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MEMORANDUM

TO: Ms. Monica Blanchard, WSP

FROM: Mike Harney and David Jacobson

DATE: October 11, 2024

PROJECT: Washougal Grade Separation

PROJ. #: 101835-303

SUBJECT: Groundwater Readings through September 2024

This memorandum transmits plotted groundwater data obtained from previously-installed project groundwater instruments. The project site and locations of the installed instruments are provided in Figures 1 and 2, respectively. Data provided here is from the time period July 2021 through September 2024 and augment the data contained in our Draft Geotechnical Report (Shannon & Wilson, 2021). Note that the ground surface at the well monument locations was surveyed after the Draft Geotechnical Report was completed. The elevations shown in this memorandum correspond to that recent survey data, and therefore supersede the elevations provided in the Draft Geotechnical Report.

Larger data gaps exist for SC-1P-18 and SC-2P-18. Their data loggers had been removed in 2019 when the project was paused, and were re-installed in June 2024. Subsequently, those dataloggers experienced malfunctions due to water intrusion or other factors. To help mitigate large periods of potential data loss, we recommend that at least SC-1P-18 and SC-2P-18 are read every one month (with any accumulated data collected, and problems with the logger addressed) during the months of November through February.

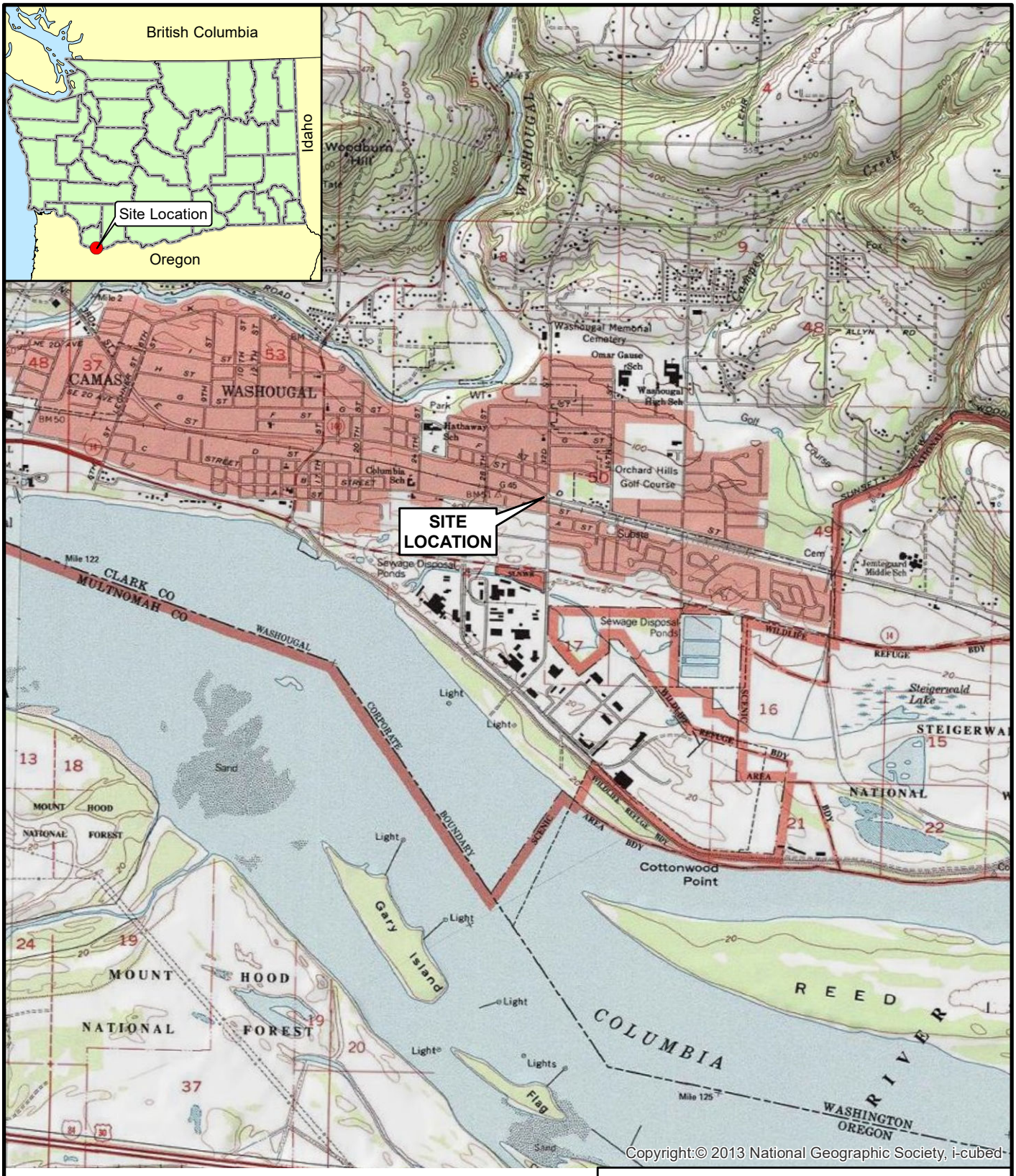
REFERENCES

Shannon & Wilson, 2021, Draft Geotechnical Report, Washougal Grade Separation, Washougal, WA; October; Project Number 101835-202; 287 pp.

DSJ:PVH:MDH/mdh

Enc. Figure 1 – Vicinity Map
Figure 2 – Site and Exploration Plan
Appendix – Plotted Groundwater Data

c: Stuart Bennion, WSP



0 0.25 0.5 1

Scale in Miles

N

Washougal Grade Separation
Washougal, Washington

VICINITY MAP

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FIG. 1

Filename: T:\Projects\SEA\101835_Washougal Grade Separation\Avmxd\VicinityMap_10.6.mxd Date: 10/21/2021 Login: AEH

LEGEND

SW-5P — Designation and Approximate Location of Boring

TP-1 — Designation and Approximate Location of Infiltration Test Pit

0 50 100 200

Scale in Feet

NOTES

1. Aerial imagery obtained through Google Maps Satellite.

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SITE AND EXPLORATION PLAN

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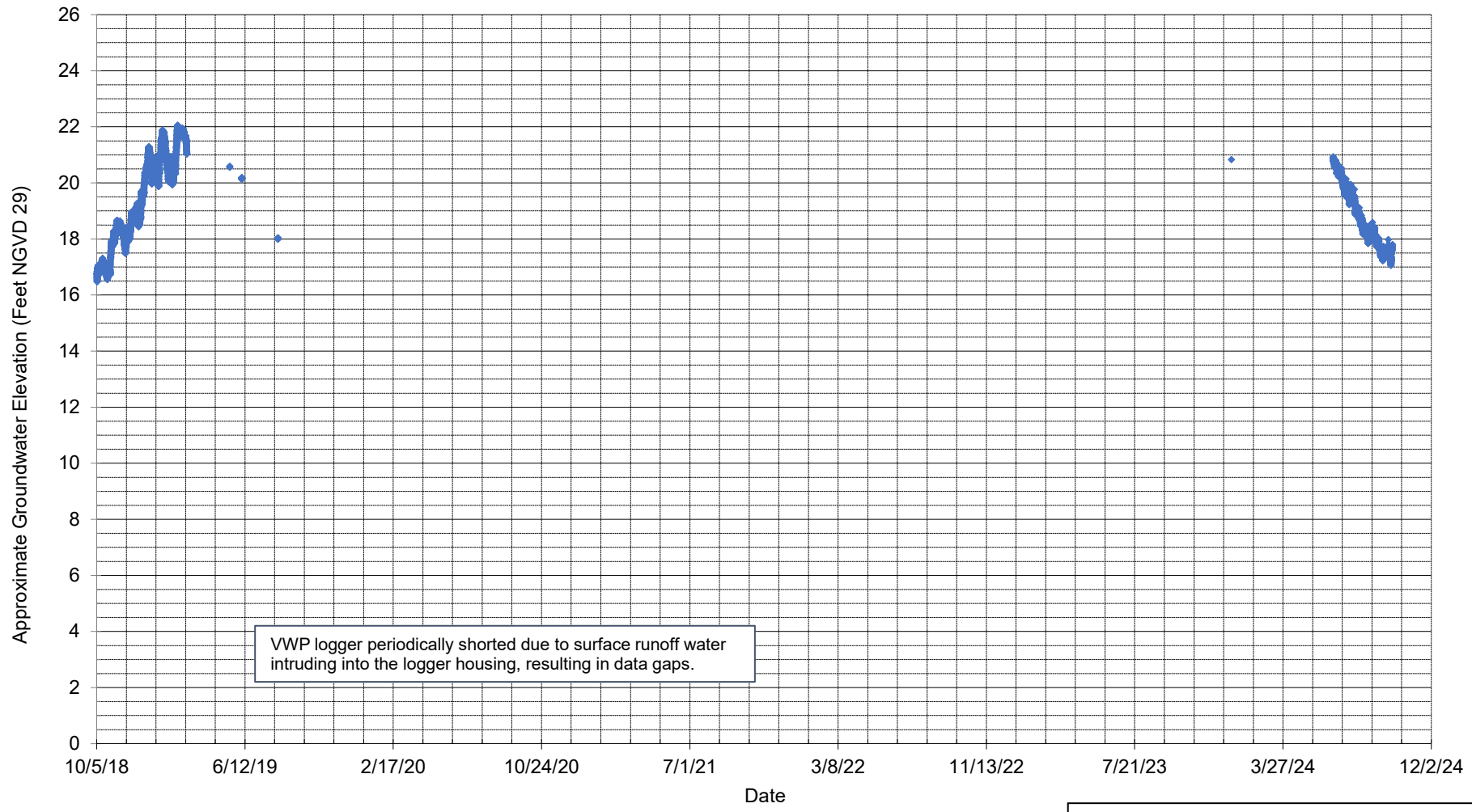
FIG. 2

Filename: T:\Projects\SEA\101835_Washougal Grade Separation\Avmxd\SitePlan_10.6.mxd Date: 10/21/2021 Login: AEH



LEGEND

SC-1p-18, VWP at 50.2 feet deep

NOTES

1. SC-1p-18 ground surface elevation is 51.96 feet (surveyed).
2. VWP = vibrating wire piezometer

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BORING SC-1P-18 HYDROGRAPH

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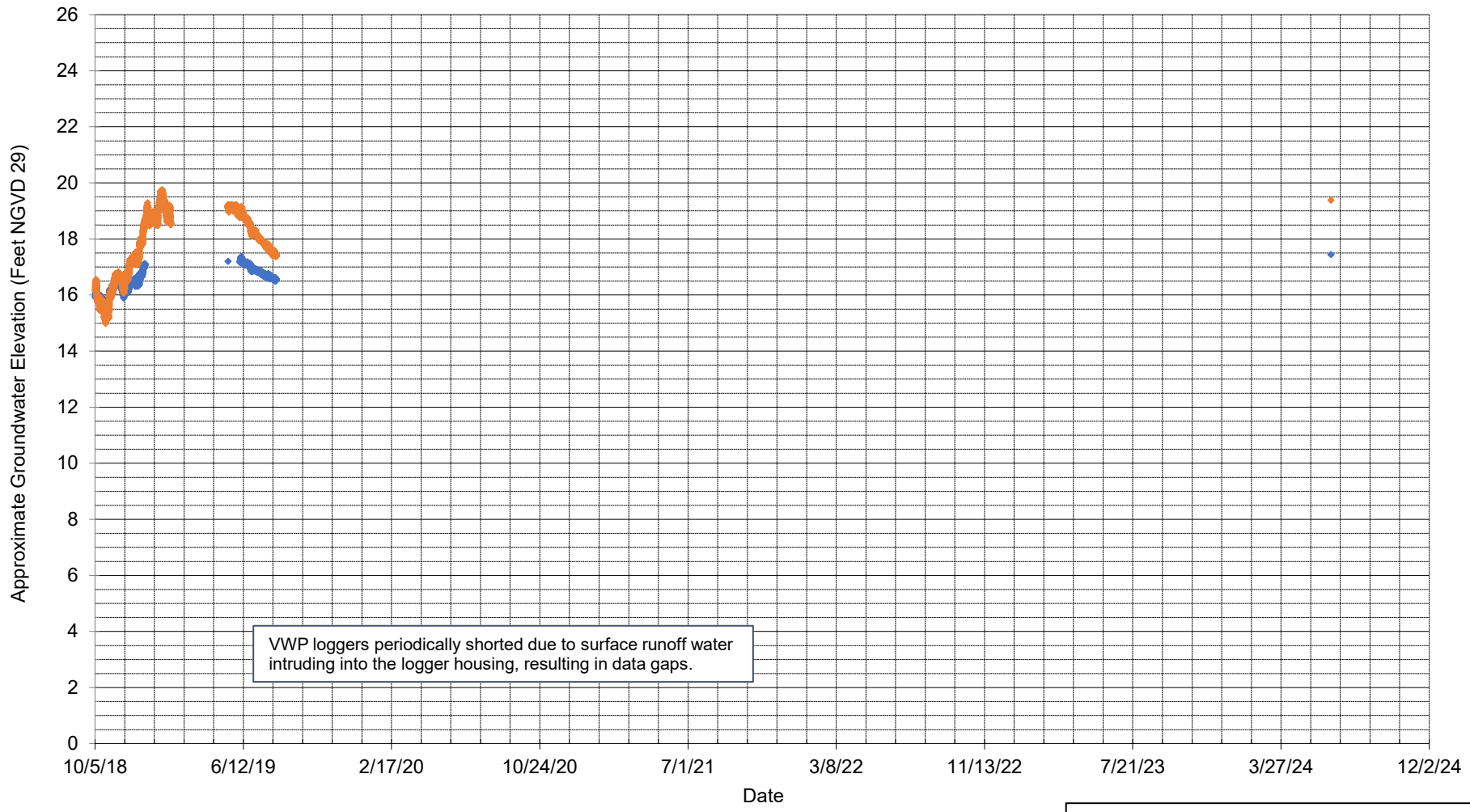
FIG. ___

FIG. ___

File: Washougal Hydrographs-SC-1p-18 EL Date: 10/10/2024 Author: pvh



LEGEND

- SC-2p-18, VWP at 40 feet deep
- SC-2p-18, VWP at 65 feet deep

NOTES

1. SC-2p-18 ground surface elevation is 47.26 feet (surveyed).
2. VWP = vibrating wire piezometer

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BORING SC-2P-18 HYDROGRAPH

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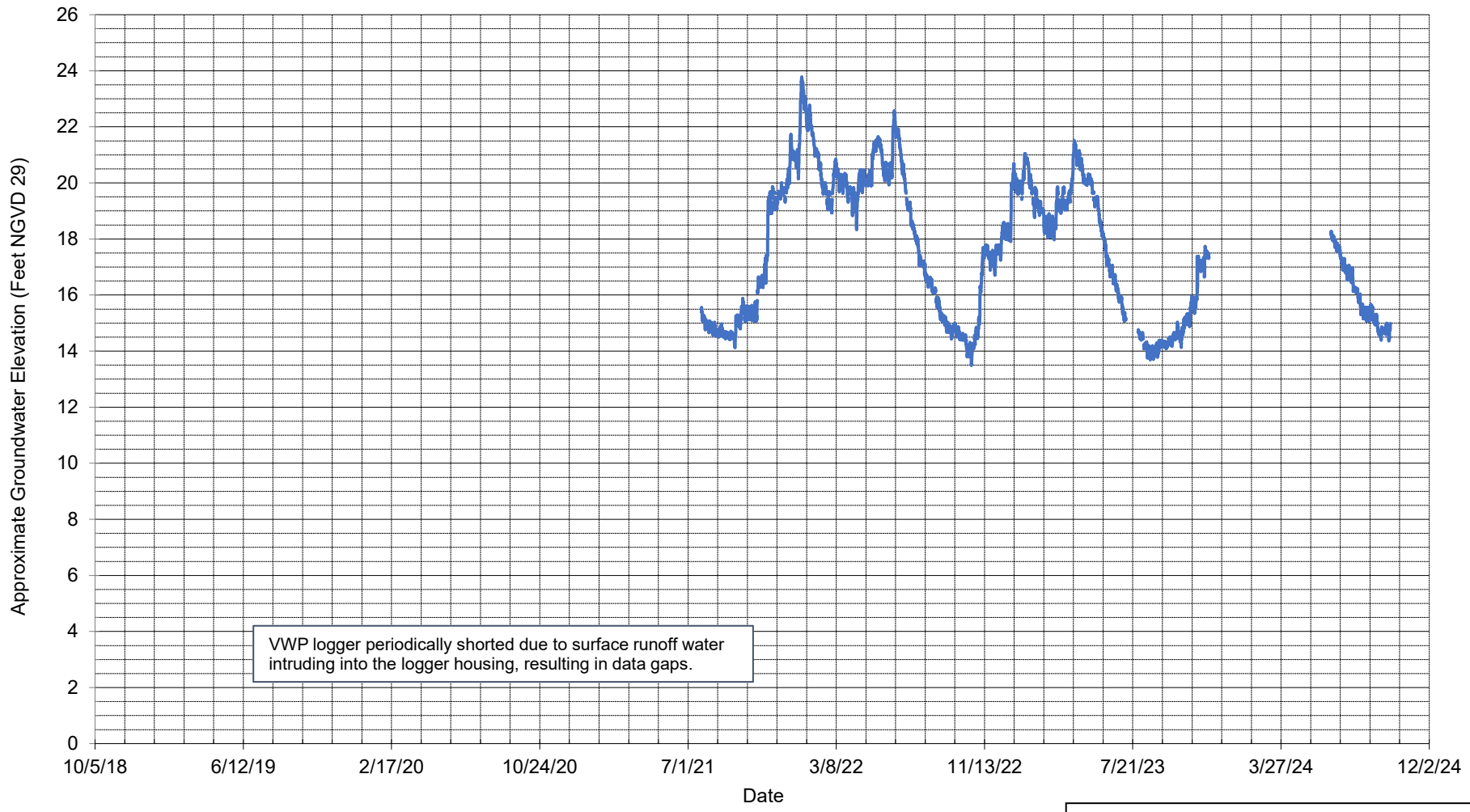
FIG. ___

FIG. ___

File: Washougal Hydrographs-SC-2p-18 EL Date: 10/10/2024 Author: pvh



LEGEND

SW-5p-21, VWP at 75.5 feet deep

NOTES

1. SW-5p-21 ground surface elevation is 45.61 feet (surveyed).
2. VWP = vibrating wire piezometer

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BORING SW-5P-21 HYDROGRAPH

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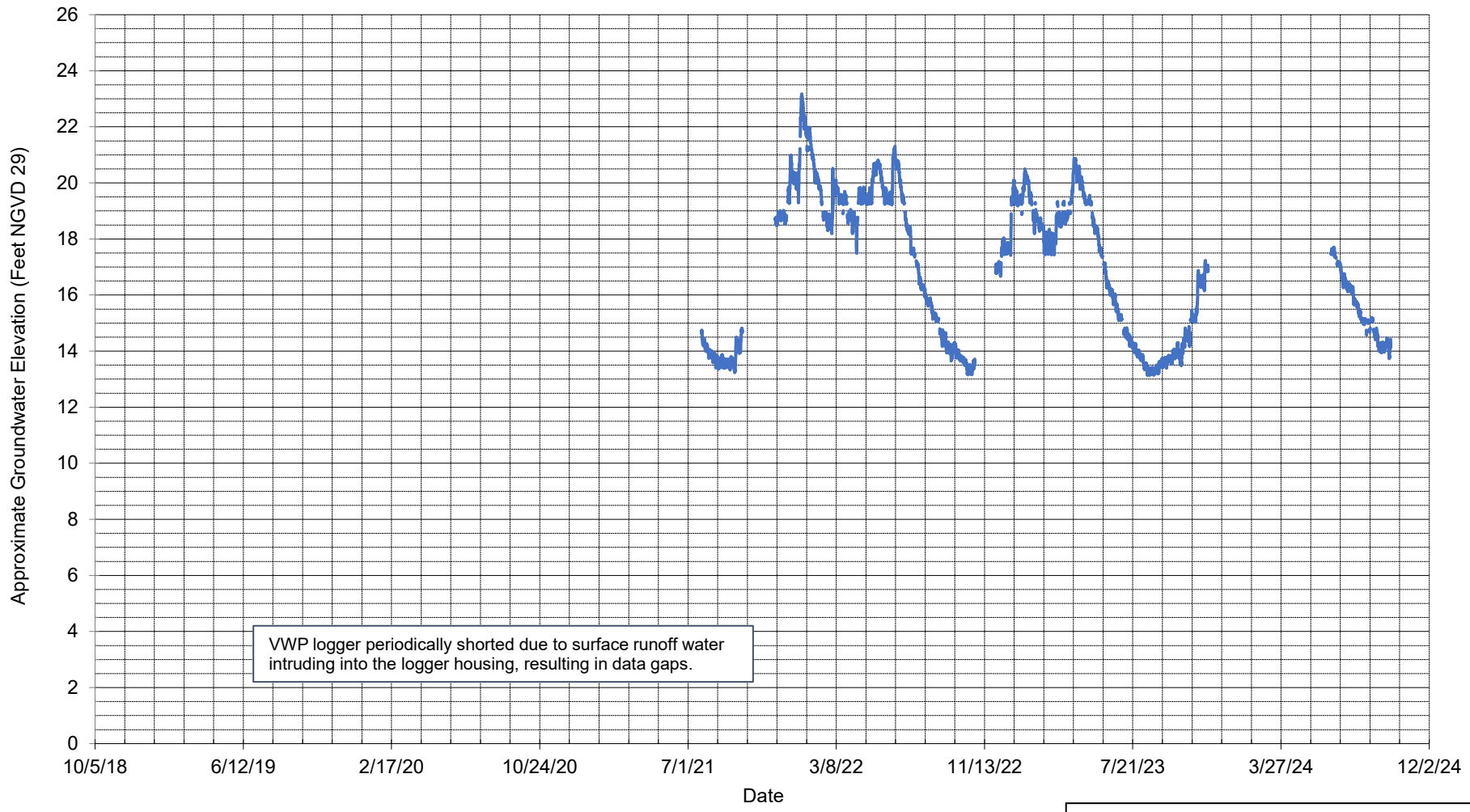
FIG. ___

FIG. ___

File: Washougal Hydrographs-SW-5p-21 EL Date: 10/10/2024 Author: pvh



LEGEND

SW-6p-21, VWP at 55 feet deep

NOTES

1. SW-6p-21 ground surface elevation is 53.03 feet (surveyed).
2. VWP = vibrating wire piezometer

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BORING SW-6P-21 HYDROGRAPH

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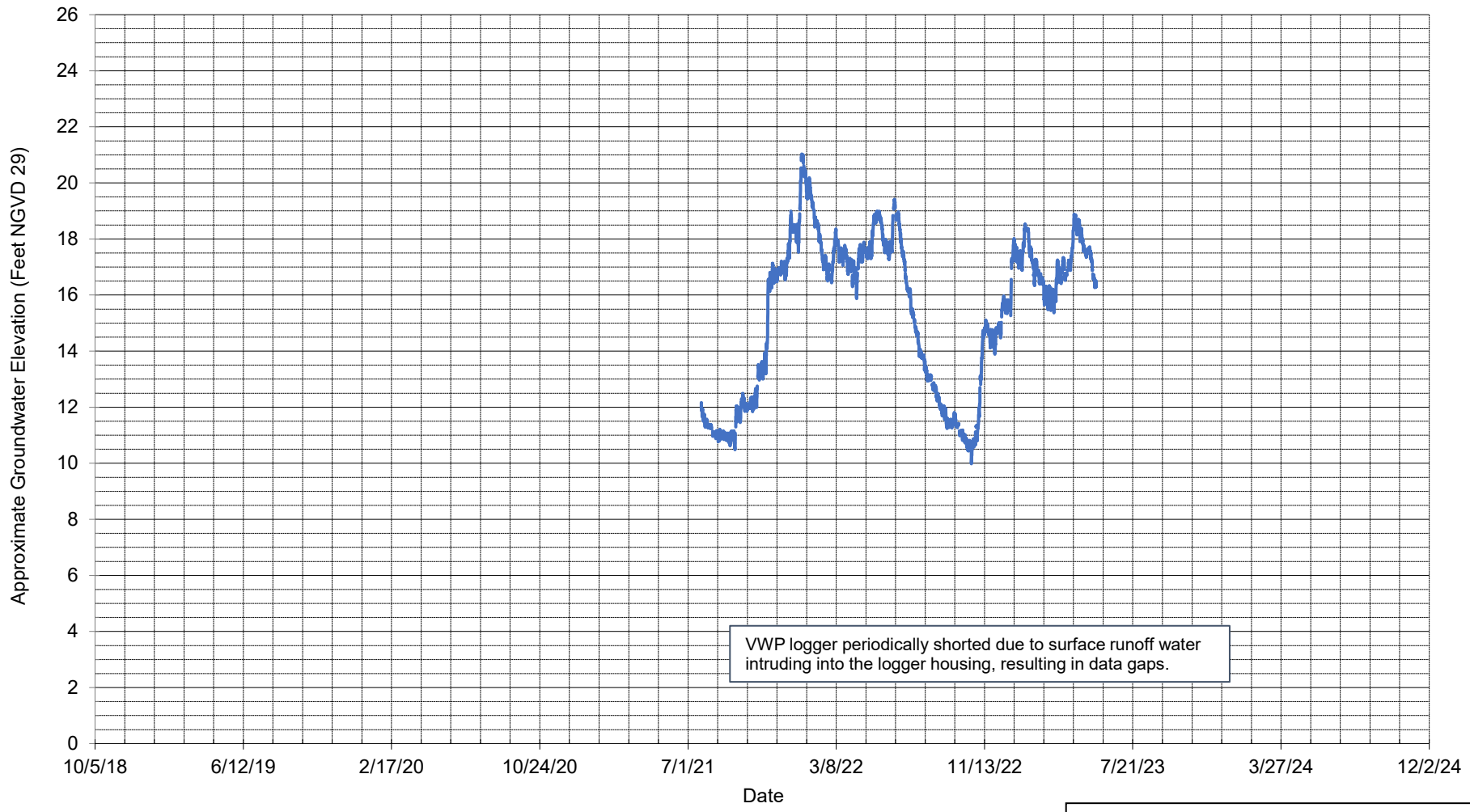
FIG. ___

FIG. ___

File: Washougal Hydrographs-SW-6p-21 EL Date: 10/10/2024 Author: pvh



LEGEND

SW-8p-21, VWP at 75 feet deep

NOTES

1. SW-8p-21 ground surface elevation is 52.06 feet (surveyed).
2. VWP = vibrating wire piezometer

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BORING SW-8P-21 HYDROGRAPH

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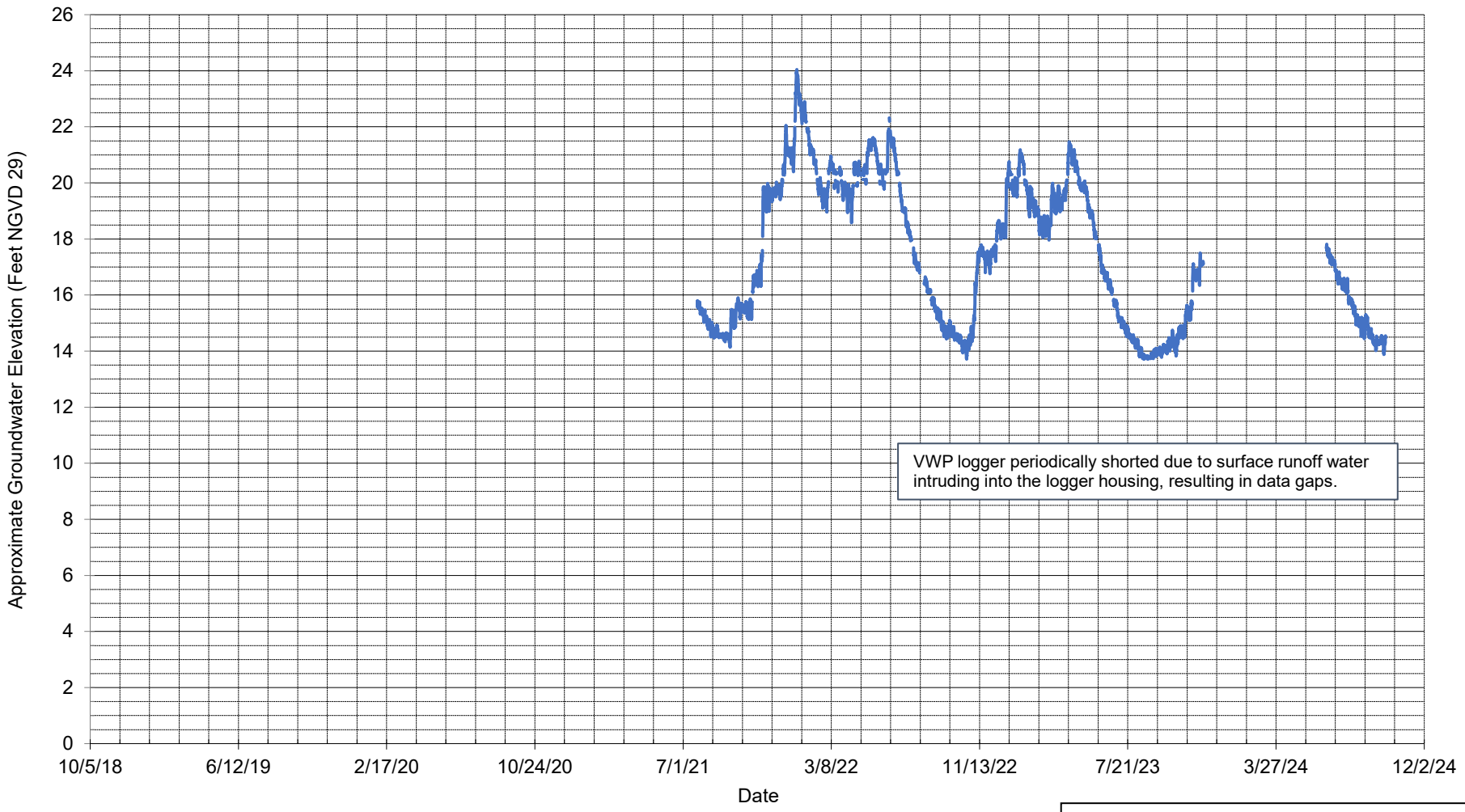
FIG. ___

FIG. ___

File: Washougal Hydrographs-SW-8p-21 EL Date: 10/10/2024 Author: pvh



LEGEND

SW-10p-21, VWP at 55 feet deep

NOTES

1. SW-10p-21 ground surface elevation is 49.14 feet (surveyed).
2. VWP = vibrating wire piezometer

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BORING SW-10P-21 HYDROGRAPH

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FIG. ___

File: Washougal Hydrographs-SW-10p-21 EL Date: 10/10/2024 Author: pvh