

LAKESHORE DRIVE PAVEMENT & PEDESTRIAN IMPROVEMENT PROJECT

WOODLAND, WASHINGTON FEDERAL AID NO. STPUS 6881(001), TA7131

MAY 2022

GENERAL NOTES:

ALL CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO THE CITY OF WOODLAND ENGINEERING STANDARDS AND THE LATEST EDITION OF "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" AS PREPARED BY WSDOT AND APWA.

ALL MATERIALS AND WORK ARE SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF WOODLAND'S DEPARTMENT OF PUBLIC WORKS (360) 225-7999.

THE CONTRACTOR SHALL NOTIFY THE PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

THE CONTRACTOR SHALL COORDINATE AND ATTEND A PRE-CONSTRUCTION CONFERENCE WITH THE CITY OF WOODLAND PUBLIC WORKS DEPARTMENT PRIOR TO COMMENCING CONSTRUCTION.

ANY DEVIATIONS FROM THE PLANS WILL REQUIRE A WRITTEN REQUEST FROM THE CONTRACTOR AND APPROVAL BY THE PUBLIC WORKS DIRECTOR.

THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND LICENSES BEFORE STARTING CONSTRUCTION.

LOCATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE ONLY AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ADDITIONAL UNDERGROUND UTILITIES MAY EXIST.

THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES PROPERLY LOCATED PRIOR TO COMMENCING EXCAVATIONS. THE CONTRACTOR SHALL, AT A MINIMUM, CALL THE UTILITIES COORDINATING COUNCIL 48 HOURS BEFORE BEGINNING EXCAVATIONS. UTILITIES COORDINATING COUNCIL CAN BE REACHED AT 1-800-424-5555.

CONTRACTOR SHALL KEEP AN APPROVED SET OF PLANS ON THE PROJECT SITE AT ALL TIMES.

ALL PIPE BEDDING MATERIAL SHALL MEET THE APPLICABLE SPECIFICATIONS IN THE CITY OF WOODLAND STANDARDS. BEFORE ANY NATIVE MATERIAL IS USED, LABORATORY TEST RESULTS SHALL BE PROVIDED TO THE CITY INSPECTOR INDICATING THAT THE MATERIAL MEETS THE SPECIFICATIONS.

PIPE BEDDING AND BACKFILL SHALL BE PER CITY OF WOODLAND STANDARDS. BACKFILL MATERIAL SHALL BE COMPACTED TO 95% MAXIMUM RELATIVE DENSITY.

SHOULD ANY ITEM OF ARCHAEOLOGICAL INTEREST BE FOUND DURING DEVELOPMENT, YOU ARE REQUIRED TO STOP WORK AND NOTIFY THE CITY INSPECTOR AND THE WASHINGTON STATE OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION AT (360) 753-4011 IMMEDIATELY. FAILURE TO DO SO COULD RESULT IN A FELONY CONVICTION.

AT THE END OF EACH WORK DAY THE CONTRACTOR SHALL CLEAN UP THE PROJECT AREA AND LEAVE IT IN A NEAT AND SECURED MANNER. UPON COMPLETION, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL.

THE CONTRACTOR SHALL PRUNE ALL VEGETATION, AS NECESSARY, AWAY AND UP FROM THE WORK AS WELL AS ANY ROOT PRUNING AS DETERMINED BY THE ENGINEER. THE CONTRACTOR SHALL PROTECT ALL EXISTING LANDSCAPING THAT IS TO REMAIN.

THE CONTRACTOR SHALL MAKE EVERY REASONABLE EFFORT TO PROTECT ANY EXISTING CONCRETE CURBS AND SIDEWALKS TO REMAIN AND SHALL REPLACE DAMAGED CURBS AND SIDEWALKS AT NO ADDITIONAL COST.

THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES. ALL DISTURBED UTILITIES SHALL BE REPAIRED AS DIRECTED. ALL RELOCATED UTILITIES WILL BE RESET IN ACCORDANCE WITH THE APPROPRIATE AGENCY OR OWNER'S STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF EXISTING UTILITY LINES DAMAGED OR DESTROYED THROUGH NEGLIGENCE AND/OR INATTENTION.

CONTRACTOR SHALL REPORT ALL DAMAGES IMMEDIATELY TO THE PUBLIC WORKS DIRECTOR'S OFFICE OR CONTACT THE INSPECTOR ON THE JOB.

MAYOR: WILLIAM FINN

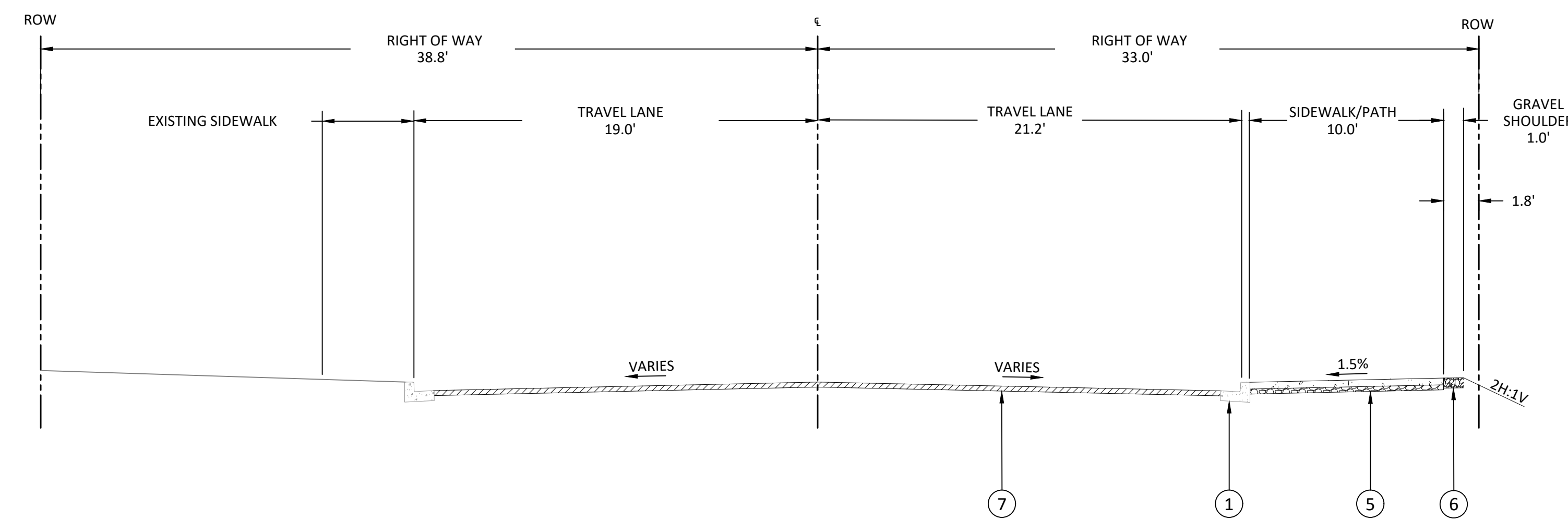
COUNCIL:
 POS. #1: JOHN "JJ" BURKE
 POS. #2: CAROL ROUNDS
 POS. #3: MELISSA DOUGHTY
 POS. #4: KARL CHAPMAN
 POS. #5: DEEANNA HOLLAND
 POS. #6: JENNIFER ROWLAND
 POS #7: MONTE SMITH

PUBLIC WORKS DIRECTOR: TRACEY COLEMAN

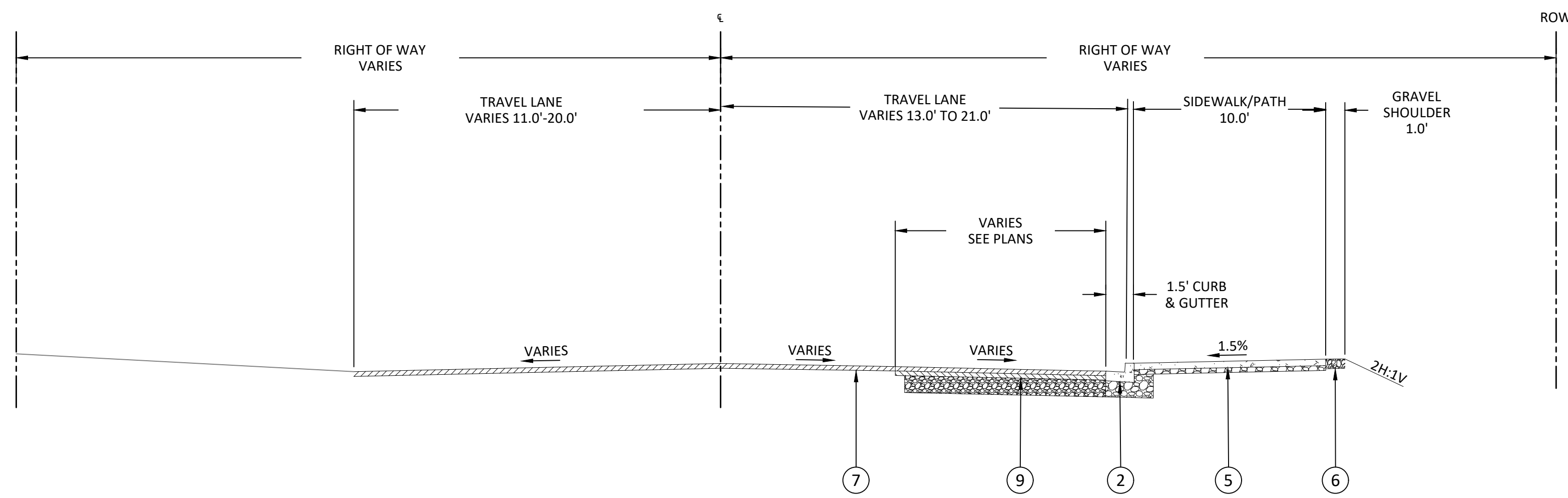
TOPOGRAPHIC LEGEND:

STM	STORM SEWER LINE	?	UNKNOWN UTILITY/JUNCTION BOX
SAN	SANITARY SEWER LINE	?	UNKNOWN UTILITY MANHOLE
W	WATER LINE	?	UNKNOWN STAND PIPE
G	GAS LINE	??	UNKNOWN UTILITY VAULT
OW	OVERHEAD WIRE	?	UNKNOWN RISER/CABINET
X-X-X	FENCE LINE, TYPE AS NOTED	←	GUY WIRE
FO	FIBER OPTIC LINE	☀	GROUND LIGHT
T	TELEPHONE LINE	☀	LIGHT POLE
IRR	IRRIGATION LINE	☀	STREET LIGHT
E	ELECTRIC LINE	☀	STREET LIGHT BOX
TV	CABLE TELEVISION LINE	○	UTILITY POLE
	FRENCH DRAIN	○	UTILITY POLE W/ UNDERGROUND UTILITIES
→	FLOWLINE	○	UTILITY POLE W/ STREET LIGHT
—	GUARD RAIL	○	UTILITY POLE W/ UNDERGROUND UTILITIES AND STREET LIGHT
	BUILDING LINE	○	UTILITY POLE W/ UNDERGROUND UTILITIES AND STREET LIGHT
~~~~~	LINEAR AC PATCH (UTILITY?)	○	LOCATION OF PHOTO
~~~~~	UTILITY LINE IS BELIEVED TO CONTINUE, CONNECTION NOT LOCATED OR UNKNOWN	+	SINGLE POST SIGN
~~~~~	MAJOR CONTOUR - 5' INTERVALS	+	DOUBLE POST SIGN
~~~~~	MINOR CONTOUR - 1' INTERVALS	+	FLAG POLE
SS	SANITARY SEWER VAULT	+	PICNIC TABLE
SS	SANITARY SEWER MANHOLE CLEANOUT	+	BENCH
SD	STORM SEWER MANHOLE	+	GATE POST
STM	STORM SEWER VAULT	+	BOLLARD
CB	CATCH BASIN	+	MAIL-BOX
DI	DITCH INLET	+	GRAVE
CI	CURB INLET	+	HANDI-CAP PARKING SPACE
AD	AREA DRAIN	+	SHRUB / BUSH (SIZE AS NOTED)
RDFS	ROOF DRAIN DOWN SPOUT	+	CONIFEROUS TREE (APPROXIMATE DIAMETER BREST HIGH AS NOTED)
WH	WEEP HOLE	+	DECIDUOUS TREE (APPROXIMATE DIAMETER BREST HIGH AS NOTED)
WM	WATER MANHOLE	+	STUMP - APPROXIMATE DIAMETER ON TOP, OR DBH, IF OVER 4" TALL.
WV	WATER VALVE	+	TRAFFIC SIGNAL BOX
FH	FIRE HYDRANT	+	TRAFFIC SIGNAL CABINET
FDC	FIRE DEPT. CONNECTION	+	POLE WITH PEDESTRIAN PUSH BUTTON
WM	WATER METER	+	SIGNAL POLE
WSP	WATER STAND PIPE	+	SIGNAL POLE WITH PEDESTRIAN PUSH BUTTON
WV	WATER VAULT	+	SIGNAL POLE WITH LIGHT AND PEDESTRIAN PUSH BUTTON
W	WELL	+	ROCK (SIZE AS NOTED)
WB	WATER BOX	+	SEE TOPO/SURVEY NOTES TABLE
IV	IRRIGATION VALVE	+	EXCEPTION NUMBER PER TITLE REPORT
SH	SPRINKLER HEAD	+	HHPR CONTROL POINT
IM	IRRIGATION METER	+	FOUND MONUMENT AS NOTED IN TABLE. PROTECT.
IB	IRRIGATION BOX	+	EXISTING COBBLESTONE-TYPE PAVER SURFACE
GW	GAS WARNING SIGN	+	EXISTING BRICK PAVER SURFACE
GM	GAS MANHOLE	+	EXISTING ASPHALT SURFACE
GV	GAS VALVE	+	EXISTING WETLANDS DELINEATED BY OTHERS
GM	GAS METER	+	EXISTING GRAVEL SURFACE
GS	GAS STAND PIPE	+	EXISTING DIRT SURFACE
GV	GAS VAULT	+	EXISTING "GRASSCRETE" SURFACE = CONCRETE BLOCKS WITH DIRT/GRASS IN THE MIDDLE
GR	GAS RISER	+	EXISTING TACTILE SURFACE
GM	GAS METER	+	
GS	GAS STAND PIPE	+	
GV	GAS VAULT	+	
GR	GAS RISER	+	
PM	POWER MANHOLE	+	
PM	POWER METER	+	
PR	POWER RISER	+	
PS	POWER STAND PIPE	+	
PC	POWER CABINET	+	
PV	POWER VAULT	+	
TP	TRANSFORMER PAD	+	
TT	TRANSMISSION TOWER	+	
EB	ELECTRIC BOX	+	
PT	POWER TRANSFORMER	+	
CTV	CABLE TELEVISION BOX	+	
CTV	CABLE TELEVISION RISER	+	
CTV	CABLE TELEVISION VAULT	+	
CTV	CABLE TELEVISION STAND PIPE	+	
FB	FIBER OPTIC WARNING SIGN	+	
FM	FIBER OPTIC MANHOLE	+	
FR	FIBER OPTIC RISER	+	
FT	FIBER OPTIC STAND PIPE	+	
TELE	TELEPHONE VAULT	+	
TP	WETLAND TEST PIT	+	
PK	PARKING METER	+	
WF	WETLAND FLAG	+	
EC	EXISTING CONCRETE SURFACE	+	
EA	EXISTING ASPHALT SURFACE	+	
EG	EXISTING GRAVEL SURFACE	+	
ED	EXISTING "GRASSCRETE" SURFACE = CONCRETE BLOCKS WITH DIRT/GRASS IN THE MIDDLE	+	
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EBR	EXIST		

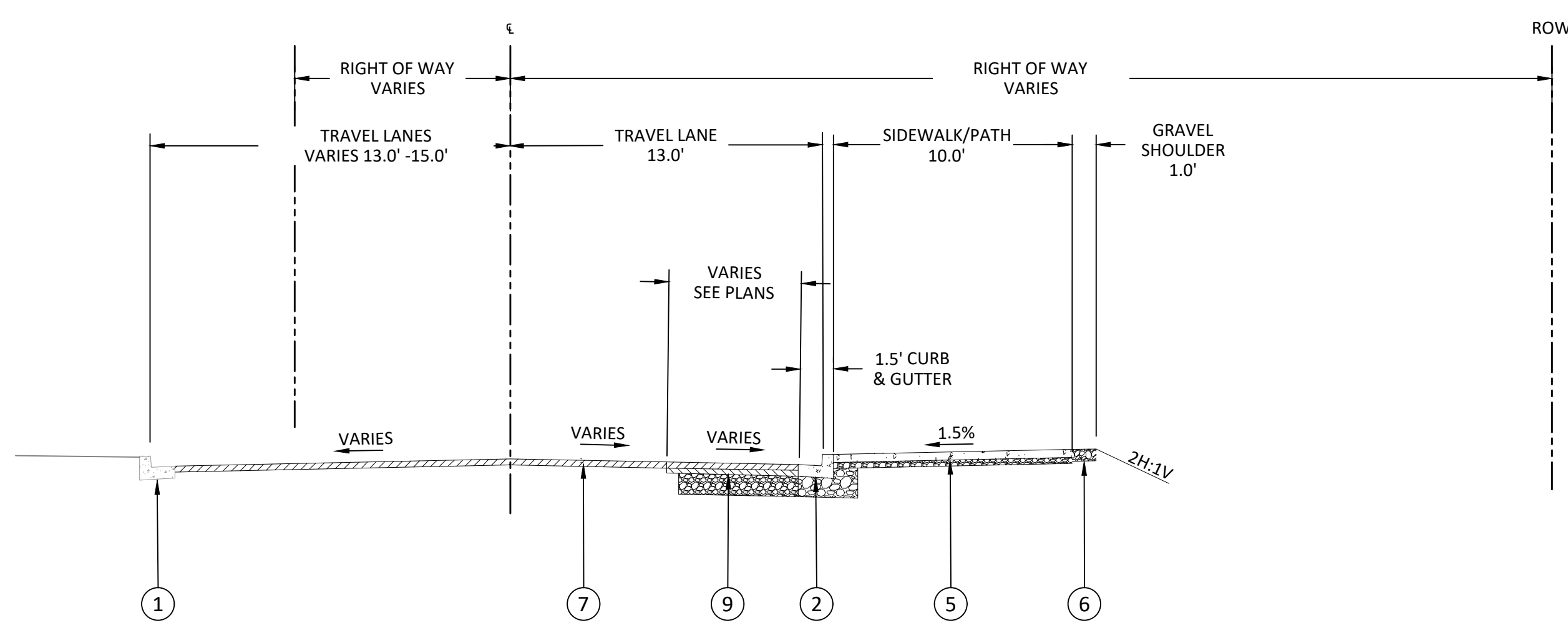
P:\02-Vancouver\WLD (City of Woodland)\WLD-17 Lakeshore Drive Pedestrian Improvements\WLD-17-DWG\Sections\WLD17 - C2.0 TYPICAL SECTIONS.dwg



TYPICAL SECTION A
STA 1+42.27 TO 2+91.11



TYPICAL SECTION B
STA 2+91.11 TO 9+31.09



TYPICAL SECTION C
STA 9+31.09 TO 13+08.91

CONSTRUCTION NOTES:

- ① EXISTING CURB & GUTTER TO REMAIN.
- ② PROPOSED CURB & GUTTER PER CITY OF WOODLAND DETAIL T-01.
- ⑤ CONSTRUCT STANDARD SIDEWALK SECTION PER CITY OF WOODLAND DETAIL T-07.
- ⑥ CONSTRUCT 1.0' GRAVEL SHOULDER.
6" OF 3/4"-0 CRUSHED ROCK.
- ⑦ CONSTRUCT 2" HMA GRIND AND INLAY.
2" OF HMA CI. 1/2" PG 64-22.
- ⑨ CONSTRUCT ASPHALT PAVEMENT SECTION.
5" OF HMA CI. 1/2" PG 64-22
8" OF 5/8"-0 CRUSHED BASE COURSE

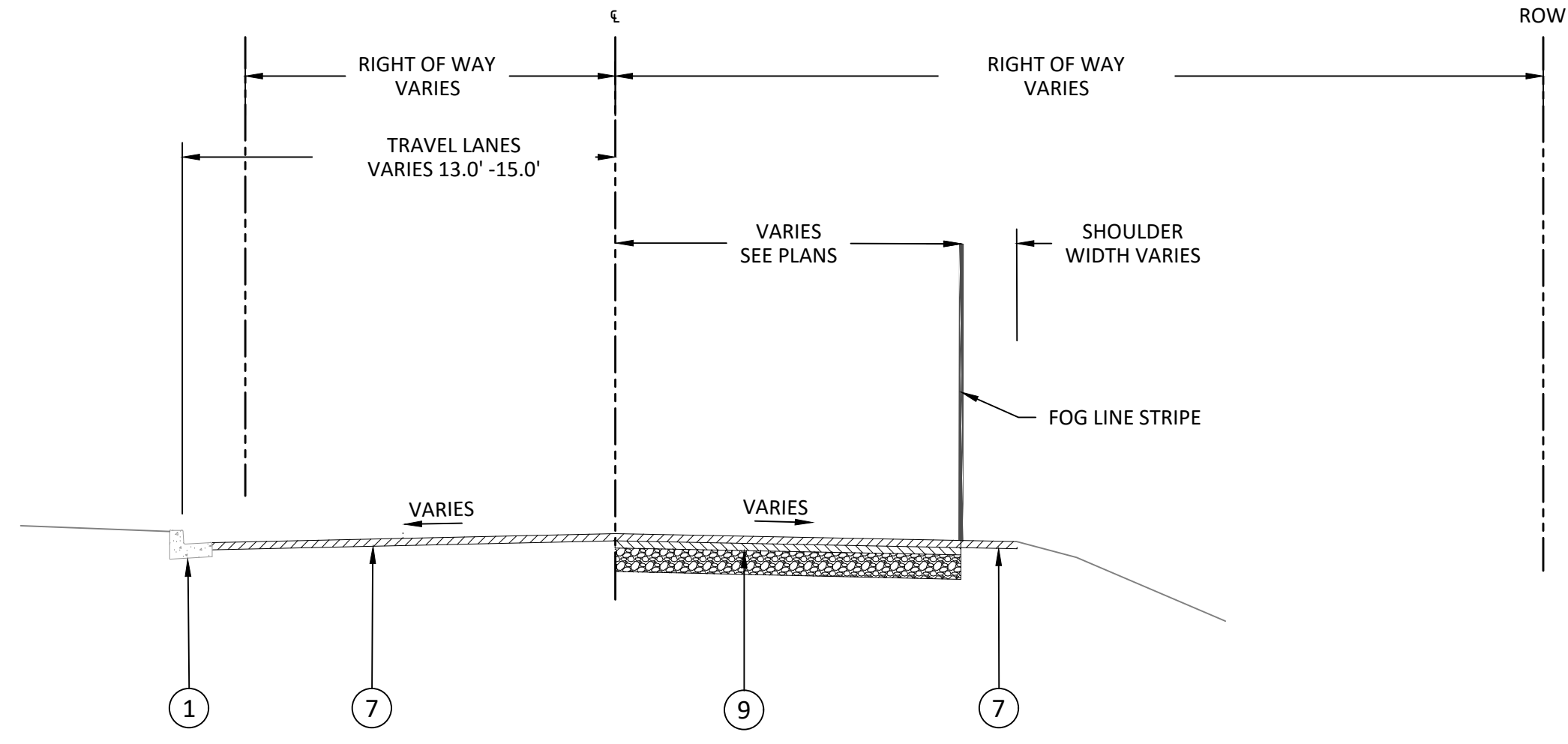
TYPICAL SECTIONS
LAKESHORE DRIVE PEDESTRIAN IMPROVEMENTS
WOODLAND, WA

Harper Houf Peterson Righellis Inc.
 ENGINEERS * PLANNERS
 LANDSCAPE ARCHITECTS * SURVEYORS
 1220 Main Street, Suite 150, Vancouver, WA 98660
 phone: 360.750.1131 www.hhpr.com fax: 360.750.1141



DESIGNED:	HPR
DRAWN:	HPR
CHECKED:	HPR
DATE:	05/27/2022

SHEET NO.	C2.0
JOB NO.	WLD-17



TYPICAL SECTION D
STA 13+86.91 TO 19+17.62

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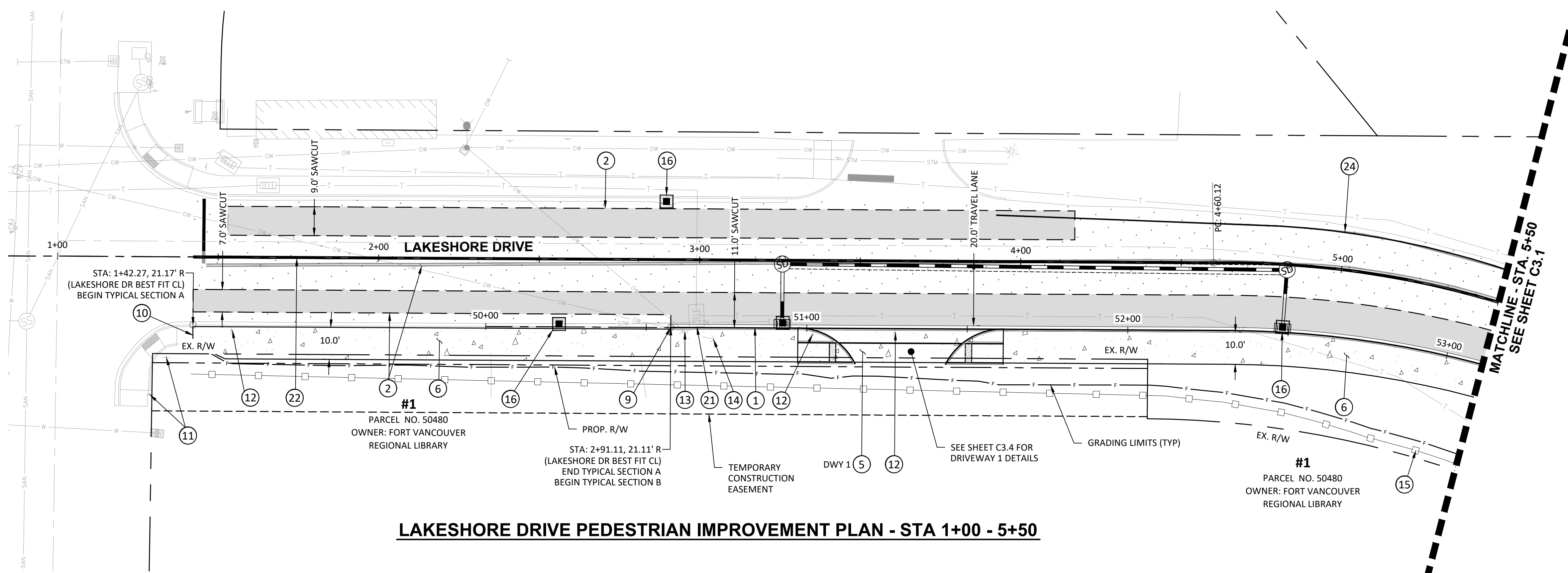


DESIGNED:	HHPR
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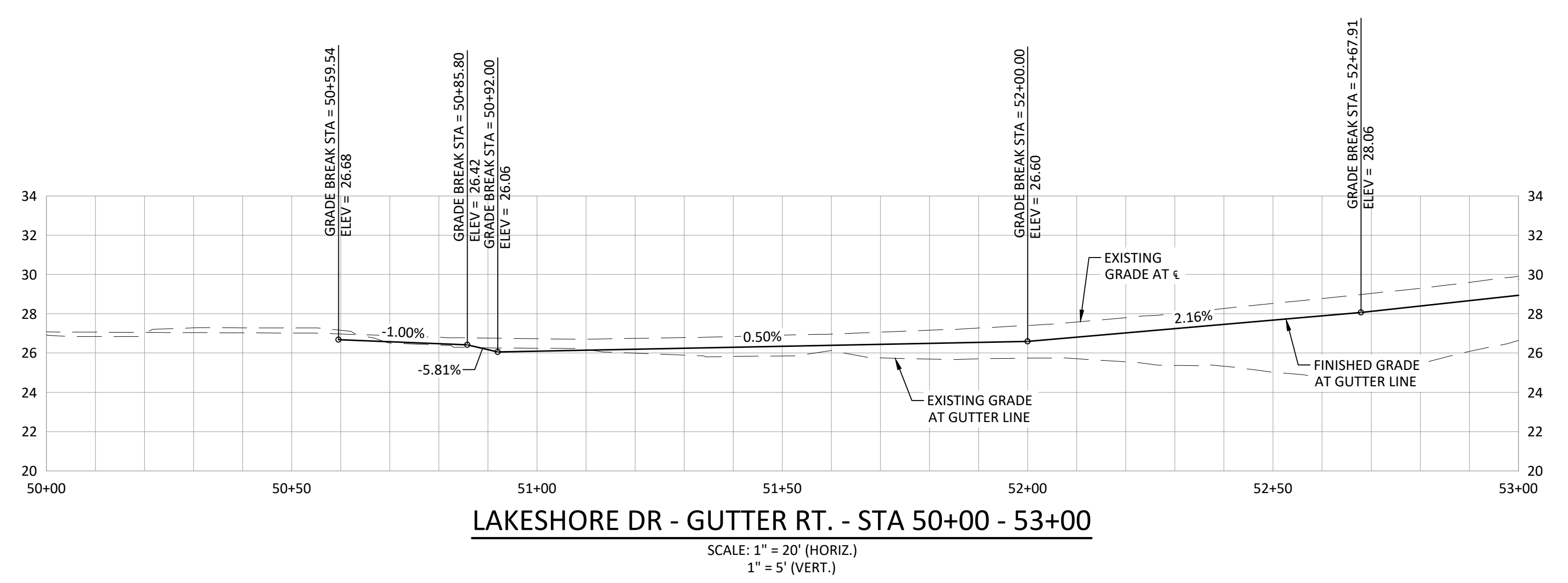
SHEET NO.	C2.1
JOB NO.	WLD-17

DATE	NO.	DESCRIPTION

R E V I S I O N S

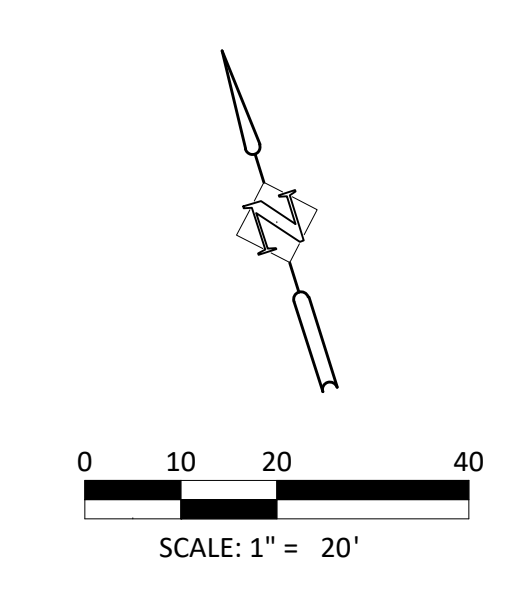


LAKESHORE DRIVE PEDESTRIAN IMPROVEMENT PLAN - STA 1+00 - 5+50



LAKESHORE DR - GUTTER RT. - STA 50+00 - 53+00

SCALE: 1" = 20' (HORIZ.)
1" = 5' (VERT.)



CONSTRUCTION NOTES:

- 1 INSTALL CURB & GUTTER PER CITY OF WOODLAND DETAIL T-01 ON SHEET C5.0.
- 2 SAWCUT AND REMOVE EXISTING ASPHALT PER CITY OF WOODLAND DETAIL T-30 ON SHEET C5.1.
- 5 CONSTRUCT COMMERCIAL DRIVEWAY PER CITY OF WOODLAND DETAIL T-06 ON SHEET C5.0.
- 6 INSTALL CONCRETE SIDEWALK PER CITY OF WOODLAND DETAIL T-07 ON SHEET C5.0.
- 9 MATCH EXISTING CURB AND GUTTER.
- 10 MATCH EXISTING SIDEWALK.
- 11 PROTECT EXISTING SIGN.
- 12 RELOCATE EXISTING SIGN.
- 13 PROTECT EXISTING POWER POLE.
- 14 PROTECT EXISTING GUY WIRE.
- 15 INSTALL SILT FENCE PER DETAIL E-20 ON SHEET C5.3.
- 16 INSTALL INLET PROTECTION PER DETAIL E-17 ON SHEET C5.3.
- 21 PROTECT EXISTING UTILITY STRUCTURE.
- 22 INSTALL YELLOW DOUBLE CENTERLINE STRIPING PER DETAIL ON SHEET 5.1. STA. 1+42.27 TO STA. 7+79.77
- 24 INSTALL WHITE EDGE LINE STRIPING PER DETAIL ON SHEET C5.1. STA. 3+92.32 TO STA. 9+33.41 AND STA. 13+89.47 TO STA. 19+17.62

LEGEND

- CONSTRUCT ASPHALT PAVEMENT SECTION (5" OF HMA, 1/2" PG 64-22 8" OF 5/8"-0 CRUSHED ROCK BASE COURSE)
- 2" HMA GRIND AND INLAY SECTION (2" OF LEVEL 3, 1/2 ACP)

LAKESHORE DRIVE PLAN AND PROFILE
LAKESHORE DRIVE PEDESTRIAN IMPROVEMENTS
WOODLAND, WA

Harper Houf Peterson Righellis Inc.
ENGINEERS * PLANNERS * SURVEYORS
LANDSCAPE ARCHITECTS * SURVEYORS
1220 Main Street, Suite 150, Vancouver, WA 98660
phone: 360.750.1131 www.hhpr.com fax: 360.750.1141

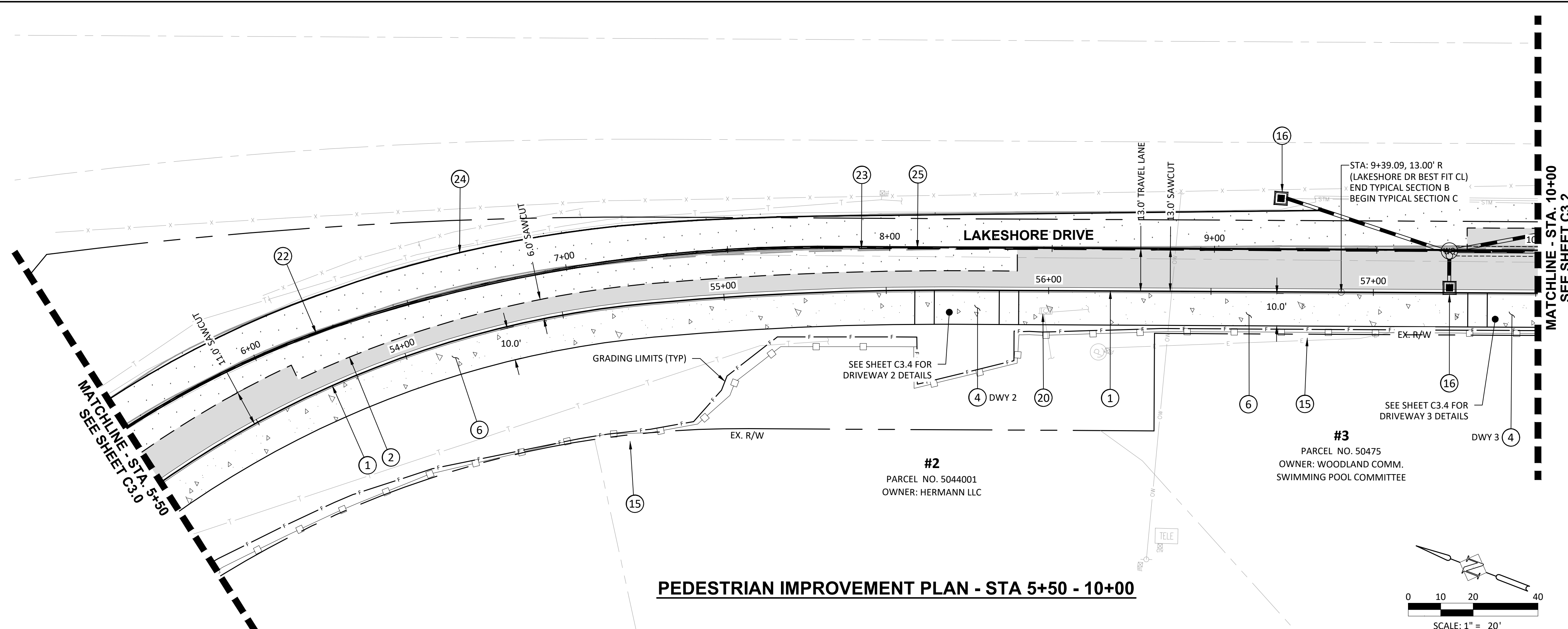


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CHECKED:	HHPR
DATE:	05/27/2022

DATE	NO.	DESCRIPTION

SHEET NO.
C3.0
JOB NO.
WLD-17

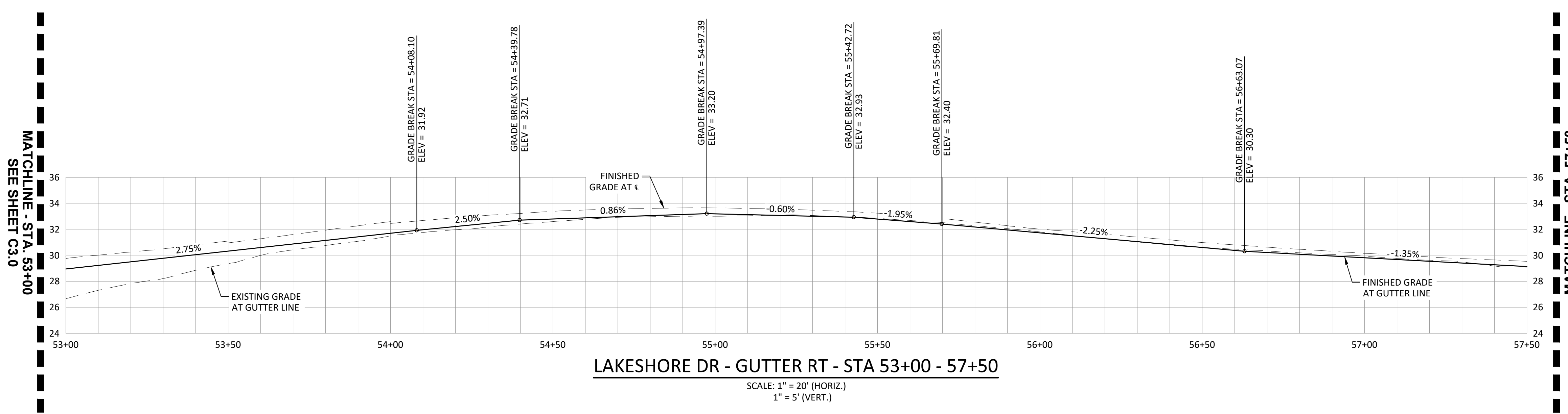
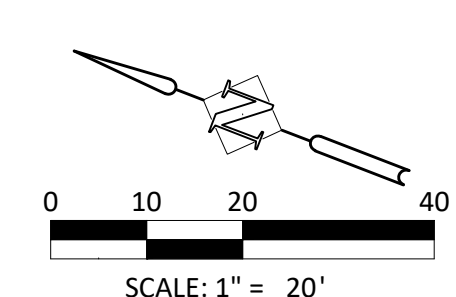
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PEDESTRIAN IMPROVEMENT PLAN - STA 5+50 - 10+00

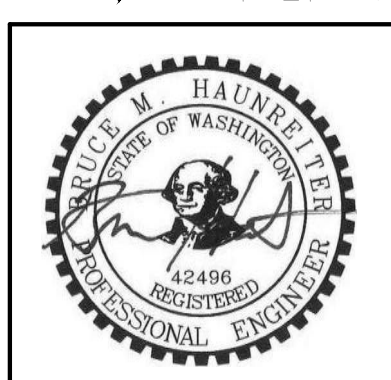
- CONSTRUCTION NOTES:**
- 1 INSTALL CURB & GUTTER PER CITY OF WOODLAND DETAIL T-01 ON SHEET C5.0.
 - 2 SAWCUT AND REMOVE EXISTING ASPHALT PER CITY OF WOODLAND DETAIL T-30 ON SHEET C5.1.
 - 4 CONSTRUCT CONCRETE DRIVEWAY PER CITY OF WOODLAND DETAIL T-05 ON SHEET C5.0.
 - 6 INSTALL CONCRETE SIDEWALK PER CITY OF WOODLAND DETAIL T-07 ON SHEET C5.0.
 - 15 INSTALL SILT FENCE PER DETAIL E-20 ON SHEET C5.3.
 - 16 INSTALL INLET PROTECTION PER DETAIL E-17 ON SHEET C5.3.
 - 20 RELOCATE EXISTING COMMUNICATION STRUCTURE.
 - 22 INSTALL YELLOW DOUBLE CENTERLINE STRIPING PER DETAIL ON SHEET 5.1. STA. 1+42.27 TO STA. 7+79.77
 - 23 INSTALL YELLOW NO-PASS LINE STRIPING PER DETAIL ON SHEET C5.1. STA. 7+79.77 TO STA. 12+31.31
 - 24 INSTALL WHITE EDGE LINE STRIPING PER DETAIL ON SHEET C5.1. STA. 3+92.32 TO STA. 9+33.41 AND STA. 13+89.47 TO STA. 19+17.62
 - 25 INSTALL YELLOW CENTERLINE STRIPING PER DETAIL ON SHEET C5.1. STA. 7+79.77 TO STA. 19+17.62

- LEGEND**
- CONSTRUCT ASPHALT PAVEMENT SECTION (5" OF HMA, 1/2" PG 64-22 8" OF 5/8"-0 CRUSHED ROCK BASE COURSE)
 - 2" HMA GRIND AND INLAY SECTION (2" OF LEVEL 3, 1/2 ACP)



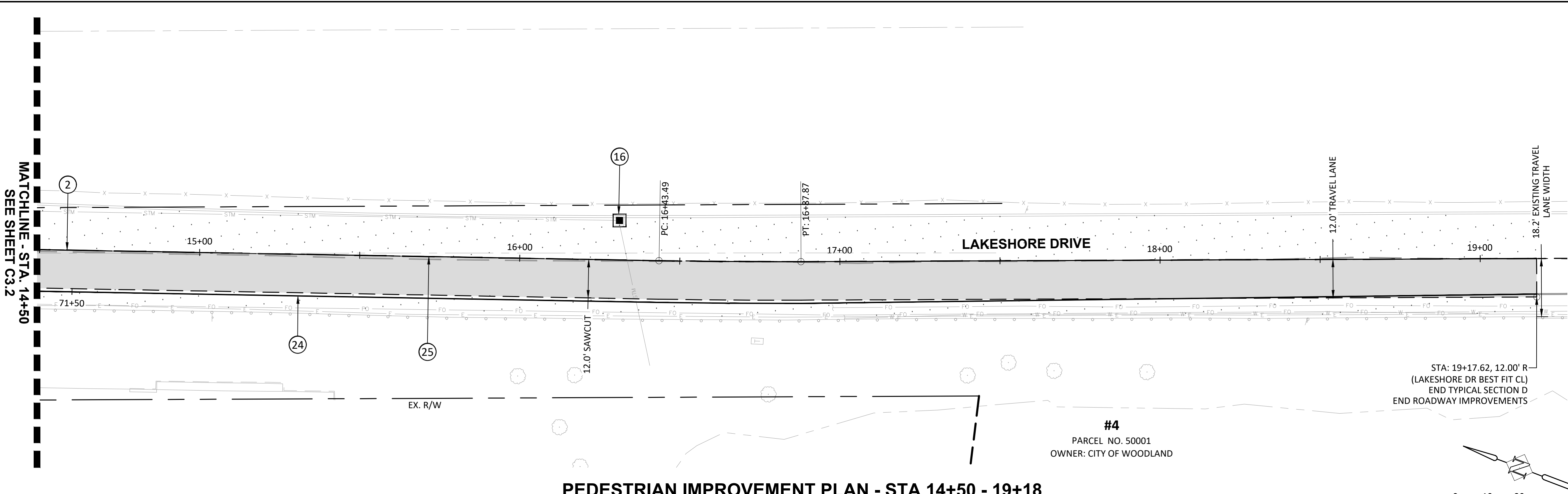
LAKESHORE DRIVE PLAN AND PROFILE
LAKESHORE DRIVE PEDESTRIAN IMPROVEMENTS
WOODLAND, WA

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PEDESTRIAN IMPROVEMENT PLAN - STA 14+50 - 19+18

#4
PARCEL NO. 50001
OWNER: CITY OF WOODLAND

CONSTRUCTION NOTES:

- ② SAWCUT AND REMOVE EXISTING ASPHALT PER CITY OF WOODLAND DETAIL T-30 ON SHEET C5.1.
- ①⑥ INSTALL INLET PROTECTION PER DETAIL E-17 ON SHEET C5.3.
- ②④ INSTALL WHITE EDGE LINE STRIPING PER DETAIL ON SHEET C5.1. STA. 3+92.32 TO STA. 9+33.41 AND STA. 13+89.47 TO STA. 19+17.62
- ②⑤ INSTALL YELLOW CENTERLINE STRIPING PER DTAIL ON SHEET C5.1. STA. 7+79.77 TO STA. 19+17.62

LEGEND

- CONSTRUCT ASPHALT PAVEMENT SECTION (5" OF HMA, 1/2" PG 64-22 8" OF 5/8"-0 CRUSHED ROCK BASE COURSE)
- 2" HMA GRIND AND INLAY SECTION (2" OF LEVEL 3, 1/2 ACP)

LAKESHORE DRIVE PLAN AND PROFILE
LAKESHORE DRIVE PEDESTRIAN IMPROVEMENTS
 WOODLAND, WA

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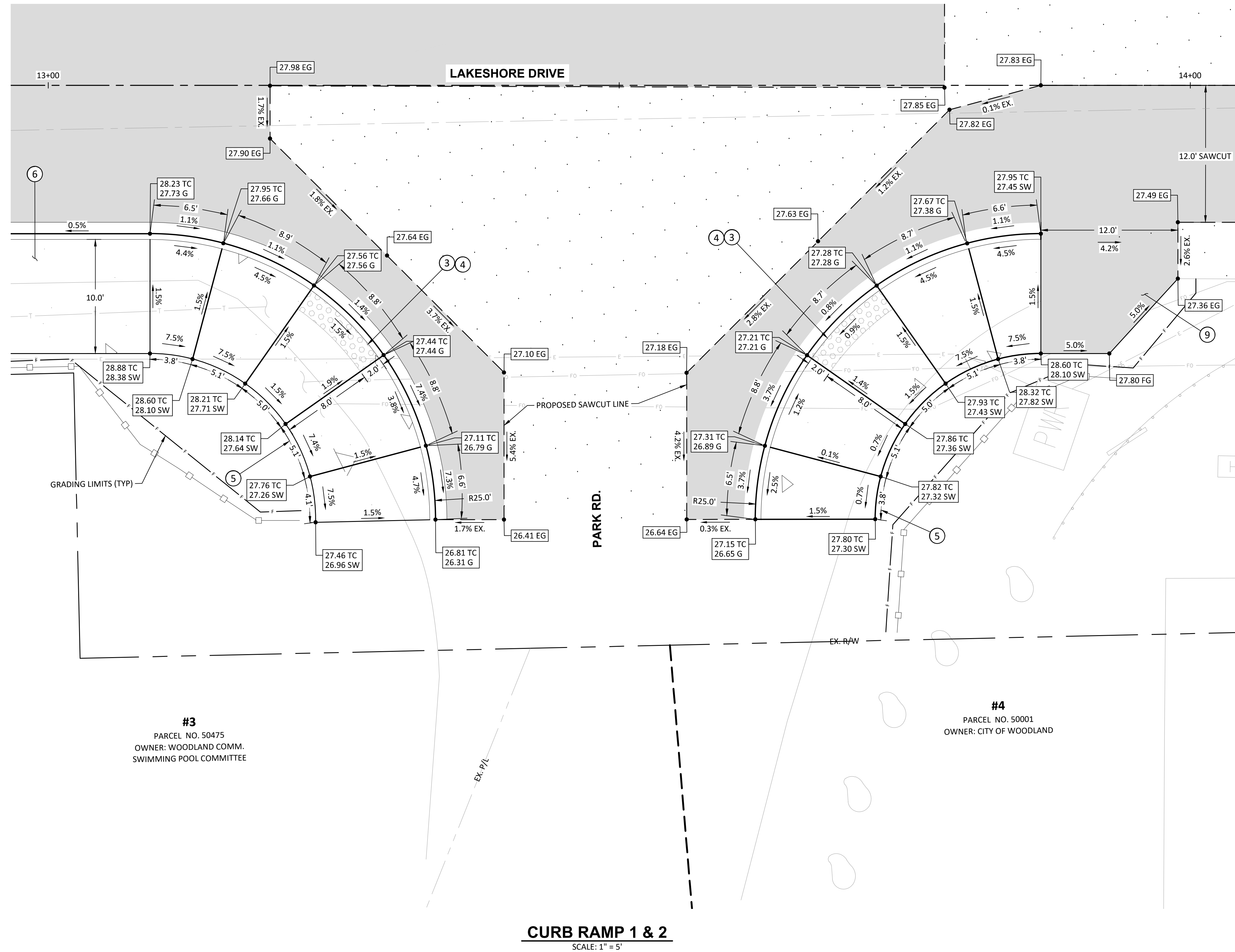


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DATE	NO.	DESCRIPTION					

SHEET NO.
C3.3

JOB NO.
WLD-17

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#3
 PARCEL NO. 50475
 OWNER: WOODLAND COMM.
 SWIMMING POOL COMMITTEE

#4
 PARCEL NO. 50001
 OWNER: CITY OF WOODLAND

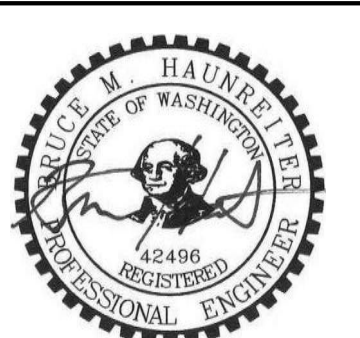
CURB RAMP 1 & 2
 SCALE: 1" = 5'

CONSTRUCTION NOTES:

- ③ INSTALL PARALLEL RAMP PER CITY OF WOODLAND DETAIL T-16 ON SHEET C5.0.
- ④ INSTALL DETECTABLE WARNING PATTERN PER CITY OF WOODLAND DETAIL T-21 ON SHEET C5.1.
- ⑤ INSTALL CURB TYPE E-1 PER CITY OF WOODLAND DETAIL T-01 ON SHEET C5.0.
- ⑥ INSTALL SIDEWALK PER CITY OF WOODLAND DETAIL T-07 ON SHEET C5.0.
- ⑨ CONSTRUCT AC TRANSITION PANEL.

CURB RAMP DETAILS
LAKESHORE DRIVE PEDESTRIAN IMPROVEMENTS
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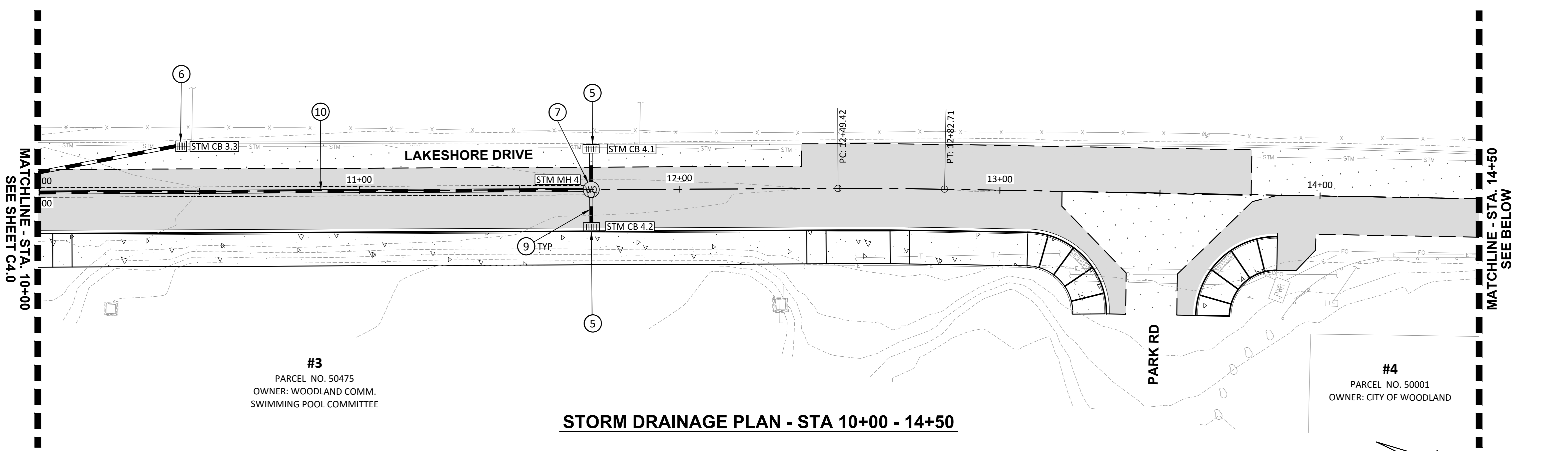


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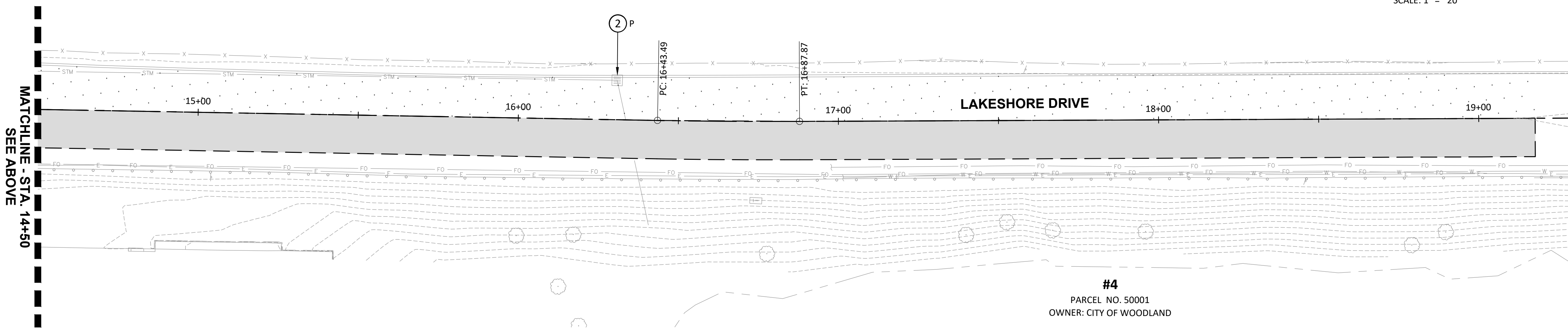
DATE	NO.	DESCRIPTION

SHEET NO.
C3.5
 JOB NO. WLD-17

P:\02-Vancouver\WLD (City of Woodland)\WLD-17-DWG\SS\Sheets\WLD17-C4.0 STORM DRAINAGE PLAN.dwg



STORM DRAINAGE PLAN - STA 10+00 - 14+50



STORM DRAINAGE PLAN - STA 14+50 - 19+18

STORM STRUCTURE TABLE					
NUMBER	DESCRIPTION	LOCATION	RIM ELEV.	INVERT ELEV.	PIPE LENGTH/SIZE/SLOPE
STM CB 3.3	CONSTRUCT CATCH BASIN TYPE 1.	LAKESHORE DR BEST FIT CL STA: 10+47.68, 14.03 L	28.47	12" PVC (NW) = 24.02 OUT	73.3 L.F., S=0.0200
STM CB 4.1	CONSTRUCT CONCRETE TREATMENT CATCH BASIN WITH SINGLE CARTRIDGE.	LAKESHORE DR BEST FIT CL STA: 11+72.34, 12.74 L	27.66	12" PVC (W) = 23.53 OUT	12.7 L.F., S=0.0300
STM CB 4.2	CONSTRUCT CONCRETE TREATMENT CATCH BASIN WITH SINGLE CARTRIDGE.	LAKESHORE DR BEST FIT CL STA: 11+72.34, 11.66 R	27.73	12" PVC (E) = 23.38 OUT	11.7 L.F., S=0.0200
STM MH 4	CONSTRUCT 48" TYPE 1 MANHOLE.	LAKESHORE DR BEST FIT CL STA: 11+72.35, 0.00	28.12	12" PVC (N) = 21.15 OUT 12" PVC (S) = 22.15 IN 12" PVC (SE) = 21.35 IN	200.0 L.F., S=0.0000 60.8 L.F., S=0.0200 20.0 L.F., S=0.0590

- CONSTRUCTION NOTES:**
- 2 PROTECT (P), REMOVE (R), OR PLUG AND ABANDON IN-PLACE (A) EXISTING STORM STRUCTURE. UPON REMOVAL, FILL ANY VOID WITH GRANULAR BACKFILL.
 - 5 CONSTRUCT SINGLE CARTRIDGE CONCRETE STORMFILTER CATCH BASIN PER CONTECH DETAIL ON SHEET C5.3.
 - 6 CONSTRUCT STANDARD CURB INLET PER DETAIL D-04 ON SHEET C5.2.
 - 7 CONSTRUCT STANDARD MANHOLE PER DETAIL D-10 ON SHEET C5.2.
 - 9 CONSTRUCT 12" PVC STORM MAIN WITH PIPE BEDDING PER DETAIL D-15 ON SHEET C5.2. BACKFILL TRENCH PER DETAIL D-16 ON SHEET C5.2.
 - 10 CONSTRUCT INFILTRATION TRENCH WITH 3' WIDE X 4' TALL PERMEABLE BALLAST BACKFILL PER DETAIL D-15 ON SHEET C5.2.

STORM DRAINAGE PLAN
LAKESHORE DRIVE PEDESTRIAN IMPROVEMENTS
 WOODLAND, WA

Harper Houf Peterson
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 LANDSCAPE ARCHITECTS * SURVEYORS
 1220 Main Street, Suite 150, Vancouver, WA 98660
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C4.1
 JOB NO.
 WLD-17

CONCRETE CURBS

APPROVED: [Signature] DATE: 2/10/22
 REVISIONS: [Table] DATE: [Table] DRAWN: [Table] DESIGNED: [Table]
 T-01

WOODLAND PUBLIC WORKS DIRECTOR

DRIVEWAY WITH ATTACHED SIDEWALK - OPTION B

APPROVED: [Signature] DATE: 2/10/22
 REVISIONS: [Table] DATE: [Table] DRAWN: [Table] DESIGNED: [Table]
 T-05

WOODLAND PUBLIC WORKS DIRECTOR

MAJOR COMMERCIAL DRIVEWAY

APPROVED: [Signature] DATE: 2/10/22
 REVISIONS: [Table] DATE: [Table] DRAWN: [Table] DESIGNED: [Table]
 T-06

WOODLAND PUBLIC WORKS DIRECTOR

SIDEWALK DETAIL

APPROVED: [Signature] DATE: 2/10/22
 REVISIONS: [Table] DATE: [Table] DRAWN: [Table] DESIGNED: [Table]
 T-07

WOODLAND PUBLIC WORKS DIRECTOR

PARALLEL RAMP

5 FOOT SIDEWALK	
RADIUS (FT)	B (FT)**
10	11.11
15	7.89
20	6.90
25	6.41
30	6.12
35	5.93
40	5.80
45	5.73
∞	5.00

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 REVISIONS: [Table] DATE: [Table] DRAWN: [Table] DESIGNED: [Table]
 T-16

WOODLAND PUBLIC WORKS DIRECTOR

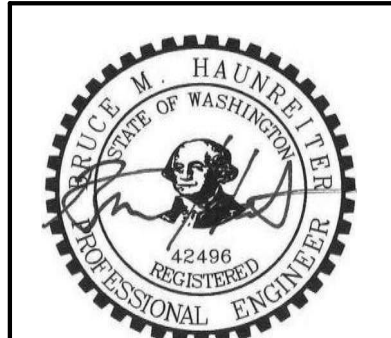
STANDARD LANDING CROSS SECTIONS C-C AND D-D

APPROVED: [Signature] DATE: 2/10/22
 REVISIONS: [Table] DATE: [Table] DRAWN: [Table] DESIGNED: [Table]
 T-20

WOODLAND PUBLIC WORKS DIRECTOR

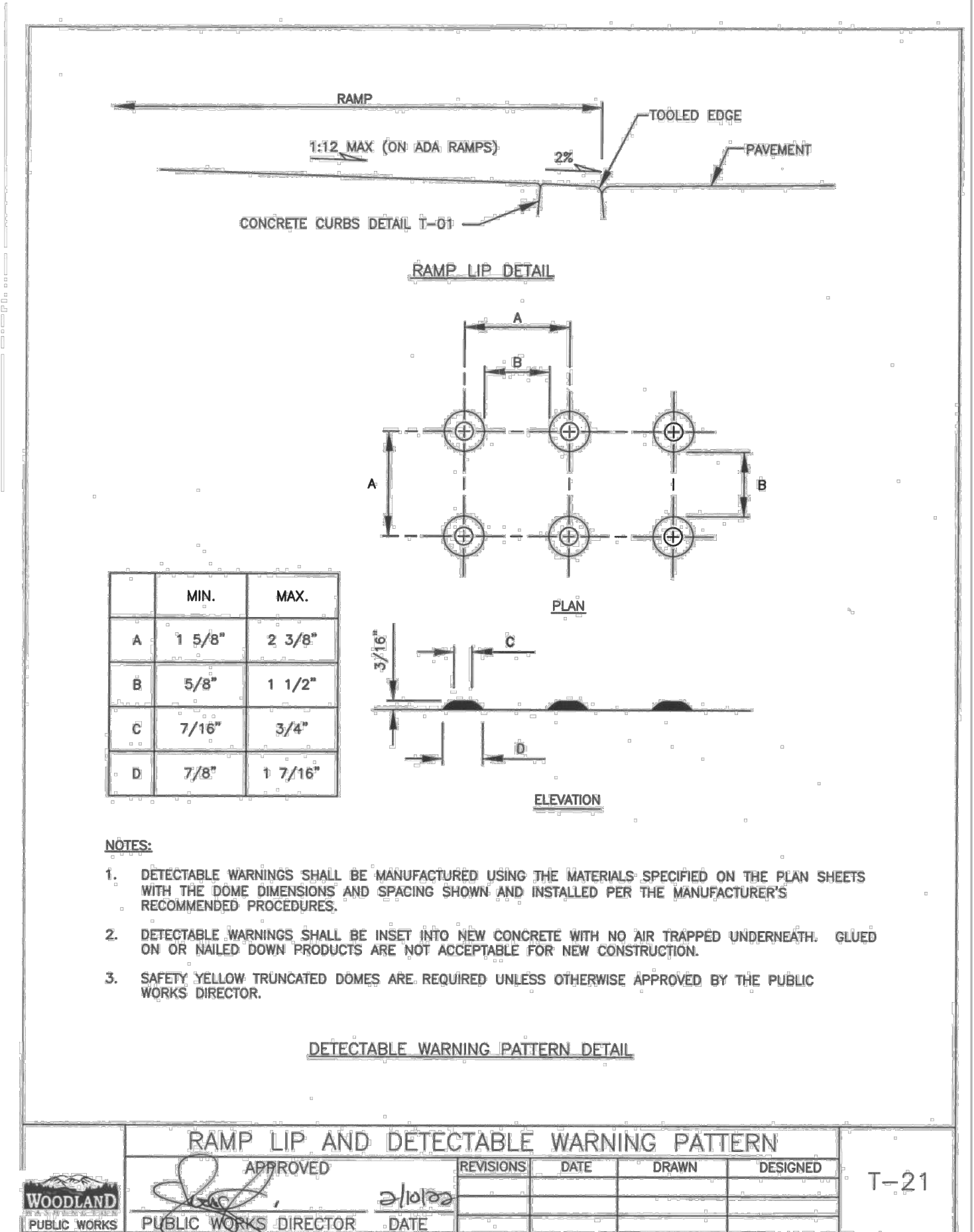
DETAILS
LAKESHORE DRIVE PEDESTRIAN IMPROVEMENTS
 WOODLAND, WA

Harper Houf Peterson Righellis Inc.
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 1220 Main Street, Suite 150, Vancouver, WA 98660
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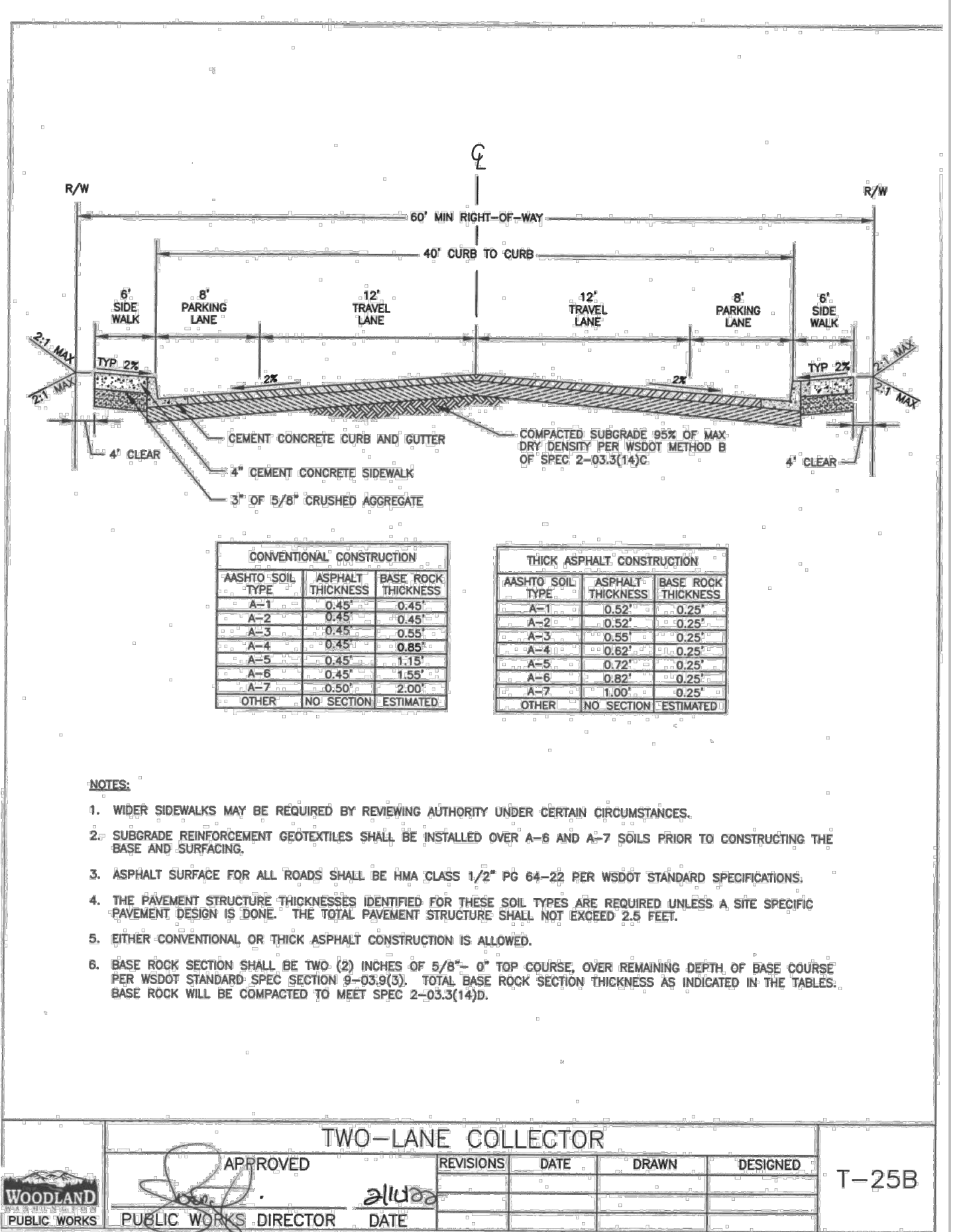


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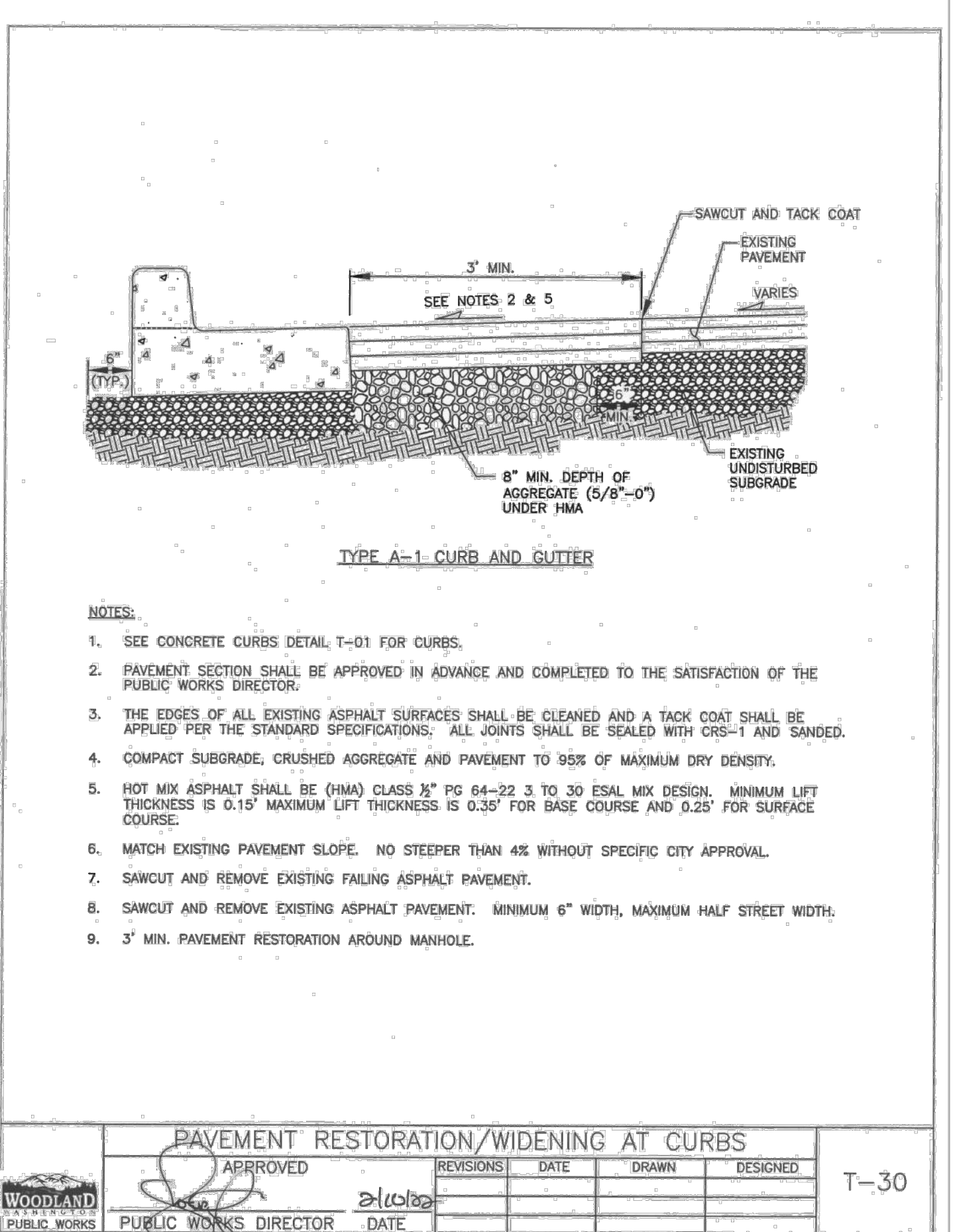
SHEET NO.
C5.0
 JOB NO. WLD-17



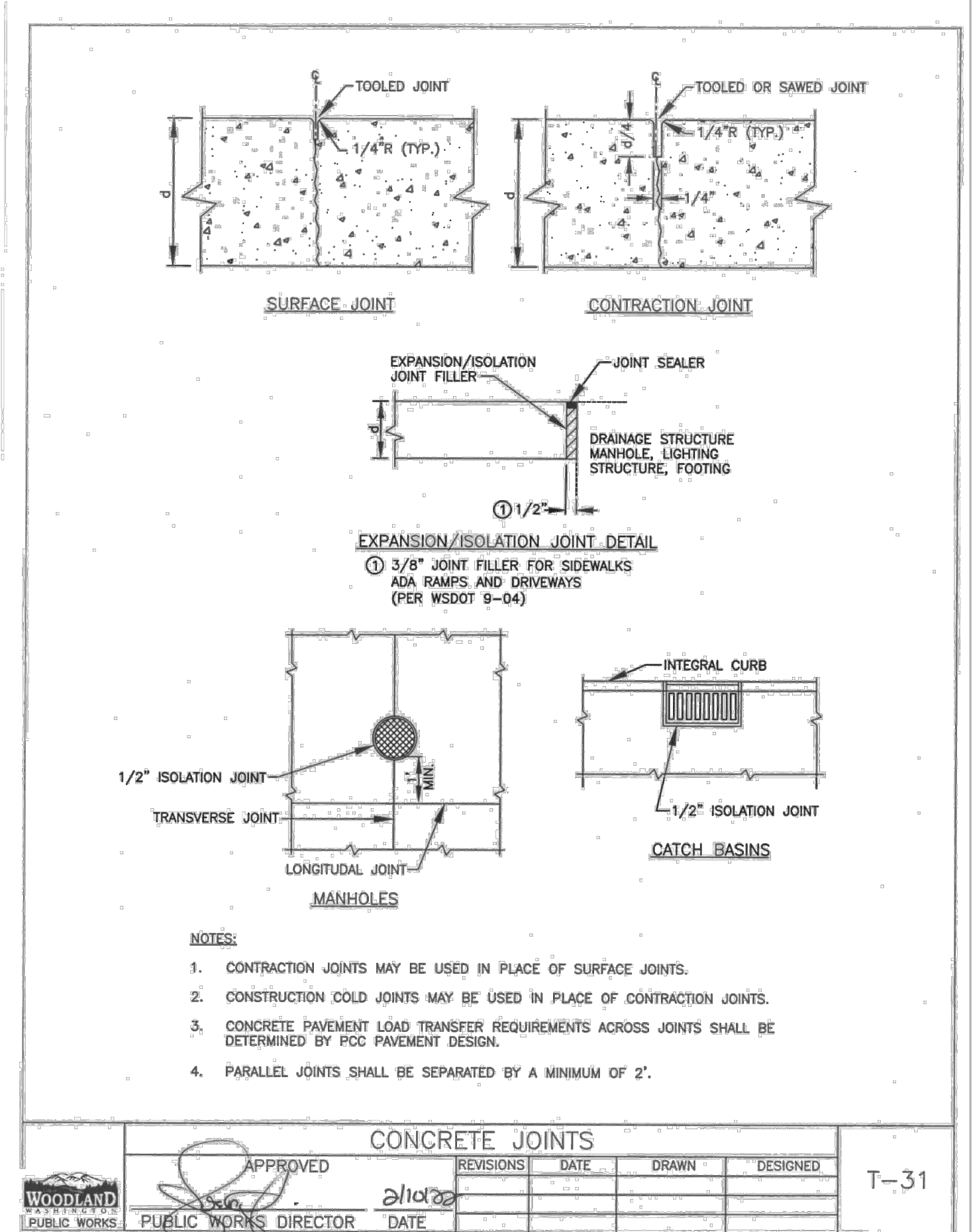
RAMP LIP AND DETECTABLE WARNING PATTERN				
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<i>[Signature]</i>		2/10/22		
PUBLIC WORKS DIRECTOR		DATE		



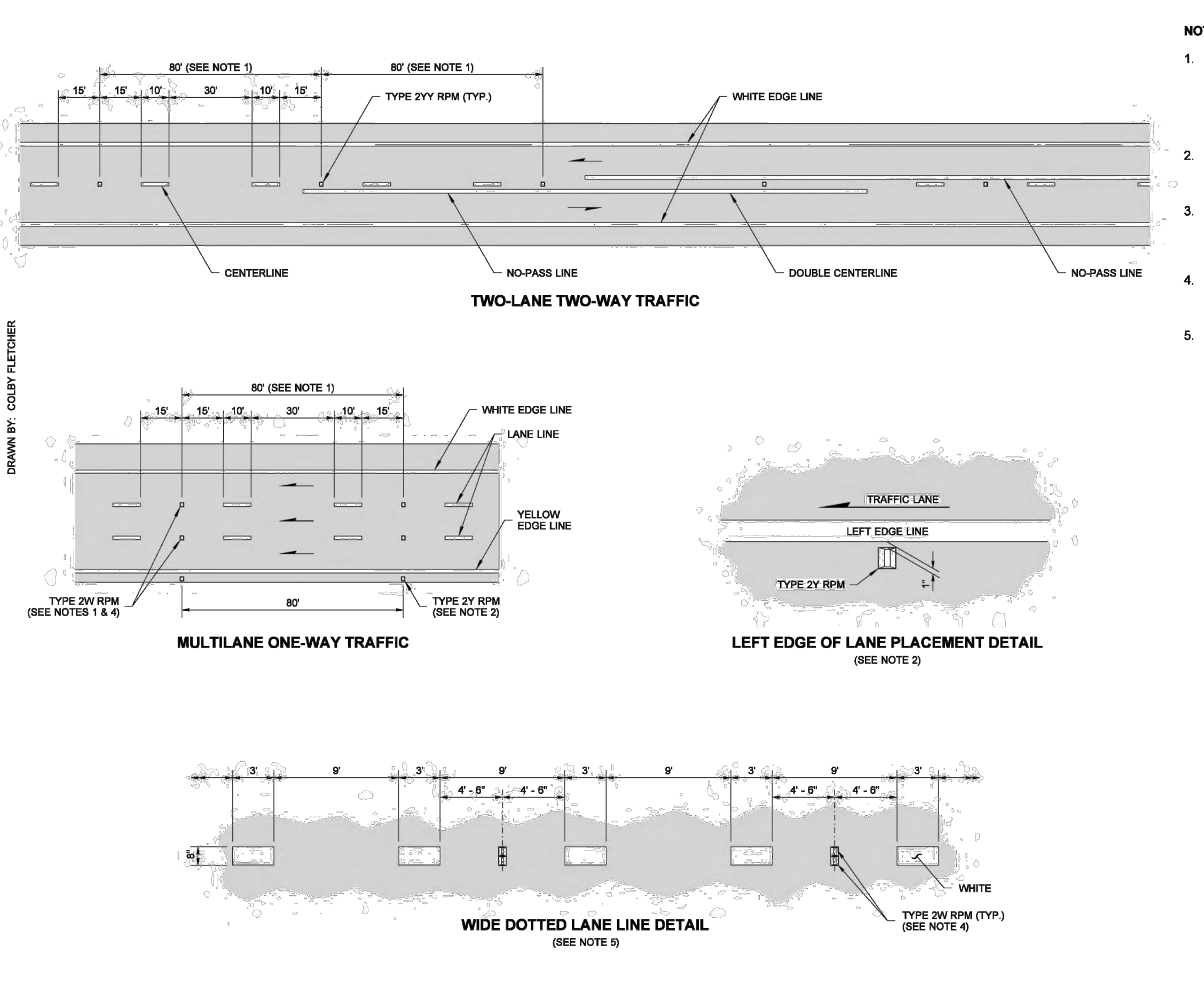
TWO-LANE COLLECTOR				
APPROVED	REVISIONS	DATE	DRAWN	DESIGNED
<i>[Signature]</i>		2/10/22		
PUBLIC WORKS DIRECTOR		DATE		



PAVEMENT RESTORATION/WIDENING AT CURBS				
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<i>[Signature]</i>		2/10/22		
PUBLIC WORKS DIRECTOR		DATE		



CONCRETE JOINTS				
APPROVED	REVISIONS	DATE	DRAWN	DESIGNED
<i>[Signature]</i>		2/10/22		
PUBLIC WORKS DIRECTOR		DATE		



- NOTES**
1. Raised Pavement Markers Types 2YY and 2W shall be spaced at 80' (ft) intervals on tangents and on horizontal curves with a radius of 1500' (ft) or more, and at 40' (ft) intervals on horizontal curves having radii of less than 1500' (ft). Center the RPMs in the gaps between the pavement marking lines.
 2. Type 2Y RPMs, when specified, shall be placed outside the left Edge Line at 80' (ft) intervals. See "LEFT EDGE OF LANE PLACEMENT DETAIL."
 3. Recessed pavement markers, when specified, shall be installed at the locations shown for Type 2Y RPMs on multilane one-way roadways, and Type 2Y RPMs on two-lane two-way roadways.
 4. The Type 2W RPMs placed on multilane one-way roadways and all RPMs set in recesses shall have an abrasion-resistant coating.
 5. Do not recess side-to-side RPMs on Wide Dotted Lane Lines.

TYPE 2 RPM RAISED FACE COLORS	
TYPE 2YY	YELLOW AND YELLOW
TYPE 2W	WHITE - ONE SIDE ONLY
TYPE 2Y	YELLOW - ONE SIDE ONLY

WALSH, BRIAN
 Feb 29 2016 10:18 AM
LONGITUDINAL MARKING SUPPLEMENT WITH RAISED PAVEMENT MARKERS
STANDARD PLAN M-20.30-04
 SHEET 1 OF 2 SHEETS
 APPROVED FOR PUBLICATION
Carpenster, Jeff
 Feb 29 2016 12:39 PM
 STATE DESIGN ENGINEER
 Washington State Department of Transportation

DETAILS
LAKESHORE DRIVE PEDESTRIAN IMPROVEMENTS
WOODLAND, WA

Harper Houf Peterson Righellis Inc.
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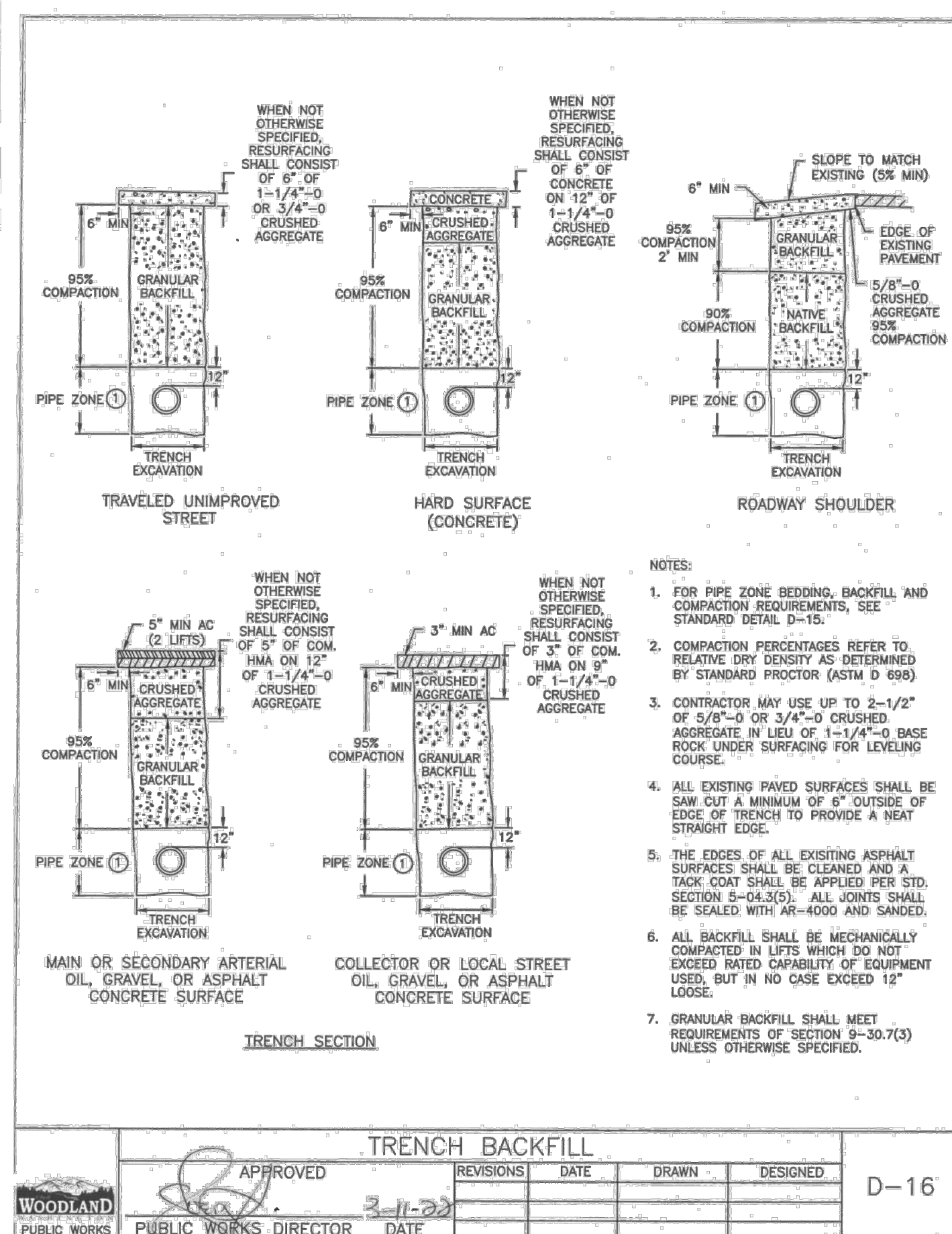
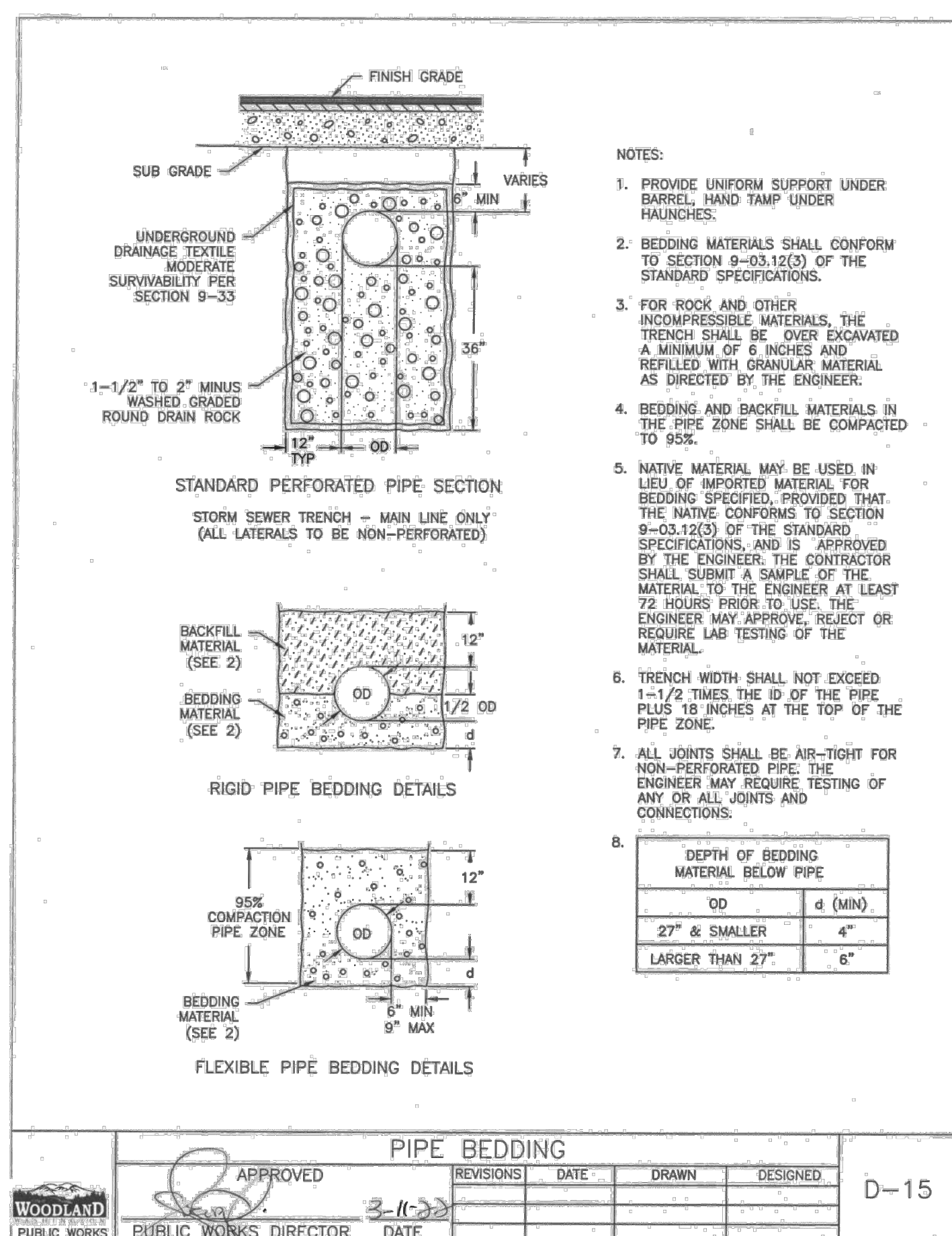
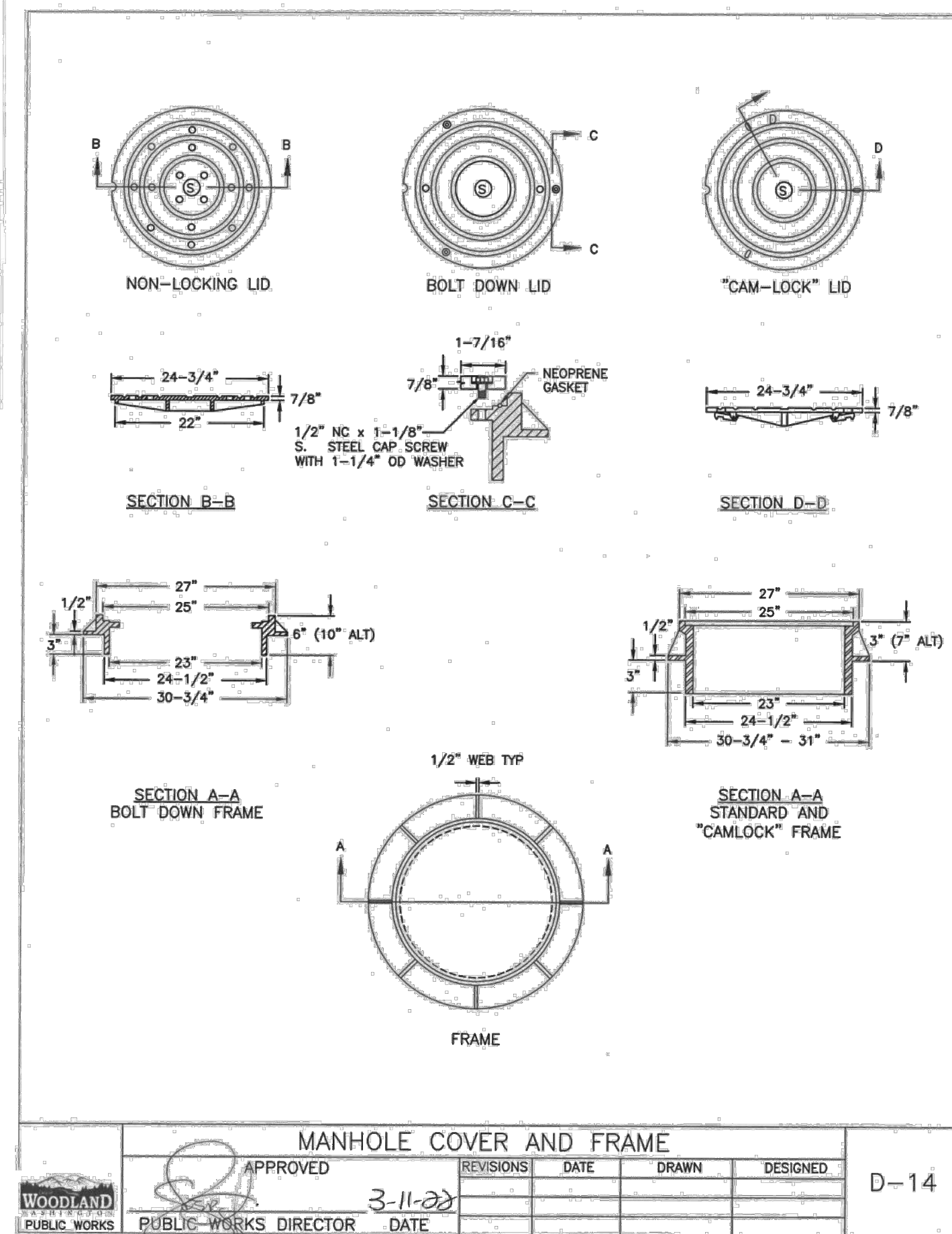
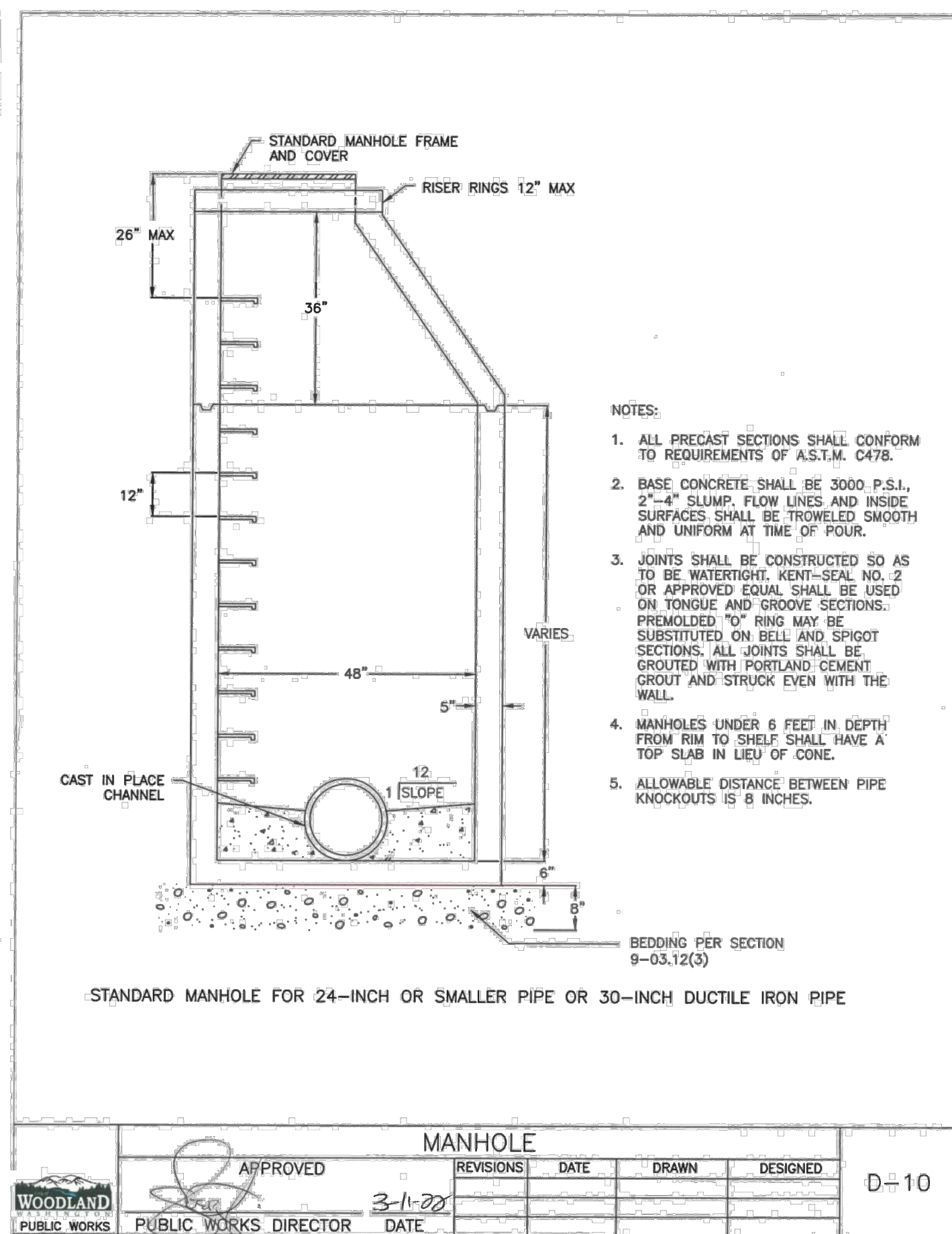
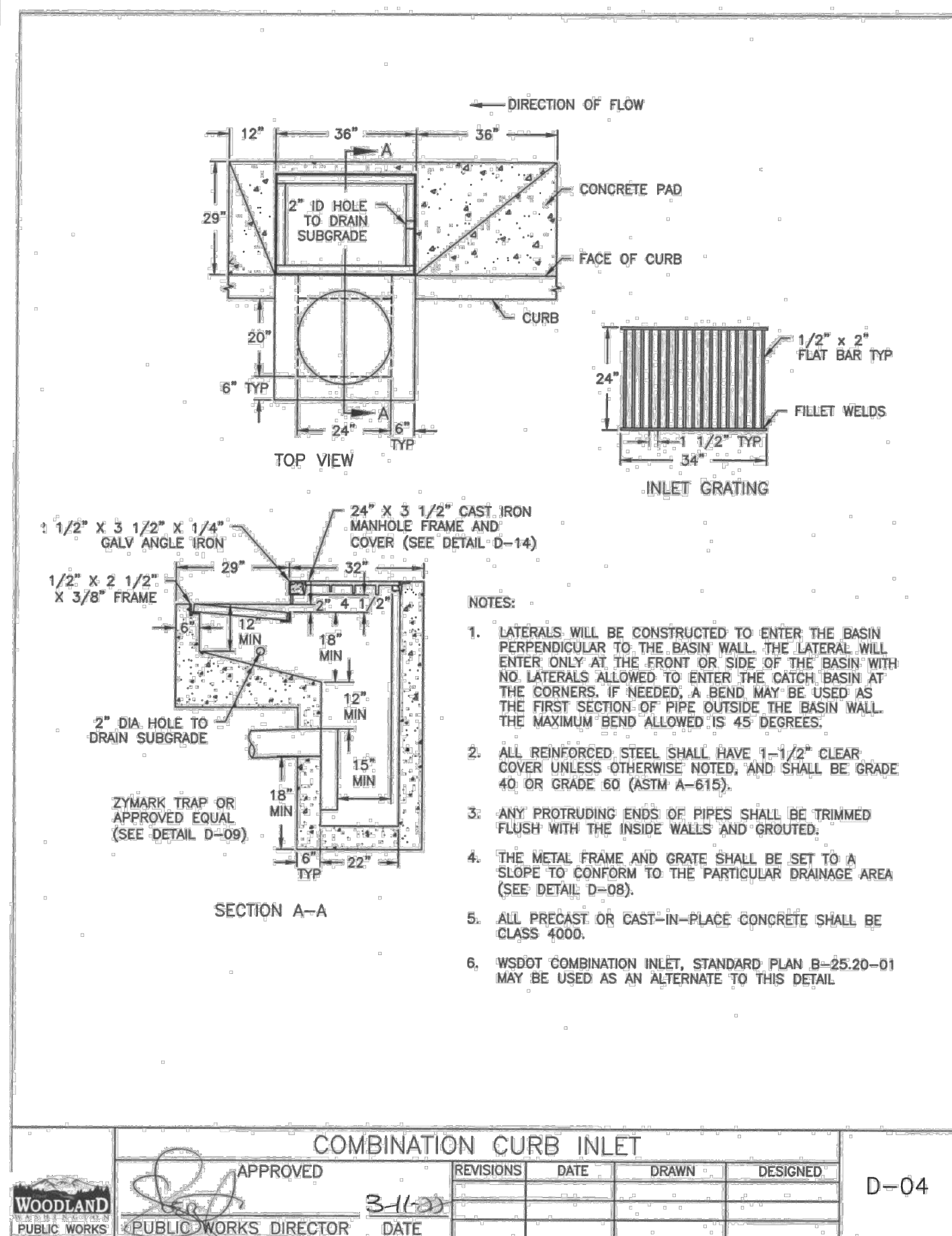
HHPR
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 DATE NO. DESCRIPTION

SHEET NO. **C5.1**

JOB NO. WLD-17

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DETAILS

LAKESHORE DRIVE PEDESTRIAN IMPROVEMENTS

WOODLAND, WA

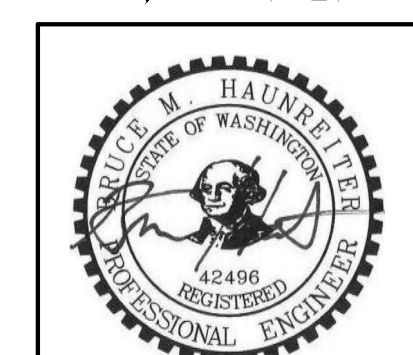
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C5.2

JOB NO. WLD-17

INLET PROTECTION (2 OF 2)

PLAN VIEW
36" WIDE FILTER MAT

ELEVATION VIEW
CURB INLET
FILTER FABRIC

NOTES:

- USE FILTER MAT SEDIMENT BARRIER WHEN CURB INLET IS LOCATED IN CENTILY SLOPING STREET, WITH MINIMAL NEED, WHERE WATER CAN FILTER AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
- BARRIER SHALL ALLOW FOR OVERFLOW FROM SEVERE STORM EVENT.
- INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

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E-17

SILT FENCE

FRONT VIEW
SIDE VIEW

NOTES:

- FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE.
- POST SPACING MAY BE INCREASED TO 8' IF WIRE BACKING IS USED.

MAINTENANCE STANDARDS:

- SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT POND.
- IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGNS OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF FLOWS PARALLEL TO THE FENCE. IF THIS OCCURS, REPLACE THE FENCE OR REMOVE THE TRAPPED SEDIMENT.
- SEDIMENT DEPOSITS SHALL EITHER BE REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE-THIRD THE HEIGHT OF THE SILT FENCE, OR A SECOND SILT FENCE SHALL BE INSTALLED.
- IF THE FILTER FABRIC (GEOTEXTILE) HAS DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN, IT SHALL BE REPLACED.

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E-20

STORMFILTER DESIGN NOTES

- CONCRETE CATCHBASIN STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCAL APPROVALS
- PEAK CONVEYANCE CAPACITY IS 1.3 CFS
- CONCRETE CATCHBASIN STORMFILTER IS AVAILABLE WITH UP TO TWO (2), 18" (457) OR 27" (686) TALL CARTRIDGES
- UP TO 4 INDIVIDUAL UNITS MAY BE LINKED FOR AN ULTIMATE CAPACITY OF EIGHT (8) CARTRIDGES

CARTRIDGE SIZE (in. [mm])	27" (686)	18" (457)
ACTIVATION HEAD (ft. [mm])	3.08 (940)	2.33 (711)
SPECIFIC FLOW RATE (gpm/ft ² [L/m ²])	2 (1.36)	1.67 (1.13)*
CARTRIDGE FLOW RATE (gpm [L/s])	22.5 (1.4)	18.79 (1.19)

* 1.67 gpm/ft² (1.13 L/m²) SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

LINKING OPTIONS SHOWN BELOW. FLEXIBLE INLET PIPE, GRATED AND SOLID COVER PLACEMENT. MAXIMUM HEIGHT FOR LINKED UNITS VARIES. CONTACT YOUR CONTECH REPRESENTATIVE FOR MORE INFORMATION.

QUAD UNIT
TRIPLE UNIT
DUAL UNIT
SINGLE UNIT

MAXIMUM RIM TO INVERT = 4.30' (1311)
MAXIMUM RIM TO INVERT = 6.05' (1844)
MAXIMUM RIM TO INVERT = 6.05' (1844)
MAXIMUM RIM TO INVERT = 6.05' (1844)

GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- ALTERNATE DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.conteches.com
- STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- FILTER CARTRIDGES SHALL BE MEDIA FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES (178). FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
- SPECIFIC FLOW RATE IS THE MEASURE OF THE FLOW (GPM [L/S]) DIVIDED BY THE MEDIA SURFACE CONTACT AREA (sq ft [m²]).
- STRUCTURE SHALL MEET ASHTO H20.0 LOAD RATING, ASSUMING EARTH COVER OF 0'-0" (0) AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET ASHTO M30.0 AND BE CAST WITH THE CONTECH LOGO.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
- CONTRACTOR TO PROVIDE AND INSTALL PIPES. MATCH PIPE INVERTS SHOWN ON PROJECT SPECIFIC DRAWINGS.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	PER PLAN
WATER QUALITY FLOW RATE (cfs [L/s])	VARIES
PEAK FLOW RATE (cfs [L/s])	VARIES
RETURN PERIOD OF PEAK FLOW (yrs)	18
CARTRIDGE SIZE (27", 18")	18
CARTRIDGE FLOW RATE	12.53 GPM
MEDIA TYPE (PERLITE, ZPG, PSORB)	PSORB
NUMBER OF CARTRIDGES REQUIRED	3

PIPE DATA	INVERT	MATERIAL	DIAMETER
INLET PIPE #1	PER PLAN	PVC	12"
INLET PIPE #2	PER PLAN	PVC	12"
OUTLET PIPE	PER PLAN	PVC	12"

NOTES/SPECIAL REQUIREMENTS:

CONTECH ENGINEERED SOLUTIONS LLC
11615 NE Glisan Street, Portland, OR 97220
800-548-4887 503-240-3393 503-561-1271 FAX

CONCRETE CATCHBASIN STORMFILTER STANDARD DETAIL

STORMFILTER DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (3). VOLUME SYSTEM IS ALSO AVAILABLE WITH MAXIMUM 3 CARTRIDGES. 04" (101.6 mm) MANHOLE STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.0 CFS (28.3 L/s). IF THE SITE CONDITIONS EXCEED 1.0 CFS (28.3 L/s) AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION	27" (686 mm)	18" (458 mm)	LOW DROP
CARTRIDGE HEIGHT	3.05 (930 mm)	2.3 (700 mm)	1.8 (550 mm)
RECOMMENDED HYDRAULIC DROP (ft)	2.1 (30)	1.27 (1.08)	1.07 (1.08)
SPECIFIC FLOW RATE (gpm/ft ² [L/m ²])	2 (1.36)	1.67 (1.13)*	1.67 (1.13)*
CARTRIDGE FLOW RATE (gpm [L/s])	22.5 (1.4)	18.79 (1.19)	15 (0.95)

* 1.67 gpm/ft² (1.08 L/m²) SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	PER PLAN
WATER QUALITY FLOW RATE (cfs) [L/s]	*
PEAK FLOW RATE (cfs) [L/s]	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
CARTRIDGE HEIGHT (SEE TABLE ABOVE)	*
NUMBER OF CARTRIDGES REQUIRED	*
CARTRIDGE FLOW RATE	*
MEDIA TYPE (PERLITE, ZPG, PSORB)	*

PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	*	*	*
INLET PIPE #2	*	*	*
OUTLET PIPE	*	*	*

ANTIFLOTATION BALLAST: WIDTH HEIGHT

NOTES/SPECIAL REQUIREMENTS:
* PER ENGINEER OF RECORD

GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.conteches.com
- STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- STRUCTURE SHALL MEET ASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5" (152.4 mm) AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET ASHTO M30.0 AND BE CAST WITH THE CONTECH LOGO.
- FILTER CARTRIDGES SHALL BE MEDIA FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES (178 mm). FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
- SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (GPM [L/S]) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft [m²]).
- STORMFILTER STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND ASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE.
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLY STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET PIPES.
- CONTRACTOR TO PROVIDE AND INSTALL CONNECTOR TO THE OUTLET RISER STUB. STORMFILTER EQUIPPED WITH A DUAL DIAMETER HDPE OUTLET STUB AND SAND COLLAR. IF OUTLET PIPE IS LARGER THAN 8 INCHES (200 mm), CONTRACTOR TO REMOVE THE 8 INCH (200 mm) OUTLET STUB AT MOULDED-IN CUT LINE, COUPLING BY FERROD OR EQUAL, AND PROVIDED BY CONTRACTOR.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

FRAME AND COVER (DIAMETER VARIES) N.T.S.

CONTRACTOR TO GROUT TO FINISHED GRADE

GRADE RING RISERS

INLET PIPE

STORMFILTER CARTRIDGE FLOW KIT

OUTLET SUMP

HDPE OUTLET RISER

FLATABLES BAFFLE

HYDRAULIC DROP TO OUTLET INV.

INSIDE HEIGHT 6' (1827 mm) TYPICAL

CONTECH ENGINEERED SOLUTIONS LLC
11615 NE Glisan Street, Portland, OR 97220
800-548-4887 503-240-3393 503-561-1271 FAX

SFMH48 STORMFILTER STANDARD DETAIL

DETAILS

LAKESHORE DRIVE PEDESTRIAN IMPROVEMENTS

WOODLAND, WA

Harper Houf Peterson Righellis Inc.

ENGINEERS * PLANNERS
LANDSCAPE ARCHITECTS * SURVEYORS

1220 Main Street, Suite 150, Vancouver, WA 98660
phone: 360-750-1131 www.hhp.com fax: 360-750-1141

DESIGNED: HHPR
DRAWN: HHPR
CHECKED: HHPR
DATE: 07/06/2022




DATE	NO.	DESCRIPTION

SHEET NO. **C5.3**

JOB NO. WLD-17







P:\02-Vancouver\WLD (City of Woodland)\WLD-17 (Lakeshore Drive Pedestrian Improvements)\WLD-17-DIV\GIS\Sheets\WLD17 - C6.0 TRAFFIC CONTROL PLAN.dwg



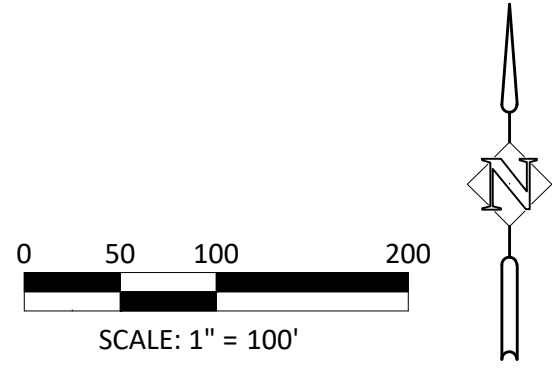
CONSTRUCTION SIGNS	
A	 W20-1
B	 W20-4
C	 W20-7A

PCMS MESSAGE 1		PCMS MESSAGE 2	
PHASE 1	PHASE 2	PHASE 1	PHASE 2
ROAD WORK BEGINS	*DATE*	ROAD WORK AHEAD	BE PREPARED TO STOP
2.0 SEC	2.0 SEC	2.0 SEC	2.0 SEC

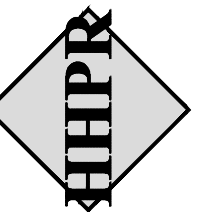
LEGEND

-  TEMPORARY SIGN LOCATION
-  TRAFFIC SAFETY DRUM
-  FLAGGING STATION
-  PROTECTIVE VEHICLE
-  PORTABLE CHANGEABLE MESSAGE SIGN
-  TYPE 3 BARRICADE

- NOTES**
- SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
 - EXTEND DEVICE TAPER ACROSS SHOULDER.
 - DEVICES SHALL NOT ENCROACH INTO THE ADJACENT LANE.
 - FIELD LOCATE PCMS TO THE SOUTH.
 - DEVICE SPACING FOR THE DOWNSTREAM TAPER SHALL BE 20' (FT).
 - ALL SIGNS ARE BLACK ON ORANGE.



TRAFFIC CONTROL PLAN
LAKESHORE DRIVE PEDESTRIAN IMPROVEMENTS
 WOODLAND, WA

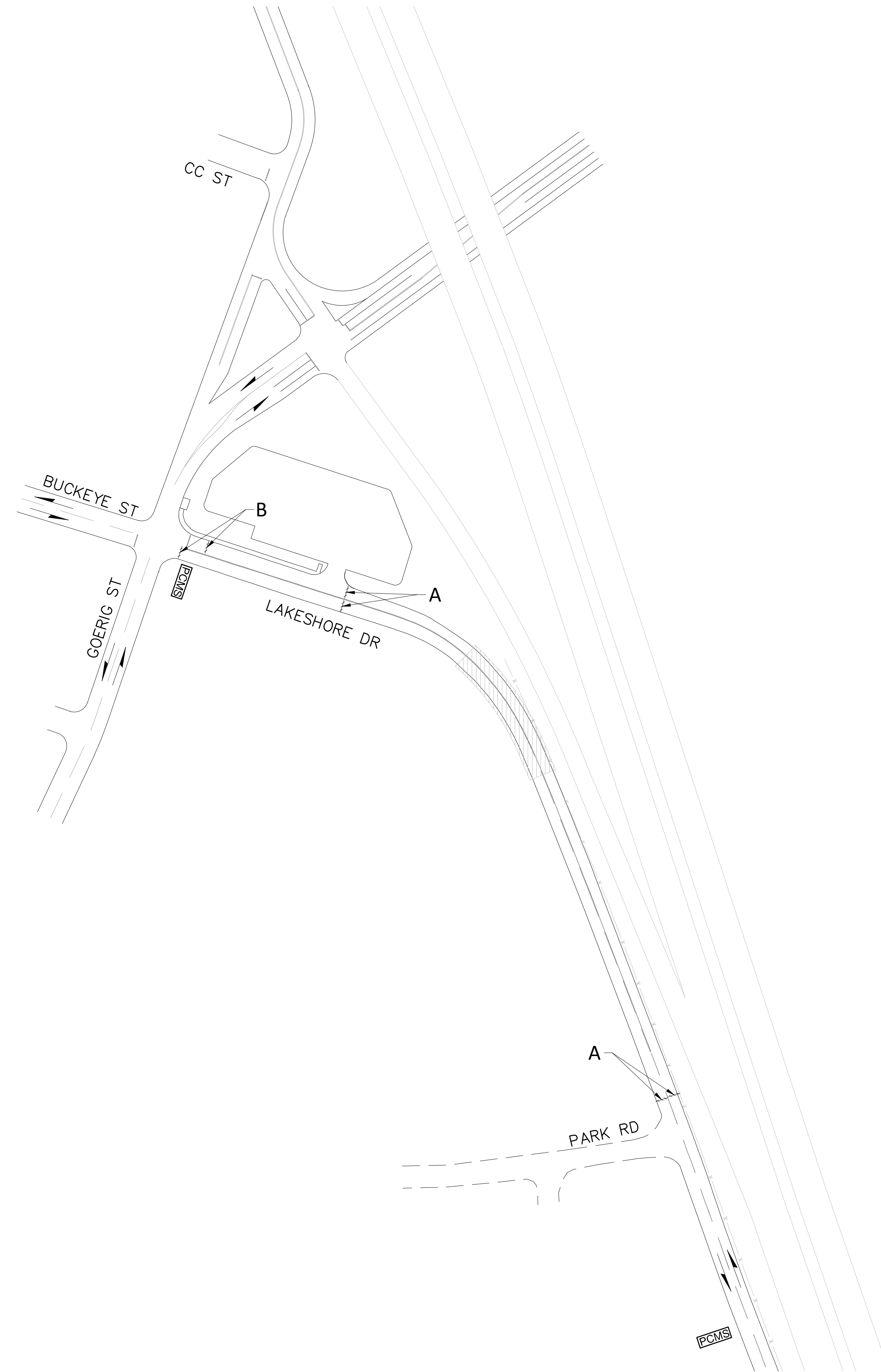

Harper Houf Peterson Righellis Inc.
ENGINEERS & PLANNERS
 LANDSCAPE ARCHITECTS & SURVEYORS
 1220 Main Street, Suite 150, Vancouver, WA 98660
 phone: 360.750.1131 www.hhpr.com fax: 360.750.1141



DESIGNED:	HHPR
DRAWN:	HHPR
CHECKED:	HHPR
DATE:	05/27/2022

SHEET NO. **C6.0**

JOB NO. WLD-17



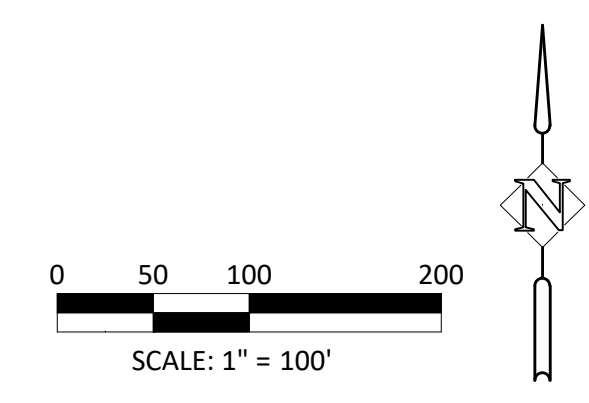
CONSTRUCTION SIGNS	
A	
B	

PCMS MESSAGE 1		PCMS MESSAGE 2	
PHASE 1	PHASE 2	PHASE 1	PHASE 2
ROAD CLOSURE BEGINS	*DATE*	ROAD CLOSED AHEAD	USE ALT ROUTE
2.0 SEC	2.0 SEC	2.0 SEC	2.0 SEC

LEGEND

- TEMPORARY SIGN LOCATION
- TRAFFIC SAFETY DRUM
- FLAGGING STATION
- PROTECTIVE VEHICLE
- PORTABLE CHANGEABLE MESSAGE SIGN
- TYPE 3 BARRICADE

- NOTES**
- SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
 - MOUNT SIGNS TO TYPE 3 BARRICADES.
 - FIELD LOCATE PCMS TO THE SOUTH.
 - ALL SIGNS ARE BLACK ON ORANGE.



TRAFFIC CONTROL PLAN
LAKESHORE DRIVE PEDESTRIAN IMPROVEMENTS
 WOODLAND, WA

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 phone: 360.750.1131 www.hhpr.com fax: 360.750.1141



DESIGNED:	HHPR
DRAWN:	HHPR
CHECKED:	HHPR
DATE:	05/27/2022

DATE	NO.	DESCRIPTION

SHEET NO.
C6.1
 JOB NO. WLD-17