

ES566 12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS

PROJECT DESCRIPTION

CONSTRUCT SIDEWALKS AND ON-STREET PARKING ALONG FINNEGAN WAY. CONSTRUCT CURB RAMPS AND TRAFFIC SIGNAL SYSTEM AT 12TH ST AND MILL AVE INTERSECTION. CONSTRUCT, CURB RAMPS AND RRFB SYSTEM AT 12TH ST AND MCKENZIE AVE.

PROJECT CONTACTS

CITY OF BELLINGHAM
KYLE CARLSON, PE
CITY OF BELLINGHAM PUBLIC WORKS
104 WEST MAGNOLIA STREET - SUITE 109
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KMCARLSON@COB.ORG

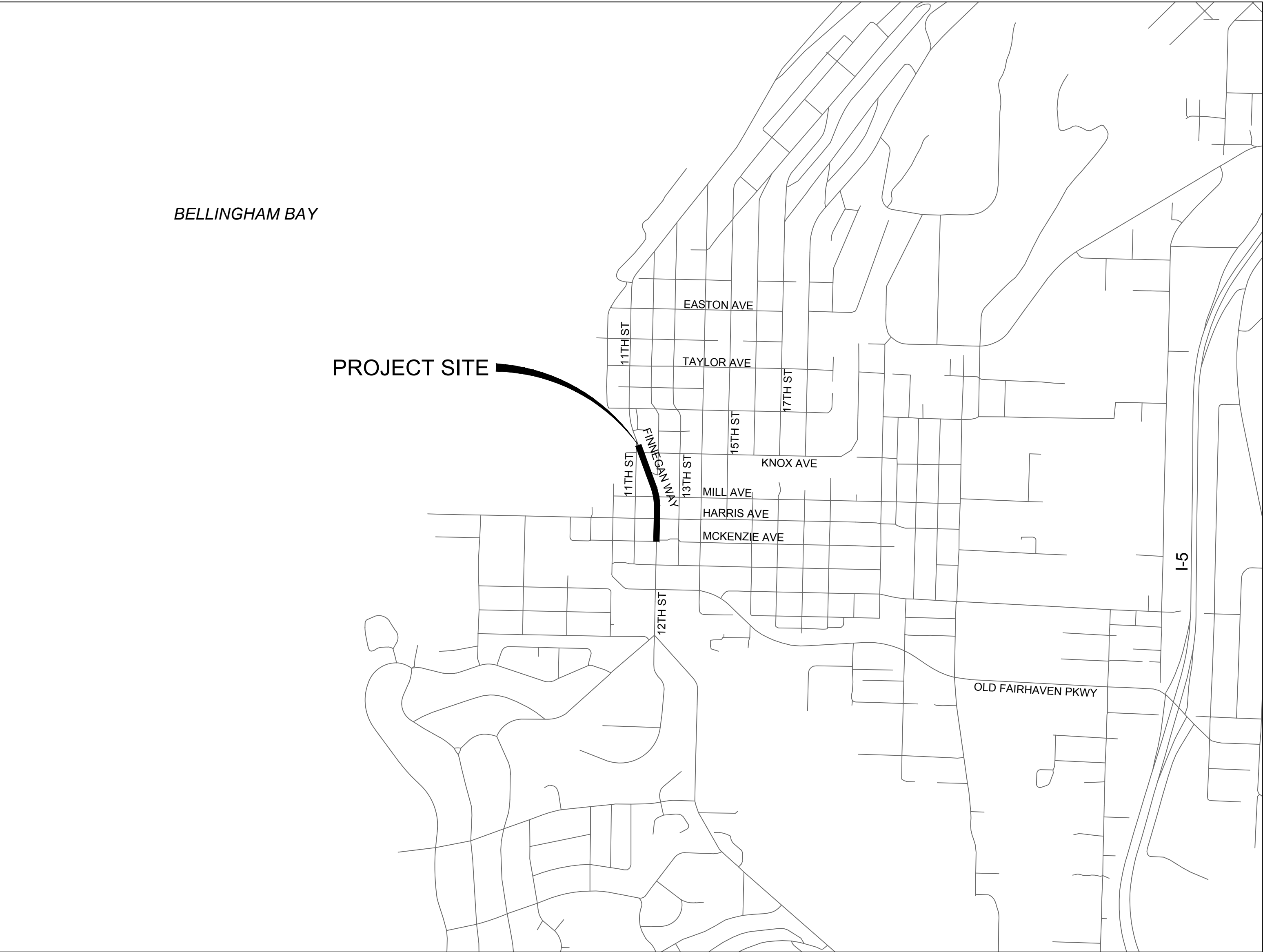
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5160 INDUSTRIAL PLACE, SUITE 108
FERNDALE, WA 98248
360.383.0620 OFFICE

BELLINGHAM BAY

PROJECT SITE



PROJECT AREA MAP

SHEET INDEX

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Osborn Consulting

COV



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Date	4	Revision	By	PROJECT ENGINEER_KBC DESIGNED/DRAWN_JK/IN/TK INSPECTOR	DIRECTOR PUBLIC WORKS_M.A.O. CITY ENGINEER_M.L.W. ASSISTANT DIRECTOR_M.A.O.	CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	SCALE Horiz. AS NOTED Vert. AS NOTED	DATUM NAD 83/98 NAVD 88	Job. No. ES566 Date 8/9/2024 Field Bk.	12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS COVER	SHEET 1 OF 51
	3										
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GENERAL NOTES

1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH CITY OF BELLINGHAM STANDARDS, WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT)/AMERICAN PUBLIC WORKS ASSOCIATION (APWA) STANDARDS, THE PLANS, AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
3. A COPY OF THE APPROVED PLANS AND SPECIFICATIONS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
4. ANY EXISTING PUBLIC AND PRIVATE FEATURES, NOT IDENTIFIED FOR REMOVAL, DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPLACED IN-KIND AT THE CONTRACTOR'S EXPENSE PRIOR TO FINAL INSPECTION.
5. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL PUBLIC STREETS FREE OF MUD AND DEBRIS AT ALL TIMES. THE CONTRACTOR SHALL BE PREPARED TO USE POWER SWEEPERS OR OTHER EQUIPMENT NECESSARY TO KEEP THE ROADWAYS CLEAN AT NO COST TO THE CITY.
6. LOCATE AND PROTECT EXISTING UTILITIES AND FEATURES WITHIN THE PROJECT LIMITS PRIOR TO BEGINNING GROUND DISTURBING WORK. DAMAGE TO UTILITIES AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. THE LOCATIONS OF EXISTING FEATURES AND UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. NOT ALL EXISTING UTILITIES MAY BE SHOWN ON THESE PLANS. CONTACT THE UTILITIES UNDERGROUND LOCATION CENTER (1-800-424-5555) A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION.
7. POTHOLE LOCATIONS AS NECESSARY TO LOCATE UNDERGROUND UTILITIES. ADDITIONAL POTHOLING MAY BE NECESSARY TO LOCATE UTILITIES AND WILL BE CONDUCTED AT THE UNIT BID PRICE AT THE DISCRETION OF THE ENGINEER.
8. MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES UNLESS PRIOR APPROVAL HAS BEEN OBTAINED BY THE CONTRACTOR FROM THE CITY OF BELLINGHAM AND PROPERTY OWNER. THE CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES 48 HOURS IN ADVANCE OF ANY WORK AFFECTING ACCESS OR SERVICE AND SHALL MINIMIZE INTERRUPTIONS TO DRIVEWAYS FOR RESIDENTS AND BUSINESSES ADJACENT TO THE PROJECT.
9. INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROL PRIOR TO BEGINNING CONSTRUCTION. MAINTAIN TEMPORARY EROSION AND SEDIMENTATION CONTROL DEVICES AND FEATURES IN WORKING ORDER THROUGH THE DURATION OF CONSTRUCTION.
10. ALL LAWN AND VEGETATED AREAS OUTSIDE THE PROJECT LIMITS DISTURBED BY CONSTRUCTION EQUIPMENT, VEHICLE OR PERSONNEL SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER, AT THE CONTRACTOR'S EXPENSE.
11. FIELD STAKE FINAL CURB AND EDGE OF PAVEMENT LOCATIONS TO BE APPROVED BY THE CITY OF BELLINGHAM PRIOR TO CONSTRUCTION. THE LOCATIONS OF PROPOSED FEATURES SHOWN IN THESE PLANS ARE APPROXIMATE AND SUBJECT TO MINOR REVISIONS BY THE CITY OF BELLINGHAM.
12. ALL WORK SHALL BE CONSISTENT WITH UTILITY AGENCY REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE WITH AFFECTED UTILITY AGENCIES THROUGHOUT THE PROJECT.
13. THE CONTRACTOR IS RESPONSIBLE FOR DISPERSING WATER FOR DUST CONTROL ONTO UN-PAVED TRAFFIC LANES THAT ARE OPEN FOR PUBLIC USE AS DIRECTED BY THE ENGINEER.
14. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO LOCATE AND PROTECT ALL EXISTING SURVEY MONUMENTS DURING CONSTRUCTION. ALL SURVEY MONUMENTS THAT MAY BE DISTURBED BY CONSTRUCTION SHALL BE IDENTIFIED, REFERENCED, AND REPLACED IN ACCORDANCE WITH RECOGNIZED SURVEYING PRACTICES BY A LICENSED LAND SURVEYOR PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL COORDINATE WITH PROJECT ENGINEER PRIOR TO DESTRUCTION OF MONUMENTS.
15. THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION CONFERENCE WITH THE CITY OF BELLINGHAM ENGINEERING DIVISION PRIOR TO BEGINNING CONSTRUCTION.
16. PUSHBUTTONS FOR SIGNALS AND BEACONS SHALL BE PLACED WITHIN A 9 INCH REACH FROM CURB RAMP LANDING AREAS, PER ADA ACCESSIBILITY GUIDELINES.
17. THE CONTRACTOR SHALL VERIFY FOUNDATION LOCATIONS ARE FREE OF UTILITY CONFLICTS.
18. THE LOCATIONS OF FEATURES SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION WORK.
19. ANY EXISTING UTILITIES THAT ARE IN SERVICE SHALL REMAIN OPERATIONAL AT ALL TIMES.
20. ANY SIDEWALK, LANDSCAPE, SHOULDER, OR ROADWAY DISTURBED DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF JUNCTION BOXES AND CONDUIT, SHALL BE RESTORED TO EQUAL OR BETTER CONDITIONS. FULL DEPTH SAWCUT REQUIRED AT PAVEMENT PATCH EDGE FOR ROADWAY TRENCH WORK. ALL SIDEWALK AND CONCRETE ROADWAY REPAIR SHALL BE DONE TO FULL DEPTH BY WHOLE PANELS BETWEEN SIDEWALK JOINTS. PARTIAL PANEL REPLACEMENT OF SIDEWALKS AND CONCRETE ROADWAY WILL NOT BE ALLOWED UNLESS INDICATED ON THE PLANS. USE CDF IF COMPACTION CANNOT BE ACHIEVED UNDER ADJACENT SIDEWALK.
21. CONTRACTOR SHALL SUBMIT ALL MATERIAL CUT SHEETS TO THE CITY ENGINEER FOR APPROVAL PRIOR TO ORDERING AND INSTALLATION.



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Date

No

Revision

By

PROJECT ENGINEER KBC
DESIGNED/DRAWN JK/TN/TK
INSPECTOR _____

DIRECTOR PUBLIC WORKS M.A.O.
CITY ENGINEER M.L.W.
ASSISTANT DIRECTOR M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk. _____

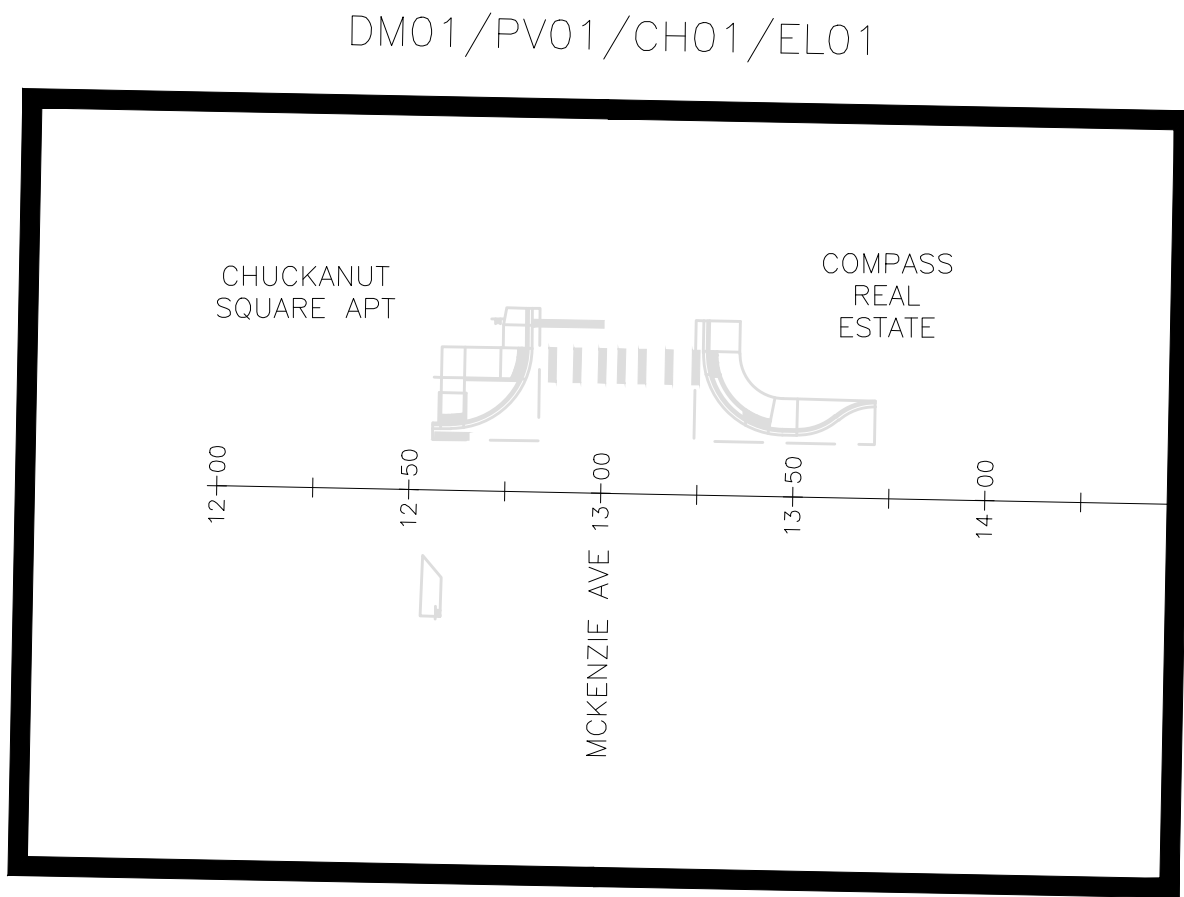
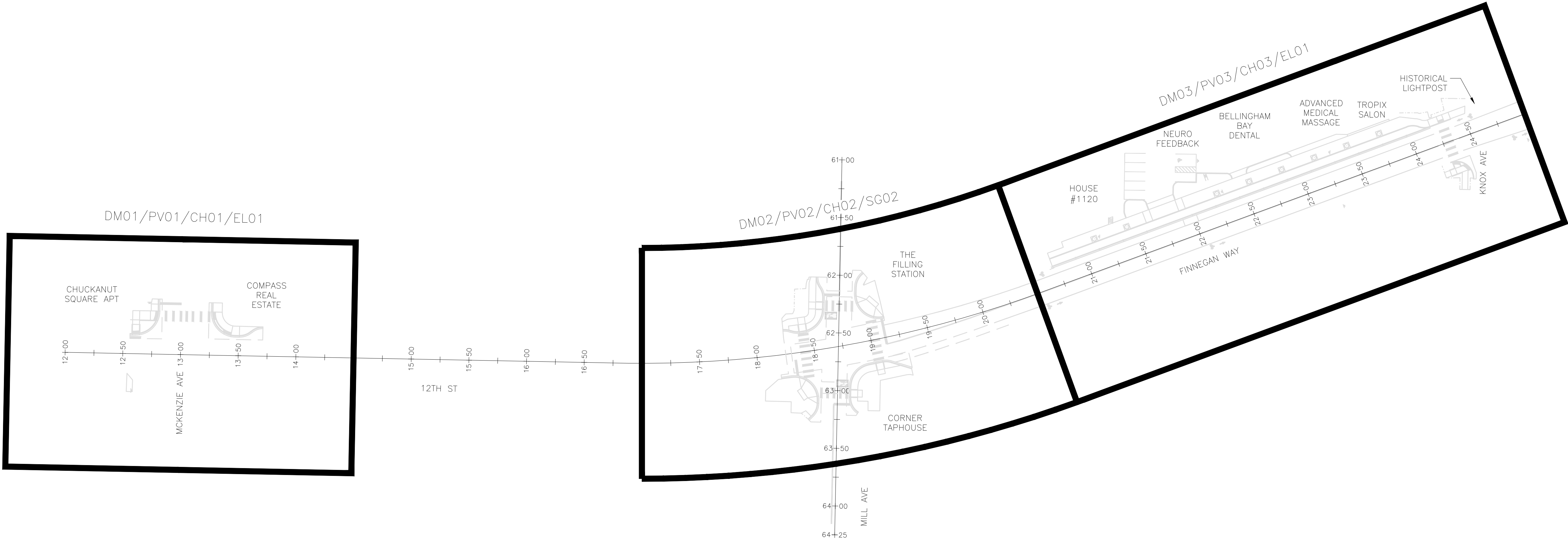
12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS

NOTES

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51

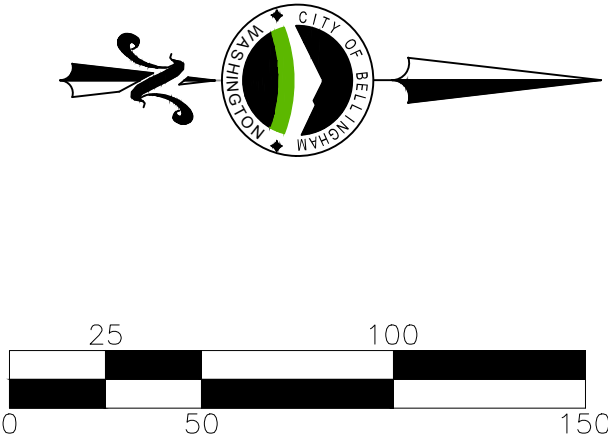
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CONTACT PERSON: KYLE CARLSON , PROJECT ENGINEER AT (360) 778-7946



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Date	No	Revision	By

PROJECT ENGINEER KBC
DESIGNED/DRAWN JK/IN/TK
INSPECTOR _____

DIRECTOR PUBLIC WORKS M.A.O.
CITY ENGINEER M.L.W.
ASSISTANT DIRECTOR M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

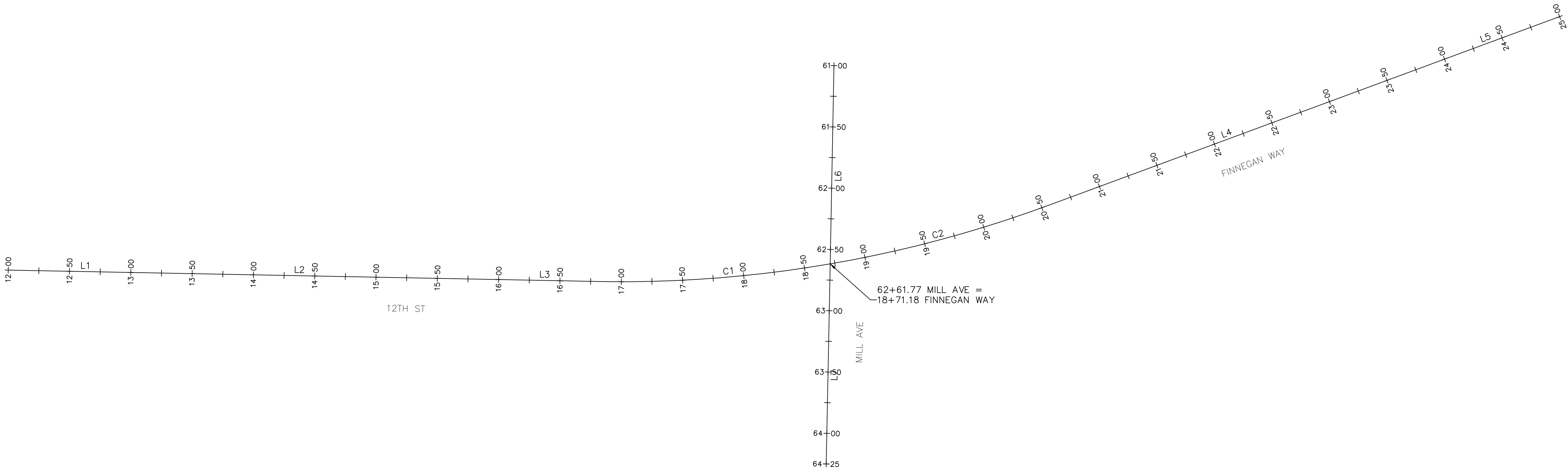
SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk. _____

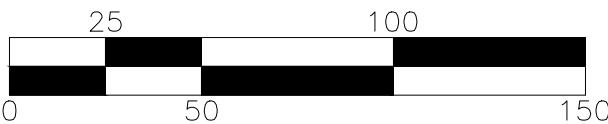
12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
SHEET MAP

SEC. 01, T. 37 N., R. 02 E., W.M.



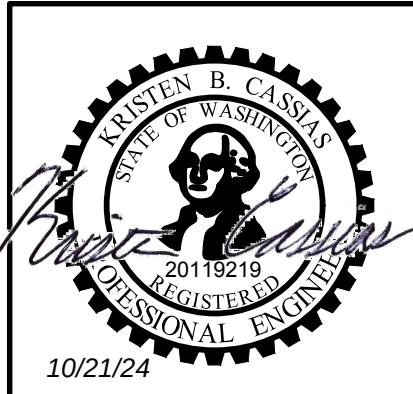
CL—FINN							
NUMBER	RADIUS	LENGTH	LINE/CHORD DIRECTION	BEGIN STATION	BEGIN N/E	END STATION	END N/E
L1	NA	100.03	N1° 10' 38.44"E	12+00.00	N: 631455.31, E: 1237561.42	13+00.03	N: 631555.32, E: 1237563.48
L2	NA	289.96	N1° 10' 31.06"E	13+00.03	N: 631555.32, E: 1237563.48	15+89.99	N: 631845.23, E: 1237569.42
L3	NA	98.40	N1° 12' 18.73"E	15+89.99	N: 631845.23, E: 1237569.42	16+88.39	N: 631943.60, E: 1237571.49
C1	1005.30	182.78	N4° 29' 05.43"W	16+88.39	N: 631943.60, E: 1237571.49	18+71.18	N: 632125.58, E: 1237557.22
C2	1005.30	184.12	N14° 56' 25.95"W	18+71.18	N: 632125.58, E: 1237557.22	20+55.30	N: 632303.23, E: 1237509.82
L4	NA	305.98	N20° 11' 15.00"W	20+55.30	N: 632303.23, E: 1237509.82	23+61.28	N: 632590.41, E: 1237404.22
L5	NA	138.72	N20° 11' 53.00"W	23+61.28	N: 632590.41, E: 1237404.22	25+00.00	N: 632720.60, E: 1237356.33

CL—MILL							
NUMBER	RADIUS	LENGTH	LINE/CHORD DIRECTION	BEGIN STATION	BEGIN N/E	END STATION	END N/E
L6	NA	179.87	S88° 50' 19.85"E	61+00.00	N: 632128.85, E: 1237395.48	62+79.87	N: 632125.21, E: 1237575.31
L7	NA	145.13	S88° 47' 13.35"E	62+79.87	N: 632125.21, E: 1237575.31	64+25.00	N: 632122.14, E: 1237720.41



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Date	No	Revision	By

PROJECT ENGINEER	KBC
DESIGNED/DRAWN	JK/IN/TK
INSPECTOR	

DIRECTOR PUBLIC WORKS	M.A.O.
CITY ENGINEER	M.L.W.
ASSISTANT DIRECTOR	M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

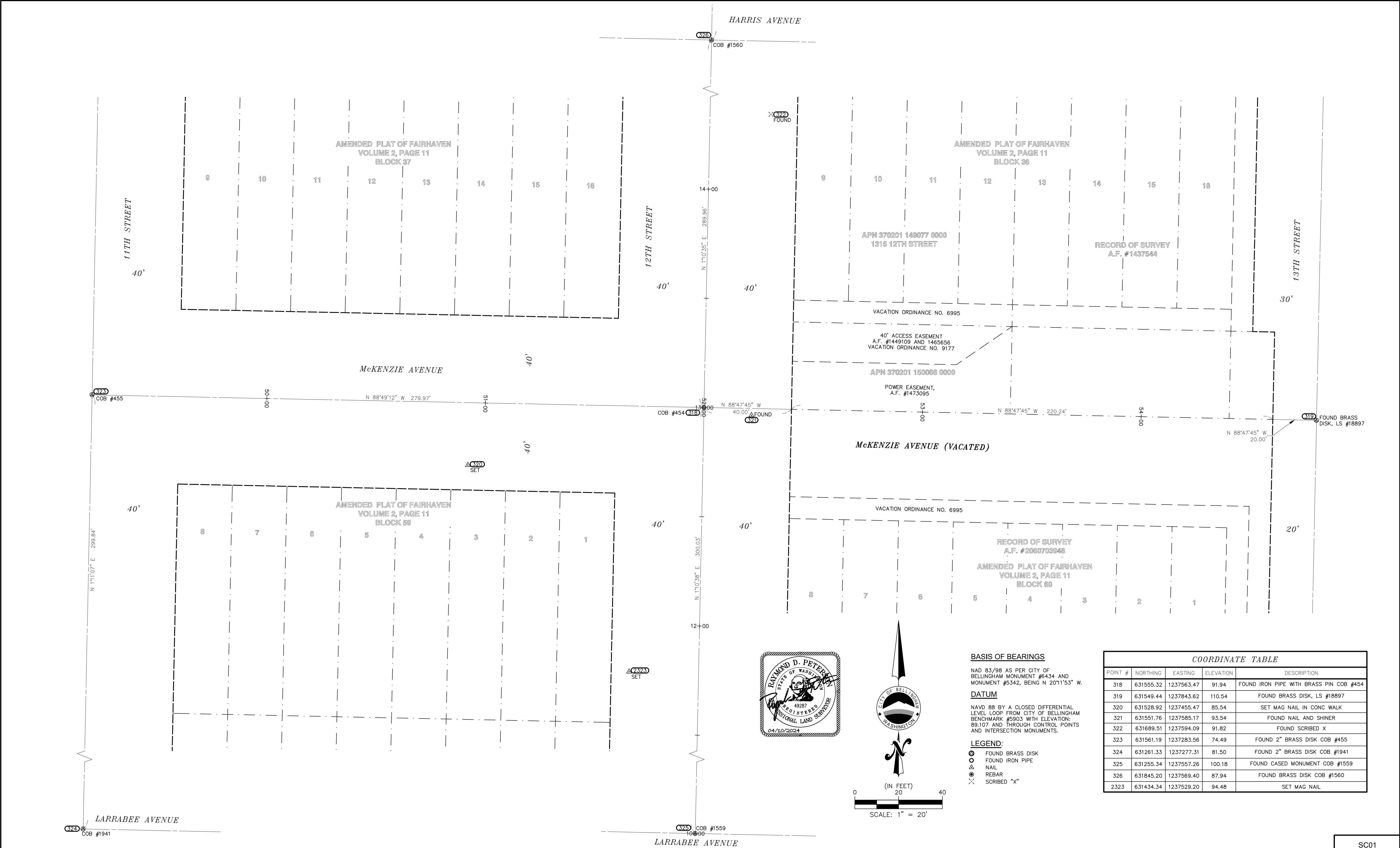
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Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No.	ES566
Date	8/9/2024
Field Bk.	

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
ALIGNMENT

SHEET
4 OF
51



BASIS OF BEARINGS

NAD 83/98 AS PER CITY OF BELLINGHAM MONUMENT #6434 AND MONUMENT #5342, BEING N 20°11'53" W.

DATUM

NAVD 88 BY A CLOSED DIFFERENTIAL LEVEL LOOP FROM CITY OF BELLINGHAM BENCHMARK #5903 WITH ELEVATION: 89.107' AND THROUGH CONTROL POINTS AND INTERSECTION MONUMENTS.

LEGEND:

- FOUND BRASS DISK
- FOUND IRON PIPE
- NAIL
- REBAR
- SCRIBED "X"

COORDINATE TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
318	631555.32	1237563.47	91.94	FOUND IRON PIPE WITH BRASS PIN COB #454
319	631549.44	1237843.62	110.54	FOUND BRASS DISK, LS #18897
320	631528.92	1237455.47	85.54	SET MAG NAIL IN CONC WALK
321	631551.76	1237585.17	93.54	FOUND NAIL AND SHINER
322	631689.51	1237594.09	91.82	FOUND SCRIBED X
323	631561.19	1237283.56	74.49	FOUND 2" BRASS DISK COB #455
324	631261.33	1237277.31	81.50	FOUND 2" BRASS DISK COB #1941
325	631255.34	1237557.26	100.18	FOUND CASED MONUMENT COB #1559
326	631845.20	1237569.40	87.94	FOUND BRASS DISK COB #1560
2323	631434.34	1237529.20	94.48	SET MAG NAIL

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Date	No	Revision	By

PROJECT ENGINEER	
DESIGNED/DRAWN	
INSPECTOR	

DIRECTOR PUBLIC WORKS E.C.J.	
CITY ENGINEER M.L.W.	
ASSISTANT DIRECTOR M.A.O.	

CITY OF BELLINGHAM, WASHINGTON
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ENGINEERING DIVISION

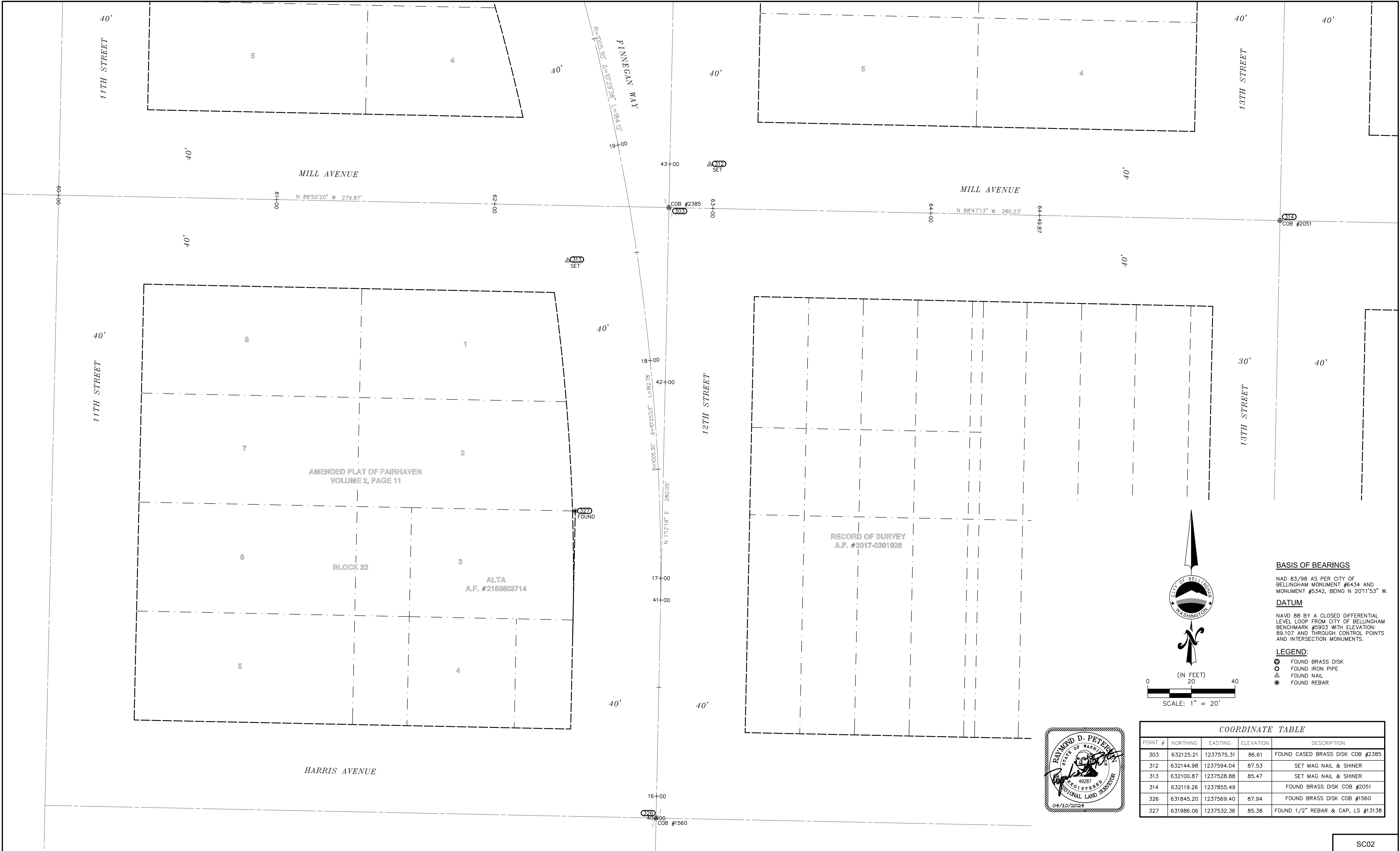
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DATUM
NAD 83/98
NAVD 88

Job. No. ES-566
Date
Field Bk. 1071-1

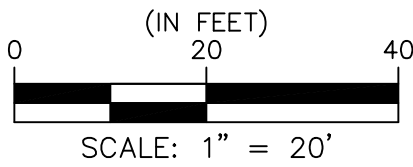
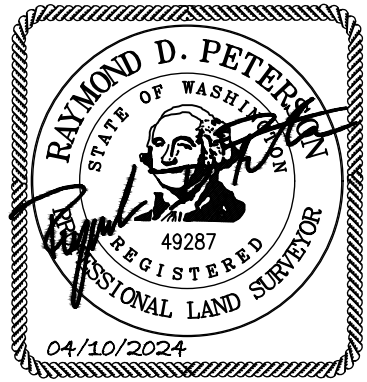
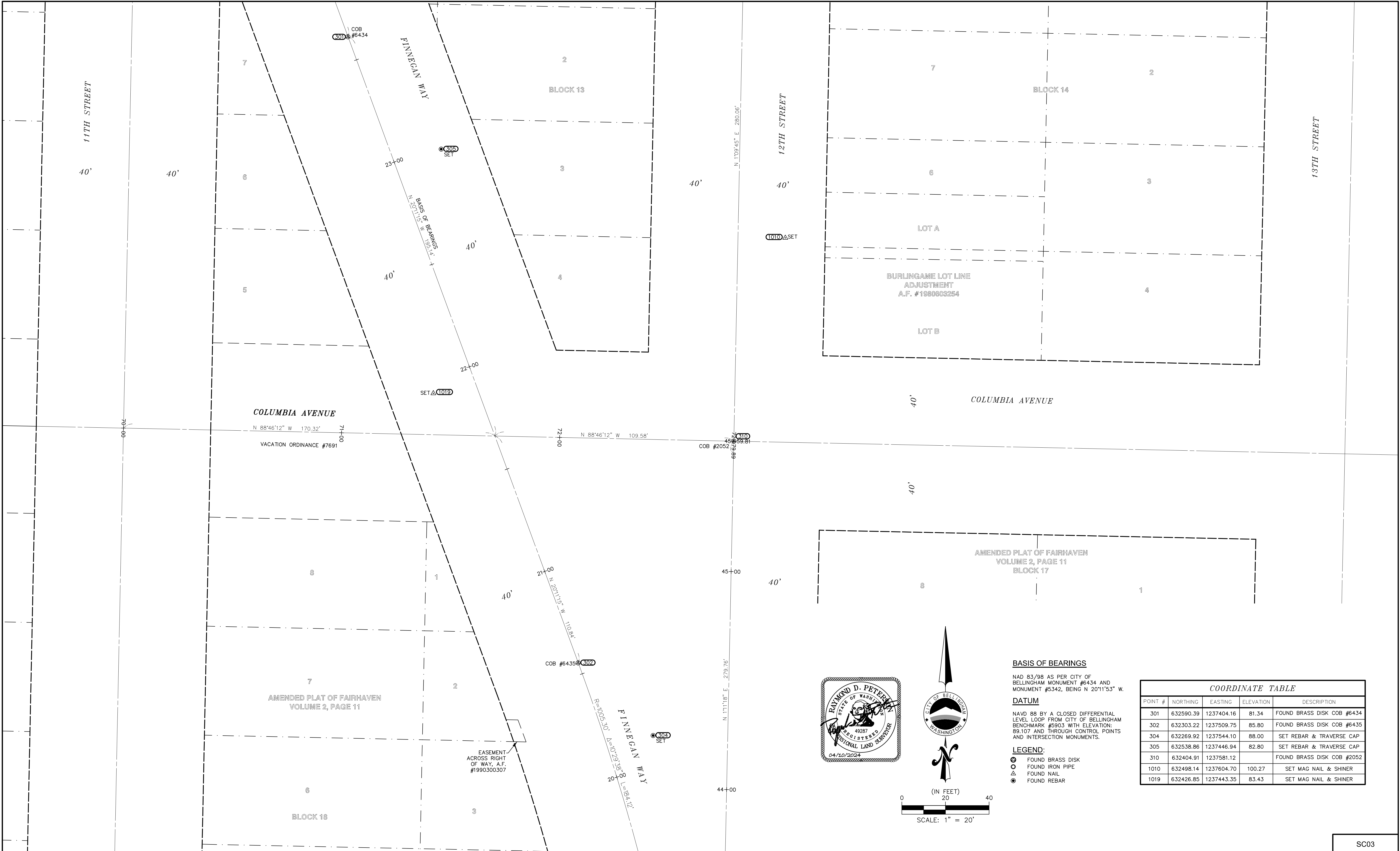
12TH AND FINNEGAN IMPROVEMENTS
SURVEY CONTROL

SC01
SHEET 5 OF 51



4 3 2 1 Date No Revision By		PROJECT ENGINEER DESIGNED/DRAWN INSPECTOR	DIRECTOR PUBLIC WORKS E.C.J. CITY ENGINEER M.L.W. ASSISTANT DIRECTOR M.A.O.	CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	SCALE Horiz. 1"=20' Vert. N/A	DATUM NAD 83/98 NAVD 88	Job. No. ES-566 Date Field Bk. 1071-1	12TH AND FINNEGAN IMPROVEMENTS SURVEY CONTROL	SC02 SHEET 6 OF 51
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CONTACT PERSON: KYLE CARLSON , PROJECT ENGINEER AT 360-778-7946



BASIS OF BEARINGS

NAD 83/98 AS PER CITY OF BELLINGHAM MONUMENT #6434 AND MONUMENT #5342, BEING N 20°11'53" W.

DATUM

NAVD 88 BY A CLOSED DIFFERENTIAL LEVEL LOOP FROM CITY OF BELLINGHAM BENCHMARK #5903 WITH ELEVATION: 89.107 AND THROUGH CONTROL POINTS AND INTERSECTION MONUMENTS.

LEGEND:

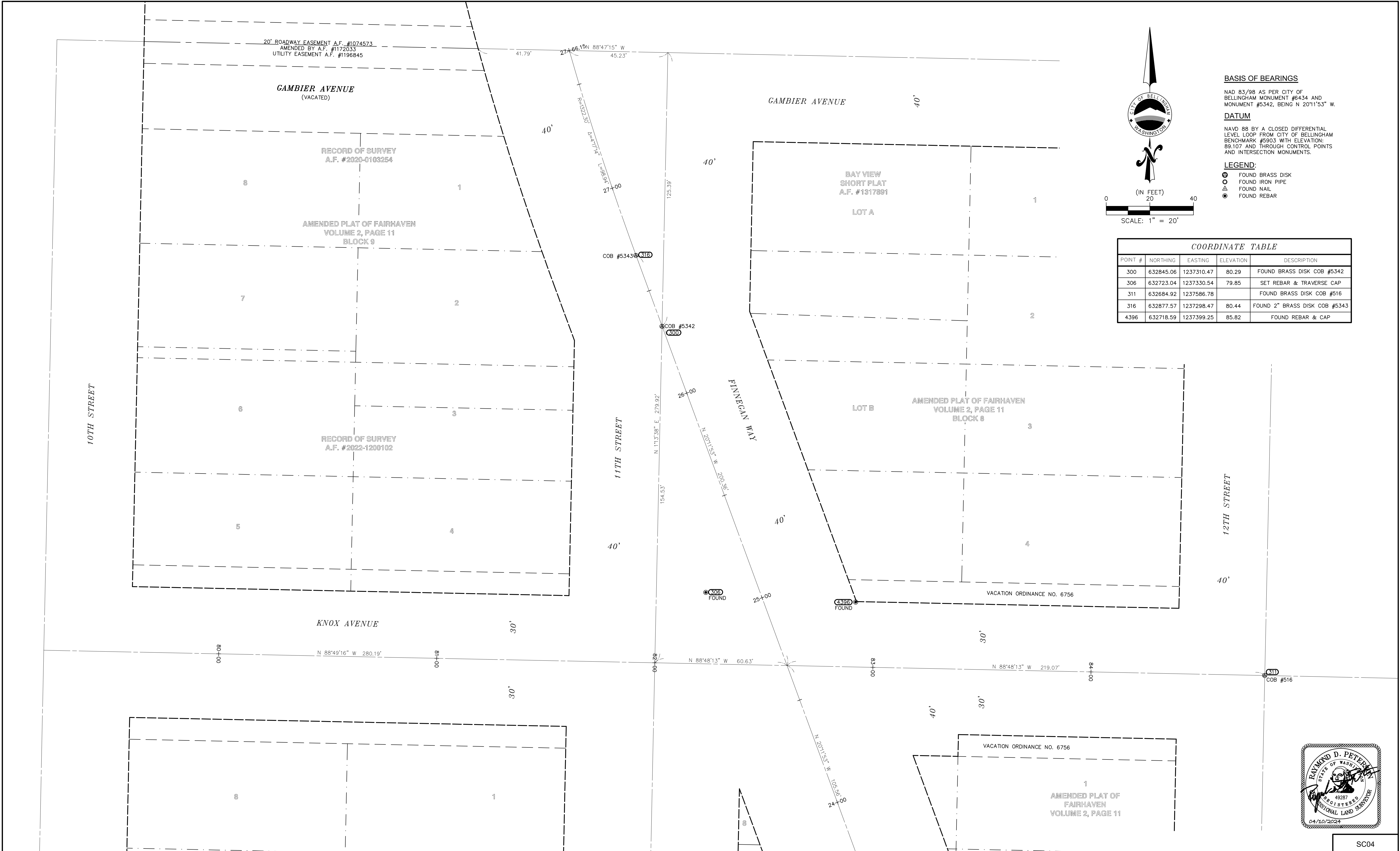
- FOUND BRASS DISK
- FOUND IRON PIPE
- △ FOUND NAIL
- FOUND REBAR

COORDINATE TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
301	632590.39	1237404.16	81.34	FOUND BRASS DISK COB #6434
302	632303.22	1237509.75	85.80	FOUND BRASS DISK COB #6435
304	632269.92	1237544.10	88.00	SET REBAR & TRAVERSE CAP
305	632538.86	1237446.94	82.80	SET REBAR & TRAVERSE CAP
310	632404.91	1237581.12		FOUND BRASS DISK COB #2052
1010	632498.14	1237604.70	100.27	SET MAG NAIL & SHINER
1019	632426.85	1237443.35	83.43	SET MAG NAIL & SHINER

4 3 2 1 Date No Revision By				PROJECT ENGINEER DESIGNED/DRAWN INSPECTOR	DIRECTOR PUBLIC WORKS E.C.J. CITY ENGINEER M.L.W. ASSISTANT DIRECTOR M.A.O.	CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	SCALE Horiz. 1"=20' Vert. N/A	DATUM NAD 83/98 NAVD 88	Job. No. ES-566 Date Field Bk. 1071-1	12TH AND FINNEGAN IMPROVEMENTS SURVEY CONTROL	SC03 SHEET 7 OF 51
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CONTACT PERSON: KYLE CARLSON , PROJECT ENGINEER AT 360-778-7946



BASIS OF BEARINGS

NAD 83/98 AS PER CITY OF BELLINGHAM MONUMENT #6434 AND MONUMENT #5342, BEING N 20°11'53" W.

DATUM

NAVD 88 BY A CLOSED DIFFERENTIAL LEVEL LOOP FROM CITY OF BELLINGHAM BENCHMARK #5903 WITH ELEVATION: 89.107 AND THROUGH CONTROL POINTS AND INTERSECTION MONUMENTS.

LEGEND:

- FOUND BRASS DISK
- FOUND IRON PIPE
- △ FOUND NAIL
- ⦿ FOUND REBAR

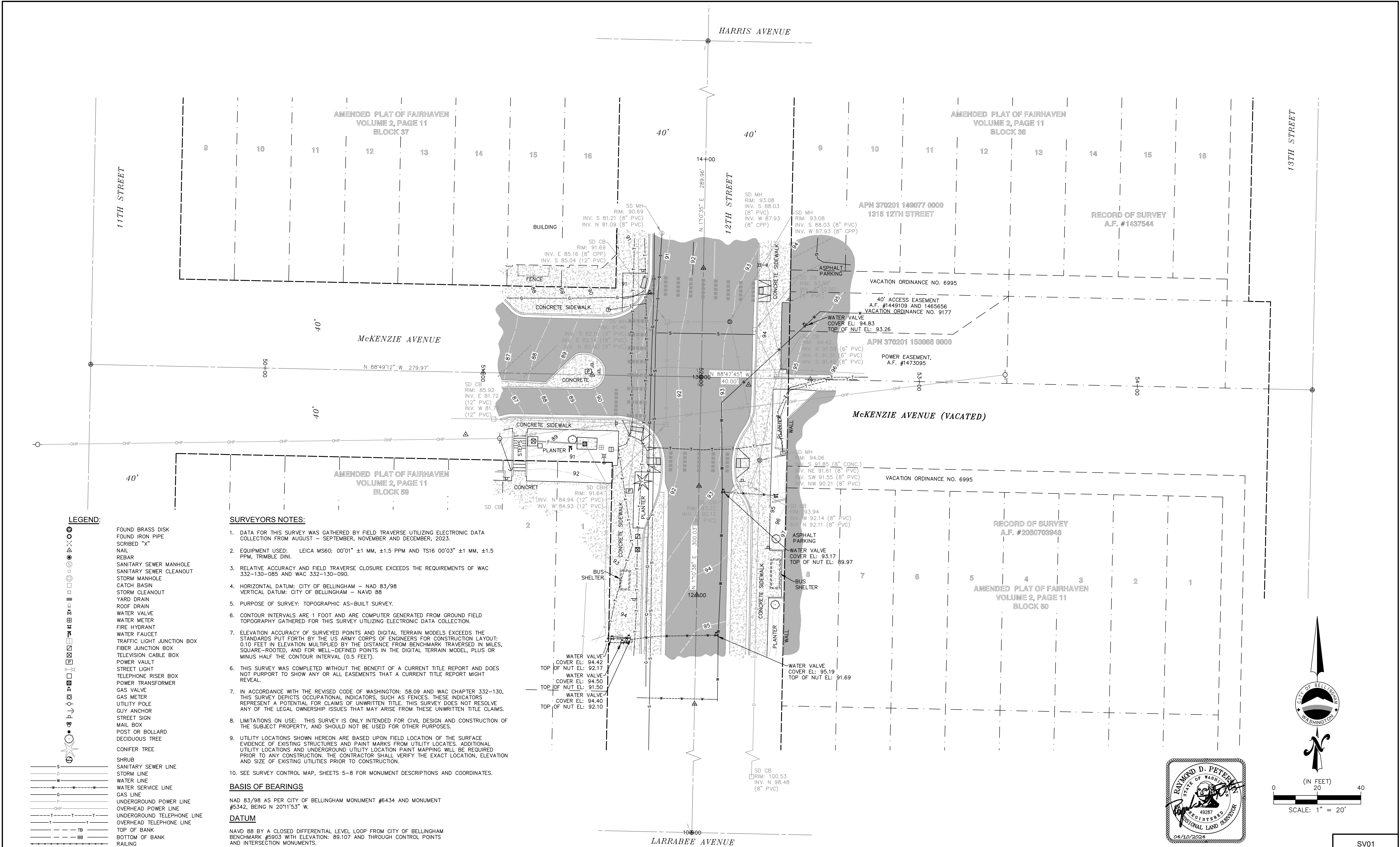
(IN FEET)

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SCALE: 1" = 20'

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
300	632845.06	1237310.47	80.29	FOUND BRASS DISK COB #5342
306	632723.04	1237330.54	79.85	SET REBAR & TRAVERSE CAP
311	632684.92	1237586.78		FOUND BRASS DISK COB #516
316	632877.57	1237298.47	80.44	FOUND 2" BRASS DISK COB #5343
4396	632718.59	1237399.25	85.82	FOUND REBAR & CAP

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LEGEND:

- FOUND BRASS DISK
- FOUND IRON PIPE
- SCRIBED "X"
- NAIL
- REBAR
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- STORM MANHOLE
- CATCH BASIN
- STORM CLEANOUT
- YARD DRAIN
- ROOF DRAIN
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- WATER FAUCET
- TRAFFIC LIGHT JUNCTION BOX
- FIBER JUNCTION BOX
- TELEVISION CABLE BOX
- POWER VAULT
- STREET LIGHT
- TELEPHONE RISER BOX
- POWER TRANSFORMER
- GAS VALVE
- GAS METER
- UTILITY POLE
- GUY ANCHOR
- STREET SIGN
- MAIL BOX
- POST OR BOLLARD
- DECIDUOUS TREE
- CONIFER TREE
- SHRUB
- SANITARY SEWER LINE
- STORM LINE
- WATER LINE
- WATER SERVICE LINE
- GAS LINE
- UNDERGROUND POWER LINE
- OVERHEAD POWER LINE
- UNDERGROUND TELEPHONE LINE
- OVERHEAD TELEPHONE LINE
- TOP OF BANK
- BOTTOM OF BANK
- RAILING

SURVEYORS NOTES:

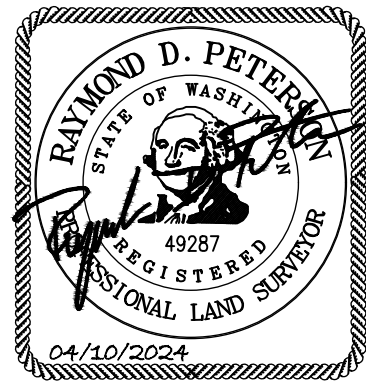
- DATA FOR THIS SURVEY WAS GATHERED BY FIELD TRAVERSE UTILIZING ELECTRONIC DATA COLLECTION FROM AUGUST – SEPTEMBER, NOVEMBER AND DECEMBER, 2023.
- EQUIPMENT USED: LEICA MS60: 00'01" ±1 MM, ±1.5 PPM AND TS16 00'03" ±1 MM, ±1.5 PPM, TRIMBLE DINI.
- RELATIVE ACCURACY AND FIELD TRAVERSE CLOSURE EXCEEDS THE REQUIREMENTS OF WAC 332-130-085 AND WAC 332-130-090.
- HORIZONTAL DATUM: CITY OF BELLINGHAM – NAD 83/98
VERTICAL DATUM: CITY OF BELLINGHAM – NAVD 88
- PURPOSE OF SURVEY: TOPOGRAPHIC AS-BUILT SURVEY.
- CONTOUR INTERVALS ARE 1 FOOT AND ARE COMPUTER GENERATED FROM GROUND FIELD TOPOGRAPHY GATHERED FOR THIS SURVEY UTILIZING ELECTRONIC DATA COLLECTION.
- ELEVATION ACCURACY OF SURVEYED POINTS AND DIGITAL TERRAIN MODELS EXCEEDS THE STANDARDS PUT FORTH BY THE US ARMY CORPS OF ENGINEERS FOR CONSTRUCTION LAYOUT: 0.10 FEET IN ELEVATION MULTIPLIED BY THE DISTANCE FROM BENCHMARK TRAVERSED IN MILES, SQUARE-ROOTED, AND FOR WELL-DEFINED POINTS IN THE DIGITAL TERRAIN MODEL, PLUS OR MINUS HALF THE CONTOUR INTERVAL (0.5 FEET).
- THIS SURVEY WAS COMPLETED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT AND DOES NOT PURPORT TO SHOW ANY OR ALL EASEMENTS THAT A CURRENT TITLE REPORT MIGHT REVEAL.
- IN ACCORDANCE WITH THE REVISED CODE OF WASHINGTON: 58.09 AND WAC CHAPTER 332-130, THIS SURVEY DEPICTS OCCUPATIONAL INDICATORS, SUCH AS FENCES, THESE INDICATORS REPRESENT A POTENTIAL FOR CLAIMS OF UNWRITTEN TITLE. THIS SURVEY DOES NOT RESOLVE ANY OF THE LEGAL OWNERSHIP ISSUES THAT MAY ARISE FROM THESE UNWRITTEN TITLE CLAIMS.
- LIMITATIONS ON USE: THIS SURVEY IS ONLY INTENDED FOR CIVIL DESIGN AND CONSTRUCTION OF THE SUBJECT PROPERTY, AND SHOULD NOT BE USED FOR OTHER PURPOSES.
- UTILITY LOCATIONS SHOWN HEREON ARE BASED UPON FIELD LOCATION OF THE SURFACE EVIDENCE OF EXISTING STRUCTURES AND PAINT MARKS FROM UTILITY LOCATES. ADDITIONAL UTILITY LOCATIONS AND UNDERGROUND UTILITY LOCATION PAINT MAPPING WILL BE REQUIRED PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- SEE SURVEY CONTROL MAP, SHEETS 5-8 FOR MONUMENT DESCRIPTIONS AND COORDINATES.

BASIS OF BEARINGS

NAD 83/98 AS PER CITY OF BELLINGHAM MONUMENT #6434 AND MONUMENT #5342, BEING N 20°11'53" W.

DATUM

NAVD 88 BY A CLOSED DIFFERENTIAL LEVEL LOOP FROM CITY OF BELLINGHAM BENCHMARK #5903 WITH ELEVATION: 89.107 AND THROUGH CONTROL POINTS AND INTERSECTION MONUMENTS.



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Date	No	Revision	By

PROJECT ENGINEER	
DESIGNED/DRAWN	
INSPECTOR	

DIRECTOR PUBLIC WORKS E.C.J.	
CITY ENGINEER M.L.W.	
ASSISTANT DIRECTOR M.A.O.	

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

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Horiz. 1"=20'
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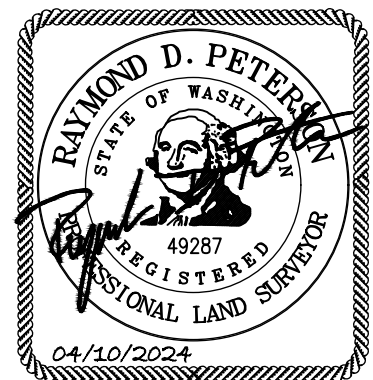
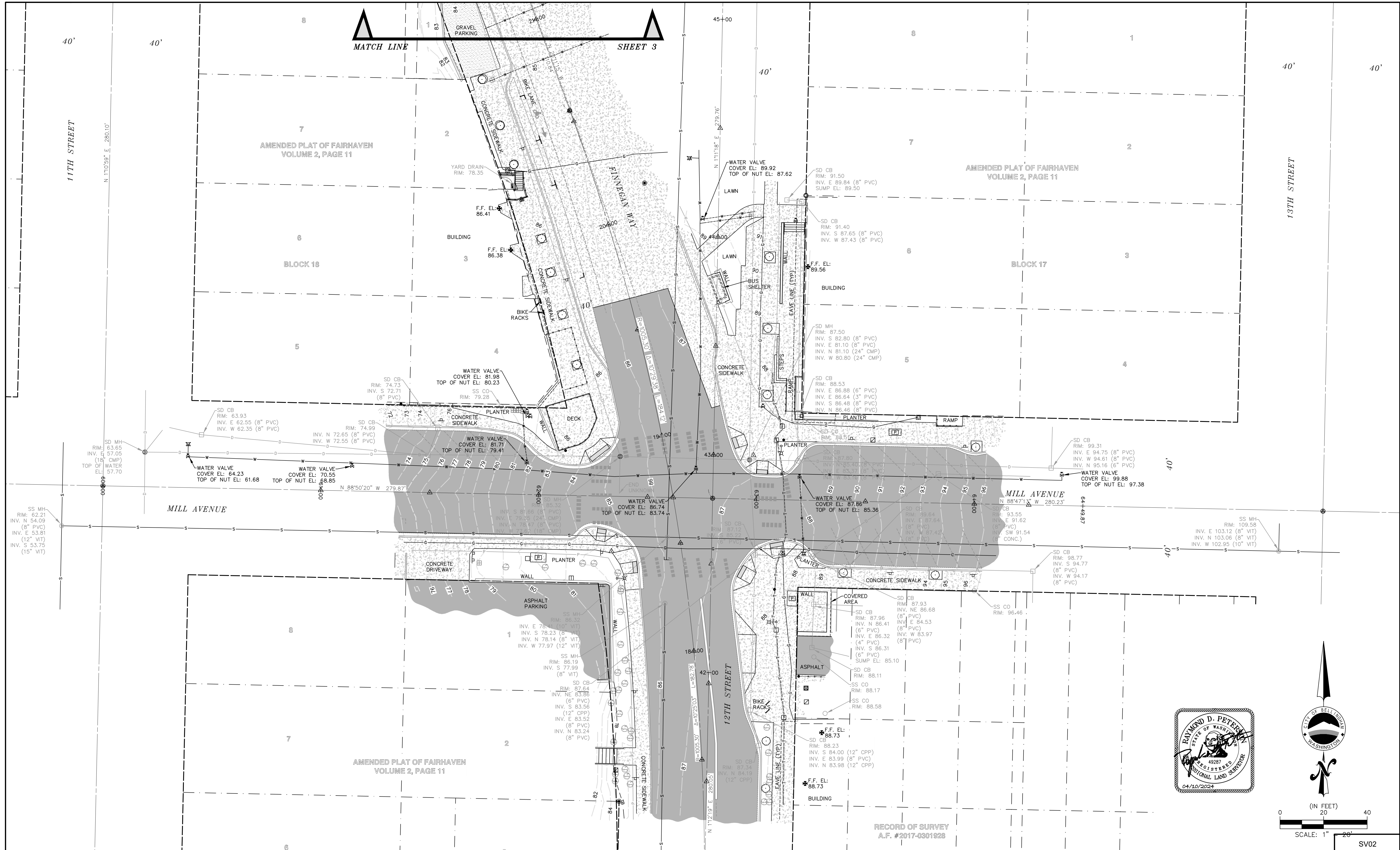
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NAVD 88

Job. No. ES-566
Date
Field Bk. 1071-1

12TH AND FINNEGAN IMPROVEMENTS
EXISTING CONDITIONS

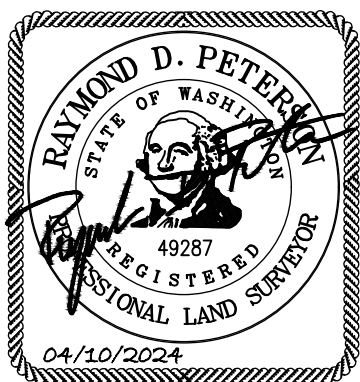
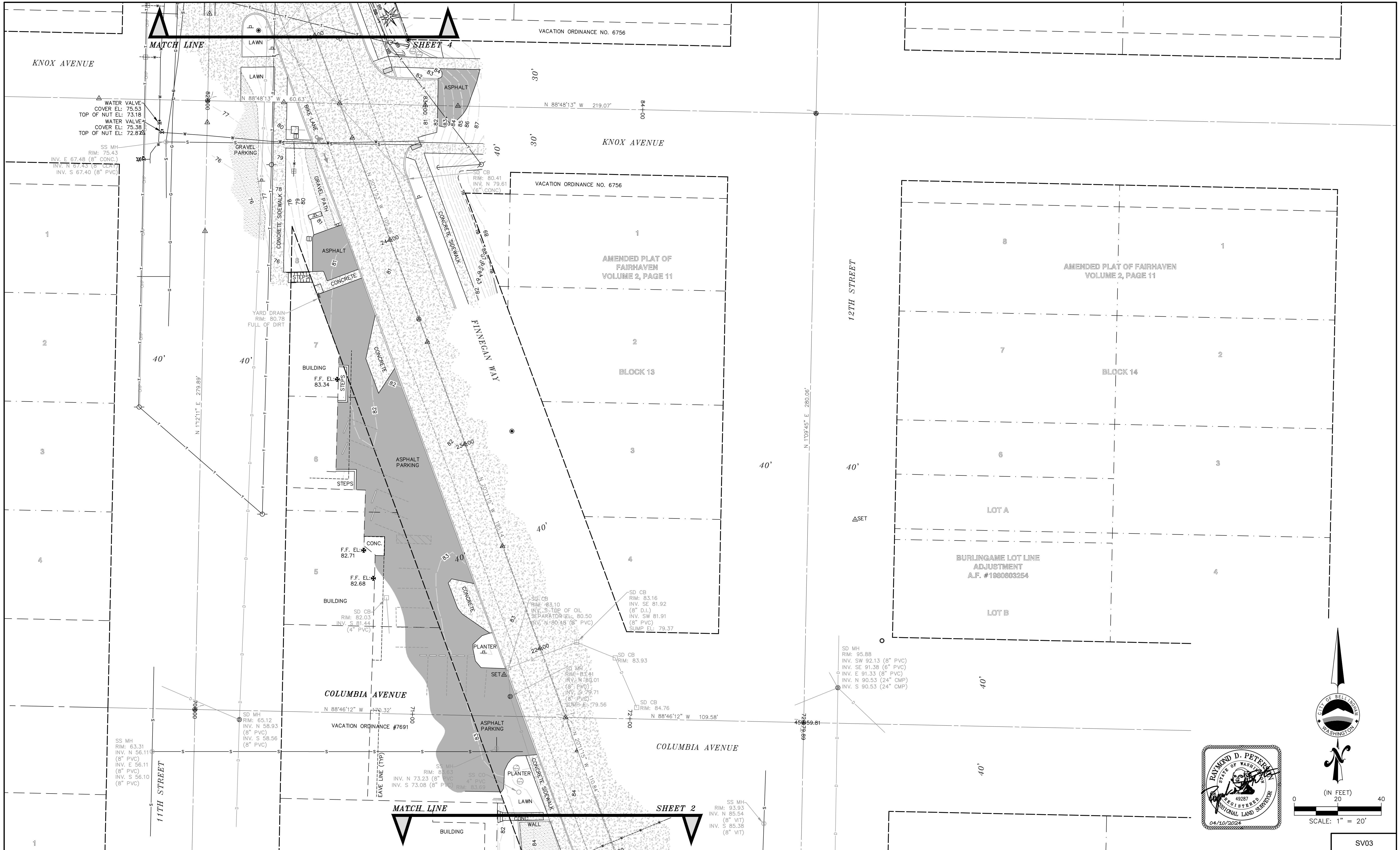
SV01
SHEET 9 OF 51

CONTACT PERSON: KYLE CARLSON, PROJECT ENGINEER AT 360-778-7946



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PROJECT ENGINEER
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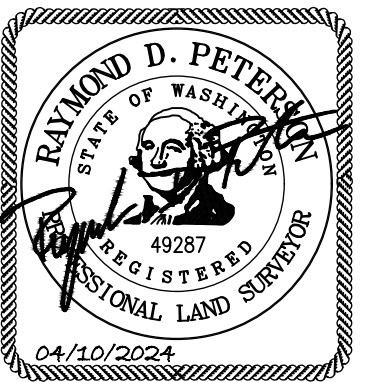
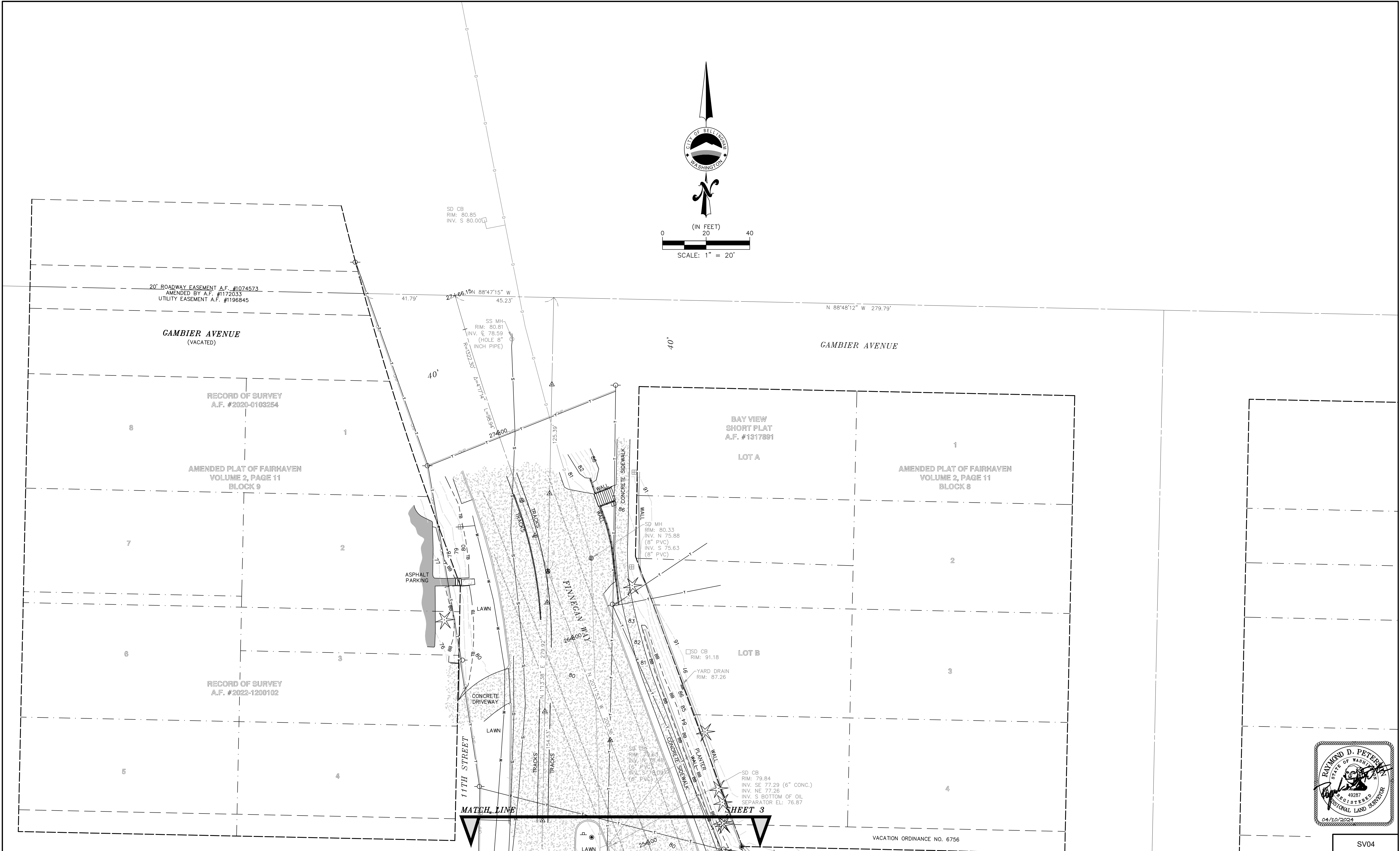
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12TH AND FINNEGAN IMPROVEMENTS
EXISTING CONDITIONS

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SHEET 11 OF 51

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TEMPORARY EROSION/SEDIMENTATION CONTROL

THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.

THE TESC FACILITIES SHOWN ON THE PLANS MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS.

THE TESC FACILITIES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE TESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC..) AS NEEDED FOR UNEXPECTED STORM EVENTS.

THE TESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.

AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES IMPACTED BY SEDIMENT SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.

WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (E.G., ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).

WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF TWO INCHES.

SLURRY AND PROCESS WATER RESULTING FROM SAWCUTTING AND ASPHALT COLD-PLANING SHALL BE COLLECTED AND DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY PER D.O.E. BMP C152: SAWCUTTING AND SURFACE POLLUTION PREVENTION. PROCESS WATER THAT IS GENERATED DURING HYDRO-DEMOLITION, SURFACE ROUGHENING, OR SIMILAR OPERATIONS SHALL NOT DRAIN TO ANY NATURAL OR CONSTRUCTED DRAINAGE CONVEYANCE AND SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE GROUND WATER OR SURFACE WATER QUALITY STANDARDS

EROSION/SEDIMENTATION CONTROL FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IN THESE PLANS. LOCATIONS MAYBE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY INSPECTOR.

PRESERVE VEGETATION/MARK CLEARING LIMITS

1. PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES (INCLUDING CLEARING AND GRADING) CLEARLY MARK ALL CLEARING LIMITS AND TREES THAT ARE TO BE PRESERVED WITHIN THE CONSTRUCTION AREA AS SHOWN ON THE DRAWINGS.
2. SILT FENCE, GEOTEXTILE ENCASED BARRIERS, CONSTRUCTION FENCE, ORANGE PLASTIC FENCE, OR OTHER APPROVED MEASURES MAY BE USED TO MARK THE CLEARING LIMITS IN ADDITION TO THE CONSTRUCTION FENCING SHOWN ON THE PLAN.
3. THE DUFF LAYER, NATIVE TOPSOIL, AND NATURAL VEGETATION SHALL BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM DEGREE PRACTICABLE.

SUGGESTED BMPS/BMPS TO BE USED:
BMP C103: HIGH VISIBILITY PLASTIC OR METAL FENCE
BMP C233: SILT FENCE

ESTABLISH CONSTRUCTION ACCESS

IF SEDIMENT IS TRACKED OFF SITE, PUBLIC ROADS SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY, OR MORE FREQUENTLY DURING WET WEATHER. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR PICKUP SWEEPING AND SHALL BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.

SUGGESTED BMPS/BMPS TO BE USED:
BMP C105: STABILIZED CONSTRUCTION ENTRANCE/EXIT

CONTROL FLOW RATES

PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VELOCITY AND PEAK VOLUMETRIC FLOW RATE OF STORMWATER RUNOFF FROM THE PROJECT SITE.

SUGGESTED BMPS/BMPS TO BE USED:
BMP C207: CHECK DAMS
BMP C235: WATTLES

INSTALL SEDIMENT CONTROLS

1. THE DUFF LAYER, NATIVE SOIL, AND NATURAL VEGETATION SHALL BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM EXTENT PRACTICABLE.
2. SEDIMENT CONTROL BMPS SHALL BE CONSTRUCTED AS ONE OF THE FIRST STEPS IN GRADING. THESE BMPS SHALL BE FUNCTIONAL BEFORE OTHER LAND DISTURBING ACTIVITIES TAKE PLACE.
3. PRIOR TO LEAVING THE CONSTRUCTION SITE, STORMWATER RUNOFF FROM DISTURBED AREAS SHALL PASS THROUGH AN APPROPRIATE SEDIMENT REMOVAL BMP. RUNOFF FROM FULL STABILIZED AREAS MAY BE DISCHARGED WITHOUT A SEDIMENT REMOVAL BMP, BUT MUST MEET PERFORMANCE STANDARDS OF CONTROL FLOWRATES.

SUGGESTED BMPS/BMPS TO BE USED:
BMP C231: BRUSH BARRIER
BMP C232: GRAVEL FILTER BERMS
BMP C233: SILT FENCE
BMP C234: VEGETATED STRIP
BMP C235: STRAW WATTLES
BMP C240: SEDIMENT TRAP

STABILIZE SOILS

1. EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY APPLICATION OF EFFECTIVE BMPS THAT PROTECT THE SOIL FROM EROSION FORCES OF RAINDROPS, FLOWING WATER, AND WIND.
2. TO PREVENT EROSION, NO SOILS SHALL REMAIN EXPOSED AND UNWORKED FOR MORE THAN THE TIME PERIODS SET FORTH BELOW:
DURING THE WET SEASON (OCTOBER 1-APRIL 30): 2 DAYS
DURING THE DRY SEASON (MAY 1-SEPT. 30): 7 DAYS
THIS STABILIZATION REQUIREMENT APPLIES TO ALL SOILS ON SITE, WHETHER AT FINAL GRADE OR NOT. THESE TIMES MAY BE ADJUSTED BY THE LOCAL PERMITTING AUTHORITY IF IT CAN BE SHOWN THAT SITE CONDITIONS OR THE AVERAGE TIME BETWEEN STORM EVENTS JUSTIFIES A DIFFERENT STANDARD.
3. SOILS SHALL BE STABILIZED AT THE END OF THE SHIFT BEFORE A HOLIDAY OR WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST.
4. SOIL STOCKPILES SHALL BE STABILIZED FROM EROSION. PROTECTED WITH SEDIMENT TRAPPING MEASURES, AND WHERE POSSIBLE, BE LOCATED AWAY FROM STORM DRAIN INLETS, WATERWAYS, AND DRAINAGE CHANNELS.
5. APPLICABLE BMPS INCLUDE, BUT ARE NOT LIMITED TO: TEMPORARY AND PERMANENT SEEDING, SODDING, MULCHING, PLASTIC COVERING, EROSION CONTROL FABRICS AND MATTING, THE EARLY APPLICATION OF GRAVEL BASE ON AREAS TO BE PAVED AND DUST CONTROL. SELECT SOIL STABILIZATION MEASURES SHALL BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, ESTIMATED DURATION OF USE, AND THE POTENTIAL WATER QUALITY IMPACTS.
6. REMOVE ALL TESC MEASURES AS SOON AS PRACTICAL AFTER ESTABLISHMENT OF UNIFORM GRASS GROWTH OR INSTALLATION OF OTHER PERMANENT STABILIZATION MEASURES. REPAIR ANY DAMAGE TO STABILIZED SURFACES AFTER REMOVAL OF TESC MEASURES.
SUGGESTED BMPS/BMPS TO BE USED:
BMP C121: MULCHING
BMP C122: NETS AND BLANKETS
BMP C123: PLASTIC COVERING
BMP C125: TOP SOILING
BMP C130: SURFACE ROUGHENING
BMP C140: DUST CONTROL
7.ALL DISTURBED SOILS WITHIN THE PROJECT LIMITS SHALL BE AMENDED AS SHOWN ON THE LANDSCAPE PLAN WHERE SHOWN AND PER ECOLOGY BMP T5.13:POST CONSTRUCTION SOIL QUALITY AND DEPTH, IN ALL OTHER AREAS.

PROTECT SLOPES

1. DESIGN, CONSTRUCT, AND PHASE CUT AND FILL SLOPES IN A MANNER THAT WILL MINIMIZE EROSION. APPLICABLE PRACTICES INCLUDE, BUT ARE NOT LIMITED TO, REDUCING CONTINUOUS LENGTH OF SLOPE WITH TERRACING AND DIVERSIONS REDUCING SLOPE STEEPNESS, AND ROUGHENING SLOPE SURFACES (E.G., TRACK WALKING).
2. OFF-SITE STORMWATER RUNOFF OR GROUNDWATER SHALL BE DIVERTED AWAY FROM SLOPES AND DISTURBED AREAS WITH INTERCEPTOR DIKES, PIPES, AND OR SWALES. OFF-SITE STORMWATER SHOULD BE MANAGED SEPARATELY FROM STORMWATER GENERATED ON THE SITE.

SUGGESTED BMPS/BMPS TO BE USED:
BMP C121: MULCHING
BMP C122: NETS AND BLANKETS
BMP C123: PLASTIC COVERING
BMP C125: TOP SOILING
BMP C130 SURFACE ROUGHING

PROTECT DRAIN INLETS

ALL STORM DRAIN INLETS OPERABLE DURING CONSTRUCTION AND ALL INLETS WITHIN 200' DOWNSTREAM OF THE PROJECT SITE SHALL BE PROTECTED WITH CATCH BASIN FILTERS SO THAT STORMWATER RUNOFF DOES NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR TREATED TO REMOVE SEDIMENT. CATCH BASIN FILTERS IN THE ROADWAY WILL BE OIL/SEDIMENT FILTERS AND CATCH BASIN FILTERS OUTSIDE OF THE ROADWAY WILL BE SEDIMENT FILTERS.

SUGGESTED BMPS/BMPS TO BE USED:
BMP C220: STORMDRAIN INLET PROTECTION

STABILIZE CHANNELS AND OUTLETS

1.ALL CONVEYANCE CHANNELS WITH THE PROJECT LIMITS SHALL BE STABILIZED TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT TRANSPORT.
2.PROVIDE STABILIZATION INCLUDING ARMORING MATERIAL, ADEQUATE TO PREVENT EROSION OF OUTLETS, ADJACENT STREAMBANKS, SLOPES, AND DOWNSTREAM REACHES AT OUTLETS OF ALL CONVEYANCE SYSTEMS.

SUGGESTED BMPS/BMPS TO BE USED:
BMP C122: NETS AND BLANKETS
BMP C202: CHANNEL LINING
BMP C209: OUTLET PROTECTION

CONTROL POLLUTANTS

1. ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS, THAT OCCUR ON SITE SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER.
2. COVER, CONTAINMENT, AND PROTECTION FROM VANDALISM SHALL BE PROVIDED FOR ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND OTHER MATERIALS THAT HAVE THE POTENTIAL TO POSE A THREAT TO HUMAN HEALTH OR THE ENVIRONMENT. ON-SITE FUELING TANKS SHALL INCLUDE SECONDARY CONTAINMENT.
3. MAINTENANCE, FUELING, AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES SHALL BE CONDUCTED USING SPILL PREVENTION AND CONTROL MEASURES. CONTAMINATED SURFACES SHALL BE CLEANED IMMEDIATELY FOLLOWING ANY SPILL INCIDENT.

BMPS SHALL BE USED TO PREVENT OR TREAT CONTAMINATION OF STORMWATER RUNOFF BY pH MODIFYING SOURCES. THESE SOURCES INCLUDE, BUT ARE NOT LIMITED TO: BULK CEMENT, CEMENT KILN DUST, FLY ASH, NEW CONCRETE WASHING AND CURING WATERS, WASTE STREAMS GENERATED FROM CONCRETE GRINDING AND SAWING, EXPOSED AGGREGATE PROCESSES, AND CONCRETE PUMPING AND MIXER WASHOUT WATERS. PERMITTEES SHALL ADJUST THE pH OF STORMWATER IF NECESSARY TO PREVENT VIOLATIONS OF WATER QUALITY STANDARDS.

SUGGESTED BMPS/BMPS TO BE USED:
BMP C151: CONCRETE HANDLING
BMP C152: SAWCUTTING AND SURFACING POLLUTION PROTECTION
(A) BMP C153: MATERIALS DELIVERY, STORAGE, AND CONTAINMENT

CONTROL DEWATERING

1) FOUNDATION, VAULT, AND TRENCH DE-WATERING WATER, WHICH HAVE SIMILAR CHARACTERISTICS TO STORMWATER RUNOFF AT THE SITE, SHALL BE DISCHARGED INTO A CONTROLLED CONVEYANCE SYSTEM PRIOR TO DISCHARGE TO A SEDIMENT TRAP OF SEDIMENT POND.
2) CLEAN, NON-TURBID DE-WATERING WATER, SUCH AS WELL-POINT GROUND WATER, CAN BE DISCHARGED TO SYSTEMS TRIBUTARY TO, OR DIRECTLY INTO SURFACE WATERS OF THE STATE, AS SPECIFIED IN ELEMENT #8, PROVIDED THE DE-WATERING FLOW DOES NOT CAUSE EROSION OR FLOODING OF RECEIVING WATERS. CLEAN DE-WATERING WATER SHOULD NOT BE ROUTED THROUGH STORMWATER SEDIMENT PONDS.
3) OTHER DE-WATERING DISPOSAL OPTIONS MAY INCLUDE:
a) INFILTRATION.
b) TRANSPORT OFF SITE IN A VEHICLE, SUCH AS A VACUUM FLUSH TRUCK, FOR LEGAL DISPOSAL IN A MANNER THAT DOES NOT POLLUTE STATE WATERS.
c) ECOLOGY APPROVED ON-SITE CHEMICAL TREATMENT OR OTHER SUITABLE TREATMENT TECHNOLOGIES.
d) SANITARY SEWER DISCHARGE WITH LOCAL SEWER DISTRICT APPROVAL, IF THERE IS NO OTHER OPTION.
e) USE OF A SEDIMENTATION BAG (DIRTBAG OR APPROVED EQUAL) WITH OUTFALL TO A DITCH OR SWALE FOR SMALL VOLUMES OF LOCALIZED DE-WATERING.
4) HIGHLY TURBID CONTAMINATED DEWATERING WATER FROM CONSTRUCTION EQUIPMENT OPERATION, CLAMSHELL DIGGING, CONCRETE TREMIE POUR, OR WORK INSIDE A COFFERDAM SHALL BE HANDLED SEPARATELY FROM STORMWATER.

MAINTAIN BMPS

WHEN SEDIMENT ACCUMULATION IN SEDIMENTATION STRUCTURES, OTHER THAN INLET PROTECTION DEVICES, HAS REACHED A POINT ONE-THIRD DEPTH OF SEDIMENT STRUCTURE OR DEVICE, OR IF FLOW THROUGH THE DEVICE IS REDUCED BY MORE THAN ONE-THIRD CAPACITY, THE CONTRACTOR SHALL REMOVE AND REPLACE DISPOSABLE DEVICES OR CLEAN AND DISPOSE OF SEDIMENT. TEMPORARY EROSION AND SEDIMENT CONTROL BMPS SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMPS ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOILS SHALL BE PERMANENTLY STABILIZED.

SUGGESTED BMPS/BMPS TO BE USED:
BMP C150: MATERIALS ON HAND

MANAGE THE PROJECT

SEASONAL WORK LIMITATIONS:
FROM OCTOBER 1 THROUGH APRIL 30, CLEARING, GRADING, AND OTHER SOIL DISTURBING ACTIVITIES SHALL ONLY BE PERMITTED IF SHOWN TO THE SATISFACTION OF THE LOCAL PERMITTING AUTHORITY THAT THE TRANSPORT OF SEDIMENT FROM THE CONSTRUCTION SITE TO RECEIVING WATERS WILL BE PREVENTED THROUGH A COMBINATION OF THE FOLLOWING:
a) SITE CONDITIONS INCLUDING EXISTING VEGETATIVE COVERAGE, SLOPE, SOIL TYPE AND PROXIMITY TO RECEIVING WATERS; AND
b) LIMITATIONS ON ACTIVITIES AND THE EXTENT OF DISTURBED AREAS; AND
c) PROPOSED EROSION AND SEDIMENT CONTROL MEASURES.

BASED ON THE INFORMATION PROVIDED AND LOCAL WEATHER CONDITIONS, THE LOCAL PERMITTING AUTHORITY MAY EXPAND OR RESTRICT THE SEASONAL LIMITATION ON SITE DISTURBANCE. THE LOCAL PERMITTING AUTHORITY SHALL TAKE ENFORCEMENT ACTION—SUCH AS NOTICE OF VIOLATION, ADMINISTRATIVE ORDER, PENALTY OR STOP—WORK ORDER—UNDER THE FOLLOWING CIRCUMSTANCES:
—IF DURING THE COURSE OF ANY CONSTRUCTION ACTIVITY OR SOIL DISTURBANCE DURING THE SEASONAL LIMITATION PERIOD, SEDIMENT LEAVES THE CONSTRUCTION SITE CAUSING A VIOLATION OF THE SURFACE WATER QUALITY STANDARD OR
—IF CLEARING AND GRADING LIMITS OR EROSION AND SEDIMENT CONTROLS MEASURES SHOWN IN THE APPROVED PLAN ARE NOT MAINTAINED.

SUGGESTED BMPS/BMPS TO BE USED:
BMP C162: SCHEDULING

PROTECT LOW IMPACT DEVELOPMENT BMPS.

(A) PROTECT ALL BIORETENTION AND RAIN GARDEN BMPS FROM SEDIMENTATION THROUGH INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL BMPS ON PORTIONS OF THE SITE THAT DRAIN INTO THE BIORETENTION AND/OR RAIN GARDEN BMPS. RESTORE THE BMPS TO THEIR FULLY FUNCTIONING CONDITION IF THEY ACCUMULATE SEDIMENT DURING CONSTRUCTION. RESTORING THE BMP MUST INCLUDE REMOVAL OF SEDIMENT AND ANY SEDIMENT-LADEN BIORETENTION/RAIN GARDEN SOILS, AND REPLACING THE REMOVED SOILS WITH SOILS MEETING THE DESIGN SPECIFICATION.

(B) PREVENT COMPACTING BIORETENTION AND RAIN GARDEN BMPS BY EXCLUDING CONSTRUCTION EQUIPMENT AND FOOT TRAFFIC. PROTECT COMPLETED LAWN AND LANDSCAPED AREAS FROM COMPACTION DUE TO CONSTRUCTION EQUIPMENT.

(C) CONTROL EROSION AND AVOID INTRODUCING SEDIMENT FROM SURROUNDING LAND USES ONTO PERMEABLE PAVEMENTS. DO NOT ALLOW MUDDY CONSTRUCTION EQUIPMENT ON THE BASE MATERIAL OR PAVEMENT. DO NOT ALLOW SEDIMENT-LADEN RUNOFF ONTO PERMEABLE PAVEMENTS OR BASE MATERIALS.

(D) PAVEMENT FOULED WITH SEDIMENTS OR NO LONGER PASSING AN INITIAL INFILTRATION TEST MUST BE CLEANED USING PROCEDURES IN ACCORDANCE WITH THE ECOLOGY MANUAL OR THE MANUFACTURER'S PROCEDURES.

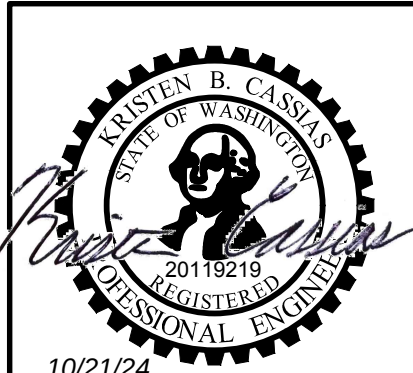
(E) KEEP ALL HEAVY EQUIPMENT OFF EXISTING SOILS UNDER LID FACILITIES THAT HAVE BEEN EXCAVATED TO FINAL GRADE TO RETAIN THE INFILTRATION RATE OF THE SOILS.

BID SUBMITTAL

811 Call 811
two business days
before you dig

	4			PROJECT ENGINEER_KBC	DIRECTOR PUBLIC WORKS_M.A.O.	CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	SCALE Horiz. AS NOTED Vert. AS NOTED	DATUM NAD 83/98 NAVD 88	Job. No. ES566 Date 8/9/2024 Field Bk.	12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS	TESC NOTES	SHEET 13 OF 51
	3			DESIGNED/DRAWN_JK/TN/TK	CITY ENGINEER_M.L.W.							
	2			INSPECTOR	ASSISTANT DIRECTOR_M.A.O.							
	1											
Date	No	Revision	By									

CONTACT PERSON: KYLE CARLSON , PROJECT ENGINEER AT (360) 778-7946



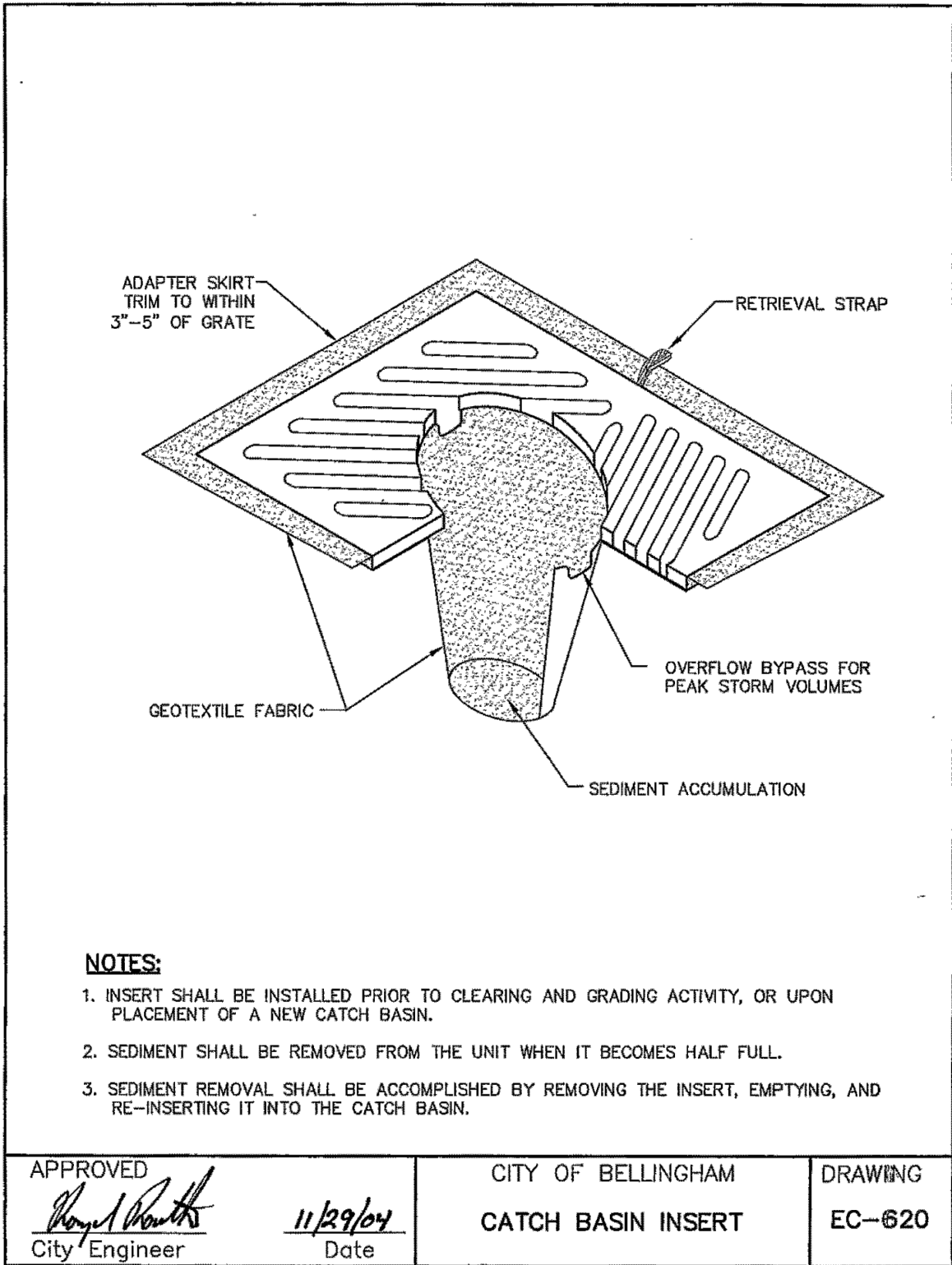
10/21/24

transpogroup 
WHAT TRANSPORTATION CAN BE.

12131 113TH AVENUE NE, SUITE 203
KIRKLAND, WASHINGTON 98034

(TEL) 425 821-3665
(FAX) 425 825-8434

EC01



EC02

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Date

No

Revision

By

PROJECT ENGINEER_KBC

DESIGNED/DRAWN_JK/IN/TK

INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O.

CITY ENGINEER_M.L.W.

ASSISTANT DIRECTOR_M.A.O.

CITY OF BELLINGHAM, WASHINGTON

PUBLIC WORKS DEPARTMENT

ENGINEERING DIVISION

SCALE

Horiz. AS NOTED

Vert. AS NOTED

DATUM

NAD 83/98

NAVD 88

Job. No. ES566

Date 8/9/2024

Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS

TESC DETAILS

SHEET 14 OF 51

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SEC. 01, T. 37 N., R. 02 E., W.M.

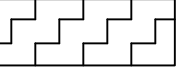
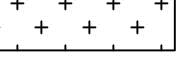
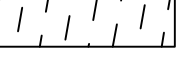
DEMOLITION NOTES

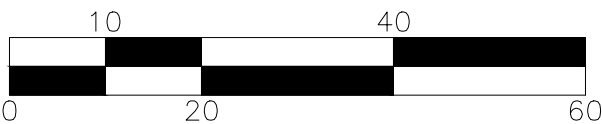
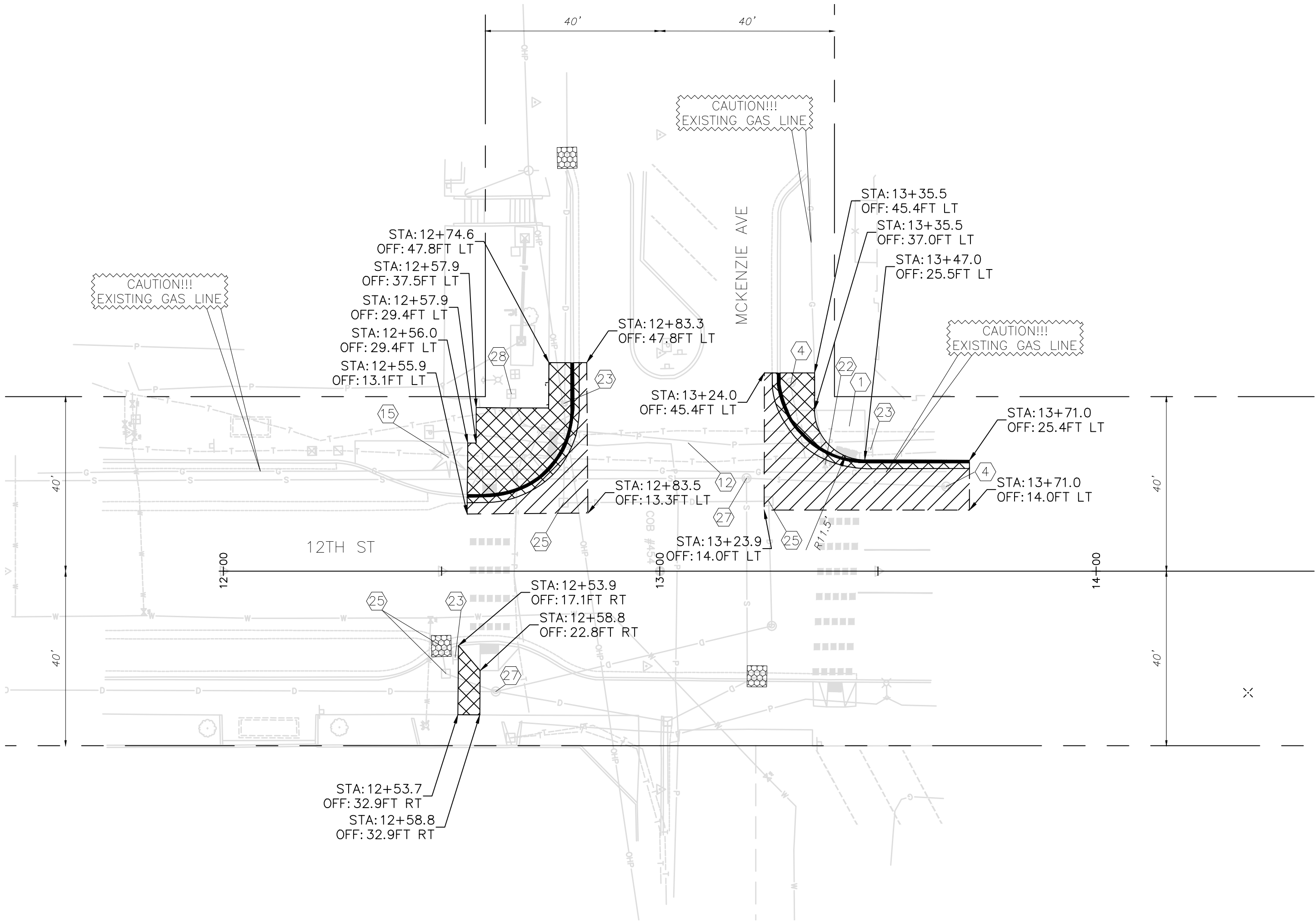
1. REMOVE CONCRETE ROADWAY PANELS & SIDEWALK TO NEAREST JOINT/SEAM.
2. ANY UTILITY STRUCTURE ADJUSTED TO FINAL GRADE WITHIN A SIDEWALK SHALL BE FITTED WITH AN ADA COMPLIANT SLIP-RESISTANT LID.

DEMOLITION CONSTRUCTION NOTES

- ① PROTECT STRUCTURAL SIDEWALK/BUILDING FOUNDATION
- ④ PROTECT EXISTING SEWER MANHOLE & ADJUST TO GRADE.
- ⑫ REMOVE EXISTING CHANNELIZATION. SEE CH01-CH03 FOR DETAILS.
- ⑮ PROTECT EXISTING TREE.
- ⑰ PROTECT EXISTING GAS VALVE & ADJUST TO GRADE.
- ⑳ EXISTING SIGN. SEE CH01-CH03 FOR DETAILS.
- ㉕ EXISTING STORM STRUCTURE. SEE DRAINAGE PLAN SHEETS DR01-DR03.
- ㉗ PROTECT EXISTING MANHOLE.
- ㉘ PROTECT EXISTING JUNCTION BOX.

DEMO & TESC LEGEND

EXISTING ROW	_____
SAWCUT LINE	-----
CONCRETE CURB REMOVAL	_____
CONCRETE REMOVAL	
CONCRETE ROADWAY REMOVAL	
ASPHALT REMOVAL	
GRAVEL REMOVAL	
CLEAR AND GRUB	
ASPHALT PLANING	
CATCH BASIN INSERT (PER COB STD. PLAN EC-620, SHEET EC02)	



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DM01

4			
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Date	No	Revision	By

PROJECT ENGINEER KBC
DESIGNED/DRAWN JK/IN/TK
INSPECTOR _____

DIRECTOR PUBLIC WORKS M.A.O.
CITY ENGINEER M.L.W.
ASSISTANT DIRECTOR M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

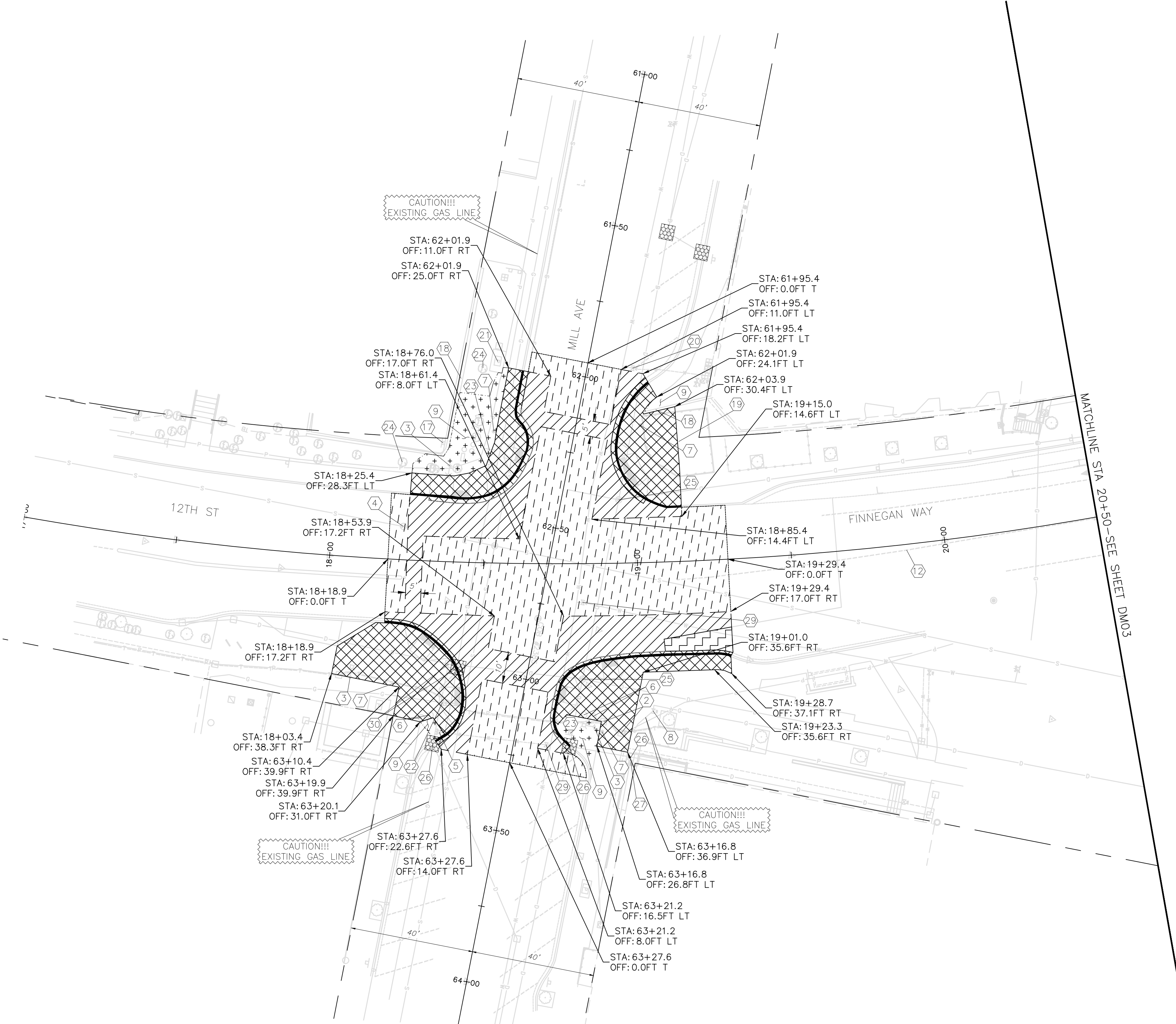
DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk. _____

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
DEMOLITION & TESC PLAN

SHEET
15 **OF**
51

CONTACT PERSON: KYLE CARLSON , PROJECT ENGINEER AT (360) 778-7946



DEMOLITION NOTES

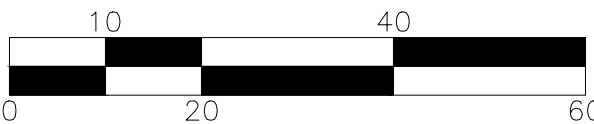
1. SEE SHEET DM01 FOR DEMOLITION PLAN NOTES.

DEMOLITION CONSTRUCTION NOTES

- (2) EXISTING JUNCTION BOX. SEE SIGNAL PLAN SHEETS SG01-SG06.
(3) EXISTING LUMINAIRE. SEE SG01-SG06.
(4) PROTECT EXISTING SEWER MANHOLE & ADJUST TO GRADE.
(5) PROTECT EXISTING FIRE HYDRANT.
(6) TEMPORARILY REMOVE & REPLACE EXISTING TRASH & RECYCLING RECEPTACLES.
(7) RELOCATE EXISTING PARKING PAY STATION.
(8) PROTECT EXISTING GAS VALVE.
(9) REMOVE & RELOCATE EXISTING PLANTINGS & L&SCAPE STONES ONLY AS REQUIRED FOR INSTALLATION OF SIGNAL EQUIPMENT AS SHOWN ON SHEET SG02.
(12) REMOVE EXISTING CHANNELIZATION. SEE CH01-CH03 FOR DETAILS.
(17) PROTECT EXISTING COMMERCIAL SIGN.
(18) PROTECT EXISTING WALL.
(19) EXISTING PATIO TO BE REMOVED/REPLACED BY OTHERS. COORDINATE WITH CITY OF BELLINGHAM.
(20) PROTECT EXISTING WATER VALVE.
(21) PROTECT EXISTING POWER VAULT.
(22) PROTECT EXISTING GAS VALVE & ADJUST TO GRADE.
(23) EXISTING SIGN. SEE CH01-CH03 FOR DETAILS.
(24) PROTECT EXISTING VEGETATION.
(25) EXISTING STORM STRUCTURE. SEE DRAINAGE PLAN SHEETS DR01-DR03.
(26) PROTECT EXISTING CATCH BASIN.
(27) PROTECT EXISTING MANHOLE.
(29) ADJUST EXISTING WATER VALVE TO FINAL GRADE.
(30) REMOVE EXISTING STORM STRUCTURE.

DEMO & TESC LEGEND

EXISTING ROW	---
SAWCUT LINE	---
CONCRETE CURB REMOVAL	---
CONCRETE REMOVAL	XXXXXX
CONCRETE ROADWAY REMOVAL	XXXXXX
ASPHALT REMOVAL	XXXXXX
GRAVEL REMOVAL	XXXXXX
CLEAR AND GRUB	+++++
ASPHALT PLANING	XXXXXX
CATCH BASIN INSERT (PER COB STD. PLAN EC-620, SHEET EC02)	XXXXXX



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DM02

4			
3			
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Date	No	Revision	By

PROJECT ENGINEER KBC
DESIGNED/DRAWN JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS M.A.O.
CITY ENGINEER M.L.W.
ASSISTANT DIRECTOR M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
DEMOLITION & TESC PLAN

SHEET
16 OF
51

DEMOLITION NOTES

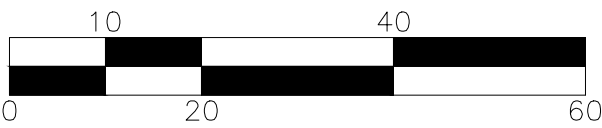
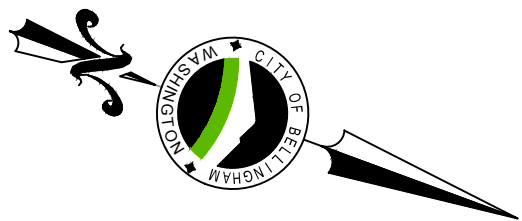
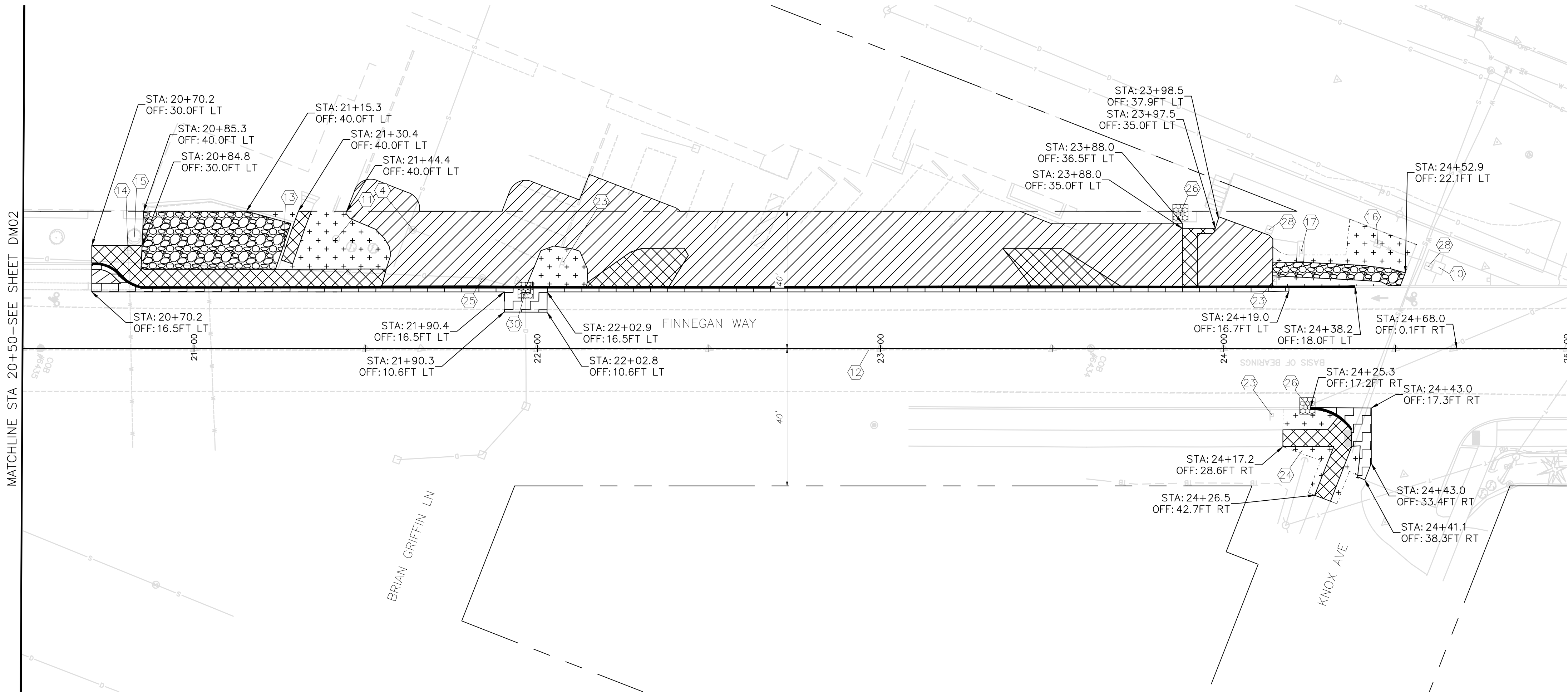
1. SEE SHEET DM01 FOR DEMOLITION PLAN NOTES.

DEMOLITION CONSTRUCTION NOTES

- (4) PROTECT EXISTING SEWER MANHOLE & ADJUST TO GRADE.
(10) PROTECT EXISTING HISTORICAL STRUCTURE.
(11) PROTECT 4" SANITARY CLEANOUT.
(12) REMOVE EXISTING CHANNELIZATION. SEE CH01-CH03 FOR DETAILS.
(13) REMOVE EXISTING TIMBER.
(14) PROTECT EXISTING WATER METER & ADJUST TO GRADE.
(15) PROTECT EXISTING TREE.
(16) PROTECT EXISTING WATER METER.
(17) PROTECT EXISTING COMMERCIAL SIGN.
(23) EXISTING SIGN. SEE CH01-CH03 FOR DETAILS.
(24) PROTECT EXISTING VEGETATION.
(25) EXISTING STORM STRUCTURE. SEE DRAINAGE PLAN SHEETS DR01-DR03.
(26) PROTECT EXISTING CATCH BASIN.
(28) PROTECT EXISTING JUNCTION BOX.
(30) REMOVE EXISTING STORM STRUCTURE.

DEMO & TESC LEGEND

EXISTING ROW	
SAWCUT LINE	
CONCRETE CURB REMOVAL	
CONCRETE REMOVAL	
CONCRETE ROADWAY REMOVAL	
ASPHALT REMOVAL	
GRAVEL REMOVAL	
CLEAR AND GRUB	
ASPHALT PLANING	
CATCH BASIN INSERT (PER COB STD. PLAN EC-620, SHEET EC02)	



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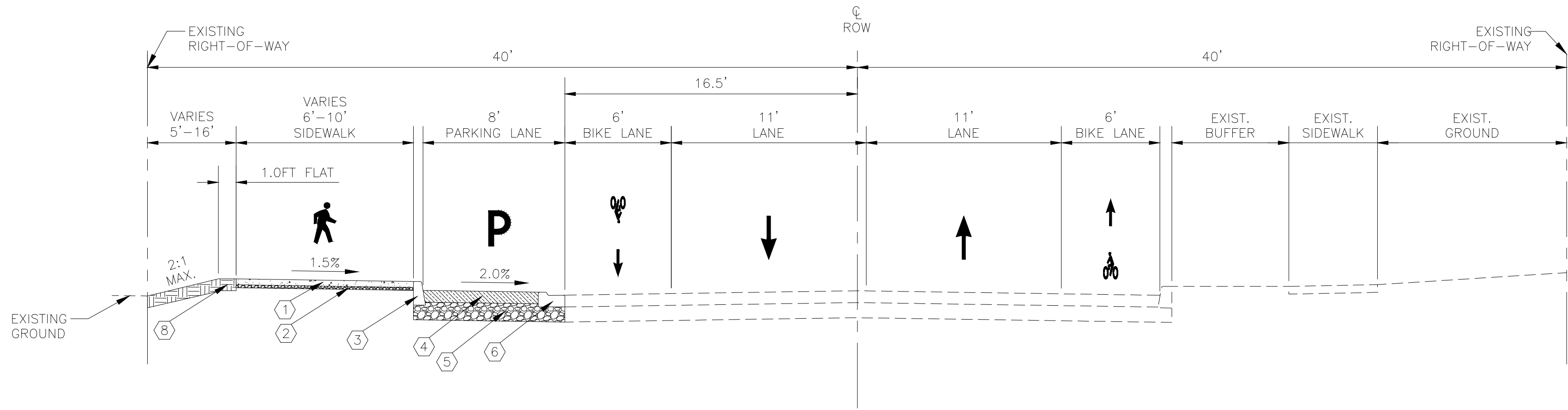


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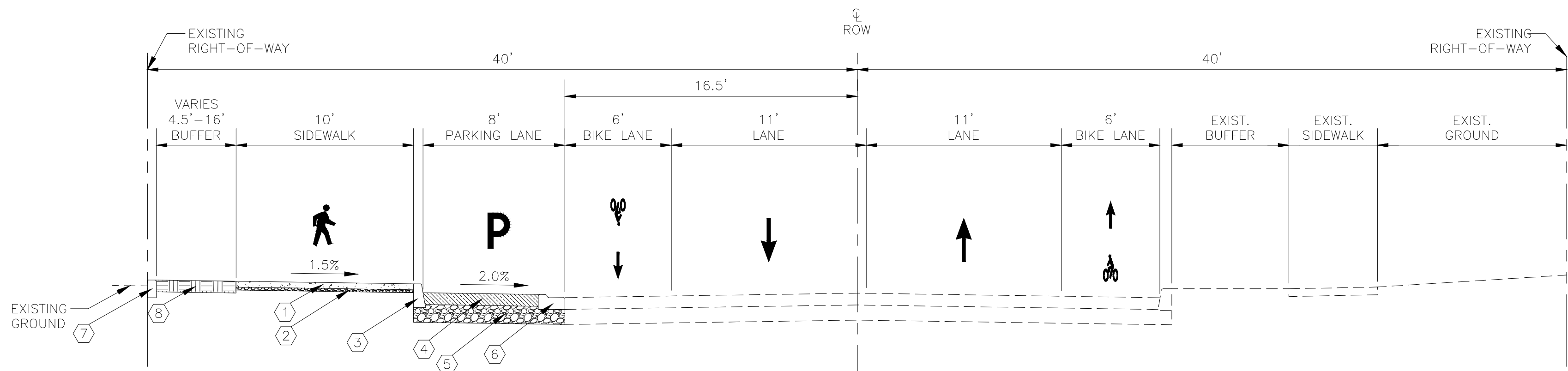
DM03

4				PROJECT ENGINEER_KBC	DIRECTOR PUBLIC WORKS_M.A.O.	CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	SCALE Horiz. AS NOTED Vert. AS NOTED	DATUM NAD 83/98 NAVD 88	Job. No. ES566 Date 8/9/2024 Field Bk.	12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS DEMOLITION & TESC PLAN	SHEET 17 OF 51
3				DESIGNED/DRAWN_JK/TN/TK	CITY ENGINEER_M.L.W.						
2				INSPECTOR	ASSISTANT DIRECTOR_M.A.O.						
1											
Date	No	Revision	By								

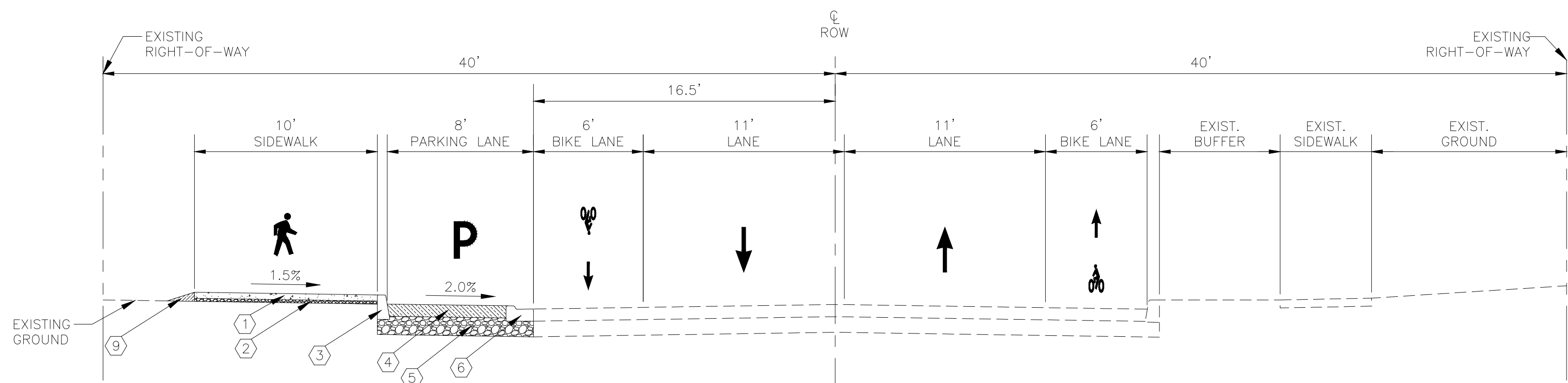
CONTACT PERSON: KYLE CARLSON, PROJECT ENGINEER AT (360) 778-7946



TYPICAL SECTION — FINNEGAN WAY
A
STA. 20+70.2 TO STA. 21+44.4
STA. 23+88.0 TO STA. 24+19.0
NTS



TYPICAL SECTION — FINNEGAN WAY
B
STA. 21+44.4 TO STA. 22+42.9
STA. 22+55.9 TO STA. 22+97.6
NTS



TYPICAL SECTION — FINNEGAN WAY
C
STA. 22+42.9 TO STA. 22+55.9
STA. 22+97.6 TO STA. 23+88.0
NTS

NOTES

1. CONCRETE PAVEMENT WIDTH SHALL BE TO NEAREST JOINT. MATCH DEMOLITION JOINTS.

MATERIAL CODE	
#	MATERIAL DESCRIPTION
①	4" CEMENT CONCRETE URBAN VILLAGE SIDEWALK PER COB STD. PLANS CG-230 & CG-232
②	2" OF 3/4" WASHED ROCK PER COB STD. PLAN CG-230
③	TYPE E BARRIER CURB PER COB STD. CG-208
④	10" PCC, CLASS 4000 PSI, PER COB STD. ST-155, SEE NOTE 1
⑤	12" GRAVEL BASE
⑥	CONCRETE GUTTER PER COB STD. ST-155
⑦	CEMENT CONCRETE PEDESTRIAN CURB PER WSDOT STD. PLAN F-10.12-04
⑧	4" OF WOOD CHIP MULCH WITH 6" OF TOPSOIL TYPE C
⑨	ASPHALT CONCRETE RAISED EDGE PER DETAIL SHEET PVD05

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RS01

4			
3			
2			
1			
Date	No	Revision	By

PROJECT ENGINEER_KBC_
DESIGNED/DRAWN_JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O._
CITY ENGINEER_M.L.W._
ASSISTANT DIRECTOR_M.A.O._

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

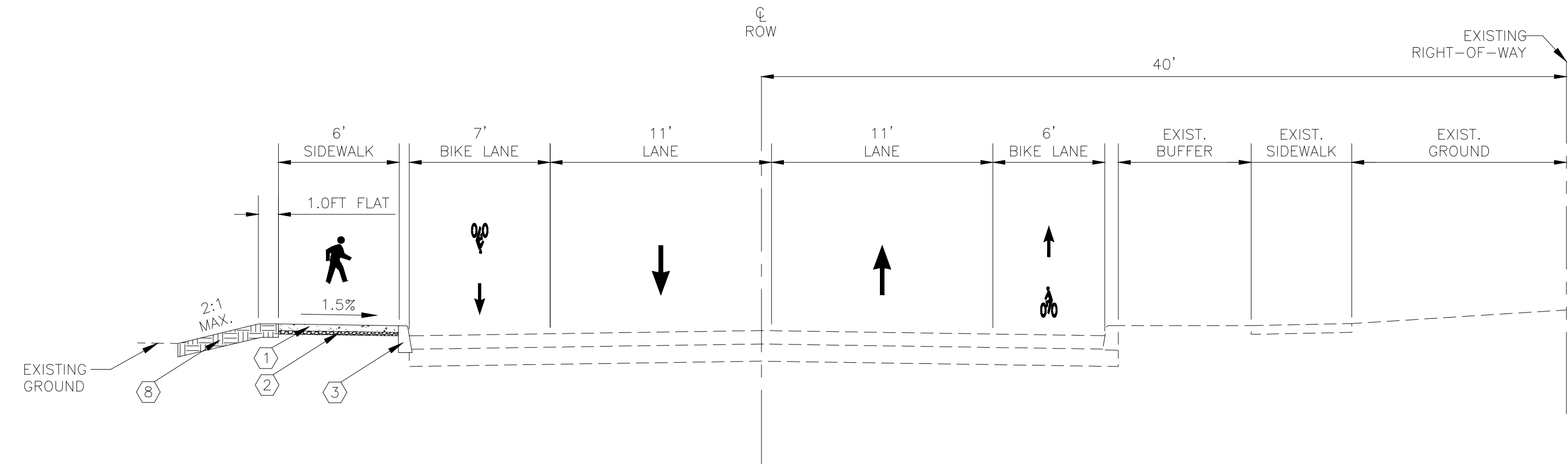
DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
ROADWAY SECTIONS

SHEET
18 OF
51

CONTACT PERSON: KYLE CARLSON , PROJECT ENGINEER AT (360) 778-7946



TYPICAL SECTION — FINNEGAN WAY
STA. 24+19.0 TO STA. 24+53.8
NTS

NOTES

1. CONCRETE PAVEMENT WIDTH SHALL BE TO NEAREST JOINT. MATCH DEMOLITION JOINTS.

MATERIAL CODE	
#	MATERIAL DESCRIPTION
①	4" CEMENT CONCRETE URBAN VILLAGE SIDEWALK PER COB STD. PLANS CG-230 & CG-232
②	2" OF 3/4" WASHED ROCK PER COB STD. PLAN CG-230
③	TYPE E BARRIER CURB PER COB STD. CG-208
④	10" PCC, CLASS 4000 PSI, PER COB STD. ST-155, SEE NOTE 1
⑤	12" GRAVEL BASE
⑥	CONCRETE GUTTER PER COB STD. ST-155
⑦	CEMENT CONCRETE PEDESTRIAN CURB PER WSDOT STD. PLAN F-10.12-04
⑧	4" OF WOOD CHIP MULCH WITH 6" OF TOPSOIL TYPE C
⑨	ASPHALT CONCRETE RAISED EDGE PER DETAIL SHEET PVD05

10/21/24

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RS02

SHEET 19 OF 51

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Date No Revision By	4		PROJECT ENGINEER <u>KBC</u> DESIGNED/DRAWN <u>JK/TN/TK</u> INSPECTOR	DIRECTOR PUBLIC WORKS <u>M.A.O.</u> CITY ENGINEER <u>M.L.W.</u> ASSISTANT DIRECTOR <u>M.A.O.</u>	CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	SCALE Horiz. <u>AS NOTED</u> Vert. <u>AS NOTED</u>	DATUM NAD 83/98 NAVD 88	Job. No. <u>ES566</u> Date <u>8/9/2024</u> Field Bk.	12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS ROADWAY SECTIONS	SHEET 19 OF 51
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	2									
	1									

SEC. 01, T. 37 N., R. 02 E., W.M.

PAVING NOTES

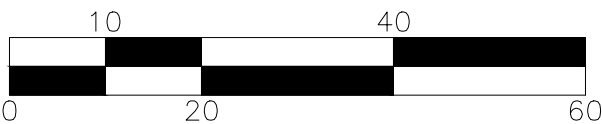
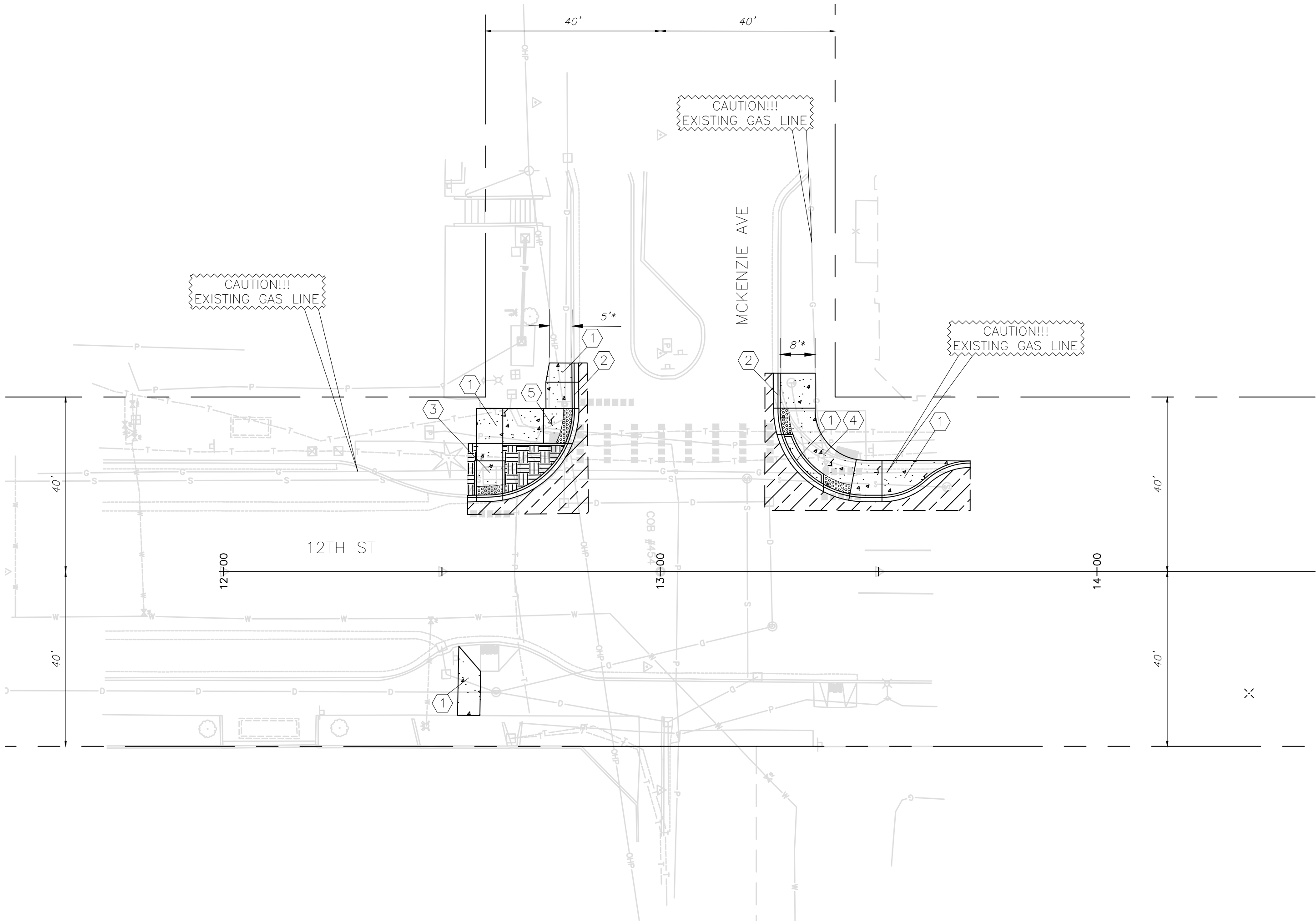
1.
- CONCRETE PAVEMENT WIDTH SHALL BE TO NEAREST JOINT. MATCH DEMOLITION JOINT.
2.
- * DENOTES EXISTING FACILITY HORIZONTAL/VERTICAL INFORMATION ACCORDING TO SURVEY & MAY VARY IN THE FIELD.

PAVING CONSTRUCTION NOTES

- ①
- CONSTRUCT CEMENT CONCRETE URBAN VILLAGE SIDEWALK PER COB STD. PLANS CG-230 & CG-232. SEE PAVING DETAIL SHEETS PVD01-PVD05 FOR DETAILS.
- ②
- CONSTRUCT TYPE A MODIFIED TRAFFIC CURB & GUTTER PER COB STD. PLAN CG-200 & FLOWLINE PROFILE SHEETS FP01-FP04.
- ③
- CONSTRUCT PERPENDICULAR CURB RAMP PER WSDOT STD. PLAN F-40.15-04 & PAVING DETAIL SHEETS PVD01-PVD05.
- ④
- CONSTRUCT PARALLEL CURB RAMP PER WSDOT STD. PLAN F-40.12-03 & PAVING DETAIL SHEETS PVD01-PVD05.
- ⑤
- CONSTRUCT SINGLE DIRECTION CURB RAMP PER WSDOT STD. PLAN F-40.16-03 & PAVING DETAIL SHEETS PVD01-PVD05.

PAVING LEGEND

EXISTING ROW	
CONCRETE SIDEWALK	
CONCRETE DRIVEWAY	
ASPHALT DRIVEWAY	
CONCRETE ROADWAY	
ASPHALT ROADWAY	
SOD RESTORATION W/6" TOPSOIL TYPE A	
MULCH W/6" TOPSOIL TYPE A	
DETECTABLE WARNING SURFACE	
ASPHALT OVERLAY	



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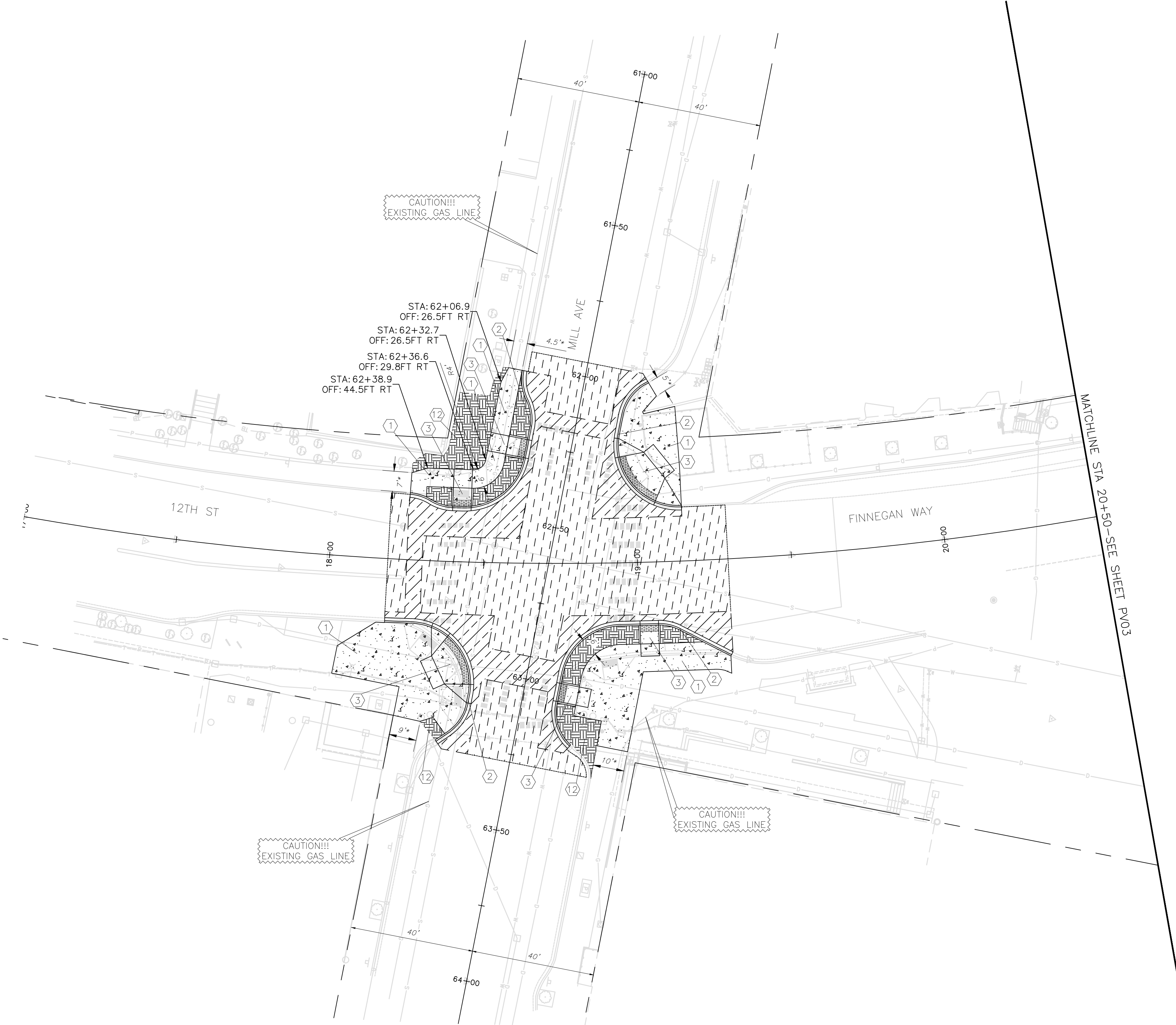
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KIRKLAND, WASHINGTON 98034
(TEL) 425 821-3665
(FAX) 425 825-8434

PV01

SHEET 20 OF 51

Date	4	Revision	By	PROJECT ENGINEER_KBC DESIGNED/DRAWN_JK/IN/TK INSPECTOR	DIRECTOR PUBLIC WORKS_M.A.O. CITY ENGINEER_M.L.W. ASSISTANT DIRECTOR_M.A.O.	CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	SCALE Horiz. AS NOTED Vert. AS NOTED	DATUM NAD 83/98 NAVD 88	Job. No. ES566 Date 8/9/2024 Field Bk.	12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS PAVING PLAN - 12TH ST & MCKENZIE AVE	SHEET 20 OF 51
	3										
	2										
	1										

SEC. 01, T. 37 N., R. 02 E., W.M.



PAVING NOTES

1. SEE SHEET PV01 FOR PAVING PLAN NOTES.

PAVING CONSTRUCTION NOTES

- ① CONSTRUCT CEMENT CONCRETE URBAN VILLAGE SIDEWALK PER COB STD. PLANS CG-230 & CG-232. SEE PAVING DETAIL SHEETS PVD01-PVD05 FOR DETAILS.
- ② CONSTRUCT TYPE A MODIFIED TRAFFIC CURB & GUTTER PER COB STD. PLAN CG-200 & FLOWLINE PROFILE SHEETS FP01-FP04.
- ③ CONSTRUCT PERPENDICULAR CURB RAMP PER WSDOT STD. PLAN F-40.15-04 & PAVING DETAIL SHEETS PVD01-PVD05.
- ⑫ RESTORE DECORATIVE PLANTING IN KIND.

PAVING LEGEND

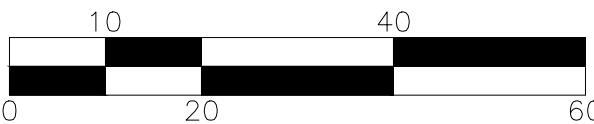
EXISTING ROW	
CONCRETE SIDEWALK	
CONCRETE DRIVEWAY	
ASPHALT DRIVEWAY	
CONCRETE ROADWAY	
ASPHALT ROADWAY	
SOD RESTORATION W/6" TOPSOIL TYPE A	
MULCH W/6" TOPSOIL TYPE A	
DETECTABLE WARNING SURFACE	
ASPHALT OVERLAY	

ASPHALT RESTORATION

4" HMA 3/8", PG 64-22
14" GRAVEL BASE

ASPHALT OVERLAY

2" PLANING
2" HMA 3/8", PG 64-22



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PV02

	4		
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Date	No	Revision	By

PROJECT ENGINEER KBC
DESIGNED/DRAWN JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS M.A.O.
CITY ENGINEER M.L.W.
ASSISTANT DIRECTOR M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
PAVING PLAN - 12TH ST & MILL AVE

SHEET
21 **OF**
51

CONTACT PERSON: KYLE CARLSON , PROJECT ENGINEER AT (360) 778-7946

PAVING NOTES

1. SEE SHEET PV01 FOR PAVING PLAN NOTES.

PAVING CONSTRUCTION NOTES

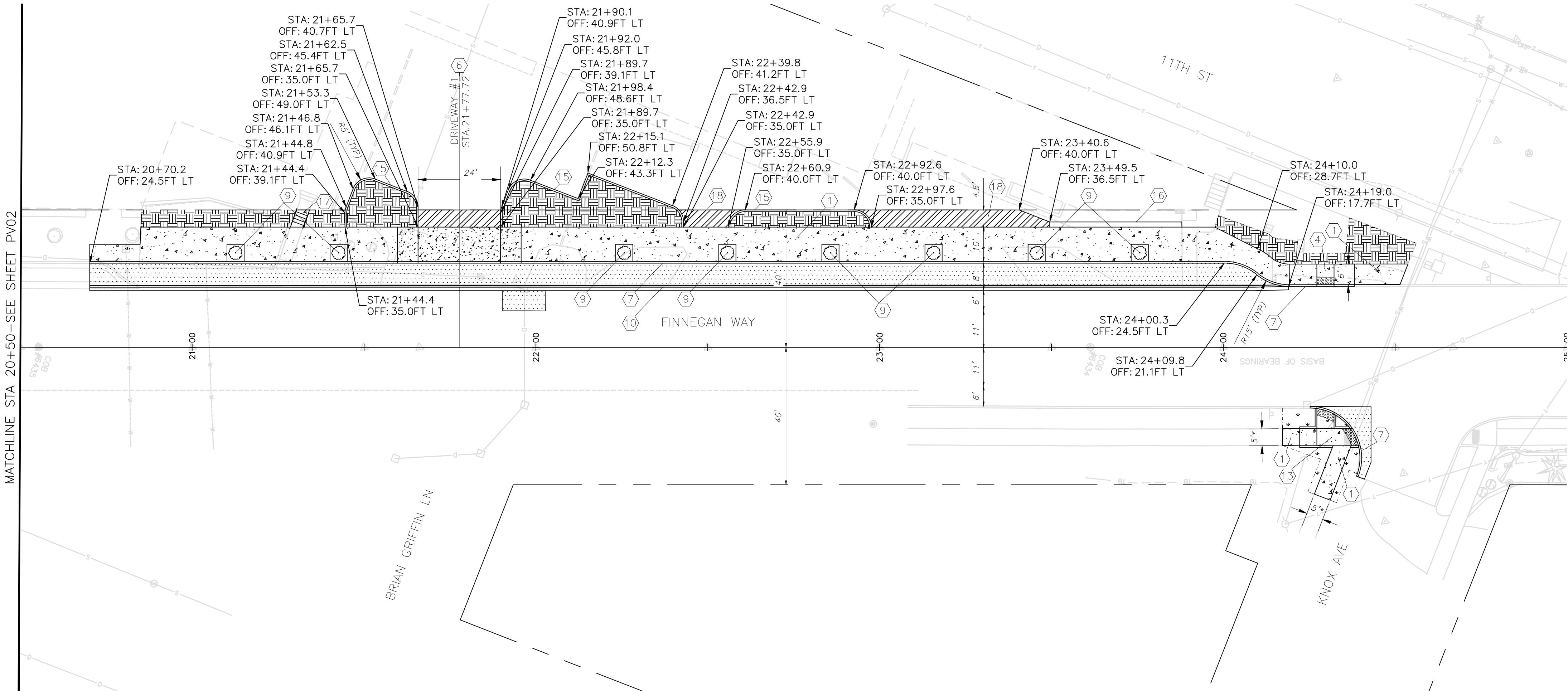
- (1) CONSTRUCT CEMENT CONCRETE URBAN VILLAGE SIDEWALK PER COB STD. PLANS CG-230 & CG-232. SEE PAVING DETAIL SHEETS PVD01-PVD05 FOR DETAILS.
- (4) CONSTRUCT PARALLEL CURB RAMP PER WSDOT STD. PLAN F-40.12-03 & PAVING DETAIL SHEETS PVD01-PVD05.
- (6) CONSTRUCT DRIVEWAY PER COB STD. PLAN CG-260, TYPE 2. SEE DRIVEWAY PROFILE SHEET DWP01.
- (7) CONSTRUCT CEMENT CONCRETE TRAFFIC CURB PER COB STD. PLAN CG-208.
- (9) PLANT AMUR MAPLE IN 5FT X 5FT TREE WELL PER COB STD. PLAN ST-184.
- (10) CONSTRUCT CONCRETE GUTTER PER COB STD. PLAN ST-155 & FLOWLINE PROFILE SHEETS FP01-FP04.
- (13) CONSTRUCT COMBINATION CURB RAMP PER WSDOT STD. PLAN F-40.14-03 & PAVING DETAIL SHEETS PVD01-PVD05.
- (15) CONSTRUCT CEMENT CONCRETE PEDESTRIAN CURB PER WSDOT STANDARD PLAN F-10.12-04.
- (16) CONSTRUCT ASPHALT RAISED EDGE PER DETAIL SHEET PVD05.
- (17) CONSTRUCT STAIRS WITH HANDRAIL. SEE PAVING DETAIL SHEET PVD03.
- (18) PROVIDE 1:12 SLOPED ASPHALT TIE-DOWN TO PARKING LOT. LIMITS SHOWN ARE APPROXIMATE.

PAVING LEGEND

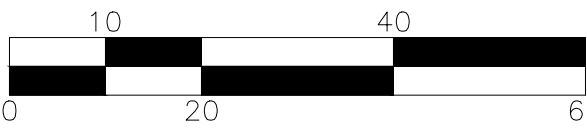
EXISTING ROW	
CONCRETE SIDEWALK	
CONCRETE DRIVEWAY	
ASPHALT DRIVEWAY	
CONCRETE ROADWAY	
ASPHALT ROADWAY	
SOD RESTORATION W/6" TOPSOIL TYPE A	
MULCH W/6" TOPSOIL TYPE A	
DETECTABLE WARNING SURFACE	
ASPHALT OVERLAY	

ASPHALT DRIVEWAY TIE-DOWN

4" MIN. HMA 3/8", PG 64-22
4" CRUSHED SURFACING TOP COURSE



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PV03

4			
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2			
1			
Date	No	Revision	By

PROJECT ENGINEER_KBC
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INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O.
CITY ENGINEER_M.L.W.
ASSISTANT DIRECTOR_M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

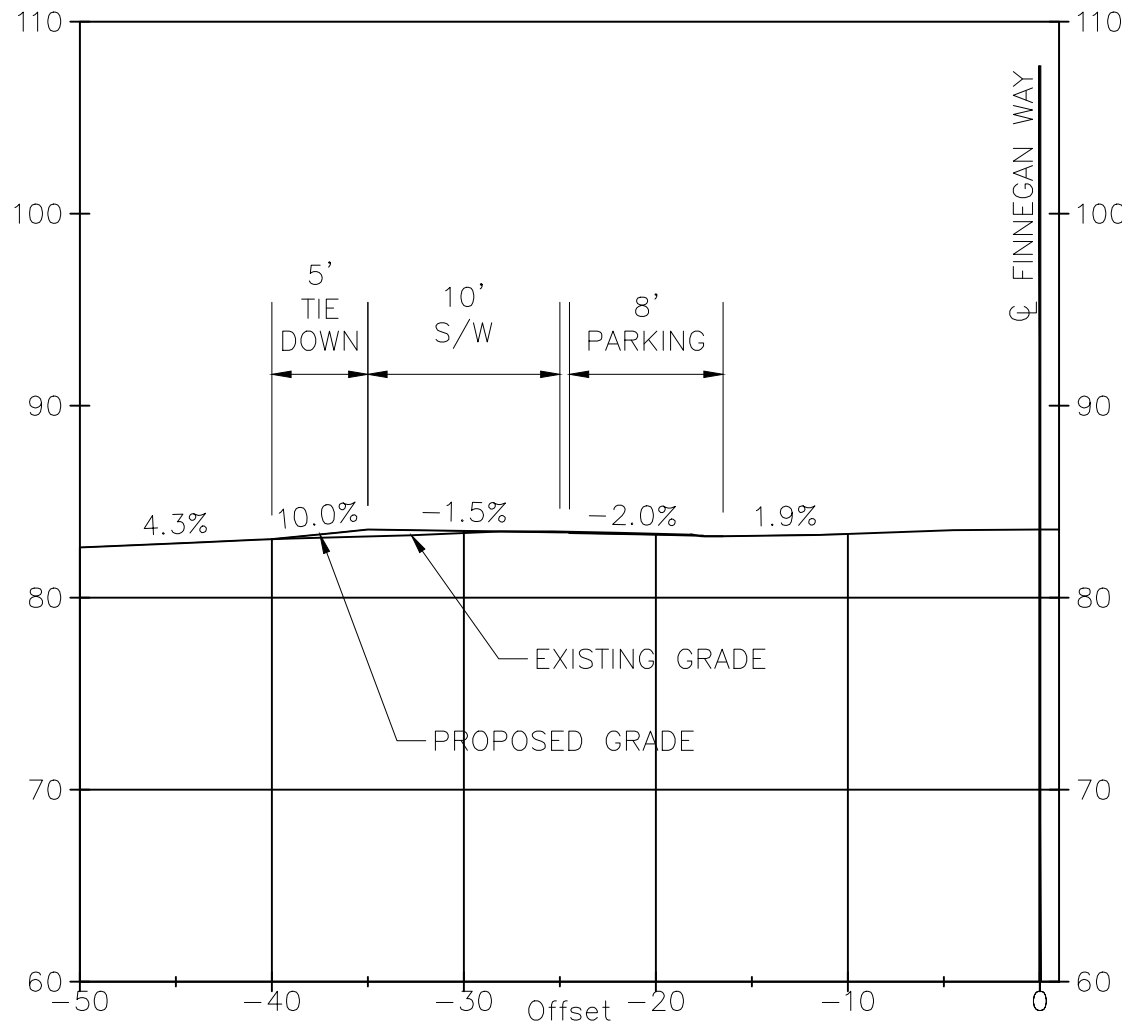
SCALE
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Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

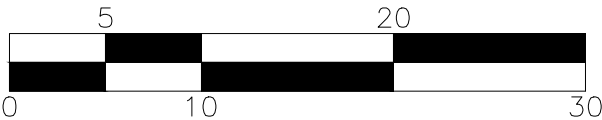
12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
PAVING PLAN - FINNEGAN WAY

SHEET
22 OF
51



DRIVEWAY #1
STA. 21+77.72

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DWP01

SHEET	23	OF
		51

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PROJECT ENGINEER KBC
DESIGNED/DRAWN JK/IN/TK
INSPECTOR _____

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ASSISTANT DIRECTOR M.A.O.

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PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
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Vert. AS NOTED

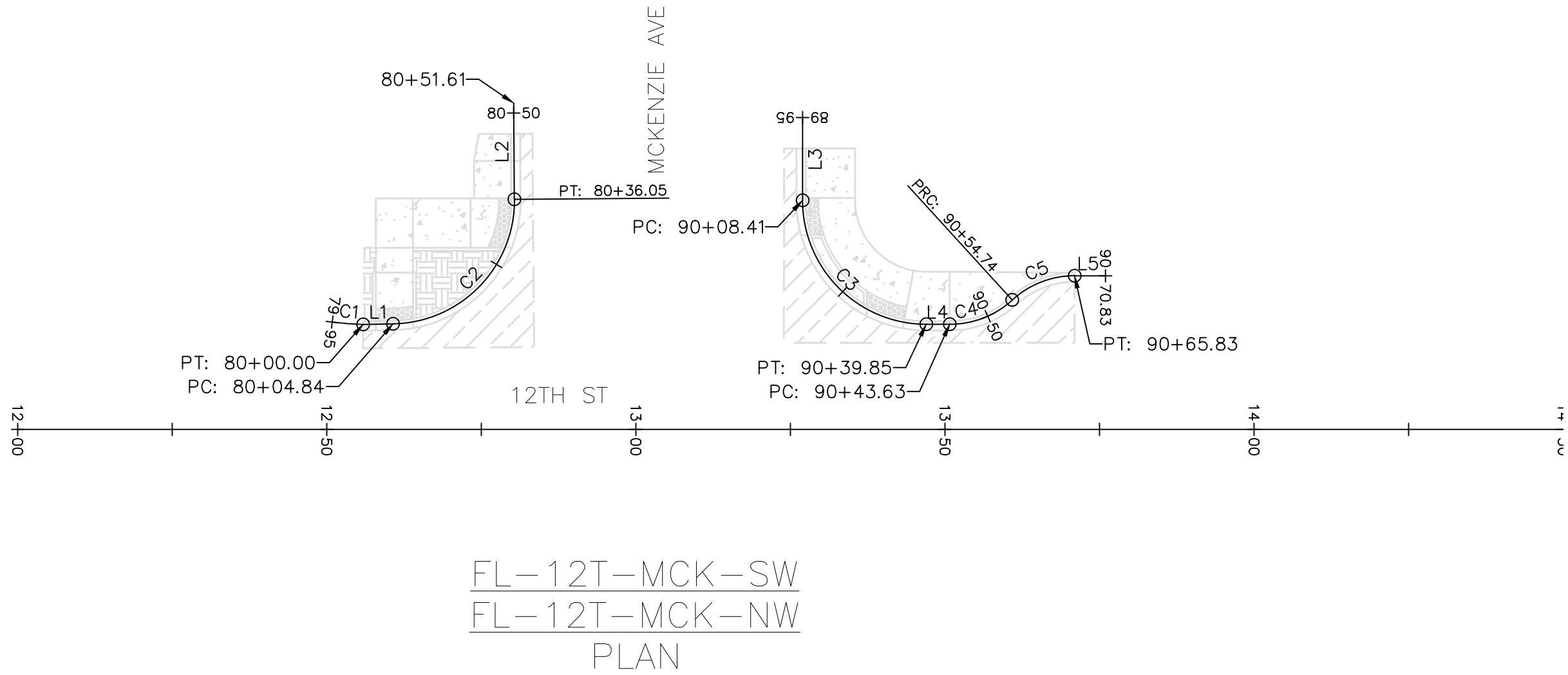
DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk. _____

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
DRIVEWAY PROFILES

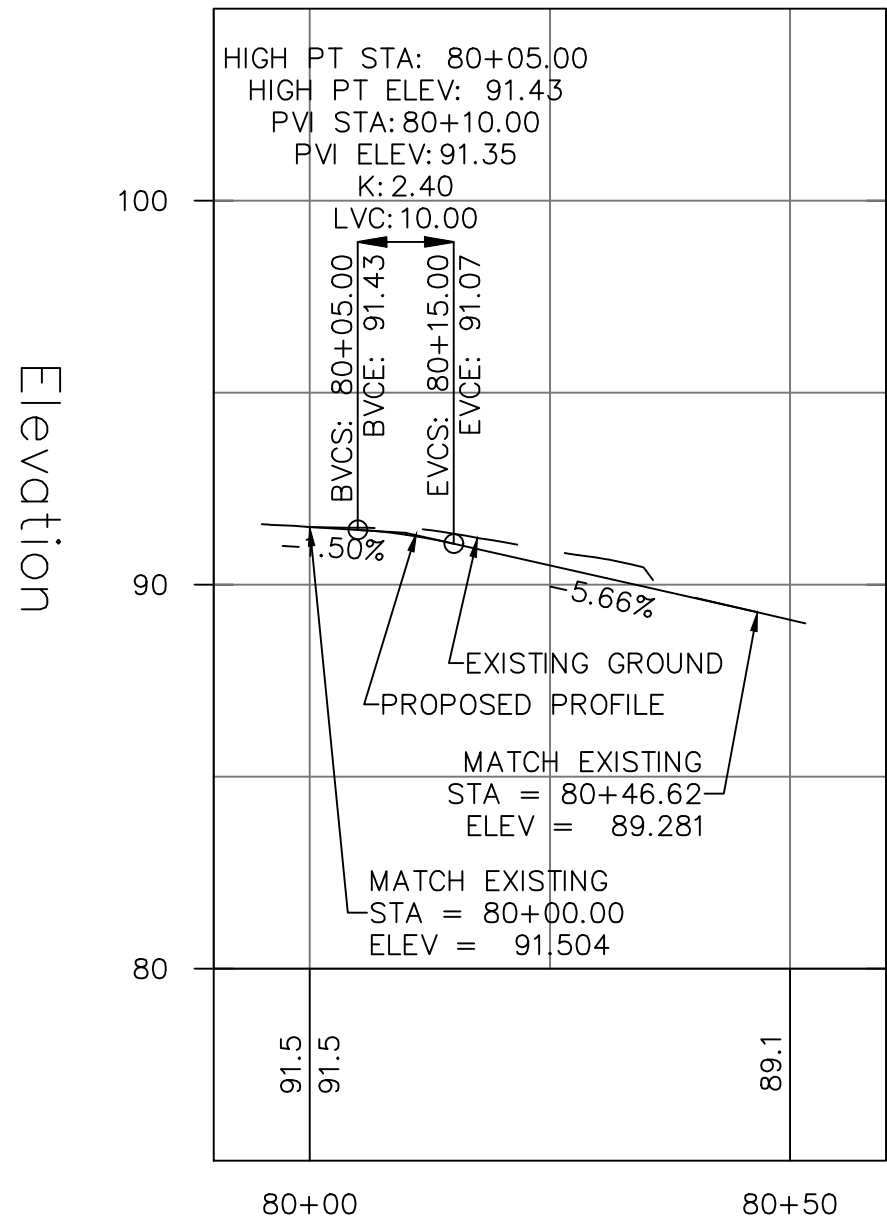
FL-12T-MCK-SW							
NUMBER	RADIUS	LENGTH	LINE/CHORD DIRECTION	BEGIN STATION	BEGIN N/E	END STATION	END N/E
C1	58.38	5.00	N5° 34' 10.51"E	79+95.00	N: 631506.54, E: 1237545.11	80+00.00	N: 631511.52, E: 1237545.60
L1	NA	4.84	N0° 09' 31.69"E	80+00.00	N: 631511.52, E: 1237545.60	80+04.84	N: 631516.35, E: 1237545.61
C2	20.00	31.22	N44° 33' 19.09"W	80+04.84	N: 631516.35, E: 1237545.61	80+36.05	N: 631536.41, E: 1237525.87
L2	NA	15.56	N89° 16' 09.87"W	80+36.05	N: 631536.41, E: 1237525.87	80+51.61	N: 631536.60, E: 1237510.31

FL-12T-MCK-NW							
NUMBER	RADIUS	LENGTH	LINE/CHORD DIRECTION	BEGIN STATION	BEGIN N/E	END STATION	END N/E
L3	NA	13.41	S88° 46' 30.11"E	89+95.00	N: 631583.29, E: 1237513.61	90+08.41	N: 631583.00, E: 1237527.02
C3	20.00	31.43	N46° 12' 00.48"E	90+08.41	N: 631583.00, E: 1237527.02	90+39.85	N: 631602.59, E: 1237547.44
L4	NA	3.79	N1° 10' 31.06"E	90+39.85	N: 631602.59, E: 1237547.44	90+43.63	N: 631606.38, E: 1237547.52
C4	15.00	11.10	N20° 01' 38.84"W	90+43.63	N: 631606.38, E: 1237547.52	90+54.74	N: 631616.57, E: 1237543.80
C5	15.00	11.10	N20° 02' 20.80"W	90+54.74	N: 631616.57, E: 1237543.80	90+65.83	N: 631626.76, E: 1237540.09
L5	NA	5.00	N1° 10' 31.06"E	90+65.83	N: 631626.76, E: 1237540.09	90+70.83	N: 631631.76, E: 1237540.19



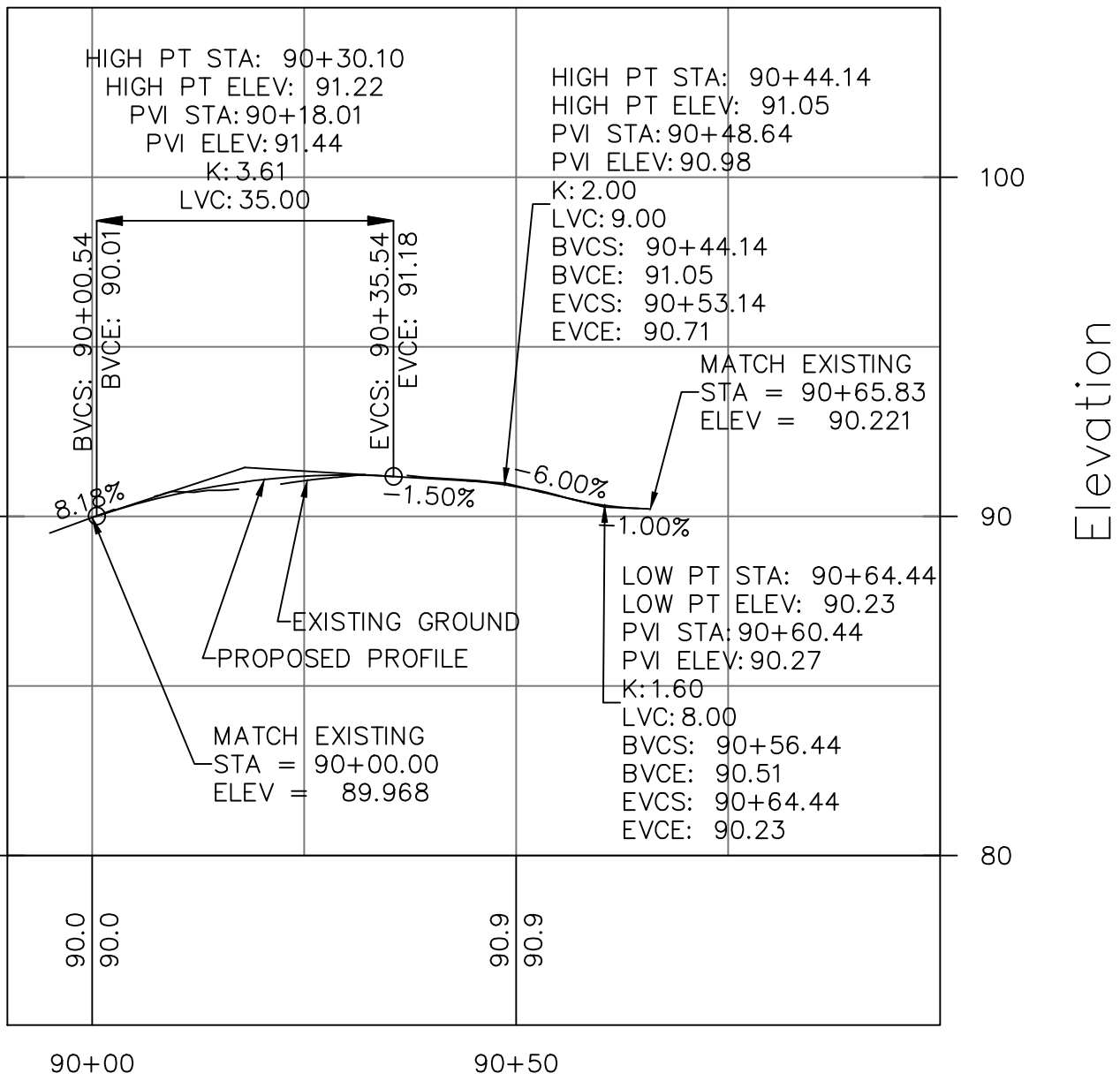
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Station



FL-12T-MCK-SW
PROFILE

HORIZONTAL SCALE - 1" = 20'
VERTICAL SCALE - 1" = 5'

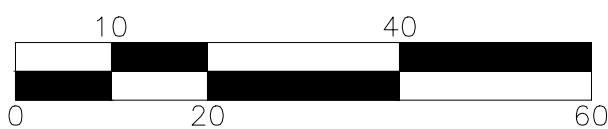


FL-12T-MCK-NW
PROFILE

HORIZONTAL SCALE - 1" = 20'
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FP01

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INSPECTOR _____

DIRECTOR PUBLIC WORKS M.A.O.
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SCALE
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DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk. _____

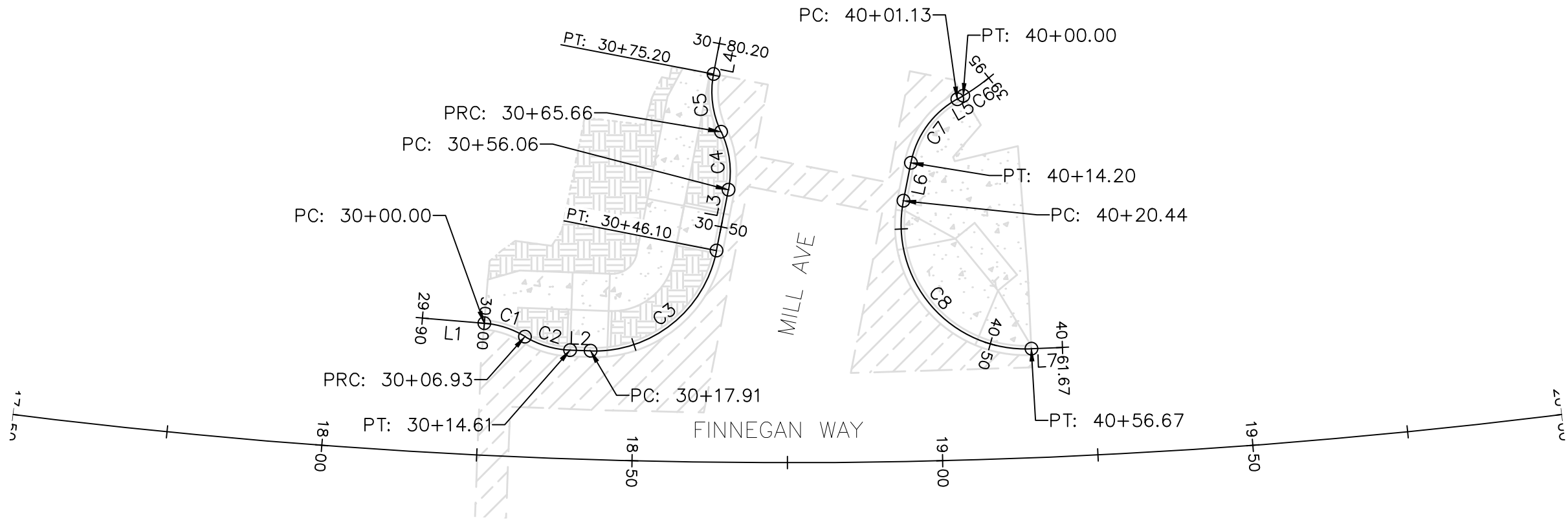
12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
FLOWLINE PROFILES

SHEET
24 OF
51

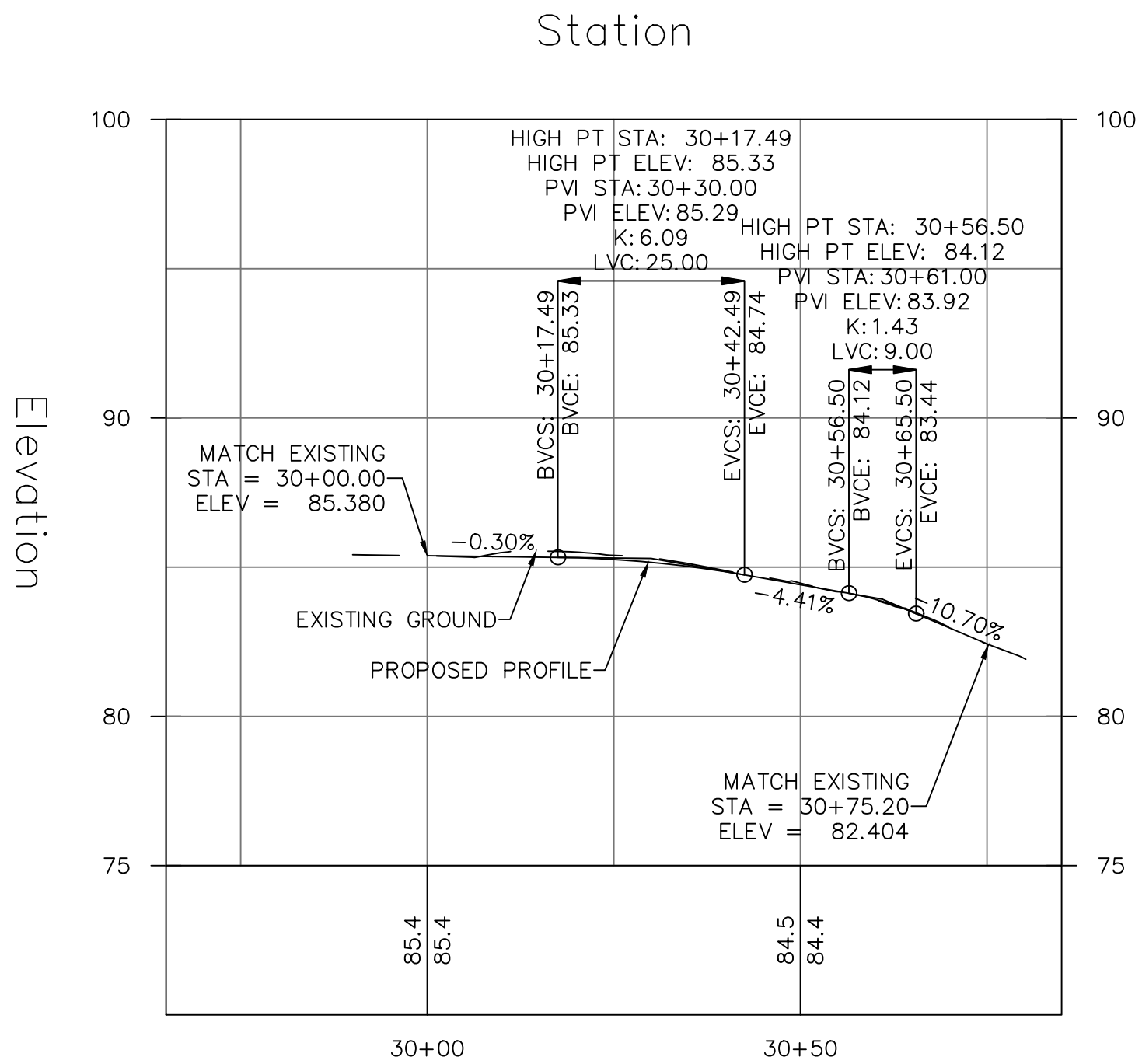
CONTACT PERSON: KYLE CARLSON, PROJECT ENGINEER AT (360) 778-7946

FL-FIN-MIL-SW							
NUMBER	RADIUS	LENGTH	LINE/CHORD DIRECTION	BEGIN STATION	BEGIN N/E	END STATION	END N/E
L1	NA	10.00	N5° 02' 14.37"W	29+90.00	N: 632067.47, E: 1237543.74	30+00.00	N: 632077.43, E: 1237542.86
C1	15.00	6.93	N8° 12' 01.78"E	30+00.00	N: 632077.43, E: 1237542.86	30+06.93	N: 632084.23, E: 1237543.84
C2	15.00	7.68	N6° 46' 40.37"E	30+06.93	N: 632084.23, E: 1237543.84	30+14.61	N: 632091.77, E: 1237544.74
L2	NA	3.30	N7° 58' 41.64"W	30+14.61	N: 632091.77, E: 1237544.74	30+17.91	N: 632095.04, E: 1237544.28
C3	20.00	28.19	N48° 27' 22.98"W	30+17.91	N: 632095.04, E: 1237544.28	30+46.10	N: 632112.23, E: 1237524.89
L3	NA	9.96	N88° 50' 19.85"W	30+46.10	N: 632112.23, E: 1237524.89	30+56.06	N: 632112.43, E: 1237514.92
C4	15.00	9.59	S72° 50' 17.41"W	30+56.06	N: 632112.43, E: 1237514.92	30+65.66	N: 632109.65, E: 1237505.91
C5	15.00	9.54	S72° 44' 39.47"W	30+65.66	N: 632109.65, E: 1237505.91	30+75.20	N: 632106.86, E: 1237496.95
L4	NA	5.00	N89° 05' 24.37"W	30+75.20	N: 632106.86, E: 1237496.95	30+80.20	N: 632106.94, E: 1237491.95

FL-FIN-MIL-NW							
NUMBER	RADIUS	LENGTH	LINE/CHORD DIRECTION	BEGIN STATION	BEGIN N/E	END STATION	END N/E
C6	34.48	5.00	S44° 56' 30.72"E	39+95.00	N: 632150.60, E: 1237489.95	40+00.00	N: 632147.07, E: 1237493.48
L5	NA	1.13	S39° 51' 04.22"E	40+00.00	N: 632147.07, E: 1237493.48	40+01.13	N: 632146.20, E: 1237494.20
C7	15.00	13.07	S63° 52' 35.58"E	40+01.13	N: 632146.20, E: 1237494.20	40+14.20	N: 632140.63, E: 1237505.57
L6	NA	6.24	S88° 50' 19.85"E	40+14.20	N: 632140.63, E: 1237505.57	40+20.44	N: 632140.50, E: 1237511.81
C8	20.00	36.24	N39° 15' 28.54"E	40+20.44	N: 632140.50, E: 1237511.81	40+56.67	N: 632164.87, E: 1237531.73
L7	NA	5.00	N12° 19' 39.83"W	40+56.67	N: 632164.87, E: 1237531.73	40+61.67	N: 632169.76, E: 1237530.66

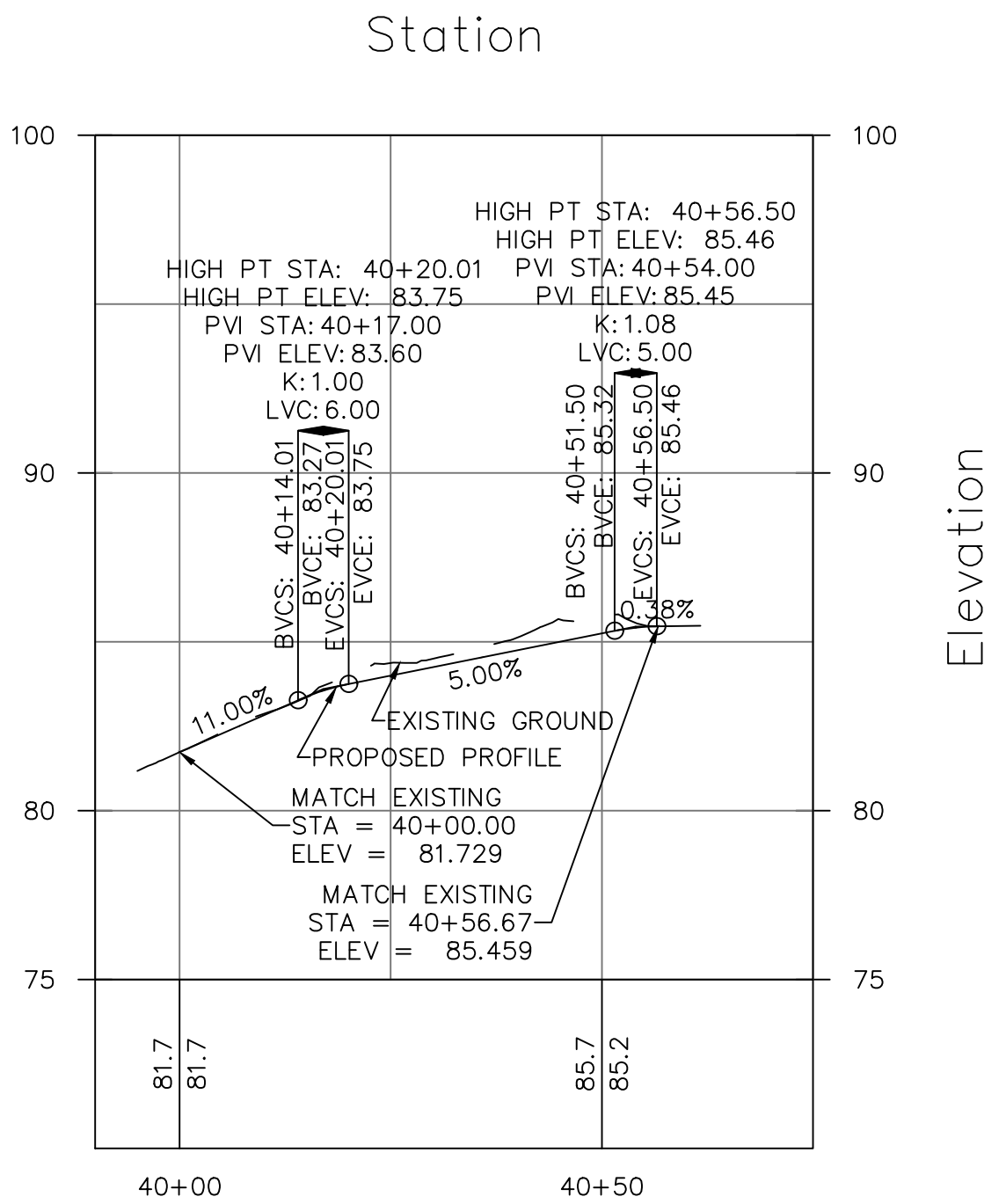


FL-FIN-MIL-SW
FL-FIN-MIL-NW
PLAN



FL-FIN-MIL-SW
PROFILE

HORIZONTAL SCALE - 1" = 20'
VERTICAL SCALE - 1" = 5'

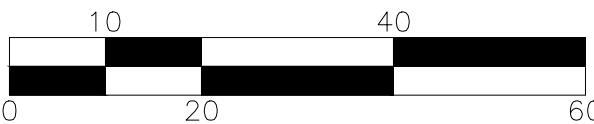


FL-FIN-MIL-NW
PROFILE

HORIZONTAL SCALE - 1" = 20'
VERTICAL SCALE - 1" = 5'

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Date	No	Revision	By

PROJECT ENGINEER_KBC_____
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INSPECTOR_____

DIRECTOR PUBLIC WORKS_M.A.O_____
CITY ENGINEER_M.L.W_____
ASSISTANT DIRECTOR_M.A.O_____
CITY OF BELLINGHAM, WASHINGTON
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NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
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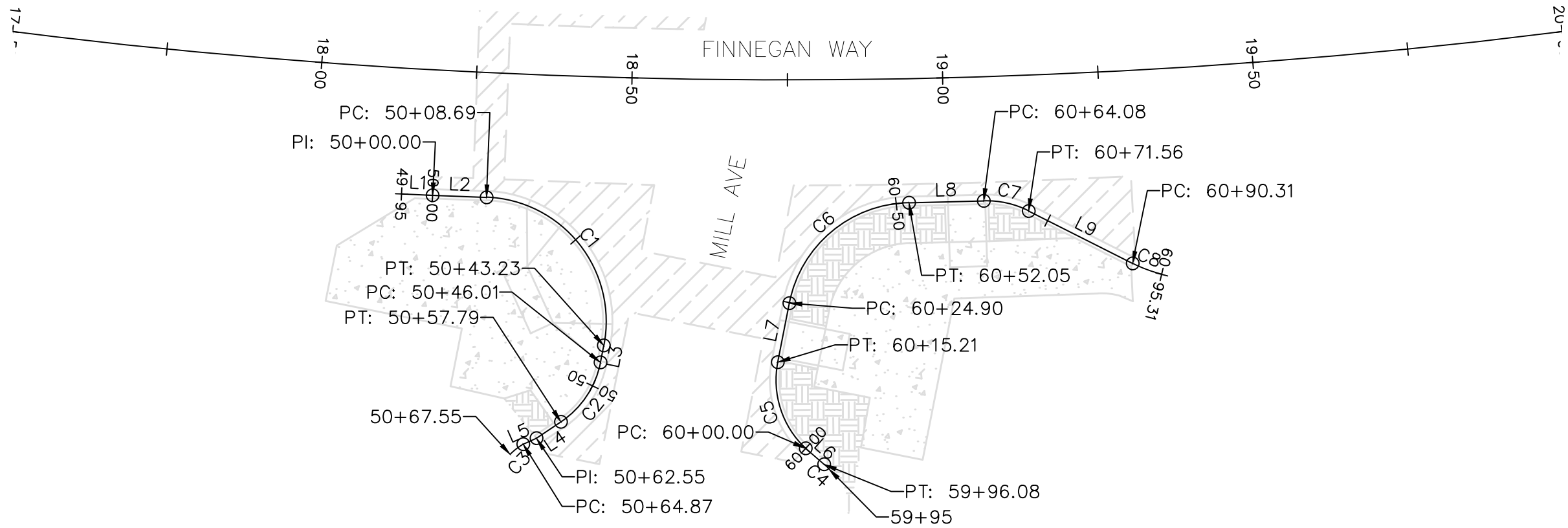
12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
FLOWLINE PROFILES

SHEET
25 OF
51

CONTACT PERSON: KYLE CARLSON, PROJECT ENGINEER AT (360) 778-7946

FL-FIN-MIL-SE						
NUMBER	RADIUS	LENGTH	LINE/CHORD DIRECTION	BEGIN STATION	BEGIN N/E	END STATION
L1	NA	5.00	N7° 17' 17.79"W	49+95.00	N: 632071.34, E: 1237585.35	50+00.00
L2	NA	8.69	N7° 44' 10.61"W	50+00.00	N: 632076.30, E: 1237584.71	50+08.69
C1	20.00	34.54	N41° 44' 18.02"E	50+08.69	N: 632084.91, E: 1237583.54	50+43.23
L3	NA	2.78	S88° 47' 13.35"E	50+43.23	N: 632107.60, E: 1237603.78	50+46.01
C2	15.00	11.78	S66° 17' 13.35"E	50+46.01	N: 632107.54, E: 1237606.56	50+57.79
L4	NA	4.76	S43° 47' 13.35"E	50+57.79	N: 632102.93, E: 1237617.07	50+62.55
L5	NA	2.32	S33° 50' 26.72"E	50+62.55	N: 632099.49, E: 1237620.37	50+64.87
C3	9.83	2.68	S47° 38' 35.03"E	50+64.87	N: 632097.56, E: 1237621.66	50+67.55

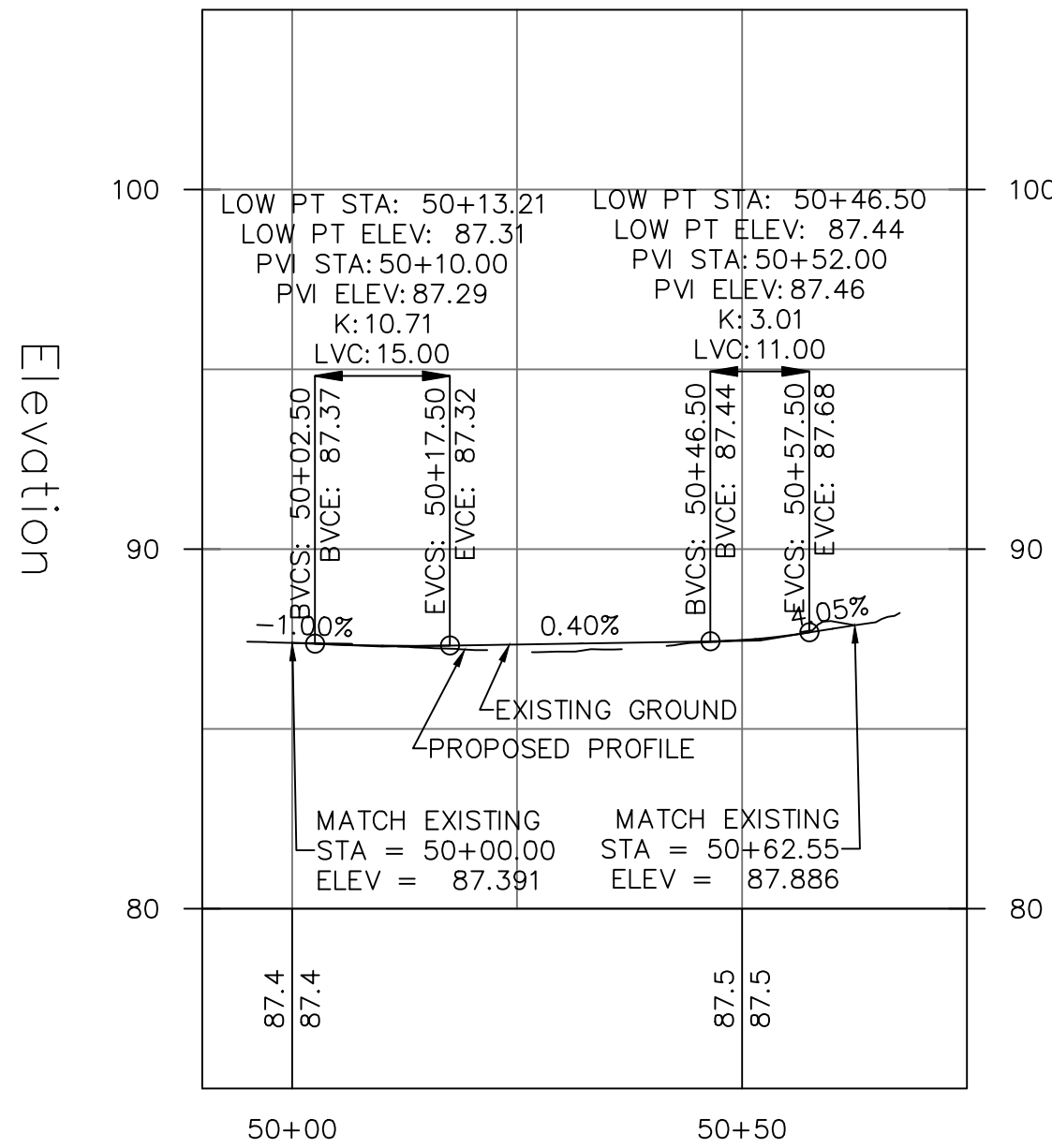
FL-FIN-MIL-NE							
NUMBER	RADIUS	LENGTH	LINE/CHORD DIRECTION	BEGIN STATION	BEGIN N/E	END STATION	END N/E
C4	9.26	1.08	S32° 45' 07.67"W	59+95.00	N: 632146.72, E: 1237617.11	59+96.08	N: 632145.81, E: 1237616.52
L6	NA	3.92	S31° 14' 27.56"W	59+96.08	N: 632145.81, E: 1237616.52	60+00.00	N: 632142.46, E: 1237614.49
C5	15.00	15.21	S62° 09' 30.20"W	60+00.00	N: 632142.46, E: 1237614.49	60+15.21	N: 632135.65, E: 1237601.61
L7	NA	9.68	N88° 47' 13.35"W	60+15.21	N: 632135.65, E: 1237601.61	60+24.90	N: 632135.86, E: 1237591.93
C6	20.00	27.15	N49° 53' 46.55"W	60+24.90	N: 632135.86, E: 1237591.93	60+52.05	N: 632152.04, E: 1237572.72
L8	NA	12.03	N11° 20' 29.66"W	60+52.05	N: 632152.04, E: 1237572.72	60+64.08	N: 632163.83, E: 1237570.35
C7	15.00	7.48	N2° 36' 56.88"E	60+64.08	N: 632163.83, E: 1237570.35	60+71.56	N: 632171.23, E: 1237570.69
L9	NA	18.75	N16° 54' 33.34"E	60+71.56	N: 632171.23, E: 1237570.69	60+90.31	N: 632189.17, E: 1237576.14
C8	23.30	5.00	N10° 26' 54.26"E	60+90.31	N: 632189.17, E: 1237576.14	60+95.31	N: 632194.08, E: 1237577.05



FL-FIN-MIL-SE
FL-FIN-MIL-NE
PLAN

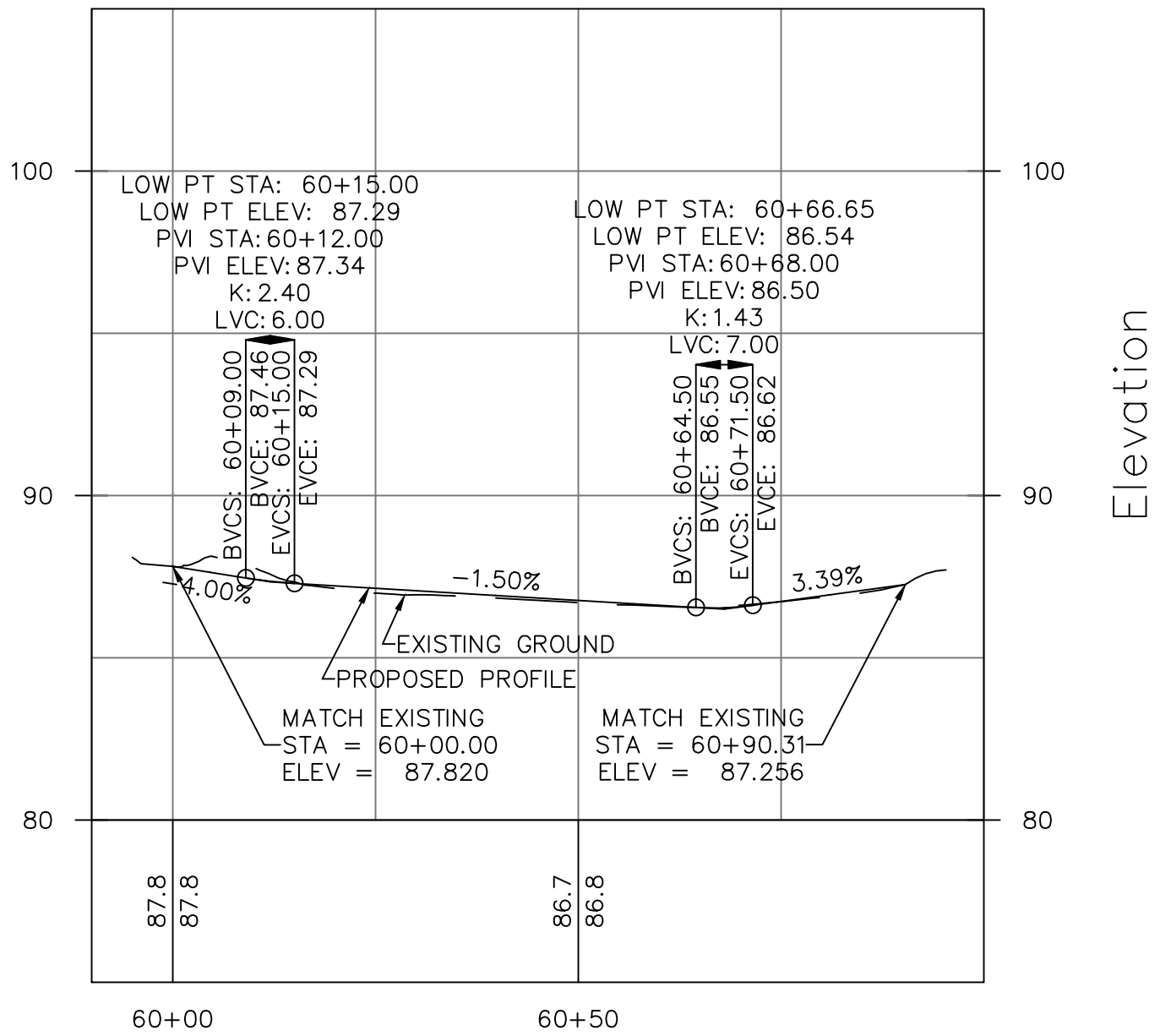
Station

Station



FL-FIN-MIL-SE
PROFILE

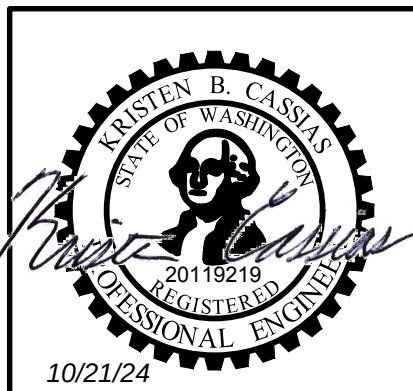
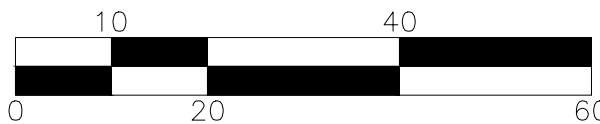
HORIZONTAL SCALE - 1" = 20'
VERTICAL SCALE - 1" = 5'



FL-FIN-MIL-NE
PROFILE

HORIZONTAL SCALE - 1" = 20'
VERTICAL SCALE - 1" = 5'

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FP03

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INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O.
CITY ENGINEER_M.L.W.
ASSISTANT DIRECTOR_M.A.O.

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SCALE
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DATUM
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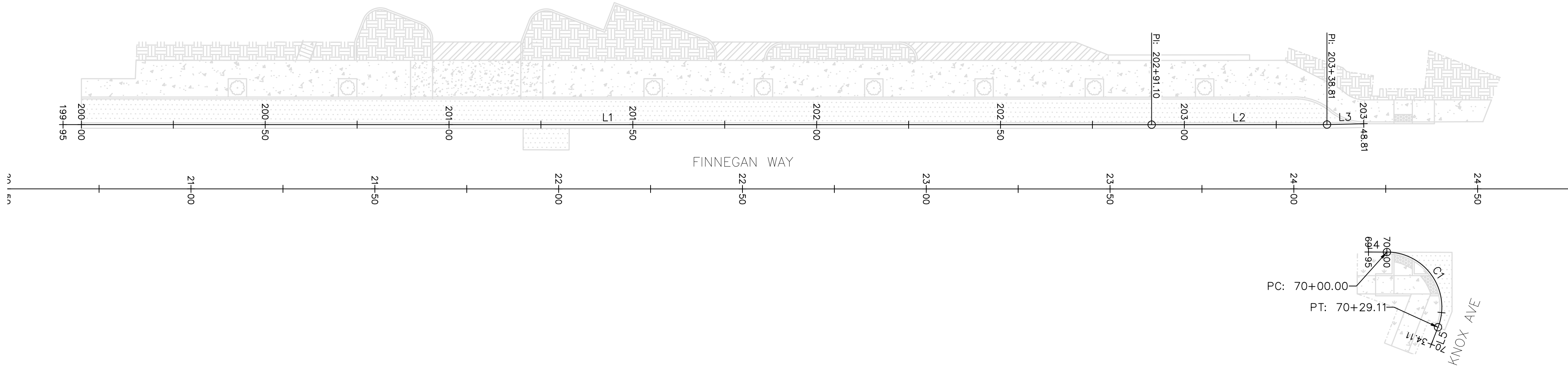
12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
FLOWLINE PROFILES

SHEET
26 OF
51

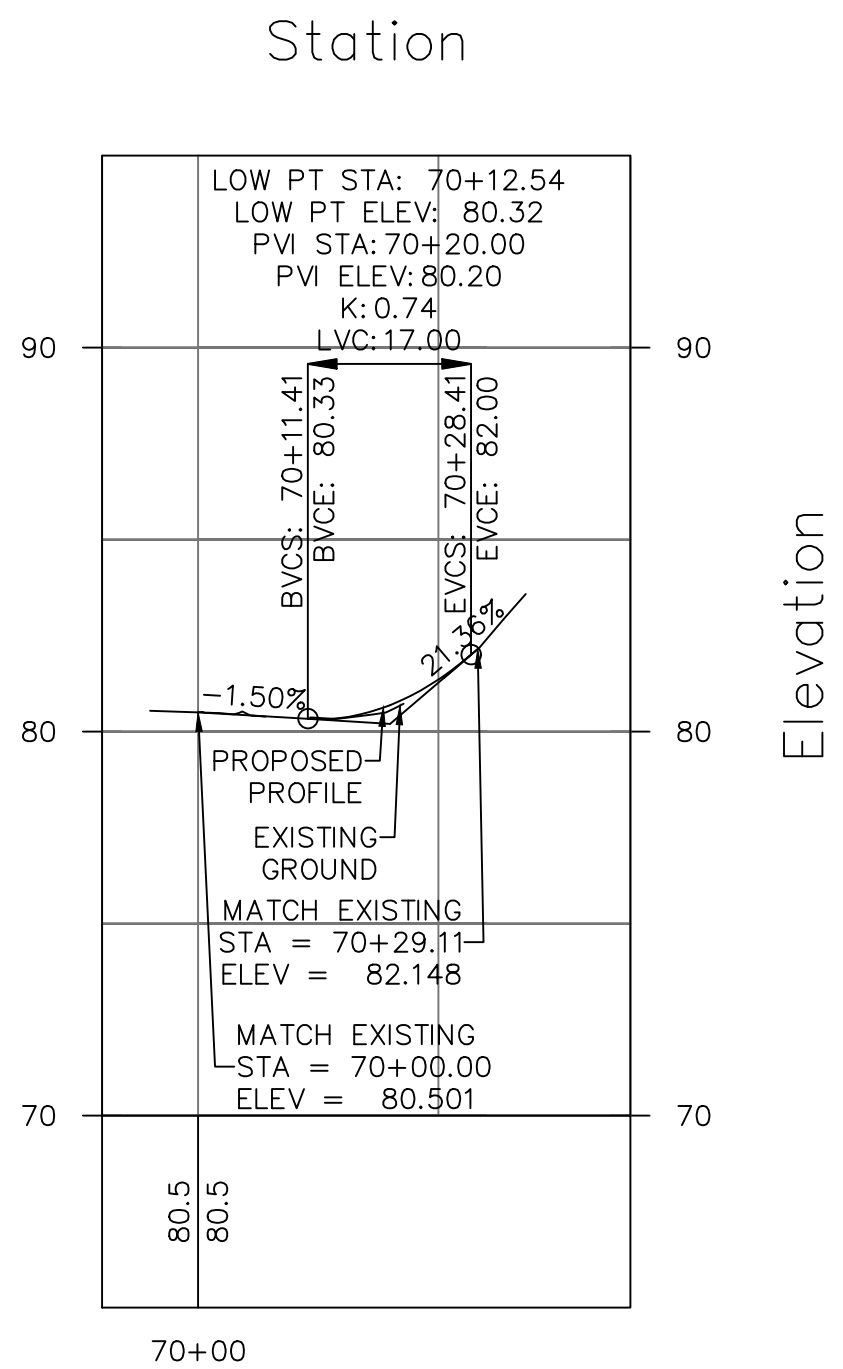
CONTACT PERSON: KYLE CARLSON, PROJECT ENGINEER AT (360) 778-7946

FL-FIN-VAL							
NUMBER	RADIUS	LENGTH	LINE/CHORD DIRECTION	BEGIN STATION	BEGIN N/E	END STATION	END N/E
L1	NA	296.10	N20° 11' 11.82"W	199+95.00	N: 632306.46, E: 1237489.98	202+91.10	N: 632584.37, E: 1237387.80
L2	NA	47.71	N20° 11' 53.00"W	202+91.10	N: 632584.37, E: 1237387.80	203+38.81	N: 632629.15, E: 1237371.33
L3	NA	10.00	N21° 36' 58.39"W	203+38.81	N: 632629.15, E: 1237371.33	203+48.81	N: 632638.45, E: 1237367.64

FL-FIN-KNO-SE							
NUMBER	RADIUS	LENGTH	LINE/CHORD DIRECTION	BEGIN STATION	BEGIN N/E	END STATION	END N/E
L4	NA	5.00	N19° 59' 50.59"W	69+95.00	N: 632651.72, E: 1237399.99	70+00.00	N: 632656.42, E: 1237398.28
C1	15.00	29.11	N35° 35' 58.40"E	70+00.00	N: 632656.42, E: 1237398.28	70+29.11	N: 632676.54, E: 1237412.69
L5	NA	5.00	S88° 48' 12.60"E	70+29.11	N: 632676.54, E: 1237412.69	70+34.11	N: 632676.44, E: 1237417.69

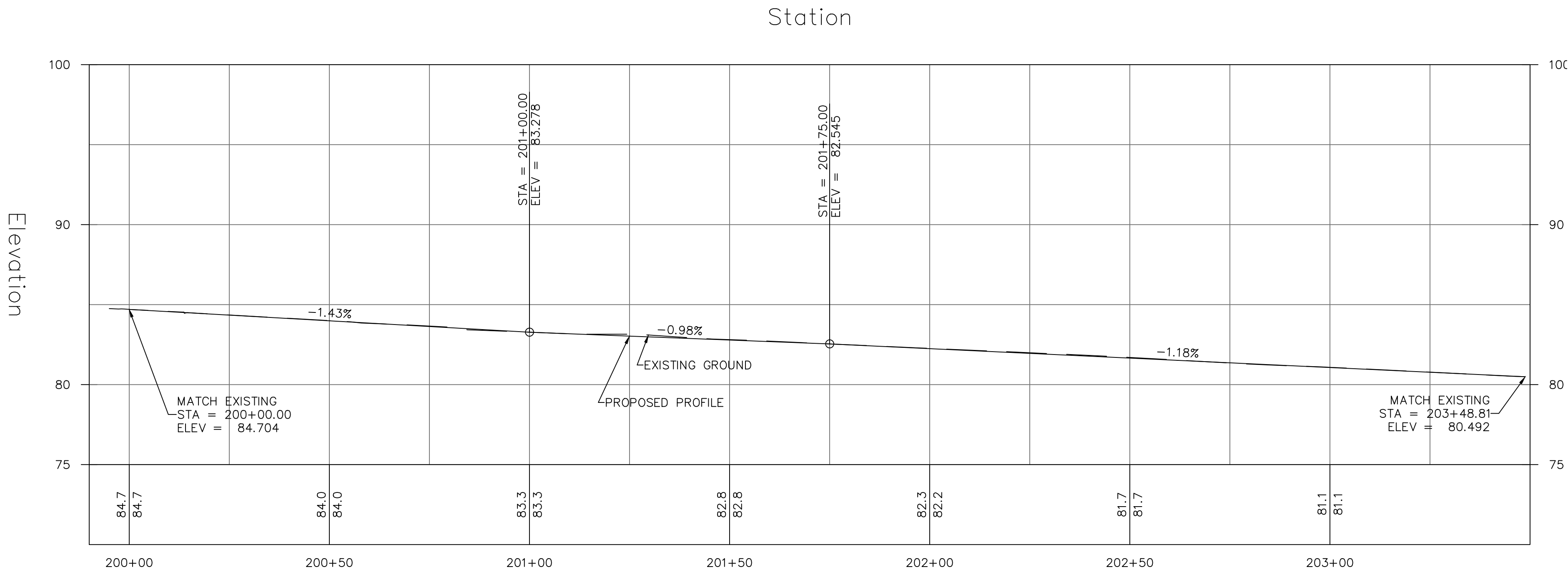


FL-FIN-VAL
FL-FIN-KNO-SE
PLAN



FL-FIN-KNO-SE
PROFILE

HORIZONTAL SCALE - 1" = 20'
VERTICAL SCALE - 1" = 5'

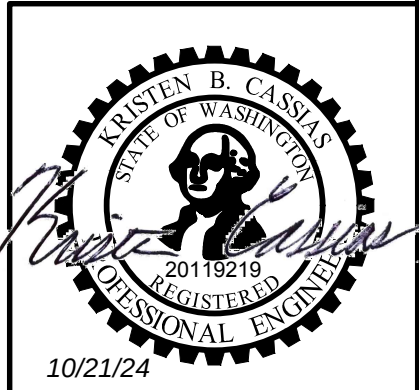
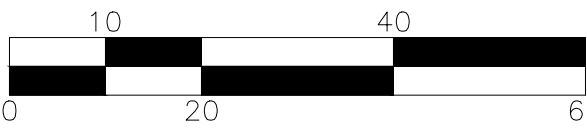


FL-FIN-VAL
PROFILE

HORIZONTAL SCALE - 1" = 20'
VERTICAL SCALE - 1" = 5'

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FP04

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DIRECTOR PUBLIC WORKS_M.A.O.
CITY ENGINEER_M.L.W.
ASSISTANT DIRECTOR_M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No.	ES566
Date	8/9/2024
Field Bk.	

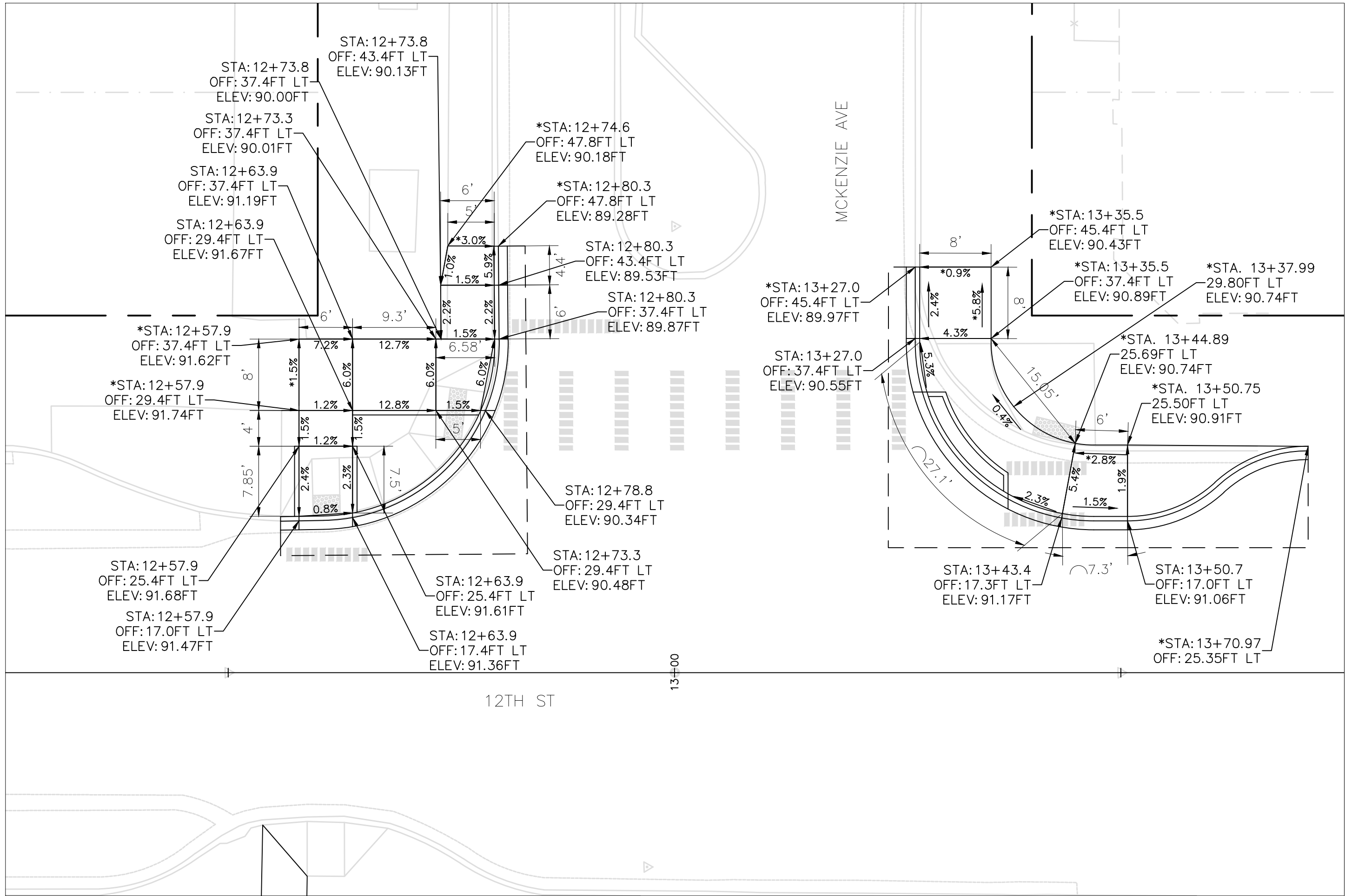
12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
FLOWLINE PROFILES

SHEET	27	OF
		51

CONTACT PERSON: KYLE CARLSON, PROJECT ENGINEER AT (360) 778-7946

CURB RAMP NOTES

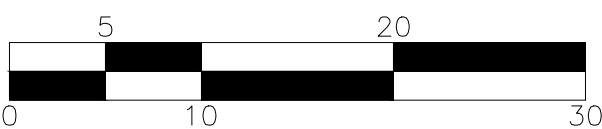
1. FIELD STAKE FINAL CURB, GUTTER, SIDEWALK, & CURB RAMP LOCATIONS TO BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. THE LOCATIONS & ELEVATIONS SHOWN ON THIS PLAN ARE APPROXIMATE & SUBJECT TO MINOR ADJUSTMENT BY THE ENGINEER TO ACHIEVE ADA-COMPLIANT CURB RAMP DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY CURB RAMP THAT CANNOT BE CONSTRUCTED TO FULL COMPLIANCE PRIOR TO PLACING CONCRETE. ANY WORK THAT IS COMPLETE THAT IS NON-COMPLIANT SHALL BE REMOVED & REPLACED AT THE CONTRACTOR'S EXPENSE. COMPLIANCE OF CURB RAMP SLOPES SHALL BE MEASURED WITH A 2FT MAXIMUM LENGTH LEVEL.
2. REMOVE CURB, GUTTER, & SIDEWALK TO NEAREST EXPANSION JOINT UNLESS OTHERWISE APPROVED BY THE ENGINEER.
3. ROADWAY RESTORATION AT NEW CURBS SHALL MAINTAIN POSITIVE DRAINAGE. CONTRACTOR TO VERIFY EXISTING SLOPES IN THE FIELD PRIOR TO REMOVAL OF EXISTING ROADWAY SURFACE.
4. ELEVATIONS ARE PROVIDED AT FLOWLINES. TOP OF CURB SHOULD BE +0.5FT WHERE FULL HEIGHT CURB IS IDENTIFIED ON THE PAVING PLANS.
5. * DENOTES EXISTING FACILITY HORIZONTAL/VERTICAL INFORMATION ACCORDING TO SURVEY & MAY VARY IN THE FIELD.



CURB RAMP DETAIL
12TH ST & MCKENZIE AVE



transpogroup **7T**
WHAT TRANSPORTATION CAN BE.
12131 113TH AVENUE NE, SUITE 203
KIRKLAND, WASHINGTON 98034
(TEL) 425 821-3665
(FAX) 425 825-8434



BID SUBMITTAL



PVD01

	4		
	3		
	2		
	1		
Date	No	Revision	By

PROJECT ENGINEER_KBC
DESIGNED/DRAWN_JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O.
CITY ENGINEER_M.L.W.
ASSISTANT DIRECTOR_M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

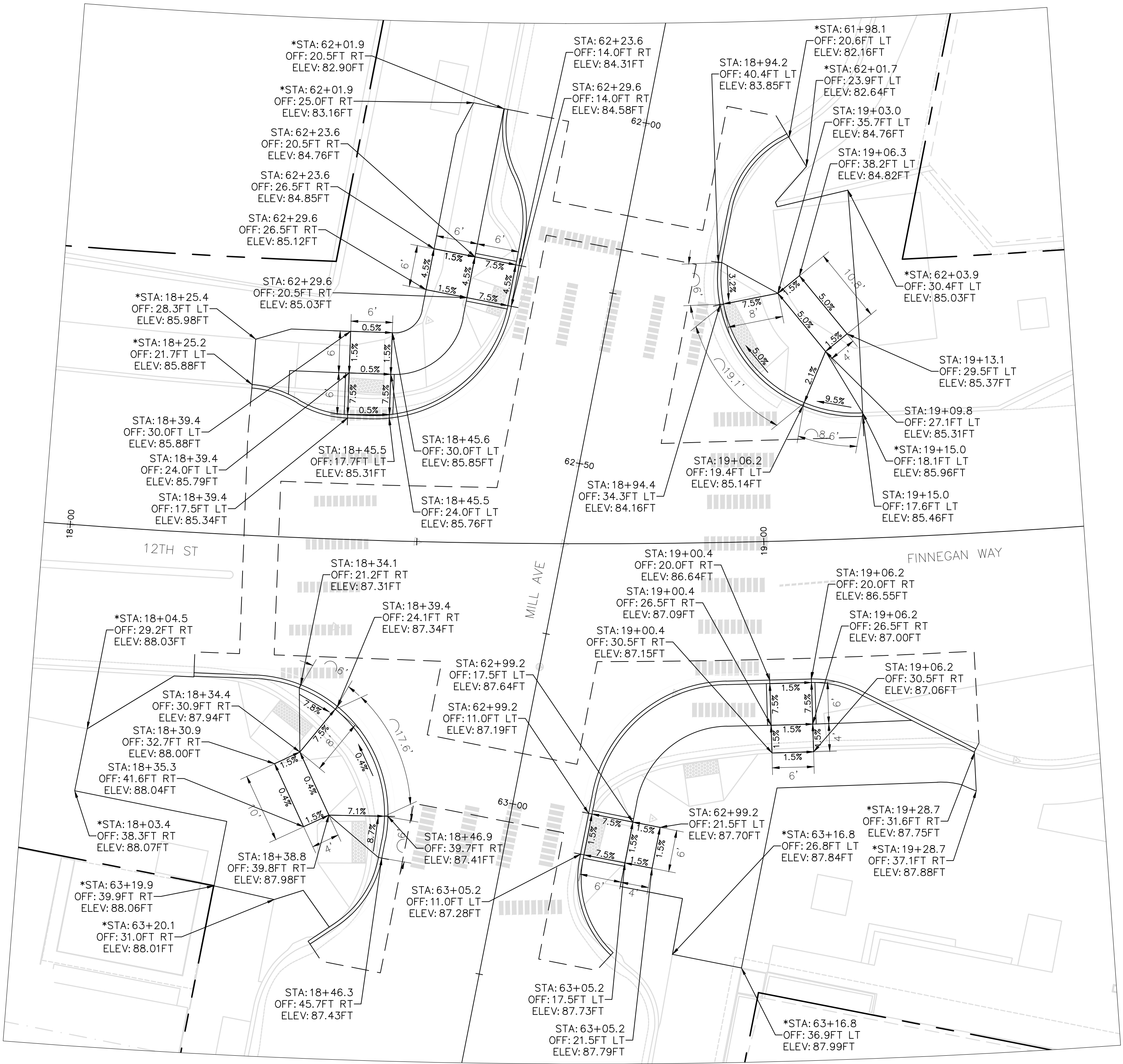
SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
PAVING DETAILS

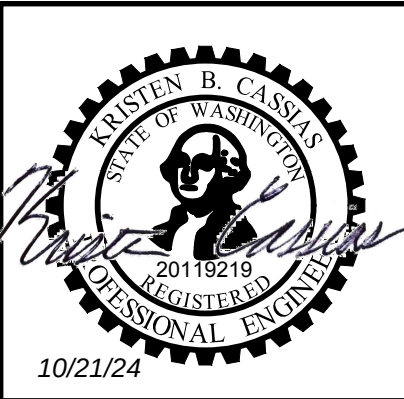
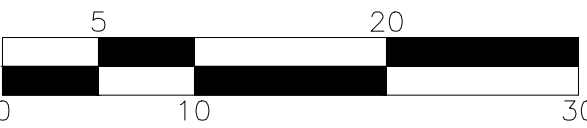
SHEET
28 OF
51



CURB RAMP DETAIL
12TH ST & MILL AVE

BID SUBMITTAL

811 Call 811
two business days
before you dig



transpogroup
WHAT TRANSPORTATION CAN BE.
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KIRKLAND, WASHINGTON 98034
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(FAX) 425 825-8434

PVD02

SHEET 29	OF 51
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4			
3			
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Date	No	Revision	By

PROJECT ENGINEER_KBC
DESIGNED/DRAWN_JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O.
CITY ENGINEER_M.L.W.
ASSISTANT DIRECTOR_M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

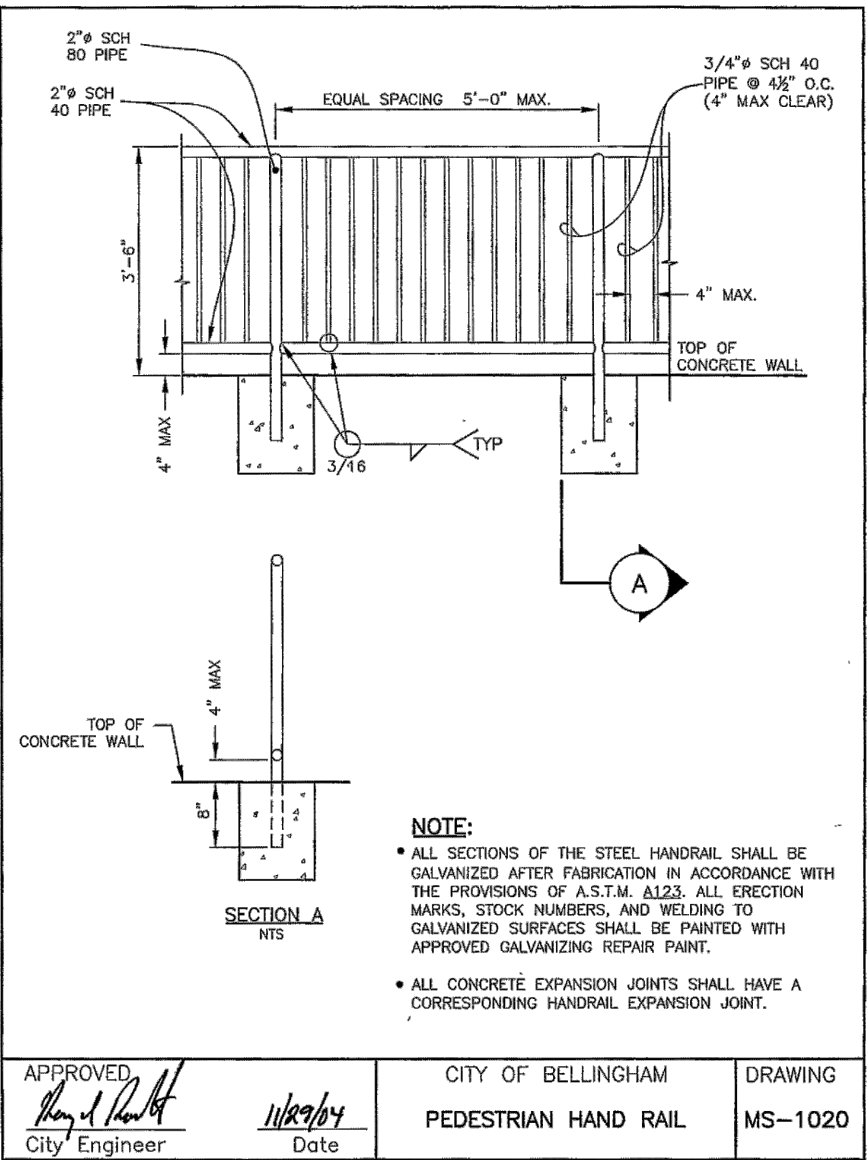
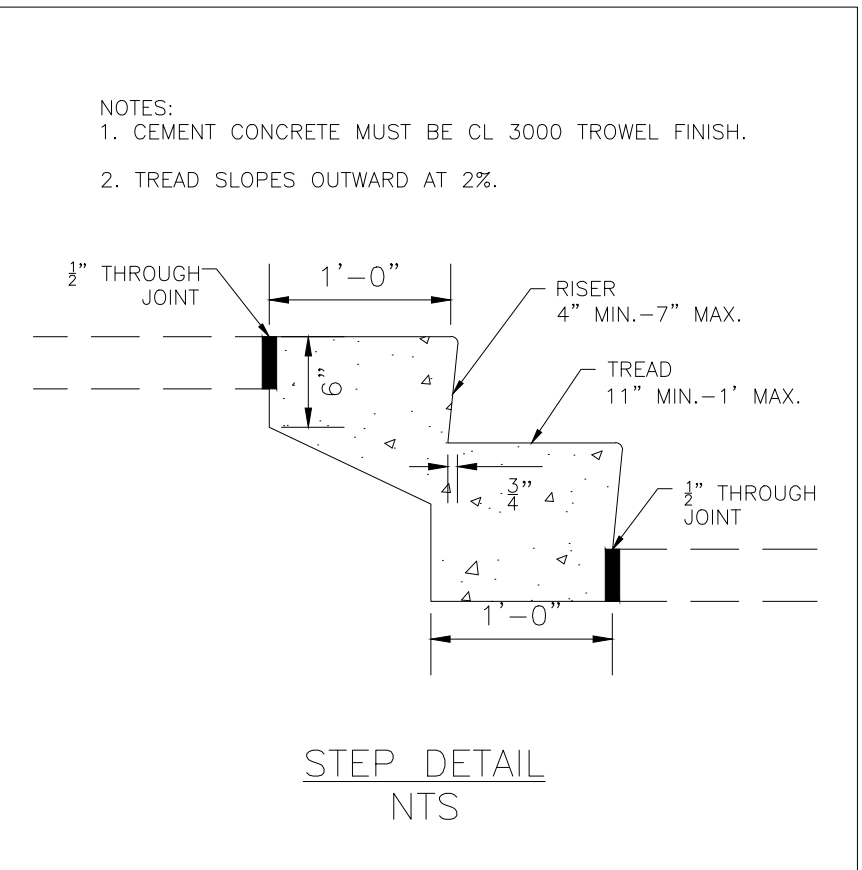
12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
PAVING DETAILS

CURB RAMP NOTES

1. SEE SHEET PVD01 FOR CURB RAMP NOTES.

CURB RAMP CONSTRUCTION NOTES

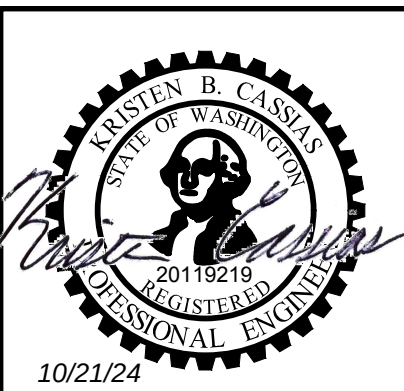
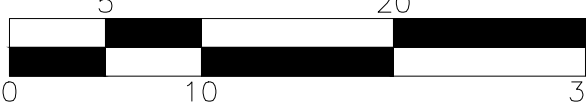
- ① CONSTRUCT STAIRS WITH HANDRAIL PER STEP DETAIL & COB STD. PLAN MS-1020. HANDRAIL TO EXTEND 1FT BEYOND FIRST & LAST RISER NOSING.



CURB RAMP DETAIL
FINNEGAN WAY & BRIAN GRIFFIN LN

CURB RAMP DETAIL
FINNEGAN WAY & KNOX AVE

BID SUBMITTAL



transpogroup **7T**
WHAT TRANSPORTATION CAN BE.

12131 113TH AVENUE NE, SUITE 203
KIRKLAND, WASHINGTON 98034

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(FAX) 425 825-8434

PVD03

4			
3			
2			
1			
Date	No	Revision	By

PROJECT ENGINEER KBC
DESIGNED/DRAWN JK/IN/TK
INSPECTOR

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CITY ENGINEER M.L.W.
ASSISTANT DIRECTOR M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

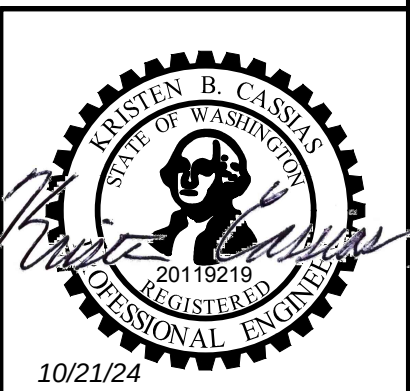
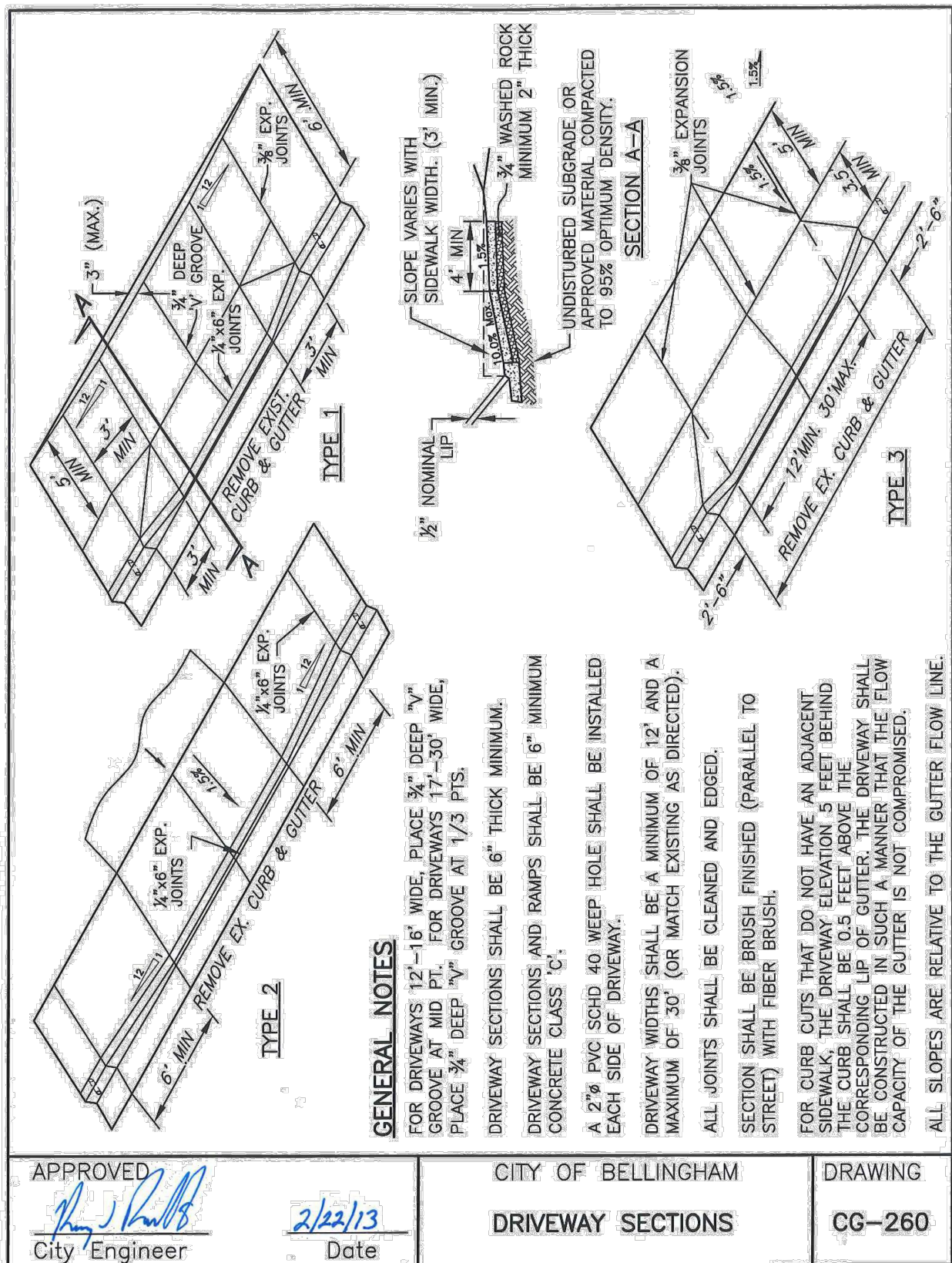
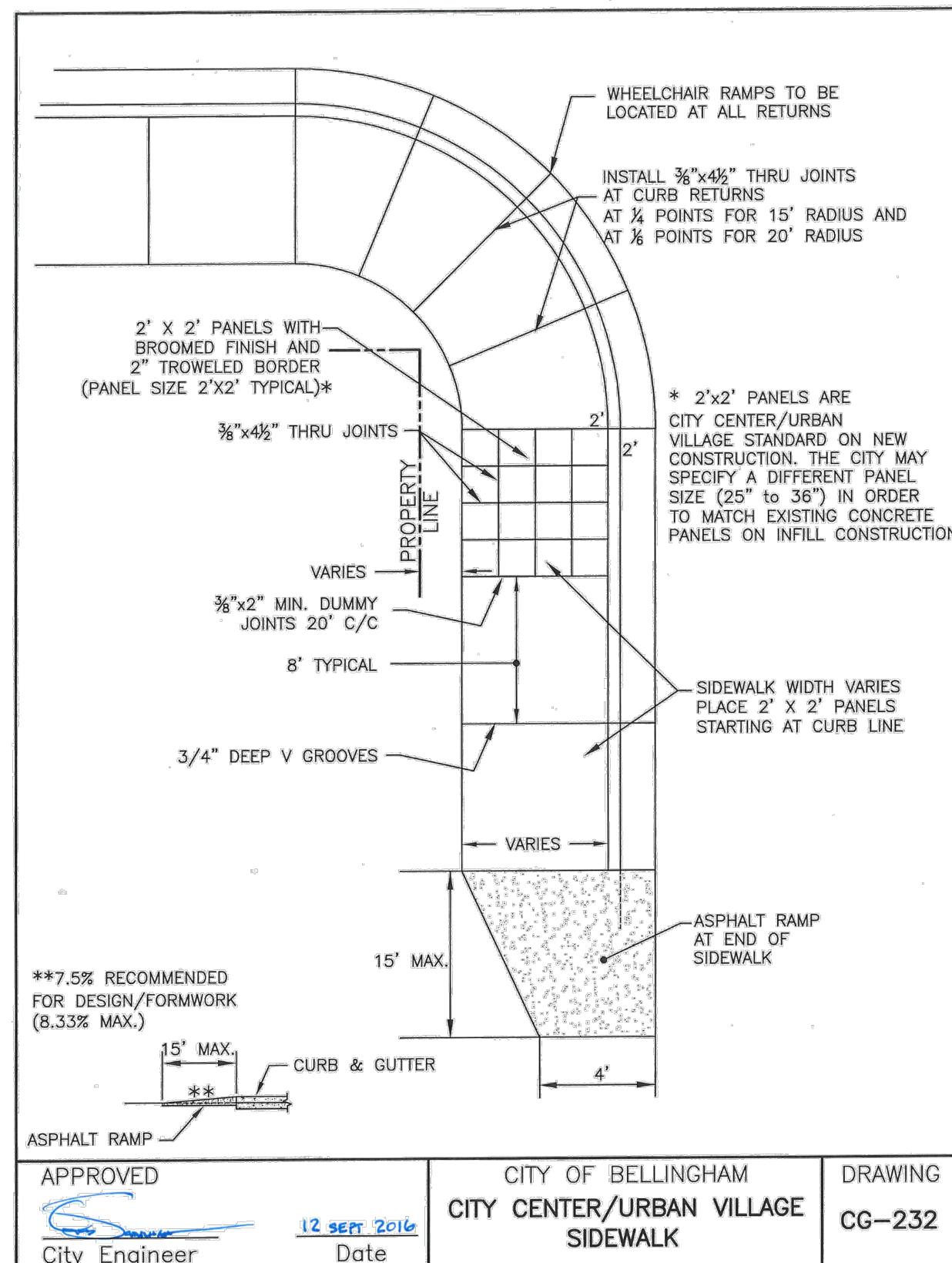
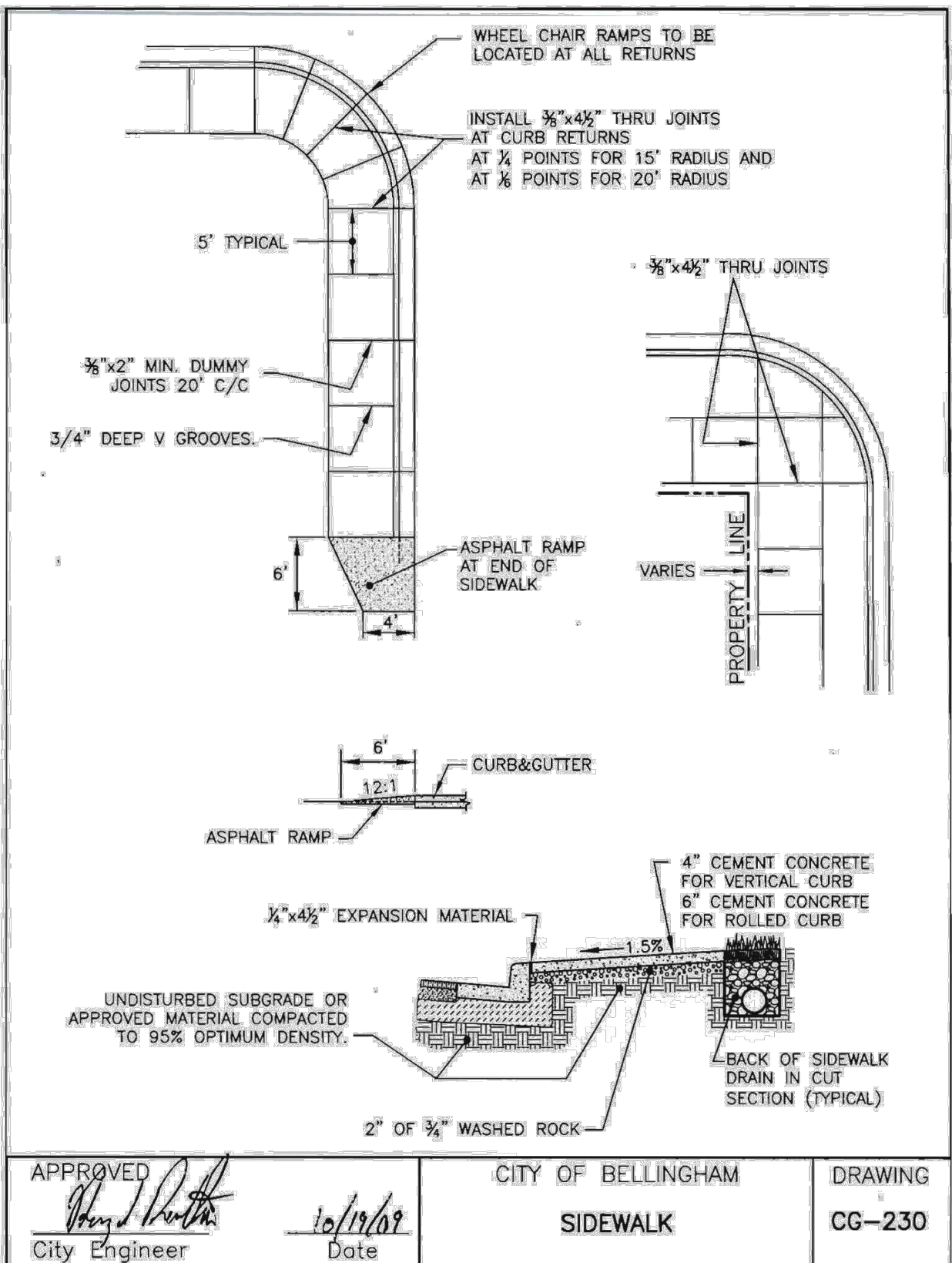
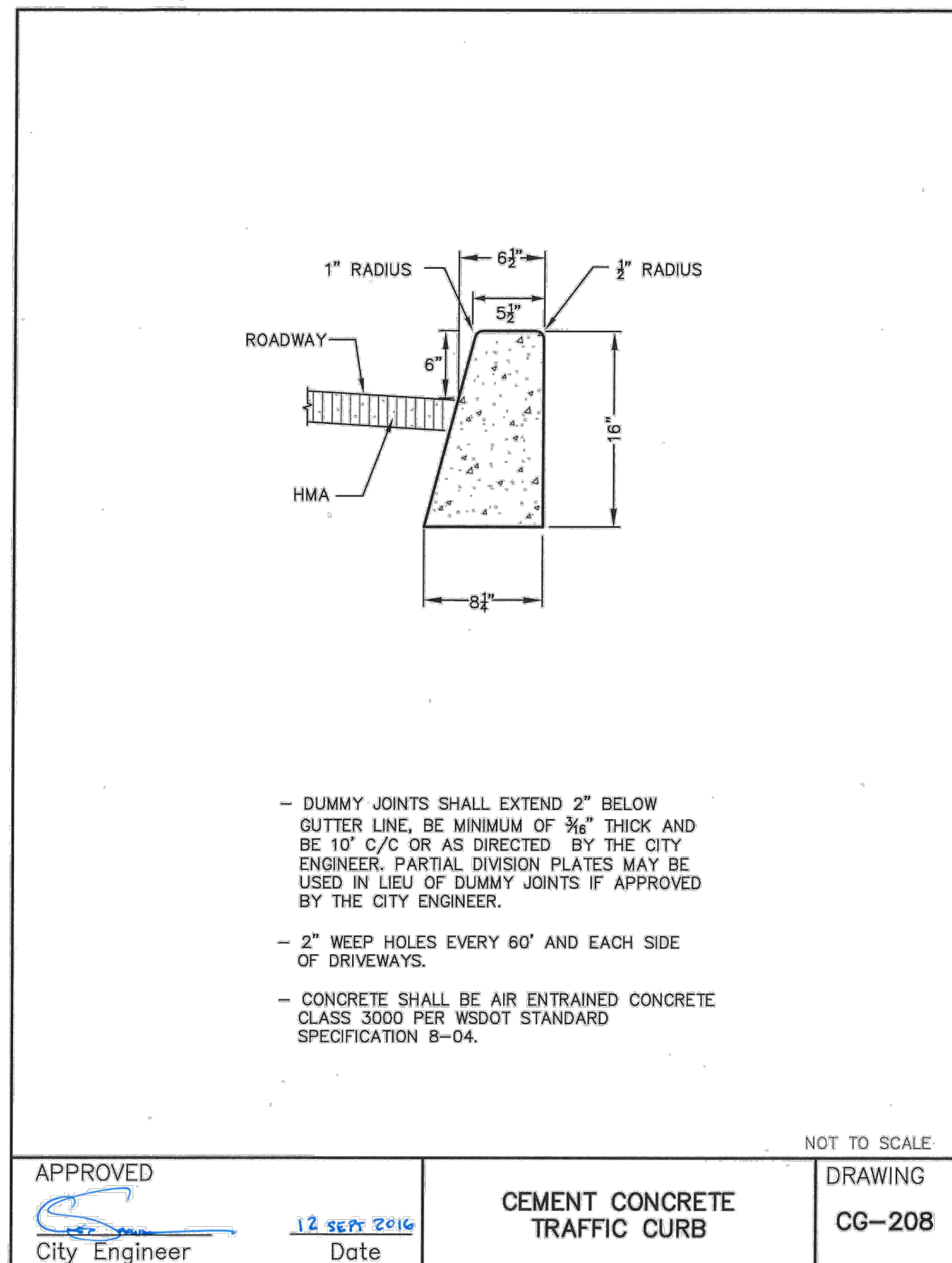
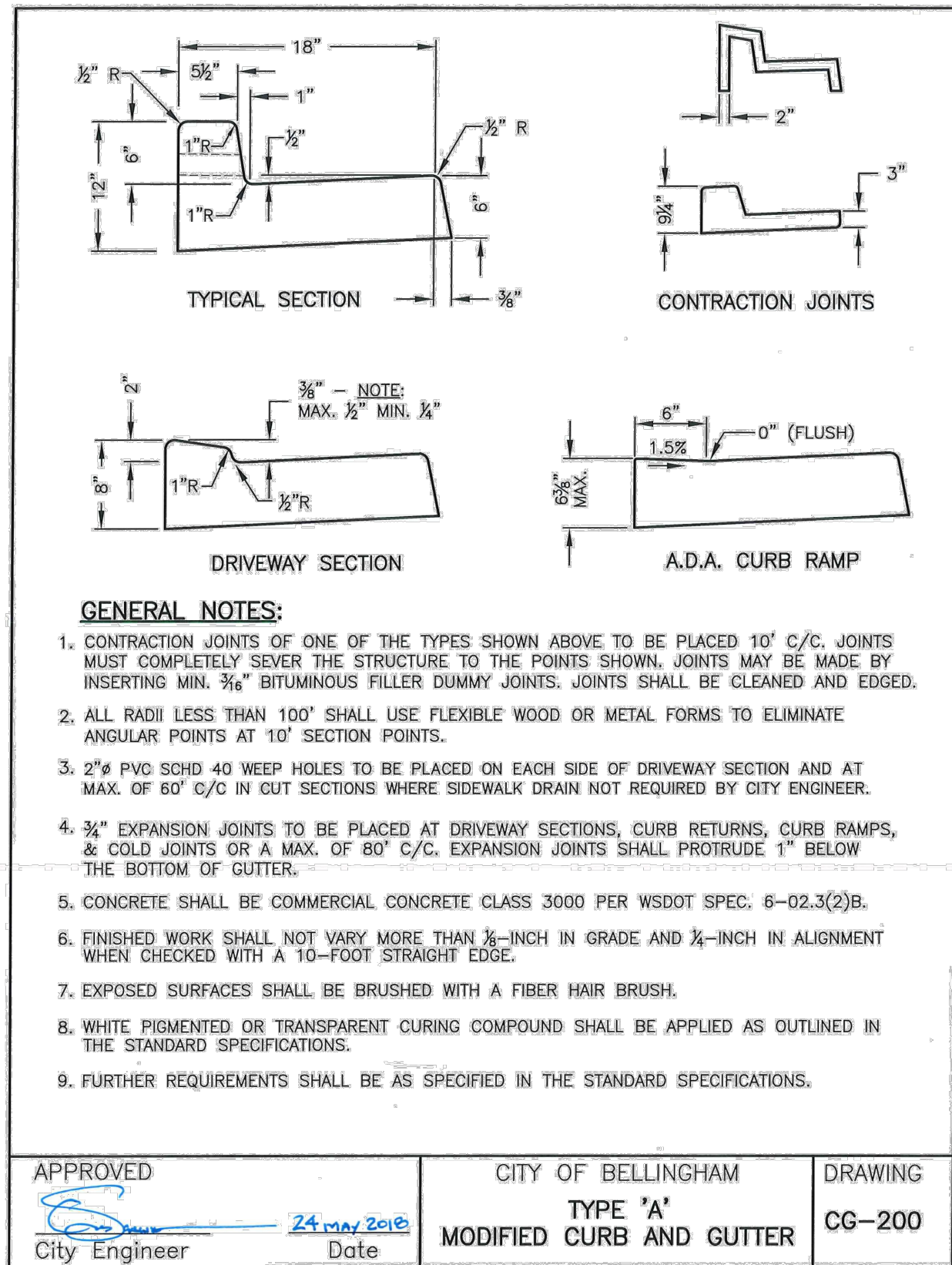
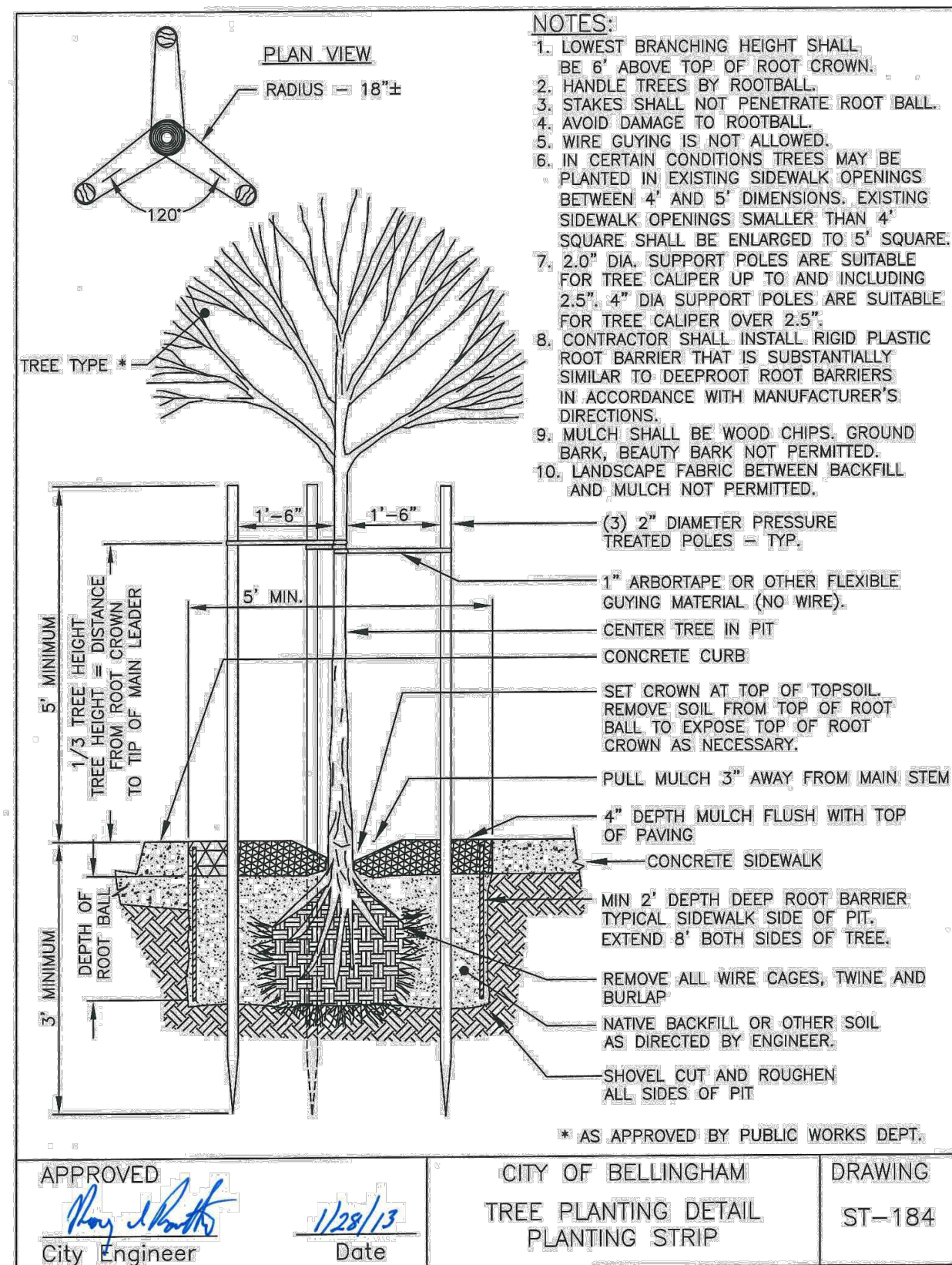
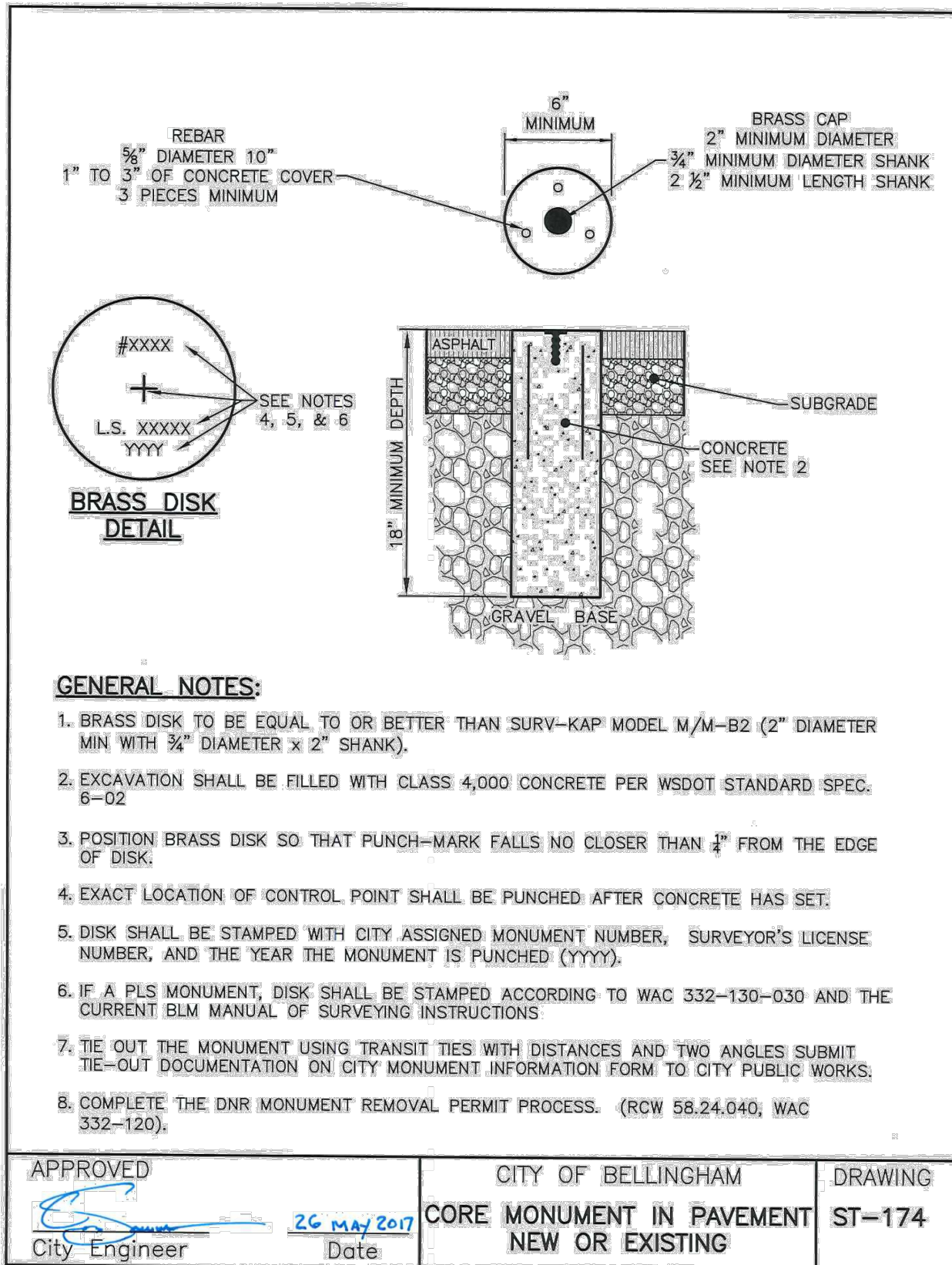
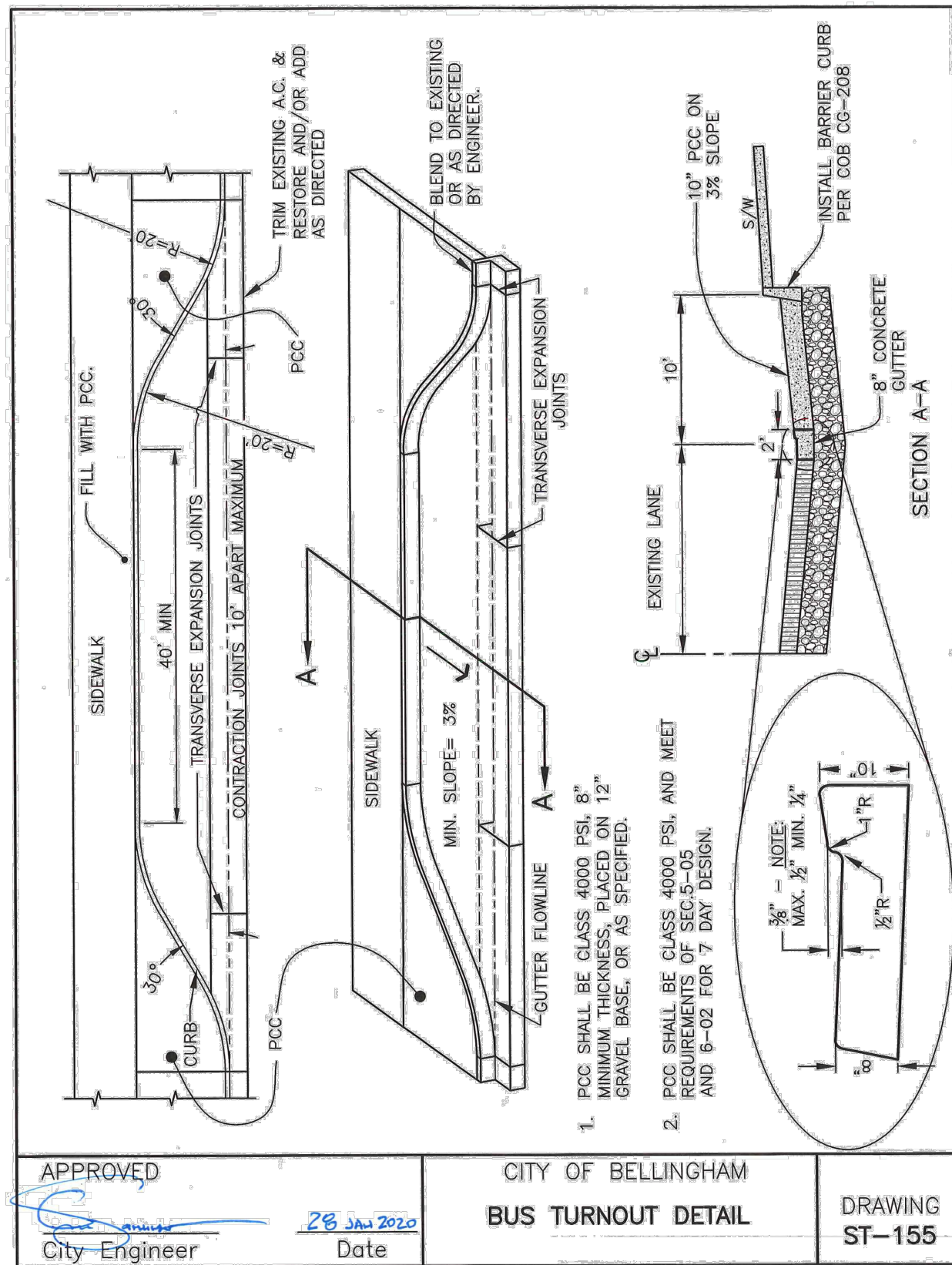
SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
PAVING DETAILS

SHEET
30 OF
51



transpogroup 7T
WHAT TRANSPORTATION CAN BE

12131 113TH AVENUE NE, SUITE 203
KIRKLAND, WASHINGTON 98034
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(FAX) 425 825-8434

PVD04

4			
3			
2			
1			
Date	No	Revision	By

PROJECT ENGINEER_KBC
DESIGNED/DRAWN_JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O.
CITY ENGINEER_M.L.W.
ASSISTANT DIRECTOR_M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

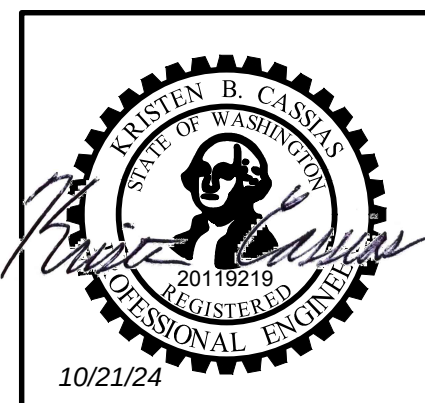
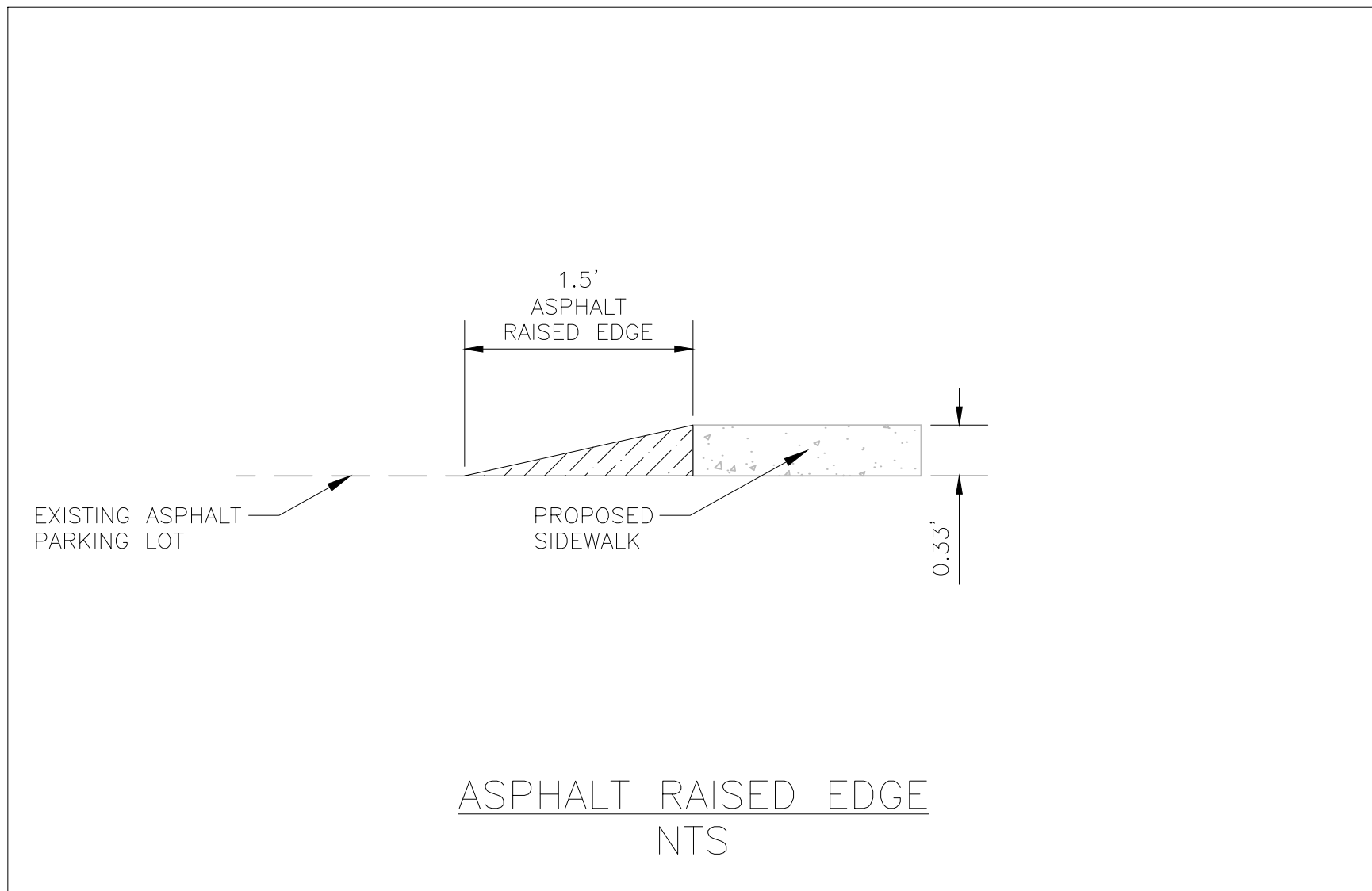
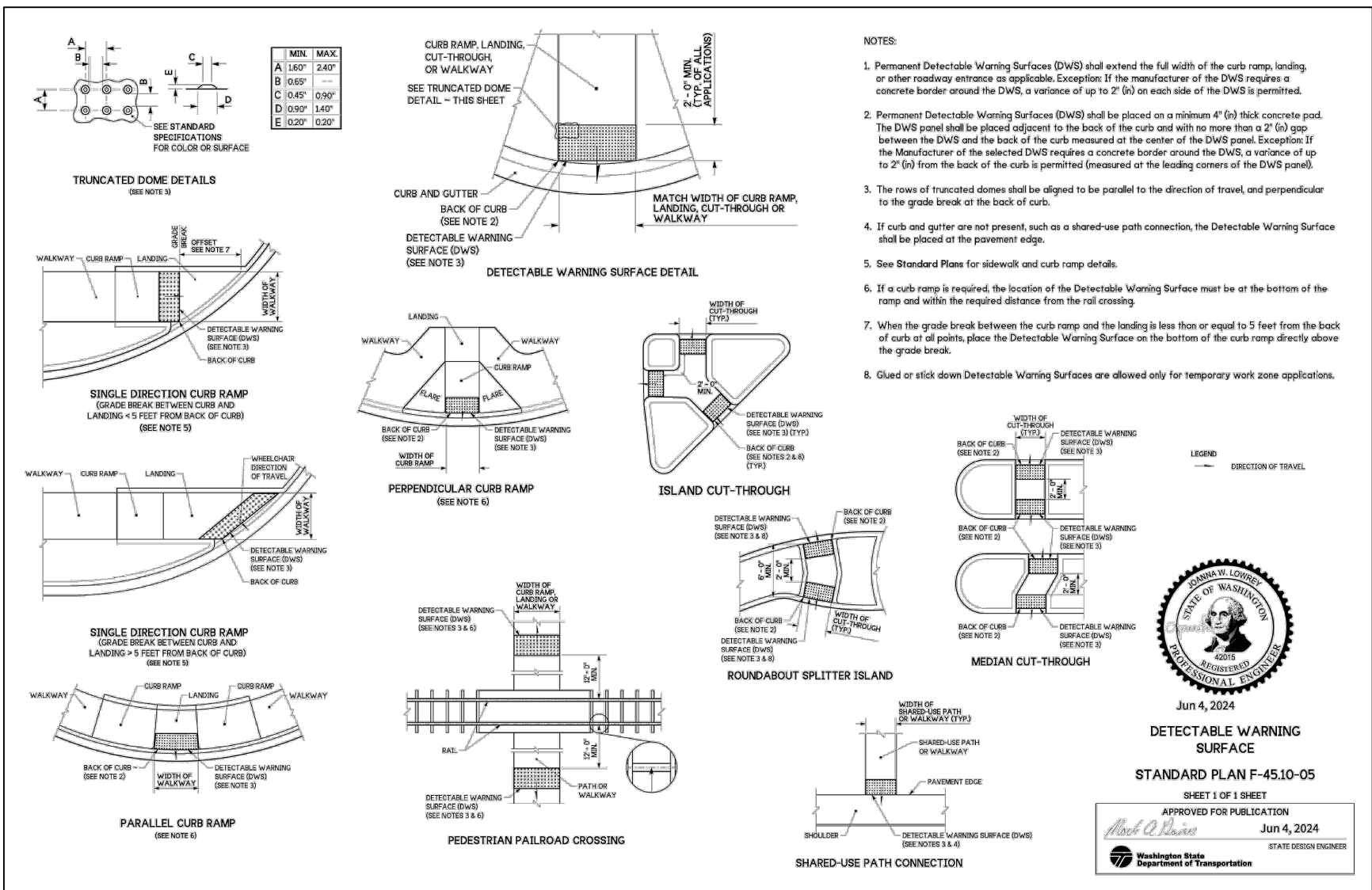
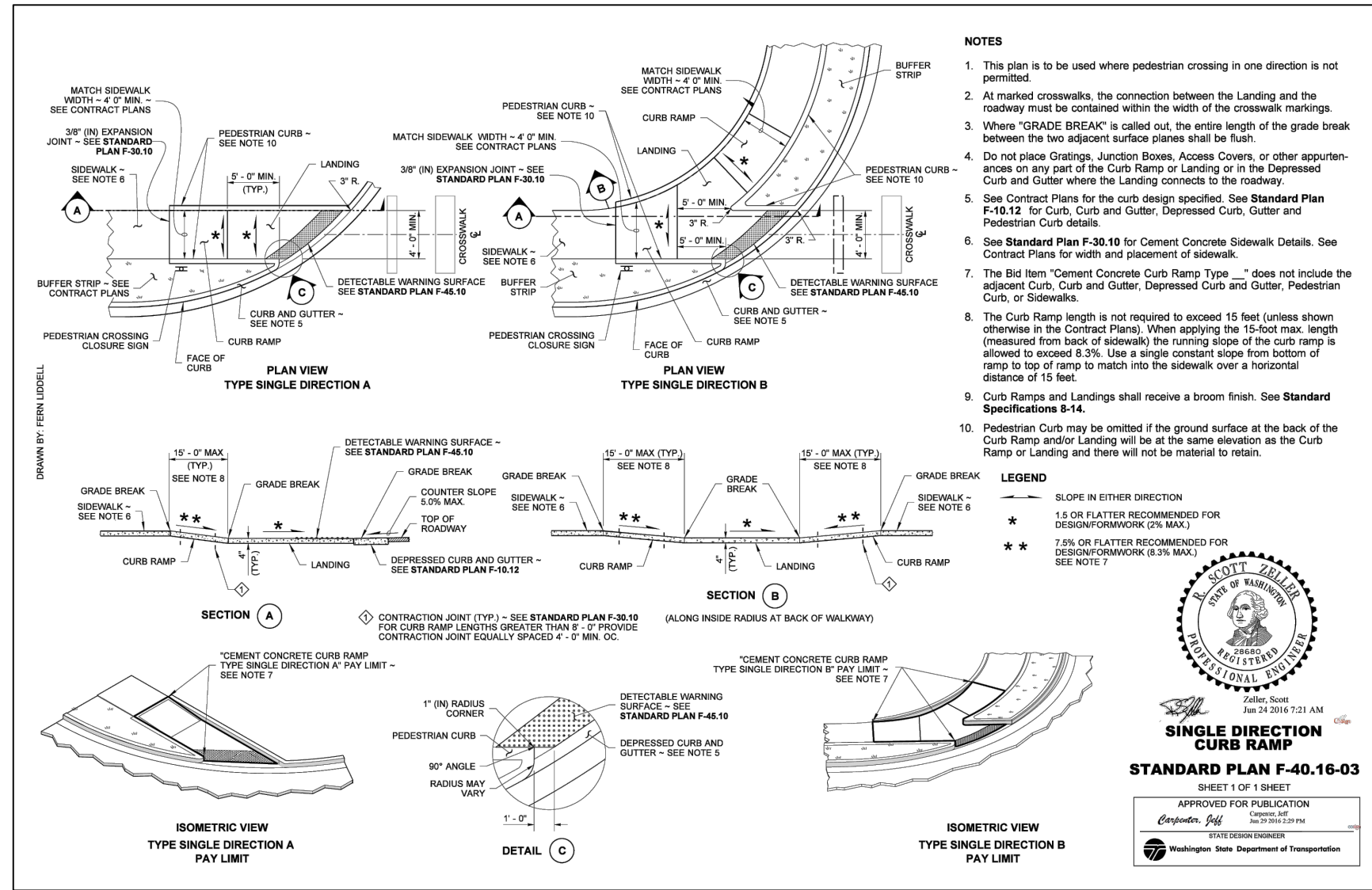
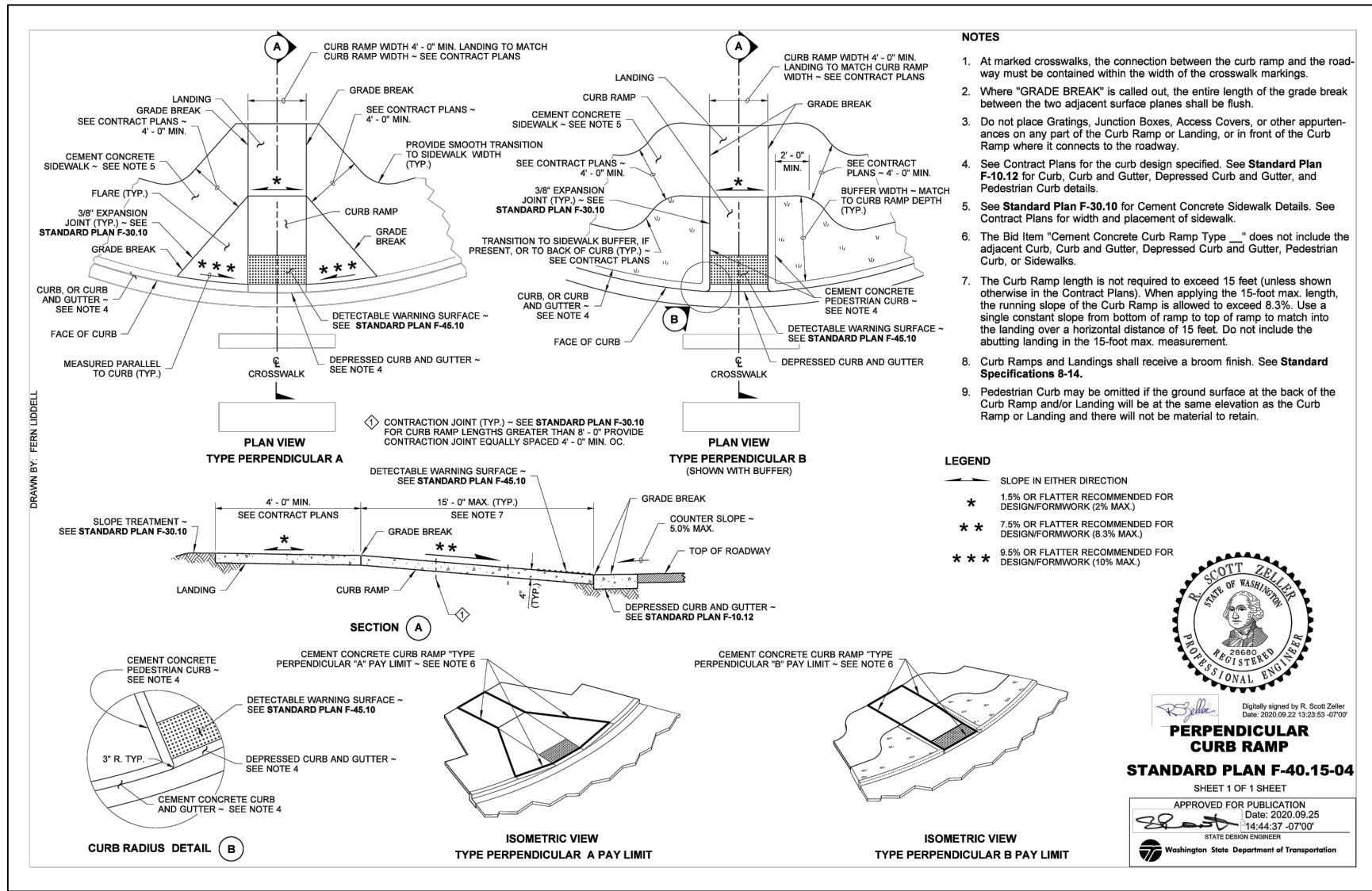
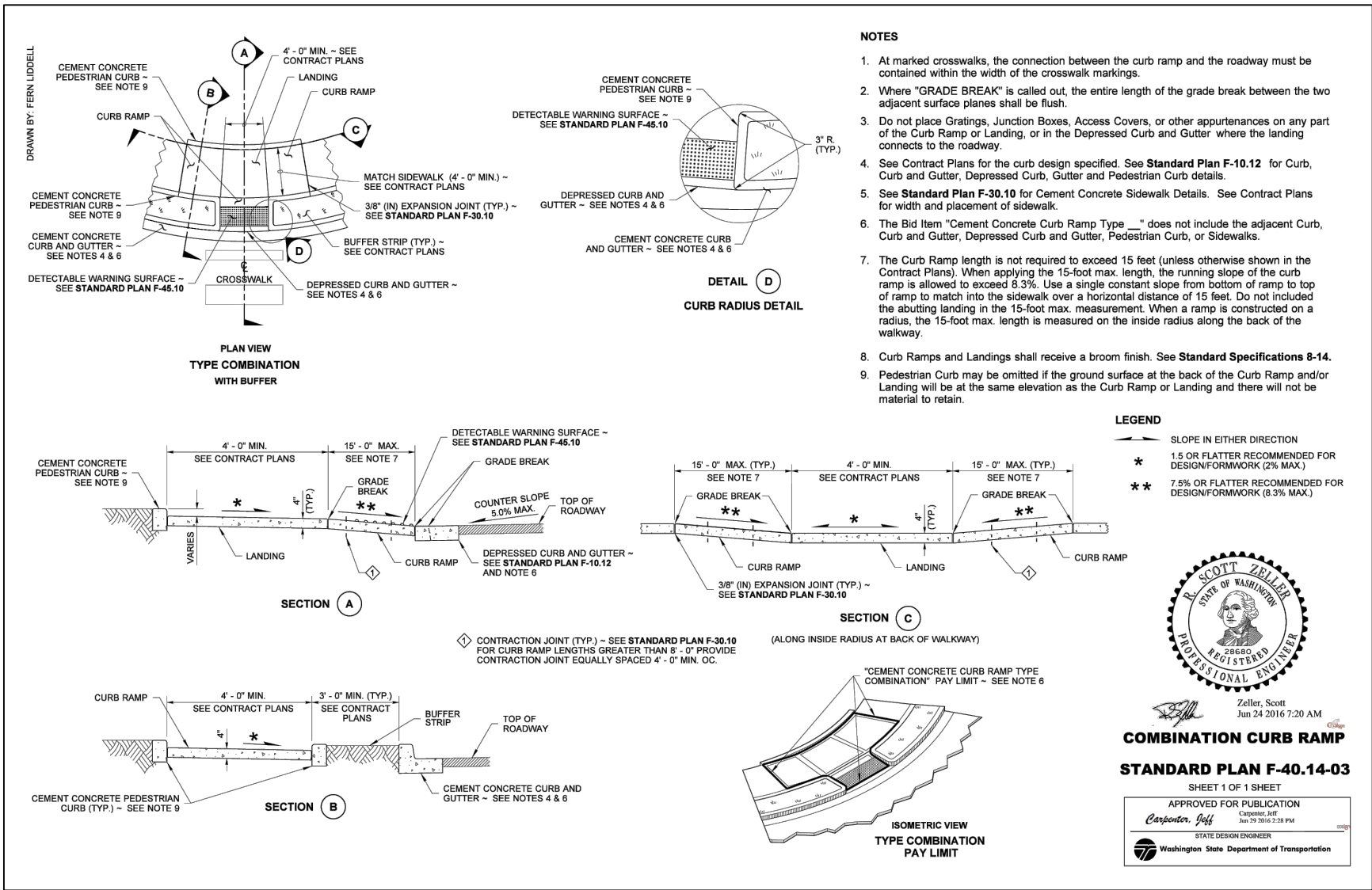
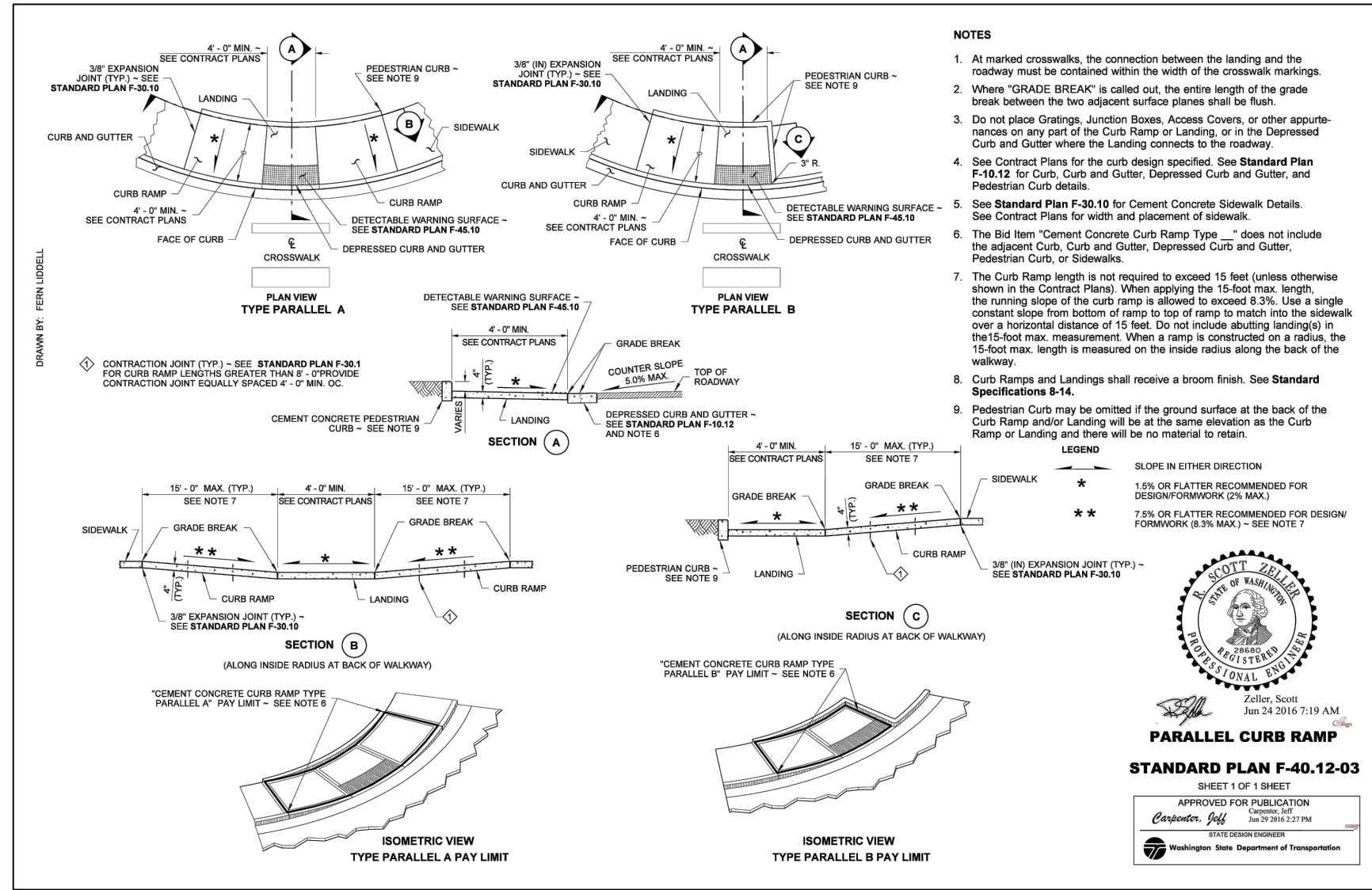
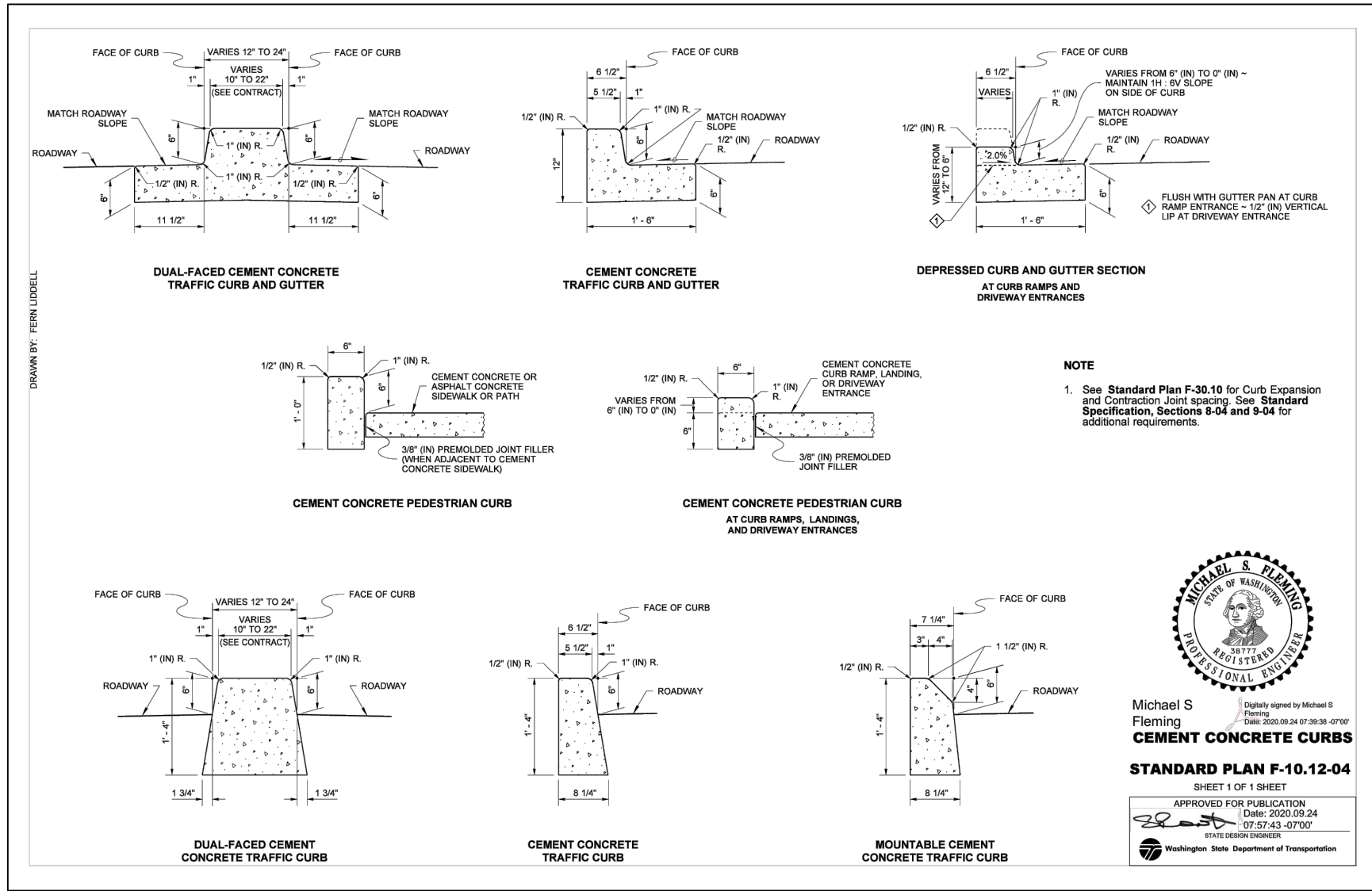
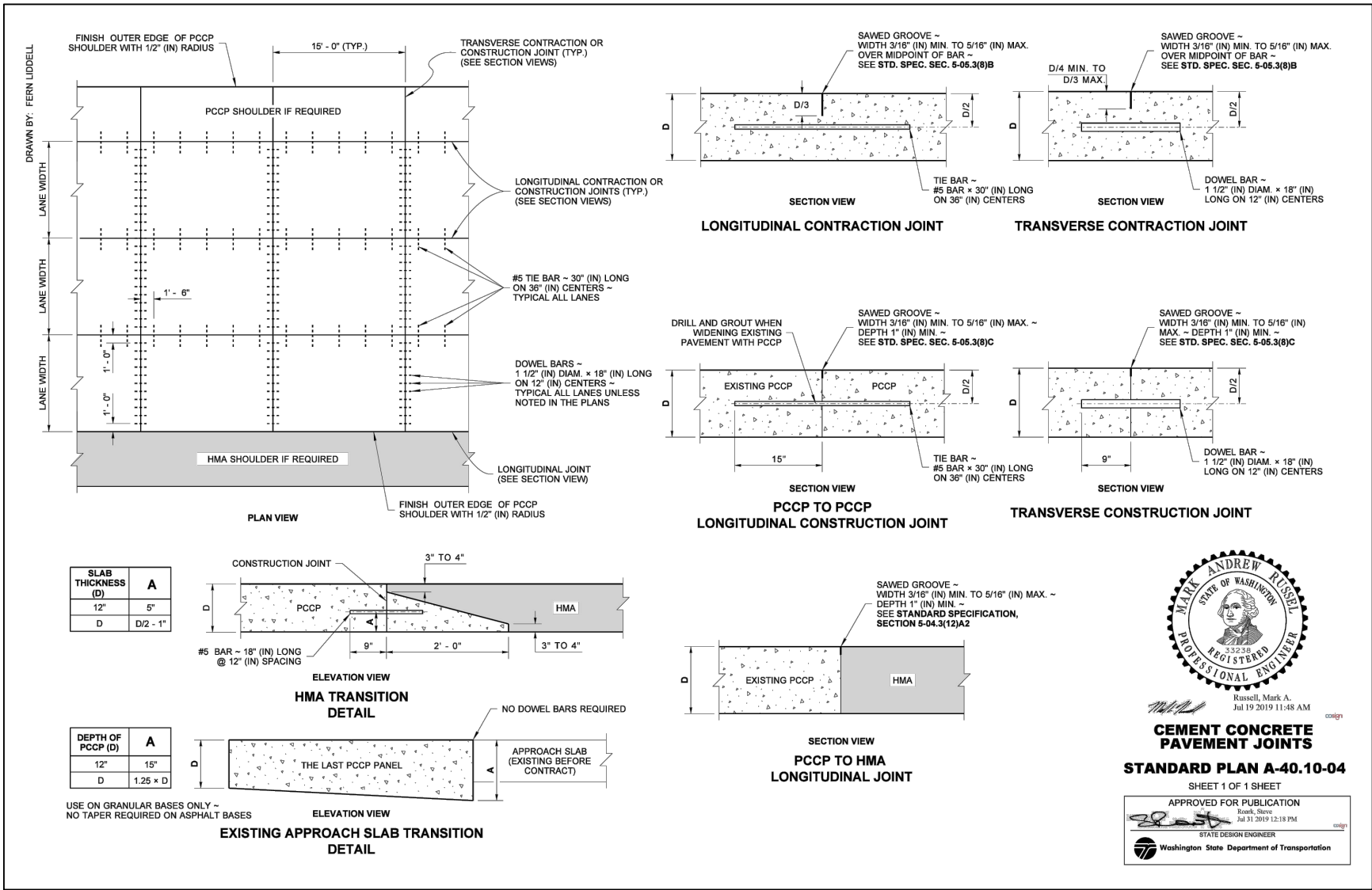
12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
PAVING DETAILS

SHEET 31 OF 51

CONTACT PERSON: KYLE CARLSON, PROJECT ENGINEER AT (360) 778-7946

BID SUBMITTAL

811 Call 811
two business days
before you dig



10/21/24

transpogroup 7T
WHAT TRANSPORTATION CAN BE

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(FAX) 425 825-8434

PVD05

4			
3			
2			
1			
Date	No	Revision	By

PROJECT ENGINEER_KBC
DESIGNED/DRAWN_JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O.
CITY ENGINEER_M.L.W.
ASSISTANT DIRECTOR_M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS

PAVING DETAILS

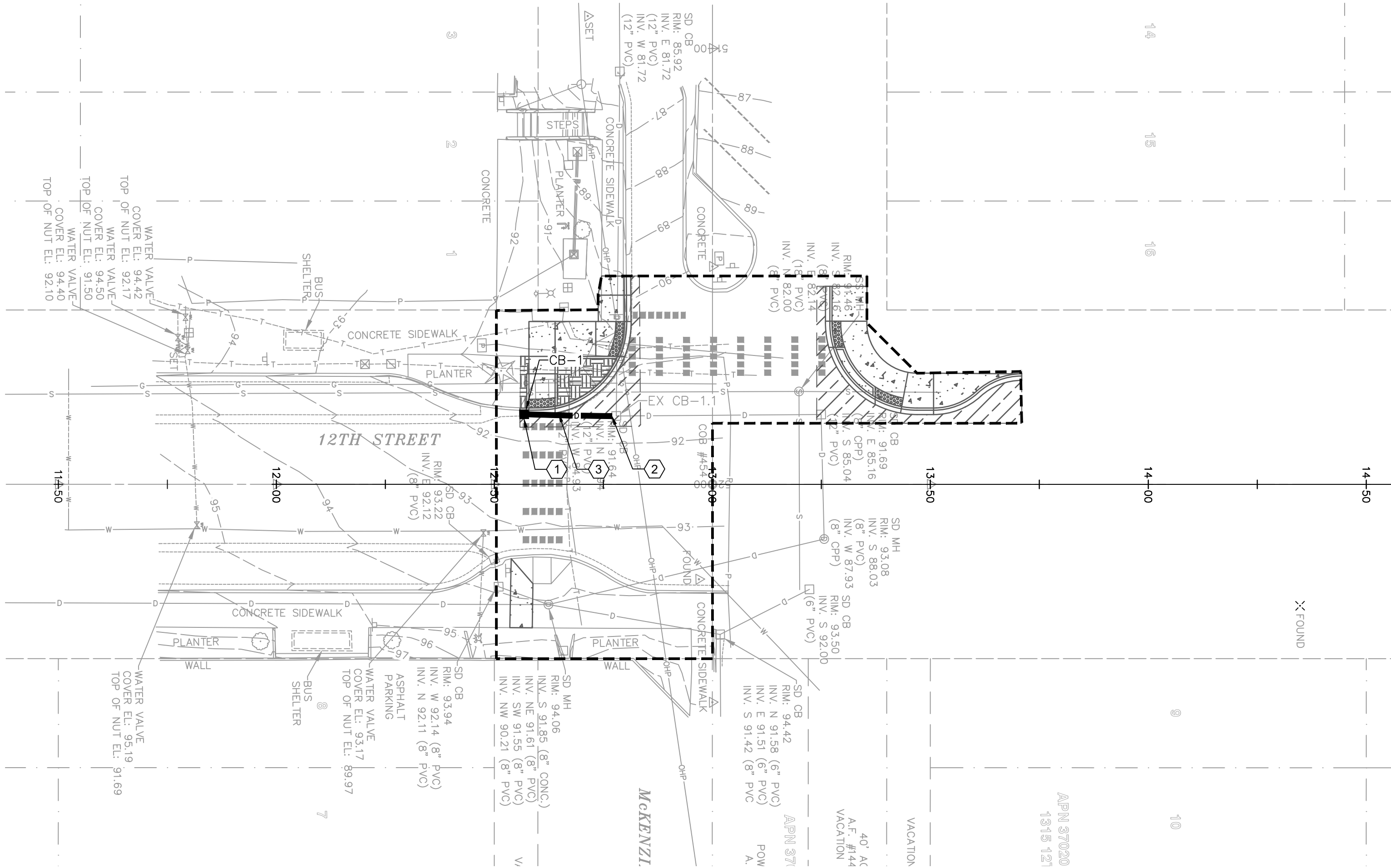
SHEET 32 OF 51

CONTACT PERSON: KYLE CARLSON , PROJECT ENGINEER AT (360) 778-7946

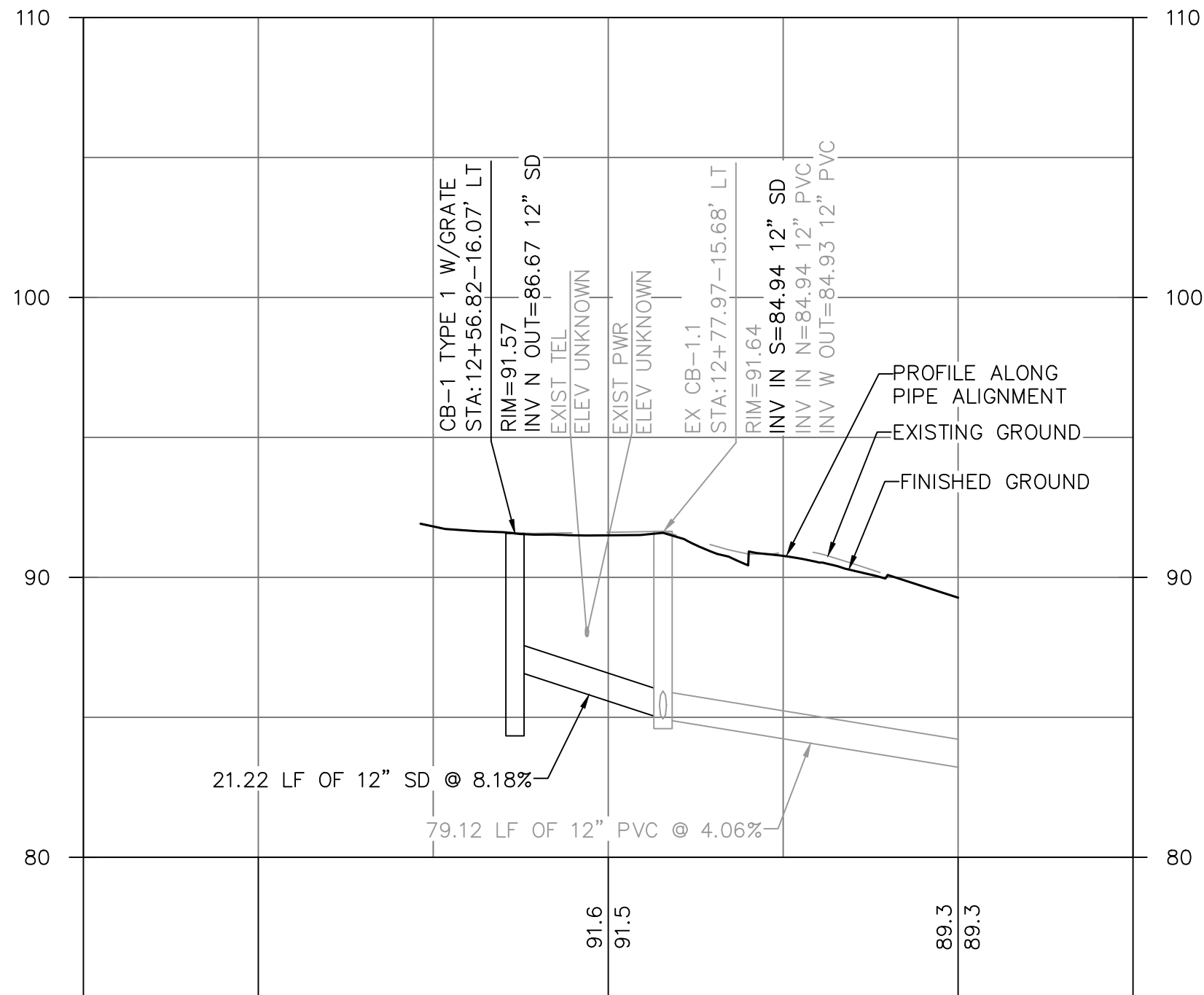
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two business days
before you dig

SEC. 01, T. 37 N., R. 02 E., W.M.



PLAN VIEW- 12TH ST & MCKENZIE AVE



PROFILE VIEW

NOTES

- SEE INDEX OF SHEETS TO REFERENCE GENERAL NOTES, TESC NOTES, LEGEND, DEMOLITION, TYPICAL SECTIONS, PAVING, AND DETAILS.

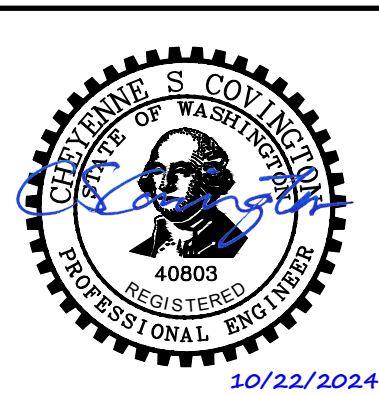
CONSTRUCTION NOTES

- INSTALL TYPE 1 CATCH BASIN PER WSDOT STANDARD PLAN B-5.20-03. INSTALL ADA GRATE AND FRAME PER WSDOT STANDARD PLANS B-30.10-03. AND B-30.15-00.
- CORE DRILL FOR CONNECTION TO EXISTING CATCH BASIN.
- INSTALL STORM DRAIN AND BEDDING PER COB STANDARD PLAN DR-538.

LEGEND

STORM DRAINAGE PIPE

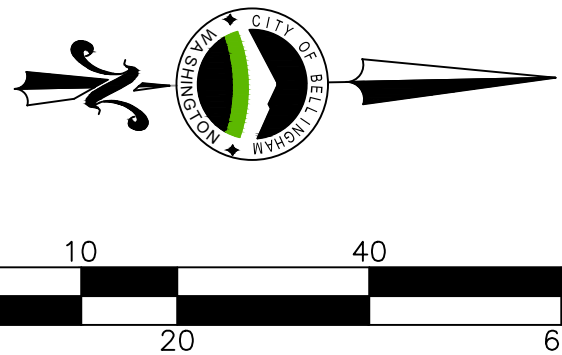
CATCH BASIN TYPE 1



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(FAX) 425 825-8434

Osborn
Consulting

DR01



4			
3			
2			
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Date	No	Revision	By

PROJECT ENGINEER BAS
DESIGNED/DRAWN MRW/JK/TN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS ECJ
CITY ENGINEER CMAS
ASSISTANT DIRECTOR MAO

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. 1"=20'
Vert. 1"=5'

DATUM
NAD 83/98
NAVD 88

Job. No. ES-566
Date 10/4/2024
Field Bk.

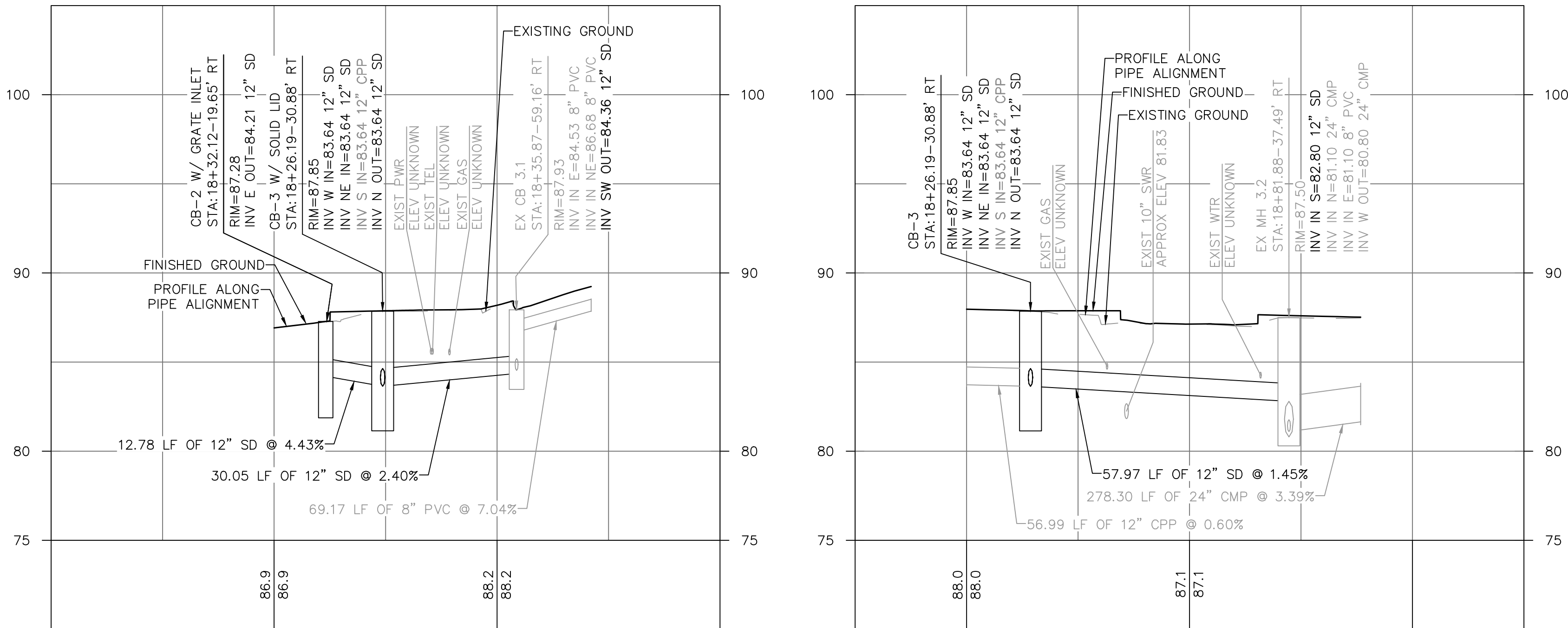
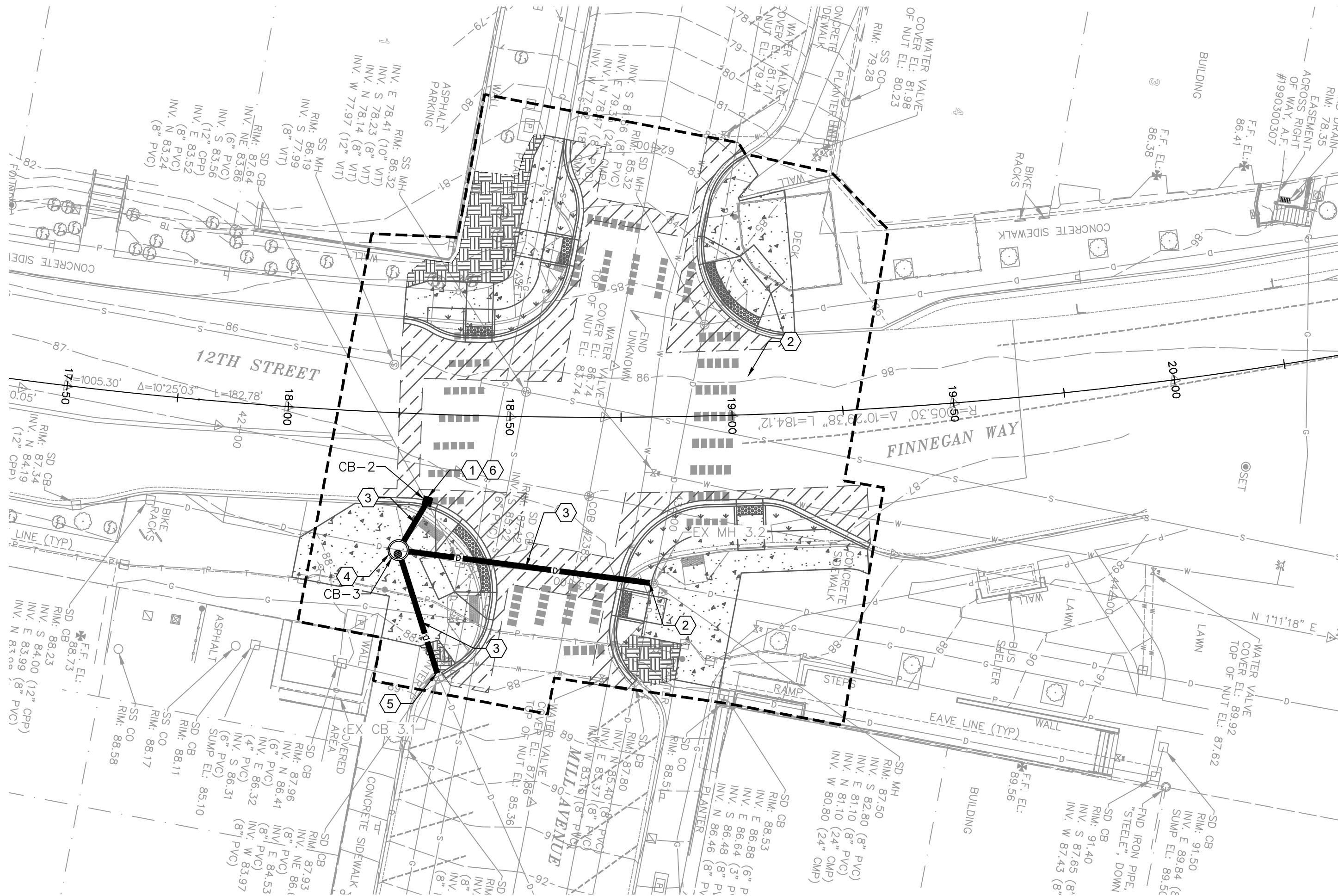
12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
DRAINAGE PLAN AND PROFILE

SHEET
33 OF
51

CONTACT PERSON: KYLE CARLSON

PROJECT ENGINEER AT (360) 778-7946

SEC. 01, T. 37 N., R. 02 E., W.M.



NOTES

- SEE INDEX OF SHEETS TO REFERENCE GENERAL NOTES, TESC NOTES, LEGEND, DEMOLITION, TYPICAL SECTIONS, PAVING, AND DETAILS.

CONSTRUCTION NOTES

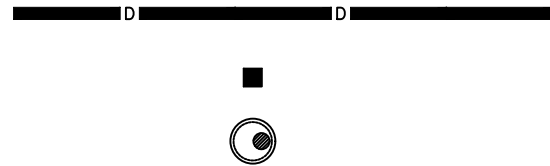
- INSTALL TYPE 1 CATCH BASIN PER WSDOT STANDARD PLAN B-5.20-03. INSTALL ADA GRATE AND FRAME PER WSDOT STANDARD PLANS B-30.10-03. AND B-30.15-00.
- CORE DRILL FOR CONNECTION TO EXISTING CATCH BASIN.
- INSTALL STORM DRAIN AND BEDDING PER COB STANDARD PLAN DR-538.
- INSTALL TYPE 2 CATCH BASIN PER WSDOT STANDARD PLAN B-10.20-03 WITH SOLID RING AND COVER PER COB STANDARD PLAN SS-704 WITH LETTERING OF DRAIN.
- CONNECT TO EXISTING STRUCTURE.
- INSTALL TYPE 60 B-1 OUTLET TRAP PER COB STANDARD PLAN DR-515.

LEGEND

STORM DRAINAGE PIPE

CATCH BASIN TYPE 1

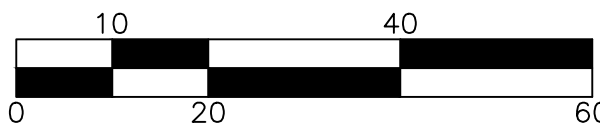
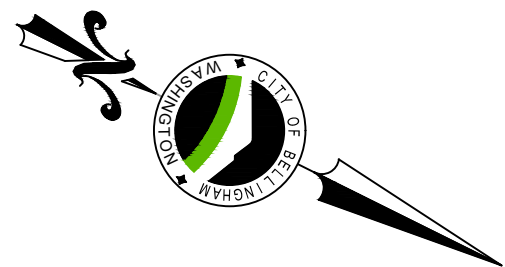
CATCH BASIN TYPE 2



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(TEL) 425 821-3665
(FAX) 425 825-8434

Osborn
Consulting

DR02



4			
3			
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Date	No	Revision	By

PROJECT ENGINEER BAS
DESIGNED/DRAWN MRW/JK/TN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS ECJ
CITY ENGINEER CMAS
ASSISTANT DIRECTOR MAO

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. 1"=20'
Vert. 1"=5'

DATUM
NAD 83/98
NAVD 88

Job. No. ES-566
Date 10/4/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
DRAINAGE PLAN AND PROFILE

SHEET
34 OF
51

CONTACT PERSON: KYLE CARLSON

PROJECT ENGINEER AT (360) 778-7946

CONTACT PERSON: KYLE CARLSON, PROJECT ENGINEER AT (360) 778-7946

BEDDING SPECIFICATIONS FOR PVC PIPE

THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS ARE TO BE USED IN CONJUNCTION WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, CURRENT EDITION:

BEDDING FOR SEWERS, DRAINS AND CULVERTS FOR PVC PIPE-

BEDDING MATERIAL FOR PVC PIPE SHALL BE PEA GRAVEL CONFORMING TO THE FOLLOWING SPECIFICATIONS.

PEA GRAVEL -- PEA GRAVEL BEDDING SHALL BE A CLEAN MIXTURE FREE FROM ORGANIC MATTER AND CONFORMING TO THE FOLLOWING GRADATION WHEN TESTED IN ACCORDANCE WITH ASTM D422:

U.S. STANDARD SIEVE SIZE	PERCENT PASSING, BY WT.
3/4"	100
3/8"	85-100
#8	0-10
#200	0-5

BACKFILL -- WHEREVER A TRENCH IS EXCAVATED IN THE EXISTING OR PROPOSED ROADWAY, SIDEWALK OR OTHER AREAS WHERE SETTLEMENT WOULD BE DETRIMENTAL, THE ENTIRE TRENCH SHALL BE BACKFILLED WITH IMPORTED GRAVEL AND COMPACTED TO 95% OF MAXIMUM DENSITY.

APPROVED

City Engineer

11/8/07
Date

CITY OF BELLINGHAM
PVC PIPE BEDDING
DETAILS

DRAWING
DR-538

FLOATING NUT DETAIL

FRAME PLAN VIEW

ISOMETRIC VIEW

1. RING AND COVER SHALL BE BOLT-DOWN/WATER-TIGHT TYPE 2 PER CURRENT WSDOT STANDARD PLAN BUT USE (3) 8" FLOATING NUTS AT 120° ON 22" Ø BOLT CIRCLE IN PLACE OF FIXED BOLT DOWN THREADS, SEE DETAIL THIS SHEET.

2. RING AND COVER SHALL BE OLYMPIC FOUNDRY A-2006-14005 OR EQUAL.

1. FRAME SHALL NOT BE THREADED AND INSTEAD PROVIDE A FLOATING AND REMOVABLE SQUARE NUT SECURED TO THE BOTTOM OF THE RING/FRAME THAT CAN BE REPLACED IF THE THREADS ARE STRIPPED IN THE FUTURE. NUT SHALL BE SQUARE AND IN A CHANNEL TO PREVENT ROTATION DURING TIGHTENING OF THE BOLT.

2. SEWER FRAMES AND COVERS SHALL BE BOLT-DOWN / WATER TIGHT PER THE CURRENT WSDOT STANDARD PLAN FOR CIRCULAR FRAME (RING) AND COVER WITH REVISIONS AS INDICATED ON THIS STANDARD PLAN.

APPROVED

City Engineer

22 May 2023
Date

CITY OF BELLINGHAM
STANDARD MANHOLE
RING AND COVER

DRAWING
SS-704

NOTE:

TRAP TO BE MADE OF 22 GA. GALVANIZED SHEET METAL.

ALL JOINTS TO BE SEAMED AND SOLDERED.

ALL LONGITUDINAL JOINTS TO BE RIVETED.

DIMENSION "D" IS NOMINAL DIAMETER OF OUTLET PIPE.

TYPE 60A TRAP

TYPE 2 TRAP

TRAP HOOK

TRAP INSTALLATION

1. FRAME SHALL NOT BE THREADED AND INSTEAD PROVIDE A FLOATING AND REMOVABLE SQUARE NUT SECURED TO THE BOTTOM OF THE RING/FRAME THAT CAN BE REPLACED IF THE THREADS ARE STRIPPED IN THE FUTURE. NUT SHALL BE SQUARE AND IN A CHANNEL TO PREVENT ROTATION DURING TIGHTENING OF THE BOLT.

2. SEWER FRAMES AND COVERS SHALL BE BOLT-DOWN / WATER TIGHT PER THE CURRENT WSDOT STANDARD PLAN FOR CIRCULAR FRAME (RING) AND COVER WITH REVISIONS AS INDICATED ON THIS STANDARD PLAN.

TRAP HOOKS MAY BE ROUND OR SQUARE IN CROSS-SECTION.

TYPE 60B-1 TRAP TO BE USED WITH 8" Ø OUTLET PIPE.

TYPE 60B-2 TRAP TO BE USED WITH 4" OR 6" Ø OUTLET PIPE.

TRAP MAY BE CAST IRON ASTM DESIGNATION A48 CLASS 25 OR CAST STEEL ASTM DESIGNATION A27 GRADE 70-36.

APPROVED

City Engineer

11/29/04
Date

CITY OF BELLINGHAM
TYPE 60A AND TYPE 60B
OUTLET TRAP

DRAWING
DR-515

NOTES:

- No steps are required when height is 4' or less.
- The bottom of the precast catch basin may be sloped to facilitate cleaning.
- The rectangular frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
- Knockouts shall have a wall thickness of 2" (n) minimum to 25" (n) maximum. Provide a 15" (n) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification Section 9-04.3.
- Pipe allowances will vary depending on the pipe material used. Contact the Region Hydraulic Engineer for assistance.

CATCH BASIN TYPE 2

CATCH BASIN DIMENSIONS			
CATCH BASIN DIAMETER	MIN. HEIGHT	MAX. HEIGHT	MIN. WIDTH
12"	4"	4"	12"
18"	4"	4"	18"
24"	4"	4"	24"
30"	4"	4"	30"
36"	4"	4"	36"
42"	4"	4"	42"
48"	4"	4"	48"
54"	4"	4"	54"
60"	4"	4"	60"
66"	4"	4"	66"
72"	4"	4"	72"
78"	4"	4"	78"
84"	4"	4"	84"
90"	4"	4"	90"
96"	4"	4"	96"
102"	4"	4"	102"
108"	4"	4"	108"
114"	4"	4"	114"
120"	4"	4"	120"

PIPE ALLOWANCES			
CATCH BASIN DIAMETER	PIPE MATERIAL	MIN. HEIGHT	MAX. HEIGHT
12"	CONCRETE	4"	4"
18"	CONCRETE	4"	4"
24"	CONCRETE	4"	4"
30"	CONCRETE	4"	4"
36"	CONCRETE	4"	4"
42"	CONCRETE	4"	4"
48"	CONCRETE	4"	4"
54"	CONCRETE	4"	4"
60"	CONCRETE	4"	4"
66"	CONCRETE	4"	4"
72"	CONCRETE	4"	4"
78"	CONCRETE	4"	4"
84"	CONCRETE	4"	4"
90"	CONCRETE	4"	4"
96"	CONCRETE	4"	4"
102"	CONCRETE	4"	4"
108"	CONCRETE	4"	4"
114"	CONCRETE	4"	4"
120"	CONCRETE	4"	4"

1. This frame is designed to accommodate 20" (n) x 24" (n) grates or covers as shown on Standard Plans B-30.20, B-30.24, B-30.28, B-30.32, B-30.36, and B-30.40.

2. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover edge. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (n) x 11 NC x 2" (n) Allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.

3. Refer to Standard Specification Section 9-05.15 and 9-05.16(2) for additional requirements.

1. As acceptable alternatives to the rebar shown in the PRECAST BASE SECTION, rebar (placed according to the Standard Specifications), or wire mesh having a minimum area of 1.5 square inches per foot shall be used with the minimum required rebar shown in the ALTERNATIVE PRECAST BASE SECTION. Wire mesh shall not be placed in the knockouts.

2. The knockout diameter shall not be greater than 20" (n). Knockouts shall have a wall thickness of 2" (n) minimum to 25" (n) maximum. Provide a 1.5" (n) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification Section 9-04.3.

3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (n).

4. The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.

5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1:24 or steeper.

6. The opening shall be measured at the top of the Precast Base Section.

7. All pickup holes shall be grouted full after the basin has been placed.

APPROVED

City Engineer

22 May 2023
Date

CITY OF BELLINGHAM
STANDARD MANHOLE
RING AND COVER

DRAWING
SS-704

PIPE ALLOWANCES

PIPE MATERIAL	MAXIMUM PIPE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CONCRETE (STD. SPEC. SECT. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1))	15"
CONCRETE (STD. SPEC. SECT. 9-05.12(1))	15"

* CORRUGATED POLYETHYLENE STORM SEWER PIPE (SEE NOTE 1)

RECTANGULAR ADJUSTMENT SECTION

PRECAST BASE SECTION

ALTERNATIVE PRECAST BASE SECTION

1. This frame is designed to accommodate 20" (n) x 24" (n) grates or covers as shown on Standard Plans B-30.20, B-30.24, B-30.28, B-30.32, B-30.36, and B-30.40.

2. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover edge. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (n) x 11 NC x 2" (n) Allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.

3. Refer to Standard Specification Section 9-05.15 and 9-05.16(2) for additional requirements.

1. As acceptable alternatives to the rebar shown in the PRECAST BASE SECTION, rebar (placed according to the Standard Specifications), or wire mesh having a minimum area of 1.5 square inches per foot shall be used with the minimum required rebar shown in the ALTERNATIVE PRECAST BASE SECTION. Wire mesh shall not be placed in the knockouts.

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3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (n).

4. The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.

5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1:24 or steeper.

6. The opening shall be measured at the top of the Precast Base Section.

7. All pickup holes shall be grouted full after the basin has been placed.

APPROVED

City Engineer

22 May 2023
Date

CITY OF BELLINGHAM
STANDARD MANHOLE
RING AND COVER

DRAWING
SS-704

NOTES:

- This frame is designed to accommodate 20" (n) x 24" (n) grates or covers as shown on Standard Plans B-30.20, B-30.24, B-30.28, B-30.32, B-30.36, and B-30.40.
- Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover edge. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (n) x 11 NC x 2" (n) Allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
- Refer to Standard Specification Section 9-05.15 and 9-05.16(2) for additional requirements.

RECTANGULAR FRAME

RECTANGULAR FRAME (REVERSIBLE)

RECTANGULAR FRAME (REVERSIBLE)

1. This frame is designed to accommodate 20" (n) x 24" (n) grates or covers as shown on Standard Plans B-30.20, B-30.24, B-30.28, B-30.32, B-30.36, and B-30.40.

2. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover edge. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (n) x 11 NC x 2" (n) Allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.

3. Refer to Standard Specification Section 9-05.15 and 9-05.16(2) for additional requirements.

1. As acceptable alternatives to the rebar shown in the PRECAST BASE SECTION, rebar (placed according to the Standard Specifications), or wire mesh having a minimum area of 1.5 square inches per foot shall be used with the minimum required rebar shown in the ALTERNATIVE PRECAST BASE SECTION. Wire mesh shall not be placed in the knockouts.

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3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (n).

4. The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.

5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1:24 or steeper.

6. The opening shall be measured at the top of the Precast Base Section.

7. All pickup holes shall be grouted full after the basin has been placed.

APPROVED

City Engineer

22 May 2023
Date

CITY OF BELLINGHAM
STANDARD MANHOLE
RING AND COVER

DRAWING
SS-704

NOTES:

- Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover edge. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (n) x 11 NC x 2" (n) Allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
- All grates shall be 20" (n) x 24" (n).
- Grate alternatives shown for informational purposes. Grate design varies by manufacturer and must meet ADA requirements.
- Refer to Standard Specification Section 9-05.15 and 9-05.16 (2) for additional requirements.

RECTANGULAR FRAME

RECTANGULAR FRAME (REVERSIBLE)

RECTANGULAR FRAME (REVERSIBLE)

1. This frame is designed to accommodate 20" (n) x 24" (n) grates or covers as shown on Standard Plans B-30.20, B-30.24, B-30.28, B-30.32, B-30.36, and B-30.40.

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3. Refer to Standard Specification Section 9-05.15 and 9-05.16(2) for additional requirements.

1. As acceptable alternatives to the rebar shown in the PRECAST BASE SECTION, rebar (placed according to the Standard Specifications), or wire mesh having a minimum area of 1.5 square inches per foot shall be used with the minimum required rebar shown in the ALTERNATIVE PRECAST BASE SECTION. Wire mesh shall not be placed in the knockouts.

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3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (n).

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7. All pickup holes shall be grouted full after the basin has been placed.

APPROVED

City Engineer

22 May 2023
Date

CITY OF BELLINGHAM
STANDARD MANHOLE
RING AND COVER

DRAWING
SS-704

SIGN INSTALLATION SPECIFICATIONS (THIS SHEET)							
SIGN #	CODE	ALIGNMENT	STATION	OFFSET	SIZE	DESCRIPTION	NOTES
1	W11-2	12TH ST	12+64.7	27.2FT LT	30" X 30"	PEDESTRIAN	SEE SHEET EL02 FOR RRFB ASSEMBLY.
2	W16-7PL				21" X 16"	DIAGONAL ARROW	
3	W11-2				30" X 30"	PEDESTRIAN	
4	W16-7PR				21" X 16"	DIAGONAL ARROW	
5	W11-2	12TH ST	12+58.2	23.8FT RT	30" X 30"	PEDESTRIAN	SEE SHEET EL02 FOR RRFB ASSEMBLY.
6	W16-7PL				21" X 16"	DIAGONAL ARROW	
7	W11-2				30" X 30"	PEDESTRIAN	
8	W16-7PR				21" X 16"	DIAGONAL ARROW	
R1	W11-2	12TH ST	12+53.1	19.8FT RT	EX	PEDESTRIAN	
R2	W16-7PL				EX	DIAGONAL ARROW	
EX1	W11-2	12TH ST	13+48.3	27.8FT LT	EX	PEDESTRIAN	
EX2	W16-7PL				EX	DIAGONAL ARROW	
EX3	W11-2	12TH ST	13+36.5	39.6FT RT	EX	PEDESTRIAN	
EX4	W16-7PL				EX	DIAGONAL ARROW	

SEC. 01, T. 37 N., R. 02 E., W.M.

SIGNING & CHANNELIZATION NOTES

1. THE CONTRACTOR SHALL SALVAGE & DELIVER ALL EXISTING SIGNING EQUIPMENT SPECIFIED FOR REMOVAL BACK TO THE CITY OF BELLINGHAM.

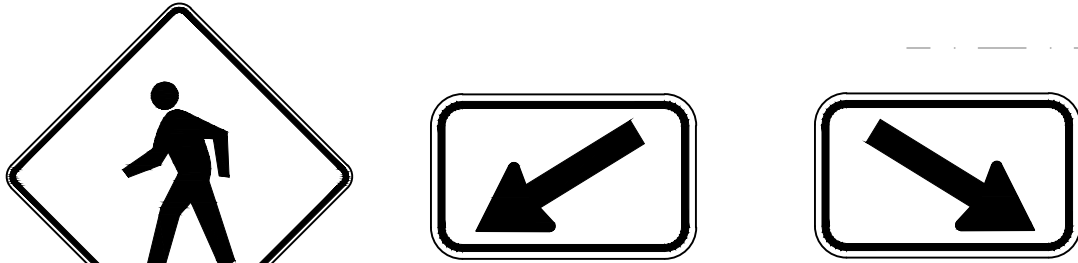
CHANNELIZATION CONSTRUCTION NOTES

- ① INSTALL WHITE THERMOPLASTIC CONTINENTAL CROSSWALK PER CITY OF BELLINGHAM STANDARD DRAWING TC-310.
② INSTALL WHITE THERMOPLASTIC STOP BAR PER CITY OF BELLINGHAM STANDARD DRAWING TC-310.
⑱ TRIM TREE IN FRONT OF NEW SIGN.

CHANNELIZATION LEGEND

EXISTING ROW	
CONSTRUCTION NOTE	Ⓢ
REMOVE SIGN NOTE	Ⓡ
RELOCATE SIGN NOTE	ⓇⓁ
PROPOSED SIGN NOTE	Ⓢ
EXISTING SIGN NOTE	Ⓢ
PROPOSED SIGN	■
EXISTING SIGN	□

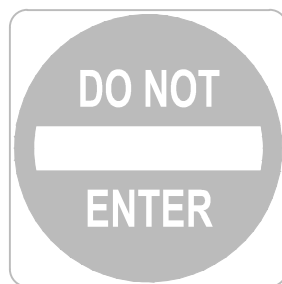
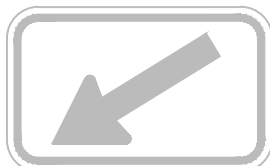
SIGN LEGEND (THIS SHEET)



1 3
5 7
W11-2
30" X 30"
B/Y-G

2 6
W16-7PL
21" X 15"
B/Y-G

4 8
W16-7PR
21" X 15"
B/Y-G



12th St

McKenzie Av

Ⓡ1 Ⓢ1 Ⓢ3
W11-2
EX

Ⓡ2 Ⓢ2 Ⓢ4
W16-7PL
EX

ⓇⓁ1
CUSTOM
BUSINESS SIGN
EX

ⓇⓁ2
R1-1
EX

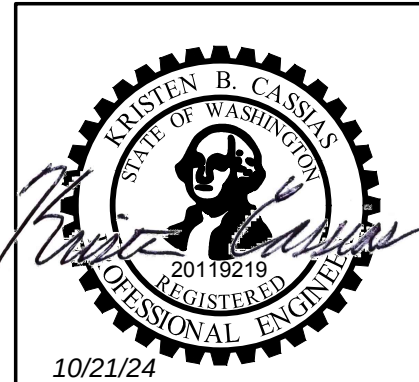
ⓇⓁ3
R5-1
EX

ⓇⓁ4
D3-1
EX

ⓇⓁ5
D3-1
EX

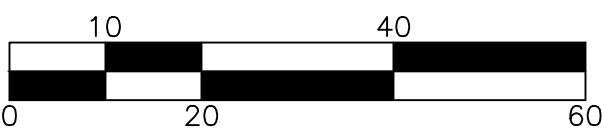
SIGN RELOCATION SPECIFICATIONS (THIS SHEET)

SIGN #	CODE	ALIGNMENT	EXISTING		PROPOSED		SIZE	DESCRIPTION	NOTES
			STATION	OFFSET	STATION	OFFSET			
RL1	CUSTOM	12TH ST	12+53.1	19.8FT RT	12+58.2	31.9FT RT	EX	BUSINESS SIGN	RELOCATE EXISTING SIGN POST, BASE, PIECE, AND SIGN.
RL2	R1-1	12TH ST	12+78.0	38.4FT LT	12+72.4	44.2FT LT	EX	STOP	RELOCATE EXISTING SIGN POST, BASE, PIECE, AND SIGN.
RL3	R5-1						EX	DO NOT ENTER	
RL4	D3-1						EX	12TH ST	
RL5	D3-1						EX	MCKENZIE AVE	



transpogroup 7T
WHAT TRANSPORTATION CAN BE.

12131 113TH AVENUE NE, SUITE 203
KIRKLAND, WASHINGTON 98034
(TEL) 425 821-3665
(FAX) 425 825-8434



BID SUBMITTAL



SHEET
37 OF
51

CONTACT PERSON: KYLE CARLSON

PROJECT ENGINEER AT (360) 778-7946

PROJECT ENGINEER_KBC
DESIGNED/DRAWN_JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O.
CITY ENGINEER_M.L.W.
ASSISTANT DIRECTOR_M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
CHANNELIZATION AND SIGNING PLAN

SIGN INSTALLATION SPECIFICATIONS (THIS SHEET)							
SIGN #	CODE	ALIGNMENT	STATION	OFFSET	SIZE	DESCRIPTION	NOTES
R1	R1-1	12TH ST	18+51.2	36.4FT LT	EX	STOP	
R2	D3-101				EX	12TH ST	
R3	D3-101				EX	MILL ST	
R4	R1-1	12TH ST	18+78.0	55.0FT RT	EX	STOP	
EX1	CUSTOM	12TH ST	17+42.6	30.9FT LT	EX	BUSINESS SIGN	
EX2	CUSTOM	12TH ST	17+83.6	28.8FT LT	EX	BUS STOP	
EX3	CUSTOM	12TH ST	18+35.5	38.4FT LT	EX	BUSINESS SIGN	
EX4	CUSTOM	MILL AVE	61+70.2	29.0FT RT	EX	BUSINESS SIGN	
EX5	CUSTOM	MILL AVE	61+54.6	33.5FT LT	EX	PAY TO PARK	
EX6	R7-6(MOD)	FINNEGAN WAY	19+80.9	25.6FT LT	EX	NO PARKING	
EX7	R7-201				EX	TOW AWAY ZONE	
EX8	CUSTOM	FINNEGAN WAY	20+46.0	26.3FT LT	EX	PAY TO PARK	
EX9	CUSTOM	FINNEGAN WAY	19+53.0	38.9FT RT	EX	BUS STOP	
EX10	CUSTOM	MILL AVE	63+43.0	28.8FT LT	EX	PAY TO PARK	
EX11	CUSTOM	MILL AVE	63+95.1	26.4FT LT	EX	PAY TO PARK	
EX12	CUSTOM	MILL AVE	64+00.2	32.9FT RT	EX	PAY TO PARK	
EX13	CUSTOM	MILL AVE	63+62.1	32.8FT RT	EX	PAY TO PARK	

SEC. 01, T. 37 N., R. 02 E., W.M.

SIGNING & CHANNELIZATION NOTES

1. SEE SHEET CH01 FOR CHANNELIZATION AND SIGNING NOTES.

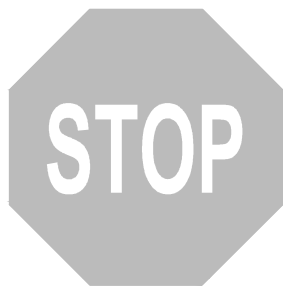
CHANNELIZATION CONSTRUCTION NOTES

- ① INSTALL WHITE THERMOPLASTIC CONTINENTAL CROSSWALK PER CITY OF BELLINGHAM STANDARD DRAWING TC-310.
② INSTALL WHITE THERMOPLASTIC STOP BAR PER CITY OF BELLINGHAM STANDARD DRAWING TC-310.
③ INSTALL DOUBLE YELLOW CENTER STRIPE PER CITY OF BELLINGHAM STANDARD DRAWING TC-305.
④ INSTALL 6" SOLID WHITE BICYCLE LANE STRIPE PER CITY OF BELLINGHAM STANDARD DRAWING TC-315.
⑤ INSTALL TWO-STAGE BICYCLE TURN BOX PER DETAIL ON CHD02.
⑥ INSTALL WHITE THERMOPLASTIC DOTTED EXTENSION LINE PER WSDOT STANDARD PLAN M-20.10-04.

CHANNELIZATION LEGEND

EXISTING ROW	_____
CONSTRUCTION NOTE	①
REMOVE SIGN NOTE	R#
RELOCATE SIGN NOTE	RL#
PROPOSED SIGN NOTE	#
EXISTING SIGN NOTE	EX#
PROPOSED SIGN	■
EXISTING SIGN	□

SIGN LEGEND (THIS SHEET)



R1 R4

R1-1 EX

R2

D3-101 EX

R3

D3-101 EX

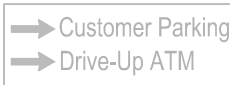
EX1

CUSTOM BUSINESS SIGN EX

EX2 EX9

CUSTOM BUS STOP EX

KeyBank





EX3

CUSTOM BUSINESS SIGN EX

EX4

CUSTOM BUSINESS SIGN EX

EX5 EX8 EX10 EX11 EX12 EX13

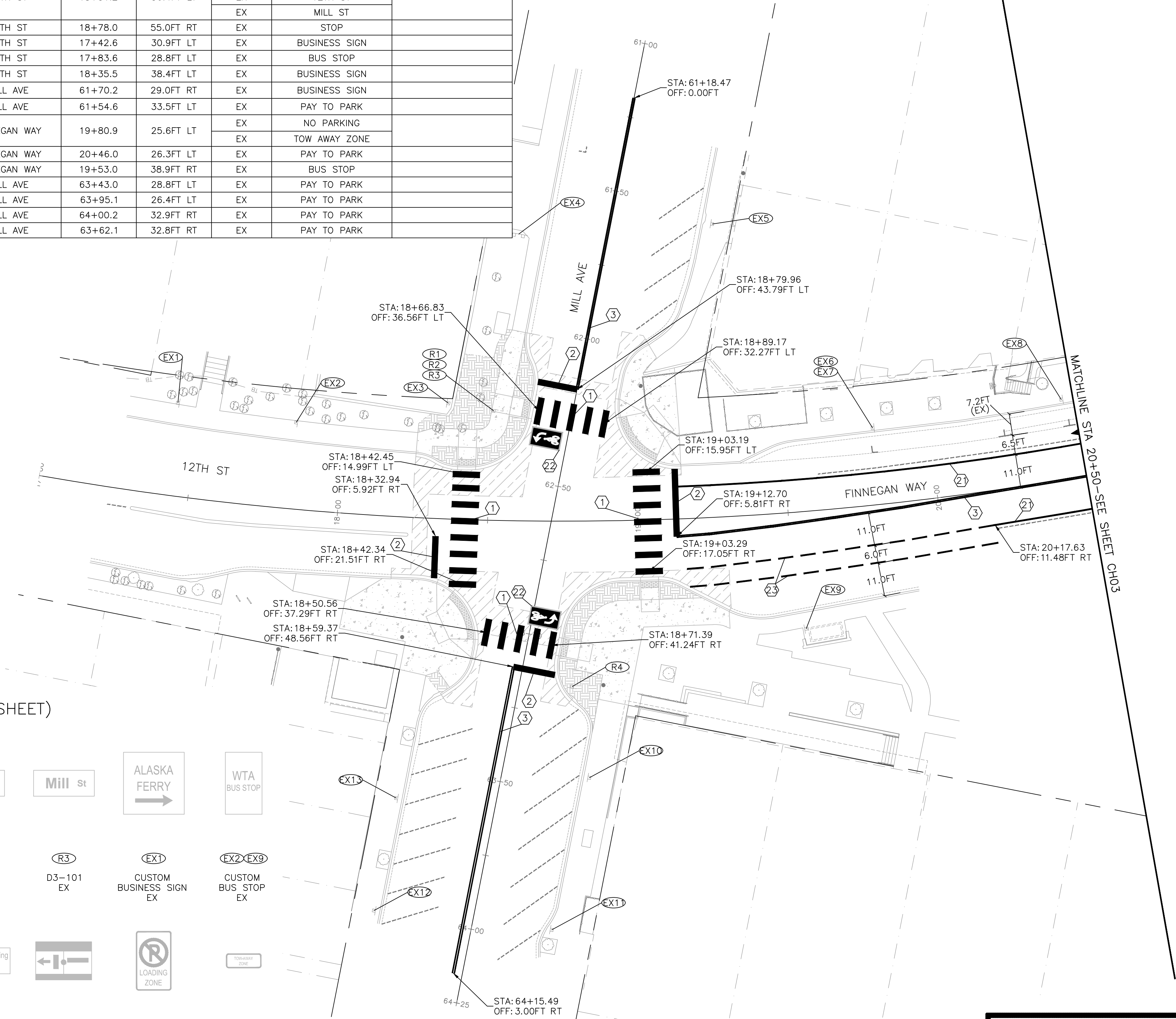
CUSTOM PAY TO PARK EX

EX6

R7-6(MOD) NO PARKING EX

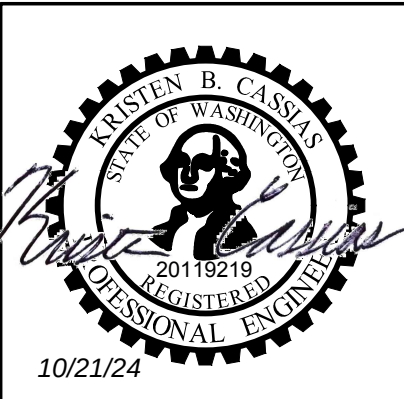
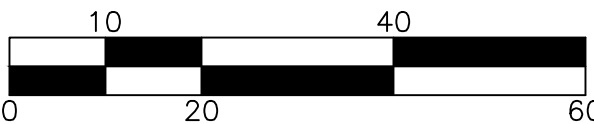
EX7

R7-201 TOW-AWAY ZONE EX



BID SUBMITTAL

811 Call 811
two business days
before you dig



transpogroup
WHAT TRANSPORTATION CAN BE.
12131 113TH AVENUE NE, SUITE 203
KIRKLAND, WASHINGTON 98034
(TEL) 425 821-3665
(FAX) 425 825-8434

CH02

	4		
	3		
	2		
	1		
Date	No	Revision	By

PROJECT ENGINEER_KBC
DESIGNED/DRAWN_JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O.
CITY ENGINEER_M.L.W.
ASSISTANT DIRECTOR_M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
CHANNELIZATION AND SIGNING PLAN

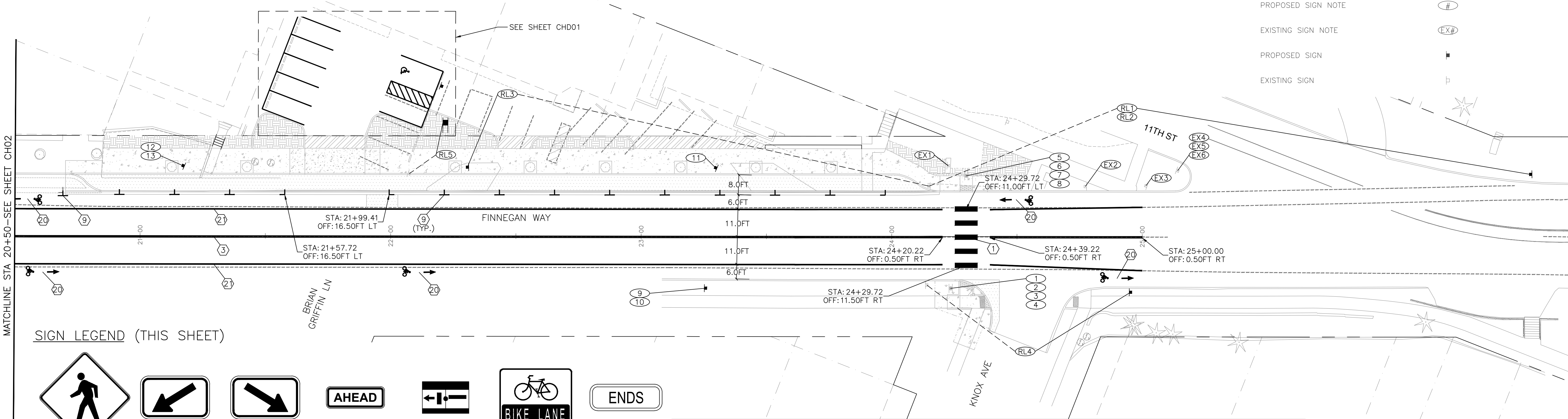
SHEET
38 OF
51

CONTACT PERSON: KYLE CARLSON

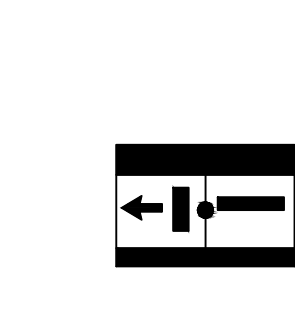
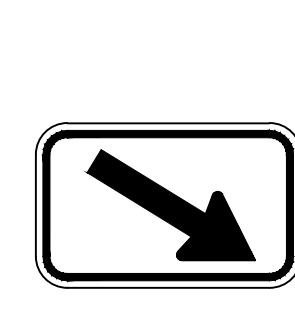
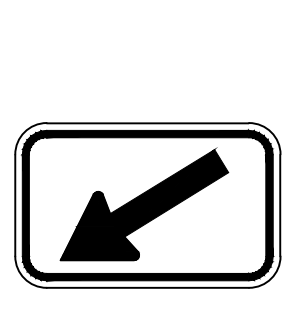
PROJECT ENGINEER AT (360) 778-7946

SIGN RELOCATION SPECIFICATIONS (THIS SHEET)									
SIGN #	CODE	ALIGNMENT	EXISTING		PROPOSED		SIZE	DESCRIPTION	NOTES
			STATION	OFFSET	STATION	OFFSET			
RL1	W11-2	FINNEGAN WAY	24+14.8	20.1FT LT	N/A*	N/A*	EX	PEDESTRIAN	RELOCATE EXISTING SIGN POST, BASE PIECE, AND SIGN.
RL2	W16-9P	FINNEGAN WAY					EX	AHEAD	
RL3	CUSTOM	FINNEGAN WAY	24+14.8	20.1FT LT	22+30.6	27.5FT LT	EX	FAIRHAVEN LIBRARY	RELOCATE EXISTING SIGN TO NEW SIGN POST AND BASE PIECE PER CITY OF BELLINGHAM STANDARD DRAWING TC-320.
RL4	R2-1	FINNEGAN WAY	24+14.0	19.4FT RT	24+95.3	22.2FT RT	EX	SPEED LIMIT 35	RELOCATE EXISTING SIGN POST, BASE PIECE, AND SIGN.
RL5	CUSTOM	FINNEGAN WAY	22+07.4	24.9FT LT	22+21.8	45.3FT LT	EX	BUSINESS SIGN	RELOCATE EXISTING PRIVATE BUSINESS SIGN.

* THIS SIGN'S NORTHING IS 632857.4 AND EASTING IS 1237279.3.



SIGN LEGEND (THIS SHEET)



1 3
5 7 9

W11-2
30" X 30"
B/Y-G

2 6

W16-7PL
21" X 15"
B/Y-G

4 8

W16-7PR
21" X 15"
B/Y-G

10

W16-9P
24" X 12"
B/Y-G

11

CUSTOM
PAY TO PARK

12

R3-17
24" X 18"
B/W

13

R3-17bP
24" X 9"
B/W

RL1

W11-2
EX

RL2

W16-9P
EX

RL3

CUSTOM
LIBRARY SIGN
EX

RL4

R2-1
EX

RL5

CUSTOM
BUSINESS SIGN
EX

EX1

CUSTOM
BUSINESS SIGN
EX

EX2

CUSTOM
BUS STOP
EX

EX3

R3-17
EX

EX4

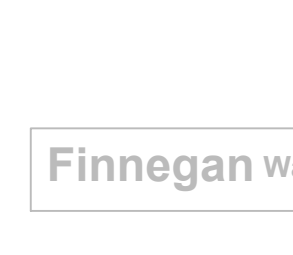
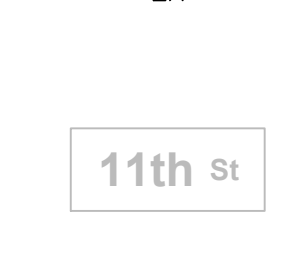
R1-1
EX

EX5

D3-101
EX

EX6

D3-101
EX



SIGN INSTALLATION SPECIFICATIONS (THIS SHEET)

SIGN #	CODE	ALIGNMENT	STATION	OFFSET	SIZE	DESCRIPTION	NOTES
1	W11-2	FINNEGAN WAY	24+23.5	20.7FT RT	30" X 30"	PEDESTRIAN	SEE SHEET ELO2 FOR RRFB ASSEMBLY.
2	W16-7PL				21" X 16"	DIAGONAL ARROW	
3	W11-2				30" X 30"	PEDESTRIAN	
4	W16-7PR	FINNEGAN WAY	24+29.7	24.3FT LT	21" X 16"	DIAGONAL ARROW	SEE SHEET ELO2 FOR RRFB ASSEMBLY.
5	W11-2				30" X 30"	PEDESTRIAN	
6	W16-7PL				21" X 16"	DIAGONAL ARROW	
7	W11-2	FINNEGAN WAY	23+25.7	20.7FT RT	30" X 30"	PEDESTRIAN	INSTALL NEW SIGN POST AND BASE PIECE PER CITY OF BELLINGHAM STANDARD DRAWING TC-320.
8	W16-7PR				21" X 16"	DIAGONAL ARROW	
9	W11-2				30" X 30"	PEDESTRIAN	
10	W16-9P	FINNEGAN WAY	23+25.7	20.7FT RT	24" X 12"	AHEAD	INSTALL NEW SIGN POST AND BASE PIECE PER CITY OF BELLINGHAM STANDARD DRAWING TC-320.
11	CUSTOM	FINNEGAN WAY	23+29.7	27.4FT LT	-	PAY TO PARK	INSTALL NEW SIGN POST AND BASE PIECE PER CITY OF BELLINGHAM STANDARD DRAWING TC-320.
12	R3-17	FINNEGAN WAY	21+17.1	28.0FT LT	24" X 18"	BIKE LANE	
13	R3-17bP				24" X 09"	ENDS	
EX1	CUSTOM	FINNEGAN WAY	24+22.6	28.2FT LT	EX	BUSINESS SIGN	
EX2	CUSTOM	FINNEGAN WAY	24+77.2	20.0FT LT	EX	BUS STOP	
EX3	R3-17	FINNEGAN WAY	N/A*	N/A*	EX	BIKE LANE	
EX4	R1-1	FINNEGAN WAY	N/A**	N/A**	EX	STOP	
EX5	D3-101				EX	11TH ST	
EX6	D3-101				EX	FINNEGAN WAY	

* THIS SIGN'S NORTHING IS 632714.9 AND EASTING IS 1237336.8.

** THIS SIGN'S NORTHING IS 632724.7 AND EASTING IS 1237326.8.

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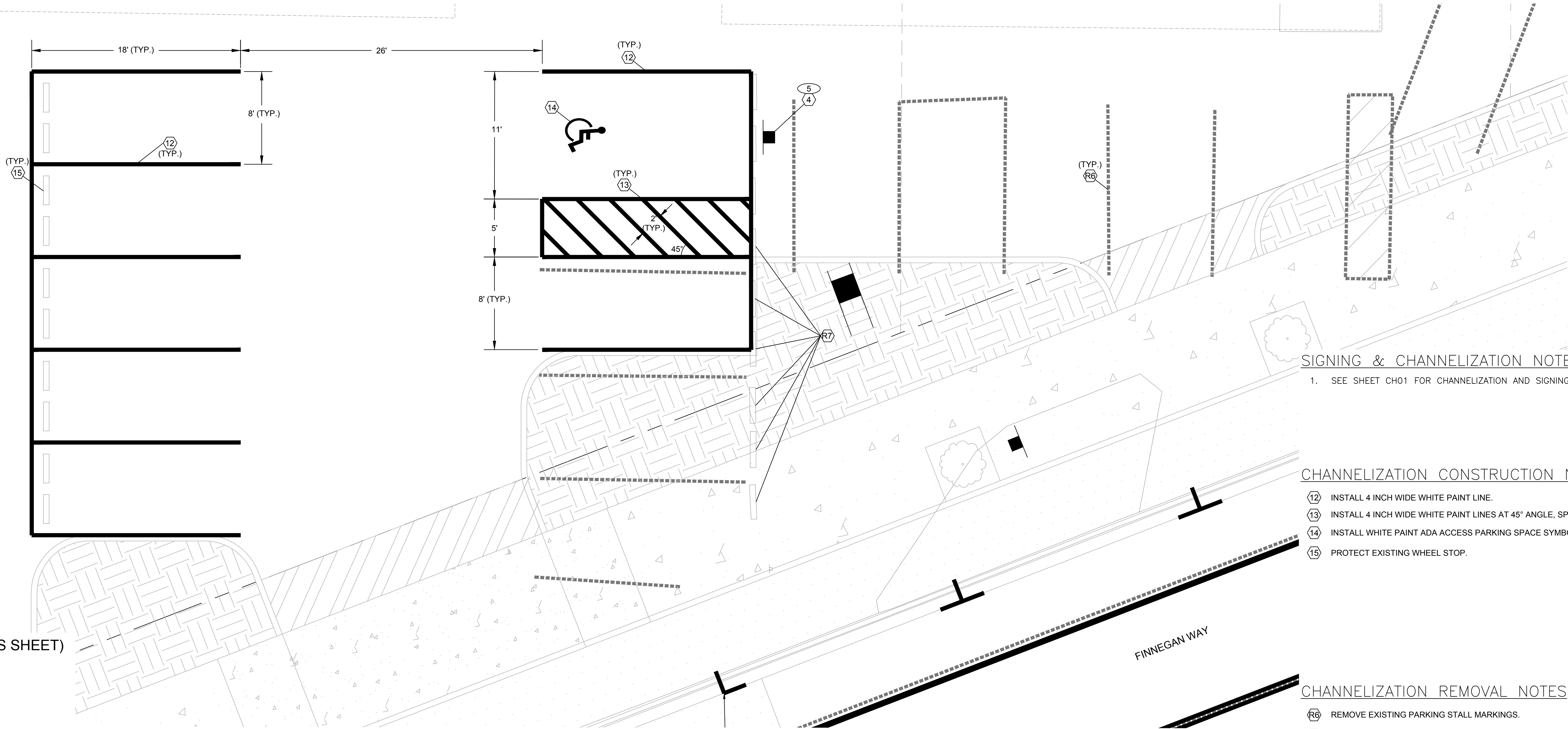
CH03

4		PROJECT ENGINEER_KBC	DIRECTOR PUBLIC WORKS_M.A.O.	CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	SCALE Horiz. AS NOTED Vert. AS NOTED	DATUM NAD 83/98 NAVD 88	Job. No. ES566 Date 8/9/2024 Field Bk.	12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS CHANNELIZATION AND SIGNING PLAN	SHEET 39 OF 51
3		DESIGNED/DRAWN_JK/IN/TK	CITY ENGINEER_M.L.W.						
2		INSPECTOR	ASSISTANT DIRECTOR_M.A.O.						
1									
Date	No	Revision	By						

CONTACT PERSON: KYLE CARLSON

PROJECT ENGINEER AT (360) 778-7946

SEC. 01, T. 37 N., R. 02 E., W.M.



SIGNING & CHANNELIZATION NOTES

1. SEE SHEET CH01 FOR CHANNELIZATION AND SIGNING NOTES.

CHANNELIZATION CONSTRUCTION NOTES

- 12 INSTALL 4 INCH WIDE WHITE PAINT LINE.
- 13 INSTALL 4 INCH WIDE WHITE PAINT LINES AT 45° ANGLE, SPACED 2 FT APART.
- 14 INSTALL WHITE PAINT ADA ACCESS PARKING SPACE SYMBOL.
- 15 PROTECT EXISTING WHEEL STOP.

CHANNELIZATION REMOVAL NOTES

- R6 REMOVE EXISTING PARKING STALL MARKINGS.
- R7 REMOVE EXISTING CONCRETE WHEEL STOP.

SIGN LEGEND (THIS SHEET)



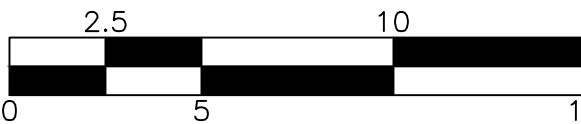
5
R7-801
12" X 18"
G/BLW

CHANNELIZATION LEGEND

EXISTING ROW	---
CONSTRUCTION NOTE	⬢
REMOVE SIGN NOTE	Ⓡ
RELOCATE SIGN NOTE	ⓇⓁ
PROPOSED SIGN NOTE	#
EXISTING SIGN NOTE	EX#
PROPOSED SIGN	■
EXISTING SIGN	▬

PARKING LOT PAVEMENT MARKINGS AND SIGNS
SCALE 1:5

BID SUBMITTAL

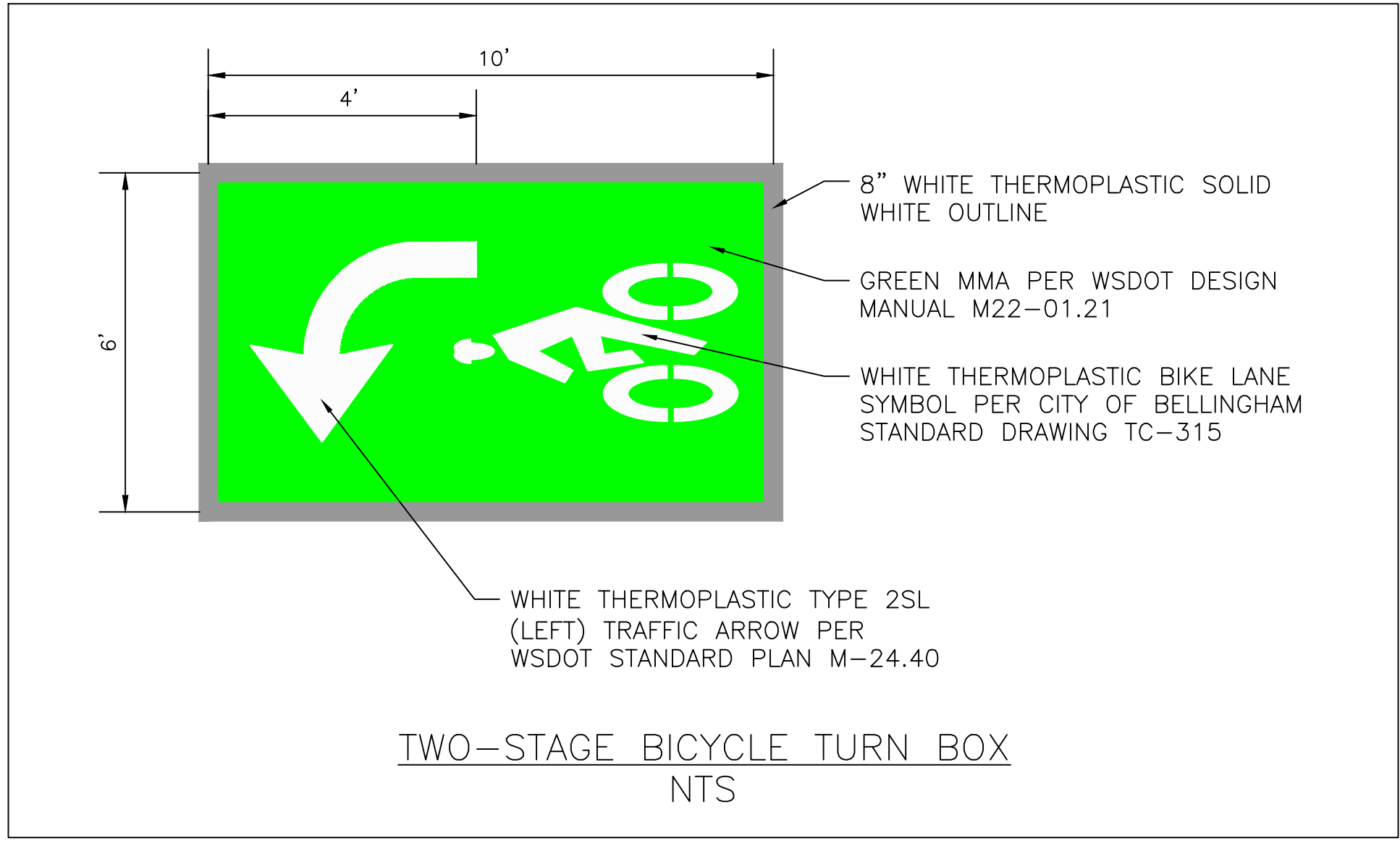
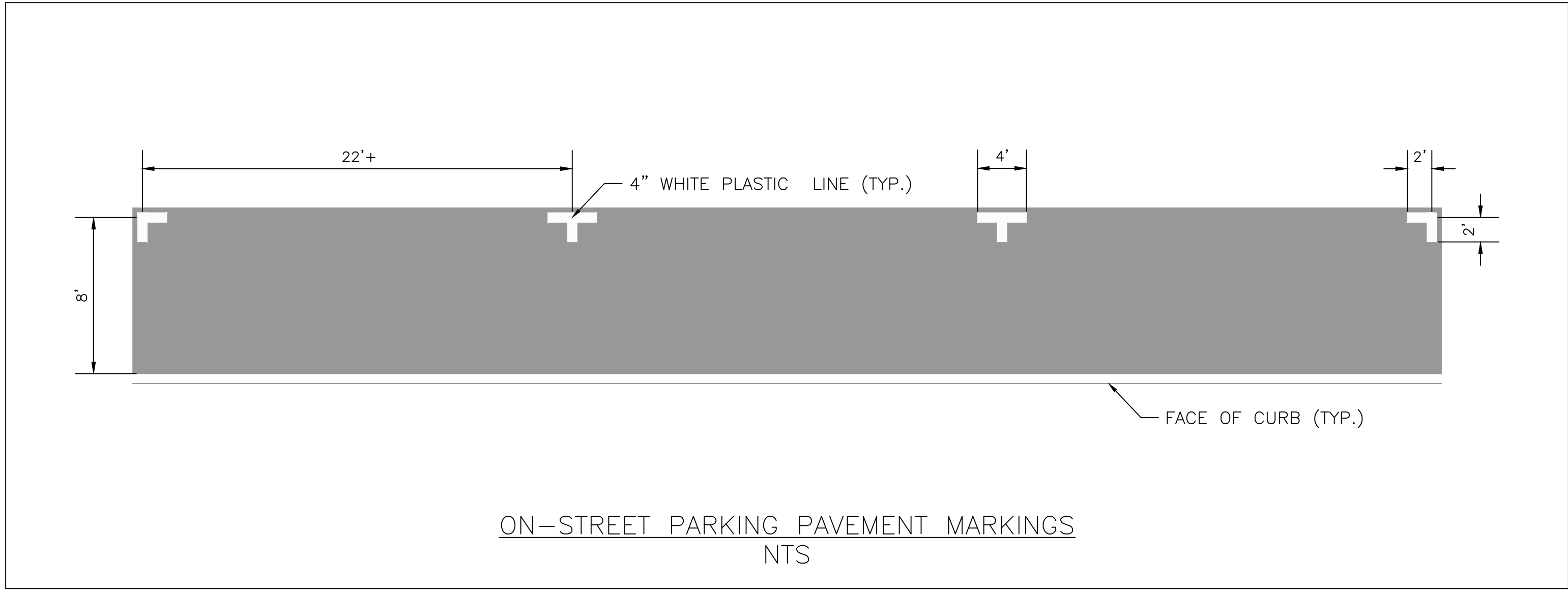
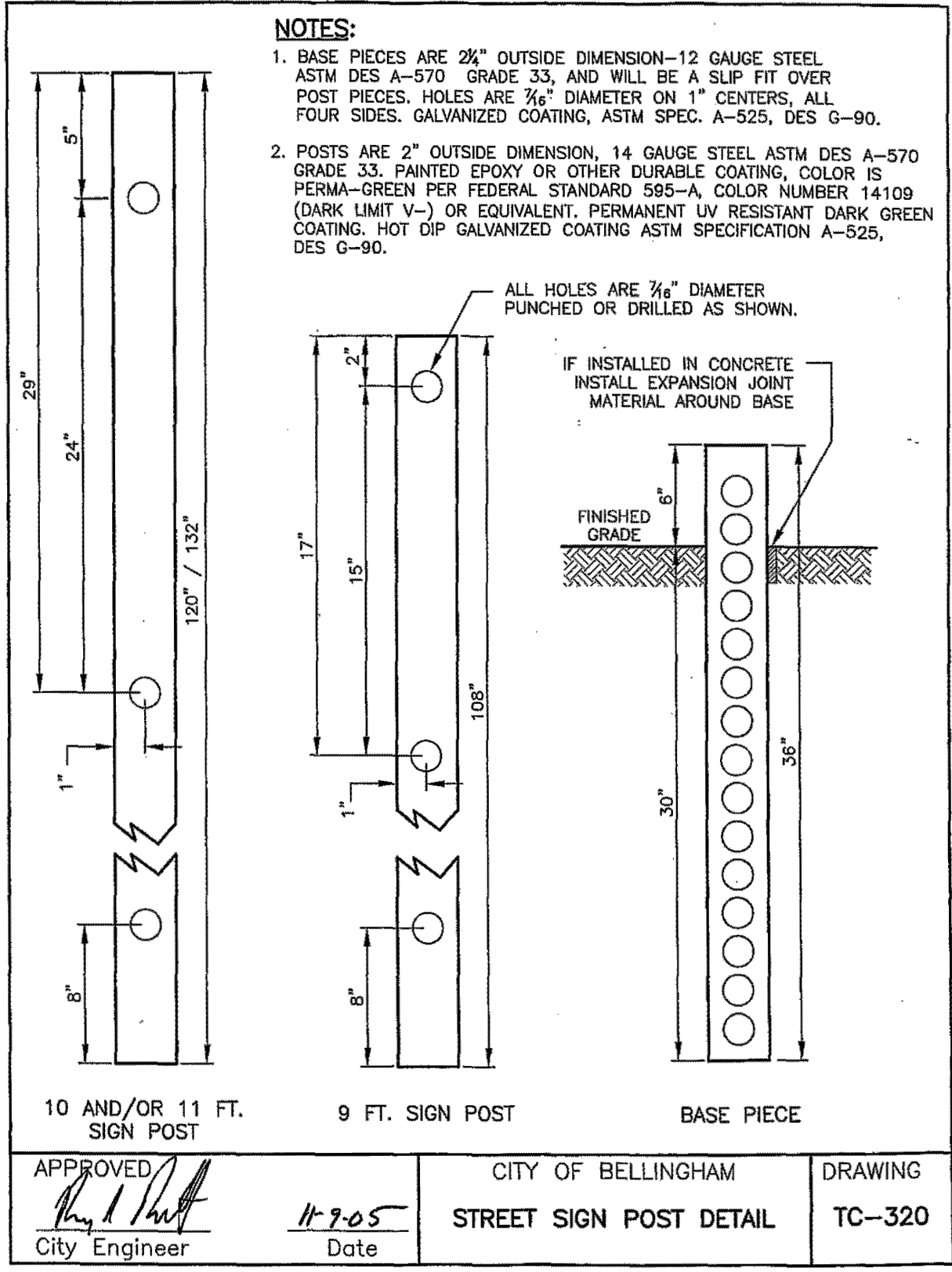
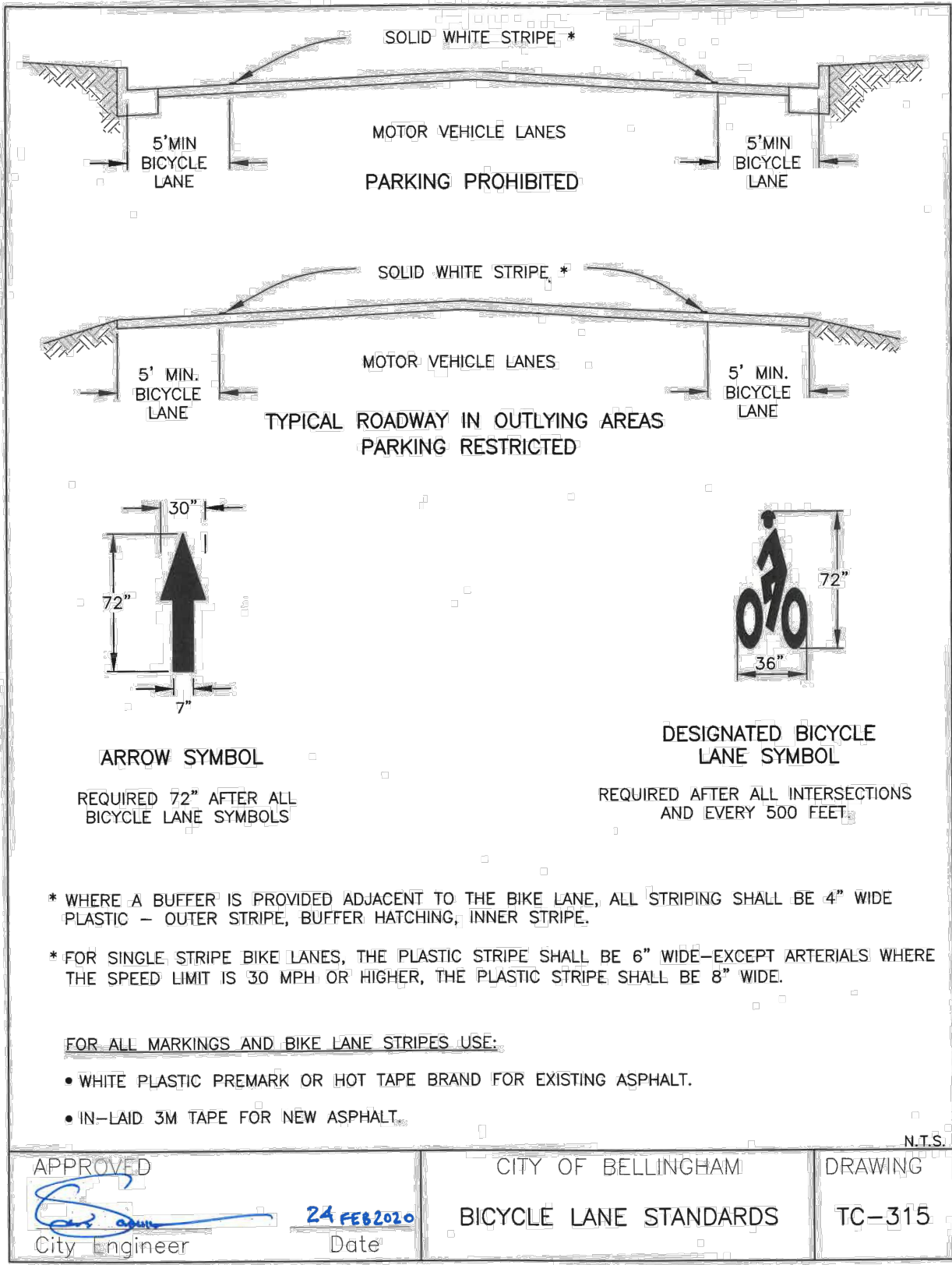
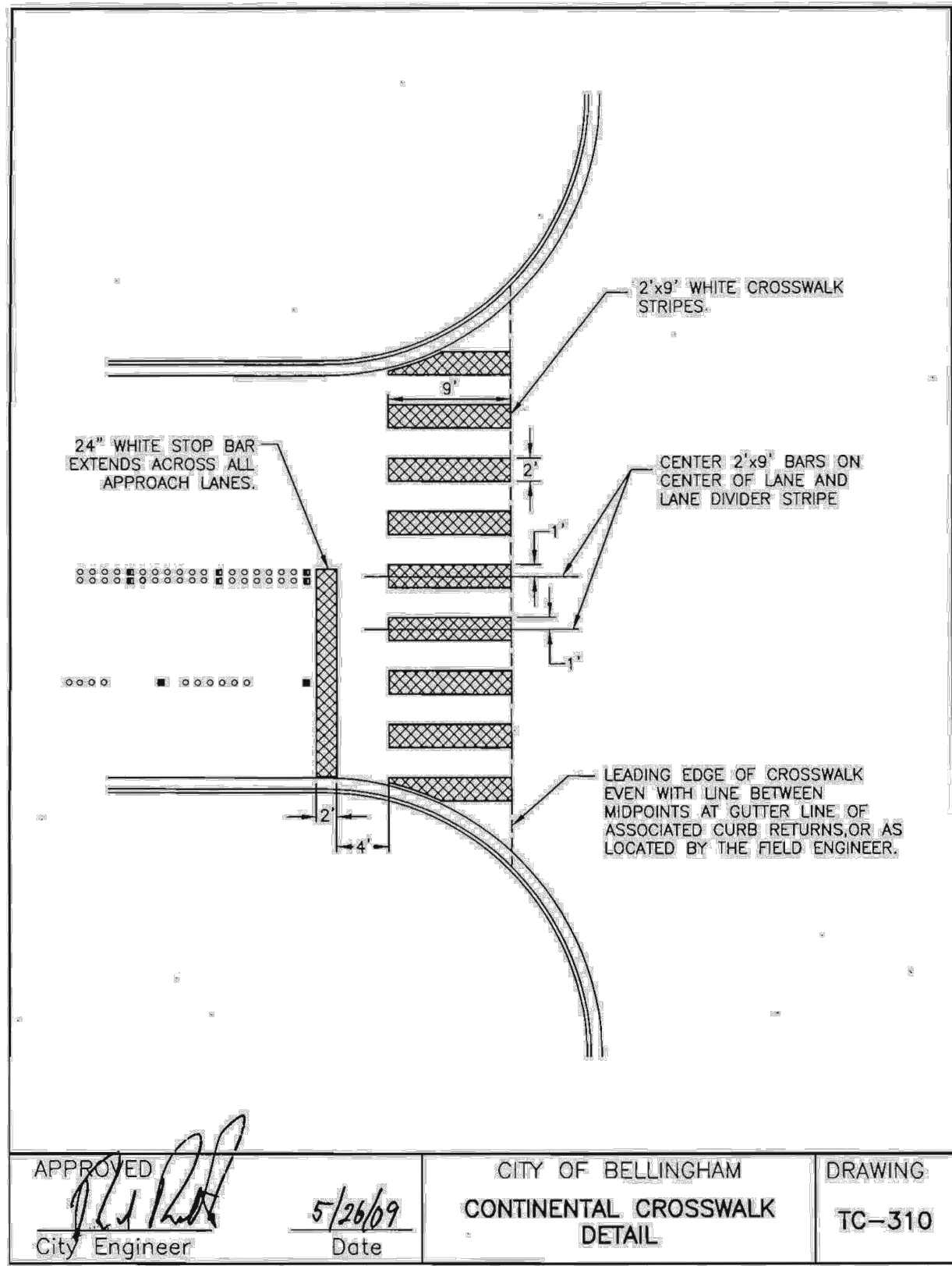
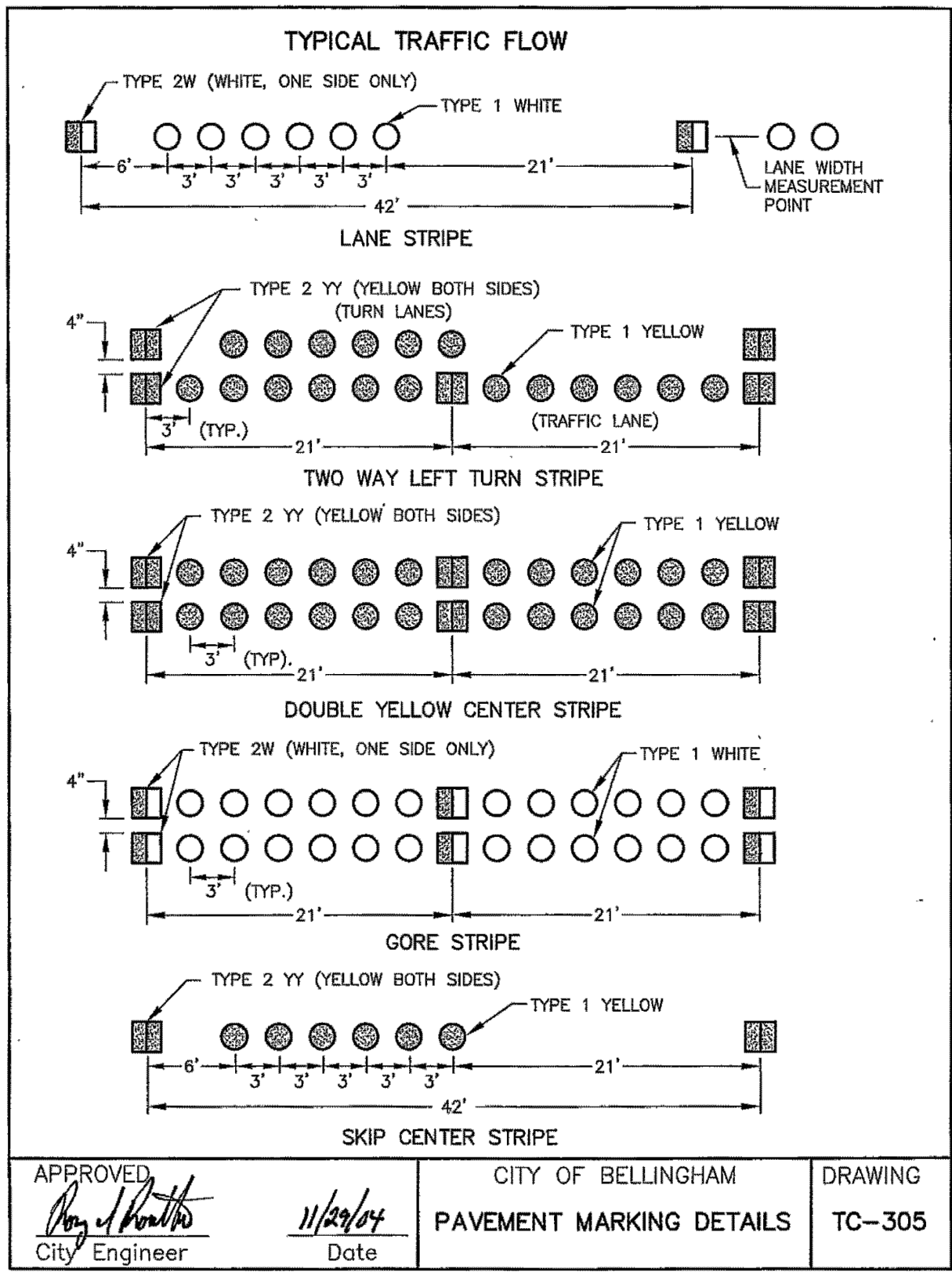


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CHD01

SHEET 40 OF 51

4			PROJECT ENGINEER	KBC	DIRECTOR PUBLIC WORKS	M.A.O.	CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	SCALE	DATUM	Job. No.	12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS CHANNELIZATION DETAILS	SHEET 40 OF 51
3			DESIGNED/DRAWN	JK/TN/TK	CITY ENGINEER	M.L.W.		Horiz.	NAD 83/98	Date		
2			INSPECTOR		ASSISTANT DIRECTOR	M.A.O.		Vert.	NAVD 88	8/9/2024		
1										Field Bk.		
Date	No	Revision	By									



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	4		
	3		
	2		
	1		
Date	No	Revision	By

PROJECT ENGINEER_KBC
DESIGNED/DRAWN_JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O.
CITY ENGINEER_M.L.W.
ASSISTANT DIRECTOR_M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
CHANNELIZATION DETAILS

SHEET 41 OF 51

CONTACT PERSON: KYLE CARLSON

PROJECT ENGINEER AT (360) 778-7946



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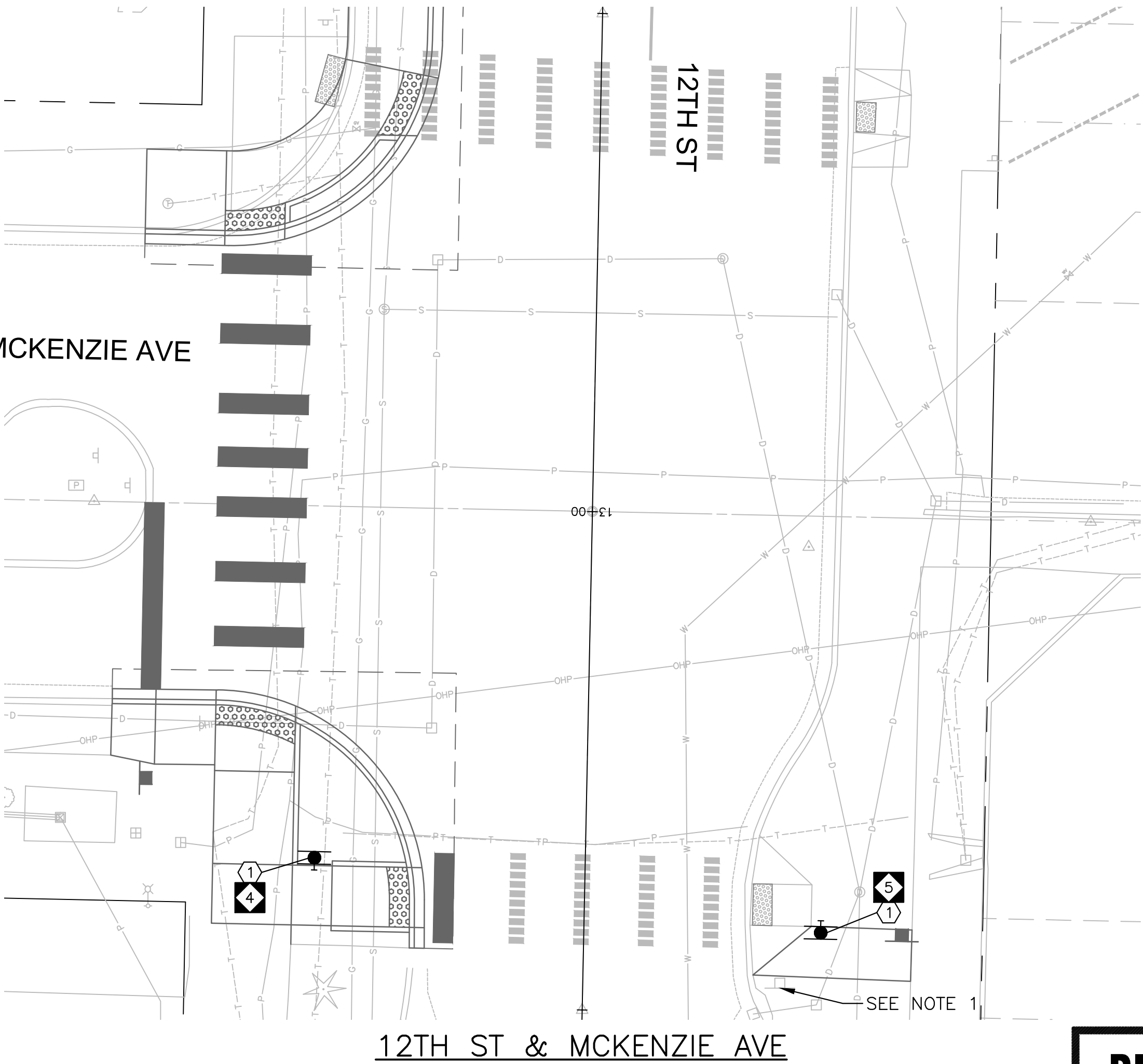
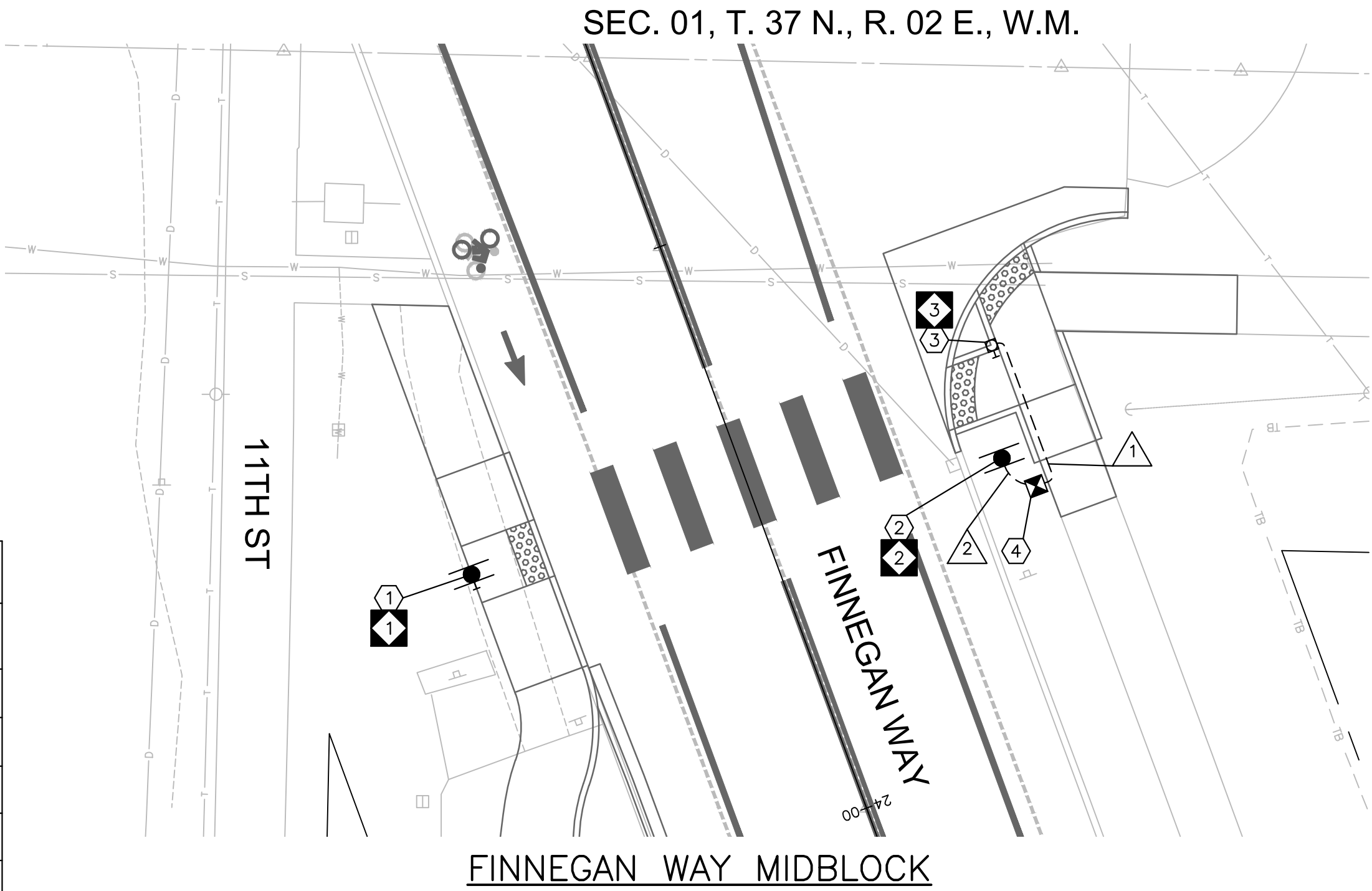
CHD02

LEGEND

	RIGHT-OF-WAY
	CONDUIT
	CONSTRUCTION NOTE
	POLE NOTE
	WIRE NOTE
	DOUBLE SIDED RRFB POLE
	PEDESTRIAN PUSHBUTTON POST
	PEDESTRIAN PUSHBUTTON
	TYPE 1 JUNCTION BOX
	EXISTING SIGN

POLE SCHEDULE						
POLE NO.	CENTERLINE STATIONING	STATION	POLE OFFSET (FT)	LT.	RT.	COMMENT
	FINNEGAN WAY	24+29.72	24.25	X		TYPICAL RRFB INSTALLATION WITH PUSHBUTTON PER DETAIL ON SHEET ELO2
	FINNEGAN WAY	24+23.53	20.71		X	TYPICAL RRFB INSTALLATION WITHOUT PUSHBUTTON PER DETAIL ON SHEET ELO2
	FINNEGAN WAY	24+32.67	23.17		X	PEDESTRIAN PUSHBUTTON POST AND FOUNDATION PER DETAIL ON SHEET ELO2
	12TH ST	12+64.71	27.17	X		TYPICAL RRFB INSTALLATION WITH PUSHBUTTON PER DETAIL ON SHEET ELO2
	12TH ST	12+58.23	23.76		X	TYPICAL RRFB INSTALLATION WITH PUSHBUTTON PER DETAIL ON SHEET ELO2

WIRING SCHEDULE					
# NO.	RACEWAY CONDUIT SIZE	PPB 2C(SH)	GROUND #8	CONDUIT FILL	COMMENTS
1	1" SCH40	1	1	18.28%	PPB POWER
2	2" SCH40	1	1	4.62%	PPB POWER



NOTE:

1. SEE DEMOLITION PLAN FOR EXISTING SIGN REMOVAL DETAILS.

RECTANGULAR RAPID FLASHING BEACON (RRFB) GENERAL NOTES:

- ALL WORK SHALL BE IN ACCORDANCE WITH CITY OF BELLINGHAM STANDARD PLANS AND SPECIFICATIONS, THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) STANDARD PLANS AND SPECIFICATIONS, AND THE CONTRACT, UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL FIELD VERIFY AND STAKE FINAL LOCATIONS OF ALL PROPOSED RRFB SIGNS AND FOUNDATIONS WITH THE ENGINEER PRIOR TO INSTALLATION. ALL PROPOSED SIGNS AND FOUNDATIONS SHALL BE LOCATED WITHIN RIGHT-OF-WAY AND PANELS SHALL NOT OVERHANG OUTSIDE OF RIGHT-OF-WAY. SIGN PANELS THAT OVERHANG SIDEWALKS/PATHWAYS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 7 FT FROM THE BOTTOM OF THE LOWEST PANEL TO THE ADJACENT SIDEWALK/PATHWAY SURFACE.
- SIGN CODES REFER TO THE MUTCD.
- ROADSIDE W16-7P SIGN SHALL HAVE ARROW POINT DOWNWARD TOWARDS THE DIRECTION OF THE CROSSWALK EITHER TO RIGHT (W16-7PR) OR TO THE LEFT (W16-7PL).
- SEE CHANNELIZATION, SIGNING, PAVING, AND CURB RAMP PLANS FOR FURTHER DETAILS.
- THE LOCATION OF EXISTING FEATURES AND UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING ELECTRICAL WORK. NOT ALL EXISTING FEATURES AND UTILITIES MAY BE SHOWN.
- ALL WORK SHALL BE CONSISTENT WITH UTILITY AGENCY REQUIREMENTS. THE CONTRACTOR SHALL CONTACT UTILITY AGENCIES 48 HOURS PRIOR TO COMMENCING WORK AND SHALL COORDINATE WITH ALL AFFECTED UTILITY AGENCIES THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES RESULTING FROM CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY AGENCY IMMEDIATELY UPON DAMAGE AND SHALL BE RESPONSIBLE FOR REPLACING DAMAGED EQUIPMENT TO THE SATISFACTION OF THE AFFECTED UTILITY AGENCY.
- POLE FOUNDATION LOCATIONS SHALL BE STAKED IN THE FIELD, POTHOLED TO VERIFY NO POTENTIAL UTILITY CONFLICTS EXIST, AND APPROVED BY THE ENGINEER PRIOR TO EXCAVATION.
- THE CONTRACTOR SHALL CHECK FOR MINIMUM OVERHEAD CLEARANCE BETWEEN ANY OVERHEAD POWER AND COMMUNICATION LINES PRIOR TO PLACING FOUNDATIONS.
- PEDESTRIAN PUSHBUTTON SHALL BE LOCATED WITHIN A 9-INCH MAXIMUM REACH FROM A CLEAR SPACE PER ADA ACCESSIBILITY GUIDELINES AND WSDOT DESIGN MANUAL.
- THE CONTRACTOR SHALL EXERCISE CAUTION DURING CONSTRUCTION DUE TO NATURAL GAS AND ELECTRICAL FACILITIES. SEE SHEETS DEMOLITION AND PAVING PLANS FOR EXISTING UTILITIES INFORMATION.
- SEE SHEET ELO2 FOR RECTANGULAR RAPID FLASHING BEACON (RRFB) AND PEDESTRIAN PUSHBUTTON (PPB) DETAILS.
- PROPOSED AND MODIFIED JUNCTION BOXES SHALL BE BONDED AND GROUNDED PER NEC REQUIREMENTS.
- ALL LIDS AND FRAMES FOR JUNCTION BOXES WITHIN SIDEWALK SECTIONS SHALL HAVE SLIP-RESISTANT LIDS.
- THE LOCATIONS OF PROPOSED CONDUITS AND JUNCTION BOXES SHOWN IN THESE PLANS ARE GRAPHICAL REPRESENTATIONS ONLY. THE CONTRACTOR SHALL FIELD VERIFY FINAL LOCATIONS WITH THE ENGINEERING PRIOR TO INSTALLATION.

CONSTRUCTION NOTES:

- CONSTRUCT FOUNDATION AND INSTALL DOUBLE SIDED RECTANGULAR RAPID FLASHING BEACON (RRFB) POLE, PUSHBUTTON, AND SIGN(S). INSTALL NEW PEDESTRIAN PUSHBUTTON AND SIGNS ON POLE ORIENTED PARALLEL TO CROSSWALK.
- CONSTRUCT FOUNDATION AND INSTALL DOUBLE SIDED RECTANGULAR RAPID FLASHING BEACON (RRFB) POLE AND SIGN(S). INSTALL NEW SIGNS ON POLE ORIENTED PARALLEL TO CROSSWALK.
- CONSTRUCT CURB BASE TYPE FOUNDATION AND INSTALL PEDESTRIAN PUSHBUTTON (PPB) POST WITH FIXED BASE. INSTALL ONE PEDESTRIAN PUSHBUTTON ON POST ORIENTED PARALLEL TO CROSSWALK.
- INSTALL TYPE 1 JUNCTION BOX PER WSDOT STANDARD PLAN J-40.10-04.

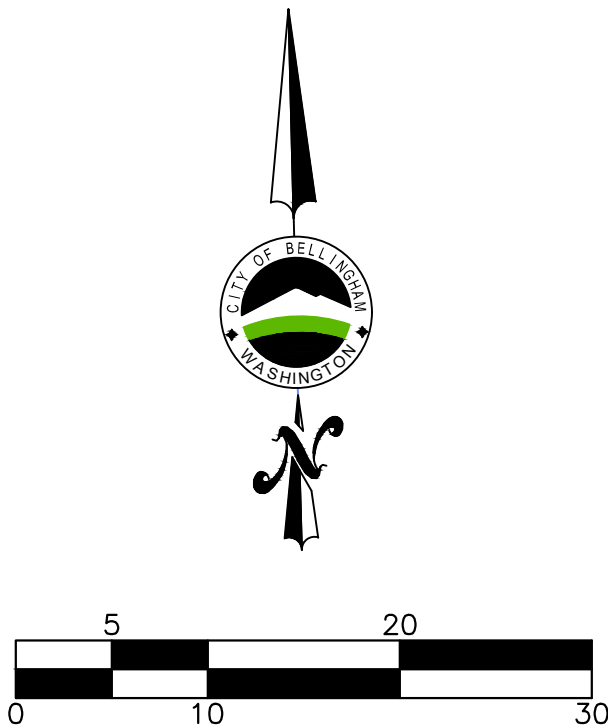


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ELO1

SHEET
42
OF
51

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	4		
	3		
	2		
	1		
Date	No	Revision	By

PROJECT ENGINEER KBC
DESIGNED/DRAWN JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS M.A.O.
CITY ENGINEER M.L.W.
ASSISTANT DIRECTOR M.A.O.

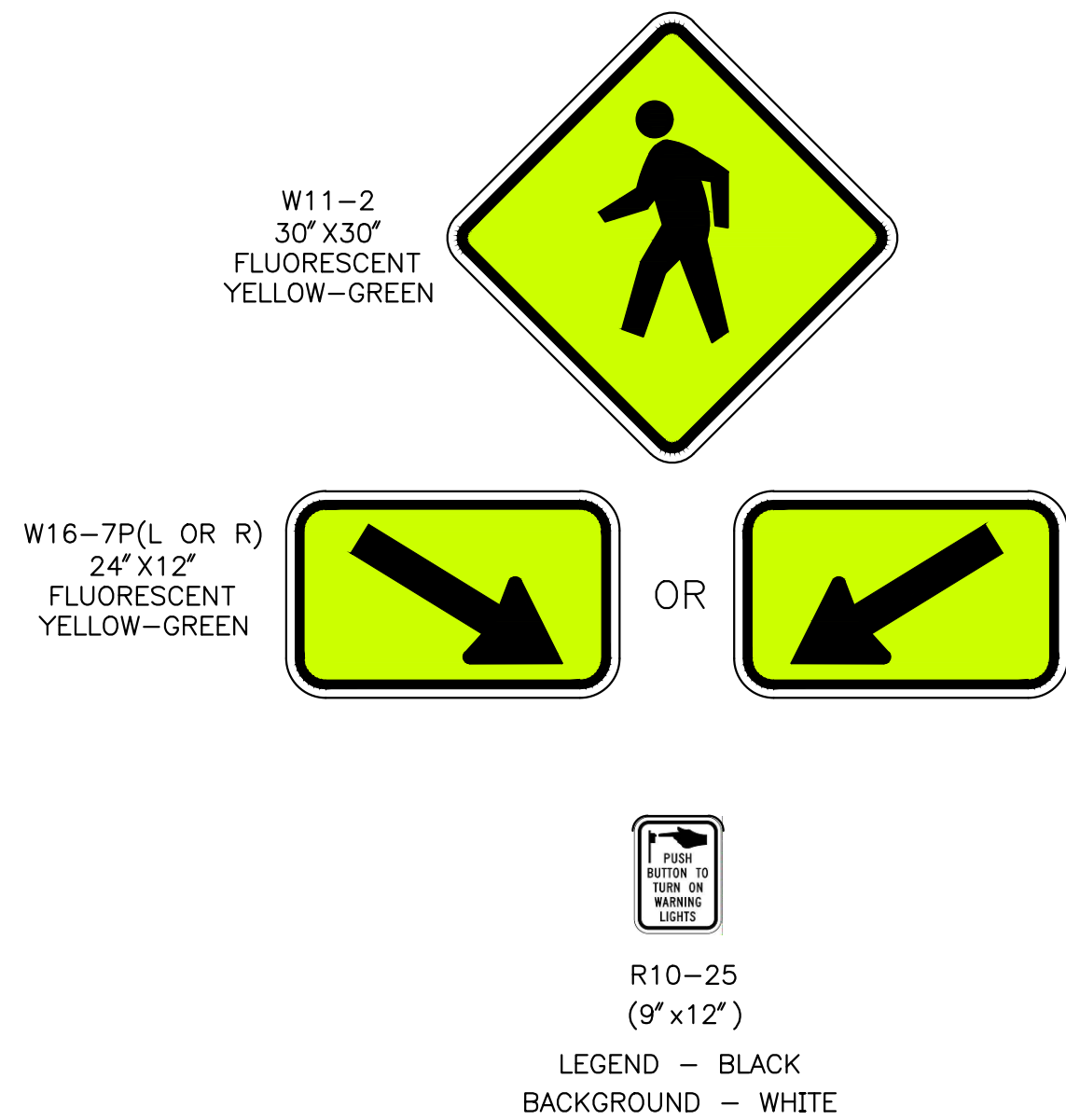
CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

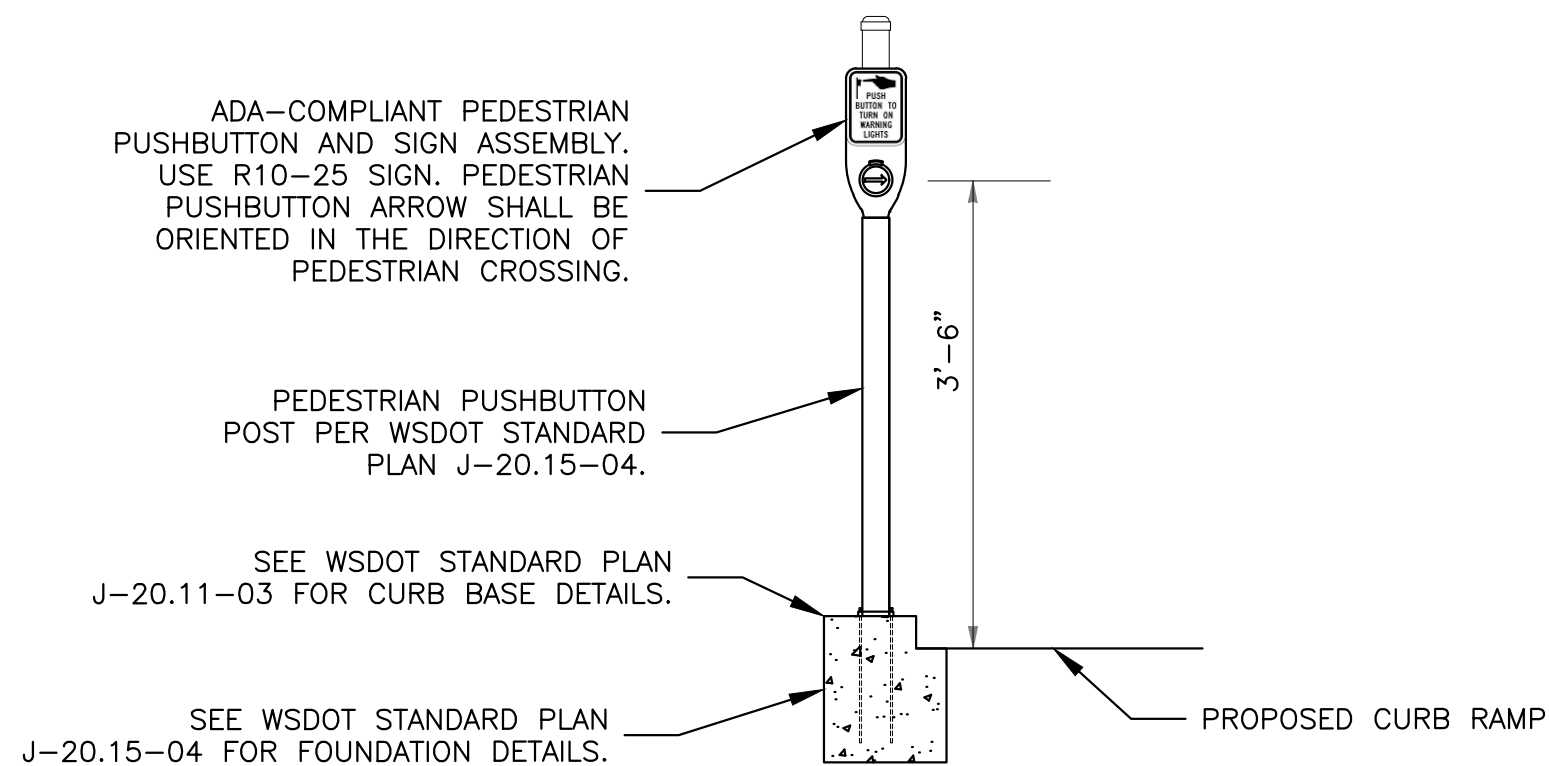
Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
RECTANGULAR RAPID FLASHING BEACON (RRFB) PLAN

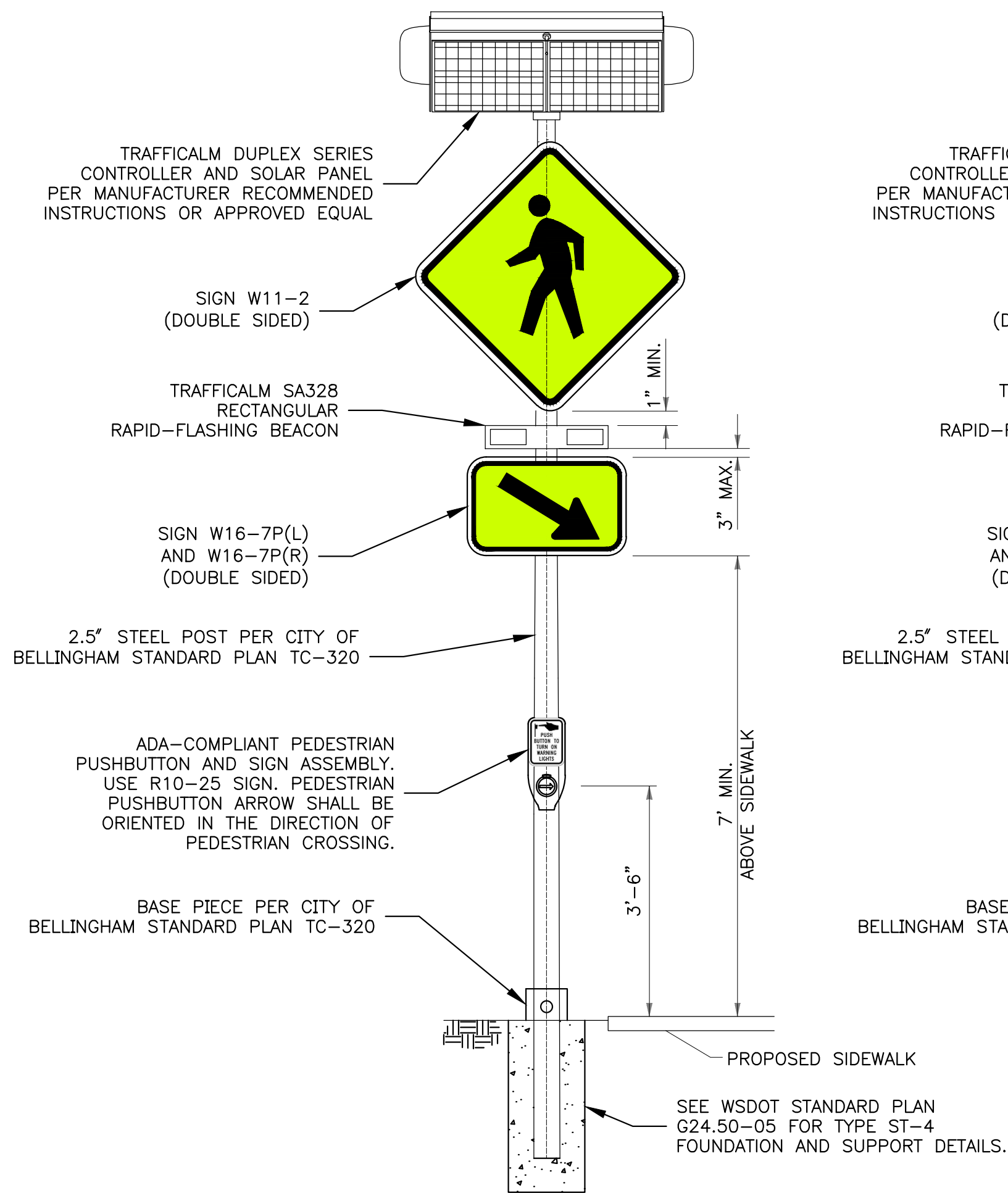


SIGN DETAIL NOTES:

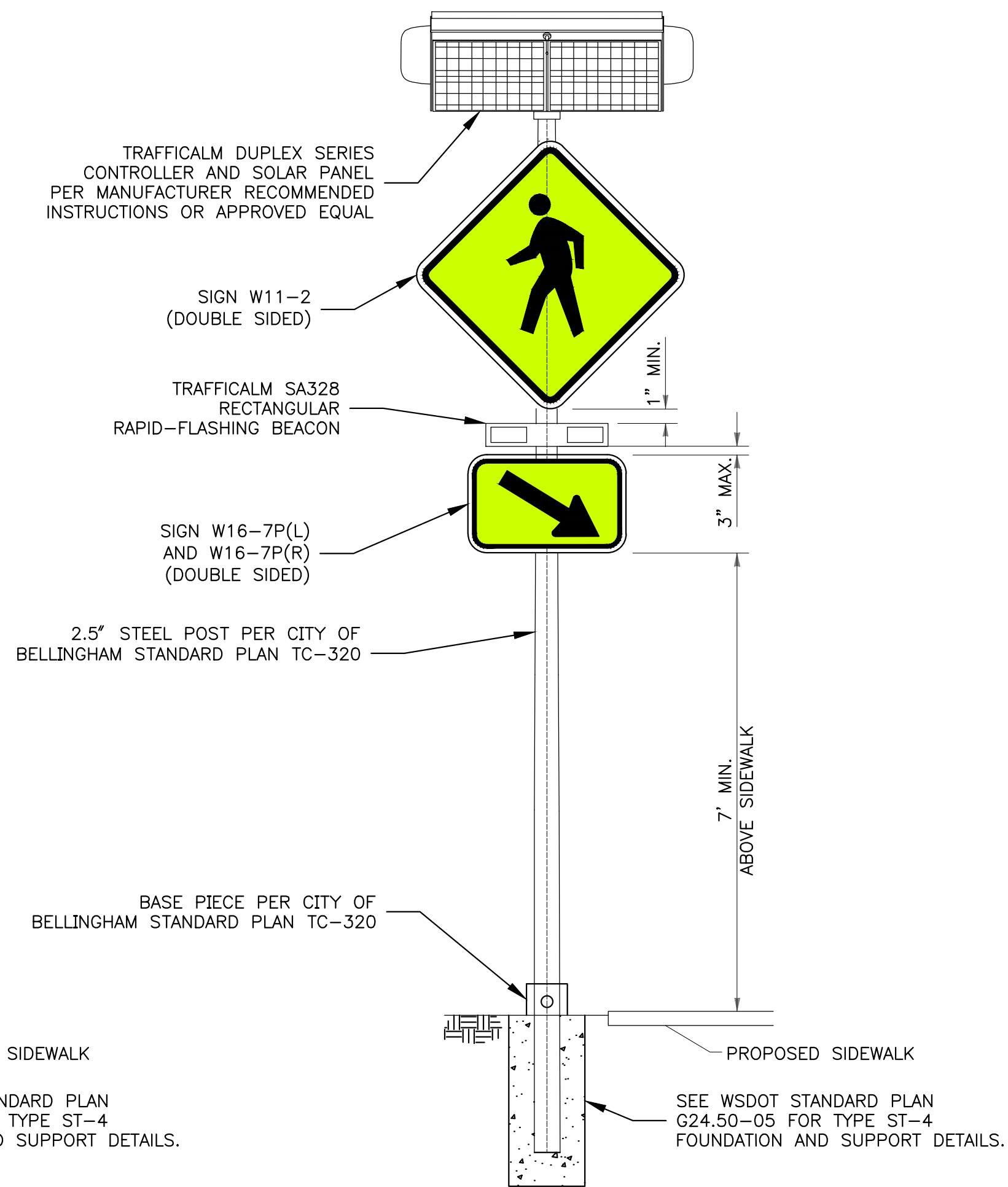
1. RRFB SIGNS, AS SHOWN ON THIS DETAIL AND THE PLANS, SHALL BE PROVIDED BY THE CONTRACTOR.
2. ALL OTHER GROUND-MOUNTED SMALL SIGNS SHALL BE PROVIDED BY THE CITY OF BELLINGHAM.
3. ORIENT SOLAR PANEL PER MANUFACTURER'S RECOMMENDATION.



PEDESTRIAN PUSHBUTTON (PPB) POST
AND FOUNDATION DETAIL
N.T.S.



TYPICAL INSTALLATION WITH
PUSHBUTTON (POLE 1, POLE 4, AND POLE 5)



TYPICAL INSTALLATION WITHOUT
PUSHBUTTON (POLE 2)

RECTANGULAR RAPID FLASHING BEACON (RRFB) AND SIGN DETAIL

N.T.S.

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EL02

	4		
	3		
	2		
	1		
Date	No	Revision	By

PROJECT ENGINEER_KBC_____
DESIGNED/DRAWN_JK/IN/TK_____
INSPECTOR_____

DIRECTOR PUBLIC WORKS_M.A.O_____
CITY ENGINEER_M.L.W_____
ASSISTANT DIRECTOR_M.A.O_____

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566_____
Date 8/9/2024_____
Field Bk. _____

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
RECTANGULAR RAPID FLASHING BEACON (RRFB) PLAN - DETAILS

SHEET
43 OF
51

CONTACT PERSON: KYLE CARLSON

PROJECT ENGINEER AT (360) 778-7946

3. ALL PERMITS REQUIRED FOR WORK WITHIN THE PUBLIC RIGHT-OF-WAY MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
4. THE LOCATION OF EXISTING FEATURES AND UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING TRAFFIC SIGNAL WORK. NOT ALL EXISTING FEATURES AND UTILITIES MAY BE SHOWN.
5. ALL WORK SHALL BE CONSISTENT WITH UTILITY AGENCY REQUIREMENTS. THE CONTRACTOR SHALL CONTACT UTILITY AGENCIES 48 HOURS PRIOR TO COMMENCING WORK AND SHALL COORDINATE WITH ALL AFFECTED UTILITY AGENCIES THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES RESULTING FROM CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY AGENCY IMMEDIATELY UPON DAMAGE AND SHALL BE RESPONSIBLE FOR REPLACING DAMAGED EQUIPMENT TO THE SATISFACTION OF THE AFFECTED UTILITY AGENCY.
6. THE LOCATIONS OF PROPOSED CONDUITS AND JUNCTION BOXES SHOWN IN THESE PLANS ARE GRAPHICAL REPRESENTATIONS ONLY. THE CONTRACTOR SHALL FIELD VERIFY FINAL LOCATIONS WITH THE ENGINEER PRIOR TO INSTALLATION.
7. POLE FOUNDATION LOCATIONS SHALL BE STAKED IN THE FIELD, POTHOLED TO VERIFY NO POTENTIAL UTILITY CONFLICTS EXIST, AND APPROVED BY THE ENGINEER PRIOR TO EXCAVATION.
8. PEDESTRIAN PUSHBUTTON (PPB) POSTS WITH BREAKAWAY BASES AND FOUNDATIONS SHALL BE INSTALLED PER WSDOT STANDARD PLAN J-20.15-04.
9. PEDESTRIAN SIGNAL (PS) POLES WITH BREAKAWAY COUPLINGS AND FOUNDATIONS SHALL BE INSTALLED PER WSDOT STANDARD PLANS J-20.16-02, J-20.20-02, AND J-21.10-05.
10. TYPE 1 SIGNAL POLES WITH BREAKAWAY COUPLINGS AND FOUNDATIONS SHALL BE INSTALLED PER WSDOT STANDARD PLANS J-21.15-01, J-21.20-01, AND J-21.10-05.
11. PEDESTRIAN PUSHBUTTONS SHALL BE APS (ACCESSIBLE PEDESTRIAN SIGNALS) STYLE PER WSDOT STANDARD PLAN J-20.26-01 AND SHALL INCLUDE PEDESTRIAN PUSHBUTTON INSTRUCTIONAL SIGN. THE CONTRACTOR SHALL CONFIRM THE ORIENTATION OF THE PEDESTRIAN PUSHBUTTONS WITH THE ENGINEER PRIOR TO ORDERING EQUIPMENT. THE FACE OF PEDESTRIAN PUSHBUTTONS SHALL BE INSTALLED PARALLEL WITH THE ASSOCIATED CROSSWALK, UNLESS OTHERWISE NOTED. PEDESTRIAN PUSHBUTTON SHALL HAVE SPEECH MESSAGES INDICATING THE ROADWAY CROSSING NAMES AS NOTED ON THE TABLE ON SHEET SG02. APS PEDESTRIAN PUSHBUTTONS SHALL BE LOCATED WITHIN A 9-INCH MAXIMUM REACH FROM A CLEAR SPACE, PER AMERICANS WITH DISABILITY ACT (ADA) GUIDELINES AND WSDOT DESIGN MANUAL. PEDESTRIAN PUSHBUTTONS SHALL BE ORIENTED PER WSDOT STANDARD PLAN J-20.05-00.
12. PEDESTRIAN SIGNAL HEADS SHALL BE COUNTDOWN TYPE LED WITH Z-CRATE VISORS AND MOUNTED PER WSDOT STANDARD PLAN J-75.10-02.
13. THE CONTRACTOR SHALL LABEL ALL CONDUCTORS FOR TRAFFIC SIGNAL AND LIGHTING SYSTEM WITHIN EACH JUNCTION BOX.
14. PROPOSED AND MODIFIED JUNCTION BOXES SHALL BE BONDED AND GROUNDED PER NEC REQUIREMENTS.
15. COORDINATE INSTALLATION OF THE THERMAL DETECTION SYSTEM WITH THE CITY OF BELLINGHAM AND/OR ENGINEER. THERMAL DETECTION CAMERA SHALL BE TELDYNE FLIR TRAFISENSE2 OR APPROVED EQUAL. THERMAL DETECTION CAMERA SHALL BE MOUNTED ON SIGNAL MAST ARM PER MANUFACTURER RECOMMENDED INSTRUCTIONS.
16. ALL TRAFFIC SIGNAL AND PEDESTRIAN HEADS AND PUSHBUTTONS SHALL BE SECURELY COVERED WHEN NOT IN OPERATION.
17. ALL NEW JUNCTION BOXES SHALL BE INSTALLED TO MATCH THE GRADE OF THE EXISTING/PROPOSED SIDEWALK OR LANDSCAPE AREA. THE CONTRACTOR SHALL AVOID PLACEMENT OF ANY CONDUITS, JUNCTION BOXES AND CABLE VAULTS IN LOCATIONS THAT WILL AFFECT EXISTING PEDESTRIAN CURB RAMPS.
18. ALL LIDS AND FRAMES FOR JUNCTION BOXES WITHIN SIDEWALK SECTIONS SHALL HAVE SLIP-RESISTANT LIDS.
19. NEW PEDESTRIAN SIGNAL HEADS INSTALLED ON TYPE PS SIGNAL POLE SHALL BE TYPE C OR TYPE D MOUNT PER WSDOT STANDARD PLAN J-75.10-02.
20. ANY EXISTING UTILITIES THAT ARE IN SERVICE SHALL BE OPERATIONAL AT ALL TIMES.
21. THE CONTRACTOR SHALL SUBMIT ALL MATERIAL CUT SHEETS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING AND INSTALLATION.
22. TYPE 1 AND 2 JUNCTION BOXES SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT STANDARD PLAN J-40.10-04.
23. TYPE 8 JUNCTION BOXES SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT STANDARD PLAN J-40.30-04.
24. MAST ARM MOUNTED TRAFFIC SIGNAL HEADS SHALL UTILIZE TYPE M MOUNTS IN ACCORDANCE WITH CITY OF BELLINGHAM STANDARD PLAN EL-420 UNLESS OTHERWISE NOTED. TOP OF POLE MOUNTED VEHICLE TRAFFIC SIGNAL HEAD SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT STANDARD PLAN J-75.10-02. VEHICLE SIGNAL HEADS SHALL HAVE LOUVERED BACKPLATES WITH 2" YELLOW RETROREFLECTIVE BORDERS. VEHICLE SIGNAL HEADS SHALL HAVE 12" LENSES WITH TUNNEL VISORS.
25. THE CONTRACTOR SHALL CHECK FOR MINIMUM OVERHEAD CLEARANCE OF 16FT - 6IN FOR ALL SIGNAL HEADS ABOVE EXISTING/PROPOSED FINISH GRADE PRIOR TO INSTALLING SIGNAL HEADS.
26. SEE SHEET NT01 FOR ADDITIONAL GENERAL AND SURVEY NOTES.
27. PLEASE NOTE THAT NEW TRAFFIC SIGNAL POLES CAN TAKE GREATER THAN SIX (6) MONTHS OF LEAD TIMES TO PROCURE, FABRICATE, AND DELIVER. PLEASE ORDER THE POLES AT THE EARLIEST POSSIBLE DATE AND SUBMIT SHOP DRAWINGS TO THE CITY OF BELLINGHAM AND SIGNAL DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO SUBMITTING ORDER TO THE MANUFACTURER.
28. SIGNS ON SIGNALS AND LIGHT STANDARDS SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT STANDARD PLAN G-30.10-04.
29. THE CONTRACTOR SHALL EXERCISE CAUTION DURING CONSTRUCTION AS NATURAL GAS AND ELECTRICAL FACILITIES EXIST WITHIN THE PROJECT LIMITS.

- SIGN LEGEND**

D3-2
W/G
8" SERIES D
30" X 96"

1

BORDER
R=1.5"
TH=0.75"
FONT=8D

Panel Style: guide_con_advance street_name_2-lines_2012.ssi
M.U.T.C.D.: 2009 Edition

D3-2
W/G
8" SERIES D
30" X 96"

2

BORDER
R=1.5"
TH=0.75"
FONT=8D

Panel Style: guide_con_advance street_name_2-lines_2012.ssi
M.U.T.C.D.: 2009 Edition

D3-2
W/G
8" SERIES D
18" X 54"

3

BORDER
R=1.5"
TH=0.75"
FONT=8D

Panel Style: guide_con_advance street_name_2-lines_2012.ssi
M.U.T.C.D.: 2009 Edition

R10-11
B/W/R
24" X 30"

4A 4B

Panel Style: guide_con_advance street_name_2-lines_2012.ssi
M.U.T.C.D.: 2009 Edition

RIGHT-OF-WAY
CONDUIT
CONSTRUCTION NOTE
SIGNAL POLE CONSTRUCTION NOTE
WIRE NOTE
SIGN NOTE
LUMINAIRE POLE NUMBER
TYPE II/III SIGNAL POLE AND MAST ARM
TYPE I SIGNAL POLE
PEDESTRIAN SIGNAL STANDARD (PS)
ACCESSIBLE PEDESTRIAN PUSHBUTTON POST (PPB)
ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSHBUTTON ASSEMBLY
PEDESTRIAN SIGNAL HEAD
TYPE 1 JUNCTION BOX
TYPE 2 JUNCTION BOX
TYPE 8 JUNCTION BOX
CABLE VAULT
PULL BOX
LUMINAIRE
STREET LIGHT LUMINAIRE AND POLE
DECORATIVE PENDANT STREET LIGHT AND POLE
VEHICLE SIGNAL HEAD
EMERGENCY VEHICLE PREEMPTION (EVP) DETECTOR
MAST ARM MOUNTED SIGN
MAST ARM MOUNTED STREET NAME SIGN
TENON (FOR FUTURE USE)
THERMAL DETECTION CAMERA
THERMAL DETECTION ZONE
ELECTRICAL SERVICE CABINET
TRAFFIC SIGNAL CONTROLLER CABINET, FOUNDATION, AND PAD

	4		
	3		
	2		
	1		
Date	No	Revision	By

PROJECT ENGINEER KBC
DESIGNED/DRAWN JK/TN/TK
INSPECTOR _____

DIRECTOR PUBLIC WORKS	M.A.O.
CITY ENGINEER	M.L.W.
ASSISTANT DIRECTOR	M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE

Horiz. AS NOTED

Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk. _____

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
TRAFFIC SIGNAL - GENERAL NOTES AND LEGEND

SHEET 44 OF 51

transpogroup 
WHAT TRANSPORTATION CAN BE.

**12131 113TH AVENUE NE, SUITE 203
KIRKLAND, WASHINGTON 98034**

**(TEL) 425 821-3665
(FAX) 425 825-8434**

SG01

BID SUBMITTAL

CONTACT PERSON: KYLE CARLSON

, PROJECT ENGINEER AT (360) 778-7946

APS SPEECH MESSAGES			
STREET (A)	STREET (B)	ARROW DIRECTION	QUANTITY
TWELFTH	MILL	L	2
TWELFTH	MILL	R	2
MILL	TWELFTH	L	2
MILL	TWELFTH	R	2

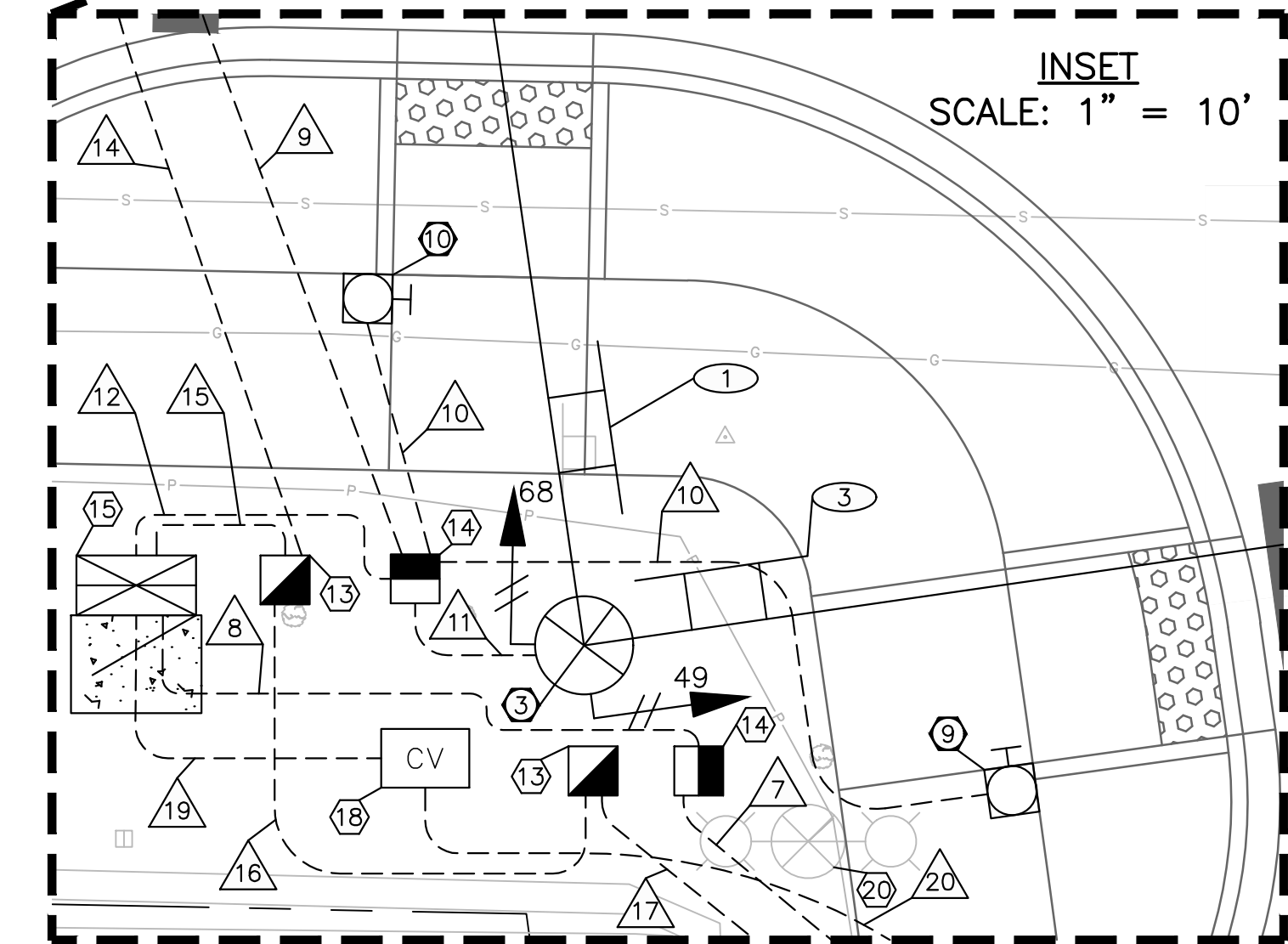
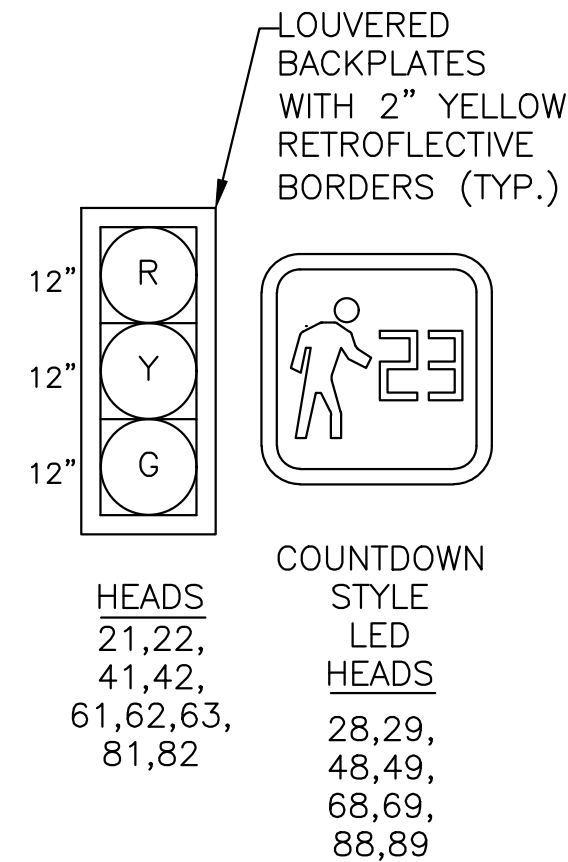
SPEECH MESSAGES SHALL BE PROVIDED IN THE FOLLOWING FORMAT:
"WAIT."
"WAIT TO CROSS ____ (A) ____ AT ____ (B) ____."
"WALK SIGN IS ON TO CROSS ____ (A) ____."

PROPOSED SIGNAL PHASE DIAGRAM

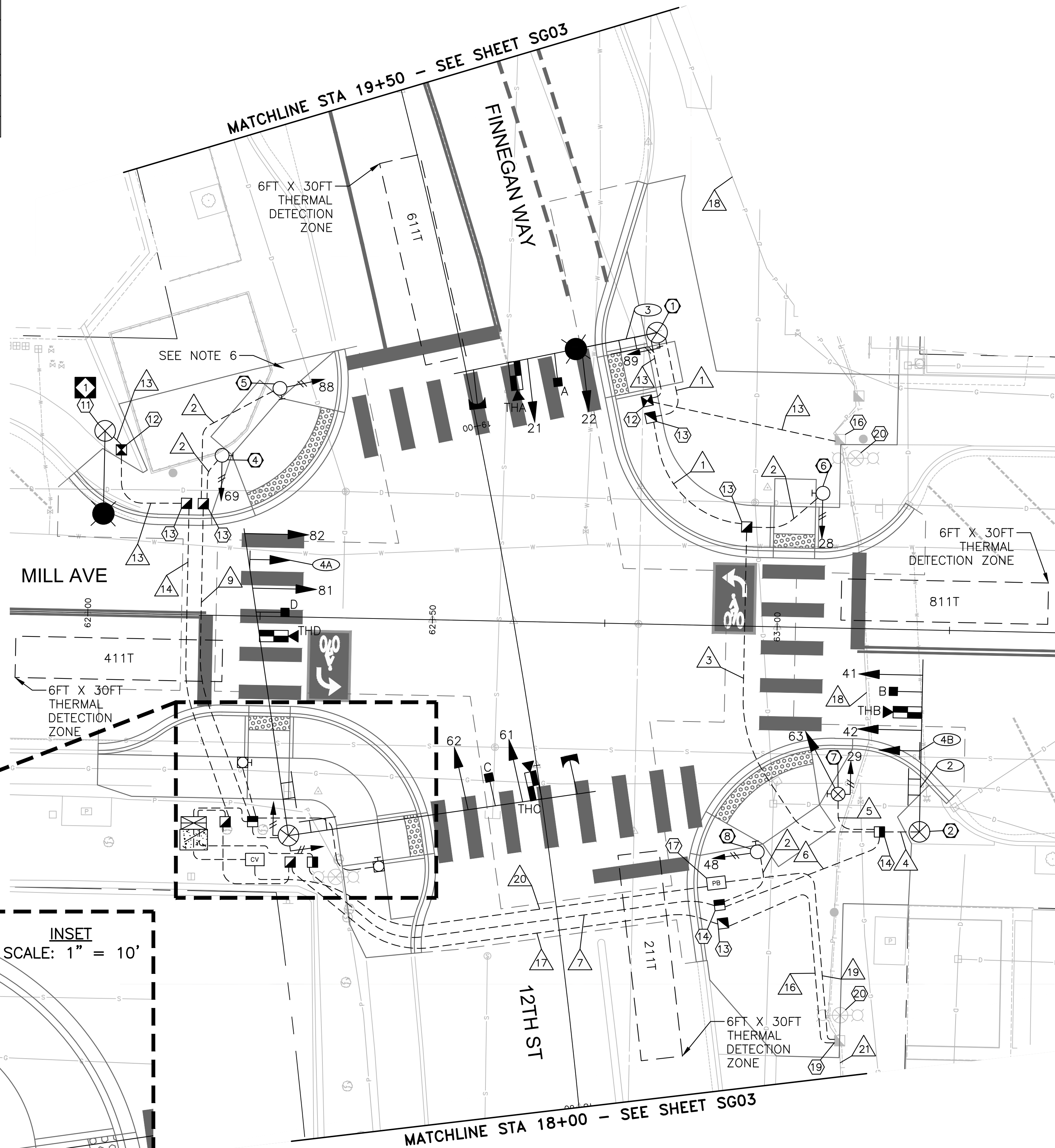
NOT USED Ø1		NOT USED Ø3	
NOT USED Ø5		NOT USED Ø7	

BARRIER (TYP.)
→ VEHICLE MOVEMENT
→ PEDESTRIAN MOVEMENT
* LEADING PEDESTRIAN INTERVAL (LPI)

SIGNAL HEAD ASSIGNMENTS



SEC. 01, T. 37 N., R. 02 E., W.M.



NOTES:

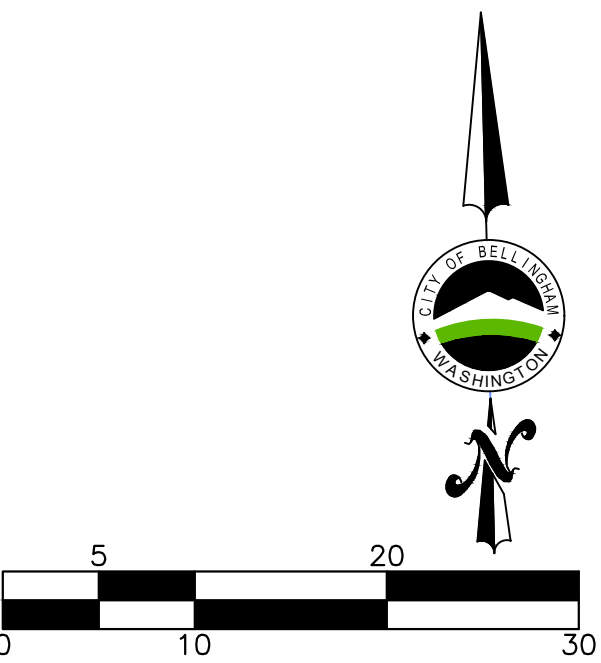
- SEE SHEET SG01 FOR TRAFFIC SIGNAL GENERAL NOTES, SIGN LEGEND, AND LEGEND.
- SEE SHEET SG03 FOR STREET LIGHT ONE-LINE DIAGRAM.
- SEE SHEET SG04 FOR WIRING SCHEDULE, PRE-EMPTION SCHEDULE, LUMINAIRE POLE SCHEDULE, AND EXISTING SERVICE CABINET BREAKER SCHEDULE.
- SEE SHEET SG05 FOR TRAFFIC SIGNAL WIRING TERMINATIONS.
- SEE SHEET SG06 FOR TRAFFIC SIGNAL POLE CHART.
- SEE DEMOLITION PLAN FOR EXISTING PATIO REMOVAL DETAILS. THE CONTRACTOR SHALL MAINTAIN A MINIMUM 4FT WALKAROUND DISTANCE AT BASE OF SIGNAL POLE AND PROPOSED PATIO.

CONSTRUCTION NOTES:

- CONSTRUCT SIGNAL STANDARD FOUNDATION AND INSTALL TYPE III SIGNAL POLE WITH 30FT MAST ARM AND RECESSED TERMINAL COMPARTMENT. INSTALL TWO VEHICLE SIGNAL HEADS, ONE TENON FOR FUTURE VEHICLE SIGNAL HEAD, ONE EVP DETECTOR, ONE THERMAL DETECTION CAMERA, AND ONE STREET NAME SIGN ON MAST ARM. INSTALL ONE APS STYLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH APS SPEECH MESSAGE AND ONE COUNTDOWN STYLE PEDESTRIAN SIGNAL HEAD (TYPE E MOUNT) ON POLE. TOP OF FOUNDATION SHALL BE FLUSH WITH ADJACENT FINISHED SIDEWALK OR CURB. INSTALL ONE 95W CREE XSPMD LED LUMINAIRE FIXTURE (XSPMD-D-HT-2ME-12L-40K7-UL-SV-N-Q4) AT 30FT MOUNTING HEIGHT WITH 12FT LUMINAIRE ARM.
- CONSTRUCT SIGNAL STANDARD FOUNDATION AND INSTALL TYPE II SIGNAL POLE WITH 25FT MAST ARM AND RECESSED TERMINAL COMPARTMENT. INSTALL TWO VEHICLE SIGNAL HEADS, ONE EVP DETECTOR, ONE THERMAL DETECTION CAMERA, ONE REGULATORY SIGN, AND ONE STREET NAME SIGN ON MAST ARM. TOP OF FOUNDATION SHALL BE FLUSH WITH ADJACENT FINISHED SIDEWALK OR CURB.
- CONSTRUCT SIGNAL STANDARD FOUNDATION AND INSTALL TYPE II DOUBLE MAST ARM SIGNAL POLE WITH ONE 45FT MAST ARM SERVING SOUTHBOUND DIRECTION (VEHICLE SIGNAL PHASE 6) AND ONE 45FT MAST ARM SERVING WESTBOUND DIRECTION (VEHICLE SIGNAL PHASE 8) AND RECESSED TERMINAL COMPARTMENT. INSTALL TWO VEHICLE SIGNAL HEADS, ONE TENON FOR FUTURE SIGNAL HEAD, ONE EVP DETECTOR, ONE THERMAL DETECTION CAMERA, AND ONE STREET NAME SIGN ON THE MAST ARM SERVING THE SOUTHBOUND DIRECTION (VEHICLE SIGNAL PHASE 6). INSTALL TWO VEHICLE SIGNAL HEADS, ONE EVP DETECTOR, ONE THERMAL DETECTION CAMERA, ONE REGULATORY SIGN, AND ONE STREET NAME SIGN ON THE MAST ARM SERVING THE WESTBOUND DIRECTION (VEHICLE SIGNAL PHASE 8). TOP OF FOUNDATION SHALL BE FLUSH WITH ADJACENT FINISHED SIDEWALK OR CURB.
- CONSTRUCT FOUNDATION AND INSTALL TYPE PS SIGNAL POLE WITH BREAKAWAY COUPLINGS. INSTALL ONE APS STYLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH APS SPEECH MESSAGE AND ONE COUNTDOWN STYLE PEDESTRIAN SIGNAL HEAD (TYPE D MOUNT) ON POLE.
- CONSTRUCT FOUNDATION AND INSTALL TYPE PS SIGNAL POLE WITH BREAKAWAY COUPLINGS. INSTALL ONE APS STYLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH APS SPEECH MESSAGE AND ONE COUNTDOWN STYLE PEDESTRIAN SIGNAL HEAD (TYPE D MOUNT) ON POLE.
- CONSTRUCT FOUNDATION AND INSTALL TYPE PS SIGNAL POLE WITH BREAKAWAY COUPLINGS. INSTALL ONE APS STYLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH APS SPEECH MESSAGE AND ONE COUNTDOWN STYLE PEDESTRIAN SIGNAL HEAD (TYPE D MOUNT) ON POLE.
- CONSTRUCT FOUNDATION AND INSTALL TYPE I SIGNAL POLE WITH BREAKAWAY COUPLINGS. INSTALL ONE VEHICLE SIGNAL HEAD (TOP MOUNT), ONE APS STYLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH APS SPEECH MESSAGE, AND ONE COUNTDOWN STYLE PEDESTRIAN SIGNAL HEAD (TYPE E MOUNT) ON POLE.
- CONSTRUCT FOUNDATION AND INSTALL TYPE PS SIGNAL POLE WITH BREAKAWAY COUPLINGS. INSTALL ONE APS STYLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH APS SPEECH MESSAGE AND ONE COUNTDOWN STYLE PEDESTRIAN SIGNAL HEAD (TYPE D MOUNT) ON POLE.
- CONSTRUCT FOUNDATION AND INSTALL PEDESTRIAN PUSHBUTTON POST WITH BREAKAWAY BASE. INSTALL ONE APS STYLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH APS SPEECH MESSAGE.
- CONSTRUCT FOUNDATION AND INSTALL PEDESTRIAN PUSHBUTTON POST WITH BREAKAWAY BASE. INSTALL ONE APS STYLE PEDESTRIAN PUSHBUTTON ASSEMBLY WITH APS SPEECH MESSAGE.
- CONSTRUCT ARTERIAL LUMINAIRE POLE FOUNDATION AND INSTALL ARTERIAL LUMINAIRE POLE. INSTALL ONE 95W CREE XSPMD LED LUMINAIRE FIXTURE (XSPMD-D-HT-2ME-12L-40K7-UL-SV-N-Q4) AT 30FT MOUNTING ARM WITH 12FT LUMINAIRE ARM.
- INSTALL TYPE 1 JUNCTION BOX.
- INSTALL TYPE 2 JUNCTION BOX.
- INSTALL TYPE 8 JUNCTION BOX.
- CONSTRUCT TYPE "P" SIGNAL CABINET BASE AND CONCRETE PAD. INSTALL ONE FULLY LOADED TYPE "P" TRAFFIC SIGNAL CONTROLLER CABINET AND ALL APPURTENANCES ON SIGNAL CABINET BASE. COORDINATE WITH CITY OF BELLINGHAM TRAFFIC SIGNAL STAFF FOR INSTALLATION AND SIGNAL TURN-ON WITHIN NEW TRAFFIC SIGNAL CONTROLLER CABINET. INTERCONNECT TERMINATION WITHIN NEW TRAFFIC SIGNAL CONTROLLER CABINET WILL BE PERFORMED BY CITY OF BELLINGHAM TRAFFIC SIGNAL STAFF.
- MAINTAIN AND PROTECT EXISTING JUNCTION BOX. ADJUST LID AND FRAME TO FINAL GRADE. ROUTE NEW CONDUIT INTO EXISTING JUNCTION BOX.
- INSTALL PULL BOX.
- INSTALL CABLE VAULT.
- MAINTAIN AND PROTECT EXISTING JUNCTION BOX. ROUTE NEW CONDUIT(S) INTO EXISTING JUNCTION BOX.
- MAINTAIN AND PROTECT EXISTING DECORATIVE PENDANT STREET LIGHT.

BID SUBMITTAL

811 Call 811
two business days
before you dig



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WHAT TRANSPORTATION CAN BE

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SG02

SHEET 45 OF 51

4			
3			
2			
1			
Date	No	Revision	By

PROJECT ENGINEER_KBC
DESIGNED/DRAWN_JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O.
CITY ENGINEER_M.L.W.
ASSISTANT DIRECTOR_M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

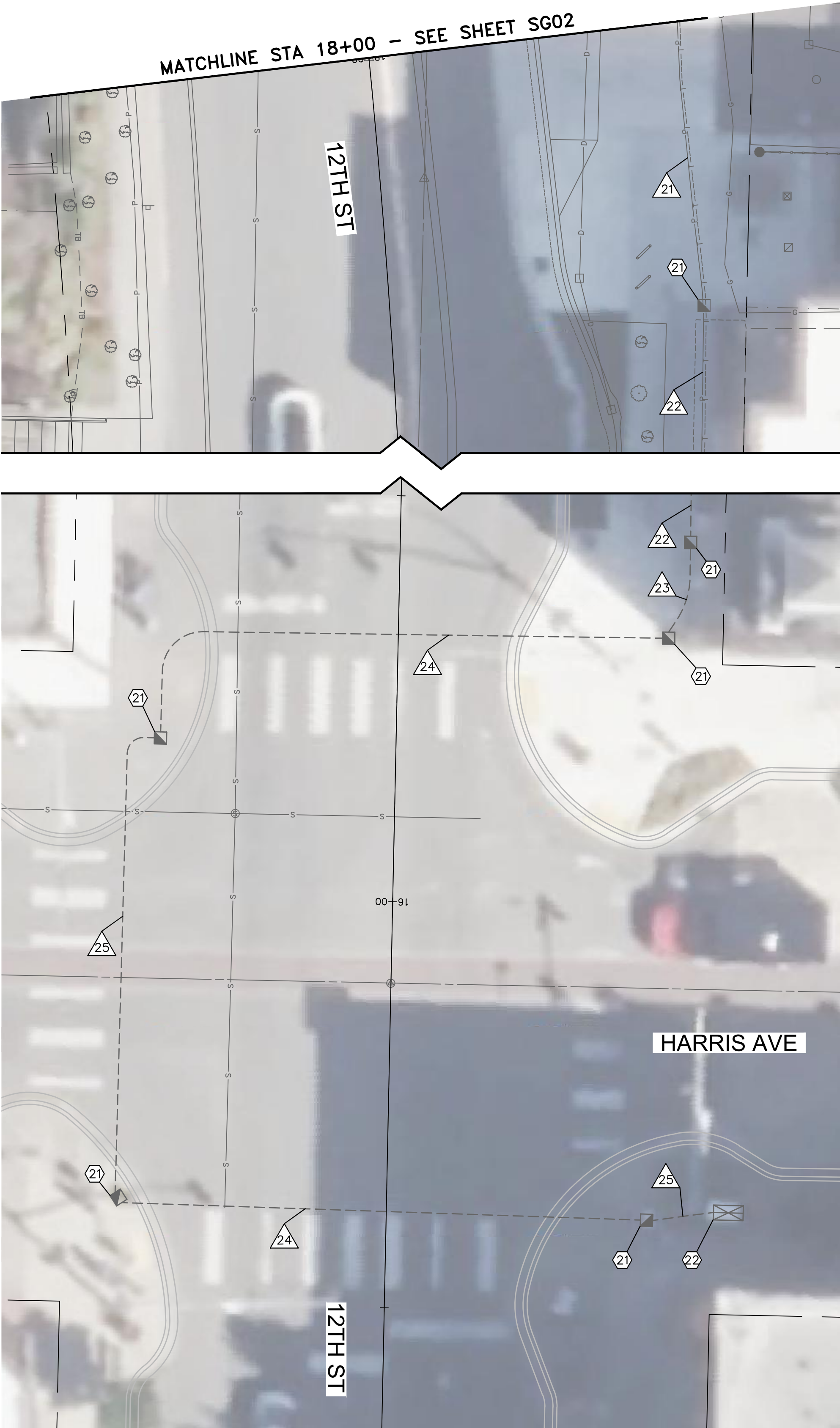
DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
TRAFFIC SIGNAL PLAN



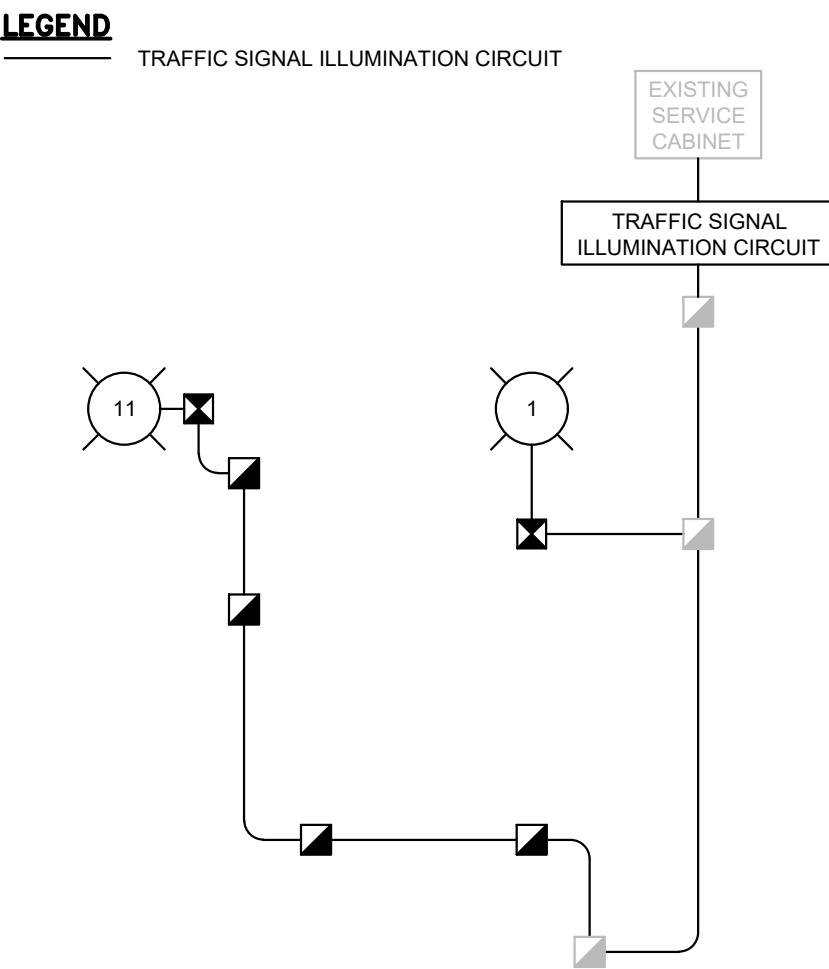
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- NOTES:**
- SEE SHEET SG01 FOR TRAFFIC SIGNAL GENERAL NOTES, SIGN LEGEND, AND LEGEND.
 - SEE SHEET SG05 FOR TRAFFIC SIGNAL WIRING TERMINATIONS.

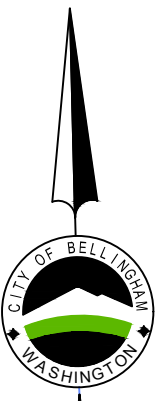
- CONSTRUCTION NOTES:**
- MAINTAIN AND PROTECT EXISTING JUNCTION BOX.
 - MAINTAIN AND PROTECT EXISTING TRAFFIC SIGNAL CONTROLLER CABINET. COORDINATE WITH CITY OF BELLINGHAM TRAFFIC SIGNAL STAFF FOR ACCESS. INTERCONNECT TERMINATION WITHIN EXISTING TRAFFIC SIGNAL CONTROLLER CABINET WILL BE PERFORMED BY CITY OF BELLINGHAM TRAFFIC SIGNAL STAFF.
 - MAINTAIN AND PROTECT EXISTING ELECTRICAL SERVICE CABINET. COORDINATE WITH CITY OF BELLINGHAM TRAFFIC SIGNAL STAFF FOR ACCESS.

STREET LIGHT ONE-LINE DIAGRAM
NOT TO SCALE



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	4		
	3		
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	1		
Date	No	Revision	By

PROJECT ENGINEER KBC
DESIGNED/DRAWN JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS M.A.O.
CITY ENGINEER M.L.W.
ASSISTANT DIRECTOR M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
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Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
TRAFFIC SIGNAL PLAN

SHEET
46 **OF**
51

CONTACT PERSON: KYLE CARLSON , PROJECT ENGINEER AT (360) 778-7946

WIRING SCHEDULE													
 NO.	RACEWAY CONDUIT SIZE*	PPB 2C(SH)	PED HEAD/ PPB 4C	PED HEAD 5C	VEH HEAD 5C	VEH/PED HEAD 20C	EVP 3C(SH)	THERMAL DETECTION CAT5E	ILLUM #6	SIGNAL POWER #6	INTERCONNECT 12 SMFO	GROUND #8	CONDUIT FILL %
1	3" SCH40	1				1	1	1				1	10.24%
2	2" SCH40	1		1								1	8.87%
3	3" SCH80	2		1		1	1	1				1	15.12%
	3" SCH80	SPARE (EMPTY WITH PULL TAPE)											
4	3" SCH40					1	1	1				1	9.00%
5	2" SCH40	1		1	1							1	13.13%
6	4" SCH40	3		2	1	2	2	2				1	15.42%
7	4" SCH80	4		3	1	2	2	2				1	19.24%
	4" SCH80	SPARE (EMPTY WITH PULL TAPE)											
8	4" SCH40	4		3	1	2	2	2				1	17.25%
	3" SCH40	SPARE (EMPTY WITH PULL TAPE)											
9	3" SCH80	2		2								1	8.10%
	3" SCH80	SPARE (EMPTY WITH PULL TAPE)											
10	1" SCH40	1	1									1	25.49%
11	3" SCH40		2			2	2	2				1	18.80%
12	4" SCH80	4		2		2	2	2				1	16.75%
	3" SCH80	SPARE (EMPTY WITH PULL TAPE)											
13	2" SCH40								2			1	6.81%
14	2" SCH80								2			1	7.79%
	2" SCH80	SPARE (EMPTY WITH PULL TAPE)											
15	2" SCH40									2		1	6.81%
16	2" SCH40								2	2		1	11.73%
17	2" SCH80								2	2		1	13.43%
	2" SCH80	SPARE (EMPTY WITH PULL TAPE)											
18	EX 2"								2, 2(EX)	2		1	19.07%
19	2" SCH40										1	1	5.90%
20	2" SCH80										1	1	6.75%
	2" SCH80	SPARE (EMPTY WITH PULL TAPE)											
21	EX 2"										1	1	6.75%
22	EX 2"								2(EX)		1, 1(EX)	1(EX)	16.98%
23	EX 2"										1, 1(EX)	1(EX)	11.34%
24	EX 4"										1, 1(EX)	1(EX)	2.90%
25	EX 3"										1, 1(EX)	1(EX)	5.06%

* ALL CONDUIT SHALL BE PVC AND SHALL CONTAIN A GROUND WIRE EQUAL IN SIZE TO THE LARGEST CONDUCTOR (MINIMUM NO. 8) UNLESS OTHERWISE NOTED.

(EX) = EXISTING

EXISTING SERVICE CABINET BREAKER SCHEDULE AT 12TH ST					
SERVICE & CIRCUITS	VOLTAGE (VOLTS)	LOAD (WATTS)	MAIN BREAKER (AMPS)	BRANCH BREAKER (AMPS)	CONTACTOR (AMPS)
EXISTING SERVICE	120/240	3190*	100(EX)		
TRAFFIC SIGNAL ILLUMINATION	240	190		20	30
TRAFFIC SIGNAL	120	3000		50(EX)	
PHOTOELECTRIC CONTROL	120			15(EX)	

* NOT ALL EXISTING LOADS ARE SHOWN. TOTAL LOADS SHOWN WITHIN TABLE ARE FOR THE PROPOSED TRAFFIC SIGNAL AND STREET LIGHTS AS SHOWN WITHIN THIS PLAN.

(EX) = EXISTING

PRE-EMPTION SCHEDULE	
CHANNEL	SIGNAL PHASE(S)
A	2
B	4
C	6
D	8

LUMINAIRE POLE SCHEDULE									
LUMINAIRE POLE NO.	CENTERLINE STATIONING	STATION	OFFSET	MOUNTING HEIGHT	ARM LENGTH	WATTAGE	SVC/CKT NO.	COMMENT	
	12TH ST	19+10.48	53.03FT LT	30FT	12FT	95W	TRAFFIC SIGNAL ILLUMINATION		

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10/22/2024

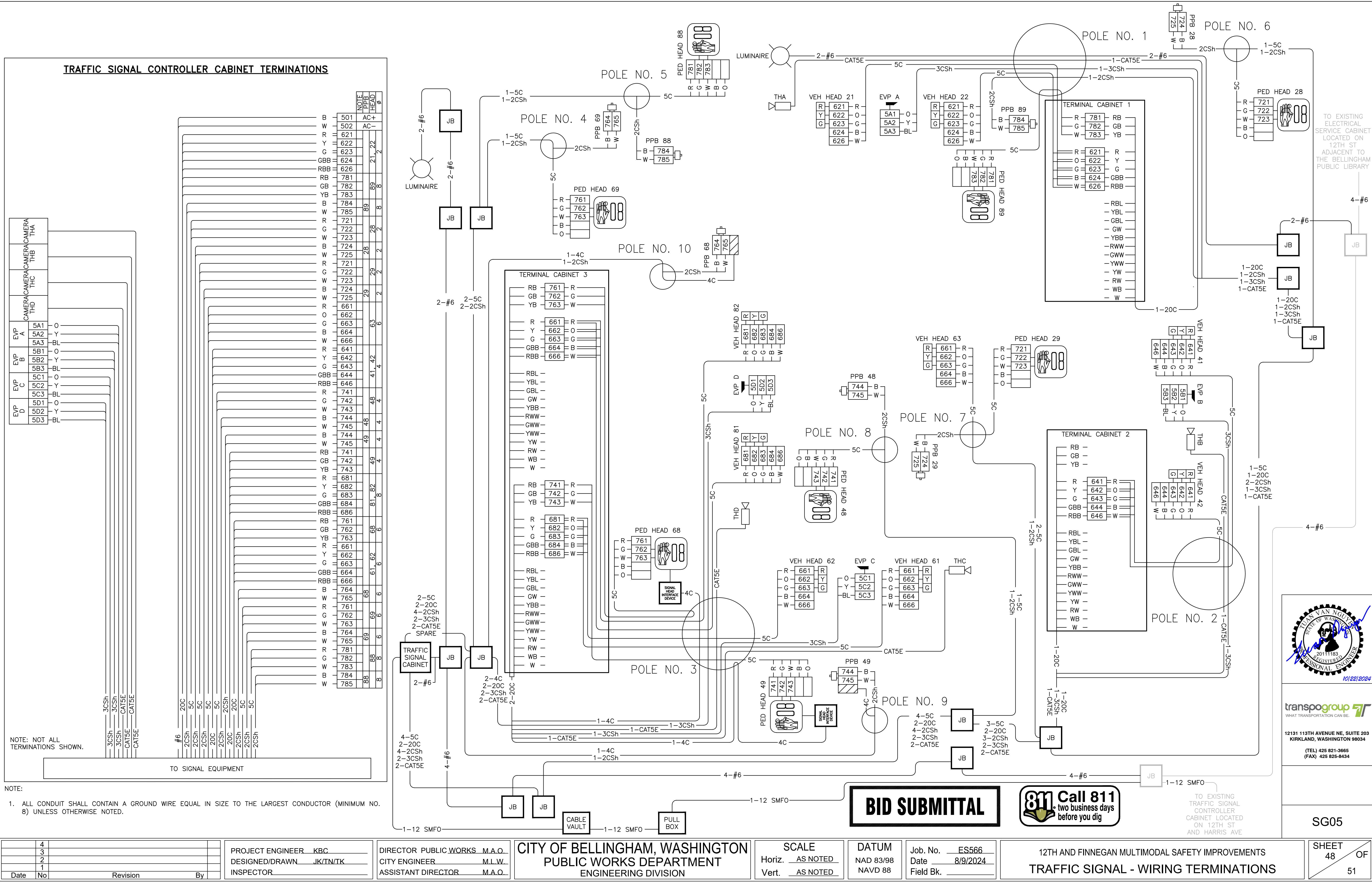
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WHAT TRANSPORTATION CAN BE.

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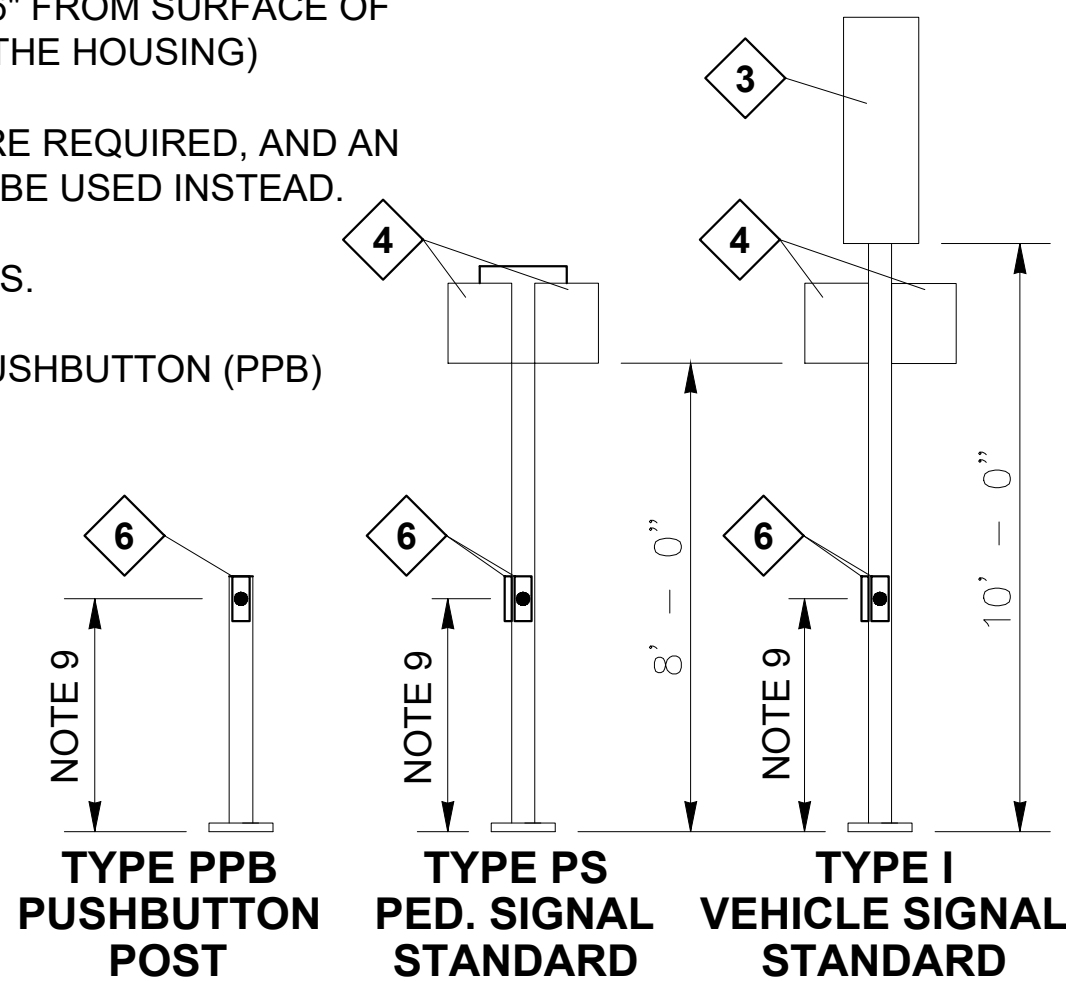
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SG04



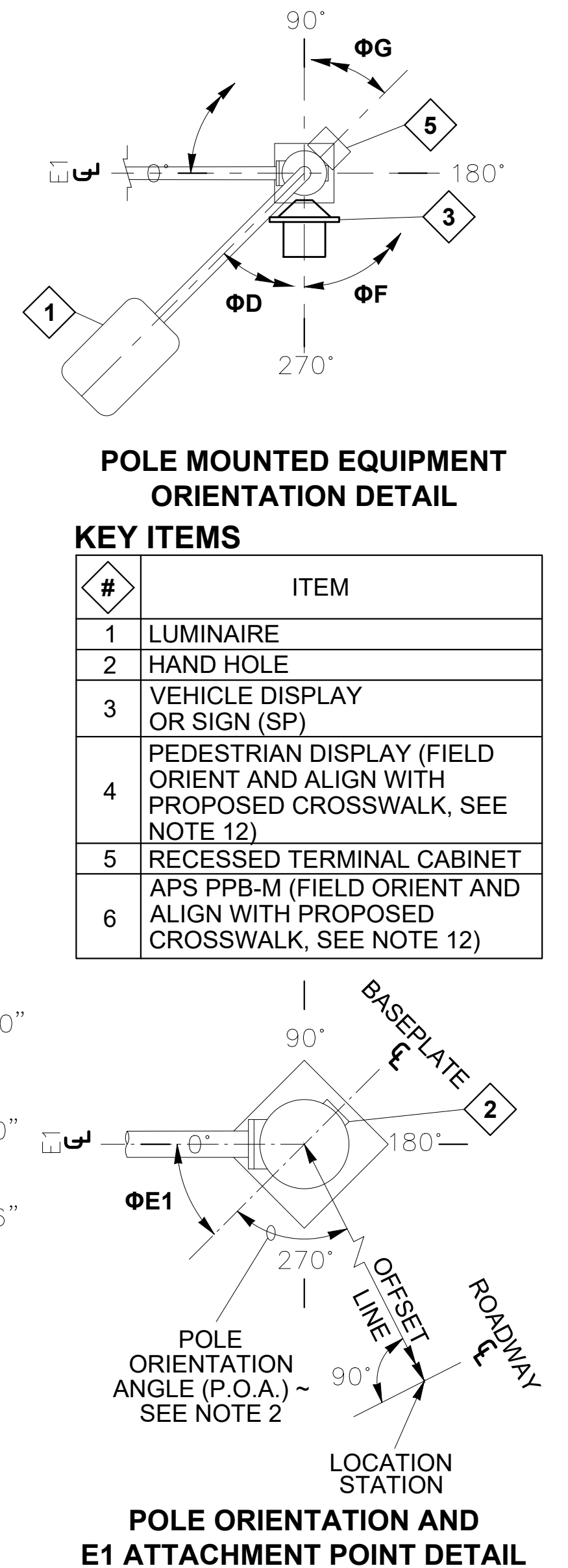
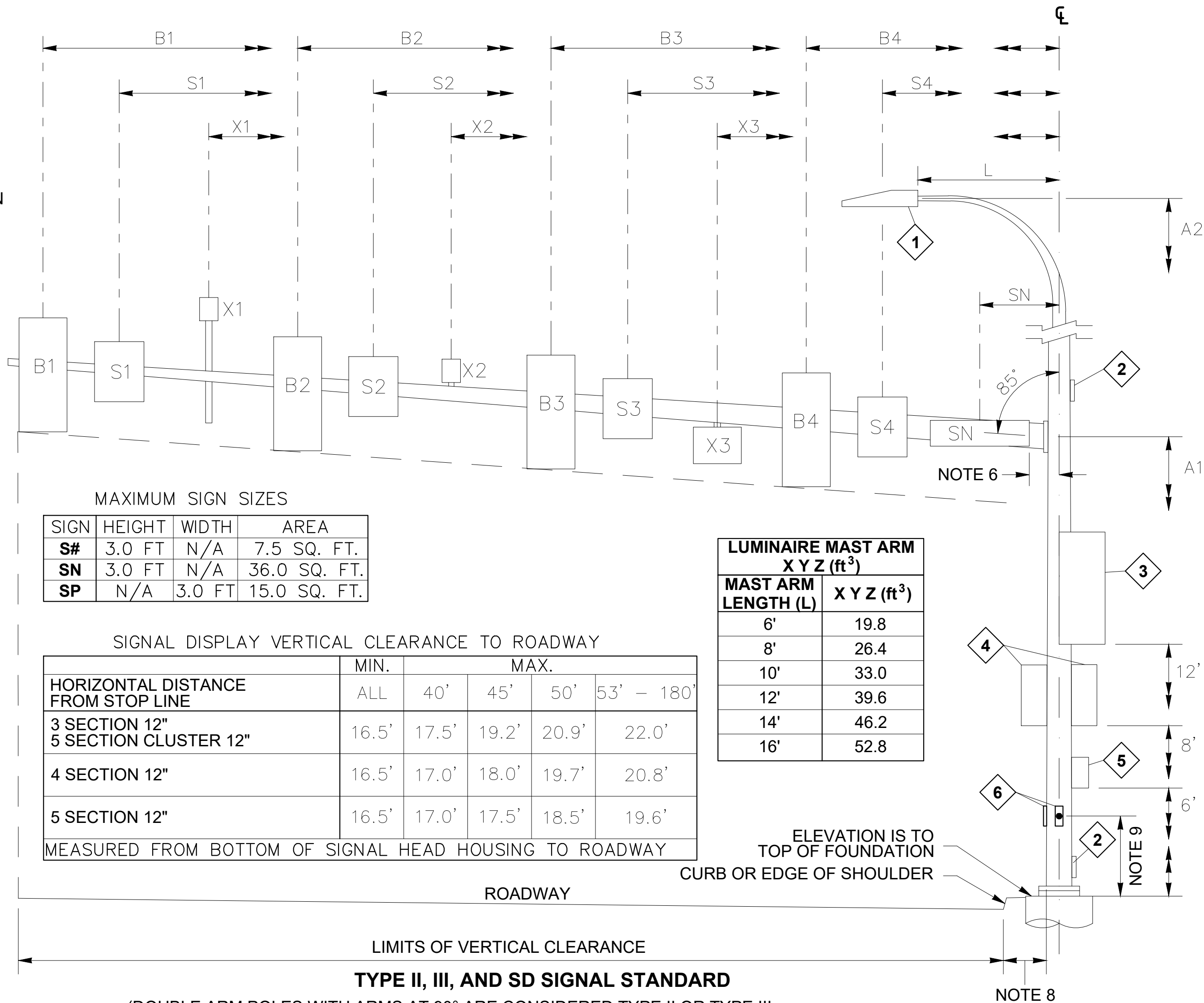
1. VARIABLE/DYNAMIC MESSAGE SIGNS MAY BE INSTALLED ON THESE POLES. BLANK OUT SIGNS MAY BE INSTALLED ON MAST ARM OR VERTICAL POLE.
2. POLE ORIENTATION ANGLE IS MEASURED BETWEEN THE STATION OFFSET LINE AND THE CENTER OF THE BASEPLATE FRONT. THE POLE HAND HOLE IS ALWAYS AT THE BACK OF THE BASEPLATE (180° ON THE BASEPLATE).
3. B# POSITIONS HAVE TENONS INSTALLED AT POSITIONS SHOWN IN CHART UNLESS TYPE N MOUNT REQUIRED.
4. B# POSITIONS REQUIRING TYPE N MOUNTS AND ALL OTHER MAST ARM WIRED DEVICES SHALL HAVE MAST ARM FIELD DRILLED AND PLASTICSPLIT BUSHING INSTALLED FOR CABLE ENTRANCE.
5. S#, SN, AND SP POSITIONS SHALL HAVE SIGNS FIELD INSTALLED. SIGN SIZES SHALL NOT EXCEED THE MAXIMUM VALUES LISTED FOR EACH POSITION.
6. SIGN SN SHALL BE 1' - 0" MIN. TO 2' - 6" MAX. FROM POLE CENTERLINE TO SIGN EDGE.
7. SIGN SP SHALL BE A MINIMUM OF 2' - 0" FROM THE EDGE OF THE SIGN TO THE FACE OF CURB OR EDGE OF SHOULDER.
8. FACE OF POLE SHALL BE A MINIMUM OF THE REQUIRED DEFLECTION DISTANCE SHOWN IN DESIGN MANUAL EXHIBIT 1610-3 FROM THE APPLICABLE BARRIER - OR 2' - 0" FROM FACE OF CURB, EDGE OF SHOULDER, OR BACK OF BARRIER - WHICHEVER IS LONGER.
9. PEDESTRIAN PUSHBUTTONS SHALL BE INSTALLED AT 3' - 6" FROM SURFACE OF SIDEWALK TO CENTER OF CIRCULAR PUSHBUTTON (NOT THE HOUSING)
10. WHERE TYPE E PEDESTRAIN SIGNAL DISPLAY MOUNTS ARE REQUIRED, AND AN 8-SIDED POLE IS PROVIDED, TYPE A OR B MOUNTS SHALL BE USED INSTEAD.
11. SEE STANDARD PLAN J-20.01 FOR REQUIRED POLE ID TAGS.
12. SEE WSDOT STANDARD PLAN J-20.05 FOR PEDESTRIAN PUSHBUTTON (PPB) ORIENTATION.

STANDARD TYPE		STANDARD PLAN REFERENCES			
		POLE	FOUNDATION		ELECTRICAL
			STANDARD	CURB	
PPB	FIXED	J-20.15	J-20.15	J-20.15	J-20.15
	BREAKAWAY				
PS		J-20.16	J-21.10	J-21.10	J-20.20
I		J-21.15	J-21.10	J-21.10	J-21.20
II, III, SD		N/A	J-26.10, J-26.15	N/A	N/A



B#	VEHICLE DISPLAY
S#	MAST ARM SIGN
SN	MAST ARM STREET NAME SIGN
X#	PRE-EMPT, THERMAL, OR RADAR DETECTOR

NON-WINDLOAD DEVICES		
LOC.	DEVICE	OFFSET
X1	THERMAL DET.	00.0
X2	EVP DET.	00.0
X3	RADAR DET.	00.0

[illegible]

*** ELEVATION TO THE TOP OF FOUNDATION. TOP OF FOUNDATION SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE (E.G., SIDEWALK, CURB, ETC.).
 ** CALCULATED POLE XYZ (FT³) IS THE SUM OF THE TOTAL XYZ (FT³) FOR THE SIGNAL ARM AND THE XYZ (FT³) FOR THE LUMINAIRE ARM (IF PRESENT).
 *** FOUNDATION DESIGN (XYZ) FOR DOUBLE MAST ARM SIGNAL STANDARDS AT 90 DEGREES IS BASED ON THE LARGER OF THE TWO CALCULATED POLE XYZ PER WSDOT DESIGN MANUAL CHAPTER 1330 SECTION 1330.04(5)(a).
 **** ASSUMED SOIL BEARING PRESSURE OF 1000 PSF. CONTRACTOR SHALL VERIFY LATERAL BEARING PRESSURE OF SOIL AND GROUND SLOPE AT FOUNDATION IS NOT STEEPER THAN 3(HORIZONTAL):1(VERTICAL) PRIOR TO SOIL EXCAVATION. FOUNDATION DEPTH PER WSDOT STANDARD PLAN J-26.10-03.

(T) INSTALL TENON FOR FUTURE VEHICLE SIGNAL HEAD. ASSUME 4 SECTION VEHICLE SIGNAL HEAD SIZE WITH 12" INDICATIONS.
 (F) INSTALL SIGN FOR FUTURE CONDITION. ASSUME 30"x36" SIGN SIZE.

BID SUBMITTAL



	4			PROJECT ENGINEER	KBC	DIRECTOR PUBLIC WORKS	M.A.O.	CITY OF BELLINGHAM, WASHINGTON PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	SCALE	DATUM	Job. No.	ES566	12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS TRAFFIC SIGNAL - POLE CHART	SHEET 49 OF 51	
	3			DESIGNED/DRAWN	JK/TN/TK	CITY ENGINEER	M.L.W.		Horiz.	AS NOTED	NAD 83/98	Date			8/9/2024
	2			INSPECTOR		ASSISTANT DIRECTOR	M.A.O.		Vert.	AS NOTED	NAVD 88	Field Bk.			
Date	No	Revision	By												

CONTACT PERSON: KYLE CARLSON, PROJECT ENGINEER AT (360) 778-7946

TRAFFIC CONTROL GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PART 6, WSDOT STANDARD SPECIFICATIONS, AND THE CONTRACT, UNLESS OTHERWISE NOTED. A COPY OF THESE DOCUMENTS SHALL BE ON SITE DURING CONSTRUCTION.

2. POSTED SPEEDS WITHIN THE PROJECT SITE ARE AS FOLLOWS:
 - 12TH ST = 25 MPH
 - FINNEGAN WAY = 25 MPH
 - MILL AVE = 25 MPH
 - MCKENZIE AVE = 25 MPH

NOTIFY THE FOLLOWING AGENCIES A MINIMUM OF 10 CALENDAR DAYS IN ADVANCE OF ANY ROAD CLOSURES OR DETOURS:
 - CITY OF BELLINGHAM PUBLIC WORKS – (360) 778–7700
 - WHATCOM TRANSIT – (360) 676–7433

3. MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES, UNLESS OTHERWISE NOTED IN THESE PLANS OR APPROVED BY THE ENGINEER.

4. MAINTAIN ACCESS TO DRIVEWAYS AT ALL TIMES. THE CONTRACTOR SHALL NOTIFY AND COORDINATE ANY DRIVEWAY CLOSURES WITH THE PROPERTY OWNER A MINIMUM OF 2 WORKING DAYS IN ADVANCE.

5. MAINTAIN ACCESS TO TRANSIT STOPS AT ALL TIMES. COORDINATE WITH WHATCOM TRANSIT (360–676–7433) A MINIMUM OF 10 CALENDAR DAYS IN ADVANCE OF IMPLEMENTING TEMPORARY TRAFFIC CONTROL THAT WOULD IMPACT A TRANSIT STOP. COORDINATE WITH WHATCOM TRANSIT REGARDING REQUIREMENTS FOR TEMPORARILY RELOCATING TRANSIT STOPS.

6. FLAGGING STATIONS SHALL BE ILLUMINATED DURING HOURS OF DARKNESS AS APPROVED BY THE ENGINEER. FLAGGERS SHOULD BE VISIBLE AND DISCERNABLE AS A FLAGGER FROM A MINIMUM DISTANCE OF 1,000’.
7. MAINTAIN EXISTING LANE WIDTHS AT ALL TIMES. DEVICES SHALL BE OFFSET FROM LANE/EDGE LINES BY A MINIMUM OF 2’. THE TRAFFIC CONTROL SUPERVISOR MAY FIELD–ADJUST DEVICES UP TO THE LANE/EDGE LINE IF NEEDED, BUT DEVICES SHALL NOT ENCROACH INTO THE OPEN LANE. WHERE EXISTING LANE WIDTHS CANNOT FEASIBLY BE MAINTAINED, LANE WIDTHS SHALL BE 11’ MINIMUM AT ALL TIMES, UNLESS OTHERWISE NOTED IN THESE PLANS.

8. DEVICE SPACING AT CORNERS SHALL BE A MAXIMUM OF 8’ APART. THE TRAFFIC CONTROL SUPERVISOR MAY FIELD–ADJUST DEVICES TO PROVIDE TIGHTER SPACING FOR THE PROTECTION OF ROADSIDE FEATURES.

9. WHERE STEEL PLATES ARE NECESSARY TO COVER AN EXCAVATION WITHIN THE ROADWAY, EACH SIDE OF THE PLATE SHALL HAVE A MINIMUM 12” BEARING ON THE SIDES OF THE EXCAVATION. PLATES SHALL BE ANCHORED AND BEDDED ON TEMPORARY PAVEMENT PATCH MATERIAL, SHIMMED TO PREVENT MOVEMENT, ORIENTED PERPENDICULAR TO TRAFFIC, WITH BEDDING TAPERED ON ALL SIDES TO PROVIDE SMOOTH TRANSITION FOR ALL USERS. PLATES SHALL BE TEXTURED TO PROVIDE A NON–SKID SURFACE AS APPROVED BY THE ENGINEER. PLATES SHALL BE DELINEATED WITH PAINT AT ITS EDGES AND WARNING SIGN(S) W8–24 (STEEL PLATE AHEAD) INSTALLED AS DIRECTED BY THE ENGINEER.

10. TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE CRASHWORTHY AND COMPLY WITH MUTCD PART 6.

11. CHANNELIZATION DEVICES USED DURING HOURS OF DARKNESS SHALL HAVE RETRORREFLECTIVE BANDS. ADD STEADY–BURN LIGHTS ON ARTERIALS.

12. EXISTING SIGNAGE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNAGE SHALL BE REMOVED OR SECURELY COVERED BY A METHOD APPROVED BY THE ENGINEER.

13. TEMPORARY TRAFFIC CONTROL SIGNS IN PLACE AT ONE LOCATION CONTINUOUSLY FOR LONGER THAN THREE DAYS SHALL BE CLASS A.

14. SIGNS SHALL BE BLACK LEGEND ON ORANGE BACKGROUND, UNLESS OTHERWISE NOTED IN THESE PLANS.
15. DIAMOND SHAPED WARNING SIGNS SHALL BE 48” X 48”, UNLESS OTHERWISE NOTED IN THESE PLANS.

16. SIGNS MOUNTED TO TYPE 3 BARRICADES SHALL BE INSTALLED PER THE MANUFACTURER’S RECOMMENDATIONS.

17. PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) BOARDS SHOULD BE LOCATED BEHIND GUARDRAIL OR BARRIER WHEREVER FEASIBLE. PCMS BOARDS NOT LOCATED BEHIND GUARDRAIL OR BARRIER SHALL HAVE A TAPER CONSISTING A MINIMUM OF 3 CHANNELIZATION DEVICES IN ADVANCE OF THE PCMS BOARD. PCMS BOARDS SHALL BE REMOVED WHEN NOT DISPLAYING ANY MESSAGES.

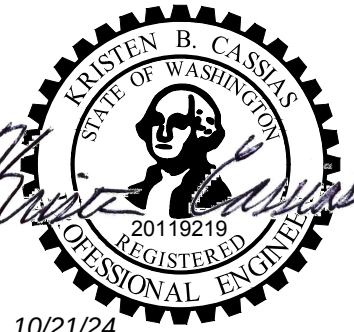
18. TYPE 3 BARRICADES SHALL BE IN ACCORDANCE WITH THE MUTCD SECTION 6F.63.

19. PROVIDE PEDESTRIAN AND BICYCLE TRAFFIC WITH AN ALTERNATE ROUTE WHEN EXISTING FACILITIES ARE INTERRUPTED BY CONSTRUCTION ACTIVITIES. ALTERNATIVE ROUTES SHALL BE CLEARLY DELINEATED AND SEPARATED FROM THE CONSTRUCTION ACTIVITIES.

CHANNELIZATION DEVICE SPACING (FT)		
MPH	TAPER	TANGENT
50 / 65	40	80
35 / 45	30	60
25 / 30	20	40

SIGN SPACING = X (1)		
RURAL HIGHWAYS	60 / 65 MPH	800’ ±
RURAL ROADS	45 / 55 MPH	500’ ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350’ ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200’ ±
URBAN STREETS	25 MPH OR LESS	100’ ±

MINIMUM LANE CLOSURE TAPER LENGTH = L (FT)										
LANE WIDTH (FT)	POSTED SPEED (MPH)									
	20	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	–	–	–
11	115	165	225	295	495	550	605	660	–	–
12	125	180	245	320	540	600	660	720	780	840



10/21/24



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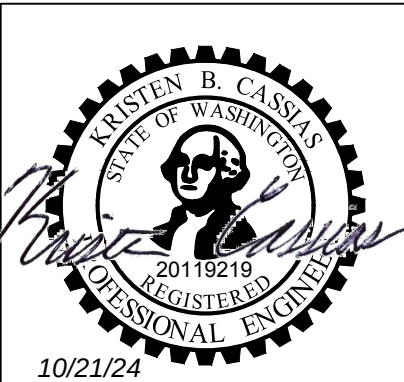
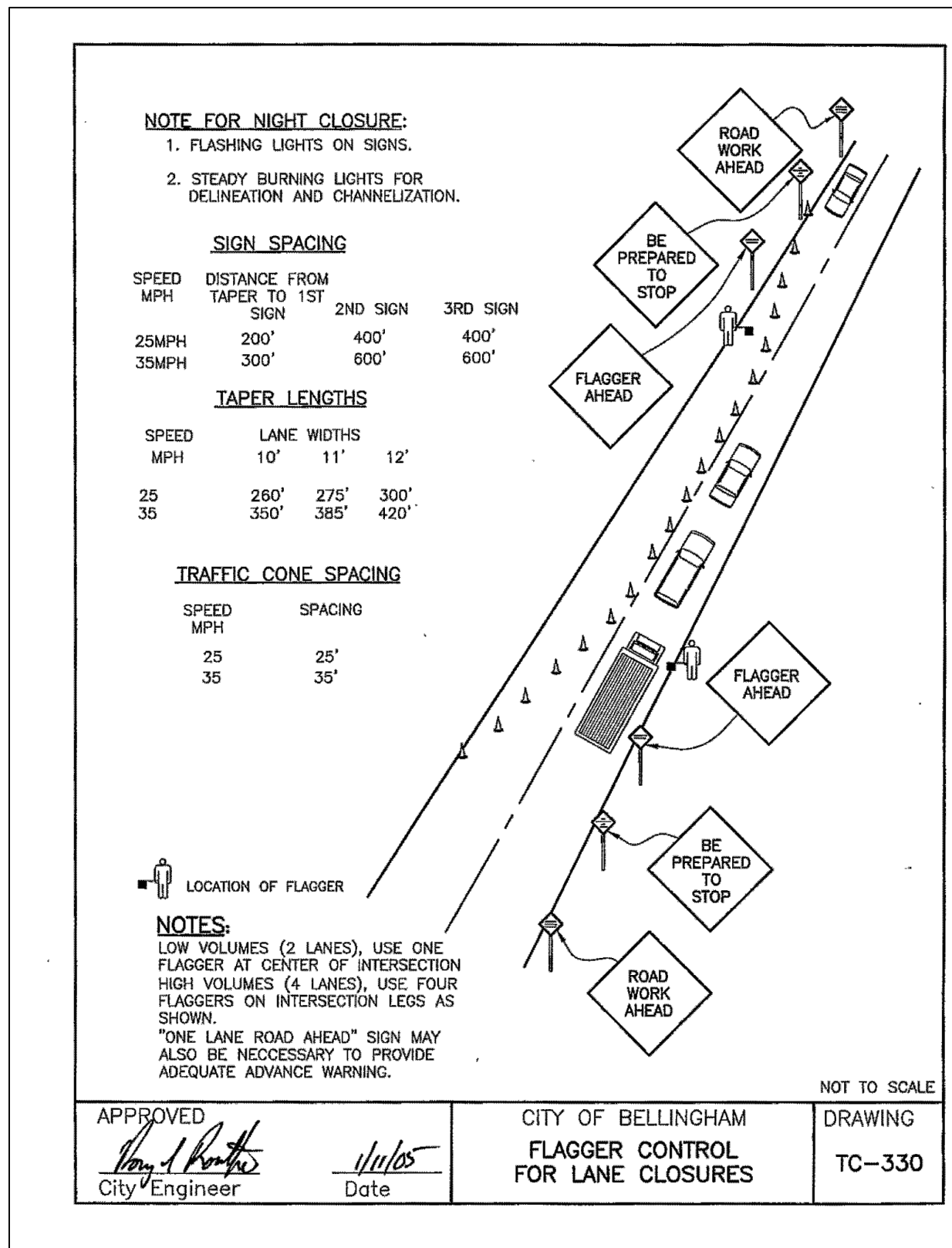
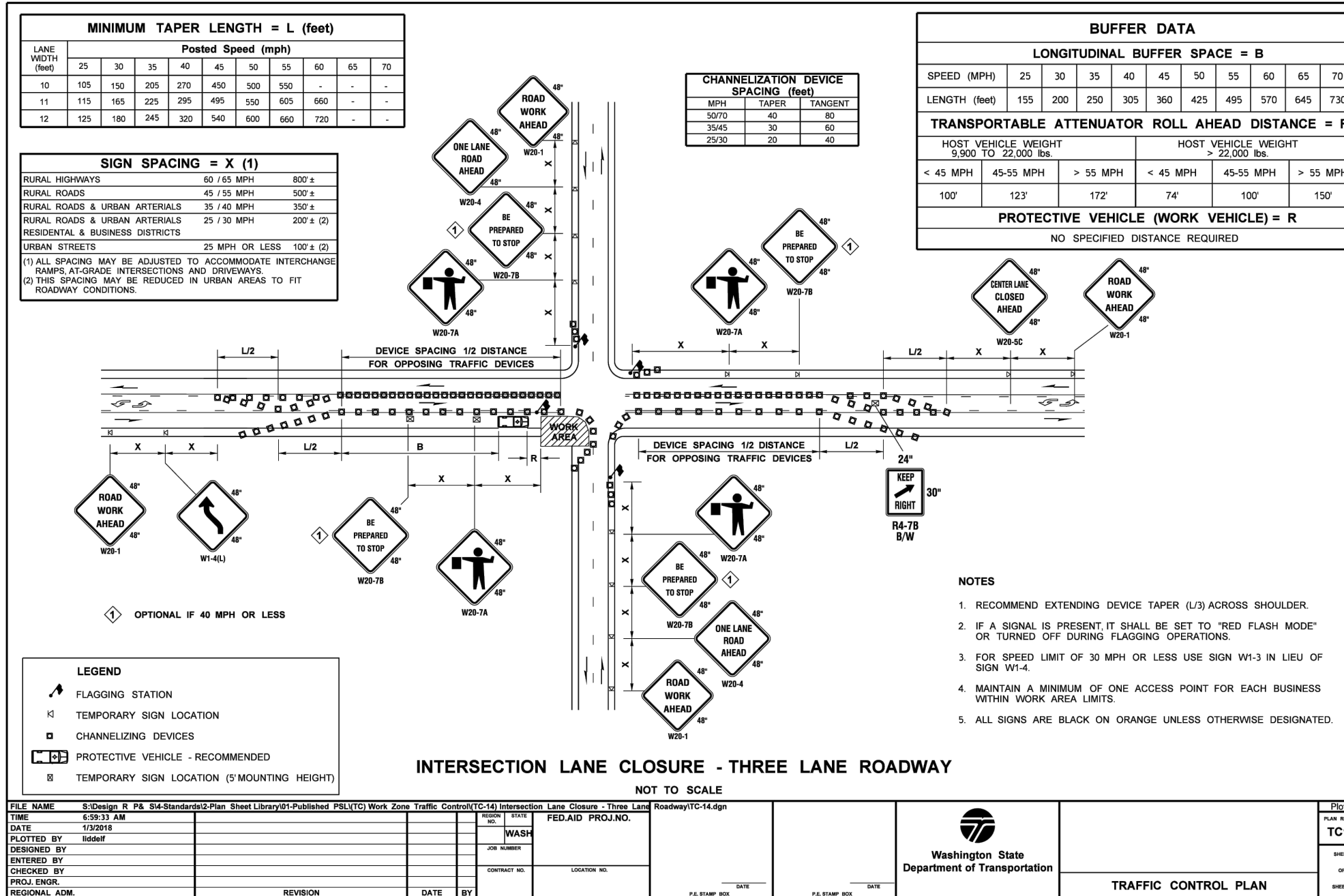
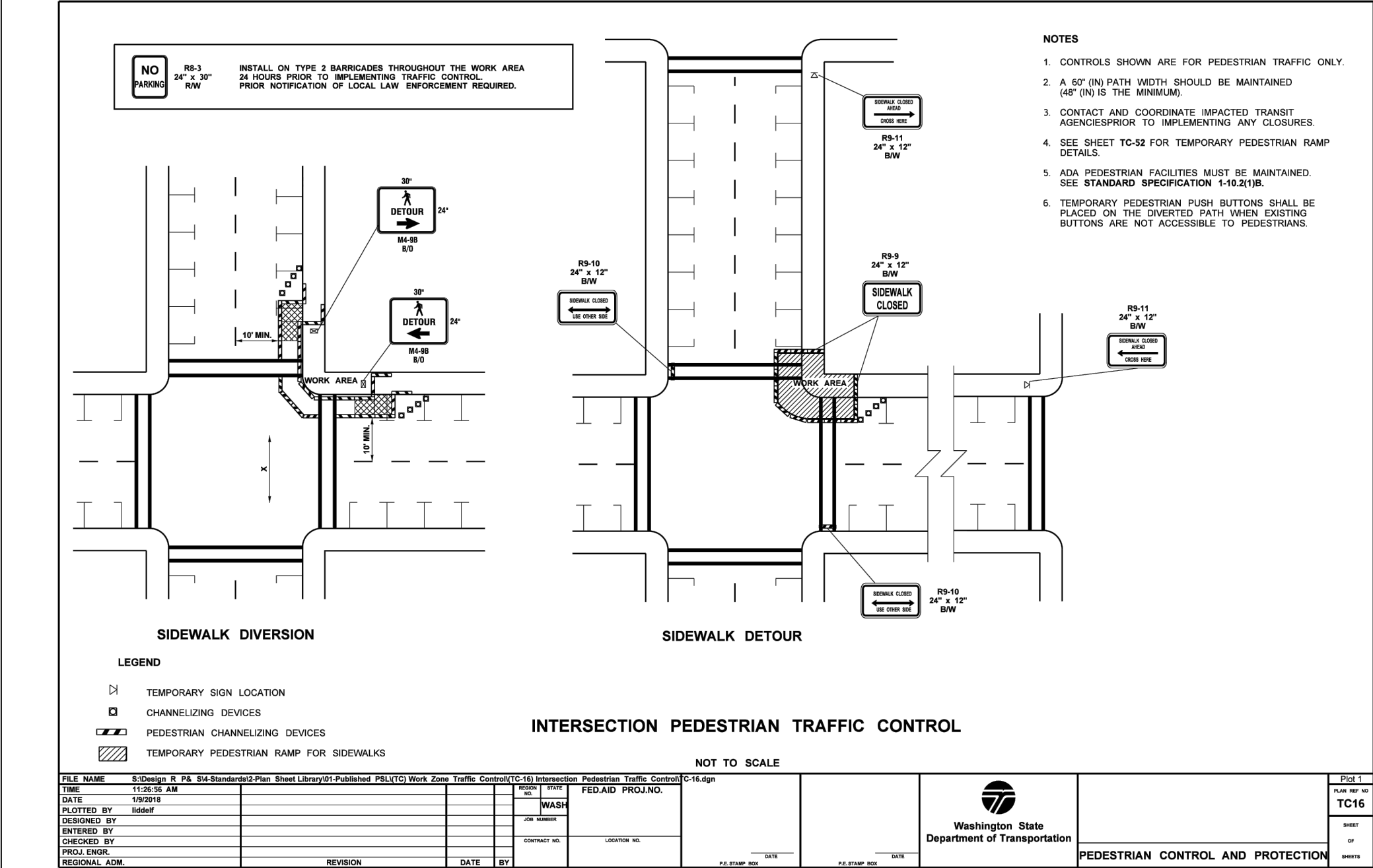
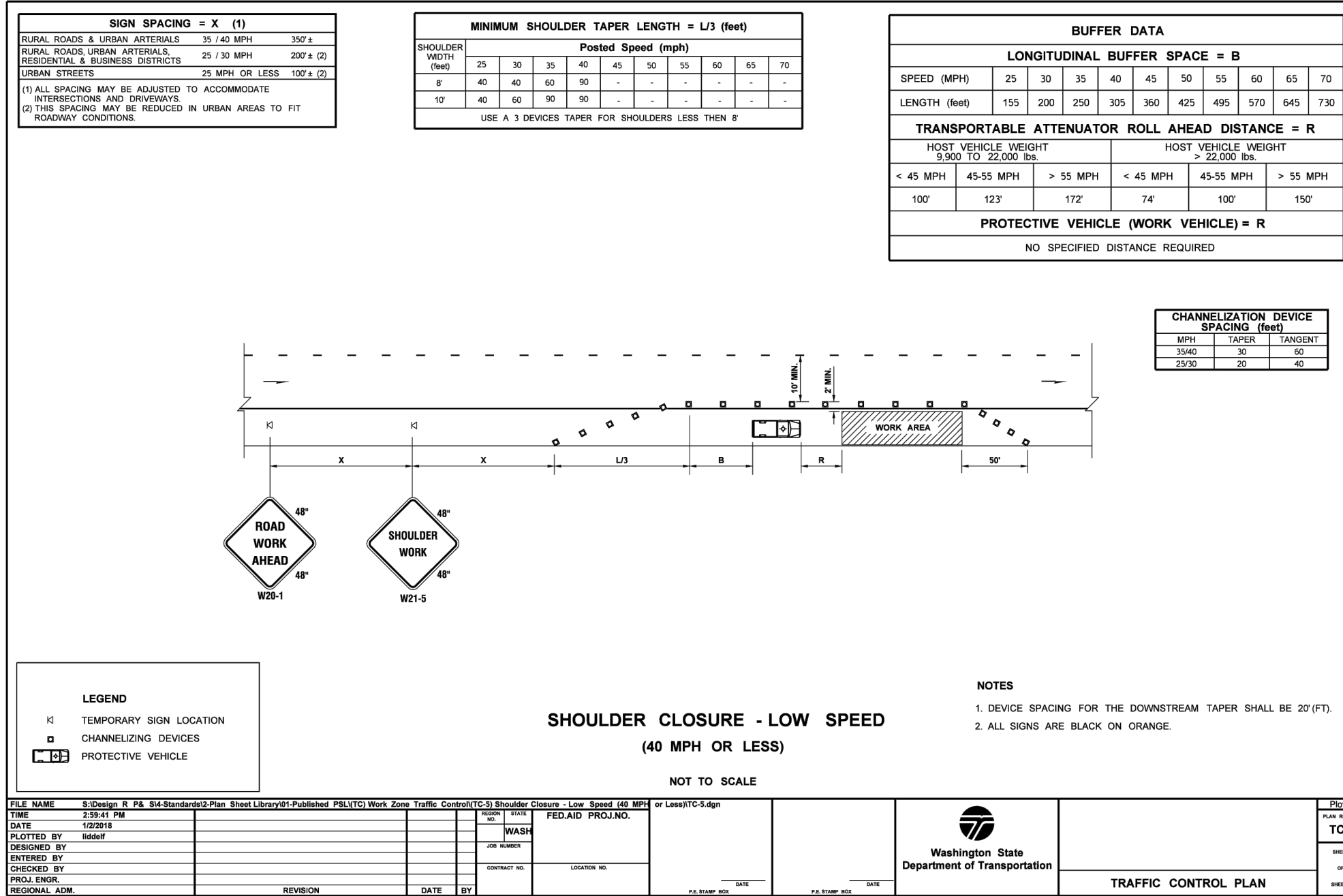
(TEL) 425 821-3665
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Date	No	Revision	By

PROJECT ENGINEER_KBC
DESIGNED/DRAWN_JK/IN/TK
INSPECTOR

DIRECTOR PUBLIC WORKS_M.A.O.
CITY ENGINEER_M.L.W.
ASSISTANT DIRECTOR_M.A.O.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. AS NOTED
Vert. AS NOTED

DATUM
NAD 83/98
NAVD 88

Job. No. ES566
Date 8/9/2024
Field Bk.

12TH AND FINNEGAN MULTIMODAL SAFETY IMPROVEMENTS
TRAFFIC CONTROL DETAILS

SHEET 51 OF 51

CONTACT PERSON: KYLE CARLSON

PROJECT ENGINEER AT (360) 778-7946