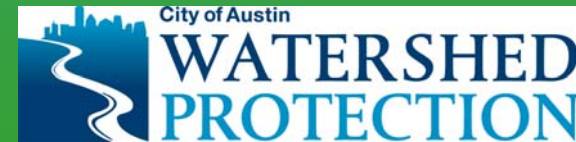


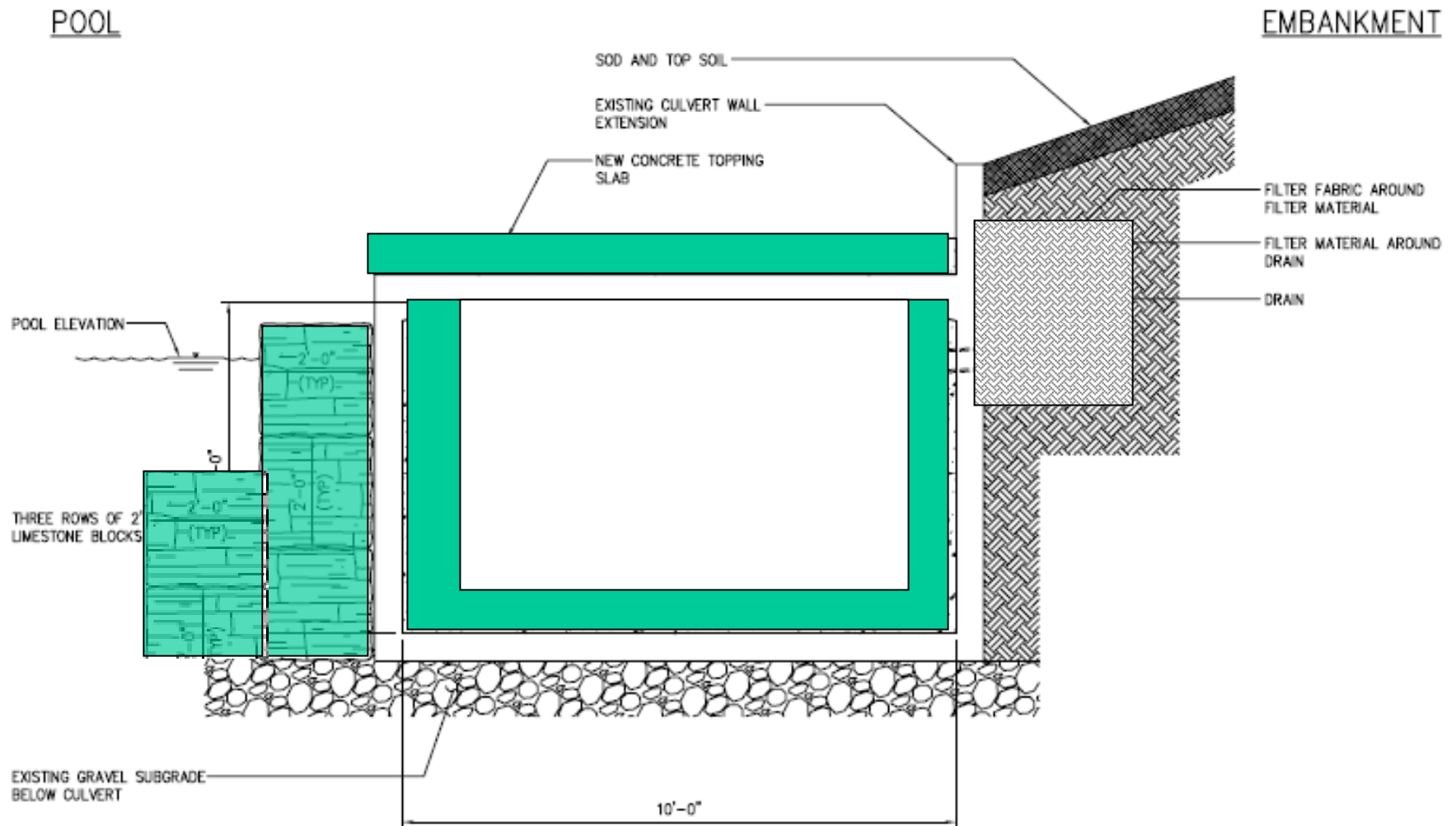
# BARTON SPRINGS BYPASS

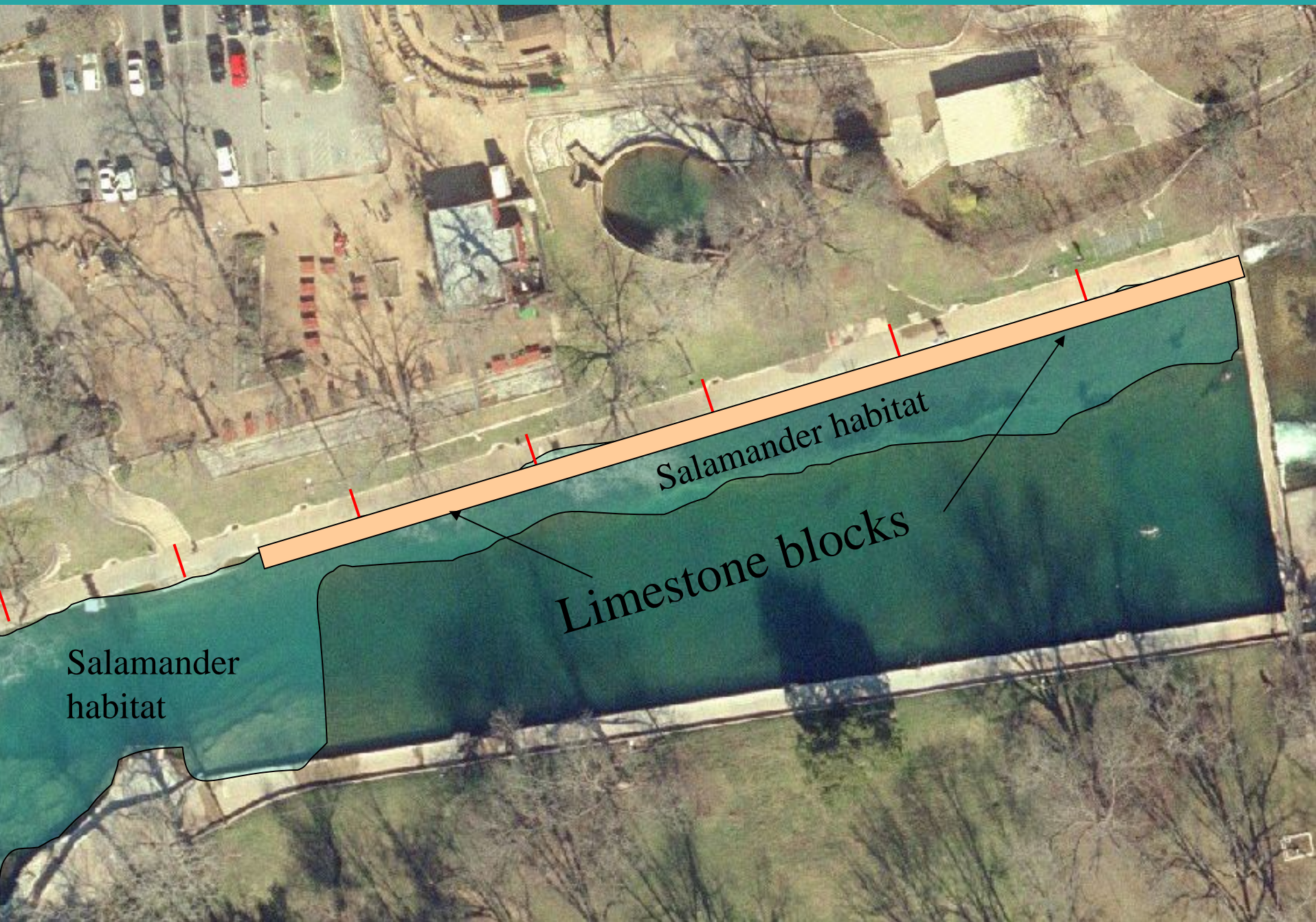
David A. Johns, P.G.  
Watershed Protection Department

January 2010



# Option 2b: Preferred (Sept)





Salamander  
habitat

Salamander habitat

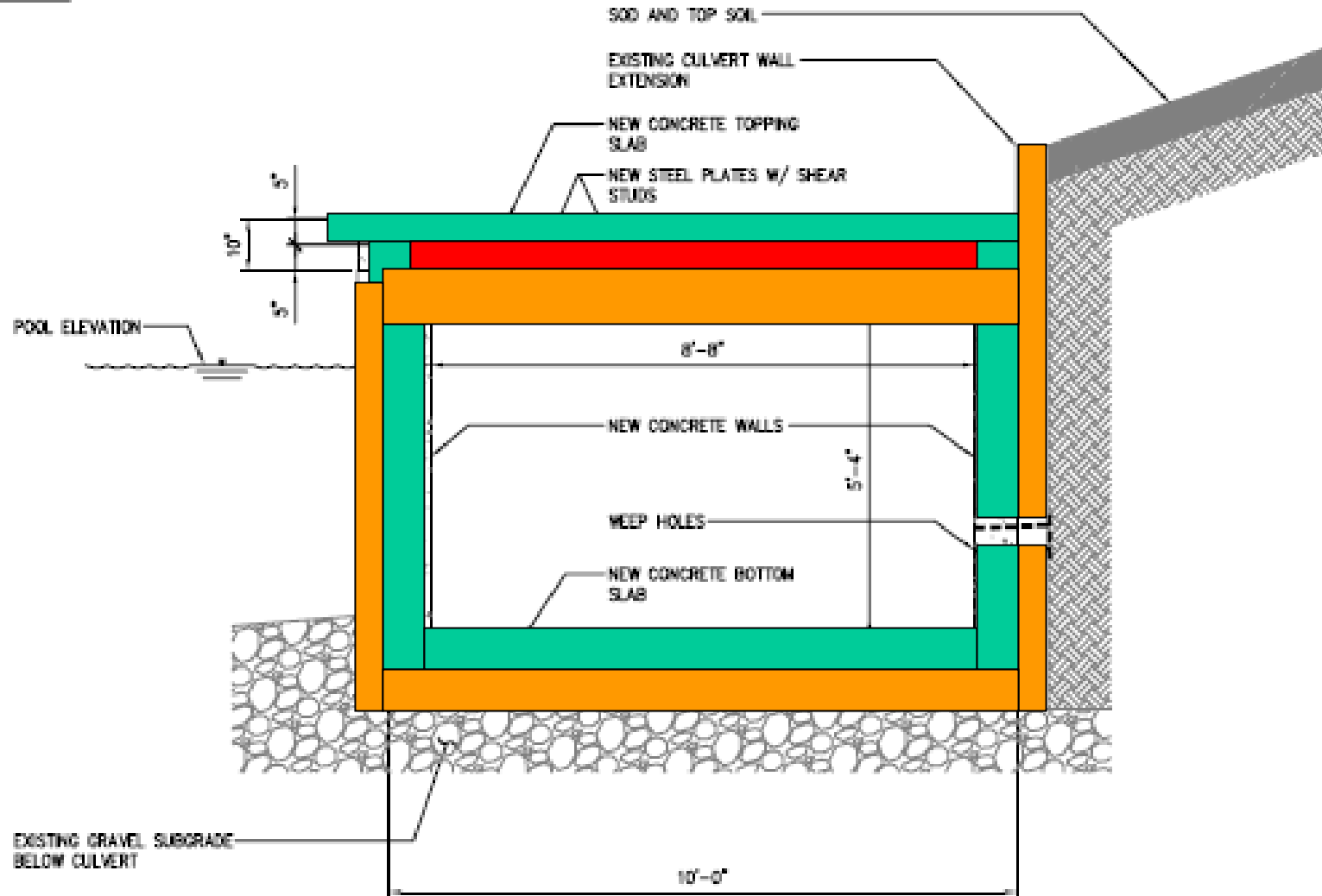
Limestone blocks



# Option 2c: Preferred Solution

POOL

EMBANKMENT



LOOKING WEST (UPSTREAM)

OPTION 2c - TYPICAL SECTION

SCALE: NOT TO SCALE

# USACOE/USFWS Process

- Notification to USACOE (done)
- Salamander biological assessment with estimated take (in progress by WP)
- USACOE requests consultation with USFWS
- USACOE/USFWS confer with COA on bypass and gravel projects
- USFWS issues assessment of take due to projects
- USACOE issues permit for projects (June?)

# Biological Assessment

## Gravel bar

- Impacts of actions on salamander

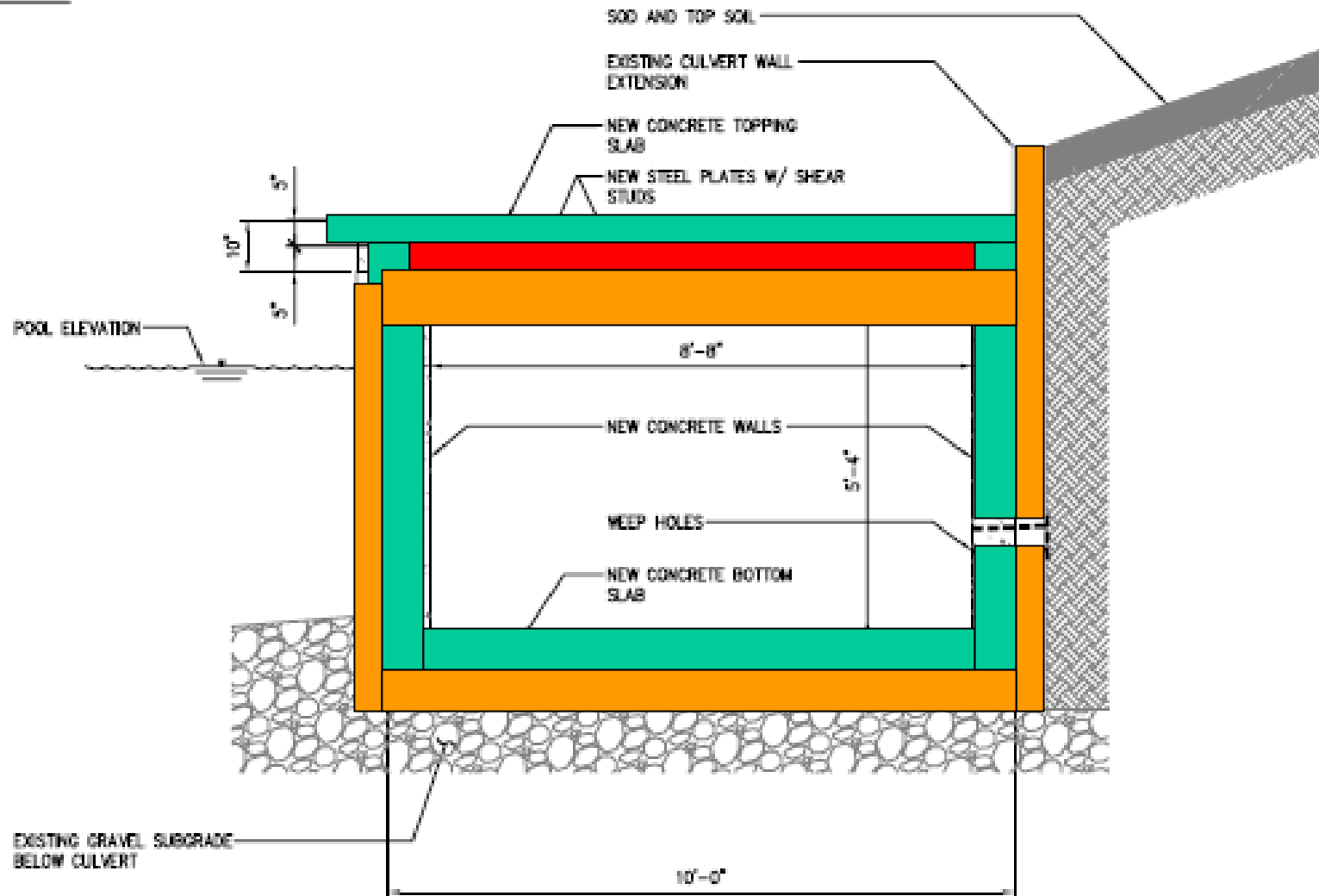
## Bypass repairs

- Work on bypass itself
- Joint repair – pool side
- Remove existing two sets of narrow stairs
- Replace with two sets of stairs in deep end, north side
- Filling void space beneath bypass

# Option 2c: Preferred Solution

POOL

EMBANKMENT



LOOKING WEST (UPSTREAM)

OPTION 2c - TYPICAL SECTION

SCALE: NOT TO SCALE

# Preferred Option Stability Factors

## Normal Pool Conditions

- Buoyancy = 3.17
- Overturning = 2.24
- Sliding = 1.5

## Temporary Pool Drawdown

- Buoyancy = 5.89
- Overturning = 2.51
- Sliding = 1.29



# Expected Outcomes

- Low risk to endangered species
- Eliza flow protection
- Underground habitat protection
- Pool aquatic habitat enhancement
- Flexibility with flow enhancements
- Acceptable reduction in bypass capacity
- Long-term stability and life of structure
- Less site disturbance
- Achievable constructability
- Greater potential for pool to be open during some work
- Minimal impacts to normal pool operations and maintenance



THE END (for now)