

CITY OF CARNATION

KING COUNTY

WASHINGTON

EAST BIRD STREET IMPROVEMENTS

TIB PROJECT NO. 6-P-801(010)-1



CITY OFFICIALS

JIM RIBAIL

MAYOR

TIM HARRIS

ADIR HAWKINS

CITY COUNCIL

RYAN BURRELL

JIM RIBAIL

DUSTIN GREEN

CITY COUNCIL

ANA CORTEZ

CITY MANAGER



NOVEMBER 2023

G&O #23440.07

ABBREVIATIONS

AVE	AVENUE
AC	ASBESTOS CEMENT PIPE
ADJ	ADJUST
ALT	ALTERNATE
ALUM	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AP	ANGLE POINT
ASPH	ASPHALT
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS ASSEMBLY
ASSY	ASSEMBLY
BF	BLIND FLANGE
BLDG	BUILDING
BLK	BLOCK
BO	BLOW OFF
BOP	BEGINNING OF PROJECT
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
CTR	CENTER
CAP	CORRUGATED ALUMINUM PIPE
CB	CATCH BASIN
CI	CAST IRON
CL	CENTER LINE
CLR	CLEARANCE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
C	CONDUIT
CONN	CONNECTION
CONT	CONTINUOUS
CPEP	CORRUGATED POLYETHYLENE PIPE
CPLG	COUPLING
CY	CUBIC YARD
CONT	CONTINUED
CL	CLASS
CF	CUBIC FEET
CFS	CUBIC FEET PER SECOND
DC	DEGREE OF CURVATURE
DI	DUCTILE IRON
DIA	DIAMETER
DOT	DEPARTMENT OF TRANSPORTATION
DIM	DIMENSION
DWGS	DRAWING(S)
D	DRAIN
E	EAST
EA	EACH
EL	ELEVATION
ELEC	ELECTRICAL
EOA	EDGE OF ASPHALT
EOP	END OF PROJECT
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EXIST	EXISTING
FIG	FIGURE
FIN	FINISHED
FL	FLANGE
FT	FEET
GA	GAUGE
GALV	GALVANIZED
GI	GALVANIZED IRON
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
INV	INVERT
IN	INCH
L	LENGTH
LB	POUND
LF	LINEAR FEET
MAX	MAXIMUM
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MISC	MISCELLANEOUS
N	NORTH
NO	NUMBER
NTS	NOT TO SCALE
NST	NO STEEPER THAN
OC	ON CENTER
OD	OUTSIDE DIAMETER
PI	POINT OF INTERSECTION
PP	POWER POLE
PVI	POINT OF VERTICAL INTERSECTION
PE	PLAIN END
PRC	POINT OF REVERSE CURVE
PERF	PERFORATED
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENT
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
QTY	QUANTITY
RET	RETAINING
RR	RAILROAD
R	RADIUS
RED	REDUCER
REINF	REINFORCE
REQD	REQUIRED
R/W	RIGHT-OF-WAY
SL	SLOPE
S	SOUTH
SCH	SCHEDULE
SF	SQUARE FEET
SHT	SHEET
SPECS	SPECIFICATIONS
SQ	SQUARE
STA	STATION
STD	STANDARD
TB	THRUST BLOCK
TC	TOP OF CURB
TEL	TELEPHONE
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
THRD	THREADED
THRU	THROUGH
TYP	TYPICAL
VERT	VERTICAL
W	WEST
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
W/	WITH
W/O	WITHOUT

LINETYPES

EXISTING	PROPOSED	DESCRIPTION
SURFACE FEATURES		
		CURB (TYPE AS NOTED)
		CURB & GUTTER
		ASPHALT PAVEMENT
		GRAVEL SURFACING
		CONCRETE SURFACING
		CEMENT CONC. SIDEWALK
		BEAM GUARDRAIL
		FENCE/RAILING (TYPE AS NOTED)
		FENCE WITH GATE
		RIGHT-OF-WAY LINE
		CENTERLINE OF CONSTRUCTION
		CONTOUR LINE
		APPROXIMATE TOP OF CUT
		APPROXIMATE TOE OF FILL
		SAWCUT LINE (APPROXIMATE LOCATION)
UTILITIES		
		OVERHEAD UTILITIES
		BURIED ELECTRICAL
		BURIED TELEPHONE/COMMUNICATIONS
		WATER MAIN (SIZE AS NOTED)
		SANITARY SEWER MAIN (SIZE AS NOTED)
		UNDERDRAIN (SIZE AS NOTED)
		CULVERT (SIZE & TYPE AS NOTED)
		DITCH CENTERLINE

SURFACE FEATURES/LANDSCAPING

EXISTING	PROPOSED	DESCRIPTION
		SIGN
		SHRUB
		RR TIE/LANDSCAPE BORDER
		TREE (CONIFER)
		TREE (DECIDUOUS)

WATER SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		WATER METER
		FIRE HYDRANT (3-NOZZLE)
		GATE VALVE

GAS/POWER/TELEPHONE SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		UTILITY POLE
		UTILITY POLE ANCHOR
		UTILITY PEDESTAL

SURVEY SYMBOLS

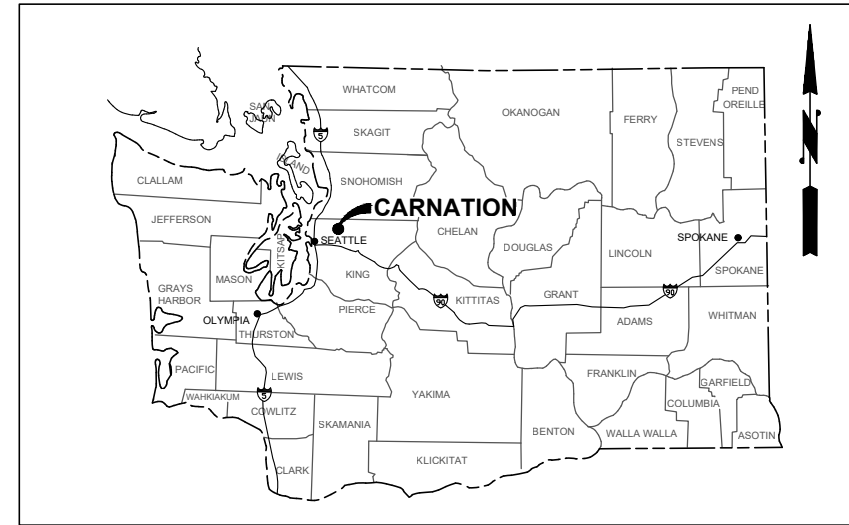
EXISTING	PROPOSED	DESCRIPTION
		CONTROL POINT
		MONUMENT (IN CASE)

SANITARY/STORM SEWER SYMBOLS

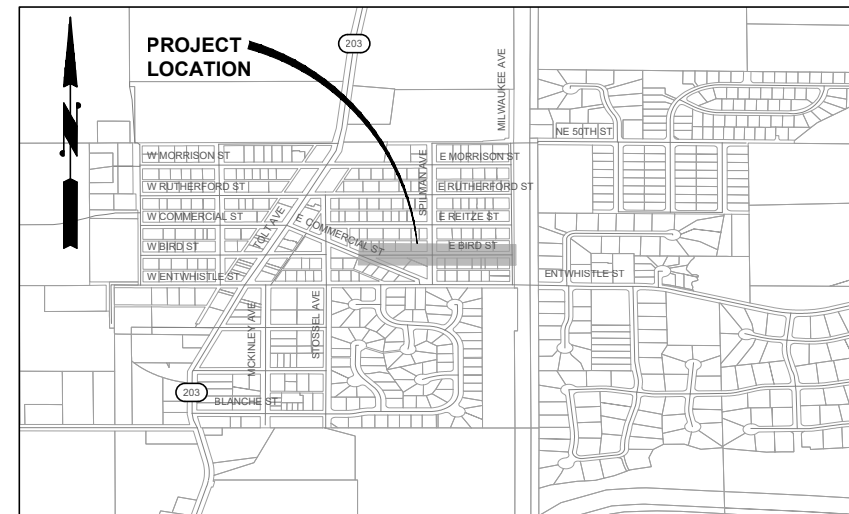
EXISTING	PROPOSED	DESCRIPTION
		SANITARY SEWER MANHOLE (ACTUAL DIMENSION SHOWN FOR PROPOSED)
		CLEAN OUT (SAN. SEWER OR STORM)
		STORM DRAIN CATCH BASIN, CONCRETE INLET, OR YARD/AREA DRAIN (ACTUAL DIMENSION SHOWN FOR PROPOSED)

SHEET INDEX

SHEET NO.	DESCRIPTION
COVER	--
SHEET G-1	LEGEND
SHEET G-2	SURVEY AND ALIGNMENT CONTROL TABLES
SHEET TE-1 - TE-2	EROSION CONTROL NOTES AND DETAILS
SHEET C-1 - C-3	PLAN AND PROFILE
SHEET C-4 - C-6	INTERSECTION PLANS
SHEET SD-1	STORM SECTION AND DETAILS
SHEET RD-1	TYPICAL ROADWAY CROSS SECTION
SHEET RD-2 - RD-4	ROADWAY DETAILS
SHEET RD-5	STORM DRAINAGE DETAILS
SHEET RD-6	CHANNELIZATION AND SIGNING DETAILS
SHEET TC-1-TC-2	TRAFFIC CONRTOL NOTES AND DETAILS



VICINITY MAP
NOT TO SCALE



LOCATION MAP
SCALE: 1"=600'

GENERAL NOTES:

- ALL MATERIALS AND WORKMANSHIP SHALL BE FURNISHED AND SUPPLIED IN ACCORDANCE WITH THE 2024 EDITION OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, UNLESS OTHERWISE SPECIFICALLY NOTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT AND COORDINATE WITH ALL UTILITY COMPANIES IN ORDER TO ASSURE THAT ALL LINES, PIPES, POLES AND OTHER APPURTENANCES ARE PROPERLY LOCATED, SECURED, AND/OR PROTECTED. BURIED UTILITIES (WHERE KNOWN) ARE SHOWN IN THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL HAVE UTILITIES VERIFIED ON THE GROUND PRIOR TO ANY CONSTRUCTION. NOTIFY THE UNDERGROUND UTILITIES LOCATE CENTER: 811-LOCATE.
- ON-SITE EROSION AND SEDIMENT CONTROL MEASURES ARE REQUIRED AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN CONFORMANCE TO THE REQUIREMENTS OF THESE PLANS, CONTRACT SPECIFICATIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL HAVE A COPY OF THESE PLANS, ANY ADDENDA, CHANGE ORDERS, AND THE CONTRACT SPECIFICATIONS ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER IN THE EVENT OR DISCOVERY OF UNSUITABLE SOILS OR HIGH GROUND WATER CONDITIONS OR DISCREPANCIES FROM THE PLANS.
- WHEREVER PLANS REFER TO "SAWCUT" OF ASPHALT CONCRETE PAVEMENT OR CONCRETE SURFACE, THE CONTRACTOR SHALL PERFORM A "NEAT LINE CUT" PER SPECIFICATIONS.
- CATCH BASINS AND CURB INLETS AT GUTTER PANS HAVE BEEN SHOWN IN GENERAL WITH A RELATIVE STATION AND OFFSET. THE INTENT OF THIS PROJECT IS TO INSTALL THE CATCH BASINS AND CURB INLETS IN THE GUTTER PAN AT THEIR RESPECTIVE ELEVATIONS.
- THE CONTRACTOR SHALL MAINTAIN A CLEAN LEGIBLE SET OF RECORD DRAWINGS AND PROVIDE A SET TO THE OWNER PRIOR TO DEMOBILIZATION OF THE SITE. SEE SPECIFICATIONS.

Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



CITY OF CARNATION
EAST BIRD STREET IMPROVEMENTS

No.	DATE	REVISION
ISSUED FOR:	PRELIMINARY,	
	NOT FOR CONSTRUCTION	
ISSUE DATE:	NOV. 2023	
APPROVED BY:	T. STAFFORD	
CHECKED BY:	T. STAFFORD	
DRAWN BY:	B. HAYDEN	
DESIGNER:	B. WANG	
G & O JOB NO.:	23440.07	
FILE:	LEGEND.DWG	

GENERAL

LEGEND



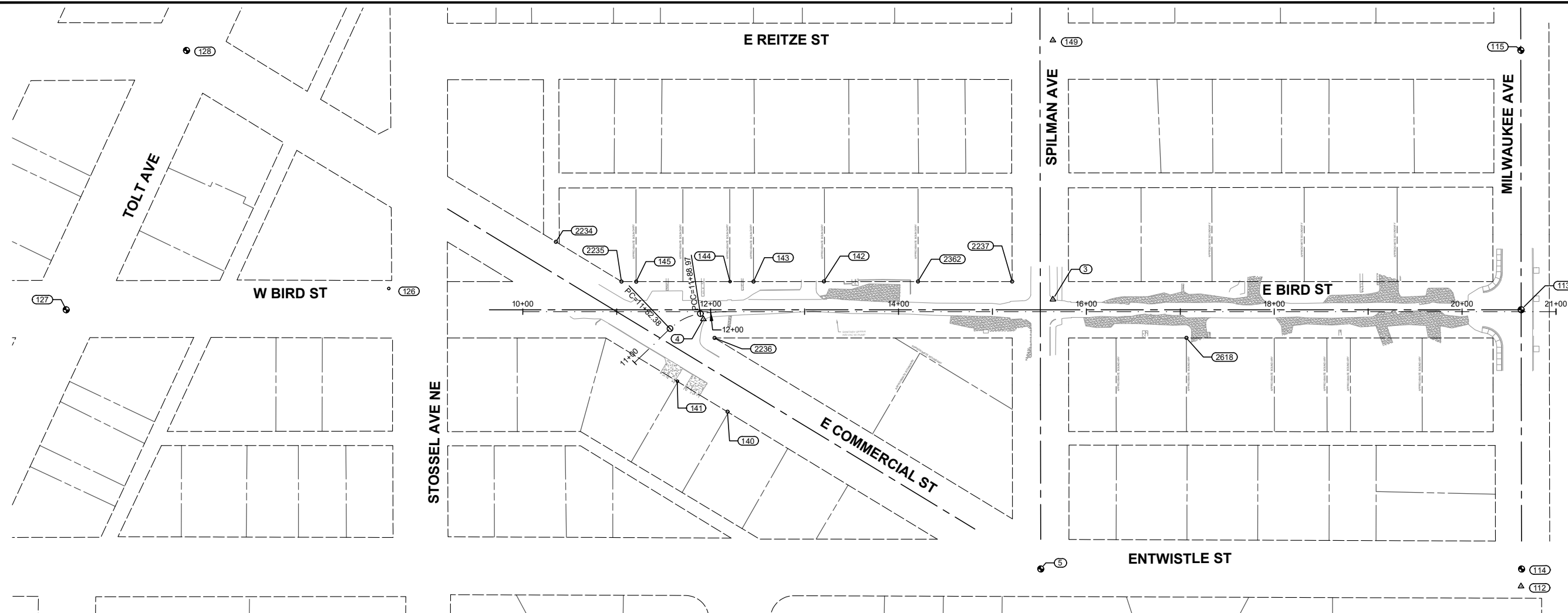
**CITY OF
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EAST BIRD STREET
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No.	DATE	REVISION

ISSUED FOR: PRELIMINARY,
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CHECKED BY: R. BOND
DRAWN BY: B. HAYDEN
DESIGNER: B. WANG
G & O JOB NO.: 23440.07
FILE: SURV.DWG

GENERAL

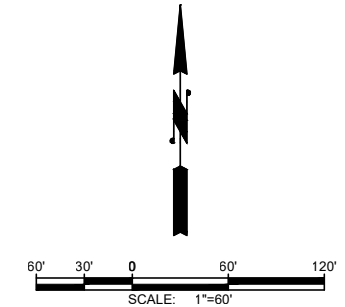
**SURVEY AND
ALIGNMENT CONTROL
TABLES**



SURVEY CONTROL TABLE				
HORIZONTAL DATUM:		NAD83/2011, EPOCH 2010.00		
VERTICAL DATUM:		NAVD88		
EAST BIRD STREET IMPROVEMENTS				
POINT	NORTHING	EASTING	ELEV	DESCRIPTION
3	238470.00	1375164.67	88.34	SSNT=SET LARGE MAG NAIL W/ "G&O CONTROL" TAG. 0.5' SW OF NE EDGE OF ASPHALT AT 1/2D OF RETURN. NE QUAD INTX SPILMAN AVE & E BIRD ST.
4	238453.70	1374792.31	83.83	SSNT, 2.5' NW OF SE EDGE OF ASPHALT E BIRD ST IN SE QUAD E BIRD ST & E COMMERCIAL AVE. EVEN W/ CENTERLINE DOORWAY OF 32022 E BIRD ST.
5	238183.26	1375148.18	88.63	SFMC, 1 5/8" BRASS DISC W/ PUNCH SET IN CONC POST. DOWN 0.5' IN CASE. INTX SPILMAN AVE & ENTWISTLE ST.
112	238158.54	1375659.20	92.50	SSNT, S SIDE OF ENTWISTLE AT CENTER OF MONUMENT LINE ALONG MILWAUKEE AVE EXTENDED TO 1.5' N OF THE S EDGE OF CONC GUTTER. 9' N OF POWER POLE "223820/173556."
113	238452.83	1375663.04	88.39	SFMC, 2" BRASS DISC W/ "X" & PUNCH, SET IN CONC BLOCK. DOWN 0.4' IN CASE. INTX E BIRD ST & MILWAUKEE AVE, 1' W OF E FOG LINE.
114	238176.83	1375660.06	92.42	SFMC, 2" BRASS DISC W/ PUNCH, SET IN CONC BLOCK. DOWN 0.4' IN CASE. INTX ENTWISTLE ST & MILWAUKEE AVE, 2' N OF CENTERLINE OF ENTWISTLE. EASTERLY FOG LINE OF MILWAUKEE EXTENDED.
126	238490.36	1374457.84	81.04	SSRC=SET 5/8" REBAR W/ RED "G&O CONTROL" CAP, NW QUADRANT INTX BIRD ST & STOSSEL AVE. N & E OF OF BACK WALK IN GRASS FOR HOPELINK BLDG. 2' OF N-S WALK. 8.5' N OF E-W WALK.
127	238472.03	1374114.11	78.60	SFMC, 3" BRASS DOME "WSDOT SURVEY MONUMENT LS 45174 2022." DOWN 0.5' IN CASE. CENTER OF INTX BIRD ST & TOLT AVE.
128	238746.34	1374245.61	78.69	SFMC, 3" BRASS DOME "WSDOT SURVEY MONUMENT LS 45174 2022." DOWN 0.5' IN CASE. CENTER OF INTX COMMERCIAL ST & TOLT AVE.
140	238354.80	1374816.73	84.29	SFRC=FOUND REBAR W/ CAP, 1/2" REBAR W/ "LS 45174" CAP.
141	238387.82	1374763.77	83.56	SFP=FOUND PIPE, 1/2" OUTSIDE DIAMETER IRON PIPE W/ TACK & TAG ON TOP.
142	238492.20	1374921.18	85.07	SFRC, 1/2" REBAR W/ "YS COLE LS 15XXX?" CAP W/ TACK.
143	238492.94	1374846.22	84.47	SFRC, 1/2" REBAR W/ "MODAWELL LS 19582" CAP.
144	238493.24	1374821.18	85.00	SFR=FOUND REBAR, 5/8" REBAR, IN TREE ROOT. UP 1.0' IN PVC PIPE.

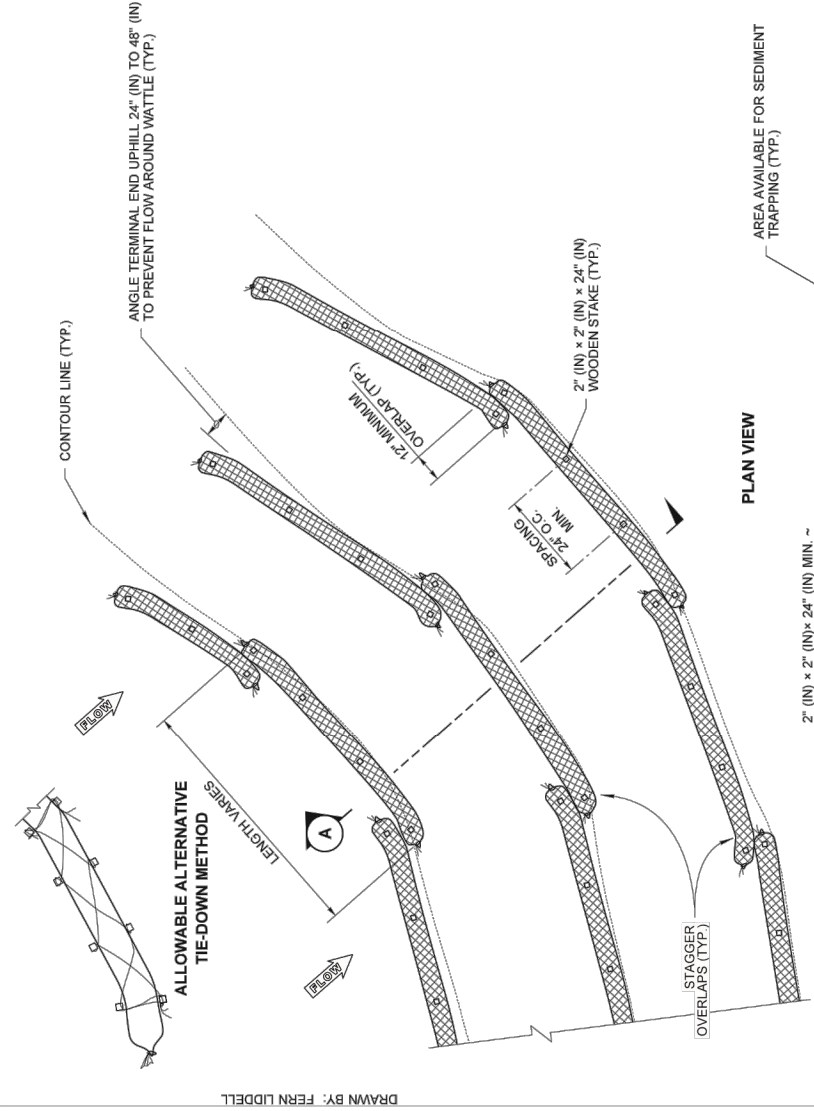
SURVEY CONTROL TABLE (CONTINUED)				
EAST BIRD STREET IMPROVEMENTS				
POINT	NORTHING	EASTING	ELEV	DESCRIPTION
145	238494.42	1374721.27	82.80	SFRC, 1/2" REBAR W/ "STANTEC BOUNDARY" CAP (#36802).
149	238745.76	1375168.04	86.96	SSNT, NE QUADRANT INTX SPILMAN AVE & REITZE ST. 0.6' FROM EDGE OF ASPHALT IN CURVE.
2234	238537.84	1374636.34	82.32	SFRC, 1/2" REBAR W/ "STANTEC BOUNDARY 36802" CAP. SHOT W/ OFFSET
2235	238494.62	1374705.62	82.89	SFRC, 1/2" REBAR W/ "STANTEC BOUNDARY 36802" CAP. SHOT W/ OFFSET
2236	238433.42	1374803.93	84.15	SFRC, 3/8" REBAR W/ "CHIC LS 12786" CAP. SLIGHT LEAN TO NW, SHOT TOP CENTER. DOWN 0.3' IN GRASS.
2237	238489.61	1375121.50	87.20	SFRC, 5/8" REBAR W/ "CRONES LS 29537" CAP. DOWN 0.15' IN GRASS.
2362	238490.84	1375021.26	86.31	SFRC, 5/8" REBAR W/ "CRONES LS 29537" CAP.
2618	238427.28	1375306.26	88.83	SFRC, 5/8" REBAR W/ 2 1/2" ALUMINUM "GEODATUM INC LS 31976 LS 38964" CAP. UP 0.4' ABOVE GRADE.

SITE MAP
SCALE: 1"=60'



RIGHT-OF-WAY DISCLAIMER
THE RIGHT-OF-WAY AND/OR PROPERTY LINES SHOWN HEREON ARE BASED ON AVAILABLE INFORMATION, NOT ON A SURVEYED LOCATION AND ARE ONLY APPROXIMATE.

L:\Carnation\23440.00 On-Call Engineering Services\23440.07 - East Bird Design\01 Design Phase\PLANSET\General\SURV.dwg, 11/21/2023 7:44 PM, BRYAN WANG



DRAWN BY: FERN LIDDELL

NOTES

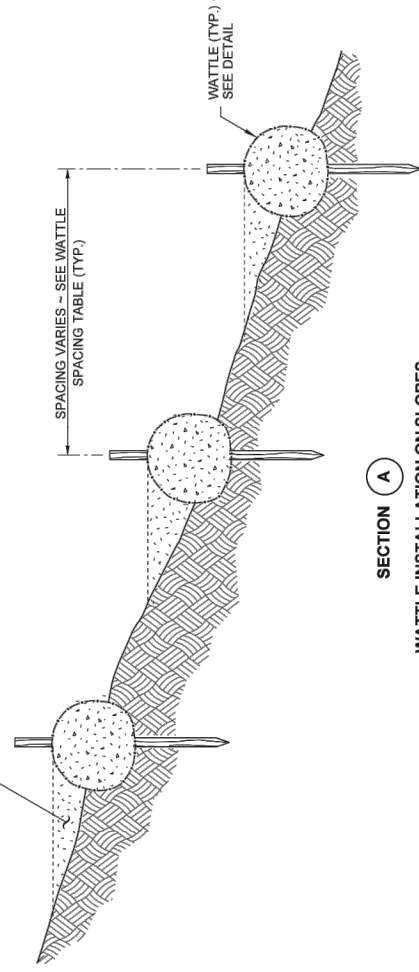
1. Wattles shall be in accordance with **Standard Specification, Section 9-14.5(6)**. Install Wattles along contours. Installation shall be in accordance with **Standard Specification, Section 8-01.3(10)**.
2. Securely knot each end of Wattle. Overlap adjacent Wattle ends 12" (in) behind one another and securely tie together.
3. Compact excavated soil and trenches to prevent undercutting. Additional staking may be necessary to prevent undercutting.
4. Install Wattle perpendicular to flow along contours.
5. Wattles shall be inspected regularly, and immediately after a rainfall produces runoff to ensure they remain thoroughly entrenched and in contact with the soil.
6. Perform maintenance in accordance with **Standard Specification, Section 8-01.3(15)**.
7. Refer to **Standard Specification, Section 8-01.3(16)** for removal.

WATTLE SPACING TABLE		PERMANENT
TEMPORARY		10" - 12" DIAM.
SLOPE	MAX. SPACING	MAX. SPACING
8" - 10" OR 10" - 12" DIAM.	5' - 0"	-
1H : 1V	10' - 0"	5' - 0"
2H : 1V	15' - 0"	10' - 0"
3H : 1V	20' - 0"	15' - 0"
4H : 1V	-	-

PLAN VIEW



WATTLE DETAIL



SECTION A

WATTLE INSTALLATION ON SLOPES



Hartwig, Julie
Jun 4 2019 8:05 AM
WATTLE INSTALLATION ON SLOPE

STANDARD PLAN I-30.30-02

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Mark, Steve
Jun 12 2019 11:11 AM

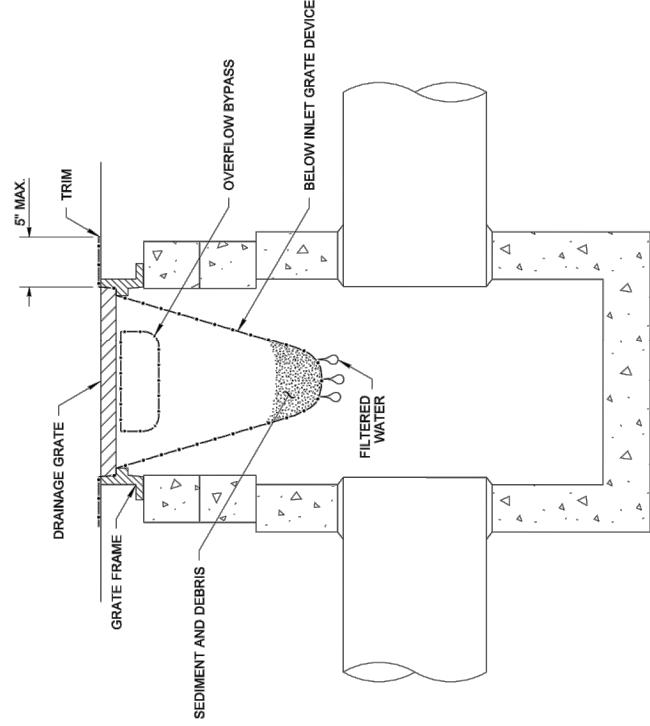
STATE DESIGN ENGINEER

Washington State Department of Transportation

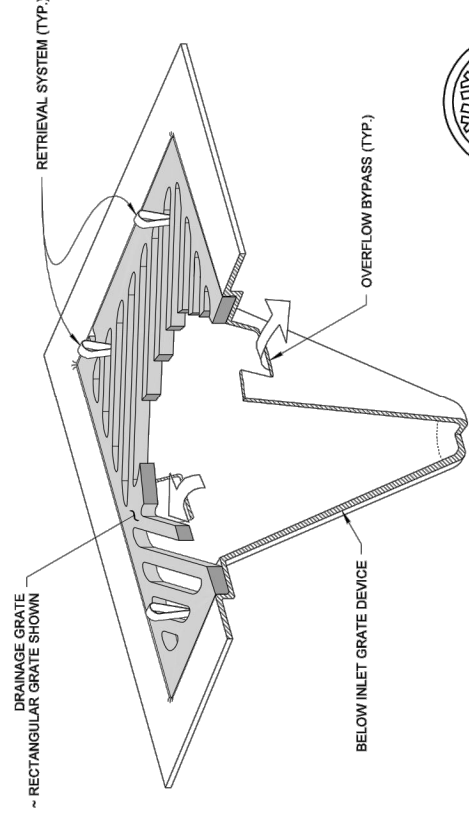
DRAWN BY: LISA CYFROD

NOTES

1. Size the Below Inlet Grate Device (BIGD) for the storm water structure it will service.
2. The BIGD shall have a built-in high-flow relief system (overflow bypass).
3. The retrieval system must allow removal of the BIGD without spilling the collected material.
4. Perform maintenance in accordance with **Standard Specification 8-01.3(15)**.



SECTION VIEW
NOT TO SCALE



ISOMETRIC VIEW



Maurer, Mark W.
Jun 4 2019 8:05 AM
STORM DRAIN INLET PROTECTION

CERTIFICATE NO. 000698

THIS PLAN IS NOT A LEGAL INSTRUMENT. IT IS THE PROPERTY OF THE ENGINEER AND MUST BE USED ONLY FOR THE PROJECT AND SITE OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

STORM DRAIN INLET PROTECTION
STANDARD PLAN I-40.20-00

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III
DATE 09-20-07

STATE DESIGN ENGINEER

Washington State Department of Transportation

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ISSUED FOR:	PRELIMINARY, NOT FOR CONSTRUCTION	
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APPROVED BY:	T. STAFFORD	
CHECKED BY:	T. STAFFORD	
DRAWN BY:	B. HAYDEN	
DESIGNER:	B. WANG	
G & O JOB NO.:	23440.07	
FILE:	TESC.DWG	

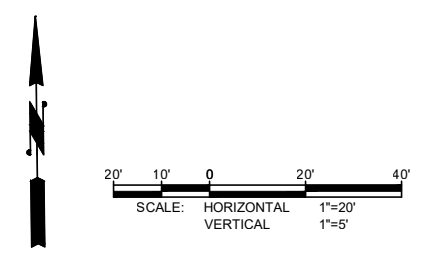
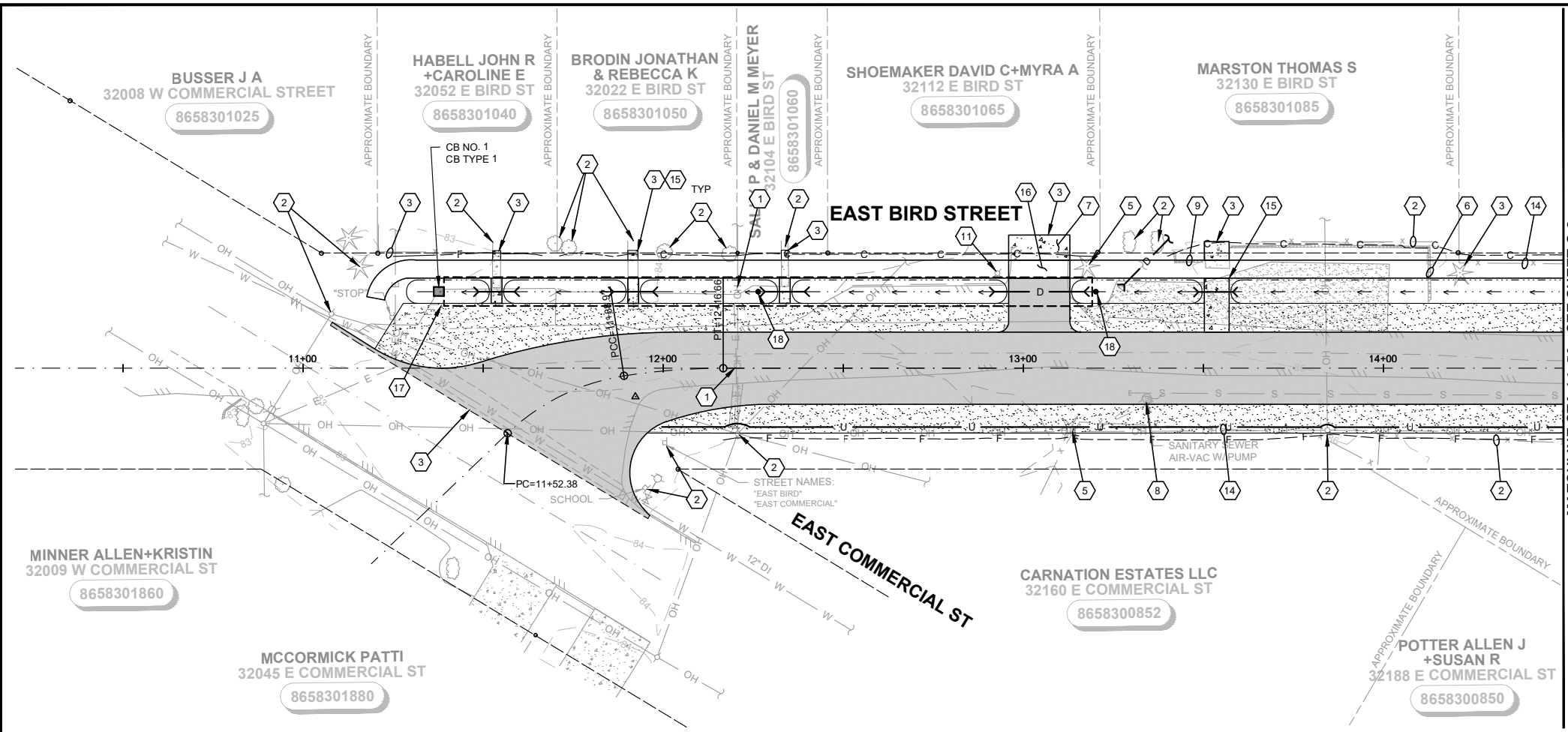
CIVIL

EROSION CONTROL NOTES AND DETAILS



CITY OF CARNATION
EAST BIRD STREET IMPROVEMENTS

L:\Carnation\23440.00 On-Call Engineering Services\23440.07 - East Bird Design\Phase\PLANSET\VI\PLANPROF.dwg, 11/21/2023 7:45 PM, BRYAN WANG



GENERAL NOTES

TRIM OVERHANGING BRANCHES TO PROVIDE CLEARANCE AROUND SIDEWALK.

ROADWAY & STORM DRAINAGE NOTES

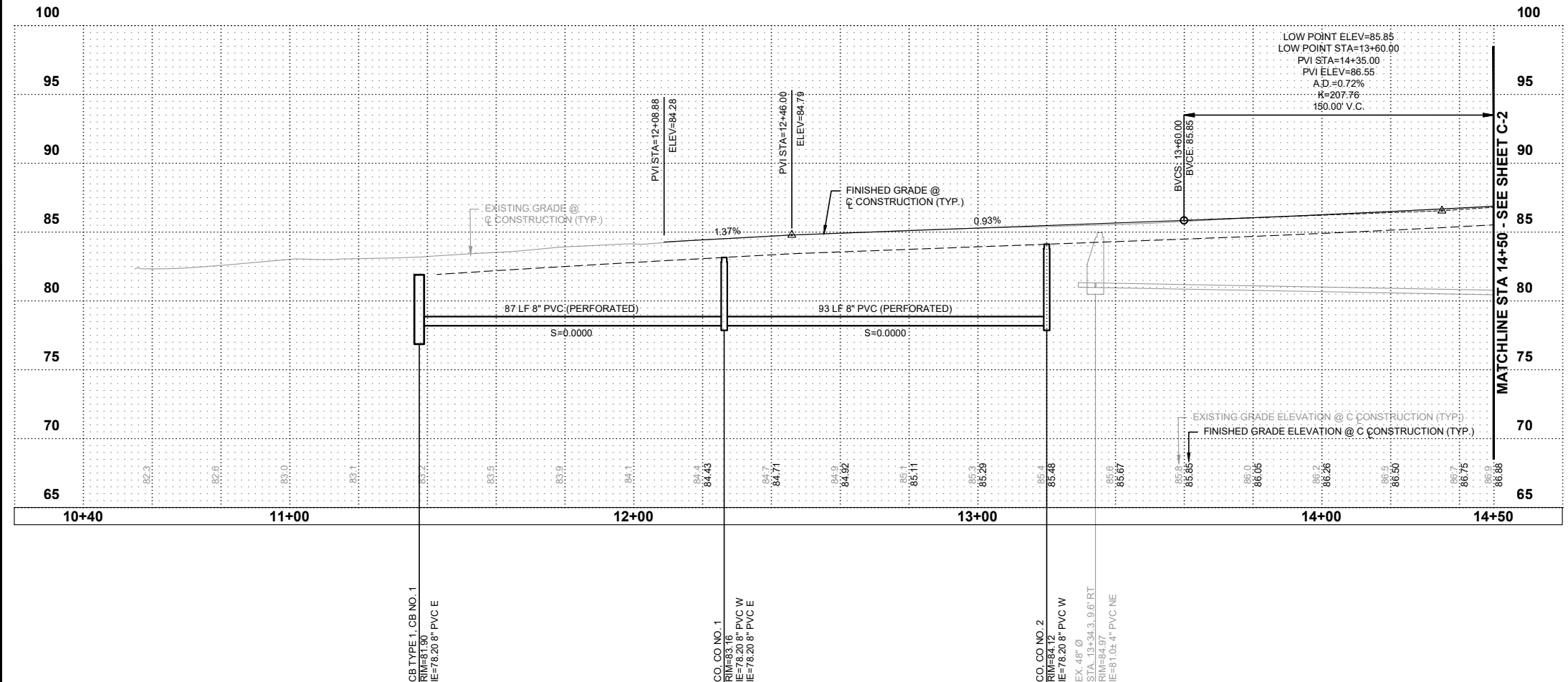
- 1 CAUTION: POTENTIAL UTILITY CONFLICT. VERIFY (POTHOLE) EXACT LOCATION AND DEPTH OF EXISTING UTILITY. SEE ORDER OF WORK.
- 2 PROTECT EXISTING CURB, SIDEWALK, HYDRANT, TREE, FENCE, POLE, SIGN DURING CONSTRUCTION.
- 3 SAWCUT EXISTING PAVEMENT AND SEAL JOINT (WHERE APPLICABLE) THEN APPLY SAND BLANKET TO THE SURFACE JOINT.
- 4 REMOVE AND WASTEHAUL EXISTING STORM DRAINAGE STRUCTURE(S)/PIPE.
- 5 REMOVE EXISTING TREE.
- 6 REMOVE AND DISPOSE OF EXISTING RR TIE.
- 7 CONSTRUCT CEMENT CONCRETE DRIVEWAY REPAIR PER DETAIL SHEET RD-2.
- 8 ADJUST EXISTING MANHOLE TO GRADE.
- 9 RELOCATE EXISTING RR TIE TO BACK OF SIDEWALK.
- 10 CONSTRUCT HMA DRIVEWAY REPAIR PER DETAIL SHEET RD-2.
- 11 REMOVE AND RELOCATE EXISTING YARD LIGHT.
- 12 CEMENT CONCRETE CURB RAMP SINGLE DIRECTION.
- 13 CEMENT CONCRETE CURB RAMP TYPE PARALLEL.
- 14 RELOCATE EXISTING GATE OR EXISTING FENCE TO BACK OF SIDEWALK.
- 15 CEMENT CONCRETE PATH
- 16 CEMENT CONCRETE DRIVEWAY
- 17 INFILTRATION TRENCH PER DETAIL ON SHEET SD-1
- 18 CLEANOUT PER DETAIL ON SHEET SD-1

CHANNELIZATION NOTES

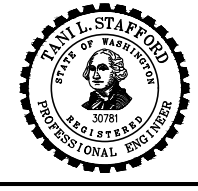
- 1 FURNISH AND INSTALL PAINTED YELLOW CENTERLINE PER DETAIL SHEET 24.
- 2 FURNISH AND INSTALL PLASTIC CROSSWALK MARKINGS, PER DETAIL SHEET 24.
- 3 FURNISH AND INSTALL 24" PLASTIC STOP LINE, PER DETAILS SHEET 24.

SIGNING NOTES

- 1 RELOCATE EXISTING SIGNS. FURNISH AND INSTALL NEW HARDWARE AND POST TYPE ST-2, PER DETAIL, SHEETS 26. WASTE HAUL EXISTING POST AND FOUNDATION.

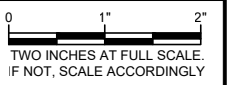


Gray & Osborne, Inc.
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1130 RAINIER AVENUE SOUTH,
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SEATTLE, WASHINGTON 98144
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DRAWN BY:	B. HAYDEN	
DESIGNER:	B. WANG	
G & O JOB NO.:	23440.07	
FILE:	PLANPROF.DWG	



CIVIL

PLAN AND PROFILE

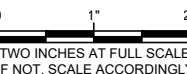
SHEET: **5/C-1** OF: **19**



**CITY OF
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G & O JOB NO.:	23440.07
FILE:	PLANPROF.DWG



CIVIL

PLAN AND PROFILE

SHEET: **6/C-2** OF: **19**



GENERAL NOTES

TRIM OVERHANGING BRANCHES TO PROVIDE CLEARANCE AROUND SIDEWALK.

ROADWAY & STORM DRAINAGE NOTES

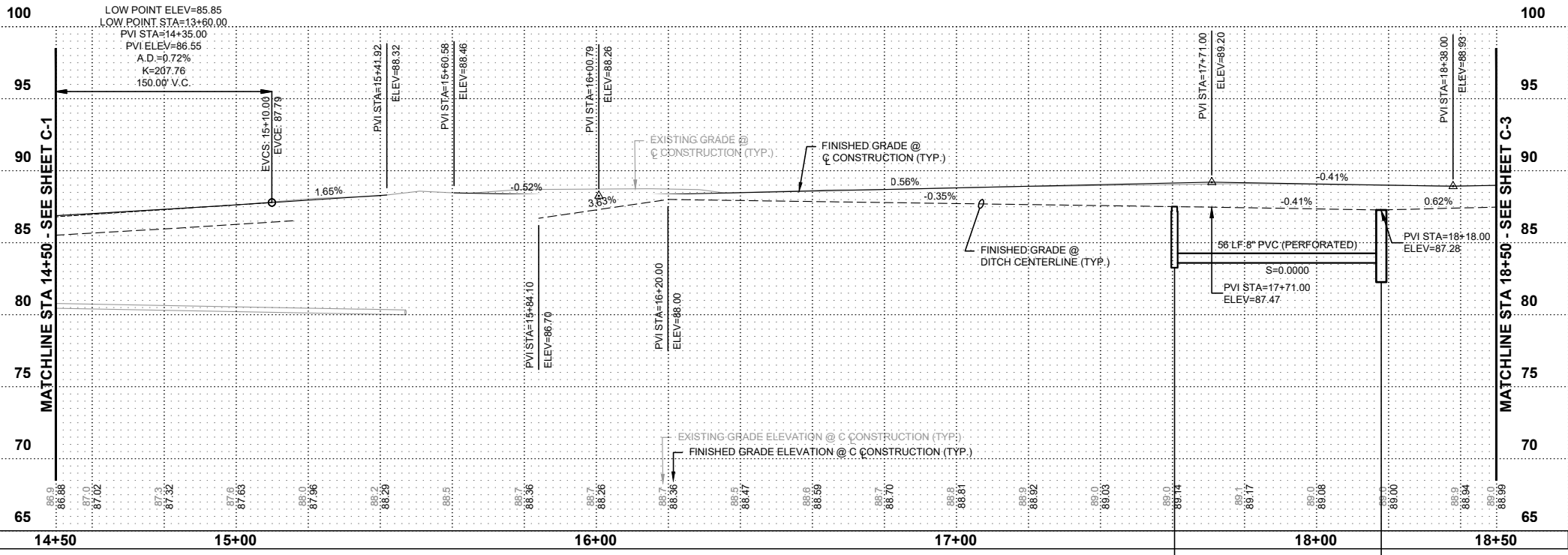
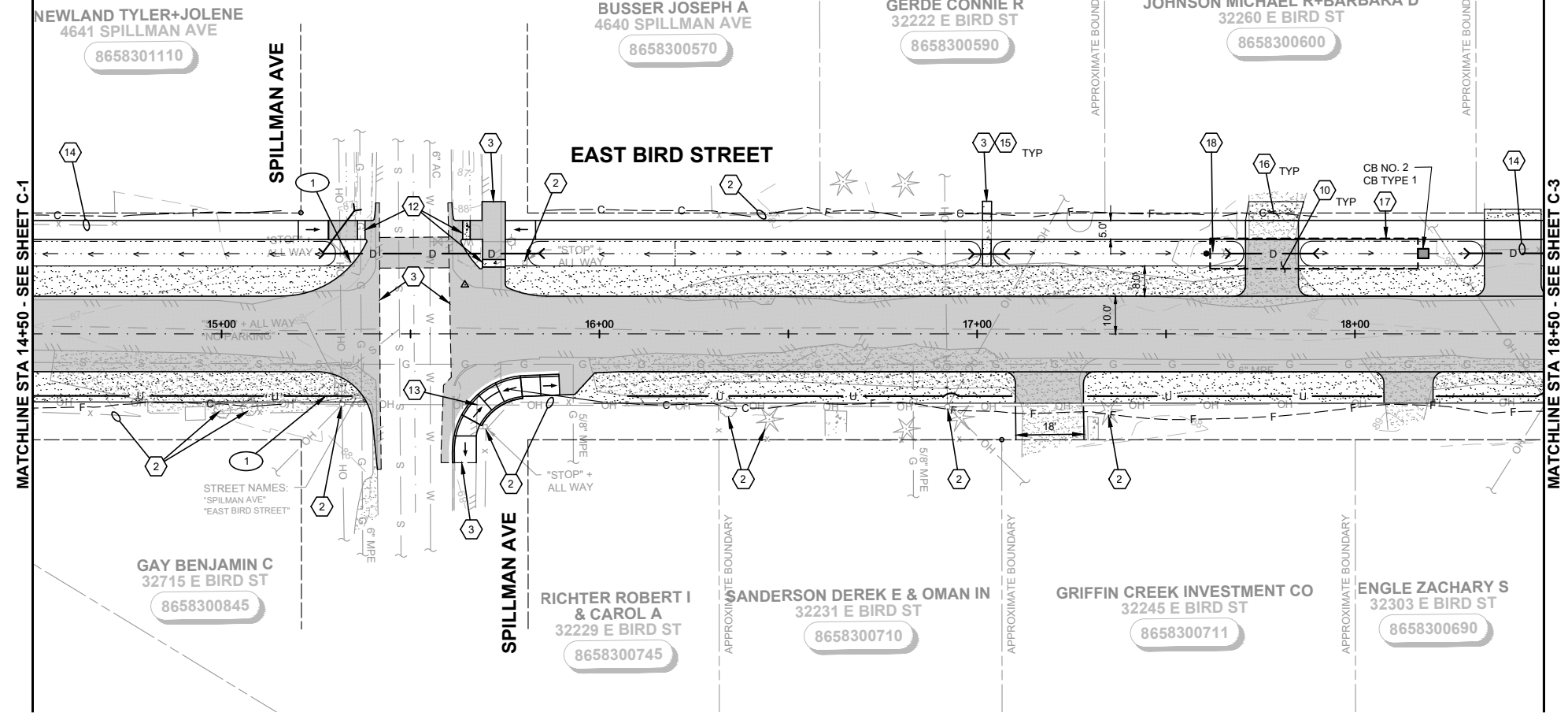
- CAUTION: POTENTIAL UTILITY CONFLICT. VERIFY (POTHOLE) EXACT LOCATION AND DEPTH OF EXISTING UTILITY. SEE ORDER OF WORK.
- PROTECT EXISTING CURB, SIDEWALK, HYDRANT, TREE, FENCE, POLE, SIGN DURING CONSTRUCTION.
- SAWCUT EXISTING PAVEMENT AND SEAL JOINT (WHERE APPLICABLE) THEN APPLY SAND BLANKET TO THE SURFACE JOINT.
- REMOVE AND WASTEHAUL EXISTING STORM DRAINAGE STRUCTURE(S)/PIPE.
- REMOVE EXISTING TREE.
- REMOVE AND DISPOSE OF EXISTING RR TIE.
- CONSTRUCT CEMENT CONCRETE DRIVEWAY REPAIR PER DETAIL SHEET RD-2.
- ADJUST EXISTING MANHOLE TO GRADE.
- RELOCATE EXISTING RR TIE TO BACK OF SIDEWALK.
- CONSTRUCT HMA DRIVEWAY REPAIR PER DETAIL SHEET RD-2.
- REMOVE AND RELOCATE EXISTING YARD LIGHT.
- CEMENT CONCRETE CURB RAMP SINGLE DIRECTION.
- CEMENT CONCRETE CURB RAMP TYPE PARALLEL.
- RELOCATE EXISTING GATE OR EXISTING FENCE TO BACK OF SIDEWALK.
- CEMENT CONCRETE PATH
- CEMENT CONCRETE DRIVEWAY
- INFILTRATION TRENCH PER DETAIL ON SHEET SD-1
- CLEANOUT PER DETAIL ON SHEET SD-1

CHANNELIZATION NOTES

- FURNISH AND INSTALL PAINTED YELLOW CENTERLINE PER DETAIL SHEET 24.
- FURNISH AND INSTALL PLASTIC CROSSWALK MARKINGS, PER DETAIL SHEET 24.
- FURNISH AND INSTALL 24" PLASTIC STOP LINE, PER DETAILS SHEET 24.

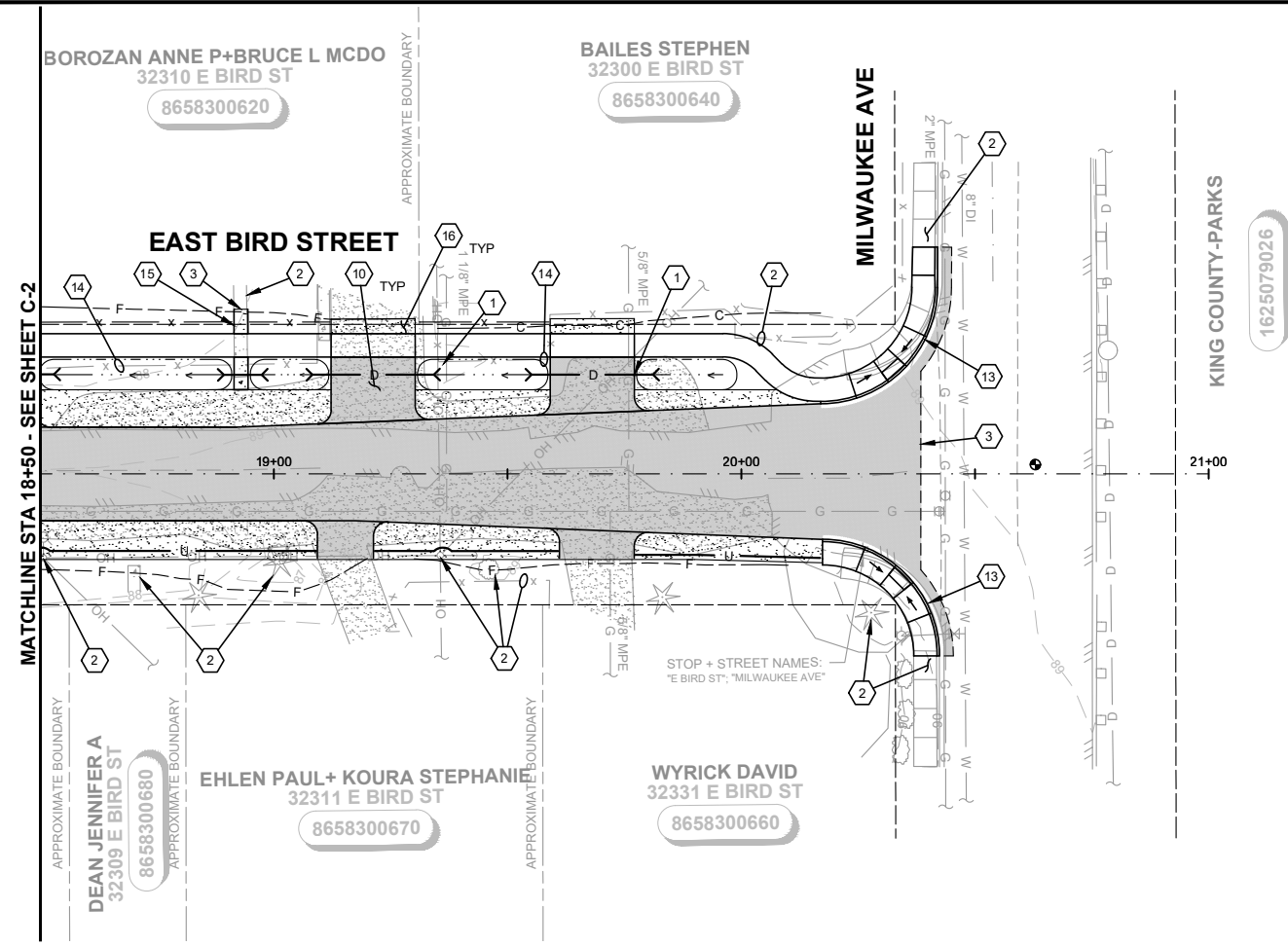
SIGNING NOTES

- RELOCATE EXISTING SIGNS. FURNISH AND INSTALL NEW HARDWARE AND POST TYPE ST-2, PER DETAIL, SHEETS 26. WASTE HAUL EXISTING POST AND FOUNDATION.

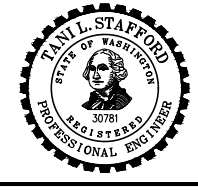


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L:\Carnation\23440.00 On-Call Engineering Services\23440.07 - East Bird Design\01 Design\Phase\PLANSET\VI\PLANPROF.dwg, 11/21/2023 7:45 PM, BRYAN WANG



Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860



**CITY OF
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EAST BIRD STREET
IMPROVEMENTS**

GENERAL NOTES

TRIM OVERHANGING BRANCHES TO PROVIDE CLEARANCE AROUND SIDEWALK.

ROADWAY & STORM DRAINAGE NOTES

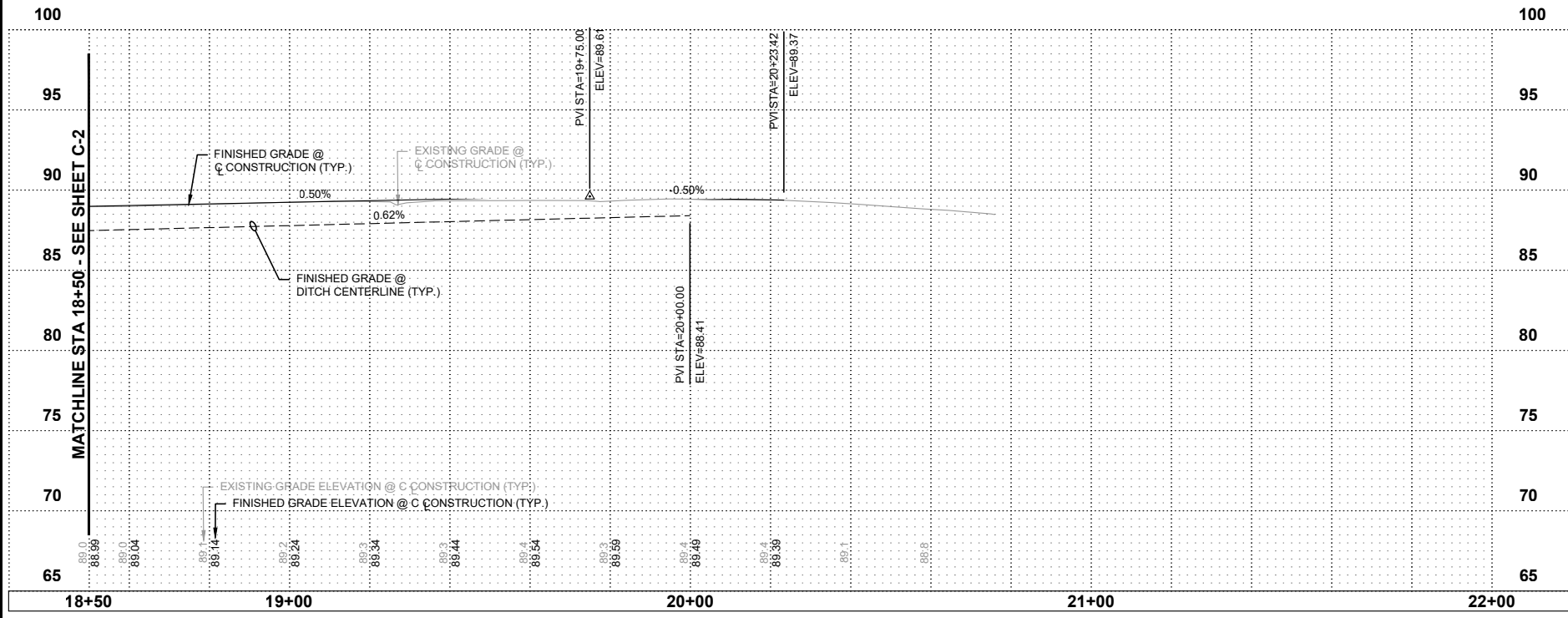
- 1 CAUTION: POTENTIAL UTILITY CONFLICT. VERIFY (POTHOLE) EXACT LOCATION AND DEPTH OF EXISTING UTILITY. SEE ORDER OF WORK.
- 2 PROTECT EXISTING CURB, SIDEWALK, HYDRANT, TREE, FENCE, POLE, SIGN DURING CONSTRUCTION.
- 3 SAWCUT EXISTING PAVEMENT AND SEAL JOINT (WHERE APPLICABLE) THEN APPLY SAND BLANKET TO THE SURFACE JOINT.
- 4 REMOVE AND WASTEHAUL EXISTING STORM DRAINAGE STRUCTURE(S)/PIPE.
- 5 REMOVE EXISTING TREE.
- 6 REMOVE AND DISPOSE OF EXISTING RR TIE.
- 7 CONSTRUCT CEMENT CONCRETE DRIVEWAY REPAIR PER DETAIL SHEET RD-2.
- 8 ADJUST EXISTING MANHOLE TO GRADE.
- 9 RELOCATE EXISTING RR TIE TO BACK OF SIDEWALK.
- 10 CONSTRUCT HMA DRIVEWAY REPAIR PER DETAIL SHEET RD-2.
- 11 REMOVE AND RELOCATE EXISTING YARD LIGHT.
- 12 CEMENT CONCRETE CURB RAMP SINGLE DIRECTION.
- 13 CEMENT CONCRETE CURB RAMP TYPE PARALLEL.
- 14 RELOCATE EXISTING GATE OR EXISTING FENCE TO BACK OF SIDEWALK.
- 15 CEMENT CONCRETE PATH
- 16 CEMENT CONCRETE DRIVEWAY
- 17 INFILTRATION TRENCH PER DETAIL ON SHEET SD-1
- 18 CLEANOUT PER DETAIL ON SHEET SD-1

CHANNELIZATION NOTES

- 1 FURNISH AND INSTALL PAINTED YELLOW CENTERLINE PER DETAIL SHEET 24.
- 2 FURNISH AND INSTALL PLASTIC CROSSWALK MARKINGS, PER DETAIL, SHEET 24.
- 3 FURNISH AND INSTALL 24" PLASTIC STOP LINE, PER DETAILS SHEET 24.

SIGNING NOTES

- 1 RELOCATE EXISTING SIGNS. FURNISH AND INSTALL NEW HARDWARE AND POST TYPE ST-2, PER DETAIL, SHEETS 26. WASTE HAUL EXISTING POST AND FOUNDATION.



No.	DATE	REVISION
ISSUED FOR:	PRELIMINARY,	
	NOT FOR CONSTRUCTION	
ISSUE DATE:	NOV. 2023	
APPROVED BY:	T. STAFFORD	
CHECKED BY:	T. STAFFORD	
DRAWN BY:	B. HAYDEN	
DESIGNER:	B. WANG	
G & O JOB NO.:	23440.07	
FILE:	PLANPROF.DWG	



CIVIL

PLAN AND PROFILE

SHEET: **7/C-3** OF: **19**



**CITY OF
 CARNATION
 EAST BIRD STREET
 IMPROVEMENTS**

No.	DATE	REVISION

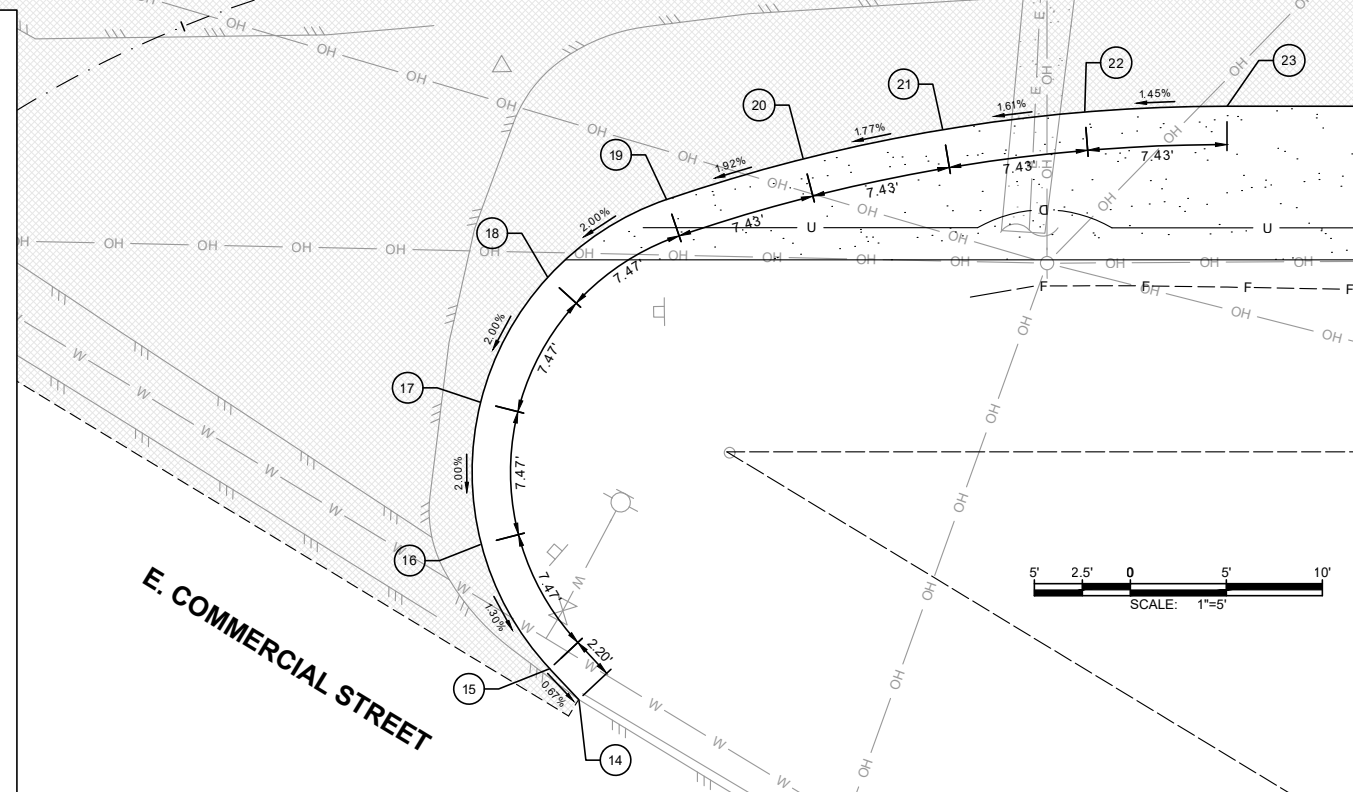
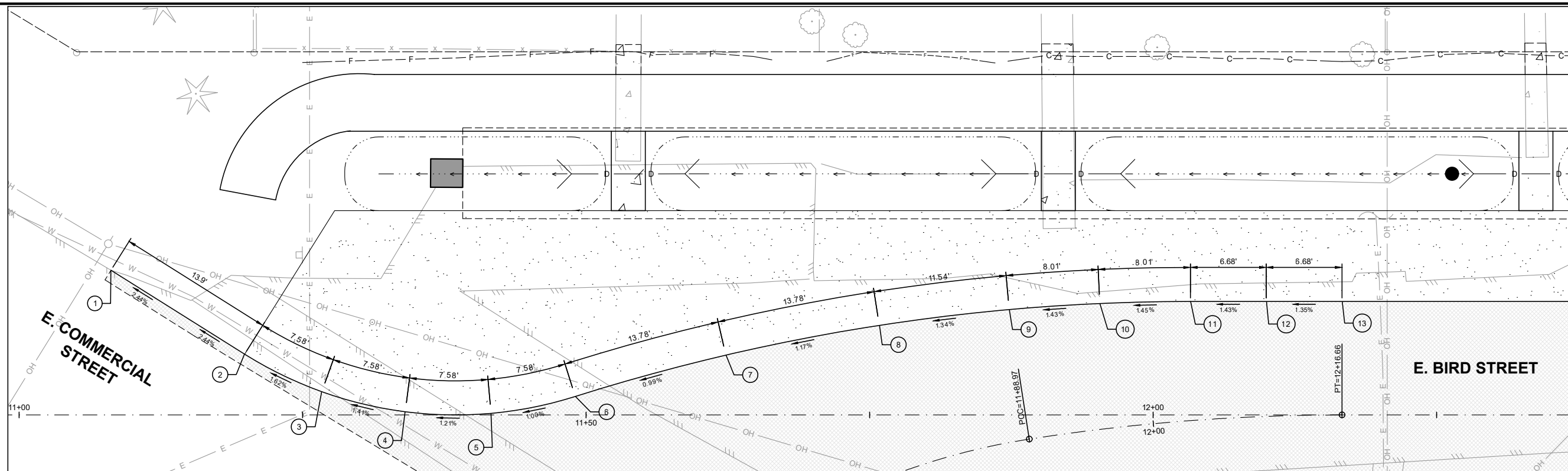
ISSUED FOR: PRELIMINARY, NOT FOR CONSTRUCTION
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 APPROVED BY: T. STAFFORD
 CHECKED BY: T. STAFFORD
 DRAWN BY: B. HAYDEN
 DESIGNER: B. WANG
 G & O JOB NO.: 23440.07
 FILE: RAMPLANS.DWG

0 1" 2"
 TWO INCHES AT FULL SCALE.
 IF NOT, SCALE ACCORDINGLY

CIVIL

INTERSECTION PLANS

SHEET: **8/C-4** OF: **19**

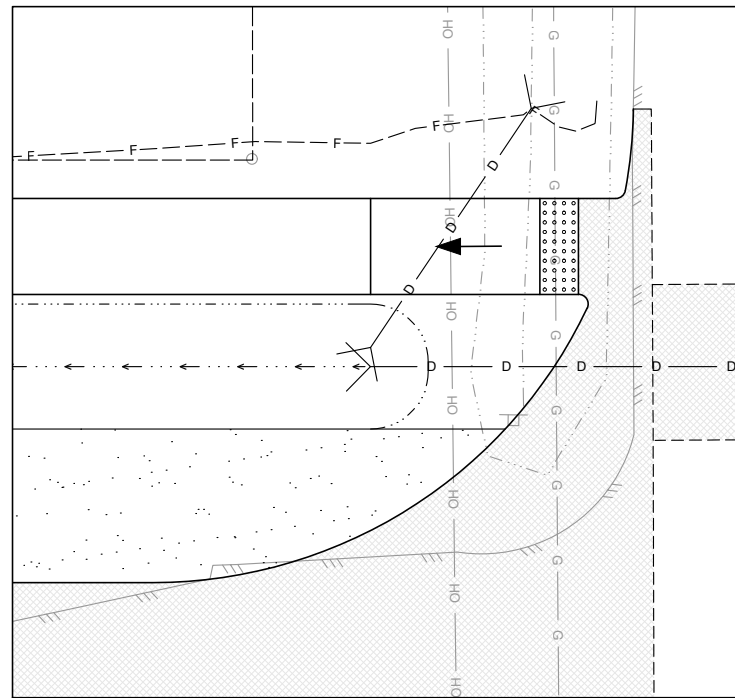


COMMERCIAL STREET INTERSECTION CORNER CURVES TABLE						
POINT:	POINT DESCRIPTION:	STATION:	OFFSET:	ELEVATION:	CURVE DESC:	CURVE CENTER:
1	EDGE OF PAVEMENT (EOP)	11+08.10	12.75' LT	82.58		
2	EOP, PC	11+19.88	5.36' LT	82.92		
3	EOP, 1/4 Δ	11+26.69	2.05' LT	83.04		
4	EOP, 1/2 Δ	11+34.05	0.28' LT	83.15	L=30.34' R=35.00' Δ=49° 39' 41"	STA. 11+38.49, 35.00' LT
5	EOP, 3/4 Δ	11+41.62	0.14' LT	83.24		
6	EOP, PRC	11+49.04	1.63' LT	83.32		
7	EOP, 1/4 Δ	11+62.33	5.27' LT	83.45		
8	EOP, 1/2 Δ	11+75.85	7.89' LT	83.62		
9	EOP	11+87.31	9.29' LT	83.77	L=55.11' R=180.00' Δ=17° 32' 37"	STA. 12+03.30, 170.00' RT
10	EOP	11+95.30	9.82' LT	83.88		
11	EOP, PT	12+03.30	10.00' LT	84.00		
12	EOP	12+09.98	10.00' LT	84.10		
13	EOP	12+16.66	10.00' LT	84.19		
14	EDGE OF PAVEMENT (EOP)	11+96.26	40.91' RT	83.71		
15	EOP, PC	11+94.76	39.30' RT	83.72		
16	EOP, 1/4 Δ	11+91.19	32.82' RT	83.82		
17	EOP, 1/2 Δ	11+91.16	25.43' RT	83.97	L=29.89' R=15.00' Δ=114° 10' 18"	STA. 12+05.71, 29.05' RT
18	EOP, 3/4 Δ	11+94.66	18.91' RT	84.12		
19	EOP, PCC	12+00.85	14.86' RT	84.27		
20	EOP, 1/4 Δ	12+07.97	12.75' RT	84.41		
21	EOP, 1/2 Δ	12+15.24	11.22' RT	84.54	L=29.72' R=90.00' Δ=18° 55' 15"	STA. 12+30.03, 100.00' RT
22	EOP, 3/4 Δ	12+22.61	10.31' RT	84.66		
23	EOP, PT	12+30.03	10.00' RT	84.77		

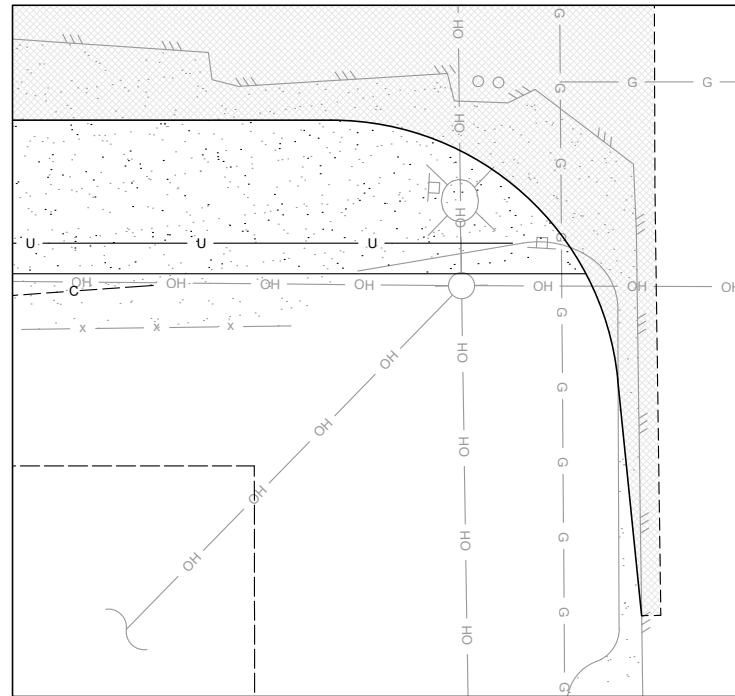
GENERAL NOTES

- CURB TYPE AS INDICATED ON THE PLAN. SEE DETAILS, SHEET ____.
- SEE CEMENT CONCRETE SIDEWALK AND JOINTS DETAIL, SHEET ____.
- SEE WSDOT STANDARD PLAN F-45.10-03 FOR DETECTABLE WARNING SURFACE DETAILS. SEE SHEET ____.
- ONCE CURB STRING LINES AND/OR FORMS HAVE BEEN SET BY THE CONTRACTOR THE CONTRACTING AGENCY WILL REVIEW AND APPROVE THE CURB LINES PRIOR TO POURING. THE CONTRACTOR SHALL ANTICIPATE FIELD ADJUSTMENTS WILL BE REQUIRED AT NO ADDITIONAL COST. THE CONTRACTOR SHALL STRUCTURE HIS BID ACCORDINGLY.

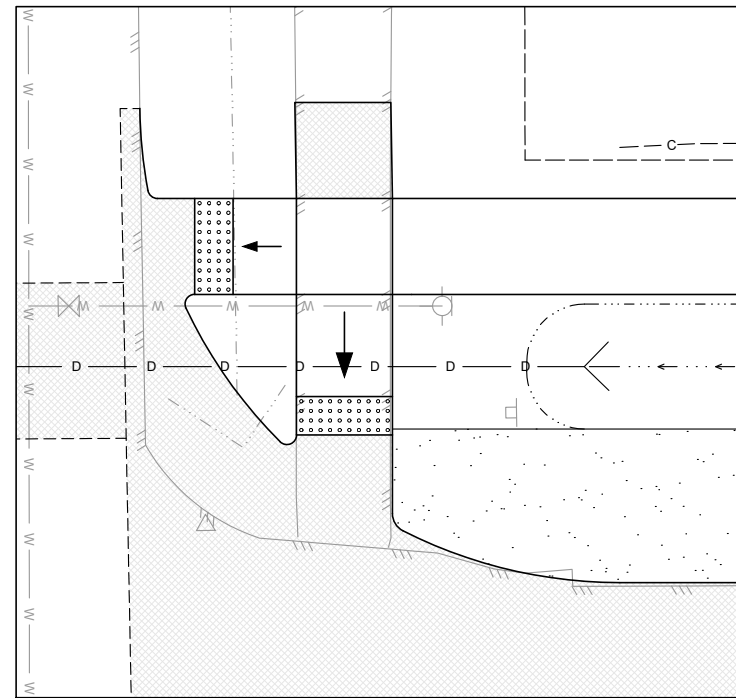
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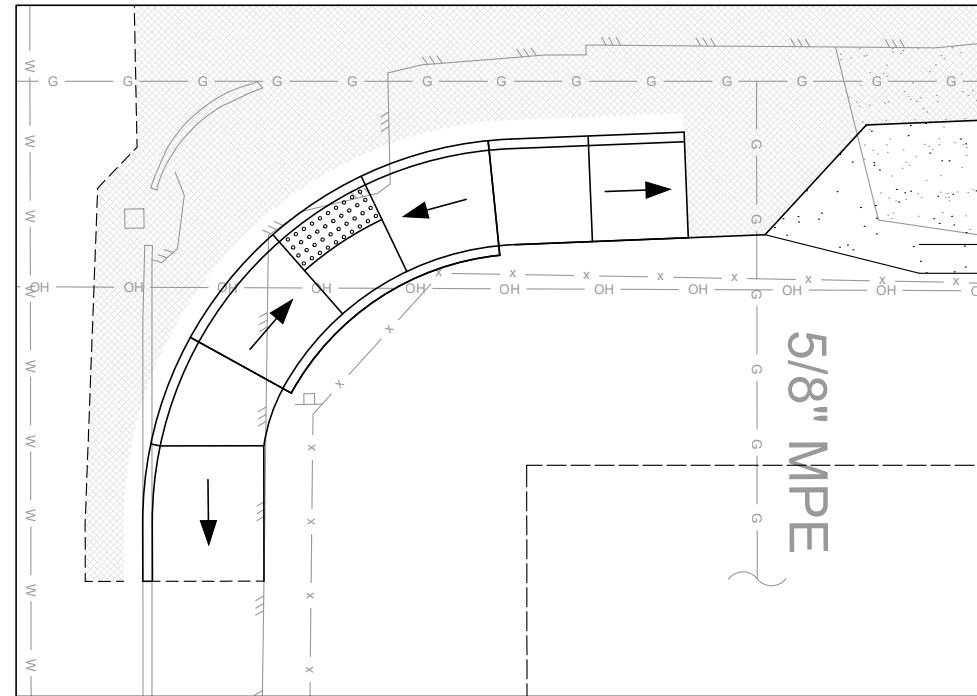
E. BIRD STREET



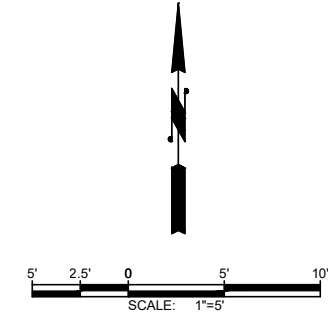
SPILMAN AVENUE



SPILMAN AVENUE



SPILMAN AVENUE

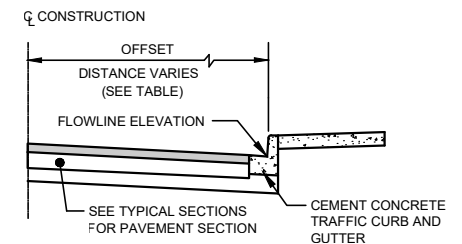


GENERAL NOTES

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- SEE CEMENT CONCRETE SIDEWALK AND JOINTS DETAIL, SHEET ____.
- SEE WSDOT STANDARD PLAN F-45.10-03 FOR DETECTABLE WARNING SURFACE DETAILS. SEE SHEET ____.
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RAMP CONSTRUCTION NOTES

- CONTRACTOR TO FIELD VERIFY AND ADJUST RAMP LENGTH TO MEET RAMP SLOPE REQUIREMENTS PER DETAILS. THE CURB RAMP MAXIMUM RUNNING SLOPE AT THE BACK OF THE RAMP SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15-FEET.
- RAMP. CROSS SLOPE SHALL NOT EXCEED 2.0% AND LONGITUDINAL SLOPE SHALL NOT EXCEED 8.33% (UNLESS NOTED OTHERWISE ON PLANS).
- LANDING. CROSS SLOPES SHALL NOT EXCEED 2.0% (UNLESS NOTED OTHERWISE ON PLANS).
- DETECTABLE WARNING SURFACE. 2' MIN. ALONG DIRECTION OF TRAVEL, TYP. FOR ALL APPLICATIONS.
- PARALLEL CURB RAMP PER PLAN AND WSDOT STANDARD PLAN F-40-12.03. SEE SHEET ____.
- SIDEWALK GRADE TRANSITION SECTION, CROSS SLOPE SHALL NOT EXCEED 2.0% AND RUNNING SLOPE SHALL NOT EXCEED 5%.



FLOWLINE ELEVATION AND OFFSET DETAIL

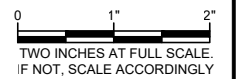
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**CITY OF CARNATION
EAST BIRD STREET IMPROVEMENTS**

No.	DATE	REVISION

ISSUED FOR: PRELIMINARY, NOT FOR CONSTRUCTION
 ISSUE DATE: NOV. 2023
 APPROVED BY: T. STAFFORD
 CHECKED BY: T. STAFFORD
 DRAWN BY: B. HAYDEN
 DESIGNER: B. WANG
 G & O JOB NO.: 23440.07
 FILE: RAMPPPLANS.DWG



CIVIL

INTERSECTION PLANS

GENERAL NOTES

- CURB TYPE AS INDICATED ON THE PLAN. SEE DETAILS, SHEET ____.
- SEE CEMENT CONCRETE SIDEWALK AND JOINTS DETAIL, SHEET ____.
- SEE WSDOT STANDARD PLAN F-45.10-03 FOR DETECTABLE WARNING SURFACE DETAILS. SEE SHEET ____.
- ONCE CURB STRING LINES AND/OR FORMS HAVE BEEN SET BY THE CONTRACTOR THE CONTRACTING AGENCY WILL REVIEW AND APPROVE THE CURB LINES PRIOR TO POURING. THE CONTRACTOR SHALL ANTICIPATE FIELD ADJUSTMENTS WILL BE REQUIRED AT NO ADDITIONAL COST. THE CONTRACTOR SHALL STRUCTURE HIS BID ACCORDINGLY.

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- SIDEWALK GRADE TRANSITION SECTION, CROSS SLOPE SHALL NOT EXCEED 2.0% AND RUNNING SLOPE SHALL NOT EXCEED 5%.



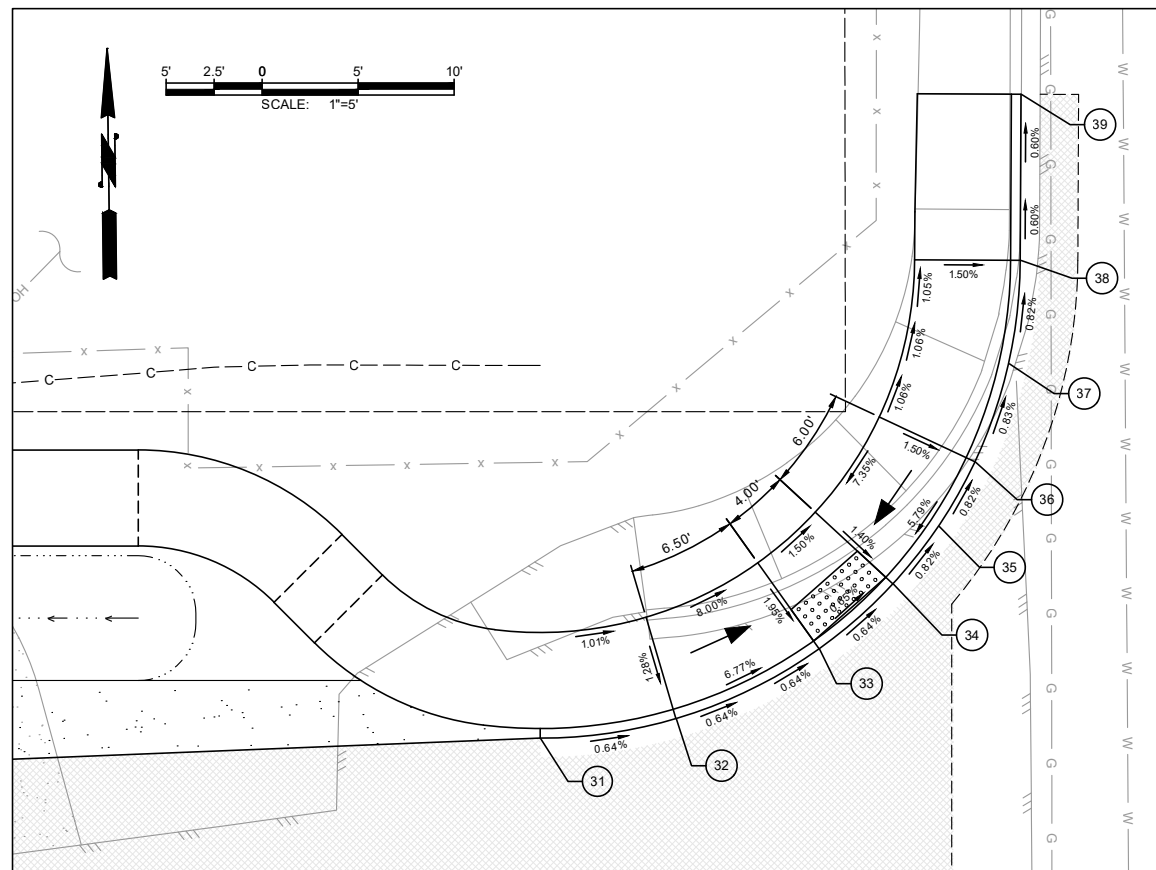
**CITY OF CARNATION
 EAST BIRD STREET
 IMPROVEMENTS**

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APPROVED BY:	T. STAFFORD	
CHECKED BY:	T. STAFFORD	
DRAWN BY:	B. HAYDEN	
DESIGNER:	B. WANG	
G & O JOB NO.:	23440.07	
FILE:	RAMPPLANS.DWG	



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INTERSECTION PLANS

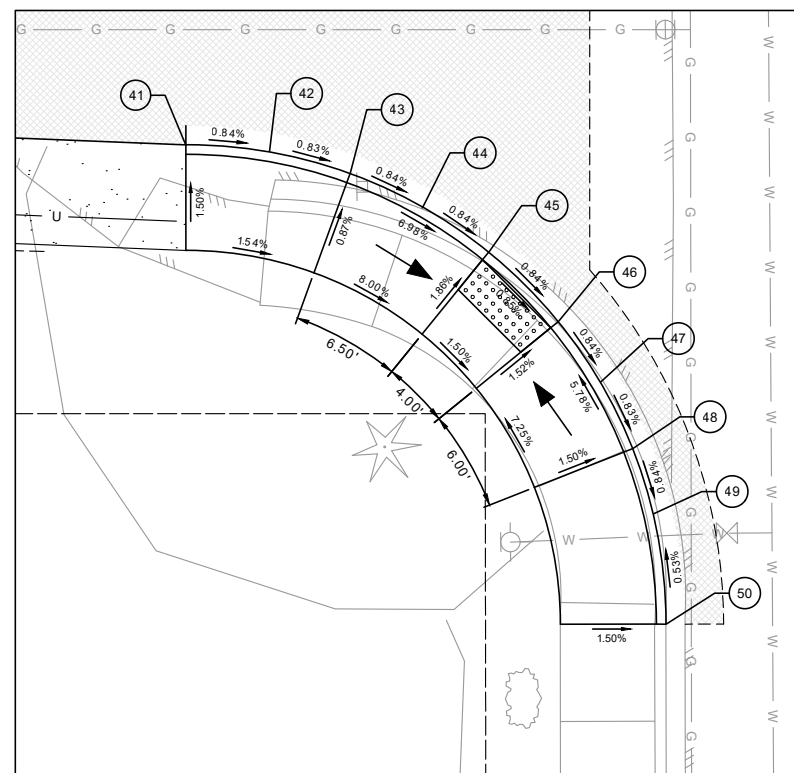


E. BIRD STREET

MILWAKEE NW QUADRANT CURB TABLE							
POINT:	POINT DESCRIPTION:	STATION:	OFFSET:	ELEVATION:	CURB HEIGHT:	CURVE DESC.:	CURVE CENTER:
31	PC, FLOWLINE	20+16.99	15.00' LT	89.10	6.00"		
32	RAMP TOP, FLOWLINE	20+24.05	16.02' LT	89.06	6.00"		
33	RAMP TOE, LANDING, FLOWLINE	20+31.51	19.65' LT	89.00	0.00"		
34	RAMP TOE, LANDING, FLOWLINE	20+35.35	23.04' LT	88.97	0.00"	L=39.16' R=25.00' Δ=89° 44' 34"	STA. 20+16.99, 40.00' LT
35	FLOWLINE	20+37.73	26.05' LT	88.94	3.00"		
36	RAMP TOP, FLOWLINE	20+39.63	29.40' LT	88.91	6.00"		
37	FLOWLINE	20+41.38	34.51' LT	88.86	6.00"		
38	PT, FLOWLINE	20+41.98	39.89' LT	88.82	6.00"		
39	FLOWLINE	20+42.02	48.54' LT	88.76	6"± (MATCH EX.)		

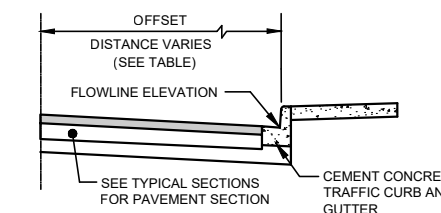
MILWAUKEE AVENUE

BROOM FINISH ON
 RAMPS/LANDINGS/SIDEWALK



MILWAKEE SW QUADRANT CURB TABLE							
POINT:	POINT DESCRIPTION:	STATION:	OFFSET:	ELEVATION:	CURB HEIGHT:	CURVE DESC.:	CURVE CENTER:
41	PC, FLOWLINE	20+17.39	14.00' RT	89.68	6.00"		
42	FLOWLINE	20+21.72	14.38' RT	89.64	6.00"		
43	RAMP TOP, FLOWLINE	20+25.93	15.50' RT	89.61	6.00"		
44	FLOWLINE	20+29.71	17.25' RT	89.57	3.00"		
45	RAMP TOE, LANDING, FLOWLINE	20+33.15	19.59' RT	89.54	0.00"	L=39.23' R=25.00' Δ=89° 54' 46"	STA. 20+17.39, 39.00' RT
46	RAMP TOE, LANDING, FLOWLINE	20+36.77	23.21' RT	89.49	0.00"		
47	FLOWLINE	20+38.96	26.37' RT	89.46	3.00"		
48	RAMP TOP, FLOWLINE	20+40.64	29.82' RT	89.43	6.00"		
49	FLOWLINE, LOW POINT	20+41.71	33.23' RT	89.40	6.00"		
50	PT, FLOWLINE	20+42.39	38.96' RT	89.43	6"± (MATCH EX.)		

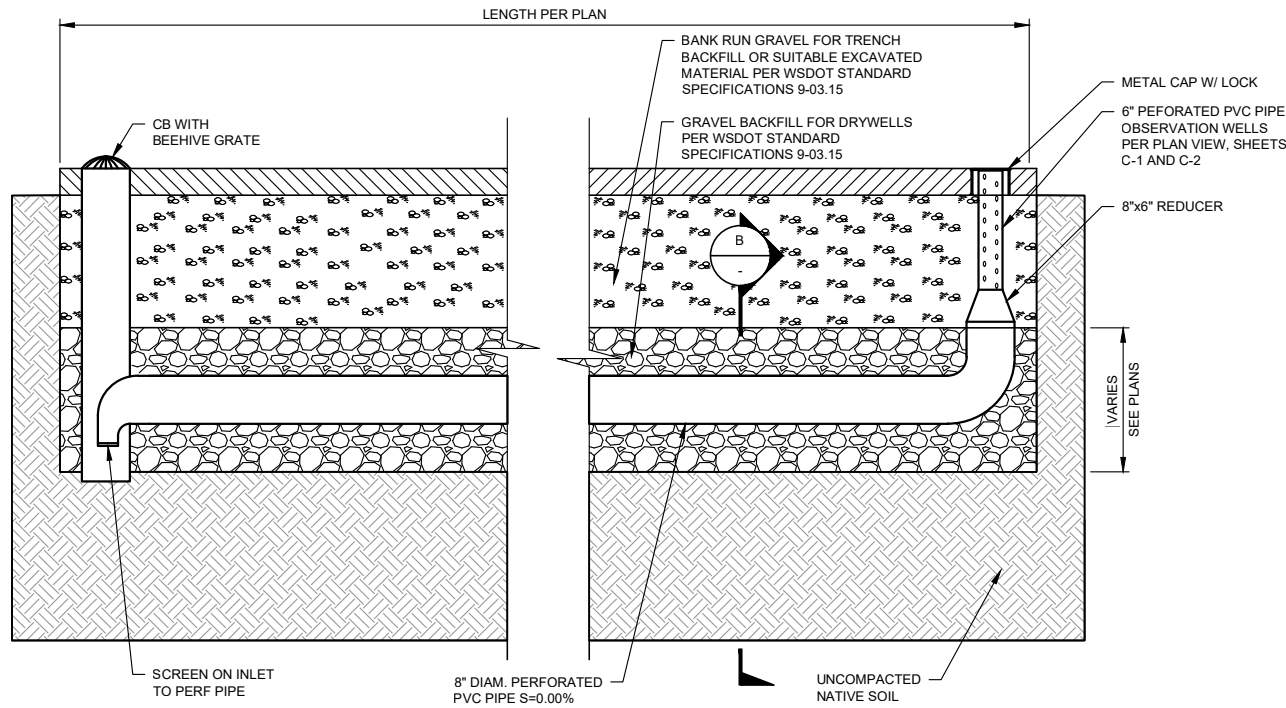
Q CONSTRUCTION



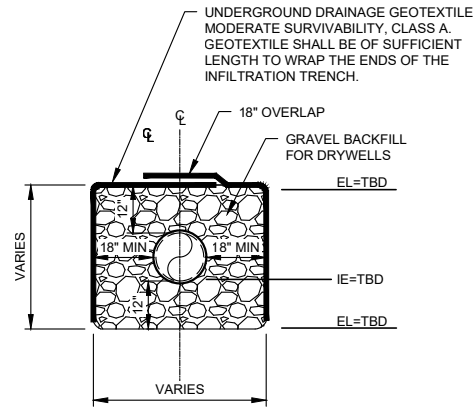
**FLOWLINE ELEVATION
 AND OFFSET DETAIL**

NTS

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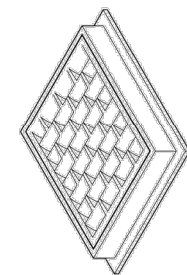


1 INFILTRATION TRENCH SECTION
NOT TO SCALE

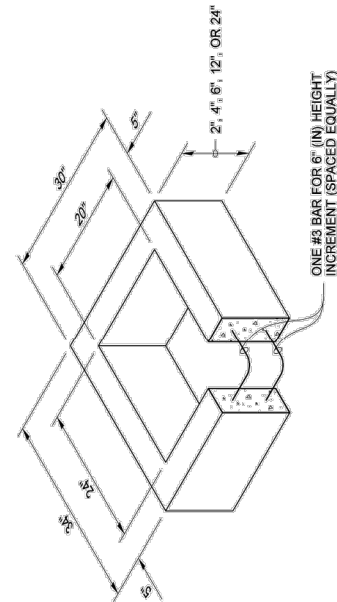


B SECTION
SCALE: 1/2"=1'-0"

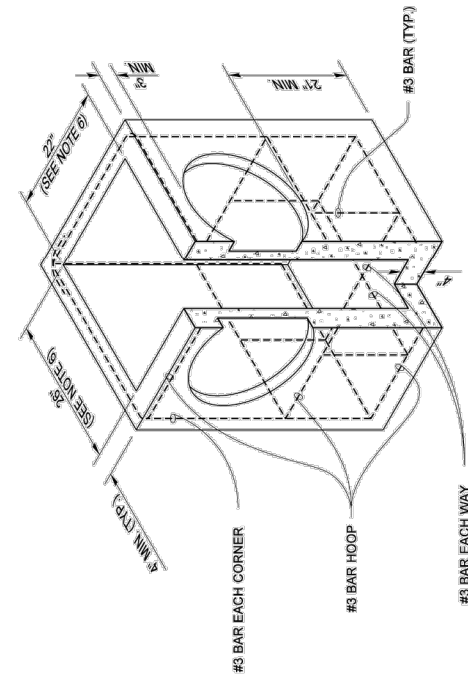
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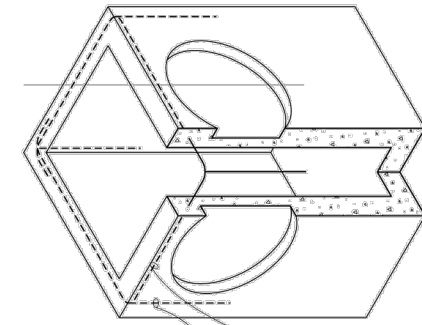
FRAME AND VANED GRATE



RECTANGULAR ADJUSTMENT SECTION



PRECAST BASE SECTION



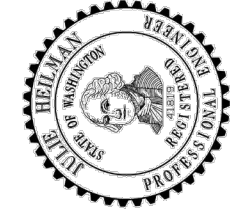
ALTERNATIVE PRECAST BASE SECTION
(SEE NOTE 1)

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP * (STD. SPEC. SECT. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. SECT. 9-05.12(2))	15"

* CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES

- As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications) or wire mesh having a minimum area of 0.12 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.
- The knockout diameter shall not be greater than 20" (m). Knockouts shall have a wall thickness of 2" (m) minimum to 2.5" (m) maximum. Provide a 1.5" (m) 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**.
- The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
- The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.
- The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
- The opening shall be measured at the top of the **Precast Base Section**.
- All pickup holes shall be grouted full after the basin has been placed.



Julie Heilman
2020.09.01 07:52:50 -0700

CATCH BASIN TYPE 1
STANDARD PLAN B-5.20-03
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Digitally signed by Roark, Steve
Date: 2023.09.08 09:45:23 -0700
Roark, Steve
STATE DESIGN ENGINEER
Washington State Department of Transportation



CITY OF CARNATION
EAST BIRD STREET IMPROVEMENTS

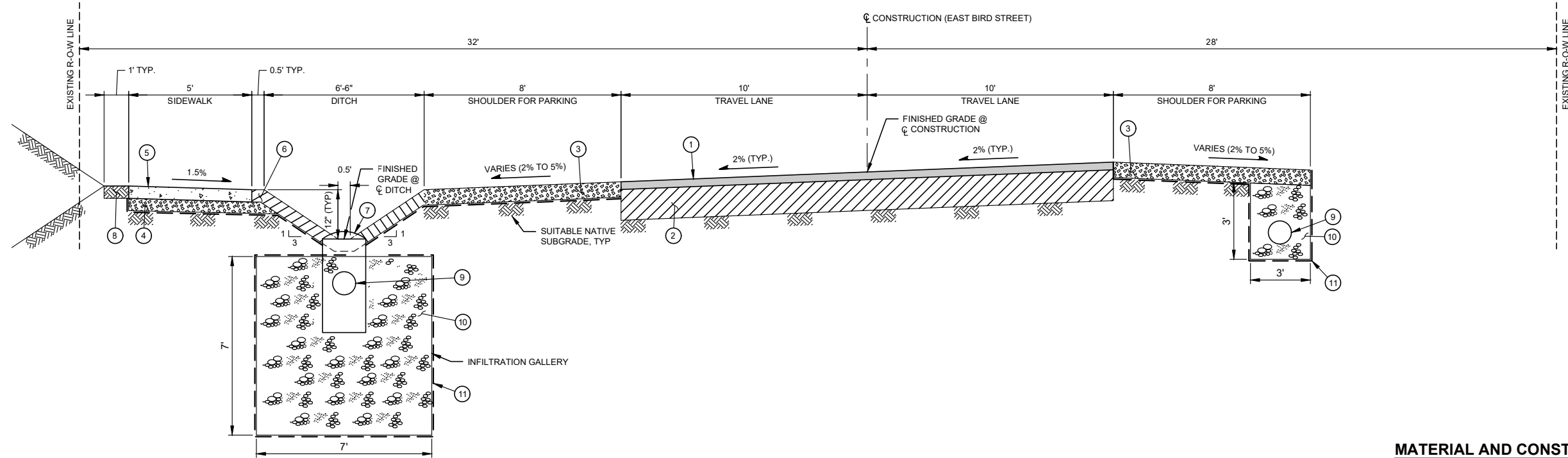
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 DESIGNER: B. WANG
 G & O JOB NO.: 23440.07
 FILE: STORM_DET.DWG

CIVIL
STORM SECTION AND DETAILS



**CITY OF
 CARNATION
 EAST BIRD STREET
 IMPROVEMENTS**



MATERIAL AND CONSTRUCTION CODE

- ① 2.5" COMPACTED DEPTH HMA
- ② 12" DEPTH CEMENT TREATED BASE
- ③ 6" COMPACTED DEPTH CSTC
- ④ 4" COMPACTED DEPTH CSTC
- ⑤ CEMENT CONCRETE SIDEWALK OR DRIVEWAY
- ⑥ 4" TOPSOIL AND SEEDING, FERTILIZING AND MULCHING
- ⑦ CATCH BASIN TYPE 1 WITH BEEHIVE GRATE
- ⑧ 4" TOPSOIL AND SEEDING, FERTILIZING AND MULCHING, OR 4" WOOD CHIP MULCH AS DIRECTED BY THE CONTRACTING AGENCY
- ⑨ 8" DRAIN PVC UNDERDRAIN PIPE
- ⑩ GRAVEL BACKFILL FOR DRAINS
- ⑪ GEOTEXTILE FOR UNDERGROUND DRAINAGE, MODERATE SURVIVABILITY CLASS A

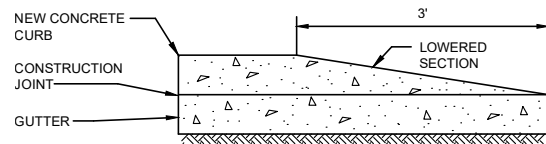
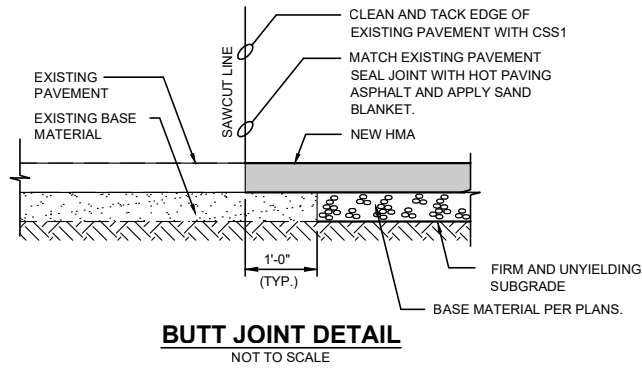
No.	DATE	REVISION
ISSUED FOR: PRELIMINARY, NOT FOR CONSTRUCTION		
ISSUE DATE: NOV. 2023		
APPROVED BY: T. STAFFORD		
CHECKED BY: T. STAFFORD		
DRAWN BY: B. HAYDEN		
DESIGNER: B. WANG		
G & O JOB NO.: 23440.07		
FILE: TYP_XSEC.DWG		

CIVIL

**TYPICAL ROADWAY
 CROSS SECTION**

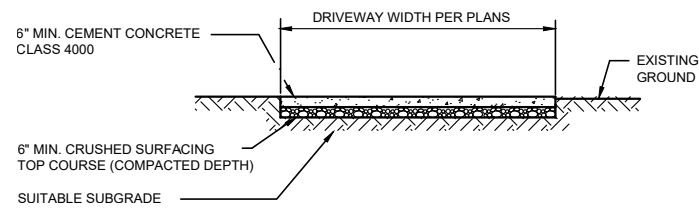
SHEET: **12/RD-1** OF: **19**

L:\Carnation\23440_00 On-Call Engineering Services\23440_07 - East Bird Design\01 Design\Phase\PLANS\SET\General\RDDT.dwg, 11/21/2023 7:46 PM, BRYAN WANG

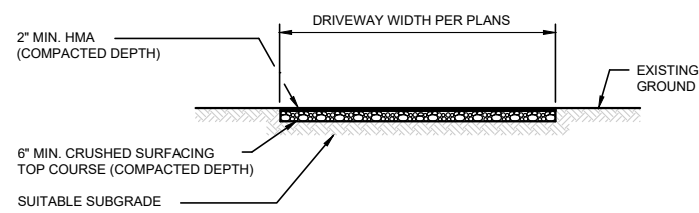


NOTE:
CONCRETE CURB END SECTION TO BE USED AT ALL LOCATIONS WHERE NEW CURB DOES NOT MEET EXISTING CURB OR AS REQUIRED IN THE FIELD. CONTRACTOR SHALL COORDINATE WITH CONTRACTING AGENCY.

CONCRETE CURB END SECTION
NOT TO SCALE

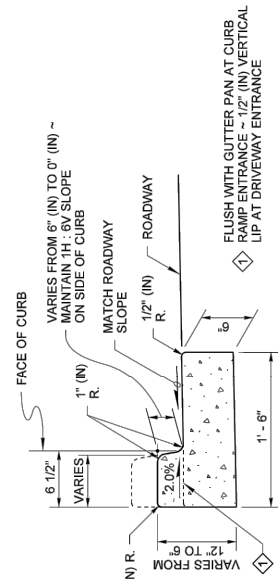


CEMENT CONCRETE DRIVEWAY REPAIR
NOT TO SCALE



HMA DRIVEWAY REPAIR
NOT TO SCALE

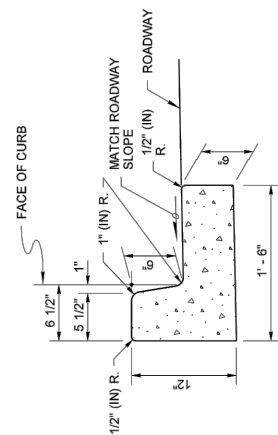
NOTE:
CONTRACTOR SHALL CONFIRM ALL DRIVEWAY APPROACH STATIONS AND WIDTH WITH CONTRACTING AGENCY PRIOR TO INSTALLATION.



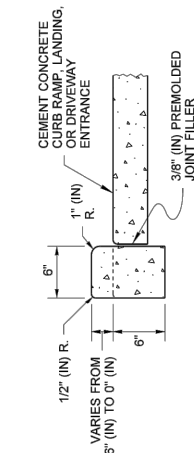
DEPRESSED CURB AND GUTTER SECTION
AT CURB RAMPS AND DRIVEWAY ENTRANCES

NOTE

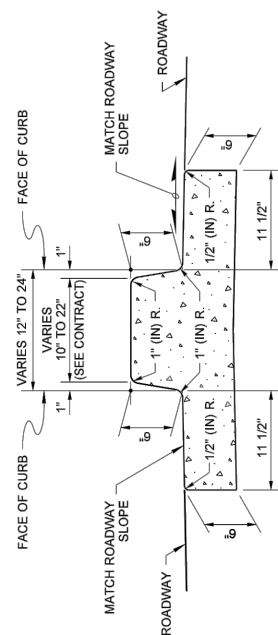
1. See **Standard Plan F-30.10** for Curb Expansion and Contraction Joint Spacing. See **Standard Specification, Sections 8-04 and 9-04** for additional requirements.



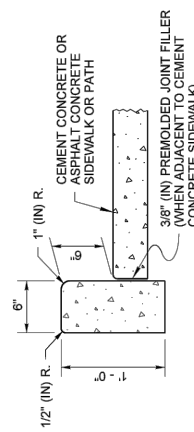
CEMENT CONCRETE TRAFFIC CURB AND GUTTER



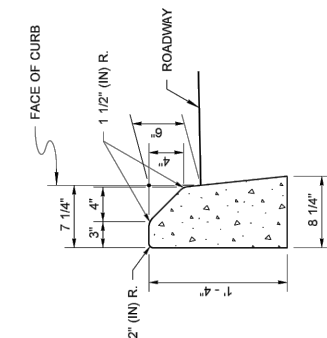
CEMENT CONCRETE PEDESTRIAN CURB
AT CURB RAMPS, LANDINGS, AND DRIVEWAY ENTRANCES



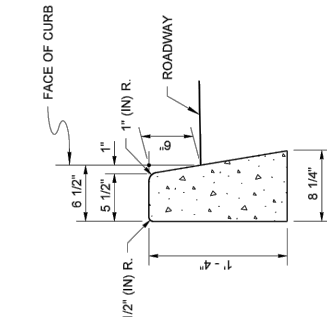
DUAL-FACED CEMENT CONCRETE TRAFFIC CURB AND GUTTER



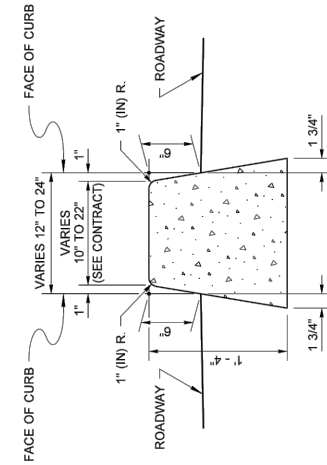
CEMENT CONCRETE PEDESTRIAN CURB
AT CURB RAMPS, LANDINGS, AND DRIVEWAY ENTRANCES



MOUNTABLE CEMENT CONCRETE TRAFFIC CURB



CEMENT CONCRETE TRAFFIC CURB

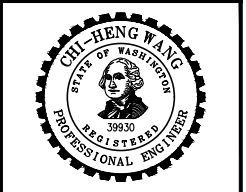


DUAL-FACED CEMENT CONCRETE TRAFFIC CURB



Michael S. Fleming
Digitally signed by Michael S. Fleming
Date: 2023.09.24 07:57:43 -0700
CEMENT CONCRETE CURBS
STANDARD PLAN F-10.12-04
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Date: 2020.09.24
07:57:43 -0700
STATE DESIGN ENGINEER
Washington State Department of Transportation



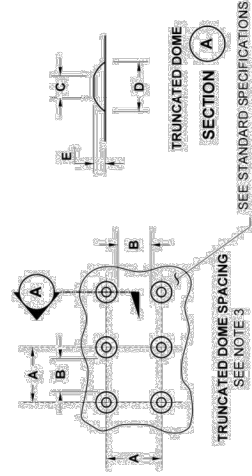
No.	DATE	REVISION

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 CHECKED BY: T. STAFFORD
 DRAWN BY: B. HAYDEN
 DESIGNER: B. WANG
 G & O JOB NO.: 23440.07
 FILE: RDDT.DWG

CIVIL

ROADWAY DETAILS

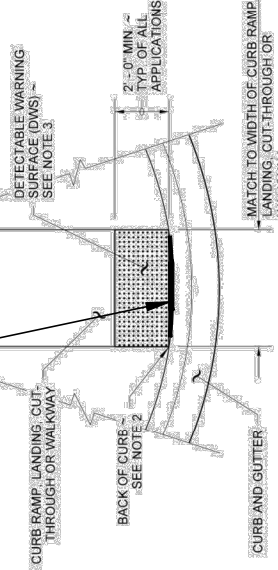
DRAWN BY: FERN LIDDELL



	MIN.	MAX.
A	1.60'	2.40'
B	0.65'	-
C	0.45'	0.90'
D	0.9'	1.40'
E	0.2'	0.2'

TRUNCATED DOME SPACING
SEE NOTE 3

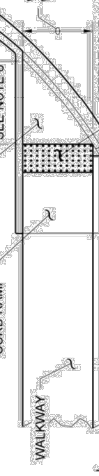
TRUNCATED DOME DETAILS
SECTION A



DETECTABLE WARNING SURFACE DETAIL

NOTES

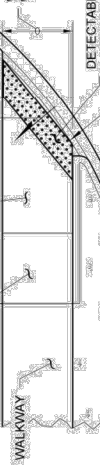
- The Detectable Warning Surface (DWS) shall extend the full width of the curb ramp, landing, or other roadway entrance as applicable. Exception: If the Manufacturer of the DWS requires a concrete border around the DWS, a variance of up to 2 inches on each side of the DWS is permitted.
- The Detectable Warning Surface (DWS) shall be placed at the back of curb, with the two leading corners of the DWS panel placed adjacent to the back of the curb, and with a minimum 2 inch overlap with the DWS on the back of the curb.
- Exception: If the Manufacturer of the Detectable DWS requires a concrete border around the DWS, a variance of up to 2 inches on each side of the DWS is permitted, provided the leading corners of the DWS panel break at the back of curb.
- The rows of truncated domes shall be aligned to be perpendicular to the grade break at the back of curb.
- If curb and gutter are not present, such as a shared-use path connection, the Detectable Warning Surface shall be placed at the pavement edge.
- See Standard Plans for sidewalk and curb ramp details.
- If a curb ramp is required, the location of the Detectable Warning Surface must be at the bottom of the ramp and within the required distance from the rail.
- When the grade break between the curb ramp and the landing is less than or equal to 5 ft. from the back of curb at all points, place the Detectable Warning Surface on the bottom of the curb ramp directly above the grade break.



SINGLE DIRECTION CURB RAMP
(GRADE BREAK BETWEEN CURB AND LANDING > 5 FT. FROM BACK OF CURB)
(SEE NOTE 6)



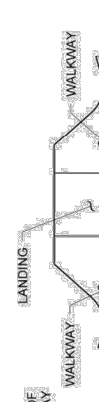
SINGLE DIRECTION CURB RAMP
(GRADE BREAK BETWEEN CURB AND LANDING > 5 FT. FROM BACK OF CURB)
(SEE NOTE 6)



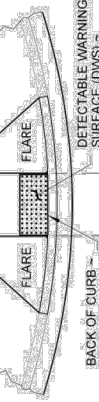
PERPENDICULAR CURB RAMP
(SEE NOTE 9)



PARALLEL CURB RAMP
(SEE NOTE 6)



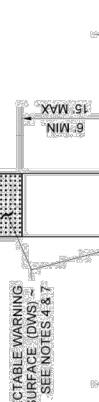
ISLAND CUT-THROUGH



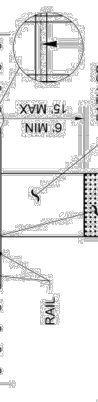
ROUNDABOUT SPLITTER ISLAND



MEDIAN CUT-THROUGH



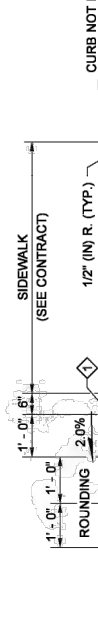
SHARED-USE PATH CONNECTION



PEDESTRIAN RAILROAD CROSSING



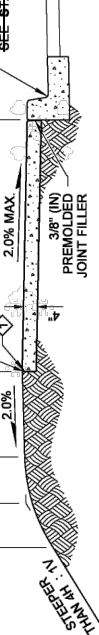
PLACEMENT GUIDELINES



CURB FACE DETAIL



MONOLITHIC CONCRETE CURB AND SIDEWALK



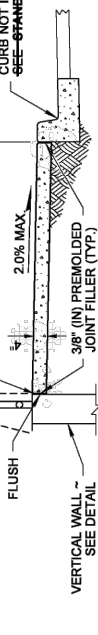
SIDEWALK ADJACENT TO WALL DETAIL



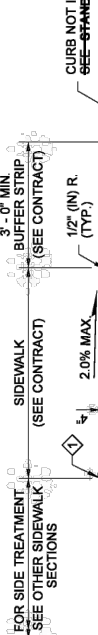
ADJACENT TO CURB (STEEP FILL SLOPES)



ADJACENT TO CURB



ADJACENT TO CURB AND RAILING OR WALL



ADJACENT TO BUFFER STRIP



CURB FACE DETAIL



MONOLITHIC CONCRETE CURB AND SIDEWALK



SIDEWALK ADJACENT TO WALL DETAIL



ADJACENT TO CURB



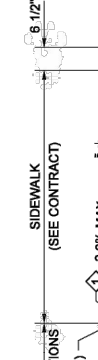
ADJACENT TO CURB AND RAILING OR WALL



ADJACENT TO BUFFER STRIP



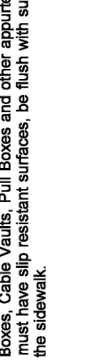
ADJACENT TO BUFFER STRIP



CURB FACE DETAIL



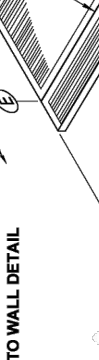
MONOLITHIC CONCRETE CURB AND SIDEWALK



SIDEWALK ADJACENT TO WALL DETAIL



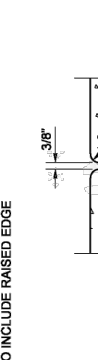
ADJACENT TO CURB



ADJACENT TO CURB AND RAILING OR WALL



ADJACENT TO BUFFER STRIP



ADJACENT TO BUFFER STRIP



EXPANSION JOINT



CONTRACTION JOINT

CONTRACTOR SHALL MODIFY DEPRESSED CURB WIDTH TO MATCH DETECTABLE WARNING STRIP (TYP)

NOTE: ADA DOMES SHALL BE TRAFFIC YELLOW

MODIFIED

DETECTABLE WARNING SURFACE
STANDARD PLAN F-45.10-02

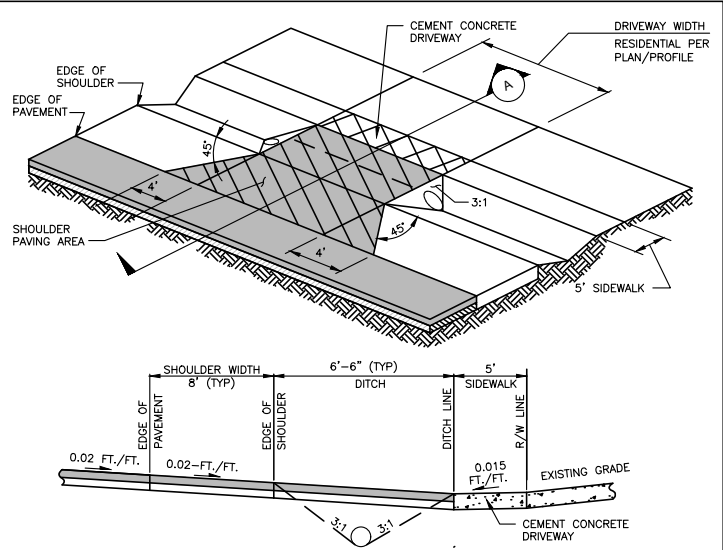
MODIFIED

CEMENT CONCRETE SIDEWALK
STANDARD PLAN F-30.10-03

NOTE
Four feet of the sidewalk width shall be the minimum pedestrian accessible route free of vertical and horizontal obstructions. Gratings, Access Covers, Junction Boxes, Cable Vaults, Pull Boxes and other appurtenances within the sidewalk must have slip resistant surfaces, be flush with surface, and match grade of the sidewalk.

No.	DATE	REVISION
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ISSUE DATE:	NOV. 2023	
APPROVED BY:	T. STAFFORD	
CHECKED BY:	T. STAFFORD	
DRAWN BY:	B. HAYDEN	
DESIGNER:	B. WANG	
G & O JOB NO.:	23440.07	
FILE:	RDDT.DWG	

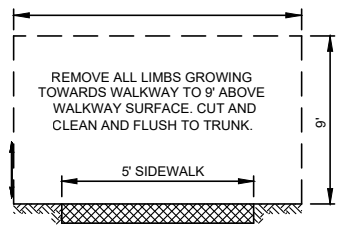
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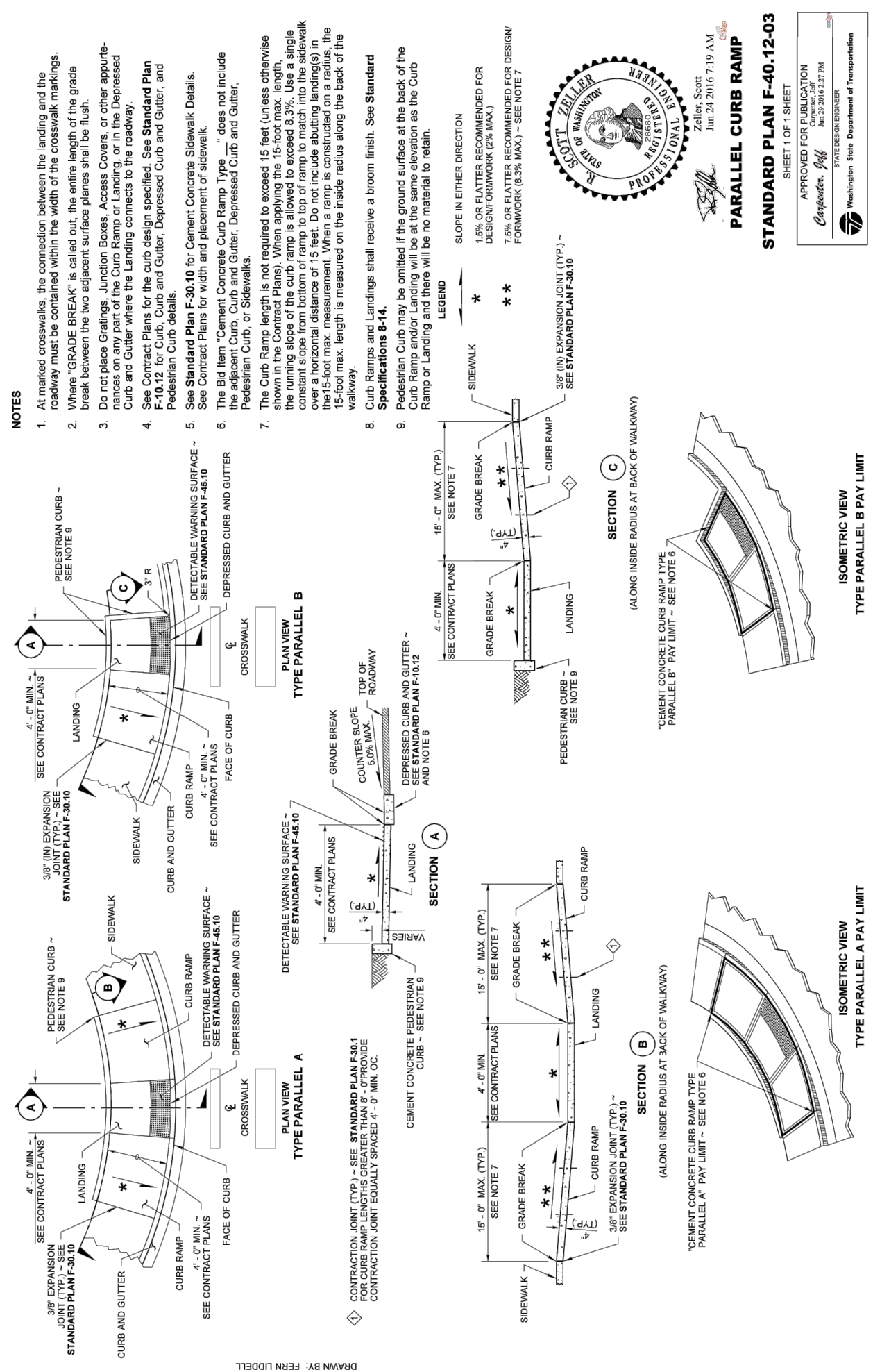
- NOTES:**
- WITHIN THE RIGHT-OF-WAY DRIVEWAYS SHALL BE PAVED FROM THE RIGHT-OF-WAY LINE TO THE EDGE OF PAVEMENT WITH HOT MIX ASPHALT. NO CONCRETE IS ALLOWED WITHIN THE RIGHT-OF-WAY UNLESS AS SPECIFIED IN SEC. 4.02.
 - COMMERCIAL/INDUSTRIAL DRIVEWAYS WIDER THAN 36 FT. MAY BE APPROVED BY THE COUNTY ROAD ENGINEER CONSIDERING BOTH TRAFFIC SAFETY AND THE ACTIVITY BEING SERVED. ALL COMMERCIAL/INDUSTRIAL DRIVEWAYS SHALL HAVE AN EXPANSION JOINT LOCATED MID-WIDTH. (SEE SEC. 3.04.)
 - PIPE SHALL BE:
 - SIZED TO CONVEY COMPUTED STORM WATER RUNOFF, AND
 - MIN. 12" DIAM., AND
 - EQUAL TO OR LARGER THAN EXISTING PIPES WITHIN 500 FT. UPSTREAM.
 - EXPOSED PIPE ENDS SHALL BE BEVELED TO MATCH THE SLOPE FACE AND PROJECT NO MORE THAN 2" BEYOND SLOPE SURFACE. PROJECTING HEADWALLS ARE NOT ACCEPTABLE.
 - ALL TYPES OF PIPE SHALL HAVE MIN. 12" COVER TO FINISH GRADE.
 - PIPE SHALL BE INSTALLED IN A STRAIGHT UNIFORM ALIGNMENT AT A MIN. 0.5% SLOPE (0.5 FT. PER 100 FT.) WITH THE DOWNSTREAM END LOWER THAN THE UPSTREAM END.
 - PIPE MAY BE OMITTED IF ROADSIDE DITCH DOES NOT EXIST AND DRIVEWAY DOES NOT BLOCK NATURAL FLOW.
 - DRIVEWAY SLOPE SHALL MATCH TO BACK EDGE OF SHOULDER, BUT SHOULDER SLOPE AND EDGE OF SHOULDER SHALL NOT BE ALTERED AS A RESULT OF DRIVEWAY CONSTRUCTION.
 - SEE SEC. 3.01 AND 4.01 FOR DRIVEWAY AND SURFACING STANDARDS.
 - PIPING OF DITCHES SHALL BE ALLOWED ONLY WHERE DRIVEWAY ACCESS IS NECESSARY.



SHOULDER AND DITCH SECTION DRIVEWAY (MOD)
NOT TO SCALE



LIMITS OF TREE LIMBING
NOT TO SCALE



DRAWN BY: FERN LIIDELL

- NOTES**
- At marked crosswalks, the connection between the landing and the roadway must be contained within the width of the crosswalk markings.
 - Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
 - Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in the Depressed Curb and Gutter where the Landing connects to the roadway.
 - See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details.
 - See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
 - The Bid Item "Cement Concrete Curb Ramp Type ___" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
 - The Curb Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length, the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet. Do not include abutting landing(s) in the 15-foot max. measurement. When a ramp is constructed on a radius, the 15-foot max. length is measured on the inside radius along the back of the roadway.
 - Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14**.
 - Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will be no material to retain.

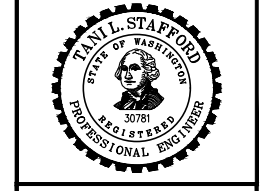
- LEGEND**
- * SIDEWALK
 - ** 1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
 - ** 7.5% OR FLATTER RECOMMENDED FOR DESIGN FORMWORK (8.3% MAX.) - SEE NOTE 7



Zeller, Scott
Jun 24 2016 7:19 AM
PARALLEL CURB RAMP
STANDARD PLAN F-40.12-03

SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Carpenter, Jeff
Jun 29 2016 2:27 PM
STATE DESIGN ENGINEER
Washington State Department of Transportation

Gray & Osborne, Inc.
CONSULTING ENGINEERS
1130 RAINIER AVENUE SOUTH,
SUITE 300
SEATTLE, WASHINGTON 98144
(206) 284-0860

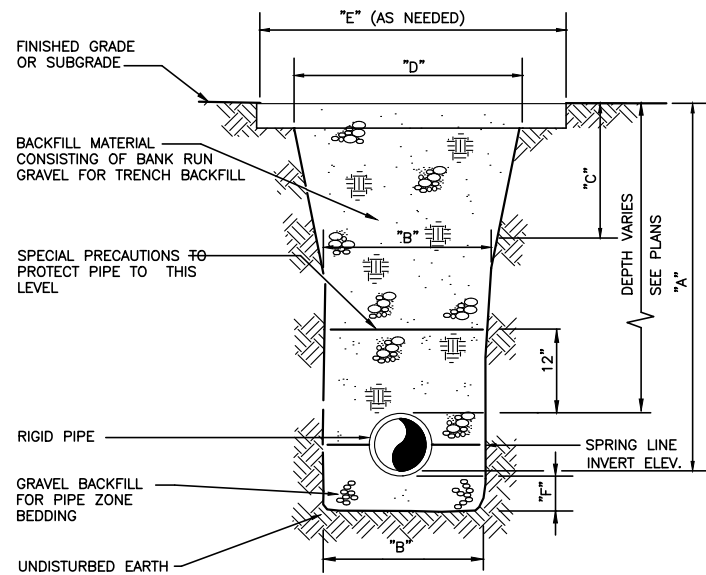


CITY OF CARNATION
EAST BIRD STREET IMPROVEMENTS

No.	DATE	REVISION

ISSUED FOR: PRELIMINARY, NOT FOR CONSTRUCTION
 ISSUE DATE: NOV. 2023
 APPROVED BY: T. STAFFORD
 CHECKED BY: T. STAFFORD
 DRAWN BY: B. HAYDEN
 DESIGNER: B. WANG
 G & O JOB NO.: 23440.07
 FILE: RDDT.DWG

CIVIL
ROADWAY DETAILS



TRENCH SECTION - RIGID STORM PIPE
NOT TO SCALE

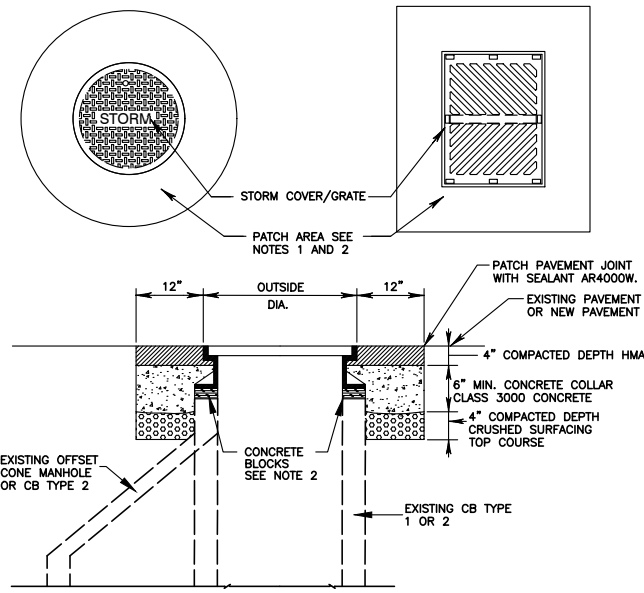
NOTES:

1. THE TRENCH SECTIONS SHOWN ON THE PLANS ARE FOR THE PAYMENT LIMITS FOR BANK RUN GRAVEL FOR TRENCH BACKFILL. PAYMENT FOR ALL BANK RUN GRAVEL FOR TRENCH BACKFILL SHALL BE COMPUTED FROM THE MEASUREMENT OF THE CONSTRUCTED TRENCH SECTION, TO THE MAXIMUM LIMITS AS INDICATED IN THE TABLES.
2. WHERE A "NEW ROADWAY SECTION" OR PAVEMENT REPAIR IS PROPOSED, THE TRENCH SECTION PAYMENT LIMIT LINE WILL BE BOUNDED AT THE TOP BY PAVEMENT SUBGRADE, PER TYPICAL ROADWAY SECTION DETAILS.

8" & 12" DIAMETER PIPE

A	6' OR LESS	8'	10'	12'	14'
B	3.0'				
C	1.5'	1.5'	1.75'	2.25'	2.75'
D	6.0'	8.0'	8.5'	9.5'	10.5'
E	4"				

TYPICAL TRENCH EXCAVATION LIMITS
STORM SEWER PIPE



MANHOLE-FRAME AND COVER ADJUSTMENT DETAIL
NOT TO SCALE

- NOTES:**
1. REMOVE PAVEMENT AND BASE MATERIALS FOR A DISTANCE WHICH IS EQUAL TO THE DIAMETER OF THE FRAME PLUS TWO FEET. ADJUST CASTING FRAME TO NEW PAVEMENT SURFACE USING CONCRETE BLOCKS & CONCRETE GROUT.
 2. 2"x4"x8" SOLID BRICK USED FOR FINAL ADJUSTMENT TO GRADE. 6" HIGH MAX.

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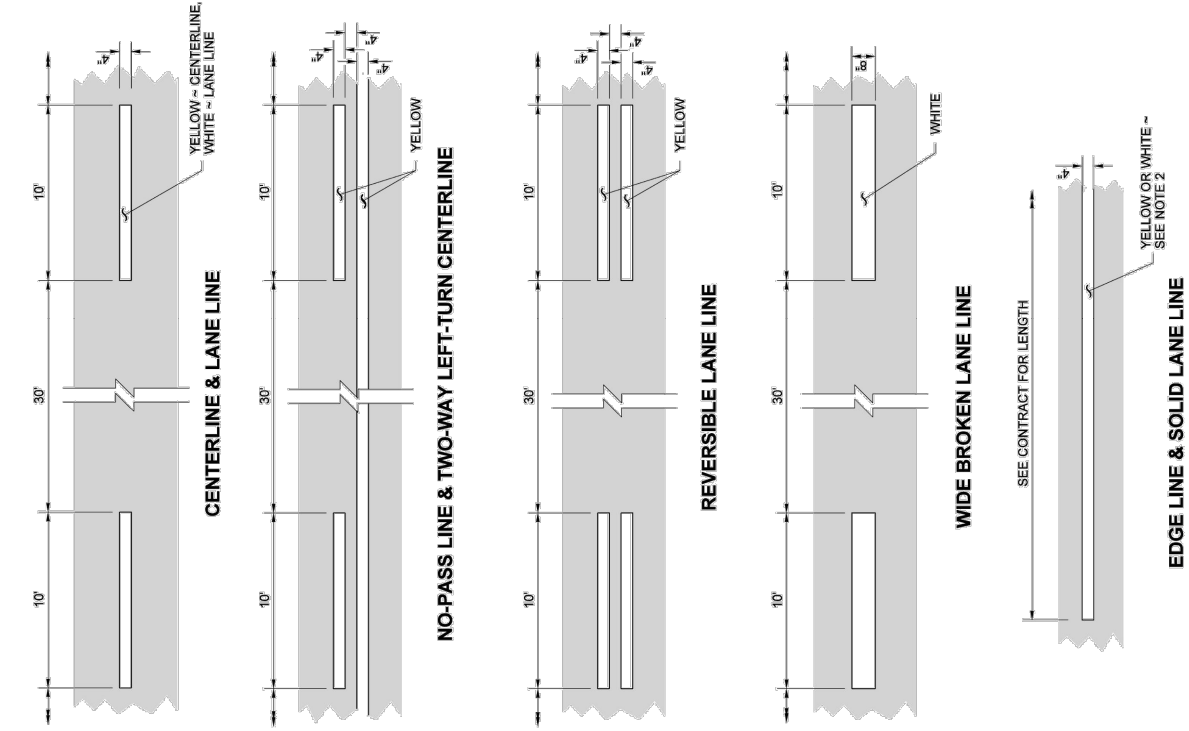
CITY OF CARNATION
EAST BIRD STREET IMPROVEMENTS

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 FILE: SDDT.DWG

CIVIL

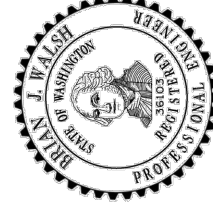
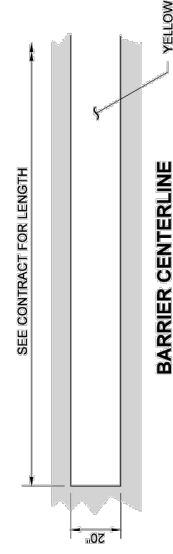
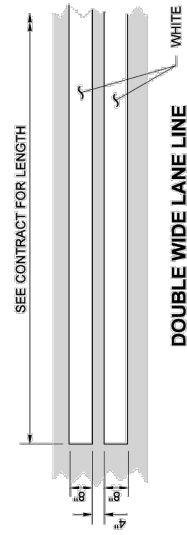
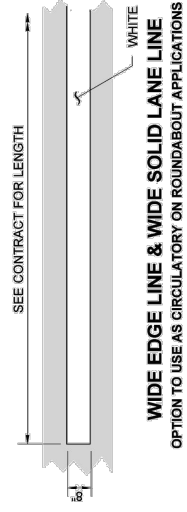
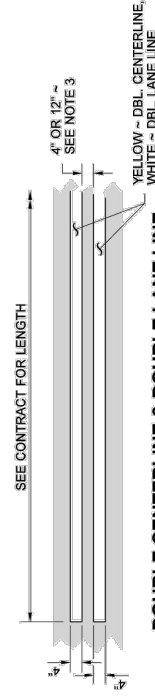
STORM DRAINAGE DETAILS



DRAWN BY: FERN LIDDELL

NOTES

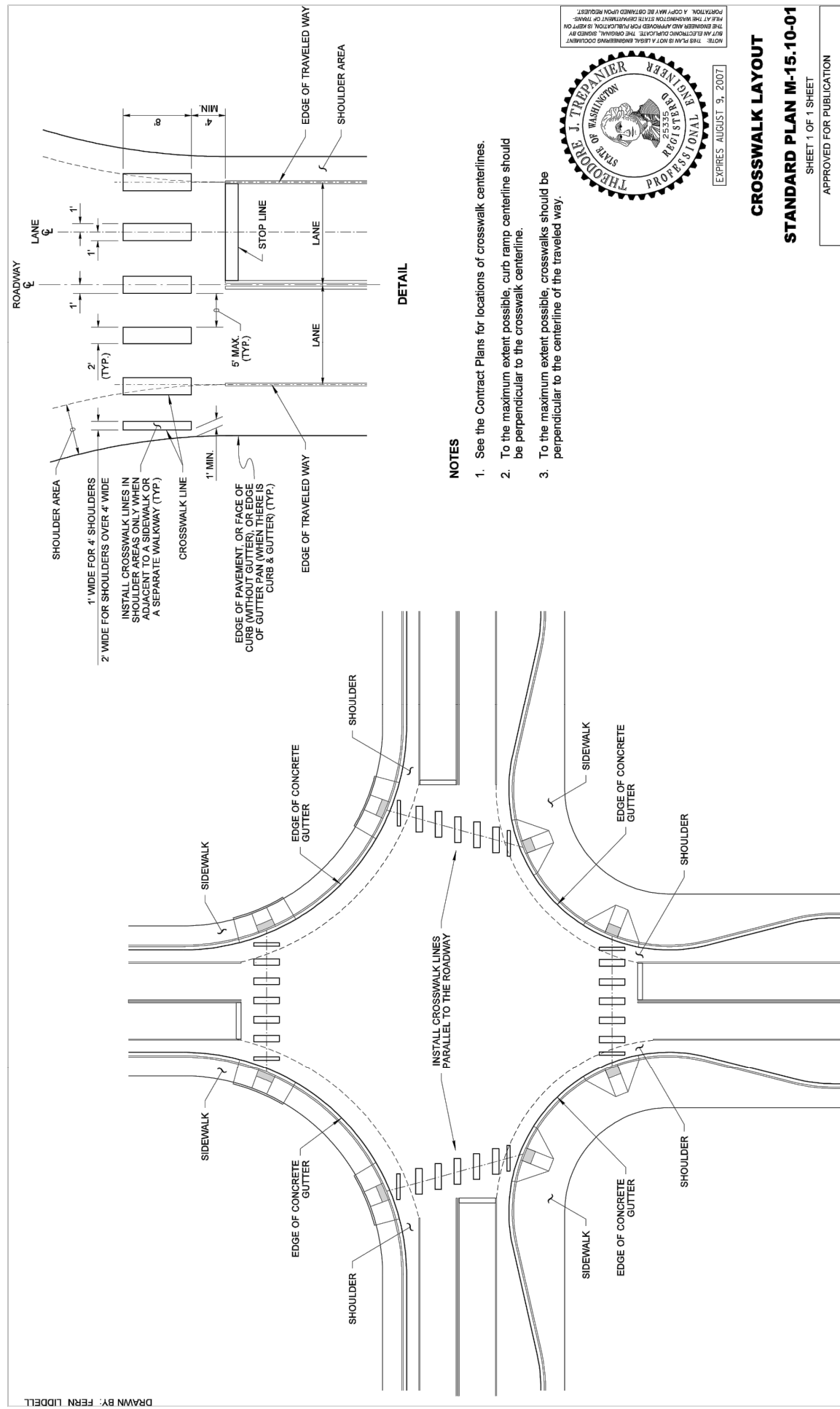
1. Dotted Extension Line shall be the same color as the line it is extending.
2. Edge Line shall be white on the right edge of traveled way, and yellow on the left edge of traveled way (on one-way roadways). Solid Lane Line shall be white.
3. The distance between the lines of the Double Centerline shall be 12" everywhere, except 4" for left-turn channelization and narrow roadways with lane widths of 10 feet or less. Local Agencies (on non-state routes) may specify a 4" distance for all locations. The distance between the lines of the Double Lane Line shall be 4".



Bryan J. Wang
 Sep 23, 2020 3:46 PM

LONGITUDINAL MARKING PATTERNS
STANDARD PLAN M-20.10-03
 SHEET 1 OF 2 SHEETS

APPROVED FOR PUBLICATION
 Date: 2020.08.25 14:58:51
 OF THE
 STATE ENGINEER
 Washington State Department of Transportation



NOTES

1. See the Contract Plans for locations of crosswalk centerlines.
2. To the maximum extent possible, curb ramp centerline should be perpendicular to the crosswalk centerline.
3. To the maximum extent possible, crosswalks should be perpendicular to the centerline of the traveled way.



EXPIRES AUGUST 9, 2007

CROSSWALK LAYOUT
STANDARD PLAN M-15.10-01
 SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
 Ken L. Smith
 STATE ENGINEER
 DATE: 02-06-07
 Washington State Department of Transportation

TYPICAL APPLICATIONS

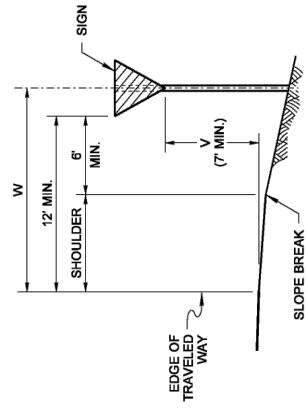
No.	DATE	REVISION
ISSUED FOR:	PRELIMINARY,	
	NOT FOR CONSTRUCTION	
ISSUE DATE:	NOV. 2023	
APPROVED BY:	T. STAFFORD	
CHECKED BY:	T. STAFFORD	
DRAWN BY:	B. HAYDEN	
DESIGNER:	B. WANG	
G & O JOB NO.:	23440.07	
FILE:	CHANDT.DWG	

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CHANNELIZATION AND SIGNING DETAILS

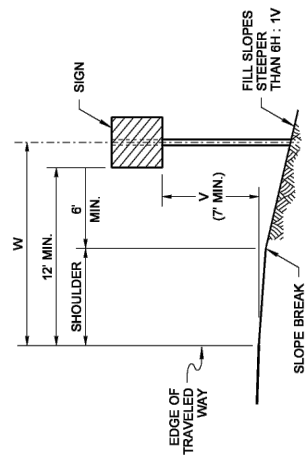


CITY OF CARNATION
EAST BIRD STREET IMPROVEMENTS

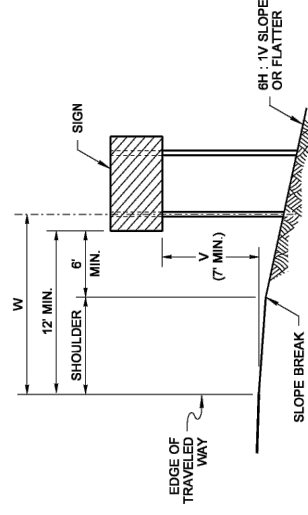


SIGN INSTALLATION IN FILL SECTION

DRAWN BY: FERN LIDDELL

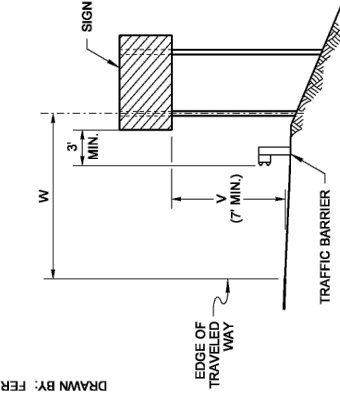


SIGN INSTALLATION ON STEEP FILL SLOPES

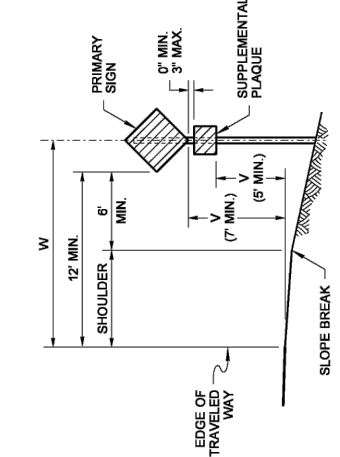


MULTIPLE SIGN POST INSTALLATION IN FILL SECTION

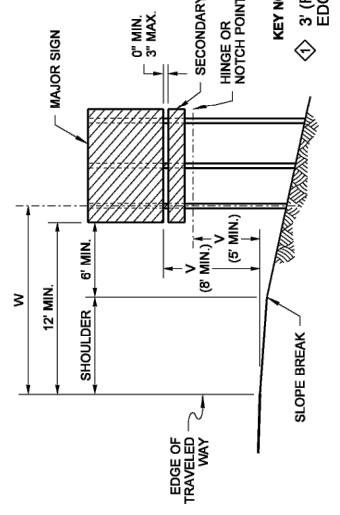
- NOTES**
1. Refer to the Sign Specification Sheet of the Contract for the "V" and "W" distances.
 2. The minimum vertical distance from the bottom of the sign to the ground shall not be less than 7' (ft) for signs located within the Design Clear Zone.



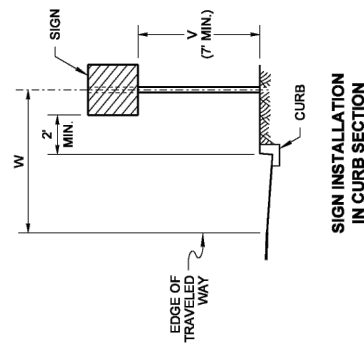
SIGN INSTALLATION BEHIND TRAFFIC BARRIER



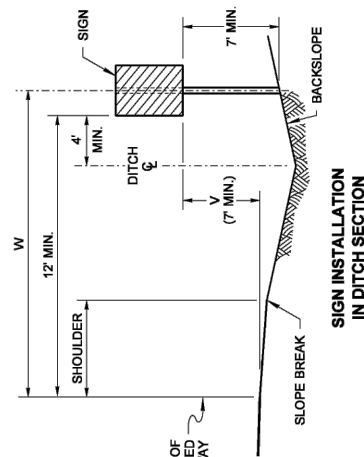
SIGN WITH SUPPLEMENTAL PLAQUE INSTALLATION IN FILL SECTION



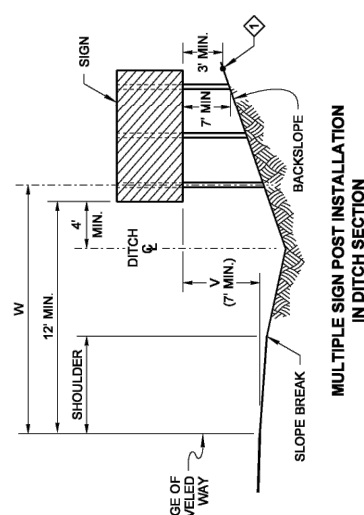
GUIDE OR DIRECTIONAL SIGN WITH SECONDARY SIGN INSTALLATION ON EXPRESSWAYS AND FREEWAYS



SIGN INSTALLATION IN CURB SECTION



SIGN INSTALLATION IN DITCH SECTION

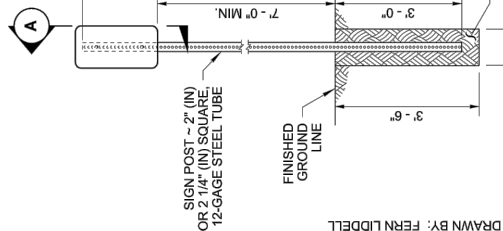


MULTIPLE SIGN POST INSTALLATION IN DITCH SECTION

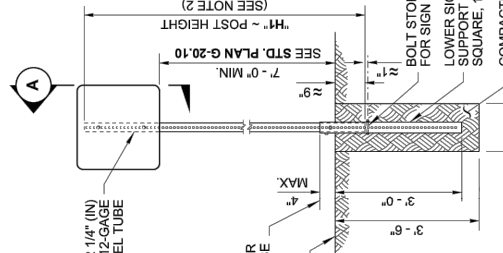


Nisbet, John
Jun 22 2015 9:43 AM
GROUND-MOUNTED SIGN PLACEMENT
STANDARD PLAN G-20.10-02
SHEET 1 OF 1 SHEET

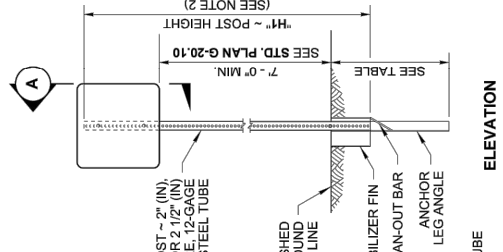
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Jun 23 2015 7:35 AM
STATE DESIGN ENGINEER
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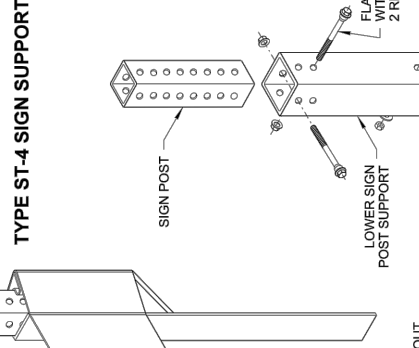
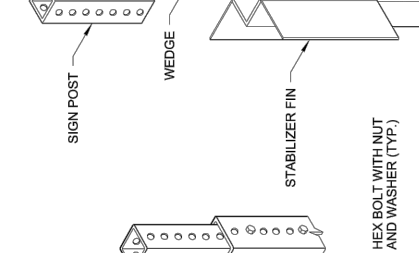
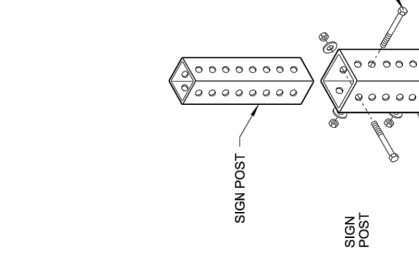
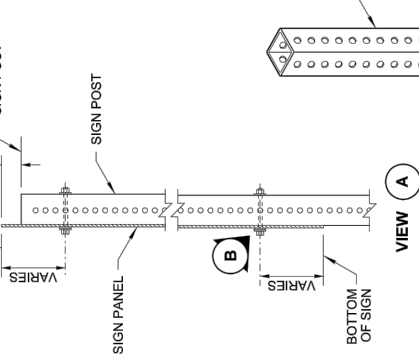
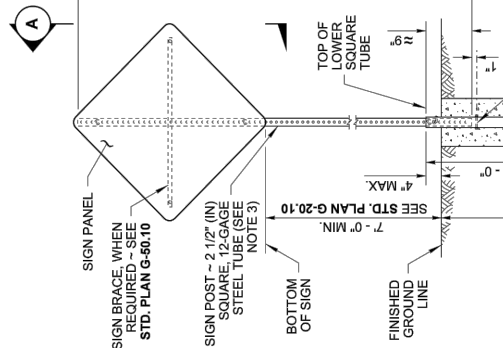
TYPE ST-1 SIGN SUPPORT



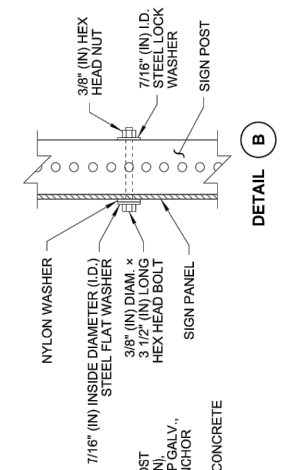
TYPE ST-2 SIGN SUPPORT



TYPE ST-3 SIGN SUPPORT



- NOTES**
1. Dimensions for the parts used to assemble the base connections are intentionally not shown. Base connections are patented, manufactured products that are in compliance with NCHRP 350 crash test criteria. The base connection details are shown on this plan only to illustrate how the parts are assembled.
 2. For "H1", refer to the Sign Specification Sheet in the Contract.
 3. A 2" (in) post with a 2 1/4" (in) PSST anchor or a 2 1/4" (in) post with a 2 1/2" (in) PSST anchor may be substituted. See Contract Plans.
 4. Perforated square steel post shall meet the requirements of Standard Specification, Section 9-06.
 5. Use only base connection manufacturer supplied hardware that meets the requirements of Standard Specification, Sections 9-06 and 9-28.



DETAIL B

Nisbet, John
Aug 5 2019 1:46 PM
STEEL SIGN SUPPORT TYPES ST-1 - ST-4 INSTALLATION DETAILS
STANDARD PLAN G-24.50-05
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Aug 7 2019 11:41 AM
STATE DESIGN ENGINEER
Washington State Department of Transportation

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 G & O JOB NO.: 23440.07
 FILE: CHANDT.DWG



GENERAL TRAFFIC CONTROL NOTES

- APPROPRIATE METHODS OF PEDESTRIAN AND VEHICULAR TRAFFIC CONTROL, INCLUDING FLAGGERS, SHALL BE EMPLOYED BY THE CONTRACTOR TO THE EXTENT DEEMED NECESSARY BY THE TRAFFIC CONTROL SUPERVISOR AND AS REQUIRED BY THE APPLICABLE AGENCY TO PROTECT WORKERS OR THIRD PARTIES.
- THE CONTRACTOR AND/OR THEIR AGENTS SHALL NOT PARK IN ANY PRIVATE PARKING LOTS / DRIVEWAYS WITHOUT WRITTEN PERMISSION FROM THE PROPERTY OWNER.
- SEE ALSO SPECIFICATIONS AND SPECIAL PROVISIONS, INCLUDING WSDOT STANDARD SPECIFICATION SECTION 1-07.23(1).
- ALL WARNING SIGNS SHALL BE 48" X 48". FOR OTHER SIGN SIZES REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND WSDOT SIGN FABRICATION MANUAL M55-05.
- CONTRACTOR MAY CLOSE BROADWAY AVENUE TO THRU TRAFFIC BETWEEN QUINCY STREET AND HARRISON STREET FOR A ONE TIME PERIOD OF UP TO 21 CONSECUTIVE CALENDAR DAYS. ALL PULVERIZATION AND ROADWAY BASE CONSTRUCTION WORK SHALL BE COMPLETED DURING CLOSURE PERIOD. CONTRACTOR SHALL SUBMIT FULL CLOSURE TRAFFIC CONTROL PLAN FOR REVIEW, MIN 14 CALENDAR DAYS PRIOR TO PROPOSED CLOSURE. MAINTAIN LOCAL ACCESS.

NOTES

- A Protective Vehicle is recommended regardless if a Truck Mounted Attenuator (TMA) is available; a work vehicle may be used. When no TMA is used, the Protective Vehicle shall be strategically located to shield workers, with no specific Roll-Ahead distance.
- Night work requires additional roadway lighting at flagging stations. See WSDOT Standard Specifications for additional details.
- Extend Channelizing Device taper across shoulder ~ recommended.
- Sign sequence is the same for both directions of travel on the roadway.
- Channelizing Device spacing for the downstream taper option shall be 20' O.C.
- For signs size refer to Manual on Uniform Traffic Control Devices (MUTCD) and WSDOT Sign Fabrication Manual M55-05.

LONGITUDINAL BUFFER SPACE = B										
POSTED SPEED (MPH)	25	30	35	40	45	50	55	60	65	65
LENGTH B (FEET)	155	200	250	305	360	425	485	570	645	645

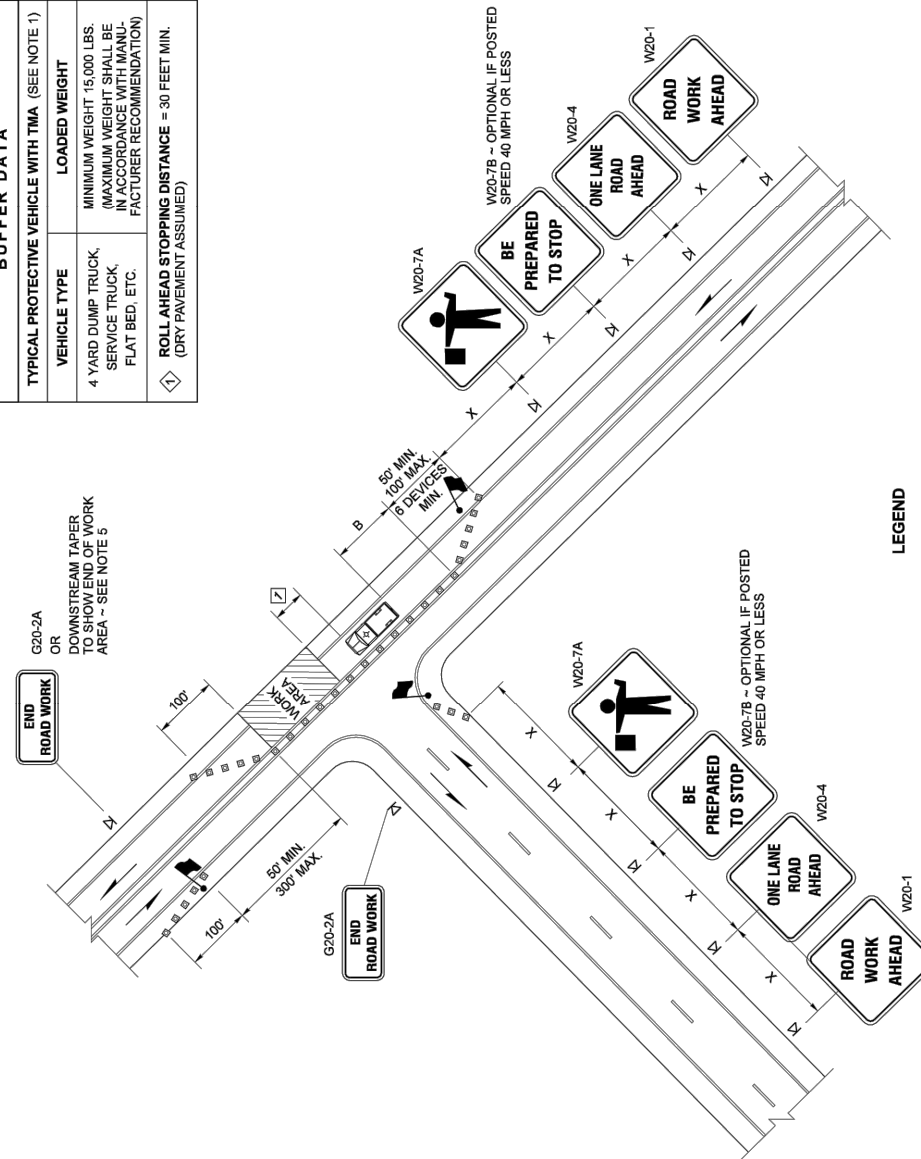
BUFFER DATA

TYPICAL PROTECTIVE VEHICLE WITH TMA (SEE NOTE 1)	
VEHICLE TYPE	LOADED WEIGHT
4 YARD DUMP TRUCK, SERVICE TRUCK, FLAT BED, ETC.	MINIMUM WEIGHT 15,000 LBS. (MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATION)
	ROLL AHEAD STOPPING DISTANCE = 30 FEET MIN. (DRY PAVEMENT ASSUMED)

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' ± (2)
URBAN STREETS	25 MPH OR LESS 100' ± (2)

(1) ALL SIGN SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMP, AT-GRADE INTERSECTIONS, AND DRIVEWAYS.

(2) THIS SIGN SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.



FOR LOCAL AGENCY USE ONLY
NOT FOR USE ON STATE ROUTES



EXPIRES AUGUST 9, 2007

LANE CLOSURE
WITH FLAGGER CONTROL
STANDARD PLAN K-20.40-00

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Ken L. Smith 02-15-07

STATE DESIGN ENGINEER

Washington State Department of Transportation



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CIVIL

TRAFFIC CONTROL NOTES AND DETAILS