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September 19, 2024

Honorable Commissioners  
Ozark Special Road District  
905 N. Riverside Road  
Ozark, Missouri 65721

**RE: Stormwater Investigation: Barrington Springs Subdivision – McCracken Road, Ozark, Missouri 65721**  
**ATT: EXHIBIT 1: July 30, 2024 Findings**  
**EXHIBIT 2: McCracken Road Boundary Survey**

Honorable Commissioners,

Toth & Associates (Toth) was tasked by Ozark Special Road District (OSRD) with investigating stormwater concerns raised by citizens within the Barrington Springs Subdivision in Ozark, MO along McCracken Road. Toth provided findings and recommendations for how to address stormwater concerns along the McCracken Road corridor in a letter dated July 30, 2024, attached with this letter. After presenting these findings and recommendations at the OSRD monthly meeting, Toth was tasked with conducting a boundary survey to verify right-of-way and easements limits along the corridor. This boundary survey was conducted on September 9, 2024, and has been included with this letter.

Similar to the findings and recommendations in the July 30, 2024 report, Toth discovered as a part of the boundary survey for the corridor that there are limitations on the amount of space OSRD has to provide improvements within the McCracken Road corridor. The right-of-way width varies between 45' and 55' feet. Accounting for the existing roadway width and utilities/other obstructions alongside the road, there is limited space for OSRD to make improvements, such as ditching, to provide additional stormwater capacity along the corridor.

It is Toth's understanding that conversations have been had with property owners on the south side of McCracken Road in an attempt to acquire additional right-of-way, and that it has been expressed that there is no interest to dedicate additional right-of-way, whether by donation, sale, or otherwise.

Due to limited right-of-way and the findings provided in the July 30, 2024 report, Toth recommends ongoing monitoring of the area and encourages affected property owners to meet with the Homeowner's Association to determine ways in which the neighborhood can provide the necessary improvements to create positive drainage away from structures and finished floor elevations.

If there are any additional follow-up questions or points of clarification, please do not hesitate to reach out!

Respectfully,

A handwritten signature in blue ink, appearing to read 'D. Estell', with a long horizontal line extending to the right.

**Derrick J. Estell, P.E.**  
Civil Project Manager  
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July 30, 2024

Honorable Commissioners  
Ozark Special Road District  
905 N. Riverside Road  
Ozark, Missouri 65721**RE: Stormwater Investigation: Barrington Springs Subdivision – McCracken Road, Ozark, Missouri 65721**  
**ATT: EXHIBIT 1: McCracken Road & Barrington Springs Subdivision Drainage Area**

Honorable Commissioners,

Toth & Associates (Toth) was tasked by Ozark Special Road District (OSRD) with investigating stormwater concerns raised by citizens within the Barrington Springs Subdivision in Ozark, MO along McCracken Road. After investigating, Toth was asked to prepare a summary of findings and final recommendations for addressing the stormwater concerns that were raised. Included is a brief report summarizing our findings and recommendations for stormwater infrastructure along McCracken Road adjacent to the Barrington Springs Subdivision.

## BACKGROUND

At the July 9<sup>th</sup>, 2024 OSRD Monthly Meeting, residents of the Barrington Springs Subdivision addressed the OSRD Commission about stormwater concerns they have experienced at their homes within the neighborhood and along McCracken Road. These residents informed the OSRD Commission that they approach the City of Ozark with their concerns and that they were directed to OSRD since the alleged concerns were a result of McCracken Road, a roadway which is under the jurisdiction of OSRD. OSRD informed the residents that they would investigate their concerns with Toth, and determine what, if any, solutions were available to address the concerns.

On July 16<sup>th</sup>, 2024, Derrick Estell (Toth), Chris Somers (OSRD), Jerry Countryman (OSRD), and Jody Stutesmun (OSRD) visited McCracken Road for site observation. The four walked the length of McCracken Road adjacent to the Barrington Springs Subdivision, collecting photos and visual observation of the existing conditions. In preparation for the site visit, Toth delineated drainage area(s) to aid in on-site discussions and observations of stormwater origins. An exhibit depicting the drainage area adjacent to Barrington Springs Subdivision in the area of concern can be found as an attachment to this report.

## FINDINGS

When evaluating the drainage area and stormwater flow for the point of analysis identified by the residents, it was found that the drainage area contributing towards their properties was relatively small, with an area of 1.6 acres and a one-hour flow of 1.78 cubic feet per second (CFS) during the 25-year storm event.

During on-site investigation, it was discovered that McCracken Road contained a sag in the roadway at roughly the point of analysis. It was also discovered that McCracken Road has a minimal amount of ditch capacity, if any at all, along the Barrington Springs Subdivision. This observation confirmed the drainage area at the point of analysis as being a location in a sag that flows across McCracken Road. It was also discovered that a couple hundred feet in either direction of the sag/point of analysis, there were small crests in the roadway, after which, stormwater was directed away from the area of concern. Further to the east and west, there are one or more culverts which drain under McCracken Road, that either drain through the Barrington Springs Subdivision, or away from it. However, none of these culverts drain to the area of concern raised by residents.

On-site investigation also discovered that there were several utilities located within the right-of-way along the north side of McCracken Road, which would make adding ditch capacity challenging. The south side of McCracken Road had limited right-of-way (roughly a few feet) and mature walnut trees, which would also make adding ditch capacity challenging.

The most eye-opening discovery that was made on-site, was that the homes immediately north of the point of stormwater analysis had crawlspaces and finished floor elevations that were lower than the road. The lots appeared to be poorly graded for proper conveyance/drainage of stormwater – not only for the 1.6-acre drainage area that drains to these lots, but from the downspouts on the homes themselves. The grading of these lots did not appear to provide enough capacity to prevent stormwater from ponding or entering the crawlspaces/finished floor elevations of the homes.

## CONCLUSIONS

The drainage area that drains to the area of concern raised by residents of the Barrington Springs Subdivision is relatively small and generates flows that do not immediately raise concern. The drainage area in question is undeveloped, so any increase in stormwater flow is unlikely to be a result of changes in the area. Aside from routine maintenance and the occasional installation of utilities along the corridor, McCracken Road has remained largely unchanged. Improvements to McCracken Road would be costly, either due to the relocation of utilities, or the acquisition of additional right-of-way. The biggest concern is that the homes which are currently experiencing flooding were constructed after McCracken Road existed, and they were constructed/graded in a way which did not facility positive drainage away from the structures. Minor improvements could be made to McCracken Road, which may provide for some additional stormwater capacity. However, these improvements would likely negatively impact properties further downstream, due to additional flow, velocity, etc.

## RECOMMENDATIONS

The following are recommendations to address stormwater concerns raised by residents of the Barrington Springs Subdivision:

1. Property owners to re-grade residential lots to facility positive drainage away from structures/finished floor elevations.
2. OSRD to re-ditches alongside McCracken Road to gain any additional stormwater capacity that is possible, without the relocation of utilities, removal of trees, or acquisition of right-of-way.

We hope that this report addresses the concerns of the Barrington Springs Subdivision and provides insight into how stormwater functions in the area, and how best to address it. Please note that the area was not surveyed, and assumptions were made based upon visual observation. If there are any further questions or additional information requested, please do not hesitate to reach out.

Respectfully,



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