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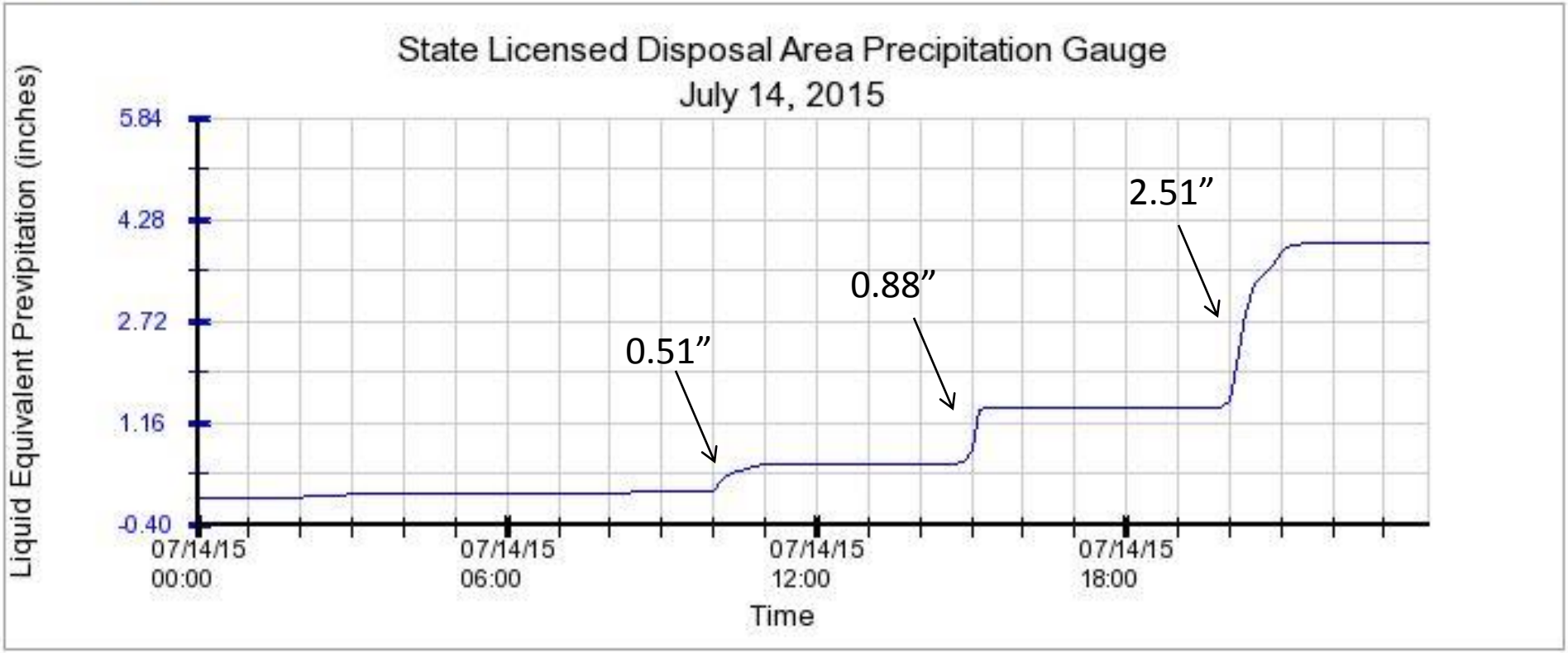
July 14 Storm Events and Effects on Erosion Controls in Erdman Brook and Frank's Creek

August 25, 2015

NEXSENS technology

Data Graph



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July 14 storms

- Total rainfall for the day = 3.90 inches
- 3.9 inch total for 24 hours is slightly larger than the 10-year recurrence interval total of 3.7 inches
- Rainfall received from 8:00pm to 8:30pm totaled 1.80 inches, which is equivalent to a 100-year recurrence interval for a 30 minute rainfall

Storm Effects on Erosion Controls

- Erosion controls functioned as designed
- Grade control structures withstood the high flows
- Some channel armoring (rip-rap) was displaced
- On Frank's Creek, some scour (erosion) of the stream banks and stream bed occurred.
- Effects not unanticipated – erosion controls not designed to be permanent installations, would require maintenance

Planned Repairs

- Repairs will be performed on Erdman Brook and Frank's creek this year
- Repairs will generally be to replace in kind, with certain enhancements
- Enhancements include additional stone check dams and weirs intended to further reduce flow velocities and dissipate energy during large storm events.

Erdman Brook Retaining Wall

- Part of the erosion controls installed on Erdman Brook in 2011-2012, a retaining wall at the downstream end of the structures began to show evidence of leaning
- Pressure and movement of the slope behind the wall causing it to move, exacerbated by groundwater and freeze/thaw cycles
- Wall will require repair and redesign

Erdman Brook Retaining Wall

- Later this year, temporary bracing support will be installed to prevent further movement
- Design options are currently being evaluated for the repair/replacement of the wall
- Repair/replacement is planned to occur in 2016 field season.