ENVIRONMENTAL COMMISSION MOTION 20160323 008a

Date: March 23, 2016

Subject: Eliza Springs Outlet Daylighting (as revision to Barton Springs General Grounds Improvements) SPC-2012-0104D

Motion By: Pam Thompson **Second By:** Peggy Maceo

RATIONALE:

Whereas, the Project is a condition of the USFWS permit for the continued operation of Barton Springs as a recreation facility. The project will replace a failing, buried outlet pipe with a surface stream more consistent with the historic conditions. The project will replace the existing turf grass with a new riparian vegetation community that improves floodplain health as determined by a flood plain functional assessment to "good" consistent with the Watershed Protection Ordinance; and

Whereas, the project will increase the area of surface habitat for endangered salamanders. And the project will not impair the function of Eliza Springs, and impacts to the existing spring pool during construction will be minimized.

Therefore, the Environmental Commission recommends support of the request for a site specific amendment to City Code Section 25-8-514 (Save Our Springs Initiative) and variances to City Code Sections 25-8-281 and 25-8-341 to allow the proposed project to exceed impervious cover limits and cut requirements, exempt the project from the pollution control requirements of the Save our Springs Initiative, and allow specific construction within the buffer of a critical environmental feature with the following;

Staff Conditions:

- Salamander biologists will be present on site during all aspects of the construction to oversee activity and ensure no unauthorized impacts to endangered salamanders;
- The project will comply with all applicable conservation measures in the USFWS permit for the continued operation of Barton Springs, including limitations on the use of herbicides, pesticides and fertilizers, such that the project will not result in any increase in pollutants;
- Erosion controls will be utilized in compliance with city code to ensure no discharge of sediment;
- Groundwater infiltrating into the excavation area will be filtered prior to discharge;
- Eliza Springs outflow will be re-routed around the excavation area during construction and will continue to discharge into Barton Creek;
- The new stream side slopes have been specifically designed to be stable and withstand flooding from Barton Springs;
- Other than the SOS amendment and variances identified, the project complies with City Code.

Environmental Commission Conditions:

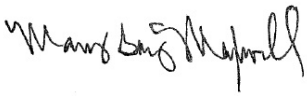
1. Concern over frequent inundation of Eliza Springs with Flood Water which previously did not exist in recent history and as staff to address this concern

2. Consider reducing density of trees with a minimum of 25’ of spacing and consider removing bald cypress and consider more understory as a substitute for trees

VOTE 10-0-0-1

Recuse: None
For: Creel, Thompson, Gooch, Neely, Maxwell, H. Smith, B. Smith, Grayum, Maceo, Perales
Against: Moya
Abstain: None
Absent: None

Approved By:



Mary Gay Maxwell, Environmental Commission Chair

M E M O R A N D U M

TO: Dr. Mary Gay Maxwell, Chair and Commissioners
Environmental Commission

FROM: Chuck Lesniak, Environmental Officer
Watershed Protection Department

DATE: March 17, 2016

SUBJECT: SOS and Other Code Amendments for Eliza Springs Outlet Daylighting Project
SP-2012-0104D

On the March 23, 2016 Environmental Commission agenda is a proposed amendment to the City's Save Our Springs ordinance and related variances to the Chapter 25-8 of the Land Development Code. The ordinance is being brought forward to enable the Watershed Protection Department (WPD) to proceed with the Eliza Springs Outlet Daylighting Project.

Project Description and Background
Eliza Springs in Zilker Park (Figure 1) is habitat for the endangered Austin Blind and Barton Springs salamanders. Groundwater emerges from Eliza Springs and currently flows out of the historic amphitheater, into an underground pipe on the north side of the grounds of Barton Springs, and thence flows into the Barton Springs Bypass Tunnel. The existing outlet pipe is failing and requires replacement. Historically, Eliza Springs was connected to Barton Creek via a natural surface stream (Figure 2).

The Barton Springs Complex is not only critical habitat for federally-endangered salamander species, but also an important recreational resource for Austin. Operation of Barton Springs as a swimming facility requires a permit from the U.S. Fish and Wildlife Service (USFWS) to allow incidental "take" of protected salamanders under the federal Endangered Species Act Section 10(a)(1)(B). The City of Austin permit from the USFWS, authorized by Austin City Council Resolution 20111103-034, includes a conservation measure to replace the buried outlet pipe of Eliza Spring with a natural "daylighted" surface stream (Figure 3). The new surface stream will increase the area of potential salamander habitat and thus increase the resiliency of the salamander species to changing climatic and hydrologic conditions in the future.

Construction of the daylighted stream must fully comply with all of the conservation measures in the USFWS-approved Habitat Conservation Plan for Barton Springs, including the minimization of entry of anthropogenic pollutants into salamander habitat. WPD salamander biologists will oversee all aspects of the construction. Erosion control will be utilized consistent with code requirements, and suspended sediment in groundwater infiltrating into the excavation during construction will be filtered prior to discharge. Impacts to Eliza Springs itself within the amphitheater will be limited in spatial and temporal

extent, just to allow reconstruction of the keyway exit, and salamanders will be removed from the area prior to any dewatering.

WPD and consulting engineers HDR have developed a design to replace the failing buried pipe with the new surface stream (Figure 4). Some existing storm drains must be relocated to make room for the new surface stream. The project area is located within the grounds of Barton Springs in Zilker Park, in the Critical Water Quality Zone and floodplain of Barton Creek, in the Drinking Water Protection Zone and over the Edwards Aquifer Recharge Zone. The area in question is subject to the the Watershed Protection Ordinance, and the Save Our Springs Ordinance. The project is utilizing the existing, active site plan for Zilker Park and is proceeding as revision 2 of SP-2012-0104D.

Code Amendment and Variances
To construct the new surface stream, a cut of more than 4 feet is necessary to access the buried outlet pipe and to create a new stream channel with stable side slopes. The existing keyway where groundwater exits the Eliza Springs amphitheater must be removed to connect Eliza Springs with the new surface stream and thus construction must occur within the buffer of a Critical Environmental Feature (Eliza Spring itself).

The portion of Zilker Park on SP-2012-0104D within the Barton Creek Watershed already exceeds the maximum allowable 15% impervious cover. The SOS Ordinance would require the full site described on SP-2012-0104D to be brought into compliance for impervious cover in order to conduct the development proposed for the Eliza Springs Outlet Daylighting Project.

For the Eliza Springs Outlet Daylighting Project to complete the site development permit application process, two variances are necessary:

- 25-8-281 (*Critical Environmental Features*) to allow construction within the buffer of a Critical Environmental Feature (Eliza Springs), and
- 25-8-341 (*Cut Requirements*) to allow cut on a tract of land more than 4 feet in depth.

Because 25-8-515 prohibits variances from the SOS Ordinance, a site-specific amendment to the SOS Ordinance approved by the City Council is necessary to allow construction of the Eliza Springs Outlet Daylighting Project. Due to the special nature of the project to restore a historic stream and create additional salamander habitat in compliance with USFWS permit requirements, and in the interest of efficiency, the proposed site-specific ordinance will also authorize the two necessary variances.

Project Review
WPD is the project sponsor, and has developed the design in consultation with staff from the Parks and Recreation Department. Due to the complex nature of the project location in endangered species habitat, affecting a historic structure, in a floodplain, and in a metropolitan park, WPD is pursuing development of the daylighted stream under a full site plan. Staff from Development Services and other City of Austin departments have completed one round of review of the site plan application.

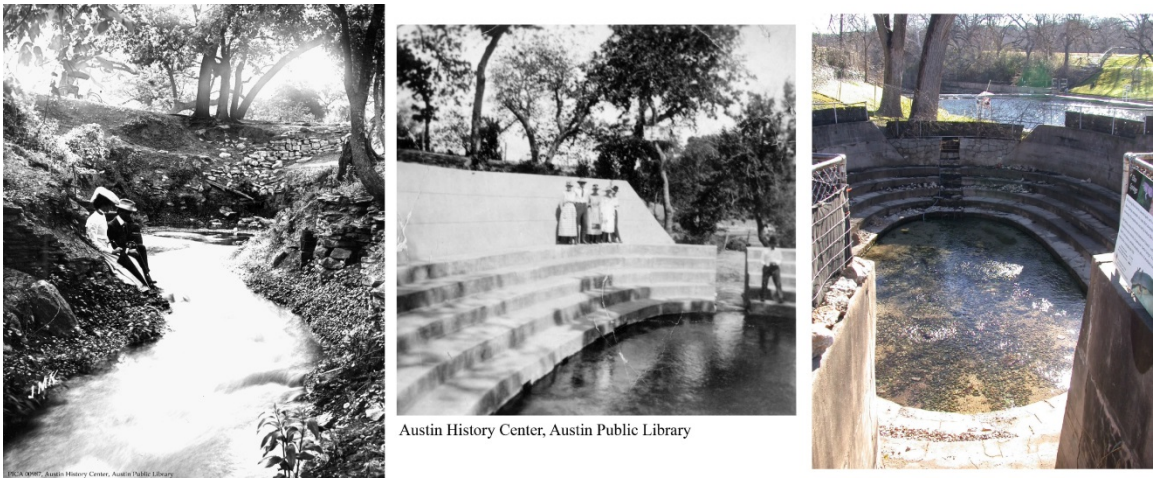
Recommendation
Staff recommends approval of the proposed amendment and associated variances for the following reasons:

- The project is a condition of the USFWS permit for the continued operation of Barton Springs as a recreation facility.
- The project will increase the area of surface habitat for endangered salamanders.

- The project will replace a failing, buried outlet pipe with a surface stream more consistent with the historic conditions.
- The project will replace existing turf grass with a new riparian vegetation community that improves floodplain health as determined by a floodplain functional assessment to “good” consistent with the Watershed Protection Ordinance.
- The project will not impair the function of Eliza Springs, and impacts to the existing spring pool during construction will be minimized.
- Salamander biologists will be present on site during all aspects of the construction to oversee activity and ensure no unauthorized impacts to endangered salamanders.
- The project will comply with all applicable conservation measures in the USFWS permit for the continued operation of Barton Springs, including limitations on the use of herbicides, pesticides and fertilizers, such that the project will not result in any increase in pollutants.
- Erosion controls will be utilized in compliance with city code to ensure no discharge of sediment.
- Groundwater infiltrating into the excavation area will be filtered prior to discharge.
- Eliza Spring outflow will be re-routed around the excavation area during construction and will continue to discharge into Barton Creek.
- The new stream side slopes have been specifically designed to be stable and withstand flooding from Barton Springs.
- Other than the SOS amendment and variances identified, the project complies with City Code.

Figure 1. Salamander habitat spring locations within Zilker Park

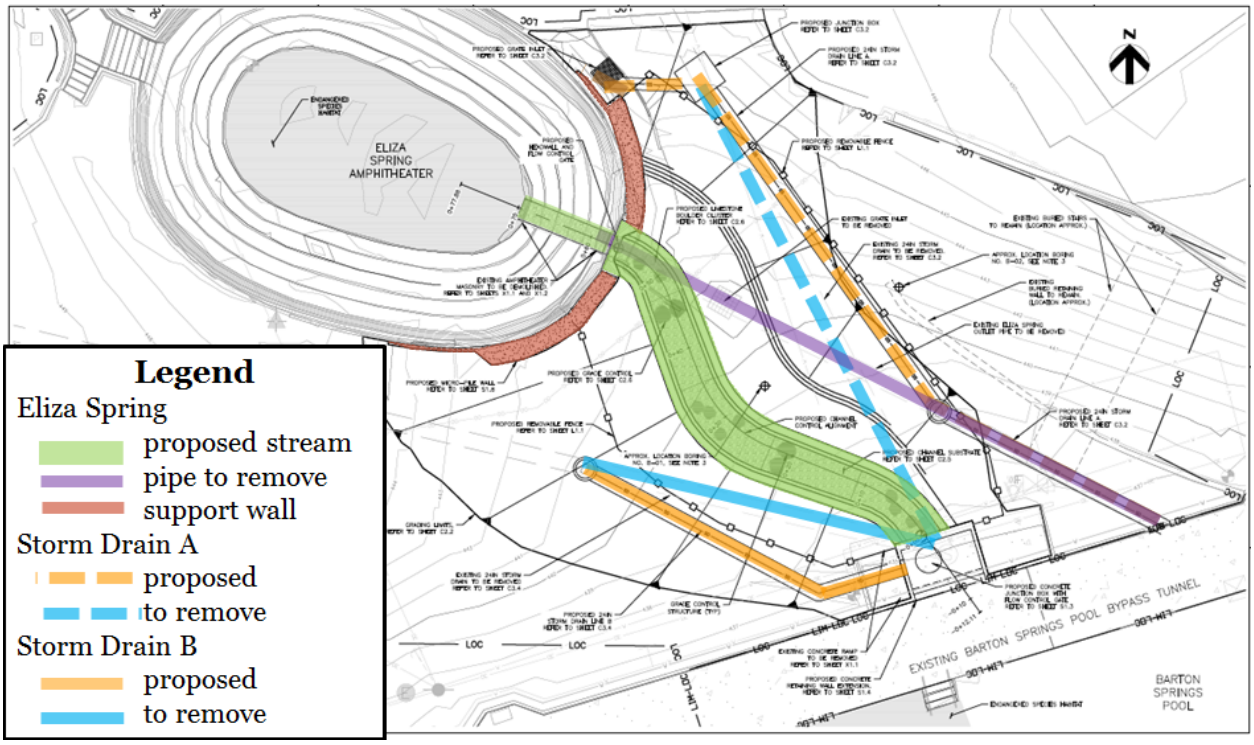
Figure 2. Historic and current photographs of Eliza Spring.



Austin History Center, Austin Public Library

Figure 3. Photosimulation of new Eliza Spring outlet surface stream.

Figure 4. Construction detail for Eliza Daylighting project.



A site-specific SOS Amendment for the Eliza Spring Outlet Daylighting Project

DONELLE ROBINSON, ENVIRONMENTAL SCIENTIST

CITY OF AUSTIN
WATERSHED PROTECTION DEPARTMENT

Overview of Presentation

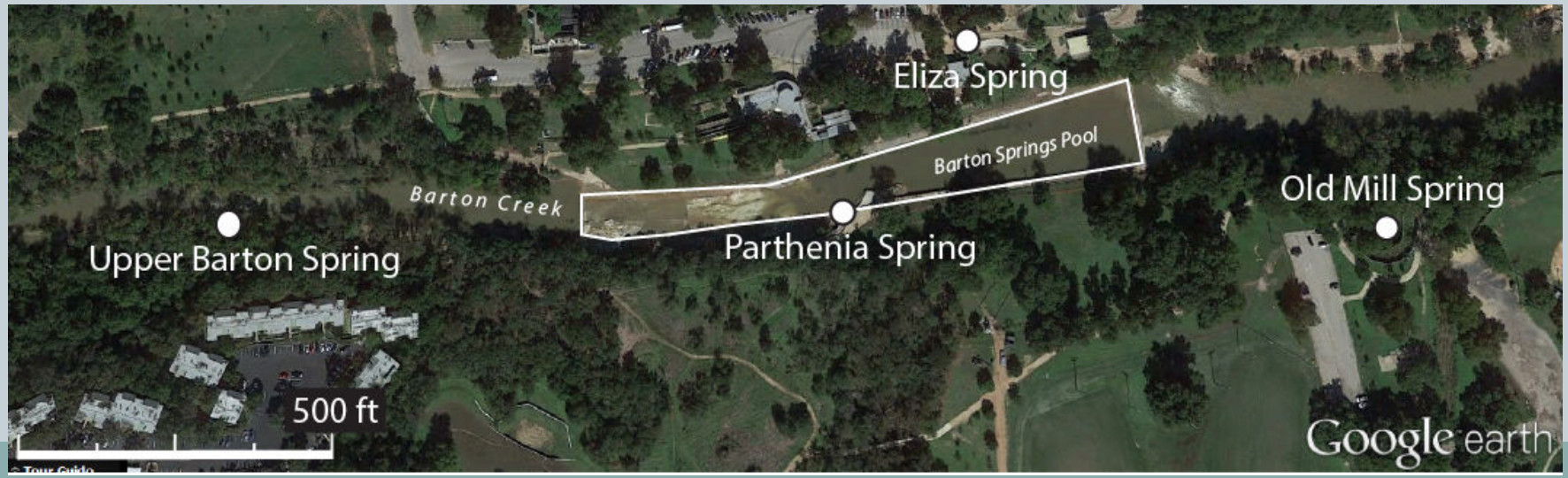
- USFWS permit information
- History of Eliza Spring Amphitheater
- Need for Daylighting Project
- Overview of Key Design Elements
- Public Outreach
- Project Timeline

Tonight:

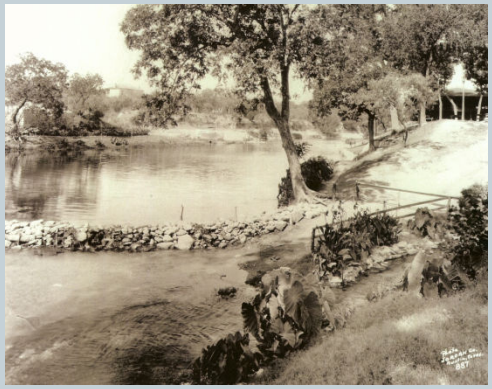
- Seeking a recommendation for site-specific SOS amendment and associated variances

Habitat Conservation Plan
US Fish & Wildlife Service 10(a)1(B) permit

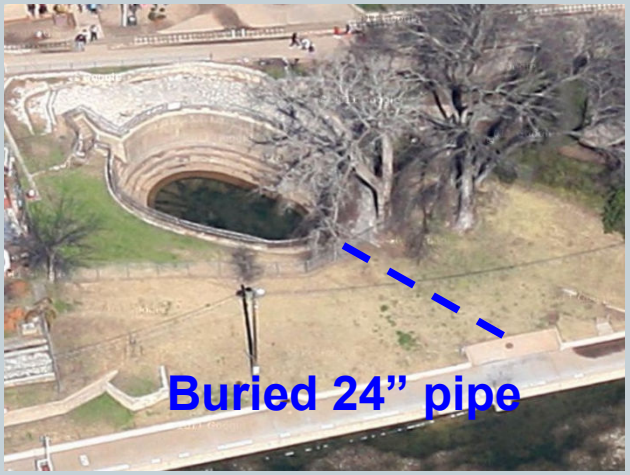
- Allows the City of Austin to keep Barton Springs Pool open for recreation despite it being endangered species habitat
- 20 year permit
- Formal agreement between Parks and Watershed



Eliza Spring Modifications



- Amphitheater built
- Outflow buried
- Concrete floor
- Salamander habitat



Why Daylighting?

- Need to replace failing buried pipe
  - Recreates historical waterway
- Part of the Barton Springs Salamander Habitat Conservation Plan
  - Increase salamander habitat and improve resiliency of species

Proposed Stream

Public Outreach

- Public meetings:
  - Nov 14, 2012
  - October 23, 2013
  - Nov 20, 2013
  - Dec 18, 2013
  - Feb 5, 2014
  - Mar 19, 2014
  - April 9, 2014
  - May 21, 2014
- Parks Board
  - April 22, 2014
  - Lands Facilities Feb 8, 2016
- Joint Committee of the Parks Board and Environmental Commission:
  - March 19, 2012
  - August 6, 2013
  - March 18, 2014
  - September 30, 2014
  - November 12, 2014
  - January 19, 2016
- Memo to Council
  - July 29, 2013
- Codes & Ordinances
  - April 21, 2015

Project Timeline

- Current Processes
  - Site plan in review
  - Finalize permitting with Tx Historic Comm, US Army Corps of Engineers, Tx Comm on Environmental Quality
- SOS amendment/variances
  - March 23 – Environmental Commission
  - April 19 - Codes and Ordinances Subcommittee
  - May 10 - Planning Commission
  - June 9 - City Council public hearing
- Bidding April-May
- Construction Fall 2016-Spring 2017

Project Limits of Construction

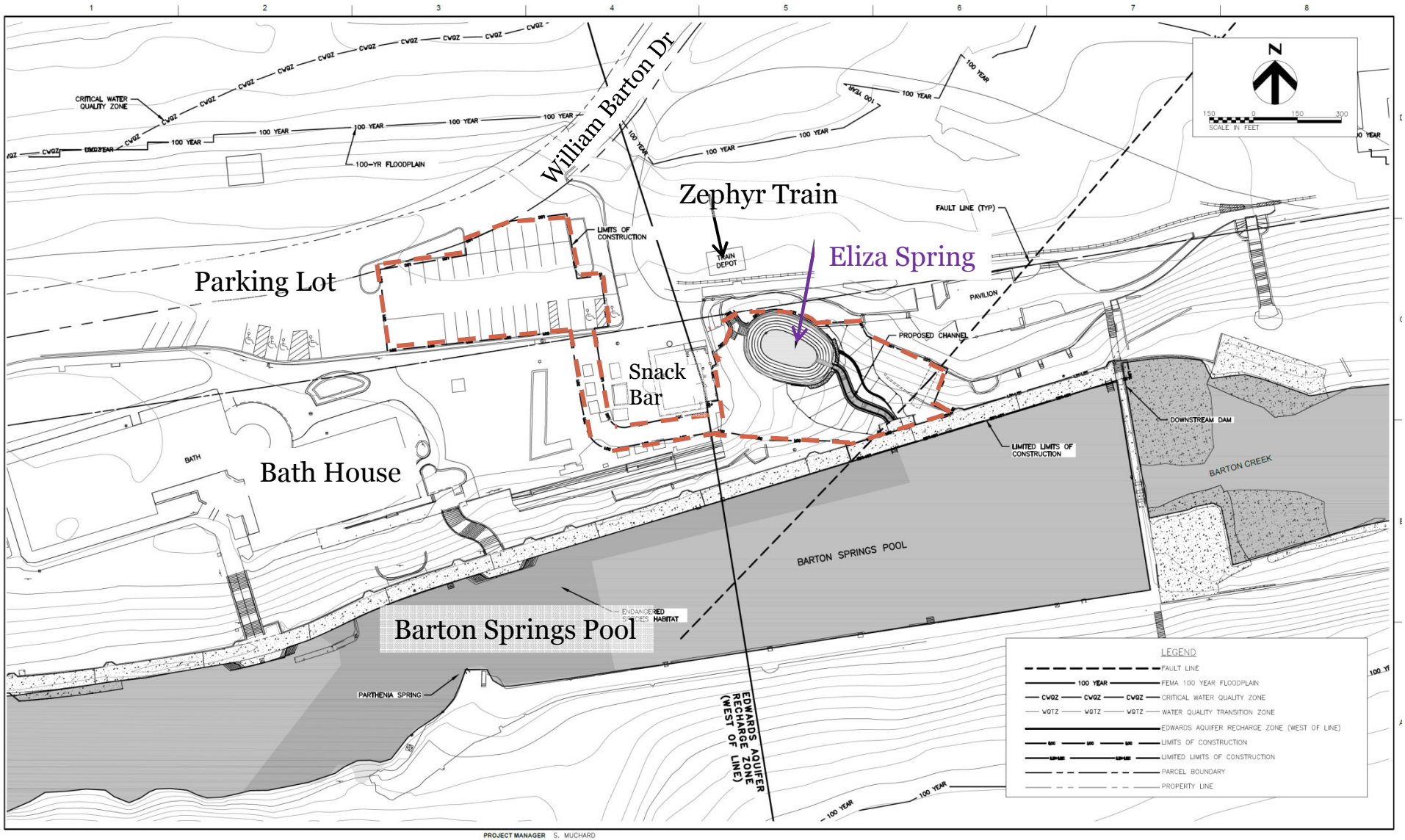


Exhibit A:Limits of Construction

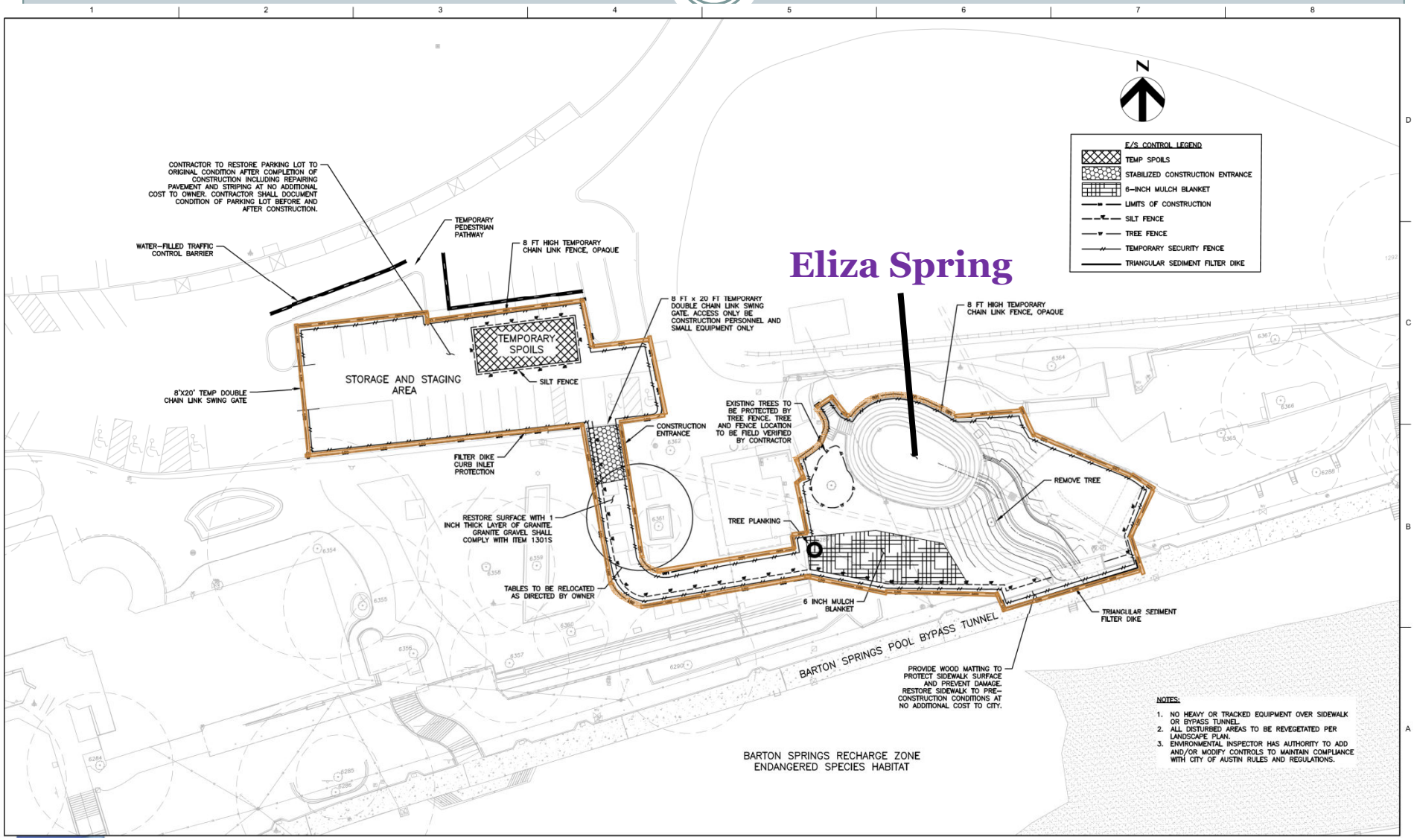
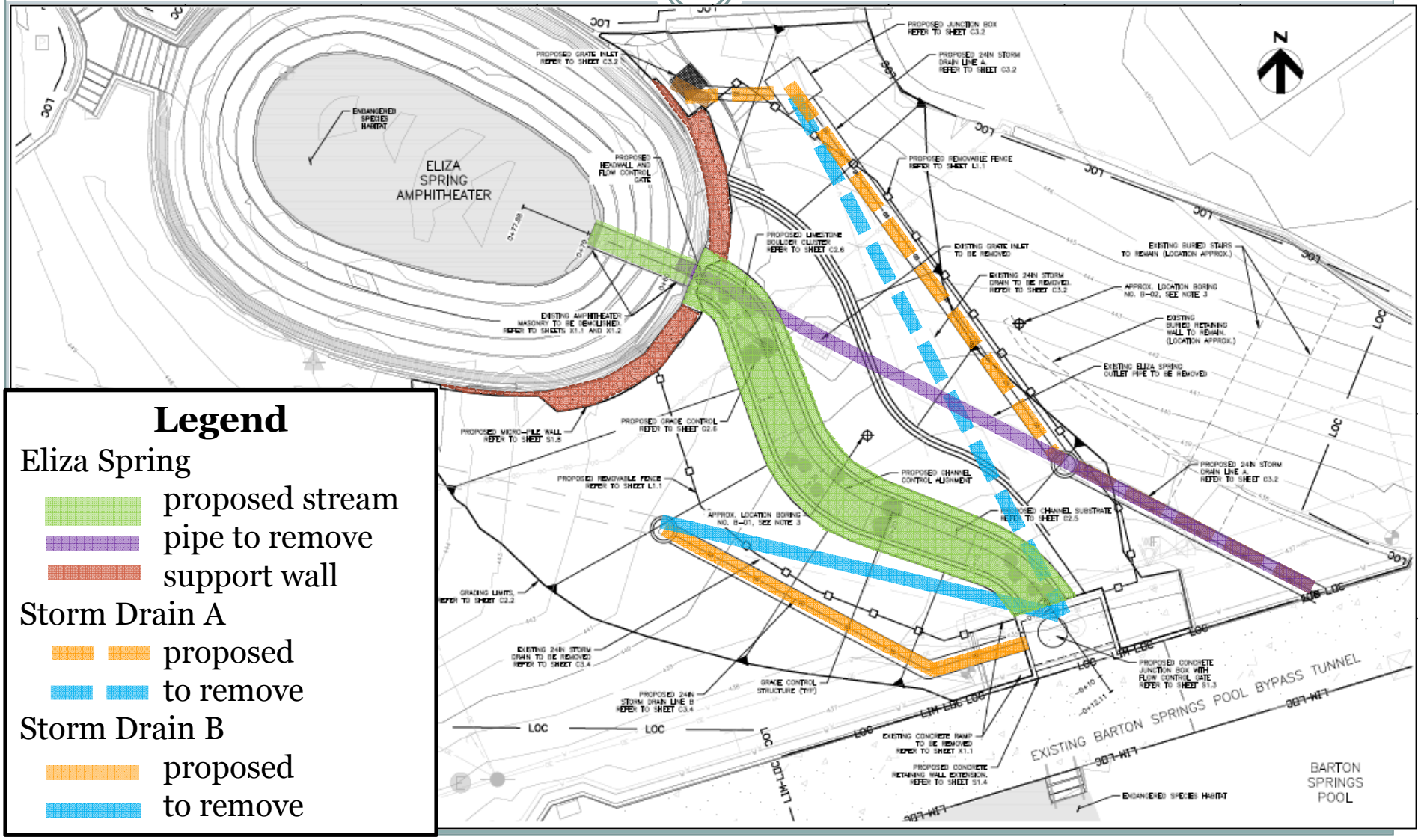
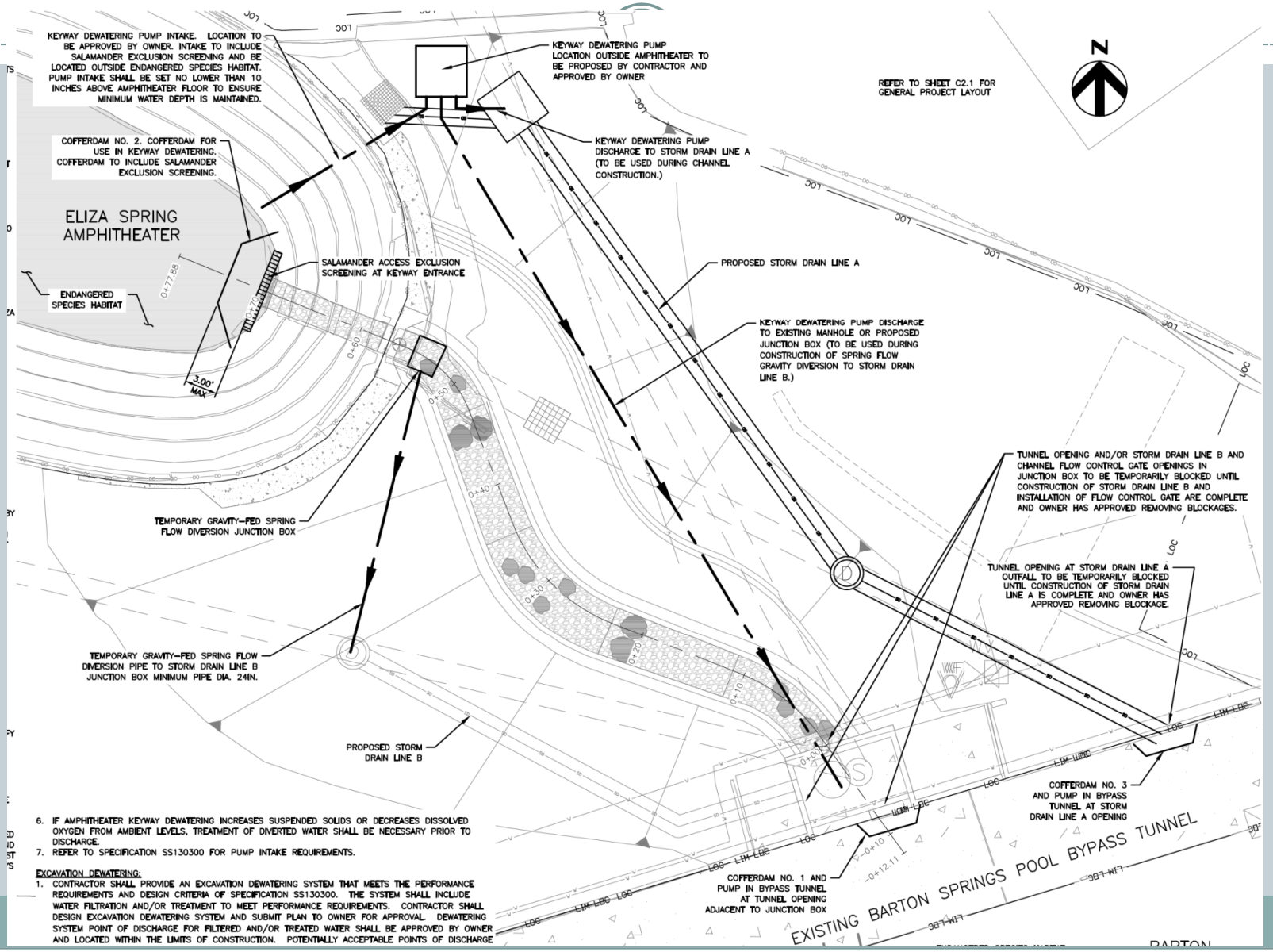


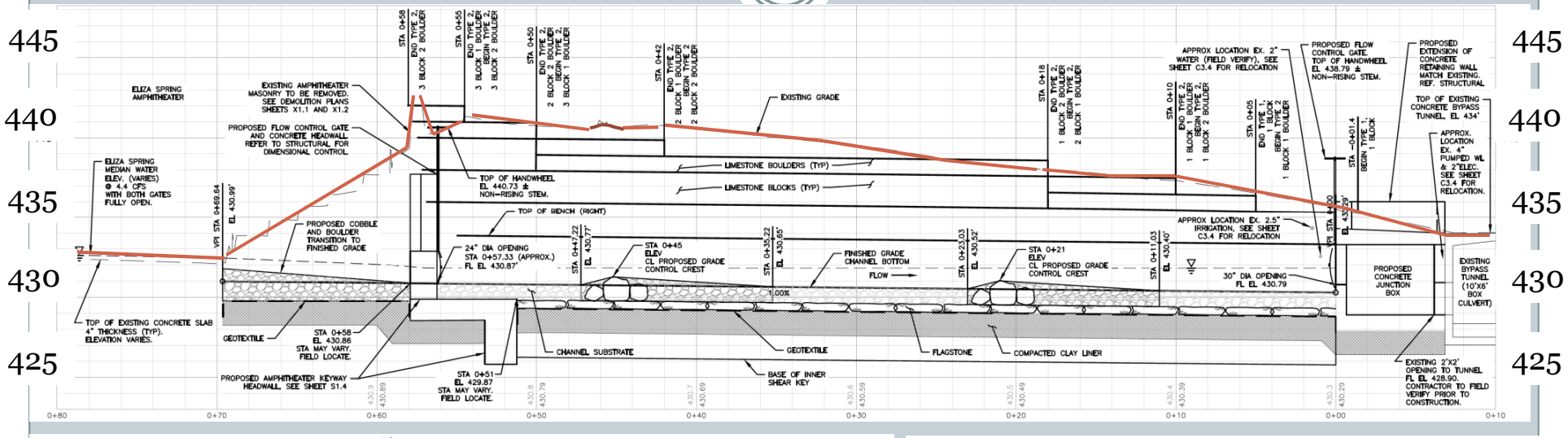
Exhibit B:New Channel, Storm Drain Redirection, and Structural Support

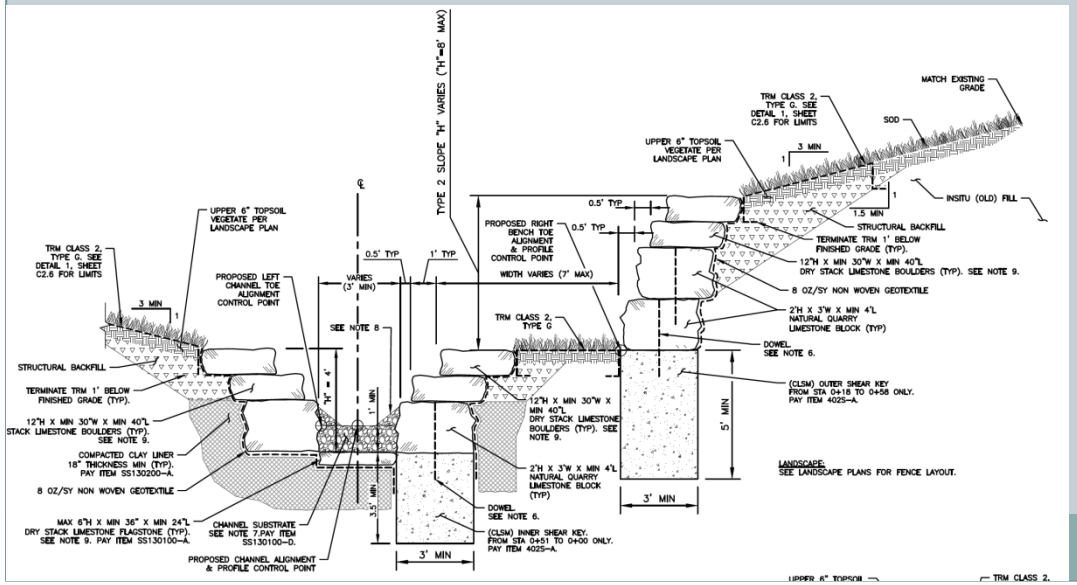


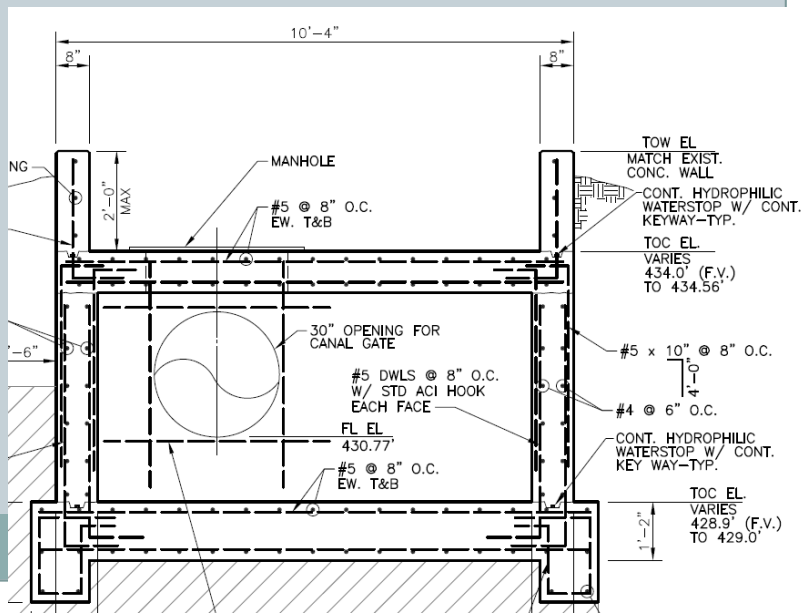
Care of Water



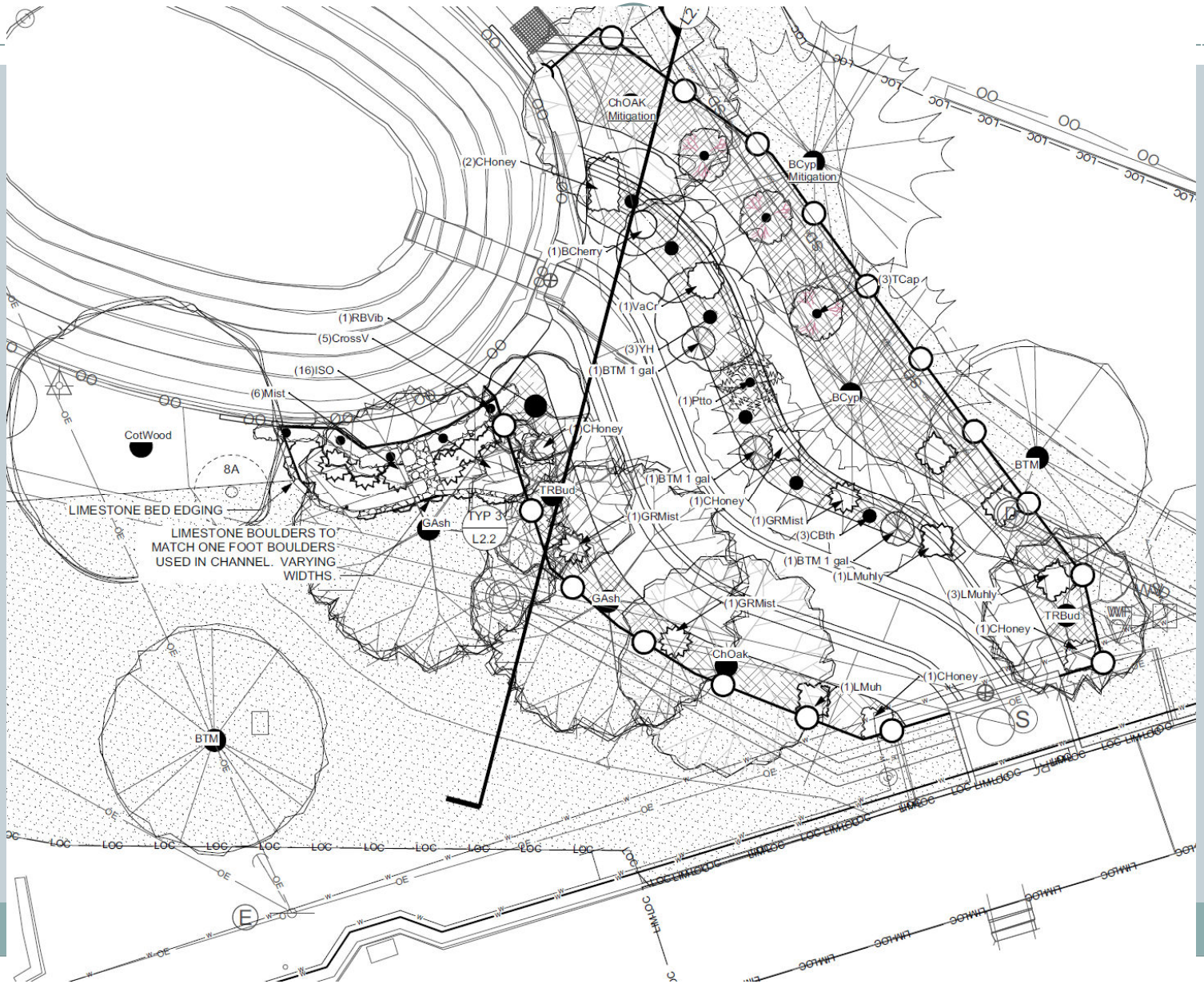
Stream Profile, Cross Sections



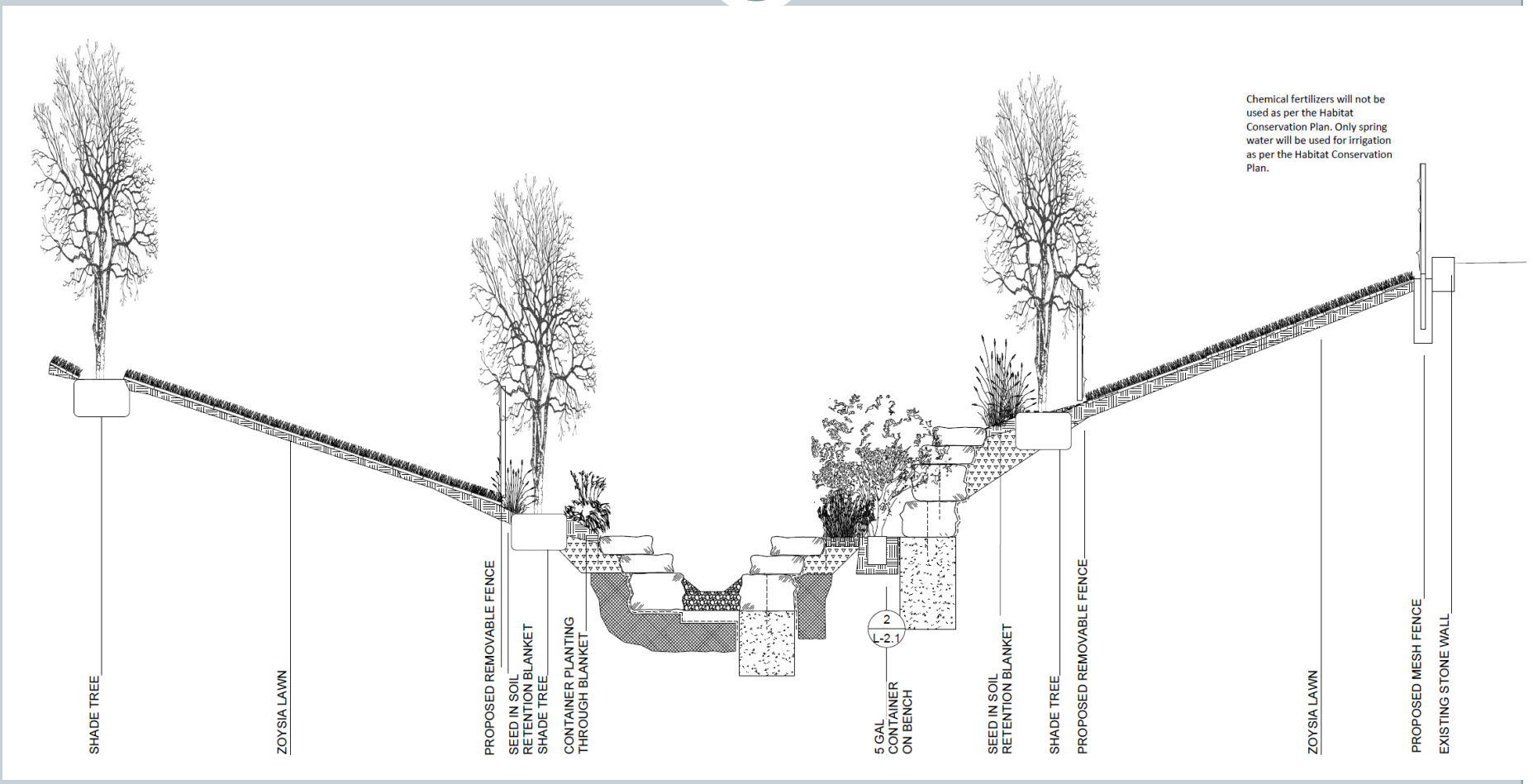




Planting Plan



Planting Plan Cross Section



Plant List

Plant List							
Tag	**Common Name**	**Botanical Name**	**Qty**	**Scheduled Size**	**Height**	**Spread**	**Comments**
Trees							
BCyp	Bald Cypress	Taxodium distichum	2	3" caliper	15'	4'	western seed sourc
BTM	Big Tooth Maple	Acer grandidentatum	2	3" caliper	12'	4'	
BTM 1 gal	Big Tooth Maple 1 gal	Acer grandidentatum 1 gal	3	1 GAL	2'	1'	
CBth	Carolina Buckthorn	Rhamnus caroliniana	3	5 gal	3'	3'	
Ch Oak	Chinquapin Oak	Quercus muhlenbergia	2	3" caliper	15'	5'	
Cotwood	Cottonwood	Populus deltoides	1	2" caliper	10'	4'	
GAsh	Green Ash	Fraxinus pennsylvanica	2	2" caliper	10'	4'	
RB Vib	Rusty Blackhaw Viburnum	Viburnum rufidulum	1	15 gal	5'	4'	
TRBud	Texas redbud	Cercis canadensis var. texensis	2	45 gal	8'	3'	
YH	Yaupon Holly	Ilex vomitoria	3	45 gal	6'	4'	female
Shrubs, Grasses, Vines & Groundcover							
LMuhly	Big Muhly	Muhlenbergia lindheimeri	5	5 gal			
BCherry	Dwarf Barbados cherry	Malphigia glabra nana	1	1 gal			
GRMist	Gregg's Mistflower	Conoclinium greggii	2	1 gal			
ISO	Inland Sea Oats	Chasmanthium latifolium	13	1 gal			
Mist	Mistflower	Ageratina havanensis	7	1 gal			
Ptto	Palmetto	Sabal minor	1	45 gal			
TCap	Turk's Cap	Malvaviscus drummondii	3	1 gal			
CHoney	Coral Honeysuckle	Lonicera sempervirens	6	1 gal			
Crossv	Crossvine	Bignonia capreolata	5	5 gal			
VaCr	Virginia Creeper	Parthenocissus quiquefolia	1	1 gal			
Total	Total		65				

	TREE MITIGATION						
Removed?	**Tree #**	**Species**	**Cal. Inch**	**AppF?**	**Factor**	**Condition**	**Repl. Inch**
X	8A	Elm	6" multi	Yes	1		6
					TOTAL		6.00

25-8-364 (D3) Floodplain modifications

Floodplain modifications in the critical water quality zone must restore floodplain health to support natural functions and processes as prescribed in the floodplain modification criteria in the Environmental Criteria Manual.

- Project results in equal or better water quality with current landscaping plan because functional assessment is “good or better”

Natural Habitat

Upper Barton Spring

Hays County
Water Quality Protection Lands

Impacts of Riparian Health on Salamanders

- Barrett, K., & Price, S. (2014). Urbanization and stream salamanders: a review, conservation options, and research needs. *Freshwater Science*, *33*(3), 927–940. http://doi.org/10.1086/677556
  - Takeaway 1: "Protect riparian and critical upland habitat with native vegetation to protect streams."
  - Takeaway 2: "Revegetate and restore riparian and terrestrial environments around streams."
- Cecala, K. K., Lowe, W. H., & Maerz, J. C. (2014). Riparian disturbance restricts in-stream movement of salamanders. *Freshwater Biology*, *59*(11), 2354–2364. http://doi.org/10.1111/fwb.12439
  - Takeaway: The more trees present, the more likely we will close canopy gaps and help facilitate salamander movement

No variances to SOS Ordinance

§ 25-8-515 - NO EXEMPTIONS, SPECIAL EXCEPTIONS, WAIVERS OR VARIANCES.

- The requirements of this article are not subject to the exemptions, special exceptions, waivers, or variances allowed by Article 1 (*General Provisions*). Adjustments to the application of this article to a specific project may be granted only as set out in Section 25-8-518 (*Limited Adjustment To Resolve Possible Conflicts With Other Laws*) below

25-8-514: Limits impervious cover in Barton Springs Zone, no increase in pollutant loadings

- The "site" exceeds allowable impervious cover
- Modification of the "site" requires the full "site" to be brought into compliance with current code
  - Outside the scope of the daylighting project

Project results in equal or better water quality:

- Project does not increase pollutant loadings, does increase salamander habitat and improves existing floodplain function

25-8-281: Construction within buffer zone of a critical environmental feature prohibited

Project does not impair function of the Critical Environmental Feature

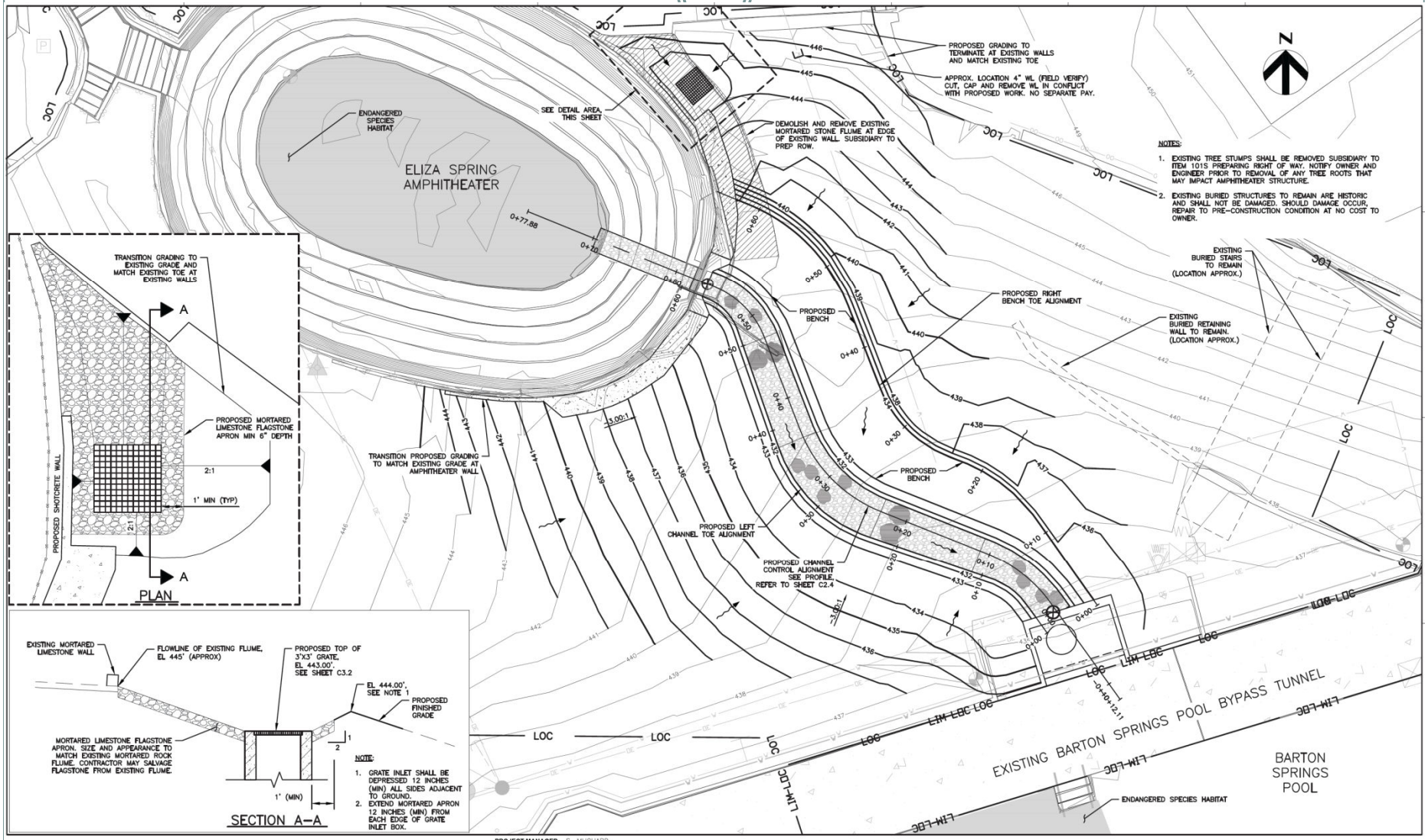
- Spring water diverted around construction
- No materials can enter water
- Salamander biologists inspect area to move salamanders prior to dewatering
- Salamander biologists present for all work in habitat
- Compliant with Habitat Conservation Plan requirements

25-8-341: Cut may not exceed four feet of depth

Project results in equal or better water quality:

- Erosion controls during construction
- Salamander biologist oversight throughout project
- Area to be stabilized after construction
- Area revegetated consistent with Watershed Protection Ordinance
- Improving floodplain function over existing conditions
- Suspended solids removal from water prior to discharge

Grading Overview



Contact:

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512-974-1242

austintexas.gov/department/eliza-spring-daylighting