



# **Slaughter Lane Improvement SOS Amendment 5015 ½ W Slaughter Ln**

**C20-2022-019**

Leslie Lilly

Environmental Program Coordinator

Watershed Protection



# What is an SOS Amendment

- **1992 Save Our Springs ordinance adopted by citizen initiative**
- **Per 25-8-515, variances to SOS are not allowed**
- **Supermajority of Council must approve amendments to SOS**
- **Council Resolution 20221027-038 on October 27, 2022:**  
    **“ The City Manager is directed to initiate site specific variances .....**

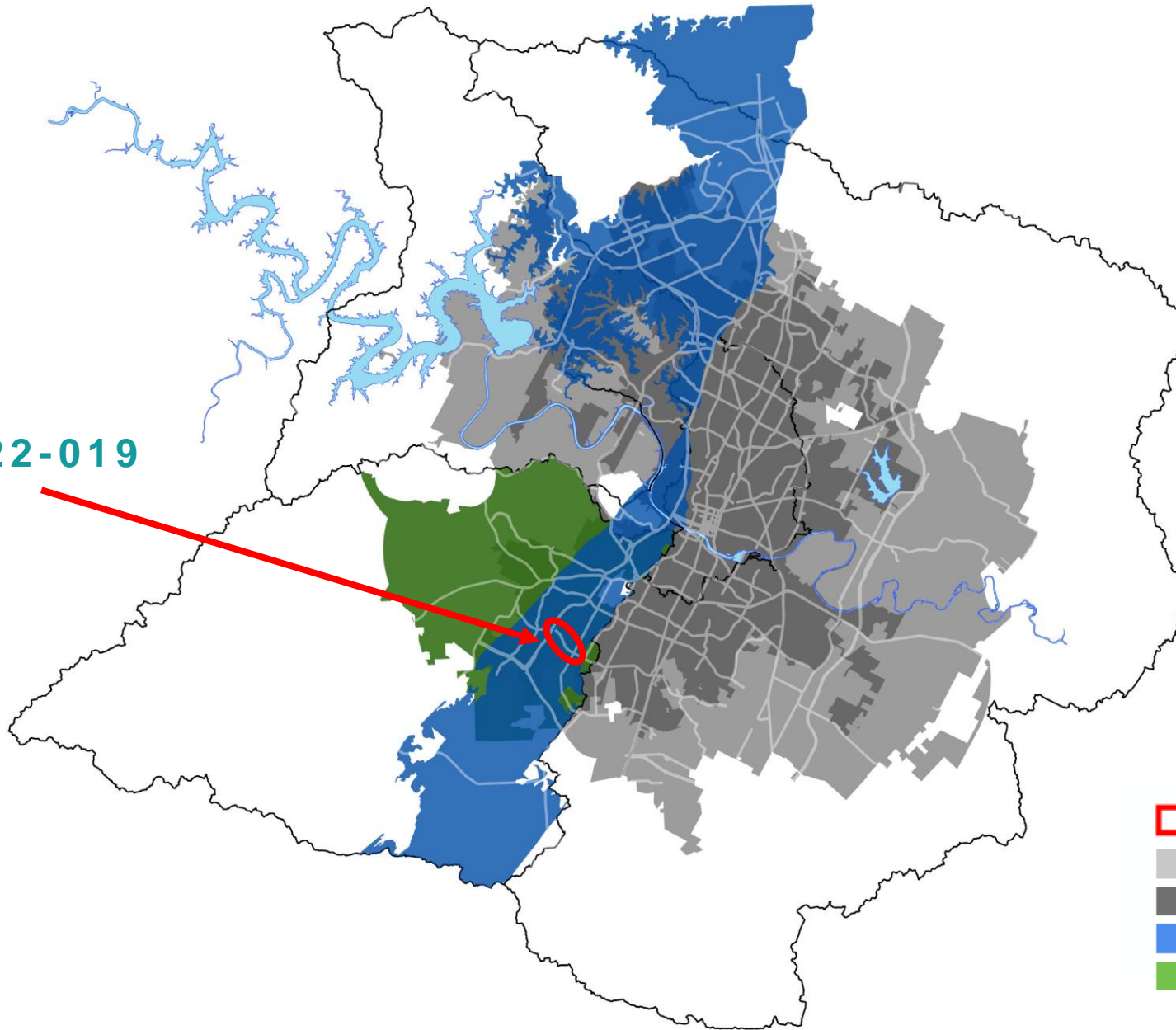







# Slaughter Lane Improvement Project

- Slaughter Lane constructed in ~ 1987 (before SOS)
- One of the nine corridor projects identified for improvements in City of Austin Corridor Mobility Program
- Improvement funding provided in 2016 Mobility Bond
- Requires SOS amendment to impervious cover limits to construct improvements



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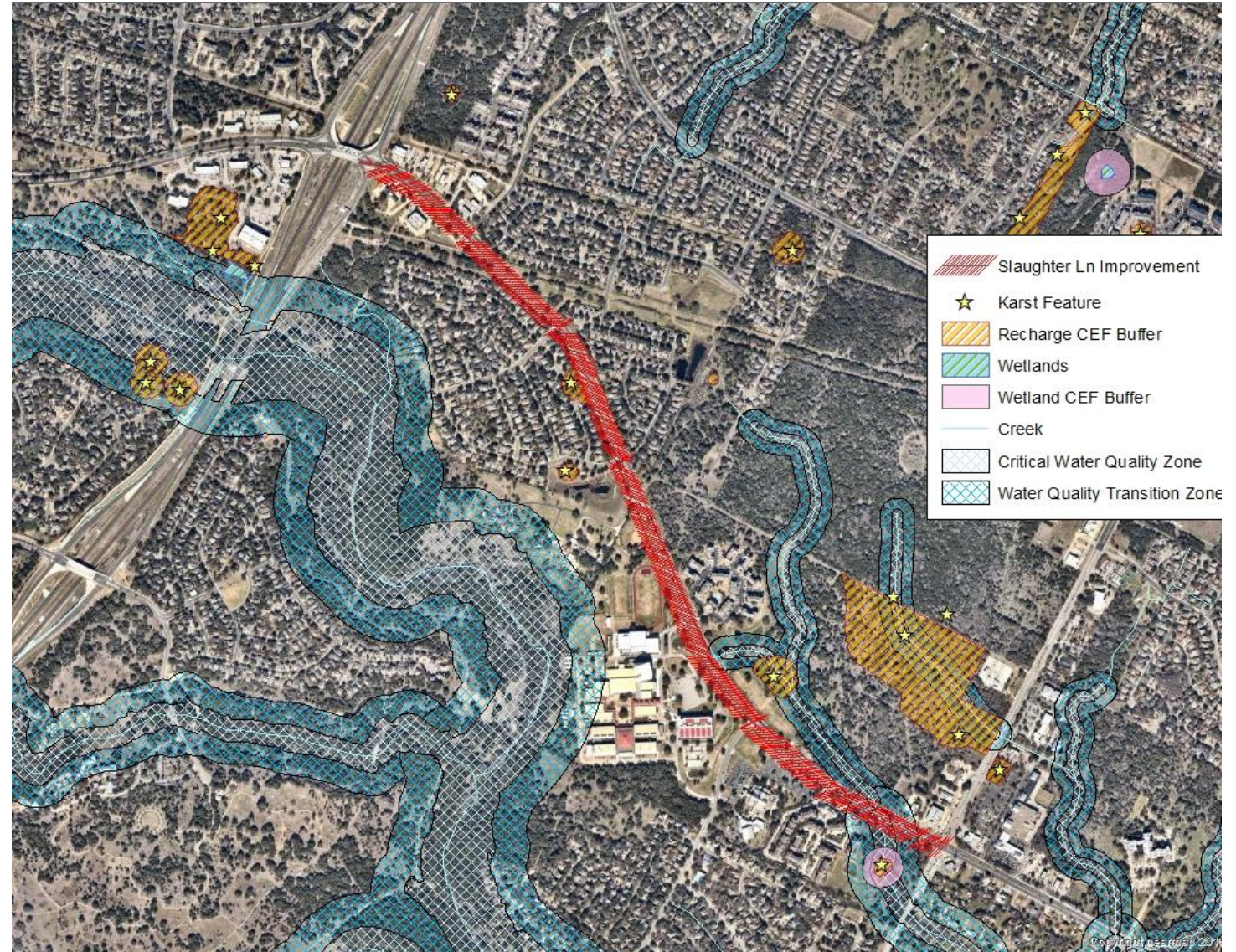
-  Site Location
-  Austin ETJ
-  Austin City Limits
-  Edwards Aquifer Recharge Zone
-  Edwards Aquifer Contributing Zone





# Environmental Features

- Williamson Creek and Slaughter Creek Watersheds
- Barton Springs Zone
- Edward Aquifer Recharge and Contributing Zone
- 54% Impervious Cover
- Karst and Wetland CEFs
- Non-compliant with SOS water quality requirements





# SOS Amendment

- **Section A of 25-8-514 (Pollution Prevention Required)** shall be modified to allow a maximum impervious cover for the site of 69% net site area.

ALLOWABLE Impervious Cover / Zone	Existing Impervious Cover in ROW	Proposed Impervious Cover in ROW
15% / Recharge Zone	54%	69%





# SOS Amendment

## Slaughter Lane Water Quality improvements

Pollutant	Unit of Measure	SOS Required Annual Pollutant Removals	Project Annual Pollutant Removal (increase over existing)	Project Annual Pollutant Removal Beyond SOS Requirements	Project Annual % Removals Above SOS Requirement
Total Suspended Solids (TSS)	lbs/yr	4,965.04	11,211.42	6,246.38	226%
Chemical Oxygen Demand (COD)	lbs/yr	3,433	8,694	5,261	253%
E Coli	10 <sup>6</sup> MPN/yr	3,385,403	10,824,715	7,435,312	320%
Total Lead (Pb)	lbs/yr	1.27	2.33	1.06	184%
Total Nitrogen (TN)	lbs/yr	66.4	344.75	278.35	519%
Total Phosphorus (TP)	lbs/yr	11.84	42.55	30.69	359%
Zinc (Zn)	lbs/yr	5.67	10.33	4.66	182%

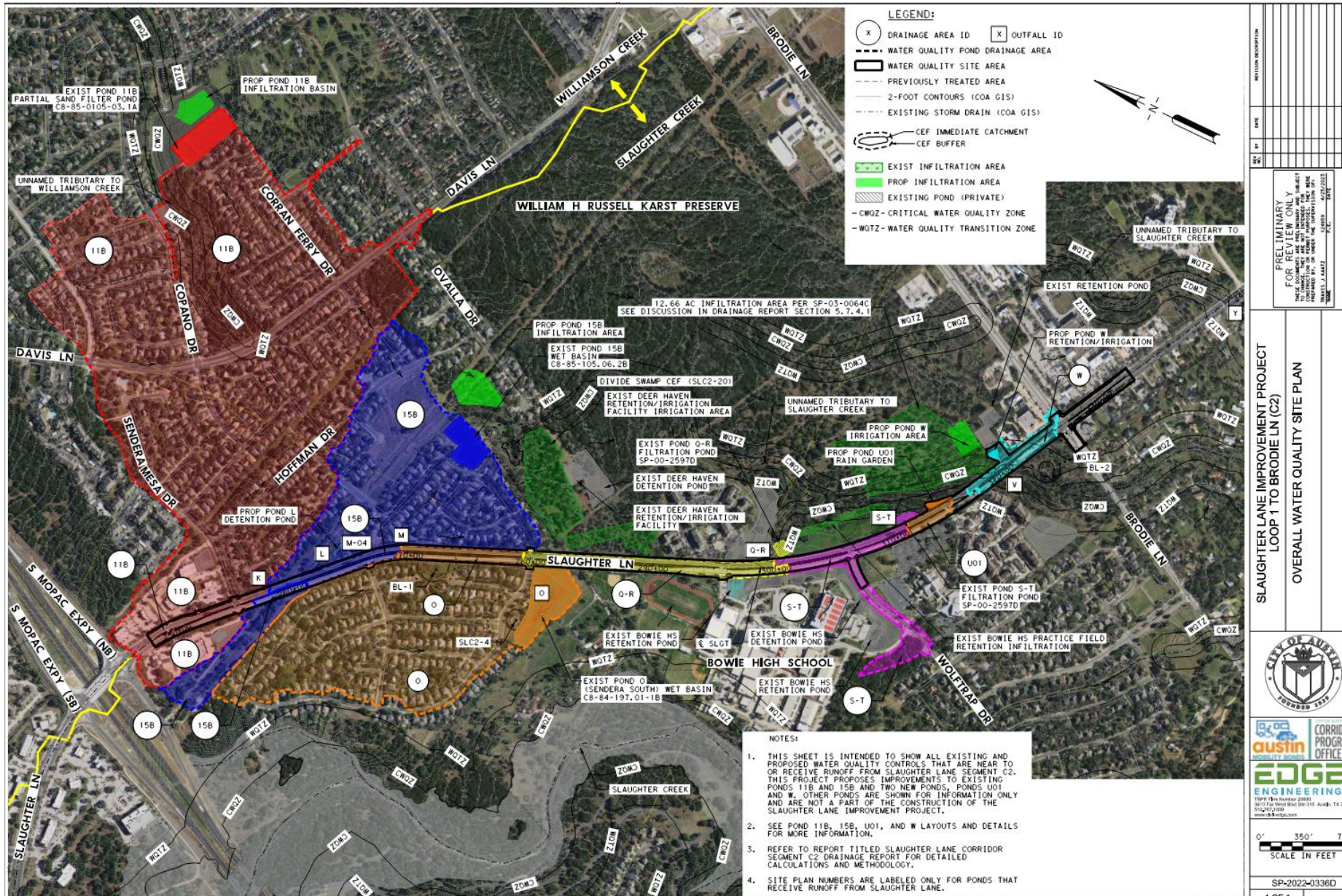


# SOS Amendment

## Slaughter Lane Water Quality improvements

	Chemical Oxygen Demand lbs/yr	E Coli 10 <sup>6</sup> MPN/yr	Total Lead lbs/yr	Total Nitrogen lbs/yr	Total Phosphorus lbs/yr	Total Suspended Solids lbs/yr	Zinc lbs/yr
POLLUTANTS GENERATED BEFORE PROJECT	34,856	62,969,365	5.73	1,235.1	220.3	92,351	28.8
POLLUTANTS REMOVED BEFORE PROJECTS	18,905	41,014,931	1.62	562.2	132.6	70,870	10.8
<b>EXISTING POLLUTANTS UNTREATED BEFORE PROJECT</b>	<b>15,952</b>	<b>21,954,434</b>	<b>4.11</b>	<b>672.9</b>	<b>87.7</b>	<b>21,481</b>	<b>18.1</b>
<b>PERCENT OF POLLUTANTS REMOVED BEFORE PROJECT</b>	<b>54%</b>	<b>65%</b>	<b>28%</b>	<b>46%</b>	<b>60%</b>	<b>77%</b>	<b>37%</b>
POLLUTANTS GENERATED AFTER PROJECT	36,990	65,347,844	6.39	1,281.7	228.6	95,839	31.9
POLLUTANTS REMOVED AFTER PROJECT	27,599	51,839,646	3.95	906.9	175.2	82,081	21.1
<b>POLLUTANTS UNTREATED AFTER PROJECT</b>	<b>9,391</b>	<b>13,508,198</b>	<b>2.44</b>	<b>374.8</b>	<b>53.5</b>	<b>13,758</b>	<b>10.8</b>
<b>PERCENT OF POLLUTANTS REMOVED AFTER PROJECT</b>	<b>75%</b>	<b>79%</b>	<b>62%</b>	<b>71%</b>	<b>77%</b>	<b>86%</b>	<b>66%</b>
<b>INCREASED PERCENT OF POLLUTANTS REMOVED AFTER PROJECT</b>	<b>21%</b>	<b>14%</b>	<b>34%</b>	<b>25%</b>	<b>17%</b>	<b>9%</b>	<b>29%</b>
<b>DECREASE IN POLLUTANTS UNTREATED AFTER PROJECT</b>	<b>(6,561)</b>	<b>(8,446,236)</b>	<b>(1.67)</b>	<b>(298.1)</b>	<b>(34.2)</b>	<b>(7,723)</b>	<b>(7.3)</b>









# Variances

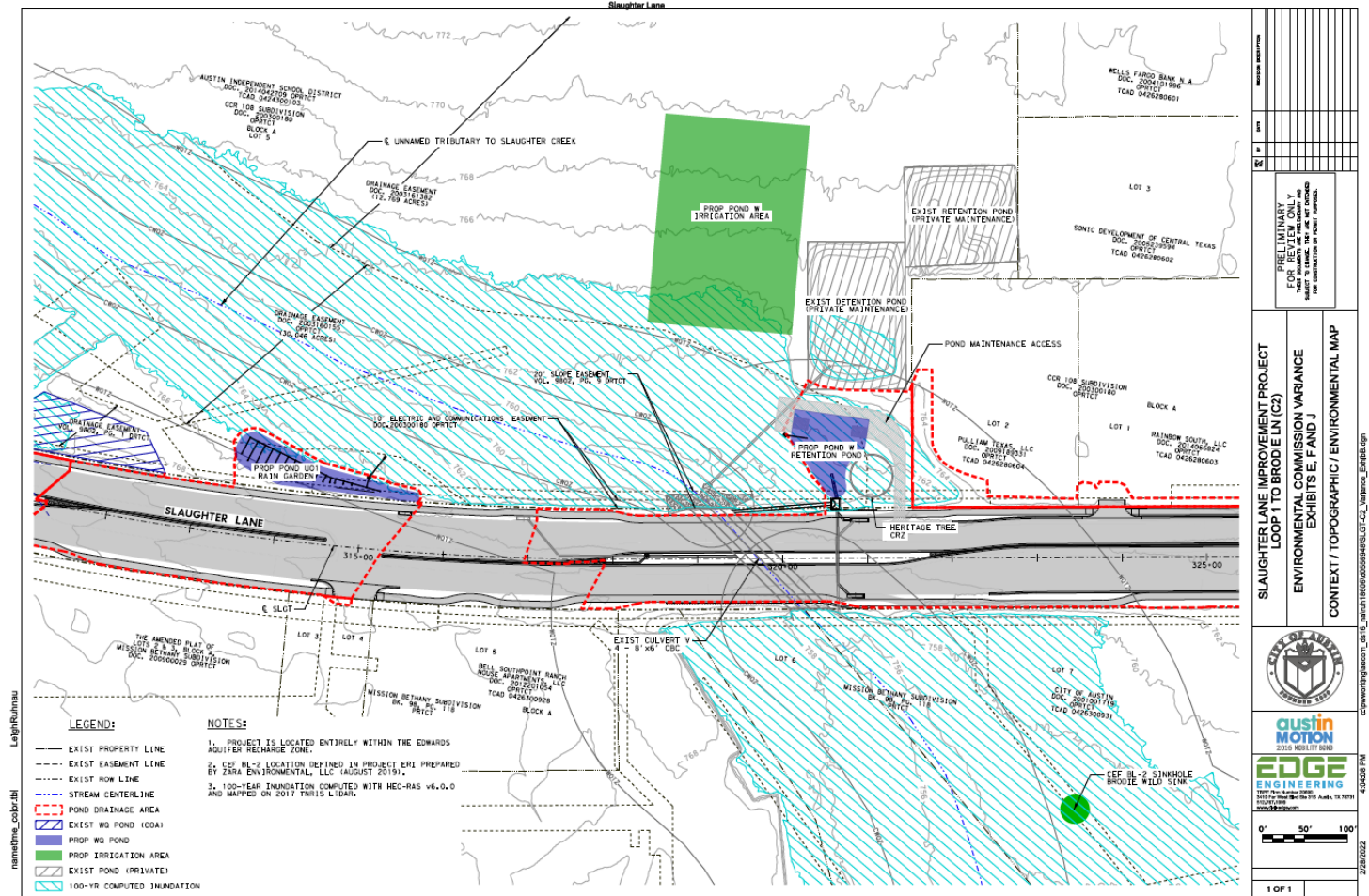
- **25-8-364(B)(3) (*Floodplain Modification*)** to allow floodplain modification within a floodplain that is in good or excellent condition.
- **25-8-641 (*Removal Prohibited*)** to allow the removal of a heritage tree that has at least one stem that is 30 inches or larger in diameter.



# Floodplain Modification

## Considerations

- Floodplain modification for water quality treatment
- Down stream CEFs
- Environmental constraints on other locations
- Limited area in ROW
- Existing development and real estate constraints
- 20+ locations examined





# Heritage Tree Variance Request

<b>ORDINANCE:</b>	Heritage Tree Ordinance (LDC 25-8-641)
<b>REQUEST:</b>	The City of Austin Corridor Program is seeking the removal of a Heritage tree with a single stem over 30 inches in diameter, Tree #3003.
<b>STAFF RECOMMENDATION:</b>	The request meets City Arborist approval criteria set forth in LDC 25-8-624(A)(2). The variance is recommended.

Naomi Rotramel

City Arborist

Development Services Department





# Heritage Tree Variance Request

The variance request is to allow removal of a Heritage tree with a stem greater than 30 inches as allowed under LDC [§ 25-8-643](#) and [§ 25-8-624\(A\)\(1\)\(2\)\(6\)\(a\)\(b\)](#)

## **§ 25-8-643 LAND USE COMMISSION VARIANCE.**

- (A) The Land Use Commission may grant a variance from Section 25-8-641 (Removal Prohibited) to allow removal of a heritage tree that has at least one stem that is 30 inches or larger in diameter measured four and one-half feet above natural grade only after determining, based on the city arborist's recommendation, that the heritage tree meets the criteria in Section 25-8-624(A) (*Approval Criteria*), and that:
- (1) the applicant has applied for and been denied a variance, waiver, exemption, modification, or alternative compliance from another City Code provision which would eliminate the need to remove the heritage tree, as required in Section 25-8-646 (*Variance Prerequisites*);

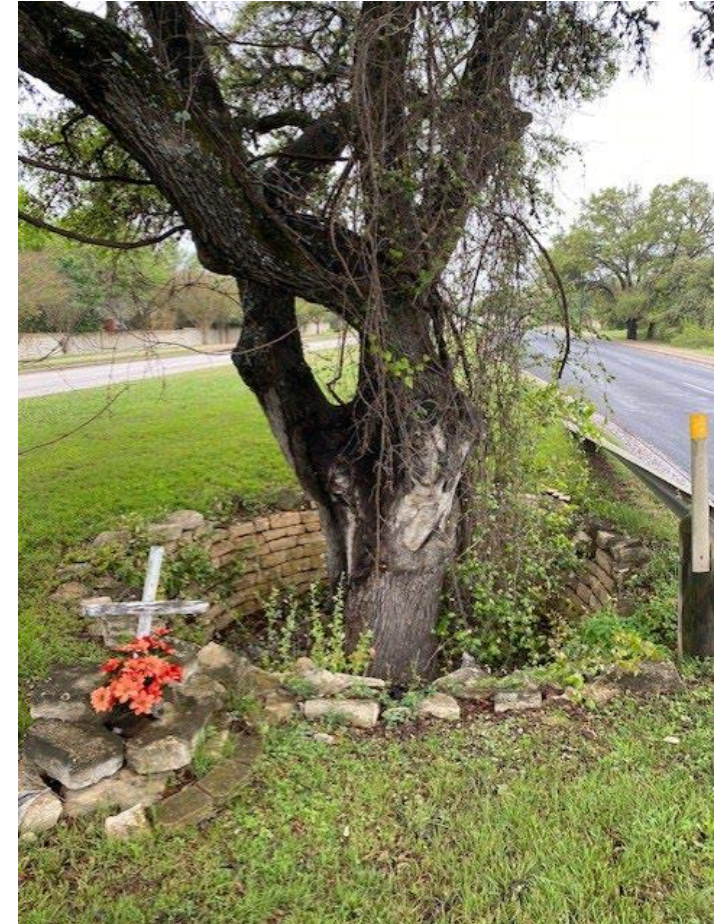
## **§ 25-8-624 APPROVAL CRITERIA.**

- (A) The Planning and Development Review Department may approve an application to remove a protected tree only after determining that the tree:
- (1) prevents reasonable access to the property;
  - (2) prevents a reasonable use of the property;
  - (6) for a tree located on public property or a public street or easement:
    - (a) prevents the opening of necessary vehicular traffic lanes in a street or alley; or
    - (b) prevents the construction of utility or drainage facilities that may not feasibly be rerouted.



# Heritage Tree Variance Request

- EXISTING SITE CONDITIONS
- REQUEST
- TREE CONDITION
- CONSTRAINTS AND CONSIDERATIONS
- PROPOSED IMPROVEMENTS AND PROJECT BENEFITS
- TRANSPLANT INVESTIGATION AND TREE HEALTH ASSESSMENT
- MITIGATION EFFORTS







# Heritage Tree Variance Request

## EXISTING SITE CONDITIONS:

- Slaughter Ln. between Mopac and Brodie Ln
  - Four-lane roadway divided by grassy median
  - Commercial, residential, and public land uses line corridor
  - Few trees in median, including #3003
  - Surrounded by limestone tree well, four feet below grade, less than six feet from median curb
  - Tree #3003 has been hit many times by vehicles





# Heritage Tree Variance Request

## REQUEST:

- One (1) Heritage tree removal under §25-8-643 with a diameter of 34 inches
- The City of Austin Corridor Program is requesting approval of Tree #3003 Live oak to implement mobility improvements based on:
  1. Poor structural condition of the tree due to multiple vehicle collisions
  2. Tree is not a candidate for transplant due to
    - Structure and main stem decay
    - Elevation difference between the root flare and surrounding grade
  3. Tree's location prevents opening of necessary vehicular traffic lanes in a public street
    - Meets approval criteria per LDC §25-8- 624 (A)(6)(a)(b)
  - 4) Tree's location restricts development of Slaughter Lane corridor impending reasonable use of the ROW
  - 5) Tree poses a safety hazard to motorists because of location near back of curb
    - Extensive damage from being struck by motorists several times







# Heritage Tree Variance Request

## TREE CONDITION:

- Assessed by City Arborist and Certified Arborist review staff
  - Main stem decay
  - Cracks from motor accidents under multiple attachments bearing load
- Main stem decay assessed by private arborist company's sound testing
- Structurally not sound for transplant from transplant feasibility study



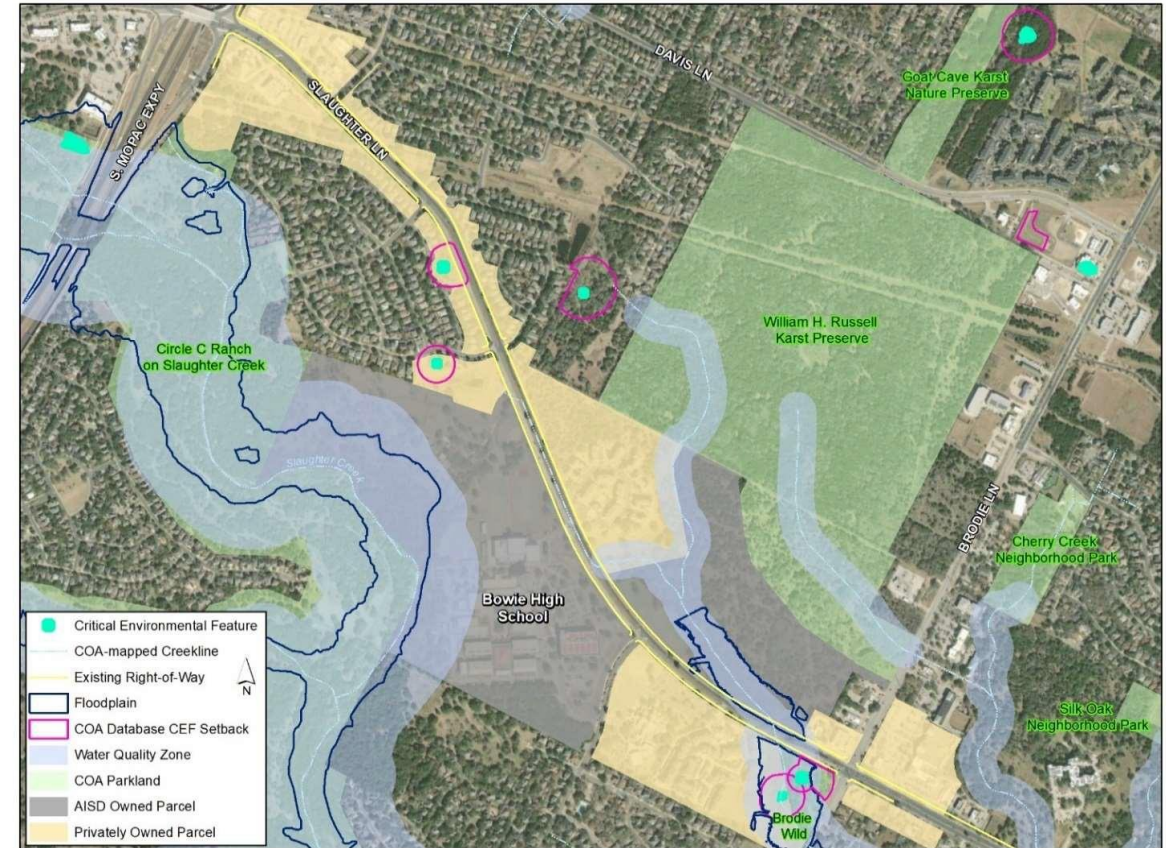




# Heritage Tree Variance Request

## CONSTRAINTS AND CONSIDERATIONS:

- Projects limits and adjacent land use in order to expand travel lanes:
  - Unable to add westbound travel lane north
    - 1) Existing development abuts ROW impacting 14 parcels
    - 2) Environmental impacts in existing culvert further east would need to be extended causing construction within Critical Water Quality Zone and 100-year floodplain
  - Added travel lanes need to stay inside ROW and expand into Slaughter Ln. median
- Location of Tree #3003 within median and behind curb prevents opening of necessary vehicular traffic lanes in a public street
  - Meets approval criteria for tree removal Land Development Code 25-8-623(A)(6)(a)



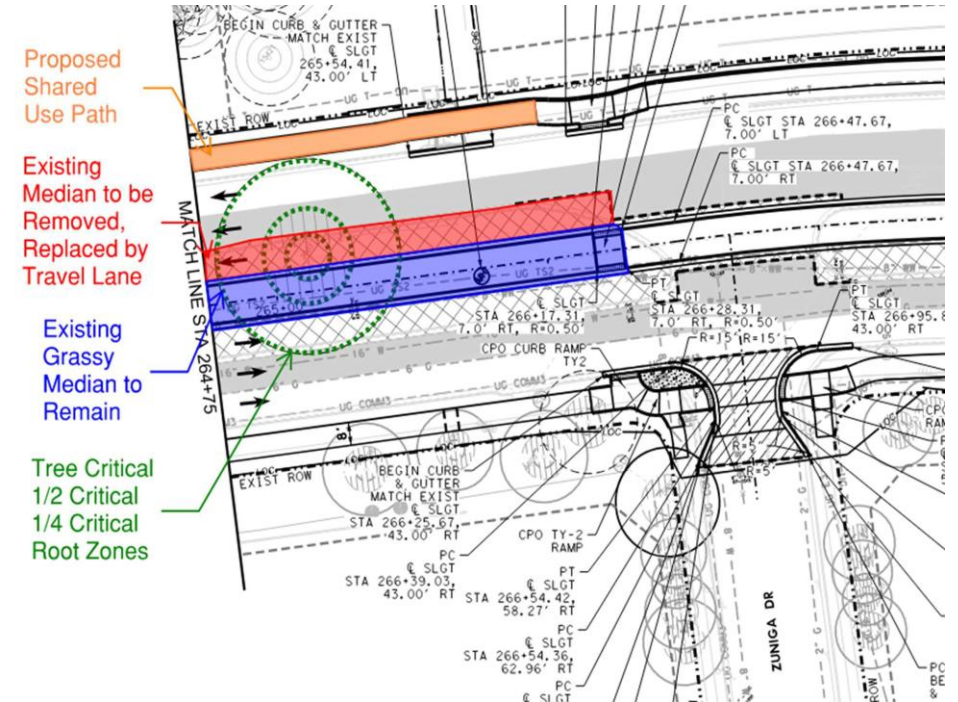


## Mobility improvements were approved by Austin voters in 2016

- Per TCM 11.1.1:
  - Minimum lateral offset of 18 inches is required for existing trees and a minimum lateral offset of 4.5 feet is required for newly planted trees
- Continued collision risk

\$16 million critical mobility, safety, connectivity improvements, securing federal funding (CAMPO)

- Adding extra lanes for better vehicular travel
- 8-ft Shared Use Path (SUP) for SAFE community connectivity throughout the corridor for cyclist and pedestrians.
- Increased safety for users of the SUP by creating a vegetated buffer between SUP and vehicles
- New signals and improving existing signals
- ADA-compliant curb ramps at each intersection







# Heritage Tree Variance Request

## TRANSPLANT INVESTIGATION AND TREE CONDITION:

- Significant decay at stem union due to multiple wounds
- Vines in canopy adding extra weight to scaffolding branches above decay
- Buried root collar
- Resistance Drill detected loss of structural integrity at one of four drilling locations
- Disqualified for transplant due to loss of structural integrity







# Heritage Tree Variance Request

## MITIGATION EFFORTS:

- Total required mitigation is 838 inches (Segment C2)
- Corridor Program is planting 102 new trees (490 inches) in existing ROW
- After planting new trees, remaining mitigation amount is \$69,576
- Corridor Program plans to transplant three heritage trees (#3000, 3007, 3018) for an estimated cost of \$545,000 (\$475,424 over mitigation amount required)



	Tree inches	Cost
Required Mitigation	837.88	\$167,576 (at \$200/ inch)
Trees being planted for mitigation	490.00	\$98,000 (at \$200/ inch)
Remainder required for tree mitigation	347.88	\$69,576 (at \$200/ inch)
Transplanting 3 heritage trees (estimate provided by EDI)		\$545,000 plus costs for 5-year tree establishment plan for each tree
Overmitigation Amount		\$475,424



# Staff Recommendation

**Staff recommends approval of the proposed amendment and associated variances with the following conditions:**

- The project is providing compliance with SOS non-degradation water quality treatment for all new and reconstructed impervious cover.
- The project is providing improved water quality treatment for all existing impervious cover.
- The project is updating 2 existing water quality ponds to provide SOS non-degradation water quality treatment for 121.6 acres of offsite drainage including 31.9 acres of offsite impervious cover.
- The project will reduce impact to 2 Critical Environmental Features – recharge features within a tributary of Slaughter Creek
- The project will pay into the Riparian Zone Mitigation Fund in lieu of providing mitigation for the Floodplain Modification associated with the new water quality ponds.
- Other than the SOS amendment and variances identified, the project complies with City Code.



# Questions?

**Contact Information:**

**Leslie Lilly (WPD)**

**[leslie.lilly@austintexas.gov](mailto:leslie.lilly@austintexas.gov)**