Memorandum

To: Adrian Esteban, PE; Alta Planning + Design

From: Sue Tsoi, PLS; Amanda Owings, PE; Otak

Copies: 21733

Date: April 1, 2025

Subject: Sandy Boulevard Existing Conditions: Survey

Project No.: 21733

Executive Summary

Otak Survey provided aerial mapping and a preliminary right-of-way centerline for the preliminary design phase of the Safer Sandy Boulevard project. The project corridor extends from NE 201st Avenue to NE 230th Avenue. Full topographic surveying and mapping are anticipated for the final design phase.

Introduction

This memorandum documents the survey work that was performed for the initial mapping of the preliminary planning and design. A low flight aerial mapping was provided by GeoTerra, Inc. Sue Tsoi was the project surveyor. Chris Wiley, Katelyn Wright and David Finley performed the field work for the project control. Kevin Cullen and Katelyn Wright performed the field work for monument recovery. Mike Rusch performed the necessary office work needed.

Methodology

Otak submitted six utility locate ticket requests to the Oregon Utility Notification Center on September 11, 2024 for this segment of Sandy Boulevard and the intersecting side streets. Ticket numbers are 2426052, 24260370, 24260376, 24260383, 24260394 and 24260407.

The following utility providers, including telephone numbers, are listed on the tickets in the project area. Refer to the Utility Coordination memorandum for further detail.

Comcast Cable	(800) 778-9140
City of Gresham	(503) 618-2626
City of Fairview	(503) 665-9320
NW Natural Gas	(971) 227-4474
Portland General Electric	(503) 255-4634
Mid County Street Lighting District	(800) 778-9140
Oregon DOT Electrical	(971) 2274474
Rockwood Water P.U.D.	(503) 665-4179
Multnomah County	(800) 778-9140
Astound Broadband	(800) 762-0592

Zayo FNA Abovenet	(800) 961-6500
Ziply Fiber	(800) 778-9140
Townsend Farms Inc.	(503) 666-1780

Gas, sanitary sewer, communication, water and power were marked in the field by the respective utility providers. Utility tickets closed on September 26, 2024. Otak received maps from NW Natural Gas and Portland General Electric. Following up with utility companies for as-built maps and verifying marked utilities will be performed in the final design phase.

Otak set aerial control targets (#101 - #118) for the aerial mapping on September 16, 2024. Aerial target locations were determined by GeoTerra, Inc. Aerial targets were painted and survey control points were set. A mixed of 1-1/8" copper disks stamped with "Otak Control" and mag nails were utilized for control points. Additional survey control points were set to traverse between the aerial targets along NE Sandy Boulevard and the side streets. Control was established using Real Time Kinematic (RTK) Global Positioning System (GPS) technique and terrestrial traversing. Aerial target #109 was only tied with RTK GPS. Original RTK ties were made using the Oregon Real-time GNSS Network (ORGN) utilizing VCWA as the base station. A minimum of three observations were made at various control points.

GPS data was collected with Trimble R8S model 4 dual frequency receivers. Terrestrial data was collected with a Trimble SX10 robotic total station and TSC-7 data collector. Project control is on Oregon Coordinate Reference System (OCRS) Portland Zone and North American Vertical Datum (NAVD) of 1988 based on ORGN station VCWA. Control data were processed and adjusted using MicroSurvey Star*Net Version 11 and passed the 5% level Chi-Square test.

GeoTerra, Inc. performed the low flight aerial mapping on September 10, 2024. GeoTerra processed the data and provided mapping deliverables to Otak on December 2, 2024. Mapping information was limited to approximately 50-ft either side of the Sandy Blvd centerline. Otak did not perform a field check or collect confidence points to verify the aerial mapping. Both tasks should be performed in the final design phase.

Otak recovered a sufficient amount of centerline and right-of-way monuments in mid-November 2024 to create a preliminary right-of-way centerline. D&H Flagging, Inc. provided traffic control plans and flagging assistance to recover the centerline monuments. The centerline alignment per "Map of Road No. 917, the relocation of Sandy Road from East 82nd Street to Upper Sandy River Bridge, Multnomah County Records" was utilized along with the stationing. Held 25.00 feet north of found monument 1005 per "Partition Plat No. 2005-172, Multnomah County Records" and rotated centerline alignment to a point 35.00 feet north of found monument 1002 per "Survey Number 62229, Multnomah County Records," together with the centerline monuments at the east end of the project.

Additional right-of-way monuments will need to be recovered for full right-of-way resolution. Geographic Information System (GIS) right-of-way and property lines were incorporated into the basemap.

Findings

Otak prepared a basemap in AutoCAD 2022 Civil 3D utilizing the aerial data provided by GeoTerra, Inc. Locations of basemap features are approximate and shall be used for planning and conceptual design purposes only. The basemap was provided to the consultant team on February 2, 2025.