store front which faces the interior court or walkway inside the mall. If a business has a corner space, with more than one (1) interior frontage entrance, or if a building occupies a corner space or other space with more than one (1) interior entrance not on the same building frontage, then one (1) sign shall be permitted on each interior court or walkway, plus one (1) business identification sign on the exterior of the building in the closest possible proximity to the business entrance. The total allowable number of business identification signs for such an interior corner space shall be three (3).

   d. If approved as part of a unified sign plan for a single commercial development, in addition to the business identification signs authorized above, those businesses with entrances facing a pedestrian walkway under a roof, may hang one (1) business identification sign from the roof over the pedestrian walkway, provided each sign is uniform in size, color and letters, non-illuminated, is no larger than eight (8) inches by twenty (20) inches, is perpendicular to the front building wall and business entrance, and provides for at least seven (7) feet of clearance.

2. For any new multi-tenant commercial building or for any existing multi-tenant commercial building which is more than fifty percent (50%) vacant and which does not have an approved uniform sign plan, the building owner shall submit with, or prior to the first (1st) (or next) sign permit application, a unified sign plan for said building for approval by the Board of Aldermen. No sign permit shall be issued except in conformity with the plan approved by the Board of Aldermen.

3. An aggregate sign display area not to exceed twelve percent (12%) of the total surface area (including windows) of the building frontage of a business establishment shall be permitted, subject to other limitations contained herein. Where a building has more than one (1) commercial frontage, the aggregate sign display area shall be calculated separately for signs related to each separate commercial frontage. The following types of signs shall not be included in the aggregate square footage limitation contained in the Subsection.

   [illegible] signs

b. Directional signs.

c. Informational signs.

d. Memorial signs or tablet signs.

e. Official government flags.

f. Real estate signs.

g. Special displays.

h. Temporary window signs.

4. All permitted signs are subject to the general provisions for multi-tenant buildings.

5. A single commercial establishment may have either one (1) wall sign (identification) or one (1) ground sign (identification) per road frontage, but not both.

6. Signage on office buildings in Commercial Districts shall conform to requirements for office buildings in Office and Campus Office Districts.

7. An emblem, logo or trademark shall be considered a letter for purposes of this Chapter. In no event shall letters on any sign in a Commercial District exceed twenty-four (24) inches in height. Where a smaller maximum letter size is specified in this Section, the smaller letter size governs.

B. The following signs are permitted in Commercial Districts:

1. All signs (and flags) permitted in Sections **420.120** and **420.130** except that ground signs shall conform to the provisions of this Section.

2. All signs located on or related to buildings in the Commercial District located generally at the southeast corner of the intersection of Clayton and Mason Roads shall be generally non-illuminated.

3. *Awning signs.*

a. Awning signs shall be painted or otherwise permanently affixed to the awning, limited to the name of the firm or the logo of the firm (but not both), and no more than two (2) colors, including the color of the awning material, shall be permitted. The size of the letters or one (1) logo shall not exceed twelve (12) inches in height. Such signs shall be the single frontage identification of the business or firm.

b. Shall not project above the parapet wall or the roof line of the building to which the awning is attached.

c. Shall maintain a clearance of at least seven (7) feet six (6) inches above the ground or pavement where vehicular or pedestrian movement is possible under said sign.

4. *Flags.*

a. May be flown at all times, subject to the guidelines concerning their use set forth by the government which they represent.

b. May be illuminated as approved by the Director.

c. No more than two (2) flags may be flown from a single flagpole at any one time.

d. The long dimension of the flag shall be no larger than one-fourth (¼) the length of the pole. Maximum size shall be six (6) feet by ten (10) feet.

e. Pole height shall not exceed forty (40) feet and shall be able to withstand winds of ninety (90) miles per hour.

f. No more than three (3) flagpoles per site.

g. Non-governmental flags to be permitted as defined. See Section 420.100(15).

h. Location of flagpole shall be approved by the Director to ensure that it does not encroach on lot lines, endanger the safety, or obstruct visibility of surrounding property owners. Where feasible its location shall be indicated on the site plan.

5. *Gasoline service station signs.*

a. No separate post signs, including name identification poles, shall be permitted.

b. One (1) wall business identification sign per roadway frontage, with a maximum letter size of twelve (12) inches, or one (1) ground business identification sign, shall be permitted. The wall business identification sign(s) shall be affixed either flat against the main structure wall or along the longer vertical edge of the roofed structure covering the fuel pumps. The business identification sign may be lighted internally or externally. The ground sign shall be a maximum of forty-two (42) inches above ground level, and maximum size of twelve (12) square feet.

c. One (1) gasoline price sign per street frontage may be displayed in the window of the primary gasoline service station building only. Each sign shall be no larger than six (6) square feet.

d. The shorter vertical edge of the roofed structure covering the fuel pumps shall be used only for the following signage: "full-service", "self-service, "no smoking", or "stop engine".

e. A company logo may be displayed directly on each fuel pump if an integral part of the design of the pump. No product advertising shall be permitted to be attached to the fuel pump.

f. Each fuel pump may display a sign no larger than one (1) square foot indicating the fuel available from the pump, e.g. "lead-free", "regular", "diesel", "high octane", etc.

g. Directional signs indicating "Entrance" and "Exit" shall be permitted. No product advertising or company logo shall be permitted on such directional signs. Directional signs may be illuminated if required for safety and if approved by the Director.

h. One (1) informational sign, not to exceed four (4) square feet in sign face area, shall be permitted for the purpose of identifying the air hose and supply, and shall be affixed flat against the building wall in the vicinity of the air hose.

i. A sign required to identify official State inspection stations may be affixed flat against the wall of the primary gasoline service station building only, adjacent to the main entrance.

j. A sign indicating hours of business shall be permitted only on the main entrance door of the primary building, and shall be no larger than one (1) square foot.

k. No advertising signs shall be permitted on movable or rolling tire racks.

l. A sign no larger than one (1) square foot, giving credit and charge card information, shall be permitted at the main entrance to the building.

m. Temporary window signs are permitted subject to the restrictions in Subsection (7)(m) of this Section.

n. The following shall not be permitted: Portable signs, advertising signs on the tops of pumps, "truck-load" and other such sale signs, banners advertising services or "open for business".

o. No signs other than those specifically authorized above shall be permitted, whether illuminated or non-illuminated, whether affixed to the outside or inside of windows, doors, roofs, etc.

6. *Ground signs — business identification.*

a. Where a single building has multiple tenants or multiple uses, ground signage shall be restricted to one (1) commercial center ground sign designating the name of the business development or center or name of the building.

b. Shall not be located within forty (40) feet of any adjacent roadway surface, provided that the Director may allow a sign to be placed within twenty (20) feet of a roadway surface if he/she finds that doing so is in the public interest and would not create an unsafe condition.

c. Shall be located so as not to obstruct vision at an intersection or vehicular entry or exit from the property.

d. May be supported by posts or poles that do not exceed three (3) feet plus a planter box, if used, at least six (6) inches but not more than twenty-four (24) inches in height. In no event shall posts, poles, planter boxes and sign elevation exceed a height of six (6) feet above the average ground elevation around the sign. If the sign would be below the level of the centerline of the nearest major or minor road, the sign may be raised to no more than six (6) feet above that level.
In lieu of the above, the sign may be supported by or be a part of a solid monument. The sign and base are not to exceed six (6) feet in height. Monument signs where the monument base and sign exceed six (6) feet in height may be permitted with the approval of the Board of Aldermen where topographical problems exist, but in no event shall monument and sign exceed eight (8) feet above average ground level.

e. Shall not exceed eight percent (8%) of the surface of the building wall of which they are in front or relate to, but not to exceed seventy-five (75) square feet, whichever is less.

f. Letter sizes shall not exceed twenty-four (24) inches. Illuminated letters shall be white. Internal signs are prohibited.

7. *Hanging signs.*

a. Shall not project perpendicularly more than thirty (30) inches beyond the plane of the wall to which it is attached. The maximum sign shall be thirty (30) inches by eighteen (18) inches.

b. Shall maintain a clearance of at least seven (7) feet six (6) inches above the ground or pavement where vehicular or pedestrian movement is possible under said sign.

8. *Informational signs.*

a. Shall not exceed one (1) square foot for each business establishment.

b. The total area shall not be included in calculating signage on a building or other structure.

9. *Marquee signs.*

a. The marquee shall not exceed four (4) feet in height.

b. Shall meet the same standards of strength as specified in attached signs.

c. Shall maintain a clearance of at least ten (10) feet above the ground or pavement where vehicular or pedestrian movement is possible under said sign.

a. One (1) marquee sign shall be permitted per theater, applied flat to the building.

b. One (1) shadowbox, know as a show case, forty (40) inch by sixty (60) inch frame, shall be permitted per screen, permanently affixed to the building.

c. No outdoor advertising posters or standard outdoor advertising structures and/or billboards shall be permitted, except as allowed under Subsection **(B)(15)** of this Section.

d. Advertising posters, billboards, etc., shall be permitted in the lobby of the theater.

e. Pricing shall be posted at box office only.

f. Theater name shall be subject to normal provisions for such commercial signs and is separate from marquee signs.

g. Customary signage announcing the title, rating, and show times of current attractions may be permitted when a sign plan for such purpose has been approved by the Board of Aldermen.

11. *Permanent window signs.*

a. Shall be painted, metal-leafed, or in some other manner permanently applied to either side of an exterior window or door.

b. Shall be calculated with the total square footage of signs permitted per building side but a temporary window sign shall not be so counted.

c. May identify hours of business, name and address of business.

d. Shall cover an area no greater than three (3) feet by two (2) feet on the window display surface on any one (1) frontage.

12. *Real estate signs.* Real estate signs advertising premises for sale or available space for lease shall be permitted, with permit, subject to the following restrictions:

a. One (1) real estate sign per building shall be permitted for each public roadway frontage.

b. Shall not exceed eight percent (8%) of the surface area of the side of the building to which it relates, or forty-eight (48) square feet, whichever is less.

c. All supports of freestanding signs shall be painted and maintained.

d. Shall be no closer than ten (10) feet from any public roadway.

e. Shall be removed no later than ten (10) days after sale closing or lease commencement.

f. Shall not be internally or directly illuminated.

13. *Temporary window signs.*

a. Shall not cover more than a total of twenty percent (20%) of the combined area of the window and glass door to which they are applied. All of the glass windows and doors on a side of a building may be calculated as a single window/door area provided that such are separated by supports or other dividers no more than twelve (12) inches wide.

b. All signs in one (1) window shall be deemed to be one (1) sign for the purpose of this paragraph. If all windows and glass doors in the side of a building are being counted as a single surface under Subsection (7)(m)(1) above, then all signs thereon shall likewise be counted.

c. Temporary window signs shall be maintained in good repair and shall be displayed for a

period not to exceed thirty (30) days and shall have the most recent date of installation clearly shown on the sign in two (2) inch high letters in a contrasting color placed in the bottom right-hand corner on the front of said sign. The same sign shall not be placed in a window for a period of four (4) months after removal. A new date of installation shall be shown in that event.

d. Under no circumstances shall such signs be affixed to the exterior of a window.

14. *Wall signs.*

a. Shall be either internally illuminated, back light type, non-illuminated, or externally illuminated as specified in Section **420.110**.

b. Shall not project perpendicularly more than eight (8) inches beyond the plane of the wall to which it is attached, except this distance may be modified by conditions of a conditional use permit where an exposed raceway is involved.

c.

Surface Area of Store/Office Frontage	Maximum Sign Square Footage
Less than 960 square feet	40
960 — 2,000 square feet	50
Over 2,000 square feet	60

d. A company emblem, logo, or trademark may be combined with letters to compose a sign, but shall meet all size, color, and other requirements of this Section.

e. Internally illuminated signs shall be composed of individual illuminated white letters. Sign boxes and cabinets where the sign background is illuminated shall not be permitted.

f. The maximum square footage of a sign shall not exceed sixty (60) square feet or the size set forth in paragraph (3) above, whichever is less.

g. Letters may not overlap either the top or bottom edge of the building fascia or mansard roof area and must be a minimum of six (6) inches from either of these edges. Signs shall not exceed the height of the building.

15. *Standard outdoor advertising structures and/or billboards.*

a. No permit to allow a sign to be newly erected shall be issued without a permit issued by the Missouri Highways and Transportation Commission. Standard outdoor advertising structures and/or billboards may be permitted in the City provided that such signs:

(1) Are located within six hundred sixty (660) feet of the nearest edge of the right-of-way of an interstate or primary highway (as defined by the Missouri Highway and Transportation Department),

(2) Are on property zoned for commercial use, and

(3) Comply with all provisions of this Section.

b. *Lighting.*

(1) Lighting cannot exceed a twenty (20) foot-candle average.

(2) No revolving or rotating beam or beacon of light that simulates an emergency light or device shall be permitted as part of any sign. No flashing, intermittent, or moving light or lights will be permitted except scoreboards and other illuminated signs designating public service information such as time, date, or temperature, or similar information.

will be allowed.

(3) External lighting, such as floodlights, thin line and gooseneck reflectors are permitted, provided the light source is directed upon the face of the signs and is effectively shielded so as to prevent beams or rays of light from being directed into any portion of the main traveled way of the interstate or Federal-aid primary highway and the lights are not of such intensity so as to cause glare, impair the vision of the driver of a motor vehicle, or otherwise interfere with a drivers' operation of a motor vehicle; provided the light source is effectively shielded so as to prevent beams or rays of light from shining on any lot which is used or zoned residential.

(4) No sign shall be so illuminated that it interferes with the effectiveness of or obscures any official traffic sign, device or signal.

c. *Size of signs.*

(1) The maximum area per face for any one (1) sign located within six hundred sixty (660) feet of the nearest edge of the right-of-way of:

(a) An interstate highway (as defined by the Missouri Highway and Transportation Department) shall be two hundred eighty-eight (288) square feet, or

(b) A primary highway (as defined by the Missouri Highway and Transportation Department) shall be one hundred twenty-eight (128) square feet,

inclusive of border and trim but excluding the base or apron, supports, and other structural members, with a maximum vertical dimension of thirty (30) feet and a maximum horizontal dimension of sixty (60) feet.

(2) The maximum height of any sign shall not exceed thirty-five (35) feet from the highest point on the sign structure to the grade of the highway from which the sign is intended to be read nor exceed fifty (50) feet above the surrounding grade where the sign is installed.

d. *Spacing of signs.*

(1) No sign structure shall be erected within one thousand (1,000) feet of an existing sign on either side of the adjacent interstate or primary highway.

(2) The spacing between structure provisions of paragraph (d)(1) of this Subsection do not apply to signs which are separated by buildings, natural surroundings, or other obstructions in such manner that only one (1) sign facing located within such distance is visible at any one time. Directional or other official signs or those advertising the sale or lease of the property on which they are located, or those which advertise activities on the property on which they are located, including products sold, shall not be counted, nor shall measurements be made from them for the purpose of compliance with spacing provisions.

(3) The measurements in this Subsection shall be the minimum distances between outdoor advertising sign structures measured along the nearest edge of the pavement between points directly opposite the signs along each side of the highway.

e. *Setbacks and location.* No sign shall be located within:

(1) Ninety (90) feet of any property line or roofed structure;

(2) Ninety (90) feet of any right-of-way;

(3) One thousand (1,000) feet from any lot which is used or zoned as residential or for any public use, including but not limited to parks, schools, churches, libraries, hospitals, historic districts, landmarks, or any area on the National Register of Historic Places;

(4) Two hundred fifty (250) feet of any on-premises sign located on a building or other non-sign structure;

(5) One thousand (1,000) feet of any other free-standing on-premises sign;

(6) One thousand (1,000) feet of an interchange, intersection at grade, or safety rest area. Such distances shall be measured from beginning or ending of the pavement widening at the exit from or entrance to the main traveled way.

f. *Miscellaneous regulations.*

(1) Only one (1) sign shall be allowed to face in one (1) direction along an interstate or primary highway; while signs may be placed back-to-back on the same sign structure so that two (2) signs are facing in opposite directions, signs of V-type construction are prohibited as is sign stacking.

(2) No sign shall be located in such manner as to obstruct or otherwise physically interfere with the effectiveness of any official traffic sign, signal, or device or obstruct or physically interfere with a motor vehicle operator's view of approaching, merging or intersecting traffic.

(3) No sign shall be located on or attached to the roof of a building or any other non-sign structure.

Section 420.160. Hospital District.

[Ord. No. 1327 §3(4290), 9-25-1989]

A. The following signs are permitted in the Hospital District subject to the following restrictions:

1. All signs (and flags) permitted in Sections **420.120** and **420.130** except that all ground signs shall meet the requirements of this Section.

2. *Construction signs.* One (1) construction sign with a maximum sign area of sixty-four (64) square feet shall be permitted. Construction signs shall be erected after issuance of a building permit and shall be removed upon issuance of an occupancy permit.

3. *Directory signs.* One (1) directory sign with a maximum sign area of sixteen (16) square feet shall be permitted for each building in the Hospital District.

4. *Flags.*

a. May be flown at all times, subject to the guidelines concerning their use set forth by the government which they represent.

b. May be illuminated as approved by the Director.

c. No more than two (2) flags may be flown from a single flagpole at any one time.

d. The long dimension of the flag shall be no larger than one-fourth (¼) the length of the pole.

e. Pole height shall not exceed forty (40) feet and shall be able to withstand winds of ninety (90) miles per hour.

f. No more than three (3) flagpoles per lot.

g. Non-governmental flags to be permitted as defined. See Section 420.100(15).

h. Location of flagpole shall be approved by the Director to ensure that it does not encroach on lot lines, endanger the safety, or obstruct visibility of surrounding property owners. Where feasible its location shall be indicated on the site plan.

5. *Ground signs and monument signs — identification.*

a. Where a building has multiple uses or multiple tenants, ground signage shall be restricted to one (1) ground identification sign per commercial street frontage designating the name of the building or principal tenant.

b. Shall not be located within forty (40) feet of any adjacent roadway surface, provided that the Director may allow a sign to be placed within forty (40) feet of a roadway surface but in no event closer than twenty (20) feet of a roadway surface if he/she finds that doing so is in the public interest and would not create an unsafe condition.

c. Shall be located so as not to obstruct vision at an intersection or vehicular entry or exit from the property.

d. May be supported by posts or poles that do not exceed three (3) feet to the bottom of the sign, plus a planter box, if used, at least six (6) inches but not more than twenty-four (24) inches in height. In no event shall posts, poles, planter boxes and sign elevation exceed a height of eight (8) feet above the average ground elevation around the sign. If the sign would be below the level of the centerline of the public road, the sign may be raised to no more than six (6) feet above that level.
In lieu of the above, the sign may be supported by or be part of a solid monument. The sign and base are not to exceed eight (8) feet in height. Monument signs where the monument base and sign exceed eight (8) feet in height may be permitted with the approval of the Planning Commission when topography problems exist, but in no event shall the monument and sign exceed ten (10) feet above the average ground level, whichever is less.

e. Shall not exceed eight percent (8%) of the surface of the building wall which they are in front of or relate to, but not to exceed seventy-five (75) square feet, whichever is less.

f. An emblem, logo or trademark shall be considered a letter for purposes of this Chapter. Letter sizes shall not exceed eighteen (18) inches.

6. *Ground signs — informational.*

a. Shall not be located within ten (10) feet of any adjacent roadway surface, provided that the Director may allow a sign to be placed closer to the roadway surface if he/she finds that doing so is in the public interest and would not create an unsafe condition.

b. The size of said sign shall not be more than six (6) square feet per sign face area, but may be increased up to a maximum of ten (10) square feet by written authority of the Director after the Director's review of the public necessity and/or safety purpose of said sign.

c. Shall be non-illuminated unless, in the opinion of the said Director, safety would be enhanced by allowing either the internal or indirect illumination thereof. Said Director may grant a permanent or temporary permit to illuminate any such sign and may revoke a temporary illumination permit upon fifteen (15) days' notice.

d. Shall be constructed of permanent, weatherproof materials except that temporary signs may be permitted by said Director for a period up to sixty (60) days, provided that the Director

e. Except as otherwise permitted in writing by said Director, on-site informational signs shall not exceed a height of three (3) feet from the ground level in any area within ten (10) feet of any adjacent roadway surface or within ten (10) feet of any lot line nor shall such signs elsewhere on the property exceed a height of four (4) feet from the adjacent ground level.

f. Shall not be hazardous to vehicles. If damaged or defaced, said signs shall be immediately removed and either restored or replaced.

g. An emblem, logo or trademark shall be considered a letter for purposes of this Chapter. Letter sizes shall not exceed eighteen (18) inches.

7. A single office building may have either one (1) wall identification sign or one (1) ground identification sign per road frontage, but not both.

8. Where a hospital development contains two (2) or more buildings, the development shall be permitted a ground or monument sign, not to exceed seventy-five (75) square feet in sign face area, at each entry from a public street into the hospital development.

9. *Real estate signs.* Real estate signs advertising premises for sale or available space for lease shall be permitted, with permit, subject to the following restrictions:

a. One (1) real estate sign per building shall be permitted for each public roadway frontage.

b. Shall not exceed eight percent (8%) of the surface area of the side of the building to which it relates, or forty-eight (48) square feet, whichever is less.

c. All supports of freestanding signs shall be painted and maintained.

d. Shall be no closer than twenty (20) feet, for safety, from any public roadway.

e. Shall be removed no later than ten (10) days after sale closing or lease commencement.

f. Shall not be internally or directly illuminated.

g. An emblem, logo or trademark shall be considered a letter for purposes of this Chapter. Letter sizes shall not exceed eighteen (18) inches.

10. *Wall signs — identification.*

a. Shall be either internally illuminated, back light type, non-illuminated, or externally illuminated as specified in Section **420.110**.

b. Shall not project perpendicularly more than eight (8) inches beyond the plane of the wall to which it is attached, except that this distance may be modified by conditions of a conditional use permit where an exposed raceway is involved.

c. Letter sizes shall not exceed eighteen (18) inches in height.
Exception: In the discretion of the Board of Aldermen, upon application, letters on wall signs facing an interstate highway may exceed eighteen (18) inches in height.

d. A company emblem, logo or trademark may be combined with letters to compose a sign, but shall meet all size, color, and other requirements of this Section.

e. Shall not exceed eight percent (8%) of the surface area of the side of the building or other structure to which it is attached, or sixty (60) square feet, whichever is less. Where more than one (1) wall of a building or structure is used for signing, then the limitation shall be five percent (5%) for each side, or forty (40) square feet.

11. *Exception.* In the discretion of the Board of Aldermen, upon application, wall signs facing an

interstate highway may exceed eight percent (8%) of the surface area of the side of the building or other structure to which it is attached, or sixty (60) square feet.

a. Letters shall not exceed the height of the roof of the building, or overlap either the top or bottom edge of the building fascia or mansard roof area and must be a minimum of six (6) inches from either of these edges.

b. Internally illuminated signs shall be composed of individual illuminated white letters. Sign boxes and cabinets where the sign background is illuminated shall not be permitted.

c. Non-illuminated signs and externally illuminated signs shall be composed either of individually attached letters or letters displayed in plaque form on a solid background.

Elizabeth Weiss

From: Lynne Greene-Beldner
Sent: Monday, August 17, 2015 2:37 PM
To: Elizabeth Weiss
Subject: FW: PnZ meeting tonight
Attachments: Signs.docx

Please print for tonight's meeting.

Lynne Greene-Beldner
Deputy City Administrator/City Clerk
City of Wildwood
16860 Main Street
lynne@cityofwildwood.com
(p) 636-458-0440
(fax) 636-458-6969

From: Debra McCutchen [mailto:dmccutchen@fergflor.org]
Sent: Monday, August 17, 2015 2:17 PM
To: Lynne Greene-Beldner
Subject: PnZ meeting tonight

Hi Lynne,

Please email and or place the attached at each commissioners seat for tonight's meeting.

Thank you!

Deb

--
Debra Smith McCutchen
Coordinator, Parents as Teachers

Re: PZ 14-15 Amendment of Sign Regulations of Electronic Message Boards

Discussion in PEP was to **consider** allowing **only** non-profits, specifically schools and churches the possibility of using Electronic Message Boards. Commercial organizations were to be excluded from using electronic message boards.

Given the current technology messages can now be transmitted by several other means than electronic message boards, ie email, text and social media and non-electronic message boards.

Cristism of sign regulations come mainly from businesses. The city should not have to amend its vision and ordinances for businesses. Businesses are aware of the regulations and ordnances before moving into Wildwood. If they do not agree with those guidelines and ordinances then they should go to another city. We should not change our ordinances and guidelines because other cities guidelines and ordnances are less stringent. The city of Wildwood is for Wildwood residents who believe in the vision and mission upon which Wildwood was founded.

Business representatives have learned that if they keep coming back to the city requesting less stringent guidelines eventually they will be successful in lessening Wildwoods standards. For example: A Wildwood Business Association representative and a realtor made requests to change the sign ordinance whenever there was a turnover on council. Request was denied several times. Eventually a committee of newly elected council members agreed to move forward with a change in the sign ordinance. This change has had a negative impact on the pristine nature of our city. Especially in the high density areas of Wildwood.

High densities areas have already lost many of the reasons residents move to Wildwood. The Rural character of Wildwood has been taken away from high density areas: Little to no green space, rural nature of roads turned into the look of major highways with multiple signs; highway exit signs replacing city street signs; night sky has been lost in high density areas due to increased development in and around town center; increased traffic through subdivisions; increased speeding issues in subdivision throughways.

If I have read this proposed amendment correctly Electronic message boards will not be allowed west of 109, (the non- urban area), Why is the quality of life more important for those living west of 109 than those living east of 109?

Kathy Arnett

From: noreply@cityofwildwood.com
Sent: Monday, September 14, 2015 11:36 AM
To: Lynne Greene-Beldner; Ryan Thomas; Elizabeth Weiss; Kathy Arnett; Kathy Arnett
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. 14-15 City of Wildwood - Sign Regulations - Electronic Message Boards
Item Description	Lafayette HS sign
Position on Request	Do Not Support
General Comments	The only people who are interested in the goings on at ANY school are a captive audience. It is sufficient to send email messages to parents and, by all means, install an electronic sign INSIDE THE SCHOOL for the students. But, please, do not add to the danger of dreadful drivers by approving any kind of exterior signage that draws their attention even further away from the task at-hand! In addition, if the current word-burdened signs at Lafayette are any indication, the proposed messages will never be seen in their entirety by anyone driving past in excess of one mile per hour.
Suggestions	As indicated, tell them to send emails to parents (and mail flyers to those who are technologically challenged), and install the electronic sign INSIDE the school. I think the cafeteria would be an ideal location, don't you?
	(Section Break)
Name	Mary DeWitt
Address	2575 Hickory Manor Dr
City	Wildwood

State	Missouri
Zip	63011
Phone Number	636-458-4990
Email	mdewitt2575@gmail.com

Email not displaying correctly? View it in your browser.

WILDWOOD

January 26, 2016

MEMORANDUM

To: Planning/Economic Development/Parks Committee Members

From: Department of Planning and Parks

Re: **Connector Trail Proposal – Bluff View Park to Rock Hollow – Bidding Results**

Cc: The Honorable Timothy Woerther, Mayor
Administration/Public Works Committee Members of the City of Wildwood
Ryan S. Thomas, P.E., City Administrator
Rob Golterman, City Attorney
Rick Brown, P.E. and P.T.O.E., Director of Public Works
Kathy Arnett, Assistant Director of Planning and Parks
Gary Crews, Superintendent of Parks and Recreation

As was noted to the Committee at its meeting in November 2015, the Department began almost five (5) years ago having conversations with the Missouri Department of Natural Resources (MDNR) and St. Louis County about creating a connector trail between then Packwood Park (now Bluff View Park) and Rock Hollow. These conversations were very preliminary, given neither Bluff View Park or the Rock Hollow Trail had been completed. However, all of the participating parties believed that, if these park projects were successful and the associated facilities opened, a connector trail would be essential for certain users, which are currently prohibited on the Al Foster Memorial Trail, i.e. equestrian users.

With the development of these two (2) facilities completed and trail segments open and in use, the connector between these two (2) large public land holdings of the City, County, and State is crucial. Accordingly, the Department initiated a process to develop a conceptual design for this trail and, once the other partners agreed upon such, it began the preparation of final design and engineered drawings for the bidding purposes associated with it. This effort started in 2014 and carried over to 2015, when the Missouri Department of Natural Resources (MDNR) and St. Louis County endorsed the plan. In this process to obtain this endorsement, certain changes were made to ensure that equestrian users have clear direction on the location of the trail and its use for horses.

Attached to this memorandum are the design and engineering drawings for this project. The project entails constructing a 2,050 foot long trail, with a crushed aggregate-type surface, that will be approximately four (4) feet in width, on State-owned property, and link to the two (2)

aforementioned land holdings of the City, County, and State. The trail will cross the single-gauge railroad (Wabash, Frisco, and Pacific) line in two (2) locations. Signage is planned at these locations. To accommodate the construction of the trail, ten (10) culvert pipes are to be installed to address water runoff and other considerations. Four (4) short sections of required retaining wall are needed as well.

At the November meeting of the Committee, the Department is presented the bid plans for consideration and action. These plans reflected the input and actions of all of the parties noted above and were supported by the Committee members. With this support, the plans were then presented to City Council, which also endorsed them. These plan sheets provide the basis for the contracting community to undertake the project.

On Tuesday, December 3, 2015, a bid opening was held at City Hall for the connector trail project. The City received a substantial amount of interest in this project and a total of three (3) bids were received for general contracting and related services. The plans and bid specifications contained a base proposal for consideration and inclusion in the project. A summary of the general contractor submittals is as follows:

Bidder	Base Bid ($)
Krupp Construction	168,937.00
Ideal Landscaping	183,868.00
RV Wagner	280,500.00

It is important to note that approximately $200,000.00 was anticipated for this project in the 2016 Capital Improvements Budget, as part of the overall trail construction line item contained in it. In considering the results of this bidding process, the Department is recommending for the City Council's consideration the following bid:

Bidder	Base Bid ($)
Krupp Construction	168,937.00

This matter is being presented at tonight's Work Session to the Committee for its review of the bids and, if acceptable, to provide recommendation in this regard. If the Committee makes a favorable recommendation, the matter would then be forwarded to City Council for its consideration. With City Council's endorsement, the contract for this project could be established by February.

If any of the Committee Members have questions or comments about the plan sheets or the requested action, please feel free to contact the Department of Planning and Parks at (636) 458-0440. A presentation of this information is planned on this item at tonight's meeting. Thank you for your consideration of this information and providing direction on the same.

Project: BLUFF VIEW TRAIL - WILDWOOD, MO 10:30 A.M. Date: 12/3/15

Bidder:	Bid Bond	Base Bid						TOTAL
IDEAL LANDSCAPE	✓	183,868						183,868
RV WAGNER	✓	280500						280,500
KRUPP CONSTRUCTION	✓	168937						168937
Community Room - City Hall								

ARTICLE 10

BID FORM PROPOSAL

PROJECT: BLUFF VIEW TRAIL SITE IMPROVEMENTS
WILDWOOD, MISSOURI
terraspec Project No. 14-012

OWNER: CITY OF WILDWOOD
16860 MAIN STREET
WILDWOOD, MISSOURI 63040

BIDDER: L.F. Krupp Construction
dba Krupp Construction
413 018 State Rd
Ellisville, MO 63021

TO: CITY OF WILDWOOD, MISSOURI

1. The undersigned (herein called the "Bidder") in compliance with your Invitation for Bids for the construction of the above-referenced project, having examined the drawings and specifications with related documents as prepared by ***terraspec***, and having examined the site of the proposed work, being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and supplies to construct within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

2. BASE PROPOSAL: Bidder agrees to furnish all labor, materials, equipment and service required to construct and install all work shown on the drawings and called for in the specifications, except those items designated as add alternates. The bidder will complete this work as shown on the drawings and called for in the specifications, in accordance with said documents therewith for the sum indicated below.

BASE PROPOSAL TOTAL 168,937.00

One Hundred ~~Sixty~~ Sixty-Eight Thousand Nine Hundred Thirty Seven and no/100 DOLLARS ($ ~~168,937.00~~ nine)

3. ALTERNATES: The bidder will add the following work items as called for in the drawings and specifications in accordance with said documents therewith for the following itemized sums. The CITY reserves the right to select or reject any or all, or any combination of alternates.

THERE ARE NO ALTERNATES ON THIS PROJECT

4. UNIT PRICES: Should the undersigned be required to perform work other than that shown on the submitted proposal, he will be paid an additional sum or shall credit the Owner, as the case may be, on the basis of the unit Prices quoted below. Such prices shall be the sum total installed compensation payable for all required work, including materials, installation, overhead and profit, and be valid for the duration of the contract. Any direction for changes will be given to the contractor in writing by the Owner.

ITEM DESCRIPTION	PRICE PER UNIT
Over excavation and removal of unsuitable soil and replacement with suitable fill material.	$ 75.00 /CY.
Over excavation, replacement and compaction (to specified density) of existing soil in areas beneath pavements and structures.	$ 45.00 /CY.
Rock Excavation and Disposal	$ 150.00 /CY.
Crushed Aggregate Pavement per Detail	$ 42.00 /SY.
Boulder Retaining Wall per Detail	$ 50.00 / FACE SF.
12" Dia. Corrugated, Plastic Culvert per Plan Notes	$ 35.00 /LF.
Plastic Flared End Section for Culvert	$ 400.00 /EA.
Rock Blanket per Detail	$ 145.00 /CY.
Seeded Lawns.	$ .50 /SF.
Railroad Crossing per Detail	$ 600.00 /EA.
Railroad/Pedestrian Crossing Sign per Detail	$ 300.00 /EA.

5. Attached hereto is an affidavit in proof that the undersigned has not entered into any collusion with any person in respect to this proposal or any other proposal or the submitting of proposals for the contract for which this proposal is submitted.

6. The undersigned agrees that he will complete said work by **June 30, 2016** or allow the Owner as **liquidated damages, the sum of Five Hundred Dollars ($500.00)** for each calendar day thereafter, that the Contract remains uncompleted. Computation of Contract time shall commence on the seventh (7th) day following the date of mailing by regular mail of the Notice to Proceed, and every calendar day following thereafter, except as provided herein, shall be counted as a working day.

7. The undersigned hereby represents that he has carefully examined the Bid Documents, and will execute the Contract and its items, covenants, and conditions all in strict conformance to these requirements.

8. All materials and equipment furnished by this Contract, and all construction involved in this Contract shall be, and the same is guaranteed by the Contractor, free from defects owing to faulty materials or workmanship for a period of one (1) year after the date of completion of the above work covered by this Contract, and any part, equipment, material, or work which proves defective by reason of faulty material or workmanship, within said period of one year shall be replaced by the Contractor free of cost to the Owner.

9. It is understood that the City reserves the right to reject any or all bids, to waive informalities in bidding, and to accept the bid most advantageous to the City.

10. All materials and equipment furnished by the undersigned shall be fully warranted as provided by the manufacturer(s). Any equipment which proves to be defective by reason of faulty parts, materials, or workmanship within the specified time period shall be replaced by the undersigned firm free of cost to the City.

11. The Bidder agrees that this bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving bids.

12. Upon receipt of written notice of the acceptance of this bid, Bidder will execute the formal contract attached within five (5) days and deliver the required Surety Bond or Bonds.

13. The bid security attached in the sum of 5% ($7,446.85) is to become the property of the Owner in the event the contract and bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the owner caused thereby.

14. The undersigned hereby agrees to commence work under Contract a maximum of fourteen (14) days of receiving written "Notice to Proceed" from the Owner and to fully complete the total project in accordance with the time schedule set forth in the CITY - Contractor Agreement. The undersigned

further agrees to pay liquidated damages in accordance with the requirements of the Contract.

15. Bidder acknowledges receipt of the following Addenda:

Addendum No.	N/A	Dated	
Addendum No.		Dated	
Addendum No.		Dated	

Respectfully submitted,

Mark Reizer

President

Name and Signature of Bidder

If an **INDIVIDUAL**

Name of Individual

Firm Name, if any

Residence Address

Address for Communications

If a **CORPORATION**

L.F. Krupp Construction
Name of Corporation

Mark Reizer
President
Name and Title of Officer

415 Old Stake Rd
Ellisville, MO 63021
Address for Communications

1 Incorporated under the laws of the State of Name of Corporation?

2. Licensed to do business in Missouri?

Yes ✓ No _____
(Check One)

If a **PARTNERSHIP**

Name of Partnership

Partner

Address for Communications

State names and residence addresses of all partners

SUBCONTRACTOR UTILIZATION FORM

This report must accompany and be part of the sealed bid proposal.

1. Name of Bidder: Krupp Construction

2. Address Bidder: 4150 Old Stan Rd Ellisville MO 636-3918844
City State Zip Phone

3. The above-named bidder intends to subcontract for materials, services, supplies, specialty contractors, etc., in the following fashion:

Names and Addresses of Subcontractor Which the Contractor Anticipates Utilizing	Nature of Participation	$ Value of Subcontractor
N/A		

A. Total of Above 0

B. Total Bid Amount 148,937.00

Subcontractor Utilization as a % of Total Bid Amount: (A/B x 100) 0

The General Contractor shall perform 51% of the contract with his own company work force.

Mark Reizer
Name-Authorized Officer of Bidder

Signature-Office Bidder

12-3-2015
Date

The City of Wildwood, Missouri reserves the right, before any award of the Contract is made, to require of any bidder to whom it may make an award of the Contract, a non-collusion affidavit in the form designated below:

NON-COLLUSION AFFIDAVIT

STATE OF Missouri,

COUNTY OF St. Louis,

Randy Brandt, being first duly sworn, deposes and says that he is Estimator *(sole owner, partner, president, secretary, etc.) of Krupp Construction, the party making the foregoing bid; that such bid is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization or corporation; that such bid is genuine and not collusive or sham; that said bidder had not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or any one else to put in a sham bid, or that any one shall refrain from bidding; that said bidder has not in any manner, directly or indirectly, sought by agreement, communication or conference with any one to fix the bid price of said bidder or of any other bidder, or to fix any overhead, profit or cost element of such bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract or any one interested in the proposed contract; that all statements contained in such bid are true; and, further, that said bidder had not, directly or indirectly, submitted his bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid and will not pay any fee in connection therewith to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, or to any other individual except to such person or persons as have a partnership or other financial interest with said bidder in his general business.

SIGNED:

Randall Brandt

Subscribed and sworn to before me this 3 day of December, 2015.

Seal of Notary

Notary Public

SHARON M. DAVISON
Notary Public - Notary Seal
State of Missouri
Commissioned for St. Louis County
My Commission Expires: July 21, 2016
Commission Number: 12380587

Bid Bond

CONTRACTOR:
(Name, legal status and address)
L.F. Krupp Construction, Inc. dba Krupp Construction
415 Old State Road
Ballwin, MO 63021

SURETY:
(Name, legal status and principal place of business)
Travelers Casualty and Surety Company of America
One Tower Square
Hartford, CT 06183-6014
(860) 277-0111

OWNER:
(Name, legal status and address)
City of Wildwood
183 Plaza Drive
Wildwood, MO 63040
BOND AMOUNT: Five Percent of the Total Amount Bid (5%)

This document has important legal consequences. Consultation with an attorney is encouraged with respect its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

PROJECT: Bluff View Trail Site Improvements
(Name, location or address, and Project number, if any)

Project Number, if any:

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 3rd day of December, 2015

(Witness)

L.F. Krupp Construction, Inc. dba Krupp Construction
(Principal) *(Seal)*

(Title) Mark Reizer, President

(Witness)

Travelers Casualty and Surety Company of America
(Surety) *(Seal)*

(Title) **Barbara J. Lemm, Attorney-in-Fact**

TRAVELERS

POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company
St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 229546 **Certificate No.** 006404902

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Dennis D. Flatness, Dennis W. Lutz, Taffra S. Holman, Susan M. Stefanski, and Barbara J. Lemm

of the City of St. Louis, State of Missouri, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 15th day of June, 2015.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company
St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut
City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the 15th day of June, 2015, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
My Commission expires the 30th day of June, 2016.

MARIE C. TETREAULT NOTARY PUBLIC CONNECTICUT

Marie C. Tetreault
Marie C. Tetreault, Notary Public

58440-8-12 Printed in U.S.A.

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 3rd day of December, 20 15.

Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at www.travelersbond.com. Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

H

ARTICLE 10

BID FORM PROPOSAL

PROJECT: BLUFF VIEW TRAIL SITE IMPROVEMENTS
WILDWOOD, MISSOURI
terraspec Project No. 14-012

OWNER: CITY OF WILDWOOD
16860 MAIN STREET
WILDWOOD, MISSOURI 63040

BIDDER: Ideal Landscape Construction, Inc.
6264 Lemay Ferry Road
St. Louis, MO 63129

TO: CITY OF WILDWOOD, MISSOURI

1. The undersigned (herein called the "Bidder") in compliance with your Invitation for Bids for the construction of the above-referenced project, having examined the drawings and specifications with related documents as prepared by ***terraspec***, and having examined the site of the proposed work, being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and supplies to construct within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

2. BASE PROPOSAL: Bidder agrees to furnish all labor, materials, equipment and service required to construct and install all work shown on the drawings and called for in the specifications, except those items designated as add alternates. The bidder will complete this work as shown on the drawings and called for in the specifications, in accordance with said documents therewith for the sum indicated below.

BASE PROPOSAL TOTAL

One hundred eighty three thousand eight hundred sixty eight DOLLARS ($ 183,868.00)

3. ALTERNATES: The bidder will add the following work items as called for in the drawings and specifications in accordance with said documents therewith for the following itemized sums. The CITY reserves the right to select or reject any or all, or any combination of alternates.

THERE ARE NO ALTERNATES ON THIS PROJECT

4. UNIT PRICES: Should the undersigned be required to perform work other than that shown on the submitted proposal, he will be paid an additional sum or shall credit the Owner, as the case may be, on the basis of the unit Prices quoted below. Such prices shall be the sum total installed compensation payable for all required work, including materials, installation, overhead and profit, and be valid for the duration of the contract. Any direction for changes will be given to the contractor in writing by the Owner.

ITEM DESCRIPTION	PRICE PER UNIT
Over excavation and removal of unsuitable soil and replacement with suitable fill material.	$ 75.00 /CY.
Over excavation, replacement and compaction (to specified density) of existing soil in areas beneath pavements and structures.	$ 50.00 /CY.
Rock Excavation and Disposal	$ 350.00 /CY.
Crushed Aggregate Pavement per Detail	$ 30.00 /SY.
Boulder Retaining Wall per Detail	$ 60.00 / FACE SF.
12" Dia. Corrugated, Plastic Culvert per Plan Notes	$ 30.00 /LF.
Plastic Flared End Section for Culvert	$ 500.00 /EA.
Rock Blanket per Detail	$ 75.00 /CY.
Seeded Lawns.	$ 0.40 /SF.
Railroad Crossing per Detail	$ 500.00 /EA.
Railroad/Pedestrian Crossing Sign per Detail	$ 1,000.00 /EA.

5. Attached hereto is an affidavit in proof that the undersigned has not entered into any collusion with any person in respect to this proposal or any other proposal or the submitting of proposals for the contract for which this proposal is submitted.

6. The undersigned agrees that he will complete said work by **June 30, 2016** or allow the Owner as **liquidated damages, the sum of Five Hundred Dollars ($500.00)** for each calendar day thereafter, that the Contract remains uncompleted. Computation of Contract time shall commence on the seventh (7th) day following the date of mailing by regular mail of the Notice to Proceed, and every calendar day following thereafter, except as provided herein, shall be counted as a working day.

7. The undersigned hereby represents that he has carefully examined the Bid Documents, and will execute the Contract and its items, covenants, and conditions all in strict conformance to these requirements.

8. All materials and equipment furnished by this Contract, and all construction involved in this Contract shall be, and the same is guaranteed by the Contractor, free from defects owing to faulty materials or workmanship for a period of one (1) year after the date of completion of the above work covered by this Contract, and any part, equipment, material, or work which proves defective by reason of faulty material or workmanship, within said period of one year shall be replaced by the Contractor free of cost to the Owner.

9. It is understood that the City reserves the right to reject any or all bids, to waive informalities in bidding, and to accept the bid most advantageous to the City.

10. All materials and equipment furnished by the undersigned shall be fully warranted as provided by the manufacturer(s). Any equipment which proves to be defective by reason of faulty parts, materials, or workmanship within the specified time period shall be replaced by the undersigned firm free of cost to the City.

11. The Bidder agrees that this bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving bids.

12. Upon receipt of written notice of the acceptance of this bid, Bidder will execute the formal contract attached within five (5) days and deliver the required Surety Bond or Bonds.

13. The bid security attached in the sum of 5% ($ 9,193.40) is to become the property of the Owner in the event the contract and bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the owner caused thereby.

14. The undersigned hereby agrees to commence work under Contract a maximum of fourteen (14) days of receiving written "Notice to Proceed" from the Owner and to fully complete the total project in accordance with the time schedule set forth in the CITY - Contractor Agreement. The undersigned

further agrees to pay liquidated damages in accordance with the requirements of the Contract.

15. Bidder acknowledges receipt of the following Addenda:

Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____

Respectfully submitted,

-David Buckel

Ideal Landscape Construction, Inc.

Name and Signature of Bidder

If an **INDIVIDUAL**

Name of Individual

Firm Name, if any

Residence Address

Address for Communications

If a **CORPORATION**

Ideal Landscape Construction, Inc.
Name of Corporation

David Buckel
President
Name and Title of Officer

6264 Lemay Ferry Road
St. Louis, MO 63129
Address for Communications

1 Incorporated under the laws of the State of Name of Corporation?
Yes

2. Licensed to do business in Missouri?

Yes X No _____
(Check One)

If a **PARTNERSHIP**

Name of Partnership

Partner

Address for Communications

State names and residence addresses of all partners

SUBCONTRACTOR UTILIZATION FORM

This report must accompany and be part of the sealed bid proposal.

1. Name of Bidder: Ideal Landscape Construction, Inc.

2. Address Bidder: St. Louis (City) MO (State) 63129 (Zip) (314)892-9500 (Phone)

3. The above-named bidder intends to subcontract for materials, services, supplies, specialty contractors, etc., in the following fashion:

Names and Addresses of Subcontractor Which the Contractor Anticipates Utilizing	Nature of Participation	$ Value of Subcontractor
Metron Surveying	Surveying	4,900.00
Kremer Design	Shop Drawings	1,000.00

A. Total of Above $5,900.00

B. Total Bid Amount $183,868.00

Subcontractor Utilization as a % of Total Bid Amount: (A/B x 100) 4%

The General Contractor shall perform 51% of the contract with his own company work force.

David Buckel
Name-Authorized Officer of Bidder

Signature-Office Bidder

11/19/15
Date

The City of Wildwood, Missouri reserves the right, before any award of the Contract is made, to require of any bidder to whom it may make an award of the Contract, a non-collusion affidavit in the form designated below:

NON-COLLUSION AFFIDAVIT

STATE OF Missouri,

COUNTY OF St. Louis,

David Buckel, being first duly sworn, deposes and says that he is President *(sole owner, partner, president, secretary, etc.) of Ideal Landscape Construction, Inc., the party making the foregoing bid; that such bid is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization or corporation; that such bid is genuine and not collusive or sham; that said bidder had not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or any one else to put in a sham bid, or that any one shall refrain from bidding; that said bidder has not in any manner, directly or indirectly, sought by agreement, communication or conference with any one to fix the bid price of said bidder or of any other bidder, or to fix any overhead, profit or cost element of such bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract or any one interested in the proposed contract; that all statements contained in such bid are true; and, further, that said bidder had not, directly or indirectly, submitted his bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid and will not pay any fee in connection therewith to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, or to any other individual except to such person or persons as have a partnership or other financial interest with said bidder in his general business.

SIGNED:

Subscribed and sworn to before me this 25th day of November, 2015.

Seal of Notary

Rebecca Dawn White
Notary Public

REBECCA DAWN WHITE
NOTARY PUBLIC
NOTARY SEAL
COMMISSION #12310860
MY COMMISSION EXPIRES 3/05/2016
JEFFERSON COUNTY
STATE OF MISSOURI

STATE OF MISSOURI

Matt Blunt
Secretary of State

CERTIFICATE OF AMENDMENT

WHEREAS,

Ideal Landscape Construction, Inc.
00505939

Formerly,

DAVE'S LANDSCAPE CONSTRUCTION SERVICES, INC.

a corporation organized under The General and Business Corporation Law has delivered to me a Certificate of Amendment of its Articles of Incorporation and has in all respects complied with the requirements of law governing the Amendment of Articles of Incorporation under The General Business Corporation Law, and that the Articles of Incorporation of said corporation are amended in accordance therewith.

IN TESTIMONY WHEREOF, I have set my hand and imprinted the GREAT SEAL of the State of Missouri, on this, the 30th day of October, 2003.

Matt Blunt
Secretary of State

SOS #30 (1-01)

E-Verify Employment Eligibility Verification

Company Information

Company Name:	Ideal Landscape Group	View / E
Company ID Number:	270837	

Physical Location:

Address 1:	6264 Lemay Ferry Road
Address 2:	
City:	Saint Louis
State:	MO
Zip Code:	63129
County:	SAINT LOUIS

Mailing Address:

Address 1:	
Address 2:	
City:	
State:	
Zip Code:	

Employer Identification Number:	10614956
Total Number of Employees:	20 to 99
Corporate / Parent Company:	Ideal Landscape Management

Organization Designation:

Employer Category:	None of these categories apply

NAICS Code:	238 - SPECIALTY TRADE CONTRACTORS	View / E
Total Hiring Sites:	1	View / E
Total Points of Contact:	3	View / E

E-Verify Employment Eligibility Verification

Exit

E-Verify Enrollment: You're Finished

Congratulations!

Your company has been enrolled in E-Verify. **Now just sit back and wait -- the people you signed up as users will receive their user names and passwords by e-mail.**

Most people receive our confirmation e-mail within a few minutes. You should check your e-mail inbox as well as your spam or junk mail folders because sometimes our e-mails are mistakenly marked as spam.

If the e-mail is not received within 48 hours, please call our Customer Support line at 1-888-464-4218 for assistance. Do not enroll your company again in E-Verify. If you attempt to reenroll, your enrollment may be delayed.

Before you go, click on the "View Memorandum of Understanding" button and print a copy of the Memorandum of Understanding you electronically signed. Be sure to share it with your human resources manager, legal counsel and other appropriate staff.

Thanks for signing up. Your participation is vital in ensuring a legal United States workforce. If you ever have any questions, we're here to help -- just give us a call at 1-888-464-4218 or e-mail us at E-Verify@dhs.gov.

View Memorandum of Understanding

E-Verify™

E-VERIFY IS A SERVICE OF DHS

Company ID Number: 270837

To be accepted as a participant in E-Verify, you should only sign the Employer's Section of the signature page. If you have any questions, contact E-Verify at 888-464-4218.

Employer Ideal Landscape Group

Leanna Buckel	
Name (Please Type or Print)	Title
Electronically Signed	10/30/2009
Signature	Date

Department of Homeland Security – Verification Division

USCIS Verification Division	
Name (Please Type or Print)	Title
Electronically Signed	10/30/2009
Signature	Date

Document A310™ – 2010

Conforms with The American Institute of Architects AIA Document 310

Bid Bond

CONTRACTOR:
(Name, legal status and address)
Ideal Landscape Construction, Inc.
6264 Lemay Ferry Rd.
Oakville, MO 63129

SURETY:
(Name, legal status and principal place of business)
The Ohio Casualty Insurance Company
62 Maple Avenue
Keene, NH 03431

Mailing Address for Notices
The Ohio Casualty Insurance Company
Attention: Surety Claims Department
1001 4th Avenue, Suite 1700
Seattle, WA 98154

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

OWNER:
(Name, legal status and address)
City of Wildwood
Department of Planning and Parks
16860 Main Street
Wildwood, MO 63040

BOND AMOUNT: $5% of Bid Amount (Five percent of amount bid.)

PROJECT:
(Name, location or address, and Project number, if any)
Bluff View Trail Site Improvements
PE-23059

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 3 day of December 2015

Rebecca White
(Witness)

Ideal Landscape Construction, Inc.
(Principal) *(Seal)*

(Title) David Buckel, President

Jim Klump
(Witness)

The Ohio Casualty Insurance Company
(Surety) *(Seal)*

Kathleen A. Petchulat
(Title) Kathleen A. Petchulat, Attorney-in-fact

State of Missouri }
County of St. Louis} ss:

On 12-3-16, before me, a Notary Public in and for said County and State, residing therein, duly commissioned and sworn, personally appeared **Kathleen A. Petchulat**

known to me to be Attorney-in-Fact of **The Ohio Casualty Insurance Company** the corporation described in and that executed the within and foregoing instrument, and known to me to be the person who executed the said instrument in behalf of the said corporation, and he/she duly acknowledged to me that such corporation executed the same.

IN WITNESS WHEREF, I have hereunto set my and affixed my official seal, the day and year stated in this certificate above.

Notary Public

PATRICIA J. CASTILE
Notary Public - Notary Seal
State of Missouri
Commissioned for St. Louis County
My Commission Expires: September 22, 2018
Commission Number: 14469438

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.
This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 6945762

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Christopher G. Leahy; Jessica C. Klemp; Kathleen A. Petchulat; Stephen E. Ricci

all of the city of CREVE COEUR, state of MO each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 14th day of April, 2015.

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 14th day of April, 2015, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires March 28, 2017
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 3 day of December, 2015.

By: Gregory W. Davenport
Gregory W. Davenport, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

LMS_12873_122013

ARTICLE 10

BID FORM PROPOSAL

PROJECT: BLUFF VIEW TRAIL SITE IMPROVEMENTS
WILDWOOD, MISSOURI
terraspec Project No. 14-012

OWNER: CITY OF WILDWOOD
16860 MAIN STREET
WILDWOOD, MISSOURI 63040

BIDDER: RV Wagner, Inc.
4712 Green Park Rd.
St Louis, MO 63123

TO: CITY OF WILDWOOD, MISSOURI

1. The undersigned (herein called the "Bidder") in compliance with your Invitation for Bids for the construction of the above-referenced project, having examined the drawings and specifications with related documents as prepared by ***terraspec***, and having examined the site of the proposed work, being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and supplies to construct within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

2. BASE PROPOSAL: Bidder agrees to furnish all labor, materials, equipment and service required to construct and install all work shown on the drawings and called for in the specifications, except those items designated as add alternates. The bidder will complete this work as shown on the drawings and called for in the specifications, in accordance with said documents therewith for the sum indicated below.

BASE PROPOSAL TOTAL

Two-hundred eighty-thousand, five-hundred and %00 DOLLARS ($ 280,500.00)

3. ALTERNATES: The bidder will add the following work items as called for in the drawings and specifications in accordance with said documents therewith for the following itemized sums. The CITY reserves the right to select or reject any or all, or any combination of alternates.

THERE ARE NO ALTERNATES ON THIS PROJECT

further agrees to pay liquidated damages in accordance with the requirements of the Contract.

15. Bidder acknowledges receipt of the following Addenda:

Addendum No. _____	Dated _____
Addendum No. _____	Dated _____
Addendum No. _____	Dated _____

Respectfully submitted,

_____

SCOTT INSERRA PRESIDENT

Name and Signature of Bidder

If an **INDIVIDUAL**

_____
Name of Individual

_____
Firm Name, if any

_____

_____
Residence Address

_____

_____
Address for Communications

If a **CORPORATION**

RV Wagner, Inc.
Name of Corporation

Scott Inserra
President
Name and Title of Officer

4717 Green Park Rd.
St. Louis, MO 63123
Address for Communications

1 Incorporated under the laws of the State of Name of Corporation? MO

2. Licensed to do business in Missouri?

Yes X No _____
(Check One)

If a **PARTNERSHIP**

_____
Name of Partnership

_____
Partner

_____
Address for Communications

State names and residence addresses of all partners

_____

_____

_____

SUBCONTRACTOR UTILIZATION FORM

This report must accompany and be part of the sealed bid proposal.

1. Name of Bidder: RV Wagner, Inc

2. Address Bidder: St. Louis (City) MO (State) 63123 (Zip) (314)892-1600 (Phone)

3. The above-named bidder intends to subcontract for materials, services, supplies, specialty contractors, etc., in the following fashion:

Names and Addresses of Subcontractor Which the Contractor Anticipates Utilizing	Nature of Participation	$ Value of Subcontractor
Rosch Company	Sub	$55,000.00

A. Total of Above 55,000.00

B. Total Bid Amount 280,500.00

Subcontractor Utilization as a % of Total Bid Amount: (A/B x 100) 19.6%

The General Contractor shall perform 51% of the contract with his own company work force.

SCOTT INSERRA
Name-Authorized Officer of Bidder

Signature-Office Bidder

Date 12/3/15

The City of Wildwood, Missouri reserves the right, before any award of the Contract is made, to require of any bidder to whom it may make an award of the Contract, a non-collusion affidavit in the form designated below:

NON-COLLUSION AFFIDAVIT

STATE OF MO,

COUNTY OF St. Louis,

Scott Inserra, being first duly sworn, deposes and says that he is President *(sole owner, partner, president, secretary, etc.) of RV Wagner, Inc., the party making the foregoing bid; that such bid is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization or corporation; that such bid is genuine and not collusive or sham; that said bidder had not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or any one else to put in a sham bid, or that any one shall refrain from bidding; that said bidder has not in any manner, directly or indirectly, sought by agreement, communication or conference with any one to fix the bid price of said bidder or of any other bidder, or to fix any overhead, profit or cost element of such bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract or any one interested in the proposed contract; that all statements contained in such bid are true; and, further, that said bidder had not, directly or indirectly, submitted his bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid and will not pay any fee in connection therewith to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, or to any other individual except to such person or persons as have a partnership or other financial interest with said bidder in his general business.

SIGNED:

Subscribed and sworn to before me this 3 day of December, 20 15.

Seal of Notary

Notary Public

BLAKE BOGGS
Notary Public - Notary Seal
State of Missouri
Commissioned for St. Charles County
My Commission Expires: September 16, 2019
Commission Number: 15638326

Liberty Mutual SURETY

Document A310™ – 2010

Conforms with The American Institute of Architects AIA Document 310

Bid Bond

CONTRACTOR:

R.V. Wagner, Inc.
4712 Green Park Road
St. Louis, MO 63123

SURETY:

(Name, legal status and principal place of business)
Liberty Mutual Insurance Company
175 Berkeley Street
Boston, MA 02116

Mailing Address for Notices
Liberty Mutual Insurance Company
Attention: Surety Claims Department
1001 4th Avenue, Suite 1700
Seattle, WA 98154

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

OWNER:

City of Wildwood
16860 Main St
Wildwood, MO 63040

BOND AMOUNT: 5% of the Amount Bid

PROJECT:

City of Wildwood, Bluff View Trail Site Improvements

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 3rd day of December, 2015

Amanda Ruhl
(Witness)

R.V. Wagner, Inc.
(Principal) *(Seal)*

(Title)

Kelley DeCosty
(Witness)

Liberty Mutual Insurance Company
(Surety)

Janice L. Jakubielski Attorney-in-Fact

LIBERTY MUTUAL INSURANCE COMPANY INCORPORATED 1912 MASSACHUSETTS

State of Missouri

County of St. Charles

On this 3rd day of December, 2015 before me, LaVerne S. Brittan, a Notary Public in and for the said County of St. Charles, State of Missouri, residing therein, duly commissioned and sworn, personally appeared Janice L. Jakubielski, known to me to be the Attorney-in-Fact of Liberty Mutual Insurance Company, the corporation that executed the written instrument.

LaVerne S. Brittan

Notary Public in and for the County of St. Charles, State of Missouri. My Commission Expires on November 8, 2018

LaVerne S. Brittan
Notary Public - Notary Seal
STATE OF MISSOURI
St. Charles County
My Commission Expires: November 8, 2018
Commission #14432286

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.
This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 6822017

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Dale J. Dunn; Douglas S. Clift; Janice L. Jakubielski; Julie M. Wilhelm; K. Fontana; Steven K. Heying; Vickie L. Fortner

all of the city of SAINT PETERS, state of MO each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 30th day of December, 2014.

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 30th day of December, 2014, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires March 28, 2017
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 3rd day of December, 2015.

By: Gregory W. Davenport
Gregory W. Davenport, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

WILDWOOD

November 17, 2015

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

Re: **Connector Trail Proposal – Bluff View Park to the Rock Hollow Valley**

Council Members:

Beginning almost five (5) years ago, the Department started having conversations with the Missouri Department of Natural Resources (MDNR) and St. Louis County about creating a connector trail between then Packwood Park (now Bluff View Park) and the Rock Hollow Valley. These conversations were very preliminary, given neither Bluffview Park or the Rock Hollow Trail had been completed. However, all of the participating parties believed that, if these park projects were successful and the associated facilities opened, a connector trail would be essential for certain users, which are currently prohibited on the Al Foster Memorial Trail, i.e. equestrian users.

With the development of these two (2) facilities completed and trail segments open and in use, the connector between these two (2) large public land holdings of the City, County, and State is necessary. Accordingly, the Department initiated a process to develop a concept for this trail and, once the other partners agreed upon that design, it began the preparation of design and engineered drawings for the bidding purposes associated with it. This effort started in 2014 and carried over to 2015, when the Missouri Department of Natural Resources (MDNR) and St. Louis County endorsed the concept. In this process to obtain this endorsement, certain changes were made to ensure that equestrian users have clear direction on the location of the trail and its use for horses.

Attached to this report are the design and engineering drawings for this project. The project entails constructing a 2,050 foot long trail, with a crushed aggregate-type surface, that will be approximately four (4) feet in width, on State-owned property, and link to the two (2) aforementioned land holdings of the City, County, and State. The trail will cross the single-gauge railroad line in three (3) locations. Signage is planned at these locations. To accommodate the construction of the trail, ten (10) culvert pipes are to be installed to address water runoff and other considerations. Also, four (4) short sections of required retaining wall are planned as well.

At the November meeting, the Department presented these plan sheets to the Committe Members for consideration and action. These plans reflect the input and actions of all of the parties noted above and were at the level of detail for construction purposes. These plan sheets provide the basis for the contracting community to undertake the project. This bidding process, with the Committee's favorable recommendation, which was granted on November 17, 2015, and now action by City Council, could be completed before the end of the year.

As a point of reference, this project is funded for 2016. Again, given the popularity of the trail system along the Meramec River, this connector trail will be extensively used and, again, what the community and users have identified as a needed addition. Accordingly, the Committee is respectfully requesting the City Council recommend approval of the plan, so the bidding process can proceed to its completion.

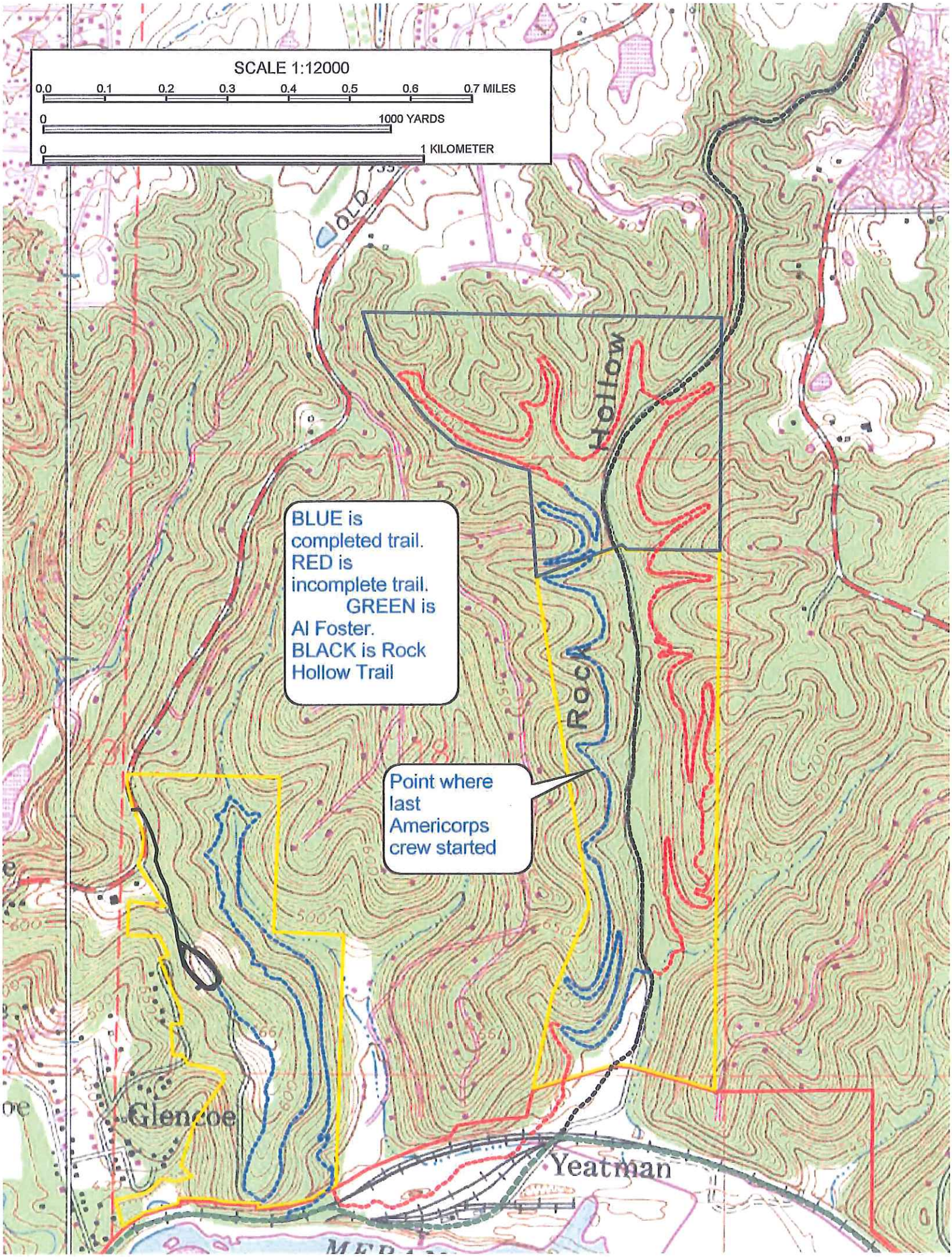
If any of the City Council Members have questions or comments about the plan sheets or the requested action, please feel free to contact the Department of Planning and Parks at (636) 458-0440. A presentation of this information is planned on this item at tonight's meeting. Thank you for your consideration of this information and providing direction on the same.

Respectfully submitted,
CITY OF WILDWOOD

Jim Baugus, Chair*
Planning/Economic Development/Parks Committee

Cc: The Honorable Timothy Woerther, 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
Kathy Arnett, Assistant Director of Planning and Parks
Gary Crews, Superintendent of Parks and Recreation

* The Department of Planning and Parks developed this report, in conjunction with the Planning/Economic Development/Parks Committee. Content reflects the Committee's consideration of this subject, and not necessarily an individual's position or opinion.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0 1000 YARDS
0 1 KILOMETER
OLD
Hollow
Rock
BLUE is completed trail. RED is incomplete trail. GREEN is Al Foster. BLACK is Rock Hollow Trail
Point where last Americorps crew started
Glencoe
Yeatman

SCALE: 1"=200

BLUFF VIEW TRAIL EXTENSION

WILDWOOD, MISSOURI

Preliminary Trail Alignment

terraspec
LAND PLANNING
RECREATION PLANNING AND DESIGN
LANDSCAPE ARCHITECTURE
5020 GRIFFIN ROAD
ST. LOUIS, MO 63129
(314)894-6211 FAX(314)843-4718

11/18/14 1 of 1

Bluff View Trail

City of Wildwood, Missouri

GENERAL NOTES:

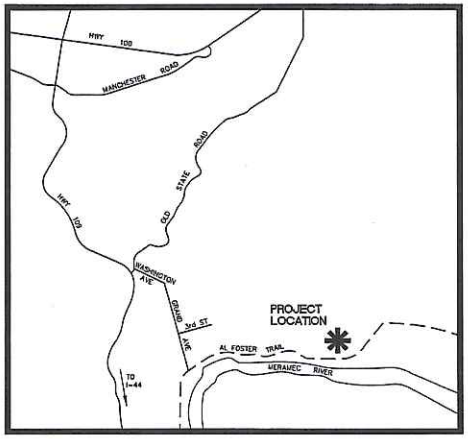
1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF IMPROVEMENTS.
2. TOPOGRAPHIC INFORMATION PROVIDED BY DOERING ENGINEERING, INC.
3. PROPOSED CONTOURS ARE SHOWN TO FINISHED GRADES. CONTRACTOR SHALL GRADE PAVEMENT AND BUILDING PAD AREAS TO FINISH GRADES INDICATED, UNLESS OTHERWISE INDICATED.
4. PROPOSED GRADES SHALL BE WITHIN 0.1 FEET, MORE OR LESS, OF THOSE SHOWN ON THE GRADING PLAN.
5. CONTRACTOR TO CALCULATE CUT/FILL QUANTITIES AND NOTIFY ENGINEER PRIOR TO CONSTRUCTION IF BALANCE CONDITION CAN NOT BE MET.
6. NO GRADING SHALL OCCUR ON THE SITE UNTIL A GRADING PERMIT IS SECURED WITH THE CITY OF WILDWOOD DEPARTMENT OF PUBLIC WORKS. SILTATION CONTROL DEVICES SHALL BE INSTALLED AND FUNCTIONING BEFORE A GRADING PERMIT WILL BE ISSUED.
7. AREAS DISTURBED BY CONSTRUCTION, INCLUDING PAVEMENT AND BUILDING AREAS, SHALL BE SEEDED AND STRAWED WITHIN 30 DAYS FROM THE COMPLETION OF GRADING OPERATIONS.
8. STORM SEWER CONSTRUCTION AND MATERIALS USED SHALL CONFORM TO 2000 METROPOLITAN ST. LOUIS SEWER DISTRICT "STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES", AND THE CITY OF WILDWOOD STANDARDS UNLESS OTHERWISE NOTED HEREIN.
9. EXISTING ABOVE & BELOW GROUND UTILITIES TO BE PROTECTED AND USED IN PLACE, UNLESS OTHERWISE SPECIFIED (SEE DEMOLITION PLAN).
10. MANHOLES AND INLET TOPS BUILT WITHOUT FURNISHED ELEVATIONS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. STORM SEWERS SHALL BE CORRUGATED HIGH DENSITY POLYETHYLENE PIPE WITH GASKETED BELL & SPIGOT JOINTS ADVANCED DRAINAGE SYSTEMS, INC. (ADS) N-12 (OR APPROVED EQUAL), UNLESS OTHERWISE SPECIFIED.
12. LOCATION AND ELEVATION OF EXISTING INLETS, MANHOLES AND PIPES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION.
13. ALL CONSTRUCTION ACTIVITY SHALL BE RESTRICTED TO AREA WITHIN THE CONFINES OF THE EXISTING PERIMETER FENCE UNLESS OTHERWISE NOTED OR DIRECTED.

SITE GRADING NOTES:

1. NOTIFY THE CITY OF WILDWOOD DEPARTMENT OF PUBLIC WORKS 48 HOURS PRIOR TO THE COMMENCEMENT OF GRADING AND/OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. PARKING ON NON-SURFACED AREAS IS 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. CONTRACTOR SHALL KEEP ROAD CLEAR OF MUD AND DEBRIS.
3. THE STREETS SURROUNDING THIS DEVELOPMENT AND ANY STREET USED FOR CONSTRUCTION ACCESS THERETO SHALL BE CLEANED THROUGHOUT THE DAY.
4. EROSION AND SILTATION CONTROL SHALL BE INSTALLED PRIOR TO ANY GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND/OR CONTROLLING REGULATORY AGENCY AND ADEQUATE VEGETATIVE GROWTH INSURES NO FURTHER EROSION OF THE SOIL.
5. ADDITIONAL SILTATION CONTROL MAY BE REQUIRED AS DEEMED NECESSARY BY THE CITY OF WILDWOOD.
6. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.
7. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED TO SUCH A DENSITY AS TO PREVENT EROSION.
8. WHEN CLEARING AND/OR GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 30 DAYS, ALL NECESSARY PRECAUTIONS SHALL BE TAKEN TO RETAIN SOIL MATERIALS ON SITE. PROTECTIVE MEASURES MAY BE REQUIRED BY THE DIRECTOR OF PUBLIC WORKS / CITY ENGINEER SUCH AS PERMANENT SEEDING, PERIODIC WETTING, MULCHING, OR OTHER SUITABLE MEANS.
9. IF CUT AND FILL OPERATIONS OCCUR DURING A SEASON NOT FAVORABLE FOR IMMEDIATE ESTABLISHMENT OF PERMANENT GROUND COVER, A FAST GERMINATING ANNUAL SUCH AS RYE GRASSES OR SUDAN GRASSES SHALL BE UTILIZED TO RETARD EROSION.
10. NO EXCAVATION SHALL BE MADE SO CLOSE TO THE PROPERTY LINE AS TO ENDANGER ANY ADJOINING PROPERTY OR ANY PUBLIC OR PRIVATE STREET WITHOUT SUPPORTING AND PROTECTING SUCH PUBLIC OR PRIVATE STREET OR PROPERTY FROM SETTLING, CRACKING OR OTHER DAMAGE.
11. STORM WATER PIPES, OUTLETS AND CHANNELS SHALL BE PROTECTED BY SILT BARRIERS AND KEPT FREE OF WASTE AND SILT AT ALL TIMES PRIOR TO FINAL SURFACE STABILIZATION AND/OR PAVING.
12. SILTATION FENCES SHALL BE INSPECTED PERIODICALLY FOR DAMAGE AND FOR THE AMOUNT OF SEDIMENT WHICH HAS ACCUMULATED. REMOVAL OF SEDIMENT WILL BE REQUIRED WHEN IT REACHES 1/2 THE HEIGHT OF THE SILTATION FENCE.
13. ALL FILL PLACED UNDER PROPOSED STORM AND SANITARY SEWER LINES AREAS SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557) FOR THE ENTIRE DEPTH OF THE FILL. COMPACTED GRANULAR BACKFILL IS REQUIRED IN ALL TRENCH EXCAVATION UNDER ALL PAVED AREAS. COMPACTION TESTING TO BE PERFORMED BY GEOTECHNICAL ENGINEER HIRED BY CITY.
14. SOFT SOILS IN THE BOTTOM OF BANKS OF ANY EXISTING OR FORMER POND SITES OR TRIBUTARIES OR ANY SEDIMENT BASINS OR TRAPS SHOULD BE REMOVED, SPREAD OUT AND PERMITTED TO DRY SUFFICIENTLY TO BE USED AS FILL. THIS MATERIAL SHALL BE PLACED PER RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER (HIRED BY THE CITY).
15. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
16. EXISTING TREES INDICATED TO BE REMOVED MAY BE BURNED ON-SITE PROVIDED THE APPROPRIATE PERMITS ARE OBTAINED PRIOR TO BURN OPERATIONS.
17. ROOTS OF EXISTING TREES INDICATED TO BE REMOVED SHALL BE GRUBBED TO A MIN. DEPTH OF 18" BELOW FINISH GRADE.
18. ANY WELLS, CISTERNS AND/OR SPRINGS, WHICH MAY EXIST ON THIS PROPERTY, SHOULD BE LOCATED AND SEALED IN A MANNER ACCEPTABLE TO THE CITY OF WILDWOOD AND THE MISSOURI DEPARTMENT OF NATURAL RESOURCES.
19. ALL EXCAVATIONS, GRADING OR FILLING SHALL HAVE A FINISHED GRADE NOT TO EXCEED A 3:1 SLOPE (33%), UNLESS SPECIFICALLY APPROVED OTHERWISE.

STILCHET BM #21 - ELEVATION 463.41, (NAVD 88) SURVEY DISC SET IN TOP OF CONCRETE MONUMENT, LOCATED ON THE SOUTH R/W OF THE UNION PACIFIC RAILROAD IN THE TOWN OF EUREKA, MO. IT IS 23.06 FEET SOUTH OF THE SOUTH RAIL OF THE SOUTH TRACK, 82.13 FEET SW OF A PK NAIL IN THE WEST SIDE OF A POWER POLE ON THE SOUTH SIDE OF WEST 1st STREET, 23.4 FEET WEST OF THE EXTENDED CENTERLINE OF A BARRICADE CROSSING ON THE SOUTH SIDE OF WEST MAIN STREET, 46.02 FEET NNW OF THE NORTHEAST EDGE OF THE BARRICADE SUPPORT GIRDER.

STOP! Call Before you DIG
1-800-344-7483
TOLL FREE
State Law requires 2 days advance notice. "The law in the State of Missouri defines emergency excavation as one preventing danger to life, health, or property."
MISSOURI ONE-CALL SYSTEM INC.
10223 NORTHEAST DR.
JEFFERSON CITY, MO 65109



LOCATION MAP

February 2015

SHEET LIST

ALTERNATES

ALT. #1

PREPARED FOR:

WILDWOOD
Parks + Recreation Department
183 Plaza Drive
Wildwood, Missouri 63040
Ph: (636) 458-0440
Fax: (636) 458-6969
Email: gary•cityofwildwood.com
Contact: Gary Crews

PREPARED BY:

terraspec
LAND PLANNING
RECREATION PLANNING AND DESIGN
LANDSCAPE ARCHITECTURE
13545 BARRETT PARKWAY DR. #200
ST. LOUIS, MO 63021
(314)984-8211 FAX(314)822-7850
Email: kjkeitel@zakcompanies.com
Attn: Ken Keitel

CIVIL/ SURVEY CONSULTANTS:

Engineered By:
DOERING ENGINEERING Inc.
CIVIL ENGINEERING • PLANNING • SURVEYING
4650 Lemay Ferry Road Suite 200 Saint Louis, Missouri, 63123 Telephone: (314) 487-6612 Facsimile: (314) 487-2379 E-Mail: mdoering@doeringeng.com

UTILITY SERVICES

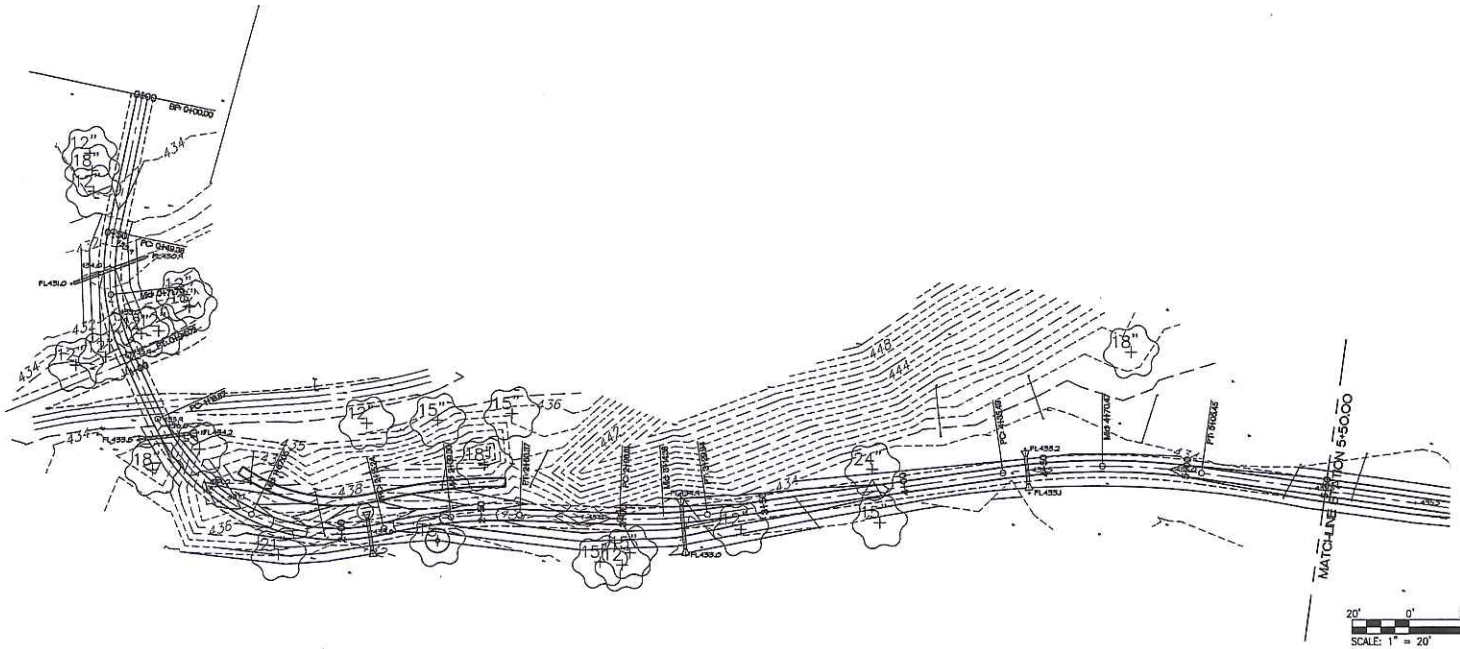
WATER	MISSOURI-AMERICAN WATER CO.
SEWER	METROPOLITAN ST. LOUIS SEWER DISTRICT
FIRE	METROWEST FIRE DISTRICT
ELECTRIC	AMEREN U.E.
GAS	LACLEDE GAS CO.
PHONE	ATT

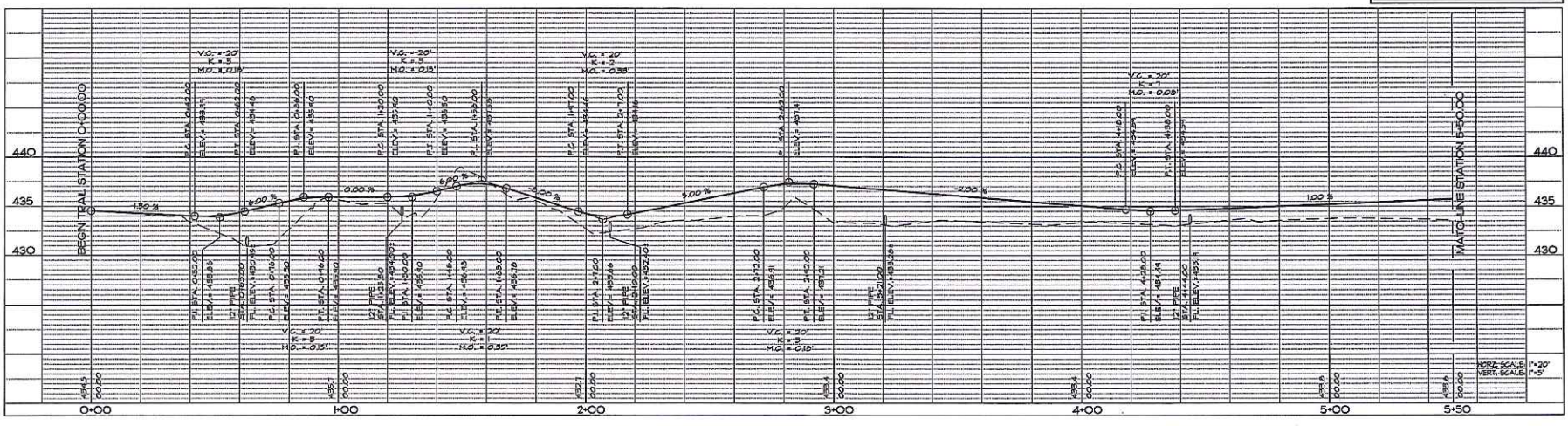
LEGEND

EXISTING CONDITIONS		NEW IMPROVEMENTS	
CONTOUR	500	CONTOUR	500
SPOT ELEVATION	+500.00	SPOT ELEVATION	+500.00
STORM SEWER		STORM SEWER	
SANITARY SEWER		MANHOLE	
MANHOLE		AREA INLET	
CURB INLET		GRATE INLET	
GRATE INLET		TO BE REMOVED	T.B.R.
WATER LINE	W	USE IN PLACE	U.I.P.
FIRE HYDRANT		ADJUST TO GRADE	A.T.G.
GAS SERVICE	G	SILTATION CONTROL	
ELECTRIC SERVICE	E		
TELEPHONE SERVICE	T		
UTILITY POLE	PP		
GUY WIRE			
LIGHT STANDARD			
SIGN			
TREE			
BUSH			

Progress Prints
Not for Construction
Date: 02/06/15

Bluff View 14012





Progress Prints
Not for Construction
Date: 02/08/15

LAND PLANNING
RECREATION PLANNING AND DESIGN
LANDSCAPE ARCHITECTURE
terraspec
13545 BARRETT PARKWAY DR. #200
ST. LOUIS, MO 63021
(314)984-8211 FAX(314)922-7658

BLUFF VIEW TRAIL EXTENSION

BLUFF VIEW TRAIL TO ROCK HOLLOW TRAIL
WILDWOOD, MISSOURI

OWNER
State of Missouri
P.O. Box 176
Jefferson City, MO
65101

SHEET TITLE
Site Plan & Profile

JOB NUMBER
12003

DATE 00/00/15 DRAWN BY DWD

REVISION

HORZ. SCALE 1"=20'
VERT. SCALE 1"=5'

SHEET NUMBER
C1

LAND PLANNING
RECREATION PLANNING AND DESIGN
LANDSCAPE ARCHITECTURE

terraspec

15545 BARRETT PARKWAY DR. #200
ST. LOUIS, MO 63021
(314)984-0211 FAX(314)822-7658

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Site Plan
& Profile

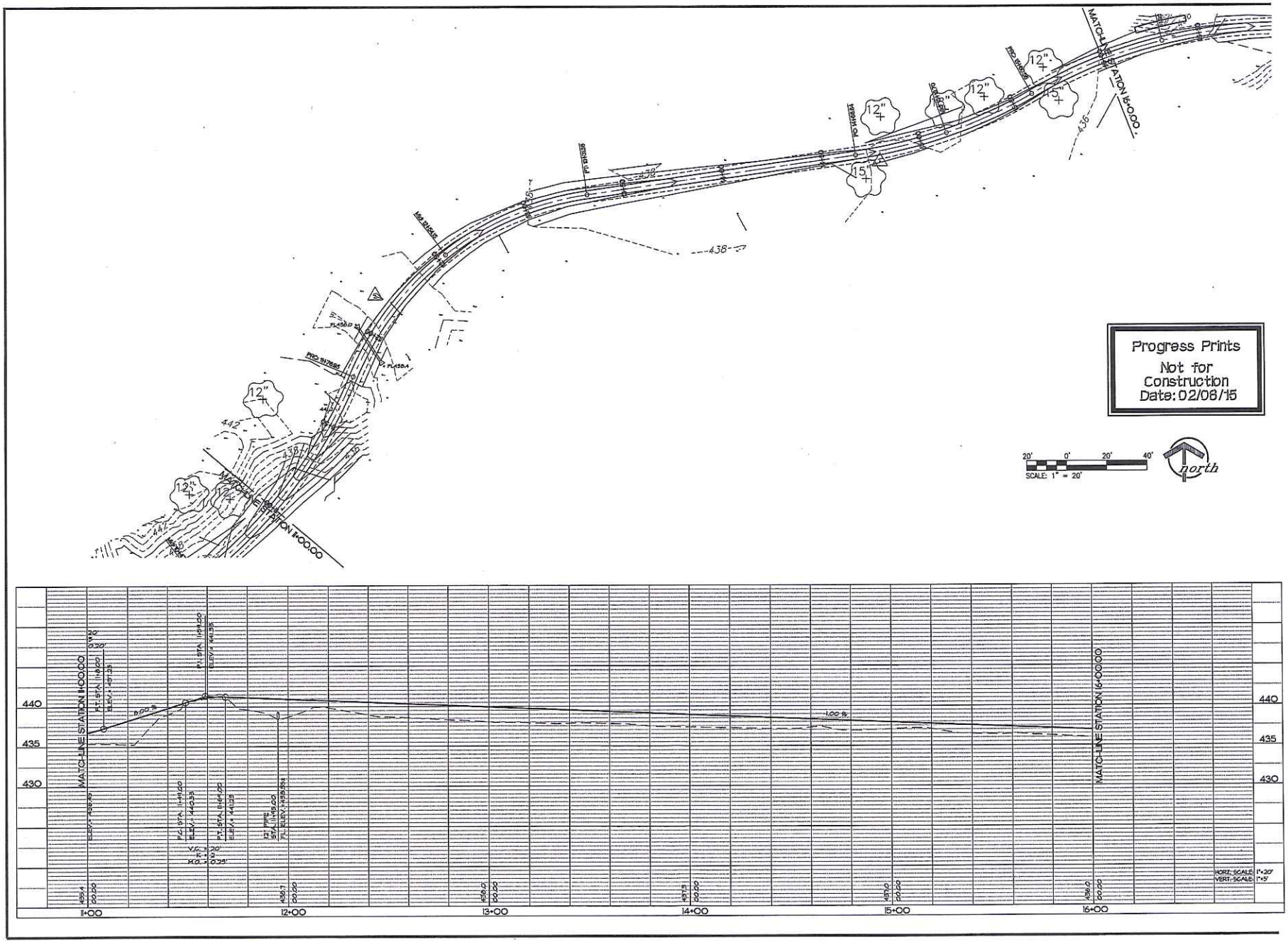
JOB NUMBER
12003

DATE 00/00/15 DRAWN BY DWD

REVISION

HORZ. SCALE: 1"=20'
VERT. SCALE: 1"=5'

SHEET NUMBER
C2



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terraspec
13545 BARRETT PARKWAY DR. #200
ST. LOUIS, MO 63021
(314)804-0211 FAX(314)822-7656

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65101

SHEET TITLE
Site Plan
& Profile

JOB NUMBER
12003

DATE 00/00/15 DRAWN BY DWD

REVISION

SHEET NUMBER
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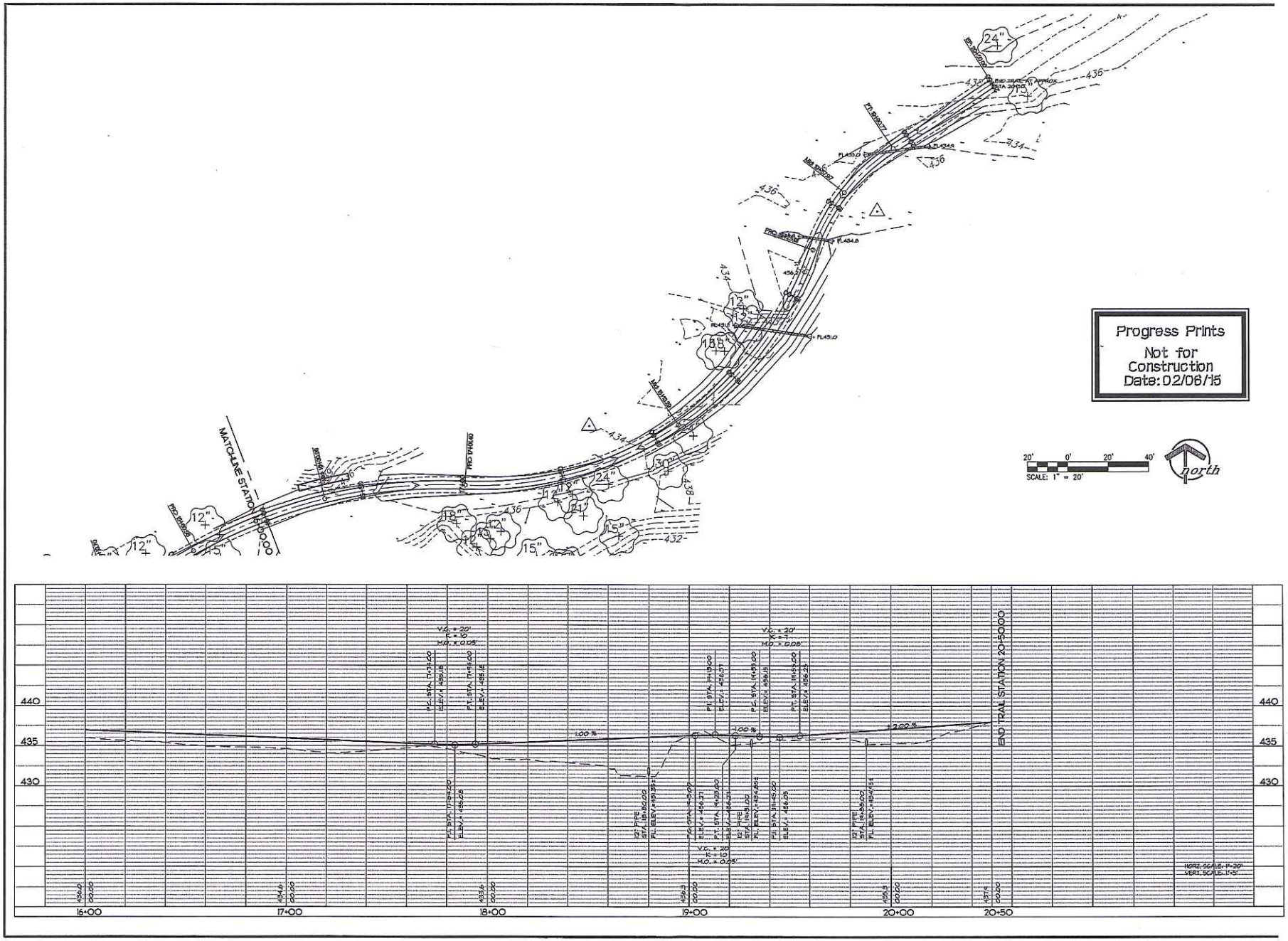


LAND PLANNING
RECREATION PLANNING AND DESIGN
LANDSCAPE ARCHITECTURE
13545 BARRETT PARKWAY DR. #200
ST. LOUIS, MO 63021
(314)984-8211 FAX(314)822-7858

BLUFF VIEW TRAIL EXTENSION

BLUFF VIEW TRAIL TO ROCK HOLLOW TRAIL
WILDWOOD, MISSOURI

OWNER
State of Missouri
P.O. Box 176
Jefferson City, MO
65101

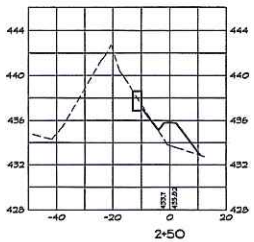
SHEET TITLE
Site Plan & Profile

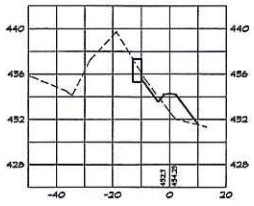
JOB NUMBER
12003

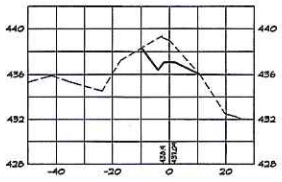
DATE 00/00/15 DRAWN BY DWD

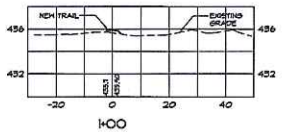
REVISION

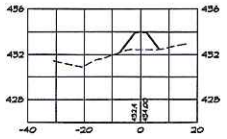
SHEET NUMBER
C4

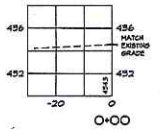


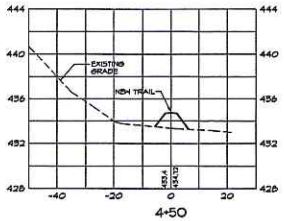


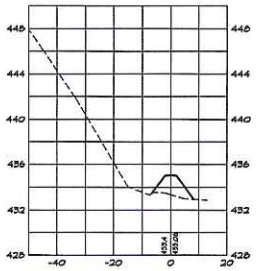


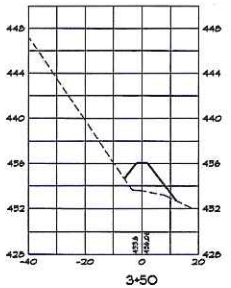


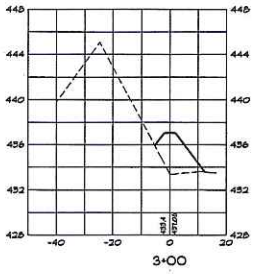


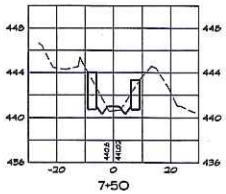


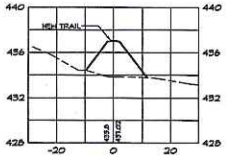


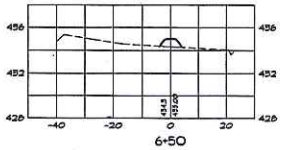


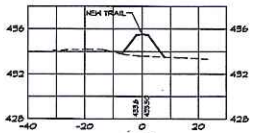


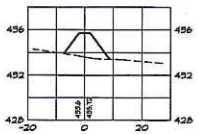


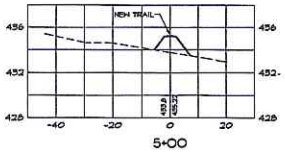


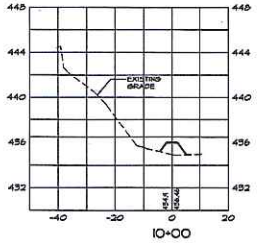


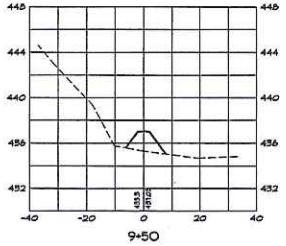


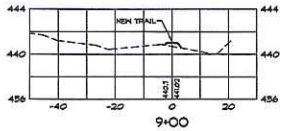


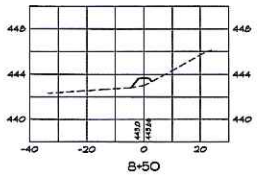


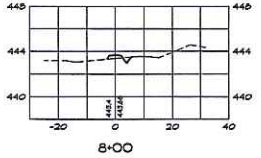


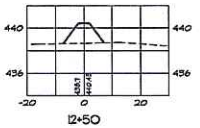


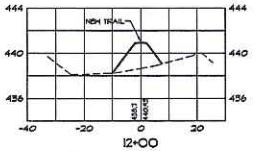


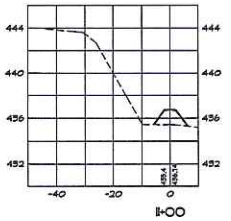


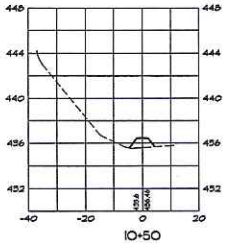












HORZ. SCALE: 1"=20'
VERT. SCALE: 1"=5'

Progress Prints
Not for Construction
Date: 02/06/15

LAND PLANNING
RECREATION PLANNING AND DESIGN
LANDSCAPE ARCHITECTURE
13545 BARRETT PARKWAY DR. #200
ST. LOUIS, MO 63021
(314)984-8211 FAX(314)822-7658

terraspec

BLUFF VIEW TRAIL EXTENSION

BLUFF VIEW TRAIL TO ROCK HOLLOW TRAIL
WILDWOOD, MISSOURI

OWNER
State of Missouri
P.O. Box 176
Jefferson City, MO
65101

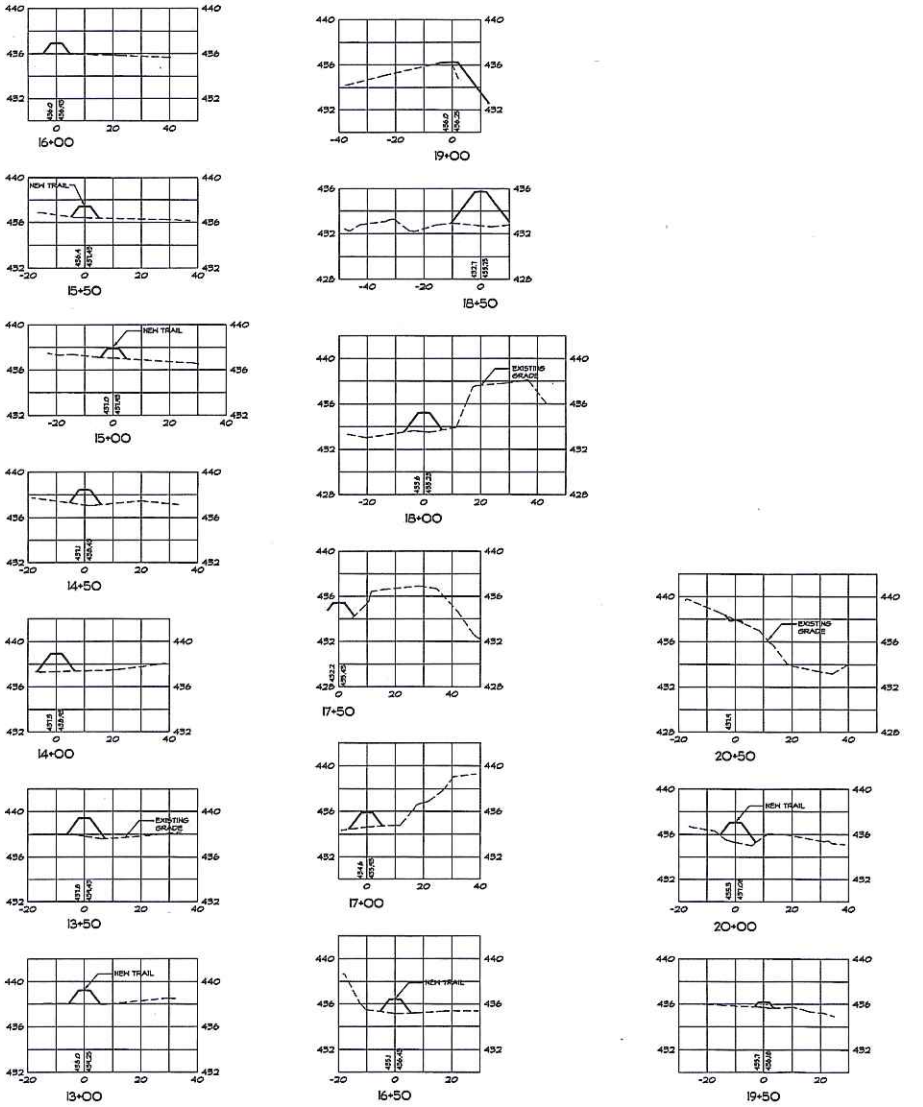
SHEET TITLE
Sections

JOB NUMBER
12003

DATE 00/00/15 DRAWN BY DWD

REVISION

SHEET NUMBER
C5



HORZ. SCALE: 1"=20'
VERT. SCALE: 1"=5'

Progress Prints
Not for Construction
Date: 02/06/15

LAND PLANNING
RECREATION PLANNING AND DESIGN
LANDSCAPE ARCHITECTURE
terraspec
13545 BARRETT PARKWAY DR. #200
ST. LOUIS, MO 63021
(314)984-8211 FAX(314)822-7658

BLUFF VIEW TRAIL EXTENSION

BLUFF VIEW TRAIL TO ROCK HOLLOW TRAIL
WILDWOOD, MISSOURI

OWNER
State of Missouri
P.O. Box 176
Jefferson City, MO
65101

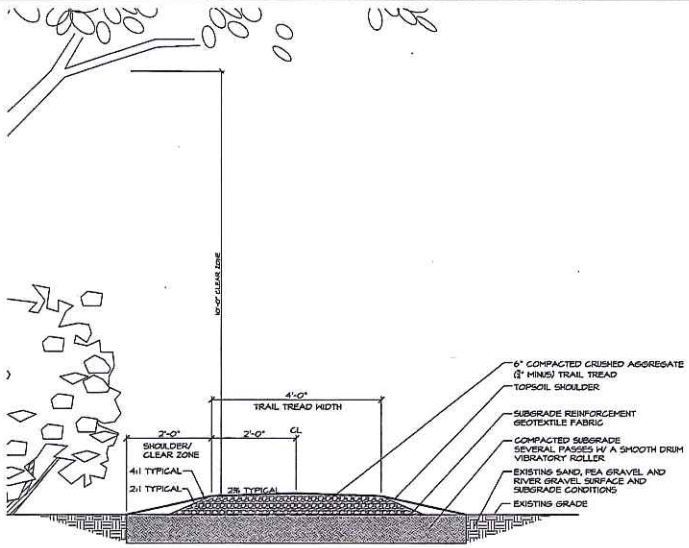
SHEET TITLE
Sections

JOB NUMBER
12003

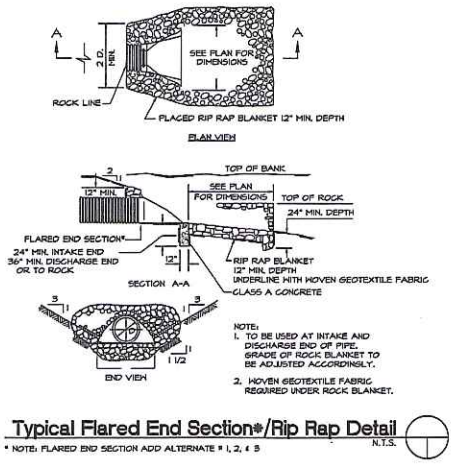
DATE 00/00/15 DRAWN BY DWD

REVISION

SHEET NUMBER
C6



Typical Trails Cross-section
SCALE: 3/4"=1'-0"



Typical Flared End Section*/Rip Rap Detail
* NOTE: FLARED END SECTION ADD ALTERNATE # 1, 2, & 3
N.T.S.

LAND PLANNING
RECREATION PLANNING AND DESIGN
LANDSCAPE ARCHITECTURE
13545 BARRETT PARKWAY DR. #200
ST. LOUIS, MO 63021
(314)984-8211 FAX(314)822-7955

BLUFF VIEW TRAIL EXTENSION

BLUFF VIEW TRAIL TO ROCK HOLLOW TRAIL
WILDWOOD, MISSOURI

OWNER
State of Missouri
P.O. Box 176
Jefferson City, MO
65101

SHEET TITLE
Details

Progress Prints
Not for Construction
Date: 02/06/15

JOB NUMBER
12003

DATE 00/00/15 DRAWN BY DWD

REVISION

SHEET NUMBER
D1

WILDWOOD

January 26, 2016

MEMORANDUM

To: The Planning/Economic Development/Parks Committee

From: Department of Planning and Parks

Re: **Phase II of Community Park – Roadway Construction (Ward – One)**

Cc: The Honorable Timothy Woerther, Mayor
Administration/Public Works Committee Members
Ryan S. Thomas, P.E., Director of Public Works
Rick Brown, P.E. and P.T.O.E., Director of Public Works
Kathy Arnett, Assistant Director of Planning and Parks

As City Council Members may be aware from the discussion that was held regarding this subject matter at its January 11, 2016 meeting, the bids for Community Park – Phase II were opened in December 2015 and the results were very favorable to this project. The project includes three (3) components, which are the connection of the park's existing internal roadway to the western terminus of the extended Pond-Grover Loop Road, a companion trail, and the preparation of the Great Meadow Area. This matter was at the January 11, 2016 meeting of City Council due to a timeframe issue relating to the tree clearing in association with any project located upon the park property and its potential impact on habitat of the Indiana Brown Bat.

Given the timeframe that is authorized for clearing in protected habitat areas, the project's initial work must be completed by March 31, 2016 or wait until November 1, 2016. As noted above, the Department presented this matter to the City Council at the aforementioned meeting and requested authorization to first introduce the legislation for the contract to proceed with this project, and then present it to this Committee thereafter, but before any final passage of that bill. The City Council agreed with this approach, given the circumstances, and the Department's acknowledgement the Committee would have time to review the matter, before any bill was finally passed. Therefore, a condition of this action was for the Committee to be presented this matter at its January 26, 2016 meeting.

Attached to this memorandum is information regarding the bidding process, the plans, and related specifications associated with this project for the Committee's consideration. This information is supplemented by the other plans and other construction documentation that was presented to this Committee in 2015 on this project and approved in its current configuration and form. The

Committee's favorable recommendation in 2015 on the construction plans and related bidding specifications was also supported by City Council, when such was submitted to it for consideration.

If any of the Committee Members have questions or comments about this information, please feel free to contact the Department of Planning and Parks at (636) 458-0440. A presentation of this information is planned on this item at tonight's meeting. Thank you for your consideration of this information and providing direction on the same.

WILDWOOD

January 11, 2016

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

Re: Bid Results for Phase 2 of the Community Park

Council Members:

On Tuesday, December 8, 2015, a bid opening was held at City Hall for the Phase 2 portion of the overall Community Park project. The City received a substantial amount of interest in this project and a total of five (5) bids were received for general contracting and related services. The plans and bid specifications contained a base proposal, an add alternate, and a unit price cost for rock removal, if necessary, for consideration and inclusion in the project. A summary of the general contractor submittals is as follows:

Bidder	Base Bid ($)	Alternate 1 ($)	Unit Cost ($)	TOTAL ($)
Byrne/Jones Construction	469,750.00	25,000.00	200.00/yard^3 ***	495,250.00
Gershenson Construction	378,535.00	27,000.00	150.00/yard^3	405,535.00
Krupp Construction	530,166.27	21,480.00	165.00/yard^3	551,646.27
Kuesel Excavating	516,600.00	28,800.00	170.00/yard^3	545,400.00
Pavement Solutions	499,185.00	53,008.00	56.00/yard^3	552,193.00

*** Gershenson Construction's bid indicated a number of $7,500.00 per cubic yard for rock removal in the bid document, which, according to Michael Gershenson, was a math error, and meant to be 50 cubic yards times $150.00 per cubic yard, which equates to the $7,500.00 figure. The bid document's language allows those identified items to be considered collectively or individually. The City Attorney was consulted and advised the math error would not preclude the consideration of this bid, given the unit cost is not integral to the base bid itself.

The identified add alternate included the following item:

→ Add Alternate – Multiple Use Path (to parallel roadway along a majority of its length)

With the base bid item and the add alternate considered, the cost of the development of Phase Two of the community park project is identified in the total column provided at the end of the table, which is set forth below. It is important to note that seven hundred thousand dollars ($700,000.00) has been budgeted for this project for 2016, of which an anticipated four hundred thousand dollars ($400,000.00) of funding would be provided through the Municipal Parks Grant Commission of St. Louis County – Round 16 application process (no notification has been provided at this time).

In considering the results of this bidding process, the Department is recommending for the City Council's consideration the following bid and associated alternate:

Bidder	Base Bid ($)	Alternate 1 – Multiple Use Path ($)	Total ($)
Gershenson Construction	378,535.00	27,000.00	405,535.00

The Department would note the project also includes the relocation of a water line at the intersection of the current western terminus of Pond-Grover Loop Road and the proposed extended park roadway, which was installed in an easement that was opposed by the City Council many years ago. The cost of this relocation has been estimated at approximately one hundred ten thousand dollars ($110,000.00) and would be completed by personnel of Missouri American Water Company. Additionally, the preparation of the Great Meadow Area, as the open and informal play area, is also planned, which would add an additional sixty-five thousand dollars ($65,000.00) to the overall project cost. Therefore, the cost of all components of the project would be $580,535.00. This amount is less than the cost that was anticipated, when the grant application was submitted to the Municipal Parks Grant Commission at the end of October 2015.

This matter is being presented at tonight's Work Session due to an issue regarding timing. The area that is planned for the extension of the park's internal roadway has been identified as habitat for the Brown Indiana Bat and any clearing in that area must be completed by March 31, 2016 or would be delayed to November 1, 2016. Given the meeting schedule for this January, with the Planning/Economic Development/Parks Committee not scheduled to convene until January 26, 2016, such would mean this matter could not be considered by City Council until February 9, 2016, with final passage on February 23, 2016. Accordingly, the needed time to complete the contract, hold a pre-construction meeting, then authorize the project to proceed, would leave very few days before the tree removal allowance by the federal government would end, thereby delaying this project until November 2, 2016, the start of the winter season. This timing is the reason the item is being presented to the City Council at this time, as a whole, in lieu of the Committee on park matters first.

The intent is to present this matter to the Planning/Economic Development/Parks Committee at its January 26, 2016 meeting and address any questions or changes then, before the final passage of a bill would be considered in February. The bill would be introduced, if authorized for preparation tonight, on January 25, 2016. The Department would never ignore the Committee process, but believes that, in this circumstance, the timelines make it appropriate, along with the favorable bid that has been received for the project as well.

If any of the City Council Members should have questions or comments regarding this information, please feel free to contact the Department of Planning at (636) 458-0440. A presentation is planned on this agenda item at tonight's meeting. Thank you for the opportunity to provide this information for the City Council's consideration.

Respectfully submitted,
CITY OF WILDWOOD

Joe Vujnich

Joe Vujnich, Director
Department of Planning and Parks

Cc: The Honorable Timothy Woerther, 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
Tom Cissell, Oates Associates, Project Engineer
Kathy Arnett, Assistant Director of Planning and Parks
Gary Crews, Superintendent of Parks and Recreation

From: **Michael Gershenson** mgershenson@gershenson.com
Subject: Wildwood community park phase II
Date: December 8, 2015 at 11:45 AM
To: Joe Vujnich jvujnich@cityofwildwood.com, Tom Cissell Tom.Cissell@oatesassociates.com
Cc: Ed Gershenson eng@gershenson.com, Roxanne Wallace rwallace@gershenson.com

Mr Vujnich,
Gershenson would like to notify the City of Wildwood our intention for the rock excavation pricing in our bid proposal that we submitted today for the Pond Grover Loop Road connection road.

We submitted a price for $7500 for 50 yd.^{3} of rock excavation. Our intention, was that our price for 1 cubic yard of rock excavation was to be $150 and that our total price for 50 yd.^{3} of rock excavation equaled $7,500. We realize that was the incorrect number to put in the unit price box and apologize for that error.

We just wanted to notify you of our true intentions for the rock excavation price in your consideration of our bid proposal and we understand if it results in our disqualification. However, we definitely hope the City of Wildwood will still be able to consider Gershenson Construction for this project in light of this error and look forward to possibly working with you again.

Thanks!

Mike Gershenson
Project manager
Gershenson Construction Company

RETURN WITH BID

ARTICLE 10

BID FORM PROPOSAL

BID TIME 10:00 am

BID DATE 12/8/15

TO: THE CITY OF WILDWOOD

The bidder declares that he has had an opportunity to examine the site of the work and he has examined the contract documents therefore, and that he has prepared his proposal upon the basis thereof, Edward Gershenson, having carefully examined the site and having read and understood all the Contract Documents, adding Addenda 1 through 1, for the

WILDWOOD COMMUNITY PARK – PHASE 2 (POND GROVER LOOP ROAD EXTENSION)

and being familiar with the local conditions affecting the work, hereby proposes to furnish all labor, materials, equipment and services required for the performance and completion of said project in accordance with the said Contract Documents or the following itemized bid.

(Signature) _____

(Print Name) Edward N. Gershenson
President

(Company Name) Gershenson Construction Co., Inc.

(Address) 2 Truitt Dr.
Eureka, MO 63025

(Telephone Number) 636.938.9595

(Fax Number) 636.938.9501

RETURN WITH BID

ITEMIZED BID FORM – GENERAL CONTRACT

BASE BID

CITY OF WILDWOOD, MISSOURI

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	EXTENDED PRICE
1	EARTHWORK	L SUM	1	51,800.00	51,800.00
2	TREE / BRUSH CLEARING *	L SUM	1	9,900.00	9,900.00
3	SEEDING	L SUM	1	4,800.00	4,800.00
4	SOD	L SUM	1	13,000.00	13,000.00
5	INLET AND PIPE PROTECTION	L SUM	1	250.00	250.00
6	END SECTIONS, 15"; COST TO RESET PIPE	L SUM	1	2,300.00	2,300.00
7	PIPE CULVERTS, 18"	L SUM	1	950.00	950.00
8	END SECTIONS, 18"	L SUM	1	2,250.00	2,250.00
9	PIPE CULVERTS, 24"	L SUM	1	5,625.00	5,625.00
10	END SECTIONS, 24"	L SUM	1	1,850.00	1,850.00
11	PIPE CULVERTS, 30"; COST TO RESET PIPE	L SUM	1	1,500.00	1,500.00
12	END SECTIONS, 30"	L SUM	1	2,100.00	2,100.00
13	12" RCP STORM SEWER	L SUM	1	3,000.00	3,000.00 EC
14	STRUCTURES	L SUM	1	8,800.00	8,800.00
15	PROCESSING LIME MODIFIED SOIL, 12"	L SUM	1	35,700.00	35,700.00
16	AGGREGATE BASE COURSE, 6"	L SUM	1	41,000.00	41,000.00
17	HMA PAVEMENT, 6"-THICK ROAD	L SUM	1	124,000.00	124,000.00
18	MILL & OVERLAY	L SUM	1	8,000.00	8,000.00
19	6' HMA WIDENING	L SUM	1	1,600.00	1,600.00
20	PARKING BLOCKS	L SUM	1	1,200.00	1,200.00
21	PVMT MARKING & SIGNAGE	L SUM	1	2,160.00	2,160.00
22	MSD - 5 ROCK BLANKET	L SUM	1	2,300.00	2,300.00
23	MSD - 7 WEATHERED LIMESTONE REVETMENT	L SUM	1	1,600.00	1,600.00
24	EROSION CONTROL	L SUM	1	10,500.00	10,500.00
25	GATE ADJUSTMENT	L SUM	1	2,300.00	2,300.00
26	REMOVE STOP SIGNS	L SUM	1	450.00	450.00
27	REMOVE STRUCTURE AND PIPE	L SUM	1	550.00	550.00
28	TREE PROTECTION LAYOUT	L SUM	1	550.00	550.00
29	MOBILIZATION	L SUM	1	24,500.00	24,500.00
30	GENERAL CONDITIONS AND MISCELLANEOUS CONSTRUCTION ITEMS	L SUM	1	14,000.00	14,000.00
				TOTAL BASE BID	378,535.00

*Per Missouri American Water, the TREE/ BRUSH CLEARING of the water main easement will be the responsibility of the general contractor. The limits are shown on the removal and erosion control sheet.

By Edward N. Gershenson
President
Title

Gershenson Construction Co.
Contractor

RETURN WITH BID

ITEMIZED BID FORM – GENERAL CONTRACT

ALTERNATE BID – MULTI-USE PATH

CITY OF WILDWOOD, MISSOURI

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	EXTENDED PRICE
Alt 1	PROCESSING LIME MODIFIED SOIL, 12"	L SUM	1	4,000.00	4,000.00
Alt 2	AGGREGATE BASE COURSE, 6"	L SUM	1	8,600.00	8,600.00
Alt 3	HMA PAVEMENT, 3"-THICK TRAIL	L SUM	1	11,500.00	11,500.00
Alt 4	CONCRETE CURB RAMPS	L SUM	1	1,600.00	1,600.00
Alt 5	SHARE THE ROAD SIGN	L SUM	1	1,300.00	1,300.00
				TOTAL ALTERNATE BID	27,000.00

By Edward N. Gershenson
President
Title

Gershenson Construction Co.
Contractor

UNIT COST

CITY OF WILDWOOD, MISSOURI

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE
1	ROCK EXCAVATION	CU YD	50	7,500.00

Note:
A quantity for ROCK EXCAVATION is included in order to establish a unit cost for work which may be required to construct this section. The actual quantity shall be determined by the engineer in the field.

Determination of the low bidder will consider the BASE BID, ALTERNATE BID, and UNIT COST.

ROCK EXCAVATION shall be according to Saint Louis County Standard Specifications for Road and Bridge Construction Section 203.

By Edward N. Gershenson
President
Title

Gershenson Construction Co.
Contractor

RETURN WITH BID

SUBCONTRACTOR UTILIZATION FORM

This report must accompany and be part of the sealed bid proposal.

1. Name of Bidder: Gershenson Construction Co., Inc.

2. Address Bidder: 2 Truitt Dr. Eureka, MO 63025 636.938.9595
City State Zip Phone

3. The above-named bidder intends to subcontract for materials, services, supplies, specialty contractors, etc., in the following fashion:

Names and Addresses of Subcontractor Which the Contractor Anticipates Utilizing	Nature of Participation	$ Value of Subcontractor
Sollenick Grading	Earthwork	$ 38,000.00
D+S Fence	Fencing	$ 5,000.00
Schaefer Meyer Seed+Sod	Landscaping	$ 20,000.00
Budrovich Excavating	Lime Sod	$ 30,000.00

EG

A. Total of Above $ 93,000.00

B. Total Bid Amount $ 378,535.00

Subcontractor Utilization as a % of Total Bid Amount: (A/B x 100) 24 %

The General Contractor shall perform 51% of the contract with his own company.

Edward N. Gershenson
President

Name-Authorized Officer of Bidder

Signature-Office Bidder

12/8/15
Date

RETURN WITH BID

The City of Wildwood, Missouri reserves the right, before any award of the Contract is made, to require of any bidder to whom it may make an award of the Contract, a non-collusion affidavit in the form designated below:

NON-COLLUSION AFFIDAVIT

STATE OF Missouri,

COUNTY OF St. Louis,

Edward Gershenson being first duly sworn, deposes and says that he is Pres. *(sole owner, partner, president, secretary, etc.) of Gershenson Construction the party making the foregoing bid; that such bid is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization or corporation; that such bid is genuine and not collusive or sham; that said bidder had not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or any one else to put in a sham bid, or that any one shall refrain from bidding; that said bidder has not in any manner, directly or indirectly, sought by agreement, communication or conference with any one to fix the bid price of said bidder or of any other bidder, or to fix any overhead, profit or cost element of such bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract or any one interested in the proposed contract; that all statements contained in such bid are true; and, further, that said bidder had not, directly or indirectly, submitted his bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid and will not pay any fee in connection therewith to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, or to any other individual except to such person or persons as have a partnership or other financial interest with said bidder in his general business.

SIGNED: Edward N. Gershenson

President

(Title)

Subscribed and sworn to before me this 8th day of December, 2015.

Seal of Notary

Notary Public

PENNY JO STEWART
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires: Sept. 7, 2018
Commission # 14530163

INSTRUCTIONS FOR EXECUTING CONTRACT

RETURN WITH BID

The Contractor, in executing the Contract, shall follow the following requirements:

The Contractor and the City shall sign the Contract Documents in not less than triplicate.

If the Contractor is a corporation, the following certificate shall be executed:

I, certify that I am the secretary of the corporation named as Contractor herein above, that who signed the foregoing Contract on behalf of the Contractor was then of said corporation; that said Contract was duly signed for and in behalf of said corporation by Authority of its governing body, and is within the scope of its corporate powers.

If the Contract is signed by the secretary of the corporation, the above certificate shall be executed by some other officer of the corporation under the corporate seal. In lieu of the foregoing certificate there may be attached to the contract copies of as much of the records of the corporation as will show the official character and authority of the officers signing, duly certified by the secretary or assistant secretary under the corporate seal to be true copies.

If the Contractor is a partnership, each partner shall sign the Contract. If the Contract is not signed by each partner, there shall be attached to the Contract a duly authenticated power of attorney evidencing the signer's (signers") authority to sign such a Contract for and in behalf of the partnership.

If the Contractor is an individual, the trade name (if the Contractor is operating under a trade name) shall be indicated in the Contract and the Contract shall be signed by such individual. If signed by one other than the Contractor there shall be attached to the Contract a duly authenticated power of attorney evidencing the signer's authority to execute such contract for and in behalf of the Contractor.

The full name and business address of the Contractor shall be inserted and the Contract shall be signed with his official signature. The name of the signing party or parties shall be typewritten or printed under all signatures to the Contract.

The Contract shall be deemed as having been awarded when formal notice of award shall have been duly served upon the intended awardee (i.e., the Bidder with whom the City contemplates entering into a Contract) by some officer or agent of the City duly authorized to give such notice.

BILL #2099 **ORDINANCE #2099**

AN ORDINANCE BY THE CITY COUNCIL OF THE CITY OF WILDWOOD, MISSOURI AUTHORIZING THE MAYOR OF THE CITY OF WILDWOOD, MISSOURI TO EXECUTE A CONTRACT ON BEHALF OF IT WITH OATES ASSOCIATES FOR THE DEVELOPMENT OF ENGINEERED DRAWINGS/PLANS, AND ACCOMPANYING BID SPECIFICATIONS, FOR THE EXTENSION OF THE PARK'S INTERNAL ROADWAY, TO THE WESTERN TERMINUS OF POND-GROVER LOOP ROAD, IN ASSOCIATION WITH THE COMMUNITY PARK PROJECT – PHASE 1A, CONSISTENT WITH THE ATTACHED CONTRACT AND EXHIBITS, WHICH ARE BEING RECOMMENDED BY THE PLANNING/ECONOMIC DEVELOPMENT/PARKS COMMITTEE OF CITY COUNCIL. (Wards - All)

WHEREAS, in 2006, the City Council appointed a Citizens Committee for Park Progress (CCPP) to review and define the future of park and recreation efforts in the City of Wildwood; and

WHEREAS, this process involved a lengthy public engagement effort that included a professionally designed and administered random survey of three thousand (3,000) Wildwood households; and

WHEREAS, the output of this effort was statistically significant data that led the Committee to develop an Action Plan for Parks and Recreation that contains four (4) goals this group believed were essential for the City Council to implement over the next five (5) to ten (10) year period of time; and

WHEREAS, one (1) of the recommendations in this Action Plan for Parks and Recreation was for the City to purchase property that could accommodate a community park, in a central location of it and near Town Center; and

WHEREAS, in 2009, the City of Wildwood purchased a sixty-six (66) acre parcel of ground located near the intersection of State Routes 109 and 100 for the purposes of a future community park site; and

WHEREAS, in 2010, the City hired Oates Associates to manage a public engagement effort and complete a conceptual design of the site that was in keeping with the needs of the community and input of residents and future users of this planned facility; and

WHEREAS, the City's consultant, along with assistance from a citizen advisory panel, undertook this effort for approximately one (1) year, which resulted in the development of a Concept Plan that was ultimately adopted by both the Planning and Zoning Commission and City Council; and

WHEREAS, the City Council, as part of the City's Capital Improvements Budget, set aside three hundred thousand dollars ($300,000.00) for the design and engineering plans/specifications for Phase One of the community park (based upon this Concept Plan), which initiated a Request for Qualifications (RFQ) for this project, and Oates Associates was selected to complete these plans and specifications due to its background and expertise in this regard; and

WHEREAS, thereafter, two (2) bid efforts were held on the community park project, resulting is the selection of Gershenson Construction for the general contracting work in association with Phase One of it; and

WHEREAS, with the Phase One project work scheduled for completion in early summer 2015, the Department of Planning and Parks noted an opportunity to complete the access roadway between State Route 100 on the south end and Pond-Grove Loop Road on the east end, sooner

than later, given other factors that appear to favor such, which include the completion of the western extension of Pond-Grover Loop Road to the park's eastern boundary, the stockpiling of fill on the site for the roadway bed's construction, and the availability of funding in the 2015 Capital Improvements Program budget for this project; and

WHEREAS, the Planning/Economic Development/Parks Committee discussed this proposal and agreed that Oates Associates had the best level of experience with this property and proposed design and offered a needed service for a reasonable cost - $43,800.00; and

WHEREAS, this action, on the part of the Planning/Economic Development/Parks Committee, was taken on February 24, 2015, while authorizing its presentation to City Council for its consideration and action.

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

Section One. The Mayor of the City of Wildwood, Missouri is hereby authorized to execute on behalf of the City of Wildwood, Missouri a contract with Oates Associates for the development of engineered drawings/plans, and associated bid specifications, in conjunction with the community park project- Phase 1A, such being consistent with the Scope of Work and other information that has been provided by the consultant and presented to the City and included herein.

Section Two. The total expenses and liability of the City may incur under this contract shall not exceed maximum sum of forty-three thousand eight hundred dollars ($43,800.00), as set forth in Attachment B of the accompanying contract.

Section Three. This Ordinance shall be in full force and effect from and after its passage and approval.

This Bill was passed and approved this ____ day of _____, 2015, by the Council of the City of Wildwood, Missouri, after having been read by title, or in full two (2) times, prior to its passage.

_____ _____

Presiding Officer The Honorable Timothy Woerther, Mayor

ATTEST:

_____ _____

City Clerk Lynne Greene Beldner
Deputy City Administrator/City Clerk

City of Wildwood
CONSULTANT / SERVICES AGREEMENT

DEPARTMENT: **Department of Planning and Parks** DATE: **March 24, 2015**

THIS AGREEMENT, made and effective this **24th day of March 2015** by and between the **City of Wildwood, Missouri**, a municipal corporation hereinafter referred to as "City", and **Oates Associates, Inc.,** hereinafter referred to as "Consultant", with a business address of: **720 Olive Boulevard, Suite 1660, St. Louis, Missouri 63101.**

WITNESSETH: That the parties hereto, for the considerations hereinafter set forth, agree as follows:

I. SCOPE OF SERVICES

Except as expressly specified herein, Consultant hereby agrees to provide all of the supervision, labor, technical services, facilities, materials, tools, equipment, and apparatus, and to perform all the services and do all the things necessary for the proper completion of the Consultant services which are particularly described in any attachments incorporated herein and additionally as follows:

To develop acceptable engineered drawings/plans, along with associated bid specifications, for the eventual construction of the extension of the park access roadway, from the Bonhomme Creek Bridge to the western terminus of the Pond-Grover Loop Road, to be known as Phase 1A of the community park project, as detailed and set forth in Attachment B of this Agreement.

The above services (hereinafter referred to as the "Work") shall be provided by the Consultant in accordance with all the provisions of this Agreement, including the General Conditions attached hereto as Attachment A, for the project which are incorporated herein by reference, and which terms shall prevail over any conflicting terms that may otherwise be adopted herein as part of any attachment, or any other documents submitted by Consultant.

II. COMPENSATION

A. Basic Compensation. The City hereby agrees to pay the Consultant, as full compensation for the complete and satisfactory performance of the Work, and all expenses and costs related thereto:

A sum not to exceed **Forty-Three Thousand Eight Hundred Dollars ($43,800.00);**

Or

As set forth on an Attachment B attached hereto and incorporated herein.

B. Additional Compensation. Any cost not specifically allowed the Consultant pursuant to Paragraph A, Basic Compensation, shall be considered Additional Compensation and must first be authorized by a written Change Order approved by the City and Consultant. If City directs or authorizes additional services not included in this Agreement to be performed, the City and Consultant shall first agree by written Change Order as to how the Consultant is to be paid. Any services provided in addition to the Work shall not entitle Consultant to additional compensation unless approved in advance and by written Change Order executed by the City and the Consultant.

III. TIME AND MANNER OF PAYMENTS

All invoices, complete with necessary support documentation, shall be submitted to the City and payment shall be made by City in a lump sum within thirty (30) days of receipt of an invoice received after satisfactory performance of the Work for the fees, prices, rates or schedule of values set forth above. When appropriate due to the nature of the Work of the Agreement, progress payments may be authorized to be made based upon completion of quantifiable/identifiable phases of the Work. If authorized by the City, a schedule of progress payments based on phases of Work completed and in such corresponding amounts as determined to be appropriate shall be set forth in Attachment C attached hereto.

IV. SCHEDULE OF WORK

Time is of the essence. The Work to be performed under the Agreement shall be commenced on or before **March 24, 2015 (Tuesday)** shall be completed on or before **July 24, 2015 (Friday)**, and shall be performed so as not to delay or hinder City's schedule for the project, if applicable.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement as of the effective date of Contract first above written.

_____	_____
Consultant	City of Wildwood
By _____	By _____
Title _____	Title _____
	ATTEST:
	_____
	DATE: _____

ATTACHMENT A – Consultant/Services Agreement General Conditions
ATTACHMENT B – Consultant Proposal
ATTACHMENT C – Progress Payment Schedule (Optional)
ATTACHMENT D – Consultant Liability Insurance Requirements

Attachment A

City of Wildwood
CONSULTANT/SERVICES AGREEMENT
GENERAL CONDITIONS

1. **Independent Consultant**. The Consultant shall be and operate as an independent Consultant in the performance of this Agreement. The Consultant shall have complete charge of the personnel engaged in the performance of the Work, and all persons employed by the Consultant shall be employees of said Consultant and not employees of the City in any respect.

2. **Assignment; Subcontracts**. This Agreement shall not be assigned to any other parties by the Consultant without the express written consent of the City. In addition, the Consultant shall not subcontract or assign any of the Work to be performed by it hereunder without the express written consent of the City except as may be set forth in Attachment B.

3. **Proposals for the Work**. If the City issued a request for proposals in connection with the Work, such request for proposals and the proposal of the Consultant in response thereto, are incorporated herein by reference and made a part of this Agreement. In case of any conflicts between the request for proposals and the proposal of the Consultant, the requirements of the executed Consultant/Services Agreement shall control unless a change thereto is specifically stated in this Agreement.

4. **Changes to Work and/or Compensation**. No change in the Scope of Work, Compensation or terms contained in this Agreement shall be made except as authorized in advance in writing by Change Order approved by the City and Consultant. The Consultant shall make any and all changes in the Work without invalidating this Agreement when specifically ordered to do so by written Change Order approved by the City and Consultant in advance of the Work being performed. Consultant, prior to the commencement of such changed or revised Work or request for compensation in excess of the Basic Compensation, shall promptly submit to the City a written cost or credit proposal for such changed or revised Work or additional compensation. If the City and Consultant shall not be able to agree as to the amount, either in consideration of time or compensation to be allowed or deducted, it shall nevertheless be the duty of Consultant, upon written notice from the City, to immediately proceed with such alteration or change, and Consultant shall be compensated the reasonable value of such Work. The City reserves the right to suspend Work of the Consultant upon written notification from the City if the City and Consultant are not able to agree as to matters of scope and compensation for changes to the Work.

5. **Indemnification**. To the fullest extent permitted by law, the Consultant agrees to defend, indemnify and hold harmless the City, its officers, engineers, representatives, agents and employees from and against any and all liabilities, damages, losses, claims or suits, including costs and attorneys' fees, for or on account of any kind of injury to person, bodily or otherwise, or death, or damage to or destruction of property, or any other circumstances, sustained by the City or others, in any way arising from consultant's breach of the Agreement or out of services and/or operations negligently performed hereunder by the Consultant, including the City's reliance on or use of the services or products provided by the Consultant under the terms of this Agreement. The Consultant shall not be liable for any loss or damage attributable solely to the negligence of the City. Consultant's sole remedy against the City for any claimed breach shall be limited to specific performance of the Agreement, including payment not to exceed the lawfully due compensation, but in no event shall the City be liable for or subject to any claim for damages, costs or attorneys' fees arising from this Agreement.

6. **Insurance**. Consultant shall furnish the City the certificates of insurance for workers' compensation, public liability, and property damage, including automobile coverage in the amounts specified by the City in the request for proposals, if any, otherwise in the amounts stated on Attachment D. The policies of insurance shall be in such form and shall be issued by such company or companies as

may be reasonably satisfactory to the City. The City and such additional persons and entities as may be deemed to have an exposure to liability as a result of the performance of the Consultant's Work, as determined by the City, shall be named as additional insured.

In addition to the foregoing, the Consultant shall maintain Professional Liability "errors and omissions" insurance in the form for the coverages satisfactory to City as indicated in the request for proposals, if any, otherwise as stated on attached Attachment D, but in no event less than the City's sovereign immunity limits as established by RSMo. §537.610, as adjusted from time to time. The City and Consultant waive all rights against each other for damages caused by fire or other perils to the extent covered by Builder's Risk or any other property insurance, except such rights as they may have to the proceeds of such insurance. Nothing in this Agreement, or the provision of insurance, shall be deemed a waiver of sovereign immunity by the City.

7. **Multi-year contracts; Non-appropriation.** Notwithstanding any provision herein to the contrary, the City is obligated only to make the payments set forth in this Agreement as may lawfully be made from funds budgeted and appropriated for that purpose during the City's then current fiscal year at the discretion of the City. If no funds are appropriated or otherwise made legally available to make the required payments for this Agreement during the next occurring fiscal year (an "Event of Non-appropriation"), this Agreement will terminate at the end of the then current fiscal year as if terminated expressly . The failure or inability of the City to appropriate funds for this Agreement in any subsequent fiscal year shall not be deemed a breach of this Agreement by any party. If applicable, this Agreement may be annually renewed at each fiscal year by inclusion of specific appropriation for this Agreement, from year to year not to exceed the maximum renewal period or term as set forth in the Agreement.

8. **Accounting.** During the period of this Agreement, the Consultant shall maintain books of accounts of its expenses and charges in connection with this Agreement in accordance with generally accepted accounting principles and practices. The City shall at reasonable times have access to these books and accounts to the extent required to verify all invoices submitted hereunder by the Consultant.

9. **Reimbursable Expenses.** Expenses of the Consultant that are directly attributable to the performance of the Agreement that are in addition to the Basic Compensation, such as reproduction charges, travel expenses, long distance phone calls, mileage, and sub-contractors, are to be set forth in a schedule of reimbursable fees and rates as part of the Agreement. Consultant personnel labor rate expenses for time while traveling in performance of the Agreement do not qualify as reimbursable expenses.

10. **Personnel.** The Work shall be performed exclusively by the personnel of the Consultant identified in the Consultant's proposal and no other personnel of the Consultant shall perform any of the Work without the express written approval of the City.

11. **Other Consultants.** The City reserves the right to employ other consultants in connection with the Work.

12. **Project Records and Work Product.** The Consultant shall provide the City with copies of all documents pertinent to the Work which shall include, without limitation, reports, correspondence, meeting minutes, and any deliverables. The City shall own all right, title and interest, including without limitations, all copyrights and intellectual property rights, to all documents and work product of the Consultant created in performance of or relating to this Agreement. Consultant agrees to take all steps reasonably requested by the City to evidence, maintain, and defend the City's ownership rights in the work product.

13. **Site Operations.** Where appropriate, the City will arrange for right of entry to any property at the request of the Consultant for the purpose of performing studies, tests and evaluations in connection with the Work.

14. **Termination**. The City shall have the right to terminate the Agreement at any time for any reason by giving the Consultant written notice to such effect. The City shall pay to the Consultant in full satisfaction and discharge of all amounts owing to the Consultant under the Agreement an amount equal to the cost of all Work performed by the Consultant up to such termination date, less all amounts previously paid to the Consultant on account of the Work performed and accepted. The Consultant shall submit to the City its statement for the aforesaid amount, in such reasonable detail as the City shall request, within thirty (30) days after such date of termination. The City shall not be liable to the Consultant for any damages on account of such termination for loss of anticipated future profits with respect to the remainder of the Work.

15. Compliance with Laws. The Consultant shall comply with all applicable City ordinances and other laws and regulations, Federal, State, and any political subdivision thereof, including but not limited to, unemployment and workers' compensation, occupational safety, worker eligibility, equal employment and affirmative action and wage and price laws insofar as applicable to the performance of the Agreement.

16. Nondisclosure. The Consultant agrees that it will not divulge to third parties without the written consent of the City any information obtained from or through the City in connection with the performance of this Agreement.

17. Representations. Consultant agrees that it has not relied on any representations or warranties of the City, oral or written, other than expressly identified in this Agreement. The parties agree the Agreement represents the entire agreement between the parties.

18. Amendments. This Agreement may be amended only by written agreement signed by the parties.

19. Governing Law. The interpretation of and performance under this Agreement shall be governed by the laws of the state of Missouri, without regard to choice of law principles.

20. Severability. If any provisions of this Agreement shall be found to be illegal, invalid or unenforceable by a court of competent jurisdiction, the remainder of this Agreement shall remain in full force and effect and be construed to effectuate the intent of the parties.

21. Notice. Any notice or written communication required or permitted hereunder shall be sent to the parties via United States mail, certified return receipt requested, or via facsimile, to the respective addresses and numbers on file. Any notice so given shall be deemed effective on the date shown on the receipt thereof.

22. Good Faith. The parties shall act in good faith in the performance of their obligations hereunder.

23. Prevailing Party. If either party to this Agreement defaults in the performance of its obligation(s) hereunder, the prevailing party in any action to enforce its rights and remedies shall be entitled to obtain its costs and reasonable attorney's fees from the non-prevailing party.

24. Non-Waiver. The failure of either party to enforce any of its rights hereunder shall not act as a waiver of that or any other right possessed by such party under this Agreement.

25. Authorization to Enter into Agreement. Each party hereunder represents to the other that it is duly organized, validly existing and in good standing under the laws of its state of incorporation or formation; the execution, delivery and performance of this Agreement by such party has been duly authorized by all necessary and appropriate action; and, this Agreement constitutes a valid and binding obligation of such party, enforceable against such party in accordance with the terms hereof.

26. Execution. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which shall constitute one agreement that is binding upon both parties hereto, notwithstanding that all parties are not signatories to the same counterpart. This Agreement may be delivered by facsimile or electronic mail transmission. This Agreement shall be considered to have been executed by a party, if there exists a photocopy, facsimile copy, electronic copy, or a photocopy of a facsimile or electronic copy of an original hereof or of a counterpart hereof which has been signed by such party. Any photocopy, facsimile copy, electronic copy or photocopy of a facsimile copy of this Agreement or any counterpart hereof shall be admissible into evidence in any proceeding as though the same was an original.

27. Other Special Provisions. The special provisions set forth on Attachments C and D are incorporated herein by reference, and made a part hereof.

ATTACHMENT B

OATES ASSOCIATES
Engineering + Architecture

ILLINOIS
Eastport Business Center 1
100 Lanter Court, Suite 1
Collinsville, IL 62234
tel 618.345.2200
fax 618.345.7233

MISSOURI
Laclede Gas Building
720 Olive, Suite 1660
St. Louis, MO 63101
tel 314.588.8381
fax 314.588.9605

www.oatesassociates.com

January 26, 2015

Joe Vujnich
City of Wildwood
Director of Planning and Parks
183 Plaza Drive
Wildwood, MO 63040

Re: Phase 2 - Community Park
Park Access Road/ Pond Grove Loop Road Extension

Dear Mr. Vujnich:

We propose to render construction services in connection with Phase 2 of the Community Park, which involves extending the Park Access Road to Pond Grove Loop Road (hereinafter called the "Project").

Our Basic Services will consist of providing a topographic survey, preliminary design, construction documents, part-time construction administration, and permit applications, all as set forth in the attached "Exhibit A: Scope of Work and Estimated Schedule". Oates Associates will manage and perform all the work in this proposal, including coordination with the contractors and the City.

You agree to pay us for our Basic Services and any authorized Additional Services at the hourly rates set forth on Exhibit B. Billings for Basic Services are estimated at $43,800.

If Additional Services are requested to address an unforeseen condition or to address a City initiated design change, we will provide the service for an additional fee and bill for the time on an hourly basis using the rates shown in Exhibit B. We will not provide any Additional Services that increases the contract amount without prior approval from the City.

If this proposal and Scope of Work satisfactorily sets forth your understanding of our agreement, we'll incorporate it into the City's "Consultant/ Services Agreement" using this letter as an attachment. This proposal will be open for acceptance until February 27, 2015, unless changed by us in writing.

Sincerely,
OATES ASSOCIATES, INC.

Tom Cissell

Tom Cissell, PE, LEED AP
Project Manager

Accepted this_____ day of _____, 2015.

By: _____

Title: _____

EXHIBIT A

Scope of Work and Estimated Schedule

Task 1: Field Survey - 1,800' long road (about 2-weeks starting in February).

Task 1.1: Call in utility locates and review the utility marks in the field
Task 1.2: Set horizontal and vertical control points
Task 1.3: Tie in existing topography/ utilities
Task 1.4: Process survey data in the office
Task 1.5: Field review the survey drawing and edit accordingly

Task 2: Construction Documents (about 6-weeks starting in mid-February and ending near the end of March)

Task 2.1: Kick-off/ coordination meeting with client to confirm goals and expectations
Task 2.2: Set roadway alignments – horizontal and vertical
Task 2.3: Perform storm water drainage computations including:
- Design two cross-road pipe culverts
- Design roadside ditches
- Perform water quality computations and design a bioretention feature

Task 2.4: Prepare permit applications for a MDNR Land Disturbance Permit
Task 2.5: Perform a pavement design to determine the roadway pavement structure
Task 2.6: Develop construction documents including:
- An existing conditions and demo plan
- Roadway plan and profile sheets.
- Cross sections
- Details
- Storm Water Pollution Prevention Plan

Task 2.7: Develop construction cost estimates
Task 2.8: Submit the pre-final plans to the City for review and approval.

Task 3: Construction Administration (about 4-weeks starting in March)

Task 3.1: Coordinate with and respond to contractor questions related to the roadway work.
Task 3.2: Perform two site visits/ week to review progress, document construction operations, help ensure the project is being built according to the plans, and coordinate construction.

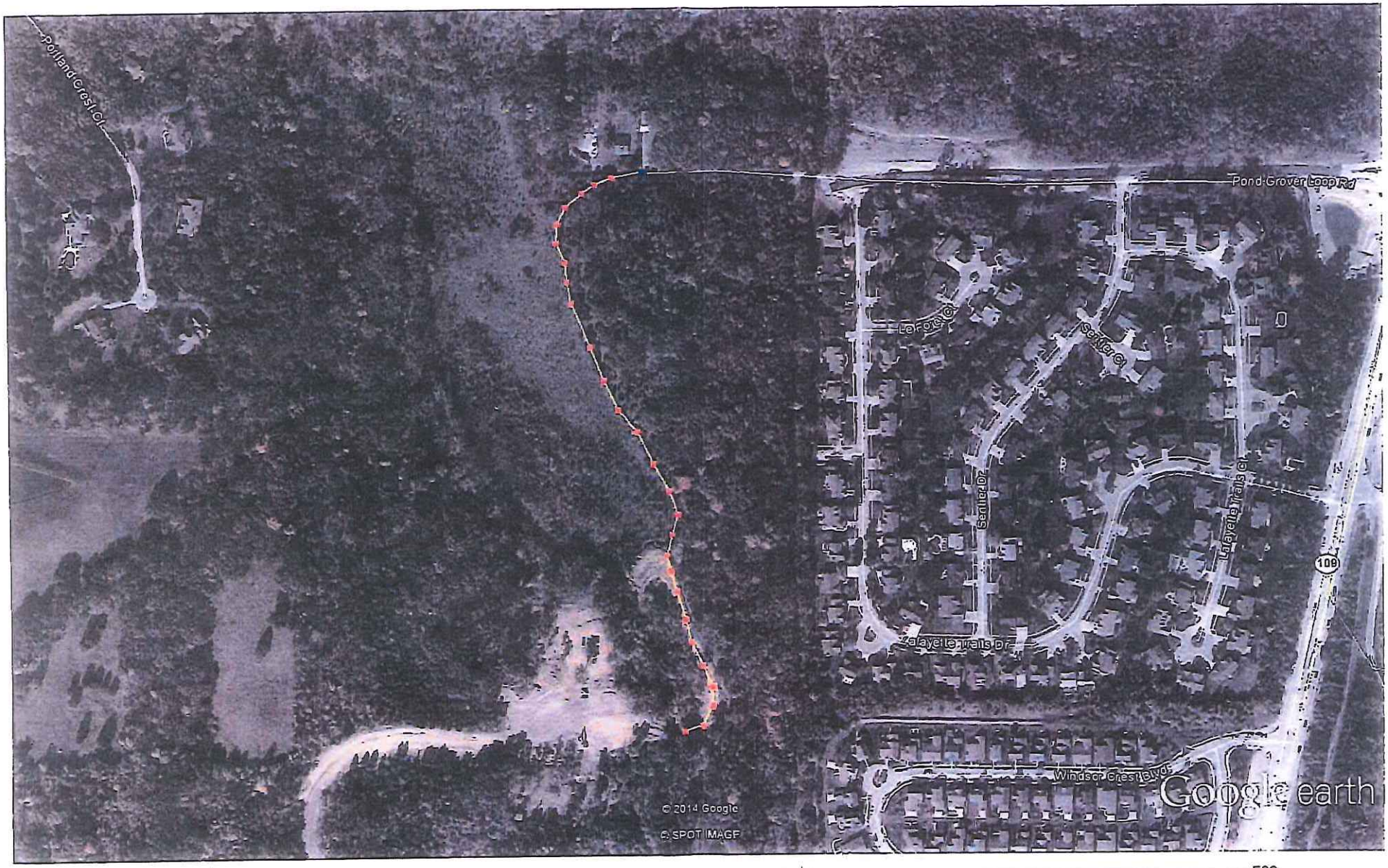
We propose to perform the following activities as part of the site visits:

- Perform quality assurance material testing on concrete, rock, and asphalt.
- Review the site for construction activity erosion and conduct storm water erosion control inspections.
- Document construction activities in daily field reports.
- If required, we will document design changes in the plans and specifications. At the end of the project, we will submit as-built drawings and specifications to the City.

EXHIBIT B
HOURLY RATE SCHEDULE

Principal Engineer	200.00
Senior Professional II	170.00
Senior Professional I	150.00
Professional IV	140.00
Professional III	130.00
Professional II	115.00
Professional I	100.00
Junior Professional	85.00
Technician III	115.00
Technician II	95.00
Technician I	75.00
Technician Intern	50.00

The above hourly rates are effective as of July 1, 2014 and are subject to adjustment annually.


Pond Grover Loop Rd
Lafayette Trails Dr
Windsor Crest Blvd
109
© 2014 Google
© SPOT IMAGE
Google earth
Google earth
miles
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Attachment C

(Optional)

Consultant/Services Agreement

Progress Payment Schedule

Consultant: **Oates Associates, Inc.** Date: **March 24, 2015**

Project: **Design and Engineered Drawings/Plans, along with Bid Specifications, for Phase 1A of the Community Park Property**

Basic Compensation: **$43,800.00**

Phase of Work (Describe)	% of Total	Progress Payment
Task One – Field Survey	33	$14,454.00
Task Two – Construction Documents	33	$14,454.00
Task Three – Construction Administration	34	$14,892.00

Total Basic Compensation: $43,800.00

Attachment D

Consultant Liability Insurance Requirements

The Consultant shall purchase and maintain in full force and effect the following insurance coverages with an insurance carrier acceptable to the City:

The policy(ies) shall be endorsed to cover the contractual liability of the Consultant under the General Conditions.

The Consultant and its Sub-consultants shall procure and maintain during the life of this Agreement insurance of the types and minimum amounts as follows:

(a) Workers' Compensation in full compliance with statutory requirements of Federal and State of Missouri law and Employers' Liability coverage in the amount of $1,000,000*.

(b) Comprehensive General Liability and Bodily Injury

Including Death:	$500,000 each person*
	$3,000,000 each occurrence*
Property Damage:	$3,000,000 each occurrence*
	$3,000,000 aggregate*

(c) Comprehensive Automobile Liability, Bodily Injury

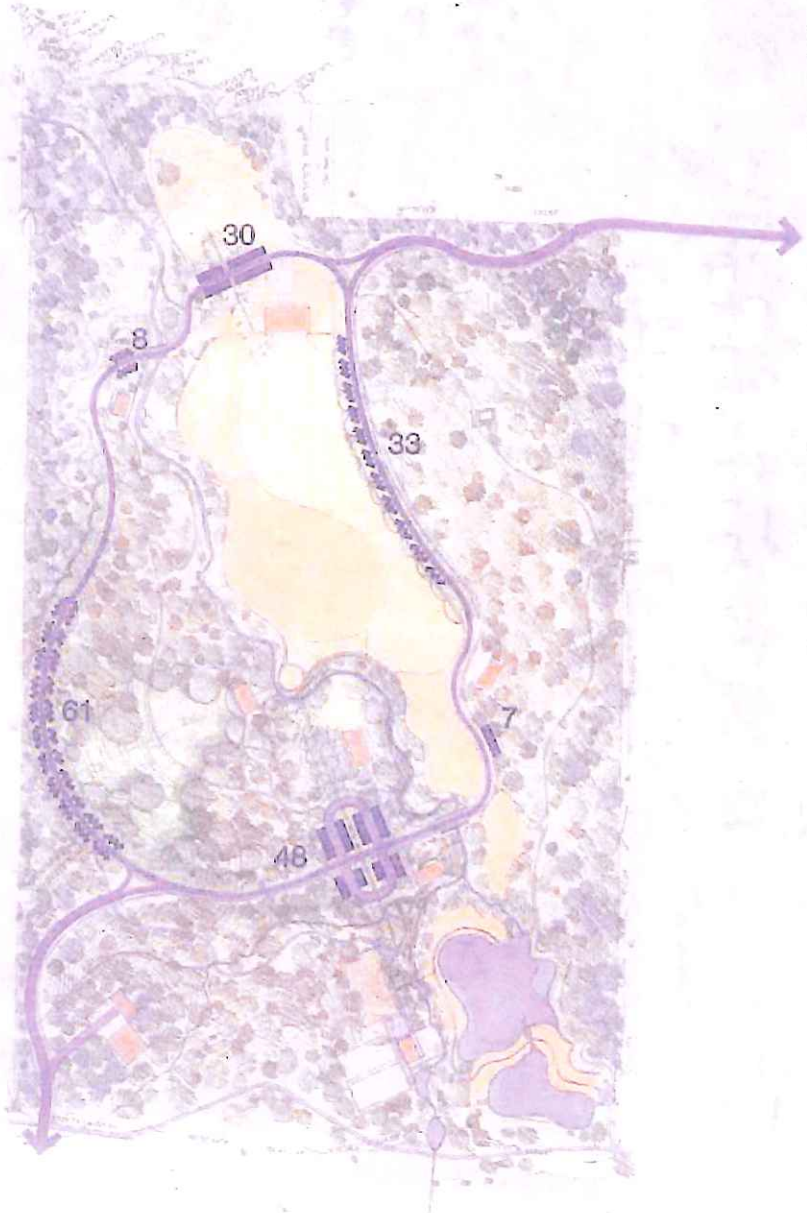
Including Death:	$500,000 each person*
	$3,000,000 each occurrence*
Property Damage:	$3,000,000 each accident*

(d) Professional Liability

Including Death:	$500,000 each person*
	$3,000,000 each occurrence*
Property Damage:	$3,000,000 each occurrence*
	$3,000,000 aggregate*

The City's Protective policy shall name the City as the Insured. Certificates evidencing such insurance shall be furnished the City prior to Consultant commencing the Work on this project. The certificates must state "The City of Wildwood is an additional insured."

* but not less than the sovereign immunity limits established by RSMo. 537.610 et seq.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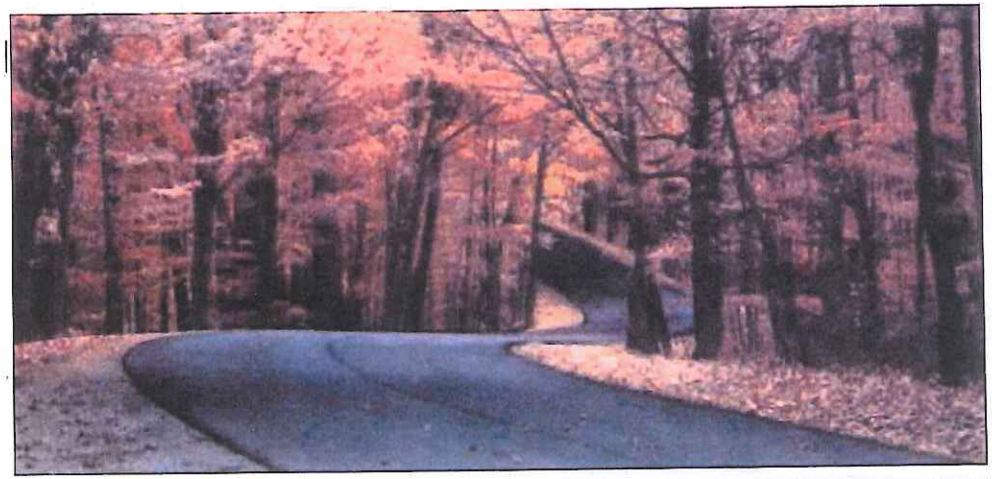


WILDWOOD

September 22, 2015

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

Re: Community Park – Guard Rail Project at Entry From State Route 100 and Phase IA Plans for Connector Road and Trail

Council Members:

The community park, as was noted in the last update to City Council on September 14, 2015, is now open and a number of additional considerations have been identified, with its partial use underway. These considerations relate to a guardrail project at the entry from State Route 100 and Phase IA plans for the connector road and trail. To this end, the Department sought the Committee's direction on these identified items at this aforementioned meeting. A summary of each of these items is provided below, which includes background materials and the action the Planning/Economic Development/Parks Committee took in their regard. A summary of these items is as follows:

Guard Rail Project at Entry From State Route 100 – With the opening of the park and the completion of the access roadway and paralleling trail, the Committee members have been made aware by the Department of Planning and Parks of the proximity of these two (2) improvements to each other at the State Route 100/State Route 109 access point and concerns about safety. Along a distance from the entry into the park, a thin strip of grass separates the roadway and trail, which offers no protections to users of the pedestrian facility from vehicles entering the park site. This situation is somewhat reminiscent of the Wildwood Greenway Corridor sections along State Route 100 for many years.

Accordingly, the Committee was asked to support the installation of a guardrail along a section of this roadway and trail. To assist in this discussion, a bid was requested from D&S Fencing for this work. Although the bid was for the installation of a four hundred fifty (450) foot section of wood backed guardrail at this location to provide the protection users should have when on the trail, the Committee (and the Department) believed a lesser amount could be considered, approximately three hundred (300) feet. By reducing the length of the guardrail section, the original bid of $32,000.00 for the four hundred fifty (450) foot strip, which equates to approximately sixty dollars ($60.00) a linear foot, can be lessened. Therefore, at a reduced length of three hundred (300) feet,

the cost would be eighteen thousand dollars ($18,000.00), with the potential of another five thousand dollars ($5,000.00) added to it to accommodate a soft dig of the holes for the posts, given a nearby water line (if determined necessary). The project would then have a maximum cost of twenty-three thousand dollars ($23,000.00), if the soft dig were necessary due to the proximity of the water line.

The Committee would note the wood-backed guardrail is very attractive and safe and will complement other similar improvements in the park, i.e. the bridge crossing Bonhomme Creek. However, the amount is significant, but the Committee agreed to allocate money from another line item in the Capital Improvement Program for 2015 for this project to meet this cost. The City has currently funded Kohn Park Repairs to an amount of one hundred twenty-five thousand dollars ($125,000.00), which will not be used this year. Given this situation, the Committee believes it is appropriate to transfer this cost for the guardrail segment from this project line item. This action will leave approximately ninety-seven thousand dollars ($97,000.00) in that project line item for future use (the Committee is already supporting the re-allocation of five thousand dollars ($5,000.00) from this same account for landscaping at Bluff View Park).

Accordingly, the Committee is recommending the project be supported by the City Council and the necessary funding be transferred from Account Number 40-480-34 Kohn Park Repairs to Account Number 40-480-25 Community Park – Phase I Construction to be used for the above-described guard rail project. The accounting for this transfer of these funds will occur at the end of this fiscal year, when year-end budget adjustments are presented to the City Council. The vote on this matter by the Committee was 7 to 0, with the members noting again the improved safety offered by this project to trail users in the park.

Phase IA Plans for Connector Road and Trail – During the spring of 2015, the Committee presented its recommendation to City Council on a proposal to complete the park's internal roadway from the bridge, at Bonhomme Creek, to the newly-constructed western extension of the Pond-Grover Loop Road. This project was prioritized by City Council, given its benefits and safety considerations. With the action of the City Council on the required contract with Oates Associates, the City began the design/engineering of this roadway, which is now nearing completion.

With the construction plans nearing completion, the Department of Planning and Parks presented them to Committee for its input and comments at its September 22, 2015 meeting. Highlights of the design and engineering of this roadway were identified at that time and are as follows:

1. The roadway will be approximately 3,200 feet in total length.
2. The roadway will be twenty (20) to twenty-seven (27) feet in width and have two (2), six (6) foot wide drainage swales on either side of it.
3. The drainage swale on the eastern side of the roadway will provide separation for the proposed ten (10) foot wide, multiple-use trail that will connect to the existing facility in Phase One of the park and the new Pond-Grover Loop Road.
4. The roadway will provide a limited number of parking spaces (12), at the Great Meadow Area of the park.

5. The roadway will have a section of grade at ten (10) percent between Stations 24 and 27.
6. The connection of this roadway at Pond-Grover Loop Road will be affected by a water line of the Missouri American Water Company.

The engineer has also provided a cost estimate for this project, which is $636,000.00, which includes the cost of a waterline relocation. The actual cost of the roadway and trail, minus the waterline relocation and contingencies, is just less than five hundred thousand dollars ($500,000.00). It is the intent of the Committee to further address this project, as part of the upcoming discussion on its Capital Improvements Program for 2016, while also authorizing the Department of Planning and Parks to submit a grant application to the St. Louis County Park Grant Commission for this project[1], if such is supported by City Council.

The development of this roadway is necessary to provide an alternative to the current access point onto State Route 100, which has high volumes and speeds of traffic. Additionally, the trail connection will allow more surrounding residents to access the area, without the benefit of a vehicle, and support the expenditure of funds for the western extension of the Pond-Grover Loop Road that was recently completed. Therefore, the Committee voted 7 to 0 to support the proposed design and engineering plans for this internal park roadway, with a trail component. Again, the Committee would note its desire to complete this roadway connection, which will make access to the park much safer and convenient for many of its users.

If any of the City Council Members have questions or comments regarding this information, please feel free to contact the Department of Planning at (636) 458-0440. A presentation is planned on all of these items at tonight's meeting. Thank you for your consideration of this information and requested support of the same.

Respectively submitted,
CITY OF WILDWOOD

Jim Baugus, Chair*
Planning/Economic Development/Parks Committee

Cc: The Honorable Timothy Woerther, Mayor
Administration/Public Works Committee Members
Ryan S. Thomas, P.E., City Administrator
Rob Golterman, City Attorney
Kathy Arnett, Senior Planner I
Liz Weiss, Senior Planner II
Gary Crews, Superintendent of Parks and Recreation

* The Department of Planning and Parks developed this report, in conjunction with the Planning/Economic Development/Parks Committee. Content reflects the Committee's consideration of this subject, and not necessarily an individual's position or opinion.

[1] **The grant application will also include a perimeter trail system and work in the Great Meadow Area.**

PROJECT LENGTH	1880 feet
	0.36 miles

ESTIMATE OF PROBABLE CONSTRUCTION COST
COMMUNITY PARK ROAD
CREEK CROSSING TO POND GROVER LOOP
STA 14+77 TO STA 26+50 27' WIDE; STA 26+50 TO STA 32+56 20' WIDE WITH 1' WIDE SHOULDERS

ITEM	QUANTITY	UNIT COST	UNIT	TOTAL	ASSUMPTIONS
BASE BID: ROADWAY					
EARTHWORK	7,470	$10	CU YD	$74,700	Pulled from x-sect end area calcs and backed-checked from CAD
TREE / BRUSH CLEARING	2.7	$10,000	ACRE	$27,000	Pulled from CAD. Omitted roadway from sta 14+77 - sta 20+00
SEEDING	1.4	$5,000	ACRE	$7,000	Pulled from CAD areas. Includes erosion blanket areas.
SOD	0.5	$10,000	ACRE	$5,000	Pulled from CAD areas
INLET AND PIPE PROTECTION	10.0	$100	EACH	$1,000	4 culverts plus 3 structures minus one dwnstream
END SECTIONS, 15"; COST TO RESET PIPE	1	$2,500	LS	$2,500	Two end sections at 1 culvert
PIPE CULVERTS, 18"	35	$50	LF	$1,750	1 culvert @ 35 LF
END SECTIONS, 18"	2	$1,000	EACH	$2,000	Two end sections at existing culvert
PIPE CULVERTS, 24"	85	$60	LF	$5,100	1 culvert @ 85 LF
END SECTIONS, 24"	2	$1,000	EACH	$2,000	Two end sections at 1 culvert
PIPE CULVERTS, 30"; COST TO RESET PIPE	1	$1,500	L SUM	$1,500	Addition of 6 LF to existing pipe culvert
END SECTIONS, 30"	2	$1,000	EACH	$2,000	Two end sections at existing culvert
12" RCP STORM SEWER	62	$50	LF	$3,100	Adding pipe for swale at termini of project.
STRUCTURES	4	$3,000	EACH	$12,000	Swale drainage @ winsor crest subdivision
PROCESSING LIME MODIFIED SOIL, 12"	5,600	$7	SY	$39,200	1173 LF 27' & 606 LF 20'-wide roadway section with 1'-wide shoulders includes parkin
AGGREGATE BASE COURSE, 6"	5,600	$10	SY	$56,000	1173 LF 27' & 606 LF 20'-wide roadway section with 1'-wide shoulders includes parkin
HMA PAVEMENT, 6"-THICK ROAD	1,740	$90	TON	$156,600	6"-thick asphalt includes parking pods
MILL & OVERLAY	180	$30	SY	$5,400	Beginning of project. Area pulled from CAD
5' HMA WIDENING	90	$50	SY	$4,500	Beginning of project. Area pulled from CAD
PARKING BLOCKS	12	$200	EACH	$2,400	12 parking blocks total
PVMT MARKING & SIGNAGE	1	$1,500	L SUM	$1,500	Assume 3 signs
MSD - 5 ROCK BLANKET	56	$75	SY	$4,200	Pulled from Cad areas
MSD - 7 WEATHERED LIMESTONE REVETMENT	20	$100	SY	$2,000	Pulled from Cad. 7 pads @ 25 sq ft each
EROSION CONTROL	1	$15,000	L SUM	$15,000	0.5 acres of erosion blanket and 2150 LF silt fence
GATE ADJUSTMENT	1	$2,000	L SUM	$2,000	At beginning of project.
REMOVE STOP SIGNS	1	$200	L SUM	$200	At end of project
REMOVE STRUCUTRE AND PIPE	1	$500	L SUM	$500	At end of project
TREE PROTECTION LAYOUT	1	$10,000	L SUM	$10,000	
MOBILIZATION			L SUM	$22,850	5% of the contract value
			SUBTOTAL	$469,000	
ALT BID G-1: ROADWAY WITH TRAIL					
PROCESSING CEMENT MODIFIED SOIL, 12"	750	$6	SY	$4,500	606 LF 10'-wide section with 0.5'-wide shoulders
AGGREGATE BASE COURSE, 6"	750	$10	SY	$7,500	606 LF 10'-wide section with 0.5'-wide shoulders
HMA PAVEMENT, 3"-THICK TRAIL	120	$90	TON	$10,800	3"-thick asphalt
CONCRETE CURB RAMP WITH DETECTABLE	1	$2,000	L SUM	$2,000	
SHARE THE ROAD SIGN	1	$1,000	EACH	$1,000	2 signs, one bicycle and one shared the road
			SUBTOTAL	$25,800	
CONSTRUCTION COST (2015)				$495,000	Rounded
Construction Contingency				$25,000	About 5% of construction for miscellaneous items.
TOTAL CONSTRUCTION COST				$520,000	
Construction Testing				$26,000	Construction Documentation (5%)
PROJECT COST				$546,000	
UTILITIES					
WATER LINE RELOCATION	1		L SUM	$90,000	24" main. Approximately 125' long
TOTAL PROJECT COST				$636,000	

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		ST. LOUIS	19	1
POND GROVER LOOP ROAD	LENGTH			

WILDWOOD COMMUNITY PARK - PHASE 2

(POND GROVER LOOP ROAD EXTENSION)

WILDWOOD, MO
ST. LOUIS COUNTY

LEGEND

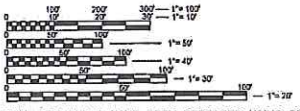
EX	NEW	
		SIGN (TRAFFIC)
		SIGN (ADVERTISEMENT)
		TELEPHONE / POWER POLE
		LIGHT POLE
		ANCHOR POLE
		GUY WIRE
		FIRE HYDRANT
		GAS VALVE
		WATER VALVE
		ELECTRIC METER
		GAS METER
		TELEPHONE BOX
		ELECTRIC BOX
		MAILBOX
		CLEANOUT
		AREA INLET
		CATCH BASIN
		CURB INLET
		MANHOLE
		TRAFFIC SIGNAL BOX
		TRAFFIC SIGNAL
		HANDHOLE
		CONTROL POINT
		BENCHMARK

LINETYPES

EX	NEW	
—W—	—W—	WATER LINE
—G—	—G—	GAS LINE
—T—	—T—	TELEPHONE LINE
—OE—	—OE—	OVERHEAD ELECTRIC LINE
—E—	—E—	ELECTRIC LINE
—FO—	—FO—	FIBER OPTIC LINE
—S—	—S—	STORM SEWER
—FM—	—FM—	SANITARY SEWER (FORCE MAIN)
—X—	—X—	FENCE LINE
		TREE LINE
		LIMITS OF CONST

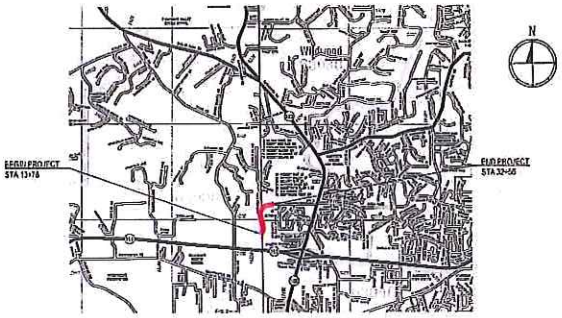
SCALE IN FEET

PLAN	1" = 20'
PROFILE HORIZ	1" = 20'
PROFILE VERT	1" = 5'
CROSS SECTION HORIZ	1" = 10'
CROSS SECTION VERT	1" = 5'



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

MISSOURI ONE CALL SYSTEM
1-800-344-7483 (DIG-RITE)
OR 811



LOCATION MAP
SCALE 1" = 2,000'

LENGTH OF PROJECT = 1,880 FEET (0.356 MILES)

INDEX OF SHEETS

AGENCY RESPONSIBLE FOR LETTING

APPROVED _____ _____
City of Wildwood, Director of Planning and Parks — Date

The City of WILDWOOD MISSOURI
PLANNING TOMORROW TODAY

CITY OF WILDWOOD
160 PLAZA DRIVE
WILDWOOD, MO 63040
Phone: 636.458.0440
Email: [illegible]@wildwood.com

THOMAS LEE CISSELL — DATE: _____
MO P.E. NO. 2002016635
EXPIRES 12/31/2016

BATES ASSOCIATES
Engineering + Architecture

COLLINSVILLE
100 Lander Court, Suite 1
Collinsville, IL 62234
tel 618.345.2200

BELLEVILLE
20 E. Main Street
Belleville, IL 62220
tel 618.416.6500

ST. LOUIS
720 Olive, Suite 700
St. Louis, MO 63101
tel 314.584.9151

www.batesassociates.com

MISSOURI DESIGN FIRM LICENSE NO.: 001166
EXPIRES: 04/30/2017

GENERAL NOTES

UTILITIES

1. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS. THEIR LOCATIONS MUST BE CONSIDERED TO BE APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO. MISSOURI LAW REQUIRES A MINIMUM 48-HOUR NOTICE TO ALL UTILITY COMPANIES BEFORE DIGGING. FIELD LOCATIONS OF UNDERGROUND FACILITIES MAY BE OBTAINED BY CALLING THE ONE-CALL SYSTEM IN MISSOURI AT 1-800-344-7483 AND PROVIDING 48 HOURS ADVANCE NOTICE. NON-JULIE MEMBERS MUST BE NOTIFIED INDIVIDUALLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT LIMITS ARE LISTED BELOW.

2. ANY FACILITIES OR APPURTENANCES WHICH ARE THE PROPERTY OF ANY PUBLIC UTILITY LOCATED WITHIN THE LIMITS OF CONSTRUCTION SHALL BE RELOCATED OR ADJUSTED BY THEIR RESPECTIVE OWNERS. THE CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE OWNERS OF ANY SUCH FACILITY IN THEIR REMOVAL AND REARRANGEMENT OPERATIONS IN ORDER THAT THESE OPERATIONS AND THE CONSTRUCTION OF THIS PROJECT MAY PROGRESS IN A REASONABLE MANNER. ALL ROADSIDE OBJECTS (UTILITY POLES, FIRE HYDRANTS, SIGNS, ETC.) SHALL BE RELOCATED TO PROVIDE A MINIMUM OF 1.5 FEET CLEARANCE, MEASURED FROM THE FACE OF CURB TO THE NEAR EDGE OF THE OBJECT.

3. THE FOLLOWING UTILITY COMPANIES MAY HAVE FACILITIES LOCATED WITHIN THE LIMITS OF CONSTRUCTION WHICH MAY REQUIRE ADJUSTMENT, RELOCATION OR REMOVAL. ALL ARE MEMBERS OF MISSOURI ONE CALL, UNLESS NOTED OTHERWISE.

METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET STREET
ST. LOUIS, MO. 63103
314-768-6200

LACLEDE GAS COMPANY
6400 GRAVOIS ROAD
ST. LOUIS, MO. 63134
314-622-2297

AT&T
430 NORTH THIRD STREET
ST. CHARLES, MO. 63301
636-949-1313

MISSOURI-AMERICAN WATER COMPANY
727 CRAIG ROAD
ST. LOUIS, MO. 63141
314-996-2388

CHARTER COMMUNICATIONS
#815 CHARTER COMMONS
MANCHESTER, MO. 63017
636-220-2174

AMEREN UE
13131 DORSETT ROAD
MARYLAND HEIGHTS, MO. 63043
P.O. BOX 66149, MC 667
314-344-9604

THIS UTILITY INFORMATION REPRESENTS THE BEST INFORMATION AVAILABLE TO THE LOCAL AGENCY AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR HAS TAKEN THE FOREGOING INTO CONSIDERATION IN PREPARING HIS/HER BID, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ANY DELAYS OR INCONVENIENCE CAUSED BY SAME.

GENERAL CONSTRUCTION

4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO ORDERING MATERIALS AND COMMENCING CONSTRUCTION.

5. IN CASE OF CONFLICT BETWEEN THE CONSTRUCTION PLANS AND THE RIGHT OF WAY PLANS, THE RIGHT OF WAY PLANS SHALL TAKE PRECEDENCE IN MATTERS CONCERNING RIGHT OF WAY AND EASEMENTS. THE CONSTRUCTION PLANS SHALL TAKE PRECEDENCE IN MATTERS CONCERNING CONSTRUCTION ITEMS.

6. THE CONTRACTOR SHALL STAGE ALL WORK IN SUCH A WAY AS TO MAINTAIN INGRESS AND EGRESS TO ALL ABUTTING PROPERTIES AT ALL TIMES DURING CONSTRUCTION.

7. THE CONTRACTOR SHALL CONFINE ALL OPERATIONS TO THE CONSTRUCTION LIMITS LINE SHOWN ON THE PLANS. ANY AREA DISTURBED BEYOND THESE LIMITS SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

8. THE CONTRACTOR SHALL FERTILIZE, SEED AND MULCH OR SOD AS SHOWN ON PLANS ALL EARTH SURFACES DISTURBED BY CONSTRUCTION. FERTILIZER, SEEDING AND MULCH OR SOD WITHIN THE CONSTRUCTION LIMITS WILL BE PAID FOR AS PROVIDED IN THE CONTRACT. FERTILIZER, SEEDING AND MULCH OUTSIDE THESE LIMITS WILL NOT BE MEASURED FOR PAYMENT.

9. WHERE TREE REMOVAL CONFLICTS WITH EXISTING UNDERGROUND UTILITIES, THE CONTRACTOR SHALL CUT THE TREE OFF AT THE GROUND LINE AND GRIND THE STUMP AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT LUMP SUM PRICE.

10. ALL EXISTING ROADWAY FEATURES INCLUDING, BUT NOT LIMITED TO, PAVEMENT, CURB, SIDEWALK, DRIVEWAY PAVEMENT, CULVERTS, HEADWALLS, RIPRAP, FENCING, RETAINING WALLS, WHICH INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR UNLESS NOTED OTHERWISE ON THE PLANS. ALL FEATURES WHICH ARE TO BE REMOVED AND FOR WHICH THERE IS NO SPECIFIC CALLOUT, WILL NOT BE MEASURED SEPARATELY FOR PAYMENT AND THE COST OF THIS REMOVAL WORK SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR THE VARIOUS REMOVAL ITEMS INCLUDED IN THE CONTRACT.

11. ALL TRAFFIC SIGNS WHICH INTERFERE WITH CONSTRUCTION OPERATIONS SHALL BE REMOVED AND ERECTED AT TEMPORARY LOCATIONS AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. AS SOON AS CONSTRUCTION OPERATIONS WILL ALLOW, ALL SIGNS SHALL BE PERMANENTLY RELOCATED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.

12. ANY UNSUITABLE MATERIAL ENCOUNTERED DURING CONSTRUCTION SHALL BE REMOVED BY THE GENERAL CONTRACTOR AND REPLACED WITH SUITABLE MATERIAL AS APPROVED BY THE ENGINEER. THE COST TO REMOVE AND REPLACE UNSUITABLE MATERIAL WILL BE CONSIDERED AN UNFORSEEN CONDITION AND WILL BE PAID FOR AS AN AGREED PRICE OR ON A TIME AND MATERIAL BASIS.

13. FULL DEPTH SAW CUTTING ON ALL EDGES FOR REMOVAL ITEMS SHALL BE INCLUDED IN THE COST FOR REMOVAL OF IMPROVEMENTS.

14. PROVIDE THE NECESSARY SIGNS AND BARRICADES WHILE WORKING THROUGHOUT THE CONSTRUCTION PERIOD INCLUDING PLACING BARRICADES AT THE PROJECT ENTRANCE TO PREVENT PUBLIC ENTRY. ALL MATERIAL PILES, EQUIPMENT, OPEN EXCAVATIONS OR THEIR OBSTRUCTIONS OR HAZARDS TO MOTORISTS OR PEDESTRIANS SHALL BE ENCLOSED BY FENCES OR PROTECTED BY BARRICADES.

PAVING

15. THE CONTRACTOR SHALL NOTE THE LOCATION OF ALL MANHOLE AND VALVE COVER FRAMES AND LIDS LOCATED WITHIN RESURFACING LIMITS. APPROPRIATE CARE SHALL BE TAKEN TO PROTECT THESE ITEMS DURING MILLING OPERATIONS.

DRAINAGE

16. CULVERT INVERTS SHOWN ON THE PLANS HAVE BEEN CALCULATED TO THE END OF THE FLARED END. THE STORM SEWER SLOPES SHOWN ON THE PLANS ARE THE PERCENT GRADE FROM CENTER TO CENTER OF STRUCTURE. THE LENGTH OF STORM SEWERS SHOWN ON THE PLANS IS THE DISTANCE FROM CENTER TO CENTER OF STRUCTURE.

17. ALL DRAINAGE STRUCTURES CONSTRUCTED, ADJUSTED OR RECONSTRUCTED UNDER THE CONTRACT, SHALL BE CLEANED OF ANY ACCUMULATION OF SILT, DEBRIS OR FOREIGN MATTER AT THE END OF EACH WORKING DAY AND AT THE TIME OF FINAL INSPECTION. THE COST OF THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT FOR THE VARIOUS DRAINAGE STRUCTURE ITEMS INCLUDED.

PAVEMENT MARKING

18. THE PAVEMENT MARKING LOCATIONS SHOWN IN THE PLANS ARE APPROXIMATE. PROPOSED CHEVRONS AND SOLID CENTERLINE STRIPING SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER, IF NECESSARY, TO MATCH FIELD CONDITIONS.

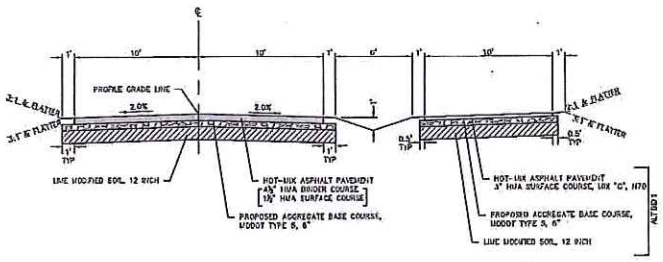
APPROXIMATE SYMBOLS & ABBREVIATIONS

19. THE FOLLOWING SYMBOLS AND ABBREVIATIONS ARE USED THROUGHOUT THE PLANS:

AD	ALGEBRAIC DIFFERENCE IN GRADE
BVCE	BEGINNING OF VERTICAL CURVE ELEVATION
BVCS	BEGINNING OF VERTICAL CURVE STATION
BY	BY OTHERS (USED IN CONJUNCTION WITH TBA & TBR)
CONSTR	CONSTRUCTION
CP	CONTROL POINT
ESMT	EASEMENT
ELEV	ELEVATION
EVCE	END OF VERTICAL CURVE ELEVATION
EVCS	END OF VERTICAL CURVE STATION
FES	FLARED END SECTION
K	LENGTH OF VERTICAL CURVE PER PERCENT GRADE DIFFERENCE
ME	MATCH EXISTING
N/F	NOW OR FORMERLY
PVI	POINT OF VERTICAL INTERSECTION
PVC	POLYVINYL CHLORIDE PIPE
TCE	TEMPORARY CONSTRUCTION EASEMENT
TUP	TEMPORARY USE PERMIT
TBA	TO BE ADJUSTED
TBRL	TO BE RELOCATED
TYP	TYPICAL
W	WIDTH

COMMITMENTS

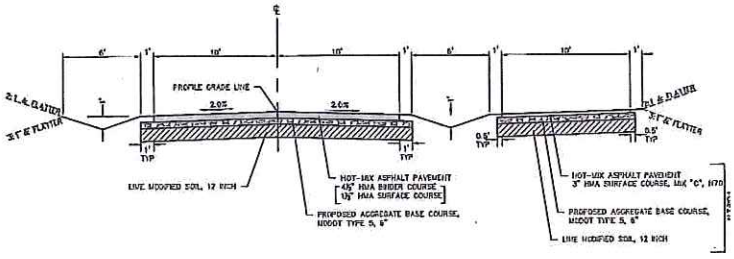
NONE AT THIS TIME



PROPOSED POND GROVER LOOP ROAD

STA. 28+50 TO STA. 30+50

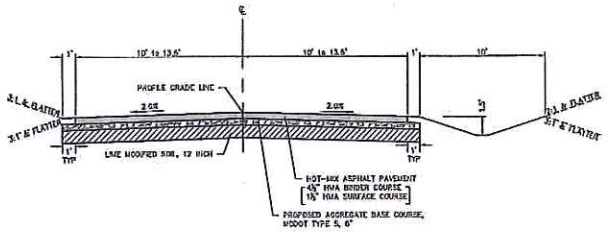
NO SCALE



PROPOSED POND GROVER LOOP ROAD

STA. 30+50 TO STA. 32+55

NO SCALE



PROPOSED POND GROVER LOOP ROAD

STA. 14+77 TO STA. 26+50

NO SCALE

CURVE TABLE

POND GROVER LOOP ROAD							
CURVE #	P.I. STA.	Δ	T	R	L	P.C. STA.	P.T. STA.
POLA 1	15+09.61	111°47.03"	145.68'	95'	185.39'	13+77.93	15+63.31
POLA 2	21+36.44	15°37.12"	261.93'	955'	518.31'	18+77.35	23+25.53
POLA 3	27+98.93	83°41.13"	228.83'	339'	493.68'	27+13.39	29+56.24
POLA 4	31+15.21	111°47.03"	141.09'	92'	179.53'	29+73.53	31+53.21

PROPOSED POND GROVER LOOP ROAD

STA. 14+77 TO STA. 26+50

NO SCALE

FILE NAME: TYPICALS.DWG

DATES ASSOCIATES Engineering + Architecture www.datesassociates.com MISSOURI DESIGN FIRM LICENSE NO: 001139	USER NAME = TYLER HOFFMAN	DESIGNED = ---	REVISED =	The City of WILDWOOD MISSOURI PLANNING TOMORROW TODAY
		DRAWN = ---	REVISED =	
	PLOT SCALE = 1" = 1'	CHECKED = ---	REVISED =	
	PLOT DATE = 2015-09-18	DATE = ---	REVISED =	

WILDWOOD COMMUNITY PARK - PHASE 2

TYPICAL SECTIONS

SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS
---	---	ST. LOUIS	19

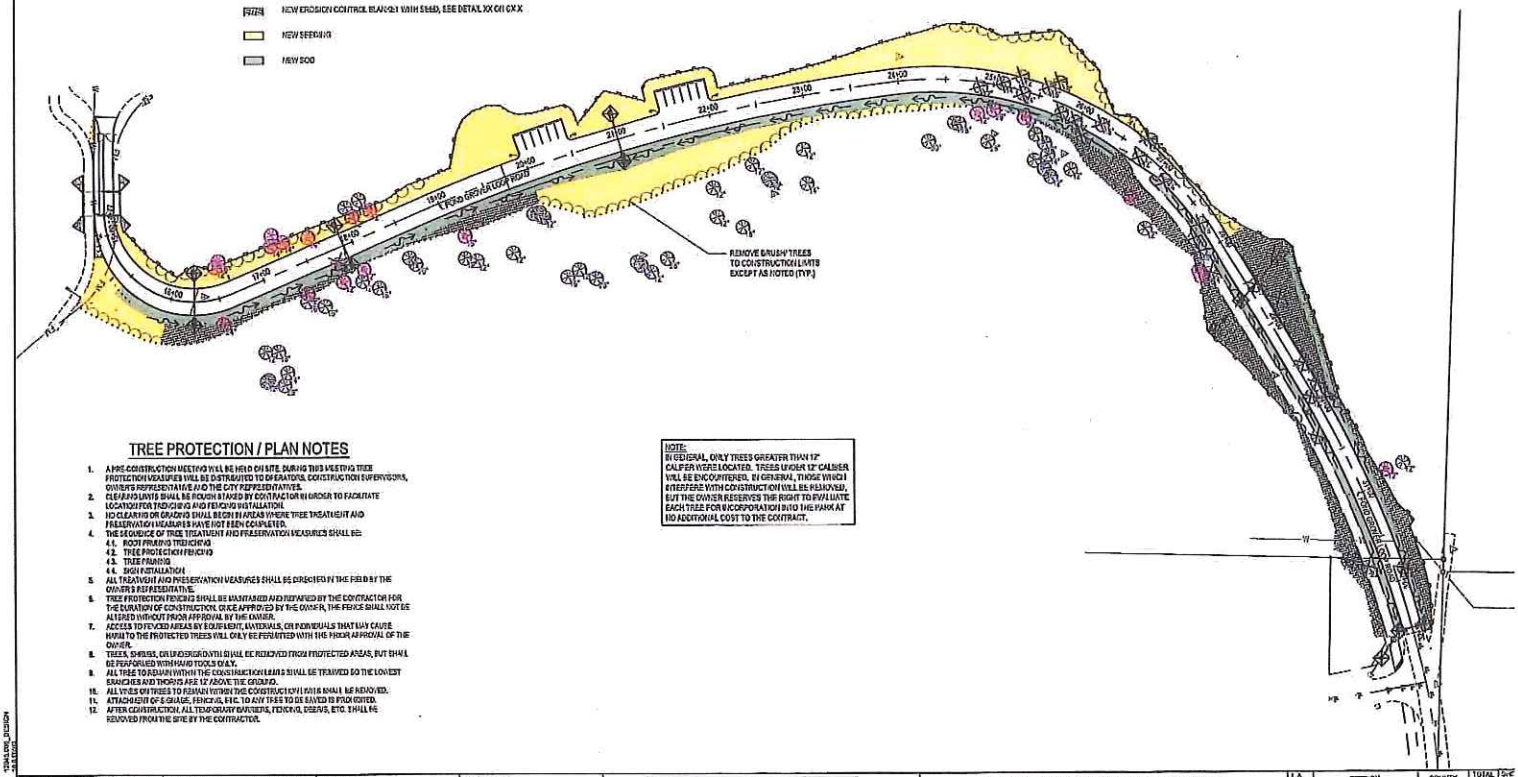
DISTRICT

REMOVAL AND EROSION CONTROL LEGEND

- EXISTING TREE, TO BE PROTECTED
- EXISTING TREE, TO BE REMOVED
- PROPOSED TREE / BRUSH LINE
- NEW PERIMETER EROSION BARRIER, SEE DETAIL XX ON CX.X
- NEW PIPE PROTECTION, SEE DETAIL XX ON CX.X
- NEW EROSION CONTROL BLANKET WITH SEED, SEE DETAIL XX ON CX.X
- NEW SEEDING
- NEW SOD

N

SCALE: 1" = 50'



TREE PROTECTION / PLAN NOTES

1. A PRE-CONSTRUCTION MEETING WILL BE HELD ON SITE. DURING THIS MEETING TREE PROTECTION MEASURES WILL BE DISTRIBUTED TO OPERATORS, CONSTRUCTION SUPERVISORS, OWNER'S REPRESENTATIVE AND THE CITY REPRESENTATIVES.
2. CLEARING LIMITS SHALL BE FLAGGED & STAKED BY CONTRACTOR IN ORDER TO FACILITATE LOCATION FOR TRENCHING AND FENCING INSTALLATION.
3. NO CLEARING OR GRADING SHALL BEGIN IN AREAS WHERE TREE TREATMENT AND PRESERVATION MEASURES HAVE NOT BEEN COMPLETED.
4. THE SEQUENCE OF TREE TREATMENT AND PRESERVATION MEASURES SHALL BE:
   - 4.1. ROOT PRUNING TRENCHING
   - 4.2. TREE PROTECTION FENCING
   - 4.3. TREE PRUNING
   - 4.4. SIGN INSTALLATION
5. ALL TREATMENT AND PRESERVATION MEASURES SHALL BE DIRECTED IN THE FIELD BY THE OWNER'S REPRESENTATIVE.
6. TREE PROTECTION FENCING SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION. OR AS APPROVED BY THE OWNER, THE FENCE SHALL NOT BE ALTERED WITHOUT PRIOR APPROVAL BY THE OWNER.
7. ACCESS TO FENCED AREAS BY EQUIPMENT, MATERIALS, OR INDIVIDUALS THAT MAY CAUSE HARM TO THE PROTECTED TREES WILL ONLY BE PERMITTED WITH THE PRIOR APPROVAL OF THE OWNER.
8. TREES, SHRUBS, OR UNDERGROWTH SHALL BE REMOVED FROM PROTECTED AREAS, BUT SHALL BE PERFORMED WITH HAND TOOLS ONLY.
9. ALL TREE TO REMAIN WITHIN THE CONSTRUCTION LIMITS SHALL BE TRIMMED SO THE LOWEST BRANCHES AND THORNS ARE 12' ABOVE THE GROUND.
10. ALL VINES ON TREES TO REMAIN WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED.
11. ATTACHMENT OF E-GRADE, FENCING, ETC. TO ANY TREE TO BE SAVED IS PROHIBITED.
12. AFTER CONSTRUCTION, ALL TEMPORARY BARRIERS, FENCING, DEBRIS, ETC. SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.

NOTE:
IN GENERAL, ONLY TREES GREATER THAN 12" CALIPER WERE LOCATED. TREES UNDER 12" CALIBER WILL BE ENCOUNTERED. IN GENERAL, THOSE WHICH INTERFERE WITH CONSTRUCTION WILL BE REMOVED, BUT THE OWNER RESERVES THE RIGHT TO EVALUATE EACH TREE FOR INCORPORATION INTO THE PARK AT NO ADDITIONAL COST TO THE CONTRACT.

FILE NAME = 150410_DESIGN_SHEETS

DATES ASSOCIATES Engineering + Architecture
www.datesassociates.com
MISSOURI DESIGN PROFESSIONAL LICENSE NO: 001163

USER NAME = TYLER HUFFMAN	DESIGNED = ---	REVISED =	
	DRAWN = ---	REVISED =	
PLOT SCALE = 1" = 1'	CHECKED = ---	REVISED =	
PLOT DATE = ---	DATE = 2015 03 31	REVISED =	

The Great WILDWOOD MISSOURI PLANNING TOMORROW TODAY

WILDWOOD COMMUNITY PARK - PHASE 2
REMOVAL AND EROSION CONTROL SHEET

SCALE: | SHEET NO. 1 OF 1 SHEETS | STA _____ TO STA _____

LOC	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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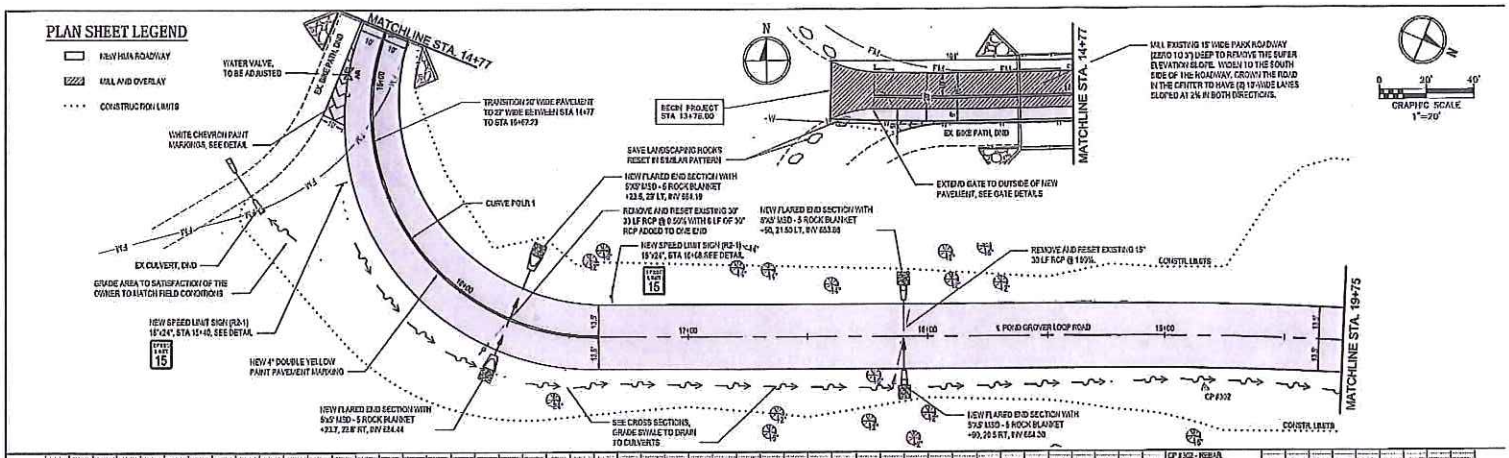
ATTEST:



DATES ASSOCIATES Engineering + Architecture www.datesassociates.com MISSOURI DESIGN FIRM LICENSE NO: 001118	USER NAME = TYLER HUFFMAN	DESIGNED = —	REVISED =	The City of WILDWOOD MISSOURI PLANNING TODAY TOMORROW
	PLOT SCALE = 1" = 1'	DRAWN = —	REVISED =	
	PLOT DATE = 2021-09-10	CHECKED = —	REVISED =	
		DATE = 2020-02-25	REVISED =	

WILDWOOD COMMUNITY PARK - PHASE 2
PLAN & PROFILE SHEETS

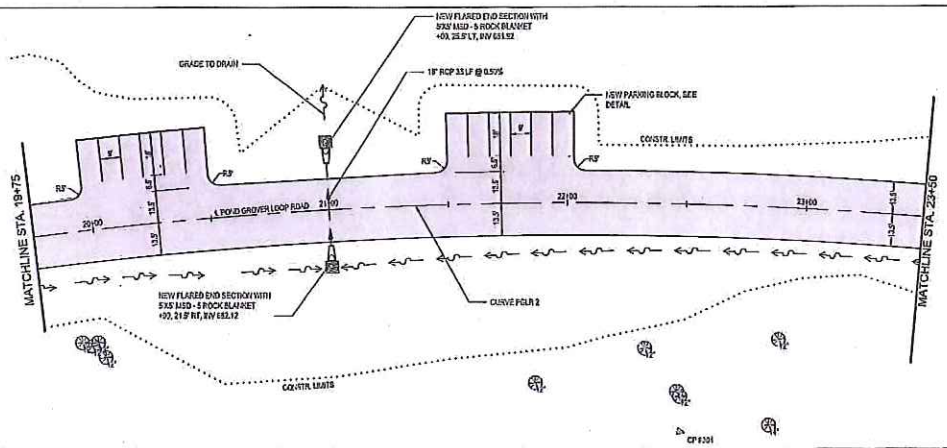
SCALE:	SHEET NO. 1 OF 4 SHEETS	STA 14+77 TO STA 19+75

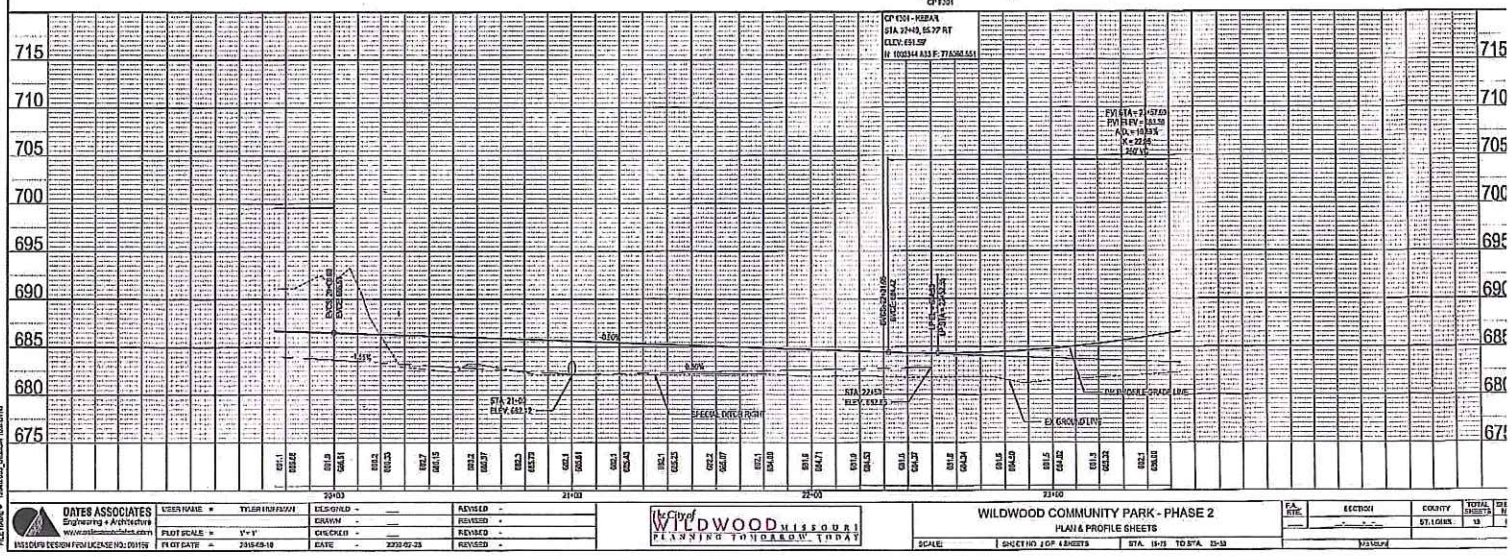
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS
—	—,—,—	ST. LOUIS	19

FILE NAME = 1243 ESS_DESIGN 18 B.DWG

PLAN SHEET LEGEND

- NEW IMA ROADWAY
- CONSTRUCTION LIMITS





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USER NAME = TYLER HUFFMAN	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 1" = 1'	CHECKED -	REVISED -	
PLOT DATE = 2018-03-16	DATE - 2018-02-28	REVISED -	

The Great WILDWOOD MISSOURI PLANNING TOMORROW TODAY

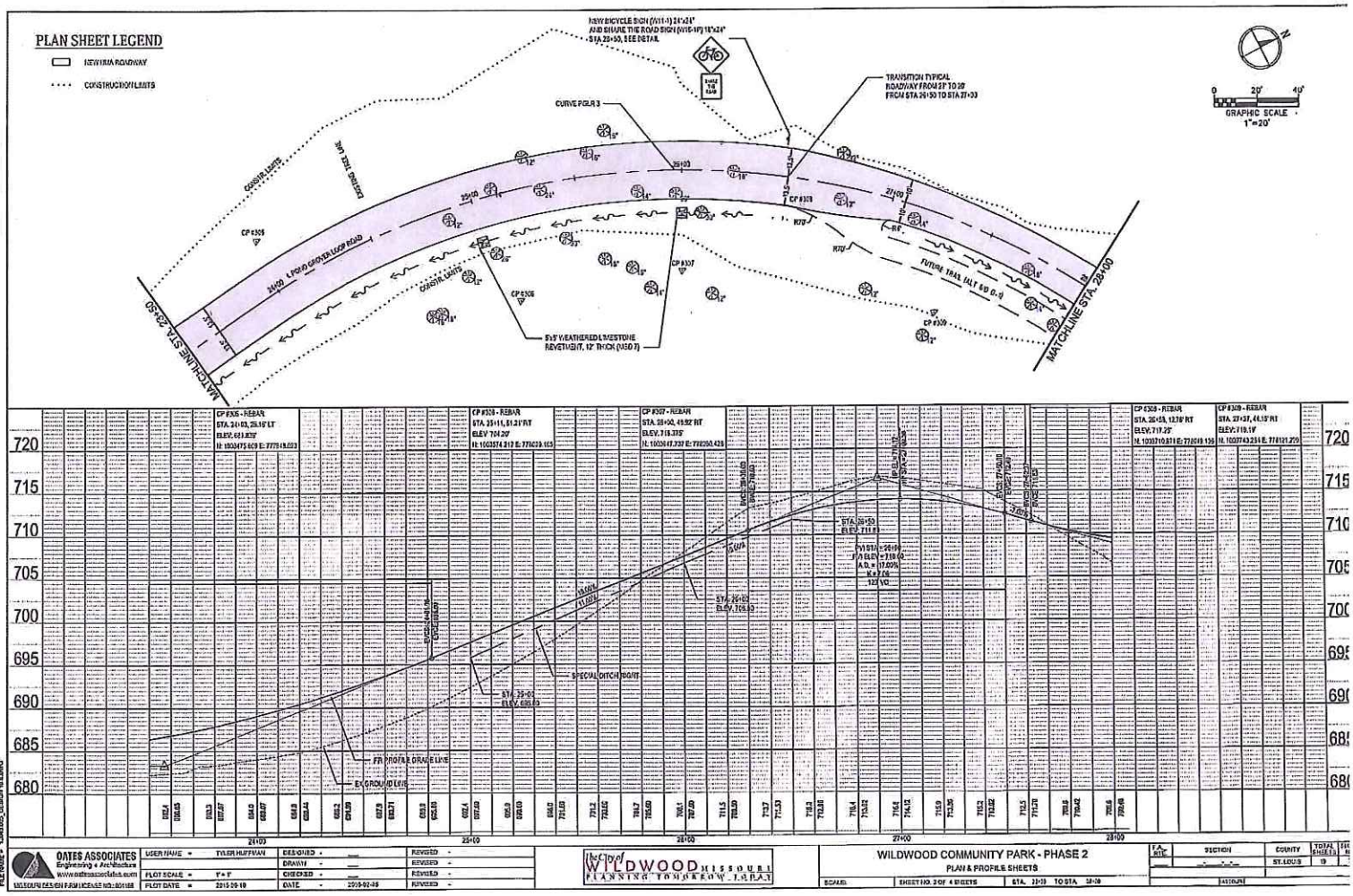
WILDWOOD COMMUNITY PARK - PHASE 2
PLAN & PROFILE SHEETS

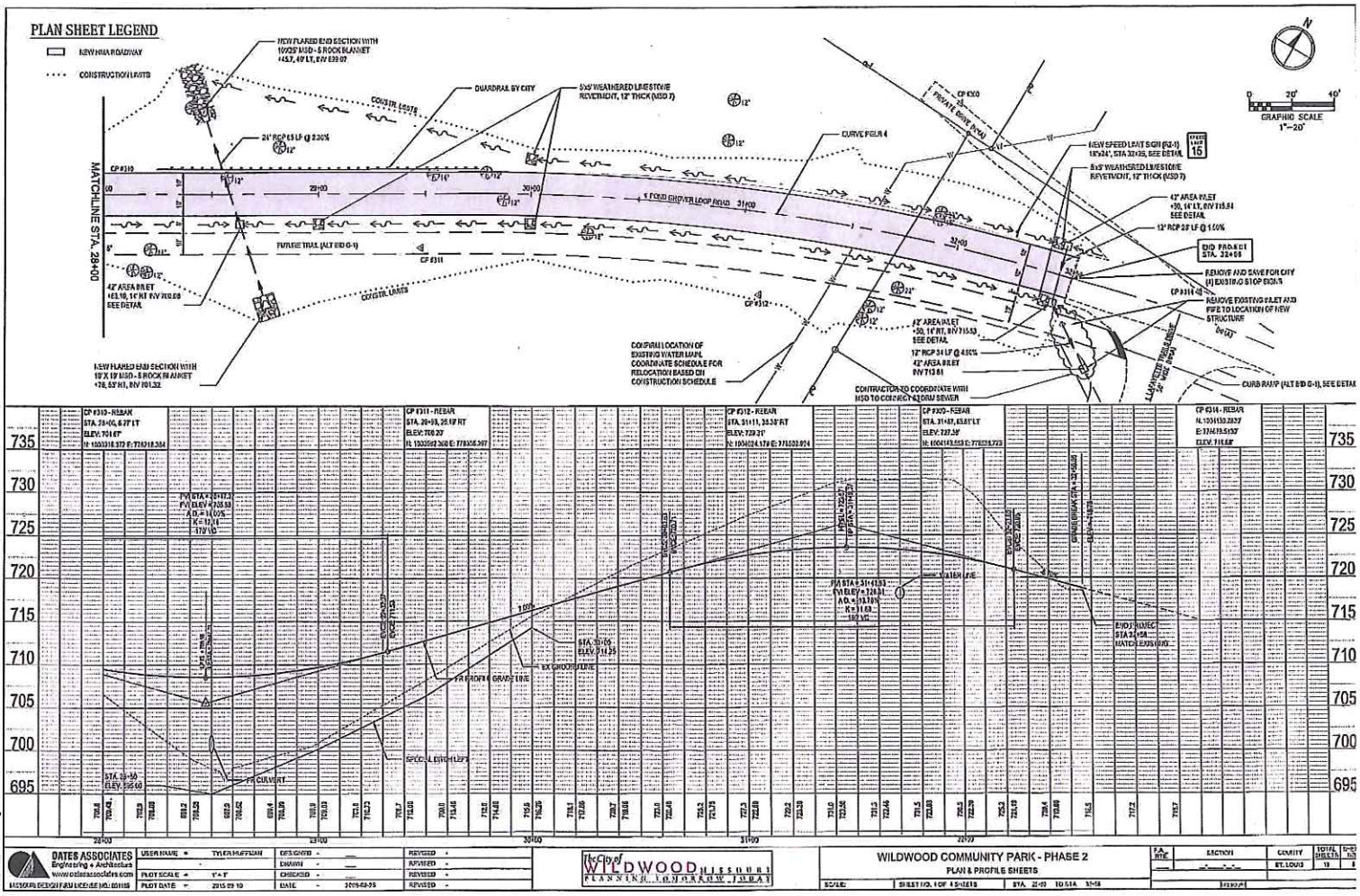
SCALE:	SHEET NO. 2 OF 4 SHEETS	STA. 19+75 TO STA. 23+50

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
-	- - -	ST. LOUIS	13	

DESIGN

FILE NAME = 1704.000_DESIGN 18.DWG


PLAN SHEET LEGEND
NEW HMA ROADWAY
CONSTRUCTION LIMITS
NEW BICYCLE SIGN (W11-1) 24"x24" AND SHARE THE ROAD SIGN (M16-1P) 18"x24" - STA 25+50, SEE DETAIL
TRANSITION TYPICAL ROADWAY FROM 21' TO 28' FROM STA 26+50 TO STA 27+00
CURVE PI&R 3
GRAPHIC SCALE 1"=20'
CONSTR. LIMITS
EXIST. TREE LINE
CP #305
24+00
LEAVE GREEN LOOP ROAD
CP #306
CP #307
CP #308
CP #309
CP #310
CP #311
CP #312
CP #313
CP #314
CP #315
CP #316
CP #317
CP #318
CP #319
CP #320
CP #321
CP #322
CP #323
CP #324
CP #325
CP


PLAN SHEET LEGEND
NEW/MAJ ROADWAY
CONSTRUCTION LIMITS
NEW FLARED END SECTION WITH 10'X3' MSD - S ROCK BLANKET +457, 49' LT, INV 699.07
24" RCP 45 LF @ 2.00%
MATCHLINE STA. 28+00
CP #310
COASTAL LIMITS
GUARDRAIL BY CITY
5'x3' WEATHERED LIMESTONE REVERMENT, 12" THICK (MSD 7)
CP #311
FUTURE TRAIL (ALT BID G-1)
42" AREA INLET +63.10, 14' RT, INV 703.09 SEE DETAIL
5.5:1 FLARED END SECTION WITH 10' X 19' MSD - S ROCK BLANKET +78, 53' RT, INV 701.32
CURVE FIGURE 4
5 FOOT CHEVRON LOOP ROAD
CP #312
CP #313
CP #314
CP #315
CP #316
CP #317
CP #318
CP #319
CP #320
CP #321
CP #322
CP #323
CP #324
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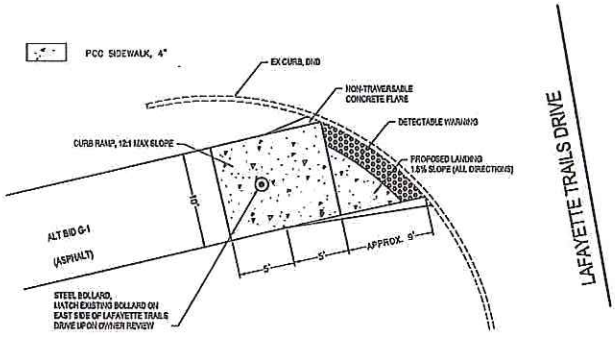
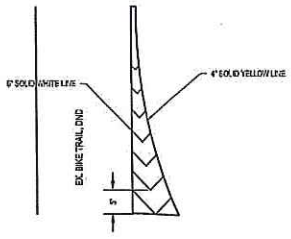
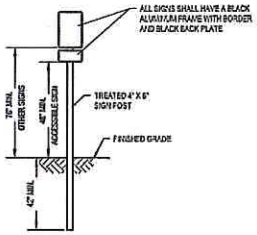
CP #331
CP



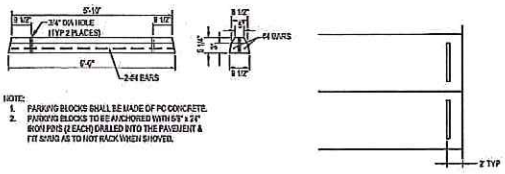
CURB RAMP DETAIL (ALT BID G-1)
(NOT TO SCALE)



WHITE CHEVRON MARKINGS DETAIL
(NOT TO SCALE)

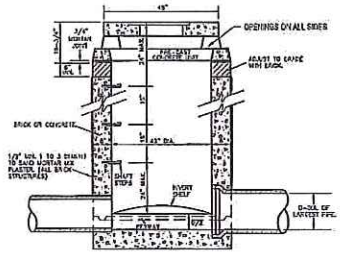


SIGN DETAIL
(NOT TO SCALE)



NOTE:
1. PARKING BLOCKS SHALL BE MADE OF PC CONCRETE.
2. PARKING BLOCKS TO BE ANCHORED WITH 5/8" x 24" IRON PINS (2 EACH) DRILLED INTO THE PAVEMENT & FIT SNUG AS TO NOT RACK WHEN SHOVED.

PARKING BLOCK DETAIL
(NOT TO SCALE)

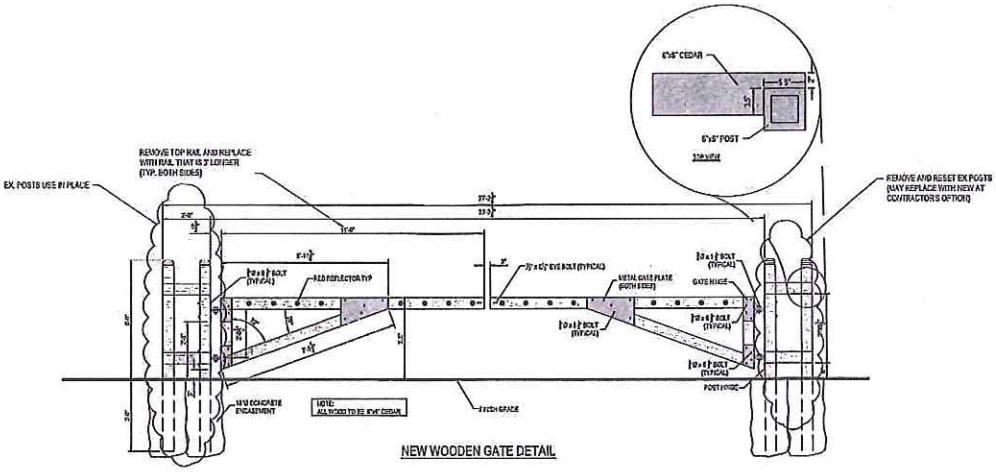


AREA INLET DETAIL
(NOT TO SCALE)

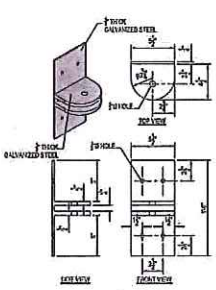
FILE NAME = 1304E05_DETAILS.DWG

OATES ASSOCIATES Engineering + Architecture www.oatesassociates.com	USER NAME = TYLER HUFFMAN	DESIGNED -	REVISED -	The City of Wildwood, Missouri Planning Tomorrow Today	WILDWOOD COMMUNITY PARK - PHASE 2 CONSTRUCTION DETAILS
		DRAWN -	REVISED -		
	PLOT SCALE = 1' = 1'	CHECKED -	REVISED -		
MISSOURI DESIGN FIRM LICENSE NO.: E2116B	PLOT DATE = 2015-05-18	DATE - 2015-05-05	REVISED -		SCALE: SHEET NO. 1 OF 4 SHEETS STA. _____ TO STA. _____

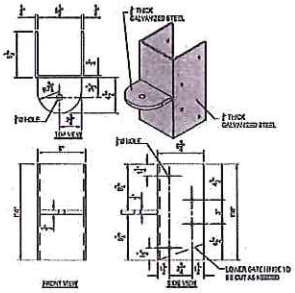
F.A. RTE	SECTION	COUNTY	TOTAL SHEETS	SHT NO
		ST. LOUIS	19	9
		[BLOCK]		



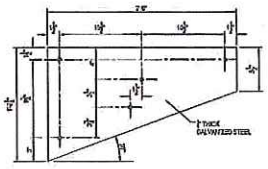
NEW WOODEN GATE DETAIL



POST HINGE DETAIL



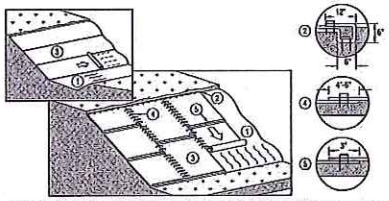
GATE HINGE DETAIL



METAL GATE PLATE DETAIL

OATES ASSOCIATES Engineering + Architecture www.oatesassociates.com MISSOURI DESIGN FIRM LC2012CE1C2:001158	USER NAME = TYLER HUFFMAN	DESIGNED -	REVISED -	The City of ... MISSOURI PLANNING TOMORROW TODAY	WILDWOOD COMMUNITY PARK - PHASE 2 CONSTRUCTION DETAILS	F.A. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 1" = 1'	DRAWN -	REVISED -					ST. LOUIS	19	
	PLOT DATE = 2015-09-10	CHECKED -	REVISED -		SCALE: SHEET NO. 2 OF 4 SHEETS STA. _____ TO STA. _____			PREFIX		
		DATE - 2015-09-03	REVISED -							

F:\E PHASE = 1396.005_DETAILS.DWG

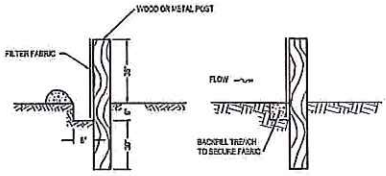


1. PREPARE FINISHED GRADE BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED ACCORDING TO THE SPECIFICATIONS.
2. ANCHOR THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH AT THE TOP OF THE SLOPE WITH A ROW OF LANDSCAPE STAPLES AT 12" SPACING IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. SEED THE SOIL AND FOLD THE REMAINING 12" LONG BLANKET REMNANT BACK OVER SEED AND TOP SOIL. ANCHOR THE BLANKET OVER COMPACTED TOP SOIL WITH A ROW OF LANDSCAPE STAPLES SPACED AT 12" SPACING ACROSS THE BLANKET AT THE TOP OF THE SLOPE.
3. ROLL THE BLANKETS DOWN (OPTION A) OR HORIZONTALLY (OPTION B) ACROSS THE SLOPE. UNROLL BLANKETS WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. SECURELY FASTEN BLANKETS TO SOIL BY PLACING LANDSCAPE STAPLES PER MANUFACTURER'S RECOMMENDATION.
4. STAPLE THE EDGES OF PARALLEL BLANKETS WITH A MINIMUM 6" OVERLAP OR PER MANUFACTURER'S RECOMMENDATIONS.
5. SPLICE BLANKETS END OVER END WITH A 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA AT 12" SPACING THE ACROSS ENTIRE BLANKET WIDTH OR PER MANUFACTURER'S SPECIFICATIONS.
6. TERMINAL ENDS SHALL BE ANCHORED WITH A ROW OF LANDSCAPE STAPLES SPACED 12" APART IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL, COMPACT, AND SEED THE TRENCH WITH TOPSOIL AFTER STAPLING.

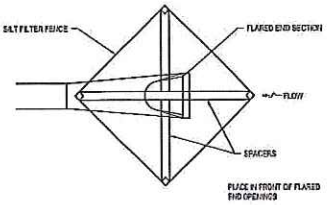
NOTES:

1. PLACE STAPLES/STAKES PER MANUFACTURER'S RECOMMENDATION FOR THE APPROPRIATE SLOPE BEING APPLIED.
2. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.
3. FOLLOW SPECIFICATIONS FOR PRODUCT SELECTION.

EROSION CONTROL BLANKETS FOR SLOPES
(NOT TO SCALE)



SILT FILTER FENCE AS A PERIMETER EROSION BARRIER
(NOT TO SCALE)



PIPE PROTECTION
(NOT TO SCALE)

FILENAME = STDDTLS_DETAILS2WG

DATES ASSOCIATES Engineering + Architecture www.datesassociates.com MISSOURI DESIGN FIRM LICENSE NO: 001105	USER NAME = TYLER HUFFMAN	DESIGNED -		REVISED -	The City of FENTON MISSOURI PLANNING TOMORROW TODAY	WILDWOOD COMMUNITY PARK - PHASE 2 CONSTRUCTION DETAILS		P.A. NO.	SECTION	COUNTY	TOTAL SHEETS	SHT NO.
		DRAWN -		REVISED -						ST. LOUIS	19	1
	PLOT SCALE = 1" = 1"	CHECKED -		REVISED -								
	PLOT DATE = 2015-05-18	DATE -	2015-05-13	REVISED -		SCALE:	SHEET NO. 3 OF 4 SHEETS STA _____ TO STA _____					

PROJECT NAME:

WILDWOOD COMMUNITY PARK - PHASE 2
SECTION 2, TOWNSHIP 44 NORTH, RANGE 3 EAST OF THE 5TH PRINCIPAL MERIDIAN
3183 HIGHWAY 109
WILDWOOD, MISSOURI, 63040

OWNER NAME & ADDRESS:

CITY OF WILDWOOD
150 PLAZA DRIVE
WILDWOOD, MISSOURI 63040

DESCRIPTION:

SOIL DISTURBING ACTIVITIES WILL INCLUDE: DEMOLITION, CLEARING AND GRUBBING, TREE REMOVAL, MASS GRADING, FINE GRADING.

WATERSHED SOIL CLASSIFICATION: HYDROLOGIC SOIL GROUP "C", "D" AND "CD".

EROSION CONTROL MEASURES SHALL INCLUDE: INSTALLING PERIMETER SILT FENCE, SODDING, EROSION CONTROL BLANKET, PIPE PROTECTION, TEMPORARY AND PERMANENT VEGETATION.

SITE AREA:

THE SITE IS APPROXIMATELY 3 ACRES.

THE SEQUENCE OF MAJOR ACTIVITIES SHALL BE AS FOLLOWS:

1. PERFORM REMOVALS
2. INSTALL PERIMETER SILT FENCE
3. CLEAR AND GRUB.
4. MASS GRADE.
5. STABILIZE DISTURBED AREA AND STOCKPILES WITH TEMPORARY SEEDING WITHIN 14 DAYS OF THE LAST GRADING ACTIVITY IN THAT AREA.
6. INSTALL PIPE CULVERTS.
7. INSTALL PIPE PROTECTION ON NEW OUTLETS.
8. COMPLETE FINE GRADING AND INSTALL PERMANENT SODDING AND SEEDING.
9. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND ALL VEGETATION IS ESTABLISHED, REMOVE ALL EROSION CONTROL MEASURES, AND RE-SOD/RE-SEED ANY AREAS DISTURBED BY THEIR REMOVAL.

NAME OF RECEIVING WATERS:

NO STORM WATER IS BEING REDIRECTED FROM ITS PREVIOUS RECEIVING WATER.

OFF SITE VEHICLE TRACKING:

PAVED STREETS ADJACENT TO THE SITE SHALL BE CLEANED DAILY OR MORE FREQUENTLY AS NECESSARY. CLEANING SHALL INCLUDE SCRAPING SIGNIFICANT AMOUNTS OF SOIL AND POWER SWEEPING AS NEEDED TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE.

TIMING OF CONTROL MEASURES:

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES PERIMETER SILT FENCE SHALL BE CONSTRUCTED AT THE COMMENCEMENT OF THE SEQUENCE OF GRADING OPERATIONS AS PRACTICAL. AREAS WHERE CONSTRUCTION ACTIVITY WILL TEMPORARILY CEASE FOR MORE THAN 21 DAYS SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCH WITHIN 14 DAYS OF THE LAST DISTURBANCE.

TEMPORARY SEEDING SHALL CONSIST OF RYE OR WHEAT APPLIED AT A RATE OF 120 POUNDS PER ACRE. 270 POUNDS OF NUTRIENTS OF 15-15-15 FERTILIZER SHALL BE APPLIED TO EACH ACRE. AFTER SEEDING, STRAW MULCH SHALL BE APPLIED AT A RATE OF 4000 POUNDS PER ACRE AND ANCHORED BY CRIMPING.

ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA SHALL BE STABILIZED WITH PERMANENT SODDING. PERMANENT SODDING SHALL BE IN ACCORDANCE WITH PART II, SECTION F OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR SHALL INSPECT AND REMOVE ANY LOOSE MATERIAL THAT IS DEPOSITED IN THE FLOW LINES OF GUTTERS, DRAINAGE STRUCTURES, DITCHES, ETC. TO ENSURE THAT THE NATURAL FLOW LINE OF WATER IS NOT OBSTRUCTED. AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FROM DIRT AND DEBRIS.

AT THE CONCLUSION OF EACH DAY, THE CONTRACTOR SHALL INSURE POSITIVE SITE DRAINAGE TO AN AREA PROTECTED BY EROSION CONTROLS. SITE DRAINAGE MAY BE ACHIEVED BY SHEET FLOW, STORM SEWERS, DITCHES OR PUMPING.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS:

THE STORM WATER POLLUTION PREVENTION PLAN REFLECTS THE METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD) AND TOWN AND COUNTRY MUNICIPAL CODE REQUIREMENTS FOR STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL. TO ENSURE COMPLIANCE, THIS PLAN WAS PREPARED IN ACCORDANCE WITH MSD AND THE REGULATIONS OF THE NPDES PERMIT PROGRAM.

MAINTENANCE/INSPECTION PROCEDURES:

THE GENERAL CONTRACTOR SHALL SELECT UP TO THREE INDIVIDUALS WHO SHALL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.

PERSONNEL SELECTED FOR INSPECTION RESPONSIBILITIES SHALL RECEIVE TRAINING FROM THE SITE SUPERINTENDENT. THEY SHALL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ON SITE IN GOOD WORKING ORDER.

THE FOLLOWING INSPECTION AND MAINTENANCE PRACTICES SHALL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS:

ALL CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EACH WEEK AND FOLLOWING ANY RAINFALL EVENT OF 0.5 INCHES OR GREATER. DURING PERIODS OF EXTENDED RAINFALL, ALL MEASURES SHALL BE INSPECTED DAILY.

ALL MEASURES SHALL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.

BUILT UP SEDIMENT SHALL BE REMOVED FROM SILT FENCES AND STRAW BALE DIKES WHEN IT HAS REACHED ONE-THIRD THE DESIGN HEIGHT OF THE FENCE OR BALE.

TEMPORARY AND PERMANENT SEEDING SHALL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND UNHEALTHY GROWTH.

A MAINTENANCE INSPECTION REPORT SHALL BE MADE AFTER EACH INSPECTION. ALL INSPECTION REPORTS SHALL BE KEPT IN THE CONSTRUCTION OFFICE ON-SITE. IF THE PROVIDED FORM IS INSUFFICIENT, ADDITIONAL FORMS SHALL BE USED AS NECESSARY UNTIL THE PROJECT IS COMPLETED. A REPORT SHALL BE COMPLETED FOR EACH OF THE REQUIRED INSPECTION INTERVALS.

NON-STORM WATER DISCHARGES

IT IS ANTICIPATED THAT SOME NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD.

ANTICIPATED NON-STORM DISCHARGES EXPECTED INCLUDE: PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED), AND UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON-SITE:

PETROLEUM PRODUCTS:

ALL ON-SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS, WHICH ARE CLEARLY LABELED. ANY HAZARDOUS SUBSTANCES USED ON-SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS:

FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE SHALL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

INSPECTION AND MAINTENANCE REPORT FORM

DATE / TIME	INSPECTORS NAME	WEATHER CONDITIONS	RAINFALL LAST 24 HRS.	IS SEDIMENT TRACKED ON TO ROAD	DEPTH OF SILT ON SILT FENCES	DEPTH OF SILT AGAINST DITCH CHECKS	CONDITION OF BASIN SIDE SLOPES	DEPTH OF SILT AGAINST ROCK DAM	ACTION REQUIRED	CONTRACTOR		
										CONTRACTOR'S NAME	CONTRACTOR'S SIGNATURE	DATE OF ACTION

CONTRACTOR CERTIFICATION STATEMENT

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION. I HAVE READ AND UNDERSTAND ALL OF THE INFORMATION AND REQUIREMENTS STATED IN THE STORM WATER POLLUTION PREVENTION PLAN FOR THE ABOVE MENTIONED PROJECT. I HAVE PROVIDED ALL DOCUMENTATION REQUIRED TO BE IN COMPLIANCE WITH THE ERO AND STORM WATER POLLUTION PREVENTION PLAN AND WILL PROVIDE TIMELY UPDATES TO THESE DOCUMENTS AS NECESSARY.

PRINT NAME _____ SIGNATURE _____ STREET ADDRESS _____

TITLE _____ DATE _____ CITY/STATE/ZIP _____

NAME OF FIRM _____ TELEPHONE _____

FILE NAME = 12345_SHEET_NAME.DWG

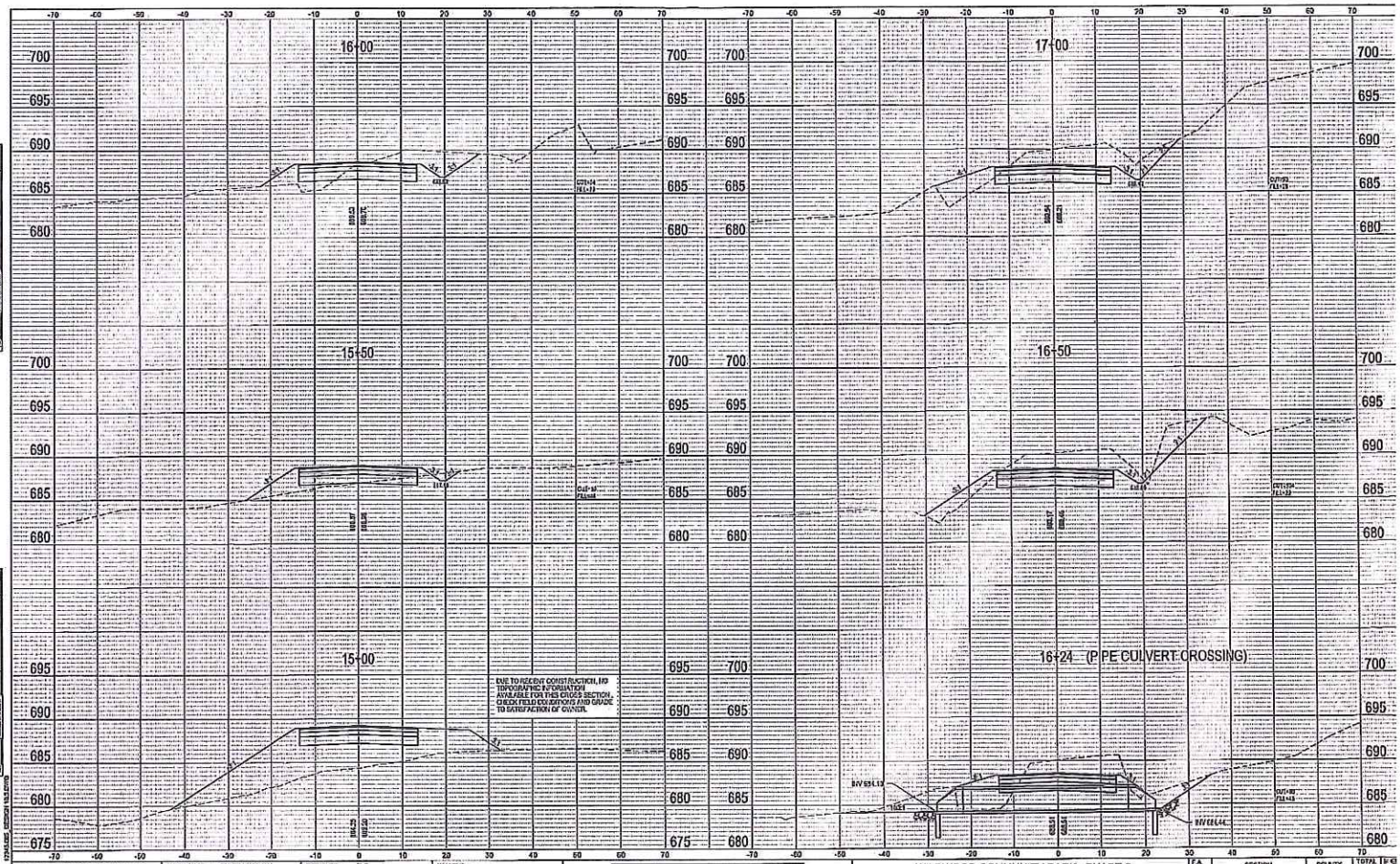
BATES ASSOCIATES Engineering + Architecture
www.batesassociates.com
MISSOURI DESIGN FIRM LICENSE NO: 001158

USER NAME = TYLER HUFFMAN | DESIGNED - | REVISED -
DRAWN - | REVISED -
PLOT SCALE = 1' = 1' | CHECKED - | REVISED -
PLOT DATE = 2015-09-03 | DATE = 2015-09-03 | REVISED -

The City of [illegible] MISSOURI
PLANNING TOMORROW TODAY

WILDWOOD COMMUNITY PARK - PHASE 2
CONSTRUCTION DETAILS
SCALE: | SHEET NO. 4 OF 4 SHEETS | STA. _____ TO STA. _____

FA RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	-.-.-.-.-	ST. LOUIS	19	12
			[illegible]	



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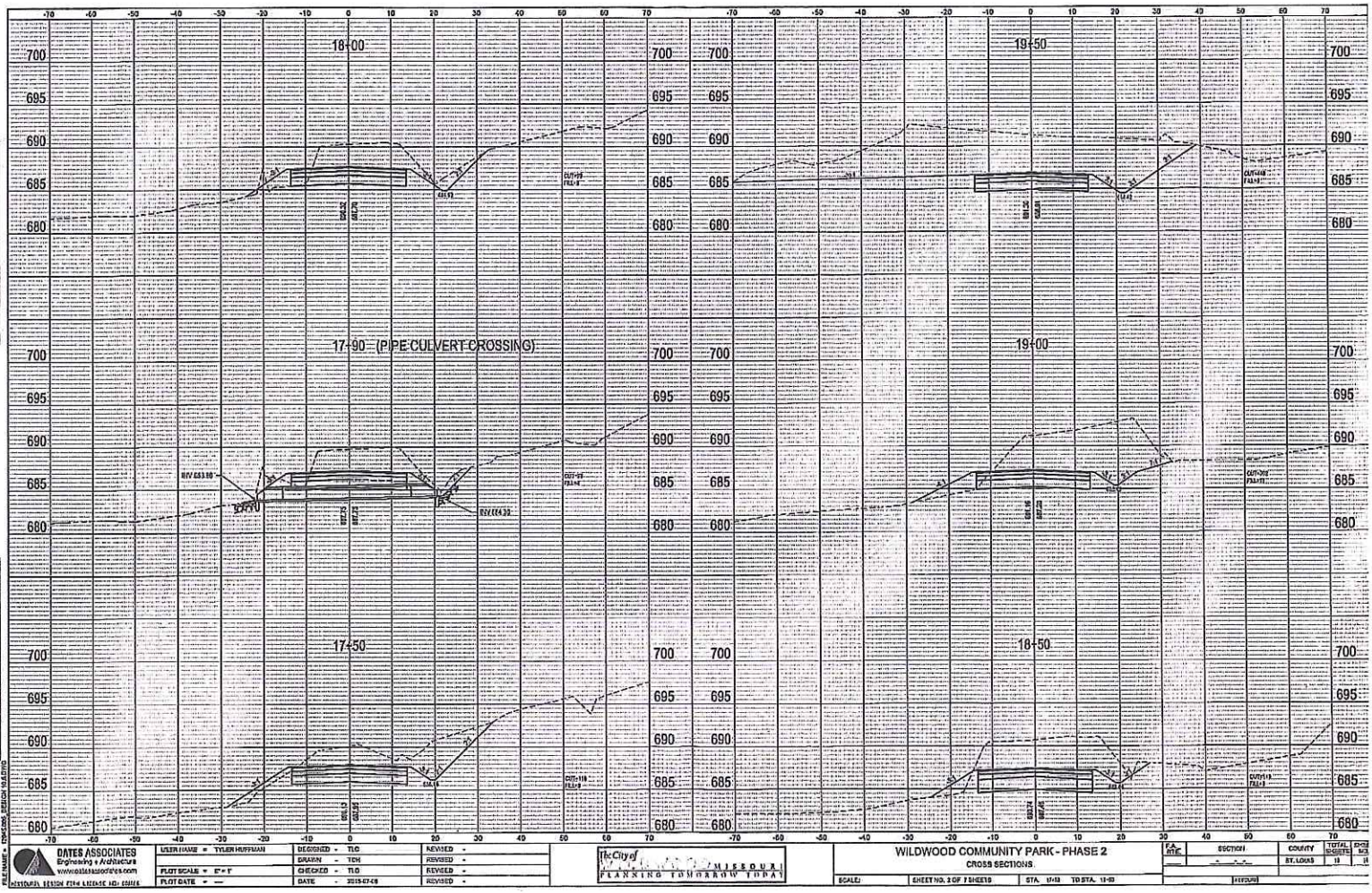
USER NAME = TYLER HUFFMAN	DESIGNED - TLD	REVISED -
	DRAWN - TCH	REVISED -
PLOT SCALE = 10' = 1'	CHECKED - TLD	REVISED -
PLOT DATE = 1" = —	DATE - 2015-07-06	REVISED -

The City of WILDWOOD MISSOURI
PLANNING TOMORROW TODAY

WILDWOOD COMMUNITY PARK - PHASE 2
CROSS SECTIONS

SCALE: | SHEET NO. 1 OF 7 SHEETS | STA. 11+17 TO STA. 17+09

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		ST. LOUIS	18	12



DATES ASSOCIATES
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The City of Wildwood, Missouri — Planning Tomorrow Today

WILDWOOD COMMUNITY PARK - PHASE 2
CROSS SECTIONS

SCALE	SHEET NO. 3 OF 7 SHEETS	STA. 17+13 TO STA. 19+69

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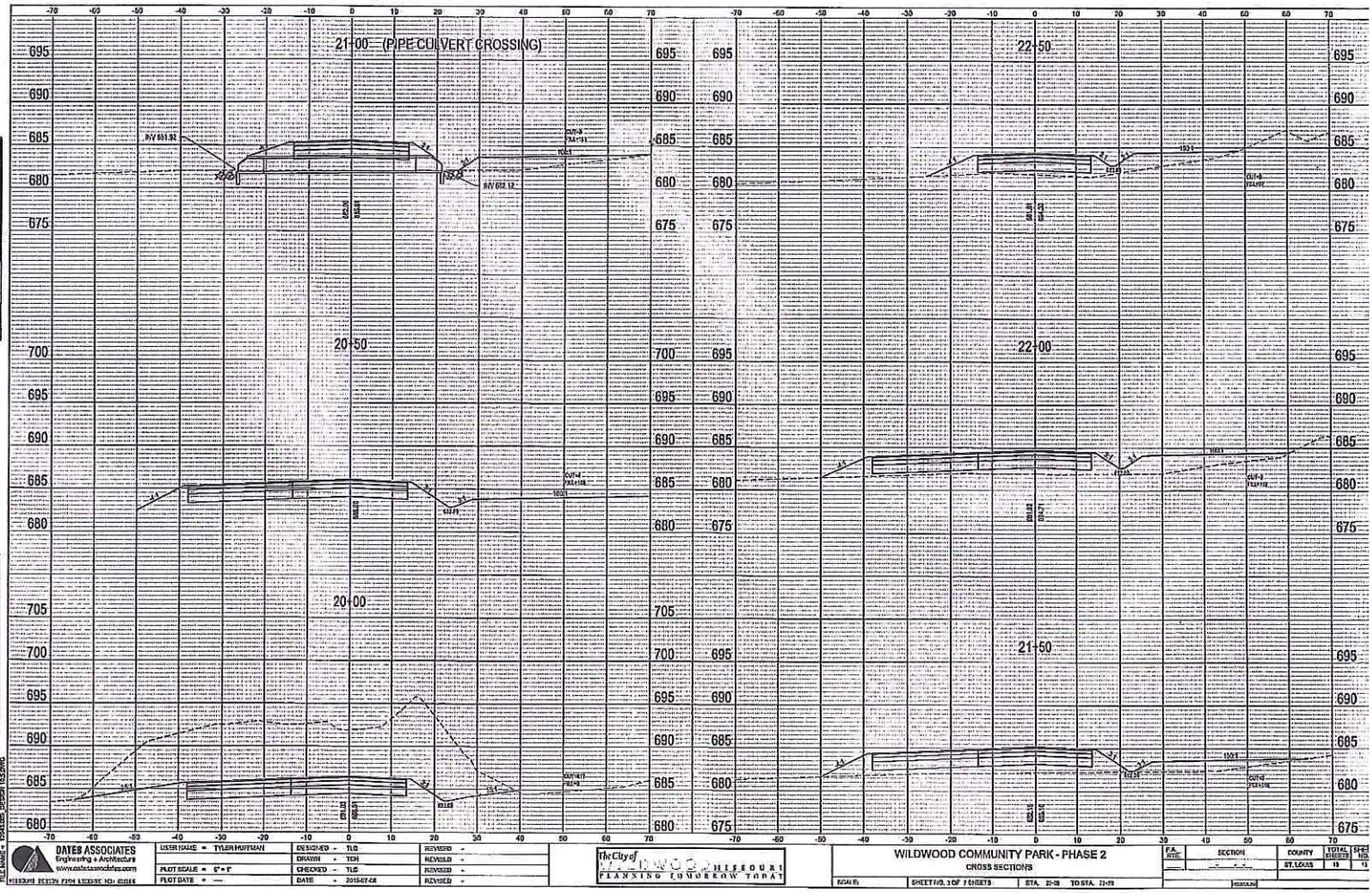

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The City of Wildwood Missouri
PLANNING TOMORROW TODAY

WILDWOOD COMMUNITY PARK - PHASE 2
CROSS SECTIONS

SCALE: 1" = 5' | SHEET NO. 3 OF 7 SHEETS | STA. 21+00 TO STA. 21+79

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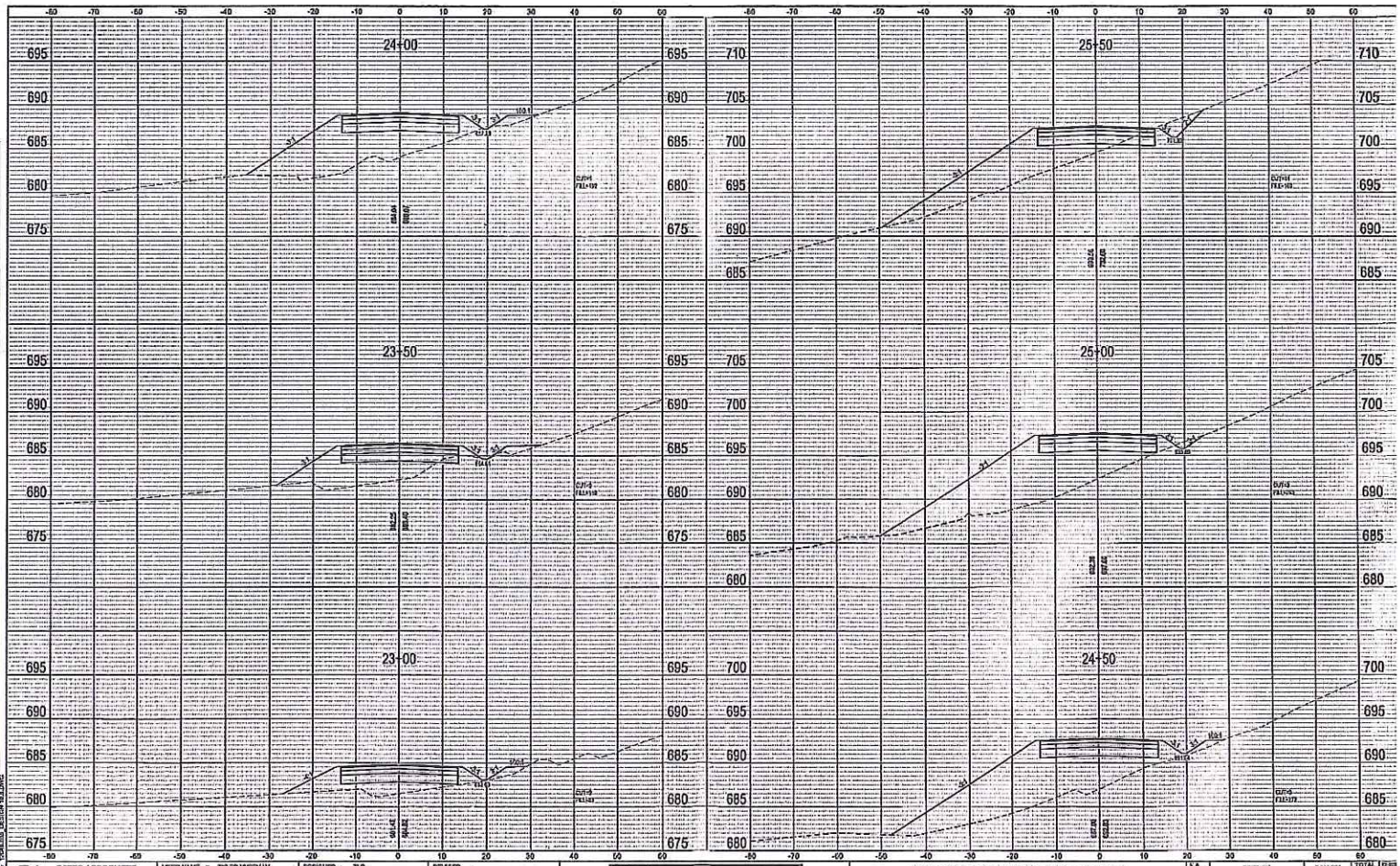

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MISSOURI CERTIFICATE OF AUTHORITY NO. 2003166

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The City of
MISSOURI
PLANNING TOMORROW TODAY

WILDWOOD COMMUNITY PARK - PHASE 2
CROSS SECTIONS

SCALE:
SHEET NO. 4 OF 7 SHEETS
STA. 21+33 TO STA. 31+33

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		ST. LOUIS	19	4

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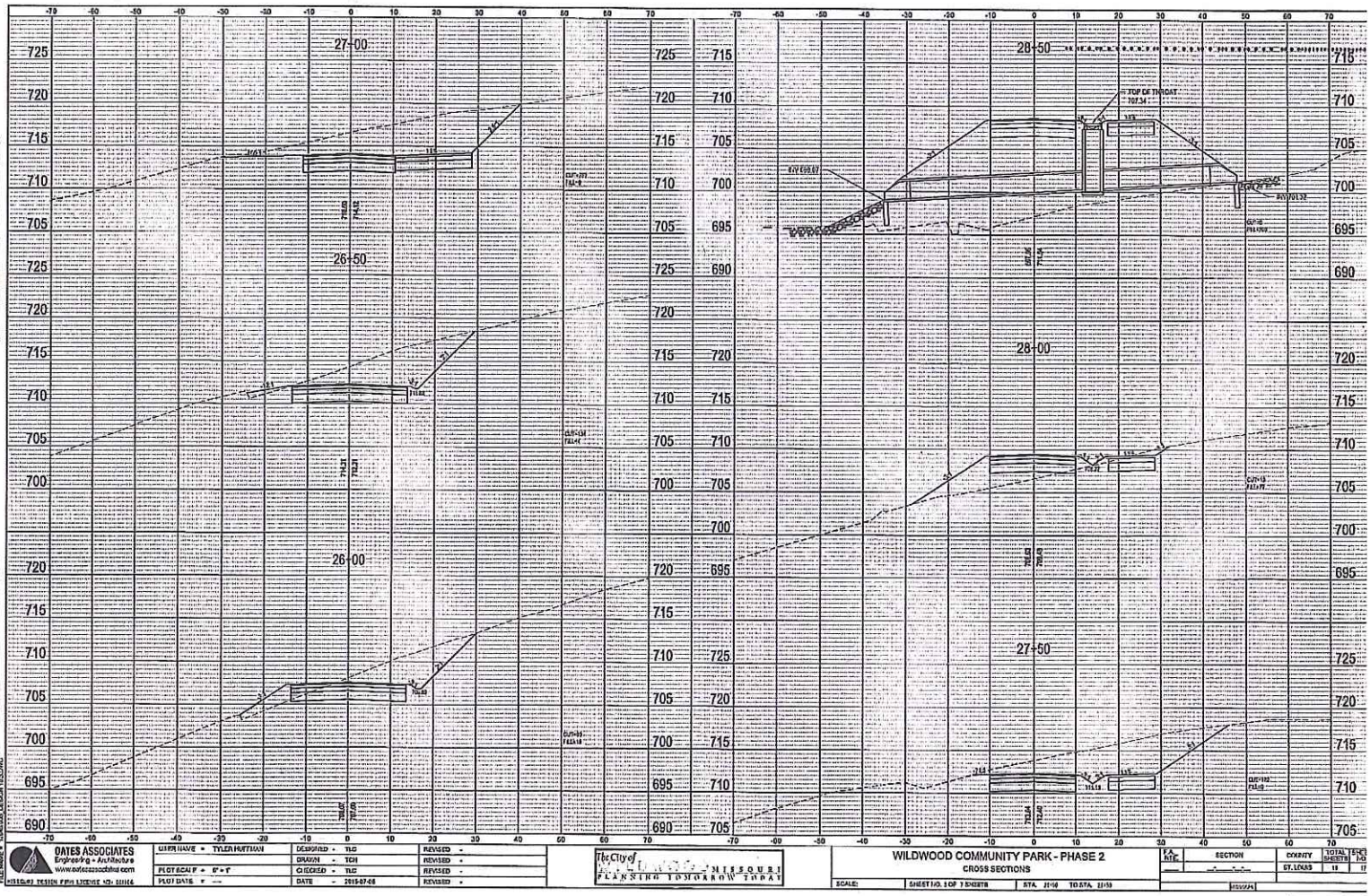

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MISSOURI STATE DESIGN FIRM LICENSE NO: 001116

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The City of Ballwin, Missouri — Planning Tomorrow Today

WILDWOOD COMMUNITY PARK - PHASE 2
CROSS SECTIONS

SCALE: | SHEET NO. 3 OF 7 SHEETS | STA. 21+10 TO STA. 23+50

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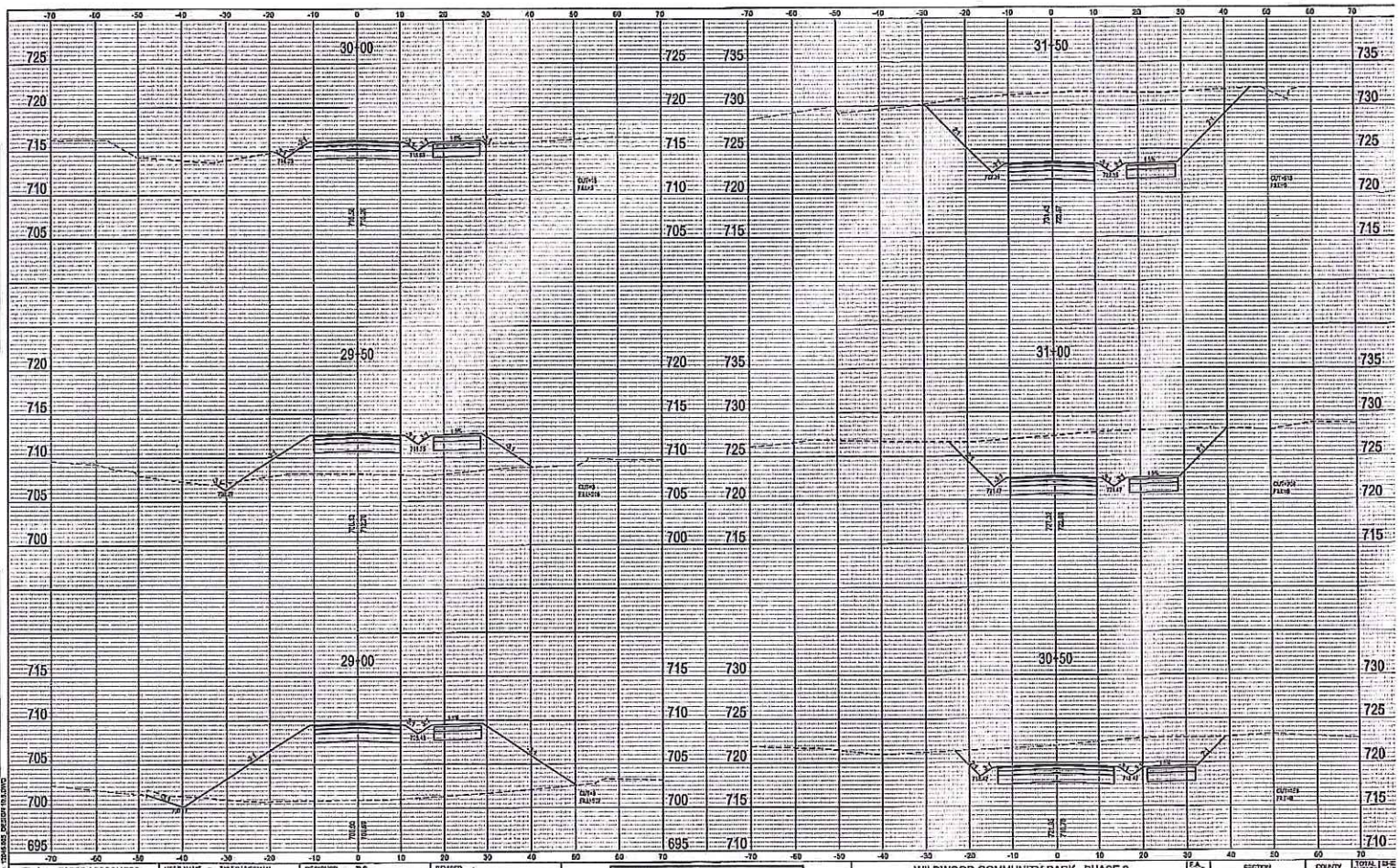

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The City of [illegible] MISSOURI PLANNING TOMORROW, TODAY

WILDWOOD COMMUNITY PARK - PHASE 2
CROSS SECTIONS

SCALES: SHEET NO. 6 OF 7 SHEETS STA. 31+10 TO STA. 31+53

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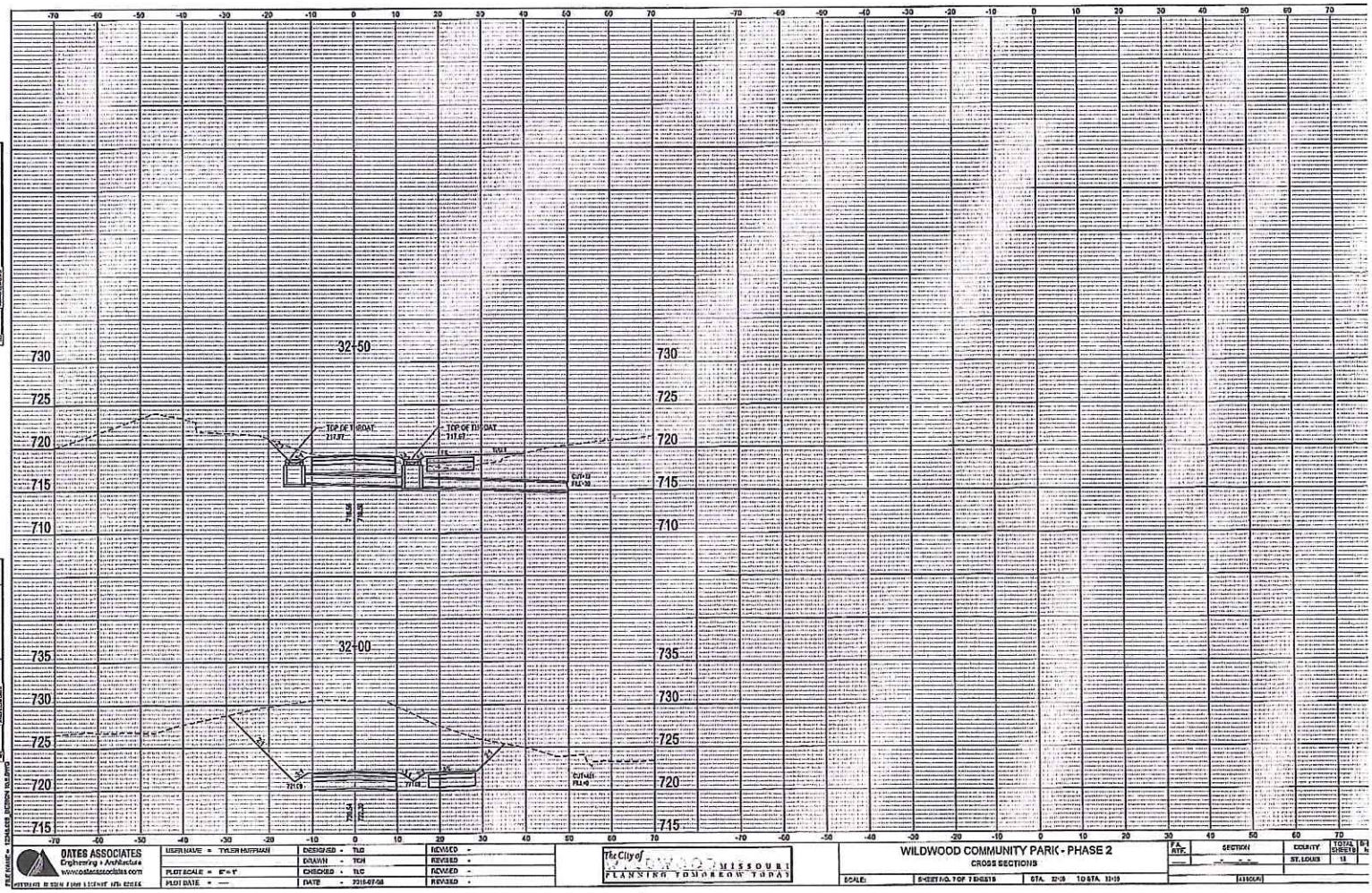

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PLANNING TOMORROW TODAY

WILDWOOD COMMUNITY PARK - PHASE 2
CROSS SECTIONS

SCALE:	SHEET NO. 7 OF 7 SHEETS	STA. 12+00 TO STA. 13+00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	NO.
—	— — —	ST. LOUIS	18	
		[illegible]		

WILDWOOD

January 26, 2016

MEMORANDUM

To: The Planning/Economic Development/Parks Committee

From: Department of Planning and Parks

Re: Financial Accounting from Pond Athletic Association (PAA) (Ward – One)

Cc: The Honorable Timothy Woerther, Mayor
Administration/Public Works Committee Members
Ryan S. Thomas, P.E., Director of Public Works
Rick Brown, P.E. and P.T.O.E., Director of Public Works
Kathy Arnett, Assistant Director of Planning and Parks

Committee Members:

As part of its approved budget for the current 2016 Fiscal Year, the City Council is again providing financial support to the Pond Athletic Association (PAA). The City has set aside ten thousand ($10,000.00) dollars this year to offset the fees for the training league that, without this funding, would be paid by Wildwood residents. A condition of this contribution is an accounting report be provided from PAA of this program and how this funding was limited to Wildwood residents in the previous year.

The Association provided the following summary of the activities associated with their 2015 Spring/Summer Baseball and Softball Leagues:

- → 651 boys and girls, ages 4-14, played at Pond Athletic Association in 2015.
- → Approximately 62% listed an address as Wildwood (448 kids) (season playing fee for those kids varied by age group, but averaged about $90.00 per child).

The training league fees, which is the age-group subsidized by the City, are substantially lower than the older age groups. In the upcoming Spring/Summer 2016 Season, the training league fee is $35.00 per child (4-5U), while the older players pay either $90.00 (6-7U) or $145.00 (8-14U), depending upon their age. The City's financial support is, again, intended to be limited to Wildwood residents registering their children for the training league. The Department attempted to determine, from the information provided by PAA, which children were registered for the training league, but the information provided was not detailed enough to allow for this calculation to be completed.

At this point, the Department would like to request additional information from PAA prior to the City providing them the budgeted money for 2016. The additional information the Department is seeking includes the following:

1. Of the 651 children who played in the Spring/Summer 2015 Season, which of them were registered in the training league.
2. A breakdown of the fees paid by parents of these children to ensure the funds are being provided to Wildwood families, as required.
3. Further information on how the credit is provided to these families, i.e. – a discount at registration; a refund to fees; a uniform compensation; etc.

Once additional information is provided to the City, the Department would complete its review and update the Committee with an accurate accounting of the money provided by it to PAA. Once the accounting has been analyzed, and the level of the City's support determined to Wildwood residents only, the Department would then support the budgeted money for 2016 be provided to PAA.

If any Committee Members should have any questions or comments in this regard, please feel free to contact the Department of Planning and Parks at (636) 458-0440. A presentation of this information is planned on this item at tonight's meeting. Thank you for your consideration of this item.

WILDWOOD

January 26, 2016

MEMORANDUM

To: Planning/Economic Development/Parks Committee Members

From: Department of Planning and Parks

Re: **On-Going and Long-Term Maintenance Costs for Parks and Trail Facilities**

Cc: The Honorable Timothy Woerther, Mayor
Administration/Public Works Committee Members of the City of Wildwood
Ryan S. Thomas, P.E., City Administrator
Rob Golterman, City Attorney
Rick Brown, P.E. and P.T.O.E., Director of Public Works
Kathy Arnett, Assistant Director of Planning and Parks
Gary Crews, Superintendent of Parks and Recreation

The City Council, during its Strategic Planning Process in March 2015, identified the need to ensure that, as facilities are added to the City's system of parks and trails, the costs associated with their maintenance and upkeep are addressed and managed as well. The Chair of this Committee also requested, which was agreed to by the members, that each month an update of spending on parks and trail maintenance be provided, along with any unusual allocations in this regard as well. Therefore, as part of this reporting of expenses and expenditures, the Department will continue to provide the summary of expenditures by the Department in its maintenance of facilities, since 2006, which is provided below:

Year	Original Budget Allocation ($)	Amended Budget Allocation ($)	Actual Amount ($)
2006	15,000	64,000	68,454
2007	62,500	58,486	57,880
2008	67,000	67,000	65,176
2009	68,000	120,000	112,608
2010	120,000	110,000	103,275
2011	125,000	135,000	127,995
2012	135,000	164,000	173,980
2013	175,000	160,000	129,788
2014	175,000	161,200	133,033
2015	160,000	160,000	138,358*

Year	Original Budget Allocation ($)	Amended Budget Allocation ($)	Actual Amount ($)
2016	170,000		

*As of November 13, 2015

For the months of December 2015 and January 2016, to date, a total of $17,110.64 has been expended for maintenance of park and trail facilities. These expenditures include the following items:

- ✓ Trash removal in park properties and trail locations, including Town Center
- ✓ Repairs due to vandalism, community park playground area
- ✓ Removal of downed trees along trails, particularly Rock Hollow Trail
- ✓ Fertilization treatment at Anniversary and Old Pond School Parks
- ✓ Trim trees in Bluff View Park for access to scenic overlook

The Department can provide more background on this matter at tonight's meeting, if members have specific questions in this regard. If any of the Committee Members should have questions or comments before tonight's meeting about this information, please feel free to contact the Department of Planning and Parks at (636) 458-0440. A presentation is planned on this matter at tonight's meeting. Thank you for your review of this information and participation in tonight's discussion.

WILDWOOD

City of Wildwood
Council Planning/Economic Development/Parks Committee

Parks and Recreation Update for Mid-November 2015 to Mid-January 2016

January 26, 2016

| **MEMORANDUM** |
| To: Council Planning/Economic Development/Parks Committee Members|
| From: Department of Planning and Parks|
| cc: The Honorable Timothy Woerther, Mayor; Administration/Public Works Committee Members; Rob Golterman, City Attorney; Ryan S. Thomas, P.E., City Administrator |

| Re: Parks and Recreation - Action Plan Update |

Listed below is a summary of the efforts the City has completed/underway relative to implementing the goals and recommendations for parks and recreation that were set forth in the Citizens Committee for Park Progress' Action Plan. This summary reflects major items that have been the focus of the City, since the Committee's November 2015 meeting:

Early Childhood Recreation Program:

- The last Early Childhood Recreation Program of 2015, *The Little Gym*, was held on November 18 and 19, 2015.
- Two (2) classes were conducted each day at 10:00 a.m. and 1:00 p.m., with twenty-five (25) children scheduled in each class.
- This vendor, *The Little Gym,* was used for the first time by the City and it proved very successful.

Baby Sitting 101 Class:

- The last class program of 2015, *Baby Sitting 101,* was held on December 29, 2015, at Wildwood City Hall.
- The class was held between the hours of 9:00 a.m. and 1:00 p.m. and was filled to maximum capacity (26 participants)

Art Festival Planning Committee Meeting:

- The Art Festival Planning Committee met on December 2, 2015, and January 6, 2016, at Wildwood City Hall.
- Major issues relative to the 2015 event were discussed for suggestions to consider for the 2016 Art Festival.
- The Committee was advised the Zapplication Process utilized in 2015 was renewed for 2016.
- The planning process for the 2016 Art Festival has begun in very positive fashion.

Founders' Day Planning Committee:

- The first meeting of the Founders' Day Planning Committee was held on January 11, 2016, at Wildwood City Hall.
- The 2015 Celebrate Wildwood Event (Founder's Day portion) was discussed at length, with numerous suggestions being made to improve the 2016 Celebrate Wildwood Weekend.

2016 City of Wildwood Calendar Contest:

- The 2016 City of Wildwood Calendar has been delivered to Wildwood residents. Many received their copies before the Thanksgiving Holiday.

City of Wildwood and Terrain Runners Club Film Presentation:

- The last film presentation of 2015, presented by the City of Wildwood and the Terrain Runners Club, in partnership with the B & B Theater, was held on December 4, 2015.
- The film *This is Your Day* was presented to a sold-out crowd
- 2016 film presentations are planned to begin in March.

City of Wildwood Recreation Specialist Position:

- Interviews were conducted for the position of Recreation Specialist on December 8, 9, and 10, 2015.
- From the fifty (50) plus applications received, six (6) candidates were selected for interviews.
- Amanda Horstmann was selected from a very qualified list of candidates and began her position as Recreation Specialist on January 4, 2016.

Wildwood Frozen Feet Half Marathon:

- The Sixth (6th) Annual Wildwood Frozen Feet Half Marathon Trail Run was held on January 23, 2016.
- The event reached its maximum capacity of three hundred (300) participants at the beginning of December.
- Despite the trail damage of the 2015 flooding, cooperation between the Department of Natural Resources, Missouri State Parks, and the City of Wildwood resulted in getting the trails *useable* for the 2016 running event.

Next City Events:

- Early Childhood Program – *Babaloo,* February 10 & 11, 2016.
- *Cabin Fever Hike*, February 27, 2016

If you should have any questions or comments in this regard, please feel free to contact the Department of Planning and Parks at (636) 458-0440. Thank you for your review of this information and continued support of these and other events and activities of the City.