



U.S. DEPARTMENT OF
ENERGY

Legacy
Management

August 20–23, 2018
Grand Junction, Colorado

2018 Long-Term Stewardship Conference

Erosion Control at the L-Bar, New Mexico, Disposal Site

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Track 1.5 – LTS Practices & Challenges at DOE Legacy
Sites, Part 2

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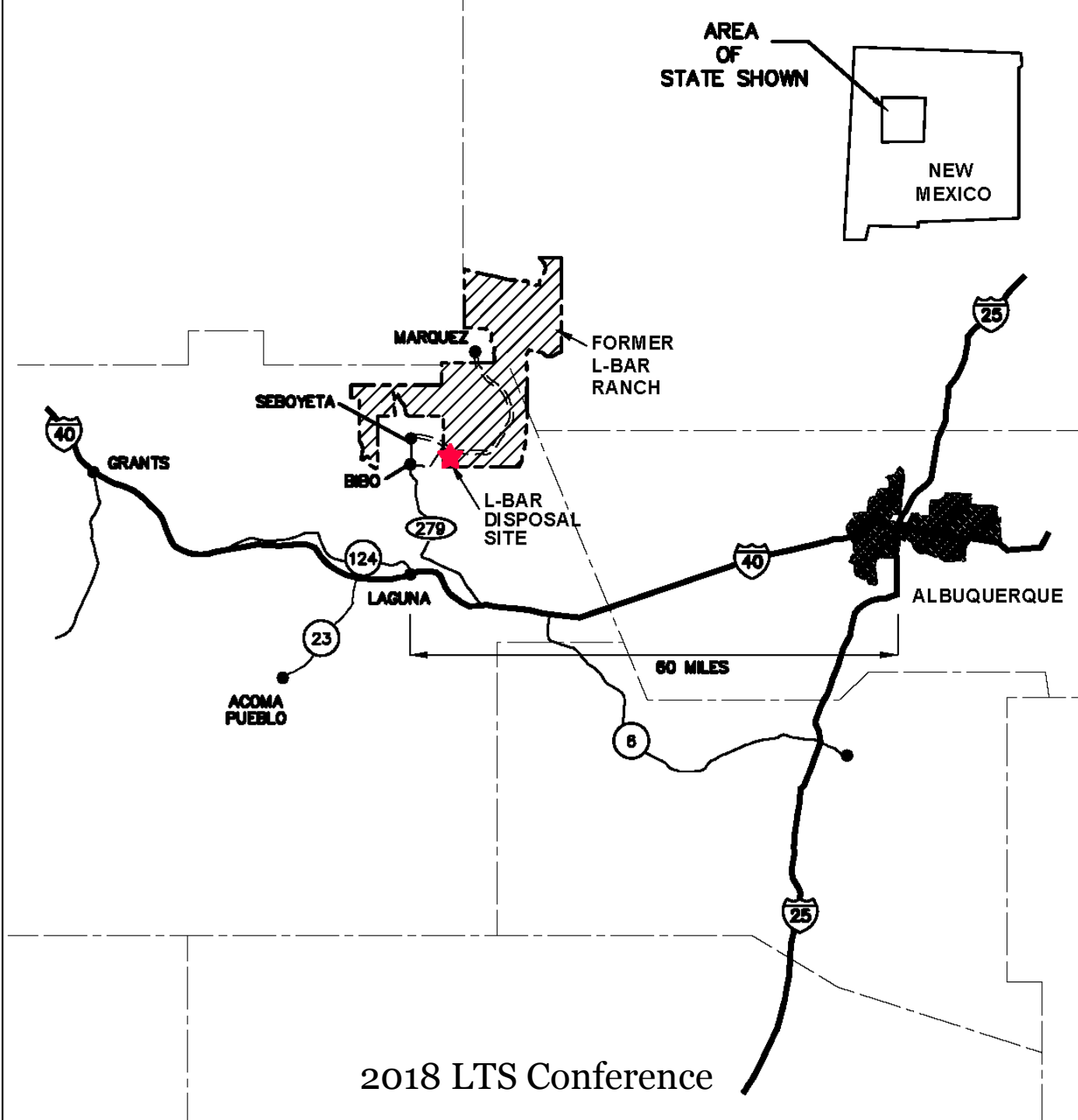
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CIBOLA COUNTY ROAD 1 (MARQUEZ ROAD)

MOQUINO LLANO ROAD

STRUCTURE G

STRUCTURE F

NORTH CHANNEL

TAILINGS IMPOUNDMENT

EAST CHANNEL

SEDIMENT TRAP

SOUTH CHANNEL

SOUTHEAST AREA

STRUCTURE A

STRUCTURE D

2018 LTS Conference







SITE BOUNDARY

TAILINGS IMPOUNDMENT

738 Acres

MARQUEZ ROAD

SITE ENTRANCE
& SITE MARKER

TO SEBOYETA



PROPERTY BOUNDARY

SEDIMENT TRAP

TAILINGS IMPOUNDMENT
100 Acres

STRUCTURE "F"

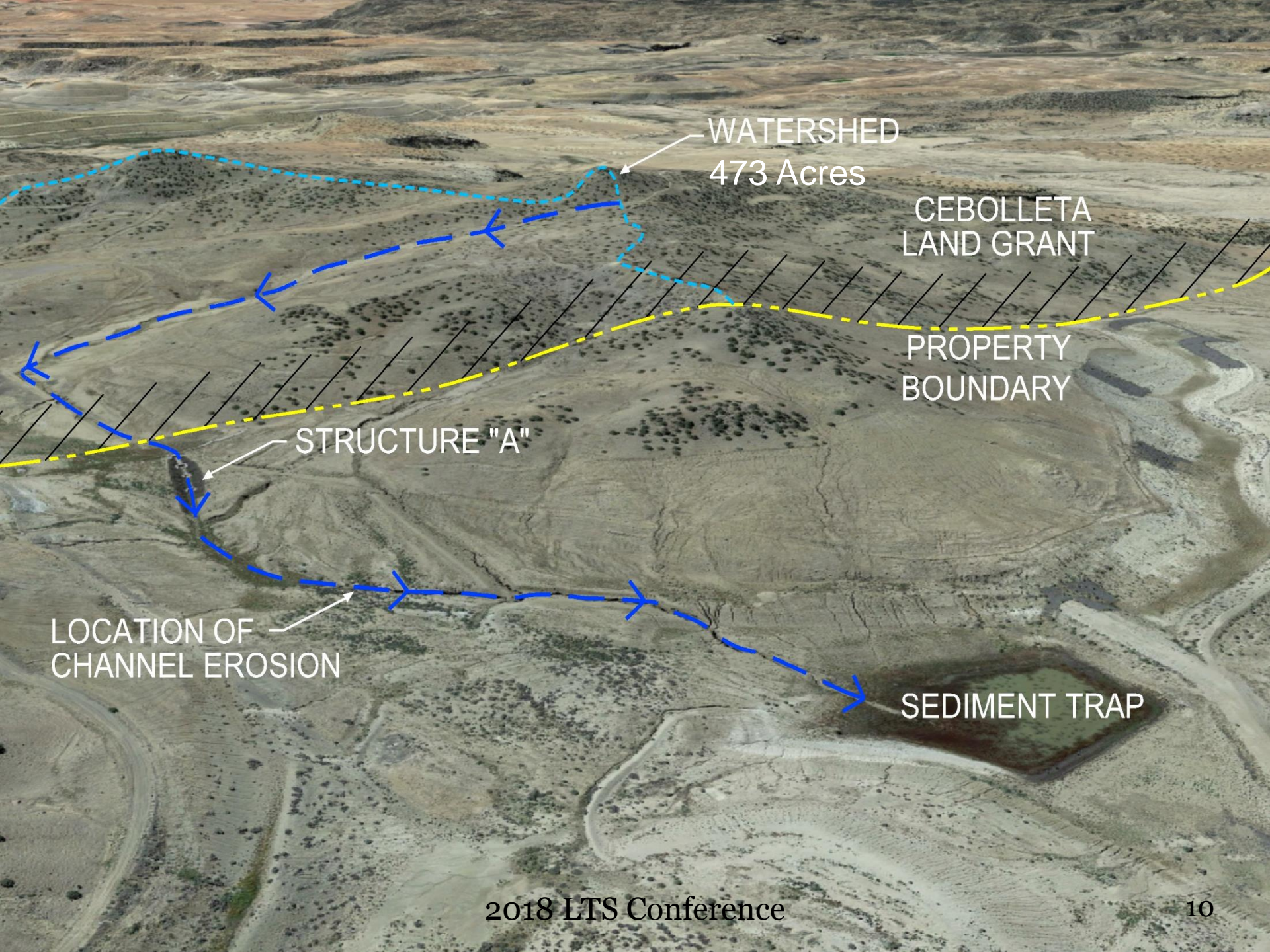
STRUCTURE "G"



SITE BOUNDARY

SEDIMENT TRAP

TAILINGS IMPOUNDMENT
100 Acres



WATERSHED
473 Acres

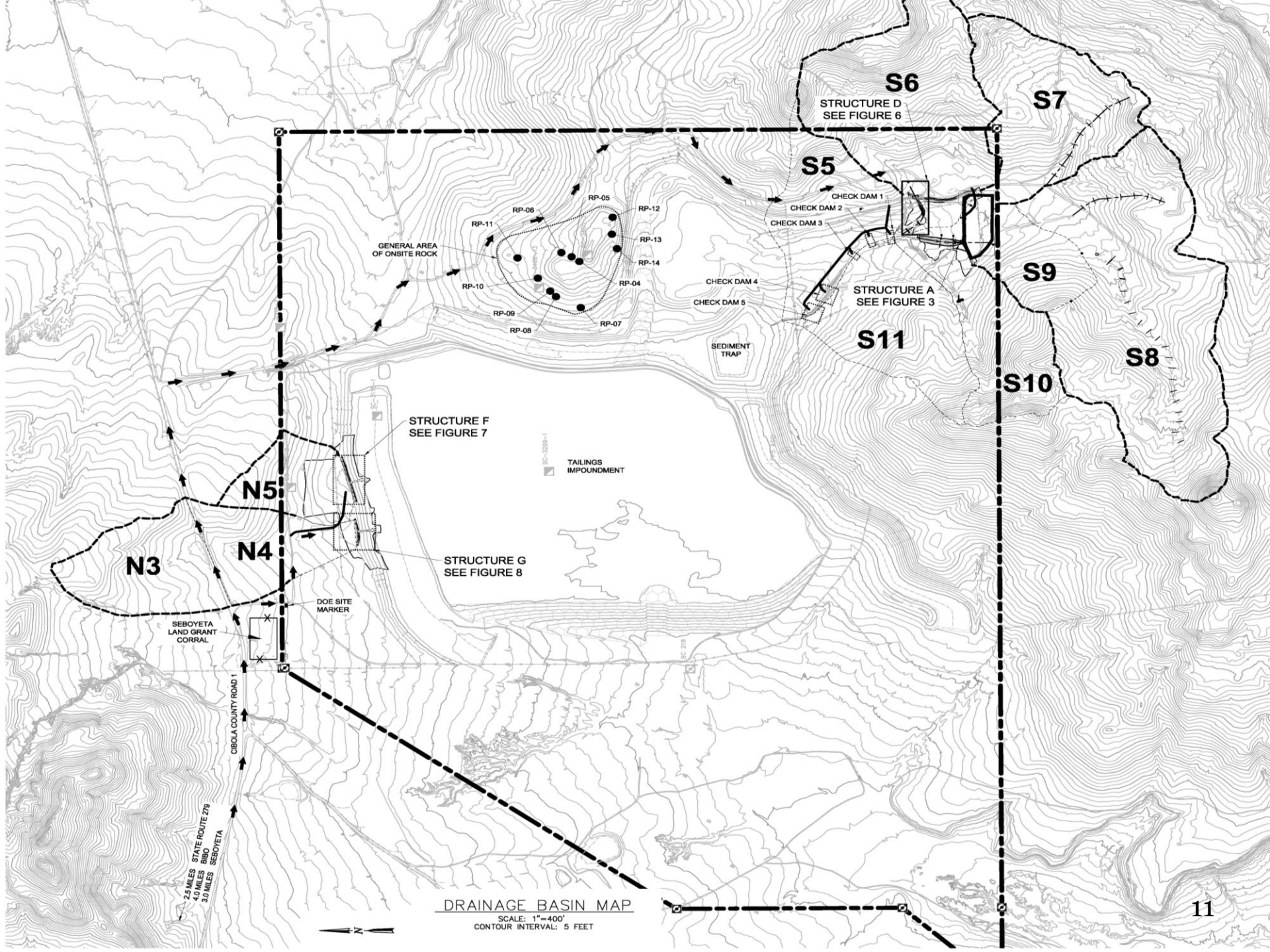
CEBOLLETA
LAND GRANT

PROPERTY
BOUNDARY

STRUCTURE "A"

LOCATION OF
CHANNEL EROSION

SEDIMENT TRAP



DRAINAGE BASIN MAP
SCALE: 1"=400'
CONTOUR INTERVAL: 5 FEET



Erosion Challenges

Seboyeta Bridge Gabion



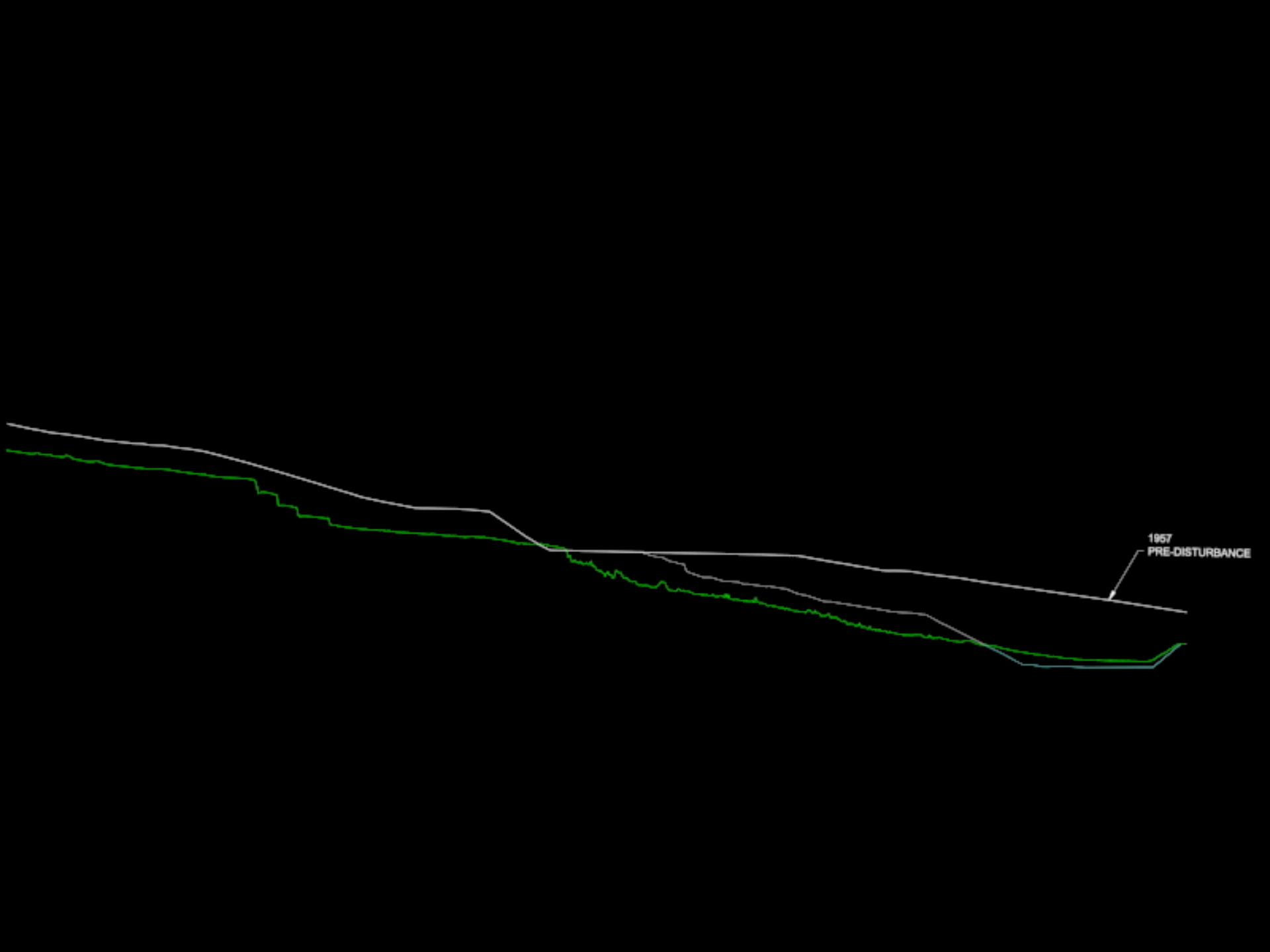
Structure G



Factors Leading to Erosion







1957
PRE-DISTURBANCE

Erosion

- Undermining Fence
- Encroach Property Boundary



Erosion Assessment

- System has not reached equilibrium
- Estimated headward erosion up to 63 feet per year

Consequences of No Action

- Offsite property damage and potential liability
 - Safety hazards
 - Road Damages
- Cell Diversion Channel Impacts
- Cell Impacts





2009



2010



2011



2018



Corrective Actions

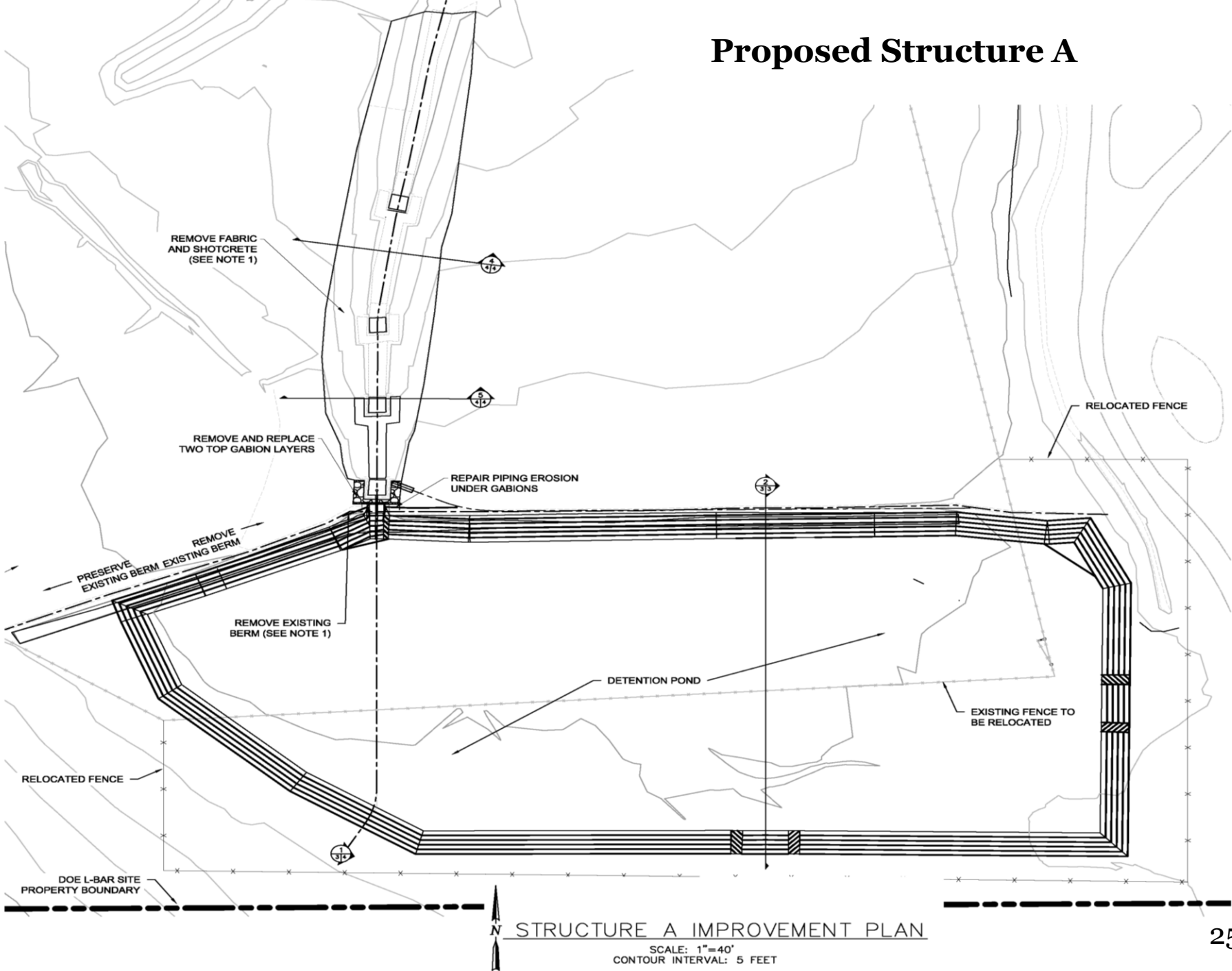
- Conceptual Designs in progress
 - Erosion control structures
 - Design for 100-yr event
 - Incorporate durable materials



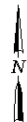
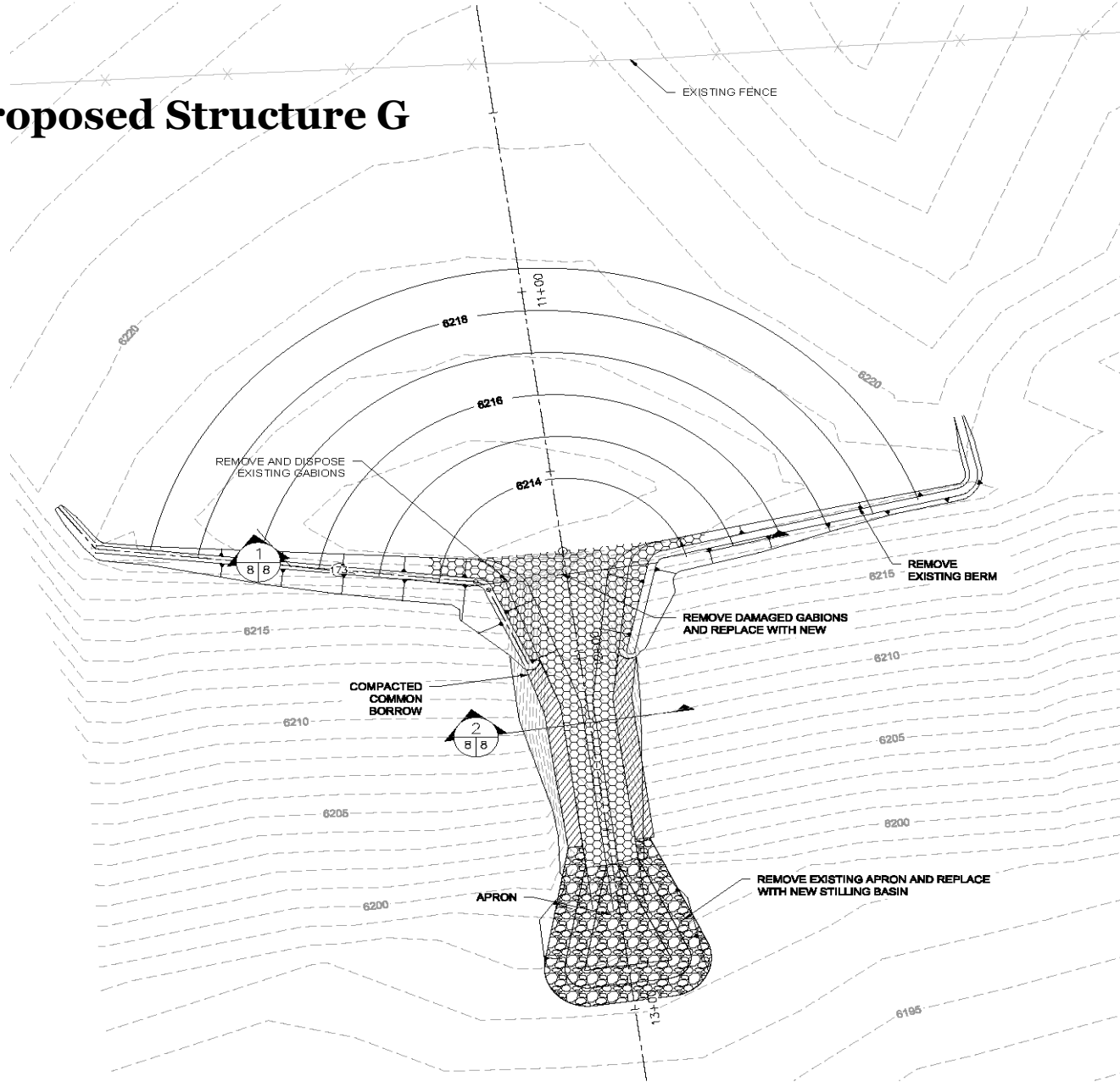
- Anticipate routine maintenance
- Reinforce berm and channel side slopes
- Achieve natural equilibrium



Proposed Structure A



Proposed Structure G



STRUCTURE G PLAN

SCALE: 1"=20'
CONTOUR INTERVAL: 1 FOOT

Alternatives

- **Articulated blankets**



- **Shotcrete**



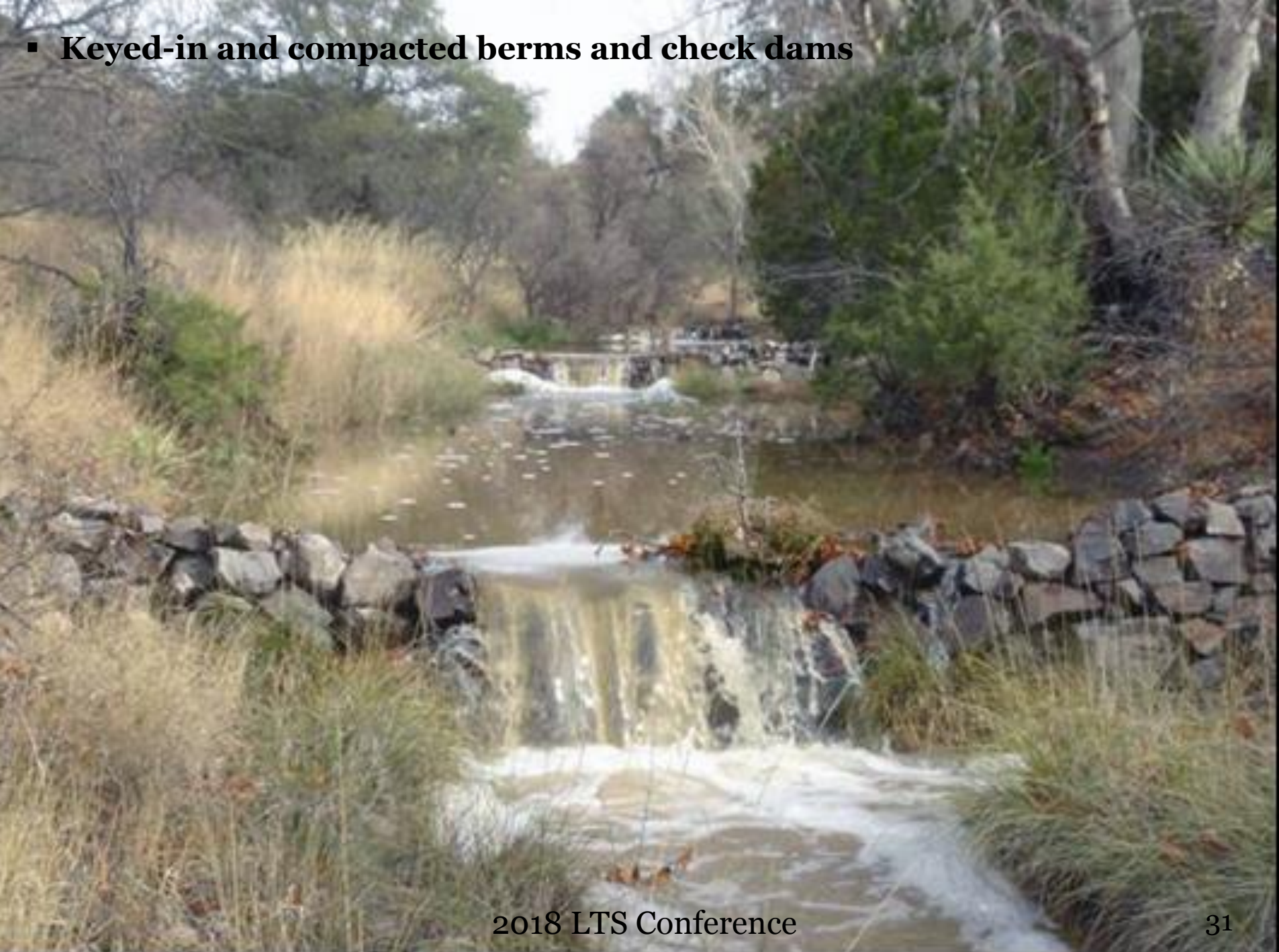
- **Retention ponds**



- **Geotextiles for highly erodible soils**



- **Keyed-in and compacted berms and check dams**



Thank You

