

Old Lampasas #3 Dam Modernization

9018-1/2 Old Lampasas Trail

SP-2022-0558D

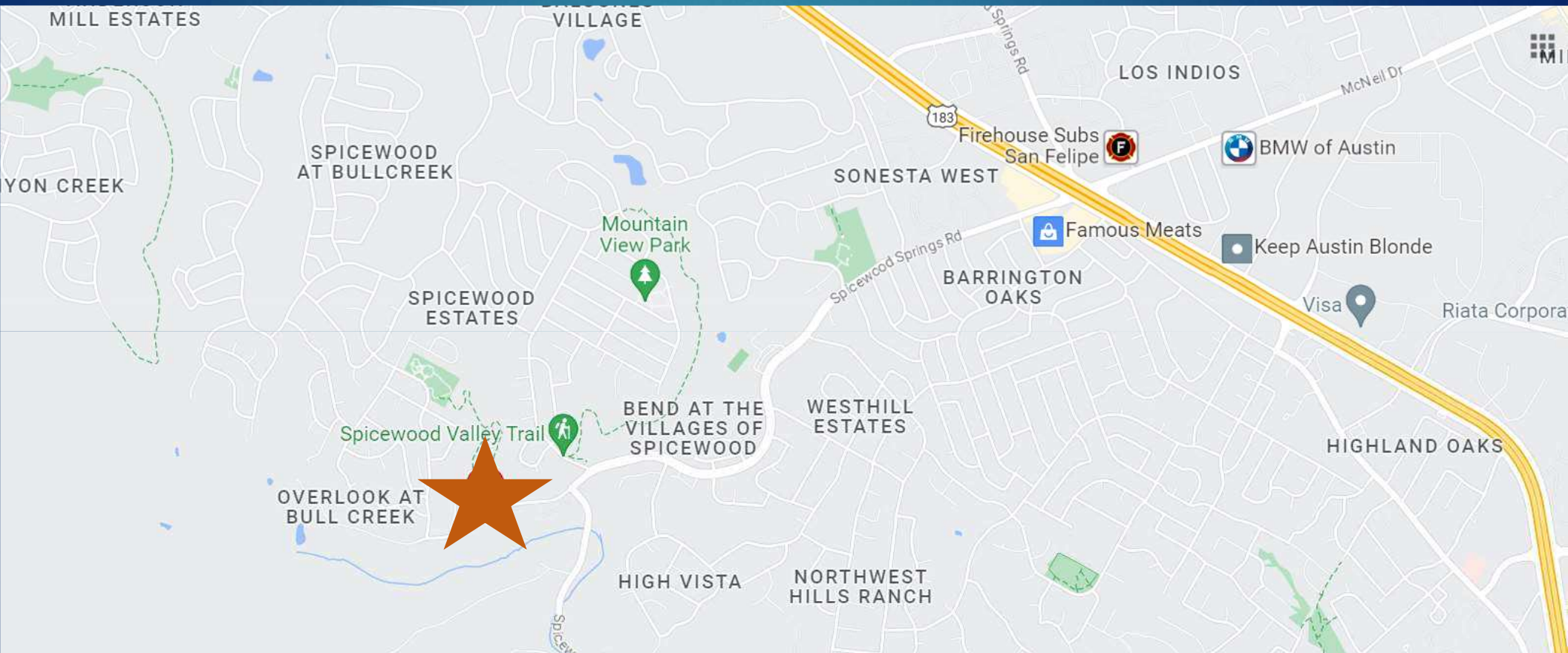
*Mike McDougal*

*Environmental Policy Program Manager*

*Development Services Department*

# Vicinity Map

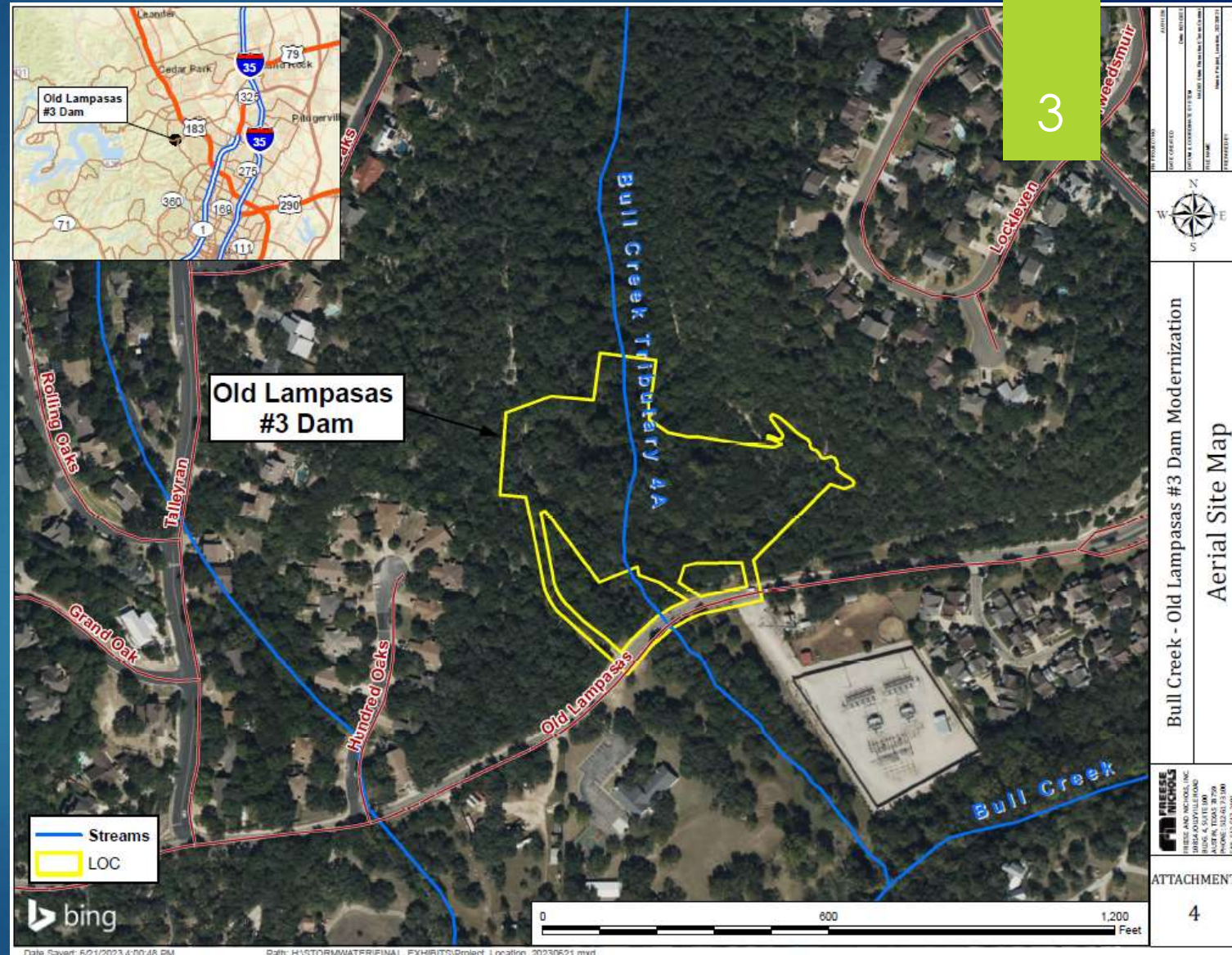
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# Property Data

- ▶ Bull Creek Watershed
- ▶ Water Supply Suburban Watershed Classification
- ▶ Drinking Water Protection Zone
- ▶ Not located over Edwards Aquifer Recharge Zone
- ▶ District 6 & ETJ



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ATTACHMENT

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# Synopsis

- ▶ The existing dam was built in the early 1980s.
- ▶ The dam is classified by TCEQ as intermediate sized and high-hazard due to the downstream infrastructure.
- ▶ The dam was damaged during Tropical Storm Hermine in September of 2010. Repairs are necessary.

# Synopsis - continued

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- ▶ The existing 60-inch corrugated metal pipe principal spillway has failed and water is currently passing under the pipe.
- ▶ The proposed improvements to Old Lampasas No. 3 Dam are intended to improve the level of safety of the dam to both the public and to the environment, and to mitigate potential future impacts.
- ▶ The dam improvements are required by both the City and the Texas Commission on Environmental Quality (TCEQ) to comply with City and State dam safety criteria.



# Proposed Improvements

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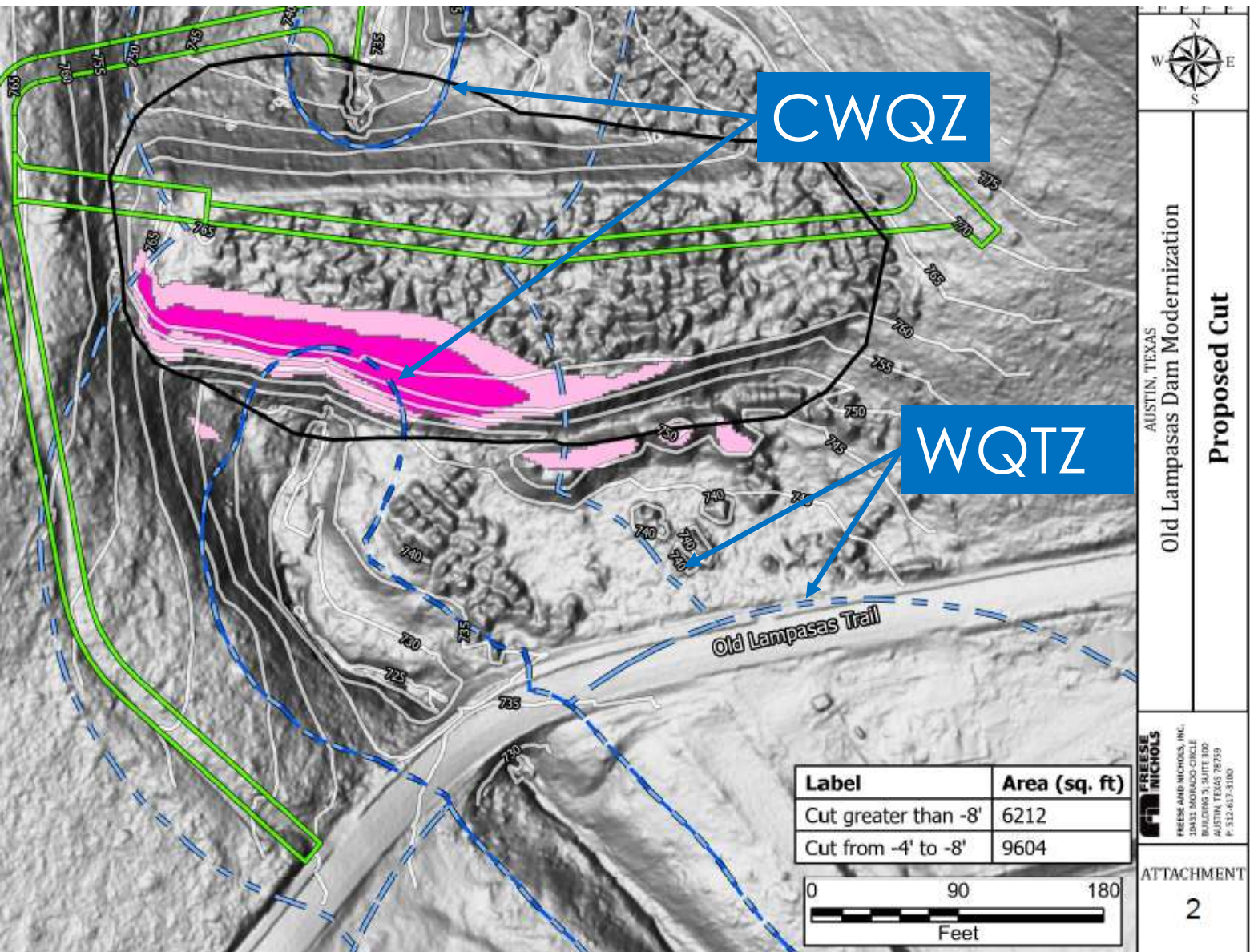
- Removal of existing trees and boulders along the dam footprint,
- Replacement of the existing 60-inch diameter CMP principal spillway with a new 42-inch diameter reinforced concrete pipe (RCP) principal spillway and cradle,
- Installation of a new intake structure and low flow riser upstream of the dam to control the water level within the pond and provide extended detention for water quality benefits,
- Replacement of the existing wastewater line through the embankment of the dam with a new line parallel to the 42-inch RCP,

# Proposed Improvements - continued

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- Removal of the existing wastewater line upstream of the centerline of the dam,
- Grading and resurfacing of the upstream and downstream embankment slopes to provide increased stability,
- Raising the top of dam and auxiliary spillway elevations to meet City and State dam safety criteria,
- Installation of a new auxiliary spillway,
- Installation of a new concrete headwall for the principal spillway and downstream armoring of the existing plunge pool,
- Installation of a new permanent maintenance drive to allow WPD Field Operations to access and maintain the structure, and
- Installation of a new Flood Early Warning System (FEWS).





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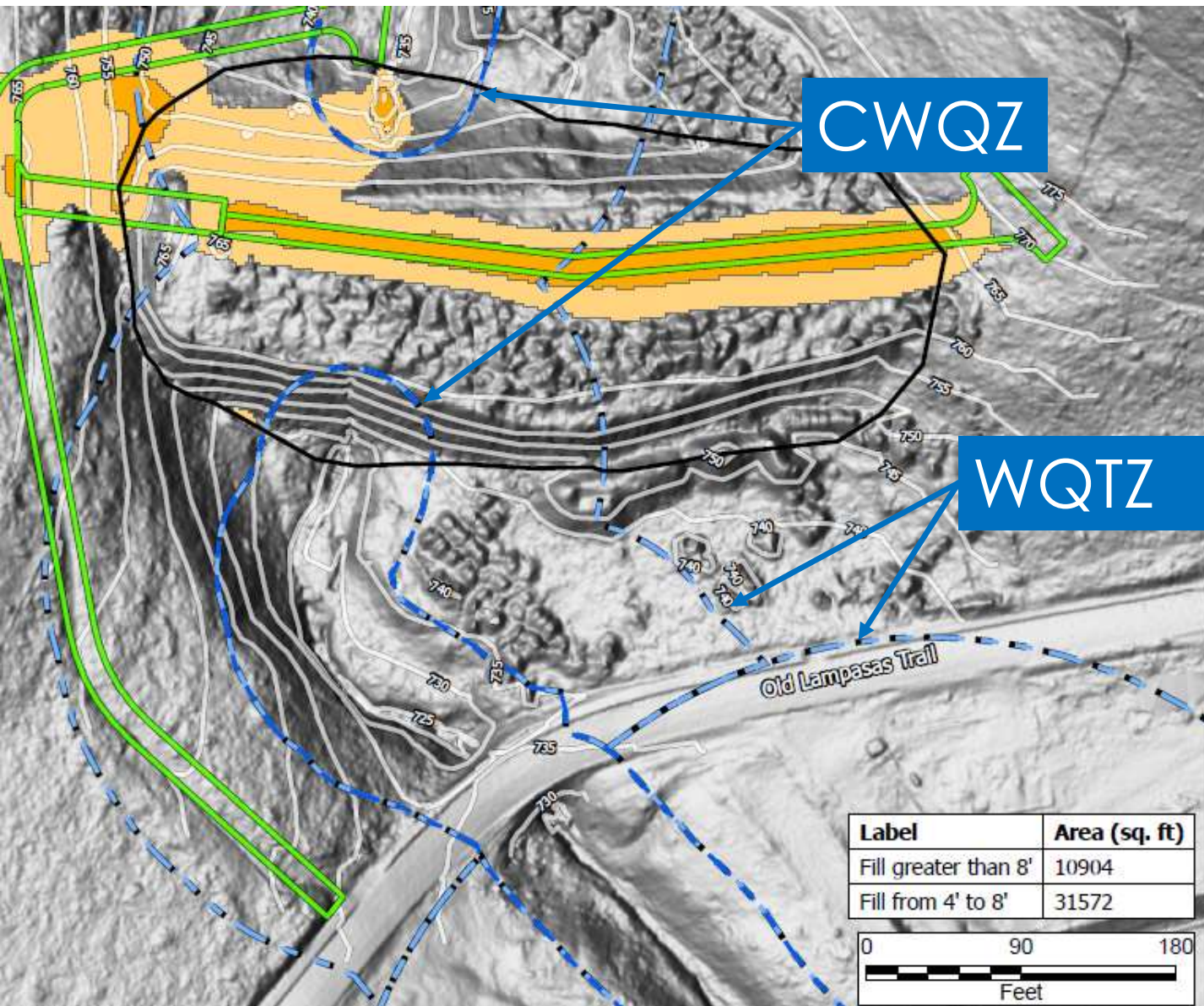
Cut  
CWQZ  
WQTZ  
Exhibit

Proposed Cut

 Cut greater than -8'

 Cut from -4' to -8'





AUSTIN, TEXAS

**Proposed Fill**

**Freese Nichols**  
FRESE AND NICHOLS, INC.  
3411 JACOBUS CIRCLE  
AUSTIN, TEXAS 78746  
P: 512-487-3100

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Fill  
CWQZ  
WQTZ  
Exhibit

Proposed Fill

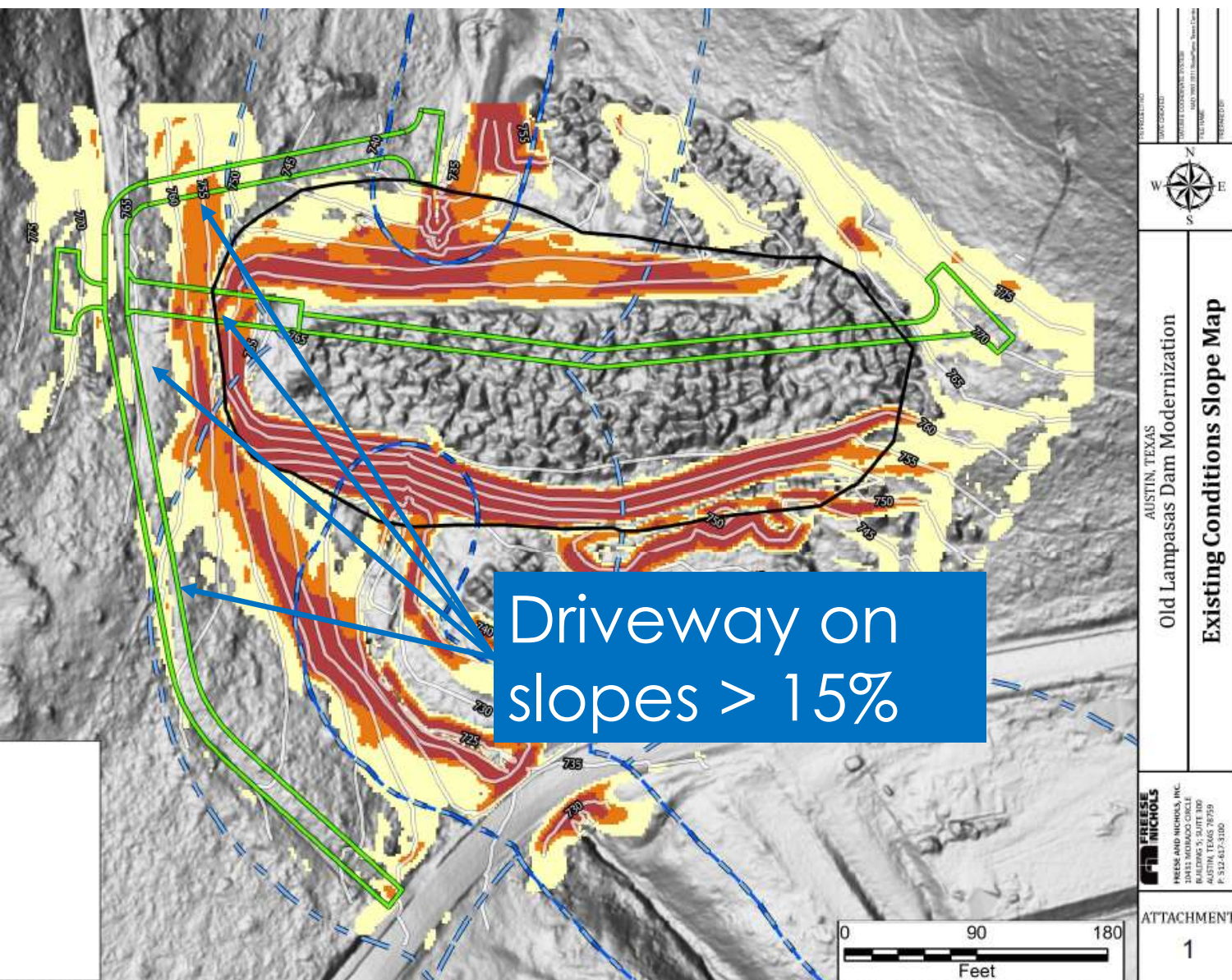
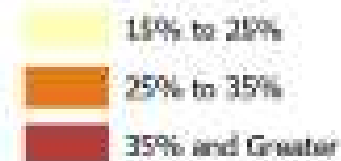
Fill greater than 8'

Fill from 4' to 8'



# Slope Exhibit

## Survey Topo Percent Rise





# Dam view from above

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# Spillway Pipe (upstream view)

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- ▶ This is the failed spillway pipe



# Spillway Pipe (downstream view)

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► Pipe has failed

Substantial erosion – pipe should be buried



# Spillway Pipe (downstream view)

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Embankment washout



# Spillway Pipe (downstream view)

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Embankment washout



# Downstream dam

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- ▶ Substantial erosion
- ▶ Voids
- ▶ Gulley should be the dam embankment



# Downstream dam

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- ▶ Substantial erosion
- ▶ Voids
- ▶ Gulley should be the dam embankment



# Downstream dam

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- Trees growing in dam

# Variance Requests

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- ▶ Request to vary from LDC 25-8-261 to allow construction in the Critical Water Quality Zone
- ▶ Request to vary from LDC 25-8-341 to allow cut up to 10 feet
- ▶ Request to vary from LDC 25-8-342 to allow fill up to 9 feet
- ▶ Request to vary from LDC 25-8-301 to allow driveway construction on slopes over 15%



# Variance Recommendation & Conditions

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Staff recommends the variances, having determined that the required findings of fact have been met.

Staff also recommends the following variance condition:

*609S native seeding and planting except where prohibited due to dam safety requirements.*



# 609S in Summary

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The 609S specification describes seedbed preparation, seed planting, planting of rooted vegetation, watering, hydromulch, compost, and species selection.

## 609S in Summary - continued

Approved species are based on moisture (generally proximity to a waterway) and sunlight - for example:

In the uplands and sun dappled area, inland sea oats is an approved plant

In the uplands full sun, Mexican hat is an approved plant

In moderate to high moisture areas, big bluestem is an approved plant



## 609S in Summary - continued

Management practices include conditions under which herbicide and fertilizer may not be applied – for example:

Herbicide shall not be applied when the wind is greater than 8 mph

Herbicide shall not be applied when rainfall is expected within 24 hours

Fertilizer shall not be applied within 48 hours of a potential rain event

## 609S in Summary - continued

What constitutes revegetation establishment is specified – for example:

A successful stand of grasses and forbs should have uniform density

Minimum of 95% cover

No patches of exposed soil greater than 10 s.f. in aerial extent

*Irrigation is required (typically until the vegetation is established).*

*Irrigation frequency and volumes vary with plant species.*



## 609S in Summary - continued

Weeds are also identified – these include a variety of plants, such as:

Ragweed

Johnson grass

Chinaberry

*Nuisance species must be controlled until vegetation establishment.*

# 609S in Summary - continued

The takeaway --

609S is a 14 page specification that identifies:

- acceptable and unacceptable plants and trees;

- vegetation planting requirements;

- maintenance requirements prior to vegetation establishment; and

- the conditions that indicate successful vegetation establishment.



THANK YOU  
&  
APPLICANT PRESENTATION