



VETTER MAPPED STREAM TIMELINE

The Vetter mapped stream lies just west of Vetter Road in Poulsbo and begins at Cooperation Avenue to the north and ends at SR 305 to the south. This timeline provides an overview of the reports completed by local wetland and stream biologists along the Vetter mapped stream on the Kitsap Transit Center (KTC) property and the Edward Rose and Sons (ERS) property. An aerial photo review of the Vetter mapped stream basin was conducted using Google Earth images from 2004 to 2018 that were marked up to document the changes that had occurred during that period of time. The KTC and the ERS properties are mapped on the aerials to indicate their location along with the approximate route of the mapped stream, the level of development, and the construction of the KTC.

1999 to 2016 Reporting Timeline

Reporting along the Vetter mapped stream began in 1999 when Wiltermood Associates, Inc. (Wiltermood) conducted a site visit and report for the recycling center property, which is now owned by ERS. The latest reporting along the drainage was conducted in 2016 for ERS purchase of the recycling center property. The Wiltermood and Ecological Land Services, Inc. (ELS) reports (1999, 2001, 2005, 2008, 2012, and 2016) were prepared by Joanne Bartlett. Additional information regarding reporting by Robbyn Myers of BGE Environmental is included as well.

1999-Wiltermood

Wiltermood conducted a non-wetland determination for Kitsap County Public Works prior to purchase and creation of the former recycling center (now owned by ERS). This report is not available because Wiltermood is no longer in business and their old files are not available. However, my recollection is that there was no wetland present in the drainage area and a stream was not identified. The drainage resembled a wide swale with no defined channels but there had been evidence of water flow.

2001-Wiltermood

Wiltermood conducted a non-wetland determination on the KTC property. The non-wetland determination was initiated at the recommendation by Jeff Davis, Habitat Biologist with the Washington Department of Fish and Wildlife (WDFW) in a letter dated August 22, 2001 to Kitsap County Department of Community Development. Jeff determined that the start of the stream was further south and that the onsite portion did not meet the stream criteria. The concern of the WDFW letter was whether wetlands are present in the trough bottom and as documented in this letter, there were no wetlands present in the trough.

2005, 2008, 2012-Wiltermood

The 2001 report was updated by Wiltermood between 2005 and 2012 at the request of several clients and by Kitsap Transit when they developing KTC site plans. A site visit was conducted for each update during which the conditions of the drainage remained as observed and described in 2001.

2010/2011-Wiltermood

In 2010 and 2011, Wiltermood conducted the delineation of Wetlands A, B, and C for ERS for the first project proposed in Poulsbo.

2011-BGE Environmental

Robbyn Myers (BGE Environmental) met onsite with Alison O’Sullivan (Suquamish Indian Tribe) and Gina Piazza (WDFW) to determine the water type of the mapped stream as it enters the north end of Wetland B. At that time, the stream was determined to start where it emerged from the ground, which is the extent of the stream shown on the Oslo Bay Apartments site plans and documents. Below is the email quote from Gina following the site visit with Alison and Robbyn.

- *The unnamed stream up to the point where it goes subsurface meets the type 3 definition, which includes seasonal streams. The C3 report dated 05/4/2011 and the BGE Environmental report dated May 13, 2011 describe the stream as not meeting type 3 criteria based on the fact that the stream is likely seasonal. According to the DNR definitions which can be found here: http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications/Pages/fp_watertyping.aspx “Fish streams may or may not have flowing water all year; they may be perennial or seasonal.” The channel is more than 2 feet wide (also mentioned in the Wiltermood Dec 2010 report) and less than 16% gradient, which are the physical criteria for a type 3 stream. **It does not meet the type 4 definition, as that is for perennial non-fish habitat. When it sheet flows without a defined bed, it is not jurisdictional for me (but probably still wetland).** (emphasis added) WDFW recommends maintaining buffers as appropriate for the above stream. An HPA may be required for any changes to the above stream or dogfish, and mitigation will also be required for impacts to resources described above.*

2016-Ecological Land Services, Inc.

In 2016, ERS was planning to purchase the Kitsap County Recycling Center for Road L from Vetter Road to Viking Avenue. Ecological Land Services, Inc. (ELS) was contracted to conduct a new determination along the Vetter mapped stream course. I began working for ELS in 2013 and conducted determination on the recycling center property for ERS. At the time of the June 2016 site visit, construction of the KTC was nearly completed, but no changes were observed to the drainage at that time. The drainage did not contain wetland conditions in 2016.

ELS also updated the 2011 wetland delineation report in 2016, which involved checking the boundaries of each wetland and updating the ratings. The 2010/2011 delineation flags were observed, and most could be read to verify that the boundaries did not change between 2011 and 2016. The drainage as it enters Wetland B was examined and there was no water present.

Aerial Photo Review

Google Earth images from 2004, 2014, 2015, and 2018 were downloaded to map out the properties, the drainage, and changes in development to show that there has been increasing development with increasing stormwater discharge directed into the mapped stream. The four years were selected because the 2004 shows the early conditions of the basin and there were no significant changes observed until 2014. The 2015 photo was selected because it shows the beginning stages of development for the KTC and the 2018 photo is the most recent so shows the completed transit center, which represent current conditions. The marked-up photos are attached.

2004 Conditions

In 2004, the mapped stream was partially culverted and had been since at least 1990 (the earliest available aerial image on Google Earth). The culverted section was north of Vetter Road near its intersection with Viking Avenue. The culvert started at what is now known as Cooperation Avenue. There was little development in the area and most of the drainage was not culverted. The basin was mapped as beginning at the culverted section, which was confirmed during the 1999 and 2001 assessments.

2014 Conditions

In 2014, the culverted and open portions of the drainage had not changed. However, there was a significant increase in development in the basin with the full build out of the residential neighborhood on Max William Loop. A new residential neighborhood north of Max William Loop was proposed and had been partially cleared. The increase in residential development within the basin was significant and began to contribute additional stormwater to the drainage.

2015 Conditions

The 2015 aerial shows that the culverted and open portions of the drainage had not changed, however, the KTC property had been cleared for development and there was no indication of the drainage across the east side. In addition, the grading and infrastructure for the northern residential development had been installed, including the stormwater ponds.

2018 Conditions

Between 2015 and 2018, the drainage had been culverted under the KTC with the culvert ending at the north end of the ERS property. Stormwater facilities had been constructed for the entire KTC property, which extends to Cooperation Avenue at the north end, and increased the number of stormwater facilities discharging into the drainage to four. The culverted drainage has concentrated stormwater discharge into the drainage beginning at the ERS property. The concentrated discharge had started to change the characteristics of the drainage on the ERS property, including creation of a channel, killing of trees, and increasing coverage by light loving plant species.

Conclusions

Between 1999 and 2016, the Vetter mapped stream was visited regularly by local professional biologists and in each report, the drainage across the KTC and the ERS property has been identified as a swale with temporary water flows during precipitation events; it did not meet the stream criteria. Wetlands were also determined to be absent despite the mapping of a potential wetland. There were no changes to the drainage observed during that period as reported by two local professional biologists. There have been multiple visits by WDFW and the Suquamish Tribe biologists who have concurred with the reported conditions. The reporting and concurrence clearly shows that there were no changes to the condition of the swale on the ERS property until at least 2016 when the KTC was constructed. The dead and dying trees and the increased cover by light loving plants further indicates that there was a sudden change in conditions as a result of concentrated stormwater discharge from beneath the KTC.

The Google Earth photos reviewed support the results of each report prepared by BGE Environmental, ELS, and Wiltermood. They also document the increasing development within the basin that has resulted in a significant increase in stormwater discharging from the culvert at

the north end of the ERS property. The increasing amount of stormwater discharged onto this property has been changing the characteristics of the swale over the past four years. Now that the drainage is culverted under the KTC, there is concentrated discharge onto the Edward Rose property causing the changes observed during the 2020 peer review. These conditions should not be considered natural because the discharge of stormwater is not natural when concentrated in a pipe and discharged onto another property. The City of Poulsbo should evaluate whether the stormwater system for the upslope development is operating as designed. If it is not, corrective action should be taken to avoid further stormwater disturbances in this drainage.

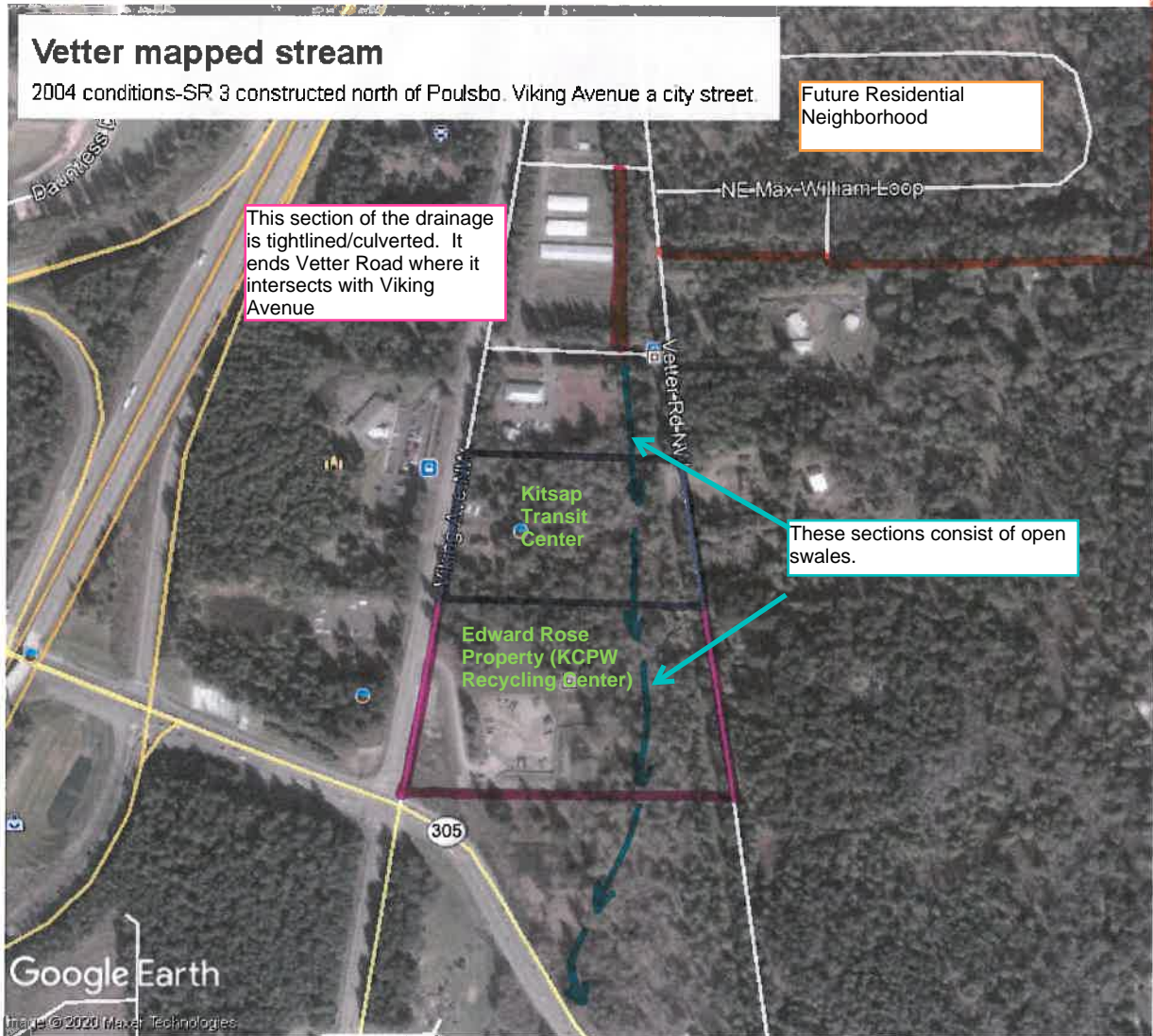
Vetter mapped stream

2004 conditions-SR 3 constructed north of Poulsbo. Viking Avenue a city street.

Future Residential Neighborhood

This section of the drainage is tightlined/culverted. It ends Vetter Road where it intersects with Viking Avenue

These sections consist of open swales.



Google Earth

Image © 2020 Maxar Technologies



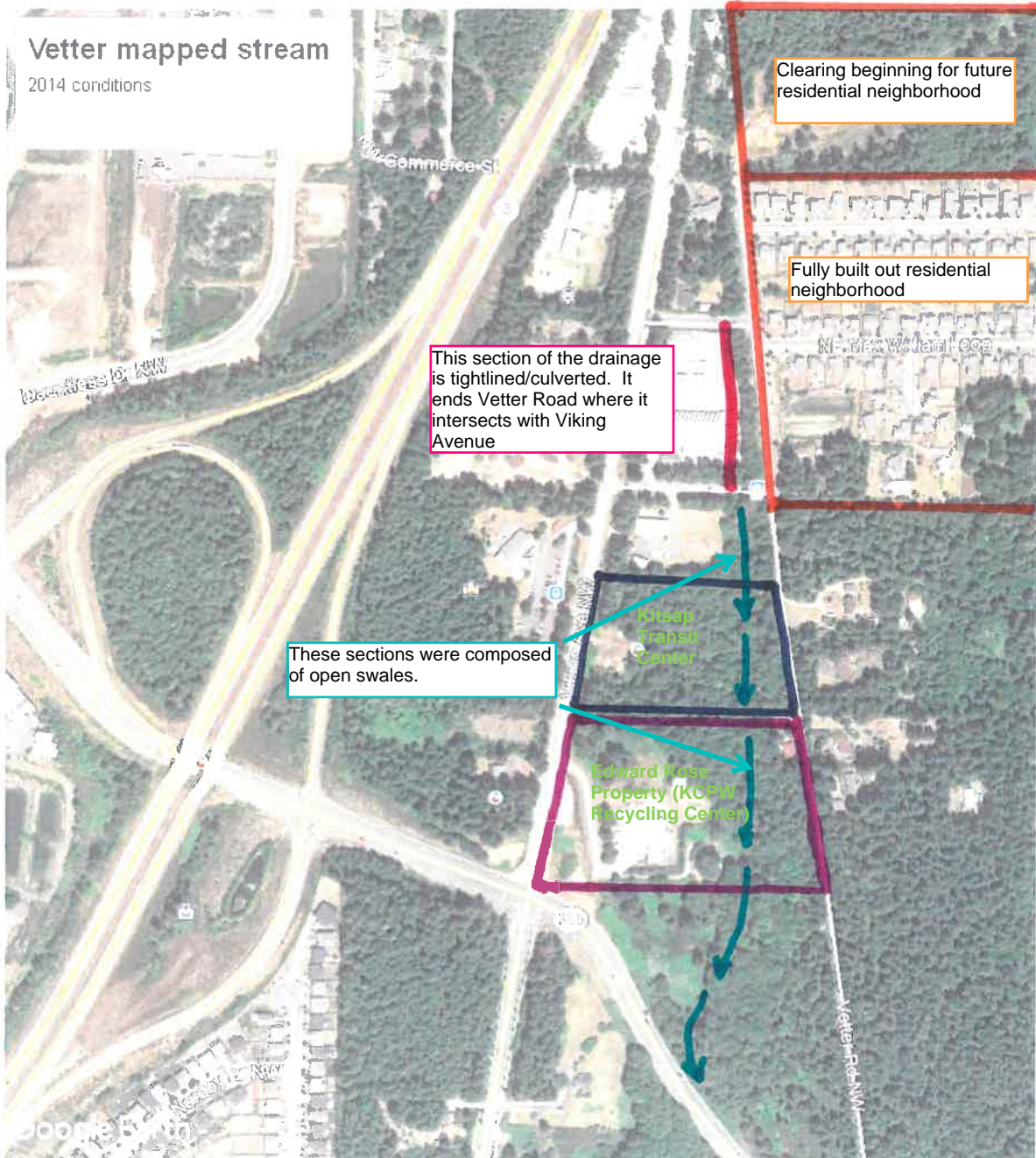
1157 3rd Ave., Suite 220A
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DATE: 5/29/20
DWN: JB
PRJ. MGR JB
PROJ.#: 2407.01

2004 Google Earth Image
Project Name: Oslo Bay
Apartments
Client: Edward Rose and Sons
Kitsap County, Washington

Vetter mapped stream

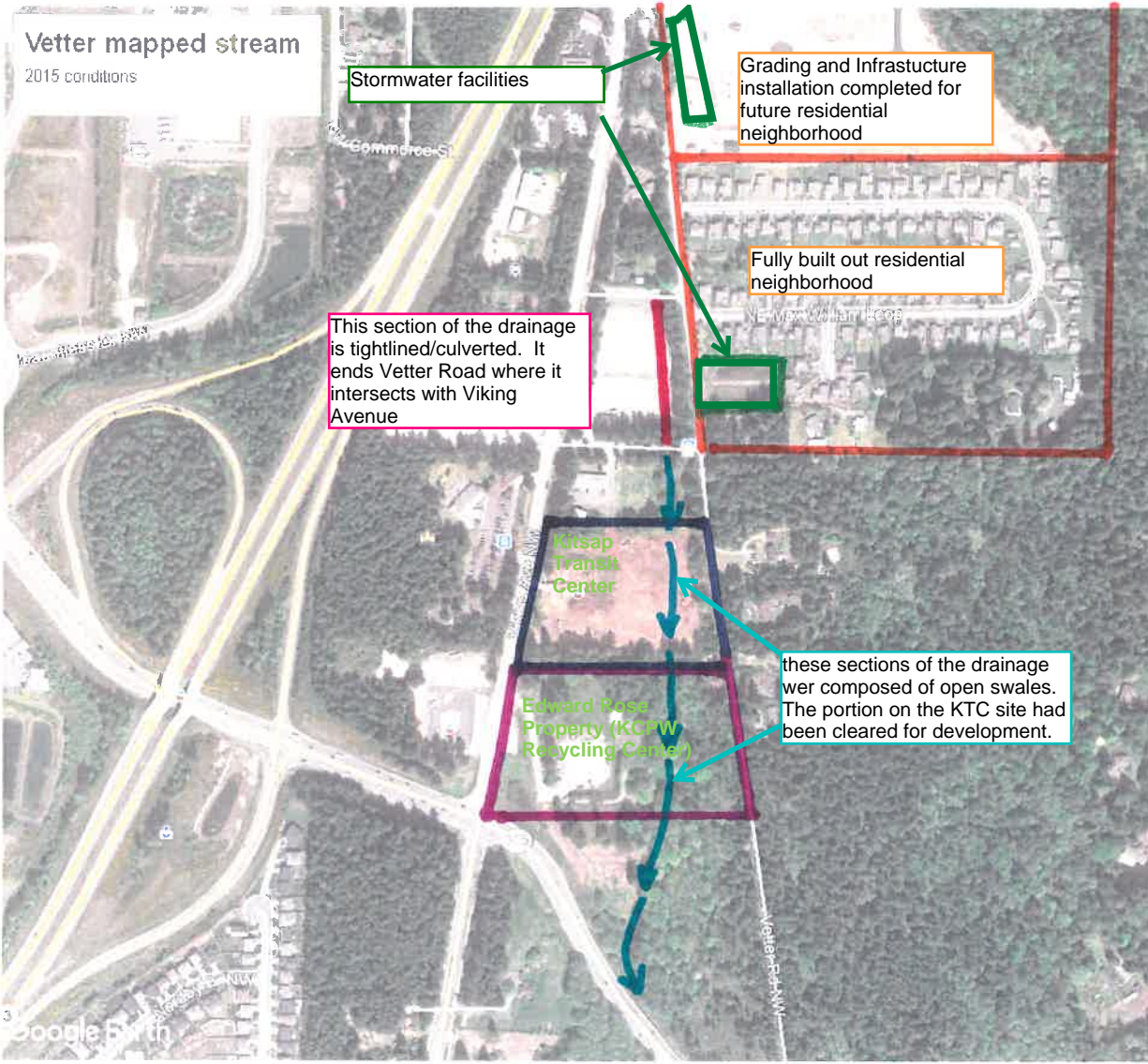
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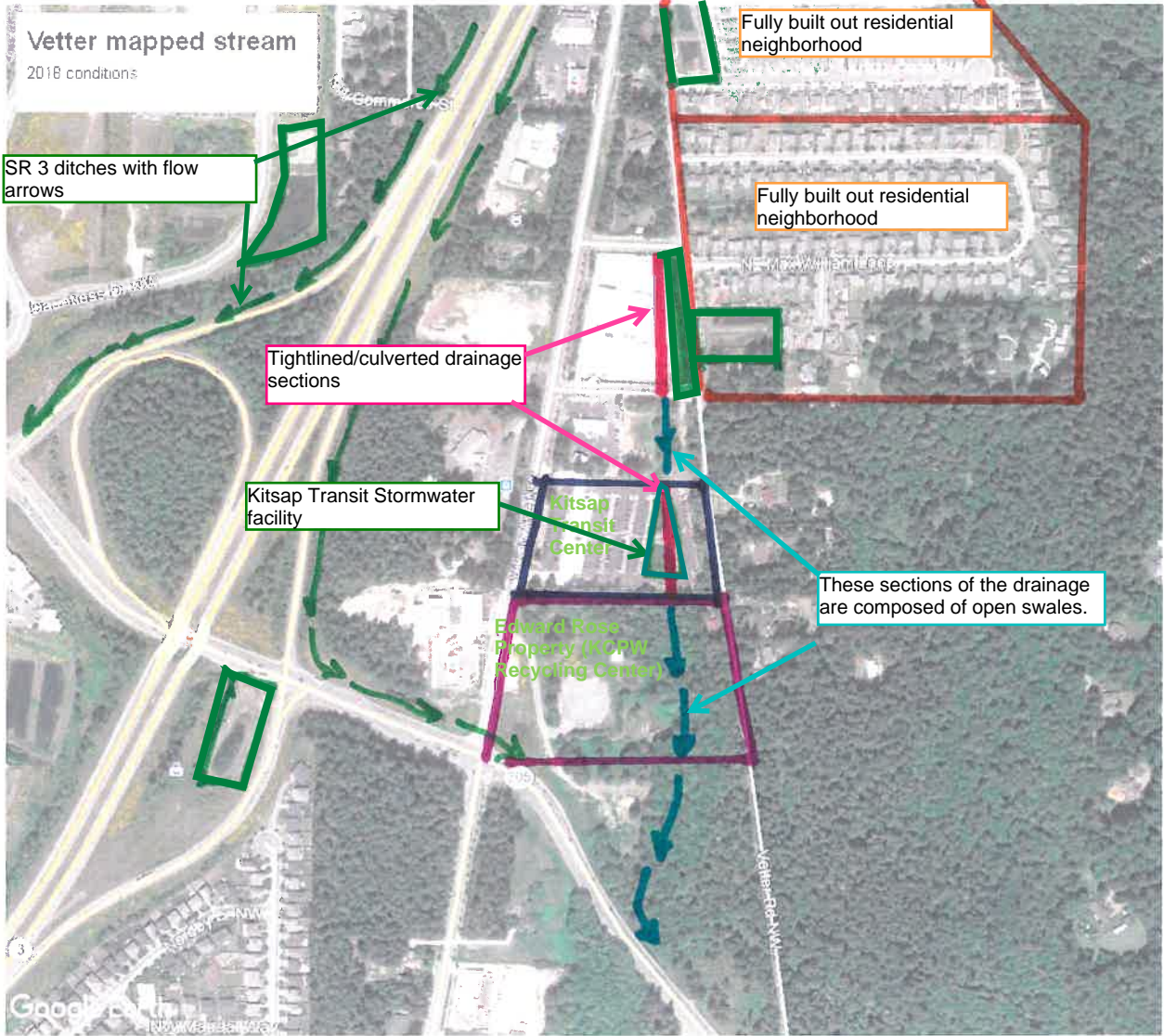
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Stormwater facilities



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2018 Google Earth Image
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