AGENDA
CITY OF CREVE COEUR
BOARD OF ADJUSTMENT
CITY COUNCIL CHAMBER
NOVEMBER 30, 2023
4:00 PM

CALL TO ORDER

ROLL CALL

Mr. Glen Wilen (Chair)
Mr. James Kostelc
Mr. Robert Mooney
Mr. Martin Satz
Mr. Arnold Mayersohn (Alternate)
Ms. Dana Connon (Alternate)

Mr. Carl Lumley, City Attorney
Mr. Jason Jaggi, AICP, Director of Community Development
Ms. Bethany L. Moore, City Planner
Ms. Megan Waller, Administrative Supervisor/Recording Secretary

APPROVAL OF MINUTES

1. **August 17, 2023 Board of Adjustment Draft Meeting Minutes**

ACCEPTANCE OF THE AGENDA

UNFINISHED BUSINESS

2. **#23-07: Variance Requests For The Property At 7 Sherwyn Lane to Encroach 13 feet into the 50 Foot Front Yard Setback as Required by Section 405.250 and to Add 313 Square Feet of Additional Impervious Area into the Stream Bank Buffers as Regulated by Section 430.050 in Order to Expand the Footprint of the Existing House**
   Summary: David Nafar, owner, of 7 Sherwyn Lane within the “A” Single Family Residential Zoning District, has submitted an application for two types of variance requests in order to expand the footprint of the existing one-story home. The proposed additions will encroach 13 feet into the required 50-foot front yard setback per Section 405.250. The additions are also proposed to be built within the 25-foot undisturbed natural vegetative buffer and also within the additional 25-foot buffer beyond the undisturbed natural vegetative buffer where impervious cover shall be limited as required under the Stream Buffer Protection Regulations, Section 430.050. The total area of disturbance within both buffers is 2,212 square feet with 313 square feet of that being added as additional impervious areas. Each variance request is subject to a separate set of requirements that must be met in order for a variance to be granted. This

application was continued at the August 17th, 2023 meeting and the variance request has since been revised.

NEW BUSINESS

3. **2024 Board of Adjustment Draft Meeting Schedule**

BUSINESS FROM STAFF

ADJOURNMENT

Pursuant to Section 610.022 RSMO, the Board of Adjustment could, at any time during the meeting, vote to close the public meeting and move to closed session to discuss matters relating to litigation, legal actions and/or confidential or privileged communications with the City Attorney as provided under Section 610.021(1) RSMO or other matters as permitted by Chapter 610.

Posted by: _____

Date/Time posted: _____

If you need special accommodations to attend a meeting, services may be arranged by contacting the Office of the City Administrator in advance.

MINUTES
CITY OF CREVE COEUR
BOARD OF ADJUSTMENT
CITY COUNCIL CHAMBER
AUGUST 17, 2023
4:00 PM

CALL TO ORDER

The meeting was called to order at 4:01 PM

ROLL CALL

Mr. Glen Wilen (Chair)
Mr. James Kostelc
Mr. Robert Mooney
Mr. Martin Satz (Absent)
Mr. Arnold Mayersohn (Alternate)
Ms. Dana Connon (Alternate)

The following Staff were also present:

Ms. Stephanie Karr, Acting City Attorney
Mr. Jason Jaggi, AICP, Director of Community Development
Ms. Bethany L. Moore, City Planner
Ms. Megan Waller, Administrative Supervisor/Recording Secretary

APPROVAL OF MINUTES

1. **May 18, 2023 Board of Adjustment Draft Meeting Minutes**

Mr. Mooney made a motion to approve the May 18th, 2023 meeting minutes. Mr. Mayersohn seconded. All in favor.

ACCEPTANCE OF THE AGENDA

Mr. Mooney made a motion to approve the agenda. Mr. Mayersohn seconded. All in favor.

UNFINISHED BUSINESS

None

MINUTES
CITY OF CREVE COEUR
BOARD OF ADJUSTMENT
CITY COUNCIL CHAMBER
AUGUST 17, 2023
4:00 PM

NEW BUSINESS

1. **Application #23-7: Variance Requests For The Property At 7 Sherwyn Lane to Encroach 15 feet into the 50 foot Front Yard Setback, 5 feet into the 15 Foot Side Yard Setback as Required by Section 405.250 and to Add 2,230.7 Square Feet of Additional Impervious Area into the Stream Bank Buffers as Regulated by Section 430.050 in Order to Expand the Footprint of the Existing House**

Those speaking to the request were sworn in.

Mr. Jason Jaggi, Director of Community Development, reminded the Board that this variance request is unique in that it requires a setback variance as well as a stream buffer variance. He stated that the criteria for each variance are separate and will require individual votes.

Ms. Bethany Moore, City Planner, stated that the first variance request is to encroach 15ft into the 50ft front yard setback and 5ft into the 15ft side yard setback.

Ms. Moore stated that the lot is zoned A single Family Residential and is a pie-shaped lot. She explained that the creek does run through the center of the subject property and is present on two neighboring properties. She stated that the creek limits the buildable area of the subject lot.

Ms. Moore showed the existing site plan and stated that the existing house currently fits within the existing setback lines.

Mr. Kostelc asked if the one-acre lot included the size of the creek. Ms. Moore stated that it does include the size of the creek and the streambank buffers.

Ms. Moore stated that Mr. Nafar would like to expand the existing house in the front and back into both the front and side yard setbacks.

Ms. Moore stated that the applicant did receive a lesser setback variance previously in December 2008. She explained that no building permit had been applied for, and that variance expired after one year.

Ms. Moore stated that the original variance was granted around the same time the stream buffer protection regulations came into effect. She explained that staff believes these restrictions were not applied to the project because the variance had been applied for before the streambank protection regulations came into effect.

Mr. Mayersohn asked if the neighboring homes all met the 50ft front yard setback requirement. Ms. Moore confirmed they do.

Ms. Moore stated that the location of the creek on this lot does reduce the buildable area.

Ms. Moore stated that the lot was platted in 1953, and the house was built shortly after. She explained that the applicant did not create the conditions on the lot.

Ms. Moore stated that granting the side-yard setback variance would allow the house to come 10ft closer to the property line of the neighbors at 9 Sherwyn Ln. She also explained that granting the front-yard setback request would allow the house to sit 35ft from the front property line, which would be out of character for the neighborhood.

Ms. Moore stated that the owner does have the option to build a second story on the house, which would not require any variances. She explained that this option has not been explored, but the applicant has stated it would not meet their needs. Ms. Moore stated that because this option has not been explored, extreme hardship cannot be proven.

Ms. Moore stated that the subject property is severely limited in the buildable area due to the location of the creek. She explained that if the Board finds that the shorter setbacks are unacceptably disruptive in the location and given that another option is available with a second story, then they should find that the granting of the variance request would violate the spirit and intent of the chapter.

Ms. Moore stated that the creek and the stream buffers are present on the lots to the north and south, but not to the same extreme as the subject property. She explained that while the condition is not unique to the subject lot, the extent to which the condition limits the buildable area could represent an exceptional circumstance.

Ms. Moore stated that public works review shows that adequate mitigation is proposed to satisfy Chapter 425 - Storm Water Regulations.

Mr. Wilen asked how many square feet the existing home is and how many square feet the proposed home would be. Ms. Moore stated that she was unsure of the exact numbers, but the site coverage limit will not be met.

Mr. Wilen asked for clarification of the difference between stormwater runoff and stream buffer. Mr. Jaggi stated that storm water protection regulates stormwater runoff onto neighboring properties and mitigation. He also explained that the streambank protection ordinance is specific to development impacts on the streams and streambanks.

Ms. Dione Garson, Civil Engineer, stated that the variance request would add about 1300sqft of impervious area and disturb 2,061sqft in the no disturbance buffer. She explained that the proposed project presents a water quality issue.

Ms. Garson stated that the City is a co-permitee with MSD, and, as a part of the co-permitee process, the City is responsible for maintaining stream buffers within the municipality. She explained that this relationship with MSD is why there are streambank protection regulations.

Ms. Garson explained that the stream buffer vegetation helps to filter and clean the water as it enters the stream.

Mr. Mayersohn asked if the proposed project would remove the vegetation along the side of the creek. Ms. Garson confirmed that it would.

Ms. Garson stated that mitigation is supposed to improve the water quality more or be equal to the current quality. She stated that the question the board needs to keep in mind is if the proposed mitigation will keep the water quality equal to its current state or better.

Mr. Wilen asked who maintains the creek today. Ms. Garson stated that MSD maintains the creek and the property owner is responsible for maintaining the vegetation on the property.

Mr. Kostelc asked if an environmental study has been done on the loss of vegetation. Ms. Garson stated that a study has not been done.

Mr. Mayersohn asked if the applicant has proven that there will be no changes to the stormwater runoff. Ms. Garson stated that the proposal addressed water quality but not the water quantity issue.

Ms. Garson discussed the requirements of Chapter 425 and the calculation for stormwater runoff. Mr. Mayersohn asked if the applicant has proven that they can meet the requirements. Ms. Garson stated that to meet the variance request, the applicant

will need to meet the requirements of chapters 425 and 430. She explained that in her review with Tim Dean, Engineer with Intuition and Logic, the applicant is only meeting the requirements of chapter 430.

Mr. Wilen asked who hired Mr. Dean. Ms. Garson stated the City hired Intuition and Logic for review guidance.

Ms. Garson presented the existing site plan and noted the two stream buffers. Ms. Garson then presented the proposed site plan.

Ms. Garson stated that if the applicant would consider adding a second story to the existing home, it would lessen the impact of new impervious area in the stream buffer. She stated that staff had not seen any sort of structural engineer documentation to rule out a second floor as a possibility for expansion.

Ms. Garson stated that the applicant is proposing to mitigate stormwater runoff by installing a dry well. Mr. Wilen asked about maintenance of the well. Ms. Garson stated that maintenance of the well would mean keeping the pipes clear of debris.

Mr. Wilen asked if the volume of the well is determined by the amount of impervious area. Ms. Garson stated that the well volume is determined by the rate of stormwater runoff. She explained that the rate of stormwater runoff is much faster on impervious surfaces than on vegetation.

Ms. Garson stated that when the well detention area is full the quality of the water will suffer. She stated that there is no proposed additional vegetation at the discharge location to help filter the water and improve the quality.

Mr. Mooney asked if the dry well serves as a detention area. Ms. Garson stated that it is. Mr. Mayersohn asked how much water the dry well could hold. Ms. Garson stated that the two requirements of chapters 425 and 430 are greater than the mitigation provided.

Ms. Garson stated that the plan does propose some permanent structure on the MSD easement. She explained that staff has not seen any approval from MSD for this proposal.

Mr. David Nafar, 17 Sherwyn Ln., Creve Coeur, MO 63141, thanked the Board for their time.

Mr. Wilen asked the size of the existing home. Mr. Nafar stated that it is approximately 1600sqft.

Mr. Nafar stated that MSD had previously vacated a portion of the existing easement. He explained that if MSD does not give the approval to build on the easement or vacate an additional section of easement, they will reduce the proposed garage from a two-car garage to a one-car garage.

Mr. Mayersohn asked if there has been any discussion with MSD regarding the existing easement. Mr. Nafar stated that he has not had any recent discussion of the project with MSD.

Mr. Nafar stated that he was previously granted a 4ft variance in the side yard in 2008, and he is now asking for a 5ft variance in the side-yard setback.

Mr. Nafar stated that because the road curves at the front of the lot, it requires a 15ft setback variance. He explained that the curved portion of the road causes the variance request to be 15ft at the closest point.

Mr. Wilen asked what the proposed square footage of the house would be with the addition. Mr. Nafar stated that it would add approximately 1300sqft.

Mr. Nafar stated that he is requesting the variance in order to build a larger kitchen and family room and add an additional garage space.

Mr. Mayersohn asked when section 430.050 went into effect. Mr. Jaggi stated that ordnance #5069 was adopted on November 10, 2008. Mr. Jaggi also stated that there were some grandfather provisions in the ordinance when it was adopted, but it is unknown why a variance was not required in 2008. Mr. Jaggi reminded the commission that the staff report notes it is unknown why a stream buffer variance was not requested in 2008.

Mr. Nafar stated that due to zoning restrictions, the lot could not be built on today without a variance.

Mr. Nafar stated that in 2017 MSD had an easement to install a new pipeline on the no disturbance buffer of the creek. Mr. Mayersohn asked if Mr. Nafar received compensation for the MSD pipeline. Mr. Nafar confirmed that he did receive compensation.

Mr. Nafar stated that his neighbor's lot at 9 Sherywn Ln is the opposite pie shape as his lot. He stated that because of the shape of this lot, there will be a large amount of space between each house.

Mr. Nafar stated that he contacted the three neighbors across the street from his lot, and they were in favor of the addition.

Mr. Nafar stated that adding a second floor to the existing home would not create a desirable layout. Mr. Nafar stated that he does not believe the existing foundation would support a second floor.

Mr. Kostelc asked if there are second-story homes in the neighborhood built by the same builder. Mr. Nafar stated that the homes with second stories were rebuilt after the homeowner's association dissolved.

Mr. Mayersohn asked if a study was done on the existing foundation. Mr. Nafar confirmed that a study has not been done.

Mr. Ken Keitel, 11426 Gravois Rd., Sappington, MO 63126, stated that Ms. Garson is correct in that the proposed dry well is slightly too small for the proposed project. He stated that this can be fixed by increasing the size of the well.

Mr. Keitel stated that the water will not escape the dry well until it is completely full.

Mr. Keitel stated that amended soils or a rain garden can be added to help with water quality.

Mr. Wilen asked if the applicant is suggesting the board should approve the variance request without complete information. Mr. Keitel stated that he was unaware that the size of the well was inadequate until the meeting. He stated that the applicant is willing to increase the size of the well to meet the storage requirements.

The Board took a 5-minute recess. The meeting was called back to order at 5:48 PM.

Mr. Nafar stated that they will ask MSD either to vacate a section of the easement or to allow the garage to encroach on the easement.

Mr. Nafar stated that he does not believe the City should enforce the stream buffer ordinance because MSD has already built a concrete wall within the buffer. He stated that he believes the stream buffer protections put in place in 2008 are detrimental to property values.

Mr. David and Ms. Judy Grand, 9 Sherwyn Ln., Creve Coeur, MO 63141, stated that they are in favor of improvement to the neighborhood, but have concerns regarding the side-yard setback variance.

Mr. Grand stated that they are very concerned about the removal of vegetation on the side of their lot.

Mr. Grand stated that they are also concerned that if Mr. Nafar receives a side-yard setback, the houses will be significantly closer. He also stated that if the foliage and vegetation is removed, they will have little to no privacy.

Mr. Grand stated that he also has concerns with granting a variance before the water quality issues are resolved.

Ms. Grand had concerns that allowing the setback to be so close to their home would negatively affect the value of their home.

Mr. Wilen suggested that having a nicer home next door would improve the value of their home. Ms. Grand stated that they are not opposed to the front yard setback variance, but they are not in favor of the side yard setback.

Mr. Grand stated that they understand that the lot is limited, and they do not oppose Mr. Nafar improving his home. He explained that their biggest concern is that the addition will encroach into the side-yard setback.

Mr. Mooney asked if Mr. Nafar has experienced any flooding from the creek. Mr. Nafar stated that he has not.

Mr. Nafar stated that he is willing to withdraw his request for the side yard setback variance to appease his neighbors' concerns.

Mr. Mayersohn asked Ms. Karr, Acting City Attorney, if the side-yard setback can be withdrawn from the variance request. Ms. Karr suggested the board continue with a motion for the side-yard variance, and vote against the request to create a formal record with a recorded vote.

Mr. Wilen asked City Staff, if the variance were granted, how the items discussed would be enforced. Mr. Jim Heines, Director of Public Works, stated that the items, such as the withdraw of the side-yard variance and vacation of the MSD easement for the two-car garage, would need to be listed as conditions in the motion and voted on by the Board.

Mr. Nafar stated that if he receives approval of the variance requests, he still must obtain building permits that comply with the conditions of the variance. Ms. Karr explained that nothing stated in the hearing is binding unless it is listed as a condition in the motion voted on.

Ms. Connon had concerns regarding the number of trees and vegetation being removed for the construction. Ms. Garson stated that the City sent a letter to the applicant and architect noting concerns about water quality in July. She stated that Mr. Nafar responded with a letter on August 2nd with additional information, including updated water quality calculations, but these updated calculations were incorrect. Ms. Garson stated that Staff asked the engineer in writing and by phone to correct errors in calculations and address concerns that chapters 425 and 430 are not being met on multiple occasions.

Mr. Wilen asked if the applicant could have expanded his house towards the creek prior to the 2008 ordinance. Mr. Heines stated that yes, expansion towards the creek may have been allowed prior to the 2008 ordinance; However, there was still an easement with MSD in 2008, which likely would have negated the ability to build within the easement.

Mr. Mayersohn stated that he would like more research from the applicant to be done before taking a vote, such as communication with MSD. Ms. Karr stated that the item could be tabled until a future meeting.

Mr. Wilen asked Mr. Heines for further clarification on his concerns with the MSD wall near the proposed construction site.

Mr. Heines stated there are concerns that the zone of influence of the existing MSD wall will be compromised by digging the foundation of the proposed addition too close. He stated that he believes there is an 8ft easement, and the proposed construction is 6ft from the wall. Mr. Heines explained that this could cause the wall to fail and wash out into the creek. He stated that he does not believe MSD will approve of the proposed construction.

Mr. Heines referred to Mr. Mooney's earlier question regarding flooding of the creek. He stated that the creek did flood around 2003 due to sticks and debris clogging the culvert under the road. He explained that the basement at 7 Sherwyn Ln did flood before Mr. Nafar owned the home and renovations occurred before the home was sold.

Mr. Wilen asked at what point in the process MSD would be notified of the proposed project. Mr. Heines stated that in this case, MSD is not being notified until the very end. He explained that City Staff and the Board are not getting MSD information up front, and MSD could shut down the project.

Mr. Mayersohn asked if the City's building department would require MSD approval before issuing a building permit. Mr. Heines confirmed that yes, the building department would require approval to build on the easement before permits are issued.

Mr. Heines stated that the purpose of the stream buffer is to serve as a filter of the water running into the creek. He explained that it does not just affect the water from Mr. Nafar's lot, but the whole creek basin. Mr. Heines stated that reducing the buffer zone reduces the ability of the filter.

Mr. Heines stated that the reason the ordinance was passed in 2008 is because the City and MSD are co-permittees for stormwater and water quality functions around St. Louis County. He explained that numerous other communities are also involved. Mr. Heines stated that MSD negotiates with Missouri Department of Natural Resources on the goals of the City during a 5 year period. Mr. Heines stated that there are assignments to be accomplished each year in order to maintain the co-permittee status, and the assignment in 2008 was to pass and enforce the stream buffer protection ordinance.

Mr. Heines stated that he has serious concerns that approving this variance request could cause the City' to lose its co-permittee status with MSD. Mr. Heines explained that the loss of the co-permitee status with MSD would mean that the City would be responsible for staffing and running its own permit process with DNR. Mr. Heines also explained that the City does not have the staff or resources to handle the loss of the co-permittee status..

Mr. Wilen asked how many miles of creek are in the City. Mr. Heines stated he believes there are 22 miles of stream. Mr. Wilen asked if this project will only affect approximately 200ft of stream. Ms. Garson stated that this case will set the precedence for how the City will enforce the stream buffer variance for cases in the future.

Ms. Garson added that City Staff is currently seeing the effects of unmitigated development from before stormwater and stream buffer protections were in place. She explained that the watershed management plan has found that many of the streams and creeks are in poor condition and needing repair due to the amount of water added from increased impervious surface. Ms. Garson stated that the water quality will also suffer.

Ms. Garson stated that the creek that runs through Mr. Nafar’s lot is in the Deer Creek watershed. She explained that the Deer Creek Watershed Alliance is working to improve the water quality and the City has been a part of those efforts. Ms. Garson stated that the City’s contribution to improving water quality is through maintaining streambank buffers.

Mr. Nafar stated that he believes his variance request should be granted regardless of these concerns due to the uniqueness of his lot.

Ms. Karr entered the exhibits to the record.

Mr. Wilen made a motion to continue the item to the next meeting. Mr. Kostelc seconded. All in favor.

BUSINESS FROM STAFF

None

MINUTES
CITY OF CREVE COEUR
BOARD OF ADJUSTMENT
CITY COUNCIL CHAMBER
AUGUST 17, 2023
4:00 PM

ADJOURNMENT

The meeting adjourned at 6:40 PM.

Submitted by:

Recording Secretary

Chair

city of CREVE COEUR

300 North New Ballas Road • Creve Coeur, Missouri 63141

(314) 432-6000 • Fax (314) 872-2539

APPLICATION TO THE BOARD OF ADJUSTMENT

#23-07: VARIANCE REQUEST FOR THE PROPERTY AT 7 SHERWYN LANE TO ENCROACH 13 FEET INTO THE 50 FOOT FRONT YARD SETBACK, AS REQUIRED BY SECTION 405.250, IN ORDER TO EXPAND THE FOOTPRINT OF THE EXISTING HOUSE

Key Issues:
- Impact to neighborhood
- Property versus owner hardship

Zoning Code References
- Section 405.250: "A" Single-Family Residential
- Section 405.610: Non-conformities
- Section 405.1040: Board of Adjustment
- Section 405.1110 Variances and Appeals

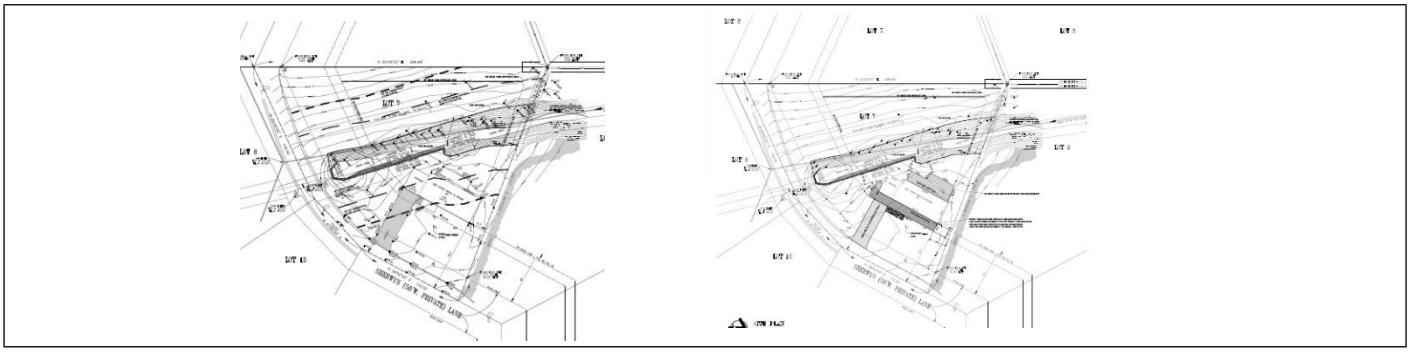
FOR THE MEETING OF: Thursday, November 30, 2023

SUBJECT PROPERTY LOCATION: 7 Sherwyn Lane, Zoned "A" Single Family Residential District.

REQUEST: David Nafar, owner, of 7 Sherwyn Lane within the "A" Single Family Residential Zoning District, has submitted an application for two types of variance requests in order to expand the footprint of the existing one-story home. The proposed additions will encroach 13 feet into the required 50-foot front yard setback per Section 405.250. The additions are also proposed to be built within the 25-foot undisturbed natural vegetative buffer and also within the additional 25-foot buffer beyond the undisturbed natural vegetative buffer where impervious cover shall be limited as required under the Stream Buffer Protection Regulations, Section 430.050. The total area of disturbance within both buffers is 2,212 square feet with 312 square feet of that being added as additional impervious area. Each variance request is subject to a separate set of requirements that must be met in order for a variance to be granted.

ADDITIONAL INFORMATION: For clarity purposes, the two types of variance requests involved in the project will be handled in two staff reports since each variance has a different set of criteria and requires a separate vote. In December of 2008, a similar variance request at this property was applied for by the owner, Mr. Nafar, and approved but the project was put on hold. The previous variance requests were for encroachments of 10 feet into the required 50-foot front yard setback and 4 feet into the required 15-foot side yard setback. The Stream Buffer Protection Regulations were not applied to the project in 2008. The project was postponed, and the variance approval lapsed. In August of 2023, the project came before the Board of Adjustment and was tabled. Since that time, the request has changed, and the new request will be discussed in the following staff report.

OWNER/ APPLICANT: David Nafar
7 Sherwyn Lane
Creve Coeur, MO 63141



REPORT PREPARED BY: Bethany L. Moore, City Planner; Jason W. Jaggi, AICP Director of Community Development

DATE: 11/14/2023

ATTACHMENTS: Applicant's Materials submitted September 8, 2023.

SUMMARY OF VARIANCE REQUESTS AND BOARD OF ADJUSTMENT REVIEW

This application involves two separate and distinct requests from two different chapters of the City's code of ordinances, Chapter 405 the Zoning Ordinance and Chapter 430 Stream Buffer Protection Regulations. The first request involves one setback variance from the required front yard. The variance is from the regulations found in Section 405.250.E.4 of the Zoning Code which establishes minimum setbacks for lots within the "A" Single Family Residential District.

The second request involves variances from the 25-foot undisturbed natural vegetative buffer and also within the additional 25-foot buffer beyond the undisturbed natural vegetative buffer where impervious cover shall be limited. These variances are from the requirements of Section 430.050 of the Stream Buffer Protection Regulations.

As previously stated, the two types of variance requests involved with the project will be handled in two staff reports since each variance has a different set of criteria and requires a separate motion and vote. All variances would need to be approved by the Board of Adjustment in order for the applicant to construct the additions as presented on the submitted plans.

PROJECT BACKGROUND

The subject property is located at 7 Sherwyn Lane in the Sherwyn Lane Subdivision that received final plat approval in 1953 under Ordinance 88. It is a 1-acre property in the "A" Single-Family Zoning District where the minimum lot size is 1 acre. The subject property has a creek running through the middle of it that was platted with a 20 foot "Storm Water Easement" around it, as shown on the plat below in Figure 1. This creek also runs through lots 8 and 9 as shown in Figure 1, highlighted in yellow. The applicant is seeking to expand the existing footprint of the house through additions that will encroach 13 feet into the required 50-foot front yard setback and will also increase the impervious surface within the two, 25-foot stream buffers. The criteria for a variance from the Stream Buffer Protection Regulations is addressed in a separate staff report prepared by the Public Works Department and is included in the meeting packet.

In December 2008, the applicant, David Nafar, was granted two similar variances to encroach 10 feet into the required 50-foot front yard setback and 4 feet into the required 15-foot side yard setback in order to expand the footprint of the existing house. The Stream Buffer Protection Regulations were approved the same year as the variance requests, 2008, and were not applied to this project likely because of the overlap in time. In August of 2023, the applicant applied for variances to encroach 15 feet into the required 50 foot front yard setback, 5 feet into the required 15 foot setback and to add 2,230.7 square feet of additional impervious area into the stream bank buffers. That application was tabled at the August BOA meeting and the applicant's request has since been revised. The following review will be based solely on the revised variance request.

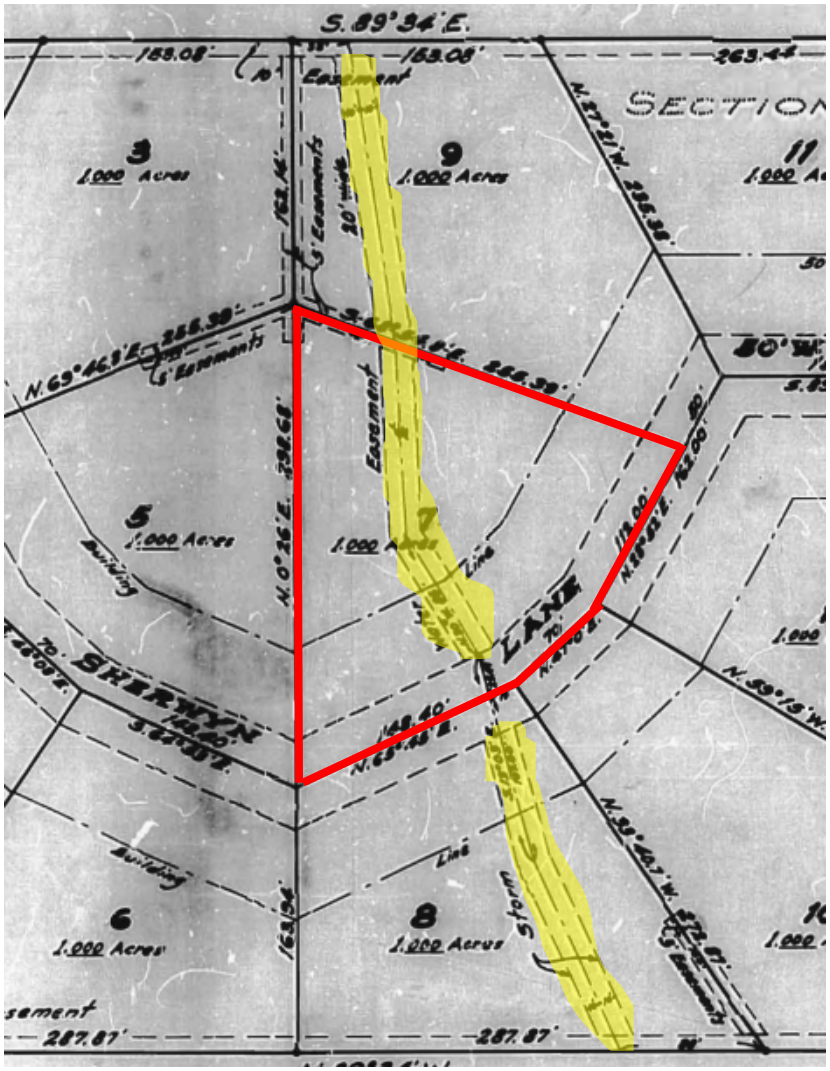


Figure 1: 1953 approved Plat for Sherwyn Lane Subdivision with 7 Sherwyn Lane outlined in red and existing creek in yellow.

BASIS FOR APPEAL AND STATED HARDSHIP

The applicant's stated basis for requesting the variances is a desire to expand the existing one-story house through the construction of additions to the front, rear and side of the house. However, the lot has a creek running through the middle of it with a substantial MSD easement around it as well as two, 25-foot buffers on either side of the stream bank which significantly reduce the buildable area of the lot. The existing house is built at the existing front yard and side yard setbacks and has limited ability to be expanded without a setback variance or a second story. The majority of the existing house sits within the two 25-foot stream bank buffers, as will the proposed additions, which are covered under a separate staff report. The applicant is seeking a variance to encroach 13 feet into the required 50-foot front yard setback per Section 405.250, in order to construct the additions to the house.

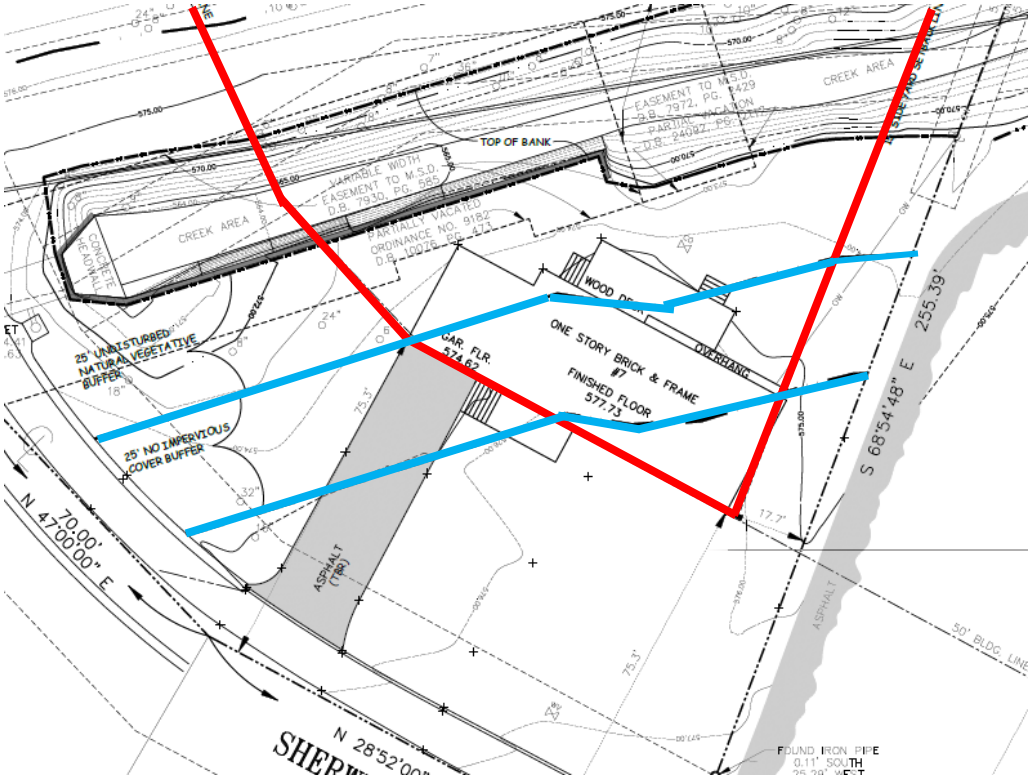


Figure 2: Existing house shown within the existing setbacks in red and within the two, 25-foot stream bank buffers in blue.

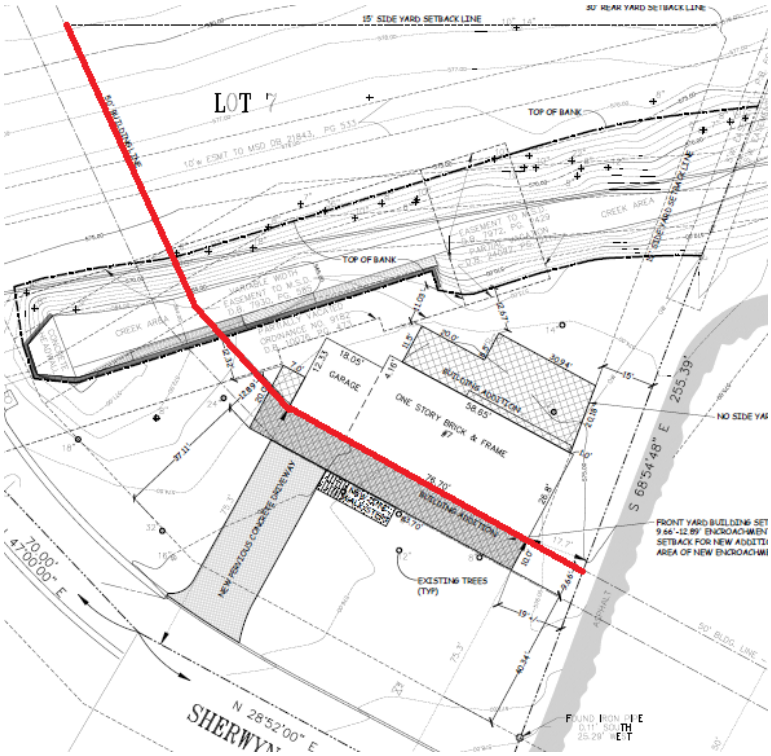


Figure 3: Proposed additions with front yard setback shown in red.

LAND USE AND ZONING OF SURROUNDING PROPERTIES

The adjacent zoning and land uses are as follows:

DIRECTION	USE	ZONED	SEPARATED BY
North	Residence, Sherwyn Lane Subdivision	A-Single-Family Residential	N/A
South	Residence, Sherwyn Lane Subdivision	A-Single-Family Residential	Sherwyn Lane
East	Residence, Sherwyn Lane Subdivision	A-Single-Family Residential	N/A
West	Residence, Sherwyn Lane Subdivision	A-Single-Family Residential	N/A

STAFF ANALYSIS

Performing an analysis of a variance appeal primarily requires a six-part examination of the facts, as required by *Section 405.1100, Criteria for Variances, Generally*, of the Zoning Ordinance. To wit:

1. **The variance requested arises from a condition which is unique to the property in question and which is not ordinarily found in the same zoning district;**

While it is not unusual to have a creek on a property with easements and subject to the Stream Buffer Protection Regulations of Chapter 430 in the city, it is unusual to have a creek run through the middle of a lot. The creek in question also runs through the lot to north of the subject property, 9 Sherwyn Lane, and through the lot to the south of the subject property, 8 Sherwyn Lane, subject to the same restrictions but the creek's location on those lots does not limit the buildable area in the same way as is present at 7 Sherwyn Lane.

2. **The variance requested is because of a unique hardship not created by the applicant nor the owner of the property;**

The lot pattern that resulted in the creek, with easement and Stream Buffer Protection Regulation requirements, located in the middle of the applicant's lot that limits the buildable area was not created by the applicant. However, it is the Applicant's decision to pursue additions that do not meet the setback requirements. It should be noted that the home itself is within the required setbacks but is located at the setback lines for the front yard and side yard setbacks due to the location of the creek and cannot be extended in these locations without a variance. Staff have suggested the applicant consider alternatives to expand the square footage of the house without requiring a variance through a second story over the existing footprint. The applicant has stated that the existing foundation would not support a second story but has not provided any documentation to support this statement. The applicant has also stated that due to the limited footprint of the house, functional requirements, and accessibility concerns, a second story would not be suitable for their specific needs and circumstances.

3. **The granting of the variance shall not adversely affect adjacent property owners or residents;**

The primary considerations in reviewing this finding are the serpentine line of the road and the triangular shape of the lot. The curve of the road along the front of the applicant's property makes the house more prominent in the public view. The proposed front addition would expand the house closer to Sherwyn Lane

if the variance to encroach 13 feet into the required 50-foot front yard setback is approved. As a result, granting this variance may be more apparent than on a more conventional lot. The front yard variance request would be visually impactful to adjacent residents because it is a less typical variance request and disturbs the existing character of the neighborhood while also being subject to the curve in the road causing the house to be more prominent. Only three front yard variances have been granted in the last 5 years and 2 were due to a non-conforming lot and 1 was due to a reconstruction of an existing non-conforming building. This neighborhood has been subject to several demolitions and new constructions on existing lots throughout the decades-long history of the development. None of these properties have received variances to encroach into the front yard setback which would make this request, if approved, unusual for the neighborhood. This scenario could be considered an adverse effect to the residents, but that determination is up to the Board based on the information provided.

4. **The strict application of the provisions of the Zoning Ordinance from which a variance is requested, will cause severe practical difficulty or extreme hardship for the property owner represented in the application;**

Severe practical difficulties or extreme hardships arise when a homeowner has no option to improve their property in a way that would not violate the provisions of the zoning ordinance. The question before the Board, therefore, is whether or not the applicant has no other options, and it appears that they do. The option to add a second floor to the house, rather than expanding the existing single-story ranch, has not been ruled out and would not require a setback variance. The applicant has stated that the foundation will not support a second story but upon staff request indicated that no structural review has been done to support that claim.

5. **The variance desired will not adversely affect the public health, safety, order, convenience, or general welfare of the community, and**

Nothing in the request for front-yard variance request will affect the public health, safety, order, convenience, or general welfare of the community.

6. **Granting the variance desired will not violate the general spirit and intent of this Chapter.**

The need for a variance arises due to a variety of circumstances where strict application of the zoning code is not feasible. Variances offer relief in these cases. The subject property is severely limited in its buildable area due to the location of the existing creek. The setback requirements for each zoning district help to reserve uniform open green space and create distance between adjacent property owners' improvements. Front yard variances are less common than other variance requests and would be more visible to the general public, especially due to the curve of the road around the property. Such a request has not been granted in the surrounding neighborhood, except for the expired approval previously granted to this applicant. If the Board members believe that the shorter front yard setback is unacceptably disruptive in this location and given that another option might be available, then they should find that the variance requests will violate the spirit and intent of the Chapter.

Additional Criteria for Non-Use Variances
In addition to the above, Section 405.1110.E. *Criteria for Area Variances*, states that an applicant for an area variance must meet the following criteria:

1. **By reason of exceptional narrowness, shallowness or shape of the specific piece of property, or where by reason of exceptional topographical conditions or other extraordinary or exceptional circumstances that the strict application of the terms of the zoning regulations actually create a hardship to the property in a manner dissimilar to that of other similarly situated property in the zoning district in which it is located.**

As established above, the location of the MSD easement and the stream bank buffers through the middle of the lot limits to an extraordinary degree the ability of the owner to expand the structure in the way that is proposed due to the buildable area of the lot being reduced. This condition is present on lots 8 and 9 but not quite to the extreme that it is present on the subject property. This does mean that while the condition is not unique to the lot, the extent to which the condition limits the development could represent an exceptional circumstance. Even with the severely limited buildable area present due to the location of the stream on the lot that limits the proposed method of expansion it does not limit all methods of expansion. The existing building could be enlarged through the addition of a second story which would not require setback variances and would not add any additional impervious coverage within the stream bank buffers. The applicant has stated that this alternative will not fit their specific needs.

2. **Granting the variance would not result in the diversion of additional stormwater that would adversely affect adjacent property.**

Per the calculations provided on the plans, granting the variance would not result in the diversion of additional stormwater that would adversely affect adjacent properties. Runoff will be directed to the porous paver detention system or the rain garden. Slopes indicate that surface flows from this site will enter the creek or the stormwater inlet on the south side of the lot. Please refer to the Department of Public Works staff report for additional information and analysis related to stormwater, which is a component of Chapter 430 and the variances that are being sought under that Chapter.

ACTION

Following its deliberation, the Board of Adjustment may vote in favor or against a motion to approve the request. Pursuant to Section 405.1110 of the Zoning Code, approval of a variance requires written findings of fact supporting the specified variance criteria. In order to make the vote on the application clear, an affirmative motion should be made, and members can vote to approve or disapprove that motion. An example motion for the requested variance to the front yard setback would be:

> "I move to approve a variance allowing the reduction of the front-yard setback to 37 feet where 50 feet is the minimum required in the "A" Single Family Residential zoning district for 7 Sherwyn Lane based upon a positive finding that:
>
> 1. The variance requested arises from a condition which is unique to the property in question, and which is not ordinarily found elsewhere in the same zoning district;
> 2. The variance requested is because of a unique hardship not created by the Applicant and owner of the property;
> 3. The granting of the variance will not adversely affect adjacent property owners or residents;
> 4. The strict application of the front-yard setback will cause severe practical difficulty and extreme hardship for the property owner represented in the application;
> 5. The proposed variance will not adversely affect the public health, safety, order, convenience or general welfare of the community;
> 6. Granting the setback variance will not violate the general spirit and intent of this Chapter;
> 7. By reason of exceptional circumstances due to the location of the creek on the lot, the strict application of the setback requirements actually creates a hardship to the property in a manner dissimilar to that of other similarly situated property in the zoning district; and,
> 8. Granting the variance will not result in the diversion of additional stormwater that would adversely affect adjacent property."

If the Board wishes to modify the application or add specific conditions of approval, they should do so by separate motion, prior to voting on the overall approval for the variances.

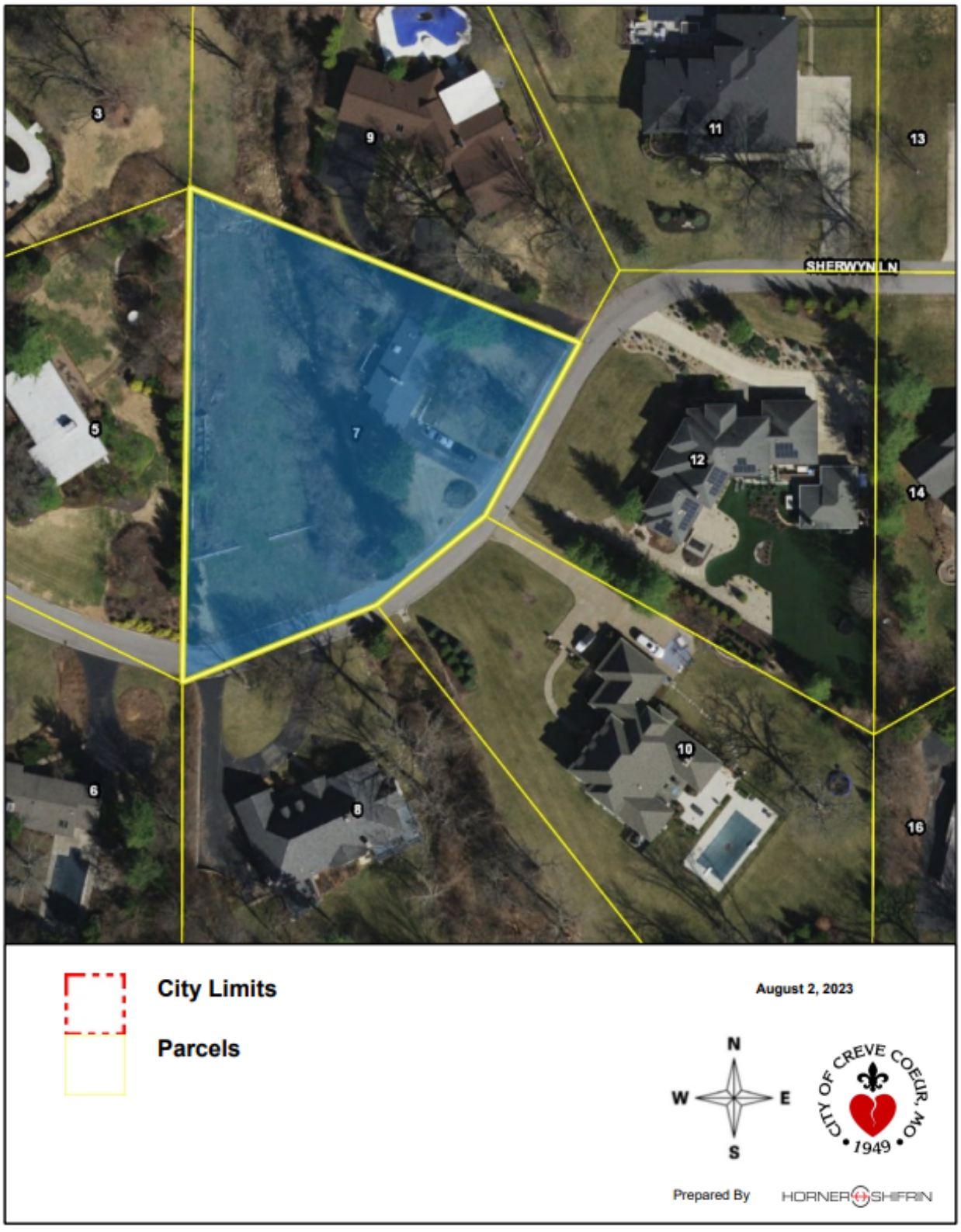
After the Board reaches a final decision regarding the request, a follow-up motion directing Staff to prepare and authorizing the Chair to execute the Findings of Fact and Conclusions of Law should be made. An example of such motion is:

> "I move to direct Staff to prepare and authorize the Chair of the Board of Adjustment to execute Findings of Fact and Conclusions of Law regarding the front-yard setback variance requested for 7 Sherwyn Lane based upon the testimony received and the deliberations of the Board on this application, as decided on November 30, 2023."

APPENDIX 1: COMPREHENSIVE PLAN
Included and attached by reference. See body of report for specific excerpts.

APPENDIX 2: ZONING CODE
Included and attached by reference. See body of report for specific excerpts.

APPENDIX 3: AERIAL PHOTO



APPENDIX 4: SITE PHOTOGRAPHS

	Description: Existing house.
	Description: Location of the creek behind the trees. Trees and brush make visibility difficult.
	Description: Photo from 2008 staff report showing creek conditions.

city of CREVE COEUR

300 North New Ballas Road • Creve Coeur, Missouri 63141

(314) 432-6000 • Fax (314) 872-2539

APPLICATION TO THE BOARD OF ADJUSTMENT

#23-07: VARIANCE REQUEST FOR THE PROPERTY AT 7 SHERWYN LANE TO ADD 85 SQUARE FEET OF IMPERVIOUS SURFACE AND DISTURB APPROXIMATELY 1,296 SQUARE FEET IN THE NO IMPERVIOUS BUFFER PLUS ADD 227 SQUARE FEET OF IMPERVIOUS AREA AND DISTURB 916 SQUARE FEET IN THE NO DISTURBANCE STREAM BUFFER. BOTH VARIANCES ARE REQUESTED FOR THE PURPOSE OF ADDING FIRST FLOOR LIVING SPACE TO THE HOME.

Key Issues:
- Impact to Stream Buffer

Zoning Code References
- Section 405.250: "A" Single-Family Residential
- Section 405.1040: Board of Adjustment
- Section 405.1110 Variances and Appeals
- Section 430.050 Land Development Requirement

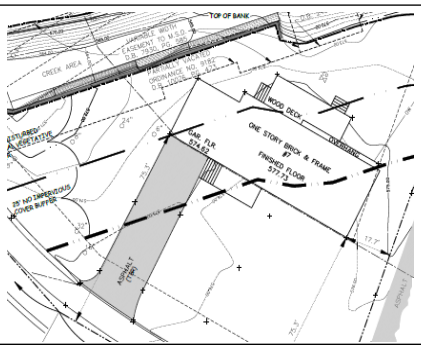
FOR THE MEETING OF: November 30, 2023

SUBJECT PROPERTY LOCATION: 7 Sherwyn Lane, Zoned "A" Single Family Residential District.

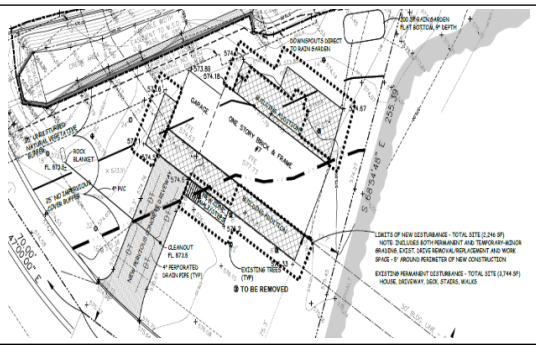
REQUEST: David Nafar, owner of 7 Sherwyn Lane within the "A" Single Family Residential Zoning District, has submitted an application for a variance request to add 85 square feet of impervious area and disturb 1,296 square feet in the no imperious buffer and add 227 square feet of impervious area and disturb 916 square feet in the no disturbance stream buffer required per Section 430.050 (A) in order to expand first floor living space of the house.

ADDITIONAL INFORMATION: *Per Section 430.050 (A), streams shall have an undisturbed natural vegetative buffer for twenty-five (25) feet, measured horizontally, on both banks (as applicable) of the stream as measured from the top of the stream bank. An additional setback shall be maintained for twenty-five (25) feet, measured horizontally, beyond the undisturbed natural vegetative buffer in which all impervious cover shall be prohibited. Grading, filling, and earthmoving shall be minimized within the setback.*

OWNER/ APPLICANT: David Nafar
7 Sherwyn Lane
Creve Coeur, MO 63141



Existing



Proposed

REPORT PREPARED BY: Dione Garson, P.E., Civil Engineer (resume include in agenda packet)
DATE: 11/13/2023
ATTACHMENTS: Applicant's materials submitted

BASIS FOR APPEAL AND STATED HARDSHIP

The subject property is one acre in the "A" Single-family Residential Zoning District. The site is a pie-shaped lot located in the Sherwyn Lane Subdivision. The property is bisected by a stream that flows north to south. The west side of the property slopes moderately (15%) from west to east towards the stream and contains no improvements. The portion of the site east of the stream slopes gently (3 to 4%) from east to west towards the stream. This side of the site contains the house, an asphalt driveway, a rear yard deck, and front entry walkway. The section of the stream that flows through the lot has a combination of structural and non-structural banks. A concrete wall (eight feet high from the stream bed) contains the stream for about 50% of its course along the east bank. The wall extends above the grade of the adjacent ground by about two inches. The other approximately 50% of the east bank and the west bank have steep (2:1+) vegetated slopes.

The house was constructed in about 1955. The home is about 1,600 square feet and is constricted by building setbacks and physical site characteristics. The stream buffer runs along approximately 93% of the total permitted building area. Approximately 81% of the existing home is already in the stream buffer.

The homeowner is requesting variances to expand the first floor living area. Given the location of the stream and shape of the lot, expanding first floor living area outside the stream buffer and behind setbacks would be difficult.

This request to disturb and add impervious area within the stream buffer involves a variance to the Stream Buffer Protection Regulations found in Chapter 430 of the City's code of ordinances. Specifically, the following two sections:

- Section 430.050(A)(1) *Buffer and Setback Requirements* states that for all streams, "an undisturbed natural vegetative buffer shall be maintained for twenty-five (25) feet, measured horizontally, on both banks (as applicable) of the stream as measured from the top of the stream bank."
- Section 430.050(A)(2) *Buffer and Setback Requirements* states "an additional setback shall be maintained for twenty-five (25) feet, measured horizontally, beyond the undisturbed natural vegetative buffer, in which all impervious cover shall be prohibited. Grading, filling, and earthmoving shall be minimized.

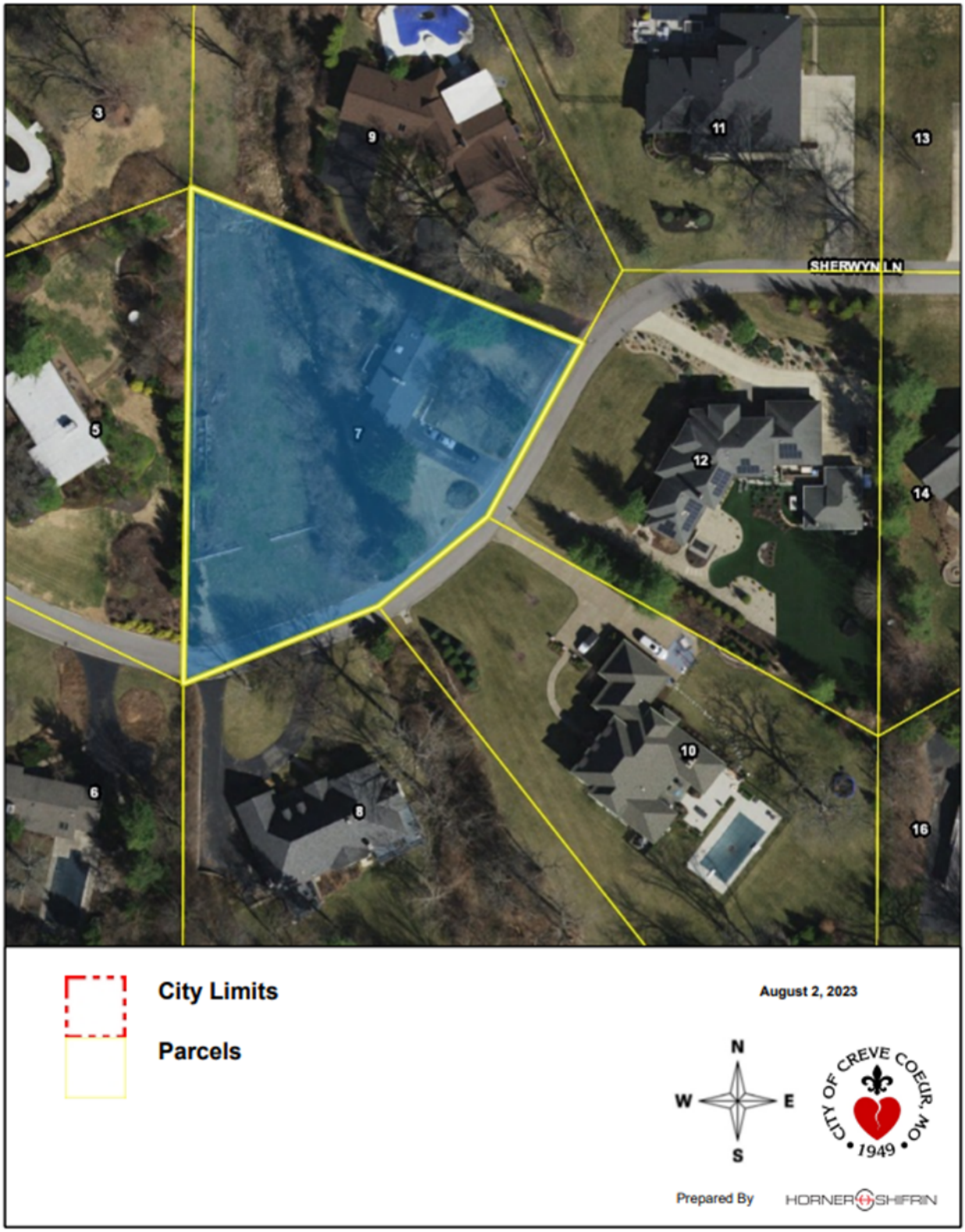


Figure 1: St. Louis County GIS Image of 7 Sherwyn Lane Property in blue.

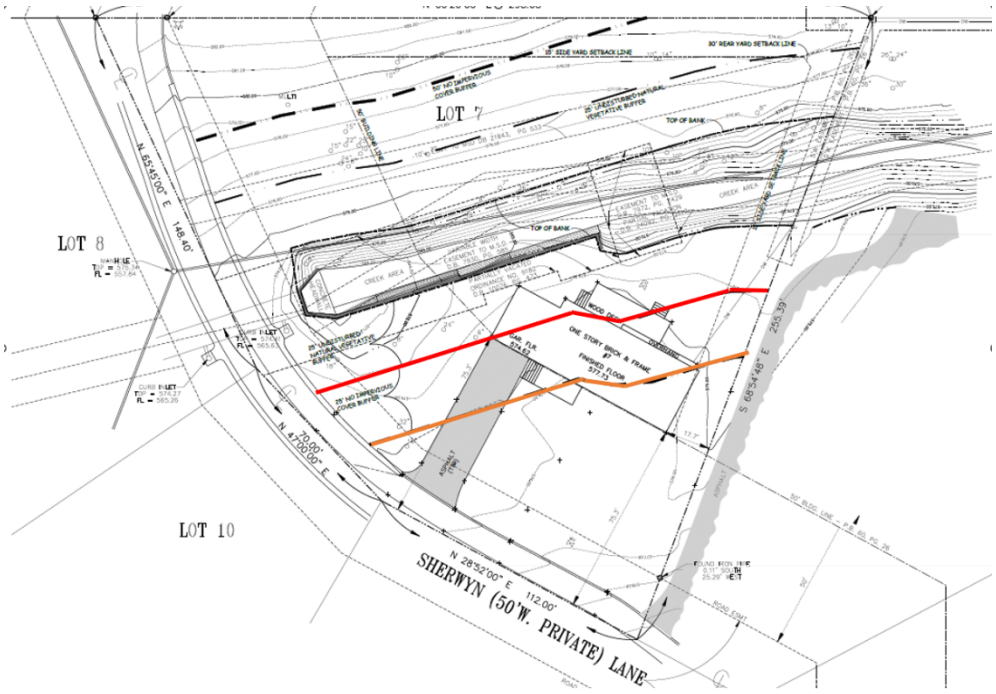


Figure 2: Site Plan that shows existing conditions. The no disturbance buffer is marked with a red line. The no impervious buffer is marked with an orange line.

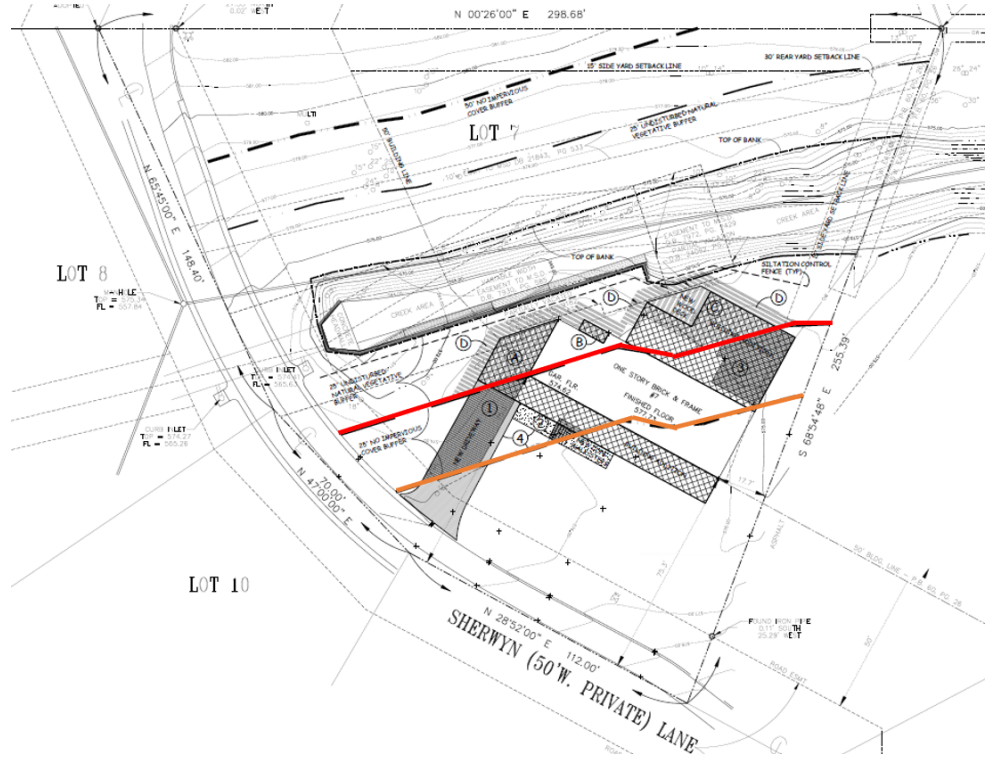


Figure 3: Site Plan that shows proposed conditions submitted to the City for the September Board of Adjustment meeting. The no disturbance buffer is marked with a red line. The no impervious buffer is marked with an orange line.

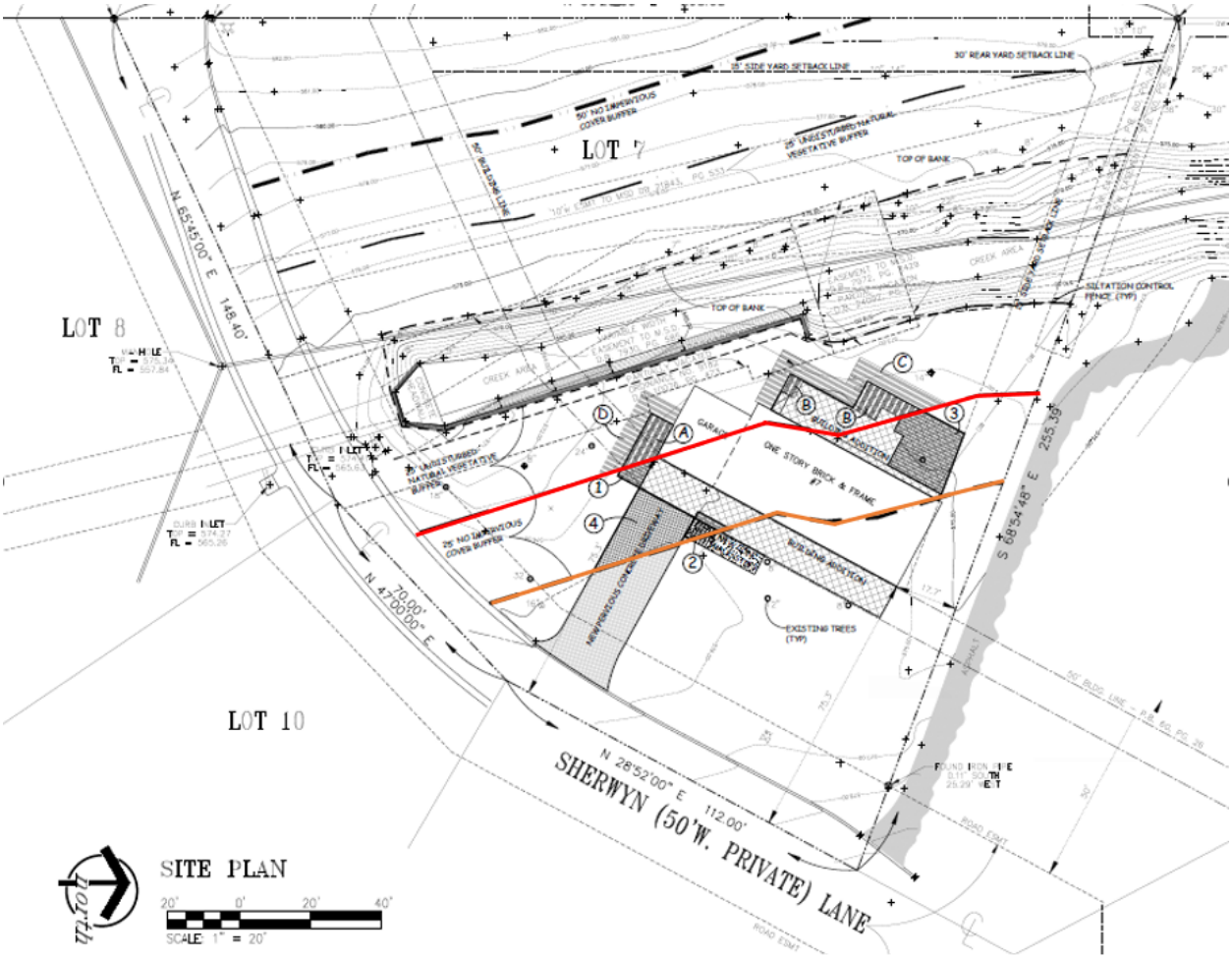


Figure 4: Site Plan that shows revised proposed conditions submitted to the City for the October Board of Adjustment meeting. The no disturbance buffer is marked with a red line. The no impervious buffer is marked with an orange line.

LAND USE AND ZONING OF SURROUNDING PROPERTIES

The adjacent zoning and land uses are as follows:

DIRECTION	USE	ZONED	SEPARATED BY
North	Residence, Sherwyn Lane Subdivision	A-Single-Family Residential	N/A
South	Residence, Sherwyn Lane Subdivision	A-Single-Family Residential	Sherwyn Lane
East	Residence, Sherwyn Lane Subdivision	A-Single-Family Residential	N/A
West	Residence, Sherwyn Lane Subdivision	A-Single-Family Residential	N/A

A variance request for relief from Section 430.050 for the stream buffer requirements is a separate and different process than a variance request for relief from the Zoning Code. The variance procedures related to the stream buffers are laid out in Section 430.050(B) *Variance Procedures* which states:

1. *Where a parcel was platted prior to the effective date of this Chapter, and its shape, topography or other existing physical condition prevents land development consistent with this Chapter, and the Department of Public Works finds and determines that the requirements of this Chapter prohibit the otherwise lawful use of the property by the owner, the Board of Adjustment of the City of Creve Coeur may grant a variance from the buffer and setback requirements hereunder, provided such variance requires mitigation measures to offset the effects of any proposed land development on the parcel.*

2. *Except as provided above, the Board of Adjustment of the City of Creve Coeur shall grant no variance from any provision of this Chapter without first conducting a public hearing on the application for variance and authorizing the granting of the variance by an affirmative vote of four (4) members of the Board of Adjustment, according to the requirements and procedures in Section 405.1110, Variances and Appeals, of the Zoning Code.*

   Variances will be considered only in the following cases:

   a. *When a property's shape, topography or other physical conditions existing at the time of the adoption of this Chapter prevents land development unless a buffer variance is granted.*

   b. *Unusual circumstances when strict adherence to the minimal buffer requirements in the ordinance would create an extreme hardship.*

      Variances will not be considered when, following adoption of this Chapter, actions of any property owner of a given property have created conditions of a hardship on that property.

3. At a minimum, a variance request shall include the following information:

   a. *A site map that includes locations of all streams, wetlands, floodplain boundaries and other natural features as determined by field survey;*

   b. *A description of the shape, size, topography, slope, soils, vegetation and other physical characteristics of the property;*

   c. *A detailed site plan that shows the locations of all existing and proposed structures and other impervious cover, the limits of all existing and proposed land disturbance, both inside and outside the buffer and setback. The exact area of the buffer to be affected shall be accurately and clearly indicated;*

   d. *Documentation of unusual hardship should the buffer be maintained;*

   e. *At least one (1) alternative plan, which does not include a buffer or setback intrusion, or an explanation of why such a site plan is not possible;*

   f. *A calculation of the total area and length of the proposed intrusion;*

   g. *A stormwater management site plan, if applicable; and*

h. Proposed mitigation, if any, for the intrusion. If no mitigation is proposed, the request must include an explanation of why none is being proposed.

4. following factors will be considered in determining whether to issue a variance:

a. The shape, size, topography, slope, soils, vegetation and other physical characteristics of the property;

b. The locations of all streams on the property including along property boundaries;

c. The location and extent of the proposed buffer or setback intrusion;

d. Whether alternative designs are possible which require less intrusion or no intrusion;

e. The long-term and construction water-quality impacts of the proposed variance; and

f. Whether issuance of the variance is at least as protective of natural resources and the environment.

STAFF ANALYSIS

The plan was reviewed by Dione Garson, P.E., Civil Engineer with the City of Creve Coeur.

Reading Chapter 430 Stream Buffer Protections Regulations, the first step in considering the question of stream bank variances is to determine applicability, which is defined in Section 430.040. Subsection C lists exempt activities.

Section 430.040 (C) Exemptions: The following specific activities are exempt from this Chapter. Exemption of these activities does not constitute an exemption for any other activity proposed on a property.

1. Activities for the purpose of building one (1) of the following:

a. A stream crossing by a driveway, transportation route or utility line;

b. Public water supply intake or public wastewater structures or stormwater outfalls;

c. Intrusions necessary to provide access to a property;

d. Public access facilities that must be on the water including boat ramps, docks, foot trails leading directly to the river, fishing platforms and overlooks;

e. Unpaved foot trails and paths;

f. Activities to restore and enhance stream bank stability, vegetation, water quality and/or aquatic habitat, so long as native vegetation and bioengineering techniques are used.

2. Public sewer line easements. This includes such impervious cover as is necessary for the operation and maintenance of the utility including, but not limited to, manholes, vents and valve structures. This exemption shall not be construed as allowing the construction of roads, bike paths or other

transportation routes in such easements, regardless of paving material, except for access for the uses specifically cited in Subsection (C)(1) above.

3. Land development activities within a right-of-way existing at the time this Chapter takes effect or approved under the terms of this Chapter.

4. Within an easement of any utility existing at the time this Chapter takes effect or approved under the terms of this Chapter, land disturbance activities and such impervious cover as is necessary for the operation and maintenance of the utility including, but not limited to, manholes, vents and valve structures.

5. Emergency work necessary to preserve life or property. However, when emergency work is performed under this Section, the person performing it shall report such work to the Department of Public Works on the next business day after commencement of the work. Within ten (10) days thereafter, the person shall apply for a permit and perform such work within such time period as may be determined by the review and permitting authority to be reasonably necessary to correct any impairment such emergency work may have caused to the water conveyance capacity, stability or water quality of the protection area.

6. Forestry and silviculture activities on land that is zoned for forestry, silvicultural or agricultural uses and are not incidental to other land development activity. If such activity results in land disturbance in the buffer that would otherwise be prohibited, then no other land disturbing activity other than normal forest management practices will be allowed on the entire property for three (3) years after the end of the activities that intruded on the buffer.

7. Any activities approved under a 404 permit issued by the Corps of Engineers and 401 water quality certification issued by the Missouri Department of Natural Resources.
After the effective date of this Chapter, it shall apply to new subdividing and platting activities.
Any land development activity within a buffer established hereunder or any impervious cover within a setback established hereunder is prohibited unless a variance is granted pursuant to Section 430.050(B) below.

The proposed work on this site as shown in the plan set does not qualify for an exemption.

The next step is to look at Section 430.050 Land Development Requirements, which lists variance request procedures.

Section 430.050 (B)(2)(a) says variances will be considered only in the following cases:

a. When a property's shape, topography or other physical conditions existing at the time of the adoption of this Chapter prevents land development unless a buffer variance is granted.

b. Unusual circumstances when strict adherence to the minimal buffer requirements in the ordinance would create an extreme hardship.

Variances will not be considered when, following adoption of this Chapter, actions of any property owner of a given property have created conditions of a hardship on that property.

One of the central questions for this variance request appears to be if this site has unusual circumstances when strict adherence to the minimal buffer requirements in the ordinance would create an extreme hardship. Hardship refers to the site not the individual homeowner. If it is possible for a homeowner to develop or redevelop on the land without a variance, then a hardship does not exist. In this case,

development is possible on this site without a variance or lessor variance because it is likely possible for an owner to build a two-story home on the site.

This section also asks if this site has unusual circumstances. City staff did a rough map-based search and found 37 homes approximately 50 feet from a United States Geological Society (USGS) identified stream. This is a conservative estimate. Measurements were made from approximately the center of the stream rather than from the top of stream bank, and stream buffers are measured from the top of stream bank.

If the Board of Adjustment believes that this site has unusual circumstances when strict adherence to the minimal buffer requirements in the ordinance would create an extreme hardship, then a variance request is considered. Please note that the City staff review calculated different areas of disturbance than is listed on the plan set. If the Board of Adjustment approves the variance request, then areas of disturbance and new imperviousness will be verified during permitting.

Section 430.050 (B)(3) lists the minimum information that a variance request should include. The submittal for the proposed work does not include the following requirement:

Section 430.050 (B)(3)(e) at least one (1) alternative plan, which does not include a buffer or setback intrusion, or an explanation of why such a site plan is not possible;

Adding living space to the first floor is difficult given the site's constraints. Adding a second floor might have been an alternative plan that would have added less and perhaps no new impervious area to the stream buffer areas. The submittal did not, however, include an alternate plan.

The homeowner suggested that it is not possible to construct a second story on top of the existing home, but a structural engineering report about the foundation's structural capacity for supporting a second story was not submitted. From the information provided, it seems adding a second story rather than adding onto the first floor living area is undesirable to the applicant. The submittal did not, however, demonstrate that it is impossible to develop an alternative without or with less buffer intrusions.

To satisfy this criterion, the hardship must be on the site not on the homeowner. If it is possible for another homeowner to build a second story home, and building the second story which would require less intrusion or no intrusion into the stream buffer, then the site does not have a hardship.

Sections 430.050 (B)(3)(g) and (h) A stormwater management site plan, if applicable; and Proposed mitigation, if any, for the intrusion. If no mitigation is proposed, the request must include an explanation of why none is being proposed.

This subsection is asking the site, if applicable, to comply with both stormwater quantity and stormwater quality requirements. Chapter 425 *Stormwater Regulations* addresses water quantity, and Chapter 430 *Stream Buffer Protection Regulations* addresses water quality.

Section 425.020 *Applicability* (A) says that Chapter 425 "applies to any site improvement or building addition with a temporary or permanent land disturbance of two thousand (2,000) square feet or more." The proposed work on this site will disturb approximately 2,246 square feet and does not qualify for any of the exemptions listed in Section 425.020 (B). As a result, the site must satisfy Section 425.030 *No Adverse Effect*. Section 425.030 (A) defines no adverse effect as "proposed changes to a property will not increase

the volume, direction, velocity, or intensity of stormwater runoff for adjoining properties for the design storm."

The following section goes on to say that for the purposes of determining "no adverse effect," the design storm shall be 15-year rainfall intensity for a duration of twenty (20) minutes (15-year, 20-minute storm).

1. Table 4-2 of the MSD Regulations lists specific stormwater runoff rates for the design storm.

2. The determination of the change to the site's stormwater runoff rate will be based upon comparing the stormwater runoff rates in MSD's Table 4-2 for the existing and proposed conditions of the site.

The plan set shows that the increase in the runoff release rate from existing to proposed conditions will be 0.009 cubic feet per second (cfs). To have no adverse effect, the site must detain the volume of water that is equal to the increase in runoff release rate for the duration of the design storm. The duration of the design storm is twenty (20) minutes. For this site, the volume that needs to be detained is 0.009 cfs multiplied by 1,200 seconds (20 minutes), which equals about 11 cubic feet.

Sections 430.050 (B)(3)(h) asks if any mitigation is proposed for the intrusion. If no mitigation is proposed, the request must include an explanation of why none is being proposed.

To calculate the amount of mitigation the site would provide, the plan set uses 155.19 square feet as the area of new imperviousness in the buffer zones. Tables on the plan set page 3 of 4, however, appear to show that 227.35 square feet of impervious area will be added to the no disturbance buffer and 85.01 square feet of impervious area will be added to the no impervious buffer. Adding these areas shows 312.36 square feet of new imperviousness will be added to both buffers.

Using the values assumed in the tables, approximately 312 square feet of impervious area was multiplied by 1.14 inches of rain. The 1.14 inches of rain is the depth used in The 2018 *Metropolitan St. Louis Sewer District Rules and Regulations and Engineering Design Requirements for Sanitary Sewer and Stormwater Drainage Facilities* design guidance for sizing water quality best management practices. Using this equation and values, approximately 30 cubic feet of runoff needs to be detained.

To satisfy Chapter 430's requirements, this site must first show the proposed work will have no adverse effect (no change in the quantity of runoff per Chapter 425). The site can do this by detaining approximately 11 cubic feet of stormwater runoff. Next the site needs to mitigate for the loss of stream bank buffer which requires approximately 30 cubic feet of water quality mitigation are needed. Adding the requirements for quantity and water quality equals 40 cubic feet.

Why are water quantity and water quality requirements separate and cumulative?
Adding impervious area to a site increases the amount of runoff from a site. Chapter 425 addresses new flows from new impervious areas. After adding new imperviousness and then detaining 10 cubic feet of new flows, the site's runoff in proposed conditions will be the same as the runoff in the existing conditions. From the stream's perspective, the amount of runoff is the same but now the size of the buffer is smaller. At this point, nothing has been done to mitigate the loss of buffer area. The 10 cubic feet of detention are only keeping the quantity of runoff from increasing.

Chapter 430 goes beyond the water quantity and addresses water quality. This chapter looks at the reduced ability for the buffer to treat all the water that flows across it as it makes its way to the stream – not just the water from proposed site improvements. Water flowing over the buffer comes from beyond

the limits of proposed construction and even beyond the bounds of this lot. The 30 cubic feet of calculated detention are needed to mitigate the loss of stream buffer's ability to treat flows. For the plan to be "at least as protective of natural resources and the environment" the plan must show no increase runoff from the site (quantity) and the plan must also make up for the loss of water quality benefits for existing flows (quality).

To satisfy both Chapters 425 and 430, the site proposes the installation of a porous pavement driveway with detention. The pervious driveway system will provide approximately 129 cubic feet of detention.

A rain garden will also be installed which will provide between 150 cubic feet and 250 cubic feet of detention. If the Board of Adjustment grants the requests for variances, then the exact volume of detention will need to be verified by staff during permit review phase. The raingarden detail on plan sheet 4 of 4 is showing the raingarden will have a surface area of 200 square feet. A detail drawing for the rain garden is a typical raingarden section (in other words a generic drawing of a raingarden) rather than a detail drawing specifically describing the rain garden for this project. If this project moves into permitting, this detail will need to be updated to show the depths of each layer for this specific project. A more precise calculation of detention volume can be calculated after seeing a detail for the rain garden that is proposed for this site.

The case could potentially be made that less water quality detention is required because the creek's concrete retaining wall extends two inches above the grade of the adjacent grade of the buffer. The plan does not mention the effect of the retaining wall on the stream buffer's impact on water quality. For the case to be made that less water quality of detention is required because the buffer is impaired, the City would need to see calculations that showed the reduced impact, if any, of the buffer in the areas with the concrete wall. Even if a variance was granted for areas adjunct to the mechanically stabilized creek bank, approximately half of the areas of disturbance and more than half of the proposed improvements will be within the buffer.

Section 430.050(B)(4)(e and f) the following factors will be considered in determining whether to issue a variance:

e. The long-term and construction water-quality impacts of the proposed variance; and

f. Whether issuance of the variance is at least as protective of natural resources and the environment.

This site is proposing to use porous pavers and a raingarden to mitigate for the loss of stream buffer area. The Metropolitan Sr. Louis Sewer District (MSD) *2018 Final Rules and Regulations and Engineering Design Requirements for Sanitary Sewer and Stormwater Drainage Facilities* lists acceptable urban best management practices (BMPs), and MSD allows these BMPs to be used to meet MSD's water quality volume criteria. Both rain gardens and porous pavers are listed as acceptable urban BMPs.

The City has precedents for incorporating MSD's *2018 Final Rules and Regulations and Engineering Design Requirements for Sanitary Sewer and Stormwater Drainage Facilities.* In contracts for City-funded projects, a standard specification is MSD *2018 Final Rules and Regulations and Engineering Design Requirements for Sanitary Sewer and Stormwater Drainage Facilities*. Chapter 425 also references MSD's *2018 Final Rules and Regulations and Engineering Design Requirements for Sanitary Sewer and Stormwater Drainage Facilities*, and the MSD design storm and Rational Method tables are used for calculating required detention volumes.

The type of BMP and volume of BMP in this plan set meet MSD requirements for water quality.

The City's ordinance, however, does not quantitatively define what "at least as protective" means. It seems the Board of Adjustment can also use best judgement to decide if the issuance of the variance is at least as protective of natural resources and the environment.

In this case, approximately 226 square feet of impervious area are proposed to be added and construction activities will disturb approximately 916 square feet in the buffer zone that is intended to remain undisturbed. Does the Board believe that development and disturbances within the buffer combined with the proposed mitigation are at least as protective as allowing the buffer to remain as it is today?

When considering this question, approximately 200 square feet of the 916 square feet of disturbance in the no disturbance buffer will come from installing the raingarden. When considering if the changes will be at least as protective of natural resources and the environment, the Board of Adjustment could reasonably choose to exclude from their consideration the 200 square feet of disturbance for the installation of the raingarden.

If the plan is considered to be disturbing 916 or 716 square feet in the no disturbance buffer, the central questions still remains the same. In this case, should any areas of disturbance should be allowed in the no disturbance buffer? Secondly, in this case, should any areas of new imperviousness be allowed in the areas protected as no disturbance buffer? Does the proposed mitigation protect water quality and the environment as well as the existing buffer?

In the no impervious cover buffer, approximately 311 square feet of impervious pavement will be replaced by pervious pavement. This area is in the section of the property that is adjacent to the MSD mechanically stabilized creek bank. In the section of the property that is adjacent to the creek without mechanical stabilization, 396 square feet of impervious area will be added in the no impervious cover buffer. In some sections, nearly the entire width of the buffer will be covered by new impervious surface.

The City ordinance also asks the Board of Adjustment to consider the long-term water quality impacts of the proposed variance. In answering this question, board members may consider the impact of setting a precedent. If, in this case, areas of disturbance plus new impervious area are allowed within the no disturbance buffer, what potentially might that mean for long-term quality impacts knowing that conservatively the City has more than 35 other sites that could potentially request a similar variance.

MSD Easement

The proposed addition is adjacent to an MSD easement. MSD has seen the plans. The plans were not; however, formally submitted for a Development Review. In an email to the City, MSD advised that the City or the homeowner could request a formal Development Review. If a formal Development Review is not requested, then MSD will require the project to apply to MSD for an Over-the-Counter Permit. During and after construction, MSD will inspect the mechanically stabilized earth wall to ensure no damage has occurred during construction.

MSD has commented that no above-grade encroachments are shown on the plans, but MSD has not indicated if footings will be allowed to be installed below grease within the MSD easement. If the Board of Adjustment approves the variance request, then before issuing permits the City will require confirmation from MSD that footings within the easement will be allowed.

In summary, staff offers the following findings regarding this variance request:

- The plan did not demonstrate a hardship to the site.
- A hardship to a specific homeowner is not the same as a hardship to the site.
- The plan did not prove that a less intrusive alternative was not possible.
- In the no disturbance buffer, not even grading work can be done without a variance. This plan set is proposing to go beyond disturbance and add permanent impervious area to this buffer.
- In some sections of the no impervious buffer, proposed new imperviousness will cover nearly the entire width of the buffer.

MOTION

Following its deliberation, the Board of Adjustment may vote in favor or against a motion to approve the request. Approval of a variance requires written findings of fact supporting the specified variance criteria. In order to make the vote on the application clear, an affirmative motion should be made, and members can vote to approve or disapprove that motion. An example motion for the requested variances to the stream buffer requirements would be:

> "I move to approve a variance allowing the addition of 1,309 square feet of impervious area and disturbance of 2,061 square feet in the no disturbance buffer and addition of 911 square feet of impervious area and disturbance of 1,593 square feet in the no impervious buffer required per Section 430.050 (A) in order to expand first floor living space of the house in accordance with the application, based on a positive finding that:
>
> *A. The property's shape, topography or other physical conditions existing at the time of the adoption of this Chapter 430 prevents land development unless a buffer variance is granted.*
>
> *B. Strict adherence to the minimal buffer requirements in the ordinance would create an extreme hardship.*
>
> *C. Actions of the property owner have not created conditions of a hardship on that property.*
>
> *D. Alternative designs, which require less intrusion or no intrusion, are not possible.*
>
> *E. The plans to which the variance would apply will be at least as protective of natural resources and the environment as the existing circumstances.*

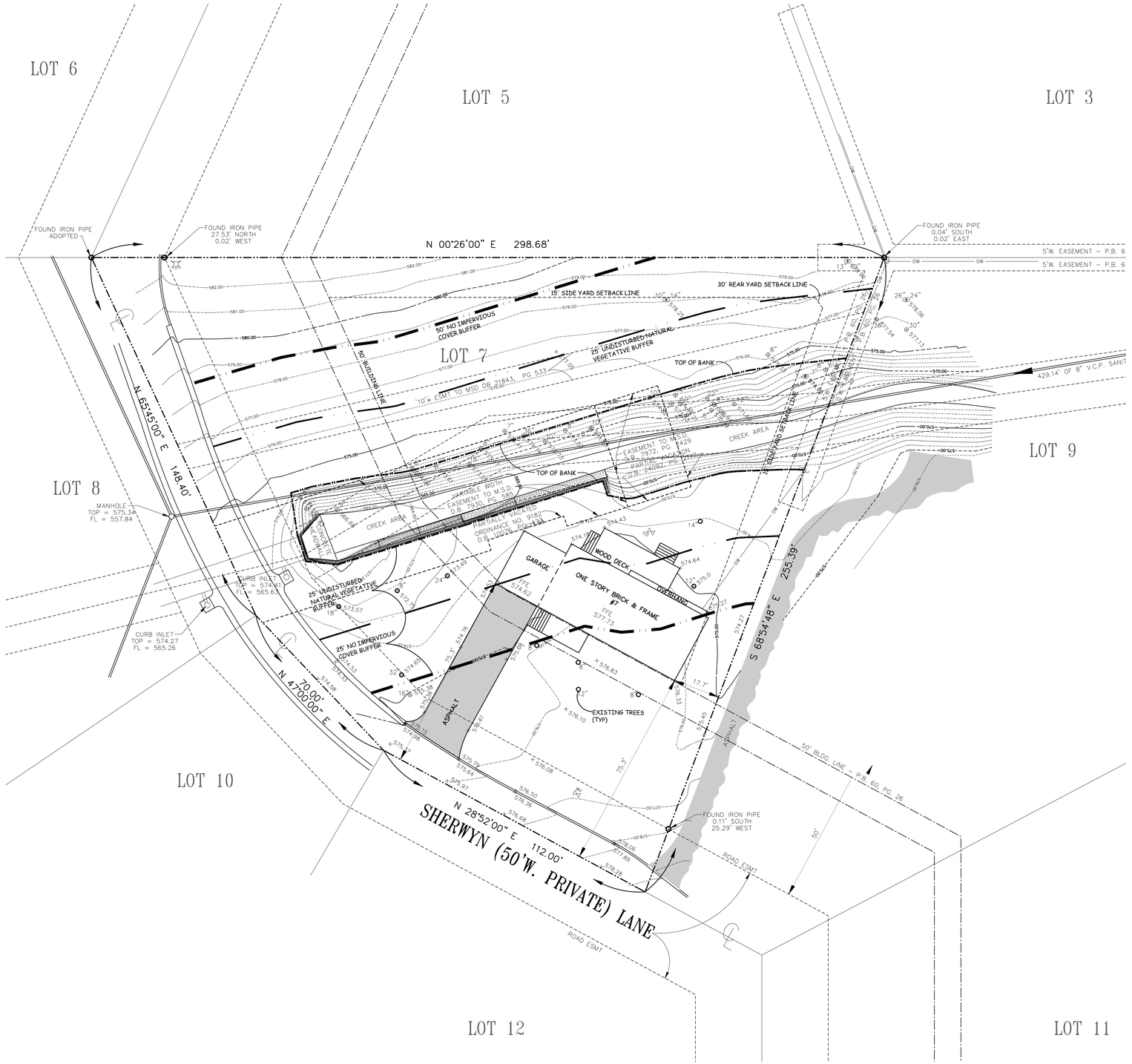
ACTION

After the Board reaches a final decision regarding the request, a motion directing Staff to prepare and authorizing the Chair to execute the Findings of Fact and Conclusions of Law will need to be made. An example of such motion is:

"I move to direct Staff to prepare and authorize the Chair of the Board of Adjustment to execute Findings of Fact and Conclusions of Law regarding the stream buffer variances requested for 7 Sherwyn Lane based upon the testimony received and the deliberations of the Board on this application, as decided on August 17, 2023."

APPENDIX 1: COMPREHENSIVE PLAN
Included and attached by reference. See body of report for specific excerpts.

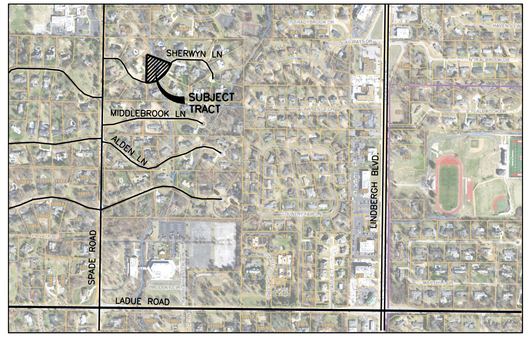
APPENDIX 2: CHAPTER 425 AND CHAPTER 430
Included and attached by reference. See body of report for specific excerpts.



North

SITE PLAN

SCALE: 1" = 20'



North

LOCATION MAP

NOT TO SCALE

PROJECT INFORMATION

Address of Site: #7 Sherwyn Lane
Creve Coeur, MO 63141
Property Owner: David Nafar
#7 Sherwyn Lane
Creve Coeur, MO 63141
Locator Number: 18N-64-0334
Current Zoning: "A" Single Family Residential District
Proposed Zoning: Same
Area of Site: 1.0 ac. (43,570.15 sf - includes Private St. ROW)
New Disturbed Area: 2,246 sf. (0.052 ac.)
Project location: Creve Coeur, Missouri.
FIRM Panel Number: 29189C0191K
Floor Area Ratio (FAR) Calcs:

Exist. Bsmt. Area =	1571.98sf
Exist. First Floor Area	2049.53 sf (Includes Garage and Cantilevered Area)
Proposed Add'n Bsmt Area =	876.08 sf
Proposed Add'n First Floor Area =	876.08 sf + 907.15 sf - 69 sf Cantilevered Area
TOTAL FLOOR AREA =	6,211.82 sf

FAR = Floor Area/Site Area = 6,211.82 / 43,570.15 = 0.143
MAX. FAR = 0.3
Site Coverage Calcs:

Existing Bldg Area =	2,049.53 sf
Existing Impervious (Pavt, Decks) =	1,694.74 sf
TOTAL =	3,744.27 sf

Exist. Site Coverage % = Total Coverage/Site Area = 3,744.27 / 43,570.15 = 0.0859 or 8.6%
Prop. Bldg Area w/ Garage = 2049.53 sf + 876.08 sf + 907.15 - 69 sf = 3,763.76 sf
Proposed Impervious* = (New Front Porch & Steps) = 135.70 sf
TOTAL = 3,899.46 sf
Prop. Site Coverage % = Total Coverage/Site Area = 3,899.46 / 43,570.15 = 0.0895 or 9%
MAX. SITE COVERAGE % = 25%

* Proposed Impervious does not include new pervious concrete driveway
** Note: Above Calcs do not include street pavement area within property limits.

SITE DESCRIPTION

THE SITE IS A PIE SHAPED LOT (1 ACRE) LOCATED IN THE SHERWYN LANE SUBDIVISION, IN CREVE COEUR, MO. THE PROPERTY IS BISECTED BY A SUBSTANTIAL STREAM THAT FLOWS FROM NORTH TO SOUTH. THE PORTION OF THE SITE, WEST OF THE BISECTING STREAM, SLOPES MODERATELY (15%) FROM WEST TO EAST TOWARD THE STREAM AND CONTAINS NO IMPROVEMENTS. THE PORTION OF THE SITE, EAST OF TEH BISECTING STREAM, SLOPES GENTLY (3-4%) FROM EAST TO WEST TOWARD THE STREAM AND CONTAINS IMPROVEMENTS SUCH AS A HOUSE, AN ASPHALT DRIVEWAY, A REAR YARD DECK AND FRONT ENTRY WALKWAY. THE PROPERTY CONTAINS AN EXTENSIVE AMOUNT OF VEGETATION, INCLUDING TREES, SHRUBS AND GROUNDCOVERS. THE STREAM, THAT FLOWS THROUGH THE LOT, POSSESS' A COMBINATION OF STRUCTURAL AND NON-STRUCTURAL BANKS. A CONCRETE WALL (8' HT.) CONTAINS THE STREAM FOR ABOUT 50% OF ITS COURSE ALONG THE EAST BANK WHILE THE REST OF THE EAST BANK AND THE WEST BANK EXHIBIT STEEP (2:1+) VEGETATED SLOPES.

THE HOUSE, LOCATED ON THE EASTERN HALF OF THE SITE, WAS CONSTRUCTED AROUND 1955. THE MODEST SIZED STRUCTURE (APPROX. 1600 SF) IS CONSTRICTED BY BUILDING SETBACKS AND PHYSICAL SITE CHARACTERISTICS. FURTHER COMPOUNDING THE BUILDING RESTRICTIONS ON THIS SITE, A STREAM PROTECTION BUFFER WAS ESTABLISHED IN THE EARLY 2000'S. THE STREAM BUFFER CONSUMES APPROX. 93% OF THE TOTAL PERMITTED BUILDING AREA ON THE LOT AND ENGULFS OVER 81% OF THE EXISTING IMPROVEMENTS, MAKING ANY EXPANSION TO THE EXISTING STRUCTURE OR OTHER IMPERVIOUS IMPROVEMENTS IMPOSSIBLE WITHOUT VARIANCES TO BOTH BUILDING SETBACK AND STREAM BUFFER YARD REQUIREMENTS.

STATE OF MISSOURI
KENNETH J. KEITEL
NUMBER LA-31
LANDSCAPE ARCHITECT
9/6/23

LAND PLANNING
RECREATION PLANNING AND DESIGN
LANDSCAPE ARCHITECTURE
11428 GRAVOIS ROAD SUITE 102
ST. LOUIS, MO 63126
(314)984-8211

terraspec

STATE OF MISSOURI
TODD R. HAWKINSON
NUMBER E-25307
LICENSED PROFESSIONAL ENGINEER
9/6/2023

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MISSOURI.
MO. CERTIFICATE OF AUTHORITY LICENSE NO.: 2010037127
EXPIRATION DATE: 12/31/23

Hawkinson Associates, LLC
323 Fox Briar Lane
Ballwin, MO 63021

Nafar Residence

7 Sherwyn Lane
CREVE COEUR, MO. 63141

OWNER
Mr. David Nafar
7 SHERWYN LANE
CREVE COEUR, MO
63141
314-995-9695
636-299-2422

SHEET TITLE
Existing Conditions

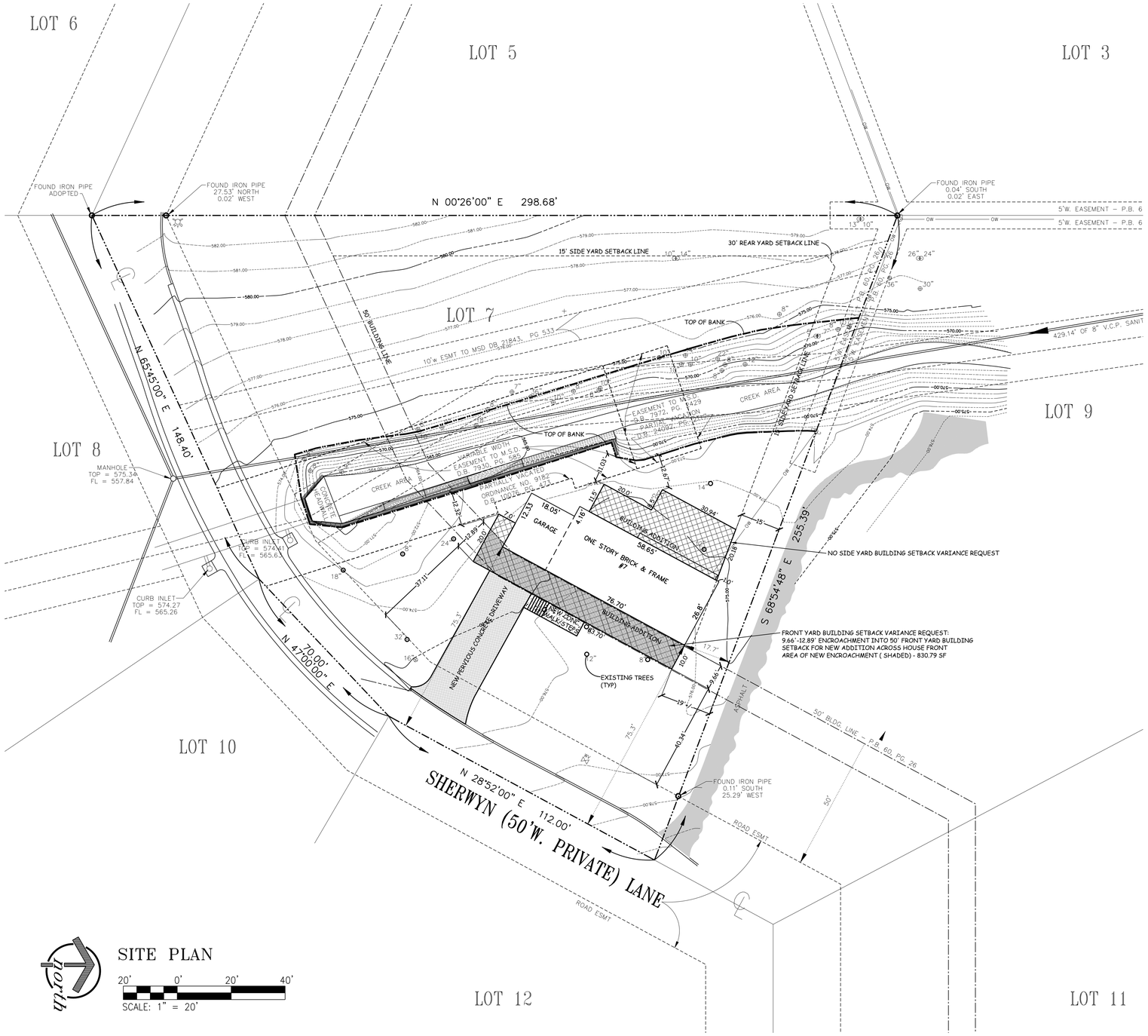
JOB NUMBER
08031.01

DATE 04/11/23 DRAWN BY KJK

REVISION

7/28/23	City Comments
8/10/23	City Comments (Rev. Calcs. Shts1,3,4)
9/5/23	Rev. Bldg. Ft. Print. & Plan.

SHEET NUMBER
1 of 4



north

SITE PLAN

20' 0' 20' 40'

SCALE: 1" = 20'

LAND PLANNING
RECREATION PLANNING AND DESIGN
LANDSCAPE ARCHITECTURE

11426 GRAVOIS ROAD SUITE 102
ST. LOUIS, MO 63126
(314)984-8211

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STATE OF MISSOURI
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7 SHERWYN LANE
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SHEET TITLE
Bldg. Setback Variance Request

JOB NUMBER
08031.01

DATE 04/11/23 DRAWN BY KJK

REVISION
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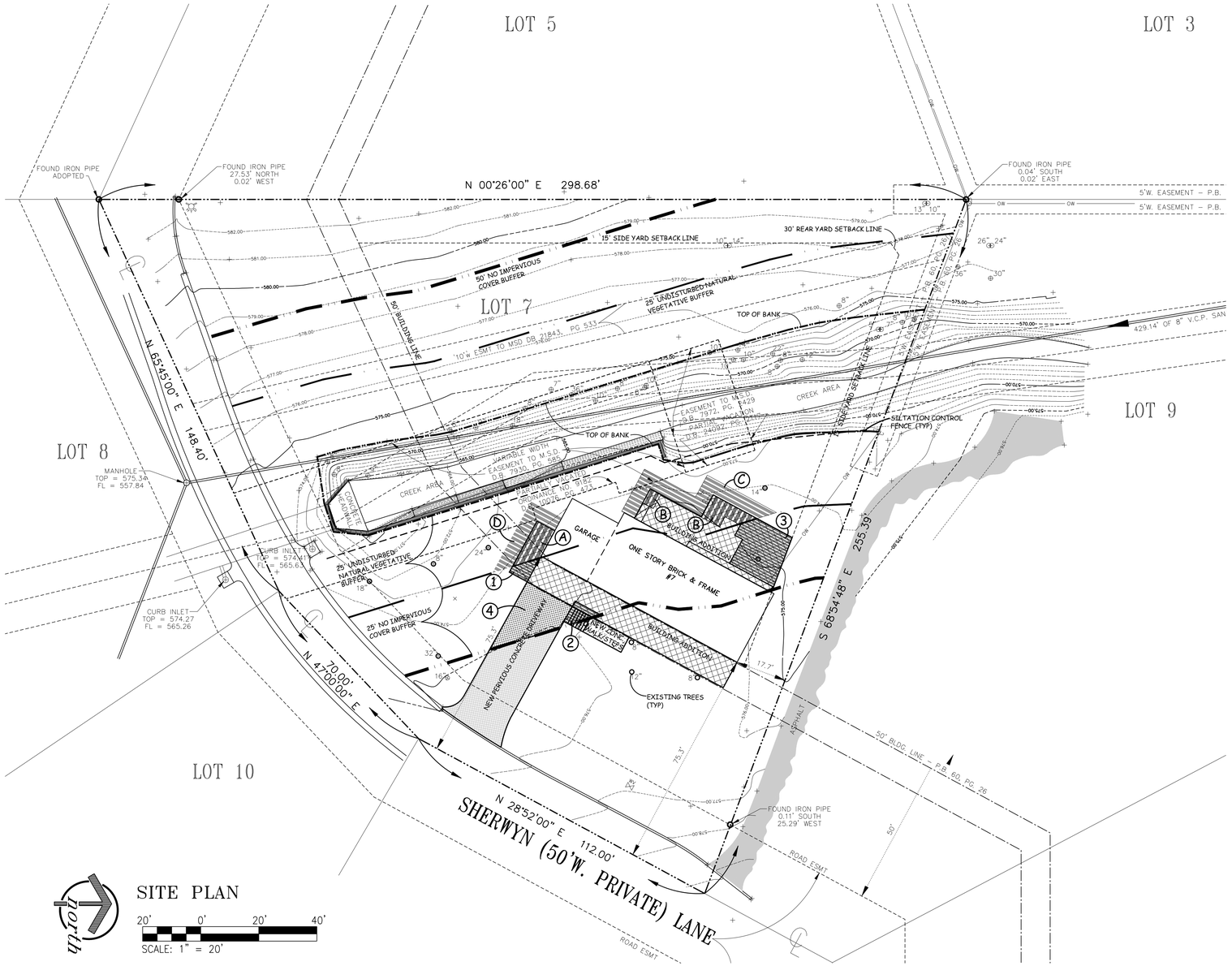
8/10/23 City Comments (Rev. Calcs. Shts1,3,4)
9/5/23 Rev. Bldg. Ft. Print. & Plan

SHEET NUMBER
2 of 4

STATE OF MISSOURI
KENNETH J. KEITEL
NUMBER LA-31
LANDSCAPE ARCHITECT

9/6/23



SITE PLAN

SCALE: 1" = 20'

IMPERVIOUS COVERAGE - TOTAL SITE (3,899.46 SF)

EXISTING IMPERVIOUS WITHIN STREAM PROTECTION BUFFER YARDS.....2,535.38 SF

ADDITIONAL IMPERVIOUS WITHIN STREAM PROTECTION BUFFER YARDS..... 312.36 SF

TOTAL IMPERVIOUS **WITHIN** STREAM PROTECTION BUFFER YARDS..... 2,847.74 SF

EXISTING IMPERVIOUS OUTSIDE STREAM PROTECTION BUFFER YARDS..... 1,208.89 SF

NEW IMPERVIOUS OUTSIDE STREAM PROTECTION BUFFER YARDS.....496.80 SF

IMPERVIOUS REMOVED FROM AREA OUTSIDE PROTECTION BUFFER YARDS.....(653.97 SF)

TOTAL IMPERVIOUS **OUTSIDE** 50' STREAM PROTECTION BUFFER YARD.....1,051.72 SF

25' - NO DISTURBANCE - STREAM BUFFER

EXISTING DISTURBANCE	NEW DISTURBANCE	
533.13 SF (EXIST. HOUSE & DECK)	'A'	100.29 SF (IMPERVIOUS)
	'B'	127.06 SF (IMPERVIOUS)
	'C'	323.20 SF (PERVIOUS)
	'D'	165.89 SF (PERVIOUS)
533.13 SF (REMAIN IN PLACE)	TOTAL	716.44 SF

25' - NO IMPERVIOUS - STREAM BUFFER

EXISTING IMPERVIOUS	NEW IMPERVIOUS	
2002.25 SF (EXIST. HOUSE, DRIVE & DECK)	'1'	40.02 SF (IMPERVIOUS)
	'2'	49.42 SF (IMPERVIOUS)
	'3'	306.73SF (IMPERVIOUS)
		396.17 SF
	'4'	(311.16) SF (NEW PERVIOUS PAVT.)
		85.01 SF

SUMMARY TABLE

		IMPERVIOUS DISTURBANCE (SQ.FT.)	TEMPORARY PERVIOUS DISTURBANCE (SQ.FT.)	TOTAL DISTURBANCE (SQ.FT.)
25' NO DISTURBANCE BUFFER	EX.	533.13	0.00	532.83
	NEW	227.35	489.09	716.44
25' NO IMPERVIOUS BUFFER	EX.	2,002.25		
	NEW	396.17		
		(311.16) **		
		85.01		

**Note: New Pervious Concrete Driveway replaces Existing Impervious Asphalt Driveway

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SHEET TITLE
Stream Buffer Variance Request

JOB NUMBER
08031.01

DATE 04/11/23 DRAWN BY KJK

REVISION
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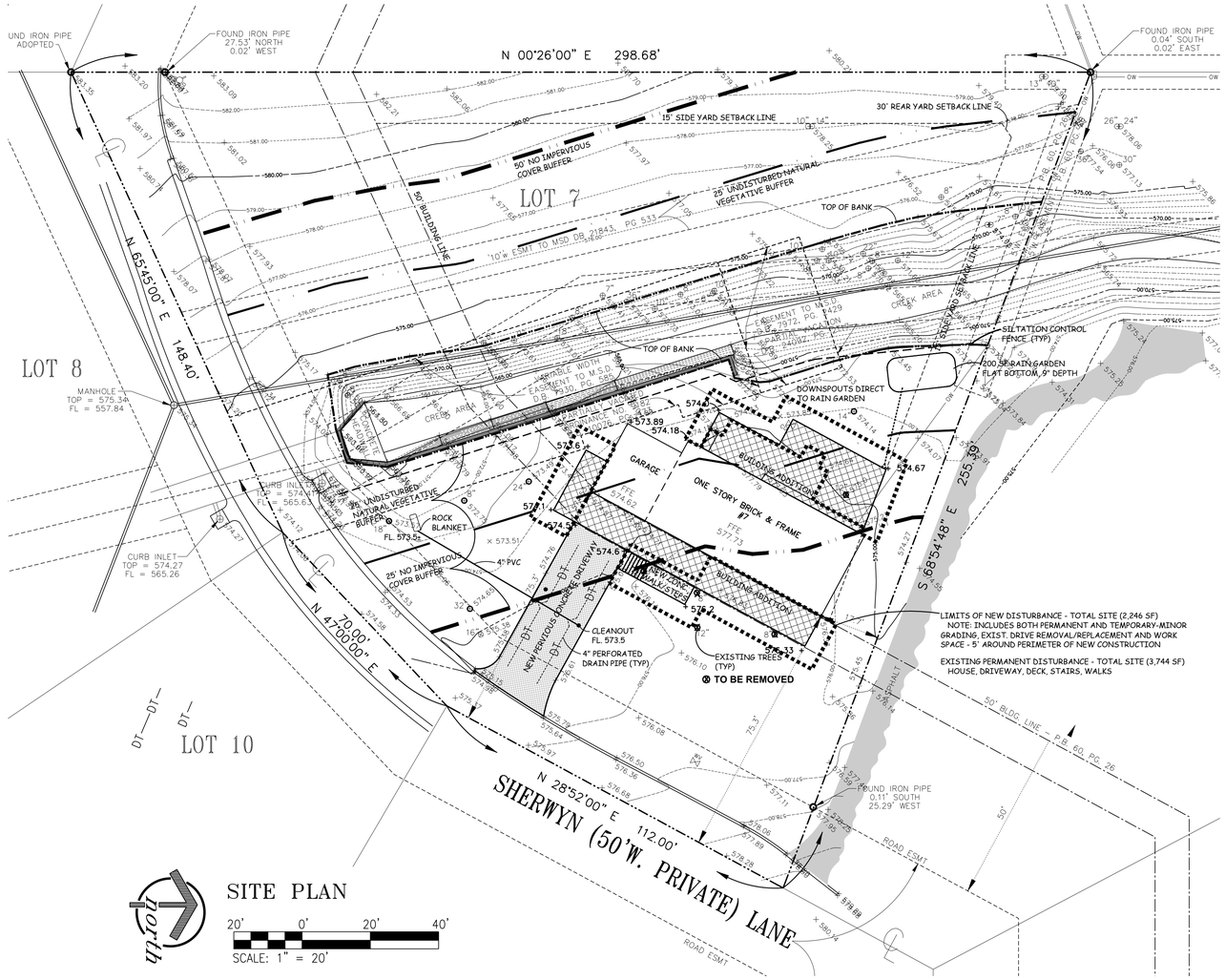
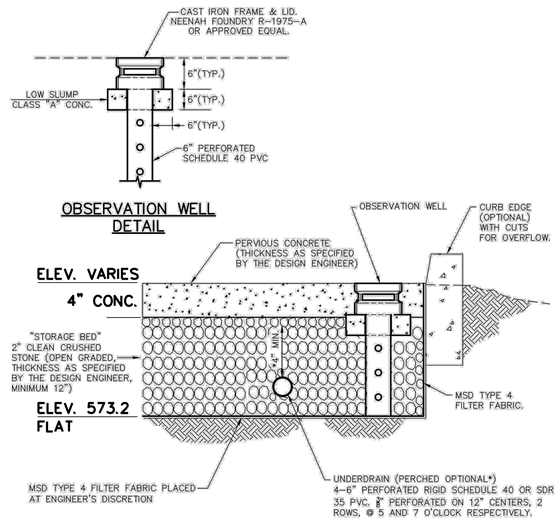
3 of 4





PERVIOUS CONCRETE PAVEMENT TYPICAL SECTION

* ADDITIONAL UNDERDRAINS MAY BE PERCHED ABOVE THE REQUIRED STORAGE ELEVATION AND WITHIN THE STORAGE BED IN ORDER TO PROTECT THE PERVIOUS CONCRETE LAYER.

PERVIOUS CONCRETE VOLUME CALCULATION

STORMWATER STORAGE VOLUME REQUIRED: 25.55 CF

ROCK REQUIRED WITH 40% POROSITY = 25.55 CF / 0.40 = 63.9 CF

10% EXTRA ROCK REQUIRED DUE TO NO PERMEABILITY TEST: 63.9 CF + 10% = 70 CF

ROCK AREA UNDER PERVIOUS CONCRETE SHALL BE 12" (MSD MIN. DEPTH)
4" DIA. UNDERDRAIN, FLOWLINE SET 4" ABOVE BOTTOM OF ROCK LAYER PROVIDES 4" DEPTH ROCK STORAGE AREA
965 SF PERVIOUS PAVT SURFACE AREA X 0.33 FT ROCK DEPTH X 0.4 POROSITY = 127 CF STORMWATER STORAGE VOLUME PROVIDED.

CHAPTER 425 -STORMWATER QUANTITY REGULATIONS - STORGE VOLUME REQ.

ESTIMATED DIFFERENTIAL RUNOFF

DESIGN STORM - 15 YEAR/20 MINUTE EVENT

EXISTING RUNOFF

BDLG. & PAVED AREA:	0.0859 AC. x 3.54 CFS/AC = 0.30 CFS	
GRASS AREA:	0.7341 AC. x 1.70 CFS/AC = 1.25CFS	
TOTALS	0.82 AC.	1.55 CFS

PROPOSED RUNOFF

BDLG. & PAVED AREA:	0.0895 AC. x 3.54 CFS/AC = 0.317 CFS	
GRASS AREA:	0.7305 AC. x 1.70 CFS/AC = 1.242 CFS	
TOTALS:	0.82AC.	1.559 CFS

DIFFERENTIAL RUNOFF: (1.559 - 1.55) CFS = 0.009 CFS INCREASE

STATISTICALLY ZERO INCREASE IN STORMWATER RUNOFF

0.009 CFS X 1200 SECONDS = 10.8 CUBIC FEET OF STORAGE REQUIRED

CHAPTER 430 - STREAM BUFFER PROTECTION - STORMWATER QUALITY REGULATIONS - MITIGATION STORAGE VOLUME REQ.

ESTIMATED DIFERENTIAL RUNOFF

LOT SIZE: 43,570.15 SQ. FT. (INCLUDES PRIVATE ST. R.O.W.)
35,698.37 SQ. FT. (W/O PRIVATE ST. R.O.W.)

EXISTING IMPERVIOUS AREA: 3,744.27 SQ. FT.

PROPOSED IMPERVIOUS AREA: 3,899.46 SQ. FT.

INCREASED RUNOFF = 3,899.46 - 3,744.27 = 155.19 SF x 1.14" / 12 = 14.75 CUBIC FEET OF STORAGE REQ.

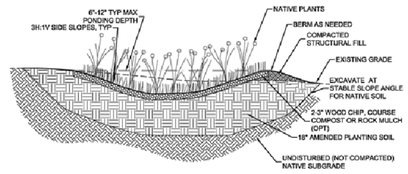
STORAGE VOLUME REQUIRED TO SATISFY BOTH CHAPTERS 425 AND 430 OF CITY'S REGULATIONS:
25.55 CUBIC FEET OF STORAGE

MITIGATION SUMMARY

A TOTAL OF 25.55 CF OF STORMWATER STORAGE IS REQUIRED TO BRING THE SITE TO ZERO ADDITIONAL RUNOFF INTO THE STREAM.

THE PROPOSAL IS TO PROVIDE 277 CF OF STORMWATER STORAGE IN TWO SEPARATE, ON-SITE BMP FACILITIES (UNDER PERVIOUS PAVEMENT AT NEW DRIVEWAY AND WITHIN A NEW RAIN GARDEN IN THE REAR YARD, THUS IMPROVING THE QUALITY OF THE STREAM BUFFERS AND PUTTING THE RUNOFF FROM THE PROPOSED SITE DEVELOPMENT AT A RATE FAR LESS THAN PRIOR TO NEW IMPROVEMENTS.

IT SHOULD ALSO BE NOTED THAT THE PROPOSED IMPROVEMENTS WILL REQUIRE THE REMOVAL OF FIVE (5) EXISTING TREES (4 IN THE FRONT YARD AND 1 IN THE REAR YARD) THE OWNER WILL INSTALL NEW TREES ON THE OPPOSITE SIDE OF THE CREEK AT THE MINIMUM SIZE AND QUANTITY AS REQUIRED BY THE CITY'S TREE PRESERVATION/REPLACEMENT REGULATIONS



TYPICAL RAIN GARDEN SECTION

RAIN GARDEN VOLUME CALCULATION

RAIN GARDEN TO BE APPROX. 10'x20'x0.75 (9" Depth)
STORAGE CAPACITY = 10'x20'x0.75' (9" Deep) = 150 CF

DRAINAGE AREA TO BE DIRECTED TO RAIN GARDEN FROM EXISTING AND PROPOSED ROOF SURFACES
ROOF SURFACE AREA REQUIRED
141 CF x 12 / 1.14 = 1484.2 SF

NOTE: CONTRACTOR TO DIRECT APPROX. 1500 SF ROOF TOP RUNOFF, VIA GUTTERS, DOWNSPOUTS AND UNDERGROUND DRAIN PIPES, TO RAIN GARDEN.

STATE OF MISSOURI
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NUMBER LA-31
LANDSCAPE ARCHITECT
9/6/23

terraspec
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STATE OF MISSOURI
TODD R. HAWKINSON
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LICENSED PROFESSIONAL ENGINEER
9/7/2023

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OWNER
Mr. David Nafar
7 SHERWYN LANE
CREVE COEUR, MO
63141
314-995-9695
636-299-2422

SHEET TITLE
Stormwater Management

JOB NUMBER
08031.01

DATE 04/11/23 DRAWN BY KJK

REVISION
7/28/23 City Comments
8/10/23 City Comments (Rev. Calcs. Shts1,3,4)
9/5/23 Rev. Bldg. Ft. Print. & Plan

SHEET NUMBER
4 of 4

COCKRIEL & CHRISTOFFERSON, LLC

ATTORNEYS AT LAW

3660 SOUTH GEYER ROAD, SUITE 320
ST. LOUIS, MISSOURI 63127-1223
(314) 821-4200
FAX (314) 821-4264

Steven M. Cockriel
scockriel@cockriel.com

Philip J. Christofferson
pchristofferson@cockriel.com

Michael J. Rolwes
mrolwes@cockriel.com

Cynthia Rask
Executive Legal Assistant
crask@cockriel.com

September 20, 2023

VIA EMAIL
Ms. Bethany Moore
City Planner
City of Creve Coeur
300 North New Ballas Road
Creve Coeur, MO 63141

Re: David and Sara Nafar – 7 Sherwyn Lane

Dear Ms. Moore:

I represent David and Sara Nafar, the owners of the property located at 7 Sherwyn Lane in Creve Coeur. As you know, earlier this year the Nafars submitted a request for a variance to the Creve Coeur Board of Adjustment, seeking variances from the front and side setback requirements of the City's Ordinances as well as a variance from the stream buffer requirements of Section 430.050 of the Ordinances.

On August 17, 2023, the request for variance was called for hearing and discussed at the Board of Adjustment's meeting, and was ultimately tabled for further discussion.

Since that time, the Nafars have submitted a revised plan that we believe addresses many of the concerns addressed at the Board meeting. The proposed addition at the rear of the house is now much smaller; as a result, the side setback request has been eliminated and the design no longer requires any relief from the MSD easements. The front setback request has also been reduced in size, and the new design now has significantly less impact in the stream buffer zone – adding just 312 square feet of impervious disturbance (down from 1,856 SF in the original request).

I write today not to rehash all of these details, which have previously been shared with you by the Nafars, but because I am concerned about comments that were made during the last Board meeting that I believe reflect an inaccurate understanding on the Board's part of both permit requirements and the language of Section 430.050 itself. In particular, comments were made by City officials at the Board meeting, and in correspondence subsequent to the meeting, to the effect that ANY plan the Nafars might present which causes ANY disturbance in the buffer zone will be rejected outright.

Those comments run counter to both the language and the spirit of § 430.050(B).

We certainly acknowledge that the Nafars' revised plan still results in some minor disturbance in the stream buffer zone. However, Section 430.050 expressly contemplates that there will be occasions where the shape, topography, or other existing physical conditions of a parcel prevent land development consistent with the buffer zone – and this section expressly allows for variances in these situations. (This is only fair, since the buffer requirements were first implemented by the City in 2008 – long after the Nafars purchased the property.)

The Nafars' property fits the above description to a tee: Because of its unusual shape, and the presence of the creek *literally* running through the middle of their property, the Nafars have no ability at all to make additions of any kind to their residence unless a variance is granted. The existing house itself is already well within both the 25' "natural vegetative buffer" zone and the larger, 50' "impervious cove prohibited" zone. Any changes at all to this house would inherently violate the strict letter of Section 430.050, since the very existence of the residence would not be permitted under the current version of the ordinance. That is why subsection (B) exists.

Concerns were also raised about the potential impact that approving the Nafars' proposal might have on the City's co-permittee status with MSD as an MS4. I have researched this question and reviewed the MoDNR permit in question, and I have been unable to discern any reason why the granting of a variance to the Nafars would jeopardize the City's co-permittee status in any way. The permit does not prohibit development in stream buffer zones, and does not condition co-permittee status on such a prohibition.

If this remains a concern, I would appreciate an explanation as to which portion(s) of the permit the City believes are implicated by the proposed variance, and how they are implicated, so that we may hopefully address any such concern.

I look forward to hearing from you.

Very truly yours,

COCKRIEL & CHRISTOFFERSON, LLC

By: Philip J. Christofferson

cc: Mr. David Nafar

DEPARTMENT OF PUBLIC WORKS
STAFF MEMORANDUM

DATE: September 25, 2023

TO: Mr. David Nafar

FROM: Dione Garson, P.E., Civil Engineer

SUBJECT: Review of Plan Set for a Stream Buffer Variance Request

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Review of plan set submitted for the October Board of Adjustment meeting – a continuation of the August 17, 2023 Board of Adjustment meeting

The plan set submitted after the August 17, 2023 Board of Adjustment meeting is substantially different from the original set, and the City considers this a new request.

The plan set shows disturbance and the addition of impervious areas within the undisturbed natural vegetative buffer. The City does not support disturbing or adding impervious area in the no disturbance buffer.

The plan set also shows disturbance and the addition of impervious area within the no imperviousness buffer. The City does not support adding impervious area in the no impervious buffer.

The Board of Adjustment, not City staff, makes the determination whether to grant stream bank variance requests.

City staff have reviewed the plan set for the October Board of Adjustment meeting. If you would like to answer the questions set forth herein and/or make changes to the plan set, please do so by Friday, October 6, 2023.

Question 1: Calculations for differential runoff
On the plan set submitted for the prior Board of Adjustment meeting, plan sheet 4 of 4 lists the existing impervious area as 3,640 sq ft.

On the revised plan set submitted for the October Board of Adjustment meeting, plan sheet 4 of 4 lists the existing impervious area as 3,744.27 sq ft.

What is the correct area of existing impervious area? What caused the change in the number?

We will check calculations for Chapter 425 after receiving confirmation of existing impervious area.

Question 2: Impervious site coverage
On the plan set submitted for the prior Board of Adjustment meeting, in the impervious coverage – total site table:
Existing impervious within stream protection buffer yards = 2,534 sq ft
Existing impervious outside stream protection buffer yards = 1,106 sq ft
Total impervious area = 3,640 sq ft

On the revised plan set submitted for the October Board of Adjustment meeting, in the impervious coverage – total site table:
Existing impervious within stream protection buffer yards = 2,535.38 sq ft
Existing impervious outside stream protection buffer yards = 1,208.89 sq ft
Total impervious area = 3744.27 sq ft

What is the correct area of existing impervious area? Why did the numbers change?

Question 3: Area of disturbance
On the revised plan set submitted for the October Board of Adjustment meeting, plan sheet 4 of 4, plan view:
If the existing driveway is being replaced, why isn't the driveway area that is within the buffer areas included in the calculations for disturbance and have any associated areas showing the limits of disturbance (dotted lines)?

Similarly, in the area where the existing deck will be removed and a new building addition added, why is that area not included as areas of disturbance? If there is construction activity, it seems like there will be associated disturbance.

Areas of disturbance should also include the area around the rock blanket and rain garden in the no disturbance buffer. If the discharge pipe is to be installed with a trench, then please include that area as area of disturbance. Notes can be made to inform the Board of Adjustment that these areas of disturbance are for the installation of best management practices.

Question 4: Rain garden
The calculations for the rain garden appear to be for the total volume without consideration for the addition of engineered/amended soils. What is the void space of the proposed soil mix? If you have a spec sheet for the soil, will you please provide it?
If void space is not known, what is the proposed soil type?

What will be the ponding depth? The detail shows a range of six to twelve inches.
What will be the difference in elevation of the overflow spillway and the lowest point of the wood chip layer elevation?

What are the slopes of the side?
What is the area of the bottom of the rain garden?

Will the spillway/design overflow be on the side of the raingarden closest to the creek?

Question 5: Basement

On the revised plan set submitted for the October Board of Adjustment meeting, plan sheet 1 of 4, project information lists 876.08 sq ft of new basement area. Will this new basement area be under the building addition adjacent to the one-story brick & frame home as well as the building addition adjacent to the garage?

Questions and Answers

Question 1: Calculations for differential runoff
On the plan set submitted for the prior Board of Adjustment meeting, plan sheet 4 of 4 lists the existing impervious area as 3,640 sq ft.
On the revised plan set submitted for the October Board of Adjustment meeting, plan sheet 4 of 4 lists the existing impervious area as 3,744.27 sq ft.
What is the correct area of existing impervious area? What caused the change in the number?

The correct area of existing impervious area is 3,744.27 sq ft as indicated on the revised plan submitted on September 8, 2023, for the October Board of Adjustment meeting. The change in the number was due to an error which has been corrected in the revised version.

Question 2: Impervious site coverage
On the plan set submitted for the prior Board of Adjustment meeting, in the impervious coverage – total site table:
Existing impervious within stream protection buffer yards = 2,534 sq ft
Existing impervious outside stream protection buffer yards = 1,106 sq ft
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Question 3: Area of disturbance
On the revised plan set submitted for the October Board of Adjustment meeting, plan sheet 4 of 4, plan view:
If the existing driveway is being replaced, why isn't the driveway area that is within the buffer areas included in the calculations for disturbance and have any associated areas showing the limits of disturbance (dotted lines)?
Similarly, in the area where the existing deck will be removed and a new building addition added, why is that area not included as areas of disturbance? If there is construction activity, it seems like there will be associated disturbance.

The dotted lines on the plan represent new disturbance areas. The area for the rear deck and front porch is 515 sq ft. The driveway area is 1,180 sq ft. These areas are included in the existing permanent disturbance. These areas will be re-disturbed during construction. The disturbed area for discharge pipe, rock blanket, rain garden and around driveway is about 1,250 sq ft.

Summary of the total disturbance areas:

Location	Sq ft
Re-disturbance of existing area for construction	**515**
New disturbance area for construction (shown by dotted line)	**2,246**
Re-disturbance of existing area for the installation of best management practices (driveway)	**1,180**
New area for the installation of best management practices (around driveway, raingarden, discharge pipe and rock blanket)	**1,250**
Total	**5,191**

Areas of disturbance should also include the area around the rock blanket and rain garden in the no disturbance buffer. If the discharge pipe is to be installed with a trench, then please include that area as area of disturbance. Notes can be made to inform the Board of Adjustment that these areas of disturbance are for the installation of best management practices.

The disturbance area (within the no disturbance buffer) for the rain garden is approximately 600 sq ft (30 ft x 20 ft) and for the rock blanket and discharge pipe, is about 60 sq ft (5 ft x 12 ft). As you indicated, these areas of disturbance are for the installation of best management practices, and I will bring it to the attention of the Board of Adjustment.

Summary of the disturbance areas (within the no disturbance buffer)

Location	Impervious Disturbance (sq ft)	Pervious Disturbance (sq ft)
Re-disturbance of existing area for construction	**533**	**0**
New disturbance area for construction	**277**	**489**
New area for the installation of best management practices (raingarden, discharge pipe and rock blanket)		**660**
Total	**810**	**1,149**

Question 4: Rain garden
The calculations for the rain garden appear to be for the total volume without consideration for the addition of engineered/amended soils. What is the void space of the proposed soil mix? If you have a spec sheet for the soil, will you please provide it? If void space is not known, what is the proposed soil type?

The calculation provided is for the volume of the rain garden cavity. The average void space for the proposed soil mix is approximately 32.5%. I don't have a spec sheet for the soil mix. The soil mix for the proposed rain garden is a combination of 50% sand, 25% topsoil, and 25% compost (sand with a

void space of around 40%; topsoil and compost with a void space of 20% to 30%). Please provide any recommendations you might have.

What will be the ponding depth? The detail shows a range of six to twelve inches.

The depth is 9 inches.

What will be the difference in elevation of the overflow spillway and the lowest point of the wood chip layer elevation?

The difference in elevation between the overflow spillway and the lowest point of the wood chip layer will be approximately 9 in. If you have any suggestions or specific requirements related to this elevation difference, please let me know.

What are the slopes of the side?

The slop at one side is 0-degree (ground level) and on the opposite side is at a 30-degree angle. If you have any suggestions or specific requirements regarding the slopes, please let me know.

What is the area of the bottom of the rain garden?

The area at the bottom of the rain garden will be approximately 200 square feet. If you have any specific recommendations or requirements for the bottom area, please let me know.

Will the spillway/design overflow be on the side of the raingarden closest to the creek?

Yes

Question 5: Basement
On the revised plan set submitted for the October Board of Adjustment meeting, plan sheet 1 of 4, project information lists 876.08 sq ft of new basement area. Will this new basement area be under the building addition adjacent to the one-story brick & frame home as well as the building addition adjacent to the garage?

The new basement area is only situated beneath the building addition adjacent to the existing one-story brick & frame home. However, there is no basement under the addition adjacent to the garage.

BOARD OF ADJUSTMENT MEETING

CITY OF CREVE COEUR, MISSOURI

300 NORTH NEW BALLAS ROAD

THURSDAY, AUGUST 17, 2023

4:00 P.M.

PUBLIC HEARING

APPLICATION NO. 23-7

THOSE IN ATTENDANCE:

Chairman Glen Wilen
Mr James Kostelc
Mr. Robert Mooney
Mr. Arnold Mayersohn
Ms. Dana Connon
Ms. Stephanie Karr, Acting City Attorney
Mr. Jason Jaggi, Director of Community Development
Ms. Bethany L. Moore, City Planner
Ms. Megan Waller Administrative Supervisor/Recording Secretary
Mr. Jim Heines, Director of Public Works
Ms. Dione Garson, Department of Public Works

McLaughlin Court Reporting Services, Inc.

Deborah K. McLaughlin, RPR, MO-CCR #314, IL-CSR, KS-CCR
4772 Gatesbury Drive
St. Louis, MO 63128
(314) 974-1199

CHAIRMAN WILEN: Okay. Okay, now that everyone's here, I'd like to call the meeting to order.

And -- thank you. And we'll speak to that later.

And should we call the roll?

MS. WALLER: Mr. Wilen?

CHAIRMAN WILEN: Here.

MS. WALLER: Mr. Kostelc?

MR. KOSTELC: Here.

MS. WALLER: Ms. Connon?

MS. CONNON: Here.

MS. WALLER: Mr. Mayersohn?

MR MAYERSOHN: Here.

MS. WALLER: Mr. Mooney?

MR. MOONEY: Here.

CHAIRMAN WILEN: Mr. Jaggi?

MR. JAGGI: Present.

MS. WALLER: Ms. Moore?

MS. MOORE: Present.

MR. JAGGI: We also have Stephanie Karr.

MS. WALLER: Stephanie Karr, Acting City Attorney?

MS. KARR: Here.

MS. WALLER: Dione Garson?

MS. GARSON: Here.

MS. WALLER: Jim Heines?

MR. HEINES: Here.

MS. WALLER: And I'm Megan Waller, here.

CHAIRMAN WILEN: Thank you, Everyone.

We have an agenda. The committee has -- the Board is taking a look at.

Do I have a motion to approve the agenda?

MR MAYERSOHN: So moved.

MR. KOSTELC: Second.

CHAIRMAN WILEN: Seconded.

All in favor?

(All responded aye.)

CHAIRMAN WILEN: All against?

Abstentions, none.

We have -- so we're -- we approved the agenda.

The last meeting was May 18th. We have minutes circulated.

Are there any additions or objections to the minutes?

Hearing none, do I -- do I have a motion for approval?

MR. MOONEY: I make the motion.

CHAIRMAN WILEN: Mr. Mooney.

Second?

MR MAYERSOHN: Second.

CHAIRMAN WILEN: Mr. Mayersohn second.

All in favor?

(All responded aye.)

CHAIRMAN WILEN: Against? None.

And abstentions, none.

The minutes are approved.

Okay. We have New Business today in front of the Committee. It's a two variance request for 7 Sherwyn Lane to Encroach 15 feet into a 50-Foot Front Yard Setback, and 5 feet into the 15 Yard Side Setback [sic] as Required by Section 405.250, and the second variance at 2 -- 200 -- 230.7 [sic] Square Feet of Additional Impervious Surface Area to the Stream Back -- Screen Bank Buffer.

Is the applicant present?

MR. DAVID NAFAR: Yes.

CHAIRMAN WILEN: So, the way the process works is you'll need four or five positive votes to have the variances accepted. Okay.

Anyone who plans to speak, can you please come forward and be sworn in.

(The speakers were sworn in by the court reporter.)

CHAIRMAN WILEN: And before we get started, I should also mention that there may be some folks --

VOICE: I think he might want to be sworn in.

CHAIRMAN WILEN: Oh, someone else.

Has anyone else not been sworn in that wishes to speak?

(Speaker was sworn in by the court reporter.)

CHAIRMAN WILEN: Thank you, Everyone.

Before we get started we have some folks have the ability to join the meeting via Zoom.

If you would like to speak, click the raise your hand button icon, and we'll call on you when it's time -- when the public comment is available.

At that point you'll have to state your name and address when you -- to the Board.

And if any -- any phone listeners, press star nine.

I don't know if there are any folks.

So, with that, I'd like to call the city first to make some introductions and proceed with its presentation.

MR. JAGGI: Good afternoon. Jason Jaggi, Director of Community Development, City of Creve Coeur.

On today's agenda our variance request for the property at 7 Sherwyn Lane related to proposed additions to the existing single-family residence.

This request is a little unique in that it involves setback variances from the requirements of the

zoning code, which are regulated under Chapter 405 of the City's Code of Ordinances, as well as variances from the city's stream buffer protection regulations under Chapter 430 of the City's Code of Ordinances.

In your packet for this afternoon staff has prepared two separate reports, one for each of these requests.

The review criteria that the Board must consider is different for each of these variances, and at the end of your deliberations this afternoon, will require a separate motion and vote for each of these.

All variance requests would need to be approved by the Board of Adjustment in order for the applicant to file for permits to construct the additions as presented on the submitted plans.

Bethany Moore, City Planner with the City of Creve Coeur, will present the setback variance staff reports, and will be able to take any questions.

After Bethany is finished, Dione Garson, the Civil Engineer with the Department of Public Works, will present the stream buffer protection variance staff report.

Jim Heines, Director of Public Works, is also in attendance this afternoon, and will be available to answer any questions as well.

And with that, Mr. Chairman, if there are any other questions or concerns with how these variances are being presented, I'd be happy to address those.

CHAIRMAN WILEN: Not from -- not at this time.

Thank you, Jason.

MR. JAGGI: Thank you.

And with that, I will turn it over to Bethany Moore, and she will present the setback variance staff report.

Thank you.

MS. MOORE: Thank you, Jason.

All right. Bethany Moore, City Planner.

So, as Jason described to you, this variance request does involve two separate types of variances, and I will be going over the -- the setback variances for -- from the zoning code.

And this is variance request for 7 Sherwyn Lane in order to encroach 15 feet into the 50-foot front yard setback, 5 feet into the 5 -- to the 15-feet side yard setback as required by Section 405.250, which is the requirements for the A Zoning District, and add 2,230.7 square feet of additional impervious area into the stream bank buffers as regulated by Section 430-050 in order to expand the footprint of the existing house.

Okay. So here's the background on the -- the

lot. So this is the lot right here. It's pie-shaped. It is 7 Sherwyn Lane, and it is in the A Zoning District, which has a minimum square footage of 1 acre, and this lot does meet all of the minimum requirements for lots in A.

This subdivision was approved in the City of Creve Coeur in 1953 and the house was built soon after.

The subject property does have a creek running through it. This -- the creek follows these -- this treeline along here. I have better pictures of that as we go on.

The applicant is seeking three variances in order to expand his house. Two of those variances are from the zoning code; the front yard setback and the side yard setback.

The third variance is from the stream bank regulations, which you will hear about after my presentation.

And the two types of variances will require two separate motions and votes.

Okay. So, this is the stream or creek that's running through the property highlighted here in yellow.

So, this is the subject property, 7 Sherwyn Lane, and here is the creek. And as you can see, it does run through 9 Sherwyn Lane to the north and 8 Sherwyn Lane to the south.

It is present on all three properties, but when it runs through 7 Sherwyn Lane, it does cut the buildable area, which is not present on the other two lots, to that same stream.

And then over here, I just highlighted kind of like what we're looking at when we're looking at the site plan with the requirements put on it.

So, this is the site plan and this is the creek here. And as you can see, there is a wall here, and that is what's counted as a stream bank on that side.

And these blue lines are the 25-foot buffers from the stream bank, which will be covered in the second presentation. But just so you have an idea, there are two separate 25-foot buffers from the stream bank.

And so here's the first one and here's the second one. And this is the existing house as it sits.

And then these red lines are our setback lines. So, this is our required side yard setback line of 15 feet, and this is our required front yard setback line of 50 feet. So the existing house is within those, but right up to the edge of them.

That's what we're looking at.

And, so, here's the entire project. This is the entire parcel. The stream bank buffers do extend on either side of the stream bank, so it's not just on one

side, but then the house is only on this side of the property, so that's really what we're talking about there.

MR. KOSTELC: Does the 1-acre lot include the size of the area of the creek?

MS. MOORE: Correct.

MR MAYERSOHN: And does it include the other side of that creek --

MS. MOORE: It does.

MR MAYERSOHN: -- that's vacant?

MS. MOORE: The 1 acre is this entire pie-shaped parcel here.

MR MAYERSOHN: Okay.

MS. MOORE: So this red -- these red lines are all of your setbacks taken into account, so that's your buildable area, this pie-shape right here.

And as you can see, the creek runs through that.

And then we have the stream banks buffers on either side of that.

So that is the project as a whole.

And then here are the proposed plans and elevations for the house. He would like to expand his existing house forward and backward of the existing footprint.

And the existing footprint is roughly this rectangle here. And then this would be the -- the area of

expansion here in the front, and then this area back here in the back.

And this is the proposed elevation. I don't believe it's settled, but that is the proposal.

So, this application has had a previous approval from the Board of Adjustment in 2008. A similar proposal came before the Board of Adjustment, but it was not exactly the same.

So, in December of 2008 that was granted a lesser variance to encroach 10 feet into the required 50-foot front yard and 4 feet into the required 15-foot side yard setback for a similar expansion to the house.

Variances, once they are granted, are valid for one year, as long as within that time a building permit is issued and construction has started or an occupancy permit is issued and the use has commenced.

Extensions are available for 180 days to be granted past that -- that point to keep it valid.

But in this case, in 2008, 2009 a building permit was not obtained and an extension was not sought.

The stream buffer protection regulations, which will be covered by Dione after my presentation, Chapter 430, were not applied to this project at the time.

This project was in December of 2008, and the stream bank buffer requirements went into effect around

that same time, so staff assumed the reason they weren't applied in this case at the time is because staff, at the time, probably was already talking to the applicant before those went into effect.

Okay. So this is what we are considering with our first variance request. This is the request from the zoning code. To encroach 15 feet into the required 50-foot front yard, so that's here, and to encroach 5 feet into the required 15-foot side yard setback over here.

MR MAYERSOHN: I have a question --

MS. MOORE: Yeah.

MR MAYERSOHN: -- if you know.

Are all the other houses in that -- on that street within the 50-foot setback from the front?

MS. MOORE: As far as I could tell, yes.

MR MAYERSOHN: That's what it looked like to me --

MS. MOORE: Yeah.

MR MAYERSOHN: -- when I drove by.

MS. MOORE: I can't think of one that's not.

Okay. So, now, here's our criteria for variances for the setbacks.

So, No. 1, although the creek does run through adjacent properties and it is not an uncommon feature for a creek to be running through lots in the city, the

location of the creek does reduce the buildable area on this lot, so that is a unique feature to this lot because of the location of the creek.

And, No. 2, the property was platted in 1953, and the house was built soon after with the creek in the same place. So, it's current location to the existing house were both -- were both there in 1953, 1955, long before the applicant purchased the property, so the applicant did not create this condition.

So, No. 3, the granting of the variance shall not adversely affect adjacent property owners or residents.

Granting the side yard variance request will allow the applicant to move -- to expand the property -- to expand the house 5 feet into the required 15-foot set -- setback, which would make it 10 feet closer to the property line of the -- the owner of 9 Sherwyn Lane.

And the approval of the variance request for the front yard setback will allow the house to be built 15 feet -- 35 feet from the front yard property line, but it would not affect another property, it would just be closer to the road. But it would be out of character for this neighborhood.

So, it is up to the Board to determine if those factors qualify as an adverse effect for the adjacent

property owner at 9 Sherwyn Lane and the residents.

And, No. 4, severe practical difficulties or extreme hardships arise when the homeowner has no option to improve their property in a way that would not violate the provisions of the zoning code.

There is still the option to add that second story on to the home, which would not require any variances.

The -- this option has not been ruled out. The applicant did state that, in their application, that the foundation would not hold a second story, but upon staff's request, information was provided that option has not actually been explored, so we don't have a survey or anything to support that.

But the applicant has also said that that would not be a desirable outcome for their use. It wouldn't meet their needs.

But because that option has not been explored, severe practical difficulty or extreme hardship has not been proven because that is still an option.

And, No. 5, nothing in the variance desired will adversely affect the public health, safety, order, convenience or general welfare of the community.

And, No. 6, this is the general spirit, violating general spirit and intent of this chapter.

So, the subject property is severely limited in its buildable area due to the location of the creek, which does limit where -- where the -- the owner can improve their property.

If the Board Members believe that the shortest setbacks are unacceptably disruptive in this location, and given that another option appears to be available with the second story, then they should find the variance request will violate the spirit and intent of the chapter.

All right. And then we have two additional requirements for a variance, and this is exceptional circumstances on the lot.

So, the creek and the stream buffers are present on adjacent lots, like I showed you, the lot to the north and the lot to the south, but not to the same extreme they are present on the subject property.

The creek does cut the buildable area significantly on 7 Sherwyn Lane that does not the same way on the two properties adjacent.

This does mean that while the condition is not unique to the lot, the extent to which the condition limits the buildable area could represent an exceptional circumstance.

And there were two additional stormwater affecting adjacent properties.

So, per Public Works' review of what was provided, as the mitigation is proposed to satisfy Chapter 430 for the stormwater.

Any questions?

CHAIRMAN WILEN: How many square feet is the current home?

MS. MOORE: That is a good question.

MR. KOSTELC: Good question.

CHAIRMAN WILEN: And Part B, while you're looking that up, is the new project as proposed, how many square feet would that be?

MS. MOORE: Let me go back to the plans.

So, they are adding -- that's -- that's a good question. I'll have to -- I'll have to look that up in the plan. I didn't include that in staff report because it does not -- their site coverage is not met, so they're still under site coverage with existing and proposed, but I'll have to find that.

CHAIRMAN WILEN: That would be useful to know.

MR. KOSTELC: Question on the creek issue.

Does this creek have much water in it, or is it mostly a dry bed?

MS. MOORE: That would probably be a better question for the second presentation. She can --

MR. KOSTELC: Okay.

MS. MOORE: -- speak to the creek --
MR. KOSTELC: I thought I would ask early, so.
MS. MOORE: I'd rather not say.
MR. KOSTELC: Okay.
CHAIRMAN WILEN: Any other questions of Ms. Moore? No.
MR. JAGGI: Mr. Chairman, just real quickly.
Bethany, can you go back to that last slide where you spoke about the stormwater compliance.
Yeah, I think you mean Chapter 425, Stormwater Regulations.
MS. MOORE: Oh.
MR. JAGGI: Chapter 430 is Stream Buffers.
MS. MOORE: Yes, I mean Chapter 425.
MR. JAGGI: I just wanted to clarify.
MS. MOORE: Thank you.
CHAIRMAN WILEN: Maybe you can help us.
The difference between stormwater and stream buffer. I was rather interested in.
MR. JAGGI: I -- I will touch on it, and then I think, again, I think Dione Garson can get more into the specifics.
But stormwater regulations, they regulate stormwater runoff on properties and how to mitigate stormwater runoff, essentially.

Chapter 430, the Stream Bank Protection Ordinance, and that is protection related to development, impacts to the actual stream and the stream banks.
CHAIRMAN WILEN: Okay.
MR. JAGGI: So, one touches on overall stormwater control for all the properties in the city.
The other, Chapter 430, is specific to the stream banks and how the regulations that seeks to protect.
CHAIRMAN WILEN: And, Ms. Moore, holding aside the stream water stuff, the general setbacks, they've been in place for 1 acre since the plat?
MS. MOORE: Correct. The front yard setback is shown on the plat, the original plat.
CHAIRMAN WILEN: That's never changed?
MS. MOORE: Correct.
I think I have that shown here. That's where that is.
MR MAYERSOHN: And where -- and with the addition of the impervious area, and there's a big storm, where would that typically flow, into the creek?
MS. MOORE: I believe that due to the slope, it would go into the creek, but, again, that would be a better question for Dione.
MR. MOONEY: Along the -- along the creek bed

there is a -- you mention a concrete wall --
MS. MOORE: Uh-huh.
MR. MOONEY: -- how long is that, as far as on the property?
MS. MOORE: I think it's -- I don't know the actual length of it, but it would be this dark area here.
MR. MOONEY: Okay.
MR MAYERSOHN: And that was put in by the city -- MSD?
MS. MOORE: Correct.
And there's an MSD easement on it as well.
MS. CONNON: Why are there two setbacks on each side?
MS. MOORE: So, the stream bank buffer has two separate buffers, two 25-foot buffers. And so that's -- have different requirement, so that's why there's two.
So there's 25 feet from the top of the bank, and then there's 25 feet additional.
MS. CONNON: And each section has a different requirement?
MS. MOORE: Correct.
And Dione will go over that.
MR. KOSTELC: And so the existing house already goes in the 25-foot buffer?
MS. MOORE: Correct. The existing house is

already in the buffers, but it is within the setbacks.
MR MAYERSOHN: It's in both buffers?
MS. MOORE: Correct, it is within both buffers.
MR MAYERSOHN: Okay.
CHAIRMAN WILEN: All right.
Thank you so much.
MS. GARSON: Hello. My name is Dione Garson. I'm a civil engineer here with the City of Creve Coeur.
I work in the Public Works Department under Jim Heines. And I'll be talking today about the stream buffer variance.
So, first, we're just going to go through the kind of questions the -- the code is asking us to answer for stream variance request.
The variance request for the property at 7 Sherwyn Lane to add about 1300 square feet of impervious area and disturb about 2,000 square feet in the no disturb buffer.
So, the no disturb buffer, getting back to your question earlier, that's the 25 feet closest to the creek. And that's -- for this creek, it's 25 feet. For some of the more major creeks, that area can be 50 feet.
MR MAYERSOHN: The first --
MS. GARSON: Eventually --
MR MAYERSOHN: The first buffer?

MS. GARSON: The first buffer.
MR MAYERSOHN: Okay.
MS. GARSON: So, in this area the idea is just to keep it the way it is. Don't touch it. Don't do anything to it.
The second buffer, the second 25 feet, is a no disturbance buffer.
So, they're saying, well, maybe want to do a little grading or something, we can kind of -- kind of see how that might be okay in this area, but you really shouldn't, you know, it's trying to avoid people putting impervious area into this buffer.
So, ideally then we would maintain 50 total feet of stream buffer. And this is a water quality issue, and we're going to talk a lot about quality versus quantity, and I know it's going to get a little confusing, but maybe we can walk through it.
The water quality was put into place as part of our relationship with MSD as a co-permitting, MS 4 permit, and that's through the DNR.
And while MSD does a lot of work to maintain water and quality and to maintain the DNR permit, it's part of our co-permitting status. The city is responsible for maintaining stream buffers in our municipality, and so that's why our city has this code.

And what the stream buffers do to protect water quality is runoff, and it can be from offsite. People say wherever the -- the basin is that contributes flow to this buffer on its way to the stream. When you have vegetation, the vegetation can help clean the water as it goes.
Sorry got a little sidetracked there.
CHAIRMAN WILEN: Before you move on, do you have, you know, we're looking at 1309 --
MS. GARSON: Uh-huh.
CHAIRMAN WILEN: -- do you have a sense of what percent of the total impervious surface that will eat up, if you will?
MS. GARSON: Of the total buffer?
CHAIRMAN WILEN: Yeah.
MS. GARSON: We don't -- we can -- I don't have the exact numbers, but I think we can kind of get a sense of that as we move forward and we looked at the proposed drawings, and you'll just see how much of that area is covered by impervious relative, and you'll get a sense, you know, how -- how -- how it feels relative to what -- what's existing.
CHAIRMAN WILEN: Thank you.
MS. GARSON: So, then they're also going to add about 900 square feet of impervious area and disturb about

1500 in that --
MR MAYERSOHN: Second buffer?
MS. GARSON: Sorry. Opposite way. Yeah. Okay.
And -- and -- and they're doing this with the intention to expand the first floor living, and then they're also going to be adding basement area, so that's kind of improvements that will be happening in these areas.
MR MAYERSOHN: Would the construction remove all that vegetation that's on the side of the creek?
MS. GARSON: That is correct. Uh-huh.
And, so, what the stream bank -- I was going -- I'm going ahead a little bit. But sort of the big question in front of us today that this -- this Chapter 430 is asking us, this water quality question, is going to be -- they're going to do something in the stream bank buffer, and then they're going to have to do something to mitigate or make up for it.
And the question before us today is are -- is what they're doing to mitigate going to make the water quality as good as it is right now. Is it going to work -- is what they're putting on to mitigate going to work as hard as the existing stream bank buffer.
So that's the big picture question. And when we look at that, we're not only looking at -- it's called the

best management practice, the BMP, that's the thing that they're going to put in to help control the water and clean the water. Is that saying equal to the existing impervious buffer.
CHAIRMAN WILEN: Who maintains the creek today?
MS. GARSON: It is an MSD (inaudible), so MSD.
CHAIRMAN WILEN: So it looked pretty -- when I went by it looked pretty wild and woolly. That's --
MS. GARSON: Oh, the side you mean? Actually, that's the owner's -- that's the owner's -- the owner would maintain what's on his own lot.
MR MAYERSOHN: The vegetation?
MS. GARSON: Uh-huh.
But let's say like those walls or something, I mean I know that those walls, just to give you a sense, you've kind of seen it, the walls that you see on the plan scape are 8 feet, that's 8 feet from the bottom of the creek. That concrete wall extends maybe roughly 2 inches above the grade next to it, but that vegetation, MSD does not, that would be the owner's responsibility to maintain it.
CHAIRMAN WILEN: Got it.
MR. KOSTELC: So --
MR MAYERSOHN: Go ahead.
MR. KOSTELC: Considering the possible change on

the riverbed and all the trees that will be taken down to put on this -- the side of the house, the front of the house, everything else, has there been an environmental impact study on the loss of all that vegetation?

MS. GARSON: There has not. No. They did not provide that.

And, actually, too, the rules are 520, like we talked earlier about, 425 versus 430, and I know I'm jumping ahead a little bit, but 425 is about when you add impervious surface to an area, like you're building a house and then you build on an addition, when you put additional impervious on that lot, your neighbors are going to get a lot more runoff because the water has nowhere to go. It just slides right off.

And that's actually something a lot of our residents in Creve Coeur talk about with new development, they're very concerned about additional runoff.

And so what the city did with 425, is it said if you disturb 2,000 square feet or more of your land, then you have to show us that whatever you're going to do on that land can't change the amount of runoff that goes to your neighbors, it has to be the same pre and post, but only up to a certain degree. And that degree is based on MSD's rules. They have what's called a design storm, and it, basically, means this amount of rain in this amount of

time. Because we can't -- we can't make people just like a thousand-year event. Like that would be unreasonable for people to say you have to have as much mitigation on your site pre and post.

So, MSD has said it's going to be -- the design storm is -- if it -- if it rains for a 15-year event, so like a -- that's like a probability, kind of a low probability. And then if it rains for twenty minutes, you'll get -- and it's about like one and a third inches of rain. And, so, 425 is saying if it rains that amount or lower, your runoff with what you did now can't be greater than what it was before.

So, you have to put something on your property that detains that quantity of the water. And how you get that quantity of water, MSD has like a table, and it's pretty easy to use, and it kind of looks at, essentially, how much imperviousness you have right now versus how much you have previously. It shoots out a calculation that says this is the amount of difference in runoff, and it's going to give you that in the rate, so it's cubic feet over time. You multiply it by the twenty minutes of time to get a cubic volume, and that's the volume that you need to put on your site to detain water to be in compliance so that before and after are the same.

MR MAYERSOHN: Has the applicant provided

evidence or provided in their application that they are -- they're -- they're meeting that compliance standard?

MS. GARSON: Well, that's what, Tim Dean, an engineer with Intuition & Logic also reviewed the plan set with me, and he's a principal, he has about twenty years of experience.

So we both -- we both took a look at this. And to meet the requirements, and we, I'm sorry, I'm getting so ahead, but to meet the requirements for the various request, this site has to meet both the 425 and 430.

So, what Tim and I found was that the site, the way they calculated it is they kind of only looked, really, at detaining volume for water quality. And they, really, it should be added, we also have to look at that 425.

Because if you think about it from the stream's perspective, which is what the stream bank variance is all about, it's all about the perspective of the stream. So before we can determine the impact of putting a imperviousness on this buffer, we have to make sure that pre and post, whatever you're doing, the runoff is the same. That's step one.

So, first you have to detain the body of water required under 425.

So now from the stream's perspective, it's like,

okay, now we can -- the same amount of runoff is coming to the stream. Now we can look at the ability of the stream to clean that same amount of water. So there has to be something addition to that quantity to mitigate for quality.

CHAIRMAN WILEN: That's 430?

MS. GARSON: Uh-huh. Yeah.

CHAIRMAN WILEN: Who -- who hired Mr. Dean and paid him?

MS. GARSON: We did. We just wanted to make sure -- we work with Tim Dean quite a bit. He's doing our watershed land (inaudible) for the city, and we just wanted to make sure -- he works with MSD all the time. He also works with a number of municipalities.

CHAIRMAN WILEN: No, I'm sure he's qualified.

MS. GARSON: Oh, no --

CHAIRMAN WILEN: I just want to know who would paid him.

MS. GARSON: We -- and we did it because the city -- we don't have a precedent --

CHAIRMAN WILEN: That's fine.

MS. GARSON: -- for 430, and we were like, well, how do we judge this and how do we review this because the only other precedent we have for 430 is when people removed imperviousness from the buffer.

So, we wanted to ask him also, like how do other municipalities who are co-permittees of MSD, how do they review these plans, so we really looked at him for guidance on that because we're really in unchartered territory with this.

CHAIRMAN WILEN: And if I remember the prior presentation, was it 430 that was passed in 2008, or was that 425 or both?

MS. GARSON: That would have been 430.

CHAIRMAN WILEN: And I'm assuming there was no grandfather clause in that, it was just --

MS. GARSON: I believe not. I'm not certain, but that's my belief --

CHAIRMAN WILEN: Sure.

MS. GARSON: -- there's no grandfather.

All right. We'll jump ahead a little.

Some of this is similar to what Bethany talked about, it's a Lot A. There's this MSD stream that bisects it.

The stream buffer runs along approximately 90 percent. They're just talking about the length, not the area like you asked before, and approximately 81 percent of the existing home is already in the buffer.

So this gray line just shows -- just kind of proves this is an MSD access. And there's a connect to a

culvert that runs under the street and on either side of the streets there's inlets that flows from the roadway.

So, just looking at the chapter and what it's asking us to look at. Disturbing and adding impervious area within the stream buffer involves a variance to the stream buffer protection regulations found in Chapter 430 of the City's Code of Ordinances. Specifically Section 430-050A1. Buffer and setbacks. For all streams, and it's defined as an undisturbed natural vegetative buffer, shall be maintained for 25 feet measured horizontally, on both banks, as applicable, of the stream as measured from the top of the stream bank.

And then here this second buffer, an additional setback shall be maintained for 25 feet, measured horizontally, beyond the undisturbed natural vegetative buffer, in which all impervious cover shall be prohibited. Grading, filling and earthwork shall be minimized.

So, this is the stream bank buffer defining what is the stream bank buffer and what should be allowable or not unless a variance is requested and approved.

So here's the existing site plan. And the two lines show the two different 25-feet buffers.

So the no disturbance is marked with the red and the no pervious with the orange.

And here's the proposed site plan. So you can

see the hashed marked areas, those are new addition, that's new impervious. Sort of like the feathered parallel lines, that's areas of disturbance.

And, so, over time those areas disturbance may be vegetation. There's no impervious plan for that. But the areas that will be impervious from here on out are those darker colors.

So here are the procedures. Where a parcel was platted prior to the effective date of this chapter and its shape, topography or other existing physical conditions prevent land development consistent with this chapter, and the Department of Public Works finds and determines that the requirements of this chapter prohibit the otherwise lawful use of the property by the owner, the Board of Adjustment of the City of Creve Coeur may grant a variance from the buffer and setback requirements hereunder, provided such a variance requires mitigation measures to offset the effects of any proposed land development parcel.

Goes on to say, except as provided above, the Board of Adjustment of the City of Creve Coeur shall grant no variance from any provision of this chapter without first conducting a public hearing on the application for the variance and authorizing the granting of the variance by an affirmative vote of four members of the Board of

Adjustment according to the requirements and procedures.

Variances will only be considered in the following cases: When a property's shape, topography or other physical condition existing at the time of the adoption of this chapter prevents land development unless a buffer variance is granted.

And usual circumstances when strict adherence to the minimum buffer requirements in this ordinance would create an extreme hardship.

Variances will not be considered when the following adoption of this chapter, actions and property owner of a given property of creating conditions in regard to the property.

And Bethany did a great job of talking about that. You know, the homeowner did not create this, it was since the 1950, you know, these conditions of the stream condition existed.

And so these were the requirements for a submittal. So these are all the things that the person requesting a variance should provide to us, so that we can make an informed decision.

We need to have a site map that includes locations of all streams, wetlands, floodplain boundaries and other natural features as determined by a field surveys; a description of the shape, size, topography,

slope, soils, vegetation and other physical characteristics of the property; a detailed site plan that shows the locations of all existing and proposed structures and other impervious covering; the limits of all existing and proposed land disturbances, both inside and outside the buffer setback; the exact area of the buffer to be affected shall be accurately and clearly indicated; documentation of unusual hardship should the buffer be maintained, and at least one alternative plan, which does not include a buffer or setback intrusion, or an explanation of why such a site plan is not possible; a calculation of the total area and length of the proposed intrusion; a stormwater management site plan, if applicable; and as Bethany talked about, it's applicable in this case; proposed mitigation, if any, for the intrusion; if no mitigation is proposed the request must include an explanation of why not.

MR MAYERSOHN: Did the applicant provide all of that?

MS. GARSON: They -- they did.

And then, so, the -- well, actually, I'm sorry, I misspoke.

The city and the review engineer, we questioned, and that's a question of like for you all to ultimately to decide, but we questioned the -- if an alternate site plan

was provided, and Bethany talked about that as well.

We were like, you know, especially with the, you know, they're doing work with the basement, like we just weren't sure why -- we know it wasn't desirable to have a second story, but when we see this, you know, we wonder if B was satisfied.

And so here -- here's really the -- the really important question in front of us with this request.

So the following factors would be considered in determining whether to issue a variance.

The shape, size, topography, slope, soils, vegetation and other physical characteristics of the property; the location of all streams on the property, including along with the property boundaries; the location and extent of the proposed buffer and setback intrusion.

And then these are real -- real key whether alternate designs are possible, which require less intrusion or no intrusion; the longterm and construction water quality impacts of the proposed variance and whether issuance of the variance is at least as protective of the natural resources and the environment.

And so we spent a lot of time looking at F.

In this case, the buffer is requested for that expansion, the first floor living area and basement, and the applicants had said that given the location of the

stream -- the stream, the shape of the lot, expanding first floor living area outside the stream buffer and the setback's completed.

So, we talked about this one a lot, the alternate plan. I won't go too much more with it, Bethany really did that well.

You know, going up would really avoid any, you know, potentially any new impervious cover or less impervious cover in -- in -- in the buffers, and we didn't really see like any structural engineering or analysis that that wasn't possible, so we couldn't quite -- we're just bringing this up because we couldn't rule this out.

And now here we get into mitigation.

So, this is what we were talking about earlier. They have to provide a stormwater management plan, which is the quantity, and then also mitigation for the loss of stream bank, which is water quality.

We -- we have looked at -- we took a look at the sizing of the proposed detention, and we'll talk about that a little bit later when I can show you the images of it. I think that'll help kind of understand what the site is doing to mitigate. So we'll kind of put a pin in that last bullet point of why we're not seeing how 430 plus 425 are being met with the proposal.

And so these are those E and F that we talked

about just a few minutes ago. This variance is asking us to take a look at the plan in its totality and think about if the longterm and construction water quality impacts of the proposed variance are at least as protective of the natural resources and environment.

So, this site is proposing to mitigate by -- by installing a drywell. And what a drywell is is you dig up a hole in the ground and you put in rock. And then also it's like a -- it's like you're looking at a little drum, like a drum, and that's connected to pipes where the water comes in, and then it has an outfall pipe. And the underground, and how it detains water is that water comes in this drum and then it -- the drum has little holes in it and the water percolates out and into the rock area. And the rock area is sized so that water can fill the -- the void space, the area between the rocks, the rocks don't fit perfectly together. And we assume that about 40 percent of the total volume of this system is void space, so that is counted as detention. Anywhere water can go and like hang out and not run off, that is detention.

CHAIRMAN WILEN: Do drywells require maintenance?

MS. GARSON: I think -- yes, you have to make sure like that the -- that the pipes don't get clogged,

and I just -- I think that's -- they require -- I think that's about --

Jim, do you know if they require much maintenance, drywells? I think just like pipe -- maintaining flow through the pipes.

MR. JIM HEINES: I'm sorry?

MS. GARSON: Oh, the amount of -- he asked how much maintenance the drywell would require, and I think it's, basically, looking to make sure that the pipes are flowing and --

MR. JIM HEINES: It is. It has to remain functional.

MS. GARSON: Uh-huh.

MR. KOSTELC: Does MSD do any -- currently do any maintenance of this creek? I know they're strapped for money, so they probably don't.

MS. GARSON: You know what, I don't -- I don't know what MSD has done for maintenance in this. I know it is -- that is their creek to maintain.

The maintenance would be more of like the structure of the creek, which would relate more to the flow of water.

MR. KOSTELC: Right. But they may be able to maintain it by removing trees and roots and things that determine what the flow is.

MS. GARSON: Yeah. And they will -- MSD, in general, if like, for example, a tree falls into it and blocks the flow of water and makes it like more likely for like a -- a flooding, then they will come in and remove it.

If they determine that any debris is not likely to increase flood risks, they're less likely.

MR. KOSTELC: So it's not maintenance, it's emergency that they handle all that?

MS. GARSON: Yes. But that more, again, is more like that's more of a quantity question. How much water is flowing through this and the stream buffer is more looking at quality --

MR. KOSTELC: Right. Right.

MS. GARSON: So just to --

CHAIRMAN WILEN: So back to your drywell point.

So you just -- you add X amount of impervious surface --

MS. GARSON: Uh-huh.

CHAIRMAN WILEN: -- so, therefore, you need to scale the drywell appropriately to improve the drain-ability of the -- of the land, is that the basic theory?

MS. GARSON: It's not the drain-ability of the land. You're absolutely right, it really is like when you

add a volume of perviousness, a lot.

When you add imperviousness, any time it rains, and so if it's a vegetative state, if it's, you know, grassy or -- or a, you know, a rain garden or something, water -- a portion of that water, if it's grassy or vegetation, it's going to stay where it lands, or it's going to run off more slowly than if you have it on concrete, for example, nothing's going to soak in, and it's all going to run off, in addition to it's all going to run off, it's going to run off more quickly than it runs off vegetation.

So, when you put this detention in, it -- it is -- we -- we talk about quantity of water, but quantity of water and the rate of runoff water are interlinked, because runoff release rate, that's what we call it, it's just how much -- how much volume of water per amount of time is coming off the site. And the volume you get by just multiplying that by time.

So, they are -- they're different, but they're interlinked.

CHAIRMAN WILEN: Thank you.

MS. GARSON: And then just sort of a note on drywell wells while we're here.

So, MSD has a section in there in their guidance all about water quality; how to size it and what BMP's

best management practices, that's just the thing you're using to achieve your goals.

BMP can be, in this case, drywell; it can be a rain garden; it can be anything that's designed to manage stormwater, and in this case, manage the quality of stormwater.

So, MSD has a listing of different kinds of BMP's that they think, and, of course, are applicable for urban BMP's for managing water quality.

I think -- to me, I think that drywells can be in conjunction with something else, be something that could be used to meet water quality goals. But in and of themselves drywells are generally used for like Chapter 425 applications, for water quantity.

And the reason that is is because plans that we talked about earlier do a lot of work for water quality, and this system, you know, has rock and then it has pipes. So when these rocks are full, the water bypasses, you know, the detention, and it goes right through a pipe.

And I'm just going to -- just cause -- oh, here's a picture it. So here's what we were sort of talking about. You can see that sort of like the well part water comes in, it goes through little holes, and it goes into the rock area around it.

So when this is full, it becomes, essentially, a

PVC piped system. And so water's going to quickly, and, you know, PVC is plastic, it's like a slip and slide, it's going to go quickly through.

So when this is full of water that comes in, it's going to go out. And where it goes out in this proposed design, if you could please take a look at the area outlined in green, the green square shows the location of the drywell, so that --

CHAIRMAN WILEN: Could you -- could point -- yeah, we can't see that.

MS. GARSON: Oh, I'll just do it here.

So, this is the location of the drywell, so this is going to be dug, it's going to be, I'm trying to remember off the top of my head, I think it's going to be about 2.5 feet deep, I think like 16 by 10, I believe, I'm not quite sure of those numbers off the top of my head, filled with rock. It's going to accept flows from the impervious area, and then the pipe is going to discharge here. So the pipe runs here, and then it's going to daylight here, so water's going to come out here.

MR MAYERSOHN: And could come on to the street?

MS. GARSON: It could.

And what happens here, if you'll notice, this is midway between this buffer, so our -- the city's concern and Tim Dean's concern is when we look at this, we're

like, yes, it's doing part of the job, and it's -- it's detaining water, but where it's discharging is sort of losing site of our whole idea of why we need a stream buffer.

We need the benefit, the regulations say we want to have the benefit of this whole area for water to flow through for water quality protection. And this is discharging here, and there's no proposed, like additional vegetation or an additional BMP that could be like a rain garden or other -- other plants that could help make up for the loss of this space of buffer.

CHAIRMAN WILEN: If you go to Sherwyn Lane, which way does the road slope at that point? I believe it slopes down.

MS. GARSON: The inlet -- there is a -- over here is the inlet, so we know that water, by design, wants to come in to here.

CHAIRMAN WILEN: So you're saying it slopes in that direction?

MS. GARSON: Yeah, it'll come here, and this is -- the desire and the function of this is to collect water from the runway to go in here, and then that would go into the creek.

MR MAYERSOHN: Is that -- have they -- is that -- will that work in this sense in this design?

MS. GARSON: Well, I mean that's the kind of the question that we have as well.

Like, this is put in place to say this is going to be just as good as all this area that's being lost from the stream buffer for water quality protection, yet, it discharges midway through, and when this is full, this is coming out with no mitigation whatsoever.

And we questioned, because the rule doesn't have like a design storm associated with or specific quantity that it's asking for, it just says, at least as protective, and it uses words like "in the longterm", and when we say things like that, and we see this design, we question -- we question if this is equal to the loss of this.

MR. JAGGI: Dione, can you come back to the mic, we're --

MS. GARSON: Oh, sorry.

MR. JAGGI: -- recording this.

MS. GARSON: I'm sorry about that. Sorry about that.

MR. JAGGI: It's okay.

MR MAYERSOHN: Okay.

MR. MOONEY: So, in other words, the drywell is just a miniature stormwater retention pond?

MR MAYERSOHN: Right.

MS. GARSON: Yes.

MR MAYERSOHN: And how -- how much can it hold based on --

MS. GARSON: Well, and that's the other thing that we -- we were kind of questioning.

So, that equation, and I talked to Tim about this, and he said that this was used by other communities, the way that it was sized for 430, the quality part was they multiplied amount of rain of 1.14 inches, and they get that from MSD's design guides, they use that amount of rain in their water quality calculation, times the amount of new imperviousness that's going to be in the buffer, and they got a number. And then they sized the detention to that number.

But what we didn't see was there's also a calculation that shows by adding this amount of imperviousness, the site will increase runoff for 425 by about .09 cubic feet per second. So, that equates to, I think, roughly 100 cubic feet. So, adding those two together, those two requirements together, is a greater volume than is provided.

CHAIRMAN WILEN: So, let me summarize. Tell me if I got this right.

MS. GARSON: Okay.

CHAIRMAN WILEN: The city maintains that this

current impervious surface mitigation is inadequate. And then to know where -- because you're using kind of a mechanical way, the water quality doesn't get the benefit of the vegetation, is that fair?

MS. GARSON: Yes. Yes. I think rough, yes.

CHAIRMAN WILEN: Okay.

MS. GARSON: I would say that -- and I think -- yes, we would -- we would say that's not -- you could say that that volume is meeting 425, but then you're not meeting 430.

Like, however you move around the volume, either way, you're just not getting the sum total, and -- and that's what we -- we looked at.

CHAIRMAN WILEN: Thank you.

MS. GARSON: Then sort of like other -- just things we noted about the plan.

There is going to be some permanent structure proposed on the MSD easement, and we just haven't heard that MSD has allowed that, so that is like just -- we work with MSD quite -- quite a bit, and that just was something that we just wanted to bring up.

MR MAYERSOHN: Would --

CHAIRMAN WILEN: That seems like a big thing.

MR MAYERSOHN: Yeah, what -- what -- what -- what you -- when you've worked with MSD in the past and

someone is making a proposal like that, do you -- does MSD said, yes, we already have worked out the construction over our easement would be okay?

MS. GARSON: I have not -- I am newer to the St. Louis area. I have not worked with MSD with this issue of adding impervious or permanent structures to an easement.

I did work at another sewer district, and I know that that was something that the district would very carefully consider with any of their easements.

CHAIRMAN WILEN: So can you go back. I mean at the risk of prolonging this.

MS. GARSON: No, no.

CHAIRMAN WILEN: Which part of the permanent structure intrudes upon the MSD easement?

MS. GARSON: Oh, I'm sorry, I keep trying to walk over there.

MR MAYERSOHN: Yeah, she needs -- yeah.

MS. GARSON: It's --

MR MAYERSOHN: Teach her how to use the --

MS. GARSON: I'm not -- oh, the right one. Okay. Thank you.

So that is -- I'm having a hard time seeing. There is a part of the garage, it's in -- it's in this area, but there is -- it's not a lot, but it is some, and

that would require MSD.

MR. KOSTELC: So, MSD hasn't bought off yet?

MS. GARSON: No.

MR. KOSTELC: Okay.

CHAIRMAN WILEN: Thank you.

MS. GARSON: And then just sort of, I know we talked about earlier, like why -- why doesn't the City of Creve Coeur have this ordinance and why do -- why are we looking to enforce 430. And that is just part of our relationship with MSD, as a part of co-permitting, and just to be a co-permitting, we have to do the things that we're responsible for doing to meet these DNR requirements, and just sort of careful enforcement of this buffer is part -- part of that.

And then just to sort of like sum up the project. It's proposing with both buffers around 2,000 square feet of impervious area to the buffer.

And in some cases, like if we went back and took a look, you know, the -- almost -- in some cases all and some almost the entire width of the buffer will be covered.

CHAIRMAN WILEN: Any further questions for Ms. Garson? No?

MR MAYERSOHN: No.

CHAIRMAN WILEN: Before the city's (inaudible),

I have a question for Ms. Moore.

Back in, I know in 2008, I'm assuming you were able to find the minutes at least, was -- was Section 425 or 430, I'm assuming this wasn't even mentioned, is that correct?

MS. MOORE: That's correct.

CHAIRMAN WILEN: Okay. Thank you.

MS. MOORE: We don't have a record that any permits or anything were filed during that time either.

CHAIRMAN WILEN: No, I understand that. But I just wondered if there was any discussion.

MS. MOORE: In the staff report it's not mentioned at all, no.

CHAIRMAN WILEN: Thank you.

MS. GARSON: Okay. Thank you.

CHAIRMAN WILEN: So, at this point, I'd like to call the applicant forward.

State your name and address.

MR. DAVID NAFAR: Good afternoon.

CHAIRMAN WILEN: Good afternoon.

MR. DAVID NAFAR: My name is David, last name is Nafar, N-A-F-A-R, Nafar.

CHAIRMAN WILEN: I like these bigger slides.

MR. DAVID NAFAR: So, before I start I would like to thank the Board for giving me the opportunity to

present my case. And also I appreciate the city for provide the facility and make this happen and also the (inaudible).

I just going to give you a little bit of background before I get started to the -- my presentation.

Basically, what I'm asking here to make it summarized, mainly about 10 foot to coming forward here. This is my existing house. So, if you help me, we could get a pin with that.

CHAIRMAN WILEN: So, Mr. Nafar, about how many square feet is your current home?

MR. DAVID NAFAR: About 1600.

CHAIRMAN WILEN: 1600.

MR. DAVID NAFAR: That's what we have here, and not including the garage, it's the living space.

CHAIRMAN WILEN: Sure.

MR. DAVID NAFAR: And we do have a porch on the back, which is about 12 feet going backward.

And we have the front porch here. It's concrete. It's coming about 8 foot forward.

Underneath of this wooden -- wooden deck -- deck is a concrete, so it was a concrete patio, put a deck over it to kind of bring it up to give access to it.

So, what we are proposing is, basically, here is the 8 foot, so we come 2 foot more, if -- I lost my pen.

Sorry. Okay. I cannot use my computer, so. Anyway, I just try -- don't worry. I can draw a line on this slides. Okay.

Here's the 8 foot, so, basically, what is going to happen, 2 feet forward is going to come all the way here, and then go pretty close to here, and going backward.

Let me handle the slide.

So -- so, basically, the idea of the MSD that one of you were asking, they have an easement that goes on this line here. If -- if you see it on this line here.

They built this garage later on, so the MSD vacate this portion of the -- the easement and allowed this corner to encroach on the easement.

So, we going to, basically, come over here, maybe a few more feet, and if they allow us to encroach, and I get a vacant easement from them, then we go forward with the plan. If it doesn't, then we have to have a one-car garage instead of two, so we change our plan accordingly.

And this issue was discussed with Ms. Moore before we started and we agreed, because it's, as you guys know, it's hard to get the -- talk to MSD, and so we decided if we get the approval from the Board, then we approach them to -- to see what we can get.

If it doesn't -- so, your approval is going to be contingent on did I get the relief for this corner from them to vacate it. If it doesn't, I will change the plan to comply with their easement.

MR MAYERSOHN: So you haven't had any discussions with MSD?

MR. DAVID NAFAR: I did discuss it with them a few years ago.

MR MAYERSOHN: Not -- not on this current plan?

MR. DAVID NAFAR: And they did not have any issue. Because they already did that, they just extended few feet more.

So it's nothing new. But we will get.

As far as the 10 -- the 5-foot setback is, as you can see, this line is not as straight, parallel to the building, it's kind of little bit angle, maybe about 20 degree, so if we go from here, it's straight up, I'm planning to go about 30 foot, so if I go about 30 foot here up to this point, then I will get a little closer to that borderline, which is about 5 foot.

The last time that the Board approved, they did approve this 10 foot forward, and this one was not extended as much, so it was about 4 feet that they approved it.

MR MAYERSOHN: And now you're -- now you're for

10 feet versus 4 feet?

MR. DAVID NAFAR: No, on the side, I'm asking for 5 --

MR MAYERSOHN: Okay.

MR. DAVID NAFAR: -- 5 feet. Before it was 4 feet.

On the front, I'm asking for 10 feet, which was the same as before.

The issue that become 15 feet is due to the fact that the road is kind of -- get curve on this side, so, basically, the setback get closer to that 10 feet from -- from this point on.

So, basically, at this point to this point, it's going -- it's going to go closer to the -- to the setback line.

But, basically, it's going to be 10 foot in the front of the building.

You see what I'm trying to say? Any question? All right.

The other issue that I'm asking here is to get --

CHAIRMAN WILEN: Can you -- I ask you to go back.

MR. DAVID NAFAR: Sure.

CHAIRMAN WILEN: You said it was 10 foot from

the front of the building --

MR. DAVID NAFAR: That's correct.

CHAIRMAN WILEN: -- but the variance request --

MR MAYERSOHN: Request has 15.

CHAIRMAN WILEN: -- 15, so --

MR. DAVID NAFAR: That's why I'm explaining.

CHAIRMAN WILEN: Yeah, can you --

MR. DAVID NAFAR: Why is there --

CHAIRMAN WILEN: Where did the 5 feet come?

MR. DAVID NAFAR: Yeah, in my application I explain it too.

What it is, here is the 8-foot porch, right, so we come 2 feet forward and draw a parallel line to the line of the house. So that line is going to be 10 foot all the way.

Now, why is -- is saying 15-feet encroachment to the setback, because the road here is -- is turning.

CHAIRMAN WILEN: Okay.

MR. DAVID NAFAR: So, this corner of it, the maximum distance, you know, that you move here to this point, I will show you in the next slides too, it's going to be 15 feet.

And they said have to put the maximum number, not really the essence of -- the essence is about 10 feet.

So --

CHAIRMAN WILEN: So if the road was straight it would be 10 feet?

MR. DAVID NAFAR: Then that would be 10 feet exactly.

At the -- and the back -- the back is (inaudible), I need to, as you can see here, I -- I kind of -- this is my house. The inside of it.

So, what we have here, this is our kitchen area, so it's about 9 by 10 in this area, it's very small.

We do have a deck on the -- on the back.

And on this side of the house is a vaulted ceiling. On this side is -- is about 8 foot tall.

And if you open the door, our kitchen table is right over here, so if anybody wants to get in the kitchen while I'm eating, I have to get up and move the chair, so let them get inside.

And, so, to, basically, what we trying to do here, what I'm asking, I'm not asking to build a mansion here, 5, 6,000 square foot. I'm trying to increase my kitchen so be more useful. We want to have a family room, so we have more room to gather. This is the only room we have in the house to be in. And try to have a dining room. And in -- in this garage, you can park only one car, so we want to expand it to have a two-car garage.

CHAIRMAN WILEN: And, so, you mentioned you have

about 1600 square feet --

MR. DAVID NAFAR: Correct.

CHAIRMAN WILEN: -- now. In the new plan how many square feet would you have?

MR. DAVID NAFAR: On the back of here, maybe I should go forward here, then I come back.

CHAIRMAN WILEN: We can get to it later, just --

MR. DAVID NAFAR: Yeah. Okay. If you want to bear with me, I will answer that.

MR MAYERSOHN: Do -- do you not know -- do you not know it off the top of your head or --

MR. DAVID NAFAR: It's going to be about 1300 square feet on the back that I'm adding. It's 30 by 34, so that gives us about 1,000 square foot. And then the dining room is about 16 by 18. That gives us about 288 so --

CHAIRMAN WILEN: So you're going --

MR. DAVID NAFAR: -- going about 1300.

CHAIRMAN WILEN: So you're going from 1600 square feet to 2900 square feet.

MR MAYERSOHN: So you're almost doubling -- almost doubling the size?

(Talking over each other.)

CHAIRMAN WILEN: Okay. Thank you.

MR. DAVID NAFAR: That's correct.

Slide to this. So, here you go.

So we did take it off this (inaudible).

So, this is the main objective, that's what I'm trying to do.

To give you a little bit of background. I purchased this property back in 2004. And the city adopted the buffer, Section 430.050 on November of -- 10 -- 10th of November of 2008. And I did apply for permission on November of '21. And they did approve my application on December of 2008. And it was no discussion about this stream buffer section, and the addition was roughly the same as it was before.

MR MAYERSOHN: Well, do you know, does the city know when the -- when the effective date of Section 430.050 went into effect?

Was that on November 10th or was it, you know, a later day?

MR. JAGGI: I'm looking at our Code of Ordinances, and it says Ordinance 5069 was adopted on November 10th, 2008.

MR MAYERSOHN: Okay.

So, it's automatically goes into effect on the date of adoption?

MR. JAGGI: There -- there are some grandfathered provisions in that ordinance when it was

adopted. Perhaps that could have played an effect as to why a variance wasn't sought then, but ultimately we don't really know.

MR MAYERSOHN: Okay.

MR. JAGGI: And I think that's in the report that it's unknown.

MR. DAVID NAFAR: On the first part, Ms. Moore did go over these items, the eight items that the Board need to consider, so, and explain, so I'm going to talk about those to kind of say my point of view on those eight points. Try to be parallel with what the city presented.

So, if you look at the lot with -- as kind of you guys getting familiar with it, if you want to put all these constraints that we are talking about, the setbacks, the buffer and all the other stuff, and this lot was empty, I want to build it, the only place I can build is in this two-shaded area. So there is no way to build anything on this lot unless some variance be granted in some fashion, otherwise city to blight it and make a park out of it.

CHAIRMAN WILEN: So let me ask a -- semi --

MR. DAVID NAFAR: Sure.

CHAIRMAN WILEN: -- question. If your house burned down today, could you reconstruct your current house?

Maybe this is a city question.

MR. DAVID NAFAR: Based on what I have learned, if this lot was, as you said, burned out or somehow magically --

CHAIRMAN WILEN: Yeah.

MR. DAVID NAFAR: -- evaporated, I cannot build anything.

If you want to apply all this constraint and the restriction that --

MR MAYERSOHN: You couldn't -- you couldn't build a single-story residence. You could build a two-story residence.

MR. DAVID NAFAR: I will get to the two-story too, because the city, in the report, is keep mentioning that is alternative of two-story, but, actually, there is no alternative. I will get there.

So -- so, basically, on the first part, the city's kind of agree with us that there's a hardship. Definitely there's a hardship on this lot.

So, now if it started -- if you look at this hardship, if you have the -- the creek is going in the middle of the property, so, basically, what is happening is dividing it into the two parts.

And MSD already have an easement on the near -- on the near pipeline. They just installed a few years

ago, 2017, a new pipeline that did go and has right on the no disturbance area on the west of the creek.

MR MAYERSOHN: Did you receive compensation for the acquisition of your property?

MR. DAVID NAFAR: One of the issue of the -- as a matter of fact, it's a good point that you brought it up.

At the beginning I didn't -- before I started this, I didn't know what the buffer zone is and the others. And the gentleman from the MSD was saying that your land doesn't work because you do have these easement -- this restriction on it, so it's not going to be same as that.

So, by setting up the city adopting these new provision on the property is already devaluing the property.

Yes, I get compensation.

MR MAYERSOHN: How much?

MR. DAVID NAFAR: I cannot disclose it.

MR MAYERSOHN: Okay.

MR. DAVID NAFAR: The things I have -- the agreement I have with MSD --

MR MAYERSOHN: Okay.

MR. DAVID NAFAR: -- but I'm -- I'm sure you can ask them. I don't want to get in trouble.

So, MSD has an easement. It's -- there is a stream buffer restriction as -- as we discussed.

The shape of the property, if you look at the shape of the property that we have, it's, as you saw, is shape of the pie, so if you apply the 50 feet back because we have it so much frontage, we -- we lose so much area due to this 50-feet setback from this side to this side.

So, by just putting one constraint here, then we reduce the buildable area on this side. Then you put the two 15 feet on each side, then it's just reduce it to right here. Then you have MSD pipeline right along the no disturbance area, then you lose 20 feet on that side.

And the creek is -- I mean this is 10 feet. This is about 20 feet on -- on this side.

So, basically, these are the hardship that's -- is on -- on this -- this lot.

And the other problem that we have that we cannot tackle it is actually the -- let me see if I can get to -- that's all right. I explained it in the other slide.

So, the -- on the third part that the -- Ms. Moore was talking about is we should -- if you guys giving -- approve my variance should not affect adversely to the adjacent property.

So, to talk about the side setback, what is

going to happen, we just, from here, because we want to go straight, at this point there is no -- we don't get anything closer to the border. As it goes here, the maximum at this point is going to be 5 feet. So, basically, it average, you can say, about 2.5 feet that you get closer to the borderline.

And this slide we can see it better. So, basically, you start from here. This is the one point for the 15 feet. So we get it at this point, so we are 5 feet closer to there this time.

Now, if you look at the layout for the No. 9, because due to the fact that the -- the front page distance is much smaller, they are like an opposite pie of my pie, so they have a bigger radius on the back and a smaller radius on the front, so instead of the house to be parallel to the street, it's perpendicular to the street.

So, if we measure from the distance of my borderline, and this is my fence that it goes through here, so from this point to this point it's about 73 feet. And if you come back 15 feet more for the setback, we get to about 88 feet distance.

By going -- kind of re-using that 15 feet to 10 feet, basically, it still we have about 80 -- 83 feet distance from corner of new addition to their house.

And we can -- between these two houses, we do

have a fence, we have a row of the trees that they're going to stay, and they protect lots of privacy, and there is no way anybody can stand here can notice that this corner is 5 feet this way or that way. So, we are not going to adversely cause any trouble (inaudible).

And here is explaining the same thing that I just said.

And I put the copy of it on your desk.

So, on the front setback, if you read the report from the city, what is going to happen, as we said, we going to come about 10 feet, so here is a porch, so we come a little bit forward on -- on this side.

So, what this is -- what we have in the neighborhood, this is my house, and we have this house is across here. They said that they don't have that many variance on the front setback, but, bear in mind, that this house is going to come a little bit more forward than on this line parallel to the -- to the house. And it's not going to have that much affect on the looks of this street or anything else, and all of this tree and everything is going to stay. We going to keep them.

And I did contact these three neighbors that they are right across from me, and they did sign the paper that they are very glad if I do this addition.

MR MAYERSOHN: Was this prepared by you?

MR. DAVID NAFAR: I did write it up. They did sign it for me.

CHAIRMAN WILEN: Thank you.

MR. DAVID NAFAR: Ms. Moore, this is the original for your records.

So, they -- they told me it's better for them to look at the much better house than be a couple feet over of it.

So, that said, on the front, again, we have existing porch. The front setback is mostly 10 foot. It's not just a little bit of it. As I explained, it's going to be 15 feet.

So, No. 10, 12 and also 11, the 10 and 12 is right across from me and the 11 is kind of catty-corner from me, so they did accept that there is no problem.

And, actually, we bring the more beauty to the neighborhood by putting up that building that trying to.

So, going here on the No. 4, that's -- we heard it again and again and you hear it on the report that there is alternative. They did -- the city accepted an extreme hardship. There's no doubt about it. You saw it. There is no place to build on this.

But, as far as the alternative, let me explain little bit on that.

As I said it before, we -- we -- here, we have

a -- we need to expand the kitchen, so we have to kind of going somewhere here to put the kitchen on.

If you want to do the second floor, on this side is the, you know, it's a high ceiling. It's a vaulted ceiling, so nothing you can go on this side. And if you want to put the staircase, there's no room to put the staircase to get to the second floor. So you have to tear something down to build a staircase to be able to get to the second floor.

And even that, if you go get ten house -- a hundred houses in the City of the Creve Coeur randomly, how many of them they have their kitchen on the second floor? How many of them their living room, when a guest comes, they bring them up and they put the bedroom on the first floor?

So, it's not suitable. It's not practicable. And it's not that common.

I have to tear things down to be able to build the second floor.

Why the second floor is come along. Why this idea is this starting to come.

It's because of the application. In the application when I fill it out, it says that you have to come up with some alternative plan, and I explained why it's not possible.

MR. KOSTELC: Excuse me. Aren't there a lot of houses that are in this neighborhood that are already two-story houses built by the same contractor back in the '50s, so they can support their second floor, and, therefore, contractors don't usually change their footprints from house to house?

MR. DAVID NAFAR: The houses that are two-story in our neighborhood, before they did have, what do you call, neighborhood association, they didn't allow to build any second -- two-story building in the (inaudible).

Before I purchased it in 2004, that was dissolved, and there are a few homes now that there are two-story building in the neighborhood, but all of them they tear down the whole house and built on it. They don't have -- there is no second story addition in that neighborhood.

There are nineteen houses, and none of them -- majority of them are singular story. There are a few of them that there -- maybe seven, eight, nine, something like that, that they tore down the old house and built. We can take a look at it. We'll go (inaudible) and take a look at it.

So, on the application it asked for that, so I was trying to explain the age of the building, and my statement was that because the building is -- is -- is

kind of built back in 1950, it -- maybe it doesn't hold -- likely the foundation does not hold.

But my statement was trying to explain the year of the house, but it did take -- they take it out of the context, and it says that I claim that you cannot build a second floor.

MR MAYERSOHN: Well, you haven't done a study to provide.

MR. DAVID NAFAR: No, I didn't do a study, and I didn't claim for it.

MR MAYERSOHN: So -- so it's just your personal opinion --

MR. DAVID NAFAR: It's just -- just (inaudible), that's all.

MR MAYERSOHN: Okay. It's just your personal opinion?

MR. DAVID NAFAR: Just -- just -- actually, I don't know, maybe it's possible too to put it. I'm not claiming it's not possible, so that's how I'm trying to say.

So, and for that reason it's just, but, actually, the main idea of why -- why we not want -- we cannot have it two story, because, first, the footprint's so narrow. It's only 26 depth -- 26 feet is the depth of the building. Where to put the staircase. Where to put

the other stuff you want to put it in to get it to the second floor. So that's -- that's not there.

And if you look at the -- basically, we trying to have a kitchen room, a dining room, a living room, so how we want to put all those on the second floor?

So that's another reasoning that is not feasible, and is -- also getting access -- accessibility. I'm getting old, like anybody else. And I have a friend that he said, you know, when you get to this age, you get up in the morning and you don't have any new pains, it's a good day.

So, going up and down on the staircase is not that much give us accessibility.

So, all of these factors that says a two-story building is not feasible for us. And it's not economy. You have to tear things down, and we want to make addition, we don't want to demolish the -- the building and put the, you know, 5 -- 5,000 square foot building in the lot. We just want a little bit more space, a little bit more kitchen area.

So, in No. 5, it says that the -- this variance is going to affect the public health. Everybody I did is not going to have any issue on that.

And the 6 is, basically, summarizing and trying to say that the -- the spirit of this variance is -- is

kind of -- it's holding, and it's -- as I summarized it, the condition everybody agree is -- is very unique.

And I didn't create that, so, basically, that was handed to me, and I have to find a solution for it.

And grant -- granting the variance is not going to have that much affect on the neighbors. Actually, they -- they -- they expressed that they love to have a better building in the neighborhood.

And considering, as far as the -- the location the creek, the MSD pipeline, and the shape, all the other stuff that we've been talking about this afternoon, make it very difficult for, you know, to build -- build on this lot.

So, as you said, there's no affect on the public health, and the variance will not result any -- any diversion, and application addition will, indeed, contribute positively to neighborhood. We are not going to take away from the neighborhood, we are going to add to the neighborhood. And it's good for the community.

So, we tried to make it nicer and try to have a positive value here.

And what I have here on -- on -- on the front, you do have the houses that are a few million dollars, so we are not trying to be big mansion, just a little bit more room in the kitchen and little bit more room to put a

living room.

So, I'm not going to bore you. There are two more things -- there are eight items that Ms. Moore talked about, so these are 7 and 8. These are the number that she put it on.

So, as the city mentioned, they -- this is a quote from what the city said on the finding. So establish MSD has a hardship, and it's a unique condition on this.

So, and as I discussed, there's no alternative plan for -- for this to put it on. You have to tear things down to be able to put a second floor on.

So, on the eighth one on that list, it's, basically, there's no affect on the stormwater, and the city agreed that too, that this is addition moving forward and going on the side, I will get to the buffer zone that is talking about the water, but as far as -- because we separate these two case separately, so as far as making the variance, it's not going to have any affect on this. And this is what the city agree on too is on their paper that they handed to us.

So, before I get to the second section that it's talking about the (inaudible) buffer, I did present to you the reasoning that I believe that you guys vote for me and grant me the variance for the side and the front to

make -- make a little bit more room for ourselves and improve the neighborhood.

And, as this lot, it was handed to us the way it is, so we try to solve the problem instead of just kick the can down the road for somebody else, somebody later on.

So, as far as the stream buffer is concerned, I did read the -- what she had. There is so much about the number calculation and all the other stuff that make you confused. I will try to make it very simple.

So, the first part that they said that the -- the alternative that was not explored, we did talk about that. Again, that one is coming up.

There are three things that is -- has been discussed, and as was the volume of the detention and all the other stuff regarding. Let me give you a little bit of background.

I did met with the city several times, and at the beginning my idea was that I capture, I harvest all the rain for the access that I -- roof that -- that I put up to harvest it and use it for the bathrooms and the watering and so forth, so try to solve it then.

That -- that idea came in our meeting that we can use the drywell. Drywell to do this. So, at this point, we don't have any problem to whatever the city

wants and we have to do to comply with those regulations to do it.

But at this point I want to ask my friend, Ken Keitel, to come and explain about the drywell, and if you have any questions about the numbers, he answer this part to you and then I will continue.

MR. KEN KEITEL: For the record, my name is Ken Keitel with Terraspec. We've been working with Mr. Nafar since he first proposed this back in 2008. We're just preparing a -- a setback variance plan for him and kind of grew into doing the stormwater, and --

CHAIRMAN WILEN: And you all are architects?

MR. KEN KEITEL: We're -- we're landscape architects, and we also have a civil engineering consultant by the name of Todd Hoffinson (phonetic). He's out of town, couldn't be here this evening, but we worked together, prepared all the plans, so should be able to answer any of the questions.

The city engineer is correct in the sense that we do not have the volume that's required to satisfy both the -- a water quality and the quantity. We are about 85 cubic yards short. That's a simple fix.

We -- we've done a lot of these in other municipalities; Kirkwood, we've done just two or three in the last -- the last six months, and theirs are all geared

toward storing the -- the water quantity, and so we kind of approached it from that standpoint.

And these are all technical things that can be solved. It's not a matter of it can't be solved. It's just a matter of getting with the city and making sure that we cross all the Ts and dot all the Is.

The drywell that we have shown is actually 12 foot by 12 foot by 4 feet deep, and that handles the -- the quantity portion of it.

The additional 85 cubic feet of storage can be -- can -- the drywell can be modified to being 14 by 14 by 4 feet deep, and that takes care of that quantity.

As far as the quality is concerned, our approach -- what happens is water goes into the drywell, and it doesn't escape from the drywell through the pipe until the drywell is completely filled.

Well, we've got the drywell designed -- or will have it designed to hold the entire amount of the stormwater. That's no different than a bio-basin or a detention basin. They're designed to hold a certain amount of water. Once that limit is reached, then they have an overflow and they flow it out. So, it's no different than a detention basin.

The difference that the city engineer was talking about was quality. We have, in -- in the past, we

put drywells in. In the pop-up area, we will have -- we'll come back in and do either amended soils, or as she suggested, a rain garden, which would capture water that's in excess of the amount that's actually being stored.

When they go into the drywells it is percolated down, just like it would in a -- a rain garden. The only difference is in a rain garden you have a modified -- you have a modified filter system of, you know, a soil, different soil and rock layered that -- that actually filters it out.

In this case, the drywell, once again, it seeps out into the soil, it never really reaches the surface or the creek unless that entire drywell is -- is filled, and she's correct, and it will flow in and it'll just flow right on out.

But that's no different than a rain garden. A rain garden, once it's filled, it flows in and it flows out, so.

CHAIRMAN WILEN: I just want to -- I don't want to get into the hydraulics --

MR. KEN KEITEL: That's fine.

CHAIRMAN WILEN: -- but I do have a -- sort of a process question.

So, is your contention that we should approve the variance, and then assume you'll make -- you'll figure

it out later with the city's help?

MR. KEN KEITEL: Well, no, not so much.

We -- we, whether it was -- I'm sure it was unintentional, but we didn't get comments back from the city regarding any of this stuff. I just got it like a few days ago. So, we didn't have -- we got comments back a week or so ago concerning some discrepancies in numbers, you know, there on one sheet we had a different amount of impervious than on another sheet, and that was primarily due to grounding and the fact that we were using calculated numbers from the architect and our survey. So, we ended up with some conflicting.

So, we got that straightened out, but we -- there was no mention until this last report you all got, or at least that I saw, that mentioned anything about us being shy on the amount of -- of storage and that. And like I said, that can be easily taken care of.

We still have to come in for building permits and everything else. Have to go through that whole process. And the site plan will have to meet all the city's requirements.

And I think Mr. Nafar has already stated he has no problem with doing that.

CHAIRMAN WILEN: Thank you.

Do we have any further questions for the

applicant?

MR. DAVID NAFAR: Yeah, I have this thing --

CHAIRMAN WILEN: Oh, okay. Thank you.

MR. DAVID NAFAR: I just -- on this part, because Ken is more involved, could answer your question better than I could.

MR MAYERSOHN: Could we -- could we take a break --

MR. DAVID NAFAR: Yes.

MR MAYERSOHN: -- for five minutes or less?

CHAIRMAN WILEN: Sure.

Can we adjourn for --

MR MAYERSOHN: Or can he continue --

MS. KARR: Yeah, for five minutes.

CHAIRMAN WILEN: Okay. We'll adjourn for five minutes. Thank you.

(A break was taken. The following proceedings resumed back on the record at 5:47 p.m.:)

CHAIRMAN WILEN: All right. Mr. Nafar, you want to continue your presentation, please.

MR. DAVID NAFAR: Sure. I apologize that it taking so long, but it's a complicated matter, and I try to be -- go faster because I know everybody wants to get home.

So, as far as the -- that detention, we -- we

don't have any problem. We solve it whatever needs to be done, we will do it.

So, here, she's explaining on No. 5, is, basically, giving a data to us, so it's nothing new.

And it's saying that, also, we kind of have to be careful, so we don't lose the permit.

We are going to follow the law and research, and, therefore, there is -- there is nothing we need to be worried about. I mean whatever based on this ordinance we need to do, we will do it.

So, as far as the partially vacating this, we kind of touched on it before, so after I get that approval from the Board, I will kind of -- contacting them, as I showed, it's just a couple feet, it's not that big distance. That you vacate the easement. And they did it before to put that garage in, so.

But, in any event, in case they do not approve it, they say no, then I have to change the plan, so we are not going to.

Your approval is going to be contentious and we did talk about this with Ms. Moore, and this is the way we had to approach it.

As far as the -- either city's report is saying that we might be too close to the wall, that concrete wall that is there, so we maybe damage that, that's the last

thing I want to do, so I be more than happy to get a structural analysis and make sure that whatever we do we are in a safe area. So we don't have any issue with the city on that part.

As far as, again, she -- she explained that if you don't comply then it's going to be an issue, so I want to say that we are going to follow the ordinance, so whatever we have to do as far as the detention of the water and quality of the water, we make -- we make sure to put it in place.

I -- I have some other idea, as we discussed it with the city. Whatever has to be done, then we will do.

As far as the -- the Board kind of on that ordinance of, I think is 4350 -- 4 -- 430.05, it explained that there are some factors that you, the Board, need to consider to grant me the variance.

So, the physical characteristics is, basically, is the first Item A on that list. So, we did go over it, over and over, so we do have that issue with here.

The location of the stream is right in the middle, so that's also -- we covered that part.

The location of the setback and intrusion, we did talk about almost -- most of it, about 10 feet and little bit -- little bit more. And on the side is going to be the maximum 5 and the average about 2.5.

So, as far as the alternative design, I did go over and over and over. The only thing we want to do, we try to build the kitchen a little bit bigger and dining room and have some living room, and it's not suitable and economical and practical to put it on the second floor.

As far as the water quality can help us, and then I agree with the mitigation, and we catch the water that we -- it comes and either we dispose it through the -- the drywell or some other means. There are several different ways we can do that. We can take care of that.

Whether the issue of it is at least as protective of the nature -- natural resources and environment.

I'm a physicist and engineer. And the reason I want to do the addition, not to tear down the house and build another one, because I believe lots of energy and lots of material has been used to build this house and it's functional. There is no need to like yank it out and put it in landfill.

I'm environmentalist, and I make sure that everything be fine. And I assure you, I want to leave the earth better than what I found it, and leave it for my grandkids.

So, this is, basically, what I'm asking you guys, based on this, to grant me the variance for the

setback on this area of the stream buffer zone.

But, also, as Ken said, I did submit my application 50 days ago. I did receive this two days ago.

In the last two days, I was sitting and trying to work on this, and really unfair. We didn't have enough time to study to present better than what I'm doing right now.

I would have more data for you, more information, but in two days that's the best I could do, and it was not fair.

But to -- also, I want to agree upon something, as a member of this community, as a resident of the City of Creve Coeur, I want to bring it to your attention when you -- when you talking about it (inaudible). Yeah.

I run into the idea because one of the discussion we had with the city where we should assume is the bank up -- is the bank.

So, based on going back and forth we decided, for example, the concrete wall to set as a bank, and we measured at 25 feet from.

So, actually, the bank is started, the way I read it and researched, is where the rest of vegetation started, at that line, we have to start the bank of the creek. So by saying that the bank of the creek is going to be somewhere up here, so all these lines, if -- if

that's true, it's not going to hold up.

The second thing I found out, in other cases, the case laws, that, basically, the concrete -- the whole idea of this buffer zone we have, as she explained it, we want to have a better quality of water, clear water and goes on.

And that's why we tried to buffer it, but the concrete wall is -- is actually is buffering the creek, so that part, the city shouldn't enforce that -- that area as a buffer zone.

So, basically, if that's true, if the city force want to do it, it's wrong because this area, it shouldn't be a buffer, because you already have a concrete wall 2 inches above the ground, so the water that comes is not going to get into the -- into the creek anyway.

And, also, in that articles that I read, anything that you have, a retaining wall or rip rack rocks, that's not also could be behind it to have a buffer because it's already protected.

So, I do have the rip rack rock right around here with the concrete over it, and, also, I have a retaining wall, so, basically, up to here is all protected.

If that's true, then we are making a wrong decision to try to enforce on this area the buffer

protection.

CHAIRMAN WILEN: Let me just --

MR. DAVID NAFAR: Sure.

CHAIRMAN WILEN: -- clarify something.

I'm getting two different drifts.

MR. DAVID NAFAR: Sure.

CHAIRMAN WILEN: On one hand, you'll do whatever the city wants, you know, you'll comply with all the law and you'll work with the city in good faith.

But now it sounds like you don't necessarily agree with their assessment.

MR. DAVID NAFAR: I'm not saying -- I'm -- I want just a little bit more kitchen and little bit more living room. And I'm willing to do all the stuff the city says, but I want to bring it to your attention that what I found and share with you as a concerned resident.

CHAIRMAN WILEN: Okay.

MR. DAVID NAFAR: That's all. I'm not trying to say what -- I just want to show you what I did find in last two days.

CHAIRMAN WILEN: Got it.

MR. DAVID NAFAR: So, basic -- based on what they're saying, we are very much -- this case is the first case for the City of Creve Coeur.

The city staff also may not have that much

experience with this type of case. We are friends. We work together. All right. But we have -- we have to say what we found. So this is what I found. I want to share it.

And, lastly, if you look at the restriction that this buffer in 2008 the city imposed on this lot, it's, basically, significantly determined -- detriment to the property and not substantially related to the public benefit.

Really, if you look at it all -- they're taking all this part of land and all this part of the land from this lot, and then it's not that much public benefit.

So, just -- just, bear in mind, that these are out there. And at the last -- if you -- if you kind of look at the time that the earth was created up to now, we assume (inaudible), and the humanity all the time that the humans been wandering around on this earth, it's going to be the last inch of (inaudible).

For us, the life expectancy is about 78 years, that statistics, let's say it's 100, that's the share of that 1 inch is going to be less than the thickness of our hair.

Basically, I'm not the final or permanent owner of this lot. I will pass -- either pass away or sell it, it's going to go, but it's going to be part of the City of

the Creve Coeur forever.

So, the City of the Creve Coeur have to solve this problem. Either we say in that neighborhood, you want a house that is get run down, and it become a rental property, the police come here all the time, the people don't want to live and so on, or you want to somebody come in here, put in the money and energy.

I already spent more than 10,000 to get to be here in this meeting, and try to make it better for everybody and also themselves.

So, that's -- you need to have a bigger picture of the whole thing instead of one foot here, 2 feet there.

We tried to work with the city. We tried whatever it is to comply. We had several meeting. I start this journey back in last November, and I'm here in August.

I would like to thank all of you. I'm a member of some of the committees, and I know how it is. I -- I thank every individual for your -- for your time, your dedication, you putting in the time to get here, and all this stuff, and I really appreciate that, and I will listen to it.

Any question, I'd be more than happy to answer.

CHAIRMAN WILEN: Any questions for Mr. Nafar?

MR MAYERSOHN: Thank you.

CHAIRMAN WILEN: Thank you so much for your presentation.

MR. DAVID NAFAR: You're welcome.

CHAIRMAN WILEN: At this point, we have a few people that are registered to speak.

MR. DAVID GRAND: Several had to leave. It's just us left.

CHAIRMAN WILEN: Okay.

Then Mr. David Grand, please.

State your name and address for the recording.

MR. DAVID GRAND: Hi. We are David and Judy Grand. We live at No. 9 Sherwyn Lane, right next door to No. 7.

We've been there since January of '94, and we are very much in favor of any improvements that can be done to the neighborhood. We -- we firmly believe that.

The setbacks that exist, you know -- well, our concerns are two-fold. One, really, the privacy issue, and, two, the whole issue of the creek.

My thought process was much less sophisticated than the 430 and 425. I learned quite a bit here about that. But that has a lot of concern for us, given all the vegetation that is -- that is there.

You know, we see the lot of the --

VOICE: Aerial views.

MR. DAVID GRAND: -- aerial views, and so we started to dig for pictures on our phone to give -- try to give you an idea of exactly, really, what it looks like and how close our properties really are.

If it's okay, can I just run up -- that's all I got. I was unprepared with PowerPoints.

But this will probably give you an idea of the side of Mr. Nafar's house, and you can see the deck, the wooden deck, and how close everything is, and -- and the trees that are separating our property, cause what we're concerned about is that he starts to build on that side setback, all of a sudden he's really in our front yard, and from that standpoint, we're very concerned that, A, that the vegetation, the trees that Mr. Nafar says are going to stay, we're not convinced that that's the case.

And I think, from a privacy standpoint, we don't want to be looking at their house; they don't want to be looking at our house.

Can -- is anybody -- is it relevant?

CHAIRMAN WILEN: Sure.

MR MAYERSOHN: Sure.

MR. DAVID GRAND: Sorry. Don't have -- I'll just start on one end.

This was taken in August of 2020. My sons were home from the pandemic.

And so this is looking out the side, and you can see that's the fence that they have put up, and you can see the -- the wooden deck right there, and that's the proximity.

MR MAYERSOHN: So, when there's no foliage, you see a lot?

MR. DAVID GRAND: Yeah, it has grown in a little more since 2020.

I'm sorry, can you see the wooden deck right there?

MR. KOSTELC: Yeah, I can see.

MR. DAVID GRAND: Okay.

And that's how close -- so the side of this house is right -- is right there, that structure on the edge.

And so if they come out, I'm just worried they're going to come out, really, right into our driveway.

MR. KOSTELC: Well, they're going to remove all that from the environmental impact, that's terrible to remove all that -- that tree work.

MR. DAVID GRAND: Well, yeah, that's -- that's one review.

VOICE: I don't understand how it could survive through construction anyway.

MR. KOSTELC: Yeah.

MR. DAVID GRAND: Yeah.

Okay. You can pinch out. You can kind of see.

MR. MOONEY: So, that's the wooden deck --

MR. DAVID GRAND: Right.

MR. MOONEY: -- right there.

MR. DAVID GRAND: Right.

So, and that's pretty much -- those trees that line up were actually planted by us prior to the resident that actually -- when we moved in in 1994, there was a family named Hughes there. There was no foliage, so we planted, and what we didn't know is we planted on their property, so those trees are on their property, and we were fine with it, and Mr. Hughes was fine with it.

We maintained those trees until the next woman moved in, in which case, we got pushed out. So -- so, those trees have been there for twenty years --

VOICE: Or longer.

MR. DAVID GRAND: -- or longer.

So that's our -- our -- our big issue is on the privacy and the potential detriment value to our house in terms of the marketability at some point in time when we go to sell.

Also, we're, you know, I learned a lot about the, you know, the -- the safety of the water and the

runoff, and it would seem to me that unless you all were absolutely convinced that the safety of the water and everything that has been discussed regarding that point is -- you're comfortable with that, it would seem it would be putting the cart before the horse to grant a variance on the site from that perspective.

VOICE: Yeah, so let me interject a little bit too. That with the house so close to the home and no buffer, it will negatively impact the value of our home.

And there -- having neighbors so close will be a detriment when we eventually go to sell.

And I've been a realtor for 19 years. I have experience in selling homes. And I know that, you know, the trees, the buffers, and the -- it's just very uncharacteristic of our neighborhood to have homes that close, so that would also be, you know, a negative impact.

CHAIRMAN WILEN: And would there be any other impact from a nicer home next to yours, or is that --

MR. DAVID GRAND: Well --

VOICE: No, so, yes, that -- that's where we're getting at. We're -- and we would be happy if you granted the front variance.

It's the side variance that is our objection.

MR. DAVID GRAND: Right. Yeah.

The home, 7 Sherwyn Lane, I mean we understand

it's a limited lot. I mean the creek's been there, you know, forever --

VOICE: In the neighborhood.

MR. DAVID GRAND: Right. So we feel like whoever owned that house, the woman before him, the Hughes, the Hughes, they knew that going in, and there -- there was, obviously, going to be some limitations into expansion of that property, so.

VOICE: And when MSD came in -- what was that '08?

MR. DAVID GRAND: '7 -- '08. '17 when they built it.

VOICE: In '17, they -- they took some of our land as well, and we were compensated $27,000 for what they took.

I know they took a lot more of Mr. Nafar's property, and I'm sure he was compensated accordingly.

MR. DAVID GRAND: Yeah. So, that was really it.

We -- we're not opposed to the front expansion of his property, but we -- we're very weary of having him, or anybody, build so close to our -- our property.

That's really it.

MR. MOONEY: I have a question for you.

MR. DAVID GRAND: Yeah.

MR. MOONEY: Have you ever experienced any

flooding from that creek during heavy downpours?

VOICE: In our house?

MR. MOONEY: Yeah.

VOICE: So, I think we had backwater coming back up when we used to get water in our basement. We've done a lot of mitigation and -- and downspouts and things like that around.

But, most recently, we had a wall torn out and we realized there was -- we put an addition on the house, is, basically -- we bought a home that was existing. We put an addition on it. And we discovered this last time, because there was some water, which was a couple years ago, and we -- they -- they tore out a wall and realized there was some pipe that didn't have a cap on it, and so water was coming up through this pipe and had no cap, so if enough water came up, backed up, then we would get water, and now it's been capped and we have had no issues.

MR. MOONEY: All right. Okay.

CHAIRMAN WILEN: Thank you so much for coming.

MR. DAVID GRAND: Okay. That's all we have.

MR MAYERSOHN: Thank you.

CHAIRMAN WILEN: So --

MR. MOONEY: Mr. Nafar, I have a question for you.

MR. DAVID NAFAR: Yes.

MR. MOONEY: Have you experienced any flooding in your current residence?

MR. DAVID NAFAR: What -- what this creek is is a small stream and the bottom of it goes (inaudible). When the level of the water, the rain, goes up, is immediately elevated. As soon as the rain stopped, immediately goes down. So it's a storm. And has a very good slope. So the flow rate that it pass through is very high, so, there -- therefore, is -- it doesn't get flooded.

MR. MOONEY: Based on the pictures that you showed --

MR. DAVID NAFAR: Uh-huh.

MR. MOONEY: -- as far as the amount of debris and that in the stream, seems like that would be a hindrance or a block, and you would get rainwater backup.

That's -- that's all I have.

MR. DAVID NAFAR: The other stuff that you guys mentioned about the MSD, who it -- who maintained the creek, so on, nobody maintained the creek.

I had to get the branches and everything out.

I did talk to the MSD. They said the City of the Creve Coeur responsibility.

I called the City of the Creve Coeur, said is the -- is the MSD responsibility or go to the county.

Everybody passed the ball to somebody else. Nobody.

And it's an issue. They did have a flooding problem before they built this wall, the concrete wall, and also the overpass, so that's why they built that to -- to take care of the flooding. There is no flood.

But our neighbors is -- expressed their concern regarding the setback that's -- the trees that is there is not going -- is not going to go away. It's going to stay there.

And as far as the privacy, we respect their privacy. Our addition is not going to get there.

But if that one is so important to my neighbors, it's important to me too.

I will take my asking for the variance for that 5 feet to go, I just deal with the crooked wall, and that will be fine.

The reason you add that is just to go straight, but if it's really bothering my neighbor, then it's bothering me too, so I don't have any problem to take that --

MR MAYERSOHN: I have a question for the City Attorney.

Can he remove that in the middle of an application, or does he have to file a new application?

MS. KARR: Well, given that it's a lesser variance, we can continue to move forward.

What -- but if -- unless you add it as a condition on the variance, it's not binding at all.

So I mean he's submitted an application, and there are several questions in the application, but, so, I mean that's -- that's what would be binding unless you make it a condition of the variance, if you're inclined to grant a variance.

MR MAYERSOHN: And can we make it a condition on -- on the MS -- working out the -- the issue with MSD on their easement?

MS. KARR: That's going to be a little bit tougher, because, in my mind, you know, this is premature, given that MSD has not vacated the easement, and MSD has not weighed in on this and given their approval of it.

So, it's going to be very difficult to prepare a condition that would capture all of that.

MR MAYERSOHN: Okay.

MS. KARR: You know, I could begin working on it if -- if the Board is inclined to grant the variance based on those conditions.

CHAIRMAN WILEN: So, Mr. Nafar, if I understand this. I'm looking at the proposed motion. So we would strike the side setback --

MR. DAVID NAFAR: That's correct.

CHAIRMAN WILEN: -- clause.

MR MAYERSOHN: Is that the way we should handle it?

MS. KARR: Yeah. So what you would do is then -- yeah, probably what -- what you should do is do a motion on the front variance, and then do a motion where you would reject the side variance. Turn that, actually, into two motions instead of just the one.

CHAIRMAN WILEN: I can't just strike -- I can't just variance the -- strike that piece?

MS. KARR: Yeah, because then you wouldn't really be voting on the side variance cause you would just strike.

CHAIRMAN WILEN: Oh.

MS. KARR: Your motion then would be we're going to grant the front variance --

CHAIRMAN WILEN: Yeah, going forward.

MS. KARR: -- but he's petitioned you for a side variance, and so you need to have some kind of motion and decision on the petition for side variance.

MR MAYERSOHN: So you have to have a motion to approve the side variance that we would reject?

MS. KARR: Yeah. Uh-huh.

MR MAYERSOHN: Okay.

CHAIRMAN WILEN: Oh, gosh. Okay. Thank you.

I have a question of the city.

So, we talked a little bit about stormwater mitigation, quality, quantity, and not everything is buttoned down at this moment.

If the variance were to be granted, what is the mechanism to enforce everyone's good intentions?

So, you know, we've heard a lot of dueling suggestions, and if we just say, yes, the variance is granted, what happens next?

MR MAYERSOHN: How do we know that they would build a bigger retention?

CHAIRMAN WILEN: Is there building permits? Are there grading permits? Is there demolition?

What -- that's kind of a theme of mine here, Jason.

MR. JIM HEINES: Okay. Is that question for me?

MR. JAGGI: Go ahead.

MR. HEINES: Okay. I would think that we really need it spelled out here, what are we approving; what is the limits of what they could do if you are to approve a variance.

And I think that's a little more for the planning setbacks and also for Public Works for us to try to enforce 430 and 425.

CHAIRMAN WILEN: Okay.

So you see our dilemma?

MR. DAVID NAFAR: I (inaudible).

CHAIRMAN WILEN: Well, let me just finish and then I'll come back.

So on one hand, we're probably not the best qualified to adjudicate hydrology dispute.

Everyone has good intentions, but you don't all -- you also don't agree, so I feel like we're signing a blank check a little bit on the second variance.

Wait. Let me just stop for a second.

Do you guys kind of agree with that or am I mischaracterizing?

MR MAYERSOHN: No, I --

VOICE: No, I agree.

MR MAYERSOHN: No, I do.

MR. DAVID NAFAR: Based on whatever the Board approve, I have to go get a permit from the city.

CHAIRMAN WILEN: Could you stop for a second.

What kind of permit?

MR. DAVID NAFAR: I have to get a building permit.

CHAIRMAN WILEN: Okay.

MR. DAVID NAFAR: In order to -- they gave me a building permit based on what you approve, I have to

satisfy all this stuff that you said that I have to comply with their needs, as far as the water quality and water quantities, as far as the setback that you approve, so I'm not done by just getting the variance from the Board. I have to get the -- I have to get the permit from the city, and the city is going to go based on what you approved -- approved to give me the permit.

So, if I don't come through with what I'm claiming, then they -- they don't give me the permit to build it.

CHAIRMAN WILEN: Do we have -- that's kind of not what I'm hearing from the right side of the table, though.

MS. KARR: Well, nothing that -- any assurance that he says, oh, I'm going to comply with this, I'm going to comply with this, that's not binding, and, so, unless you put it as a condition in the variance.

So, what the ordinance says as far as the stream buffer, and I'm not talking about 425, but what I'm talking -- but about the stream buffer, it says, in accordance with our permit from DNR, and that's a DNR requirement, in accordance with our DNR permit, we are not allowing this certain area to be built on, and we're not allowing this certain area to be -- to be disturbed significantly, unless there is -- unless would totally

deprive an owner of any use of his property.

And, so, we're left with, okay, so you're allowing now disturbance within the stream buffer; you're allowing a structure to be put within that buffer requirement, so what are you then requiring, and there are no other mitigating factors. I mean that's what you guys would have to come up with and put as a condition on the variance, and then that's what we would follow.

MR MAYERSOHN: I would like to make a motion to adjourn this meeting, cause I don't think we're prepared to do -- do that at this time.

You said you didn't have enough time to respond.

You said you would need more to -- to meet the calculation.

I'm not in a position to -- to -- to vote one way or the other with too many open-ended questions.

CHAIRMAN WILEN: Any discussion on Mr. Mayersohn's question?

MS. CONNON: Well, I was reading through his points at the end, and they were talking about trees, what -- you take down so many trees and then you -- so --

MR MAYERSOHN: Just because you say that they're not going to be taken down doesn't mean that the construction won't kill them.

I just had a retaining wall put in my yard, and

it killed a big tree, cause the bulldozers were driving over the roots.

MR. DAVID NAFAR: As far as -- do you have that slide again?

I see what she's talking about, so I answer.

CHAIRMAN WILEN: Well, let's -- before we go into the particulars, we have a motion now to adjourn the meeting in order to, I'm assuming -- I -- I -- let's go for some discussion.

I would agree that's a tough thing to draft on the fly here.

MR MAYERSOHN: Right. Well, I --

VOICE: I agree.

MR MAYERSOHN: -- from my -- from my perspective, I think you need to do more work. I think you need to get with the city more.

MR. DAVID NAFAR: Sure.

MR MAYERSOHN: And -- and so we --

MR. DAVID NAFAR: I respect that.

MR MAYERSOHN: -- we have a -- a limited variance that we can actually really understand and not do this on the fly.

So, I would just like to adjourn the meeting at this point and ask them to come back in September.

CHAIRMAN WILEN: Let me ask the city. Are we

required -- can we come back as soon as possible, cause this process is already dragged out?

MS. KARR: Well, so I think what you're doing is you're making a motion to table until a -- until another meeting --

MR MAYERSOHN: Yes.

MS. KARR: -- and you would like to see it not wait until maybe the next month, but maybe sooner than that or some kind of special meaning.

So, you can certainly do that. The notice of public hearing was posted for tonight. As long as we table it to a date certain, we won't have to re-publish the notice of public hearing.

But I don't know if we're prepared to do that tonight, unless we just table it to the next regularly scheduled meeting, and then we can avoid any problems, any potential problems with the notice of public hearing.

CHAIRMAN WILEN: So --

MS. KARR: And, by the way, on your question about the trees, she's able to answer that if you wanted to --

MS. CONNON: Well, there was a whole bunch of questions on that.

MR. KOSTELC: Yeah, that was part of my question. Variable impact study was never done, how much

they're going to lose all vegetation.

MS. GARSON: Yeah. So, kind of -- kind of going back a little farther to the idea that we didn't communicate until two days ago.

We had been in communication in July. We sent a letter with our concern. One of those concerns, I had written the section of the City Section 430.0533H, that's water quality has not been met. Please refer to MSD rules and regulations and engineering design requirements for sanitary, sewer and stormwater drainage facilities, February 1st, 2008. That's MSD design guide.

Sections 4.06.0.2 and 4.025, and we have a letter from August 2nd from Mr. Nafar, you know, saying that he received it, he (inaudible), and he said runoff calculations is correct, and please see Sheet 4.

We received the revised calculations, and then we're in communication with the design engineer because we felt some of the things that we brought up still weren't addressed.

The reason this sort of went on is because we had asked the engineer to correct discrepancies in the areas of disturbance and areas of imperviousness. There was a calculation error on line 6 of the water quality calculations that we asked to be revised, and in phonecalls, I had been concerned about that I said I don't

think 430 and 425 are being met.

And when I referenced in writing these two MSD sections, one of them is about sizing for water quality, so I advised him to take another look at sizing calculations.

And the 406 -- 406.05 is about what we talked about earlier, the acceptable urban BMPs for water quality, so they were aware that the city had concerns.

CHAIRMAN WILEN: Let me -- before we vote on Mr. Mayersohn's motion, let me ask one last, hopefully, last question.

So, absent the 2008 regulations that the city adopted, could the applicant have expanded his house more towards the creek or would he have run into other issues?

MR. JIM HEINES: Up until the 2008 ordinance --

CHAIRMAN WILEN: Let's make clear, it's 2006 agreement.

MR. JIM HEINES: It -- it -- okay. In 2007 --

CHAIRMAN WILEN: Yeah.

MR. JIM HEINES: -- prior to the ordinance.

CHAIRMAN WILEN: Correct.

MR. JIM HEINES: Yes, they could have -- could expand over into -- towards the creek, however, I believe there's an MSD easement there, and that would encroach that easement, which would negate the ability to -- to

develop in that area.

There are concerns about the wall that is there. I believe it's like 6 feet away from the proposed foundation of the house that -- or the addition that they're wanting to put in. It's an 8-foot deep foundation, and an 8-foot deep wall, (inaudible) is -- is being affected on that wall by digging that foundation, because all of your backfill material is going to be (inaudible), and the loading of the wall will fail.

I doubt seriously if MSD is going to give that easement.

MR MAYERSOHN: I might withdraw my motion, and actually think we should move -- have you make a motion to -- to go through the channels and see how we vote.

CHAIRMAN WILEN: Okay. The motion is?

MR. DAVID NAFAR: Let me add something, if you allow me.

Regarding back in 2007 that we asked, they did already approve to go back to the border of what was the MSD easement and build. So, if there's no problem for that side to built.

As far as the encroachment on the easement or the -- that corner is not that significant for my project.

It's something I would like to have, but if it doesn't, it doesn't hurt. I just have -- I have to get

what I have -- what I can have.

So, I don't have any problem to go back and talk to the city and revise our plan as far as the water quality and others that satisfy what the city wants to make sure we are good.

As -- as you said, it was not enough time to do it.

She sent me a letter with some question. We tried to answer the best we could.

But I think the best is we table -- have a motion to table this decision, and then we get back with the city, we sit down, we are all in good faith. You know, we don't -- we want to comply with what the city wants to do, and we have nothing more than that.

As -- as you see, I don't want to bother anybody. I want to just have a little bit more room in my house and be able to use it. That's -- that's all I'm here.

And, so, we can come back in September. I waited from last year. Two more months, it doesn't hurt anything.

Let me make sure everything is done and you guys are more comfortable too.

CHAIRMAN WILEN: I mean the way I try to approach this is I want the applicant to have every

benefit.

So, if that's your preference --

MR. DAVID NAFAR: Yes.

CHAIRMAN WILEN: -- I get paid by the hour, so that's great. (Inaudible.)

MR. DAVID NAFAR: And my comment is I don't make any money.

MR. KOSTELC: Well, we -- we could make it that once MSD came back with a decision that we could meet on it.

CHAIRMAN WILEN: But the MSD piece is -- I wonder if -- I have a question for Mr. Heines.

We seem to have two MSD issues here. One is one or two-car garage encroaching on the easement.

I'm sort of happy to let that play out later.

But then you just raised what I think is a more significant issue, which is, even if we accept the one-car garage, MSD would not, in your judgment, accept the plan because of the two structures being too close. I think you used the term "zoning".

MR. JIM HEINES: Right. I'm sorry. And, yes, and, again, like I said, I think by disturbing the backfill behind the wall, you're actually affecting the buildability of the wall, therefore, it will fail most likely, and probably rotate in the creek and then become a

big issue.

CHAIRMAN WILEN: (Inaudible.)

MR. JIM HEINES: You know, if you -- you had talked -- asked a question has that creek ever flooded, the answer is yes.

Back in about 2003 a bunch of sticks and debris washed down the creek, jammed up in the -- the culvert that goes underneath the road, and Mr. Nafar's basement flooded before Mr. Nafar owned the house.

And, actually, what happened was they went -- they had a whole bunch of rehab on the house, replaced a lot of drywell, fixed the house up, and then Mr. Nafar buying the house after that.

So, it has flooded before, yes.

CHAIRMAN WILEN: So there's a scenario where -- where we approve everything, and then the plans get scuttled by MSD because they don't like the land, is that accurate?

MR. JIM HENES: That -- that is correct. That could happen very easily. You know --

CHAIRMAN WILEN: You know, what -- to educate me a little bit, at what point in the process would they get to weigh in?

MR. JIM HEINES: Well, in -- in this case we're -- we're kind of waiting the tailend. We're --

we're not getting that information upfront.

MSD controls the (inaudible) right now. All you have to do is approach MSD and ask --

MR MAYERSOHN: Would the city's planning department or building department require that issue with MSD before they issue the building permit?

MR. JIM HEINES: Yes. That is one of the things we're look for if the property owner is trying to construct any type of feature on an easement, they have to get that.

MR MAYERSOHN: Before they submit to -- for the building permit?

CHAIRMAN WILEN: Mr. Nafar, that's, obviously, a risk you're willing to take?

MR. DAVID NAFAR: Yes, of course.

MR. JIM HEINES: And can I say one -- one other thing too, actually, two.

The purpose for the stream buffer, it's like a big filter, and so it is not only filtering the water that's generated on the site that where the buffer zone is, it's the whole basin around that, so everything up at the top of the hill, (inaudible) flows across the ground and ends up getting in the creek. Well, if that portion of the buffer zone, which is strictly vegetative cover, which filters out chlorides and petroleum and suspended

solids, and so forth, which is, basically, eroding soil, and all of that gets filtered out before it goes into the creek, so it doesn't let that sediment and pollutants get into the creek. If you take away that buffer zone by building in it, then -- then you reduce the ability for the filter to do its job.

Another thing is, and this is -- this is why we actually had to pass this ordinance or why we chose to pass this ordinance back in 2008.

MSD and the city are co-permitting for our stormwater, water quality and stormwater functions around the St. Louis County. It's not only the City of Creve Coeur, it's numerous other communities.

So MSD has this -- this permit for us. They negotiate with Missouri DNR what our -- our improvements, our goals will be for a five-year period. The permit is in a block of five years.

So, you have assignments as to what you need to approve or what you need to accomplish each year, and this year, 2008, was to pass the stream buffer ordinance.

So, you're not only passing the ordinance, you're expected to enforce it. And, so, if we don't enforce it, I'm seriously concerned that this could be a situation where we lose our co-permitting status with MSD and get in trouble with DNR. And that's not a place we'd

like to be.

VOICE: Right.

MR. JIM HEINES: We -- we could not staff being running our own permit process with DNR. There's just too much involved, you know, with having to do constant testing of creek systems, and so forth, and comply with all of the (inaudible) everything that we have to do, MSD is doing that for us today as collective for the whole St. Louis County area.

MR MAYERSOHN: But if we lost the co-permitting status the City of Creve Coeur would have to do it directly with Missouri DNR and we probably wouldn't get anything done.

CHAIRMAN WILEN: And just perspective, plus or minus, how many miles of creek are there in Creve Coeur? 30?

MR. JIM HEINES: I think it's like -- it's part of our stormwater management plan, both of us are drawing a blank. I think it's like 22 miles of -- of stream.

CHAIRMAN WILEN: All right. And so we're talking about 200 feet.

MS. GARSON: But, if I may, we're not really talking about just 200 feet. We're talking about just how we choose to enforce the stream buffer variance.

And let's say, for example, we set a precedent

with this, and that's why we were so careful with our reviews and talking to Tim Dean because we really use that as a precedent setting case for Creve Coeur.

So, if we say it's okay to add 2,000 square feet of impervious, in this case, will we be obligated then -- or not obligated, but bound by a precedent to do it in other cases, so a stream, you know, water quality and water quantity management, never it's like one fail swoop. It's not like we're doing one thing this way.

It's about the sum total of a lot of little things adding up. Like 425. If everybody who added just a little bit, and had the thought, oh, well, they're just adding a little bit of imperviousness, it won't make a big deal, it's just this one person. It's one creek. Well, if everybody did the sum total of that, would be tremendous.

And, in fact, we are seeing the effects of unmitigated development in Creve Coeur right now in the era before, for example, 425 was in effect. Impervious area was added all over, and as a result, our water force -- or watershed management plan found that many of our creeks and streams are -- are in poor condition, need to be repaired, and that's because we allowed everybody to add a little bit more water to the creek over time, and now the city's in a position, and this is just one

example, to repair the damage because things weren't mitigated at the time development and redevelopment.

The same thing happens with water quality. This creek is in the Deer Creek Watershed. The Deer Creek Watershed Alliance is spending a lot of time and money focusing on improving the water quality in this area.

There are -- there are issues; e coli is one of the big things.

And we are working with the Deer Creek Watershed Alliance because it is a concern. The water quality in this area.

And we look at the stream bank buffer and what we can do to contribute to overall water quality along this water course.

A lot of the water course does extend beyond Creve Coeur boundaries, yes, but what are we doing with increased work to address water quality problems on a consistent basis, and that's kind of how we see it.

CHAIRMAN WILEN: Thank you, Ms. Garson.

MR. DAVID NAFAR: Let me just add one -- I personally disagree with the engineer.

The spirit of this ordinance that was adopted, it did put a mechanism for the hardship for those folks that they have a problem, how to solve it, how to come, if you look at it here in the Part B is explaining they

understood that if you come to the restriction on the property, the case like this is going to happen that the only two triangle is going to left for the person to build on.

As you mention, if my house burned down, I'm not allowed to put anything. It's become unbuildable lot for the city.

So, they put a mechanism here to help this situation. My situation is unique. We cannot say, okay, we don't give it to this guy because we put a precedent that somebody else that maybe their situation is not unique, and they don't get it. And, therefore, the quality is going to go down.

I think committed to follow all these regulations that you put it on, that the city want -- don't want to apply to my case because they might lose their something, it might happen. If you follow what is written, I don't see any reason --

MR MAYERSOHN: But your commitment is not binding.

MR. DAVID NAFAR: Well, how --

MR MAYERSOHN: It's like me --

MR. DAVID NAFAR: Well, how -- as you said, we can table the -- the decision and refigure it out, how we can be committed to the -- to the Board and to the city to

do my part.

But by doing this, what is going to happen to this property, as I explained it overall, is not going to get improved. It's going to get declined. And it's bad for the neighborhood and it's bad for everybody.

So, I'm going to sell it or move on to another property. But as my neighbor explaining has had -- changed hands few times, and people -- become a rental property, become something else, and the city is going to have a problem with it.

I'm one person. I move on. I'm in front of you. You should take advantage of a person who's willing to put the money and effort to improve it and solve the problem that created in 1950 to approve a lot that have a creek in the middle of it.

CHAIRMAN WILEN: So, at this point, Mr. Nafar, is it still your desire to table this and --

MR. DAVID NAFAR: I desire to table it. I will work with the city to make sure that satisfied, but that's excuse that we lose the permit, and so the poor guy here, we put all the pressure on him not to -- to have it because we don't want to lose it. That argument doesn't hold.

CHAIRMAN WILEN: Okay. So I'd like to be responsive to the applicant's desire and table this.

MS. KARR: Can I get the legal requirement in for the exhibits before you --

CHAIRMAN WILEN: Oh, yes.

Okay. So, let me ask the City Attorney to enter the exhibits into the record, please.

MS. KARR: Okay.

The city moves for the admission of the following exhibits into the record: Exhibit A1 is the Charter and Municipal Code for the City of Creve Coeur; Exhibit A2 are the certified copies of the specific ordinances that are relevant to the application before the Board; Exhibit B is a Comprehensive Plan for the City of Creve Coeur; Exhibit C is the application and accompanying documents, including the applicant's PowerPoint presentation submitted by the applicant; Exhibit D are the two staff reports and the two PowerPoint presentations and all accompanied resumes, photographs and other documents to the staff report; Exhibit E is the correspondence and comments received by the city pertaining to this application; Exhibit F is the city's file on the property at issue in this application, and Exhibit G is the aerial photograph as referenced by Mr. Grand during his testimony.

CHAIRMAN WILEN: Thank you.

Okay. So, in accordance with the -- the

applicant's wishes, I make a motion that we table this until the next regularly scheduled meeting.

MR. KOSTELC: I second it.

CHAIRMAN WILEN: Second by Mr. Kostelc.

All in favor?

(All responded aye.)

CHAIRMAN WILEN: All against? None.

We'll see you in September.

MR. DAVID NAFAR: Thank you.

(At 6:40 p.m. the Public Hearing was tabled until the September 2023 meeting.)

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

I, Deborah K. McLaughlin, Registered Professional Reporter, Missouri Certified Court Reporter, Illinois Certified Shorthand Reporter and Kansas Certified Court Reporter, do hereby certify that I reported the Board of Adjustment Public Hearing stenographically and later reduced to typewriting; and that this is a true and accurate transcript of the public hearing.

Deborah McLaughlin, RPR, MO-CCR, IL-CSR, KS-CCR
Deborah K. McLaughlin, RPR, MO-CCR, IL-CSR, KS-CCR

Chapter 425

STORMWATER REGULATIONS

Section 425.010. Purpose And Intent. [Ord. No. 5551, 10-30-2017[1]; Ord. No. 5685, 3-23-2020]

A. This Chapter seeks to provide those standards, criteria, procedures, and controls necessary to avoid adverse effects and minimize the harmful physical and economic effects of flooding from stormwater within the City of Creve Coeur. This goal is to be accomplished through the requirements of special measures set forth in Stormwater Management Plans to mitigate by means of detention and controlled discharge of the differential runoff from a property (unless excepted from regulation hereunder) whereon any grading, excavation, filling, or other disturbance of the natural vegetation or any construction, erection, or alteration of a building or structure is to be undertaken. Erosion control requirements are specified in Chapter 420, Land Disturbance Code.

B. Design Standard. This Chapter adopts the Rules and Regulations and Engineering Design Requirements for Sanitary Sewer and Stormwater Drainage Facilities, dated February 2018, of the Metropolitan St. Louis Sewer District (MSD) as the City's sanitary and stormwater design standard. This document and its regulations shall be referenced herein as "MSD Regulations." This Chapter may need to be revised in the event that MSD changes their ordinance.

Section 425.020. Applicability. [Ord. No. 5551, 10-30-2017; Ord. No. 5685, 3-23-2020]

A. The provisions of this Chapter shall apply to all land disturbance permits (as defined in Section 420.020) and residential development permits issued by the City of Creve Coeur. This shall include, but not be limited to, all new homes, swimming pool additions, and

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1. **Editor's Note: Former Chapter 425 Stormwater Regulations, containing Sections 425.010 through 425.120 was repealed 10-30-2017 by Ord. No. 5551.**

detached garages, regardless of size or area of land disturbance. This shall also include any site improvement or building addition with a temporary or permanent land disturbance of two thousand (2,000) square feet or more.

B. Exceptions. The following activities and situations shall be exempt from the requirements of this Chapter:

1. Building permits for entirely interior work.

2. Permitted development of any undeveloped lot of record of less than one-fourth (1/4) acre existing as of January 1, 2017.

3. The planting, trimming, pruning or removal of trees, shrubs, grass, weeds, vegetation, ground cover or other plant material when such actions are incidental to and part of the normal maintenance of land and property in the City of Creve Coeur.

C. In considering the applicability of the exceptions listed above, the effective acreage for a project, development, or subdivision is not limited to a fractional part of the total concept. Rather, if a project is developed in phases or small plats, the total acreage of the project, development, or subdivision will be considered.

D. The Director of Public Works has the discretion to require that, for any building permit, the applicant provide a grading plan, a siltation control plan, and/or a Stormwater Management Plan.

Section 425.030. No Adverse Effect. [Ord. No. 5551, 10-30-2017]

A. Definition. No adverse effect shall mean that the proposed changes to a property will not increase the volume, direction, velocity, or intensity of stormwater runoff for adjoining properties for the design storm.

B. Design Storm. For the purposes of determining "no adverse effect," the design storm shall be 15-year rainfall intensity for a duration of twenty (20) minutes (15-year, 20-minute storm).

1. Table 4-2 of the MSD Regulations lists specific stormwater runoff rates for the design storm.

2. The determination of the change to the site's stormwater runoff rate will be based upon comparing the stormwater runoff rates in MSD's Table 4-2 for the existing and proposed conditions of the site.

C. Site Grading. Sites shall be designed such that the proposed conditions will not increase the volume or speed of stormwater runoff onto any adjacent property.

1. For subdivisions with stormwater detention or retention facilities that are demonstrated by the applicant to have the capacity to accommodate the site's differential stormwater runoff, the site's differential stormwater runoff will be allowed to flow directly into these facilities or directly into an enclosed system which flows into such a facility, provided that no other properties are crossed in order to do so.

2. For subdivisions without stormwater detention or retention facilities, the differential stormwater runoff for a development will need to be contained on site.

Section 425.040. Submission, Review, And Approval Of Plans And Specifications. [Ord. No. 5551, 10-30-2017; Ord. No. 5685, 3-23-2020]

A. Stormwater Management Plan Required. Except as otherwise provided in Section 425.020, no permit shall be issued to construct, erect, or alter any building or structure or to clear, grade, excavate, fill, remove topsoil from, or otherwise change the contour of any property within the City until a Stormwater Management Plan has been submitted, approved, and recorded in accordance with the provisions of this Chapter.

1. A Stormwater Management Plan shall be those documents, plans, calculations, and any other information necessary to demonstrate, to the satisfaction of the Director of Public Works, that the proposed work creates no adverse effect, as defined in Section 425.030.

2. The amount of detail provided in the Stormwater Management Plan will depend on the extent and nature of the project. At a minimum, the Stormwater Management Plan will include contoured site plans, details, and calculations that show the proposed improvements, the pre-construction and post-construction runoff calculations for the site, specifications and details regarding the proposed mitigation method(s), and the location(s) of the stormwater mitigation on the site.

B. Review Process. Designs, plans, and specifications of all drainage facilities, as defined in Section 425.120, that are proposed to be constructed, connected to, altered, or reconstructed by any person or corporation, private or public, within the City boundaries shall be submitted to the City and MSD for review, comment, and revision, leading to approval, approval with comments, or rejection. The design engineer shall meet with the Director of Public Works before starting stormwater facilities design to review the Stormwater Management Plan. The Stormwater Management Plan must be reviewed with the Director of Public Works before submittal to MSD. Such designs, plans and specifications (excluding house connections, curb cuts, or similar work as determined by the Director of Public Works) shall be prepared and sealed by a professional engineer registered in the State of Missouri and shall meet the minimum standards of the City, MSD, and the Missouri Department of Natural Resources before approval is granted.

C. Procedure.

1. Preliminary Conferences. At any time prior to formal submission of project plans, the owner's engineer may arrange for a preliminary conference with the Director of Public Works to obtain informal guidance in project plan preparation with the City. Preliminary conferences are recommended for all permit applications, especially in unique or unusual circumstances, but preliminary conferences are required for land disturbance activities. The preliminary conference is intended to expedite the subsequent formal review and approval process. This includes review of the downstream areas jointly by the City and the developer's engineer with photographs, online content, geographic information system (GIS), and other pertinent information as determined by the Director of Public Works.

2. Application. When required, a Stormwater Management Plan shall be included with the permit application for the proposed project to the Director of Public Works by the owner of the land prior to the time any work subject to this Chapter is begun on the land. Said plans must accompany any such application, parts of which may also be on forms prepared by the City.

3. Approval Process. Upon receipt of any application and plan, the Director of Public Works shall consider the plan in light of the provisions of this Chapter and shall approve the plan, disapprove the plan or approve the plan with modifications, noting thereon any changes that will be required.

4. Notification. The City shall promptly notify the applicant of the City's decision on a plan. Such notification shall be within forty-five (45) calendar days after the plan has been properly filed. Any approved plan shall be issued, dated, and bear the manual signature of the Director of Public Works or his/her designee.

5. Site Development Plan Approval. A Stormwater Management Plan may, as required, be included in and made part of an application for site development plan approval in accordance with Section 405.1080 or of an application for approval of improvement plans for a subdivision in accordance with Chapter 410 of the Creve Coeur subdivision regulations.

6. Upon approval, the owner shall provide proof that the Stormwater Management Plan has been recorded with the St. Louis County Recorder of Deeds.

7. The Director of Public Works may waive the requirement to record the Stormwater Management Plan if the Director of Public Works determines that the Stormwater Management Plan sufficiently demonstrates that, without the need for any mitigation features, the proposed activities and site changes will cause no increase in stormwater runoff and no adverse effect, as defined in Section 425.030.

D. Downstream Conveyance System. For land disturbance activities, the developer is required to evaluate the downstream conveyance system where the connection is receiving the proposed development's runoff in order to determine if it has the capacity to receive the proposed development's runoff. The evaluation has to continue until the proposed development's runoff is less than ten percent (10%) of the downstream conveyance system. The Director of Public Works can request additional studies further downstream if a stormwater problem is anticipated.

E. Corrective Action. If a development during or after construction adversely affects downstream property, corrective action will be required by the developer and/or landowner as determined by the Director of Public Works. The development shall make the required study and repairs during construction or after completion of the proposed development according to the Stormwater Management Plan, as directed by the Director of Public Works, if the stormwater-related problems downstream of the development can be demonstrated to be caused by the development.

F. Time Of Validity.

1. An approved Stormwater Management Plan shall become invalid if the authorized work is not commenced within six (6) months after issuance of the permit, if the authorized work is suspended or abandoned for six (6) months, or if the project is not completed within one (1) year after the issuance of the land disturbance or residential development permit.

2. An updated plan shall be subject to the provisions of this Chapter in effect at the time of resubmission.

Section 425.050. Required Submittals By The Design Engineer. [Ord. No. 5551, 10-30-2017]

A. Refer to the MSD Regulations for full details regarding information to be submitted to MSD for applicable land disturbance permits. Plan review may be delayed if all required information is not provided by the applicant.

B. To facilitate the review of plans before approval for construction, the design engineer shall submit with the plans a Stormwater Management Plan containing all necessary data, maps, computations, and checklists as defined in the MSD Regulations in support of the designs and plans.

Section 425.060. General. [Ord. No. 5551, 10-30-2017]

A. The developer will need to confirm with MSD whether MSD will accept for dedication any sewers and pump stations within easements dedicated to MSD that have been constructed to MSD standards and for which the requirements stated herein have been met.

B. The maintenance of these facilities will remain the responsibility of the project Owner and their successors in interest until such time that they have been accepted for dedication by MSD.

Section 425.070. Abandonment Of Work. [Ord. No. 5551, 10-30-2017]

Upon receipt of a written statement from the Owner that further work on the project has been abandoned, or upon Owner's failure to promptly complete work after notice of apparent abandonment, the City and MSD shall determine whether or not the uncompleted work is required to ensure the public health, safety and welfare. Should it be determined that completion of the work is necessary, the Owner shall complete such work immediately. Otherwise, the City may utilize the monies deposited in the construction escrow for the project to complete this work or seek other applicable remedies.

Section 425.080. Fees Required Before Plan Approval. [Ord. No. 5551, 10-30-2017]

A. The City will require that certain fees be paid prior to the acceptance of the plans for review or the subsequent approval of the project plans. Failure to submit the fees in a timely manner could delay the review and approval of the plans. No plans will be approved until all required fees have been paid.

B. Because the amounts of these fees are subject to change, no amount for these fees is given herein. Please contact the City and MSD for a current list of fees. See Appendix B to Title IV — Community Development and Public Works Fee Schedule for fees required by the City for plan submittal and approval.

C. MSD may apply its own fees to the project proposal.

D. Recording Fees. The owner will be responsible for paying the recording fees for all documents to be recorded with the Recorder of Deeds for St. Louis County.

Section 425.090. Bonds. [Ord. No. 5551, 10-30-2017]

A corporate surety bond or cash escrow, conditioned upon carrying out all and every part

of approved plans for at least the sum estimated to be the full costs of carrying out such plans, shall be furnished to the City whenever such costs are estimated to exceed five hundred dollars ($500.00). The bond or escrow shall be released upon proper completion of all of the requirements of such approved plans.

Section 425.100. Construction And Maintenance Of Stormwater Facilities. [Ord. No. 5551, 10-30-2017]

A. Detention/retention facilities, when mandatory, are to be built in conjunction with the storm sewer installation and/or grading. Since these facilities are intended to control increased runoff, they must be partially or fully operational soon after the clearing of the vegetation.

B. Silt and debris connected both with early construction and with general erosion from the site and elsewhere in the watershed after construction shall be removed periodically from the detention area and/or control structure in order to maintain the facility close to its full storage capacity.

C. The responsibility of maintenance of the detention/retention facilities in subdivision projects shall remain with the developer until such time as applicable escrows are released. Upon release of escrows the maintenance responsibility for facilities on common ground shall be vested jointly and severally in the trustees of the subdivision by virtue of the trust indenture and the owners of the subdivision lots and their successors in interest. The indenture of the trust should clearly indicate resident responsibility for maintenance in cases of projects without common ground, but the absence of such a provision shall not eliminate such responsibility.

D. The responsibility of maintenance of the detention/retention facilities in single owner development projects shall remain with the general contractor until final inspection of the development is performed and approved and a legal occupancy permit is issued. After legal occupancy of the project, the maintenance of detention/retention facilities shall be vested with the owner of the lot and their successors.

Section 425.110. Enforcement, Violations, And Penalties. [Ord. No. 5551, 10-30-2017; Ord. No. 5685, 3-23-2020]

A. Enforcement. This Chapter shall be enforced by the Director of Public Works. The construction, reconstruction and/or alteration of buildings shall not be undertaken and the development of land shall not be commenced except in accordance with the provisions of this Chapter, as applicable. No permit or application for the construction or alteration of buildings and/or land shall be approved if the project would be in violation of this Chapter.

   The Director of Public Works is authorized to institute any appropriate actions or proceedings to prevent, halt, or correct construction or maintenance that is found to be in violation of this Chapter.

B. Notice Of Violation And Sanctions. If the Director of Public Works finds that any of the provisions of this Chapter are being violated in the completion and/or maintenance of a Stormwater Management Plan, he/she shall notify in writing the person(s) responsible for such violation, indicating the nature of the violation and ordering the action necessary to correct it. The Director of Public Works shall take any other action authorized by law to ensure compliance with or to prevent violation of the provisions of this Chapter.

C. Violations. Violations of this Chapter shall include, but are not limited to, the following:

1. The alteration or construction of buildings and/or land not in accordance with the provisions of this Chapter.

2. Failure to obtain the necessary approvals as required by this Chapter.

3. Failure to maintain the approved and recorded Stormwater Management Plan for the property.

D. Persons Liable For Violation. Those chargeable, singly or jointly, with violations of this Chapter shall include, but shall not be limited to, the following:

1. Those who commit, assist in, or otherwise participate in a violation.

2. The owner or other persons who maintain the building, premises, property, or other place where the violation has been committed exists.

3. The owner's agent or person in charge of the building, premises, property or other place where the violation has been committed or exists.

4. The developer, engineer, architect, contractor, subcontractor, or any other person who performs work or enters into a contract for work in violation of this Chapter.

E. Violations And Penalties.

1. In case any building, structure, or land is erected, constructed, reconstructed, altered, converted, maintained, or used in violation of this Chapter, or of any ordinance or other regulation made under authority conferred by Sections 89.010 to 89.140, RSMo., the proper local authorities of the City, in addition to other remedies, may institute any appropriate action or proceedings to prevent such unlawful erection, construction, reconstruction, alteration, conversion, maintenance, or use, to restrain, correct, or abate such violation, to prevent the occupancy of such building, structure, or land, or to prevent any illegal act, conduct, business, or use in or about such premises. Such regulations shall be enforced by an officer empowered to cause any building, structure, place or premises to be inspected and examined and to order in writing the remedying of any condition found to exist therein or thereat in violation of any provision of the regulations made under authority of Sections 89.010 to 89.140, RSMo.

2. The owner or general agent of a building or premises where a violation of any provision of said regulations has been committed or shall exist, or other persons or parties liable for said violation, as indicated in Section 425.110(D) shall be guilty of an ordinance violation punishable by a fine of not less than ten dollars ($10.00) and not more than five hundred dollars ($500.00) for each and every day that such violation continues, or by both such fine and imprisonment in the discretion of the court. Notwithstanding the provisions of Section 82.300, RSMo., however, for the second and subsequent offenses involving the same violation at the same building or premises, the punishment shall be a fine of not less than two hundred fifty dollars ($250.00) or more than one thousand dollars ($1,000.00) for each and every day that such violation shall continue or by imprisonment for ten (10) days for each and every day such violation shall continue, or by both such fine and imprisonment in the discretion of the court.

3. Any such person who having been served with an order to remove any such violation shall fail to comply with such order within ten (10) days after such service or shall continue to violate any provision of the regulations made under authority of Sections 89.010 to 89.140, RSMo., in the respect named in such order shall also be subject to a civil penalty of two hundred fifty dollars ($250.00).

Section 425.120. Definitions. [Ord. No. 5551, 10-30-2017]

In addition to words and terms that may be defined elsewhere in this Chapter, the following words and terms shall have the meanings defined below:

CHANNELS — A natural or artificial watercourse.

CITY — The City of Creve Coeur.

DEVELOPED RUNOFF RATE — The peak flow corresponding to a selected rainfall event as a result of developed site conditions.

DIFFERENTIAL RUNOFF RATE — The difference between the pre-developed runoff rate and the developed runoff rate.

DIFFERENTIAL VOLUME OF STORMWATER — The amount of differential stormwater volume between the pre-developed and developed runoff rates which the detention basin must detain (hold).

DIRECTOR or DIRECTOR OF PUBLIC WORKS — The Director of Public Works for the City of Creve Coeur or his/her designee.

DRAINAGE FACILITY — Any system of artificially constructed drains, including open channels and sewers, used to convey stormwater, surface or ground water, either continuously or intermittently, to natural watercourses.

ENGINEER — A registered professional engineer currently certified by law in the State of Missouri.

IMPERVIOUS SURFACE — Materials through which no stormwater or only an incidental amount of stormwater is able to pass. Examples of impervious surfaces include, but are not limited to, building roofs, asphalt pavement, and concrete pavement.

LAND DISTURBANCE — Clearing, grading, removal of improvements, or any other work that temporarily or permanently exposes the ground surface or subsurface to erosion. Section 420.020 includes additional discussion and definitions related to land disturbance.

MDNR — The Missouri Department of Natural Resources.

MSD — The Metropolitan St. Louis Sewer District.

OUTFALL — The point location or structure where wastewater or drainage discharges.

PERSON — Any individual, firm, proprietorship, partnership, company, municipality, association, society, corporation, group or other entity.

PRE-DEVELOPED RUNOFF RATE — The amount of flow from an existing site prior to new development or improvements as computed by the Rational Formula.

PRIVATE FACILITIES — Any device, structure, or feature that has not been expressly adopted for maintenance by the City of Creve Coeur, the Metropolitan St. Louis Sewer District, or other municipal, County, State, or Federal entity.

RATIONAL METHOD — A means to calculate flow quantities, by which:

$Q = A * P * I$

Where:

Q	=	runoff, in cubic feet per second
A	=	tributary area, in acres
P	=	runoff factor based upon runoff from pervious and impervious surfaces
I	=	average intensity of rainfall, in inches per hour, for a given period and a given frequency

The definition of these factors, including the tables used to select the appropriate values, are outlined in Section 4.030 Stormwater Design Criteria of the MSD Regulations.

RESIDENTIAL DEVELOPMENT PERMIT — A permit from the City of Creve Coeur that is required for any new home (including "tear-down/rebuild" homes), home addition, garage, or swimming pool on residential property. This permit combines the applicable building permit(s) according to Section 500.040 and land disturbance permits according to Section 420.070. Fees for a Residential Development Permit are described in Appendix B to Title IV - Community Development and Public Works Fee Schedule.

RESOLUTION — A resolution duly adopted by the City Council of the City of Creve Coeur.

RETENTION — A stormwater runoff facility designed to retain (hold) stormwater both permanently and temporarily (above normal pool elevation) during and immediately after a runoff event.

STORMWATER DETENTION — A stormwater runoff facility designed to detain (hold) stormwater temporarily during and immediately after a runoff event.

STORMWATER MANAGEMENT PLAN — Study and design for a stormwater conveyance system, a downstream evaluation system, detention requirements, floodplain/floodway, sink hole and regulating permitting requirements.

STORMWATER SEWER — A sewer which carries surface runoff and subsurface waters.

SWALE — A broad, shallow watercourse.

TIME OF CONCENTRATION — Consists of inlet time plus the travel time in the sewer or channel from the most remote point in the watershed to the point under consideration.

TRAVEL TIME — The time it takes for the runoff to flow through the drainage system from one point of reference to the next point of reference.

U.S.G.S. — United States Geological Survey.

WATERCOURSE — A stream of water or a natural channel through which water may flow.

Chapter 430

STREAM BUFFER PROTECTION REGULATIONS

Section 430.010. Title. [Ord. No. 5069 §1, 11-10-2008]

This Chapter shall be known as the "The City of Creve Coeur Stream Buffer Protection Ordinance".

Section 430.020. Findings and Purposes. [Ord. No. 5069 §2, 11-10-2008]

A. *Findings.* Whereas, the City Council of the City of Creve Coeur finds that buffers adjacent to streams provide numerous benefits including:

1. Protecting, restoring and maintaining the chemical, physical and biological integrity of streams and their water resources.
2. Removing pollutants delivered in urban stormwater.
3. Reducing erosion and controlling sedimentation.
4. Protecting and stabilizing stream banks.
5. Providing for infiltration of stormwater runoff.
6. Maintaining base flow of streams.
7. Contributing organic matter that is a source of food and energy for the aquatic ecosystem.
8. Providing tree canopy to shade streams and promote desirable aquatic habitat.
9. Providing riparian wildlife habitat.
10. Furnishing scenic value and recreational opportunity.

11. Providing opportunities for the protection and restoration of greenspace.

B. *Purposes.* The purpose of this Chapter is to protect the public health, safety, environment and general welfare; to minimize public and private losses due to erosion, siltation and water pollution; and to maintain stream water quality by provisions designed to:

1. Create buffer zones along the streams of the City of Creve Coeur for the protection of water resources; and

2. Minimize land development within such buffers by establishing buffer zone requirements and by requiring authorization for any such activities.

Section 430.030. Definitions. [Ord. No. 5069 §3, 11-10-2008]

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

BUFFER — With respect to a stream, a natural or enhanced vegetated area (established by Section 430.050(A)(1) below) lying adjacent to the stream.

FLOODPLAIN — Any land area susceptible to flooding, which would have at least a one percent (1%) probability of flooding occurrence in any calendar year based on the basin being fully developed as shown on the current land use plan, i.e., the regulatory flood.

IMPERVIOUS COVER — Any manmade paved, hardened or structural surface regardless of material. Impervious cover includes, but is not limited to, rooftops, buildings, streets, roads, decks, swimming pools and any concrete or asphalt.

LAND DEVELOPMENT — Any land change including, but not limited to, clearing, grubbing, stripping, removal of vegetation, dredging, grading, excavating, transporting and filling of land, construction, paving and any other installation of impervious cover.

LAND DEVELOPMENT ACTIVITY — Those actions or activities which comprise, facilitate or result in land development.

LAND DISTURBANCE — Any land or vegetation change, including, but not limited to, clearing, grubbing, stripping, removal of vegetation, dredging, grading, excavating, transporting and filling of land, that do not involve construction, paving or any other installation of impervious cover.

LAND DISTURBANCE ACTIVITY — Those actions or activities which comprise, facilitate or result in land disturbance.

PARCEL — Any plot, lot or acreage shown as a unit on the latest County tax assessment records.

PERMIT — The permit issued by the Department of Public Works is required for undertaking any land development activity

PERSON — Any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, City, County or other political subdivision of the State, any interstate body or any other legal entity.

PROTECTION AREA OR STREAM PROTECTION AREA — With respect to a stream, the combined areas of all required buffers and setbacks applicable to such stream.

RIPARIAN — Belonging or related to the bank of a river, stream, lake, pond or impoundment.

SETBACK — With respect to a stream, the area established by Section 430.050(A)(2) extending

beyond any buffer applicable to the stream.

STREAM — Any stream beginning at:

1. All natural watercourses depicted by a solid or dashed blue line on the most current United States Geological Survey (U.S.G.S.) 7.5 Minute Series (Topographic) Maps for Missouri; or

2. A point in the stream channel with a drainage area of twenty-five (25) acres or more.

STREAM BANK — The sloping land that contains the stream channel and the normal flows of the stream. Where no established top-of-bank can be determined, the stream bank will be the "ordinary high water mark" as defined by the Corps of Engineers in Title 33 of the Code of Federal Regulations, Part 328.3.

STREAM CHANNEL — The portion of a watercourse that contains the base flow of the stream.

Section 430.040. Applicability. [Ord. No. 5069 §4, 11-10-2008]

A. This Chapter shall apply to all land development activity on property containing a stream protection area as defined in Section 430.030 of this Chapter. These requirements are in addition to, and do not replace or supersede, any other applicable buffer or floodplain requirements established under State law and approval or exemption from these requirements do not constitute approval or exemption from buffer requirements established under State law or from other applicable local, State or Federal regulations.

B. *Grandfather Provisions.* This Chapter shall not apply to the following activities:

   1. Work consisting of the repair or maintenance of any lawful use of land that is zoned and approved for such use on or before the effective date of this Chapter.

   2. Development in place before the effective date of this Chapter and land disturbance activities commencing before the effective date of this Chapter and ongoing thereafter including, but not limited to, existing agriculture, silviculture, landscaping, gardening and lawn maintenance, except that new development or land disturbance activities on such properties will be subject to all applicable buffer requirements.

   3. Any land development activity that is under construction, fully approved for development, scheduled for permit approval or has been submitted for approval as of the effective date of this Chapter.

   4. Land development activity that has not been submitted for approval, but that is part of a larger master development plan, such as for an office park or other phased development that has been approved within two (2) years before the effective date of this Chapter.

C. *Exemptions.* The following specific activities are exempt from this Chapter. Exemption of these activities does not constitute an exemption for any other activity proposed on a property.

   1. Activities for the purpose of building one (1) of the following:

      a. A stream crossing by a driveway, transportation route or utility line;

      b. Public water supply intake or public wastewater structures or stormwater

outfalls;

c. Intrusions necessary to provide access to a property;

d. Public access facilities that must be on the water including boat ramps, docks, foot trails leading directly to the river, fishing platforms and overlooks;

e. Unpaved foot trails and paths;

f. Activities to restore and enhance stream bank stability, vegetation, water quality and/or aquatic habitat, so long as native vegetation and bioengineering techniques are used.

2. *Public sewer line easements.* This includes such impervious cover as is necessary for the operation and maintenance of the utility including, but not limited to, manholes, vents and valve structures. This exemption shall not be construed as allowing the construction of roads, bike paths or other transportation routes in such easements, regardless of paving material, except for access for the uses specifically cited in Subsection (C)(1) above.

3. Land development activities within a right-of-way existing at the time this Chapter takes effect or approved under the terms of this Chapter.

4. Within an easement of any utility existing at the time this Chapter takes effect or approved under the terms of this Chapter, land disturbance activities and such impervious cover as is necessary for the operation and maintenance of the utility including, but not limited to, manholes, vents and valve structures.

5. Emergency work necessary to preserve life or property. However, when emergency work is performed under this Section, the person performing it shall report such work to the Department of Public Works on the next business day after commencement of the work. Within ten (10) days thereafter, the person shall apply for a permit and perform such work within such time period as may be determined by the review and permitting authority to be reasonably necessary to correct any impairment such emergency work may have caused to the water conveyance capacity, stability or water quality of the protection area.

6. Forestry and silviculture activities on land that is zoned for forestry, silvicultural or agricultural uses and are not incidental to other land development activity. If such activity results in land disturbance in the buffer that would otherwise be prohibited, then no other land disturbing activity other than normal forest management practices will be allowed on the entire property for three (3) years after the end of the activities that intruded on the buffer.

7. Any activities approved under a 404 permit issued by the Corps of Engineers and 401 water quality certification issued by the Missouri Department of Natural Resources.

After the effective date of this Chapter, it shall apply to new subdividing and platting activities.

Any land development activity within a buffer established hereunder or any impervious cover within a setback established hereunder is prohibited unless a variance is granted pursuant to Section 430.050(B) below.

Section 430.050. Land Development Requirement. [Ord. No. 5069 §5, 11-10-2008]

A. *Buffer And Setback Requirements.* All land development activity subject to this Chapter shall meet the following requirements:

1. For streams depicted as a solid blue line on the U.S.G.S. map, an undisturbed natural vegetative buffer shall be maintained for fifty (50) feet, measured horizontally, on both banks (as applicable) of the stream as measured from the top of the stream bank. For all other streams subject to this Chapter, an undisturbed natural vegetative buffer shall be maintained for twenty-five (25) feet, measured horizontally, on both banks (as applicable) of the stream as measured from the top of the stream bank.

2. An additional setback shall be maintained for twenty-five (25) feet, measured horizontally, beyond the undisturbed natural vegetative buffer, in which all impervious cover shall be prohibited. Grading, filling and earthmoving shall be minimized within the setback.

3. No septic tanks or septic tank drain fields shall be permitted within the buffer or the setback.

B. *Variance Procedures.* Variances from the above buffer and setback requirements may be granted in accordance with the following provisions:

1. Where a parcel was platted prior to the effective date of this Chapter, and its shape, topography or other existing physical condition prevents land development consistent with this Chapter, and the Department of Public Works finds and determines that the requirements of this Chapter prohibit the otherwise lawful use of the property by the owner, the Board of Adjustment of the City of Creve Coeur may grant a variance from the buffer and setback requirements hereunder, provided such variance requires mitigation measures to offset the effects of any proposed land development on the parcel.

2. Except as provided above, the Board of Adjustment of the City of Creve Coeur shall grant no variance from any provision of this Chapter without first conducting a public hearing on the application for variance and authorizing the granting of the variance by an affirmative vote of four (4) members of the Board of Adjustment, according to the requirements and procedures in Section 405.1110, Variances and Appeals, of the Zoning Code.

   Variances will be considered only in the following cases:

   a. When a property's shape, topography or other physical conditions existing at the time of the adoption of this Chapter prevents land development unless a buffer variance is granted.

   b. Unusual circumstances when strict adherence to the minimal buffer requirements in the ordinance would create an extreme hardship.

      Variances will not be considered when, following adoption of this Chapter, actions of any property owner of a given property have created conditions of a hardship on that property.

3. At a minimum, a variance request shall include the following information:

   a. A site map that includes locations of all streams, wetlands, floodplain boundaries and other natural features as determined by field survey;

   b. A description of the shape, size, topography, slope, soils, vegetation and other physical characteristics of the property;

   c. A detailed site plan that shows the locations of all existing and proposed structures and other impervious cover, the limits of all existing and proposed land disturbance, both inside and outside the buffer and setback. The exact area of the buffer to be affected shall be accurately and clearly indicated;

   d. Documentation of unusual hardship should the buffer be maintained;

   e. At least one (1) alternative plan, which does not include a buffer or setback intrusion, or an explanation of why such a site plan is not possible;

   f. A calculation of the total area and length of the proposed intrusion;

   g. A stormwater management site plan, if applicable; and

   h. Proposed mitigation, if any, for the intrusion. If no mitigation is proposed, the request must include an explanation of why none is being proposed.

4. The following factors will be considered in determining whether to issue a variance:

   a. The shape, size, topography, slope, soils, vegetation and other physical characteristics of the property;

   b. The locations of all streams on the property including along property boundaries;

   c. The location and extent of the proposed buffer or setback intrusion;

d. Whether alternative designs are possible which require less intrusion or no intrusion;

e. The long-term and construction water-quality impacts of the proposed variance; and

f. Whether issuance of the variance is at least as protective of natural resources and the environment.

Section 430.060. Compatibility With Other Regulations and Requirements. [Ord. No. 5069 §6, 11-10-2008]

This Chapter is not intended to interfere with, abrogate or annul any other ordinance, rule or regulation, Statute or other provision of law. The requirements of this Chapter should be considered minimum requirements, and where any provision of this Chapter imposes restrictions different from those imposed by any other ordinance, rule, regulation or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall be considered to take precedence.

Section 430.070. Additional Information Requirements For Development On Buffer Zone Properties. [Ord. No. 5069 §7, 11-10-2008]

A. Any permit applications for property requiring buffers and setbacks hereunder must include the following:

1. A site plan showing:

a. The location of all streams on the property;

b. Limits of required stream buffers and setbacks on the property;

c. Buffer zone topography with contour lines at no greater than five (5) foot contour intervals;

d. Delineation of forested and open areas in the buffer zone; and

e. Detailed plans of all proposed land development in the buffer and of all proposed impervious cover within the setback.

2. A description of all proposed land development within the buffer and setback; and

3. Any other documentation that the review and permitting authority may reasonably deem necessary for review of the application and to insure that the buffer zone ordinance is addressed in the approval process.

B. All buffer and setback areas must be recorded on the final plat of the property following plan approval. A note to reference the vegetated buffer shall state: "There shall be no clearing, grading, construction or disturbance of vegetation except as permitted by Chapter 430 Stream Buffer Protection Ordinance".

Section 430.080. Responsibility. [Ord. No. 5069 §8, 11-10-2008]

Neither the issuance of a development permit nor compliance with the conditions thereof nor

with the provisions of this Chapter shall relieve any person from any responsibility otherwise imposed by law for damage to persons or property; nor shall the issuance of any permit hereunder serve to impose any liability upon the City of Creve Coeur, its officers, employees or elected officials for injury or damage to persons or property.

Section 430.090. Inspection. [Ord. No. 5069 §9, 11-10-2008]

A. The Department of Public Works may cause inspections of the work in the buffer or setback to be made periodically during the course thereof and shall make a final inspection following completion of the work. The permittee shall assist the Department of Public Works in making such inspections. The City of Creve Coeur shall have the authority to conduct such investigations as it may reasonably deem necessary to carry out its duties as prescribed in this Chapter and for this purpose to enter at reasonable time upon any property, public or private, for the purpose of investigating and inspecting the sites of any land development activities within the protection area.

B. No person shall refuse entry or access to any authorized representative or agent who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper or interfere with any such representative while in the process of carrying out official duties.

Section 430.100. Violations, Enforcement and Penalties. [Ord. No. 5069 §10, 11-10-2008]

A. Any action or inaction which violates the provisions of this Chapter or the requirements of an approved site plan or permit may be subject to the enforcement actions outlined in this Section. Any such action or inaction which is continuous with respect to time is deemed to be a public nuisance and may be abated by injunctive or other equitable relief. The imposition of any of the penalties described below shall not prevent such equitable relief.

B. *Notice Of Violation.* If the Department of Public Works determines that an applicant or other responsible person has failed to comply with the terms and conditions of a permit, an approved site plan or the provisions of this Chapter, it shall issue a written notice of violation to such applicant or other responsible person. Where a person is engaged in activity covered by this Chapter without having first secured the appropriate permit therefor, the notice of violation shall be served on the owner or the responsible person in charge of the activity being conducted on the site.

The notice of violation shall contain:

1. The name and address of the owner or the applicant or the responsible person;

2. The address or other description of the site upon which the violation is occurring;

3. A statement specifying the nature of the violation;

4. A description of the remedial measures necessary to bring the action or inaction into compliance with the permit, the approved site plan or this Chapter and the date for the completion of such remedial action;

5. A statement of the penalty or penalties that may be assessed against the person to whom the notice of violation is directed; and

6. A statement that the determination of violation may be appealed to the Board of

Adjustment by filing a written notice of appeal within thirty (30) days after the notice of violation (except that in the event the violation constitutes an immediate danger to public health or public safety, twenty-four (24) hours' notice shall be sufficient).

C. *Enforcement.* In the event the remedial measures described in the notice of violation have not been completed by the date set forth for such completion in the notice of violation, any one (1) or more of the following actions or penalties may be taken or assessed against the person to whom the notice of violation was directed. Before taking any of the following actions or imposing any of the following penalties, the Department of Public Works shall first notify the applicant or other responsible person in writing of its intended action and shall provide a reasonable opportunity of not less than ten (10) days (except that in the event the violation constitutes an immediate danger to public health or public safety, twenty-four (24) hours' notice shall be sufficient) to cure such violation. In the event the applicant or other responsible person fails to cure such violation after such notice and cure period, the Department of Public Works may take any one (1) or more of the following actions or impose any one (1) or more of the following penalties.

1. *Stop work order.* The Department of Public Works may issue a stop work order which shall be served on the applicant or other responsible person. The stop work order shall remain in effect until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violation or violations described therein, provided the stop work order may be withdrawn or modified to enable the applicant or other responsible person to take necessary remedial measures to cure such violation or violations.

2. *Withhold certificate of occupancy.* The Department of Public Works may refuse to issue a certificate of occupancy for the building or other improvements constructed or being constructed on the site until the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein.

3. *Suspension, revocation or modification of permit.* The Department of Public Works may suspend, revoke or modify the permit authorizing the land development project. A suspended, revoked or modified permit may be reinstated after the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein, provided such permit may be reinstated (upon such conditions as the Department of Public Works may deem necessary) to enable the applicant or other responsible person to take the necessary remedial measures to cure such violations.

Section 430.110. Severability. [Ord. No. 5069 §11, 11-10-2008]

If any Article, Section, Subsection, paragraph, clause, phrase or provision of this Chapter shall be adjudged invalid or held unconstitutional, such decision shall not affect or invalidate the remaining portions of this Chapter.

Section 405.250. "A" Single-Family Residential District. [R.O. 2008 §26-30; Ord. No. 1903 §1, 11-24-1997; Ord. No. 1909 §1, 12-8-1997; Ord. No. 2050 §1, 2-14-2000; Ord. No. 2122 §1, 5-29-2001; Ord. No. 2135 §1, 6-25-2001; Ord. No. 4043 §1, 11-13-2006; Ord. No. 5300 §2, 4-22-2013]

A. *Purpose And Intent.* The "A" Single-Family Residential District is intended to provide for the development, protection and conservation of areas of predominantly single-family detached residences on lots of one (1) acre (forty-three thousand five hundred sixty (43,560) square feet) or more.

B. *Permitted Uses.* Structures or land in the "A" Single-Family Residential District may be used only for the purposes enumerated for that district in Table A of this Zoning Ordinance and are subject to the provisions and limitations of Section 405.210 and to all of the other provisions and limitations of this Chapter and other applicable regulations, ordinances and Statutes of the City of Creve Coeur, St. Louis County or the State of Missouri.

C. *Conditional Uses.* The City Council may authorize the uses identified as conditional uses for the district in Table A of this Zoning Ordinance by conditional use permit as provided in Section 405.1070, based on the criteria in Section 405.470, after receipt of the recommendation of the Planning and Zoning Commission and subject to such other restrictions and conditions as are deemed necessary.

D. *Non-Residential Uses On State Highway Frontage.* In those instances where a detached single-family residential structure fronts on a numerically designated State highway (Lindbergh Boulevard, 140; and Olive Boulevard, 340), the Planning and Zoning Commission may approve a site development plan in accordance with the procedure provided for in Section 405.1080 to permit the conversion of the structure to an office or retail service use in accordance with the standards provided in Section 405.450(F), Commercial Uses of Single-Family Residential Structures.

E. *Dimensional Regulations.* The following area and yard regulations apply in the "A" Single-Family Residential District.

1. *Minimum district size.* The minimum district size shall be five (5) acres. Such a district may consist of a single tract of land or two (2) or more contiguous tracts of land that are at least five (5) acres combined. In addition, a tract of land that is less than five (5) acres may be zoned "A" Single Family Residential when it is contiguous to such an existing district. **[Ord. No. 5431 §4, 7-27-2015[1]]**

2. *Lot size requirements.*

a. *Minimum lot area.* One (1) acre (forty-three thousand five hundred sixty (43,560) square feet).

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1. Editor's Note: Subsection 4 of Ord. No. 5431 also redesignated former Subsection (E)(1), (2) and (3) as Subsection (E)(2), (3) and (4), respectively.

b. *Minimum lot width.* One hundred fifty (150) feet.

c. *Minimum lot depth.* One hundred fifty (150) feet.

3. *Building bulk regulations.*

a. *Maximum structure height for all uses except schools, churches and other places of worship.* Two and one-half (2½) stories or thirty-five (35) feet, whichever is less.

b. *Maximum structure height for schools, churches and other places of worship.* Fifty (50) feet. In addition, such uses shall meet a sky exposure plane requirement. The sky exposure plane will be measured from a line located thirty-five (35) feet above grade and fifty (50) feet from the property line on the conditional use site and will have a slope of thirty degrees (30°) rising towards the center of the site. No portion of the building or structure shall penetrate this sky exposure plane.

c. *Minimum dwelling unit floor area.* Sixteen hundred (1,600) square feet enclosed living area excluding accessory structures.

d. *Maximum floor area ratio (FAR).* Three-tenths (0.3).

e. *Maximum site coverage.* Twenty-five percent (25%).

4. *Yard and setback requirements.*

a. *Minimum front yard.* Fifty (50) feet (except as modified by Section 405.250(E)(3)(b)).

b. *Minimum side yard for permitted uses.* Fifteen (15) feet or fifteen percent (15%) of the lot width, whichever is less, provided that a minimum side yard of seven and one-half (7 1/2) feet must be provided for any non-conforming lot.. **[Ord. No. 5563, 1-8-2018]**

c. *Minimum side yard for conditional uses.* Fifty (50) feet (except as modified by Section 405.250(E)(3)(b)).

d. *Minimum rear yard for permitted uses.* Thirty (30) feet.

e. *Minimum rear yard for conditional uses.* Fifty (50) feet (except as modified by Section 405.250(E)(3)(b)).

f. *Buffer yard for conditional uses.* Notwithstanding the provisions of Section 405.250(E)(4) above, any lot or parcel abutting or adjoining a single-family use in a residential district shall provide a buffer yard of twenty-five (25) feet on all sides that abut the single-family use in the residential district. The minimum required buffer yard shall be increased in five (5) foot increments, up to a maximum of fifty (50) feet, for each acre of the subject property. All acreage shall be rounded up to the next whole number for buffer yard calculations purposes. An additional two

(2) feet of buffer yard shall be provided for every foot of building or structure height exceeding forty-five (45) feet. The buffer yard shall not contain any impervious surface and shall be landscaped and provided with other screening devices as deemed appropriate by the Planning and Zoning Commission. Should the adjoining property convert to a single-family use, the owner and/or conditional use permit holder shall initiate and complete the construction and installation of the required buffer yard within eighteen (18) months from the date of the official letter from the Planning and Zoning Commission Chairperson sent to the property owner and conditional use permit holder identifying that such buffer yard is required, due to the adjoining land use conversion. The Planning and Zoning Commission and City Council shall review and approve such buffer yard.

F. *General Requirements.*

1. *Off-street parking.* See Article VII.

2. *Environmental controls.* All development shall conform with the environmental performance standards provided in Section 405.550 and with all other appropriate environmental controls including those relating to landscaping, lighting, flood hazard control and stormwater retention and erosion control as provided in this Code.

3. *Signs.* See Article VIII.

Section 405.1110. Variances and Appeals. [R.O. 2008 §26-118; Ord. No. 1903 §1, 11-24-1997; Ord. No. 1945 §1, 6-22-1998; Ord. No. 5165 §1, 12-13-2010]

A. *Authorization For Variances.* Where there are practical difficulties or unnecessary hardship in the way of carrying out the strict letter of this Chapter, the Board of Adjustment may vary or modify the application of any of the regulations or provisions of such ordinance relating to the construction or alteration of buildings or structures, signage or the use of land so that the spirit of the ordinance shall be observed, public safety and welfare secured and substantial justice done. Applications may be filed by any governmental body or person who either owns property that would be affected by the proposed variance or who has a financial, contractual or proprietary interest in property that would be affected by the proposed variance and also submits the property owner's consent to the application.

B. *Application And Submission.*

1. An application for variance shall be filed in the office of the Zoning Administrator in both paper format and electronic format in a commonly used medium such as diskette or CD-ROM and in a format that can be read by a word processing program used by the Zoning Administrator. The filing party shall certify that the electronic copy has been scanned for viruses and that it is virus-free. The Zoning Administrator shall review the application to determine whether it complies with all applicable requirements. Upon an affirmative determination, the Zoning Administrator shall promptly:

    a. Forward the application to the Board of Adjustment, Mayor and City Council;

    b. Cause notice of the application to be publicly posted at the Government Center in the same manner as Commission meeting agendas,

    c. Cause a sign regarding the application to be posted on the affected property, and

    d. Cause the application to be made publicly available on the City website,

    all at least ten (10) days prior to the date of the meeting of the Board of Adjustment at which the application is first considered. The Zoning Administrator shall prepare a report describing the circumstances of the application, The Zoning Administrator shall forward the report and any recommendations or actions of any other City department or agency to the Board of Adjustment, Mayor and City Council in advance of the meeting at which the application is scheduled to be considered, and cause such analysis and report to be made publicly available on the City website in advance of the meeting.

2. The application shall contain the following information, as well as such additional information as the Board of Adjustment may prescribe by regulation:

a. The particular requirements of this Chapter which prevent the proposed construction;

b. The characteristics of the subject property which prevent compliance with the requirements of this Chapter;

c. The particular hardship which would result if the specific requirements of this Chapter were applied to the subject property; and

d. The reduction of the minimum requirements of this Chapter which would be necessary to permit the proposed construction.

C. *Hearing And Procedural Rules.* The Board of Adjustment shall hold a public hearing on each application for variances. The City Clerk shall publish notice in accordance with the provisions of Section 405.1120. The Board of Adjustment shall also send written notice by first class mail stating the nature of the proposed variance or appeal to all owners of property located within three hundred (300) feet of the boundaries of the property for which a variance or appeal is sought as well as to the owners of the subject property.

D. *Criteria For Variances, Generally.* The Board of Adjustment shall not grant a variance as authorized herein unless it shall, in each case, make specific written findings of fact directly based upon the particular evidence presented to it that support all of the following conclusions:

1. The variance requested arises from a condition which is unique to the property in question and which is not ordinarily found in the same zoning district;

2. The variance requested is because of a unique hardship not created by the applicant or owner of the property;

3. The granting of the variance shall not adversely affect adjacent property owners or residents;

4. The strict application of the provisions of this Chapter from which a variance is requested will cause severe practical difficulty or extreme hardship for the property owner represented in the application;

5. The variance desired will not adversely affect the public health, safety, order, convenience or general welfare of the community; and

6. Granting the variance desired will not violate the general spirit and intent of this Chapter.

E. *Criteria For Area Variances.* In addition to the criteria listed in Section 405.1110(D) an applicant for an area variance or a variance to any regulation contained in the zoning ordinance, except for regulations dealing with the use of land which are included in Section 405.1110(F), must meet the following criteria:

1. By reason of exceptional narrowness, shallowness or shape of the specific piece of property or where by reason of exceptional topographical conditions

or other extraordinary or exceptional circumstances that the strict application of the terms of the zoning regulations actually create a hardship to the property in a manner dissimilar to that of other similarly situated property in the zoning district in which it is located.

2. Granting the variance would not result in the diversion of additional stormwater that would adversely affect adjacent property.

F. *Criteria For Use Variances.* In addition to the criteria listed in Section 405.1110(D), an applicant for a use variance must meet the following criteria:

1. The applicant must be suffering unnecessary hardship in carrying out the strict letter of the ordinance. Unnecessary hardship can be shown by the applicant if he/she demonstrates the following:

   a. He/she is deprived of all beneficial use of the property or that he/she would incur unwarranted economic hardship in achieving a permitted use;

   b. The conditions causing the hardship are unique and peculiar to the applicant's property and are not prevalent in the neighborhood; and

   c. The hardship must be due to conditions not personal to the owner, but rather to conditions affecting the land, thereby making the land unsuitable for the permitted uses in the zone in which it lies.

2. The applicant must prove that relief is necessary because of the unique character of the property.

3. The proposed variance will not conflict with the City's Comprehensive Plan.

4. The use proposed by the applicant must be specific and must be a use that is allowed as a permitted use in at least one (1) other zoning district in the City.

G. *Decisions And Records.* The Board of Adjustment shall render and send to the applicant a written decision on an application for a variance without unreasonable delay and in no case after more than thirty (30) days of the decision. The Zoning Administrator shall be informed of the decision and shall be responsible for enforcement. The Zoning Administrator shall promptly:

1. Forward the decision to the Mayor and City Council;

2. Forward the decision to all persons who participated in the public hearing and the property owner; and

3. Make the decision publicly available on the City website.

H. *Period Of Validity.* No variance granted by the Board of Adjustment shall be valid for a period longer than three hundred sixty-five (365) days from the date on which it grants the variance, unless within such period:

1. A building permit is obtained and the construction or alteration of the structure

is commenced and pursued diligently toward completion; or

2. An occupancy permit is obtained and a use or occupancy commenced. The Board of Adjustment may grant extensions not exceeding one hundred eighty (180) days each, upon written application, without notice or hearing.

I. *Authorization For Appeals — Appeals To The Board Of Adjustment.* Appeals to the Board of Adjustment may be taken by any person aggrieved, by any neighborhood organization as defined in Section 32.105, RSMo., representing such person, or by any officer, department, board or bureau of the municipality affected by any decision of the administrative officer or by the interpretation or administration of this Chapter; provided however, that the Board of Adjustment shall not have jurisdiction to hear appeals from conditional use permits (see Section 405.1070)405.1070), residential designed development (see Section 405.450(D)) or other decisions from the City Council related to this zoning ordinance.

J. *Procedure For Appeals.*

1. *Time for appeals.* Notice of appeal shall be filed within a reasonable time, not to exceed thirty (30) days from the event or action appealed from occurred.

2. *Filing.* The person taking the appeal shall file in the office of Community Development. A fee shall be paid to the Community Development Department at the time the appeal is filed; the amount of the fee shall be determined by the City Council.

3. *Procedure.* The Board of Adjustment shall notify the officer or the department from whom the appeal is taken. The officer or department shall immediately transmit to the Board of Adjustment all the papers and documents constituting the records of the actions or events which are being appealed. The Zoning Administrator shall receive the appeal and determine whether it complies with all applicable submission requirements. Upon an affirmative determination, the Zoning Administrator shall promptly: **[Ord. No. 5431 §16, 7-27-2015]**

   a. Forward the appeal to the Board of Adjustment, Mayor and City Council,

   b. Cause notice of the appeal to be publicly posted at the Government Center in the same manner as Commission meeting agendas,

   c. Cause a sign regarding the appeal to be posted on the affected property, and

   d. Cause the appeal to be made publicly available on the City website,

all at least ten (10) days prior to the date of the meeting of the Board of Adjustment at which the application is first considered. The Zoning Administrator shall prepare a report describing the circumstances of the application. The Zoning Administrator shall then forward the report and any recommendations or actions of any other City department or agency to the Board of Adjustment, Mayor and City Council in advance of the meeting at which the appeal is scheduled to be considered, and cause such analysis and report to be made publicly available on the City website in advance of the meeting.

4. *Public hearing.* The Board of Adjustment shall set a date for a public hearing and notice of this hearing shall be given according to the provisions of Section 405.1120. The hearing shall be held no later than sixty (60) days from the date the appeal is filed. The Board of Adjustment shall also send written notice by first class mail stating the nature of the proposed variance or appeal to all owners of property located within three hundred (300) feet of the boundaries of the property for which a variance or appeal is sought as well as to the owners of the subject property.

5. *Decisions on appeals.* Within thirty (30) days of the close of the public hearing, the Board of Adjustment shall affirm or reverse, fully or partly, or modify the order, requirement, decision or determination or other event or action appealed from. The Board of Adjustment shall be guided in its deliberations by the Comprehensive Plan of the City and any special area plans and the purpose and intent of this Code and all Sections thereof. The Zoning Administrator shall promptly:

   a. Forward the decision to the Mayor and City Council;

   b. Forward the decision to all persons who participated in the public hearing and the property owner; and

   c. Make the decision publicly available on the City website.

6. *Stay of proceedings.* An appeal stays all proceedings that concern the action appealed from unless the officer from whom the appeal is taken certifies to the Board of Adjustment after he/she received notice of appeal that by reason of facts certified by him/her, a stay would, in his/her opinion, cause imminent peril to life or property. In such case, the proceedings shall not be stayed except in the following:

   a. In accordance with a restraining order issued by the Board of Adjustment or a court of record;

   b. If the appellant shows good cause why a stay should not be allowed and upon notice to the officer or department from whom the appeal is taken and that there is to be no stay of proceedings.

K. *Appeals To The Circuit Court — Authorization.* Any person or persons jointly or

severally aggrieved by any decision of the Board of Adjustment, any neighborhood organization as defined in Section 32.105, RSMo., representing such person or persons or any officer, department, board or bureau of the municipality, may present to the Circuit Court of the County or City in which the property affected is located a petition, duly verified, setting forth that such decision is illegal, in whole or in part, specifying the grounds of the illegality.

Bethany L. Moore

5021 Lindenwood Ave, Apt 1w
St. Louis, Mo 63109
(636) 290-6137
bethanymoore9412@gmail.com

EXPERIENCE

Community Development, City of Creve Coeur — *City Planner*

October 2021 – Present

- Fence and sign permit review
- Planning and Zoning Commission staff reports and presentations
- Board of Adjustment staff reports and presentations
- public service communication
- planning and zoning project review
- city ordinance compliance
- interdepartmental communication

Cultural Resources Office, City of Saint Louis — *Preservation Planner I*

October 2018 – October 2021

- historic district permit review
- architectural plan review
- form based code review
- Section 106 review
- public service communication
- neighborhood association coordination
- building project management
- city ordinance compliance
- demolition review
- monthly preservation board presentation
- interdepartmental communication
- violation and court processing

EDUCATION

University of Georgia, Athens, Ga — *Masters of Historic Preservation*

August 2016 -August 2018

Truman State University, Kirksville, Mo — *Bachelor of Arts in History*

August 2012 - May 2016

Minors in Art History and Philosophy and Religion.

SKILLS

Public speaking, plan review, copywriting/editing, research, data entry, MS Office suite, customer service, project management, deadline adherence, mass communication.

AWARDS

AICP Candidate-Spring 2023

Masters of Historic Preservation Assistantship - Spring 2017

Missouri's Little Dixie Heritage Foundation Research Grant- Summer 2018

JASON W. JAGGI, AICP

3 Butternut Court O'Fallon, MO 63368
Cell: 636-697-2378
plnrjay@yahoo.com

WORK EXPERIENCE

Director of Community Development, City of Creve Coeur, MO

August 2015- Present

Responsibilities:

Plan, organize, and direct a department of 12 employees that provides a full range of planning, building and code enforcement services in a West St. Louis County municipality. Staff liaison to the Planning and Zoning Commission and Board of Adjustment providing professional land use recommendations. Serve as the City's Zoning Administrator. Prepare zoning code amendments as needed. Prepare Department budget. Oversee the City's development review process, building permits and inspection programs while working collaboratively with a wide variety of stakeholders. Guided the update of the comprehensive plan, 39 North Master Plan and other long range planning studies.

Planning Manager, City of St. Charles, MO

March 2012- August 2015

Responsibilities:

Manage the Planning Division within the Department of Community Development and supervise a professional staff of four by assigning, reviewing work and evaluating performance. Coordinate long range and current planning functions. Assist in the development and interpretation of the Comprehensive Plan and Zoning Ordinance. Prepare zoning code amendments as needed. Assist the Department Director with budget preparation and department policies. Coordinate and oversee Geographic Information Systems, Community Development Block Grant, and Historic Preservation programs. Direct responsibility for the City's floodplain management program, zoning administration, and development review processes. Staff liaison to the Planning and Zoning Commission, Landmarks Board, Board of Adjustment, and Main Street/Downtown Special Business District.

Senior Planner, City of Clayton, MO

February 2009—December 2009; July 2010—March 2012

Responsibilities:

Supervise the Administrative Secretary-Planning position and Department interns by assigning and reviewing work and evaluating performance. Project management involves complex development reviews and coordination of the review process, present findings and make professional land use recommendations to the Plan Commission, Architectural Review Board, Board of Adjustment, and Board of Aldermen. Interpret and administer the City's land use codes including the Zoning and Subdivision regulations. Draft code amendments including renewable energy code, residential tree and landscaping ordinance, and transit-oriented development zoning overlay districts. Assist the Department Director with special projects as assigned.

Acting Director of Planning and Development Services, City of Clayton, MO
January 2010—June 2010

Responsibilities:

Plan, organize, and direct a department of nine employees that provide a full range of planning, building and code enforcement services on an interim basis. Staff liaison to the Plan Commission, Architectural Review Board and Board of Adjustment providing professional land use recommendations. Prepare Department budget. Oversee the City's development review process, building permits and inspection programs. Key leadership role in the update of the Downtown Clayton Master Plan and Retail Strategy. Assisted with the City's sustainability initiatives.

Planner, City of Clayton, MO
August 2004—January 2009

Responsibilities:

Perform review of development proposals and prepare staff reports to the Plan Commission and Architectural Review Board. Administer the Zoning and Subdivision Ordinances and draft amendments as needed. Develop and maintain City's Geographic Information Systems. Prepare and present findings for variance requests submitted to the Board of Adjustment. Provide technical assistance for Census updates, data analysis, and economic development initiatives.

Planner, St. Louis County Government, MO
October 2000—July 2004

Responsibilities:

Staff planner in the Comprehensive Planning Division. Assist in the preparation of community development plans, countywide five-year strategic plan. Project manager for a neighborhood community center strategic plan. Planning Department liaison providing technical assistance for community building and economic development initiatives in two unincorporated St. Louis County communities.

Planner, City of Kirkwood, MO
June 1999—September 2000

Responsibilities:

Assist in neighborhood planning and economic development in association with a residential and commercial Tax Increment Financing redevelopment project. Provide staff support and technical assistance to the downtown Kirkwood Junction Special Business District. Assist in the administration of housing grant programs. Provide historic preservation technical assistance to the Landmarks Commission. Assist the Department Director as assigned.

PROFESSIONAL ORGANIZATIONS, SERVICE, AND HONORS

- Member, American Institute of Certified Planners (AICP)
- Member, American Planning Association (APA)
- Former St. Louis Metro Section APA Board Member
- Advisory Board Member 2007-2012, Missouri State University Department of Geography, Geology, and Planning
- 2009 Alumni Honoree, Kansas State University, College of Architecture, Planning and Design
- Instructor: University of Missouri-St. Louis Chancellor's Certificate in Planning and Zoning

EDUCATION

Master of Regional and Community Planning, 1999
Kansas State University, Manhattan, Kansas

Bachelor of Science, Community and Regional Planning, 1997
Missouri State University, Springfield, Missouri

Dione Garson, P.E.
208 Lark Hill Lane, Ballwin, MO 63021 | (414) 507-5227 | DioneGarson@gmail.com

Engineering Experience

City of Creve Coeur
2022 to present – Civil Engineer

- Manage projects under the City's Stormwater Program.
- Serve as the City's day-to-day contact for the Watershed Management Plan.
- Meet with residents about stormwater issues and conduct onsite investigations.
- Review plans for compliance with the City's Stormwater Regulations (Chapter 425).

Milwaukee Metropolitan Sewerage District (MMSD)
January 2017 to July 2021 – Project Engineer

- Review and approve stormwater management plans that include HydroCAD modeling, green infrastructure plans, and municipal sanitary sewer plans submitted by the 28 municipalities served by MMSD. Consistently deliver a high-level of service by accurately completing reviews within a targeted performance goal of half the time allowed by the rules.
- Calculate flows for developments and redevelopments in the MMSD sewer service area. Collaborate with IT staff to create a map-based database that identifies areas of the system with the highest demand for flows allocated by the Facilities Plan.
- Support senior staff in managing the schedule, scope, and budget for capital projects.
- Collaborate with the Legal Department to amend MMSD stormwater rules to increase the implementation of green infrastructure. Educate partners about new requirements and facilitate compliance by writing guidance documents and delivering presentations to municipal engineers.
- Work with the Legal Department to amend MMSD municipal sewer construction rules to comply with state statutes.
- Transform municipal annual reporting to streamline the process for municipal partners and capture useful information for the MMSD Planning, Watercourse, and Sustainability Departments.
- Improve municipal sewer plan databases to make information more accessible and searchable.
- Inspect municipal sewer construction sites.
- Contribute to the planning and execution of MMSD's yearly inspection conference.
- Develop strong relationships with municipal engineers, Milwaukee County engineers, and Wisconsin Department of Natural Resources reviewers.
- Represent MMSD at public events and job fairs.

June 2016 to December 2016 – Watercourse Intern

- Inspect jurisdictional watercourse assets.
- Improve inspection process and documentation by working with ArcGIS staff to develop a map-based iPad application and database.
- Assist the asset management team to generate cost-over-time budget projections and future replacement costs.
- Write short-form contacts.

Education & Qualifications

University of Wisconsin – Madison | May 1997
Bachelor of Science in Journalism – Specialization in Advertising

University of Wisconsin – Milwaukee | December 2016 | Magna Cum Laude
Bachelor of Science in Civil Engineering – Environmental and Water Resource Management

Professional Engineer in the state of Missouri

Certifications & Skills

- Envision Sustainability Professional (ENV SP)
- National Association of Sewer Service Companies (NASSCO) Pipe Assessment Certification Program (PACP) certified
- Confined space trained
- ArcGIS
- P6 & e-Builder
- Storm Water Management Model (SWMM)

Adverting Experience

1997 to 2014
Milwaukee advertising agencies

- Work within the parameters of scope, schedule, and budget to create advertising campaigns that include integrated components such as television & radio spots, online & print ads, and websites.
- Increase agency revenue with meaningful contributions to new business proposals.
- Create and deliver engaging and persuasive presentations.
- Develop relationships and earn trust with clients, internal partners, and vendors by achieving project goals.
- Awarded Webby Award for Best City and Urban Innovation Website (Client: Visit Milwaukee) and other local, regional, and national awards.

Tim Dean, PE, LEED AP©, CFM

Principal, Senior Project Manager, Intuition & Logic Engineering, Inc.

Education
M.S. Civil Engineering, University of Missouri-Rolla, 2004
B.S. Civil Engineering, University of Missouri-Rolla, 2003

Registration
Registered Professional Engineer - Missouri
LEED® Accredited Professional
Certified Floodplain Manager

Affiliations
American Society of Civil Engineers
American Public Works Association
Association of State Floodplain Managers
Environmental and Water Resources Institute – St. Louis Section
Phi Kappa Phi – National Academic Honor Society
Tau Beta Pi – National Engineering Honor Society
Chi Epsilon – National Civil Engineering Honor Society

Areas of Expertise
Tim Dean is a Principal Civil and Water Resources Engineer with 20 years design experience whose expertise is in stormwater engineering and civil engineering infrastructure design. Tim's projects include urban channel stabilizations, watershed analysis, flood control facilities design, roadways, culvert and bridge designs, trails, boat ramps, sea walls, parking lots, utilities (electric, sanitary, water), plazas and other pedestrian facilities. Tim has led large interdisciplinary teams for federal and municipal projects continually achieving on time, on budget performance. Tim is an expert in numerical modeling including steady and unsteady state HEC-RAS, GeoRAS, HMS, GeoHMS, 1D and 2D modeling, and many more. Tim has worked in every aspect of civil engineering analysis and design and is a recognized expert in this field of practice. Tim earned his Master's Degree in Civil Engineering from University of Missouri-Rolla in 2004 with an emphasis on Hydraulics and Hydrology. Tim is also an expert in Municipal Separate Storm Sewer System (MS4) permit implementation and compliance. Tim has been working with MS4 communities to achieve permit compliance since 2007. As Project Manager, Tim is responsible for managing the project personnel and resources through each component of the work plan (scope, schedule, and budget) from project beginning to successful completion. As Lead Engineer, Tim is the Engineer of Record, responsible for the immediate personal supervision of the project and responsible for leading the team to develop appropriate, practical, constructible designs.

Tim Dean is Principal Civil and Water Resources Engineer with 20 years design experience whose expertise is in hydraulics, hydrology and the analysis and design of urban stream stabilization, flood control facilities, stormwater systems, stormwater quality BMPs and watershed master planning. Tim is the engineer of record and lead designer on over 150 projects involving watershed analysis, flood control designs, floodplain modeling and FEMA mapping, enclosed and open channel stormwater systems for roadways, culvert and bridge designs, channel stabilization, geomorphic and sediment transport, USACE 404 and DNR 401 permitting, and much more. Tim is an expert in hydrologic and hydraulic numerical modeling including steady and unsteady state HEC-RAS, GeoRAS, HMS, GeoHMS, 1D and 2D modeling, and many more. Tim has worked in every aspect of civil engineering analysis and design and is a recognized expert in this field of practice.

Relevant Experience
2023 Creve Coeur, MO – Stormwater Master Plan Update (Project In Progress)
2019 Wildwood, MO – Woods Road Flood Control Analysis

2018 Jefferson County, MO – Jefferson County Storm Water Management Plan
2018 Jefferson County, MO – Saline Road Flooding
2017 Jefferson County, MO – Highland Baptist Church Road Hydraulic Analysis
2016 Jefferson County, MO – County Facilities Maintenance O&M Plans
2016 Lincoln, NE – Lynn Creek Watershed Master Plan
2016 Lincoln, NE – North Salt Creek Watershed Master Plan
2016 Lincoln, NE – Oak Creek Watershed Master Plan
2016 Lincoln, NE – Salt Creek North Tributaries Watershed Master Plan
2016 Riverwood Estates, MO – Riverwood Estates Geomorphic Reconnaissance
2015 St. Peters, MO – Lakeside 370 Park Pod 4 Design
2015 Jacobs, Kirkwood, MO – Kirkwood Park Community Center Feasibility Study
2007 Columbia, MO – Clear and Gans Creek Geomorphic Recon
2015 Lincoln, NE - Haines Branch Watershed Master Plan
2007 Lincoln, NE – Little Salt Creek Basin Watershed Master Plan
2015 Lincoln, NE - Middle Creek Watershed Master Plan
2015 Lincoln, NE - Salt Creek South Tributaries Master Plans
2019 Creve Coeur, MO – Millennium Park Trails Alternatives Analysis
2019 Sunset Hills, MO – Meramec River Bridge Crossing
2018 St Charles County, MO – Riverside Park Design
2018 St Charles County, MO – Riverside Park Design
2018 St Charles County, MO – Riverside Park Sanitary Sewer System Design
2018 St Charles County, MO – Riverside Park Water System Design
2014 Council for a Healthy Dent County, MO – Tiger Trail Design
2015 St. Peters, MO – Lakeside 370 Park Sanitary Sewer Design

2023 MSD - Grand Glaize Creek Bank Stabilization
2023 Creve Coeur, MO – Stormwater Master Plan Update (Project In Progress) – Project Manager and Lead Engineer for City wide stormwater master plan update. Update includes on-line resident communications tool, resident stormwater questionnaire, data collection, stormwater complaint site field investigations, GIS database development, capital improvement project (CIP) development, CIP costs, CIP Mapping, prioritization ranking methodology development, 4 Open Houses, SaaS based on-line Capital Improvement Program & Project Management Application, City Council presentations, final stormwater master plan update report.
2023 ST CHARLES, MO - 2022 MS4 Services
2022 2219 - USACE KC DISTRICT - Periodic Inspections
2022 USACE KC DISTRICT - Periodic Inspections
2022 2215 - Jim Mann Yard Drainage
2022 2213 - ARNOLD TO15 - Ellen Drive Stormwater
2022 2212 - KERHS MILL TRAILS SUBDIVISION - Erosion and Sedimentation
2022 2210 - ARNOLD - June Drive Stormwater – Project Manager and Lead Design Engineer for roadway culvert(s) and yard drainage improvements to address flooding.
2022 2209 - JEFFCO - MOU21-10 West Shed Outfall – Project Manager and Lead Design Engineer for two roadway culverts to address flooding and erosion.

2022 2207 - CREVE COEUR - New Ballas Tarrytown Ln

2022 2206 - CREVE COEUR - Alden Lane – Project Manager and Lead Design Engineer for roadway culvert to address flooding and erosion.

2022 Forest Park Forever – Deer Creek Savanna – Basin Master Plan to evaluate stream erosion for Hidden Creek through the Hidden Lake Savanna and Deer Lake Savanna South Unit; determine overall channel stability; identify erosion features; and recommend improvements to provide long term stability to the channels. Analysis included Hydrologic and Hydraulic analysis, Field data collection, thalweg profile analysis, alternatives analysis, cost analysis, and final recommendations.

2022 ARNOLD - TO13 Christ Drive to A St

2021 JEFFCO MOU 21-8 HWY RDWY Vegetation

2021 TEPA Companies, Hopi Reservation, Arizona - Hopi Arroyo Analysis - Engineering staff to calculate the theoretical limit of lateral erosion in the arroyo immediately north of the Hopi Detention Center Project construction site.

2021 US Army Corps of Engineer, Kansas City District – Levee Periodic Inspections – Mr. Dean was Project Manager and Team Lead Engineer for Periodic inspections of KC District System in Salina, Kansas and Gypsum, Kansas.

2021 Jefferson County, MO - MOU 21-6 - Miller Road Wampler Dr to Black Cr – Mr. Dean was Project Manager and Lead Engineer for analysis and design of Miller Road stormwater management from Wampler Dr to Blacks Cr.

2021 Jefferson County, MO - MOU 21-5 - 3860 Miller Road Stormwater – Mr. Dean was Project Manager and Lead Engineer to design stormwater drainage and yard flooding solutions.

2021 Jefferson County, MO - MOU 21-4 - 24 Wampler Drive Stormwater – Mr. Dean was Project Manager and Lead Engineer for analysis and design of stormwater management to address yard flooding along Wampler Dr.

2021 Robbye Toft, Ladue, MO - Bank Stabilization

2021 Byrnes Mill, MO - 2021 MS4 Services – Project Manager and Lead Engineer to prepare the City of Byrnes Mill's MS4 compliance analysis, action plan and report.

2021 Arnold, MO - TO12 - 2021 MS4 – Project Manager and Lead Engineer to prepare the City of Arnolds MS4 compliance analysis, action plan and report.

2021 Metropolitan St. Louis Sewer District - OMCI Streambank Stabilization – Project Manager and Lead Engineer for four (4) streambank stabilization projects in various watersheds within the Coldwater and Lemay service areas to address high risk streambank failure, streambank erosion and yard erosion along various creeks. Services include alternatives analysis and recommendations, survey, design developments, preliminary through final plans, specifications and costs, permitting, easements, and public involvement.

2020 JEFFERSON COUNTY On Call Services

2020 US Army Corps of Engineer, Kansas City District - Shawnee Mission Parkway Sec 14 Project - Engineer for channel stabilization and erosion control design.

2020 Wildwood, MO - Cavanagh Water Quality

2020 Arnold, MO - 553 Christ Dr Stormwater - Project Manager and Lead Design Engineer for yard and road drainage improvements to address flooding along Christ Drive.

2020 SCHEMMER - Offutt Air Force Base, Omaha, NE – Lead Engineer for over 4,500 lineal feet of complete channel reshaping, stabilization and restoration including two stage channel shaping, grade controls, drop structures, energy dissipation, rock toes, flood benches, and restoration palette suitable for base operations.

2020 Miss Augusta, St. Charles County MO – Project Manager and Lead Engineer to design Commercial River Cruise Ship Dock and facilities on the Mississippi River in St. Charles County, Missouri. Site

improvements include utilities (electric, water, sanitary), grading, paving, docks, gangways, check-in station, site improvements, and supporting utility services at Klondike Park. Facilities include a covered guest queuing area, a 1,500 sf ticketing/office building for offices, a check-in counter, a small retail store, minor dry good storage for ship, and utility servicing for ship. Permitting includes US Army Corps of Engineers Section 408 (Rivers and Harbors Act of 1899) regarding commercial vessels in navigation channel.

2020 Saint Charles County, MO – Klondike Park Courtesy Boat Dock – Project Manager and lead design engineer for the final design and permitting of the courtesy boat dock on the Mississippi River at Klondike Park. Site improvements include bank protection, dock, gangways, and access trails.

2020 Forest Park Forever – Nature Playscape Channel Design – Lead design engineer for Ozark style ledge-rock and boulder channel playscape with pools, steps, climbing waterfall and flat play areas. The design includes stormwater management and erosion control throughout the 17 acre nature playscape area. I&L services include negotiation with the park contrators to utilize on site material as much as practical, coordinate channel design with Forest Park Forever Staff, coodinate construction cost with the contractor, construction change orders, on site measurements, pay application review and punch list.

2020 Saint Charles County, MO - Flatwoods Park Boat Ramp - Project Manager and lead design engineer for Flatwoods Park new boat ramp on Quiver River including parking lot, trails, plaza and amenities.

2020 Wildwood, MO – Pavilion Hill Drainage - Project Manager and Lead Engineer for analysis and design of local flood control measures.

2020 Clayton, MO – 8027 Forsyth SWPPP Inspections – Project Manager and Lead Engineer for on-site SWPPP Inspections and reporting.

2020 Jefferson County, MO – 2020 MS4 Services – PM and Lead Engineer developing MS4 updates and presenting SWPPP training for County Employees, dry weather inspections and water quality testing.

2019 Jefferson County, MO – 2019 Storm Water Management Plan Report Revisions – Project Manager and Lead Engineer for inspections and report revisions to the SWMP Report.

2020 Lower Platte South NRD - Beal Slough Design 70th to Pine - Project Manager and Engineer to design grade controls and associated bank stabilization to reduce incision and bank erosion on the reach of Beal Slough from 70th Street to Pine Lake Road and prepare final design plans, specifications and CD's for use in bidding and construction. Final design included boulder grade control drop structures, rock grade controls, rock toe protection, and vegetated rock bank revetment. Services included construction management as the owner's representative.

2019 Creve Coeur, MO – Balcon Estates Culvert – Project Manager and Lead Engineer for design of Balcon Estates culvert and associated channel restorations for flood control.

2019 US Army Corps of Engineer, Kansas City District – Levee Periodic Inspections – Mr. Dean was Field Team Lead and Team Hydraulic Engineer for Periodic inspections of KC District System R-351 located in Atherton, MO and Seward located in Seward, NE. Project includes hydraulic, hydrologic, geotechnical, structural, mechanical, levee, floodwall, closure structure, interior drainage system, pump station, and flood reduction channel design reviews; field analysis of system; system performance assessment; and independent technical review of approach and findings. CPARS Ratings: Quality: Very Good; Schedule: Satisfactory; Management: Very Good. The KC District commented "The Contractor demonstrated a high level of professionalism and management. They provided a quality product within the contract time frame and budget and with little needed oversight from the government."

2019 Wildwood, MO – Woods Road Flood Control Analysis – Project Manager and Lead Engineer for hydraulic and hydrologic modeling and flood control alternatives analysis.

2019 Clayton, MO – Adzick Field Renovations SWPPP Inspections – Project Manager and Lead Engineer for on-site SWPPP Inspections and reporting.

2019 Clayton, MO – SWPPP Inspections for Clarendale Senior Living Construction – Project Manager and Lead Engineer for on-site SWPPP Inspections and reporting.

2019 Ross Hammond, MO – Hammond Parcel Retaining Wall and Channel Stabilization – Project Manager and Lead Engineer for Retaining Wall and Channel Stabilization Project. Final design, plans and specifications included rock grade control, sanitary manhole protection, rock toe slope protection and modular block retaining wall.

2021 Saint Charles, MO – 2019 Streambank Stabilization Projects – Mr. Dean was Project Manager and Lead Engineer to design and permit stream stabilization along 2,600-ft of eroding channels at three locations along Boschert Creek and Crystal Springs Creek and associated stormwater system, sanitary system and water system improvements. Hydrology was developed in HEC-HMS. Hydraulics were developed in HEC-RAS starting with the FEMA effective model. Enclosed stormwater systems were developed in Civil 3D and InteliSOLVE software. Channel revetment sizing was done using WEST software and USBR methodology. Floodplain mapping was prepared in ArcGIS. Channel Stabilization includes channel grade controls, flood benches, retaining walls, bank revetments, and riparian corridor enhancement. The project also included 2,900-ft of sanitary sewer capacity improvement to upsize in place 120-ft of 8-inch, 450-ft of 21-inch, 1,740-ft of 18-inch to 24-inch and 590-ft of CIPP Lining plus 2,000-ft of new 8-inch water main to connect to existing 6-inch and 16-inch mains.

2021 Lee's Summit, MO – Flood Analysis and Design for Hackamore Drive and Secretariat Drive – Mr. Dean was the Project Manager and Lead Engineer for flood control analysis and design to reduce structure flooding in residential homes and roadway flooding along Hackamore Drive. Analysis included three regional detention basins with HEC-RAS Dam Breach Analysis. Final design included floodproofing one home to enclose the basement plus enclosed system capacity increase - 440 ft of 4ft X 6ft box, 200 ft of 24-inch RCP, 8 manholes, 5 curb inlets, retaining walls, and outfall energy dissipation. Services include alternatives analysis, HEC-HMS, HEC-RAS and InteliSolve numerical Modeling, utility coordination, final design, plans, specifications, cost analysis, USACE and FEMA permitting, public involvement, FEMA Mapping, and easements.

2020 Cape Girardeau, MO - Capaha Park Pond – Engineer for alternatives analysis and design of pond dredging, spawning bed and habitat for the existing pond in Capaha Park. Alternatives includes water quality treatment forebay and hydro dynamic separators for incoming stormwater to help reduce the debris load to the pond.

2019 Clayton, MO – 2019 DeMun Park Renovation SWPPP Inspections – Project Manager and Lead Engineer for on-site SWPPP Inspections and reporting.

2019 Lower Platte South Natural Resources District, Lincoln, NE – Beal Slough Channel Stabilization 70th to Pine St – Mr. Dean is Project Manager and Lead Engineer for the hydraulic and geomorphic design of channel stabilization and culvert replacements on Beal Slough through Gap Park, one of the City of Lincoln, NE newest parks. The design includes hydraulic and hydrologic modeling of channel using HEC-RAS and HEC-HMS, geomorphic channel analysis, design of 8 grade controls, drop structure, new culvert and access roadway, bank revetment and restoration with native riparian corridor vegetation.

2019 Columbia, MO – FEMA Mapping for W Alhambra Drive – Mr. Dean was Project Manager, Lead Hydrologic Modeler and Lead Engineer to develop FEMA FIRM mapping of tributary along W Alhambra Drive for FEMA Zone A Map Revision. Channel hydrology was developed using HEC-HMS

and several new basins were delineated per FEMA requirements. New basins were delineated in GIS using Boone County raster supplemented with terrain and pipe network data. Rainfall hyetographs from the HEC-1 effective model data was evaluated and flow rates developed for the 0.2%, 1%, 2% and 10% AEP events. Hydrology was developed in HEC-RAS 5.0.3. a new DEM was developed in GIS by supplementing existing GIS terrain data with ground survey. 2D mapping was developed in ArcGIS per FEMA requirements. FEMA issued the Letter of Map Revision September 2021.

2018 Arnold, MO – 2018 MS4 Stormwater Management Plan – Project Manager and Lead Engineer to prepare the City of Arnolds MS4 compliance analysis, action plan and report.

2018 CDI – St Louis County Suson Lakes Modifications - Project engineer to design pond modifications for park enhancement, bank stabilization and habitat creation.

2018 Jefferson County, MO – Jefferson County Storm Water Management Plan – Project Manager and Lead Engineer for modifications and submittal of Storm Water Management Plan required by MODNR.

2018 Clayton, MO – SWPPP Inspections at 7501 Maryland Avenue – Project Manager and Lead Engineer for on-site SWPPP Inspections and reporting.

2018 SWT Design – St Ferdinand Park Pond Modifications, St Louis County Parks Department – Project engineer to design pond modifications for park enhancement, bank stabilization and habitat creation.

2018 Creve Coeur, MO – Sherwyn Lane Flood Control Alternatives Analysis - Project Manager and Lead Engineer for stormwater system modifications to alleviate flooding.

2018 Ladue, MO – Robin Hill Flood Control Culvert and Channel Design – Mr. Dean is the Project Manager and Lead Engineer for the analysis and design of flood control and channel stabilization measures to reduce flood impacts in densely populated residential neighborhood. The project includes flood modeling using HEC-RAS and HEC-HMS, Bridge and Culvert design, channel stabilization design, sediment transport analysis and design, public involvement, utility coordination, permitting including FEMA no-rise certification and US Army Corps of Engineers 404, final construction plans, specifications, cost estimating, bidding services and construction management as owner's representative. The final design includes a two stage culvert and vegetated channel with a rock toe to facilitate sediment continuity and provide the needed flood conveyance with a 10' wide low flow channel, 1½' to 2' tall - 20' to 30' wide flood bench with two staged 10' X 5' and 10' X 7' barrel culverts provided excellent sediment transport, erosion control and flood performance throughout the project.

2018 Jefferson County, MO – Saline Road Flooding Analysis – Project Manager and Lead Engineer for roadway flood analysis involving multiple detention basins, wet ponds, roadway drainage systems, culverts and bridges. The analysis produced cost analysis of multiple flood control alternatives including multiple detention basin retrofits, wet pond modifications, over 1,100 feet of new 54" and 72" RCP roadway drainage systems, culvert replacement and a bridge option.

2018 St Charles, MO – Sandfort Creek Channel Stabilization Design – Mr. Dean is Project Manager and Lead Engineer for stabilization of 800-ft of eroding channels at two project locations through urban areas along Sandfort Creek and Crystal Springs Creek. Stabilization includes hydraulic and geomorphic analysis, channel grade controls, flood benches, bank revetments, riparian corridor restoration, establishing natural channel sinuosity and riffle-pool spacing, improving outfalls and associated stormwater system improvements.

2018 Jefferson County, MO – MS4 Compliance Employee Training – Project Manager and Class Instructor for Jefferson County MS4 compliance training.

2018 Jefferson County, MO – MS4 Training Services – PM and Lead Engineer developing and presenting SWPPP training for County Employees

2017 Clayton, MO – Shaw Park Field Renovation SWPPP Inspections - Project Manager and Lead Engineer for on-site SWPPP inspections and reporting as City Representative.

2017 Jefferson County, MO – Highland Baptist Church Road Hydraulic Analysis - Project Manager and Lead Engineer for evaluating roadway and right of way drainage structures and recommending improvements to reduce flooding, road topping, driveway topping and ditch/channel erosion.

2017 USDA Forest Service, Hot Springs, AR – Ouachita Lake Seawall Design - Engineer to develop multiple options for replacing the deteriorated and failing sea wall including regrade and armor, concrete cast in place wall, modular block wall and a pile wall, among others. The modular block wall provided the most practical and cost effective alternative. The design includes 2,594 square feet sea wall, electric utility relocation, clearing, grading, drainage, and site restoration. The wall was designed to withstand wave run-up. CPARS Ratings: Quality: Very Good; Schedule: Very Good; Management: Exceptional; Regulatory Compliance: Satisfactory

2017 Creve Coeur, MO – Malcolm Terrace Park Bridge and Deer Creek Channel - Mr. Dean is the Project Manager and Lead Engineer for the hydraulic, hydrologic and geomorphic analysis and design of bridge and channel modifications to reduce flooding in Malcolm Terrace Park. The design includes flood modeling using HEC-RAS and HEC-HMS, Bridge design, channel stabilization design, utility coordination, permitting including FEMA no-rise certification and US Army Corps of Engineers 404, final construction plans, specifications, cost estimating and bidding services.

2017 Lancaster County, NE – Hydraulic Capacity Analysis and Conveyance Design of 25 WPA Bridges - Mr. Dean was Lead Hydraulic and Hydrologic Engineer for to identify culvert replacement options to meet current flooding criteria on 25 WPA Bridges in Lancaster County. The Cordes and Hotchkiss method was used to determine the 2, 10, 50, 100, 200, and 500 year flow event, in accordance with the recommended regression equation sets for the region. The Iowa State Department of Transportation (IowaDOT) Culvert Hydraulics (v 2.0) program was used as a starting point to develop culvert solutions. The detailed analysis was performed in HY-8, where inlet and outlet conditions were taken into account. A tailwater conditions rating curve was developed within HY8 by approximating the downstream.

2017 St Charles, MO – Cole Creek Bank Stabilization - Mr. Dean is Project Manager and Lead Engineer for hydraulic, hydrologic and geomorphic analysis and design of stream stabilization to address 30+ foot tall vertical slope failures and deeply incised channel through dense residential and retail area. Stabilization includes revisions to channel plan and profile geometries and re-establishing natural geomorphic geometry, bank toe and slope stabilization with riparian vegetation, retaining walls on upper slope to match grades at existing apartment and retail developments, grade controls, flood benches, improving outfalls and associated stormwater system, sanitary, water, electric and telecommunication utility relocations, final plans, specifications and construction documents.

2016 Jefferson County, MO – County Facilities Maintenance O&M Plans - Project Manager and Lead Engineer to develop O&M SWPPP plans for 3 large maintenance facilities in the County.

2020 Lower Platte South Natural Resources District, Lincoln, NE – South Salt Creek Channel Stabilization at Old Cheney Bridge - Project Manager and Lead Engineer for large channel grade controls and stilling basins to stabilize major bridge crossings. Final design included quartzite boulder drop structures, composite revetment bank protection, channel and bank re-shaping and planting with native riparian corridor vegetation.

2019 Lower Platte South Natural Resources District, Lincoln, NE – South Salt Creek Channel Stabilization at Pioneers Bridge - Project Manager and Lead Engineer for large channel grade controls and

stilling basins to stabilize major bridge crossings. Final design included quartzite boulder drop structures, composite revetment bank protection, channel and bank re-shaping and planting with native riparian corridor vegetation.

2016 Jefferson County, MO – 2017-2018 On Call Stormwater Engineering Services – Project Manager and Lead Engineer for On Call Stormwater Services Contract.

2016 Lincoln, NE – Lynn Creek Watershed Master Plan – Assistant Project Manager and engineer for comprehensive Watershed Master Plan with Capital Improvement Projects for 4 square miles study area with 15 lineal miles of channel. The masterplan included developing a $1.6 Million Capital Improvement Project program.

2016 Lincoln, NE – North Salt Creek Watershed Master Plan – Assistant Project Manager and engineer for comprehensive Watershed Master Plan with Capital Improvement Projects for 34 square miles study area with 80 lineal miles of channel. The masterplan included developing a $0.8 Million Capital Improvement Project program.

2016 Lincoln, NE – Oak Creek Watershed Master Plan – Assistant Project Manager and engineer for comprehensive Watershed Master Plan with Capital Improvement Projects for 36 square miles study area with 69 lineal miles of channel. The masterplan included developing a $1.7 Million Capital Improvement Project program.

2016 Lincoln, NE – Salt Creek North Tributaries Watershed Master Plan – Mr. Dean was the Lead Hydrologic Engineer for stormwater masterplan covering 76 square mile study area, 164 miles of channel with a 1,124 square mile drainage area and including Hydraulic and Hydrologic analysis, land use analysis, developing a minimum stream corridor buffer regulation, geomorphic analysis of 49 miles channel, and developing a $4,100,000 capital improvement program detailing 5 projects including costs and prioritization. H&H analysis included evaluation of FEMA effective HEC-RAS model at select section for inundation depths and flood hazard area boundary accuracy and HY8 analysis at select roadway culverts. The minimum corridor evaluated dozens of channels and inundation to develop the criteria recommendation to base buffer widths on contributing drainage area. The land use analysis recommended flow attenuation on storm events between the water quality control rainfall and the 2 year event to further mimic predevelopment hydrology and protect receiving streams.

2017 PDS, St. Louis, MO – St Louis Zoo Lakes Planning and Design, St. Louis MO – Tim was the team lead civil engineer to re-design and renovate the central lakes complex in the World Renown St. Louis Zoo. Tim provided civil engineering analysis and design, extensive utilities coordination and relocations (gas, electric, sewer, fiber, storm), grading, paving, stormwater management and stormwater quality BMP design.

2017 Arnold, MO – Arnold TO8 2016-2017 MS4 – Project Manager and Lead Engineer for MS4 annual compliance and reporting.

2016 CMT, Springfield, MO – Mount Vernon and Grand Avenue Bridge Replacements – Project Manager and Lead Engineer for geomorphic analysis and design of channel stabilization associated with two bridge replacements over Jordan Creek. Designs included two stage channel shaping for energy management, grade controls, drop structures, rock toe or slope and bank stabilization and planting.

2016 Ideal Construction for St. Charles, MO – Webster Park Bank Stabilization – Project Manager and Lead Engineer of bank stabilization design in Webster Park. Bank stabilization includes grade controls, reshaping channel to restore flood bench, vegetated rock bank stabilization and associated roadway and enclosed drainage outfalls into the channel.

2016 St. Charles, MO – Creek Stabilization and Sewer Projects – Project Manager and Lead Engineer for two sites to stabilize 30ft tall cut bank threatening properties along Cole Creek and to protect a sanitary sewer crossing Boschert Creek. Final design, plans and specifications included boulder toe

stabilization, replace existing 15" sanitary sewer and manholes, replace storm sewer and manhole, modular block retaining wall, rock grade control and channel restoration with native riparian vegetation.

2016 Clayton, MO – 7636 Forsyth SWPPP Inspections - Project Manager and Lead Engineer for on-site SWPPP inspections and reporting as City Representative.

2016 Creve Coeur, MO – Temporary Dam Stabilization Design - Project Manager and Lead Engineer for design and construction services to temporarily stabilize failing dam in City Golf Course.

2016 Riverwood Estates, MO – Riverwood Estates Geomorphic Reconnaissance - Project Manager and Lead Engineer for geomorphic reconnaissance of subdivision channels and recommendations and associated costs for stabilization.

2016 Lower Platte South Natural Resources District, Lincoln, NE – Beal Slough Geomorphic Recon – Project Manager and Lead Engineer of channel geomorphic reconnaissance and capital improvement project development to address channel erosion and threatened infrastructure along Beal Slough. Final design included rock grade controls, drop structures, stilling basins, vegetated bank revetments and replacing damaged culverts.

2016 Clayton, MO – 25 North Central SWPPP Inspections - Project Manager and Lead Engineer for on-site SWPPP inspections and reporting as City Representative.

2016 Clayton, MO – 8500 Maryland Avenue SWPPP Inspections - Project Manager and Lead Engineer for on-site SWPPP inspections and reporting as City Representative.

2015 St. Peters, MO – Lakeside 370 Park Pod 4 Design – Project Manager and lead engineer of RV campground expansion within Lakeside 370 Park. Sanitary system included 2 duplex sanitary lift stations, 2,200 LF of low head sanitary force main, 30,000 gallon capacity passive sanitary storage tanks, aerators and control system, 2,300 LF of gravity sewer and 5,900 LF of water main.

2015 Jacobs, Kirkwood, MO – Kirkwood Park Community Center Feasibility Study - Project Manager and engineer of record for civil engineering and costs associated with layout alternatives for the Kirkwood Park Community Center feasibility study.

2015 Lincoln, NE - Haines Branch Watershed Master Plan - Lead engineer for the development of GIS based, comprehensive watershed masterplan.

2015 Lincoln, NE - Middle Creek Watershed Master Plan - Lead engineer for the development of GIS based, comprehensive watershed masterplan.

2015 Lincoln, NE - Salt Creek South Tributaries Master Plans – Mr. Dean was the Lead Hydrologic Engineer for stormwater masterplan covering 89 square mile study area, 264 miles of channel with a 568 square mile drainage area and included hydrologic/hydraulic analysis, geomorphic analysis, water quality field data collection and analysis, and developing a $10,700,000 capital improvement program detailing 19 projects including costs and prioritization. H&H analysis included the development of pre-development flowrates for 15,000 acres for the City of Lincoln's use in regulating post construction runoff. 100 acre sub-basins were delineated using ArcView, HEC-GeoHMS, and the digital elevation model (DEM) provided by the City. GIS based land use, soil maps, and LiDAR based terrain data were used to develop runoff hydrographs for each subbasin. SCS Type II storm distribution was used to develop the 24-hr events of the 2-, 5-, 10-, 25-, 50-, 100-, and 500-yr storm events.

2007 Columbia, MO – Clear and Gans Creek Geomorphic Recon – Engineering staff assisting with watershed geomorphic analysis and recommendations

2007 Lincoln, NE – Little Salt Creek Basin Watershed Master Plan –Engineering staff assisting in geomorphic fieldwork and analysis for the watershed master planning services

2015 Chesterfield, MO - Riparian Trail Channel Stabilization – Project Engineer for final design, plans, specifications and permitting of 2,600 feet of channel stabilization design and construction

services including boulder toe protection, rock grade control, multiple sewer crossing protection, replacing sanitary sewer and manhole, retaining walls, boulder drop structures, and vegetated gully erosion protection.

2015 Lower Platte South Natural Resources District, Lincoln, NE – Stevens 5789 Monitoring – Project Manager and Principal in charge of channel stabilization monitoring and annual report for USACE permit compliance.

2015 Maryland Heights, MO – Midland Creek – Design Engineer responsible for hydraulic modeling of proposed channel stabilization of 2,700 feet of Midland creek.

2015 Metropolitan St. Louis Sewer District, St. Louis, MO – Cold Water Creek Contract G – Project Manager and Lead Design Engineer for three bank stabilization projects.

2015 Metropolitan St. Louis Sewer District, St. Louis, MO – DeSmet Industrial Ct Channel Stabilization – Project Manager and Lead Design Engineer bank stabilization of 18 ft tall bank along 450 ft of Coldwater Creek behind DeSmet Industrial building. Final design plans and specifications included rock toe stabilization, composite revetment slopes, replacing two stormwater sewers, pavement, fencing and more.

2015 Metropolitan St. Louis Sewer District, St. Louis, MO – Frostwood Park Channel Stabilization – Project Manager and Lead Design Engineer for channel and bank stabilization of 100 feet section of channel. Final design, plans and specifications include biostabilization bank protection and boulder channel grade control structure.

2015 Metropolitan St. Louis Sewer District, St. Louis, MO – Herbert Avenue Channel Stabilization and Flood Reduction – Project Manager and Lead Design Engineer for channel stabilization, storm sewer and flood control project along 1,100 feet reach of Herbert Avenue between Tutwiler Avenue and Stansberry Avenue. Design, plans and specifications included new storm culvert and manholes at road crossings and vegetated rock channel stabilization and grade control.

2015 Schemmer Associates, Lincoln, NE – 2D Flood Modeling - Project Manager and engineer of record to provide 2D floodplain modeling along lower Deadmans Run Creek in support of substantial roadway reconfigurations.

2015 St Charles, MO - Exposed Sewer Pipe in Channel Stabilization – Project Manager and engineer of record for channel restorations and bank stabilizations associated with three exposed sanitary sewer crossings.

2015 St. Peters, MO – Channel Design Modifications for SC5, 6 &7 - Project Manager and engineer of record for revisions to channel stabilization designs to accommodate new site conditions.

2015 SWT, University City, MO – Heman Park – Project Manager and lead engineer of channel stabilization design.

2014 PDS, Kirkwood, MO - Kirkwood Park Channel Design – Project Manager and lead designer for stormwater channel restoration and water quality retrofitting.

2013 Lower Platte South NRD, Lincoln, NE - Stevens Creek #5 & 7 Channel Restoration – Design Engineer responsible for hydraulic analysis and permitting of channel stabilization project.

2013 Lower Platte South NRD, Lincoln, NE - Stevens Creek #8 & 9 Channel Restoration – Design Engineer responsible for hydraulic analysis and permitting of channel stabilization project.

2010 Maryland Heights, MO – 73 Grand Circle Dr Stormwater – Lead Engineer for Urban Stormwater Channel Restoration Design.

2008 Maryland Heights, MO – 11767 Lackland Rd Stormwater – Design Engineer assisting with Urban Stormwater Channel Restoration Design.

2008 Metropolitan St. Louis Sewer District, St. Louis, MO – Hardwick Court – Lead Engineer for Urban Stormwater Channel Restoration Design to stabilize a 6 ft tall knick point, erosion and deep scour pool at a 60-in diameter gravity sewer crossing Maline Creek. Proposed improvements include two

new manholes on either bank, replacing the existing 60 inch sewer pipe crossing, reinforced concrete spillway, composite revetment bank stabilization, rock armored stilling basin, spillway toe wall using large-size hollow core modular block retaining wall system filled with concrete and reinforcement which was joined to the spillway slab. The composite revetment bank stabilization provided the required stream mitigation credits to offset construction impacts to the channel as well as the scrub-shrub forested wetland.

2015 Arnold, MO - 2015 MS4 Report – Project Manager for City's annual MS4 compliance analysis and reporting. Also provided technical workshops and training.

2015 Arnold, MO - Farmcrest Drive Enclosed System Design – Project Manager and lead designer for roadway and structure flooding analysis and roadway stormwater system design.

2015 Clayton, MO – Clayton SWPPP Plan Review – Lead Engineer for Stormwater Pollution Prevention Plan site plan reviews for compliance with City ordinances.

2015 US Army Corps of Engineer, Omaha District - Cottonwood Springs Dam Conduit Analysis – Mr. Dean was the Lead Hydraulic Engineer, Project Health and Safety Officer, and inspection team member for inspection and evaluating damage to the primary discharge conduit for Cottonwood Dam and evaluating methods of rehabilitating the conduit. Mr. Dean used Darcy Weisbach equation for energy loss, Swamee Jain Equation for the fiction factor and USACE EM 1110-2-1602 for entrance loss coefficients, among others. Revised stage discharge relationships were developed for the 123 foot tall dam for the damaged conduit and each repair option. Mr. Dean used the hydraulic model to evaluate multiple repair options including steel and HOBAS slip lining; spin, saturated resin and spiral wound cast in place pile.

2015 US Army Corps of Engineers, Los Angeles District – Initial Eligibility Inspections (IEI) – Project Engineer for initial eligibility analysis and inspection for 73 flood control facilities in southern California.

2014 Creve Coeur, MO - Dam and Channel Replacement – Design Engineer responsible for hydraulic analysis and permitting of dam reconstruction and outfall repairs.

2015 US Army Corps of Engineer, Omaha District - Cottonwood Springs Dam Conduit Analysis – Mr. Dean was the Lead Hydraulic Engineer, Project Health and Safety Officer, and inspection team member for inspection and evaluating damage to the primary discharge conduit for Cottonwood Dam and evaluating methods of rehabilitating the conduit. Mr. Dean used Darcy Weisbach equation for energy loss, Swamee Jain Equation for the fiction factor and USACE EM 1110-2-1602 for entrance loss coefficients, among others. Revised stage discharge relationships were developed for the 123 food tall dam for the damaged conduit and each repair option. Mr. Dean used the hydraulic model to evaluate multiple repair options including steel and HOBAS slip lining; spin, saturated resin and spiral wound cast in place pile.

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2016 Creve Coeur, MO – Temporary Dam Stabilization Design - Project Manager and Lead Engineer for design and construction services to temporarily stabilize failing dam in City Golf Course.

2015 US Army Corps of Engineers, Los Angeles District – Initial Eligibility Inspections (IEI) – Project Engineer for initial eligibility analysis and inspection for 73 flood control facilities in southern California.

2021	US Army Corps of Engineer, Kansas City District – Levee Periodic Inspections – Mr. Dean was Project Manager and Team Lead Engineer for Periodic inspections of KC District System in Salina, Kansas and Gypsum, Kansas.
2019	US Army Corps of Engineer, Kansas City District – Levee Periodic Inspections – Mr. Dean was Field Team Lead and Team Hydraulic Engineer for Periodic inspections of KC District System R-351 located in Atherton, MO and Steward located in Steward, NE. Project includes hydraulic, hydrologic, geotechnical, structural, mechanical, levee, floodwall, closure structure, interior drainage system, pump station, and flood reduction channel design reviews; field analysis of system; system performance assessment; and independent technical review of approach and findings. CPARS Ratings: Quality: Very Good; Schedule: Satisfactory; Management: Very Good. The KC District commented "The Contractor demonstrated a high level of professionalism and management. They provided a quality product within the contract time frame and budget and with little needed oversight from the government."
2014	US Army Corps of Engineer, Omaha District – Levee Inspections – Project engineer and inspection team lead for Periodic Levee Inspection for six systems throughout the district.
2009	US Army Corps of Engineers Omaha District, Multiple, IA – USACE Dam and Levee Inspections – One of the Staff Engineers for $3.1 million dollar levee inspection and system GIS database creation project.
2014	Creve Coeur, MO - Dam and Channel Replacement – Design Engineer responsible for hydraulic analysis and permitting of dam reconstruction and outfall repairs.
2015	US Army Corps of Engineer, Omaha District - Cottonwood Springs Dam Conduit Analysis – Mr. Dean was the Lead Hydraulic Engineer, Project Health and Safety Officer, and inspection team member for inspection and evaluating damage to the primary discharge conduit for Cottonwood Dam and evaluating methods of rehabilitating the conduit. Mr. Dean used Darcy Weisbach equation for energy loss, Swamee Jain Equation for the fiction factor and USACE EM 1110-2-1602 for entrance loss coefficients, among others. Revised stage discharge relationships were developed for the 123 food tall dam for the damaged conduit and each repair option. Mr. Dean used the hydraulic model to evaluate multiple repair options including steel and HOBAS slip lining; spin, saturated resin and spiral wound cast in place pile.
2016	Creve Coeur, MO – Temporary Dam Stabilization Design - Project Manager and Lead Engineer for design and construction services to temporarily stabilize failing dam in City Golf Course.

Selected publications, presentations, and short courses

T. Dean –Instructor; Storm Water Pollution Prevention Plan Preparation and Development Training; Jefferson County Employee Training Seminars, Hillsboro, Missouri, January 13, 2023

T. Dean –Instructor; Municipal Training Stormwater Pollution Prevention Plans; Arnold, MO Employee Training Seminar, Arnold, Missouri, December 7, 2022

T. Dean –Instructor; Storm Water Pollution Prevention Plan Inspection Training; Jefferson County Employee Training Seminars, Hillsboro, Missouri, December 19, 2022

T. Dean, M. Cook –Presenters; Storm Water Master Plan Advancements in Jefferson County; ASCE St. Louis Section, Missouri, November 17, 2022

T. Dean –Instructor; Jefferson County Stormwater Design Criteria Updates; Jefferson County hosted Development Engineering Training Seminars, Hillsboro, Missouri, October 14, 2022

T. Dean, M. Cook –Presenters; Storm Water Master Plan Advancements in Jefferson County; Missouri Floodplain and Stormwater Managers Association Fall Conference, Tan-Tar-A, Lake of the Ozarks, Missouri, August 31, 2022

T. Dean –Instructor; Stormwater Municipal Training for Inspection, Highway, Fleet, and Construction Personnel; Jefferson County Employee Training Seminars, Hillsboro, Missouri, December 16, 2021 – Multi-Class, All Day Seminar

T. Dean –Instructor; Municipal Training Annual Refresher; Arnold, MO Employee Training Seminar, Arnold, Missouri, December 2021

T. Dean –Instructor; Stormwater Plan Review Training; Jefferson County Employee Training Seminars, Hillsboro, Missouri, October 29, 2021

T. Dean –Instructor; Municipal Training Annual Refresher; Arnold, MO Employee Training Seminar, Arnold, Missouri, December 2020

T. Dean –Instructor; Municipal Training Annual Refresher; Jefferson County Employee Training Seminars, Hillsboro, Missouri, August 12, 2020

T. Dean –Instructor; Dry Weather Screening Training; Jefferson County Employee Training Seminars, Hillsboro, Missouri, June 25, 2020

T. Dean –Instructor; Municipal Training Annual Refresher; Arnold, MO Employee Training Seminar, Arnold, Missouri, November 2019

T. Dean –Instructor; Stormwater Pollution Prevention Plans; Arnold, MO Employee Training Seminar, Arnold, Missouri, November 2019

T. Dean –Instructor; Stormwater Pollution Prevention Plans; Jefferson County Employee Training Seminars, Hillsboro, Missouri, March 21, 2019

T. Dean –Instructor; Municipal Training Annual Refresher; Arnold, MO Employee Training Seminar, Arnold, Missouri, October 18, 2018

T. Dean –Instructor; NPDES Permit Compliance; Jefferson County Employee Training Seminars, Hillsboro, Missouri, April 14, 2018

T. Dean –Instructor; Municipal Training for Inspection Personnel; Jefferson County Employee Training Seminars, Hillsboro, Missouri, March 6, 2018

T. Dean –Instructor; Municipal Training Annual Refresher; Arnold, MO Employee Training Seminar, Arnold, Missouri, September 6, 2017

T. Dean –Instructor; Municipal Training Annual Refresher; Arnold, MO Employee Training Seminar, Arnold, Missouri, March 16, 2016

T. Dean, J. Hargrave, and P. Laufersweiler – Greener Solutions to Municipal Landscape Design; Tour Guide, Presenter and Panelist; Shaw Series Seminar, Kirkwood Community Center, Kirkwood, Missouri, July 15, 2015

T. Dean – NPDES Permit Compliance; Instructor; Arnold Professional Series Training Seminar, Arnold, Missouri, May 14, 2015

T. Dean – Municipal Good Housekeeping BMPs; Instructor; Arnold Professional Series Training Seminar, Arnold, Missouri, April 22, 2015

T. Dean – Storm Water Pollution Prevention Plans (SWPPPS); Instructor; Arnold Professional Series Training Seminar, Arnold, Missouri, October 29, 2014

T. Dean – Minimum Control Measures and Best Management Practices (MCMs & BMPs); Instructor; Arnold Professional Series Training Seminar, Arnold, Missouri, April 30, 2014

T. Dean – Storm Water Management, Planning and Design; Instructor; Arnold Professional Series Training Seminar, Arnold, Missouri, February 12, 2014

T. Dean – Wet and Wetland Pond Design; Instructor; Greener Stormwater Solutions Training, Metropolitan St. Louis Sewer District, St. Louis Missouri, March 30th, 2009

T. Dean – An Investigation of Stream Erosion Potential Based on Soil Classification, Thesis - Master of Science in Civil Engineering, University of Missouri – Rolla, Rolla, Missouri, May 2004.

CITY OF CREVE COEUR

BOARD OF ADJUSTMENT

MEETING SCHEDULE

2024

Scheduled Meeting Date	Application Date
Thursday, January 18th, 2024	Friday, December 15th, 2023
Thursday, February 15th, 2024	Friday, January 12th, 2024
Thursday, March 21st, 2024	Friday, February, 16th, 2024
Thursday, April 18th, 2024	Friday, March 15th, 2024
Thursday, May 16th, 2024	Friday, April 19th, 2024
Thursday, June 20th, 2024	Friday, May 17h, 2024
Thursday, July 18th, 2024	Friday, June 14th, 2024
Thursday, August 15th, 2024	Friday, July 19th, 2024
Thursday, September 19th, 2024	Friday, August 16th, 2024
Thursday, October, 17th, 2024	Friday, September 20th, 2024
Thursday, November, 21st, 2024	Friday, October 18h, 2024
Thursday, December 19th, 2024	Friday, November 15th, 2024

***Meetings are held at 4:00 PM in the Council Chambers of the Creve Coeur Government Center the third Thursday of the month unless otherwise specified.**