WEST SIDE NON-MOTORIZED IMPROVEMENTS
CITY OF BELLINGHAM PUBLIC WORKS PROJECT #ES563
SURVEY CONTROL WORKSHEET

SURVEYOR'S NOTES:

1. HORIZONTAL DATUM: RELATED TO WASHINGTON COORDINATE SYSTEM (WGS84) NORTH ZONE
   LINE HEAD 210304 000 30.562+ (CORR 718 AND 718) IN THE CENTERLINE OF
   ELRDGE AVE AS SHOWN

2. VERTICAL DATUM: NAVD88
   PROJECT BENCHMARK:
   PT 601 (GCS 84): FN 33 BOX 3 BRASS DISK IN BRIDGE HEADWALL 
   ELAT 41' FIELD
   PT 605 (GCS 84): FN 53 STAKE IN POWER POLE
   EL+68.71

3. DATE OF SURVEY: JANUARY 25-27 5:31 AM AND JANUARY 1, 2023

4. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET FORTH BY WAC 352-130-145
   TOPOGRAPHIC ELEMENTS ON MAPS.

5. THE PURPOSE OF THIS SURVEY WAS TO COLLECT TOPOGRAPHIC DATA WITHIN THE RIGHT OF WAY OF THE
   SCOPED AREA.

6. THIS SURVEY WAS ACCOMPLISHED USING STANDARD FIELD TRAVERSE PROCEDURES WITH A TOTAL STATION
   VERTICAL CONTROL WAS ESTABLISHED USING CLOSED LOOP DIFFERENTIAL LEVELED. ALL MONUMENTS
   SHOWN HERE VISITED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED

7. SURFACE CONTOURS DEPICTED WITH X, Z, AND V, (MAJOR) INTERVALS WERE GENERATED FROM FIELD
   OBSERVATIONS USING AUTOCAD CIVIL 3D (VERSION 2019) AND ARE TYPICALLY ACCURATE TO WITHIN
   APPROXIMATELY 5 FT.

8. JEPSON AND ASSOCIATES DISCLAIMS NO LIABILITY FOR ANY SURFACE CONDITIONS OR FEATURES THAT
   MAY EXIST WHICH WERE UNDETECTABLE OR NOT VISIBLE AT THE TIME OF THIS SURVEY AND THEREAFTER.

9. THIS IS NOT A BOUNDARY SURVEY AND IS NOT INTENDED TO BE USED AS SUCH, BUT AS A RECORD OF SURVEY OR
   FLAT MAP.

SHEET INDEX:

SHEET 1: COVER SHEET & NOTES
SHEET 2: SURVEY CONTROL MAP - ELORDGE & NELSMITH
SHEET 3: SURVEY CONTROL MAP - ELORDGE & LAFAYETTE
SHEET 4: SURVEY CONTROL MAP - ELORDGE & VICTOR
SHEET 5: SURVEY CONTROL MAP - ELORDGE & VICTOR

LEGEND:

A: SURVEY CONTROL
B: SET UP MARKER

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE: 1"=20' HORIZ.
1"=2'-0" VERT.

DATUM: NAVD88

Job No: ES563
Date: 01/01/2023
Field Br: 0015801000

WEST SIDE NON-MOTORIZED IMPROVEMENTS
SURVEY CONTROL ELORDGE AVE

45
**SURVEY CONTROL MAP**  
**ELDRIDGE AVE & VICTOR ST. INTERSECTION**

**SURVEY CONTROL TABLE**

<table>
<thead>
<tr>
<th>Point</th>
<th>Easting</th>
<th>Northing</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>804</td>
<td>639293</td>
<td>123456</td>
<td>TOWN HALL</td>
</tr>
<tr>
<td>805</td>
<td>639293</td>
<td>123456</td>
<td>CITY HALL</td>
</tr>
<tr>
<td>806</td>
<td>639293</td>
<td>123456</td>
<td>PUBLIC LIBRARY</td>
</tr>
<tr>
<td>807</td>
<td>639293</td>
<td>123456</td>
<td>SCHOOL</td>
</tr>
<tr>
<td>808</td>
<td>639293</td>
<td>123456</td>
<td>PARK</td>
</tr>
<tr>
<td>809</td>
<td>639293</td>
<td>123456</td>
<td>MEDICAL CENTER</td>
</tr>
<tr>
<td>810</td>
<td>639293</td>
<td>123456</td>
<td>SHOP</td>
</tr>
</tbody>
</table>

**CITY OF BELLINGHAM, WASHINGTON**  
**PUBLIC WORKS DEPARTMENT**  
**ENGINEERING DIVISION**

**SCALE**  
1:200

**DATUM**  
NAD 83/98
NAD 83/98

**Job No.**  
000000

**Field Engr.**  
WEST SIDE NON-MOTORIZED IMPROVEMENTS  
SURVEY CONTROL ELDRIDGE AVE

**Sheet**  
1 of 46
WEST SIDE NON-MOTORIZED IMPROVEMENTS

CITY OF BELLINGHAM PUBLIC WORKS PROJECT #ES563
SURVEY CONTROL WORKSHEET

SURVEYOR’S NOTES:

1. HORIZONTAL DATUM: RELATED TO WASHINGTON COORDINATE SYSTEM (WAC95SS8); NORTH ZONE
   LINES HELD
   87°14'14" N. W. 2003 MB BETWEEN FOUND BRASS DISK (CDB 2788 & 3716) IN THE CENTERLINE OF CORPDATA PARKWAY, AS SHOWN, (TREMONT & CORPDATA SURVEYS);

   BASIS OF COORDINATES:
   CDB 2788 (W22)  2" BRASS DISK (W22) N 889,039.88  E 12,354,42.31
   CDB 2719 (W11)  2" BRASS DISK (W11) N 883,276.81  E 12,320,68.71

2. VERTICAL DATUM: NAVD88
   PROJECT BENCHMARKS:
   CDB 2780 (W19) FOUND 3" BRASS DISK IN CASE EL=166.00
   CDB 3709 (W10) FOUND 2" BRASS DISK EL=160.96
   CDB 3705 (W11) FOUND 2" BRASS DISK EL=162.31 (R=162.36)

3. DATE OF SURVEY: APRIL 13, 14, 15, 16, & 19, 2003

4. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET FORTH BY WAC 382-150-140
   TOPOGRAPHIC ELEMENTS ON MAPS.

5. THE PURPOSE OF THIS SURVEY WAS TO COLLECT TOPOGRAPHIC DATA WITHIN THE RIGHT OF WAY OF THE
   SCOPED AREA.

6. THIS SURVEY WAS ACCOMPANIED USING STANDARD-FIELD TRAVELING PROCEDURES WITH A TOTAL STATION
   VERTICAL CONTROL, WAS ESTABLISHED USING CLOSED LOOP DIFFERENTIAL LEVELING, ALL MONUMENTS
   SHOWN WERE VISITED DURING THE COURSE OF THIS SURVEY, UNLESS OTHERWISE NOTED.

7. SURFACE CONTOURS DEPICTED WITH 1" INTERVALS AND 1" MAP LINES WERE GENERATED FROM FIELD
   OBSERVATIONS USING AUTOCAD CIVIL 3D (VERSION 2016) AND ARE TYPICALLY ACCURATE TO WITHIN
   APPROXIMATELY 5%.  

8. JEPSEN AND ASSOCIATES ASSUMES NO LIABILITY FOR ANY SUBSURFACE CONDITIONS OR FEATURES THAT
   MAY EXIST WHICH WERE UNDETECTABLE OR NOT VISIBLE AT THE TIME OF THIS SURVEY AND THEREAFTER.

9. THIS IS NOT A BOUNDARY SURVEY AND IS NOT INTENDED TO BE USED AS SUCH; SEE A RECORD OF SURVEY OR
   PLAT MAP.

LEGEND:

△ SURVEY CONTROL
○ FOUND BRASS DISK
□ BRASS DISK

SHEET INDEX:

SHEET 1: COVER SHEET & NOTE
SHEET 2: SURVEY CONTROL MAP
WEST SIDE NON-MOTORIZED IMPROVEMENTS
CITY OF BELLINGHAM PUBLIC WORKS PROJECT #ES563
SURVEY CONTROL WORKSHEET

PROJECT VICINITY:

SURVEYOR'S NOTES:

1. HORIZONTAL DATUM: RELATED TO WASHINGTON COORDINATE SYSTEM (NAVD88). NORTH ZONE.
   LINE HLD: S41°18'16"W 3452 FT (342.77 MDA) BETWEEN FOUND BRASS DISC MONUMENTS (COB 2404 AND 803) IN THE CENTERLINE OF IV HOLLY ST. AS SHOWN.
   BASIS OF COORDINATES:
   COB 2404 (803):
   BRASS DISK
   N: 942331.33
   E: 1423231.68
   COB 803 (563):
   BRASS DISK
   N: 942331.33
   E: 1423231.68

2. VERTICAL DATUM: NAVD88.
   PROJECT BENCHMARK:
   COB 803 (563):
   FOUND BRASS DISC BENCHMARK
   EL: +85.17
   COB 563 (803):
   FOUND BRASS DISC BENCHMARK
   EL: +87.94


4. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET FORTH BY WAC 336-170-140 TOPOGRAPHIC ELEMENTS ON MAPS.

5. THE PURPOSE OF THIS SURVEY WAS TO COLLECT TOPOGRAPHIC DATA WITHIN THE RIGHT OF WAY OF THE SCOPE AREA.

6. THIS SURVEY WAS ACCOMPLISHED USING A COMBINATION OF RELATIVE DINES OBSERVATIONS WITH A BASECIRCLE 9TH CONFIGURATION AND STANDARD FIELD TRAVERSE PROCEDURES WITH A TOTAL STATION. VERTICAL CONTROL WAS ESTABLISHED USING CLOSED LOOP DIFFERENTIAL LEVELING. ALL MONUMENTS SHOWN WERE VISITED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.

7. SURFACE CONTOURS DEPICTED WITH I (MINOR) AND (MAJOR) INTERVALS WERE GENERATED FROM FIELD OBSERVATIONS USING AUTOCAD CIVIL 3D (VERSION 2016) AND ARE TYPICALLY ACCURATE TO WITHIN APPROXIMATELY 5 FT.

8. JEPSON AND ASSOCIATES ASSUMES NO LIABILITY FOR ANY SUBSURFACE CONDITIONS OR FEATURES THAT MAY EXIST WHICH WERE UNDETECTABLE OR NOT VISIBLE AT THE TIME OF THIS SURVEY AND THEREAFTER.

9. THIS IS NOT A BOUNDARY SURVEY AND IS NOT INTENDED TO BE USED AS SUCH. SEE A RECORD OF SURVEY OR PLAT MAP.

LEGEND:

A: SURVEY CONTROL
B: FOUND CONTROL MARK
D: SURVEY ANCHOR
D: BRASS DISK

SHEET INDEX:

SHEET 1: COVER SHEET & NOTES
SHEET 2: SURVEY CONTROL MAP - HOLLY & CHAMPION
WEST SIDE NON-MOTORIZED IMPROVEMENTS
CITY OF BELLINGHAM PUBLIC WORKS PROJECT #ES563
SURVEY CONTROL WORKSHEET

PROJECT VICINITY:

SURVEYOR'S NOTES:

1. HORIZONTAL DATUM: RELATED TO WASHINGTON COORDINATE SYSTEM (WAD89), NORTH ZONE
   BASIS OF BEARINGS: CITY OF BELLINGHAM EL-0190 (SEWER MAIN REPLACEMENT PROGRAM) SURVEY CONTROL PLAN
   LINE Held: S69°46’51’’E 164.67 BETWEEN FOUND LEVEL MARKS (COB 1666 & 1160) IN THE CENTERLINE OF WOOLSEN ST. AS SHOWN
   BASIS OF COORDINATES:
   COB 1666 (9935)        COB 1160 (9936)
   N: 9463729.45    E: 12351542.82
   N: 9433024.70    E: 12351562.10

2. VERTICAL DATUM: NAVD88
   METHOD: CLOSED LOOP DIFFERENTIAL LEVELING
   PROJECT BENCHMARKS:
   COB 5681 (9934)        COB 5687 (9935)
   BRASS DISK         LIGHT POLE BOLT
   EL=1138.30 (FIELD)  EL=1176.20

3. DATE OF SURVEY: MARCH 21 & 22, 2023

4. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET FORTH BY WAC 332-130-145.
   TOPOGRAPHIC ELEMENTS ON MAPS

5. THE PURPOSE OF THIS SURVEY WAS TO COLLECT TOPOGRAPHIC DATA WITHIN THE RIGHT OF WAY OF THE
   Scoped AREA.

6. THIS SURVEY WAS ACCOMPLISHED USING STANDARDS FIELD TRAVERSE PROCEDURES WITH A TOTAL STATION,
   VERTICAL CONTROL WASESTABLISHED USING CLOSED LOOP DIFFERENTIAL LEVELING. ALL MONUMENTS
   SHOWN WERE VISITED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED.

7. SURFACE CONTOURS DEPICTED WITH 1’ (MINOR) AND 5’ (MAJOR) INTERVALS WERE GENERATED FROM FIELD
   OBSERVATIONS USING AUTOCAD CIVIL 3D VERSION 2016 AND ARE TYPICALLY ACCURATE TO WITHIN
   APPROXIMATELY ±0.54.

8. JERSON AND ASSOCIATES ASSUMES NO LIABILITY FOR ANY SURFACACE CONDITIONS OR FEATURES THAT
   MAY EXIST WHICH WERE UNDETECTABLE OR NOT VISIBLE AT THE TIME OF THIS SURVEY AND THEREAFTER.

9. THIS IS NOT A BOUNDARY SURVEY AND IS NOT INTENDED TO BE USED AS SUCH. SEE A RECORD OF SURVEY OR
   PLAT MAP.

SHEET INDEX:

SHEET 1 COVER SHEET & NOTES
SHEET 2 SURVEY CONTROL MAP
CONSTRUCTION NOTES:

1. INSTALL PLASTIC SHARED LANE SYMBOL AS DIRECTED BY THE ENGINEER.
2. INSTALL DESIGNATED BIKE LANE AND ARROW SYMBOLS PER CITY STANDARD PLAN TC-315.
3. BIKE LANE STRIPING PER CITY STANDARD TC-315.
4. INSTALL BIKE LANE BUFFER WITH MATCHING AND DELINEATORS PER DETAIL SHEET 31.
5. INSTALL 2-WAY WHITE PLASTIC CROSS-WALK LINES PER WSDOT STANDARD W-15.10.
6. INSTALL 2-WAY WHITE PLASTIC STEP LINE (BMW) PER CITY STANDARD PLAN TC-315.
7. BUFFER TRANSITION PER DETAIL SHEET 31.
8. INSTALL RECTANGULAR RAMP FLASHING BEACON(S) PER DETAIL SHEET 40 WITH S1-1 SIGNS.
9. INSTALL RECTANGULAR RAMP FLASHING BEACON(S) PER DETAIL SHEET 40 WITH W1-2 SIGNS.
10. INSTALL RECTANGULAR RAMP FLASHING BEACON(S) PER DETAIL SHEET 40 WITH W1-15 SIGNS.
11. INSTALL R1-66 SIGN DOUBLE SIDED WITH POST.
12. INSTALL PUSHER POST AND R10-25 SIGN FOR BICYCLES.
13. INSTALL SHORT FLEXIBLE YELLOW DELINEATOR.
14. INSTALL DOUBLE YELLOW CENTER STRIPES PER COB STANDARD TC-315.
15. INSTALL DETECTABLE WARNING SURFACE PER WSDOT STANDARD F-43.15-03.
16. NOT USED THIS SHEET.
17. INSTALL 6" PLASTIC LANE LINE.
18. NOT USED THIS SHEET.
19. DOTTED EXTENSION LINE PER WSDOT STANDARD W-20.10.
CONSTRUCTION NOTES:

1. INSTALL PLASTIC SHARED LANE SYMBOL AS DIRECTED BY ENGINEER.
2. INSTALL DESIGNATED BIKE LANE AND MARKING SYMBOLS PER CITY STANDARD PLAN TC-310.
3. BIKE LANE STRIPING PER CITY STANDARD TC-315.
4. INSTALL BIKE LANE BUFFER WITH HATCHING AND DELINERATORS. SEE DETAIL SHEET 'ST.'
5. INSTALL 2"X9" WHITE PLASTIC CROSS-WALK LINES PER WSGST STANDARD PLAN M-15.10.
6. INSTALL RECTANGULAR RAPID FLASHING BEACON(S) PER DETAIL SHEET '60' WITH RP1-2 SIGNS.
7. INSTALL SHORT FLEXIBLE YELLOW DELINERATOR.
8. INSTALL REPEATABLE RAPID FLASHING BEACON(S) PER DETAIL SHEET '65' WITH RP1-15 SIGNS.
9. INSTALL R-66 SIGN DOUBLE SIDED WITH POST.
10. INSTALL RIDER BUTTON POST AND RP1-15 SIGN FOR BICYCLES.
11. INSTALL DOUBLE YELLOW CENTER STRIPE PER JOB STANDARD TC-300.
12. INSTALL DETECTABLE WALKING SURFACE PER WSGST STANDARD F-45.10-03.
13. NOT USED THIS SHEET.
14. INSTALL 6" PLASTIC LANE LINE.
15. NOT USED THIS SHEET.
CONSTRUCTION NOTES:

1. Install plastic shared lane symbol as directed by the engineer.
2. Install designated bike lane and arrow symbols per city standard plan TC-315.
4. Install bike lane buffer with matching and delineators. See detail sheet 39.
5. Install 2" x 5" white plastic crosswalk lines per WSDOT standard plan M-15110.
6. 24" white plastic stop line (BAR) per city standard plan TC-310.
7. Buffer transition per detail sheet 94.
8. Install rectangular rapid flashing beacon(s) per detail sheet 40 with 51-1 signs.
9. Install rectangular rapid flashing beacon(s) per detail sheet 40 with 61-2 signs.
10. Install rectangular rapid flashing beacon(s) per detail sheet 40 with 61-15 signs.
11. Install R1-60 sign double sided with post.
12. Install push button post, and R10-25 sign for bicycles.
13. Install short flexible yellow delineator.
15. Install detectable warning surface per WSDOT standard F-4510.00-03.
16. Not used this sheet.
17. Install 6" plastic lane line.
18. Not used this sheet.
19. Dotted extension line per WSDOT standard M-20.10.
CONSTRUCTION NOTES:

1. INSTALL PLASTIC SHARED LANE SYMBOL AS DIRECTED BY THE ENGINEER.
2. INSTALL DESIGNATED BIKE LANE AND ARROW SYMBOLS PER CITY STANDARD PLAN TC-315.
3. BIKE LANE STRIPING PER CITY STANDARD TC-315.
4. INSTALL BIKE LANE BUFFER WITH MACHING AND DELINEATORS SET AS DETAIL SHEET 3A.
5. INSTALL 3/8" MATE PLASTIC CROSS-WALK LINES PER CITY STANDARD PLAN M-15.10.
6. INSTALL 24" PLASTIC STOP LINE (BMR) PER CITY STANDARD PLAN TC-312.
7. SIDEWALK TRANSITION PER DETAIL SHEET 2B.
8. INSTALL RECTANGULAR RAMP.
9. INSTALL RECTANGULAR RAMP.
10. INSTALL RECTANGULAR RAMP.
11. INSTALL 2" flex RAMP PER DETAIL SHEET 40 WITH 8"-2 SIGN.
12. INSTALL 2" flex RAMP PER DETAIL SHEET 40 WITH 8"-2 SIGN.
13. INSTALL 2" flex RAMP PER DETAIL SHEET 40 WITH 8"-2 SIGN.
14. INSTALL PUSHBUTTON POST AND #10-25 SIGN FOR BICYCLES.
15. INSTALL SHORT FLEXIBLE YELLOW DELINEATOR.
16. INSTALL DOUBLE YELLOW CENTER STRIPE PER CITY STANDARD TC-300.
17. INSTALL DETECTABLE WARNING SURFACE PER CITY STANDARD F-45.10-03.
18. NOT USED THIS SHEET.
19. INSTALL & PLASTIC LANE LINE.
20. NOT USED THIS SHEET.
21. DOTTED EXTENSION LINE PER CITY STANDARD W-20.10.
RFB DETAIL NOTES:

1. RFB signs, as shown on this detail and the plans, shall be provided by the contractor.
2. All other ground-mounted signals shall be provided by the city of Bellingham.
3. Orient solar panel per manufacturer's recommendation.
4. Tree trimming may be required for optimal solar panel placement.
5. Pedestrian pushbutton shall be placed within 9 inches from curb, part landing, or edge. See ADA accessibility guidelines; those intended for bicycle use shall be placed 18 inches from face of curb.
6. The contractor shall verify foundation locations are free of utility conflicts.
7. Where pedestrian refuge present, install double-sided push button at refuge and single-sided on each side of the street.
8. ARB pushbutton shall activate all signs in an intersection when dual crosswalks are provided.
9. Final sign/button location will be field verified to meet necessary sight distance and accessibility.

TYPICAL INSTALLATION

CURB BASE TYPE INSTALLATION

RECTANGULAR RAPID FLASHING BEACON (RFB) AND SIGN DETAIL

N.T.S.