



### **ITEM FOR ENVIRONMENTAL COMMISSION AGENDA**

**COMMISSION MEETING** 11/17/2021

**DATE:**

**NAME & NUMBER OF PROJECT:** Stillwater - Double Creek Phase 2 | SP-2021-0178C

**NAME OF APPLICANT OR ORGANIZATION:** Lance Rosenfield, Malone Wheeler Inc

**LOCATION:** 10801 Brezza Lane, Austin, Texas, 78748

**COUNCIL DISTRICT:** District 5

**ENVIRONMENTAL REVIEW STAFF:** Mel Fuechec, Environmental Review Specialist Senior, DSD - Land Use Review, 512-974-3036, mel.fuechec@austintexas.gov

**WATERSHED:** Onion Creek, Suburban, Desired Development Zone

**REQUEST:** Variance request is as follows:  
Request to vary from LDC 25-8-261 to allow development in the critical water quality zone.

**STAFF RECOMMENDATION:** Staff recommends this variance, having determined the findings of fact to have been met.

**STAFF CONDITION:**

- 1) Internal low-traffic pedestrian walkways throughout the site shall be constructed with permeable pavers or porous pavement in accordance with the Environmental Criteria Manual, to decrease overall impervious cover and increase stormwater infiltration onsite and baseflow in the stream channel.
- 2) The critical water quality zone will be crossed with a span bridge design instead of the normal box culvert. This will allow for light to penetrate to the natural ground surface and for vegetation to grow thus maintaining a more natural stream channel.



Development Services Department  
Staff Recommendations Concerning Required Findings

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Project Name: Stillwater-Double Creek Phase 2 | SP-2021-0178C | 10801 Brezza Ln

Ordinance Standard: Watershed Protection Ordinance

Variance Request: Request to vary from LDC 25-8-261 to allow development in the critical water quality zone.

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A. Land Use Commission variance determinations from Chapter 25-8-41 of the City Code:

1. The requirement will deprive the applicant of a privilege or the safety of property given to owners of other similarly situated property with approximately contemporaneous development;

**Yes** The lot is zoned Commercial-Mixed Use, CS-MU-CO as are most of the surrounding lots. A similar existing multifamily development built in 2017 is located directly North of the Stillwater – Double Creek Phase 2 project lot. Without a variance to LDC-25-8-261, the applicant is deprived a privilege to develop this property given to the owners of similarly situated property with approximately contemporaneous development.

2. The variance:

- a. Is not based on a condition caused by the method chosen by the applicant to develop the property, unless the development method provides greater overall environmental protection than is achievable without the variance;

**Yes** The variance is necessitated by fire department ingress/egress requirements set forth in the International Fire Code and Wildland-Urban Interface. Two points of emergency ingress and egress are required, and AFD will not accept both to be on Brezza Lane which is currently a dead-end street. There is no other option for a second point of ingress/egress.

- b. Is the minimum change necessary to avoid the deprivation of a privilege given to other property owners and to allow a reasonable use of the property; and

**Yes** As mentioned above, the variance is necessitated by the fire department requirement of having two points of emergency ingress/egress, which will be a bridge crossing and is considered a minimum deviation from the code.

- c. Does not create a significant probability of harmful environmental consequences; and

**Yes** The proposed improvements related to the variance do not create a significant probability of harmful environmental consequences. The CWQZ will be crossed by a span bridge design instead of the normal box culvert. This will allow for light to penetrate to the natural ground surface and for vegetation to grow thus maintaining a more natural stream channel.

3. Development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

**Yes** The variance will not decrease the overall water quality associated with the development. The plans will be fully code compliant for water quality treatment. The impervious cover limit in suburban watersheds is 60%; this project is proposing impervious cover of approximately 44%. Internal, low-traffic pedestrian paths will be constructed with permeable material to increase stormwater infiltration and baseflow in the stream channel. Developed runoff will be treated by the proposed onsite water quality ponds.

The Land Use Commission may grant a variance from a requirement of Article 7, Division 1 ( *Critical Water Quality Zone Restrictions* ), after determining that:

- B. Additional Land Use Commission variance determinations for a requirement of Article 7, Division 1 (Critical Water Quality Zone Restrictions):

1. The criteria for granting a variance in Subsection (A) are met;

**Yes** / No All criteria in Subsection A are met.

2. The requirement for which a variance is requested prevents a reasonable, economic use of the entire property;

**Yes** / No The proposed development is consistent with the applicable zoning and surrounding properties. Austin Fire Department requires two ingress/egress locations. Brezza Lane is not acceptable for both as it is a dead-end road with no immediate plans to be extended. The North end of the site is dense trees and is proposed to be preserved as parkland. No joint use access agreement with a neighboring property for ingress/egress through to I35 is feasible.


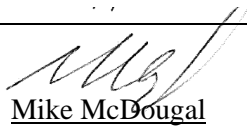

3. The variance is the minimum deviation from the code requirement necessary to allow a reasonable, economic use of the entire property.

**Yes** / No The variance is necessitated by the fire department requirement of having two points of emergency ingress/egress. The emergency ingress/egress proposed across the CWQZ will be a bridge crossing and is considered a minimum deviation from the code.

**Staff Determination:** Staff determines that the findings of fact have been met. Staff recommends the following conditions:

- 1) Internal low-traffic pedestrian walkways throughout the site shall be constructed with permeable pavers or porous pavement in accordance with the Environmental Criteria Manual,

- to decrease overall impervious cover and increase stormwater infiltration onsite and baseflow in the stream channel.
- 2) The critical water quality zone will be crossed with a span bridge design instead of the normal box culvert. This will allow for light to penetrate to the natural ground surface and for vegetation to grow thus maintaining a more natural stream channel.

Environmental Reviewer (DSD)	 Mel Fuechec	Date: __10/21/2021__
Environmental Review Manager (DSD)	 <u>Mike McDougal</u> (print name)	Date: <u>11-4-2021</u>
Wetland Biologist / Hydrogeologist Reviewer (WPD)	_____ (print name)	Date _____
Deputy Environmental Officer (WPD)	 <u>Liz Johnston</u> (print name)	Date <u>11/05/2021</u>





## ENVIRONMENTAL COMMISSION VARIANCE APPLICATION FORM

### PROJECT DESCRIPTION

#### Applicant Contact Information

Name of Applicant	Malone Wheeler Inc (Lance Rosenfield)
Street Address	5113 SOUTHWEST PKWY, STE 260
City State ZIP Code	AUSTIN TX 78735
Work Phone	512-899-0601
E-Mail Address	lancer@malonewheeler.com

#### Variance Case Information

Case Name	Stillwater - Double Creek Phase 2
Case Number	SP-2021-0178C
Address or Location	10801 BREZZA LN
Environmental Reviewer Name	Mel Fuechec
Environmental Resource Management Reviewer Name	Andrew Clamann
Applicable Ordinance	§ 25-8-261 - CRITICAL WATER QUALITY ZONE DEVELOPMENT.
Watershed Name	Onion Creek
Watershed Classification	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Suburban <input type="checkbox"/> Water Supply Suburban <input type="checkbox"/> Water Supply Rural <input type="checkbox"/> Barton Springs Zone

Edwards Aquifer Recharge Zone	<input type="checkbox"/> Barton Springs Segment <input type="checkbox"/> Northern Edwards Segment <input checked="" type="checkbox"/> Not in Edwards Aquifer Zones
Edwards Aquifer Contributing Zone	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Distance to Nearest Classified Waterway	<100-FT
Water and Waste Water service to be provided by	AUSTIN WATER
Request	The variance request is as follows (Cite code references:

Impervious cover	Existing	Proposed
square footage:	0-SF	320,120-SF
acreage:	0-AC	7.35-AC
percentage:	0%	45.9%
Provide general description of the property (slope range, elevation range, summary of vegetation / trees, summary of the geology, CWQZ, WQTZ, CEFs, floodplain, heritage trees, any other notable or outstanding characteristics of the property)	<p>The subject site is 16.0-acres of undeveloped land that was previously cultivated for agricultural use. The land slopes at a relatively uniform slope of approximately one percent (1%), from north to south, with an elevation range of 637 at the north end, down to 631 at the south end. Having been agricultural land, most of the site is free of trees, except for an area about 2.3-acres in size, comprising of primarily cedar, mesquite, and hackberry trees.</p> <p>Adjacent to the south property line, on the adjacent lot, is an uniform engineered earthen channel constructed in recent years, which is classified as a minor waterway with an associated floodplain (not yet defined) and CWQZ. The CWQZ extends onto the subject site.</p>	

Clearly indicate in what way the proposed project does not comply with current Code (include maps and exhibits)	The proposed project includes a private drive crossing the engineered channel with a culvert system. The private drive makes the vehicular and emergency access connection to a public access easement ultimately connecting to the southbound I-35 access road. The crossing provides compliance with fire department criteria set forth in the Wildland-Urban Interface. Additionally, a water utility connection will be made within the CWQZ, adjacent to Brezza Lane.
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## FINDINGS OF FACT

As required in LDC Section 25-8-41, in order to grant a variance, the Land Use Commission must make the following findings of fact:

Include an explanation with each applicable finding of fact.

Project: **Stillwater – Double Creek Phase 2**

Ordinance: **§ 25-8-261 - CRITICAL WATER QUALITY ZONE DEVELOPMENT**

A. Land Use Commission variance determinations from Chapter 25-8-41 of the City Code:

1. The requirement will deprive the applicant of a privilege available to owners of similarly situated property with approximately contemporaneous development subject to similar code requirements.

Yes / ~~No~~

*The subject site is adjacent to the north of Double Creek Multifamily Phase 1, case number SP-2018-0403C, herein called "Phase 1." Phase 1 is approved and under construction. The existing engineered channel triggering the CWQZ runs within and along the north property line of Phase 1. The approved site plan includes buildings, parking, fire lane, and paved access within the CWQZ.*

2. The variance:
  - a) Is not necessitated by the scale, layout, construction method, or other design decision made by the applicant, unless the design decision provides greater overall environmental protection than is achievable without the variance;

Yes / ~~No~~

*The variance is necessitated by fire department ingress/egress requirements set forth in the International Fire Code and Wildland-Urban Interface. Two points of emergency ingress and egress are required, and AFD will not accept both to be on the dead end that is Brezza Lane. There is no other option for a second point of ingress/egress.*

- b) Is the minimum deviation from the code requirement necessary to allow a reasonable use of the property;

Yes / ~~No~~

*As mentioned above, the variance is triggered by the fire department requirement of having two points of emergency ingress/egress, which will be a culvert crossing and is considered a minimum deviation from the code.*

- c) Does not create a significant probability of harmful environmental consequences.

Yes / ~~No~~

*The proposed improvements related to the variance do not create a significant probability of harmful environmental consequences.*

3. Development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

Yes / ~~No~~

*The variance will not decrease the water quality treatment associated with the improvements. The plans will be fully code compliant for water quality treatment.*

- B. Additional Land Use Commission variance determinations for a requirement of Section 25-8-422 (Water Quality Transition Zone), Section 25-8-452 (Water Quality Transition Zone), Article 7, Division 1 (Critical Water Quality Zone Restrictions), or Section 25-8-368 (Restrictions on Development Impacting Lake Austin, Lady Bird Lake, and Lake Walter E. Long):

1. The criteria for granting a variance in Subsection (A) are met;

Yes / No [provide summary of justification for determination]

2. The requirement for which a variance is requested prevents a reasonable, economic use of the entire property;

Yes / No [provide summary of justification for determination]

3. The variance is the minimum deviation from the code requirement necessary to allow a reasonable, economic use of the entire property.

Yes / No      [provide summary of justification for determination]

\*\*Variance approval requires all above affirmative findings.



CIVIL ENGINEERING ★ DEVELOPMENT CONSULTING ★ PROJECT MANAGEMENT

August 31, 2021

Environmental Commission and Land Use Commission  
City of Austin  
301 W 2<sup>nd</sup> Street  
Austin, Texas 78701

**Re:     *Variance Request for Double Creek Multifamily Phase 2 (SP-2021-0178C)***

Dear Commissioners,

In order to provide safe emergency access and with minimal disturbance, a variance to Land Development Code § 25-8-261, which limits development in a critical water quality zone, is hereby requested for Double Creek Multifamily Phase 2 site plan (case number SP-2021-0178C) and the related off-site water main improvements per SER-4280.

**I.       Site Summary**

The Double Creek Multifamily Phase 2 project is located approximately 1,300-ft north of the intersection of E FM 1626 Rd and Old San Antonio Road, and is on Lot 3 of Double Creek Subdivision, Section 2, Austin, Travis County, and is in the City's full purpose jurisdiction. The site is zoned CS-MU-CO, per zoning case number C14-03-0053.

The project will consist of 371 multifamily units in three to four-story buildings, with surface and garage parking. Water quality ponds, driveway and fire access, utilities, grading, sidewalks, landscaping, *approximately 5.5-acres of parkland dedication*, and a culvert crossing will be included.

The site is 16.00 acres, with right-of-way frontage along Brezza Lane, for which road improvements are currently under construction (SP-2019-0161D). One point of driveway access will be on Brezza Lane. The site will also have access from I-35 via a private drive currently under construction with the site plan Double Creek Multifamily (SP-2018-0403C) and Private Roadway easement doc. no. 2018093713 and a proposed joint use access easement of similar alignment. The private drive will provide access the subject site via a proposed culvert crossing over an existing engineered channel.

The property is in the Onion Creek watershed, which is classified as a Suburban Watershed, and is outside of the Edwards Aquifer Recharge Zone. No portion of the site is within the 100-year floodplain, per FEMA map number 48453C0595k, dated January 22, 2020. The site is currently undeveloped with existing impervious cover of 0%, and the proposed impervious cover is less than 50% of the site area. The site currently surface drains from north to south and developed runoff will be treated with proposed water quality ponds and discharge into an existing engineered channel along the south boundary of the site.



During the completeness check review for Double Creek Phase 2, the City provided a comment report in June 2021 in which it was stated that a critical water quality zone is delineated about the engineered channel that was constructed in recent years (dates provided in the timeline in Part II below). Emergency and tenant vehicle access to the site is proposed with a culvert crossing over the channel. A portion of a proposed public water main as required by SER-4280 and a water meter will be within 50-ft of the centerline of the channel. These improvements would not explicitly be in compliance with LDC 25-8-261.

## **II. Variance**

The basis for the variance request and substantiation for its approval is as follows:

### **A. Under § 25-8-41 Land Use Commission Variances, the following apply**

1. Subsequent to the construction of the engineered channel, which was permitted in July 2015 under case number SP-2014-0103D “Stablewood Box Culvert,” two site plans in the immediate vicinity were approved and permitted without identifying the artificially engineered channel as a critical water quality zone:
  - i. Double Creek Multifamily Phase 1 (SP-2018-0403C)
  - ii. Brezza Lane Improvements (SP-2019-0161D)

The two projects listed above include substantial improvements in the critical water quality zone, including apartment buildings, pavement for parking, utilities, and public roadway.

Therefore, under § 25-8-41 Land Use Commission Variances, the requirement will deprive the applicant of a privilege available to owners of other similarly situated property with approximately contemporaneous development subject to similar code requirements.

2. The variance:
  - (a) is not necessitated by the scale, layout, construction method, or other design decision made by the applicant, unless the design decision provides greater overall environmental protection than is achievable without the variance;
  - (b) is the minimum deviation from the code requirement necessary to allow a reasonable use of the property; and
  - (c) does not create a significant probability of harmful environmental consequences; and
3. The surface run-off from the improvements will be treated with city standard water quality facilities and is therefore equal to the water quality achievable without the variance.

### **B. Additional Substantiation**

1. Austin Fire Department requires two points of ingress and egress. The applicant met with AFD on 3/17/2021 and has had follow up correspondence via email, from which the following statements were provided by AFD explaining the code related to the requirement:



Brezza Lane is a dead-end street and the project is located directly in a Wildland Urban Interface (WUI) area which is susceptible to wildfires making fire access and evacuation of the development critical during a structure fire or wildfire event.

2015 IFC:

503.1.2 Additional access. The fire code official is authorized to require more than one fire apparatus access road based on the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access.

2015 Wildland Urban Interface Code Amendments (these direct you back to the fire code).

402.1.1 Access. A subdivision described in City Code Chapter 25-4 (Subdivision) that is located within in a wildland-urban interface area and platted after the effective date of this code must provide fire apparatus access roads that comply with the Fire Code.

403.3 Fire Apparatus Access Road. When required, a fire apparatus access road must Comply with the Fire Code.

2. Timeline of key dates described herein:

- July 2015: Stablewood Box Culvert project receives permit (SP-2014-0103D). Construction of the engineered channel begins. See the attached excerpt from the culvert plans, showing the location of the channel improvements.
- March 2019: Water SER-4280 is provided by Austin Water, which includes a water service connection and public improvements in the buffer area defined by the CWQZ. SER-4280 is included as an attachment.
- June 2019: Double Creek Multifamily Phase 1 receives permit (SP-2018-0403C) with meaningful improvements such as buildings and parking within the recently identified critical water quality zone. The Phase 1 Overall Site Plan is enclosed.
- August 2020: Brezza Lane Improvement Plans receive permit (SP-2019-0161D) with the portions of the public roadway now in the critical water quality zoned created by the human-constructed channel.
- June 2021: The CWQZ delineation is brought to our attention via the site plan completeness check comments.
- July 2021: Site Plan submitted formally to the City (SP-2021-0178C) with no buildings within the recently identified CWQZ.





- August 2021: Applicant revised the site plan to further minimize encroachment, specifically removing parking from the CWQZ; the only remaining improvements within the recently-identified CWQZ are the required bridge for emergency services and the water meter that is required by the Service Extension Request.

### III. Conclusion

In response to the City's determination of the critical water quality zone, the applicant has modified the site plan to remove 27 parking spaces and shifted utilities away from the engineered channel to the fullest extent practical.

Taken in the aggregate, this variance request is logical and reasonable, and will create an outcome that meets the criteria set forth in § 25-8-41 Land Use Commission Variances, and will meet the requirements set forth by Austin Fire Department.

Sincerely,  
Malone Wheeler, Inc.

Lance Rosenfield, P.E.  
Senior Project Manager

#### Enclosures:

1. Completed Variance Application
2. Application Exhibit 1a - Aerial Photo
3. Application Exhibit 1b - Aerial Photo
4. Application Exhibit 2 - Site Photos
5. Application Exhibit 3 - Vicinity and Context Map
6. Application Exhibit 4 - Topo and Tree List
7. Application Exhibit 5 - Revised Site Plan
8. Application Exhibit 6 - Aerial Photo with CWQZ
9. Application Exhibit 7 - ERI by Terracon
10. Supplemental Exhibit 1 - AFD Written Requirement (email)
11. Supplemental Exhibit 2 - SER-4280 for Water
12. Supplemental Exhibit 3 - Approved Site Plan "Phase 1"
13. Supplemental Exhibit 4 - Approved Brezza Lane Excerpt Sheets



# Property Profile



1: 2,400



0.1 0 0.04 0.1 Miles

NAD\_1983\_StatePlane\_Texas\_Central\_FIPS\_4203\_Feet

August 27, 2021

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## Legend

### Jurisdiction

- FULL PURPOSE
- LIMITED PURPOSE
- EXTRATERRITORIAL JURISDICTION
- 2 MILE ETJ AGRICULTURAL AGR
- OTHER CITY LIMITS
- OTHER CITIES ETJ

### Lot Line

### Jurisdiction

- FULL PURPOSE
- LIMITED PURPOSE
- EXTRATERRITORIAL JURISDICTION
- 2 MILE ETJ AGRICULTURAL AGR
- OTHER CITY LIMITS
- OTHER CITIES ETJ

### Creek Centerlines

### Lakes

## Notes

Aerial Image of Undeveloped Site for "Double Creek Phase 2"





# Property Profile



0.3 0 0.15 0.3 Miles  
NAD\_1983\_StatePlane\_Texas\_Central\_FIPS\_4203\_Feet  
August 27, 2021

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## Legend

- Jurisdiction
- FULL PURPOSE
  - LIMITED PURPOSE
  - EXTRATERRITORIAL JURISDICTION
  - 2 MILE ETJ AGRICULTURAL AGREEMENT
  - OTHER CITY LIMITS
  - OTHER CITIES ETJ
- Jurisdiction
- FULL PURPOSE
  - LIMITED PURPOSE
  - EXTRATERRITORIAL JURISDICTION
  - 2 MILE ETJ AGRICULTURAL AGREEMENT
  - OTHER CITY LIMITS
  - OTHER CITIES ETJ
- Creek Centerlines
- Lakes

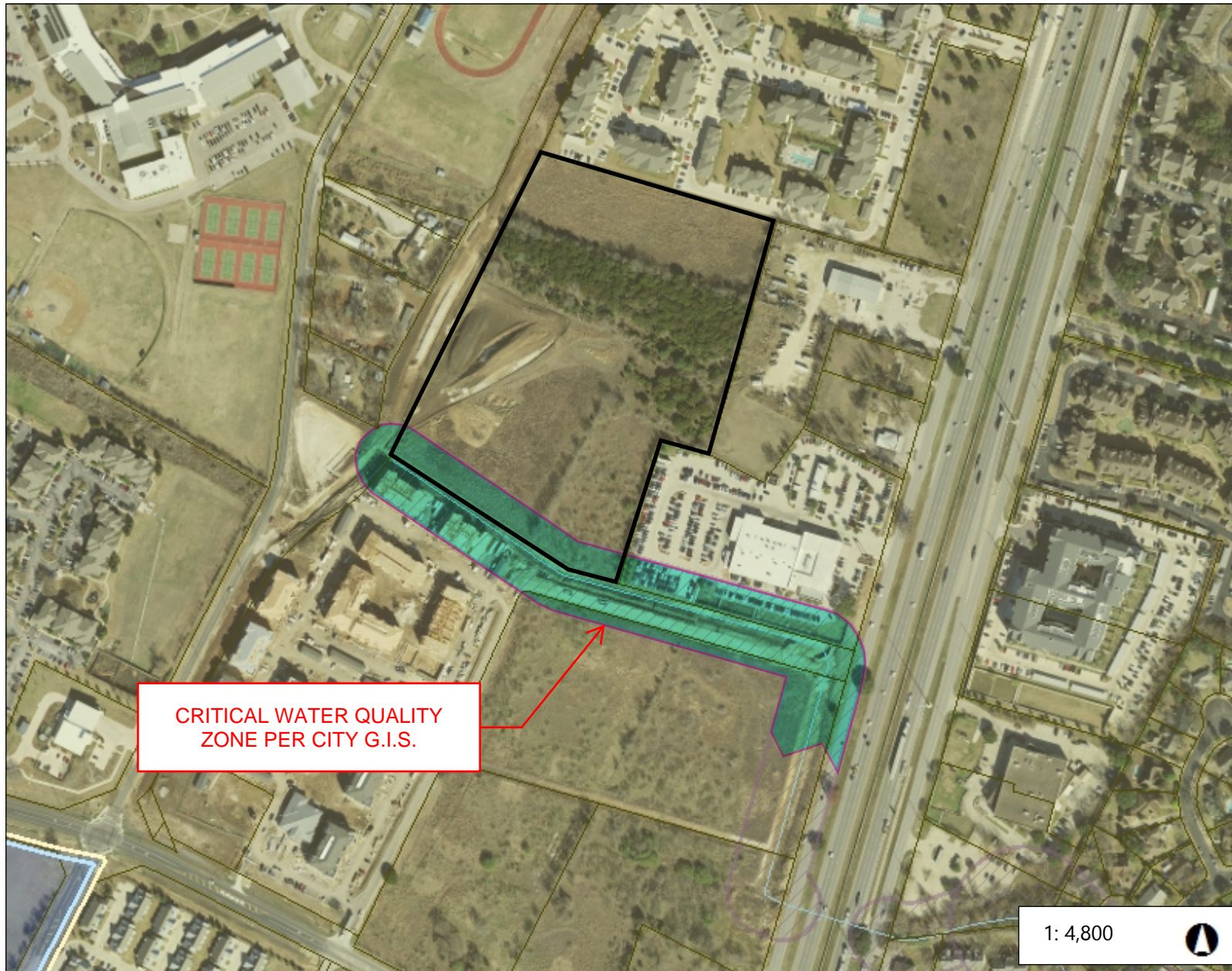
## Notes

Context Map





# Property Profile



CRITICAL WATER QUALITY  
ZONE PER CITY G.I.S.

1: 4,800



0.2 0 0.08 0.2 Miles

NAD\_1983\_StatePlane\_Texas\_Central\_FIPS\_4203\_Feet

August 27, 2021

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## Legend

### Jurisdiction

- FULL PURPOSE
- LIMITED PURPOSE
- EXTRATERRITORIAL JURISDICTION
- 2 MILE ETJ AGRICULTURAL AGR
- OTHER CITY LIMITS
- OTHER CITIES ETJ

### Lot Line

### Jurisdiction

- FULL PURPOSE
- LIMITED PURPOSE
- EXTRATERRITORIAL JURISDICTION
- 2 MILE ETJ AGRICULTURAL AGR
- OTHER CITY LIMITS
- OTHER CITIES ETJ

### Creek Buffers/Waterway Setbacks

- Critical Water Quality Zone
- Water Quality Transition Zone

### Creek Centerlines

### Lakes

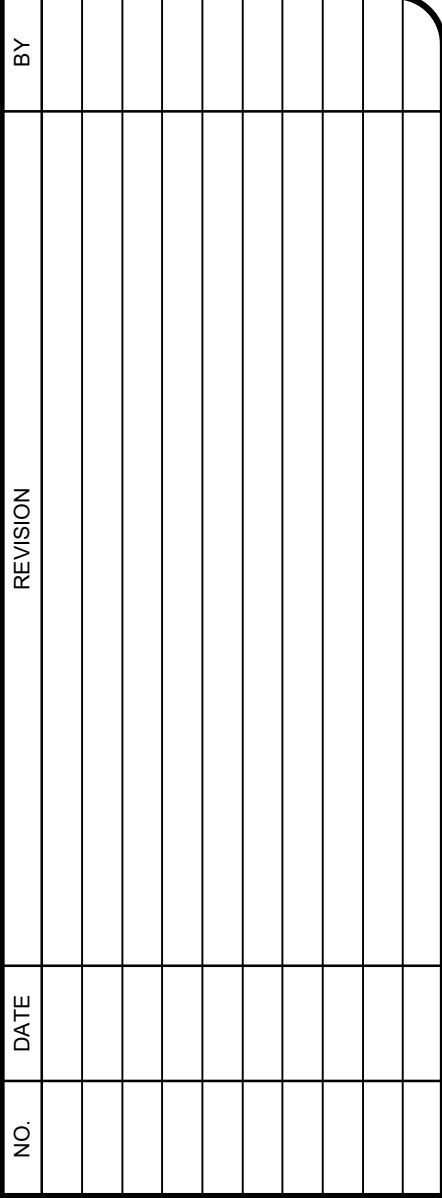
## VARIANCE EXHIBIT

## AERIAL PHOTO WITH CWQZ

## Notes

Aerial Image of "Double Creek Phase 2" Site and Critical Water Quality Zone



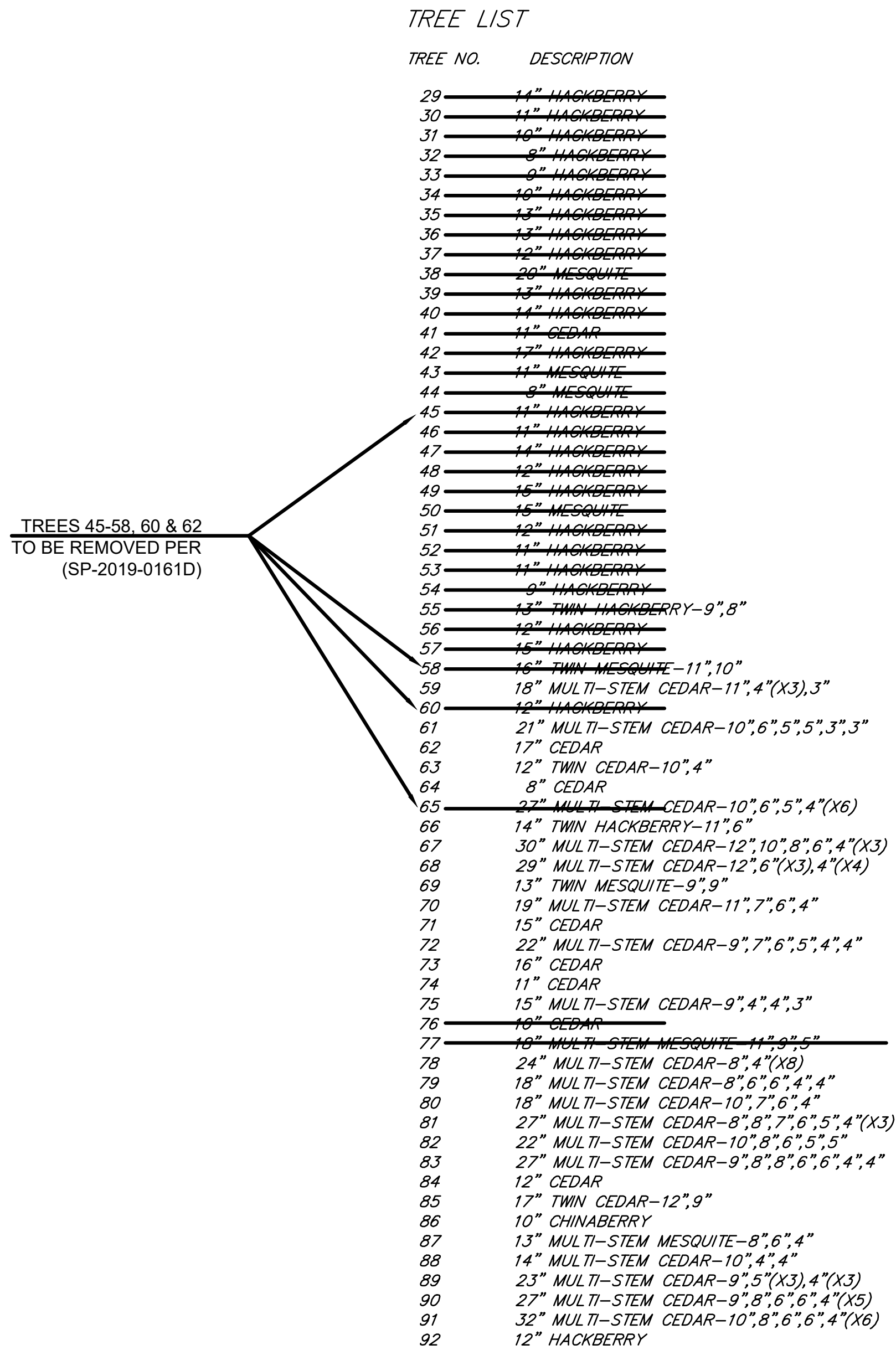


## EXISTING CONDITIONS

STATE OF TEXAS  
LANCE A. ROSENFELD  
134797  
LICENSED PROFESSIONAL ENGINEER  
7/4/2021

SHEET 06  
OF 58





TREE NO.	DESCRIPTION
93	13" HACKBERRY
94	12" HACKBERRY
95	13" HACKBERRY
97	9" HACKBERRY
98	17" MULTI-STEM CEDAR-10",6",4",4"
99	13" MULTI-STEM CEDAR-8",6",4"
100	17" MULTI-STEM CEDAR-11",6",4"
101	33" MULTI-STEM CEDAR-10",8",8",6"(X3),4"(X3)
102	22" MULTI-STEM CEDAR-10",6",6",4"(X3)
103	21" MULTI-STEM CEDAR-10",10",4"(X3)
104	19" MULTI-STEM CEDAR-10",6",4"(X3)
105	24" MULTI-STEM CEDAR-9",6",5"(X4),4"
106	9" CEDAR
107	13" CEDAR
108	26" MULTI-STEM CEDAR-12",9",6",6",4"
109	17" MULTI-STEM CEDAR-11",4"(X3)
110	8" CEDAR
111	15" MULTI-STEM CEDAR-9",6",6"
112	18" MULTI-STEM CEDAR-12",4"(X3)
113	11" TWIN MESQUITE-8",6"
114	14" MULTI-STEM MESQUITE-8",6",6"
116	21" MULTI-STEM CEDAR-10",6",4"(X4)
117	32" MULTI-STEM CEDAR-9",6"(X5),4"(X4)
118	23" MULTI-STEM CEDAR-9",8",6"(X3)
120	20" MULTI-STEM CEDAR-8",8",4"(X4)
120	32" MULTI-STEM CEDAR-9",9",6",6",4"(X6)
121	25" MULTI-STEM CEDAR-10",6",4"(6)
122	26" MULTI-STEM CEDAR-8",6",6",4"(X6)
123	18" MULTI-STEM CEDAR-8",6",6",4",4"
124	10" HACKBERRY
125	9" HACKBERRY
126	21" MULTI-STEM PECAN-12",7",6",6"
127	34" MULTI-STEM CEDAR-12",7",6"(X3),4"(X5)
128	13" HACKBERRY
129	11" TWIN WOOLY BUCKTHORN-8",6"
130	23" MULTI-STEM CEDAR-9",6",5",5",4"(X3)
132	22" MULTI-STEM CEDAR-11",6",4",4"(X4)
133	9" MESQUITE
134	22" MULTI-STEM CEDAR-9",6"(X3),4",4"
135	28" MULTI-STEM CEDAR-9",6",6",4"(X5)
136	8" CEDAR
137	24" MULTI-STEM CEDAR-8",8",6",6",4"(X3)
138	33" MULTI-STEM CEDAR-9",9",8",6",4",4"
139	24" MULTI-STEM CEDAR-10",8",6",6",4"(X4)
140	18" MULTI-STEM CEDAR-12",4"(X3)
141	11" CEDAR
142	9" CEDAR
143	15" MULTI-STEM CEDAR-10",6",4"
144	26" MULTI-STEM CEDAR-12",6",6",4",4"(X4)
145	30" MULTI-STEM CEDAR-9",6"(X3),4"(X6)
146	35" MULTI-STEM CEDAR-12",7",7",6",6",4"(X6)
147	22" MULTI-STEM CEDAR-8",8",6",6",4",4"
148	12" TWIN MESQUITE-9",6"
149	11" CEDAR
150	22" MULTI-STEM CEDAR-12",8",4"(X3)
151	20" MULTI-STEM CEDAR-11",6",4"(X3)
152	12" TWIN MESQUITE-8",8"
153	12" HACKBERRY
154	10" HACKBERRY
155	9" HACKBERRY
156	20" MULTI-STEM MESQUITE-12",10",6"
157	8" CHINABERRY
158	18" MULTI-STEM CEDAR-9",7",4"(X3)
159	16" TWIN CEDAR-13",6"
160	23" MULTI-STEM HAWDBERRY-14",14",6"
161	10" HACKBERRY (GINK)
162	6" HACKBERRY

163 ~~10" HACKBERRY~~  
164 ~~9" HACKBERRY~~  
165 ~~24" MULTI STEM MESQUITE 15",10",8"~~

NOTE: SURVEYOR MAKES NO GUARANTEE AS TO THE TYPE OF TREES LISTED ABOVE. IF CRITICAL, A CERTIFIED ARBORIST SHOULD VERIFY THIS INFORMATION.

[illegible]

- NOTES
- GENERAL NOTES:
1. THIS BRIDGE HAS BEEN DESIGNED FOR GENERAL SITE CONDITIONS. THE PROJECT ENGINEER SHALL BE RESPONSIBLE FOR THE STRUCTURE'S SUITABILITY TO THE EXISTING SITE CONDITIONS AND FOR THE HYDRAULIC EVALUATION --INCLUDING SCOUR AND CONFIRMATION OF SOIL CONDITIONS.

2. PRIOR TO CONSTRUCTION, CONTRACTOR MUST VERIFY ALL ELEVATIONS SHOWNTHROUGH THE ENGINEER.

3. ONLY CONTECH ENGINEERED SOLUTIONS LLC, THE CON/SPAN® APPROVED PRECASTER IN TEXAS MAY PROVIDE THE STRUCTURE DESIGNED IN ACCORDANCE WITH THESE PLANS.

4. THE USE OF ANOTHER PRECAST STRUCTURE WITH THE DESIGN ASSUMPTIONS USED FOR THE CON/SPAN® STRUCTURE MAY LEAD TO SERIOUS DESIGN ERRORS. USE OFANY OTHER PRECAST STRUCTURE WITH THIS DESIGN AND DRAWINGS VOIDS ANY CERTIFICATION OF THIS DESIGN AND WARRANTY. CONTECH Engineered Solutions, LLC ASSUMES NO LIABILITY FOR DESIGN OF ANYALTERNATE OR SIMILAR TYPE STRUCTURES.

5. ALTERNATE STRUCTURES MAY BE CONSIDERED, PROVIDED THAT DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF TEXAS, EMPLOYED BY THE PRECAST CONCRETE BRIDGE SUPPLIER, ARE SUBMITTED TO THE ENGINEER 2 WEEKS PRIOR TO THE BID DATE FOR REVIEW AND APPROVAL.

6. ALTERNATE STRUCTURES MAY BE CONSIDERED, PROVIDED THAT THE ALTERNATE DESIGN DOES NOT REDUCE THE HYDRAULIC OPENING OF THE STRUCTURE AS SHOWN ON THE DRAWINGS. AT A MINIMUM THE ALTERNATE STRUCTURE MUST PROVIDE THE SAME OR LARGER SPAN AND RISE AS THE STRUCTURE SHOWN ON THE DRAWINGS.

7. THE PRECAST ARCH SUPPLIER MUST ATTEND THE PRE-BID MEETING, IF ONE IS HELD.

8. SUPPLIER OF PROPOSED ALTERNATES TO A CON/SPAN® BRIDGE SYSTEM MUST SUBMIT AT LEAST TWO (2) INDEPENDENTLY VERIFIED FULL SCALE LOAD TESTS THAT CONFIRM THE PROPOSED DESIGN METHODOLOGY OF THE THREE SIDED/ARCH STRUCTURE(S). THE PROPOSED ALTERNATE, UPON SATISFACTORY CONFIRMATION OF DESIGN METHODOLOGY, MAY BE CONSIDERED AN ACCEPTABLE ALTERNATE.

9. PROPOSED ALTERNATE STRUCTURES MAY BE CONSIDERED, PROVIDED THAT THE PRECAST CONCRETE BRIDGE STRUCTURES ARE PROVIDED BY A SUPPLIER THAT HAS A MINIMUM OF TWO (2) REGISTERED PROFESSIONAL ENGINEERS ON STAFF THAT ARE DEDICATED TO THE DESIGN OF THESE TYPES OF STRUCTURES. SUPPLIER MUST PROVIDE THESE NAMES, P.E. LICENSE NUMBERS AND DATES OF HIRE AT TIME OF ALTERNATE SUBMITTAL.

DESIGN DATA

DESIGN LOADING:

BRIDGE UNITS: HL-93

HEADWALLS: EARTH PRESSURE ONLY

WINGWALLS: EARTH PRESSURE ONLY

DESIGN FILL HEIGHT: 1'-0" TO 4'-0"

FROM TOP OF CROWN TO TOP OF PAVEMENT.

DESIGN METHOD: LOAD RESISTANCE FACTOR DESIGN PER AASHTO LRFD SPECIFICATION ASSUMED NOMINAL BEARING RESISTANCE: 0 PSF

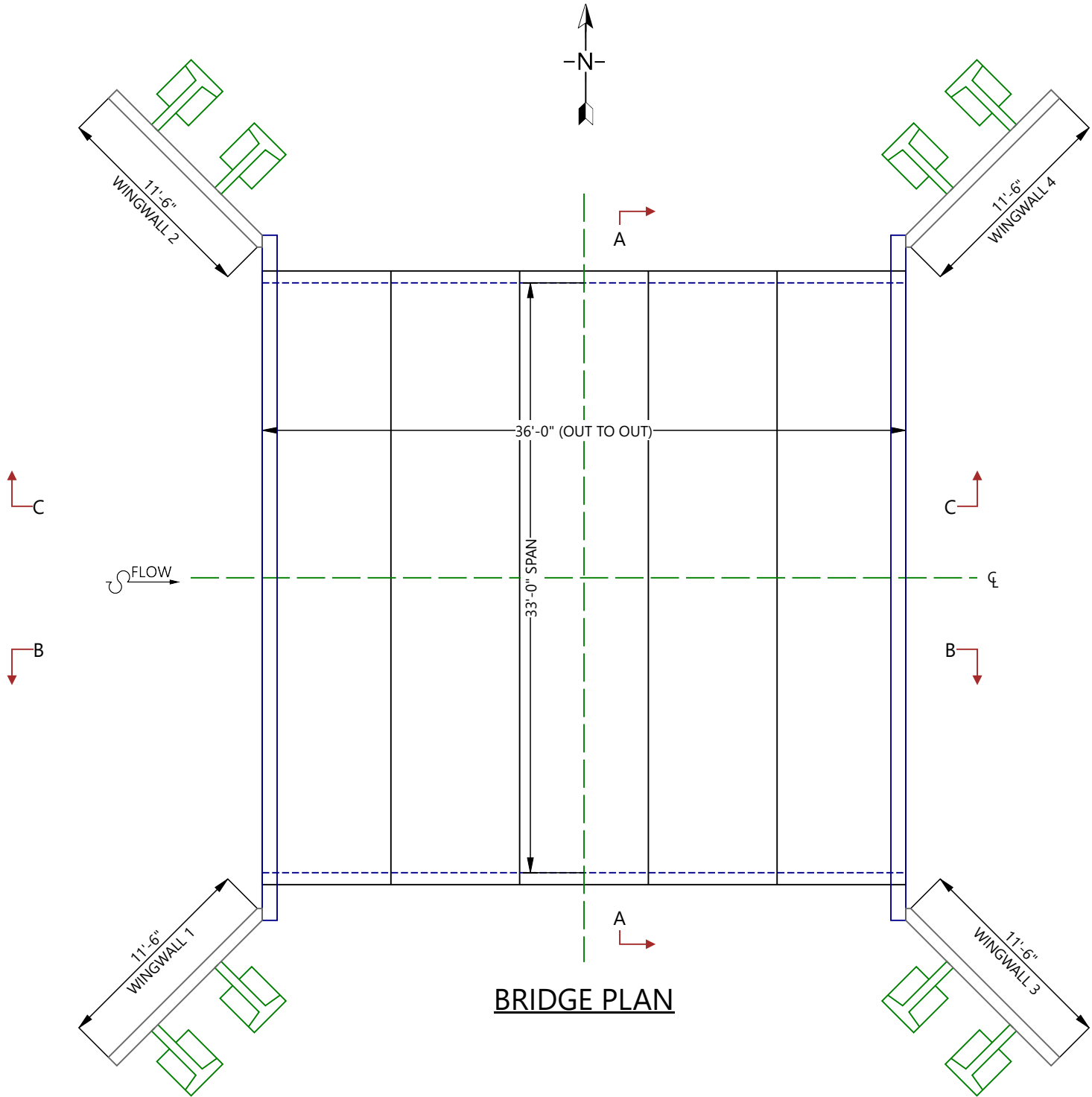
ASSUMED FACTORED BEARING RESISTANCE: 0 PSF

\*AT THE TIME OF DESIGN, A GEOTECHNICAL REPORT FOR THE PROJECT SITE WAS NOT AVAILABLE. IT IS THE PROJECT ENGINEER'S, OWNER'S AND/OR THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE ACTUAL SITE CONDITIONS AT THE TIME OF CONSTRUCTION ARE CONSISTENT WITH THE ASSUMED ALLOWABLE SOIL BEARING PRESSURE WITH A GEOTECHNICAL INVESTIGATION FROM A QUALIFIED GEOTECHNICAL ENGINEER.


MATERIALS

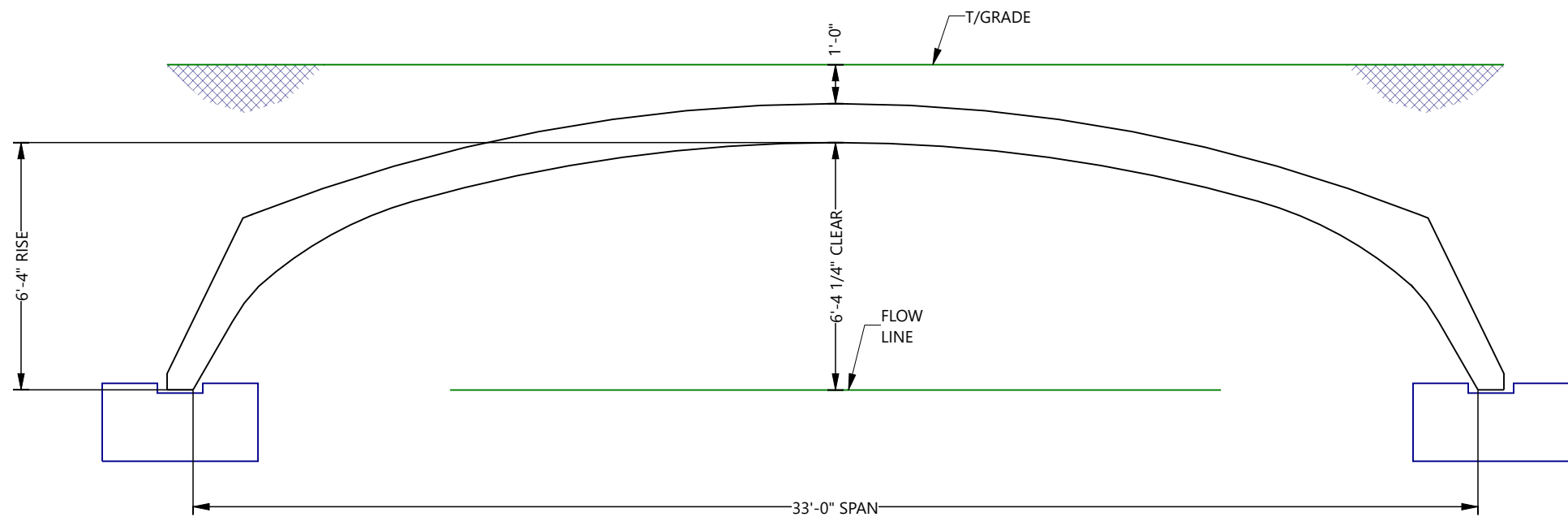
PRECAST UNITS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH CON/SPAN® SPECIFICATIONS.

CONCRETE FOR FOOTINGS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSF. REINFORCING STEEL FOR FOOTINGS SHALL CONFORM TO ASTM A615 OR A996-GRADE 60.



PRELIMINARY  
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																688751	010	9/9/2021	
																Designed:		Drawn:	
																JJM			
Checked:		Approved:																	
Sheet No.:																			
1		OF		10															
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**CROSS SECTION A-A**

Approximate Area: 163 sq. ft. used, 163 sq. ft. total

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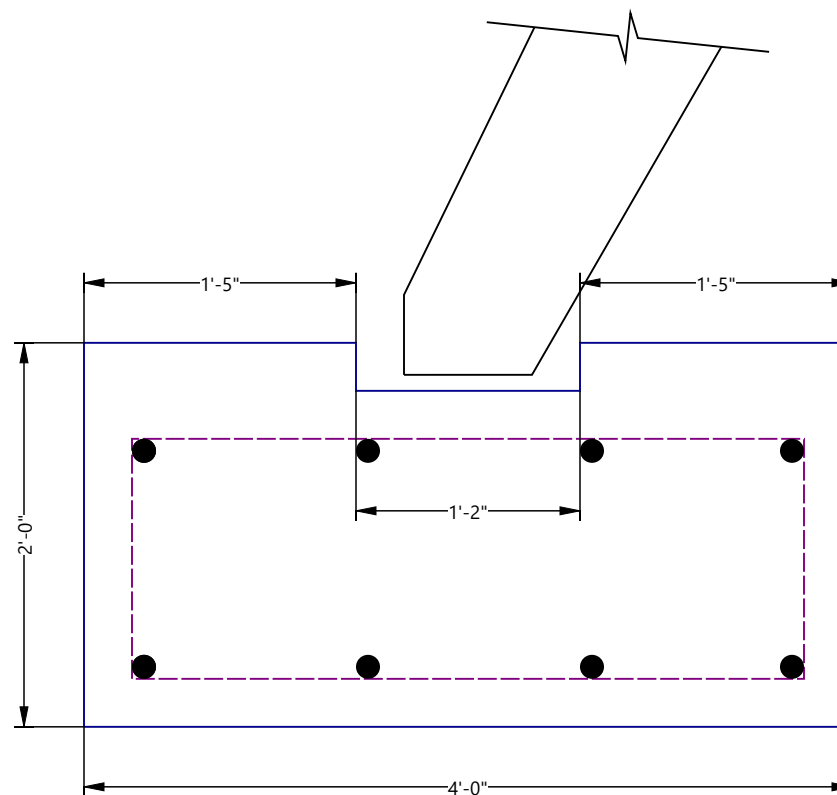
**PROPOSAL**  
DRAWING

CONSPAN O SERIES O633 - 33'-0" X 6'-4"  
MALONE WHEELER CHANNEL CROSSING

AUSTIN, TEXAS

Project No.: 688751	Seq No.: 010	Date: 9/9/2021
Designed: JJM	Drawn:	
Checked:	Approved:	
Sheet No.: 2 OF 10		





**TYPICAL FOOTING DETAIL**

**NOTES**

- FOOTING DIMENSIONS AND DETAILS SHOWN ARE CONCEPTUAL ONLY
- FINAL DIMENSIONS & DETAILS TO BE FURNISHED BY THE PROJECT ENGINEERS
- FOUNDATION REINFORCING TO BE DETERMINED

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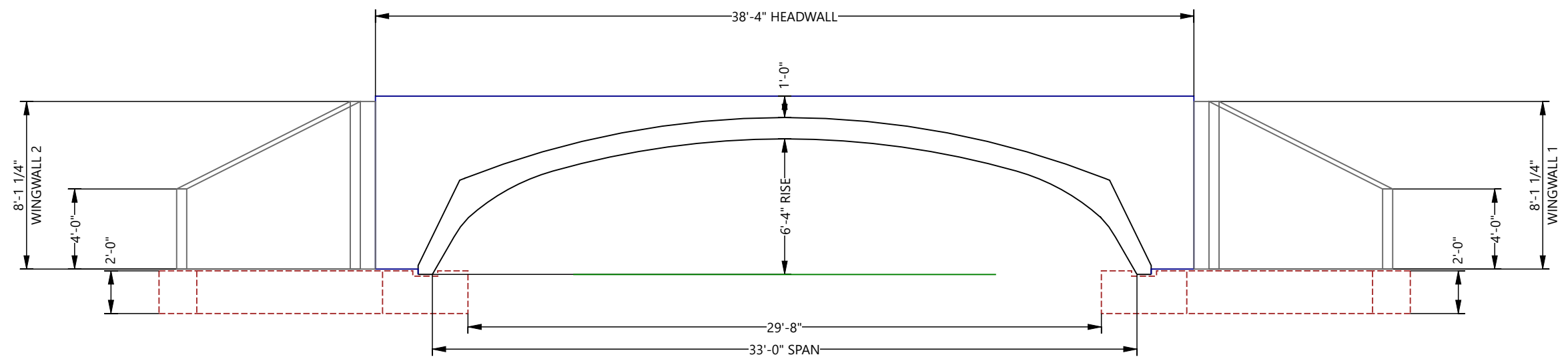
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**PROPOSAL**  
DRAWING

CONSPAN O SERIES O633 - 33'-0" X 6'-4"  
MALONE WHEELER CHANNEL CROSSING

AUSTIN, TEXAS

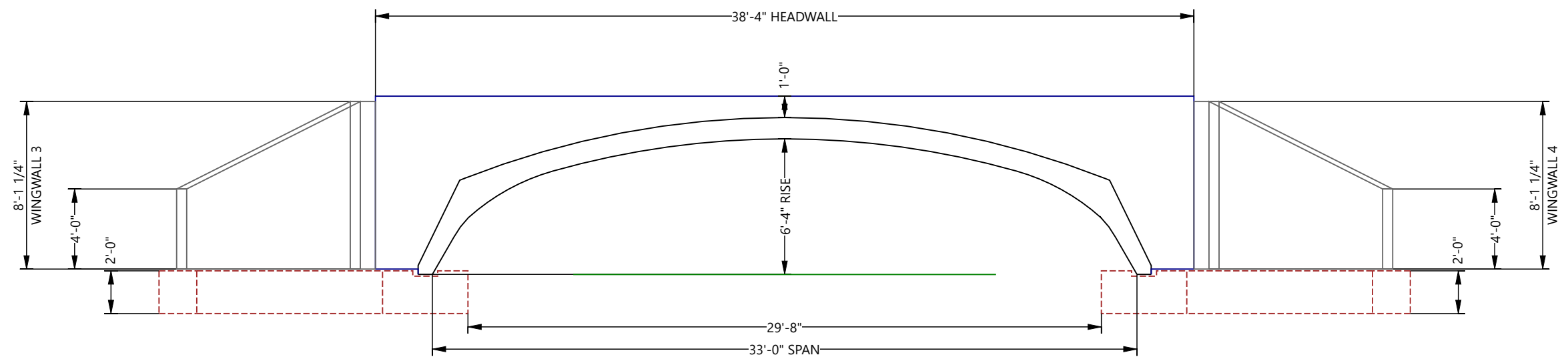
Project No.: 688751	Seq No.: 010	Date: 9/9/2021
Designed: JJM	Drawn:	
Checked:	Approved:	
Sheet No.: 3 OF 10		



INLET END ELEVATION

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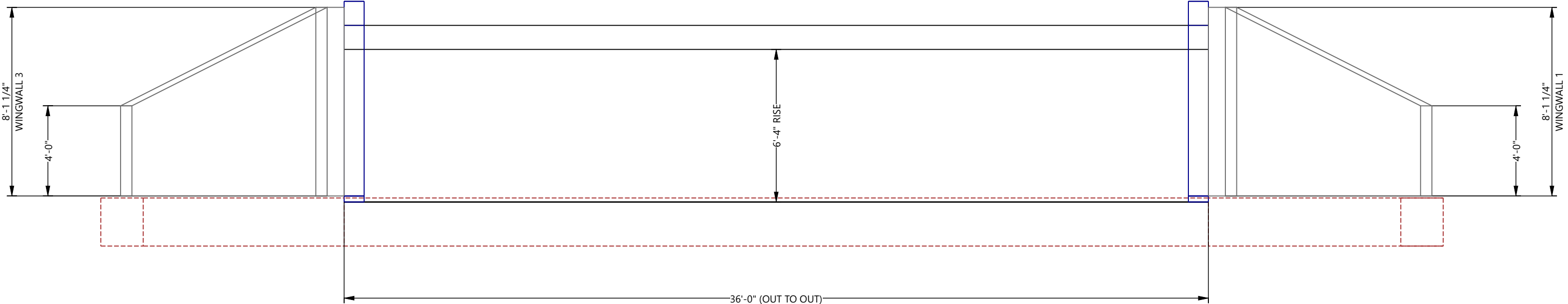
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																Designed: JJM		Drawn:	
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OUTLET END ELEVATION

PRELIMINARY  
NOT FOR CONSTRUCTION

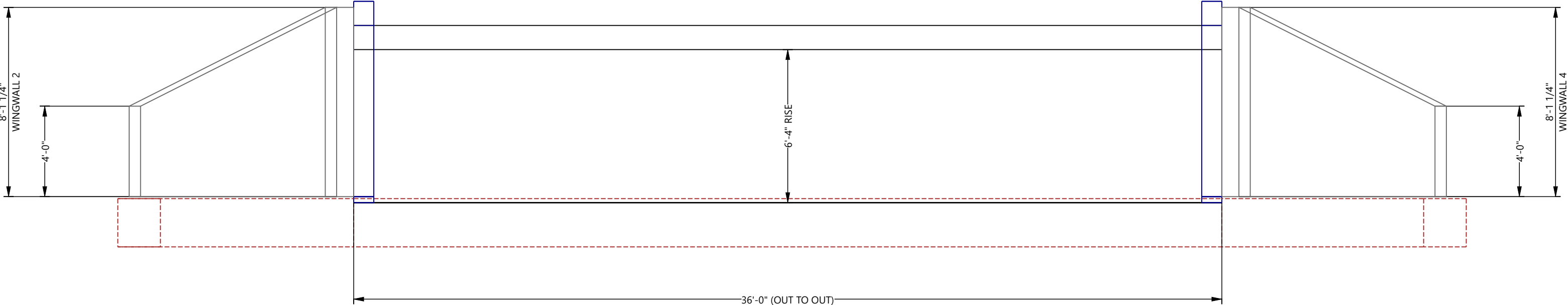
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PROFILE SECTION B-B

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PROFILE SECTION C-C

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												MALONE WHEELER CHANNEL CROSSING												Designed: JJM				Drawn:							
																								Checked:				Approved:							
												AUSTIN, TEXAS												Sheet No.: 7 OF 10											
												MARK		DATE		REVISION DESCRIPTION						BY													



# SPECIFICATIONS FOR MANUFACTURE AND INSTALLATION OF CON/SPAN® O-SERIES BRIDGE SYSTEMS

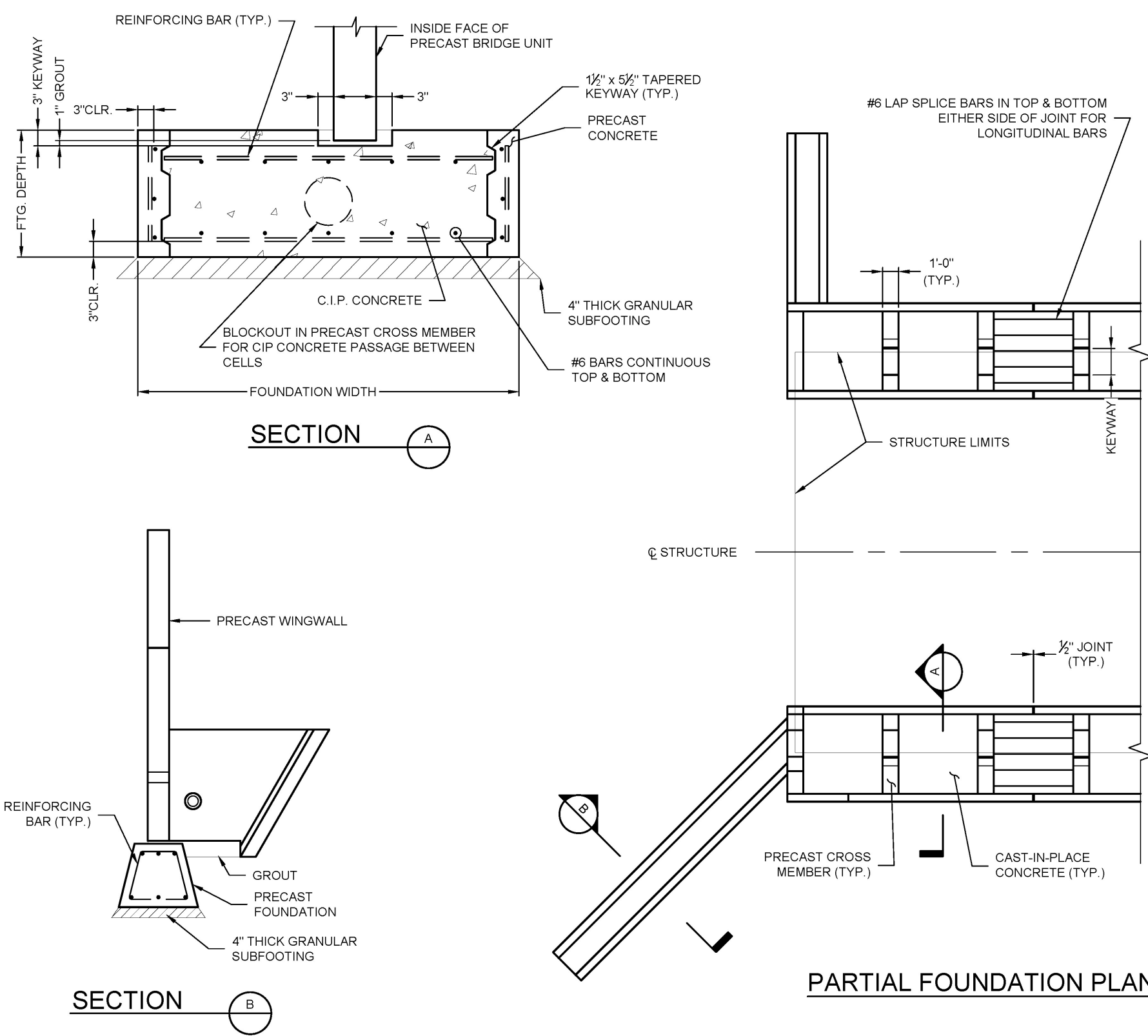
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**PROPOSAL**  
DRAWING

CONSPAN O SERIES O633 - 33'-0" X 6'-4"  
MALONE WHEELER CHANNEL CROSSING

AUSTIN, TEXAS

Project No.: 688751	Seq No.: 010	Date: 9/9/2021
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