



9750 SW Nimbus Avenue  
Beaverton, OR 97008-7172  
p| 503-641-3478 f| 503-644-8034

## SITE VISIT REPORT

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<b>Project:</b>	Trillium Park Drive Landslide	<b>Date:</b>	December 18, 2017	<b>Project No.:</b>	4450
<b>Feature:</b>	Sewer Repair	<b>Time of Site Visit:</b>	9:15 AM – 4:30 PM	<b>Weather:</b>	Cool, breezy, misting in afternoon
<b>Client:</b>	City of Oregon City	<b>Submitted by:</b>	Michael Zimmerman, PE, GE, CEG	<b>Contractor:</b>	Sanitech LLC
<b>Site Address:</b>	17300 block of Trillium Park Drive				

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GRI visited the site to evaluate subsurface conditions exposed during repair of a section of sanitary sewer pipe in Trillium Park Drive. GRI met representatives of the Oregon City Public Works and the contractor, Sanitech LLC, on site. This section of pipe crosses the headscarp of the landslide affecting Trillium Park Drive and the pipe was previously repaired by splicing in an HDPE section of pipe. However, continued movement of the landslide has damaged the HDPE pipe and caused one of the pipe joints to open, as revealed through sewer scoping completed by the City.

The sewer is located at a depth of about 14 ft below the road surface. Crushed rock trench backfill removed to expose the sewer pipe was relatively dry and was stockpiled on the roadway for use in backfilling the excavation. When the sewer line was initially exposed by the excavator, the pipe joint at the uphill end of the previous repair did not appear to be completely separated and the surrounding crushed rock backfill appeared unsaturated. However, continued digging with the machine moved the pipe lug, partially opening the joint between the two sections of pipe. Hand excavation with shovels was used to remove the crushed rock backfill from around the pipe joint. Initially, the crushed rock appeared unsaturated and then was saturated as continued excavation caused the pipes to separate further.

Once the entire section of the HDPE pipe from the previous repair was exposed, it was apparent the pipe within the landslide has moved down and to the right when viewed looking to the northeast down the gradient of the pipe. The replacement segment of pipe has slip joints at both ends, two 11° bends, and a slip joint near the midpoint between the two bends. The crushed rock base course was compacted using several passes of a “jumping jack” walk-behind compactor prior to placing the new section of pipe. A heavy non-woven geotextile filter fabric was placed beneath the new section of pipe to envelop the pea gravel planned for the pipe zone trench fill. The contractor had pea gravel stockpiled on site for this purpose. GRI recommended the pea gravel should be placed loose.

GRI departed before the pea gravel backfill was placed. From conversation on site, we understand City Public Works personnel planned to remain on site until work was completed for the day.

A photograph of the work in progress is attached on the following page.



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*Michael J. Zimmerman*

Michael J. Zimmerman, PE, GE, CEG

**Reviewed by:** George Freitag, CEG

**Date:** 1/5/18

**Comments:** \_\_\_\_\_  
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**Copies to:** \_\_\_\_\_  
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