

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
A01	Title Sheet
A02	Index Of Sheets Cont'd. & Std. Dwg. Nos.

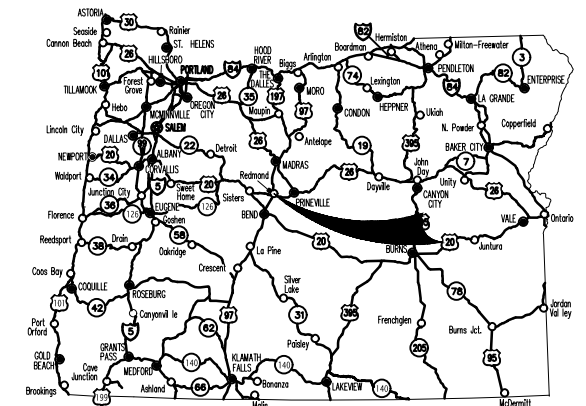
# DESCHUTES COUNTY ROAD DEPARTMENT

PLANS FOR PROPOSED PROJECT

Grading, Drainage, Paving & Signing

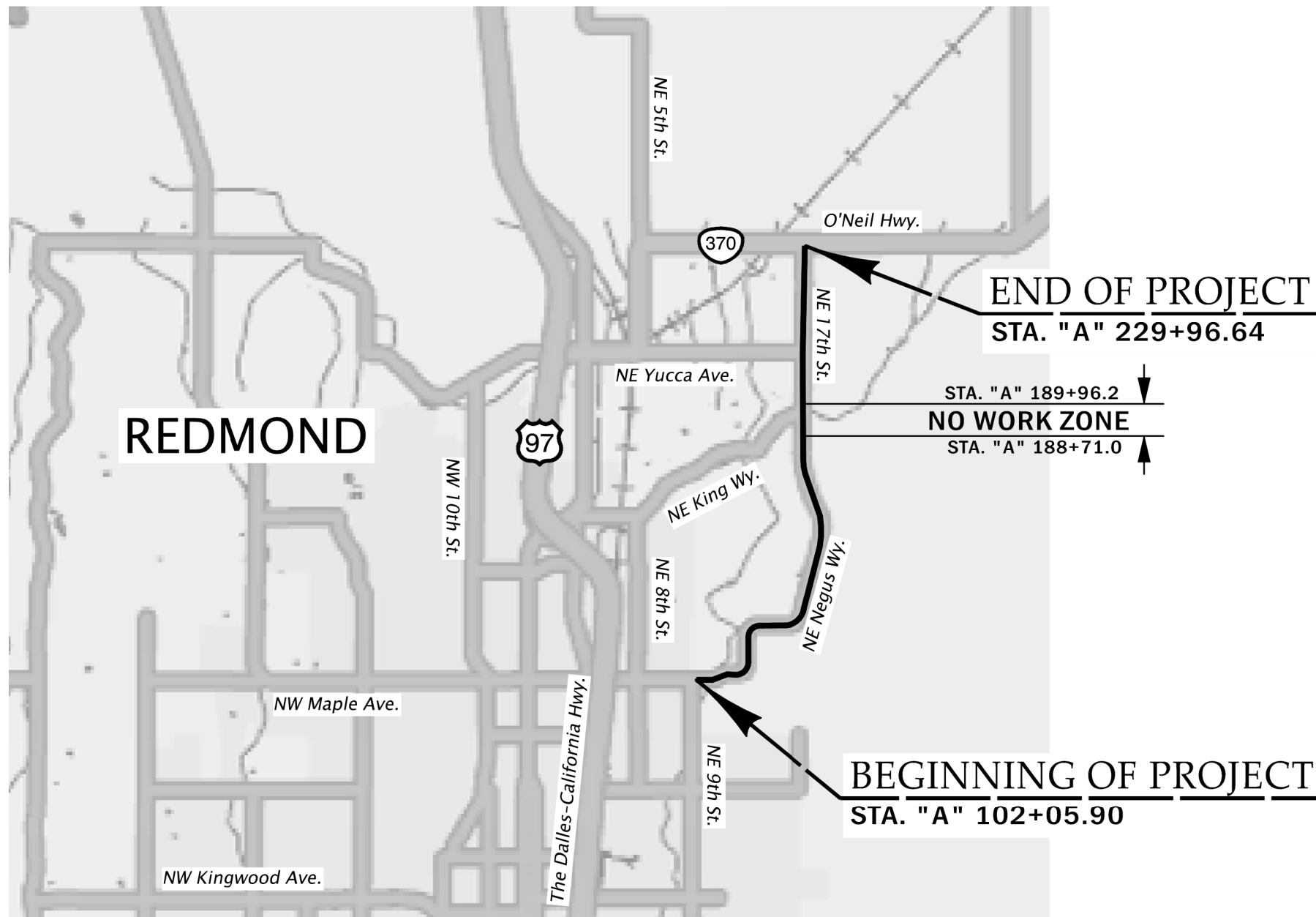
## NE NEGUS WAY & NE 17TH ST. IMPROVEMENT PROJECT

DESCHUTES COUNTY  
March 2021



Overall Length Of Project - 2.43 Miles

**ATTENTION:**  
Oregon Law Requires You To Follow Rules Adopted By The Oregon Utility Notification Center. Those Rules Are Set Forth In OAR 952-001-0010 Through OAR 952-001-0090. You May Obtain Copies Of The Rules By Calling The Center. (Note: The Telephone Number For The Oregon Utility Center Is (503) 232-1987.)



T. 14 S., R. 13 E., W.M.  
T. 15 S., R. 13 E., W.M.



ROAD DEPARTMENT

<p>COUNTY COMMISSION</p> <p>Patti Adair Anthony DeBone Phil Henderson Chris Doty</p> <p>COMMISSIONER COMMISSIONER COMMISSIONER DIRECTOR, ROADS DEPARTMENT</p>	
<p>PLANS PREPARED FOR DESCHUTES COUNTY ROAD DEPARTMENT</p> <p> DAVID EVANS AND ASSOCIATES, INC. 530 Center St. NE Suite 605 Salem Oregon 97301 Ph: 503.361.8635</p>	
<p>These plans were developed using AASHTO design standards. Exceptions to these standards, if any, have been submitted and approved by the Deschutes County Road Department Director or their delegated authority.</p>	
<p>PLANS PREPARED FOR DESCHUTES COUNTY ROAD DEPARTMENT</p> <p>Shon K. Heern 2021.04.06 12:10:36-07'00"</p> <p>Signature &amp; date</p> <p>Shon Herrn, P.E. - Project Manager</p> <p>Print name and title</p>	
<p>NE NEGUS WAY &amp; NE 17TH ST. IMPROVEMENT PROJECT</p>	
<p>SHEET NO. A01</p>	

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BB01 thru BB04	Details
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TRAFFIC CONTROL	
EA01 thru EA03	Traffic Control Details
EB01	Traffic Staging Plan
SIGNS & PERMANENT PAVEMENT MARKINGS	
LA01	Signing & Striping Legend
LB01 thru LB05	Signing & Striping Plan
LC01	Sign Details
LD01 thru LD03	Sign & Post Data Table

Standard Drg. Nos.

- RD100 -Mailbox Support
- RD101 -Mailbox Installation
- RD300 -Trench Backfill, Bedding, Pipe Zone and Multiple Installations
- RD316 -Sloped Ends for Metal Pipe
- RD380 -Fill Height Tables for Aluminum & Steel Corrugated Pipe
- RD615 -Asphalt Concrete Pavement (ACP) Details
- RD715 -Approaches and Non-Sidewalk Driveways
- RD810 -Barbed and Woven Wire Fences
- RD820 -Fence Gates
- RD1005 -Check Dams Type 1, 3 and 4
- RD1030 -Sediment Barrier Type 2, 3 and 4
- TM200 -Sign Installation Details
- TM201 -Miscellaneous Sign Placement Details
- TM223 -Conventional Roads Directional Sign Layout Street Name Signs

- TM500 -Pavement Marking Standard Detail Blocks
- TM530 -Intersection Pavement Markings (Crosswalk, Stop Bar, Bike Lane Stencil)
- TM560 -Alignment Layout: General
- TM561 -Alignment Layout: Left Turn Lane, Centerline & Medians

- TM671 -3-Second Gust Wind Speed Map
- TM676 -Sign Attachments
- TM681 -Perforated Steel Square Tube (PSST) Sign Support Installation
- TM688 -Perforated Steel Square Tube (PSST) Slip Base Foundation
- TM689 -Temporary PSST Vane Anchor Installation

- TM800 -Tables, Abrupt Edge and PCMS Details
- TM810 -Temporary Pavement Markings
- TM820 -Temporary Barricades
- TM821 -Temporary Sign Supports
- TM822 -Temporary Sign Supports
- TM840 -Closure Details
- TM841 -Intersection Work Zone Details
- TM850 -2-Lane, 2-Way Roadways

**ABBREVIATIONS**

ACP	Asphalt concrete pavement
Approx.	Approximate
Conc.	Concrete
Conn.	Connection
Const.	Construct
CPPR	Cold plane pavement removal
CY	Cubic yards
Dia.	Diameter
Dwg.	Drawing
Dwy.	Driveway
E	Exposure (curb)
El.	Elevation
Emb.	Embankment fill
Ease	Easement
Exc.	Excavation
Extg.	Existing
FDC	Full Depth Construction
FDR	Full Depth Reclamation
FL	Flow line
Horiz.	Horizontal
Inst.	Install
LF	Linear feet
Lt. / Rt.	Left / Right
Max.	Maximum
Min.	Minimum
No. / Nos.	Number(s)
Nom.	Nominal
OD	Outside diameter
PC	Point from tangent to circular curve
PCC	Portland Cement Concrete
Perf.	Perforated
Perp.	Perpendicular
POC	Point on horizontal curve
POT	Point on tangent
Prop.	Proposed
PSST	Perforated Steel Square Tube
Pvmt.	Pavement
Ref.	Reference
R/W	Right of Way
Sl.	Slope
Sch.	Schedule
SF	Square feet
Shldr.	Shoulder
Sht.	Sheet
SSC	Stainless steel clamp
Sta.	Station
Std.	Standard
TCD	Traffic Control Devices
TCM	Traffic Control Measures
TCP	Traffic Control Plan
Thkn.	Thickness
TSS	Temporary sign support
Typ.	Typical
Var.	Varies
Vert.	Vertical

SURVEY CONTROL TABLE				
PT. #	NORTHING	EASTING	ELEV.	DESCRIPTION
3	470669.5	3332482.28	2995.86	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
4	470673.2	3333153.65	2997.53	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
5	470907.73	3333455.58	2999.94	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
6	470857.91	3333923.85	3005.21	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
7	470947.39	3334508.93	3010.51	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
8	472072.21	3333920.1	2997.95	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
9	471985.17	3334618.31	3003.45	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
10	472019.67	3335223.32	3001.84	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
11	472924.62	3335494.64	2983.33	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
12	473666.27	3335736.37	3003.41	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
13	474119.78	3335837.32	2986	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
14	474940.08	3335712.7	2986.07	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
15	475388.99	3335380.87	2990.19	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
16	475928.86	3335330.28	2982.49	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
17	476262.14	3335248.75	2988.26	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
18	476640.41	3335299.61	2986.26	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
19	477135.58	3335268.99	2971.44	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
20	477951.4	3335287.74	2962.96	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
21	478598.95	3335164.34	2947.25	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
22	479108.08	3335276.93	2950.76	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
23	479955.03	3335404.67	2946.6	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
24	480612.45	3335348.65	2950.08	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
25	481298.35	3335292.12	2947.66	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
26	481273.96	3334991.54	2946.75	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"
27	481283.98	3335651.09	2951.29	5/8" X 24" REBAR WITH ORANGE PLASTIC CAP "HWA CONTROL"

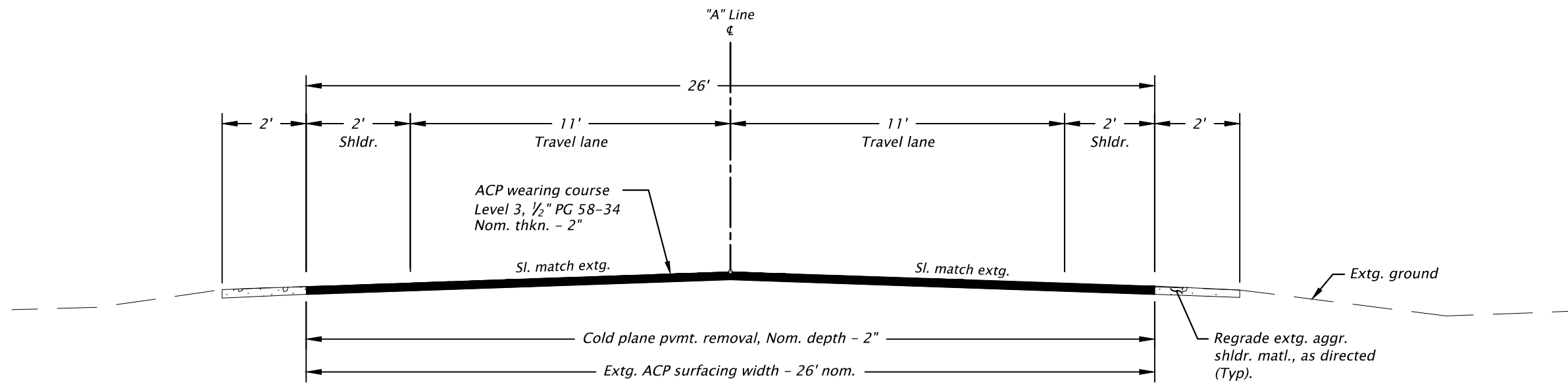


ROAD DEPARTMENT

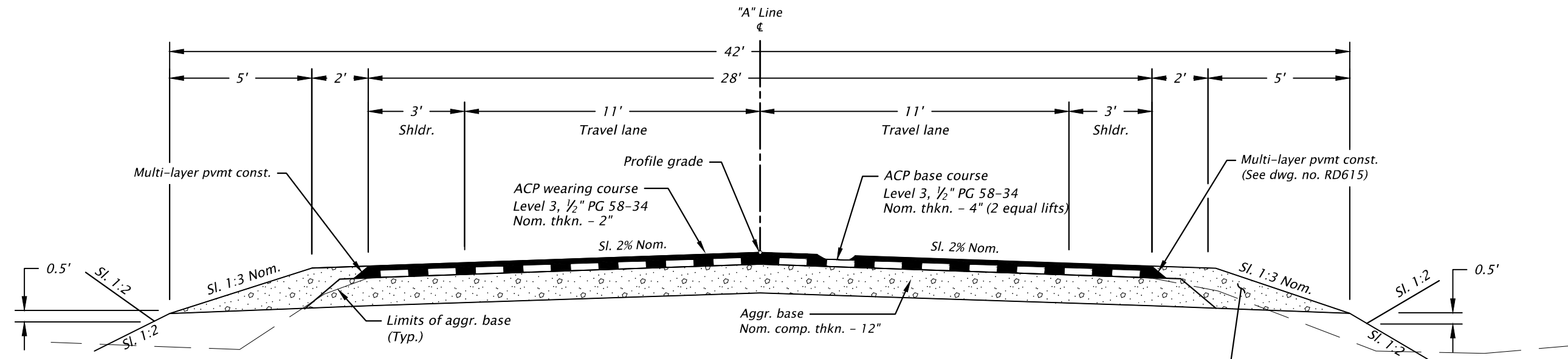
NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT

Standard Drawings located on the web at:  
[http://www.oregon.gov/ODOT/HWY/ENGSERVICES/pages/standard\\_drawings\\_home.aspx](http://www.oregon.gov/ODOT/HWY/ENGSERVICES/pages/standard_drawings_home.aspx)

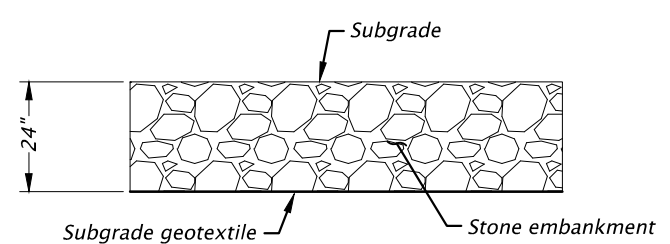
SHEET NO.  
A02



STA. "A" 102+05.9 TO "A" 112+62.5



STA. "A" 112+62.5 To "A" 116+66.0  
 "A" 187+91.6 "A" 188+71.0  
 "A" 189+15.7 "A" 191+30.0  
 "A" 195+95.2 "A" 202+11.2 (GRADE CORRECTION)  
 "A" 227+50.0 "A" 229+83.0



**SUBGRADE STABILIZATION**  
 use outside of FDR section

**NOTES:**

1. Side-slopes are shown as vert. to horiz.
2. Const. subgrade stabilization as directed. See "SUBGRADE STABILIZATION" detail, this sheet.
3. Street connections, approaches, superelevations & other unique features are not shown in the typical sections. Where they occur, the feature supercedes the typical section.

REGISTERED PROFESSIONAL ENGINEER  
 91702PE  
 DIGITALLY SIGNED 2021.04.16 07:31:51-07'00"  
 OREGON  
 JANUARY 10, 2017  
 TAJSEI IMAMURA  
 RENEWS: 06-30-2021

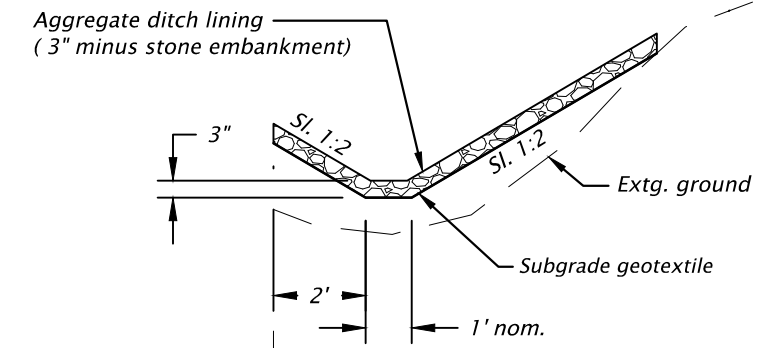
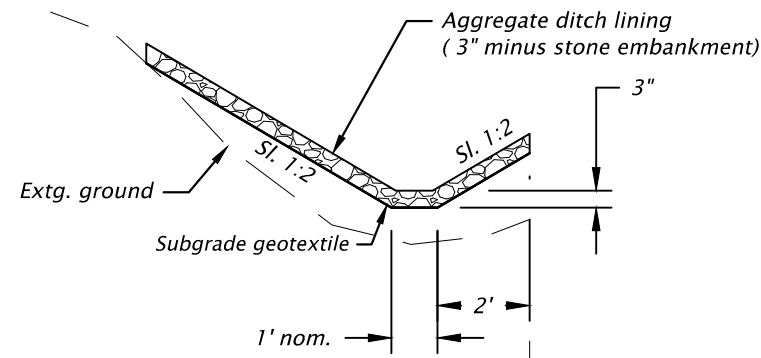
DAVID EVANS AND ASSOCIATES INC.  
 530 Center Street N.E., Suite 605  
 Salem Oregon 97301  
 Phone: 503.361.8635

CLATSOP COUNTY ROAD DEPARTMENT

**NE NEGUS WAY & NE 17TH ST. IMPROVEMENT PROJECT**

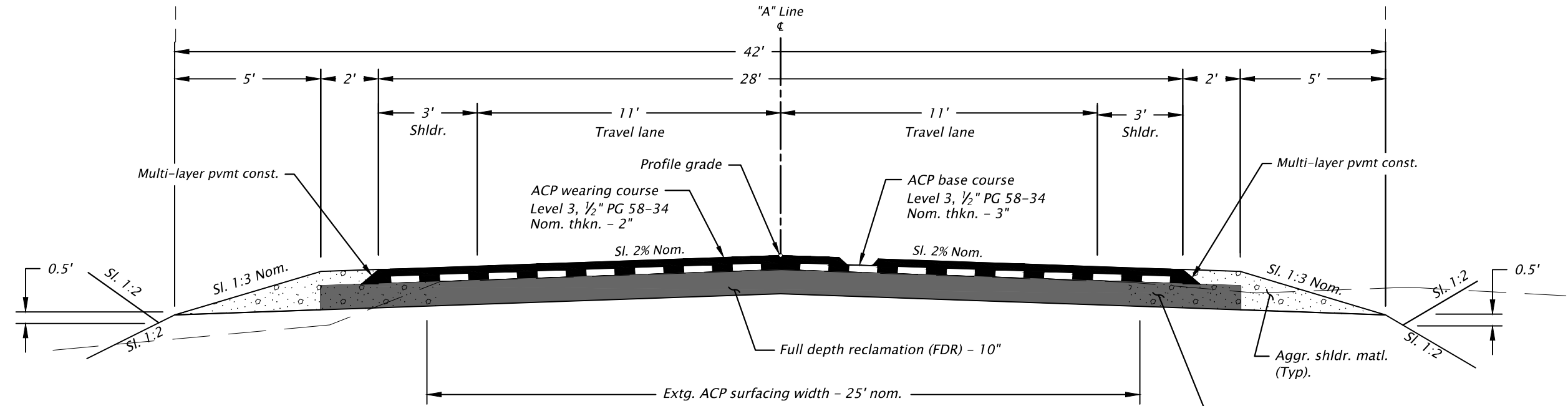
Designer: Tai Imamura Reviewer: Shon Heern  
 Drafter: Ryan Berger Checker: Terry Wheeler

**TYPICAL SECTIONS** SHEET NO. BAO1



"A" 203+98.0 To "A" 223+50.0

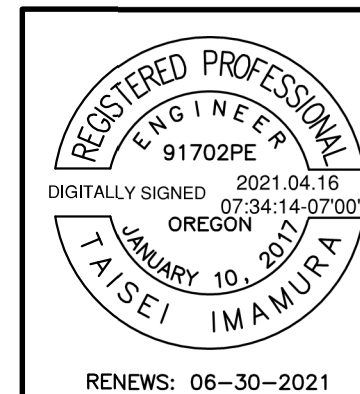
"A" 201+84.0 To "A" 223+07.0



STA. "A" 116+66.0 TO "A" 187+91.6  
 "A" 191+30.0 "A" 195+95.2  
 "A" 202+11.2 "A" 227+50.0

NOTES:

1. Side-slopes are shown as vert. to horiz.
2. Grade FDR base and add aggr. base as needed to achieve cross slope prior to cement treating base.
3. Street connections, approaches, superelevations & other unique features are not shown in the typical sections. Where they occur, the feature supercedes the typical section.



RENEWS: 06-30-2021



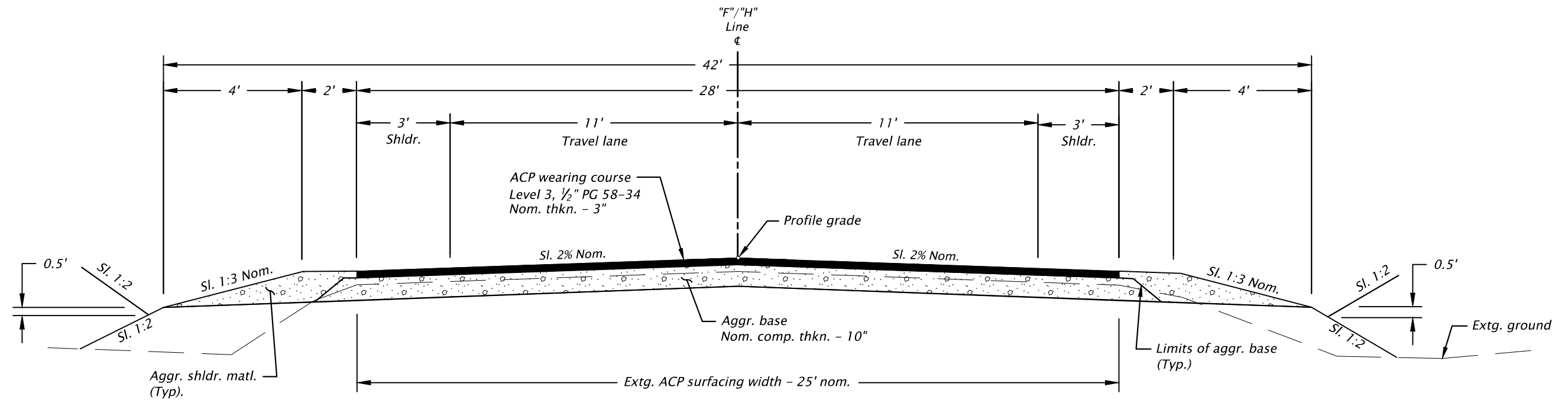
NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT

Designer: Tai Imamura  
 Drafter: Ryan Berger

Reviewer: Shon Heern  
 Checker: Terry Wheeler

TYPICAL SECTIONS

SHEET NO.  
BA02



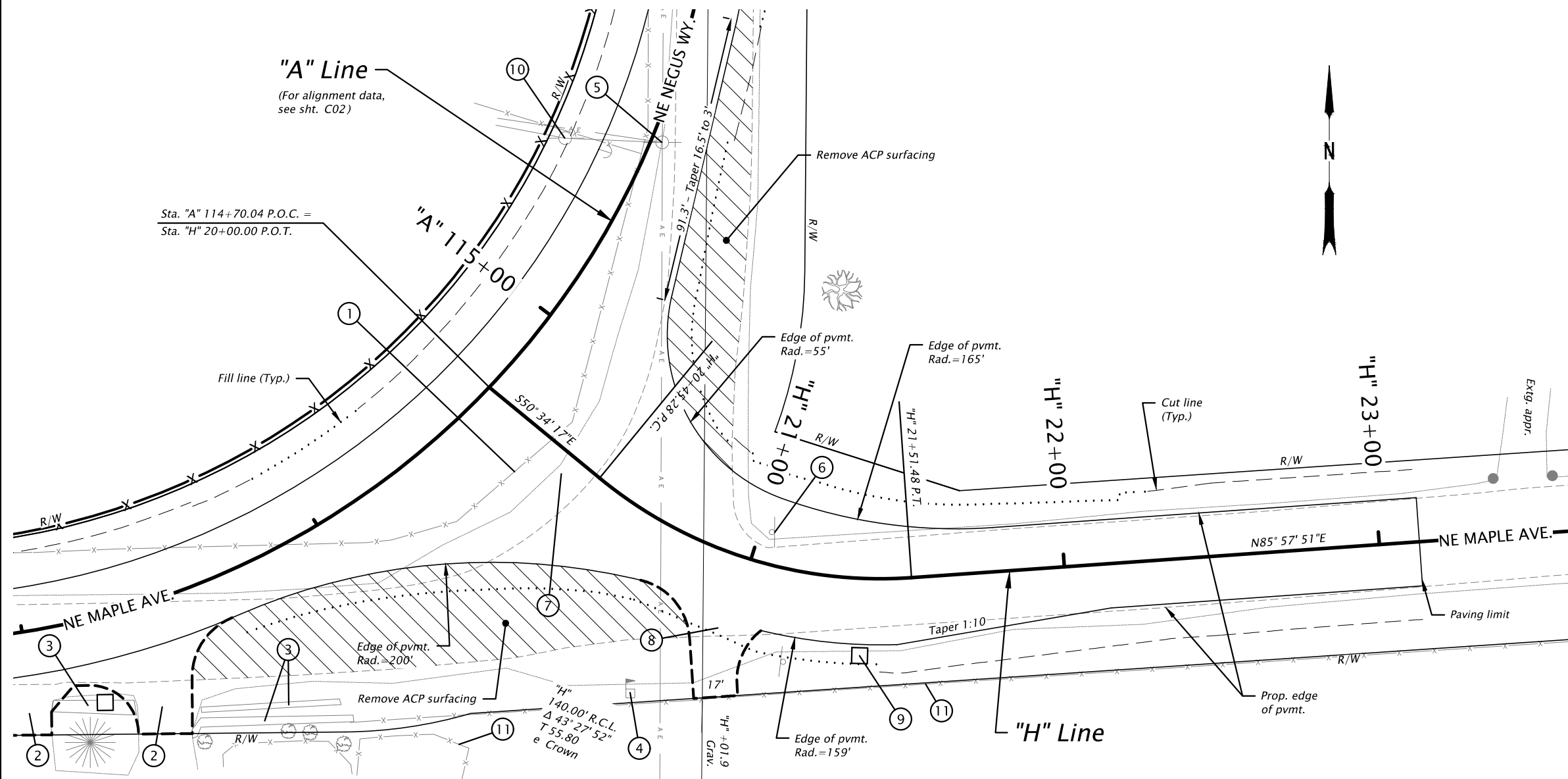
STA. "F" 20+00.0 TO "F" 22+42.4  
 "H" 20+00.0 "H" 23+12.7

NOTES:

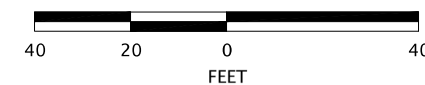
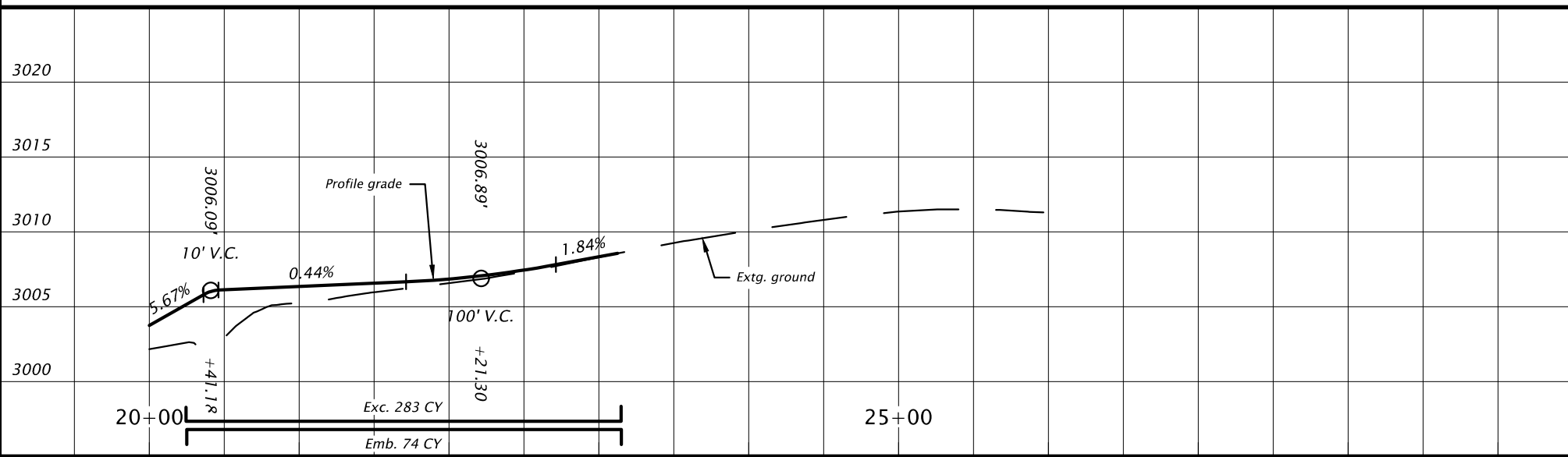
1. Side-slopes are shown as vert. to horiz.
2. Const. subgrade stabilization as directed. See "SUBGRADE STABILIZATION" detail on sht. BA01.
3. Street connections, approaches, superelevations & other unique features are not shown in the typical sections. Where they occur, the feature supercedes the typical section.

	 <small>530 Center Street N.E., Suite 605        Salem Oregon 97301        Phone: 503.361.8635</small>	
	<b>NE NEGUS WAY &amp; NE 17TH ST.        IMPROVEMENT PROJECT</b>	
<small>Designer: Tai Imamura        Drafter: Ryan Berger</small>	<small>Reviewer: Shon Heern        Checker: Terry Wheeler</small>	<small>SHEET NO.        BA03</small>
<b>TYPICAL SECTIONS</b>		<small>RENEWS: 06-30-2021</small>

# NE NEGUS WAY - NE MAPLE AVENUE INTERSECTION



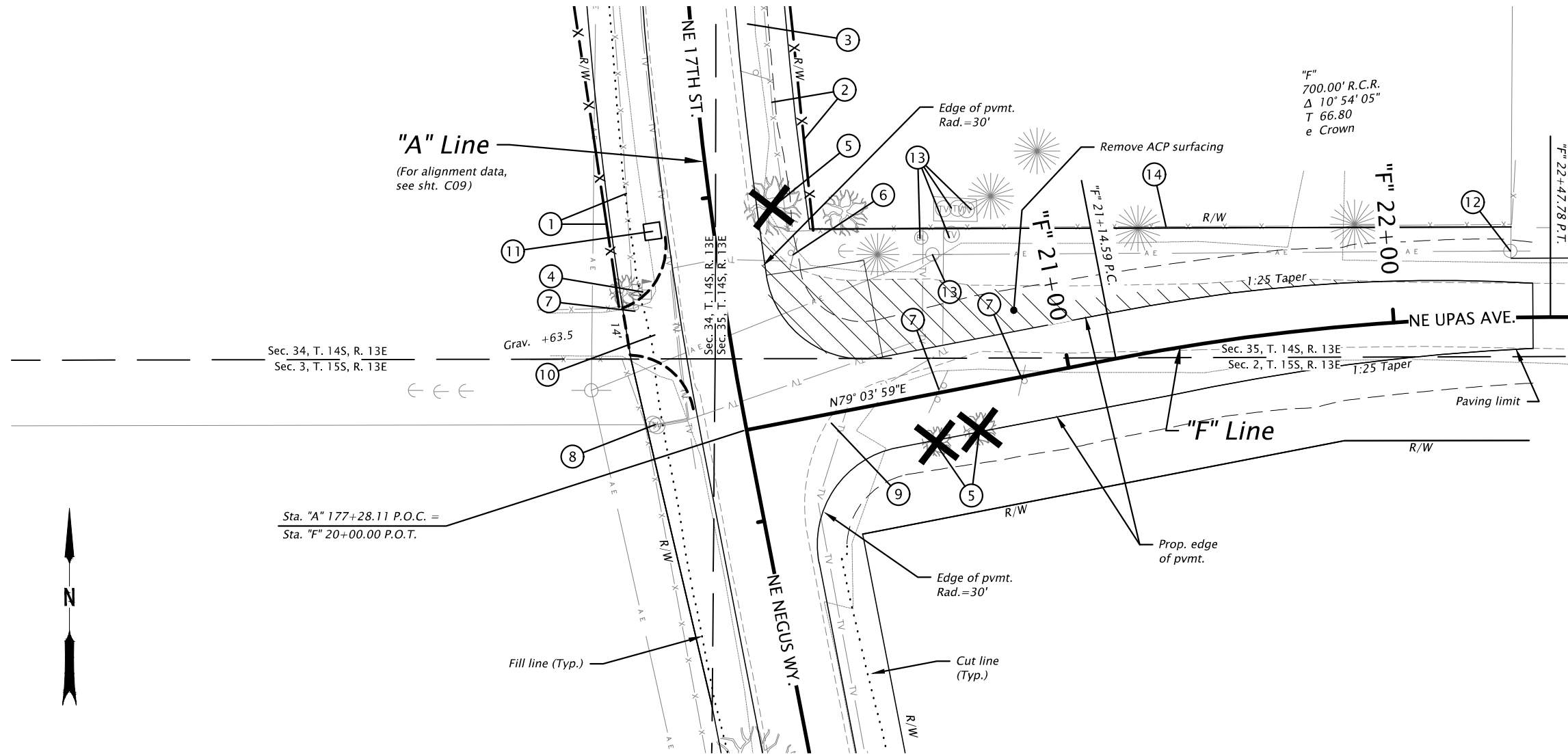
- ① See sht. C02, note 2  
Remove extg. fence  
Const. Type 1 fence
- ② See sht. C02, note 3  
Const. Type A-1 appr.
- ③ See sht. C02, note 7  
Maintain & protect extg. rock landscaping
- ④ Remove extg. mailbox
- ⑤ Relocate extg. utility pole  
(By others)
- ⑥ Remove & reinstall extg. sign  
(See signing plans)
- ⑦ Const. street conn.
- ⑧ Const. Type A-1 appr.  
(See dwg. no. RD715)
- ⑨ Inst. single post mailbox support  
Const. mailbox service turnout  
(Location as directed)  
(See dwg. nos. RD100 & RD101)
- ⑩ Extg. utility pole
- ⑪ Maintain & protect extg. fences



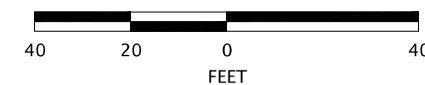
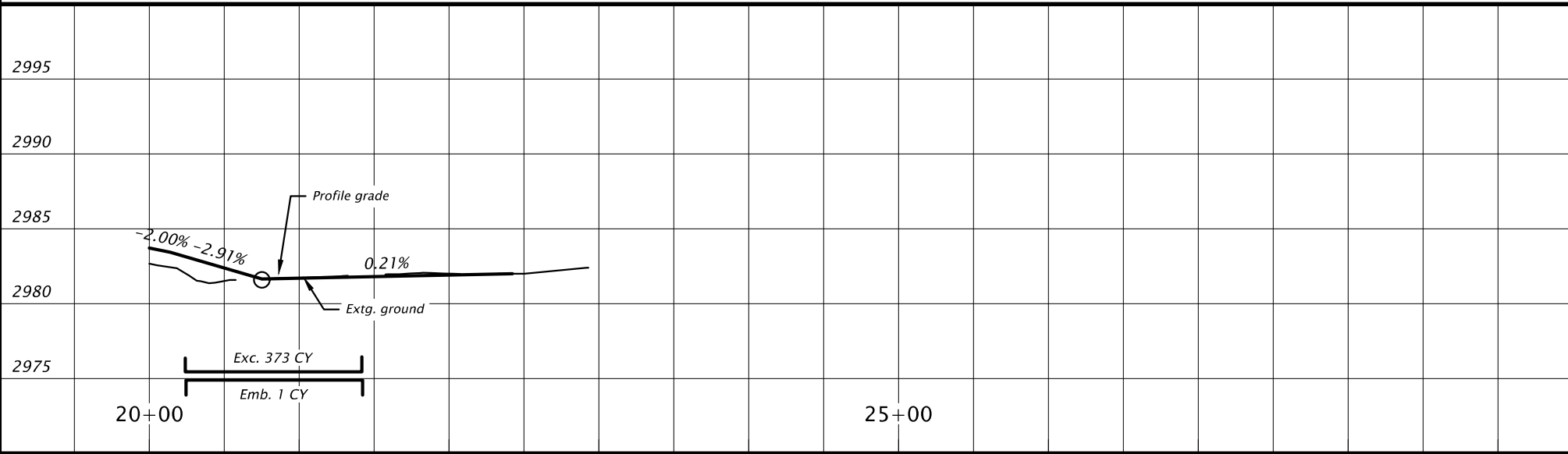
RENEWS: 06-30-2021

 <b>DAVID EVANS AND ASSOCIATES INC.</b> <small>530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635</small>	 <b>ROAD DEPARTMENT</b>
<b>NE NEGUS WAY &amp; NE 17TH ST. IMPROVEMENT PROJECT</b>	
<small>Designer: Tai Imamura Drafter: Ryan Berger</small>	<small>Reviewer: Shon Heern Checker: Terry Wheeler</small>
<b>DETAILS</b>	
<small>SHEET NO. BB01</small>	

# NE NEGUS WAY – NE UPAS AVENUE INTERSECTION



- ① See sht. C09, note 6  
Remove extg. fence  
Const. Type 1 fence
- ② See sht. C09, note 7  
Remove extg. fence  
Const. Type 1 fence
- ③ See sht. C09, note 11  
Inst. single mailbox support
- ④ Remove extg. mailbox
- ⑤ Remove extg. trees - 3
- ⑥ Remove & reinstall extg. sign  
(See signing plans)
- ⑦ Relocate extg. private signs  
(By others)
- ⑧ Relocate extg. comm. riser  
(By others)
- ⑨ Const. street conn.
- ⑩ Const. Type A-1 appr.
- ⑪ Inst. single post mailbox support
- ⑫ Extg. utility poles - 2
- ⑬ Maintain & protect extg. elec. cabinets
- ⑭ Maintain & protect extg. fence

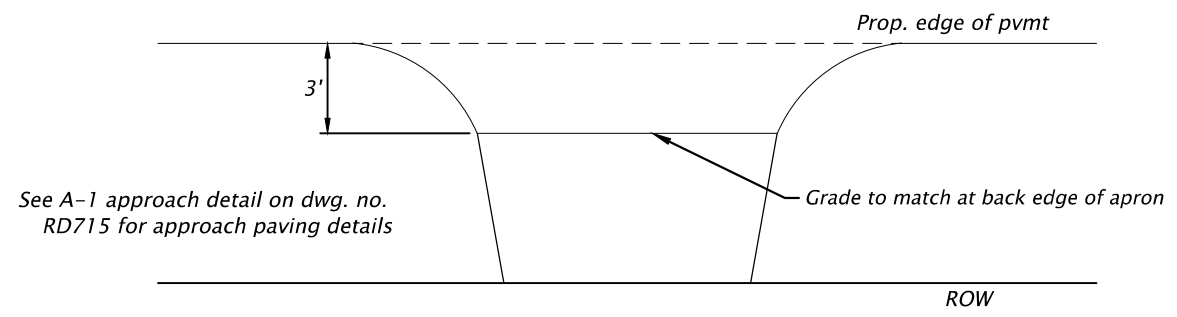


**NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT**

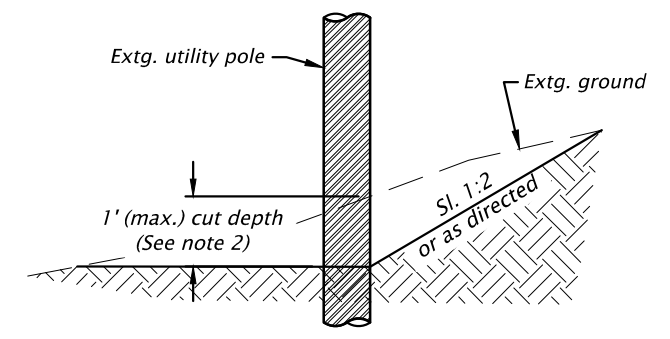
Designer: Tai Imamura      Reviewer: Shon Heern  
 Drafter: Ryan Berger      Checker: Terry Wheeler

**DETAILS**

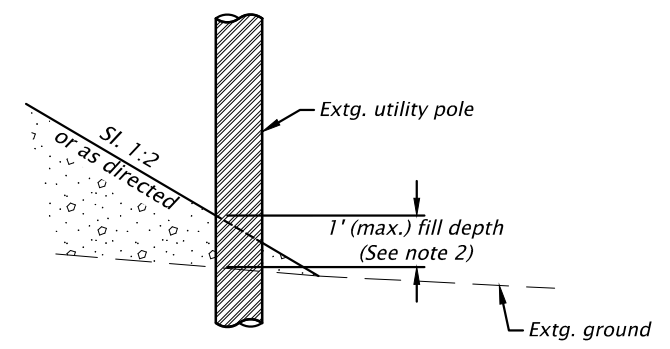
SHEET NO.  
**BBO2**



**3' APRON A-1 APPROACH**



**POLE IN CUT SLOPE**



**POLE IN FILL SLOPE**

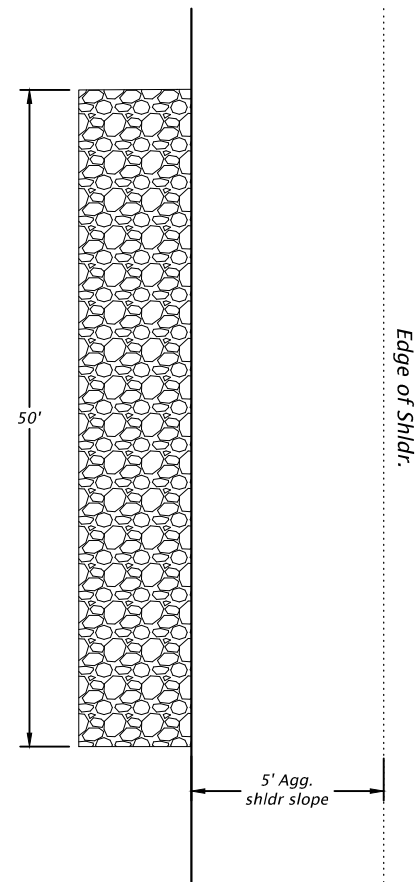
**NOTES:**

1. Detail shows proposed grading around utility poles which are not being relocated.
2. Contact Engineer if depths > 1'.

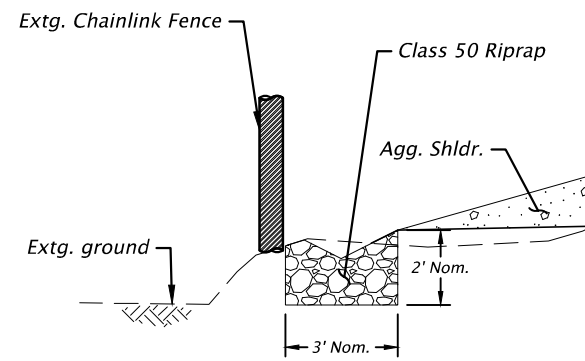
**EARTHWORK AROUND UTILITY POLES**

<p>REGISTERED PROFESSIONAL ENGINEER 91702PE DIGITALLY SIGNED 2021.04.20 15:39:04-07'00' OREGON Taisei Imamura RENEWS: 06-30-2021</p>	<p><b>DAVID EVANS AND ASSOCIATES INC.</b> 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635</p>	<p><b>ROAD DEPARTMENT</b></p>
<p><b>NE NEGUS WAY &amp; NE 17TH ST. IMPROVEMENT PROJECT</b></p>		
<p>Designer: Taisei Imamura Drafter: Ryan Berger</p>		<p>Reviewer: Shon Heern Checker: Terry Wheeler</p>
<p><b>DETAILS</b></p>		<p>SHEET NO. BB03</p>





**PLAN VIEW**



**SECTION VIEW**

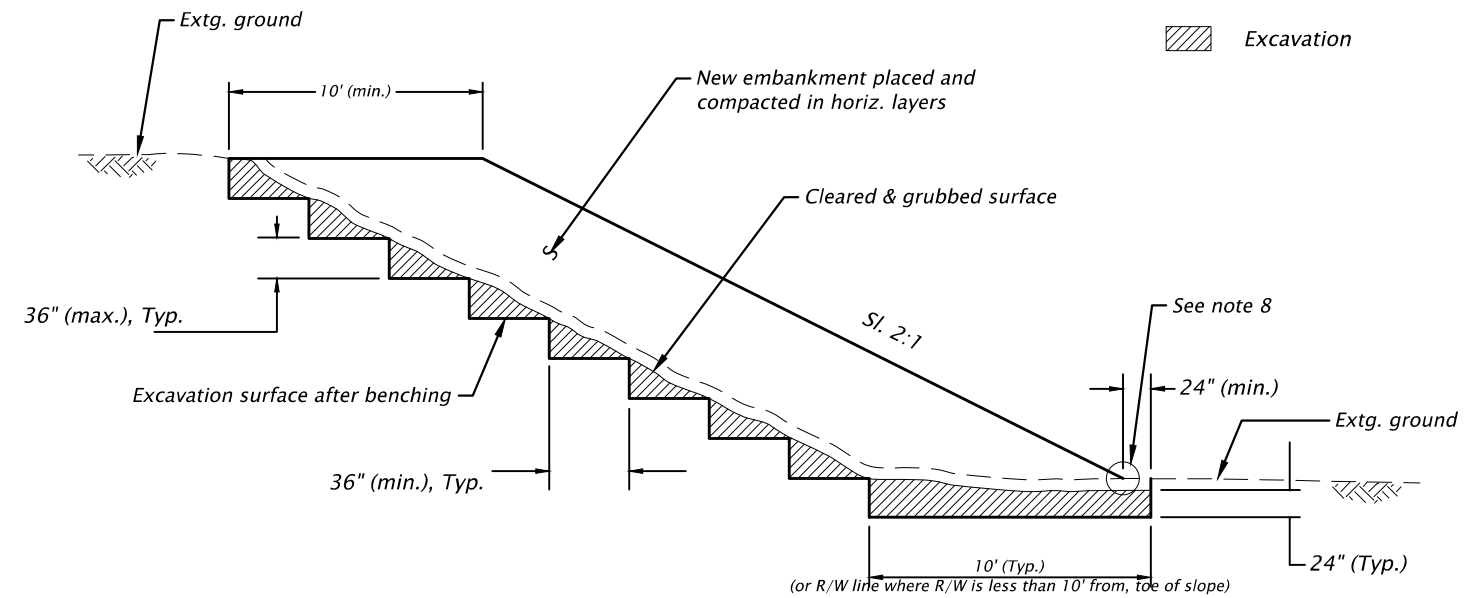
**GENERAL NOTES:**

1. Mirror section for riprap basins on the right side.
2. Protect existing chainlink fence (left side)

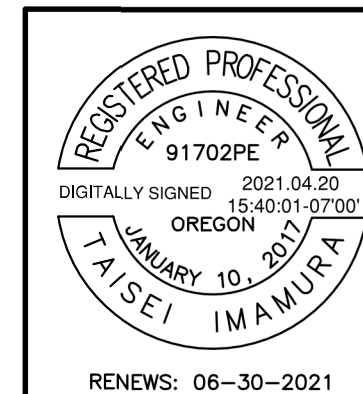
**RIPRAP BASIN**

**GENERAL NOTES:**

1. Const. benches on slopes steeper than 1:1½ (v : h) to provide positive bond with extg. ground.
2. Benching work is incidental to embankment construction.



**STANDARD EMBANKMENT CONSTRUCTION**



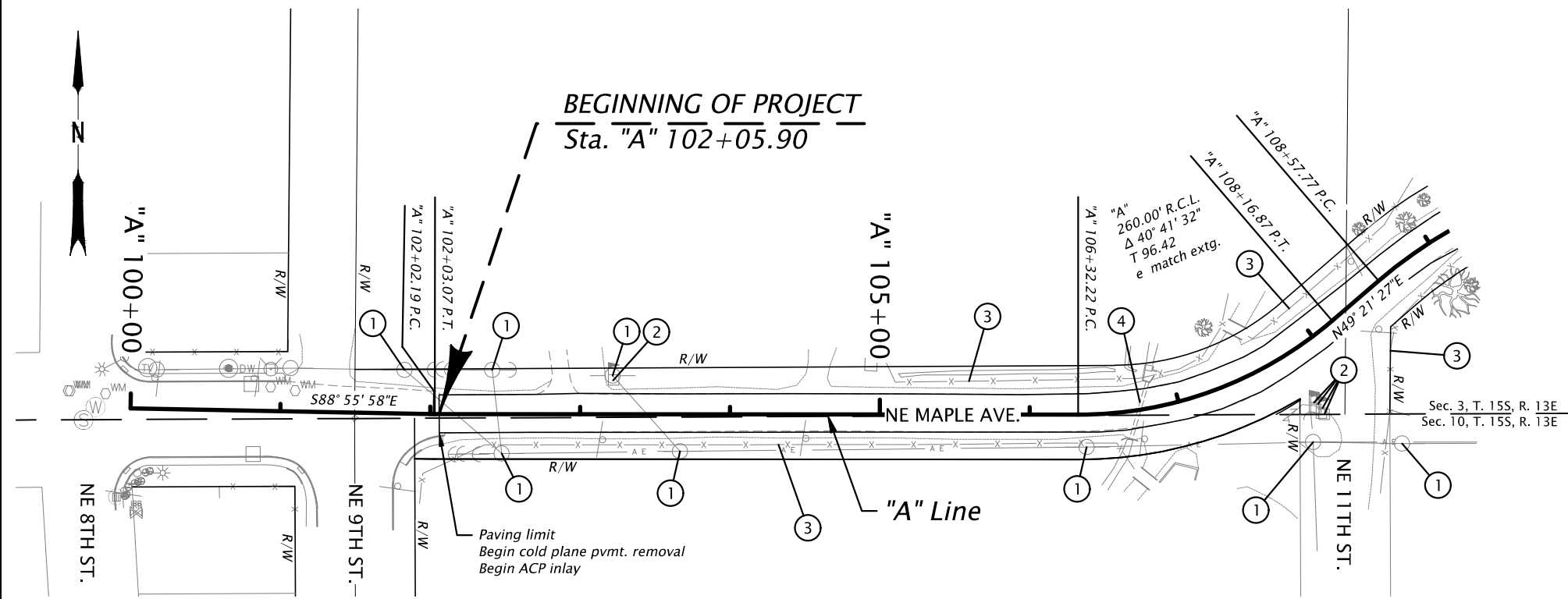
**NE NEGUS WAY & NE 17TH ST. IMPROVEMENT PROJECT**

Designer: Tai Imamura      Reviewer: Shon Heern  
 Drafter: Ryan Berger      Checker: Terry Wheeler

**DETAILS**

SHEET NO.  
BBO4

SEC. 3 & 10, T. 15S, R. 13E, W.M.



- ① Maintain & protect extg. utility poles
- ② Maintain & protect extg. mailboxes
- ③ Maintain & protect extg. fences
- ④ Maintain & protect extg. culv.

GENERAL EROSION CONTROL NOTES:

The construction, adjustment, maintenance, and upgrading of these erosion control measures is the responsibility of the contractor for the duration of the project.

Erosion control measures shown on this plan are for anticipated site conditions. Adjust or upgrade these measures for unexpected storm events to ensure that sediment and sediment-laden water does not leave the site.

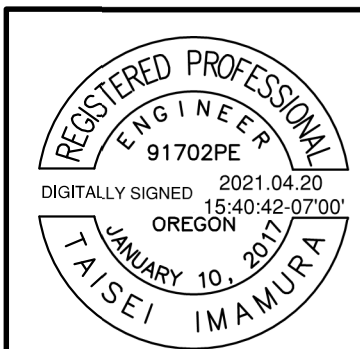
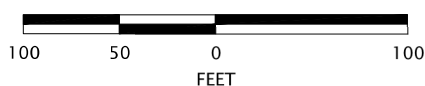
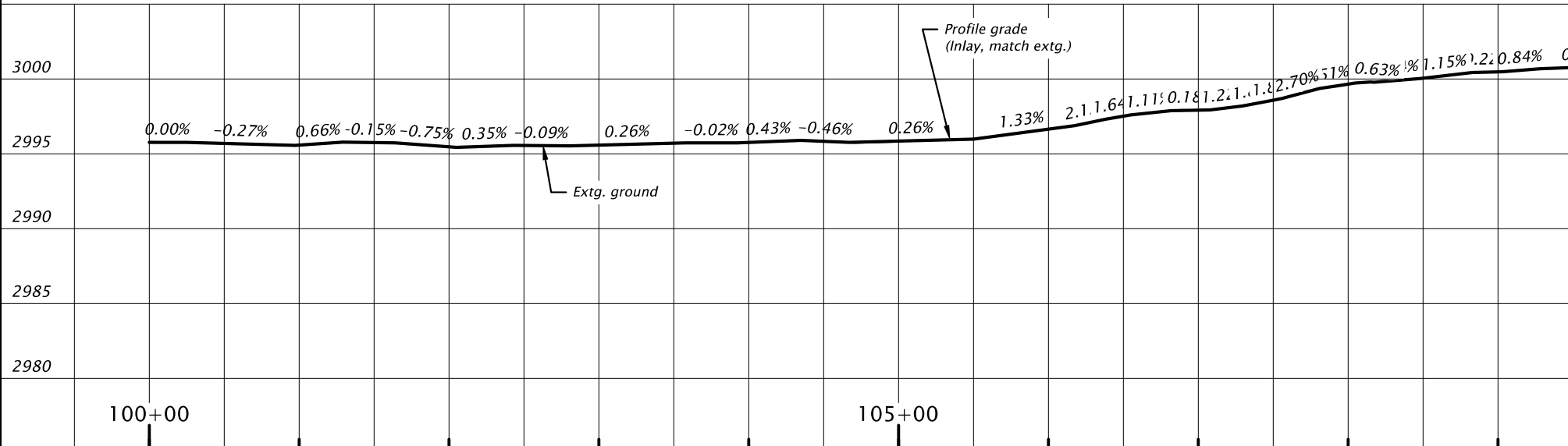
Develop a revised plan of the erosion control measures shown as required by section 00280, Oregon Standard Specifications for Construction. Implement this plan for all clearing and grading activities and in segments applicable to each staging phase. Construct in such a manner so as to ensure that sediment and sediment-laden water does not enter the roadway or drainage system, or violate applicable water standards.

Install measures within the right of way unless directed otherwise.

Install stabilized construction entrances at the beginning of construction and maintain for the duration of the project. Additional measures may be required to insure that all paved areas are kept clean.

Construct sediment fence 1.5 meters (5 Feet) downslope from the toe of fill slopes where sediment-laden water has a potential of entering waterways or leaving the R/W.

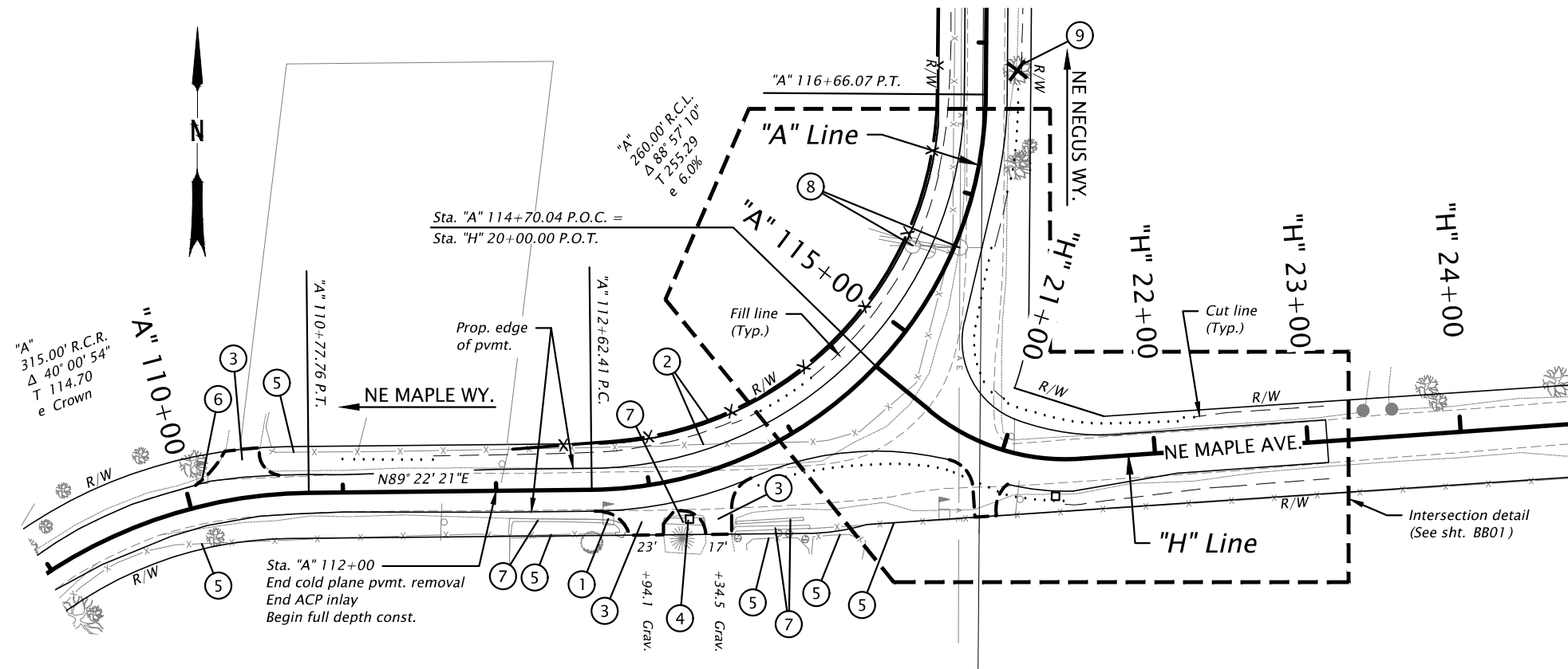
Protect all inlets during surface grinding, paving, and earthwork operations to prevent pollutants from entering storm water systems.



 DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	 ROAD DEPARTMENT

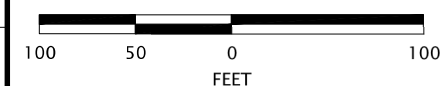
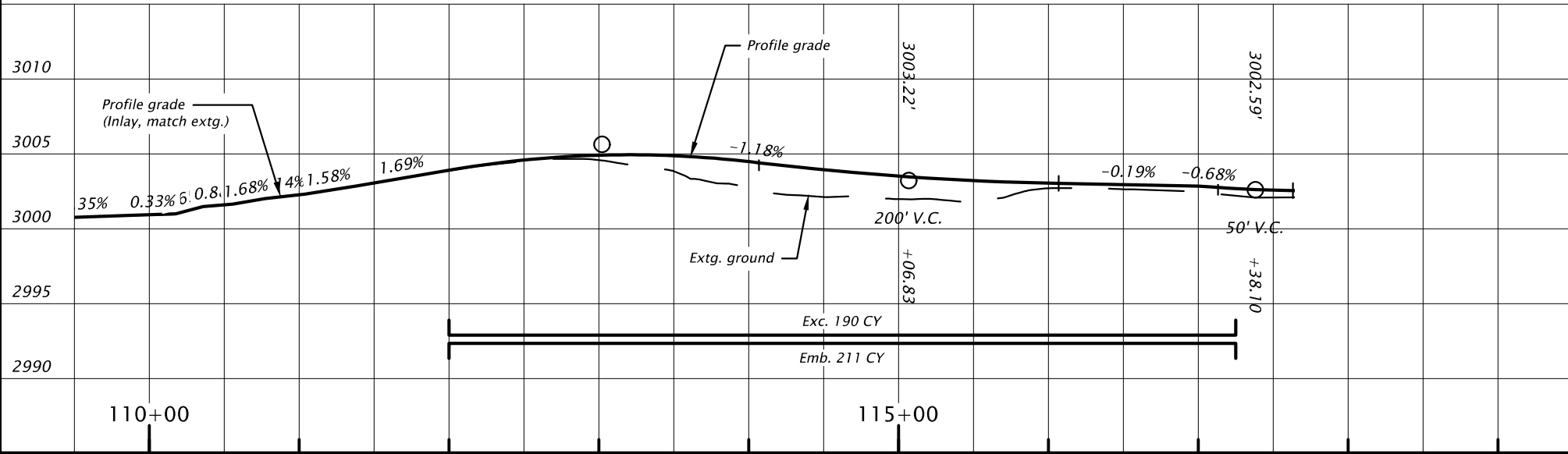
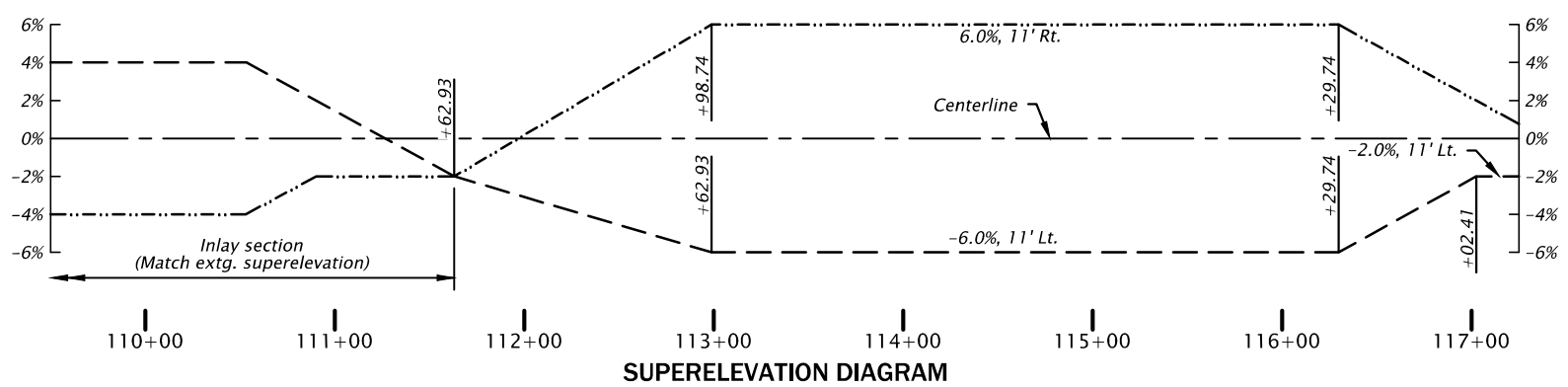
Designer: Tai Imamura	Reviewer: Shon Heern
Drafter: Ryan Berger	Checker: Terry Wheeler
<b>GENERAL CONSTRUCTION</b>	
SHEET NO. C01	

SEC. 3, T. 15S, R. 13E, W.M.



- 1 Remove extg. mailbox
- 2 Sta. "A" 112+11.0 to Sta. "A" 123+31.0, Lt. Remove extg. fence Const. Type 2 fence (See dwg. no. RD810)
- 3 Const. Type A-1 appr. - 3 (See dwg. no. RD715)
- 4 Inst. single mailbox support (See dwg. nos. RD100 & RD101)
- 5 Maintain & protect extg. fences
- 6 Maintain & protect extg. mailbox
- 7 Maintain & protect extg. rock landscaping
- 8 Relocate extg. utility poles (By others) Maintain & protect relocated utility poles (For details, see sht. BB03)
- 9 Remove extg. tree

See GENERAL EROSION CONTROL NOTES on CO1.



REGISTERED PROFESSIONAL ENGINEER  
91702PE  
DIGITALLY SIGNED 2021.04.20 15:41:28-07'00'  
OREGON  
JANUARY 10, 2017  
Taisei Imamura  
RENEWS: 06-30-2021

DAVID EVANS AND ASSOCIATES INC.  
530 Center Street N.E., Suite 605  
Salem Oregon 97301  
Phone: 503.361.8635

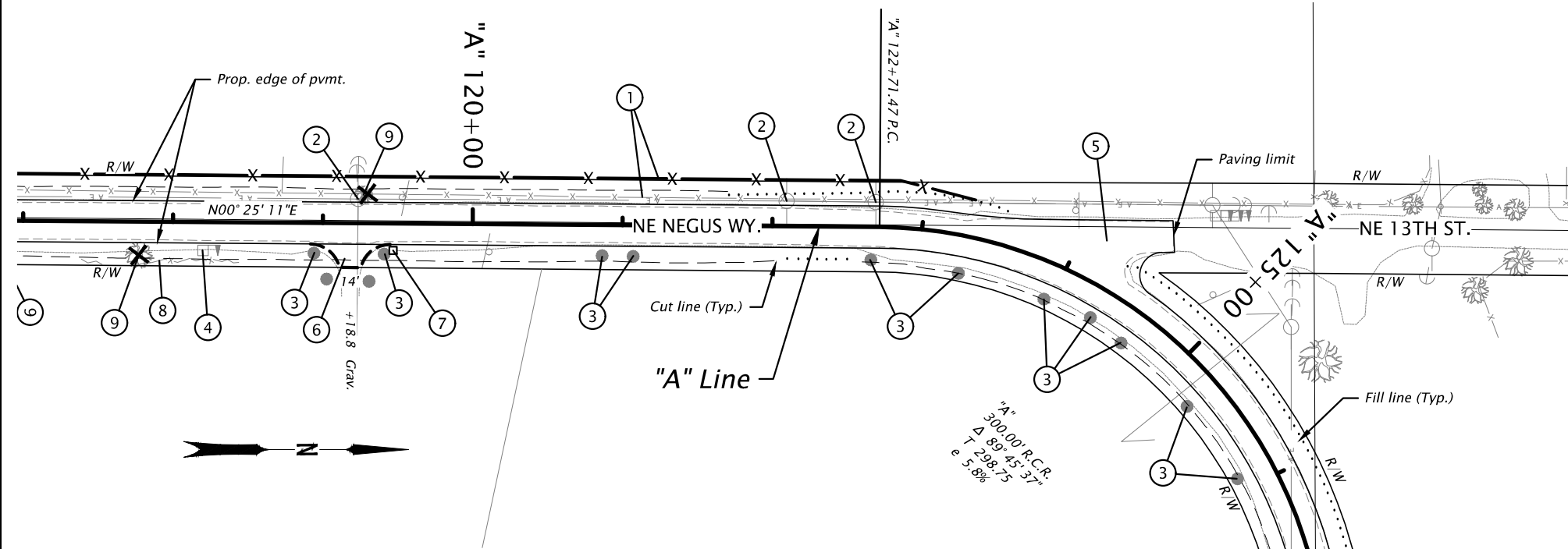
CLATSOP COUNTY ROAD DEPARTMENT

NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT

Designer: Tai Imamura Reviewer: Shon Heern  
Drafter: Ryan Berger Checker: Terry Wheeler

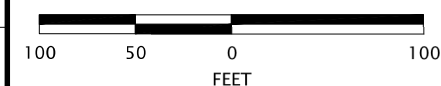
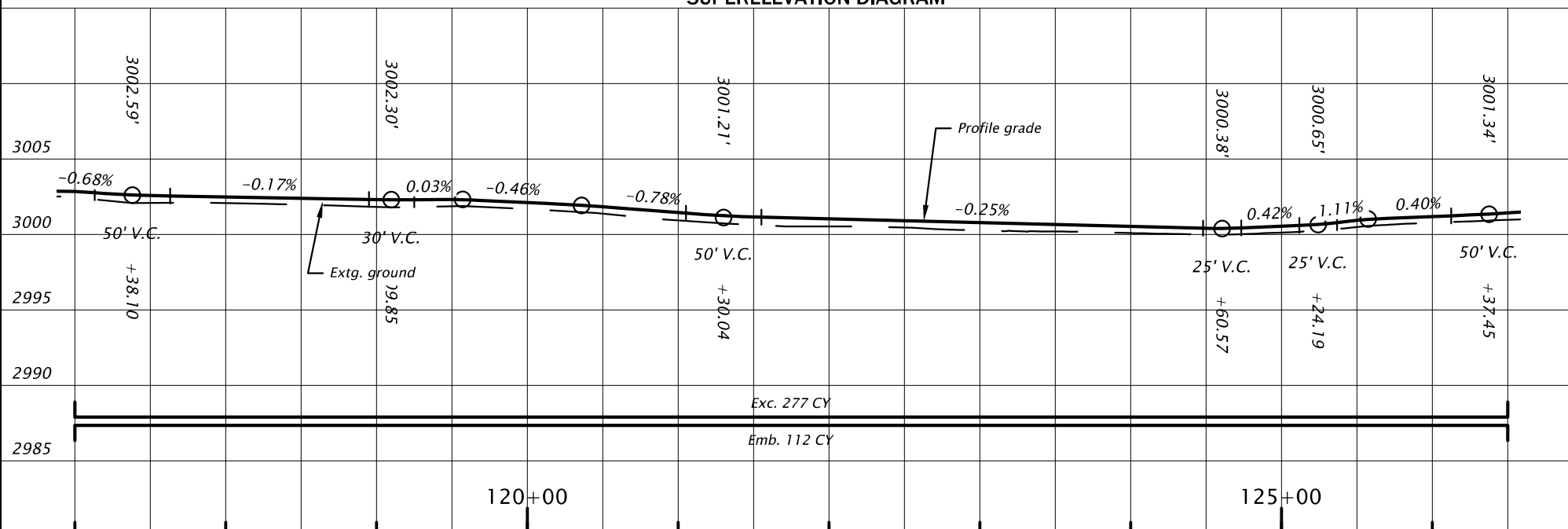
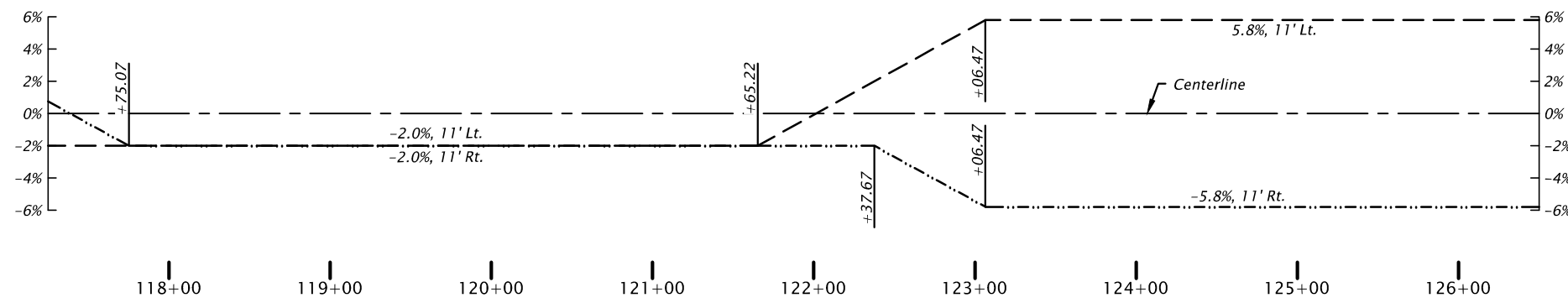
GENERAL CONSTRUCTION SHEET NO. C02

SEC. 3, T. 15S, R. 13E, W.M.



- ① See sht. C02, note 2  
Remove extg. fence  
Const. Type 2 fence
- ② Relocate extg. utility poles  
(By others)  
Maintain & protect relocated utility poles  
(For details, see sht. BB03)
- ③ Remove extg. bollards
- ④ Remove extg. mailbox support
- ⑤ Const. street conn.
- ⑥ Const. Type A-1 appr.
- ⑦ Inst. multiple mailbox support  
Const. conc. collar
- ⑧ Maintain & protect extg. wood landscape fence
- ⑨ Remove extg. tree

See GENERAL EROSION CONTROL NOTES on C01.



REGISTERED PROFESSIONAL ENGINEER  
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Taisei Imamura  
RENEWS: 06-30-2021

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Salem Oregon 97301  
Phone: 503.361.8635

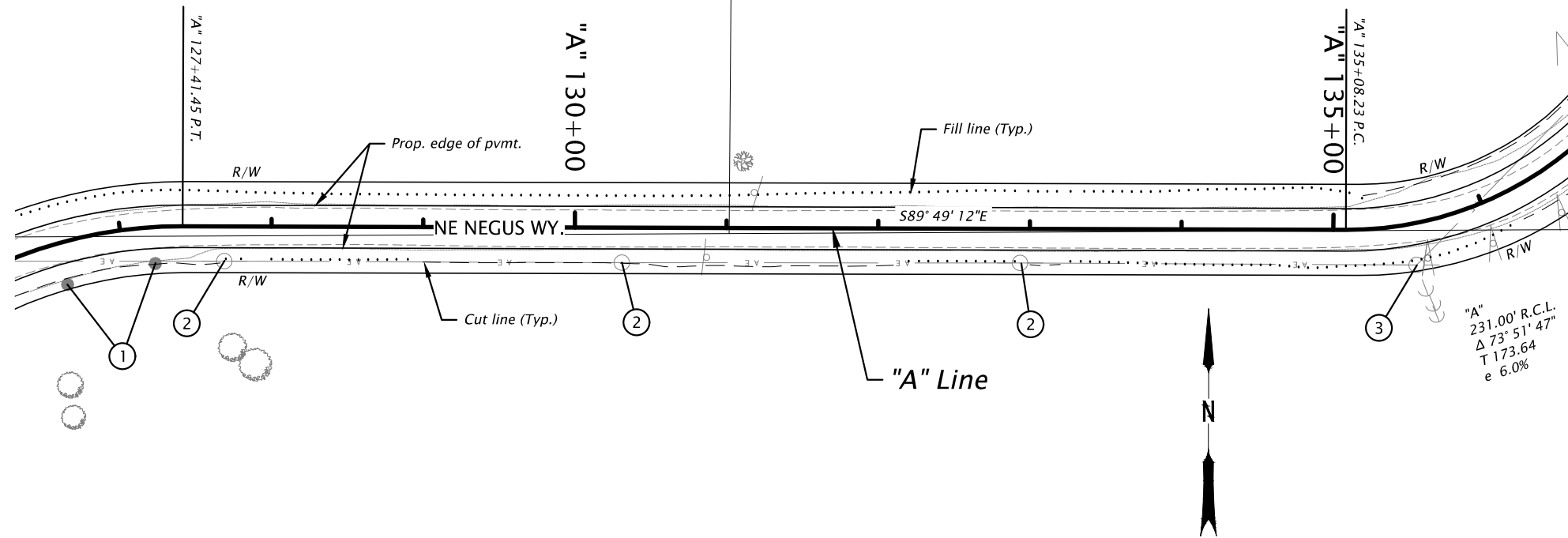
**CLATSOP COUNTY ROAD DEPARTMENT**

**NE NEGUS WAY & NE 17TH ST. IMPROVEMENT PROJECT**

Designer: Tai Imamura      Reviewer: Shon Heern  
Drafter: Ryan Berger      Checker: Terry Wheeler

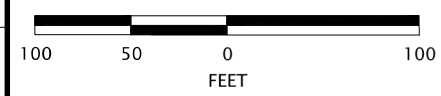
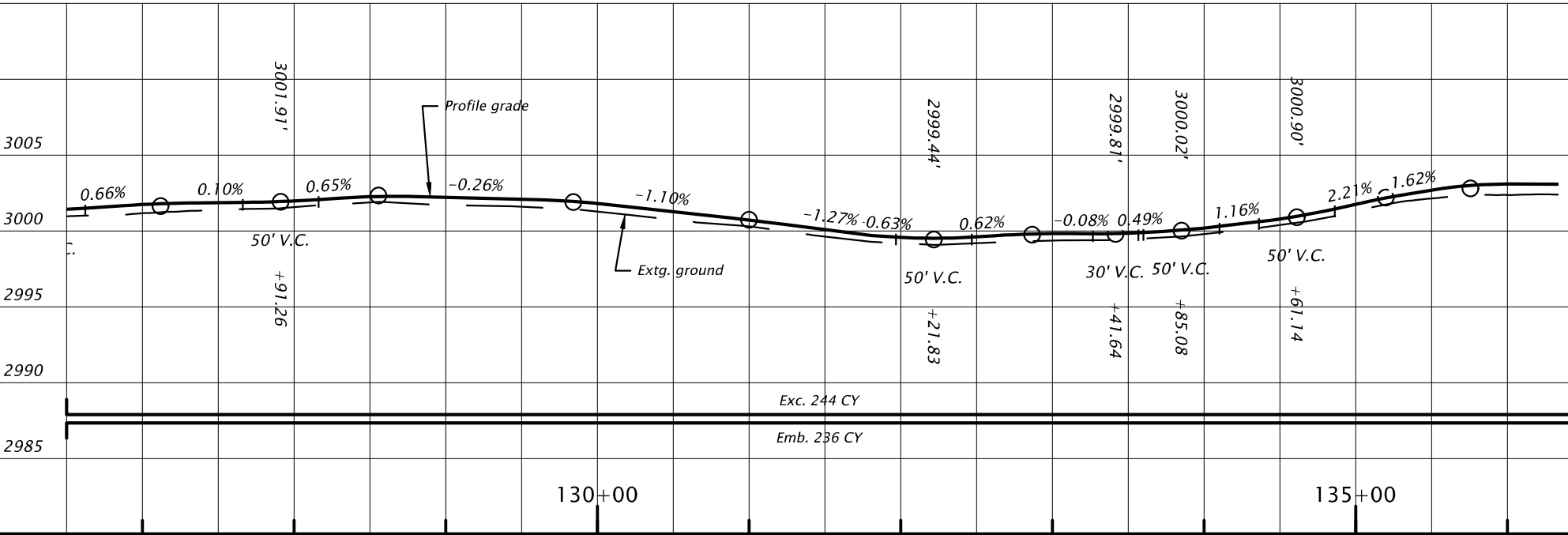
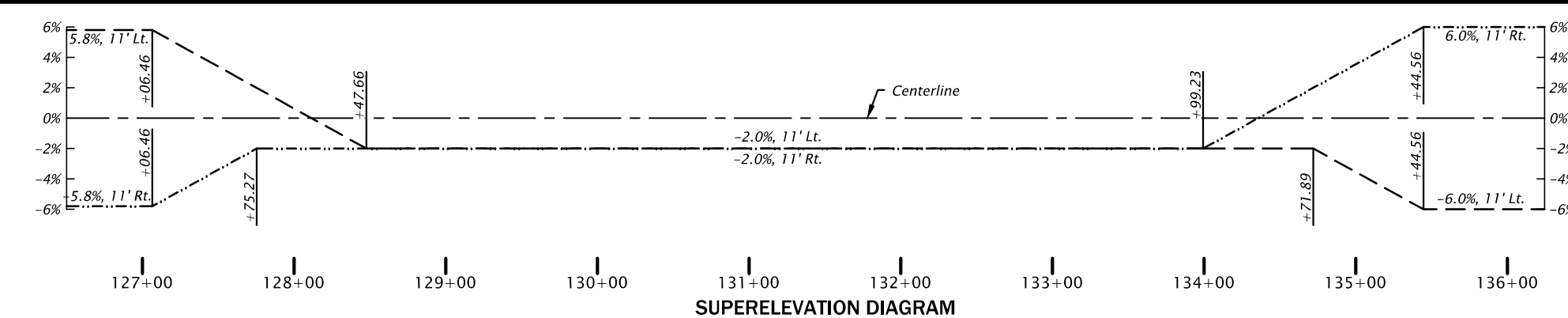
**GENERAL CONSTRUCTION**      SHEET NO. C03

SEC. 3, T. 15S, R. 13E, W.M.



- ① Remove extg. bollards
- ② Relocate extg. utility poles (By others)  
Maintain & protect relocated utility poles (For details, see sht, BB03)
- ③ Maintain & protect extg. utility pole (For details, see sht. BB03)

See GENERAL EROSION CONTROL NOTES on CO1.



REGISTERED PROFESSIONAL ENGINEER  
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OREGON  
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Taisei Imamura  
RENEWS: 06-30-2021

**DAVID EVANS AND ASSOCIATES INC.**  
530 Center Street N.E., Suite 605  
Salem Oregon 97301  
Phone: 503.361.8635

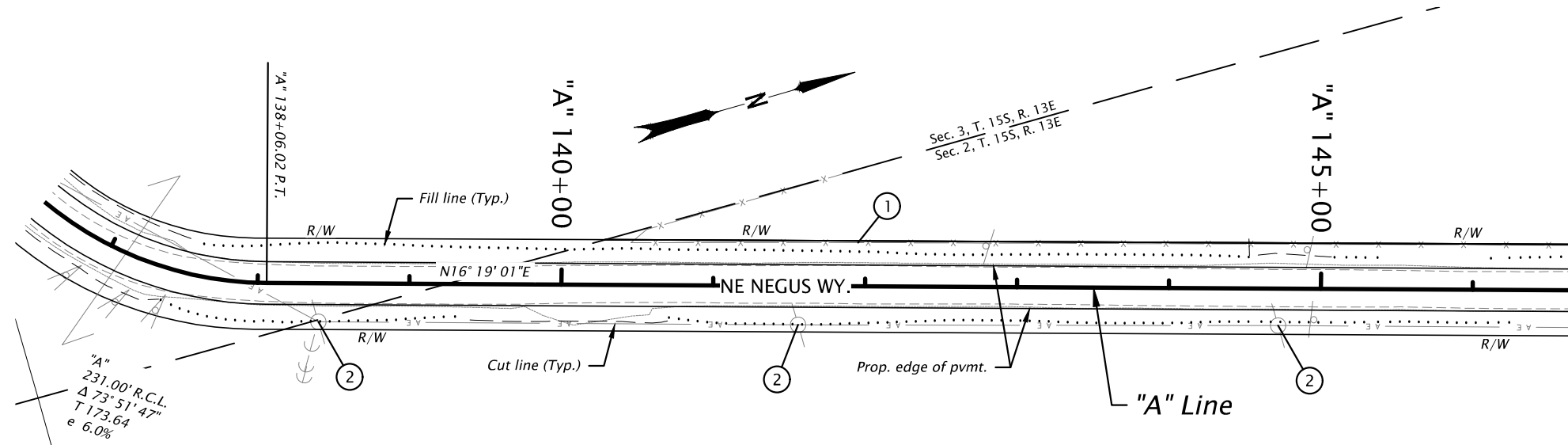
**CLATSOP COUNTY ROAD DEPARTMENT**

**NE NEGUS WAY & NE 17TH ST. IMPROVEMENT PROJECT**

Designer: Tai Imamura      Reviewer: Shon Heern  
Drafter: Ryan Berger      Checker: Terry Wheeler

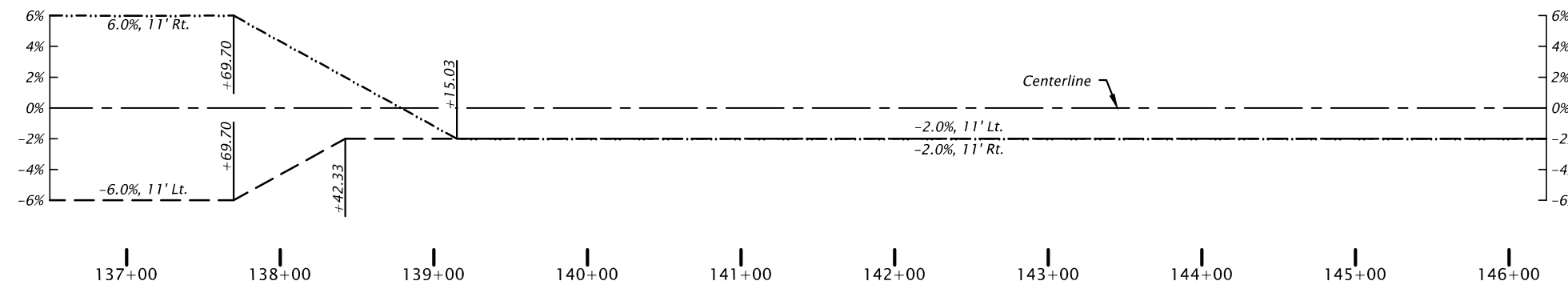
**GENERAL CONSTRUCTION**      SHEET NO. C04

SEC. 2 & 3, T. 15S, R. 13E, W.M.

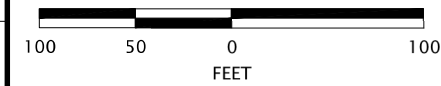
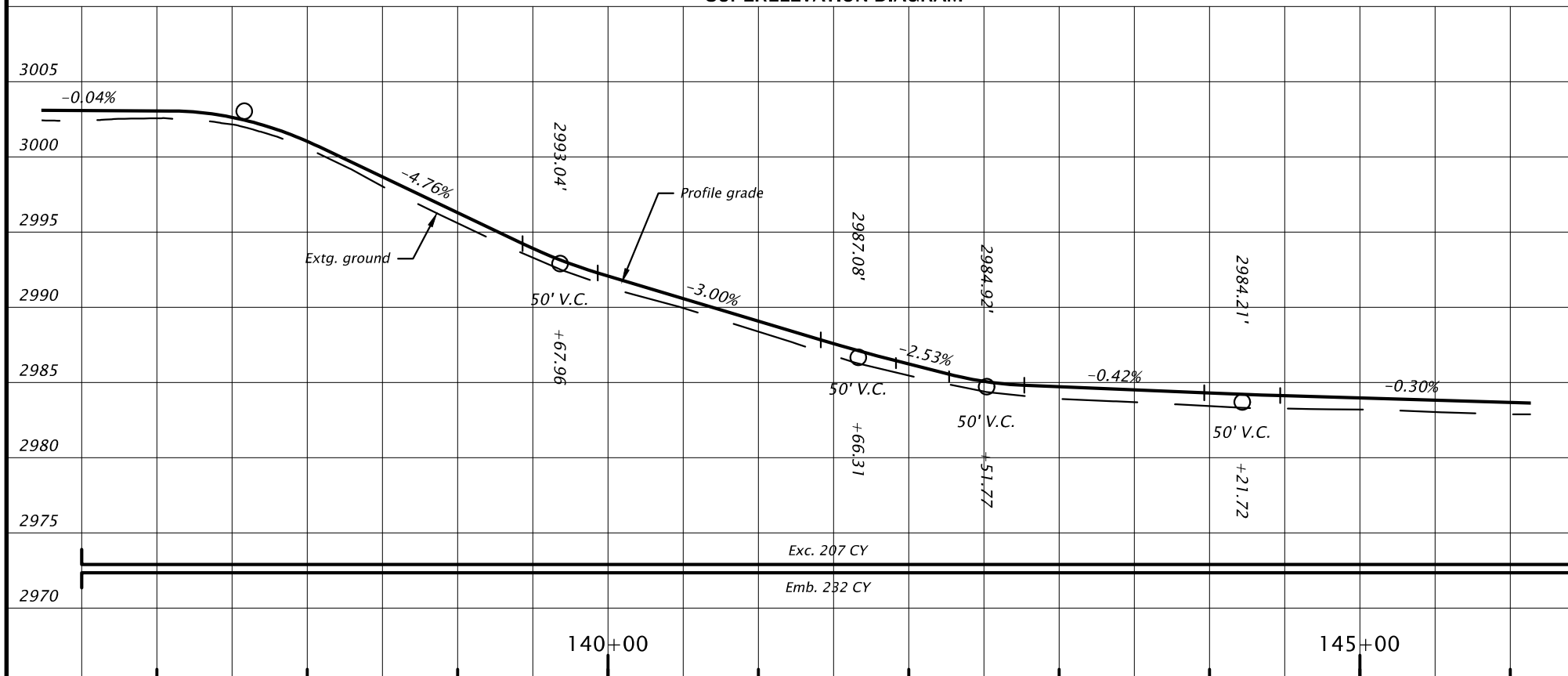


- ① Maintain & protect extg. fence
- ② Maintain & protect extg. utility poles  
(For details, see sht. BB03)

See GENERAL EROSION CONTROL NOTES on CO1.



SUPERELEVATION DIAGRAM



REGISTERED PROFESSIONAL ENGINEER  
91702PE  
DIGITALLY SIGNED 2021.04.20 15:46:53-07'00"  
OREGON  
JANUARY 10, 2017  
TAISEI IMAMURA  
RENEWS: 06-30-2021

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530 Center Street N.E., Suite 605  
Salem Oregon 97301  
Phone: 503.361.8635

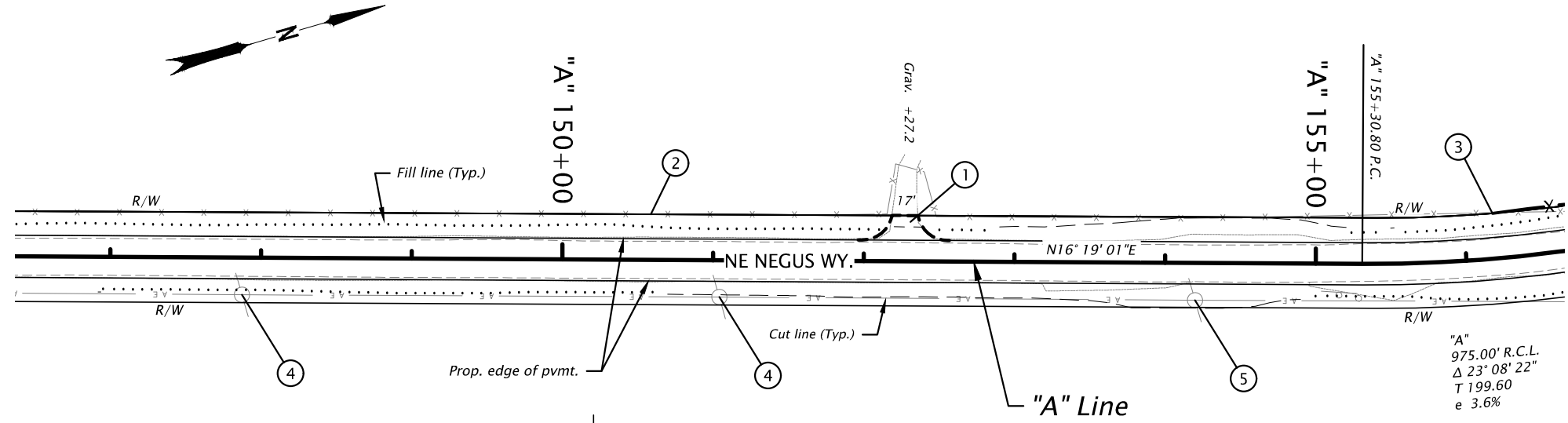
**CLATSOP COUNTY ROAD DEPARTMENT**

**NE NEGUS WAY & NE 17TH ST. IMPROVEMENT PROJECT**

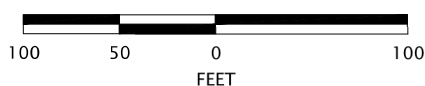
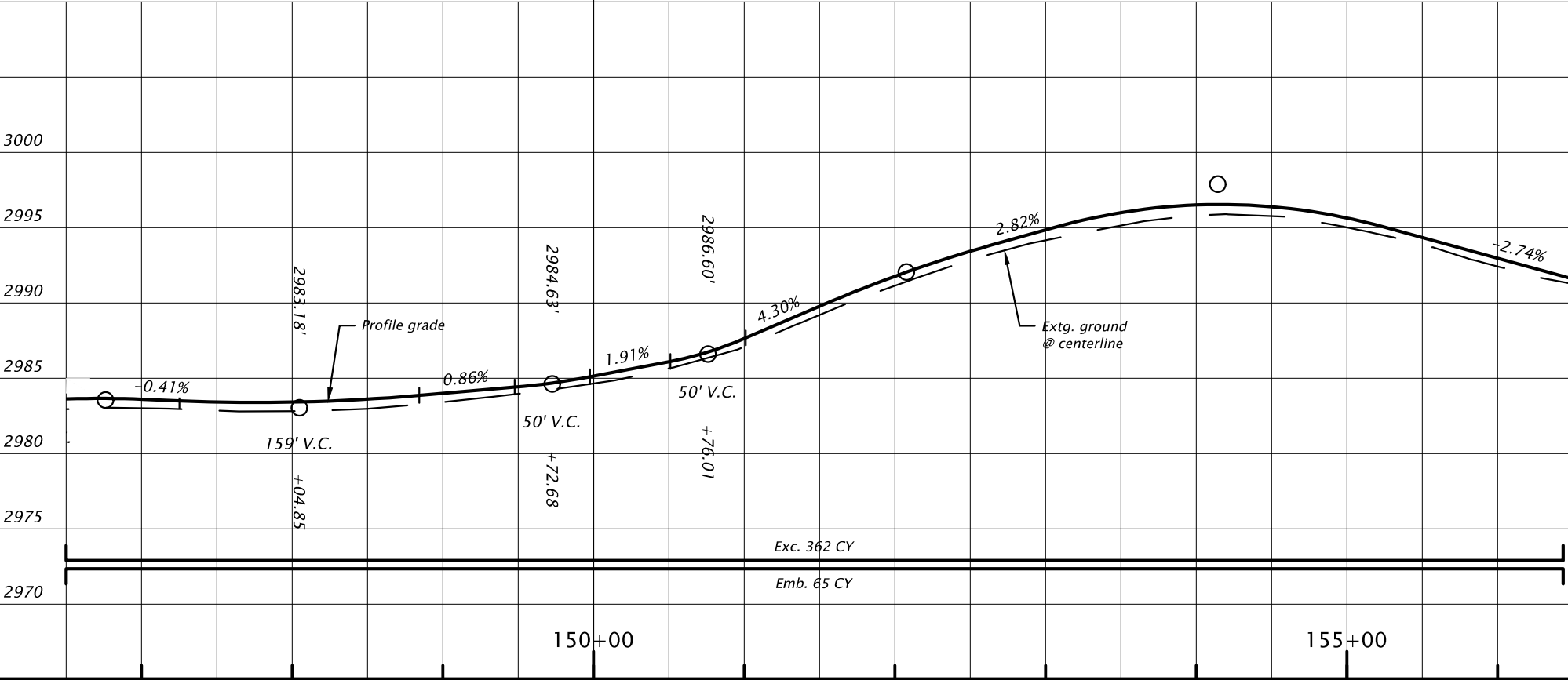
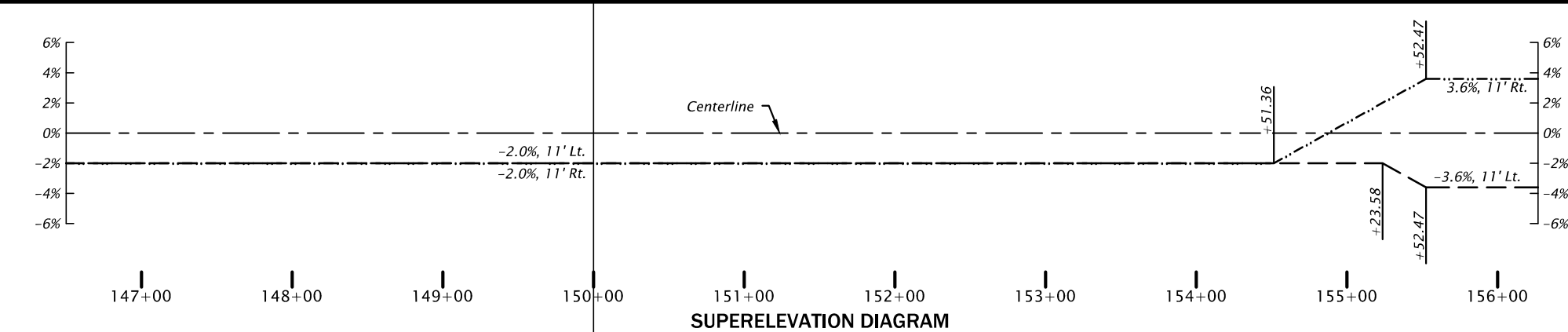
Designer: Tai Imamura      Reviewer: Shon Heern  
Drafter: Ryan Berger      Checker: Terry Wheeler

**GENERAL CONSTRUCTION**      SHEET NO. C05

SEC. 2, T. 15S, R. 13E, W.M.



- ① Const. Type A-1 appr.
  - ② Maintain & protect extg. fence
  - ③ Sta. "A" 156+20.0 to Sta. "A" 167+25.0 Lt. Remove extg. fence Const. Type 1 fence
  - ④ Maintain & protect extg. utility poles (For details, see sht. BB03)
  - ⑤ Relocate extg. utility pole (By others) Contractor to perform earthwork prior to pole relocation Maintain & protect relocated utility poles (For details, see sht. BB03)
- See GENERAL EROSION CONTROL NOTES on CO1.



REGISTERED PROFESSIONAL ENGINEER  
91702PE  
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OREGON  
JANUARY 10, 2017  
Taisei Imamura  
RENEWS: 06-30-2021

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530 Center Street N.E., Suite 605  
Salem Oregon 97301  
Phone: 503.361.8635

**CLATSOP COUNTY ROAD DEPARTMENT**

**NE NEGUS WAY & NE 17TH ST. IMPROVEMENT PROJECT**

Designer: Tai Imamura Reviewer: Shon Heern  
Drafter: Ryan Berger Checker: Terry Wheeler

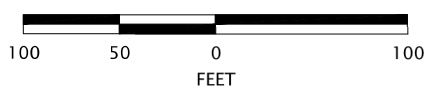
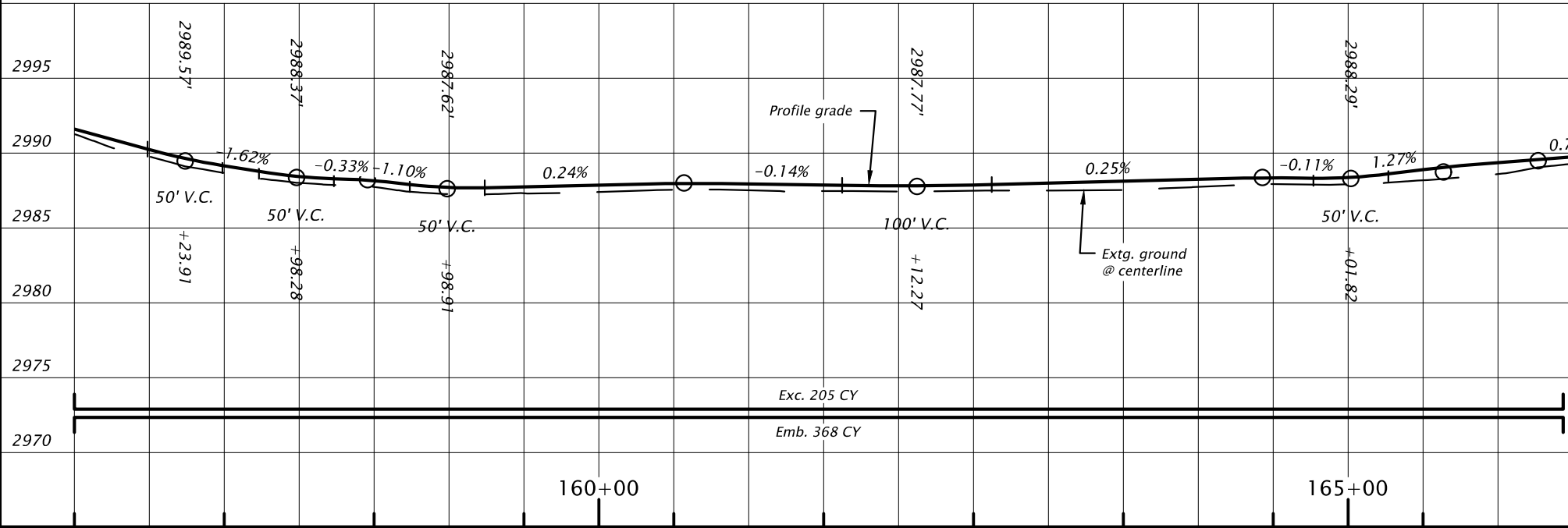
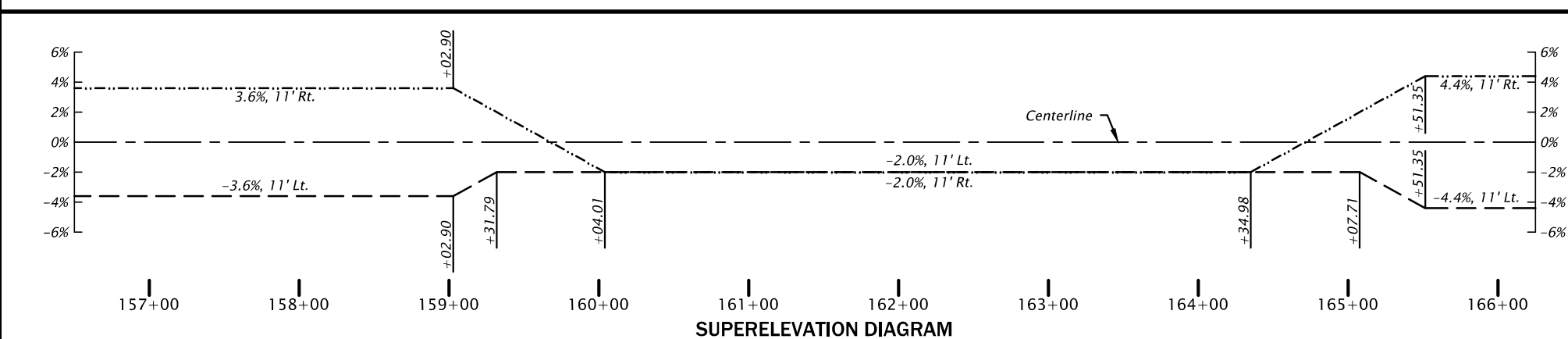
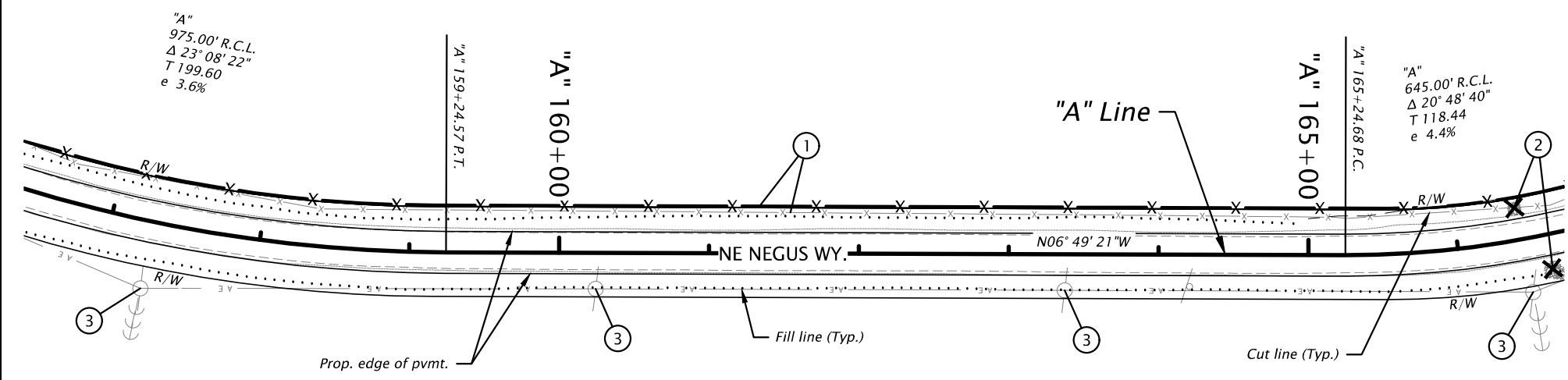
**GENERAL CONSTRUCTION** SHEET NO. C06

SEC. 2, T. 15S, R. 13E, W.M.



- ① See sht. C06, note 3  
Remove extg. fence  
Const. Type 1 fence
- ② Remove extg. tree
- ③ Maintain and protect extg. utility poles  
(For details, see sht. BB03)

See GENERAL EROSION CONTROL NOTES on C01.



REGISTERED PROFESSIONAL ENGINEER  
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OREGON  
JANUARY 10, 2017  
Taisei Imamura  
RENEWS: 06-30-2021

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530 Center Street N.E., Suite 605  
Salem Oregon 97301  
Phone: 503.361.8635

CLATSOP COUNTY ROAD DEPARTMENT

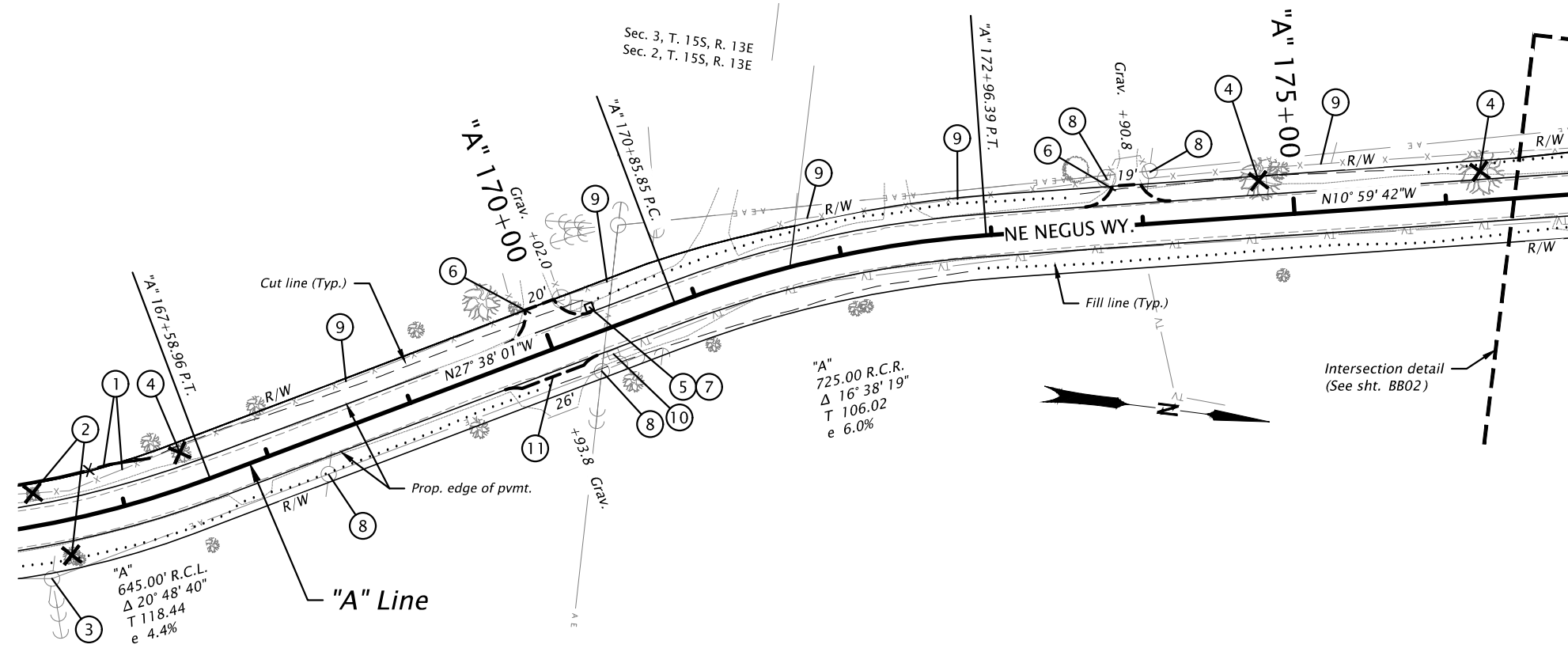
NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT

Designer: Tai Imamura Reviewer: Shon Heern  
Drafter: Ryan Berger Checker: Terry Wheeler

GENERAL CONSTRUCTION SHEET NO. C07

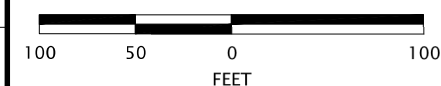
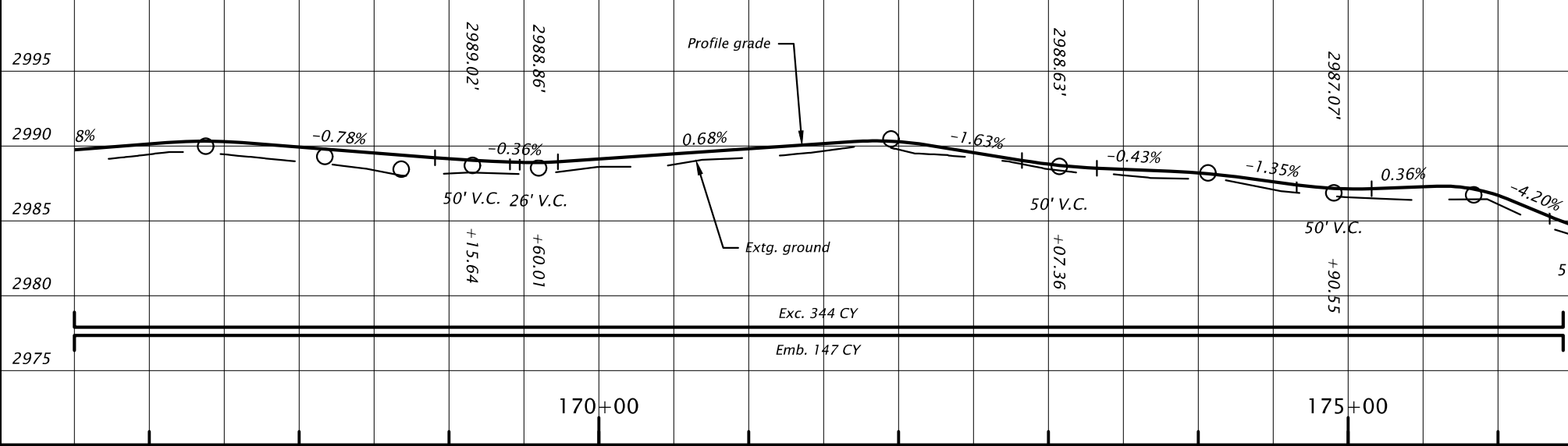
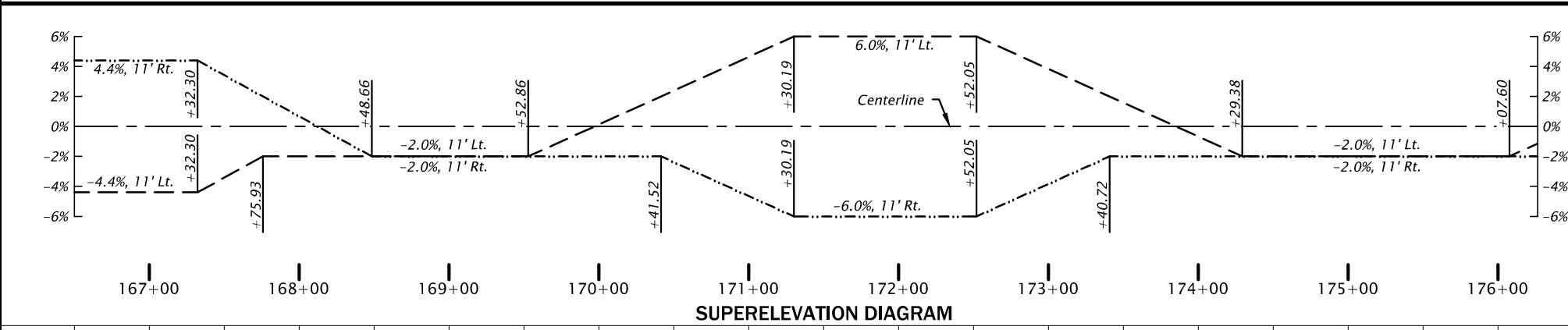


SEC. 2 & 3, T. 15S, R. 13E, W.M.



- ① See sht. C06, note 3  
Remove extg. fence  
Const. Type 1 fence
- ② See sht. C07, note 2  
Remove extg. trees
- ③ See sht. C07, note 3  
Extg. utility pole
- ④ Remove extg. tree
- ⑤ Remove extg. mailbox
- ⑥ Const. Type A-1 appr. - 2
- ⑦ Inst. single mailbox support
- ⑧ Maintain & protect extg. utility poles  
(For details, see sht. BB03)
- ⑨ Maintain & protect extg. fences
- ⑩ Relocate extg. comm. splice box  
(By others)  
Maintain & protect relocated comm. splice box
- ⑪ Const. 3' Apron A-1 approach  
(For details, See sht. BB03)

See GENERAL EROSION CONTROL NOTES on C01.



REGISTERED PROFESSIONAL ENGINEER  
91702PE  
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OREGON  
JANUARY 10, 2017  
Taisei IMAMURA  
RENEWS: 06-30-2021

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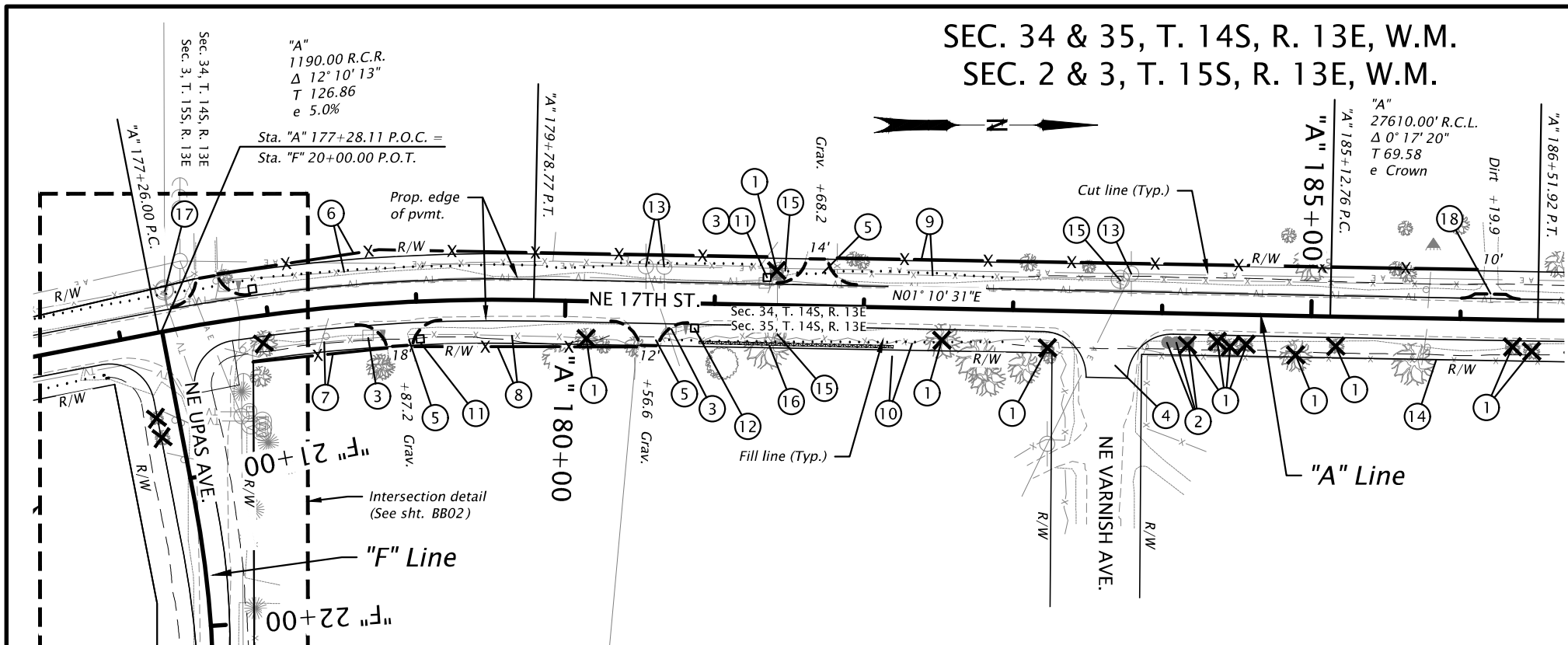
CLATSOP COUNTY ROAD DEPARTMENT

NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT

Designer: Tai Imamura Reviewer: Shon Heern  
Drafter: Ryan Berger Checker: Terry Wheeler

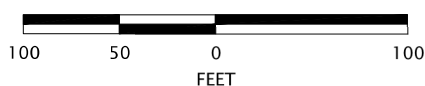
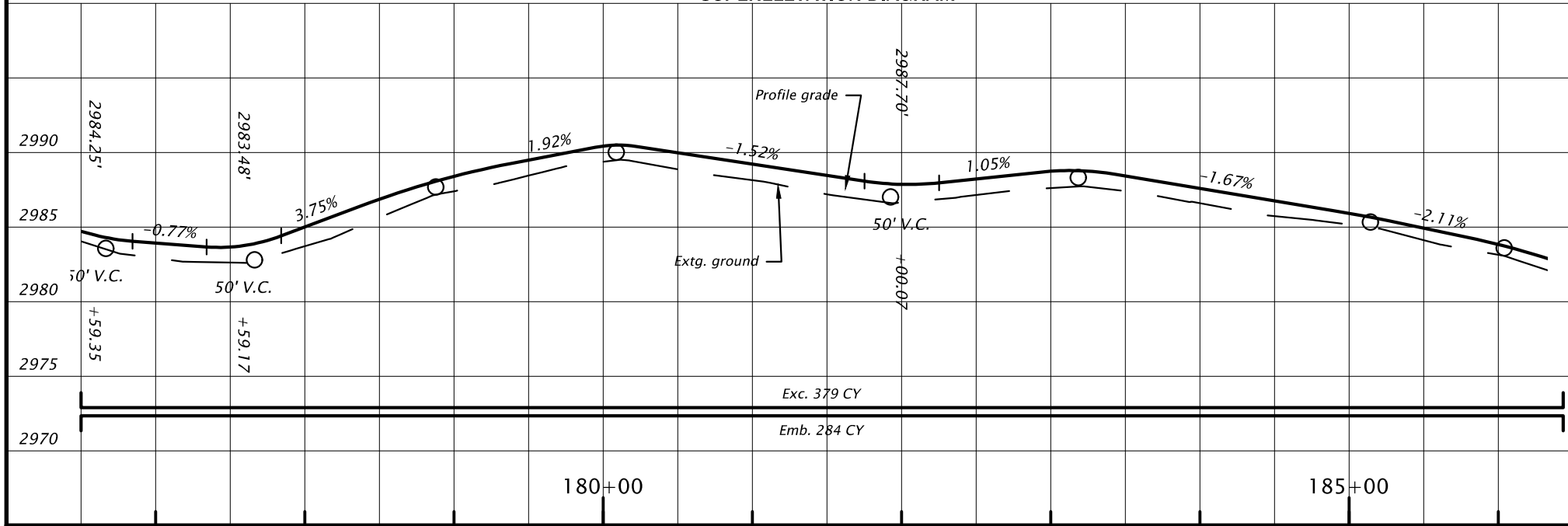
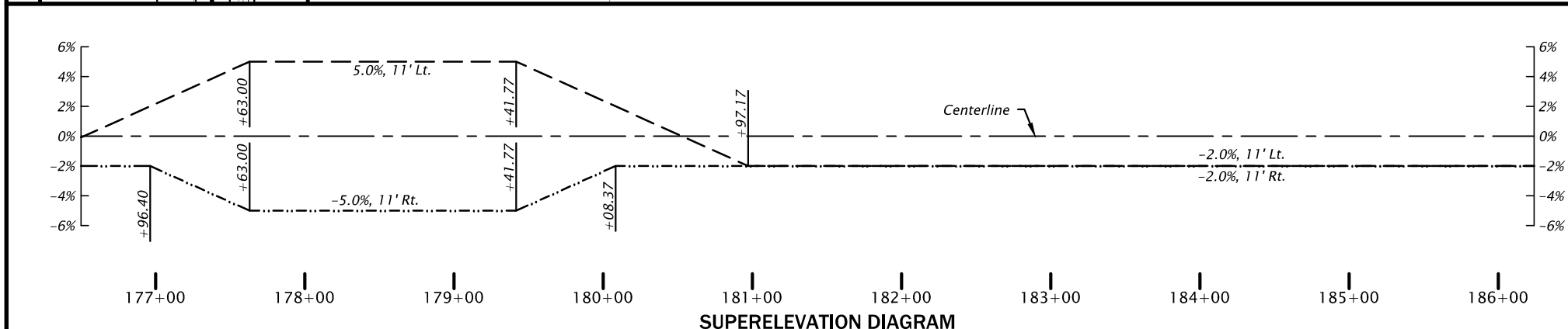
GENERAL CONSTRUCTION SHEET NO. C08

SEC. 34 & 35, T. 14S, R. 13E, W.M.  
SEC. 2 & 3, T. 15S, R. 13E, W.M.



- 1 Remove extg. tree
- 2 Remove extg. bollards
- 3 Remove extg. mailbox support
- 4 Const. street conn.
- 5 Const. Type A-1 appr. - 4
- 6 Sta. "A" 177+71.2 to Sta. "A" 181+34.6, Lt. Remove extg. fence Const. Type 2 fence
- 7 Sta. "A" 177+85.5 to Sta. "A" 178+78.5, Rt. Remove extg. fence Const. Type 2 fence
- 8 Sta. "A" 178+96.6 to Sta. "A" 180+48.5, Rt. Remove extg. fence Const. Type 2 fence
- 9 Sta. "A" 181+81.6 to Sta. "A" 186+10.8, Lt. Remove extg. fence Const. Type 2 fence
- 10 Sta. "A" 180+63.7 to Sta. "A" 183+34.6, Rt. Remove & salvage extg. wood landscape fence
- 11 Inst. single mailbox support - 2
- 12 Inst. multiple mailbox support Const. conc. collar
- 13 Maintain & protect extg. utility poles (For details, see sht. BB03)
- 14 Maintain & protect extg. fence
- 15 Relocate extg. comm. riser (by others) Maintain & protect relocated comm. riser
- 16 Inst. sediment barrier (type 3) (See drg. no. RD1030 for details)
- 17 Maintain & protect extg. comm. riser
- 18 Const. 3' Apron A-1 approach (For details, See sht. BB03)

See GENERAL EROSION CONTROL NOTES on CO1.



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OREGON  
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Salem Oregon 97301  
Phone: 503.361.8635

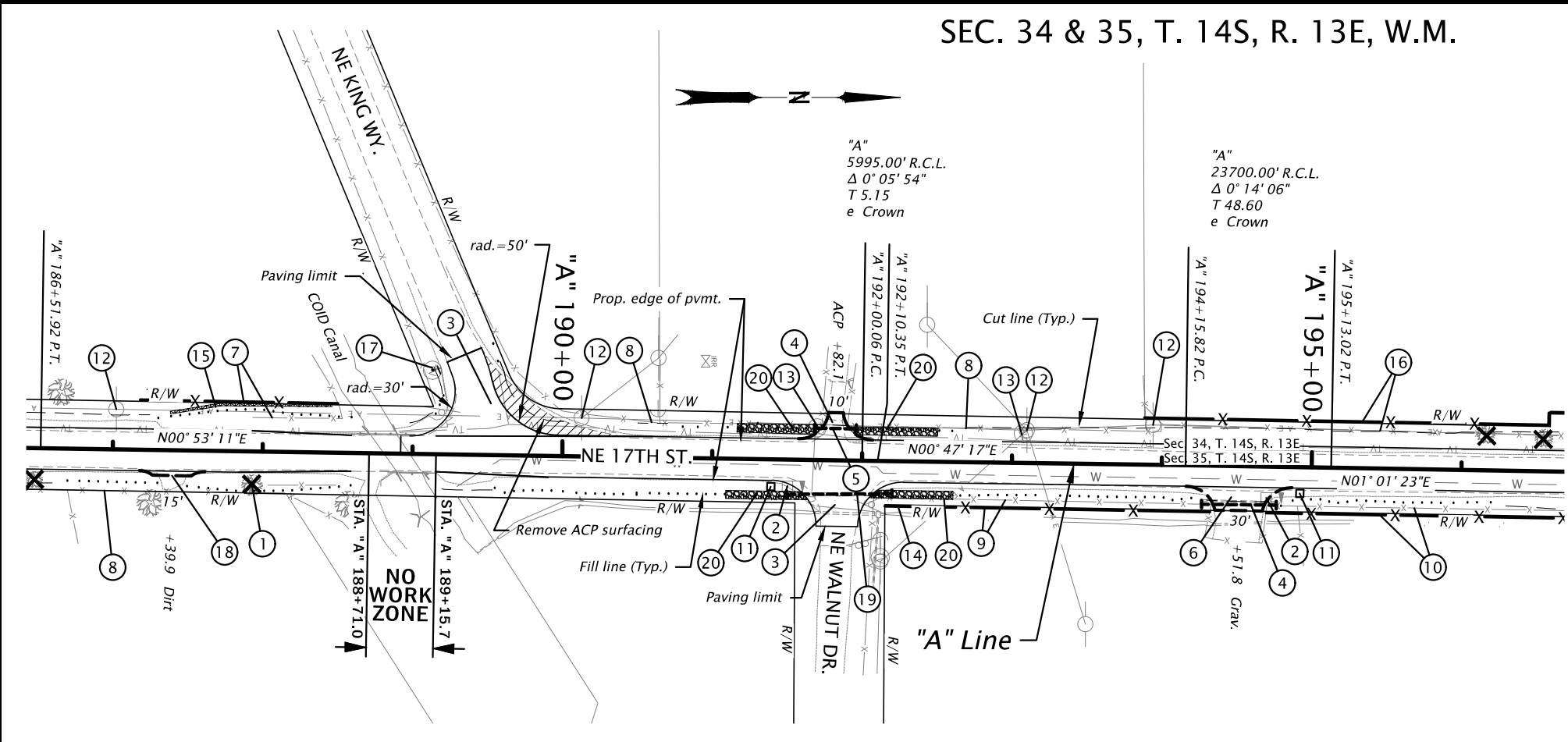
ROAD DEPARTMENT

NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT

Designer: Tai Imamura Reviewer: Shon Heern  
Drafter: Ryan Berger Checker: Terry Wheeler

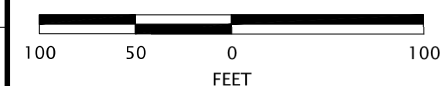
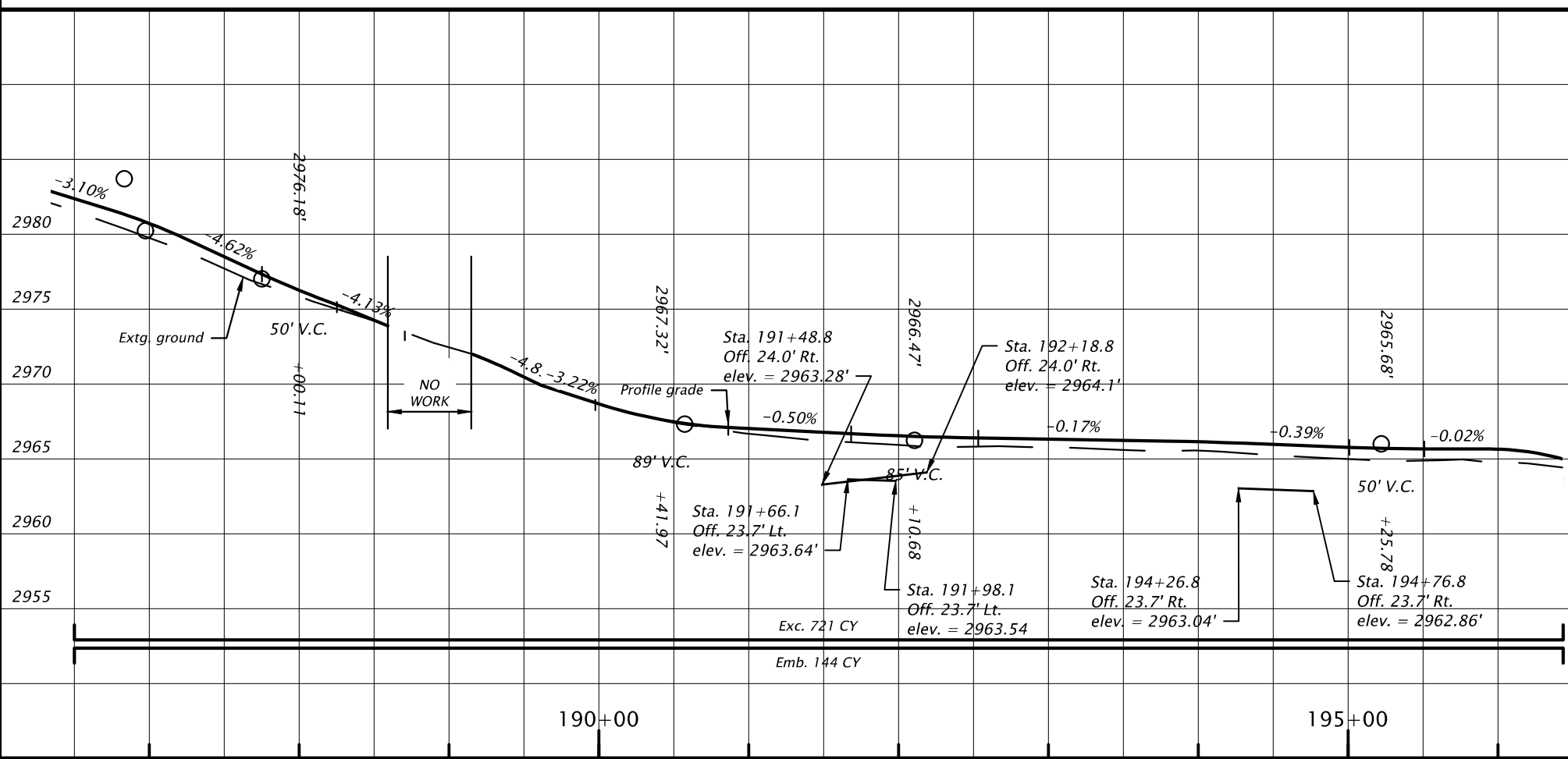
GENERAL CONSTRUCTION SHEET NO. C09

SEC. 34 & 35, T. 14S, R. 13E, W.M.



- ① Remove extg. tree
- ② Remove extg. mailbox support
- ③ Const. street conn. - 3
- ④ Const. Type A-1 appr. - 2
- ⑤ Inst. 12" CMP culv. pipe - 32 LF 5' depth
- ⑥ Inst. 12" CMP culv. pipe - 50 LF 5' depth
- ⑦ Sta. "A" 187+17.9 to Sta. "A" 188+49.8, Lt. Remove extg. fence Const. Type 2 fence
- ⑧ Maintain and protect extg. fence
- ⑨ Sta. "A" 192+15.7 to Sta. "A" 194+32.5, Rt. Remove extg. fence Const. Type 2 fence
- ⑩ Sta. "A" 194+70.2 to Sta. "A" 201+37.5, Rt. Remove extg. fence Const. Type 2 fence
- ⑪ Inst. single mailbox support - 2
- ⑫ Maintain & protect extg. utility poles (For details, see sht. BB03)
- ⑬ Relocate extg. comm. riser (By others) Maintain & protect relocated comm. risers
- ⑭ Inst. 4' gate
- ⑮ Inst. sediment barrier (Type 3)
- ⑯ Sta. "A" 193+89.0 to Sta. "A" 197+38.9, Lt. Remove extg. fence Const. Type 1 fence
- ⑰ Maintain & protect extg. comm. riser
- ⑱ Const. 3' Apron A-1 approach (For details, See sht. BB03)
- ⑲ Inst. 12" ductile iron culv. pipe - 70 LF 5' depth
- ⑳ Const. rip rap basin - 4 (For details, See sht. BB03)

See GENERAL EROSION CONTROL NOTES on CO1.



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91702PE  
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OREGON  
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TAISEI IMAMURA  
RENEWS: 06-30-2021

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530 Center Street N.E., Suite 605  
Salem Oregon 97301  
Phone: 503.361.8635

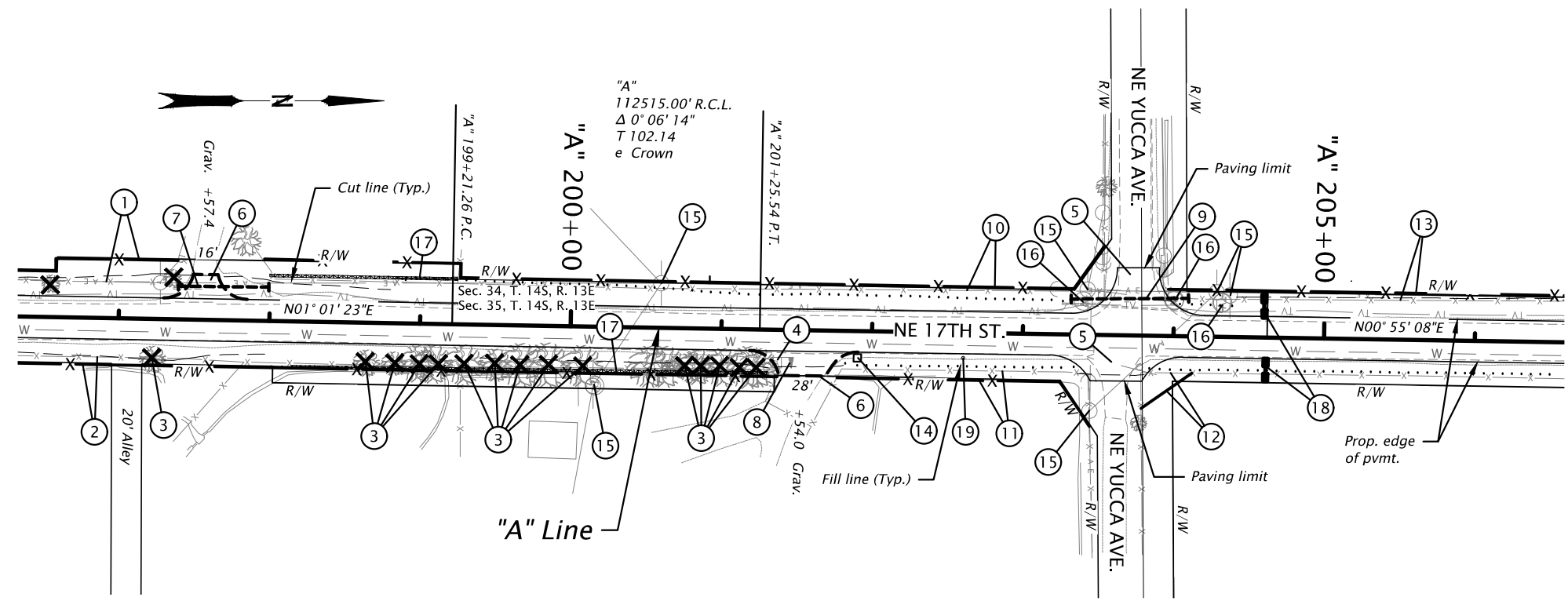
**CLATSOP COUNTY ROAD DEPARTMENT**

**NE NEGUS WAY & NE 17TH ST. IMPROVEMENT PROJECT**

Designer: Tai Imamura      Reviewer: Shon Heern  
Drafter: Ryan Berger      Checker: Terry Wheeler

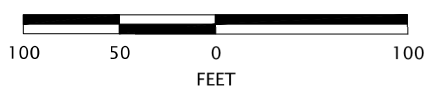
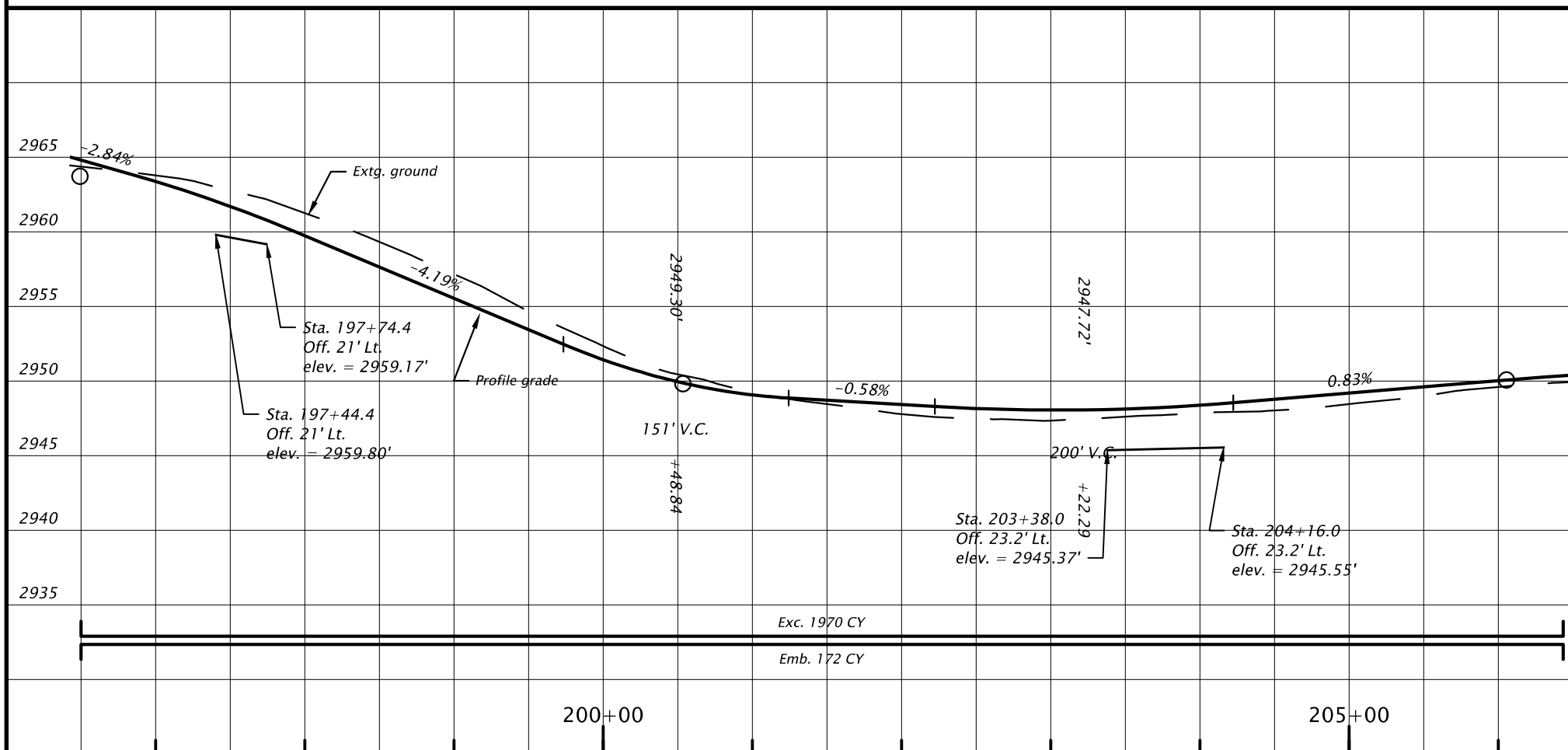
**GENERAL CONSTRUCTION**      SHEET NO. C10

SEC. 34 & 35, T. 14S, R. 13E, W.M.



NOTE:  
Where embankment slope is greater than 5', see embankment construction detail on sht. BB04

- 1 See sht. C10, note 18  
Remove extg. fence  
Const. Type 1 fence
- 2 See sht. C10, note 14  
Remove extg. fence  
Const. Type 2 fence
- 3 Remove extg. trees
- 4 Remove extg. mailbox support
- 5 Const. street conn. - 2
- 6 Const. Type A-1 appr. - 2
- 7 Inst. 12" CMP culv. pipe - 34 LF  
5' depth
- 8 Maintain and protect extg. culvert
- 9 Remove extg. culv.  
Inst. 12" ductile iron culv. pipe - 78 LF  
5' depth
- 10 Sta. "A" 197+96.1 to Sta. "A" 203+53.4, Lt.  
Remove extg. fence  
Const. Type 1 fence
- 11 Sta. "A" 201+77.2 to Sta. "A" 203+45.1, Rt.  
Remove extg. fence  
Const. Type 1 fence
- 12 Sta. "A" 203+79.3 to Sta. "A" 204+12.6, Rt.  
Remove extg. fence  
Const. Type 1 fence
- 13 Sta. "A" 203+96.2 to Sta. "A" 208+55.6, Lt.  
Remove extg. fence  
Const. Type 1 fence
- 14 Inst. single mailbox support
- 15 Maintain & protect extg. utility poles  
(For details, see sht. BB03)
- 16 Relocate extg. comm. riser  
(By others)  
Maintain & protect relocated comm. risers
- 17 Inst. sediment barrier (type 3)
- 18 Inst. check dam (type 3) - 2  
(See drg. no. RD1005 for details)
- 19 Maintain and protect extg. manhole



See GENERAL EROSION CONTROL NOTES on CO1.

REGISTERED PROFESSIONAL ENGINEER  
91702PE  
DIGITALLY SIGNED 2021.04.20 16:07:23-07'00"  
OREGON  
JANUARY 10, 2017  
Taisei Imamura  
RENEWS: 06-30-2021

DAVID EVANS AND ASSOCIATES INC.  
530 Center Street N.E., Suite 605  
Salem Oregon 97301  
Phone: 503.361.8635

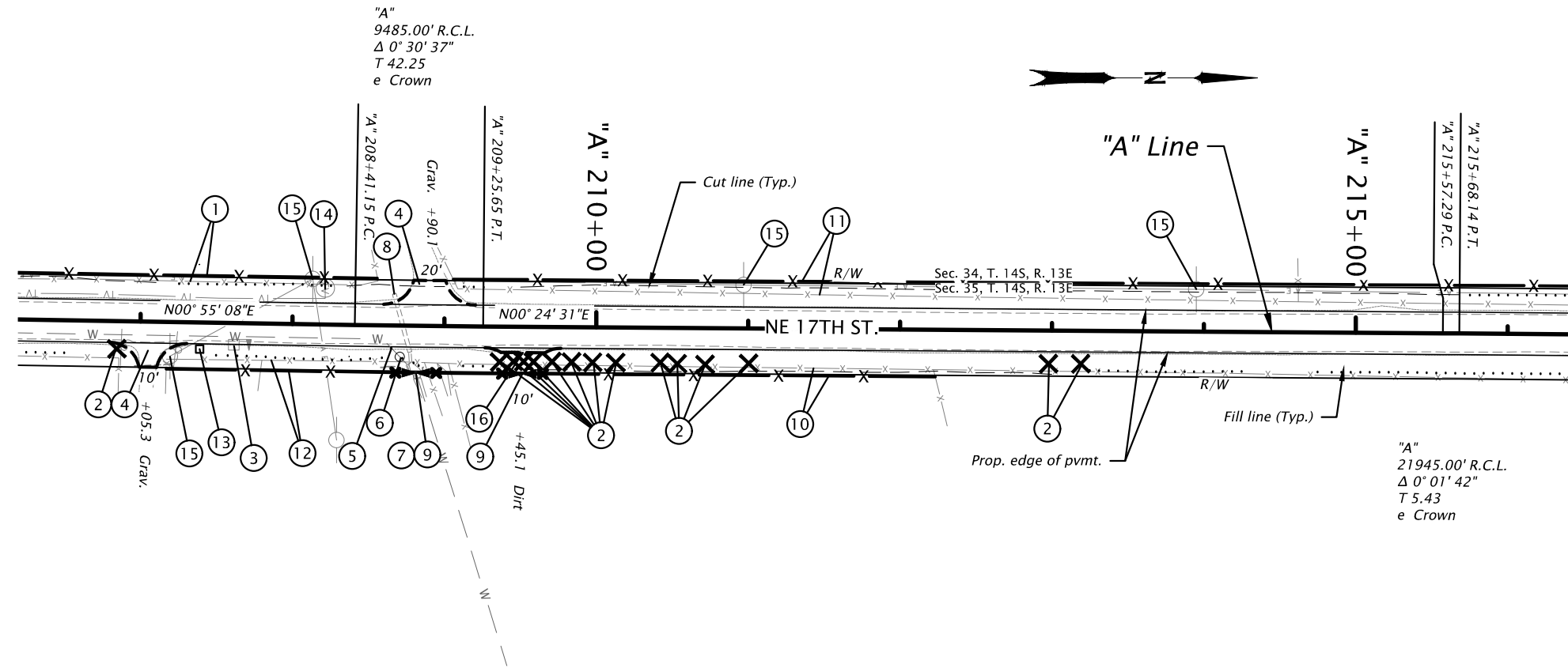
CLATSOP COUNTY ROAD DEPARTMENT

NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT

Designer: Tai Imamura Reviewer: Shon Heern  
Drafter: Ryan Berger Checker: Terry Wheeler

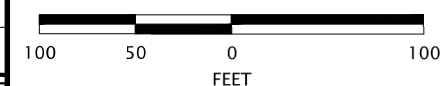
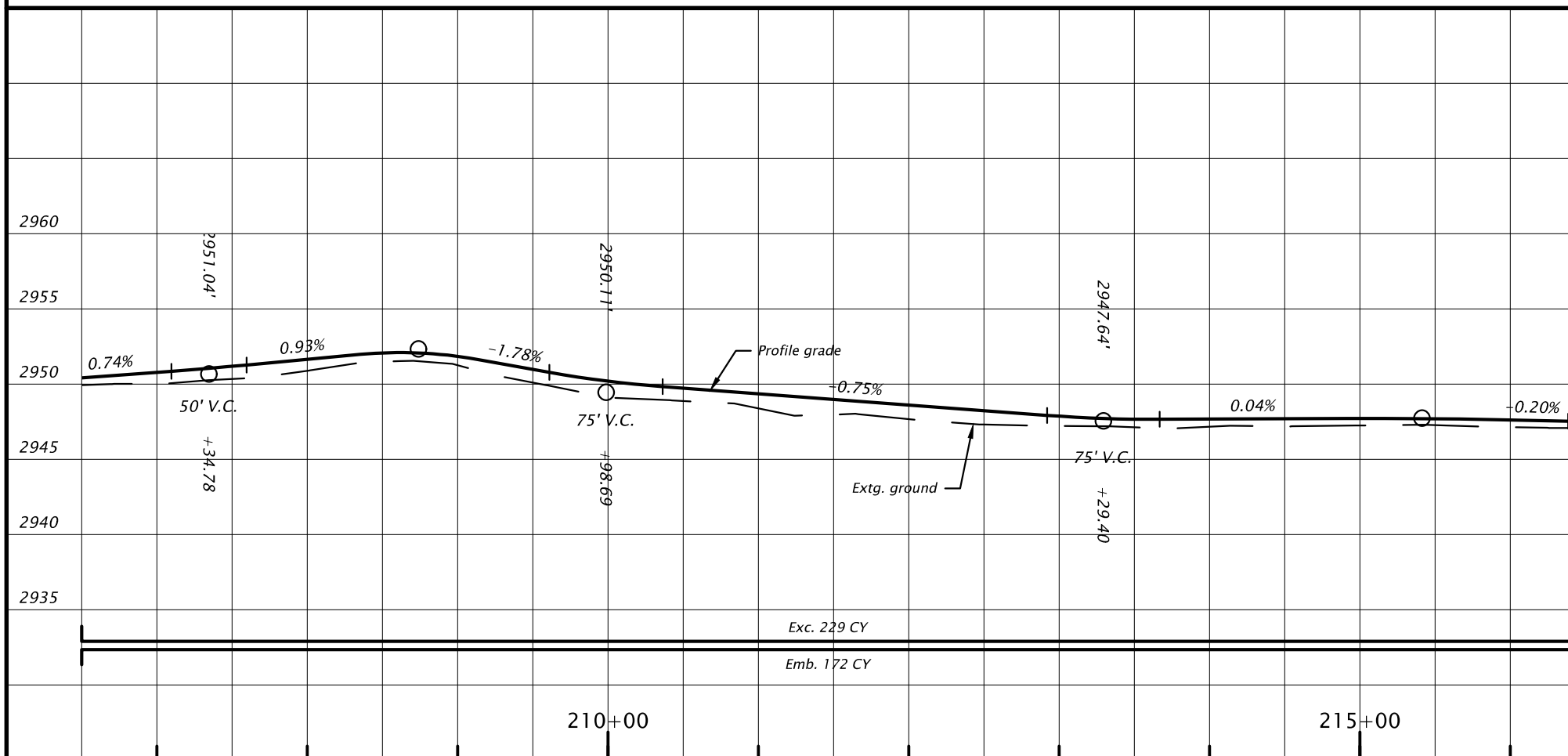
GENERAL CONSTRUCTION SHEET NO. C11

SEC. 34 & 35, T. 14S, R. 13E, W.M.



- ① See sht. C11, note 13  
Remove extg. fence  
Const. Type 1 fence
- ② Remove extg. trees
- ③ Remove extg. mailbox support
- ④ Const. Type A-1 appr. - 2
- ⑤ Adjust water valve box
- ⑥ Maintain and protect extg. manhole
- ⑦ Inst. 4' gate
- ⑧ Remove irrigation structure  
Remove extg. 30" culv. pipe  
Plug culv. pipe at west R/W line
- ⑨ Inst. 16' gate - 2  
(See dwg. no. RD820)
- ⑩ Sta. "A" 209+59.1 to Sta. "A" 212+23.5, Rt.  
Remove extg. fence  
Const. Type 1 fence
- ⑪ Sta. "A" 209+05.6 to Sta. "A" 219+93.6, Lt.  
Remove extg. fence  
Const. Type 1 fence
- ⑫ Sta. "A" 207+17.4 to Sta. "A" 209+44.4, Rt.  
Remove extg. fence  
Const. Type CL-4R fence
- ⑬ Inst. multiple mailbox support  
Const. conc. collar
- ⑭ Relocate extg. comm. riser  
(By others)  
Maintain & protect relocated comm. riser
- ⑮ Maintain & protect extg. utility poles  
(For details, see sht. BB03)
- ⑯ Const. 3' Apron A-1 approach  
(For details, See sht. BB03)

See GENERAL EROSION CONTROL NOTES on CO1.



REGISTERED PROFESSIONAL ENGINEER  
91702PE  
DIGITALLY SIGNED 2021.04.20 16:11:16-07'00"  
OREGON  
JANUARY 10, 2017  
TAISEI IMAMURA  
RENEWS: 06-30-2021

**DAVID EVANS AND ASSOCIATES INC.**  
530 Center Street N.E., Suite 605  
Salem Oregon 97301  
Phone: 503.361.8635

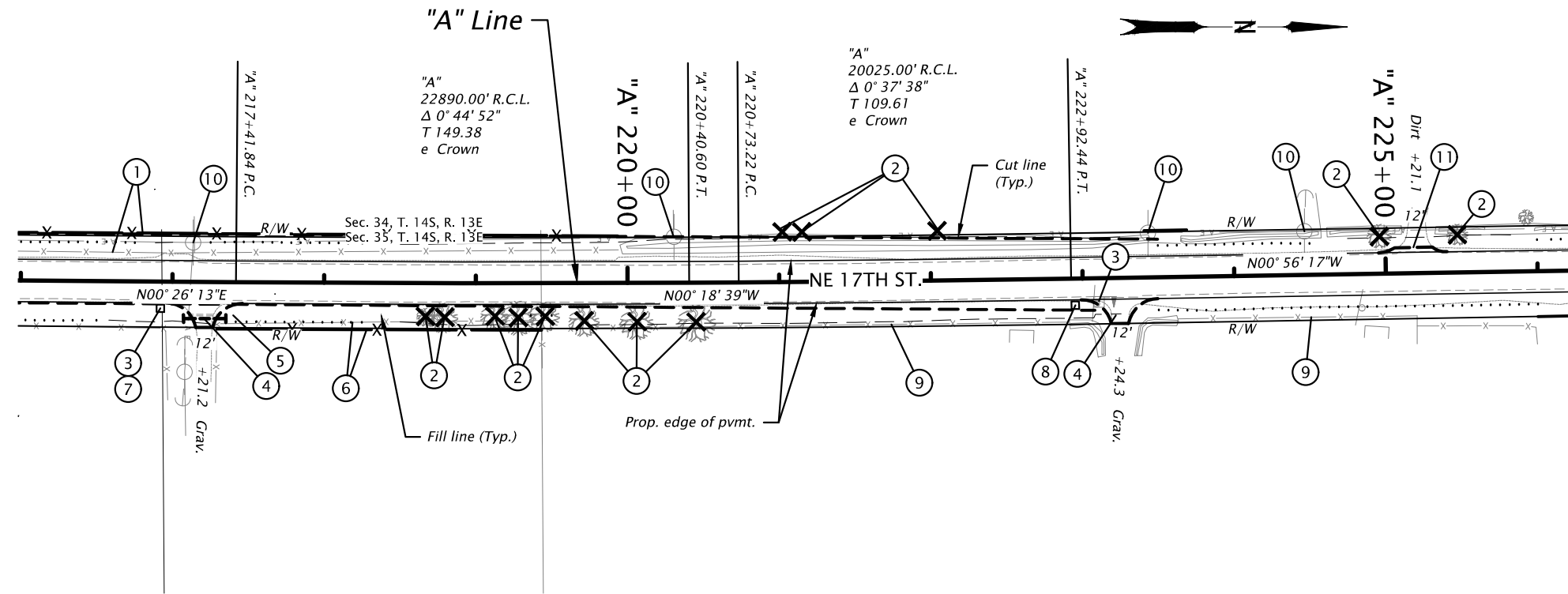
**CLATSOP COUNTY ROAD DEPARTMENT**

**NE NEGUS WAY & NE 17TH ST. IMPROVEMENT PROJECT**

Designer: Tai Imamura      Reviewer: Shon Heern  
Drafter: Ryan Berger      Checker: Terry Wheeler

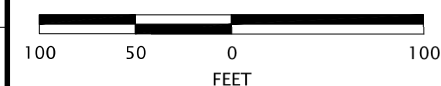
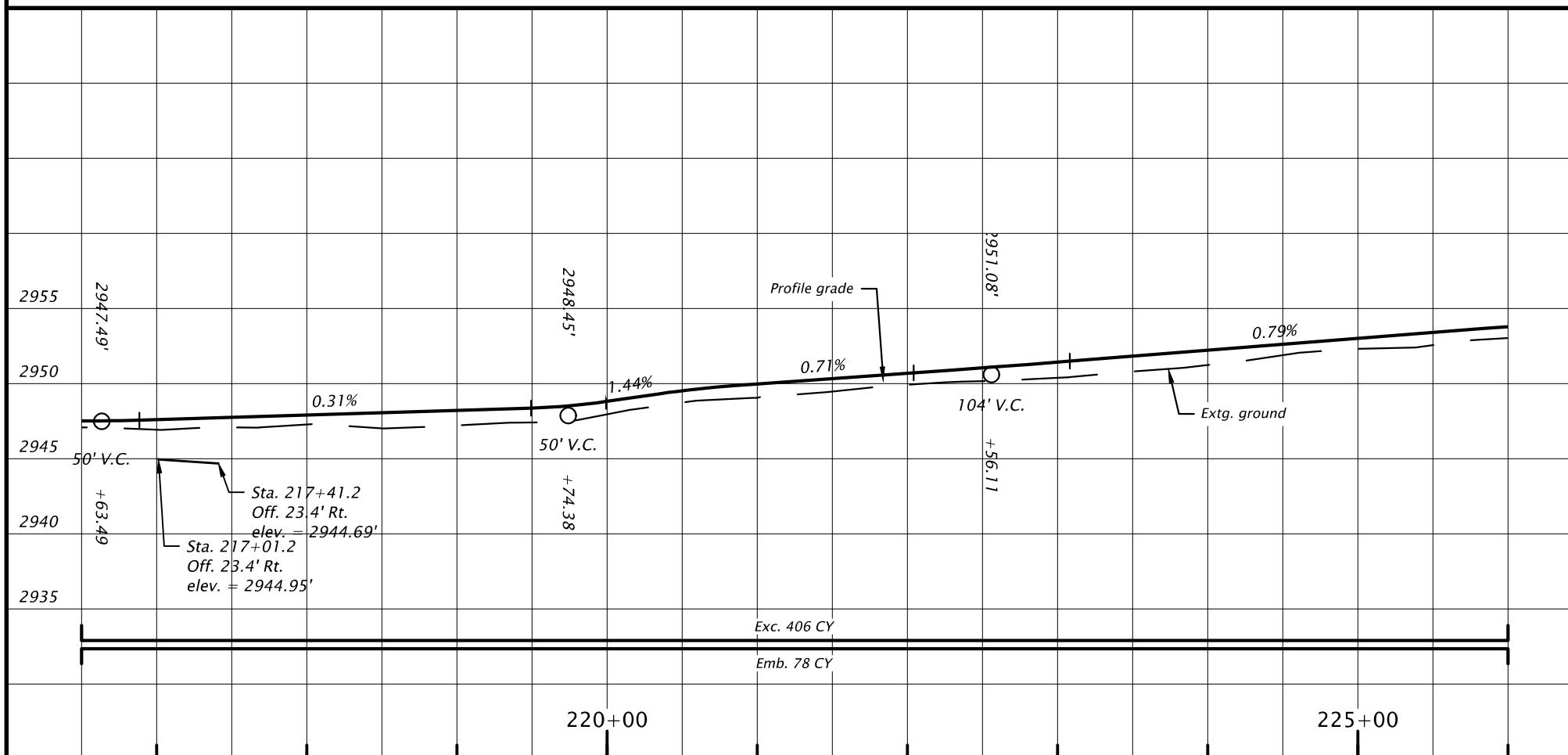
**GENERAL CONSTRUCTION**      SHEET NO. C12

SEC. 34 & 35, T. 14S, R. 13E, W.M.



- ① See sht. C12, note 11  
Remove extg. fence  
Const. Type 1 fence
- ② Remove extg. trees
- ③ Remove extg. mailbox support
- ④ Const. Type A-1 appr. - 2
- ⑤ Inst. 12" CMP culv. pipe - 40 LF  
5' depth
- ⑥ Sta. "A" 217+29.5 to Sta. "A" 219+43.3, Rt.  
Remove extg. fence  
Const. Type CL-4R fence
- ⑦ Inst. single mailbox support
- ⑧ Inst. multiple mailbox support  
Const. conc. collar
- ⑨ Maintain & protect extg. fences
- ⑩ Maintain & protect extg. utility poles  
(For details, see sht. BB03)
- ⑪ Const. 3' apron A-1 approach  
(For details, see sht. BB03)

See GENERAL EROSION CONTROL NOTES on CO1.



REGISTERED PROFESSIONAL ENGINEER  
91702PE  
DIGITALLY SIGNED 2021.04.20 16:14:49-07'00"  
OREGON  
JANUARY 10, 2017  
Taisei Imamura  
RENEWS: 06-30-2021

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Salem Oregon 97301  
Phone: 503.361.8635

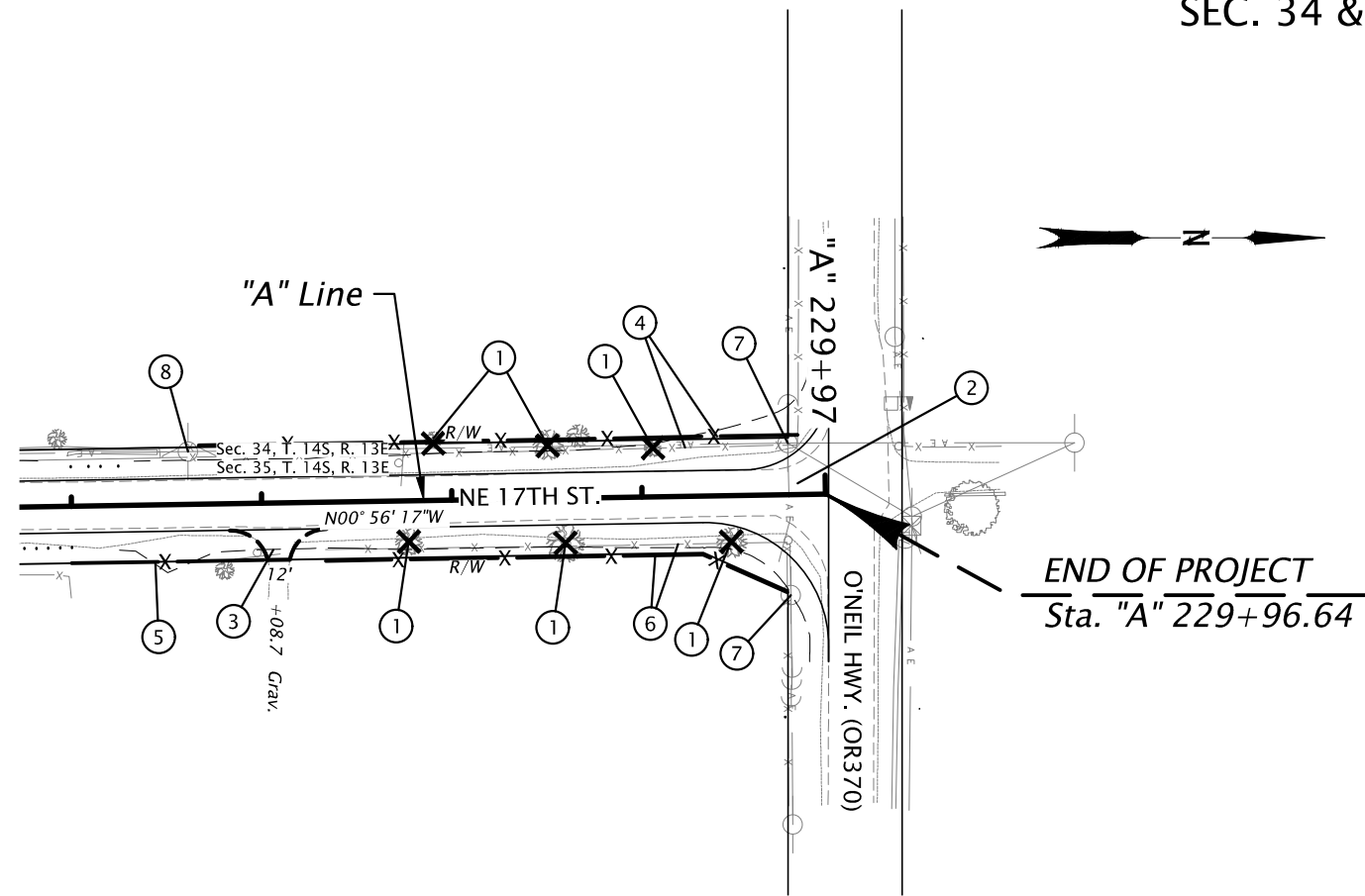
**CLATSOP COUNTY ROAD DEPARTMENT**

**NE NEGUS WAY & NE 17TH ST. IMPROVEMENT PROJECT**

Designer: Tai Imamura      Reviewer: Shon Heern  
Drafter: Ryan Berger      Checker: Terry Wheeler

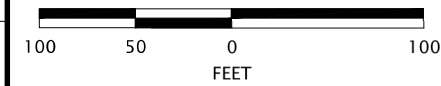
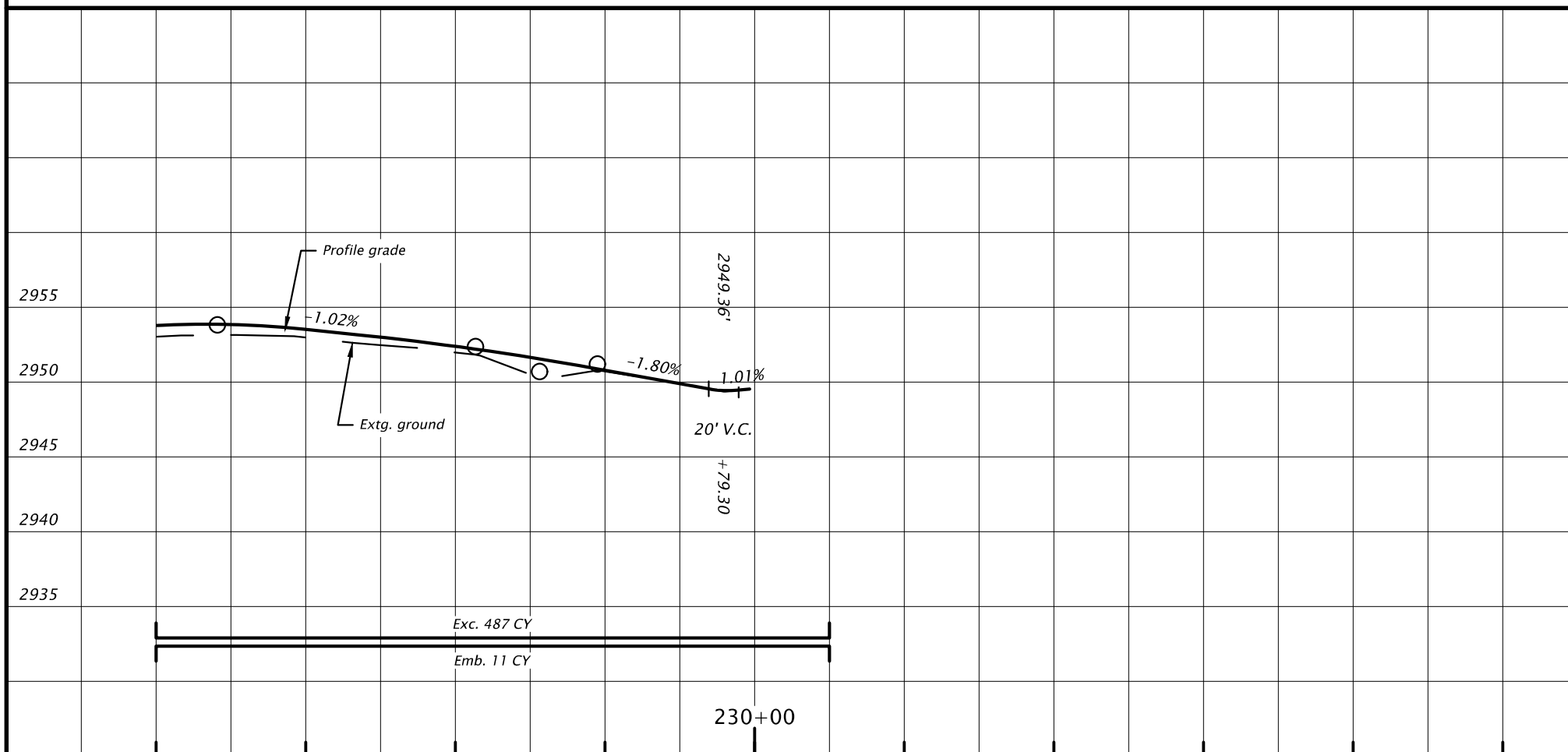
**GENERAL CONSTRUCTION**      SHEET NO. C13

SEC. 34 & 35, T. 14S, R. 13E, W.M.



- ① Remove extg. trees
- ② Const. street conn.
- ③ Const. Type A-1 appr.
- ④ Sta. "A" 226+67.5 to Sta. "A" 229+83.0, Lt.  
Remove extg. fence  
Const. Type 2 fence
- ⑤ Sta. "A" 226+00.0 to Sta. "A" 227+00.0, Rt.  
Remove extg. fence  
Const. Type 2 fence
- ⑥ Sta. "A" 227+33.4 to Sta. "A" 229+75.7, Rt.  
Remove extg. fence  
Const. Type 2 fence
- ⑦ Maintain & protect extg. utility pole  
(For details, see sht. BB03)

See GENERAL EROSION CONTROL NOTES on CO1.



REGISTERED PROFESSIONAL  
ENGINEER  
91702PE  
DIGITALLY SIGNED 2021.04.20 16:19:20-07'00"  
OREGON  
JANUARY 10, 2017  
Taisei Imamura  
RENEWS: 06-30-2021

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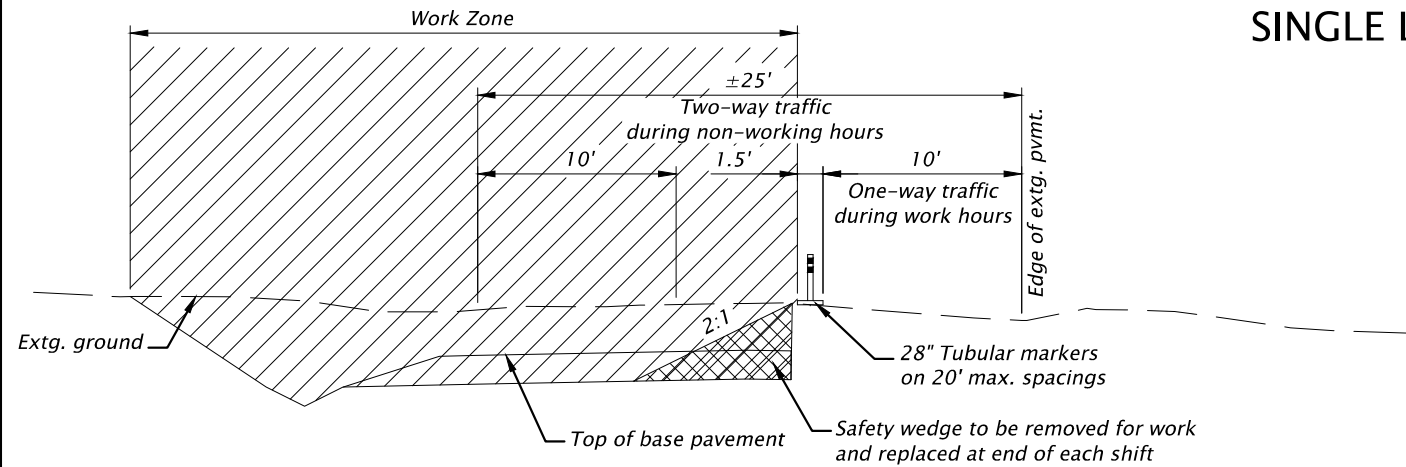
**CLATSOP COUNTY ROAD DEPARTMENT**

**NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT**

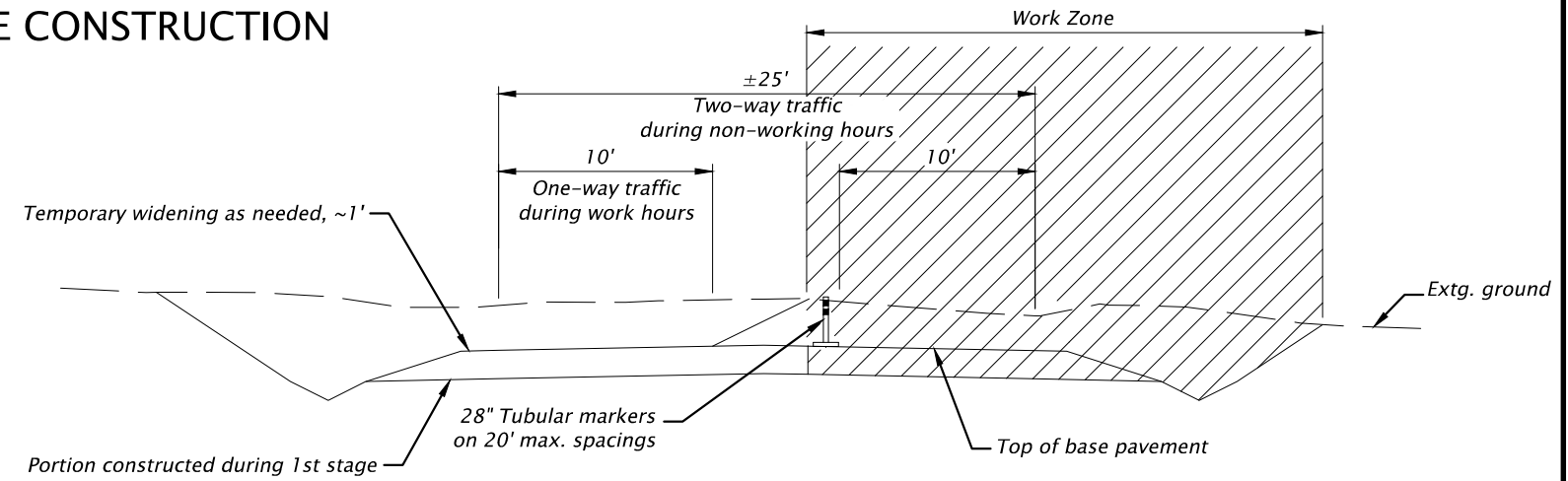
Designer: Tai Imamura      Reviewer: Shon Heern  
Drafter: Ryan Berger      Checker: Terry Wheeler

**GENERAL CONSTRUCTION**      SHEET NO. C14

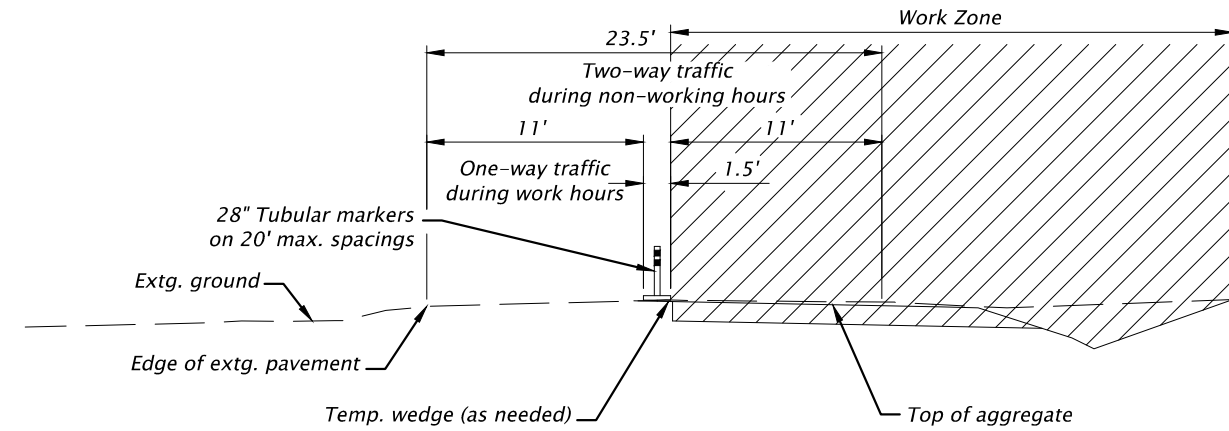
# WORK ZONE STAGING SECTIONS SINGLE LANE CONSTRUCTION



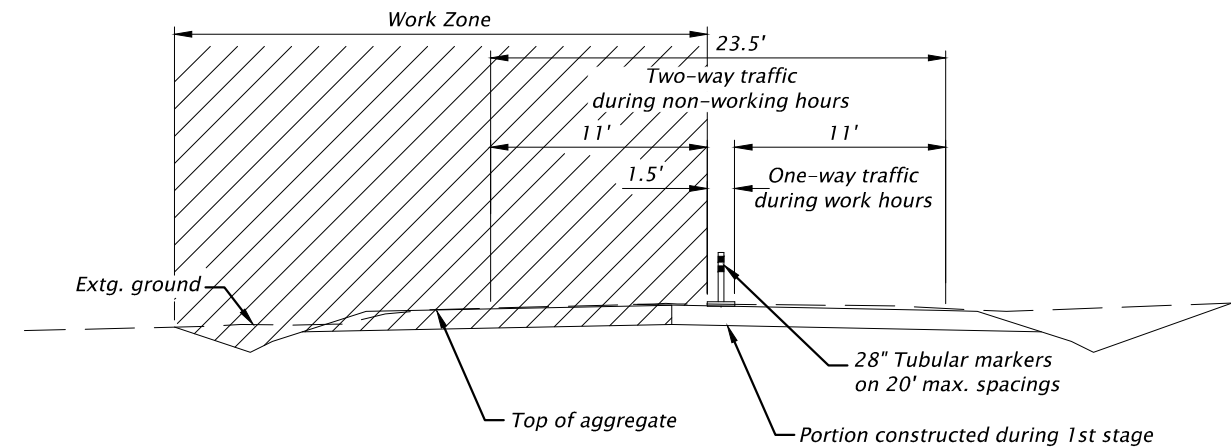
**GRADE REVISION CONSTRUCTION - STA. 195+95.20 TO STA. 202+11.20 - PHASE 1**



**GRADE REVISION CONSTRUCTION - STA. 195+95.20 TO STA. 202+11.20 - PHASE 2**

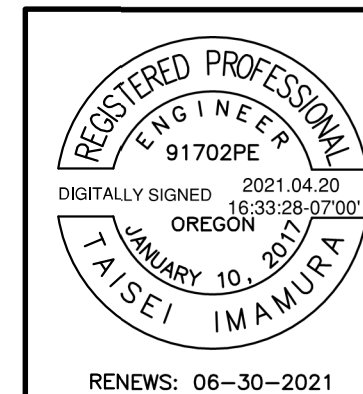


**FULL DEPTH RECLAMATION & AGGREGATE BASE CONSTRUCTION STAGING - PHASE 1**



**FULL DEPTH RECLAMATION & AGGREGATE BASE CONSTRUCTION STAGING - PHASE 2**

To be accompanied by:  
TM671, TM676, TM681, TM689, TM800, TM810,  
TM820, TM821, TM822, TM840, TM841 & TM850



**NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT**

Designer: Tai Imamura      Reviewer: Shon Heern  
Drafter: Ryan Berger      Checker: Terry Wheeler

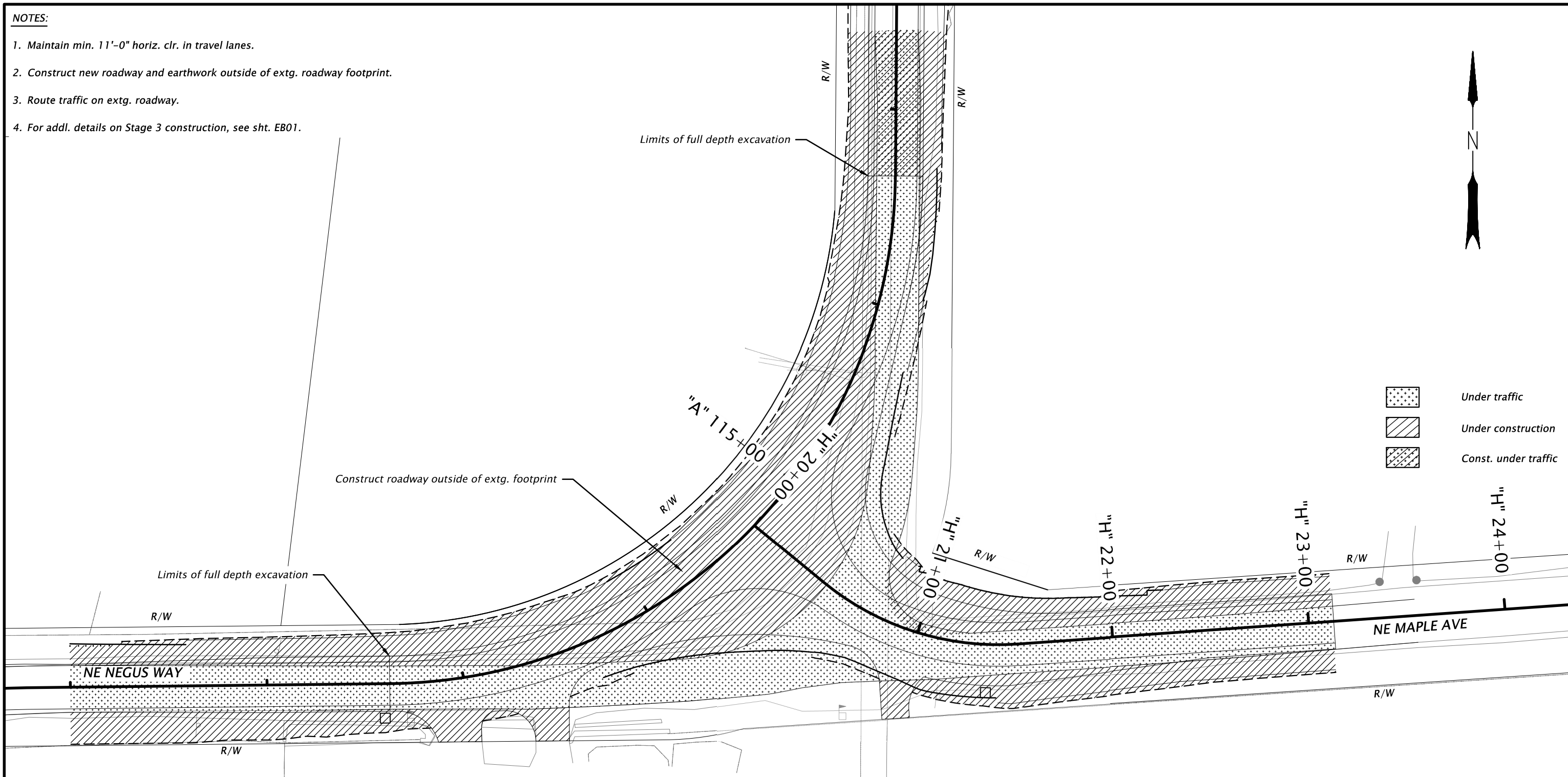
**TRAFFIC CONTROL DETAILS**

SHEET NO.  
EA01



**NOTES:**

1. Maintain min. 11'-0" horiz. clr. in travel lanes.
2. Construct new roadway and earthwork outside of extg. roadway footprint.
3. Route traffic on extg. roadway.
4. For addl. details on Stage 3 construction, see sht. EB01.



	Under traffic
	Under construction
	Const. under traffic

**NE NEGUS WAY - NE MAPLE AVENUE INTERSECTION STAGING**  
 INTERSECTION CONSTRUCTION DURING STAGE 3



RENEWS: 06-30-2021



**NE NEGUS WAY & NE 17TH ST.**  
 IMPROVEMENT PROJECT

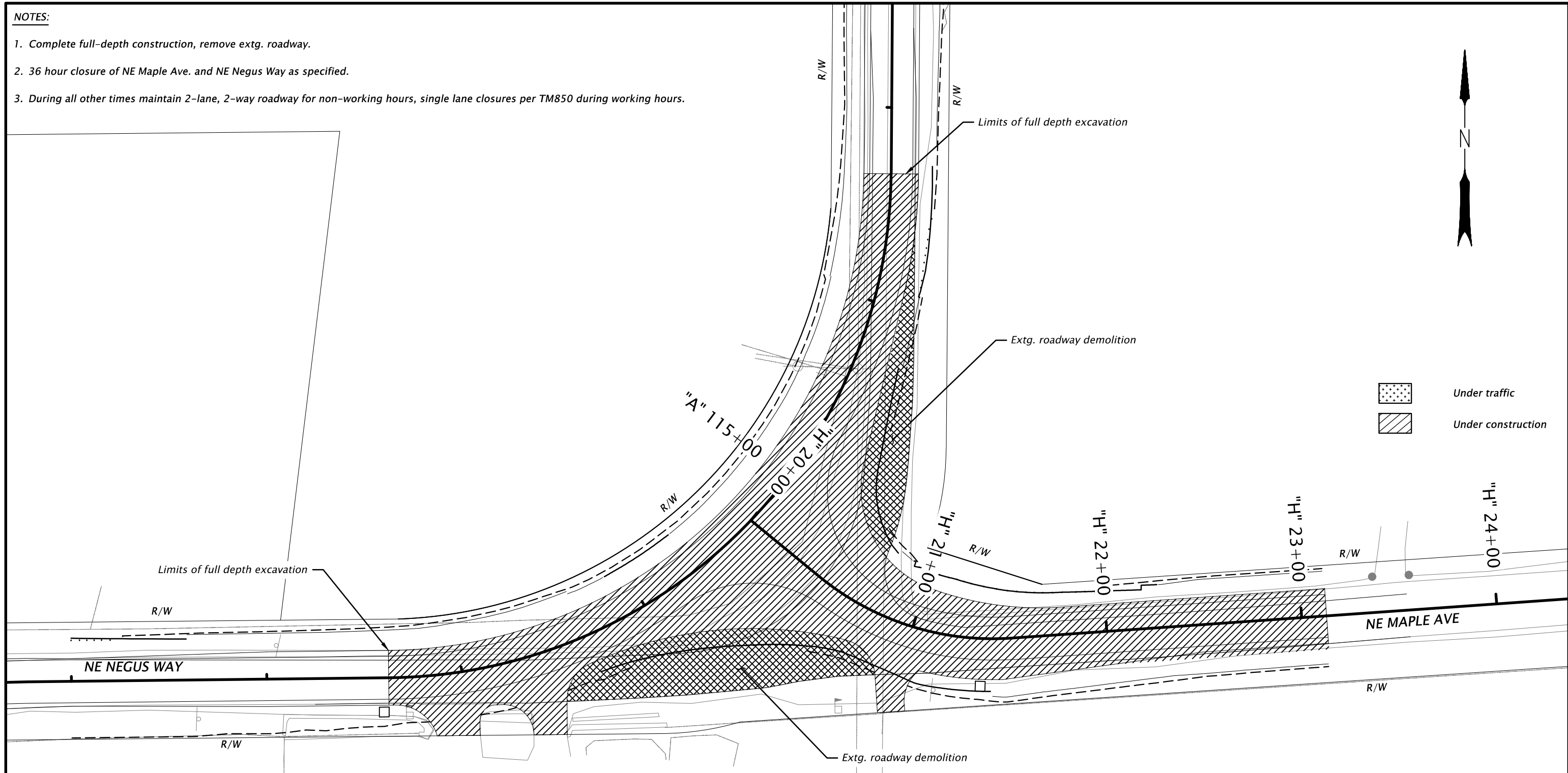
Designer: Taisei Imamura      Reviewer: Shon Heern  
 Drafter: Ryan Berger      Checker: Terry Wheeler

**TRAFFIC CONTROL DETAILS**

SHEET NO.  
EA02

**NOTES:**

1. Complete full-depth construction, remove extg. roadway.
2. 36 hour closure of NE Maple Ave. and NE Negus Way as specified.
3. During all other times maintain 2-lane, 2-way roadway for non-working hours, single lane closures per TM850 during working hours.



**NE NEGUS WAY - NE MAPLE AVENUE INTERSECTION STAGING**  
 INTERSECTION CONSTRUCTION DURING STAGE 4



RENEWS: 06-30-2021



**NE NEGUS WAY & NE 17TH ST.  
 IMPROVEMENT PROJECT**

Designer: Tai Imamura      Reviewer: Shon Heern  
 Drafter: Ryan Berger      Checker: Terry Wheeler

**TRAFFIC CONTROL DETAILS**

SHEET NO.  
 EA03

(A) PCMS locations

EIGHT LETTERS PER LINE  
MAXIMUM OF TWO PANELS  
PORTABLE CHANGEABLE MESSAGE SIGN  
(Apply message to fit conditions)  
(Locate As Directed)

(A\*) \*PCMS at these locations may be substituted for temp. signs, covered while not in use.

Road Work on 17th/Negus  
9th St to Oneil Hwy  
Expect Delays 8A-5P  
(48x 24)



ROAD CLOSED TO THRU TRAFFIC  
LOCAL ACCESS ONLY  
R11-4\*  
(Stage 2)



ROAD CLOSED TO THRU TRAFFIC  
LOCAL ACCESS ONLY  
R11-4\*  
(Stage 3)



ROAD CLOSED  
R11-2  
(Stage 4)



# TRAFFIC STAGING PLAN

## Stage 1

### Construction

Sta. 112+00 to Sta. 230+00 - Shoulder widening and earthwork outside of extg. roadway

### Traffic Control

**Working hours** - 2-lane, 2-way roadway single lane closures per TM850  
**Non-working hours** - 2-lane, 2-way roadway

## Stage 2

### Construction

Sta. 178+00 (Upas Ave) to 230+00 (Oneil Hwy) - FDR and Base Paving (except for sections noted below)

- Sta. 187+91 to Sta. 188+71 - Bridge approach - full depth const. and base paving
  - Sta. 188+71 to Sta. 189+15 - No Work Area
  - Sta. 189+15 to Sta. 191+30 - Bridge approach - full depth const. and base paving
  - Sta. 195+95 to Sta. 202+11 - Grade revision - full depth const. and base paving (See sht. EA01)
- Oneil Hwy. approach tie-in, King Way intersection, Misc. street connections

### Traffic Control

NE 17th St./NE Negus Way. - closed from NE Maple/Negus Way intersection to Oneil Hwy.

### Working hours

- Position flaggers at ends of road closure/work zone to direct local traffic thru work zone
  - Maintain access for local traffic, school busses, postal service, service providers and emergency services at all times
  - Maintain access to Maple Ave./Negus Way Intersection at all times
- Non-working hours** - Open road to two-way, low-speed local traffic

## Stage 3

### Construction

Sta. 112+62 to Sta. 116+66 - Maple Ave./Negus Way Intersection (outside of roadway) - Full depth const.

Sta. 116+66 to Sta. 178+00 - FDR and base paving

Upas Ave. intersection, misc. street connections

### Traffic Control

NE 17th St./NE Negus Way - closed from NE Maple/Negus Way intersection to Varnish Ave.

### Working hours

- Position flaggers at ends of road closure/work zone to direct local traffic thru work zone
  - Maintain access for local traffic, school busses, postal service, service providers and emergency services at all times
- Non-working hours** - Open road to two-way, low-speed local traffic

## Stage 4

### Construction

Sta. 112+62 to Sta. 116+66 - Maple Ave./Negus Way intersection - Complete full-depth const., remove extg. roadway

### Traffic Control

36 hour closure of NE Maple Ave. and NE Negus Way as specified

During all other times

### Working hours

- 2-lane, 2-way roadway single lane closures per TM850
  - Maintain access for local traffic, school busses, postal service, service providers and emergency services at all times
- Non-working hours** - 2-lane, 2-way roadway

## Stage 5

### Construction

Sta. 110+00 to Sta. 230+00 - Wearing course paving, shoulder rock, permanent signing, permanent striping, other incidental work

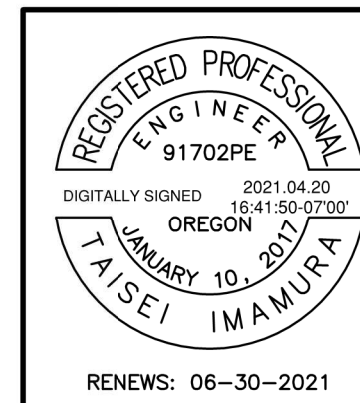
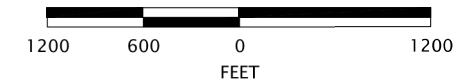
### Traffic Control

**Working hours** - 2-lane, 2-way roadway single lane closures per TM850

**Non-working hours** - 2-lane, 2-way roadway

### General Notes

1. Maintain min. 11' lane width unless otherwise approved by the engineer.
2. For standard sign spacings, see "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on dwg. no. TM800.
3. For closure details, see dwg. no. TM840



**DAVID EVANS AND ASSOCIATES INC.**  
530 Center Street N.E., Suite 605  
Salem Oregon 97301  
Phone: 503.361.8635

**CLATSOP COUNTY ROAD DEPARTMENT**

## NE NEGUS WAY & NE 17TH ST. IMPROVEMENT PROJECT

Designer: Tai Imamura

Reviewer: Shon Heern

Drafter: Ryan Berger

Checker: Terry Wheeler

## TRAFFIC STAGING PLAN

SHEET NO.

EBO1

## SIGNING & STRIPING LEGEND

### STRIPING LEGEND

- W Inst. 4" white line
- ND Inst. narrow double no-pass
- S Inst. 12" white stop bar

#### STRIPING NOTES:

1. Match point to extg. striping and station call-outs are approx. and shall be field verified. Exact locations are to be determined in the field.
2. All pavement legends and bars shall Thermoplastic, type AB. See Section 00865.00 of the Oregon Standard Specifications for Construction.
3. Maintain and protect all extg. striping except as otherwise shown in plans. Removal of extg. pavement markings shown is approx. and shall be field verified.

### SIGNING LEGEND

- N Inst. new sign (N)
- N  
M Inst. new sign (N) on new (M) sign support
- EX Maintain & protect extg. sign and support in place
- RSN Remove and save extg. sign (N)
- RSN  
M Remove and save extg. sign (N) and remove (M) sign support
- RIN Reinstall extg. sign (N)
- RIN  
M Reinstall extg. sign (N) on new (M) sign support
- RXN  
M Remove extg. sign (N) and (M) sign support
- RXN Remove extg. sign (N)
- RPV Extg. private sign to be relocated (By others)

N = Sign Number

M = Material

Material options:




W = Wood Post

ST = Perforated Steel Square Tube Sign Support

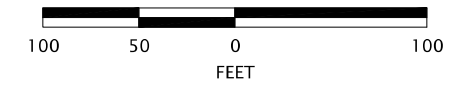
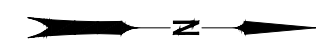
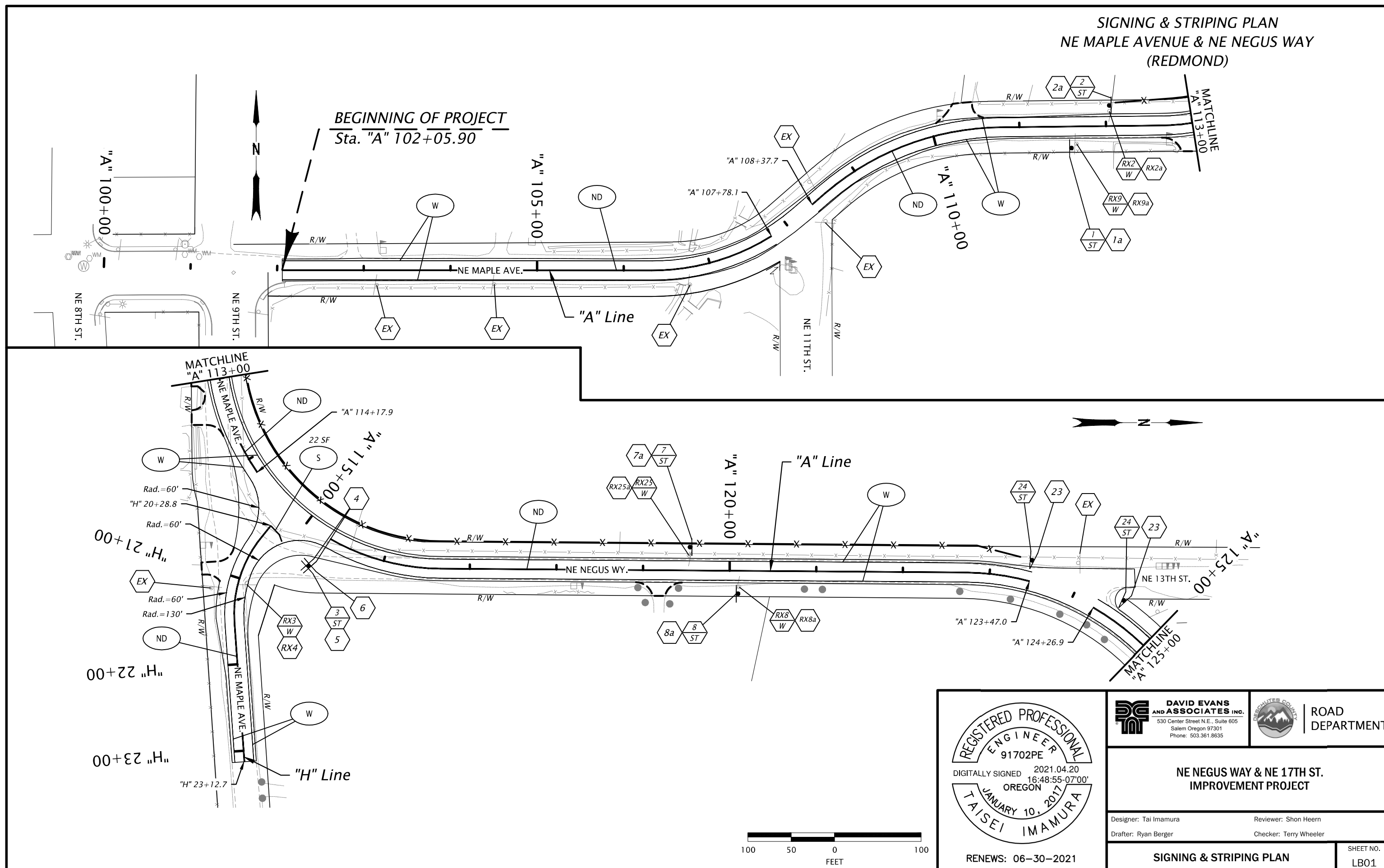
#### SIGNING NOTES:

1. Signs shall conform to the requirements of the current version of the Manual of Uniform Traffic Control Devices (MUTCD) and the ODOT Sign Policy Guidelines, current edition.
2. New signs shall be constructed of sheet aluminum substrate per Section 02910.10 of the Oregon Standard Specifications for Construction, 2021 edition.
3. New sign sheeting and legend materials shall conform to Sections 02910.20, 02910.33 and 02910.60 of the Oregon Standard Specifications for Construction.
4. Extg. signs not shown are to remain in place unless otherwise directed by the Engineer of Record.
5. The locations of sign installations shown are approx. with exact locations to be determined in the field.

ACCOMPANIED BY DWGS:  
TM200, TM500, TM560, TM561, TM570,  
TM671, TM676, TM681 & TM688

	 <p style="font-size: 8px;">DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635</p>	 <p style="font-size: 8px;">ROAD DEPARTMENT</p>
<p><b>NE NEGUS WAY &amp; NE 17TH ST. IMPROVEMENT PROJECT</b></p>		
Designer: Tai Imamura Drafter: Ryan Berger		Reviewer: Shon Heern Checker: Terry Wheeler
SIGNING & STRIPING LEGEND		SHEET NO. LA01

**SIGNING & STRIPING PLAN  
NE MAPLE AVENUE & NE NEGUS WAY  
(REDMOND)**

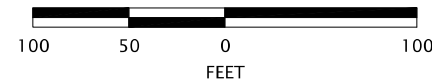
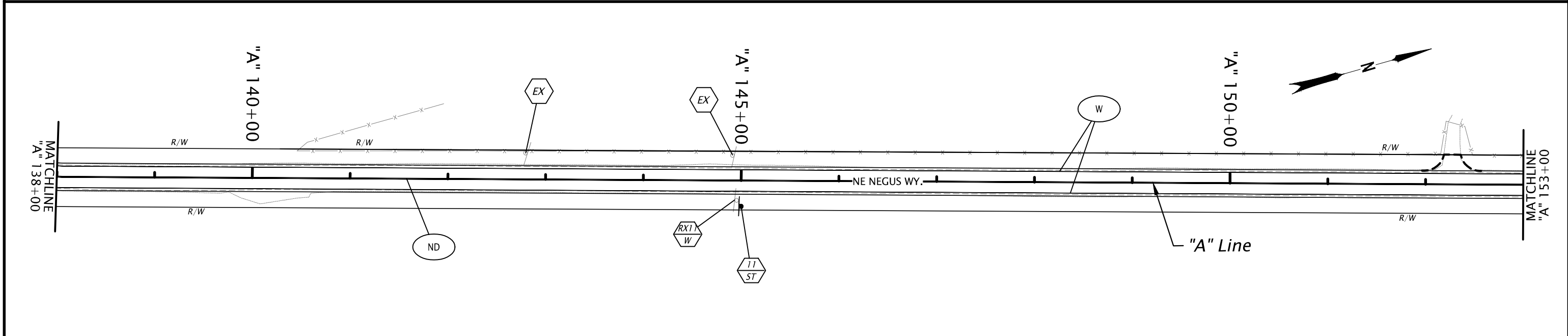
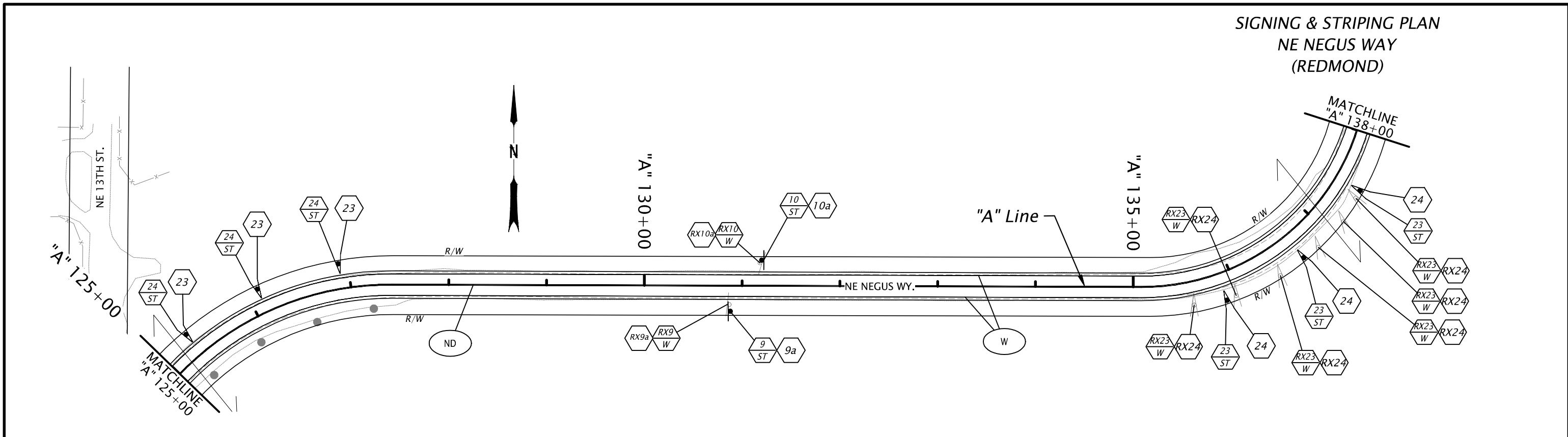


REGISTERED PROFESSIONAL ENGINEER  
 91702PE  
 DIGITALLY SIGNED 2021.04.20 16:48:55-07'00"  
 OREGON  
 JANUARY 10, 2017  
 TAISEI IMAMURA  
 RENEWS: 06-30-2021

 <b>DAVID EVANS AND ASSOCIATES INC.</b> 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	 <b>ROAD DEPARTMENT</b>

Designer: Tai Imamura	Reviewer: Shon Heern
Drafter: Ryan Berger	Checker: Terry Wheeler
<b>SIGNING &amp; STRIPING PLAN</b>	
SHEET NO. LB01	

SIGNING & STRIPING PLAN  
NE NEGUS WAY  
(REDMOND)



REGISTERED PROFESSIONAL  
ENGINEER  
91702PE  
DIGITALLY SIGNED 2021.04.20 16:52:44-07'00"  
OREGON  
JANUARY 10, 2017  
TAISEI IMAMURA  
RENEWS: 06-30-2021

**DAVID EVANS AND ASSOCIATES INC.**  
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Salem Oregon 97301  
Phone: 503.361.8635

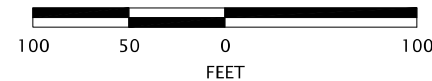
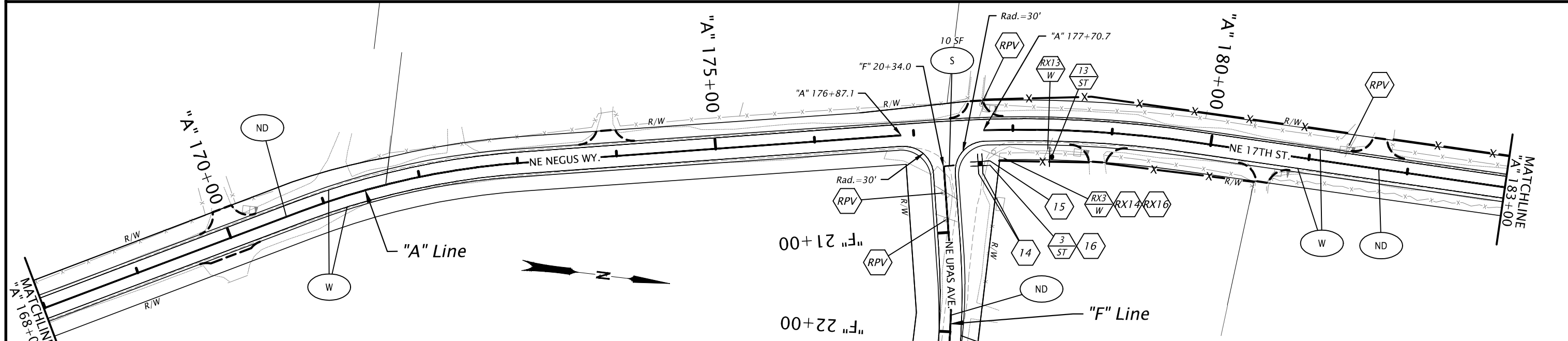
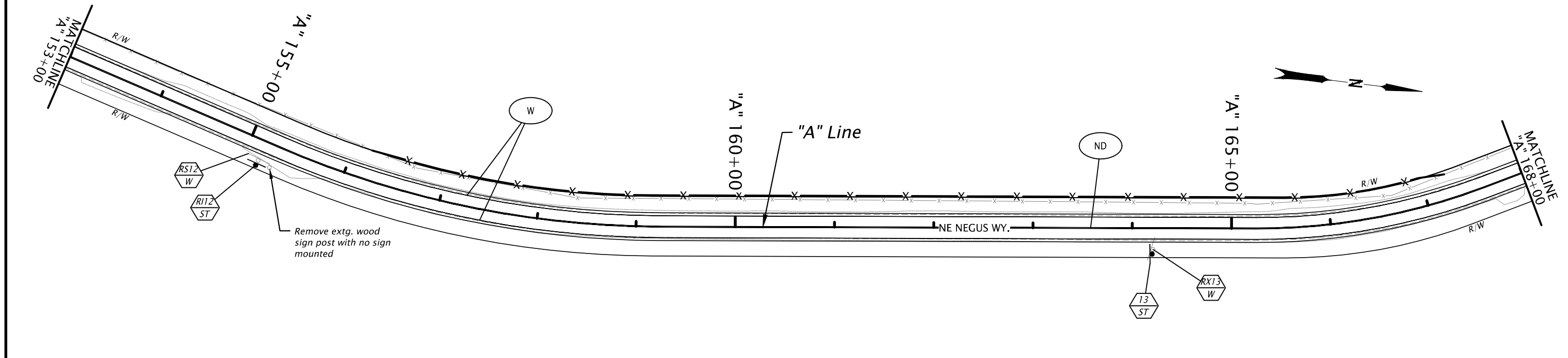
**CLATSOP COUNTY ROAD DEPARTMENT**

**NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT**

Designer: Tai Imamura      Reviewer: Shon Heern  
Drafter: Ryan Berger      Checker: Terry Wheeler

**SIGNING & STRIPING PLAN**      SHEET NO. LB02

SIGNING & STRIPING PLAN  
NE NEGUS WAY & NE 17TH STREET  
(REDMOND)



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ENGINEER  
91702PE  
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16:53:50-07'00"  
OREGON  
JANUARY 10, 2017  
TAISEI IMAMURA  
RENEWS: 06-30-2021

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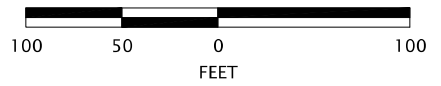
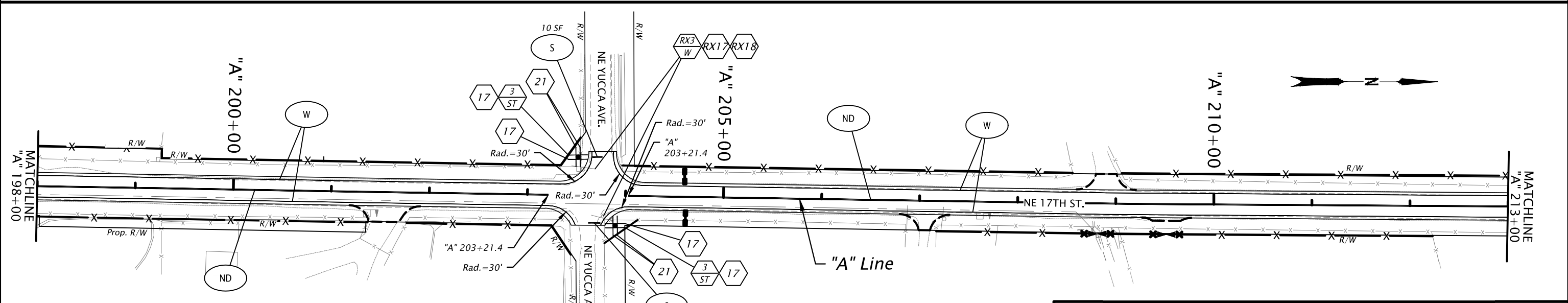
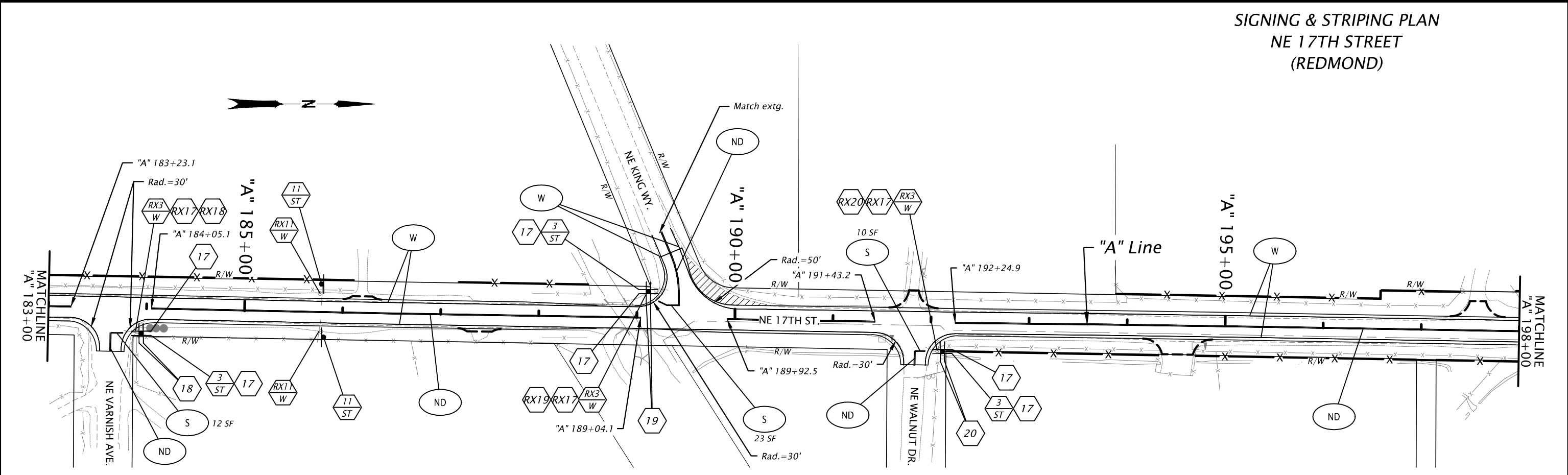
**CLATSOP COUNTY ROAD DEPARTMENT**

**NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT**

Designer: Tai Imamura      Reviewer: Shon Heern  
Drafter: Ryan Berger      Checker: Terry Wheeler

**SIGNING & STRIPING PLAN**      SHEET NO. LB03

SIGNING & STRIPING PLAN  
NE 17TH STREET  
(REDMOND)



REGISTERED PROFESSIONAL  
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DIGITALLY SIGNED 2021.04.20  
17:15:43-07'00"  
OREGON  
JANUARY 10, 2017  
Taisei Imamura  
RENEWS: 06-30-2021

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Salem Oregon 97301  
Phone: 503.361.8635

CLATSOP COUNTY ROAD DEPARTMENT

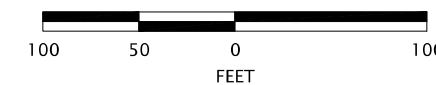
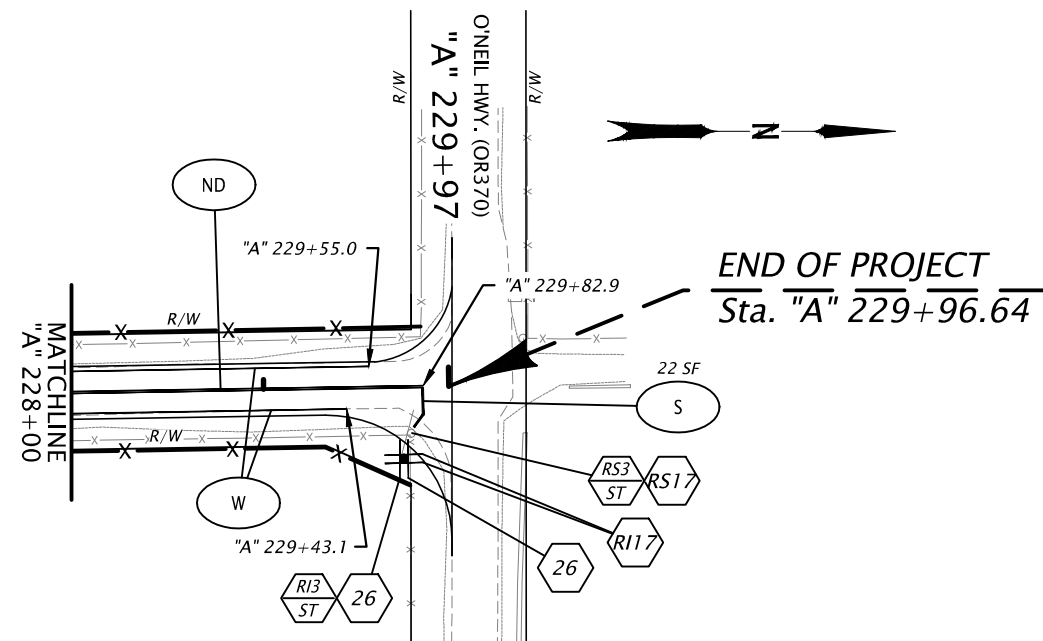
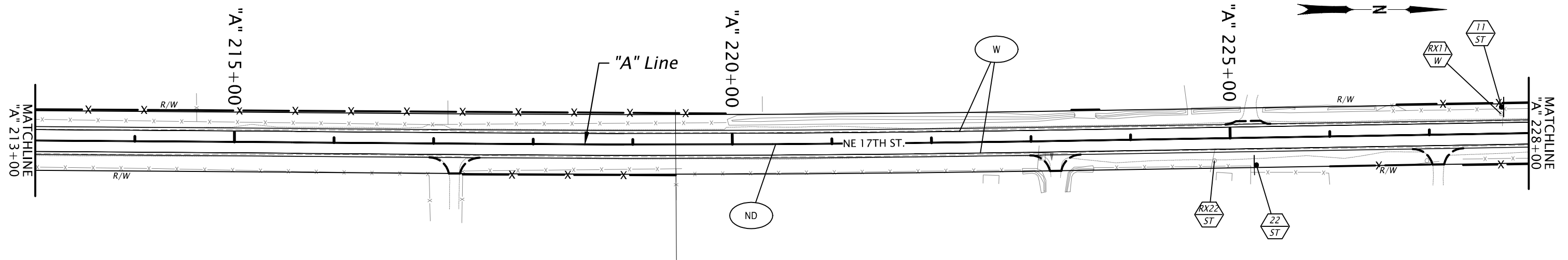
NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT

Designer: Tai Imamura Reviewer: Shon Heern  
Drafter: Ryan Berger Checker: Terry Wheeler

SIGNING & STRIPING PLAN SHEET NO. LB04



SIGNING & STRIPING PLAN  
NE 17TH STREET  
(REDMOND)



REGISTERED PROFESSIONAL  
ENGINEER  
91702PE  
DIGITALLY SIGNED 2021.04.20 16:59:05-07'00"  
OREGON  
JANUARY 10, 2017  
Taisei Imamura  
RENEWS: 06-30-2021

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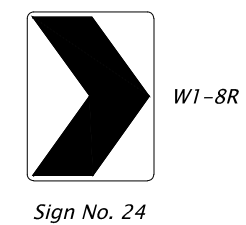
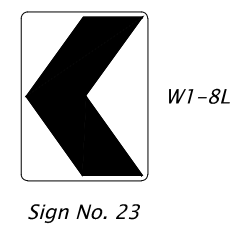
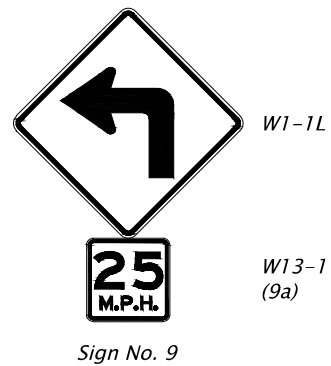
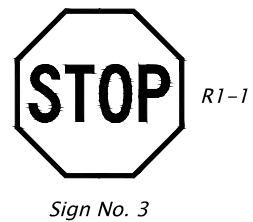
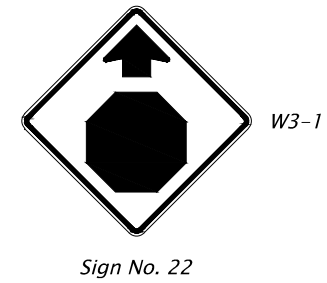
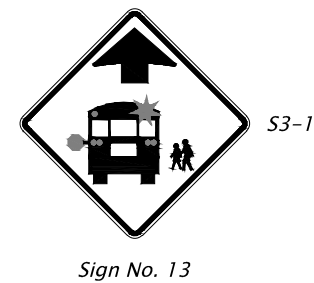
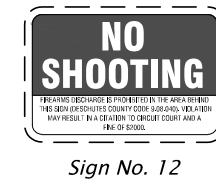
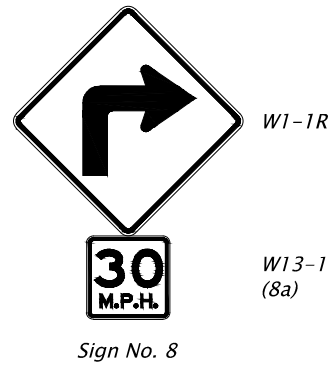
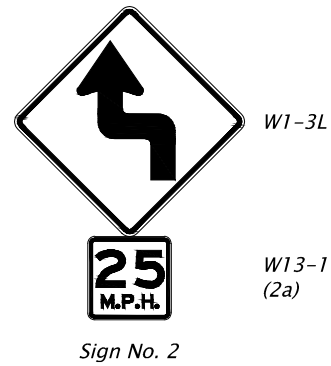
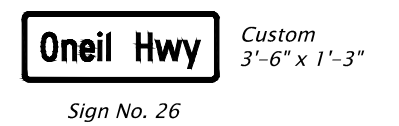
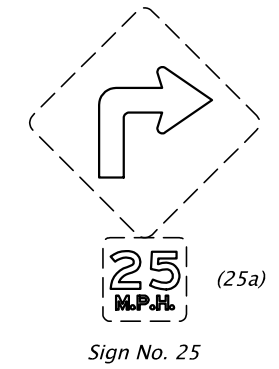
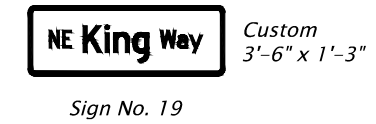
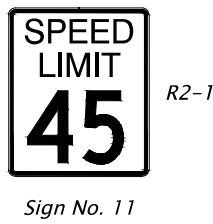
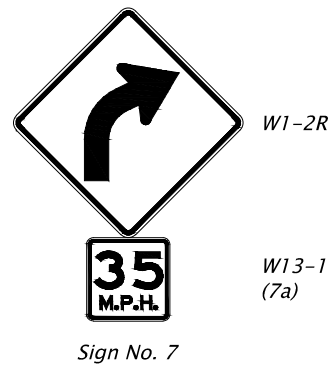
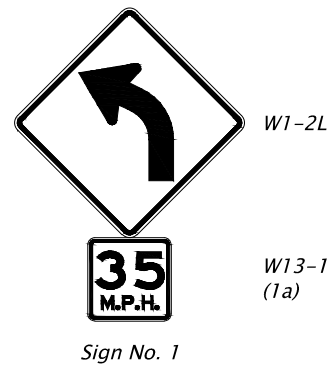
CLATSOP COUNTY ROAD DEPARTMENT

NE NEGUS WAY & NE 17TH ST.  
IMPROVEMENT PROJECT

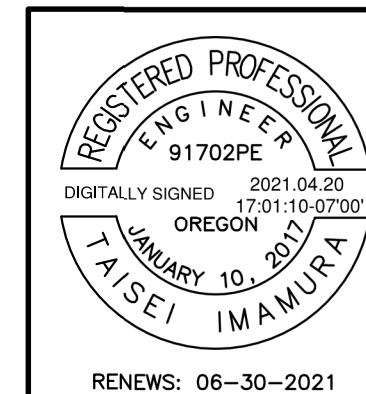
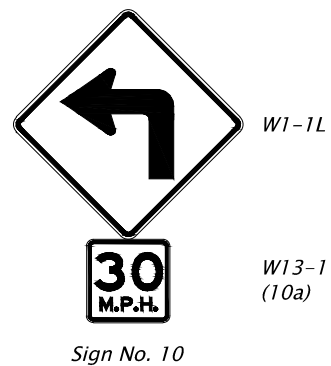
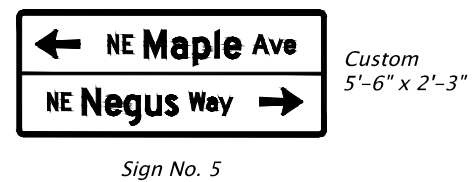
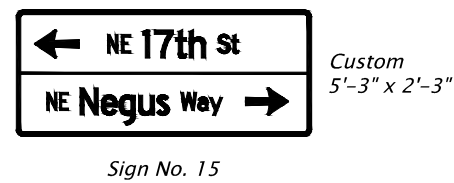
Designer: Tai Imamura Reviewer: Shon Heern  
Drafter: Ryan Berger Checker: Terry Wheeler

SIGNING & STRIPING PLAN SHEET NO. LB05

SIGN DETAILS



NOTE:  
SIGNS WITH DASHED BORDER  
ARE EXISTING SIGNS.



<b>NE NEGUS WAY &amp; NE 17TH ST. IMPROVEMENT PROJECT</b>	
Designer: Tai Imamura	Reviewer: Shon Heern
Drafter: Ryan Berger	Checker: Terry Wheeler
<b>SIGN DETAILS</b>	SHEET NO. LC01



**SIGN & POST DATA TABLE**

SIGN NO.	SIGN LOCATION 4/ (TM200-TM201, TM635)	SIGN DIMENSIONS		SUB-STRATE PLYWOOD SHEET ALUMINUM EXTRUDED ALUM. (TM675)	COLOR 1/ BACKGROUND LEGEND				LEGEND PERMANENT REMOVABLE (TM230 - TM233)	SIGN NO. 2/ WOOD POST (TM670-TM671, TM676) SQ. TUBE SIGN SUPPORT (TM671, TM676, TM681, TM687-TM689) TRIANGULAR BASE BREAKAWAY (TM602) H - FRAME MULTI-POST BREAKAWAY (TM220, TM600-TM601) STAINLESS STEEL CLAMP (SSC) (TM677) SIGNAL POLE MOUNT (TM680) MAST ARM SIGN MOUNT (TM679) BRIDGE STRUCTURE MOUNT (TM677) CANTILEVER / BUTTERFLY (TM622-TM627) SIGN BRIDGE (TM606-TM612, TM614-TM620) EXIT NUMBER SIGN MOUNT (TM220, TM225) ROUTE MARKER FRAME (TM678) MILEPOST MARKER POST (TM221-TM222) CROSSWALK CLOSURE BARRICADE (TM240) VERTICAL SIGN MOUNTS ON EXISTING STRUCTURES CUSTOM VARIABLE SUPPORT C 4X5.4 C 4X7.25	POST		FOOTING		REMARKS	
		WIDTH	HEIGHT		ASTM TYPE III OR TYPE IV	ASTM TYPE IX	ASTM TYPE III OR TYPE IV	ASTM TYPE IX			NON-REFLECTIVE	SIZE	LENGTH	LOCATION 3/ MIN. DEPTH 5/		
11	"A" 145+00.0, Rt.	30"	36"	✓	W			Bk	✓	11	✓	2 1/2" & 2 1/2" - 12 ga	11'-6"	12.0'	3'-0"	(Slip base)
	"A" 185+78.0, Lt.	30"	36"	✓	W			Bk	✓		✓	2 1/2" & 2 1/2" - 12 ga	12'-0"	14.5'	3'-0"	(Slip base)
	"A" 185+81.0, Rt.	30"	36"	✓	W			Bk	✓		✓	2 1/2" & 2 1/2" - 12 ga	11'-0"	11.5'	3'-0"	(Slip base)
	"A" 227+73.0, Lt.	30"	36"	✓	W			Bk	✓		✓	2 1/2" & 2 1/2" - 12 ga	11'-6"	13.0'	3'-0"	(Slip base)
12	"A" 155+15.0, Rt.	(12")	(18")							12	✓	2 1/2" & 2 1/2" - 12 ga	10'-6"	10.0'	3'-0"	(Slip base) Reinstall extg. sign on new post
13	"A" 164+20.0, Rt.	36"	36"	✓	YG	R		Bk	✓	13	✓	2 1/2" & 2 1/2" - 12 ga	14'-6"	12.0'	3'-0"	(Slip base)
	"A" 178+39.8, Rt.	36"	36"	✓	YG	R		Bk	✓		✓	2 1/2" & 2 1/2" - 12 ga	12'-6"	13.0'	3'-0"	(Slip base)
14	"F" 20+34.0, Lt.	3'-6"	1'-3"	✓	G	SW			✓	14						Mount above Sign No. 3, perpendicular
	"F" 20+34.0, Lt.	3'-6"	1'-3"	✓	G	SW			✓							Mount above Sign No. 3, perpendicular
15	"F" 20+34.0, Lt.	5'-3"	2'-3"	✓	G	SW			✓	15						Mount above Sign No. 14, facing 17th St.
16	"F" 20+34.0, Lt.	5'-3"	2'-3"	✓	G	SW			✓	16						Mount above Sign No. 14, facing Upas Ave.
17	"A" 183+95.0, Rt.	3'-3"	1'-0"	✓	G	SW			✓	17						Mount above Sign No. 18, facing 17th St.
	"A" 183+95.0, Rt.	3'-3"	1'-0"	✓	G	SW			✓							Mount above Sign No. 18, facing Varnish Ave.
	"D" 20+27.5, Lt.	3'-3"	1'-0"	✓	G	SW			✓							Mount above Sign No. 19, facing 17th St.
	"D" 20+27.5, Lt.	3'-3"	1'-0"	✓	G	SW			✓							Mount above Sign No. 19, facing King Way
	"A" 192+12.0, Rt.	3'-3"	1'-0"	✓	G	SW			✓							Mount above Sign No. 20, facing 17th St.
	"A" 192+12.0, Rt.	3'-3"	1'-0"	✓	G	SW			✓							Mount above Sign No. 20, facing Walnut Dr.
	"A" 203+51.0, Lt.	3'-3"	1'-0"	✓	G	SW			✓							Mount above Sign No. 21, facing 17th St.
	"A" 203+51.0, Lt.	3'-3"	1'-0"	✓	G	SW			✓							Mount above Sign No. 21, facing Yucca Ave. (West)
	"A" 203+90.0, Rt.	3'-3"	1'-0"	✓	G	SW			✓							Mount above Sign No. 21, facing 17th St.
	"A" 203+90.0, Rt.	3'-3"	1'-0"	✓	G	SW			✓							Mount above Sign No. 21, facing Yucca Ave. (East)
	"A" 229+83.0, Rt.	(3'-3")	(1'-0")													Mount above Sign No. 26, facing Oneil Hwy. (East)
	"A" 229+83.0, Rt.	(3'-3")	(1'-0")													Mount above Sign No. 26, facing Oneil Hwy. (West)
18	"A" 183+95.0, Rt.	4'-6"	1'-0"	✓	G	SW			✓	18						Mount above Sign No. 3, perpendicular
	"A" 183+95.0, Rt.	4'-6"	1'-0"	✓	G	SW			✓							Mount above Sign No. 3, perpendicular

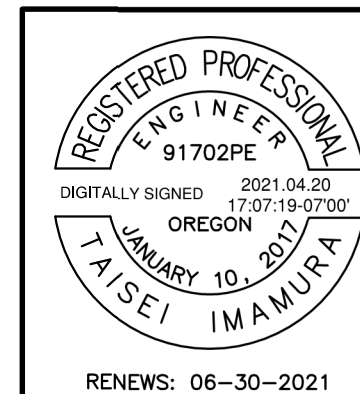
1/ BK=BLACK  
BL=BLUE  
BR=BROWN  
FY=FLUORESCENT YELLOW  
G=GREEN  
O=ORANGE  
R=RED  
RB=RED-BLUE  
SW=SILVER-WHITE  
W=WHITE  
Y=YELLOW  
YG=YELLOW-GREEN

2/ NOTE: L,C,R ARE LOCATIONS OF POSTS FACING THE SIGN.  
L=LEFT POST  
C=CENTER POST  
R=RIGHT POST

3/ DISTANCE FROM EDGE OF PAVEMENT, FACE OF CURB, GUARDRAIL, OR BARRIER TO THE CENTERLINE OF FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601, TM602 AND TM635.

4/ NOTE: THE LOCATIONS SHOWN ARE APPROXIMATE EXCEPT FOR SPEED ZONES, SCHOOL ZONES, OBJECT MARKERS AND MILEPOST MARKERS. EXACT LOCATIONS ARE TO BE DETERMINED BY THE ENGINEER.

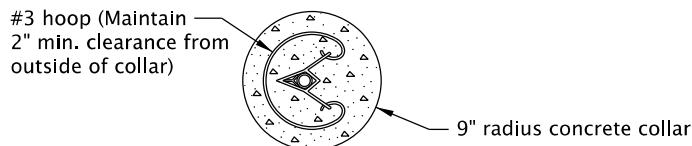
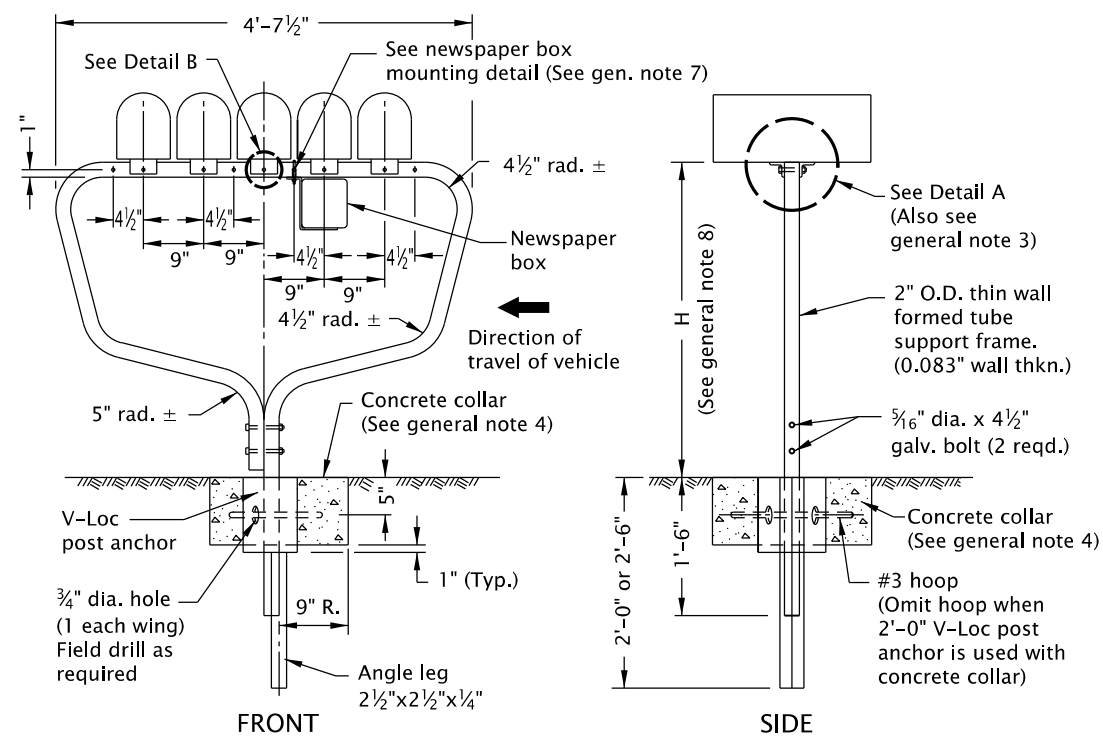
5/ MINIMUM DEPTH OF FOOTING FOR TRIANGULAR BASE BREAKAWAY AND MULTI-POST BREAKAWAY INSTALLATIONS IS FOR A 2' DIAMETER FOOTING. FOR ADDITIONAL INFORMATION SEE STANDARD DRAWINGS TM601 AND TM602.



 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	
<b>NE NEGUS WAY &amp; NE 17TH ST. IMPROVEMENT PROJECT</b>	
Designer: Tai Imamura	Reviewer: Shon Heern
Drafter: Ryan Berger	Checker: Terry Wheeler
<b>SIGN &amp; POST DATA TABLE</b>	
SHEET NO. LD02	



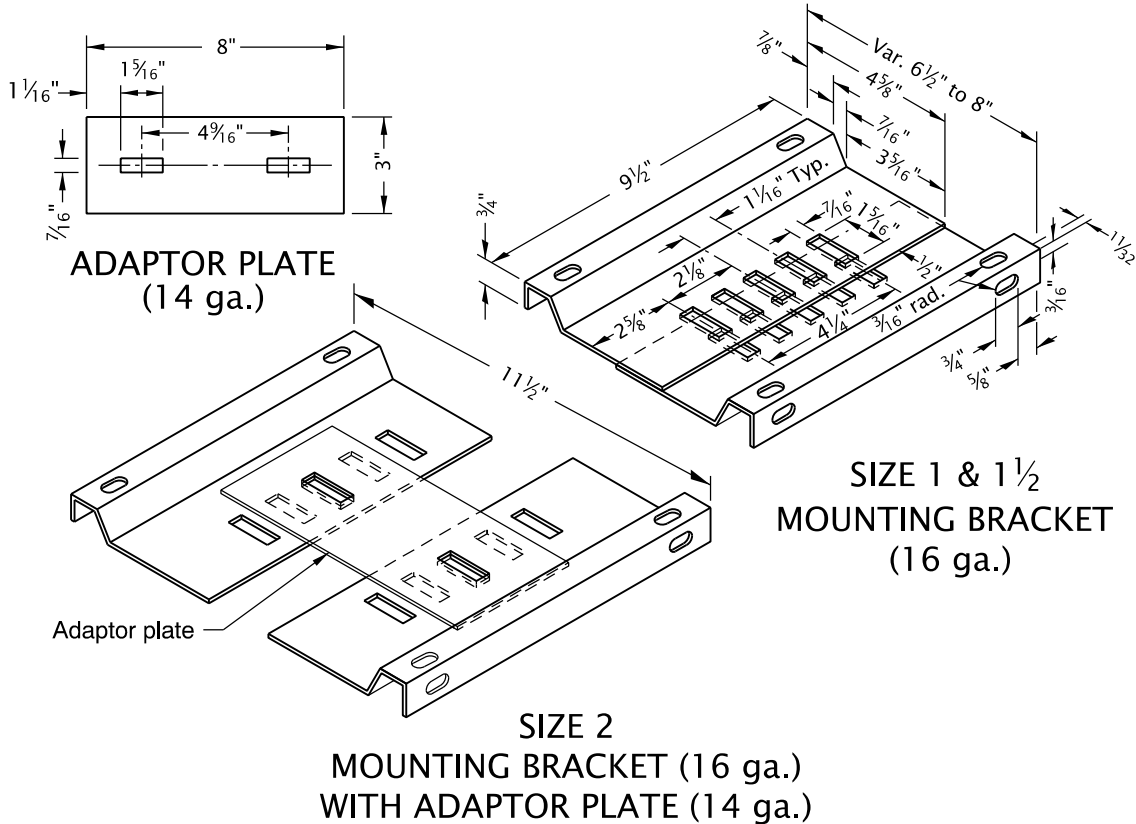
rd100.dgn 20-JUL-2020



**CONCRETE COLLAR**  
(See general note 4)

**MULTIPLE SUPPORT**

(Supports 5 standard (Sizes 1 & 1 1/2) mailboxes or 4 large (Size 2) mailboxes)



**SIZE 2 MOUNTING BRACKET (16 ga.) WITH ADAPTOR PLATE (14 ga.)**

**SIZE 1 & 1 1/2 MOUNTING BRACKET (16 ga.)**

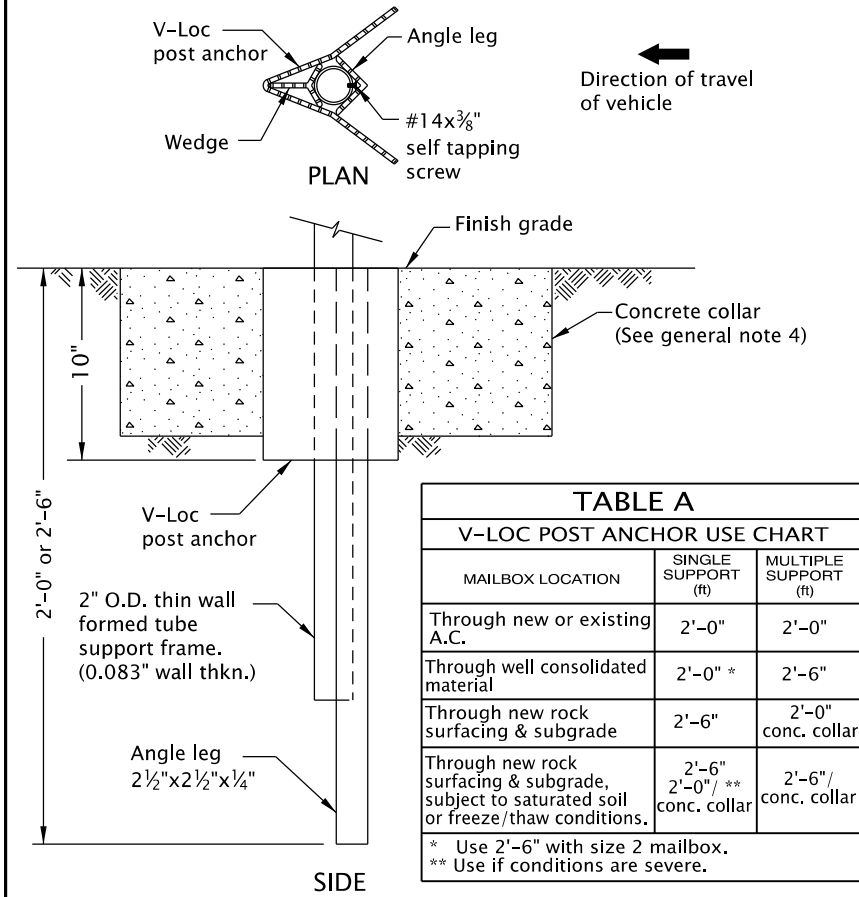
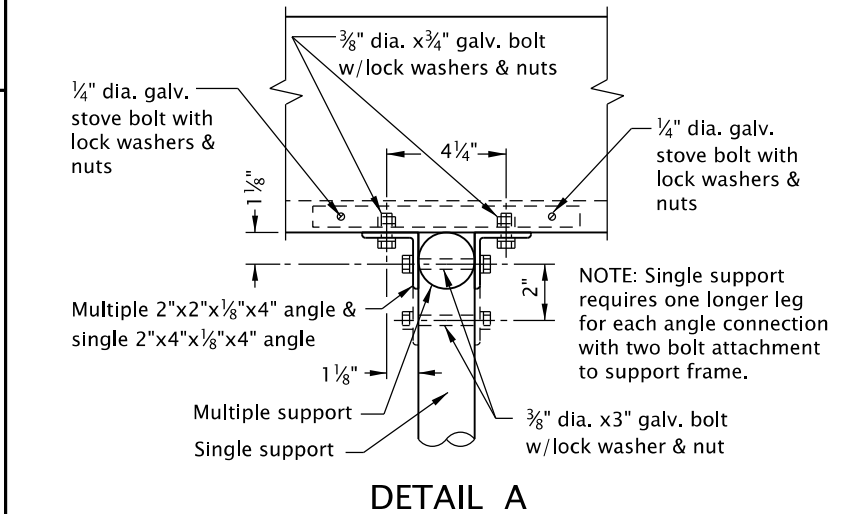


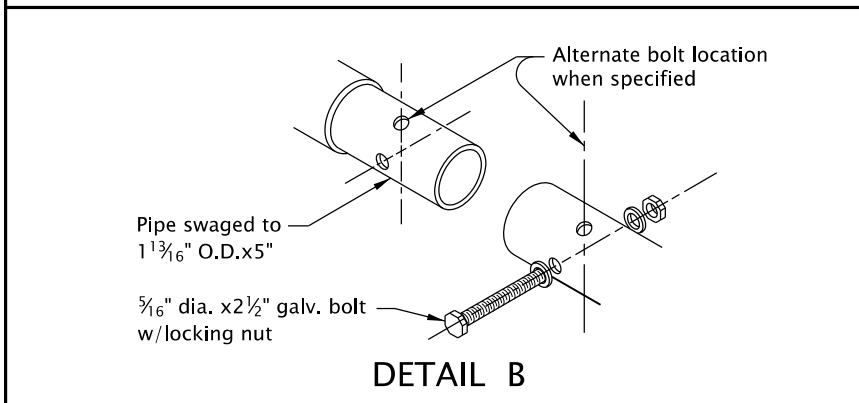
TABLE A V-LOC POST ANCHOR USE CHART		
MAILBOX LOCATION	SINGLE SUPPORT (ft)	MULTIPLE SUPPORT (ft)
Through new or existing A.C.	2'-0"	2'-0"
Through well consolidated material	2'-0" *	2'-6"
Through new rock surfacing & subgrade	2'-6"	2'-0" conc. collar
Through new rock surfacing & subgrade, subject to saturated soil or freeze/thaw conditions.	2'-6" 2'-0"/ ** conc. collar	2'-6"/ conc. collar

\* Use 2'-6" with size 2 mailbox.  
\*\* Use if conditions are severe.

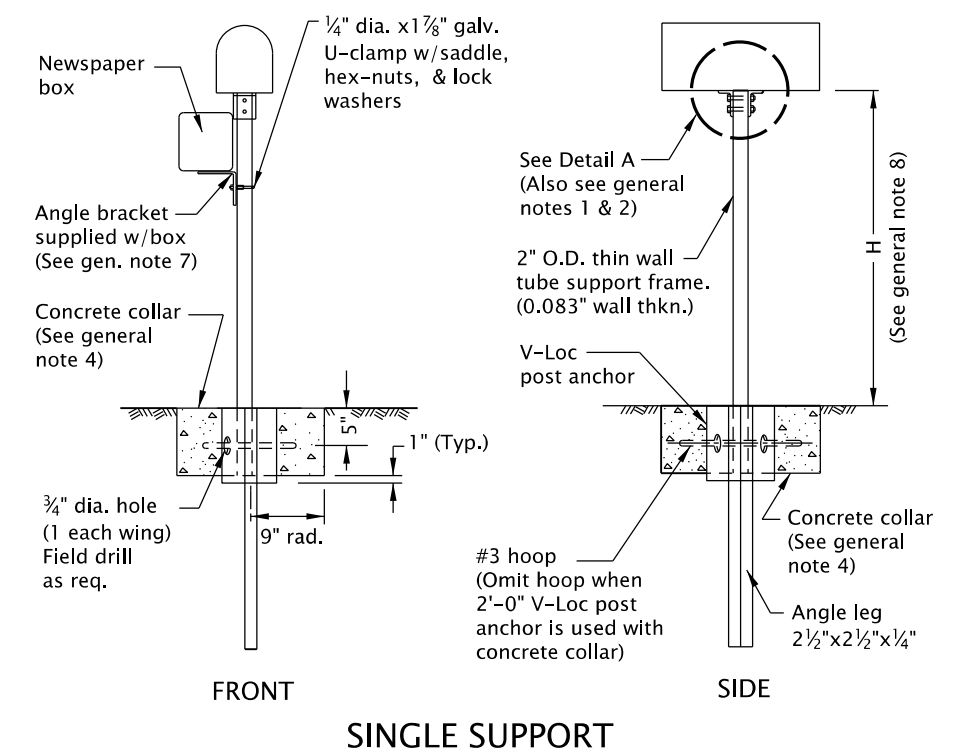
**POST MOUNTING SOCKET**



**DETAIL A**



**DETAIL B**



**SINGLE SUPPORT**

**GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:**

1. Angle connections to be parallel to traffic flow for Size 2 mailbox mounted on single post.
2. All holes in the tube support frame are to be predrilled by the manufacturer.
3. Size 2 mailbox mounted on a multiple support requires 2 each 3/8\"/>
- 4. Provide concrete collar when any of the following conditions exist:
  - a) when required in Table A
  - b) when required by project plans
  - c) as directed by the Engineer
 Concrete collar, when required, to be poured in place after V-Loc post anchor has been installed, level and plumb. Do not excavate below bottom of V-Loc post anchor. Care shall be taken that no concrete is placed within anchor.
- 5. Other proprietary products available as listed in ODOT's QPL.
- 6. For mailbox installation locations, see Std. Dwg. RD101 and project plans.
- 7. For Newspaper Box Mounting Detail, see Std. Dwg. RD101.
- 8. Mounting height (H) shall be 42\"/>
- 9. See project plans for detail not shown.

CALC. BOOK NO. N/A SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

**OREGON STANDARD DRAWINGS**

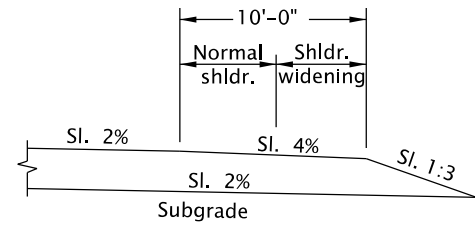
**MAILBOX SUPPORT**

2021

DATE	REVISION DESCRIPTION

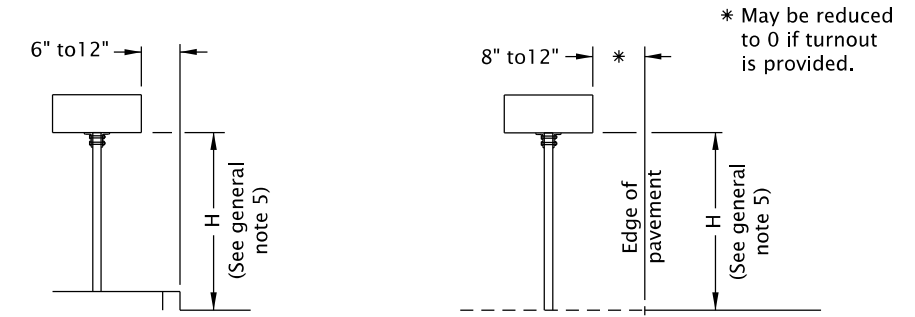
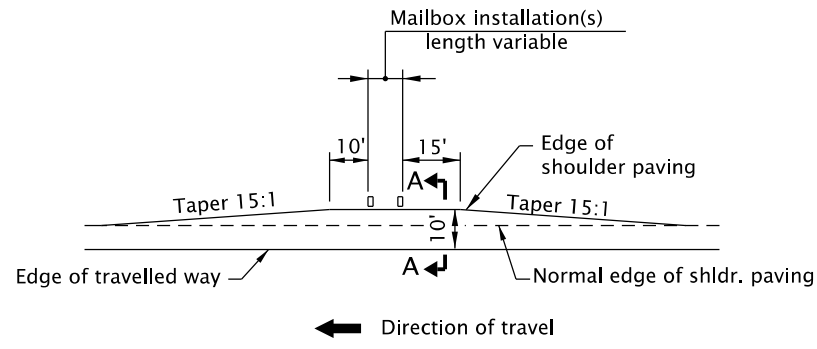
*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

rd101.dgn 20-JUL-2020



**SECTION A-A**

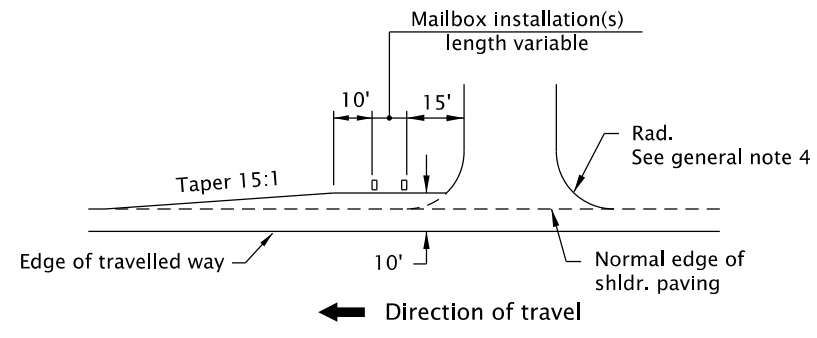
**MAILBOX SERVICE TURNOUT**



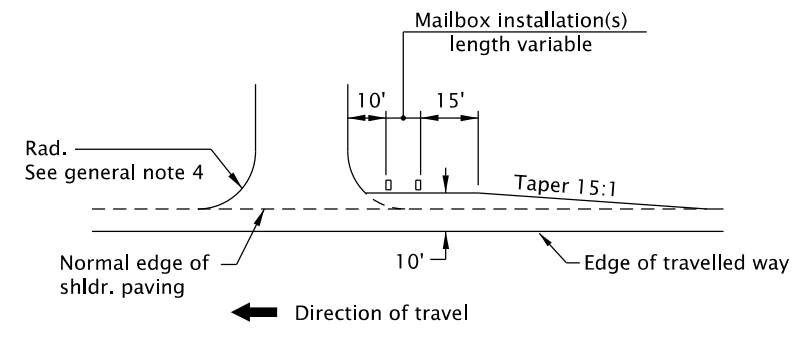
**CURBED SECTION**

**NON-CURBED SECTION**

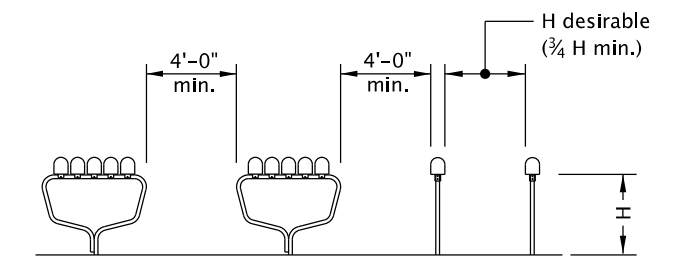
**PLACEMENT**



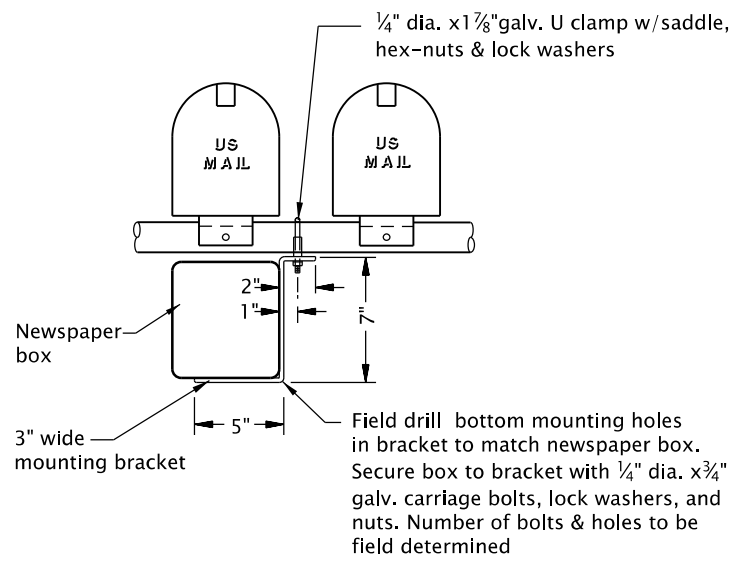
**MAILBOX SERVICE TURNOUT AFTER APPROACH**



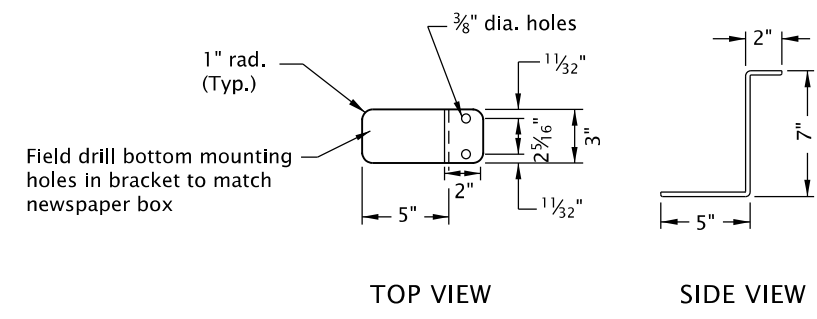
**MAILBOX SERVICE TURNOUT BEFORE APPROACH**



**SUPPORT SPACING**



**NEWSPAPER BOX MOUNTING DETAIL**



**TOP VIEW**

**SIDE VIEW**

**NEWSPAPER BOX MOUNTING BRACKET DETAIL (14 ga.)**

**GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:**

1. All holes in the tube support frame are to be predrilled by the manufacturer.
2. Other proprietary products available as listed in ODOT's QPL.
3. For mailbox support details, see Std. Dwg. RD100.
4. For approach details, see Std. Dwg. RD715.
5. Mounting height (H) shall be 42" nominal, measured from vehicle driving surface.
6. See project plans for details not shown.

CALC. BOOK NO.       N/A       SDR DATE       25-JUL-2017      

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

**OREGON STANDARD DRAWINGS**

**MAILBOX INSTALLATION**

2021

DATE	REVISION	DESCRIPTION

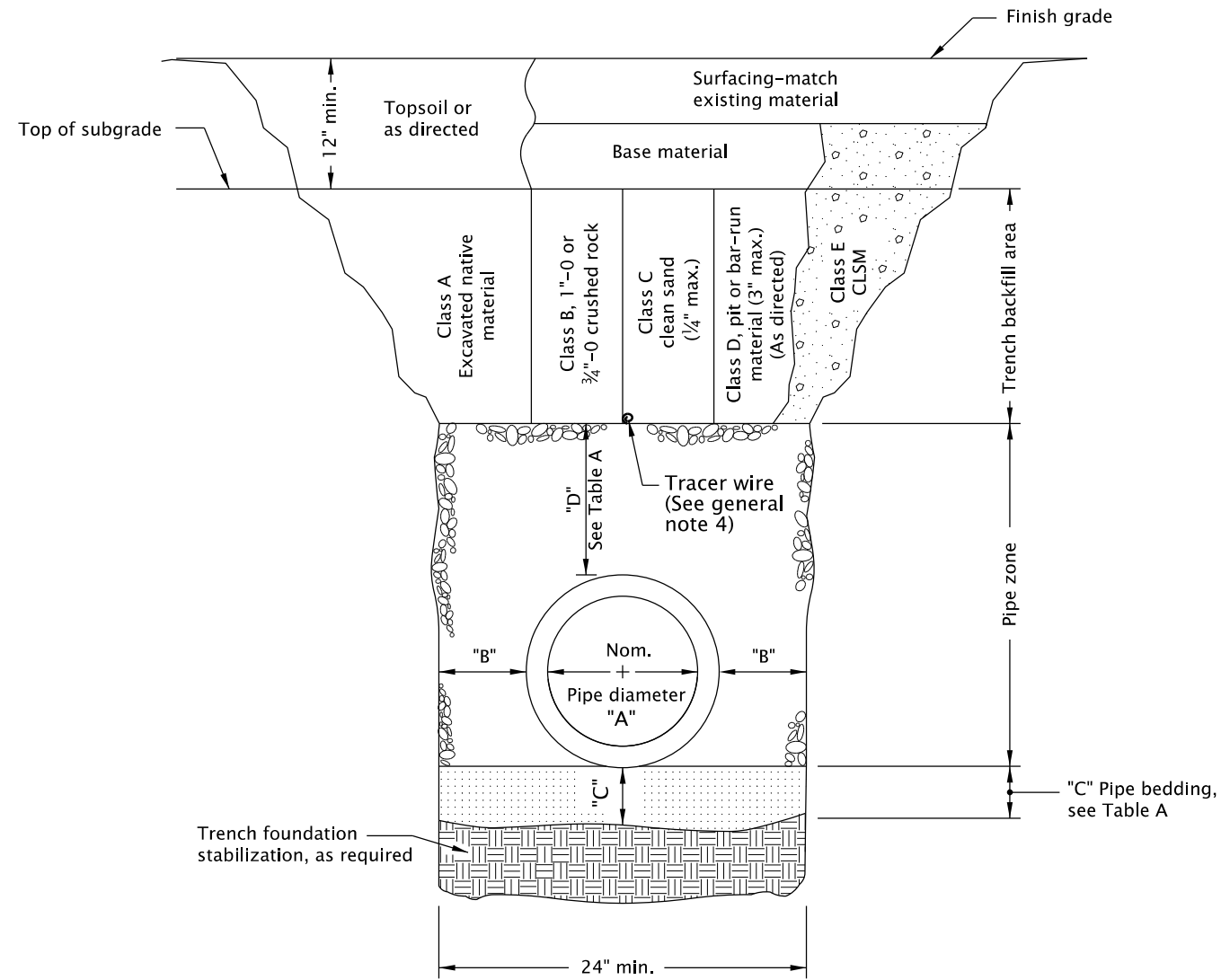
*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

RD101

**TABLE A**

"A" (in)	"B" (in)	"C" (in)	"D" (in)
4	10	4	8
6	10	4	8
8	10	6	10
10	10	6	10
12	12	6	10
15	12	6	10
18	16	6	12
21	16	6	12
24	18	6	12
30	18	6	12
36	24	6	14
42	24	6	14
48	24	6	14
54	24	6	14
60	24	6	14
66	24	6	14
72	24	6	14

For pipes over 72" diameter, see general note 3.



MULTIPLE INSTALLATIONS	
DIAMETER	MIN. SPACE BETWEEN PIPES
Up to 48"	24"
48" to 72"	One half (1/2) dia. of pipe

**GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:**

1. Surfacing of paved areas shall comply with street cut Std. Dwg. RD302.
2. For pipe installation in embankment areas where the trench method will not be used and the pipe is  $\geq 36$ " diameter, increase dimension "B" to nominal pipe diameter.
3. Pipes over 72" diameter are structures, and are not applicable to this drawing.
4. See Std. Dwg. RD336 for tracer wire details (When required).

CALC. BOOK NO.   N/A  

SDR DATE   14-JUL-2014  

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

**OREGON STANDARD DRAWINGS  
TRENCH BACKFILL, BEDDING,  
PIPE ZONE AND MULTIPLE  
INSTALLATIONS**

2021

DATE	REVISION	DESCRIPTION



rd316.dgn 20-JUL-2020

### ARCH PIPE

CORRUGATED STRUCTURAL PLATE (Dimension in inches)											
SIZE		X	B1			SIZE		X	B1		
*** SPAN	*** RISE		SLOPES			*** SPAN	*** RISE		SLOPES		
			1:1.5	1:2	1:3				1:1.5	1:2	1:3
73	55	28	45	60	89	139	89	32	88	118	174
76	57	25	51	67	101	142	91	30	94	126	189
81	59	29	48	64	95	148	93	34	91	121	181
84	61	28	54	72	107	150	95	32	97	130	195
87	63	25	60	79	119	152	97	30	103	138	206
92	65	28	57	77	115	154	100	28	110	148	220
95	67	26	63	85	126	161	101	31	108	144	215
98	69	24	70	94	139	167	103	35	104	139	209
103	71	28	67	90	134	169	105	34	110	148	221
106	73	26	73	97	145	171	107	31	117	156	234
112	75	29	70	95	143	178	109	35	114	151	227
114	77	28	77	102	152	184	111	38	111	149	223
117	79	26	83	109	165	186	113	36	118	156	234
123	81	29	80	108	161	188	115	34	124	165	246
128	83	33	78	103	152	190	118	32	131	174	258
131	85	31	84	112	167	197	119	36	127	169	256
137	87	33	82	109	162	199	121	34	133	178	268

CORRUGATED (Dimension in inches)			
EQUIVALENT ROUND SIZE	*** SPAN	*** RISE	X
15	17	13	5 1/4
18	21	15	6
21	24	18	7 1/4
24	28	20	8
30	35	24	9 1/2
36	42	29	10 1/2
42	49	33	11 1/2
48	57	38	13 1/2
54	64	43	15
60	71	47	16 1/2
66	77	52	18
72	83	57	20

Slopes as directed.

\*\*\* See general note 8

X dimensions are to top edge of corner plates on structural plate pipe.

### CIRCULAR OR ELLIPTICAL PIPE

CORRUGATED (Dimension in inches)		
SIZE	X	Y
12 to 36	4 *	0
42	8 *	8 *
48	8 *	8 *
54	8 *	8 *
60	8 *	8 *
66	12	12
72	12	12
78	12	12
84	16	16

Slopes as directed.

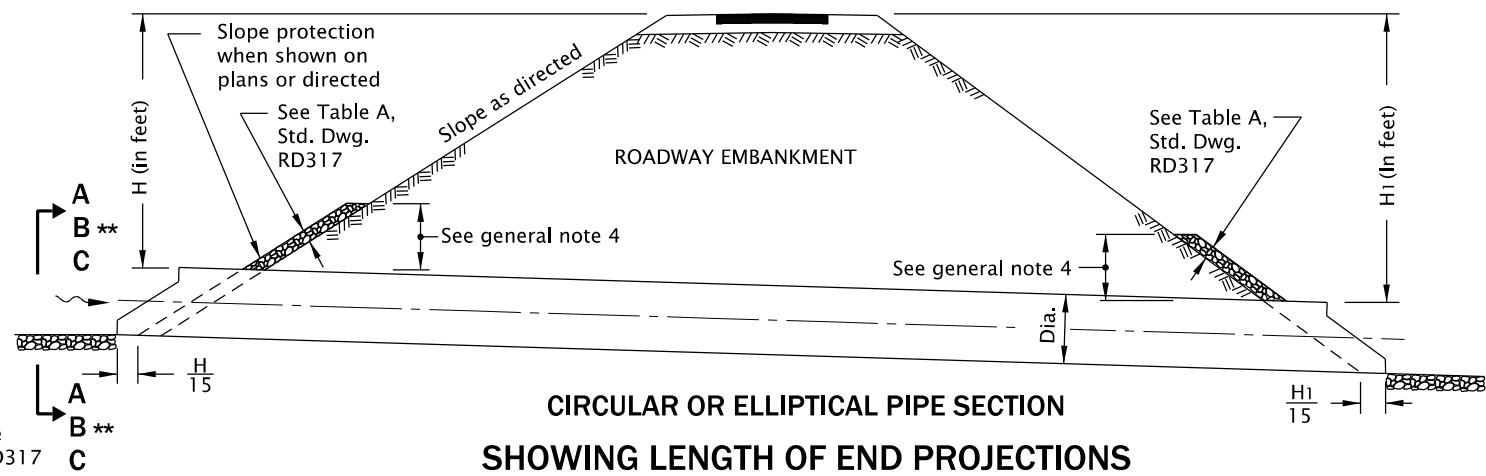
\* 0 when used with paved end slope.

SIZE	CORRUGATED STRUCTURAL PLATE (Dimension in inches)											
	B1			ALTERNATE - 1						ALTERNATE - 2		
	SLOPES			SLOPES			SLOPES			SLOPES		
	1:1.5	1:2	1:3	1:1.5	1:2	1:3	1:1.5	1:2	1:3	1:1.5	1:2	1:3
60	72	72	96	5	11	13	7	13	15	6	12	15
66	72	72	96	7	15	17	11	16	18	10	16	17
72	72	96	144	11	13	11	13	13	13	12	12	12
78	72	72	144	13	20	15	17	22	16	16	22	16
84	72	96	144	17	17	17	19	19	19	18	18	18
90	72	96	144	19	20	20	23	22	22	22	22	22
96	96	96	192	15	23	16	17	25	17	16	24	17
102	96	96	168	18	26	23	20	29	24	19	28	23
108	96	96	168	20	29	25	23	31	26	22	30	26
114	96	168	168	23	15	29	26	16	30	25	28	29
120	96	168	216	26	17	23	29	19	25	28	18	24
126	96	168	216	30	20	26	32	22	28	31	22	28
132	144	168	216	17	23	29	19	25	31	18	24	30
138	144	192	288	19	20	20	23	22	22	22	22	22
144	144	144	240	23	35	31	25	37	32	24	36	32
150	144	192	288	25	26	26	29	28	28	28	28	28
156	144	192	288	29	29	29	31	31	31	30	30	30
162	144	192	288	31	32	32	35	34	34	34	34	34
168	168	168	264	26	41	40	29	43	41	28	42	40
174	168	168	288	30	44	39	32	46	40	31	46	40
180	168	192	288	42	41	41	43	43	43	42	42	42

For elliptical pipe increase X and Y dimensions by percent of ellipse.

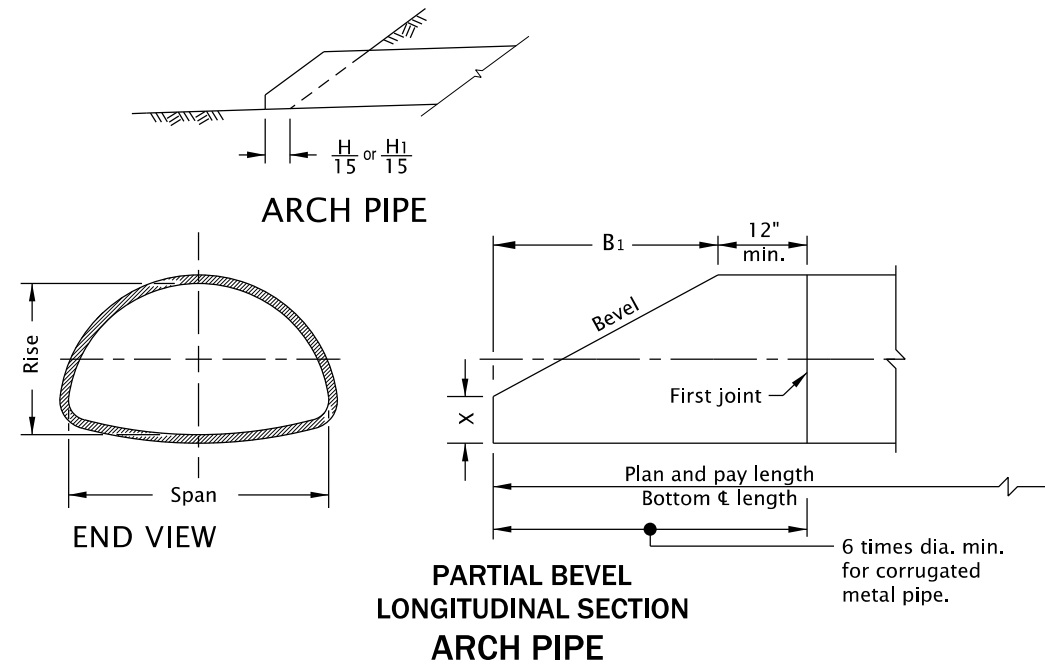
#### GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

- All dimensions are subject to necessary tolerances to meet manufacturer's requirements for plate arrangements.
- See Std. Dwg. RD300 or RD304 for installation details.
- All embankment slopes to be warped where required to provide end projections as shown.
- Minimum elevation of top of riprap at inlet and outlet is one diameter (D) or one foot higher than design headwater or tailwater elevation respectively whichever is greater.
- Slope protection required for hydraulic installations. See Table A on Std. Dwg. RD317.
- H/15 and H1/15 only applicable for non-hydraulic applications.
- Open ends of pipes normally require a site specific design, and may require special treatment (Slope ends, culvert embankment protection, paved end slopes, safety end sections, or other measures). See special details or Standard Drawings as called for on plans.
- Cross-sectional dimensions may vary with different materials.
- Full bevel cuts are not recommended for multiple radius shaped pipes.
- For pipes with skew no.'s 50, 70, 110 or 130, omit the top step (Y). (For skew diagram, see Std. Dwg. RD319).
- See Std. Dwg. RD317 for culvert embankment protection and riprap pads (When reqd.).

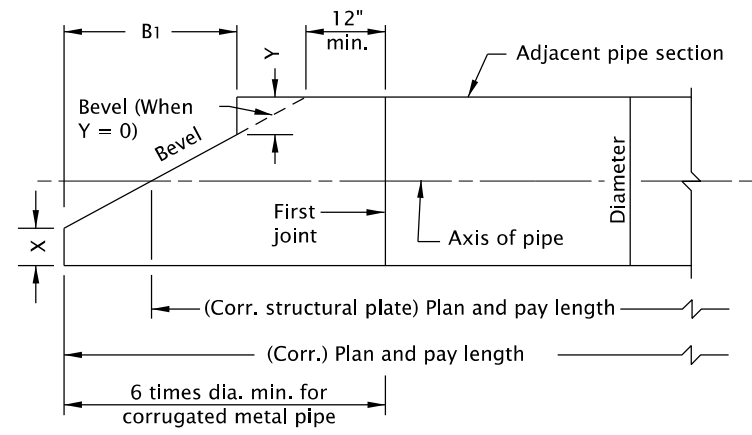


CIRCULAR OR ELLIPTICAL PIPE SECTION  
SHOWING LENGTH OF END PROJECTIONS

\*\* Configuration varies, see sections on Std. Dwg. RD317



PARTIAL BEVEL  
LONGITUDINAL SECTION  
ARCH PIPE



STEP BEVEL  
LONGITUDINAL SECTION  
CIRCULAR OR ELLIPTICAL PIPE

CALC. BOOK NO. N/A	SDR DATE 15-JAN-2016
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
<b>OREGON STANDARD DRAWINGS</b>	
<b>SLOPED ENDS FOR METAL PIPE</b>	
2021	
DATE	REVISION DESCRIPTION

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

RD316

rd380.dgn 20-JUL-2020

RD380

### FILL HEIGHT TABLE FOR CORRUGATED CIRCULAR PIPE

PIPE DIAMETER (In.)	ALUMINUM													
	HELICAL													
	1 1/2"x1/4"			2 2/3"x1/2"					3"x1"					
	MINIMUM COVER (Ft.)	LOCK SEAM		MINIMUM COVER (Ft.)	LOCK SEAM					MINIMUM COVER (Ft.)	LOCK SEAM		MINIMUM COVER (Ft.)	
SPECIFIED THICKNESS (In.)		SPECIFIED THICKNESS (In.)					SPECIFIED THICKNESS (In.)							
.060		0.075	.060		.075	.105	.135	.164	.060		.075	.105		.135
MAXIMUM COVER (Ft.)				MAXIMUM COVER (Ft.)							MAXIMUM COVER (Ft.)			
6	1.0	100	100											
8	1.0	100	100											
10	1.0	100	100											
12				1.0	100	100	100						1.0	
15				1.0	100	100	100						1.0	
18				1.0	84	100	100						1.0	
21				1.0	72	90	100						1.0	
24				1.0	63	78	100	100	100				1.0	
30				1.0		63	88	100	100			1.0		
36				1.0		52	73	94	100	1.0		1.0		
42				1.5			63	81	99	1.0		1.5		
48				1.5			55	71	86	1.0		1.5		
54				1.5			48	63	77	1.0		1.5		
60				1.5				52	65	1.0		1.5		
66				1.5					53	1.5		1.5		
72				1.5						43	1.5			
78														
84														
90														
96														
102														
108														
114														
120														

PIPE DIAMETER (In.)	STEEL																	
	HELICAL																	
	1 1/2"x1/4"			2 2/3"x1/2"					3"x1" and 5"x1"									
	MINIMUM COVER (Ft.)	LOCK SEAM		MINIMUM COVER (Ft.)	WELDED OR LOCK SEAM					MINIMUM COVER (Ft.)	WELDED OR LOCK SEAM		MINIMUM COVER (Ft.)					
SPECIFIED THICKNESS (In.)		SPECIFIED THICKNESS (In.)					SPECIFIED THICKNESS (In.)											
.064			.064		.079	.109	.138	.168	.064		.079	.109		.138	.168			
MAXIMUM COVER (Ft.)				MAXIMUM COVER (Ft.)							MAXIMUM COVER (Ft.)							
6	1.0	100																
8	1.0	100																
10	1.0	100																
12			1.0	100	100	100												
15			1.0	100	100	100												
18			1.0	100	100	100												
21			1.0	100	100	100												
24			1.0	100	100	100												
30			1.0	83	100	100												
36			1.0	69	86	100	100	100	1.0		1.0	79	99	100	1.0			
42			1.5	59	74	100	100	100	1.0		1.0	68	85	100	1.0			
48			1.5	52	65	91	100	100	1.0		1.5	59	74	100	1.0			
54			1.5		57	80	100	100	1.0		1.5	53	66	93	100	1.0		
60						72	93	100	1.0		1.5	47	59	83	100	1.0		
66							85	100	1.0		1.5	43	54	76	98	1.0		
72								78	95	1.0	1.5	39	49	69	89	100	1.0	
78									84	1.0	1.5	36	45	64	82	100	1.0	
84										73	1.0	1.5	34	42	59	77	94	1.0
90												1.5	31	39	55	71	88	1.0
96												1.5		37	52	67	82	1.0
102												1.5		35	49	63	77	1.5
108												1.5			46	59	73	1.5
114												1.5			44	56	69	1.5
120												1.5			41	53	66	1.5
126												2.0				51	62	2.0
132												2.0				49	60	2.0
138												2.0				46	57	2.0
144												2.0					55	2.0

5"x1", these values shown can be increased, (See general note 9)

**GENERAL NOTES FOR ALL TABLES ON THIS SHEET:**

1. Maximum height of cover is greatest vertical distance from top of pipe to finish grade.
2. Minimum height of cover is least vertical distance from top of pipe to subgrade.
3. For ODOT, pipes with diameters greater than 72" must be reviewed by the Geo-Environmental Section.
4. For ODOT, pipes with maximum cover greater than those shown in the Tables shall be approved by the Senior Standards Engineer.
5. For multiple pipe installations, see Std. Dwg. RD300.
6. Heavy solid line denotes boundary between minimum cover requirements.
7. Open ends of pipes normally require a site specific design, and may require special treatment (Sloped ends, culvert embankment protection, paved end slopes, safety end sections, or other measures). See special details or Standard Drawings as called for on plans.
8. For minimum thickness, see AASHTO M197, M218, and M274.
9. 5"x1" corrugation can be used as an alternate for 3"x1" corrugation. Maximum fill height for 3"x1" can be increased by up to 12% over values shown for pipe size 54" and larger.

CALC. BOOK NO. RD07-01

SDR DATE 08-JUL-2013

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

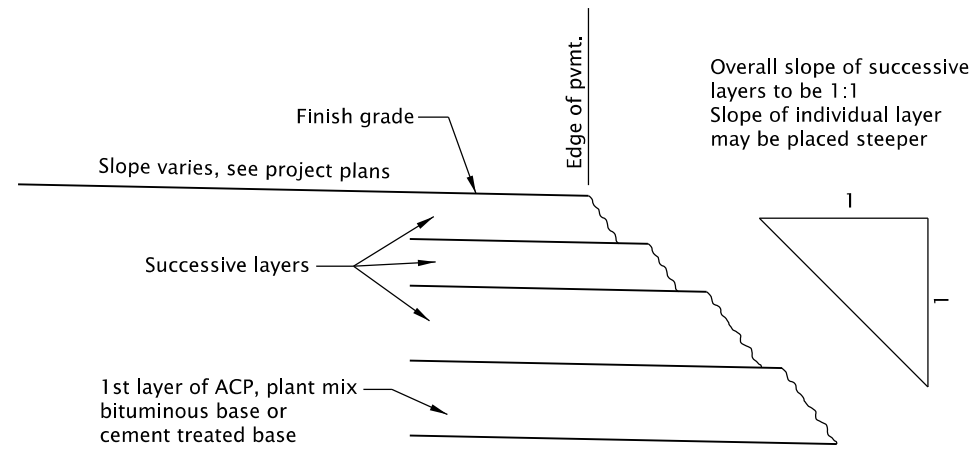
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

**OREGON STANDARD DRAWINGS**  
**FILL HEIGHT TABLES FOR ALUMINUM & STEEL CORRUGATED PIPE**

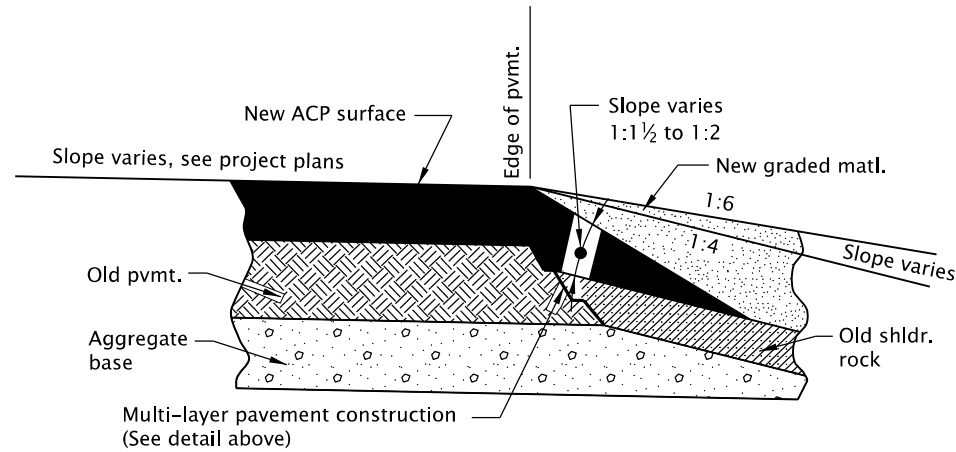
2021

DATE	REVISION DESCRIPTION

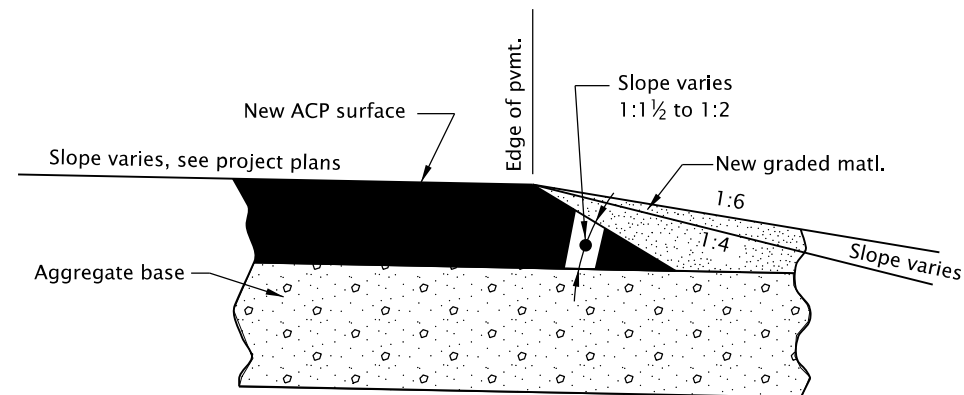
rd615.dgn 20-JUL-2020



**MULTI-LAYER PAVEMENT CONSTRUCTION**



**SAFETY EDGE  
(RECONSTRUCTION INCLUDING MILL & INLAY)**

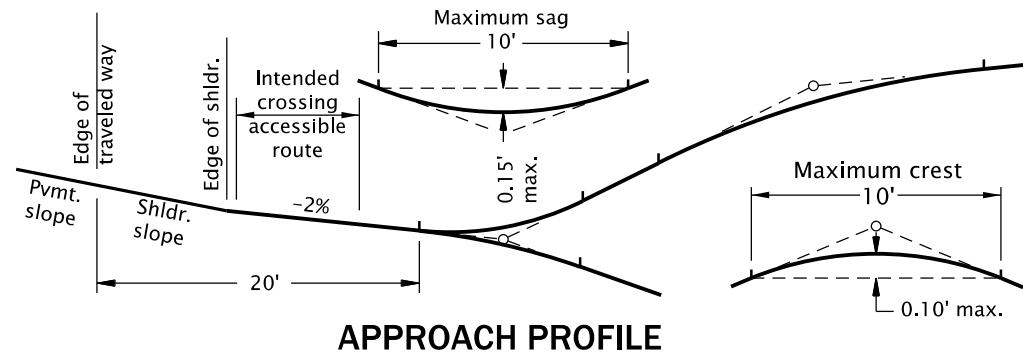


**SAFETY EDGE (NEW CONSTRUCTION)**

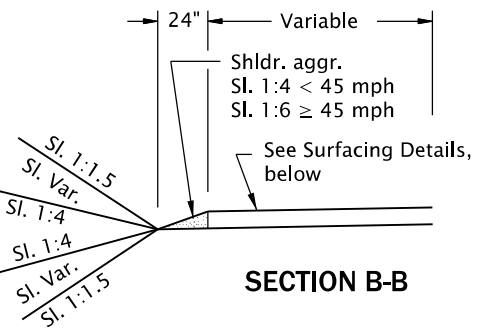
RD615

CALC. BOOK NO. <u>    N/A    </u>	SDR DATE <u>    25-JUL-2017    </u>												
<p><i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i></p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications												
	<p><b>OREGON STANDARD DRAWINGS</b></p> <p><b>ASPHALT CONCRETE PAVEMENT (ACP) DETAILS</b></p> <p>2021</p>												
	<table border="1"> <thead> <tr> <th>DATE</th> <th>REVISION</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	DATE	REVISION	DESCRIPTION									
	DATE	REVISION	DESCRIPTION										

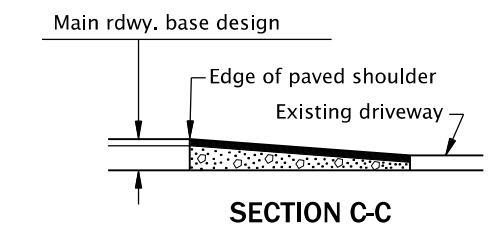
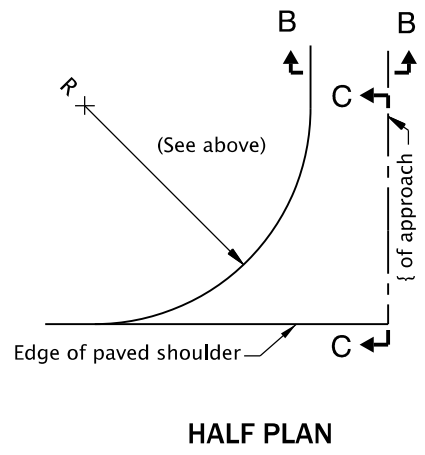
rd715.dgn 20-JUL-2020



**NOTE:**  
When grades on approaches meet without vertical curves the maximum algebraic difference on crests should be 8% and on sags 12%. Grades steeper than 15% should not be used without prior approval of the engineer of record. Any driveways with slopes exceeding 12% shall be paved.



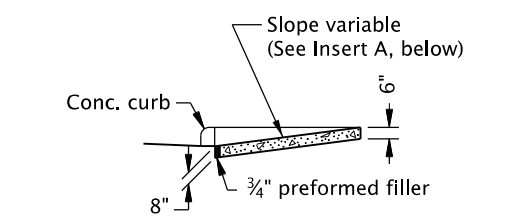
$R = \begin{cases} 30' \text{ normal (Major constr.)} \\ 20' \text{ normal (Minor constr.)} \end{cases}$



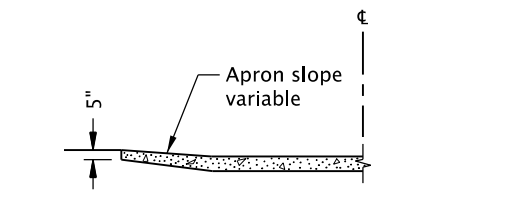
**NOTE:**  
Normal paving limits to extend 20' (30' for public road connections) from the edge of pavement or to the right of way line, whichever is less. Approach surfacing and width to then match existing approach.

**APPROACH**

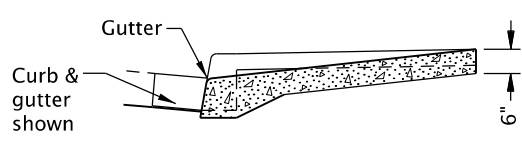
**TYPE A  
PORTLAND CEMENT CONCRETE**



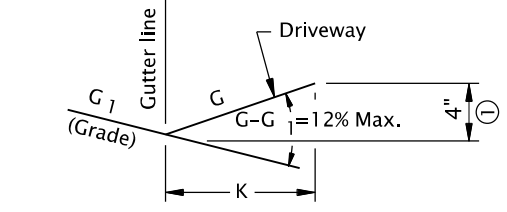
**SECTION D-D**



**SECTION E-E**

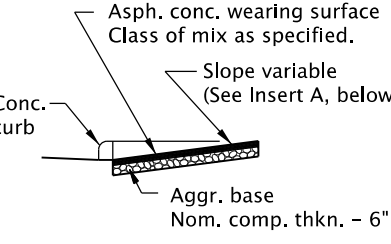


**SECTION A-A FOR MONOLITHIC DRIVEWAYS**

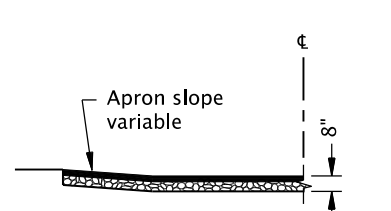


**INSERT A**  
① Minimum allowable for drainage control on negatively sloped driveways.

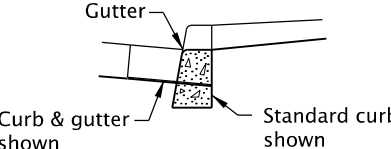
**TYPE A-1  
ASPHALT CONCRETE**



**SECTION D-D**



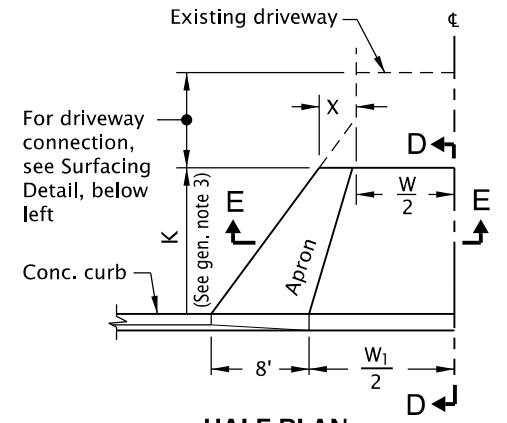
**SECTION E-E**



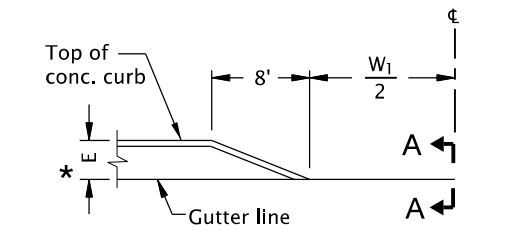
**SECTION A-A FOR DRIVEWAYS**

**NON-SIDEWALK DRIVEWAYS**

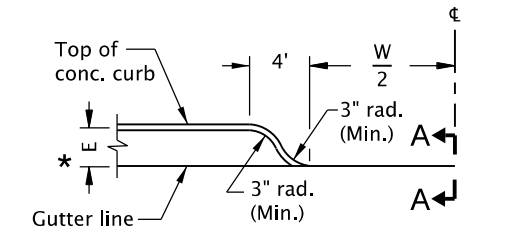
**NOTE:** This driveway type shall not be used along a pedestrian route. See "Table A" for dimensions not shown.



**HALF PLAN**



**HALF ELEVATION**



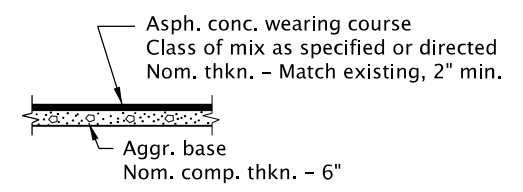
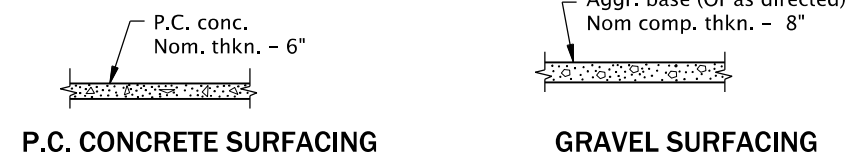
**HALF ELEVATION (ALTERNATE APRON SLOPE)**  
(See General Note 5)

\* Curb exposure E = 7" normal. Vary as shown on plans or as directed.

		<b>TABLE A</b>			
<b>W</b> (ft)	<b>X</b> (ft)	<b>K (ft)</b>			
		<b>5</b>	<b>6</b>	<b>8</b>	<b>10</b>
		<b>W<sub>1</sub> (ft)</b>			
12	3	15	15	15	15
14		17	17	17	17
16		19	19	19	19
18		21	21	21	21
20		23	23	23	23
22	4	27	28	29	30
24		29	30	31	32
26		31	32	33	34
28		33	34	35	36
30		35	36	37	38
32	5	41	42	44	46
34		43	44	46	48
36		45	46	48	50

Where a travel lane is constructed adjacent to the curb line, use 16' W min. for residence and 30' W min. for light commercial, add 5' to W<sub>1</sub> for both. Do not add the 5' to W<sub>1</sub> when 4' min. shldr. or bikeway is included in the typical.

RD715



**ASPHALT CONCRETE SURFACING**

**APPROACH AND DRIVEWAY CONNECTION SURFACING DETAILS**

**GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:**

1. Driveway details shown on this drawing are to be used on roadways where there are no existing or planned sidewalks in driveway vicinity. For driveways located in a sidewalk see Std. Dwg. RD720, RD721, RD725 and/or RD730, RD735, RD740, RD745, RD750.
2. Width of driveway (W) as shown on plans or as directed.
3. K is the distance from back of curb to back of driveway (10' max.).
4. Where existing driveway is in good condition, construct only as much as required for satisfactory connection with new work.
5. "Alternate Apron Slope" used only where plans designate. Alternate Apron Slope may also be used at local jurisdiction's request when approved by the Project Manager.
6. Increase thickness of asphalt concrete and stone base where shown on plans.
7. For curb details, see Std. Dwg. RD700 & RD701.
8. For expansion and contraction joint requirements, see applicable curb and sidewalk standard drawings.

CALC. BOOK NO. N/A

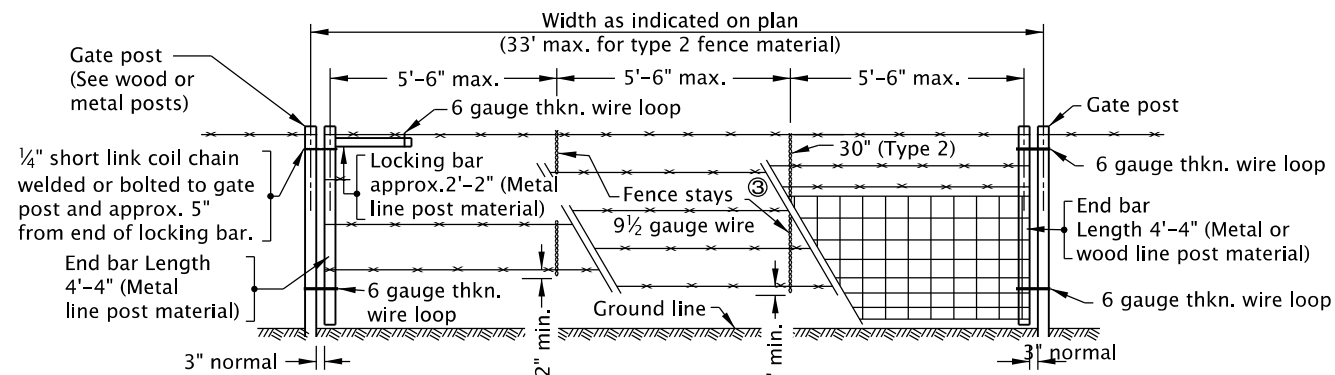
SDR DATE 21-JUN-2019

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

**NOTE:** All material and workmanship shall be in accordance with the current Oregon Standard Specifications

<b>OREGON STANDARD DRAWINGS</b>	
<b>APPROACHES AND NON-SIDEWALK DRIVEWAYS</b>	
2021	
DATE	REVISION DESCRIPTION

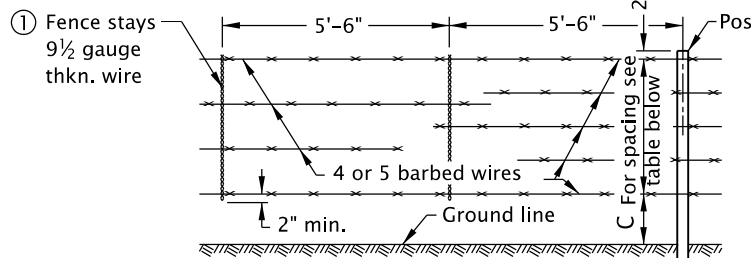
rd810.dgn 20-JUL-2020



- NOTES:  
 ① Match adjoining fence type.  
 ② For details not shown see fence type.  
 ③ For wooden stays, see Type 1 fence details.

**TYPE 1** Fence material ①②  
**TYPE 1-5W** Fence material ①②  
**TYPE 2** Fence material ①②

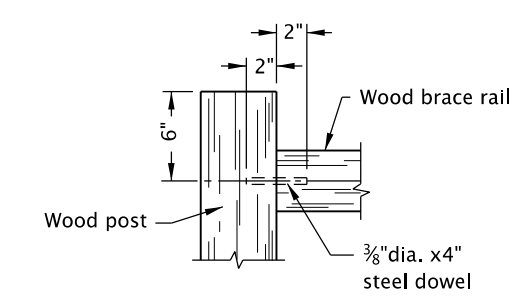
**GATEWAY**



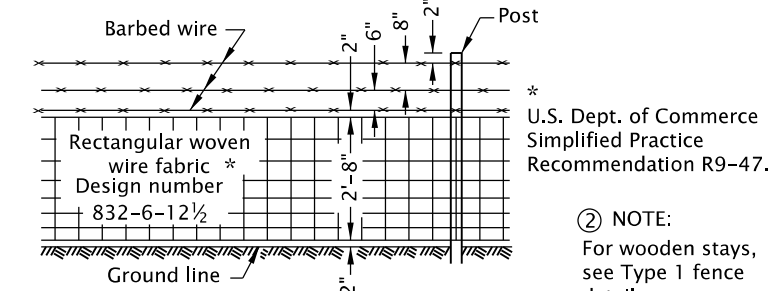
① NOTE:

Wooden Stays to be used in areas of heavy snowfall or snow drifts over 36". Stays to be 2"x2"x52" min. length, sound, untreated Douglas Fir, Western Hemlock or Western Pine, spaced as shown for wire stays and to rest firmly on the ground. Horizontal wires to be stapled are: single wires and a minimum of 4 wires for woven wire fabric.

**TYPES 1, & 1-5W**



**BRACE RAIL CONNECTION**



**TYPE 2**

**TABLE 1 (For wood posts)**

FENCE	R (ft)	UNITS REQUIRED
Types { 1, 1-5W & 2	20 or Less	* None
	20-330	A
	Over 330	A & B

\* Unit A required at gate post.

Either Unit A or Units A & B are required in existing fence line at intersection with new fence line.

**TABLE 2**

FENCE	R max.	P	L min.	L1 min.	H	D min.	D1 min.	B min.	X min.-max.
All Types	660'	16'-6"	7'-6"	6'-6"	4'-4"	3'-2"	2'-2"	7'-8"	9"-22"

**TABLE 3**

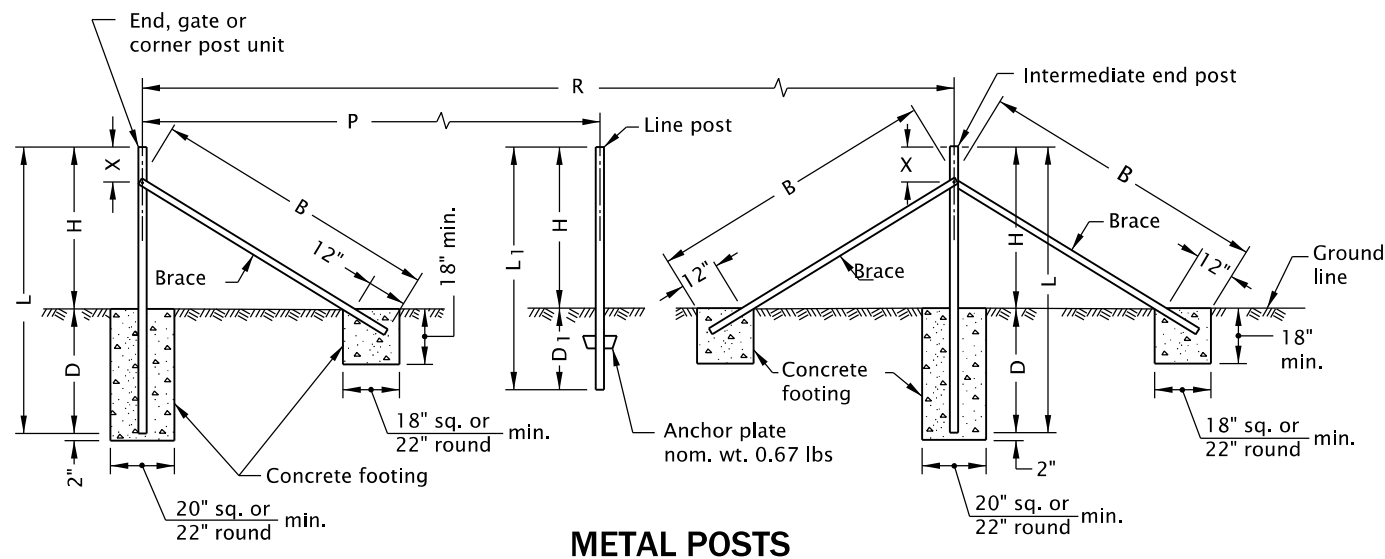
MEMBER	WOOD		SHAPE	WEIGHT PER (ft) nominal	SIZE nominal
	* ROUND	SQUARE			
	DIAMETER OF SMALL END (in) min.-max.	SIZE nominal (in) min. avg.			
Line Post	3" to 4"	3"	† 3"x3"	Tee Channel (a) or U-bar	1.33 lb ASTM A-702
Brace or Brace Rail	3 1/2" to 5 1/2"	4"	4"x4"	Tubular (b)	1 1/2" +/- O.D.
				(a) Angle	3.19 lb 2"x2"x1/4"
Other Post	4" to 7"	5"	† 5"x5"	Tubular	b 2 3/8" O.D.
				(a) Angle	4.1 lb 2 1/2"x2 1/2"x1/4"

\* Max. taper 1":48".

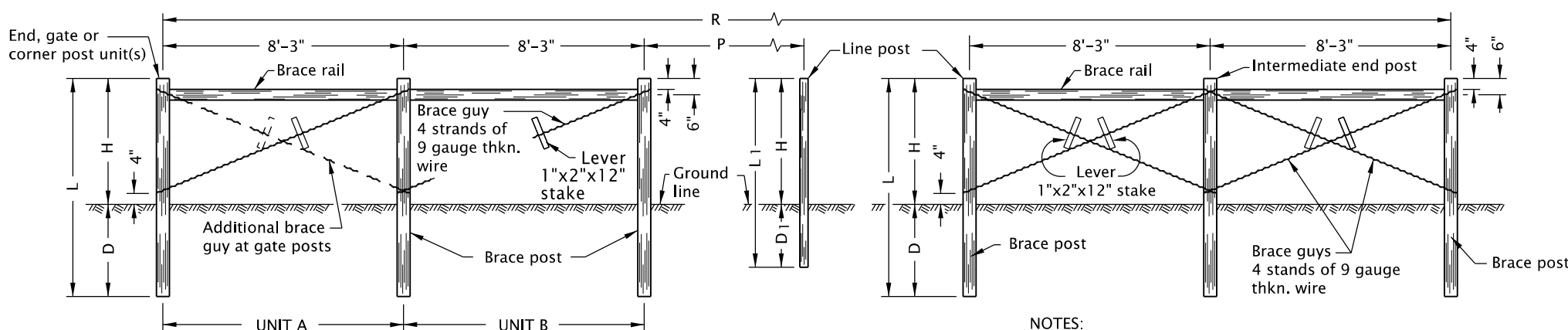
† Max. allowable size 1" additional in each dimension.

(a) In accordance with ASTM A 702.

(b) In accordance with AASHTO M 181.



**METAL POSTS**



**WOOD POSTS**

- NOTES:  
 1. For dimensions indicated by letter see Table 2.  
 2. Line post spacing same as dimension P.  
 3. For cross sectional dimensions of members see Table 3.

- GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:  
 1. For dimensions indicated by letter see Table 2.  
 2. Line post spacing same as dimension P.  
 3. For shapes, weights and dimensions of members see Table 3.

4. All concrete shall be commercial grade concrete.  
 5. See Std. Dwg. RD820 for fence gates.  
 6. See project plans for details not shown.  
 7. Add fence grounding as required.

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

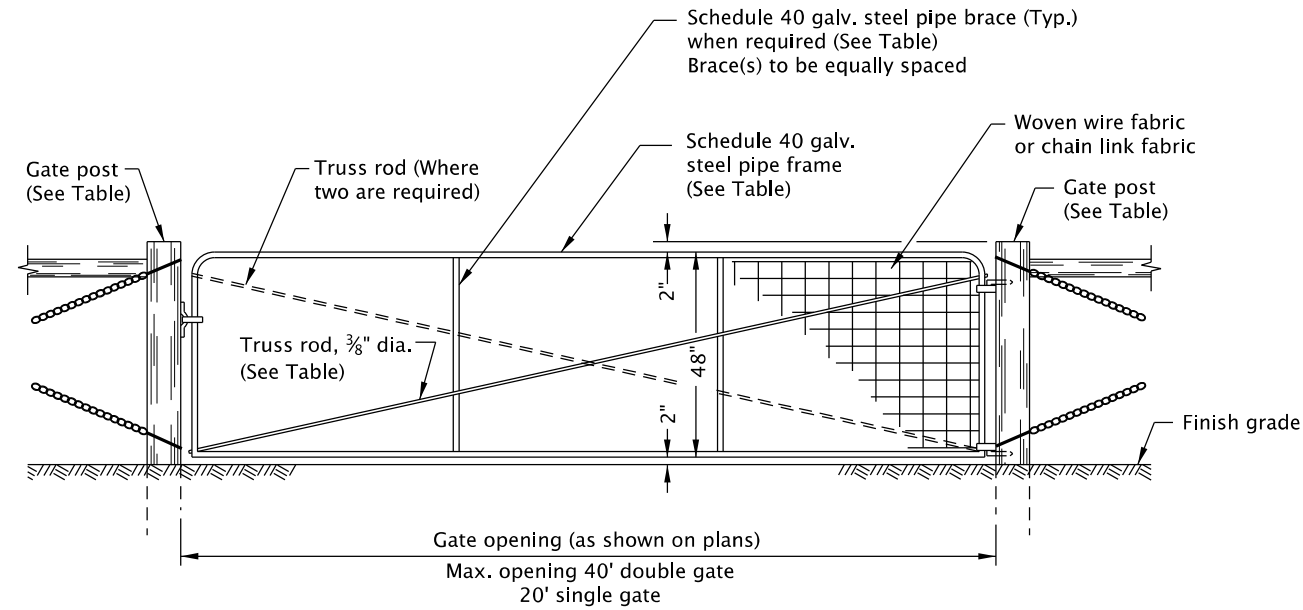
CALC. BOOK NO. N/A SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

**OREGON STANDARD DRAWINGS  
 BARBED AND WOVEN WIRE FENCES**

2021

DATE	REVISION DESCRIPTION



GATE COMPONENTS							GATE POSTS ① ②						
GATE OPENING (ft)		SCHEDULE 40 GALV. STEEL PIPE FRAME		SCHEDULE 40 GALV. STEEL PIPE BRACE			TRUSS RODS	WOOD			STEEL		
SINGLE GATE	DOUBLE GATE	NOM. DIA. (in)	MIN. WT. (lb/ft)	NUMBER	NOM. DIA. (in)	MIN. WT. (lb/ft)		* ROUND			SQUARE	SCHEDULE 40 GALV. STEEL PIPE	
								DIA. OF SMALL END (in)				NOM. SIZE (in)	NOM. DIA. (in)
							Min.	Max.	Min. Avg.				
UP thru 6	UP thru 12	1	1.68	-	-	-	-	5	7	6	6x6	2½	5.79
7 thru 11	13 thru 22	1¼	2.27	1	1	1.68	1	5	7	6	6x6	3½	9.11
12 thru 16	23 thru 32	1½	2.72	2	1¼	2.27	2	7	9	8	8x8	6	18.97
17 thru 20	33 thru 40	2	3.65	2	1¼	2.27	2	9	11	10	10x10	6	18.97

- ① Gate posts on each side of a gate opening to be the same size. At a double gate installation with unequal width gates, size of both posts to be as indicated for single gate installation of the wider gate width.
- ② For length, setting and bracing details see end posts, Std. Dwg. RD810.

\* Max. taper 1" in 4'

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

- Gates shown are for use with Fence Types 1, 1-5W and 2.
- See Std. Dwg. RD810 for details not shown.
- See project plans for details not shown.
- Add fence grounding as required.

CALC. BOOK NO. N/A

SDR DATE 13-JAN-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

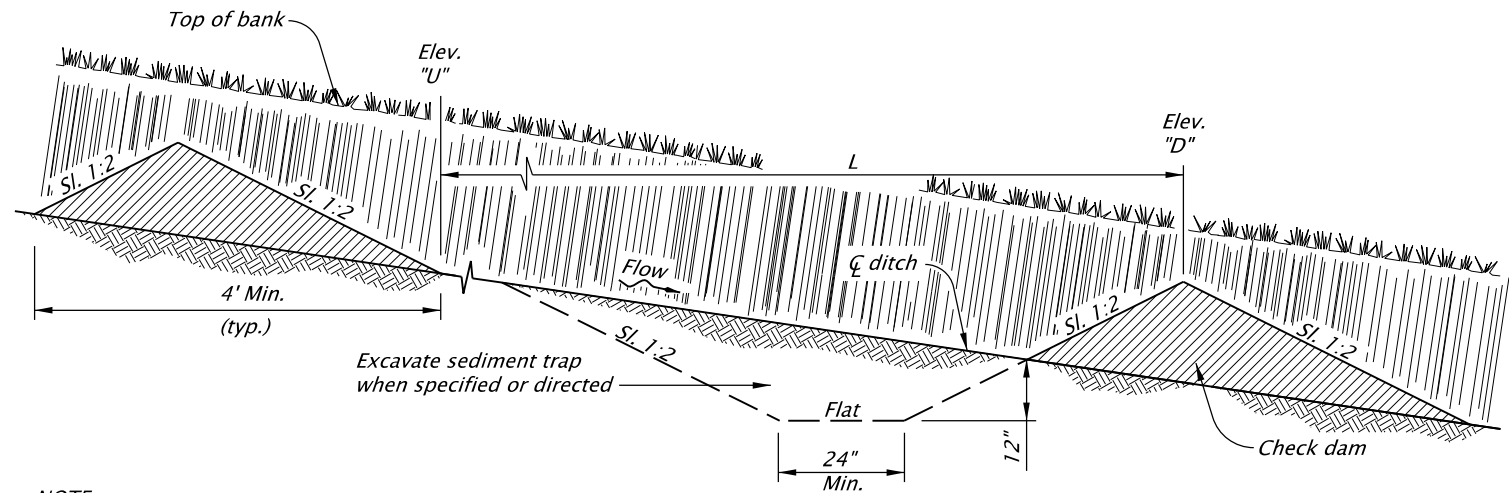
OREGON STANDARD DRAWINGS

FENCE GATES

2021

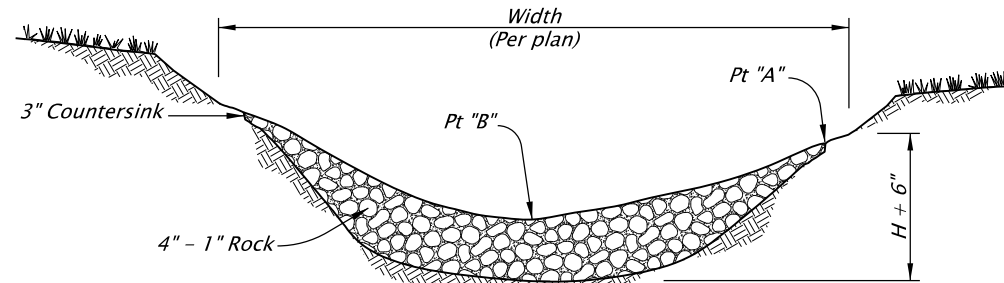
DATE	REVISION	DESCRIPTION

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*



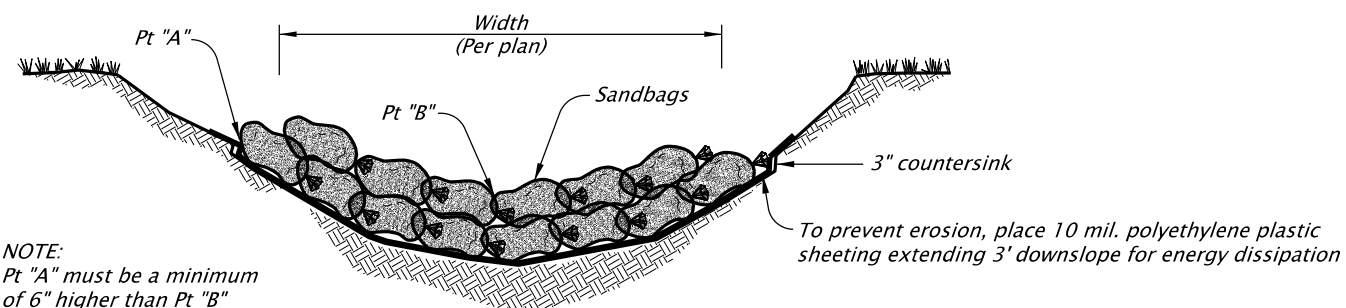
NOTE:  
L = Spacing along swale or ditch so that Elevation "U" equals Elevation "D".

**TYPICAL PROFILE SECTION CHECK DAMS (SHOWN WITH AGGREGATE)**  
NOT TO SCALE



NOTE:  
Pt "A" must be a minimum of 6" higher than Pt "B"

**AGGREGATE CHECK DAM - TYPE 1**  
NOT TO SCALE



NOTE:  
Pt "A" must be a minimum of 6" higher than Pt "B"

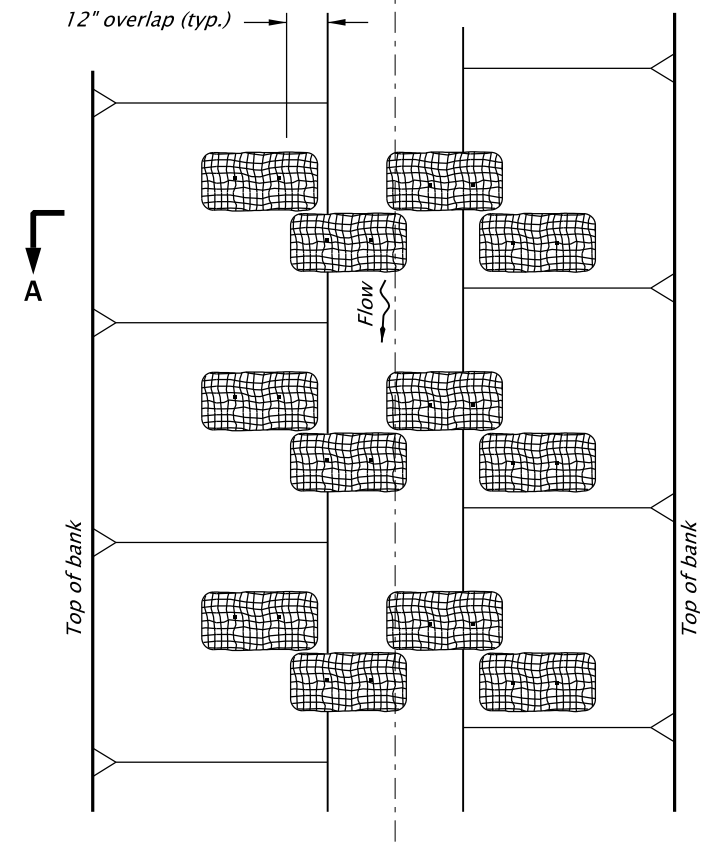
**SANDBAG CHECK DAM - TYPE 4**  
NOT TO SCALE

**NOTES:**

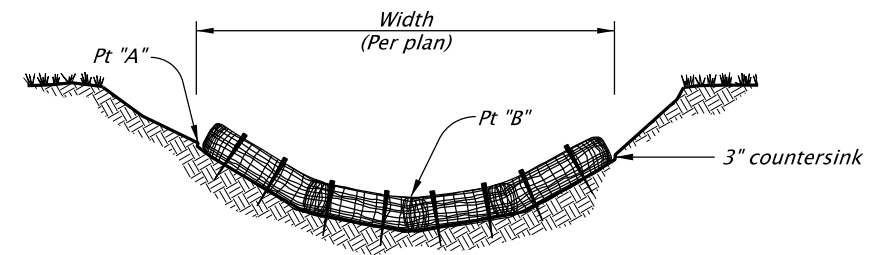
1. Type 3 - stake biofilter bags with two 2"x2"x18" (minimum) wood stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags. Omit stakes if placed over paved surfaces. Overlap bags 12" minimum at each joint.
2. Type 4 - Tightly abut or overlap ends of sandbags at each joint.
3. Spacing between check dams for all check dam types shall comply with the typical profile section shown above.

MAXIMUM CHECK DAM SPACING "L"				
Ditch Grade	H=8"	H=12"	H=18"	H=24"
10%	**	**	15'	20'
9%	**	**	16'	22'
8%	**	**	18'	25'
7%	**	**	21'	28'
6%	**	16'	25'	33'
5%	**	20'	30'	40'
4%	16'	25'	37'	50'
3%	22'	33'	50'	66'
2%	33'	50'	75'	100'

\*\* Not allowed H = Min. dam height



**PLAN**

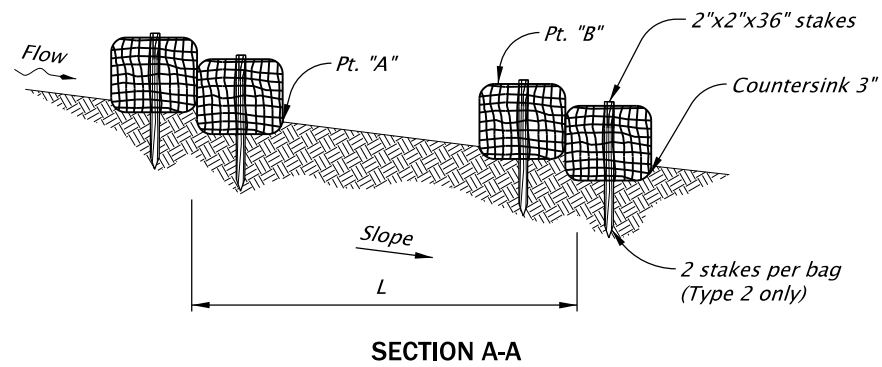
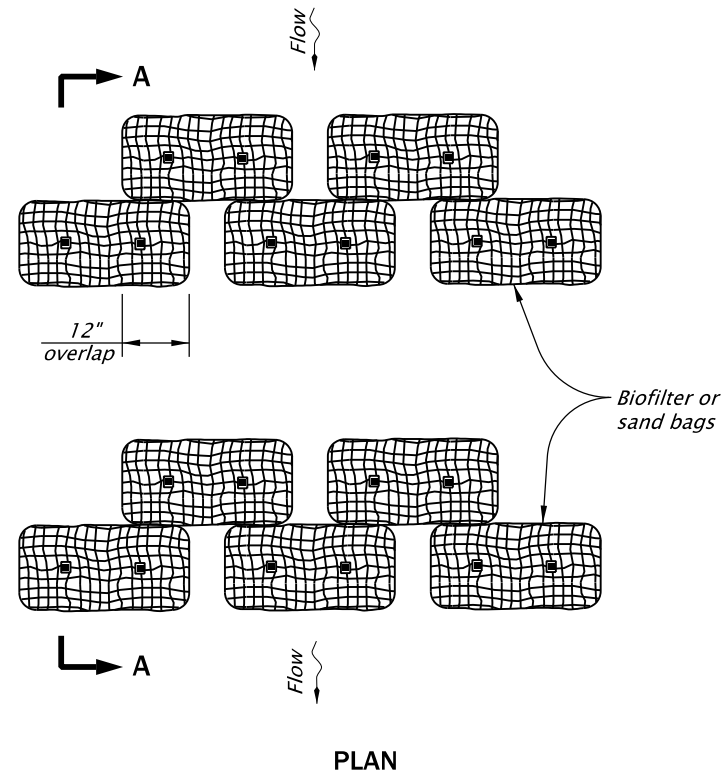


**SECTION A-A**

**BIOFILTER BAG CHECK DAM - TYPE 3**  
NOT TO SCALE

CALC. BOOK NO. <u>N/A</u>	SDR DATE <u>January, 2021</u>
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
<b>OREGON STANDARD DRAWINGS</b>	
<b>CHECK DAMS TYPE 1, 3 AND 4</b>	
2021	
DATE	REVISION DESCRIPTION
Jan 2021	Removed Calc book numbers

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

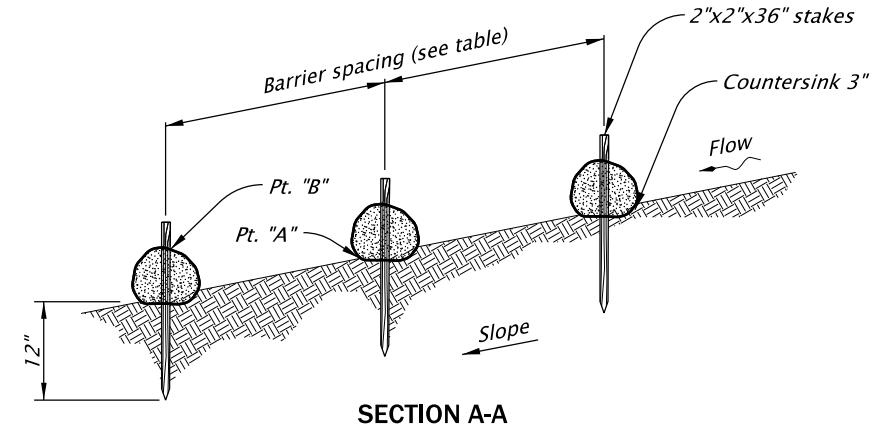
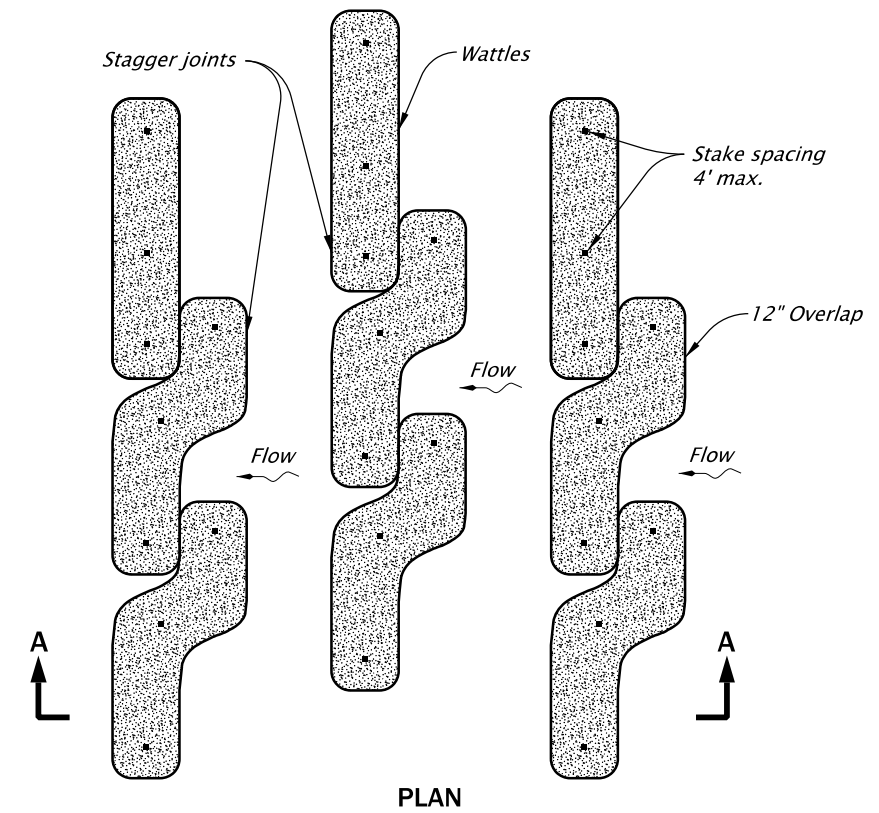


**BIOFILTER BAG / SAND BAG BARRIER - TYPE 2 AND 4**  
NOT TO SCALE

**NOTES:**

1. For Type 2 barrier, drive stakes flush with top of bag and into undisturbed ground a min. of 12". Omit stakes if bags are placed on paved surface.
2. For Type 2 and Type 4 barriers, space bags (L) so that the elevation of point "A" is less than or equal to the elevation of point "B".

Type 2 - Biofilter bags  
Type 3 - Wattles  
Type 4 - Sand bags



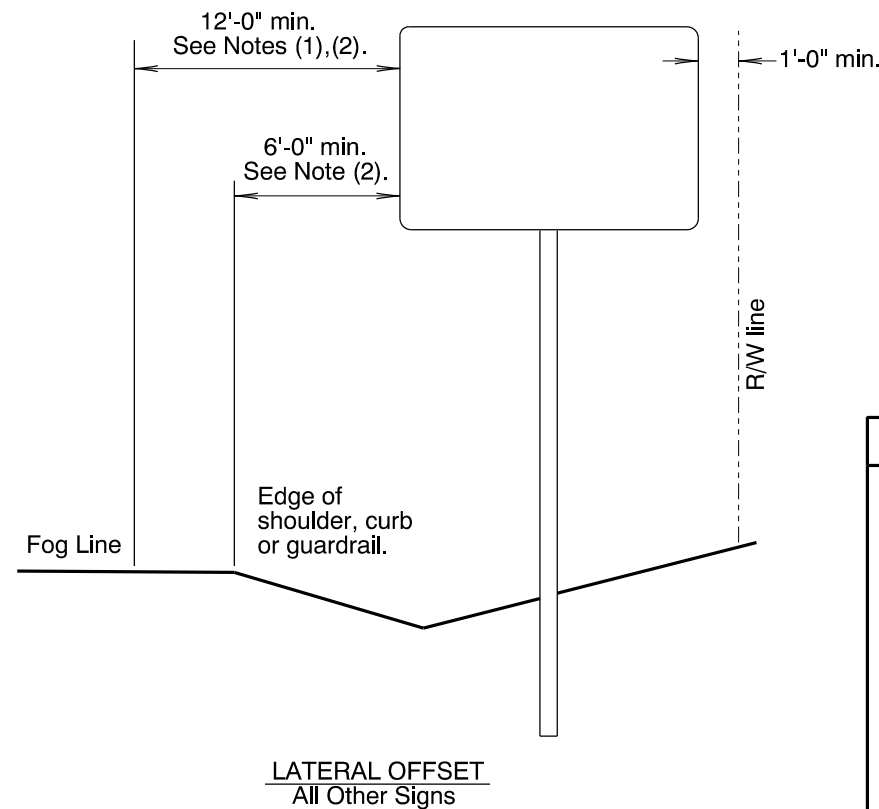
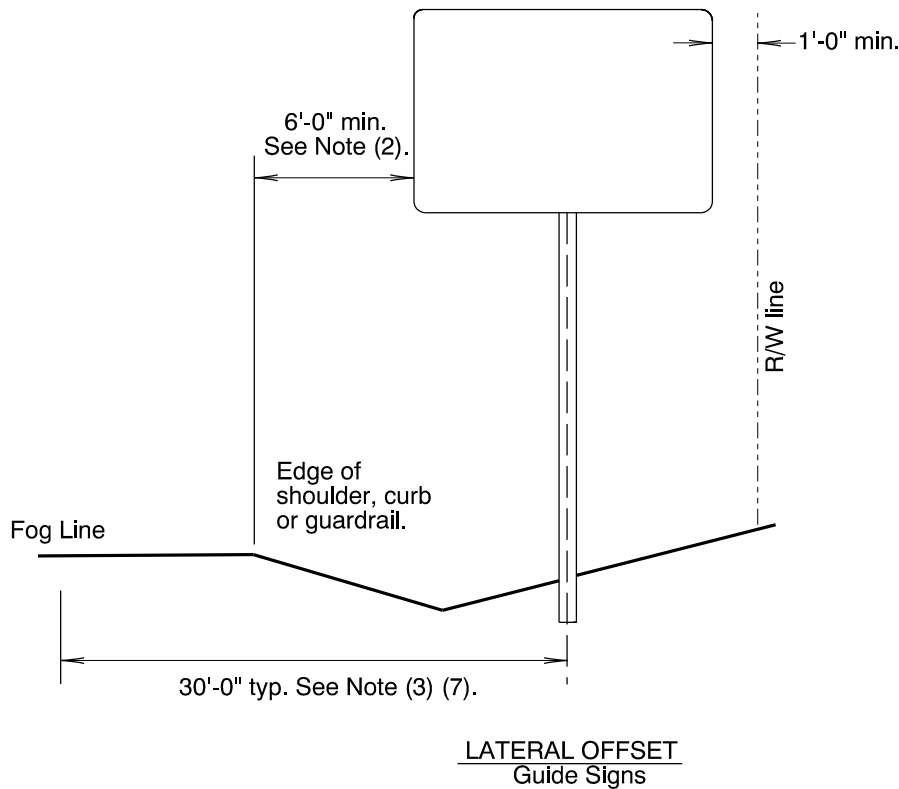
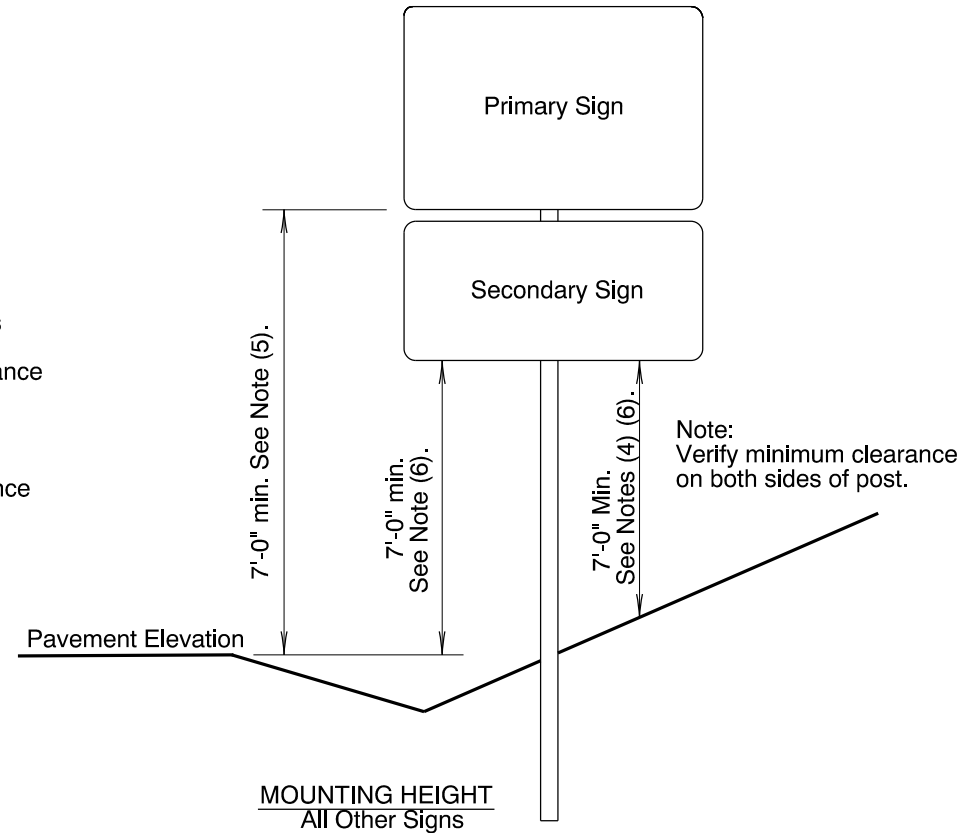
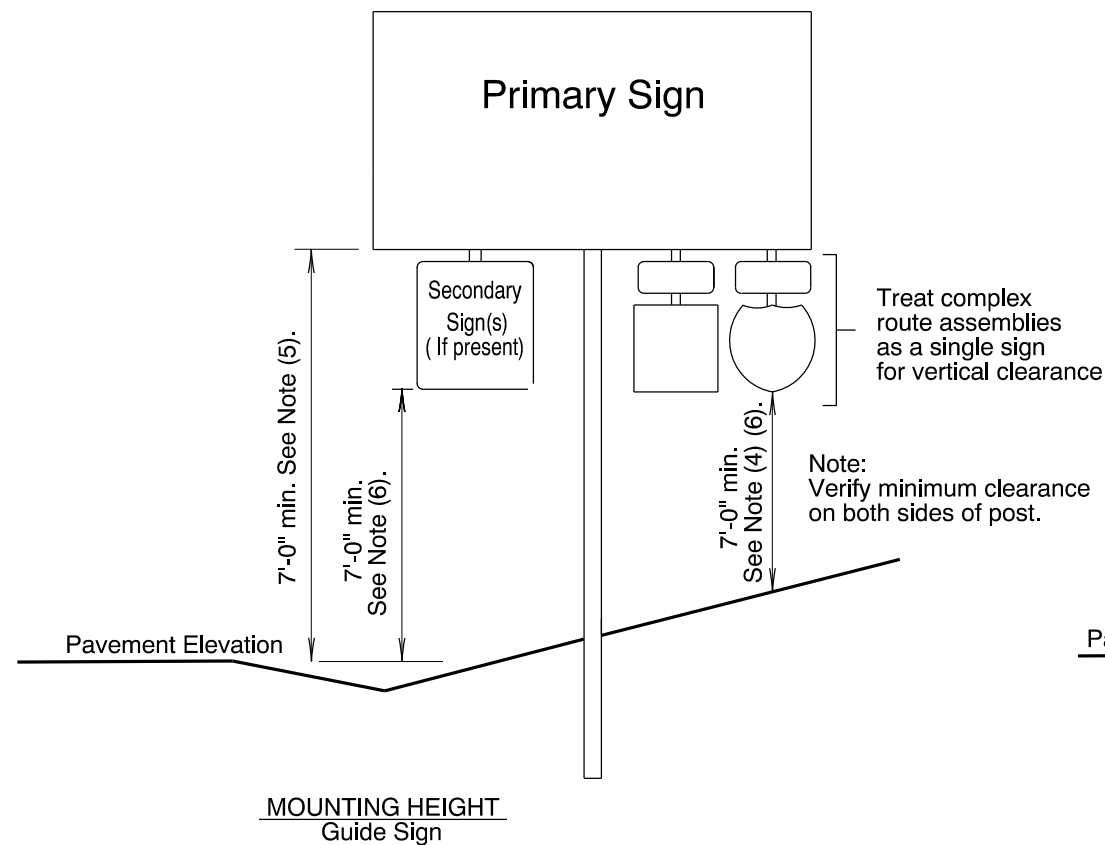
**FIBER ROLL BARRIER - TYPE 3**  
NOT TO SCALE

BARRIER SPACING		
INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS		
% SLOPE	% SLOPE	MAXIMUM SPACING ON SLOPE
10% Flatter	1:10 or Flatter	300'
10 > % ≥ 15	10 > X ≥ 7.5	150'
15 > % ≥ 20	7.5 > X ≥ 5	100'
20 > % ≥ 30	5 > X ≥ 3	50'
Steeper than 30%	Steeper than 1:3	25'

CALC. BOOK NO. <u>N/A</u>		SDR DATE <u>January, 2021</u>	
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications			
<b>OREGON STANDARD DRAWINGS</b>			
<b>SEDIMENT BARRIER TYPE 2, 3 AND 4</b>			
2021			
DATE	REVISION	DESCRIPTION	
Jan 2021	Removed Calc	book numbers	

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*





General Installation Notes:

- a. Signing details shown on this sheet are intended to convey "typical" conditions only. Individual locations may require installation different from those shown. For guidance regarding unique installations or exceptions call the Project Sign Designer or Region Traffic Section.
- b. Locate breakaway supports away from ditches to avoid problems with erosion, corrosion, debris, maintenance and breakaway performance. See Dwg. No. TM635 for more information.
- c. For wood post support details see Dwg. No. TM670.
- d. For perforated steelsquare tube support details see Dwg. No. TM681.
- e. For triangular base breakaway support details see Dwg. No. TM602.
- f. For multi-post breakaway support details see Dwg. No. TM600.
- g. Mounting heights should not be more than 3 inches more than the minimum heights shown, where practical.
- h. 2" vertical spacing between all signs.

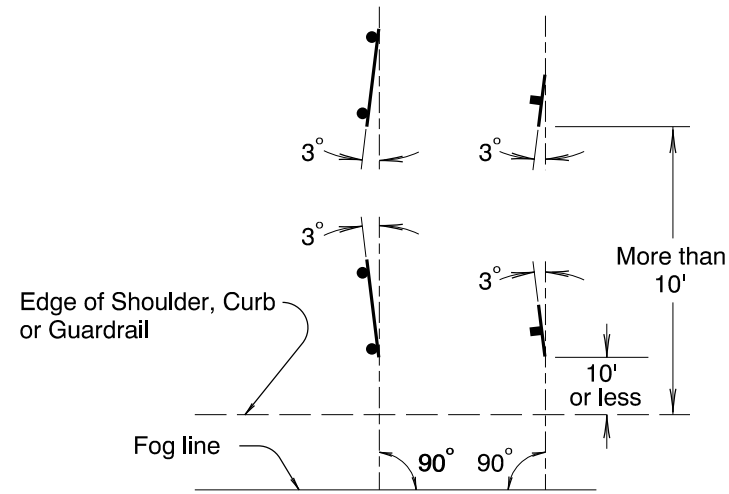
Notes:

- 1). 6' minimum if behind barrier.
- 2). 2' minimum if restricted R/W.
- 3). 20' for ramp terminals.
- 4). 8' minimum if bicycle path underneath.
- 5). 8' minimum if secondary signs attached.
- 6). 5' minimum if outside clearzone, in rural areas and no pedestrians underneath.
- 7). For multi-post installations measure distance from post closest to roadway.

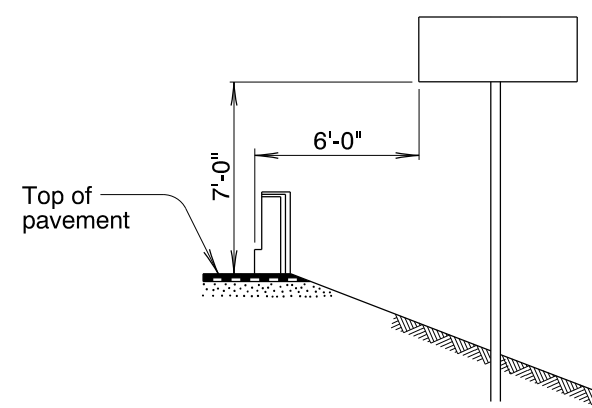
CALC. BOOK NO. <u>N/A</u>	SDR DATE <u>01/08/2018</u>
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
<b>OREGON STANDARD DRAWINGS</b>	
<b>SIGN INSTALLATION DETAILS</b>	
2021	
DATE	REVISION DESCRIPTION

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

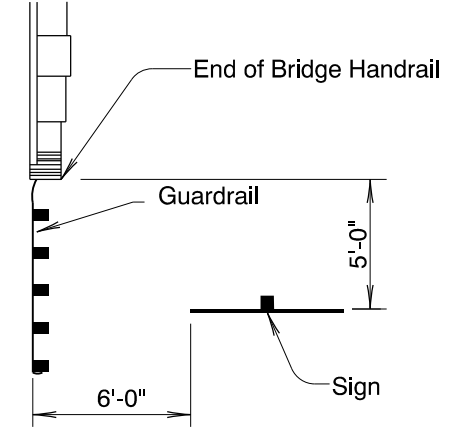
TM201.dgn 1-3-2017



SIGN PLACEMENT

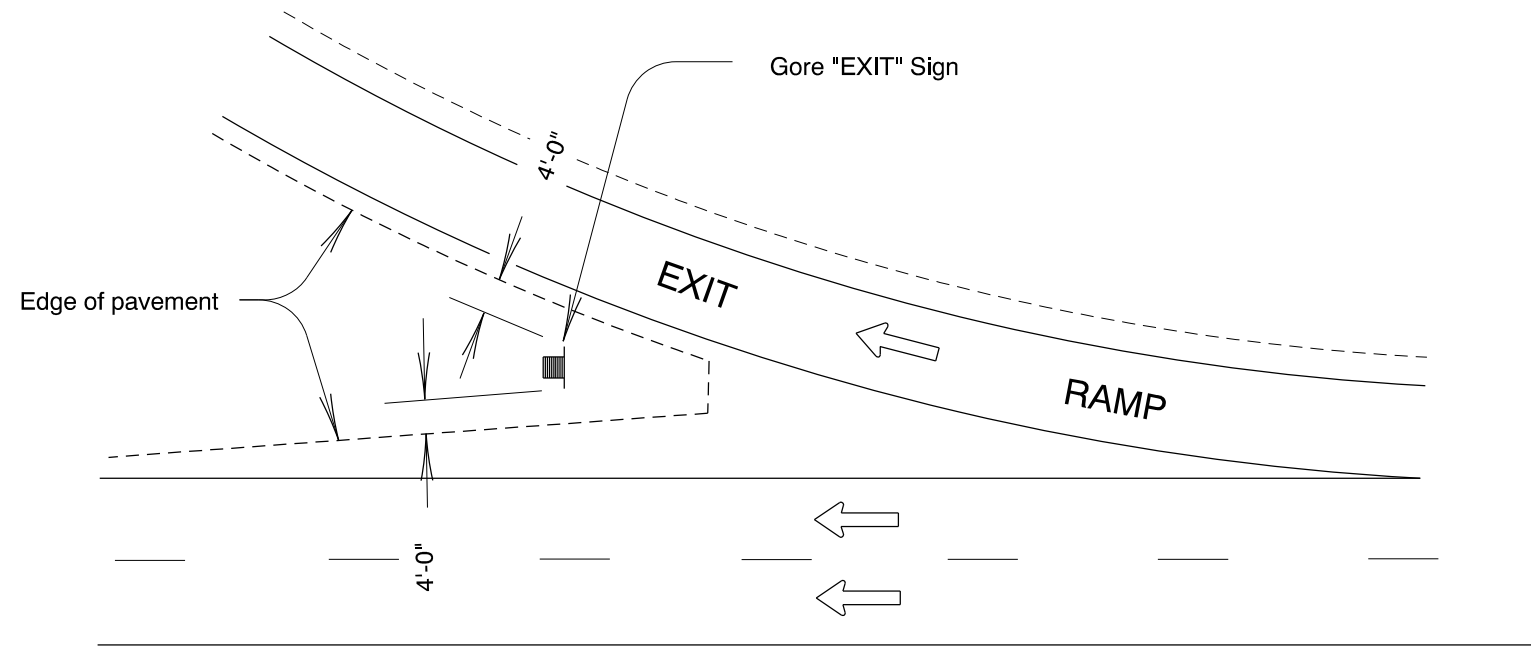


ELEVATION



PLAN

SIGN LOCATION FOR FREEWAY OVERCROSSING  
(MINIMUM VALUES)



TYPICAL "EXIT" SIGN INSTALLATION

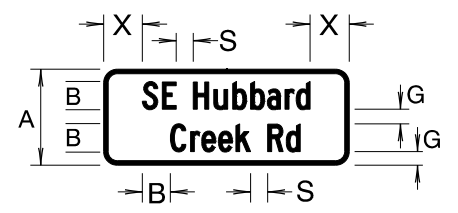
CALC. BOOK NO. N/A	SDR DATE 12-10-09											
<p><i>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</i></p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications											
	<p><b>OREGON STANDARD DRAWINGS</b></p> <p><b>MISCELLANEOUS SIGN PLACEMENT DETAILS</b></p> <p>2021</p>											
	<table border="1"> <thead> <tr> <th>DATE</th> <th>REVISION</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	DATE	REVISION	DESCRIPTION								
DATE	REVISION	DESCRIPTION										

TM201

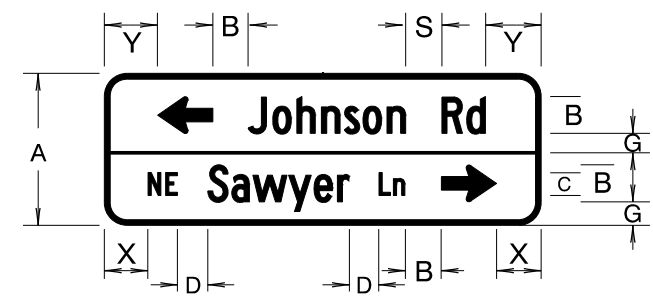


E = BORDER WIDTH F = BORDER RADIUS  
 \* = USE FOR TEXT INCLUDING LOWER-CASE g, j, p, q and y

	A	A*	B	C	D	E	F	G	G*
GROUND-MOUNTED SIGN (2-3 LANE HWYS)	12"	15"	6"	4"	2½"	1"	1½"	3"	5"
GROUND-MOUNTED SIGN (4+ LANES AND 40 MPH OR LESS)	12"	15"	6"	4"	2½"	1"	1½"	3"	5"
GROUND-MOUNTED SIGN (4+ LANES AND > 40 MPH)	15"	18"	8"	5"	3⅞"	1"	1½"	3½"	6"
GROUND-MOUNTED SIGN (LOCAL ROAD, 25 MPH OR LESS)	9"	12"	5"	3"	1⅞"	½"	1½"	2"	4"
MAST ARM MOUNTED SIGN (12" STANDARD)	21"	24"	12"	8"	5"	1"	3"	4½"	7½"
MAST ARM MOUNTED SIGN (10" ALTERNATE)	21"	21"	10"	6"	3¾"	1"	3"	5½"	7"
STACKED LEGEND SIGN (GROUND-MOUNTED)	21"	24"	6"	N/A	N/A	1"	3"	3"	4"
STACKED LEGEND SIGN (MAST ARM MOUNTED)	30"	33"	8"	5"	3⅞"	1"	3"	3½"	5"



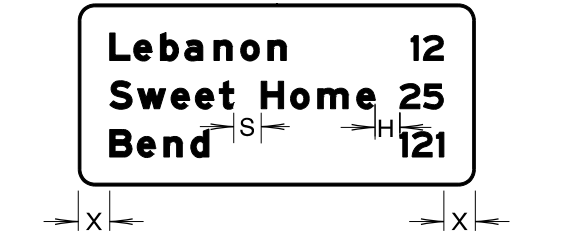
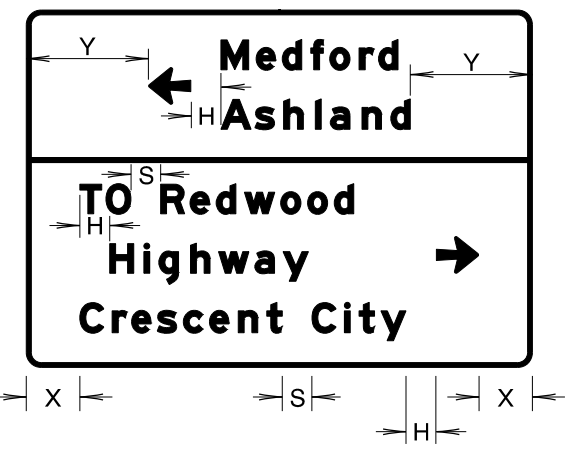
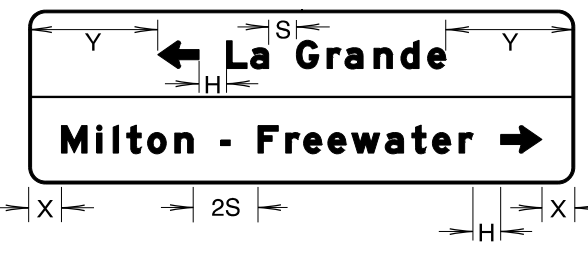
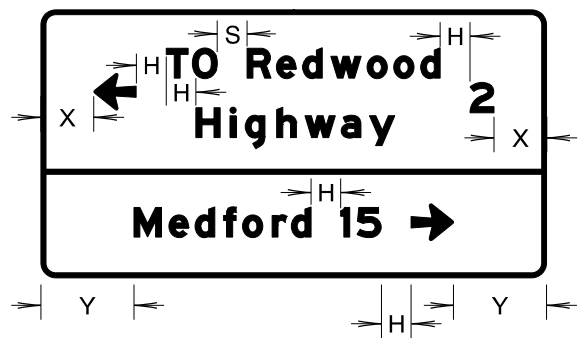
STACKED LEGEND FOR STREET NAME SIGN (GROUND-MOUNTED)



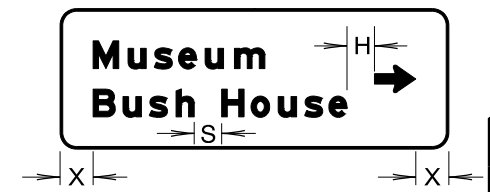
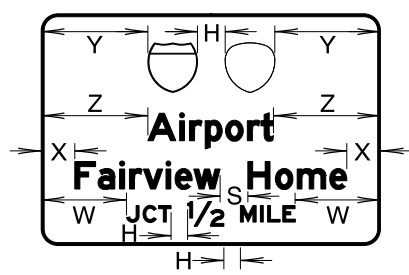
STACKED LEGEND FOR STREET NAME SIGN (MAST ARM MOUNTED)

Notes: If 12"C font on mast arm mounted sign yields signs larger than 21 square feet, the 10" Alternate may be used.  
 White border and legend on mast-arm signs are to be ASTM Type IX or XI retroreflective sheeting. Borders shall be flush with edge of sign. Dividers, where used, shall be same width as border.  
 New Projects: Include mast-arm signs on Signing Plans.  
 Existing Poles: Perform pole analysis prior to adding or enlarging signs.

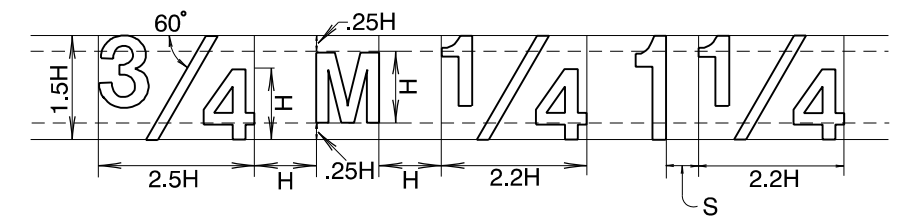
STREET NAME SIGN DETAILS



DIRECTIONAL SIGN DETAILS



Vertically center arrow between lines of legend.



FRACTIONAL LAYOUT

SERIES (FONT)			
B	C	D	E
S.531	H.625	H.836	H.1.00

SPACING BETWEEN WORDS

H = Letter Height  
 S = Space between words  
 W, X, Y & Z = ½ of remaining space  
 X-Dimension should be approximately the same dimension as the letter Height (H). At a minimum the X-Dimension shall be no less than one-half the letter height (1/2 H)

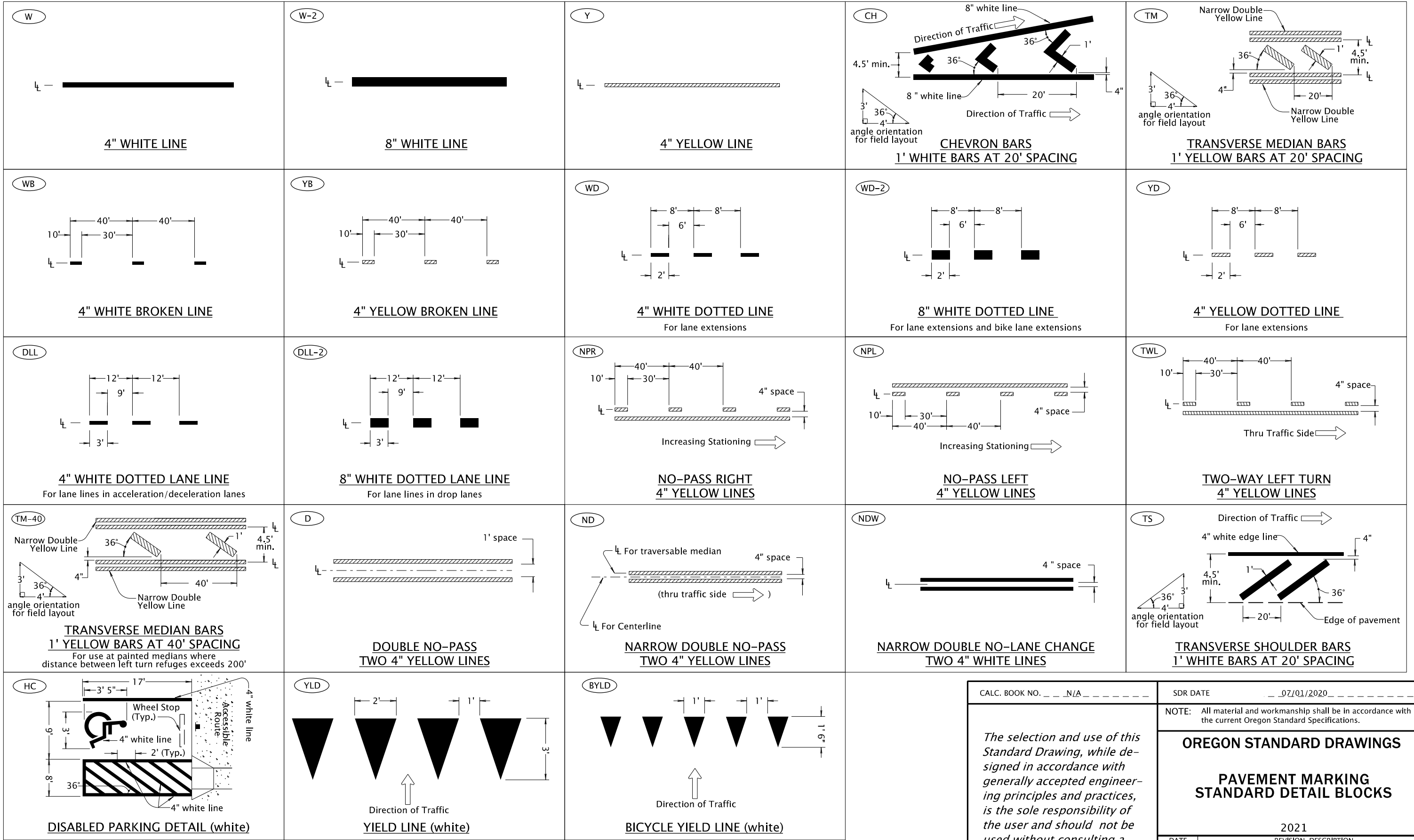
Sign examples shown here are not drawn to scale, but to illustrate the layout of the legend items.

CALC. BOOK NO. N/A	SDR DATE 11/23/2020
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
<b>OREGON STANDARD DRAWINGS</b>	
<b>CONVENTIONAL ROADS</b>	
<b>DIRECTIONAL SIGN LAYOUT</b>	
<b>STREET NAME SIGNS</b>	
2021	
DATE	REVISION DESCRIPTION
11/23/20	Added type XI sheeting to notes

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

TM223.dgn 1-3-2017

TM223



← Direction Of Traffic, Increasing Stationing Or Thru Traffic Side

⊥ Lane line dimensions are shown on the striping plans

**LEGEND**

CALC. BOOK NO. \_\_\_ N/A \_\_\_

SDR DATE \_\_\_ 07/01/2020 \_\_\_

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications.

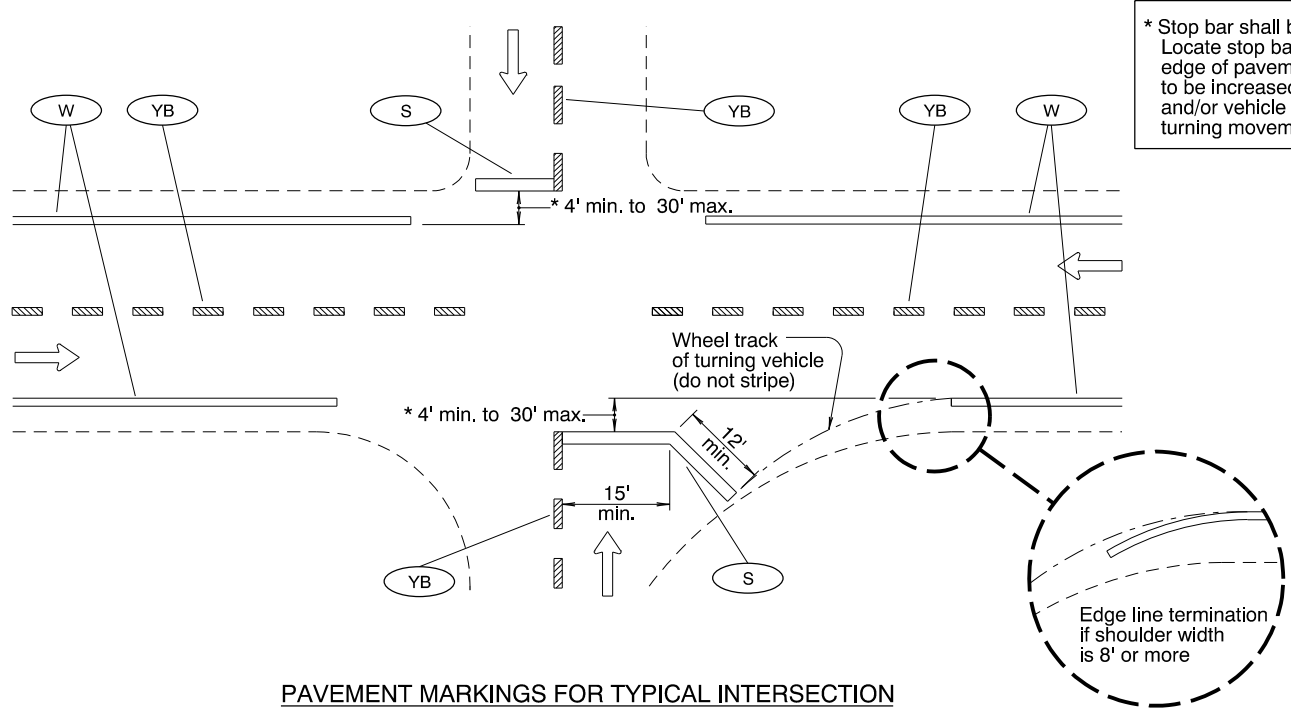
**OREGON STANDARD DRAWINGS**  
**PAVEMENT MARKING**  
**STANDARD DETAIL BLOCKS**

2021

DATE	REVISION DESCRIPTION
07/2020	Changed Min. widths for CH, TM, TM-40, and TS

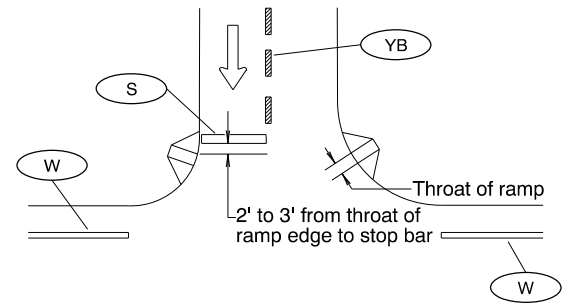
*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

TM530.dgn 1-3-2017

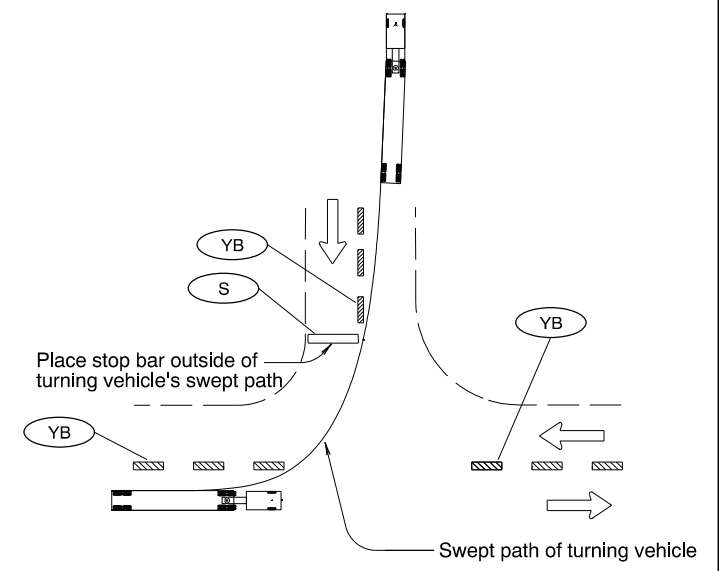


PAVEMENT MARKINGS FOR TYPICAL INTERSECTION

\* Stop bar shall be placed as near as possible to the intersecting traveled way. Locate stop bar 4' min. to 30' max. in advance of the extended fog line, edge of pavement, or curb face. Minimum stop bar distance may need to be increased, depending on location of pedestrian ramps (see Detail "A") and/or vehicle turn radii (see Detail "B"). Field verify sight distance and truck turning movements.

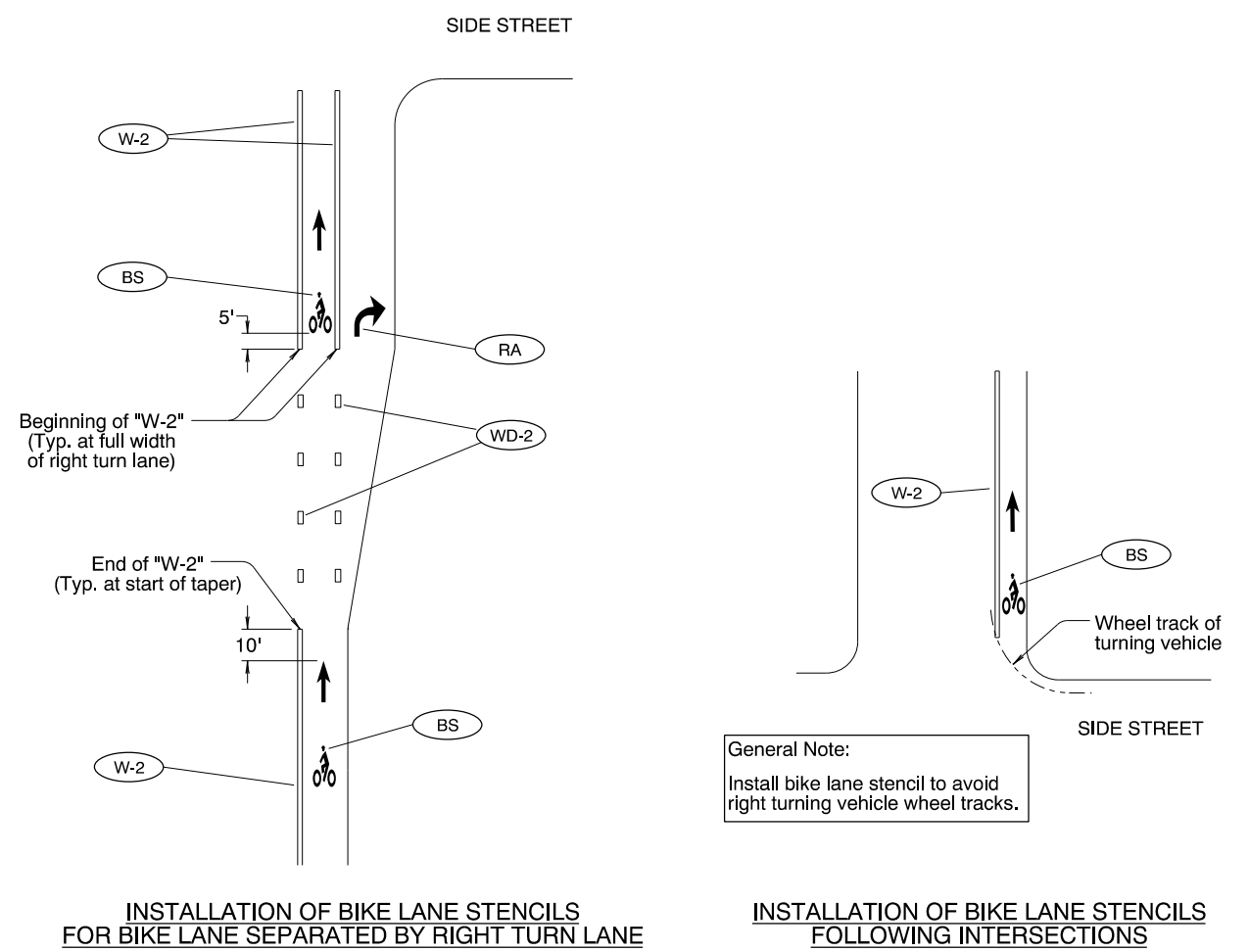


Detail "A"  
STOP BAR PLACEMENT WITH RESPECT TO PEDESTRIAN RAMP



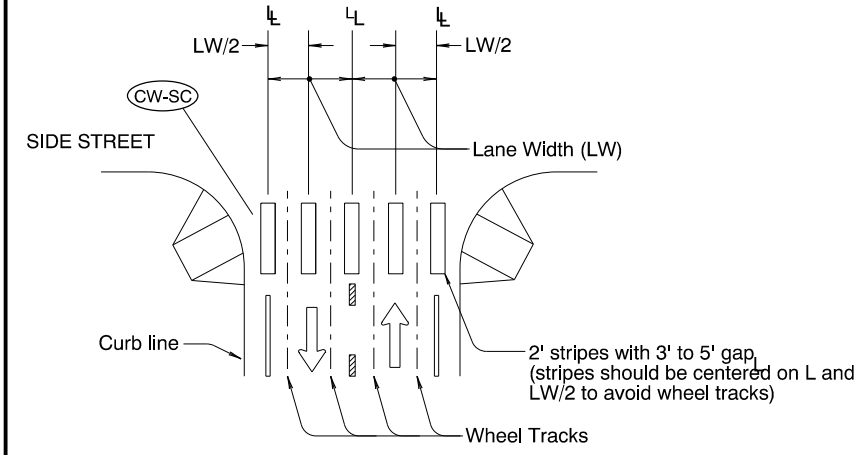
Detail "B"  
STOP BAR PLACEMENT WITH RESPECT TO TURN RADII

TM530

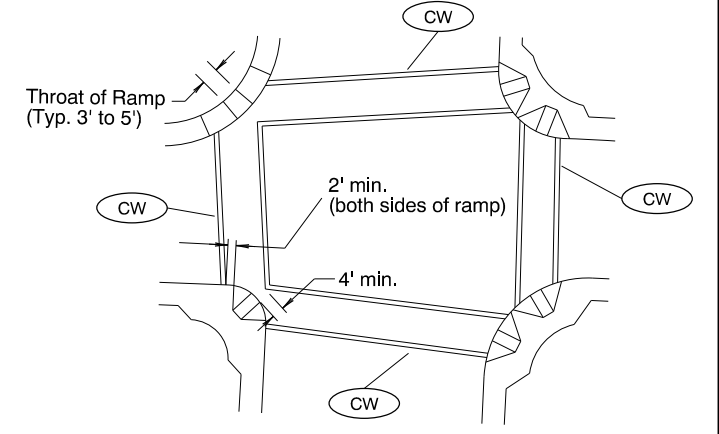


INSTALLATION OF BIKE LANE STENCILS FOR BIKE LANE SEPARATED BY RIGHT TURN LANE

INSTALLATION OF BIKE LANE STENCILS FOLLOWING INTERSECTIONS



STAGGERED CONTINENTAL LAYOUT



STANDARD CROSSWALK BARS AT INTERSECTION

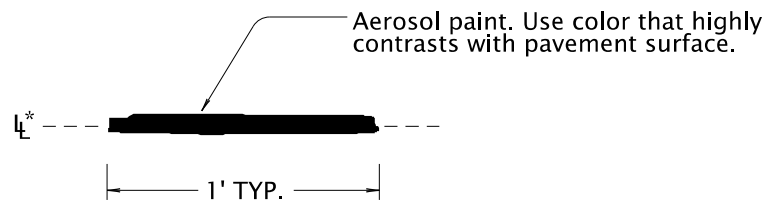
General Note:  
1. Install crosswalk bars such that the throat of the ADA ramp is entirely within crosswalk markings, or 5' back of extended fog line, edge of pavement, or curb face.

LEGEND  
← Direction of Travel  
L - Lane line dimensions are shown on the striping plans

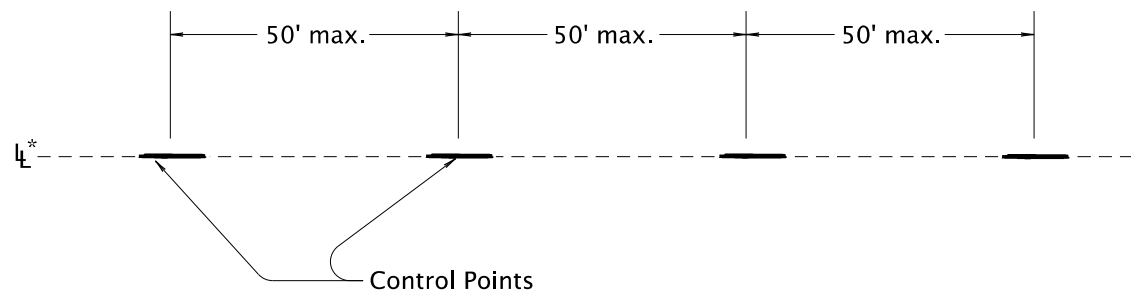
To be accompanied by Standard Dwg. Nos. TM500 thru TM504

CALC. BOOK NO. N/A	SDR DATE July 10, 2020
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
<b>OREGON STANDARD DRAWINGS INTERSECTION PAVEMENT MARKINGS (CROSSWALK, STOP BAR &amp; BIKE LANE STENCIL)</b>	
2021	
DATE	REVISION DESCRIPTION
7/10/20	Changed drawing reference

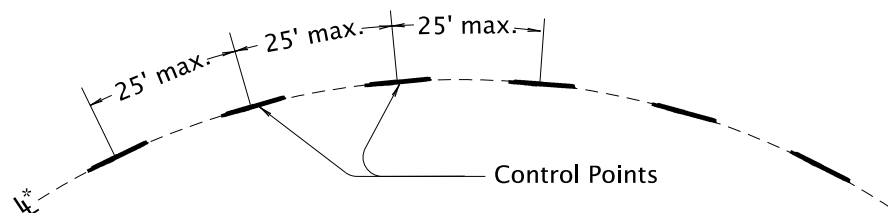
*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*



**CONTROL POINT**



**CONTROL POINT LAYOUT - TANGENT SECTIONS**



**CONTROL POINT LAYOUT - CURVE SECTIONS**

**General note:**

1.) Use control points to make continuous narrow guideline as specified.

\* Control points are placed along the lane line for all longitudinal lines except the following:

**ND** For center lines only A control point layout 4" offset from the lane line is required for a ND line when used as a center line.

TM560

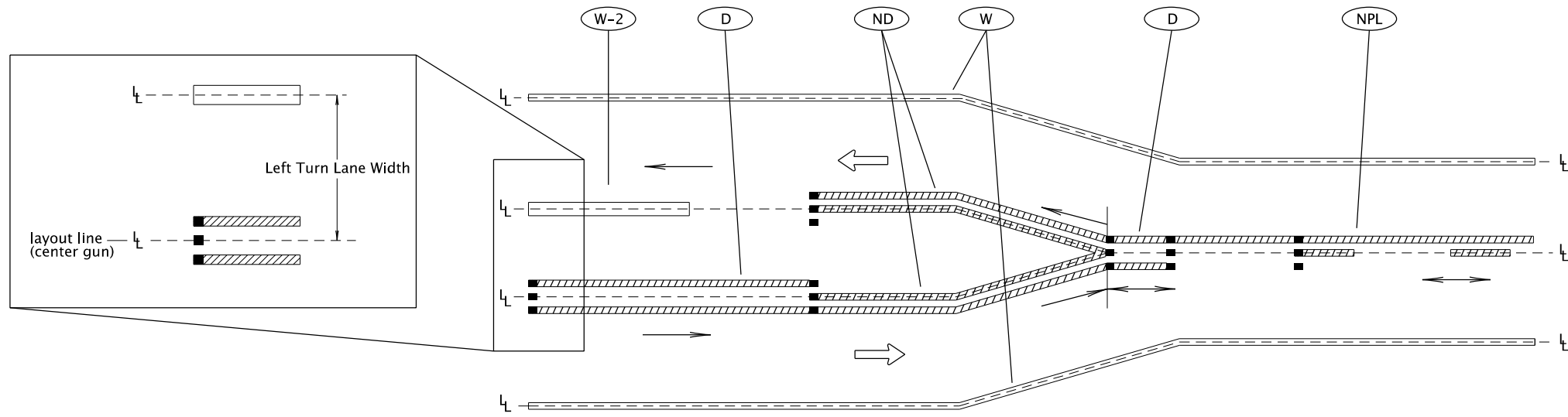
**LEGEND**

ℓ — Lane line dimensions are shown on the striping plans.

To be accompanied by Standard Dwg. Nos. TM500 thru TM504

CALC. BOOK NO. _ _ _ N/A _ _ _ _ _	SDR DATE _ _ _ 07/01/2020 _ _ _ _ _
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications.	
<b>OREGON STANDARD DRAWINGS</b>	
<b>ALIGNMENT LAYOUT: GENERAL</b>	
2021	
DATE	REVISION DESCRIPTION
07/2020	Extended accompanied by drawings to include TM504

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

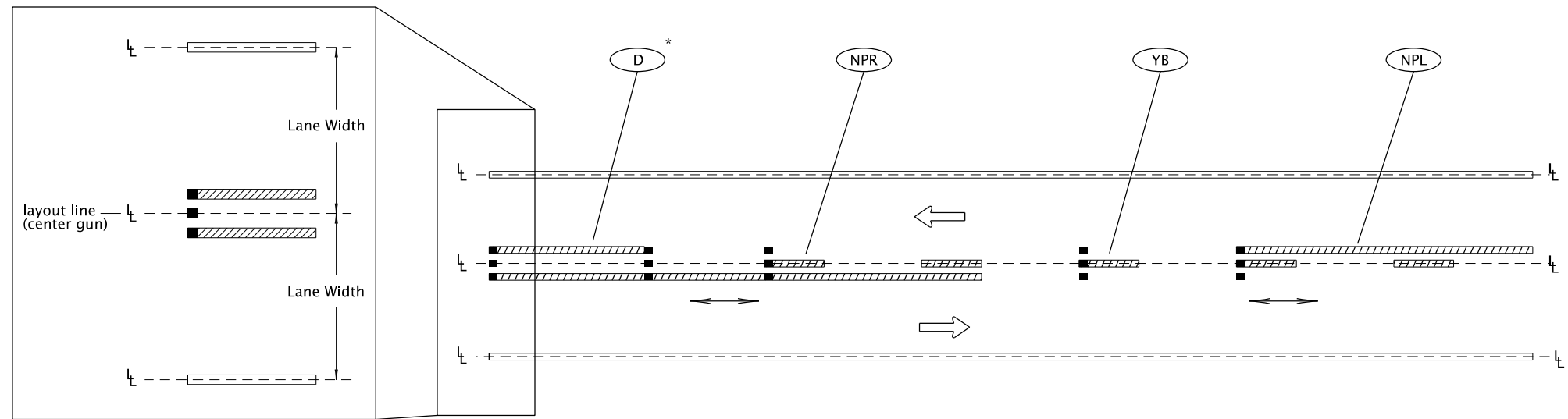


LEFT TURN LANE ALIGNMENT LAYOUT

- General note:
- 1) Install control points for pavement marking alignment layout along the center gun location.
  - 2) Increasing stationing from left to right

LEGEND

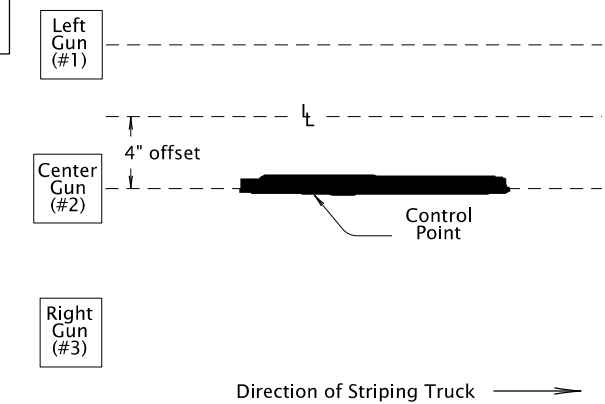
- ← Direction Of Travel and Thru Traffic Side.
- └ Lane line dimensions are shown on the striping plans.
- ↔ Direction of striping truck (may go either direction)
- Direction of striping truck (may go one direction only)
- Three gun installation system (center dot represents center gun)



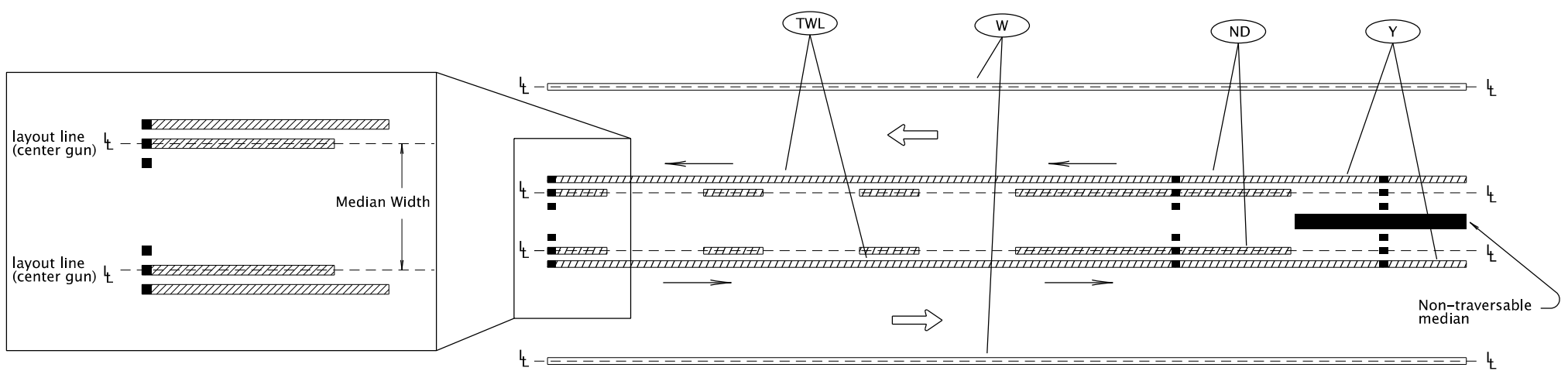
CENTERLINE ALIGNMENT LAYOUT

\*When ND is used as centerline markings, a control point layout 4" offset from the lane line is required.

Line Types requiring control points to be 4" offset from lane line:  
 ND  
 For centerlines only



4" Offset of Lane Line and Center Gun



MEDIAN ALIGNMENT LAYOUT

To be accompanied by Standard Dwg. Nos. TM500 thru TM504

CALC. BOOK NO. \_ \_ \_ \_ N/A \_ \_ \_ \_ SDR DATE \_ \_ \_ \_ 07/01/2020 \_ \_ \_ \_

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS  
 ALIGNMENT LAYOUT:  
 LEFT TURN LANE,  
 CENTERLINE & MEDIANS

2021

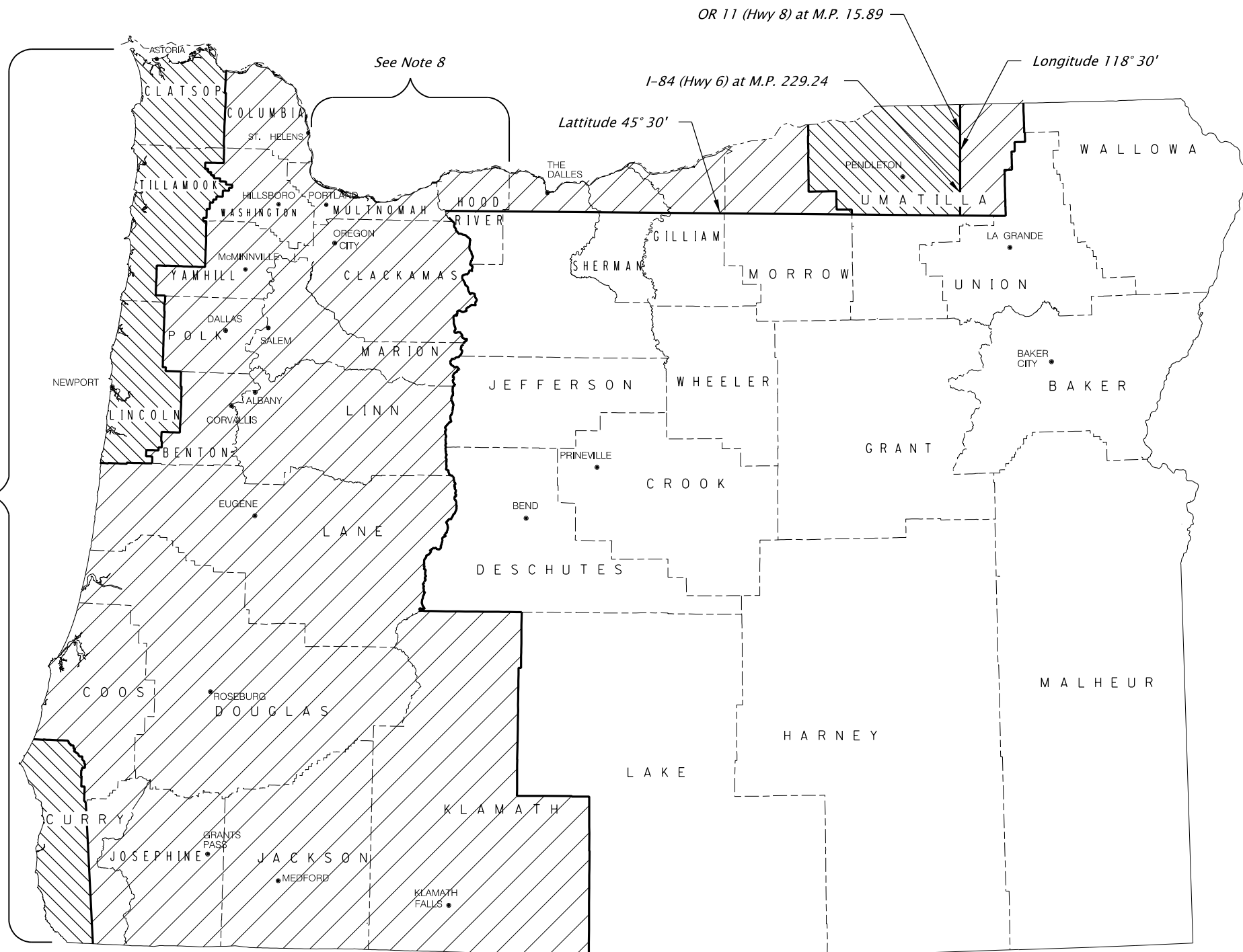
DATE	REVISION DESCRIPTION
07/2020	Extended accompanied by drawings to include TM504

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

TM561

TM671.dgn 10-JUL-2020

TM671



**NOTES:**

1. The wind velocity map as shown is adapted from AASHTO 2001 4th Edition - "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals", Appendix C, Figure C-3 and Section 3, Figure 3-2. It uses the wind speed map shown in Figure 1609 of the 2007 Oregon Structural Code to account for locations in the State with special wind regions.
2. The wind velocities shown above are 3-Second Gust wind velocities.
3. The Exposure Category is C.
4. The mean recurrence interval is 50-Years.
5. Mountainous terrain, gorges, and ocean promontories are classified as special wind regions and shall be examined for unusual wind conditions.
6. The Interval Height (Kz) is 30 ft.
7. All areas with full exposure to ocean winds shall be designated 110 mph areas.
8. Areas in Multnomah and Hood River counties with full exposure to Columbia River Gorge winds shall be designated 110 mph areas.
9. Localities may have adopted wind speed higher than shown on this map. Those higher wind speed shall be used.

See Note 7

See Note 8

OR 11 (Hwy 8) at M.P. 15.89

I-84 (Hwy 6) at M.P. 229.24

Longitude 118° 30'

Latitude 45° 30'

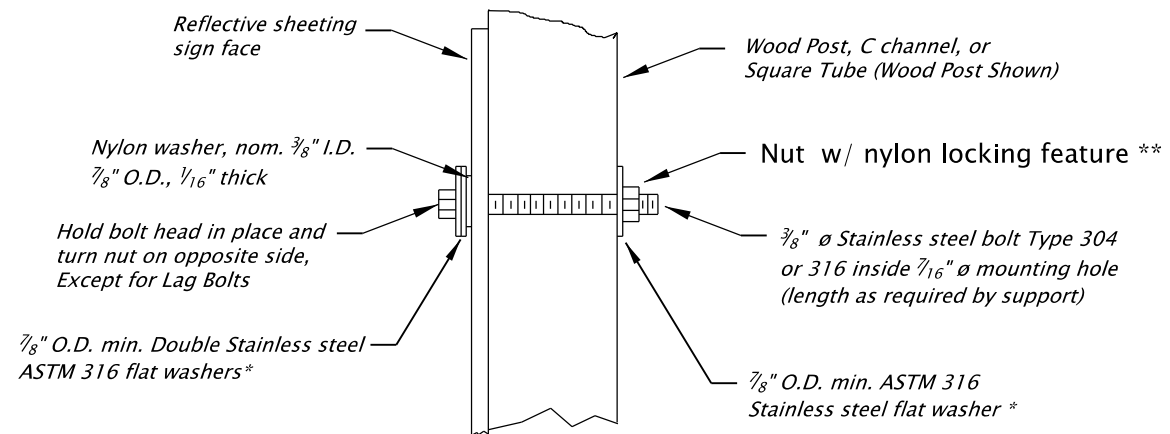
CALC. BOOK NO. _____	SDR DATE <u>06-JAN-2012</u>
<p>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications
	<b>OREGON STANDARD DRAWINGS</b>
	<b>3 SECOND GUST WIND SPEED MAP</b>
	2021
DATE	REVISION DESCRIPTION

**Effective Date: June 1, 2021 – November 30, 2021**

TM671



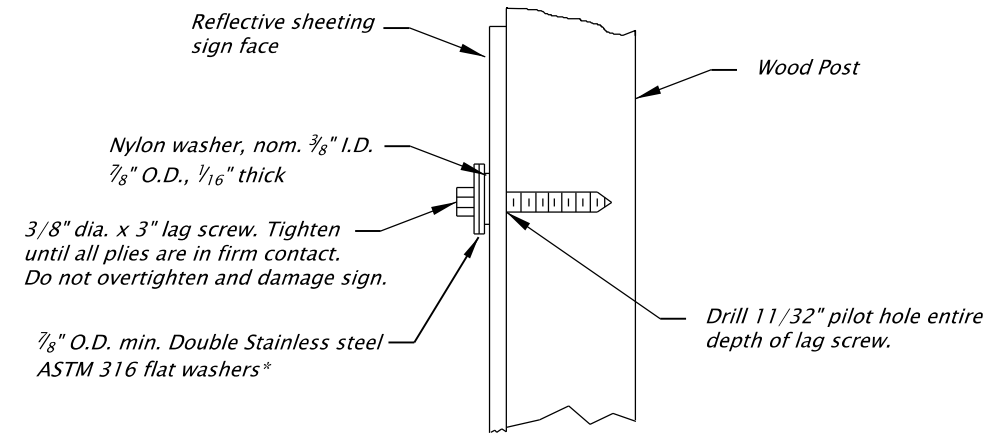
tm676.dgn 10-JUL-2020



Note:  
 1) When signs are placed on opposing sides of post,  $\frac{3}{8}$ " x 3" lag screws can be used instead of through bolt.  
 2) Use nylon and stainless steel washers when signs are placed on both sides of post.  
 3) Burr threads at junction with nut when locknuts are not used.  
 4) Post bolts to extend beyond the tightened nuts within the limits of  $\frac{1}{4}$ " to 1".

\* Stainless steel bonded sealing washer with neoprene layer is an acceptable substitute  
 \*\* Acceptable substitute for nylon locking nuts:  
 ANCO PIN-LOC  
 TRI-LOC® Top Lock Locknut

**SIGN ATTACHMENT DETAIL**



\* Stainless steel bonded sealing washer with neoprene layer is an acceptable substitute

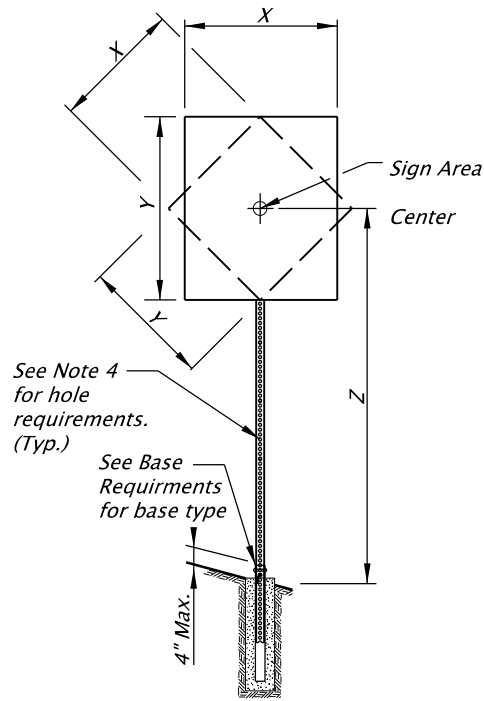
Note: This optional detail is to be used only when specified on a project.

**OPTIONAL WOOD POST LAG SCREW DETAIL**

TM676

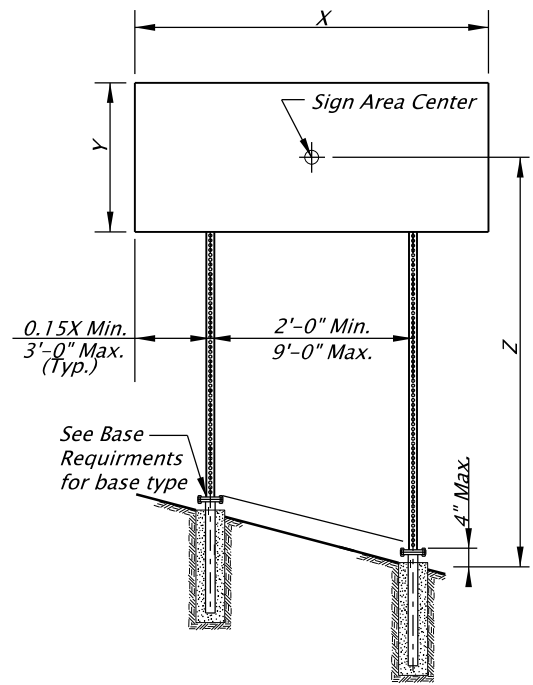
CALC. BOOK NO. _____		SDR DATE <u>10-JUL-2020</u>	
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications			
<p>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</p>		<b>OREGON STANDARD DRAWINGS</b>	
		<b>SIGN ATTACHMENTS</b>	
		2021	
DATE	REVISION	DESCRIPTION	
07/20		Added optional lag screw detail.	

tm681.dgn 10-JUL-2020



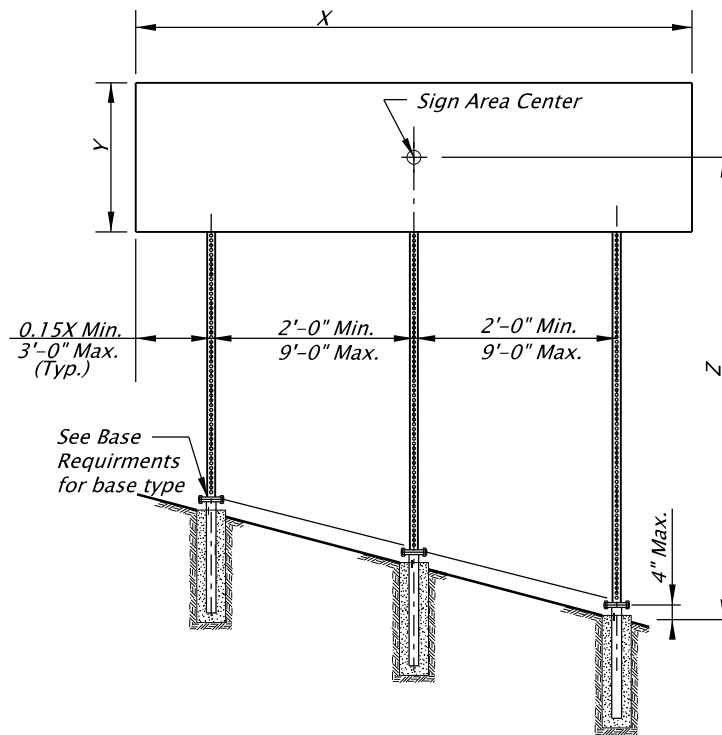
**SINGLE POST ELEVATION**

No scale



**TWO POST ELEVATION**

No scale



**THREE POST ELEVATION**

No scale

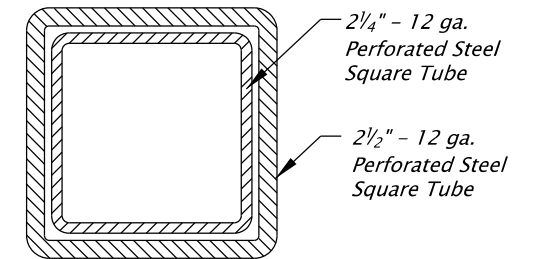
Square Tube Size	<i>(X * Y * Z) in ft<sup>3</sup> - Maximum</i>								
	3 Second Gust Wind Speed (TM671)								
	85 MPH			95 MPH			105 or 110 MPH		
	Number of Posts			Number of Posts			Number of Posts		
2"-12 ga.	79	158	237	63	126	189	57	114	171
2 1/2"-12 ga.	136	272	408	109	218	327	98	196	294
2 1/2"-10 ga.	165	330	495	132	264	396	119	238	357
2 1/4" & 2 1/2"-12 ga.*	231	462	693	185	370	555	167	334	501

**PERMANENT PERFORATED STEEL SQUARE TUBE TABLE**

Square Tube Size	<i>(X * Y * Z) in ft<sup>3</sup> - Maximum</i>								
	3 Second Gust Wind Speed (TM671)								
	85 MPH			95 MPH			105 or 110 MPH		
	Number of Posts			Number of Posts			Number of Posts		
2"-12 ga.	125	250	375	100	200	300	90	180	270
2 1/2"-12 ga.	215	430	645	172	344	516	155	310	465
2 1/2"-10 ga.	261	522	783	209	418	627	189	378	567
2 1/4" & 2 1/2"-12 ga.*	364	728	1092	292	584	876	263	526	789

**TEMPORARY PERFORATED STEEL SQUARE TUBE TABLE**

\* - See 2 1/4" & 2 1/2" - 12 ga. detail.



2 1/4" - 12 ga. PSST to extend entire length inside of the 2 1/2" - 12 ga. PSST.

**2 1/4" & 2 1/2" - 12 GA. DETAIL**

No scale

Square Tube Size	Number of Posts		
	1	2	3
2"-12 ga.	Anchor	Anchor	N/A
2 1/2"-12 ga.	Anchor	Slip	Slip
2 1/2"-10 ga.	Slip	Slip	Slip
2 1/4" & 2 1/2"-12 ga.*	Slip	Slip	Slip

1. Anchor - See Drawing TM687 for PSST anchor foundation details.
2. Slip - See Drawing TM688 for PSST slip base foundation details.
3. N/A - Do not use this option.

**BASE REQUIREMENTS**

**GENERAL NOTES:**

1. Perforated Steel Square Supports are designed in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals 4th Edition, 2001, 2002, 2003, and 2006 interim revisions.
2. The design basic wind speed (3 second gust) shall be according to the wind map shown on TM671.
3. Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.
4. Use 7/16" diameter holes at 1" spacing on each of the 4 sides.
5. Steel post shall have a minimum yield stress of 50 ksi.
6. Steel shall be galvanized according to ASTM A653 with coating designation G90.
7. General design parameters are  $K_z = 0.87$ ,  $C_d(\text{sign}) = 1.20$ , and  $G = 1.14$ .
8. Permanent signing uses an  $I_r = 0.71$  for a recurrence interval of 10 years.
9. Temporary signing uses an  $I_r = 0.45$  for a recurrence interval of 1.5 years.
10. The sign width to sign height or sign height to sign width ratio shall not exceed 5.0.
11. For horizontal and vertical clearances of permanent signs refer to TM200 and of temporary signs refer to TM822.
12. Posts protected by barrier or guardrail do not require slip bases.

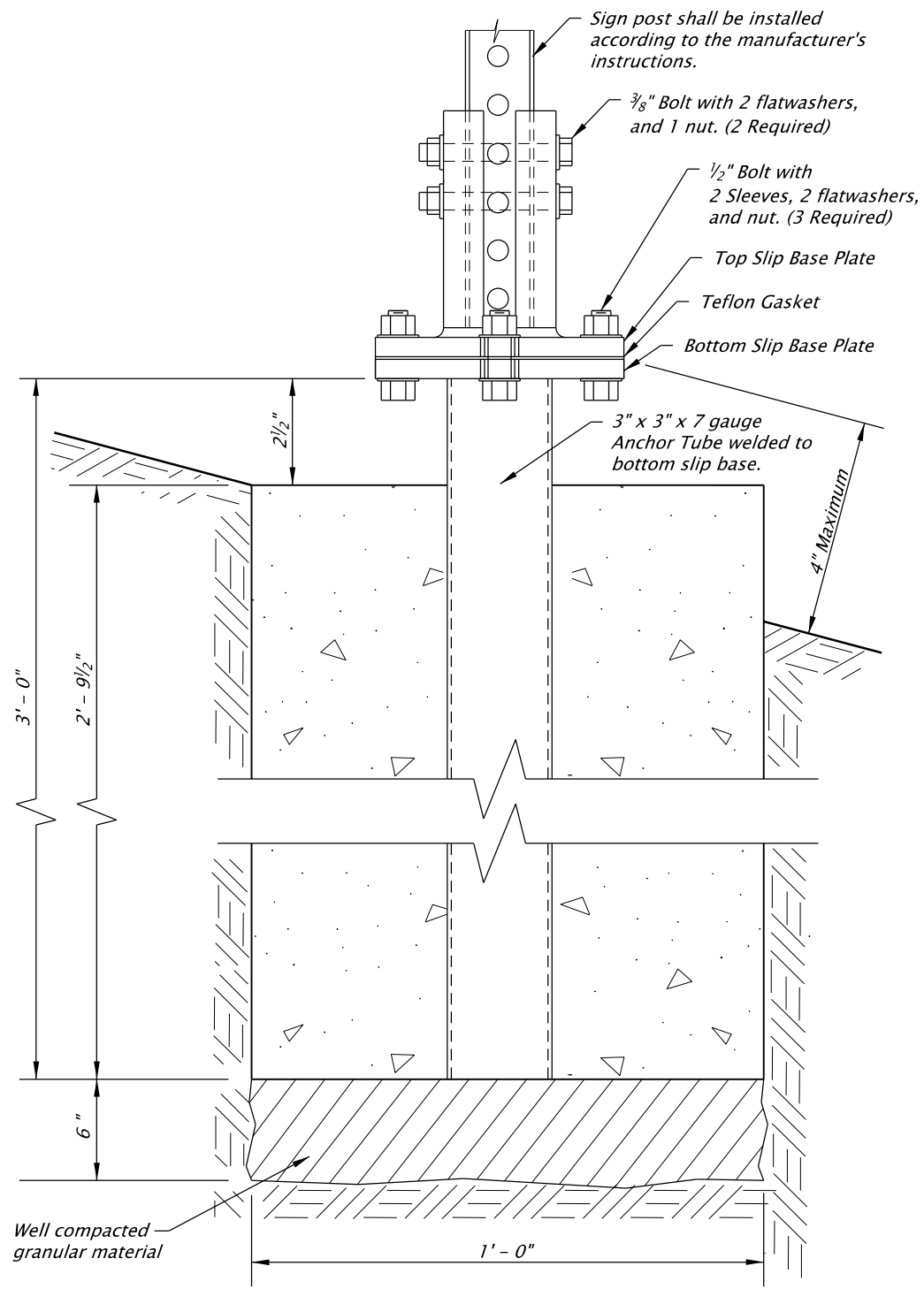
Accompanied by dwgs. TM200, TM671, TM687, TM688, TM689, TM822

CALC. BOOK NO. <u>5752</u>	SDR DATE <u>10-JUL-2017</u>
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
<b>OREGON STANDARD DRAWINGS</b>	
<b>PERFORATED STEEL SQUARE TUBE (PSST) SIGN SUPPORT INSTALLATION</b>	
2021	
DATE	REVISION DESCRIPTION

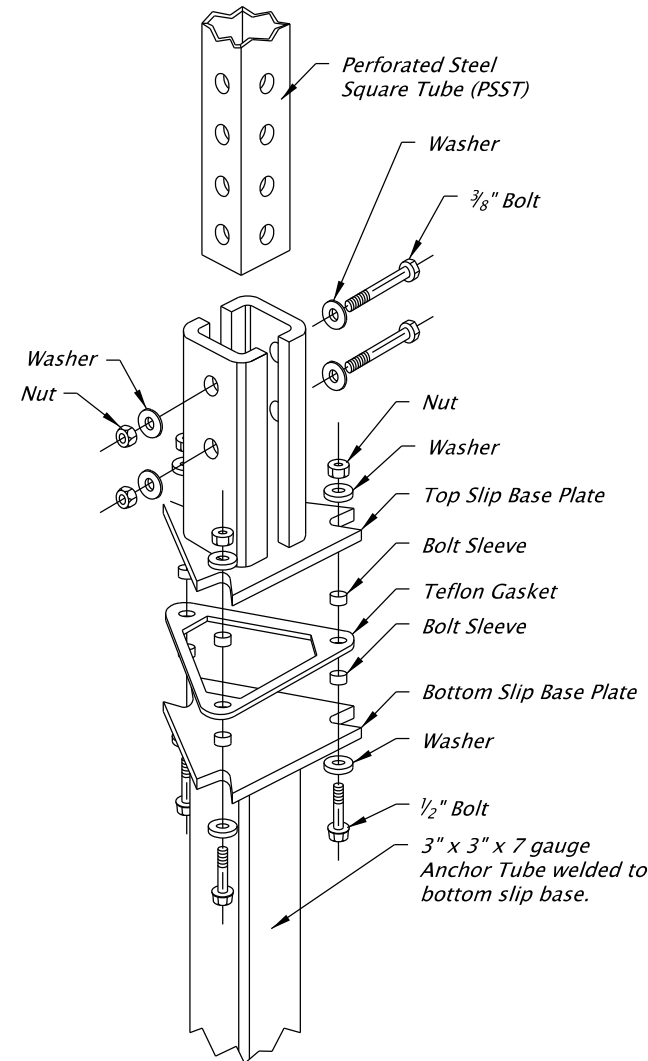
*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

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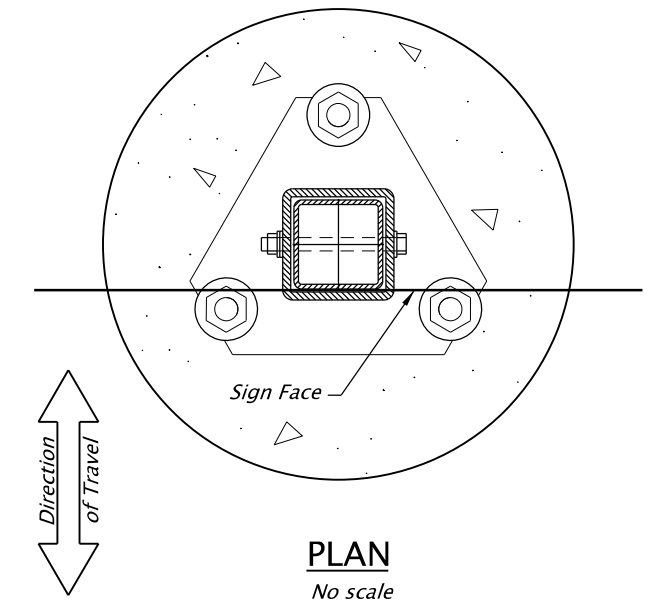
tm688.dgn 10-JUL-2020



**SLIP BASE ELEVATION**  
No scale



**SLIP BASE EXPLODED VIEW**  
No scale



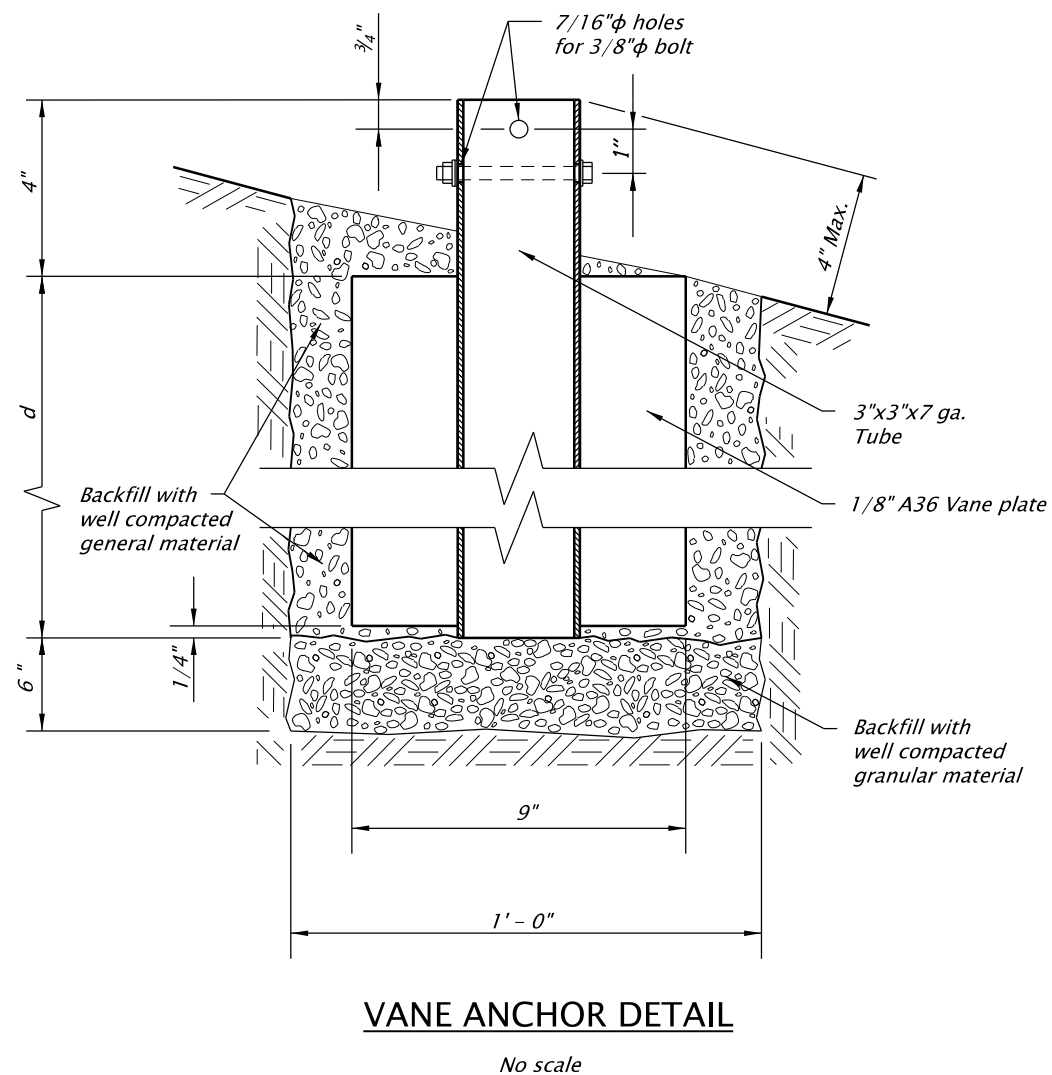
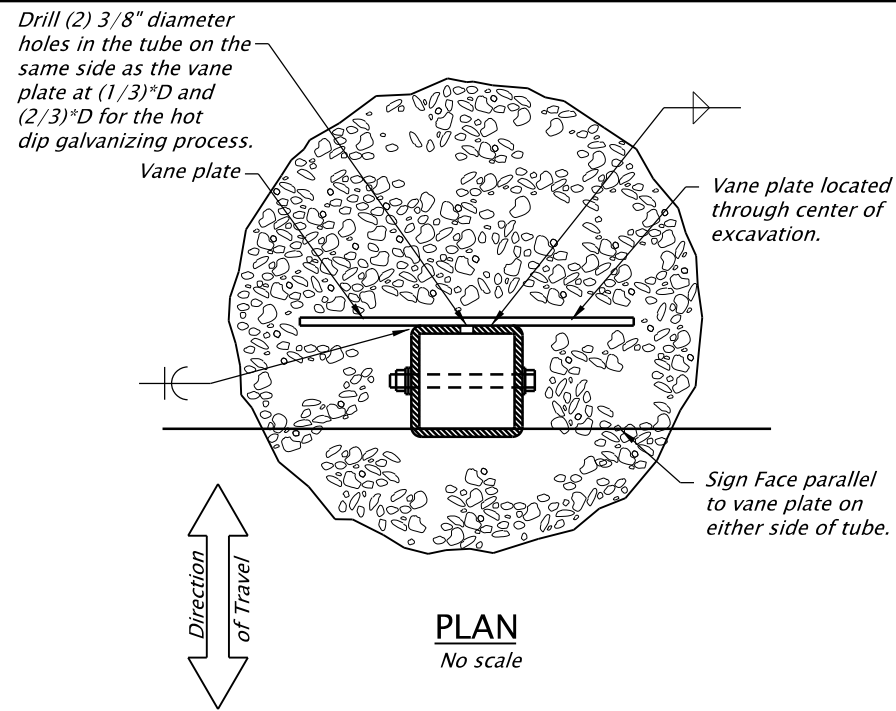
**General Notes:**

1. Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.
2. Slip base steel shall be hot dipped galvanized or approved equal.
3. Footing concrete shall be Commercial Grade Concrete ( $f_c = 3000$  psi) per Specification 00440. The CGC mixture may be accepted at the site of placement according to 00440.14.
4. Material grade for base hardware connection shall be according to the manufacturer's recommendation and based on crash testing.
5. All slip bases shall be pre-assembled by the manufacturer and shall be installed according to the manufacturer's instructions.
6. Use slip bases listed on the ODOT Qualified products list or submit crash testing data, installation instructions, and unstamped working drawings according to 00150.35.
7. Slip base details shown are not for a specific manufacturer and are only shown to convey general pieces of a slip base system. Specific slip base material will be according to the manufacturer's documentation.

Accompanied by dwgs. TM681, TM687

CALC. BOOK NO. <u>5752</u>	SDR DATE <u>06-JAN-2012</u>
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
<b>OREGON STANDARD DRAWINGS</b>	
<b>PERFORATED STEEL SQUARE TUBE (PSST) SLIP BASE FOUNDATION</b>	
2021	
DATE	REVISION DESCRIPTION

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*



**General Notes:**

1. Reference TM681, TM687, and TM688 for additional PSST details.
2. Reference TM822 for temporary sign placement.
3. PSST Vane anchor design in accordance with the 5th Edition 2009 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.
4. Use the 3 second gust wind speeds shown on TM671 for the site specific sign location. General design parameters are  $K_z = 0.87$ ,  $C_d(\text{sign}) = 1.20$ ,  $G = 1.14$ , and  $I_r = 0.45$  for a recurrence interval of 1.5 years.
5. Use this design only for Temporary applications.
6. The PSST Vane anchor shall not remain permanently in place.
7. The temporary PSST vane anchor shall be hot-dip galvanized after fabrication.

**Post Embedment Installation:**

1. Excavate the hole to 6" deeper than the required depth and backfill the bottom 6" with well compacted granular material meeting the requirements of 00330.14.
2. Align the vane anchor in the hole to a vertical position.
3. The space around the vane anchor shall be backfilled to finished ground surface.
4. Backfill with selected general backfill meeting the requirements of 00330.13.
5. Place backfill in layers not greater than 6 inches.
6. Solidly ram and tamp the layers into the excavation area around the post.
7. Dampen during placement if too dry to compact properly.
8. Replace and finish the surface around the vane anchor to match the surrounding surface.

Square Tube Size	d
2"-12 ga. ☉	2'-6"
2 1/2"-12 ga.	3'-0"
2 1/2"-10 ga.	3'-0"
2 1/4" & 2 1/2"-12 ga.	3'-6"

☉ Requires a 2 1/2" x 2 1/2" x 7 ga. tube installed in the 3" x 3" x 7 ga. anchor.

**DEPTH REQUIREMENTS**

Accompanied by dwgs. TM200, TM671, TM681, TM687, TM688, TM822

CALC. BOOK NO. <b>6634</b>	SDR DATE <b>06-JAN-2017</b>
<p>The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.</p>	NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications
	<b>OREGON STANDARD DRAWINGS</b>
	<b>TEMPORARY PSST VANE ANCHOR INSTALLATION</b>
	2021
	DATE REVISION DESCRIPTION

tm800.dgn 01-JUL-2020

00800

TAPER TYPES & FORMULAS	
TAPER	FORMULA
Merging (Lane Closure)	"L"
Shifting	"L"/2 or 1/2"L"
Shoulder Closure	"L"/3 or 1/3"L"
Flagging (See Drg. TM850)	50' - 100'
Downstream (Termination)	Varies (See Drawings)

★ Use Pre-Construction Posted Speed to select the Speed from the Tables below:

TEMPORARY BARRIER FLARE RATE TABLE	
★ SPEED (mph)	MINIMUM FLARE RATE
≤ 30	8:1
35	9:1
40	10:1
45	12:1
50	14:1
55	16:1
60	18:1
65	19:1
70	20:1

MINIMUM LENGTHS TABLE					
"L" VALUE FOR TAPERS (ft)					BUFFER "B" (ft)
★ SPEED (mph)	W = Lane or Shoulder Width being closed or shifted				
	W ≤ 10	W = 12	W = 14	W = 16	
25	105	125	145	165	75
30	150	180	210	240	100
35	205	245	285	325	125
40	265	320	375	430	150
45	450	540	630	720	180
50	500	600	700	800	210
55	550	660	770	880	250
60	600	720	840	960	285
65	650	780	910	1000	325
70	700	840	980	1000	365
FREEWAYS					
55	1000	1000	1000	1000	250
60	1000	1000	1000	1000	285
65	1000	1000	1000	1000	325
70	1000	1000	1000	1000	365

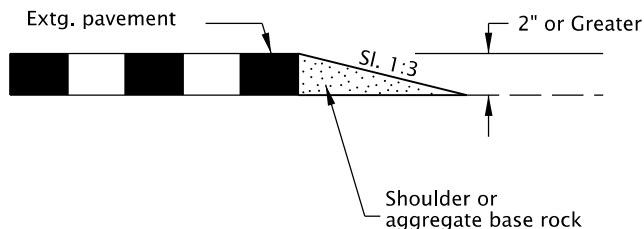
- NOTES:
- For Lane closures where W < 10', use "L" value for W = 10'.
  - For Shoulder closures where W < 10', use "L" value for W = 10' or calculate "L" using formula, for Speeds ≥ 45: L = WS, Speeds < 45: L = S<sup>2</sup>W/60, S = Speed, W=Width

TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE				
★ SPEED (mph)	Sign Spacing (ft)			Max. Channelizing Device Spacing (ft)
	A	B	C	
20 - 30	100	100	100	20
35 - 40	350	350	350	20
45 - 55	500	500	500	40
60 - 70	700	700	700	40
Freeway	1000	1500	2640	40

- NOTES:
- Place traffic control devices on 10 ft. spacing for intersection and access radii.
  - When necessary, sign spacing may be adjusted to fit site conditions. Limit spacing adjustments to 30% of the "A" dimension for all speeds.

NOTES:

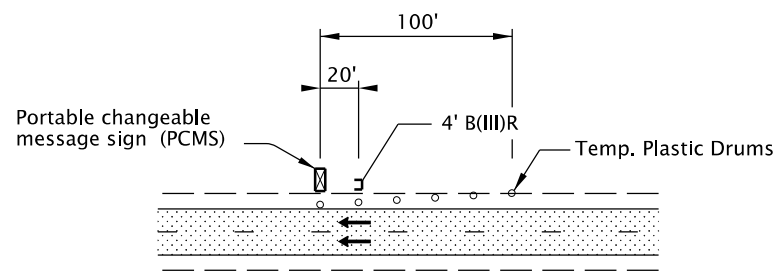
- When paved shoulders adjacent to excavations are less than four feet wide protect longitudinal abrupt edge as shown.
- Use aggregate wedge when abrupt edge is 2 inches or greater.



EXCAVATION ABRUPT EDGE

NOTES:

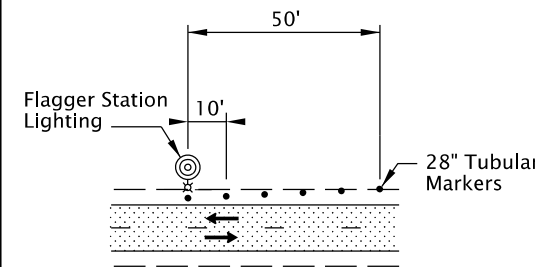
- Install PCMS beyond the outside shoulder, when possible.
- Use the appropriate type of barricade panels for PCMS location. Right shoulder, use Type B(III)R. Left shoulder, use Type B(III)L.
- Use six drums in shoulder taper on 20' spacing. The drums and barricade may be omitted when PCMS is placed behind a roadside barrier.
- Detail as shown is used for trailered and non-crashworthy components of:
  - Portable Traffic Signals
  - Smart Work Zone Systems



PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) INSTALLATION

NOTES:

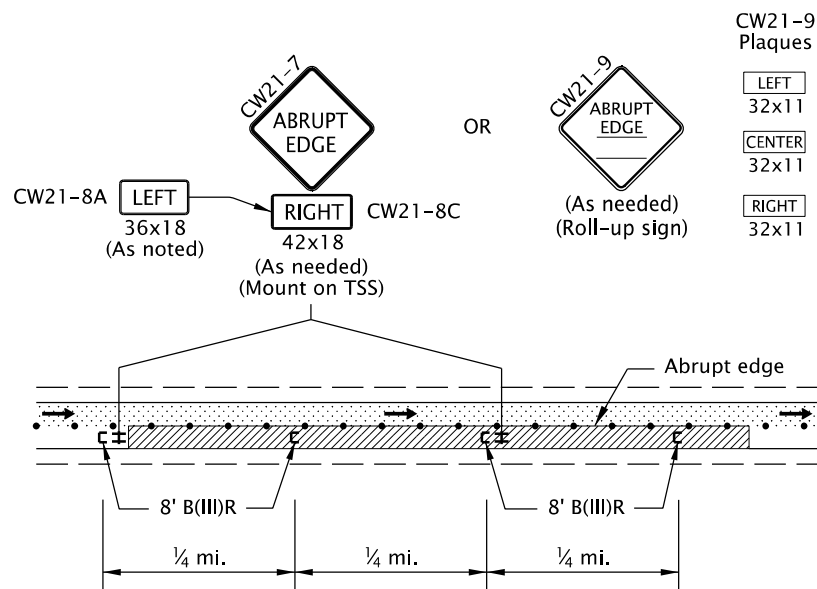
- Install Flagger Station Lighting beyond the outside shoulder, where practical.
- Use six tubular markers in shoulder taper on 10' spacing.
- Place cart / generator / power supply off of the shoulder, as far as practical.



FLAGGER STATION LIGHTING DELINEATION

NOTES:

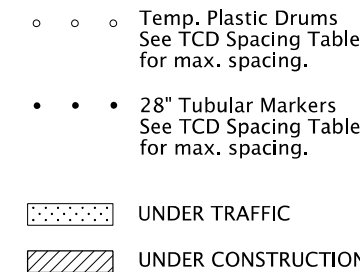
- Abrupt edges may be created by paving, operations, excavations or other roadway work. Use abrupt edge signing for longitudinal abrupt edges of 1 inch or greater.
- If the excavation is located on left side of traffic, replace the 8' B(III)R barricades with 8' B(III)L barricades and replace the "RIGHT" (CW21-8C) riders with "LEFT" (CW21-8A) riders.
- Continue signing and other traffic control devices throughout excavation area at spacings shown.
- If roll-up signs are used, attach the correct (CW21-9) plaques to the sign face using hook and loop fasteners. Place roll-up signs in advance of barricades.



TYPICAL ABRUPT EDGE DELINEATION

GENERAL NOTES FOR ALL TCP DRAWINGS:

- Signs and other Traffic Control Devices (TCD) shown are the minimum required.
- Place a barricade approx. 20' ahead of all sequential arrow boards.
- Arrows shown in roadway are directional arrows to indicate traffic movements.
- All signs are 48" x 48" unless otherwise shown. Use fluorescent orange sheeting for the background of all temporary warning signs.
- All diamond shaped warning signs mounted on barrier sign supports shall be 36" by 36". All other signs mounted on barrier sign supports shall not exceed 12 sq. ft. in total sign area.
- Low speed highways have a pre-construction posted speed of 40 mph or less. High speed highways have a pre-construction posted speed of 45 mph or higher.
- Do not locate sign supports in locations designated for bicycle or pedestrian traffic.
- Combine drawing details to complete temporary traffic control for each work activity.
- To be accompanied by Dwg. Nos. TM820 & TM821.



CALC. BOOK NO. \_\_\_ \_ \_ \_ \_ TM09-01 \_\_\_ \_ \_

SDR DATE \_\_\_ \_ \_ \_ \_ 01-JUL-2020 \_\_\_ \_ \_

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

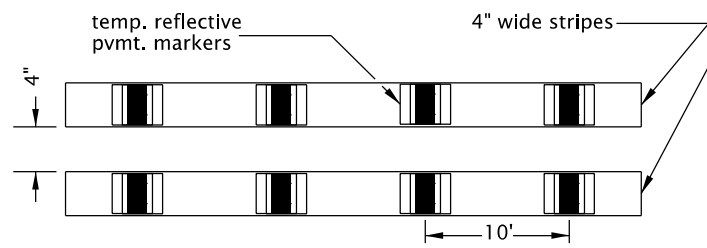
**OREGON STANDARD DRAWINGS**  
**TABLES, ABRUPT EDGE AND PCMS DETAILS**

2021

DATE	REVISION	DESCRIPTION

*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

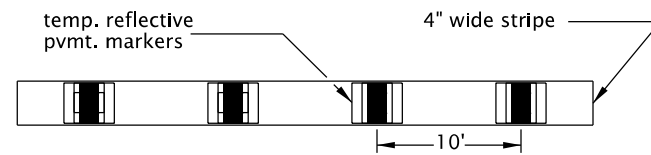
tm810.dgn 01-JUL-2020



**LAYOUT "A"**  
(Supplemented double solid lines)

TYPICAL APPLICATIONS:

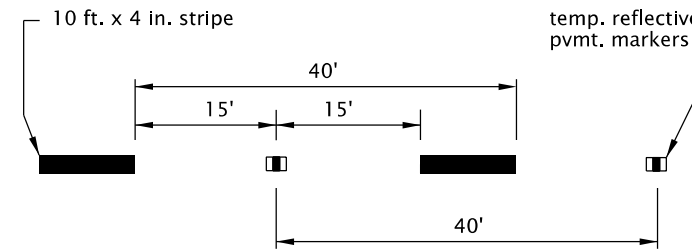
- To prohibit lane changes or passing (include appropriate regulatory signs).
- Freeway or multilane shifts and crossovers.
- For projects in place through winter months.
- Two-lane, two-way centerlines.



**LAYOUT "B"**  
(Supplemented solid line)

TYPICAL APPLICATIONS:

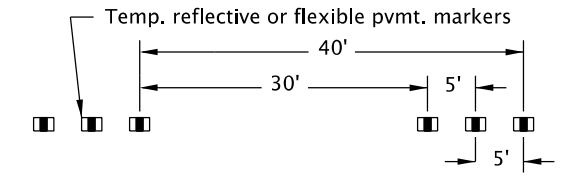
- Alignment shifts or crossovers.
- To discourage lane changes in multilane sections.
- For projects in place through winter months.



**LAYOUT "C"**  
(Supplemented broken lines)

TYPICAL APPLICATIONS:

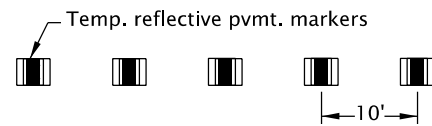
- Freeway and multilane broken lines.
- High ADT 2 lane roads (greater than 10,000).
- For projects in place through winter months.



**LAYOUT "D"**  
(Simulated broken lines)

TYPICAL APPLICATIONS:

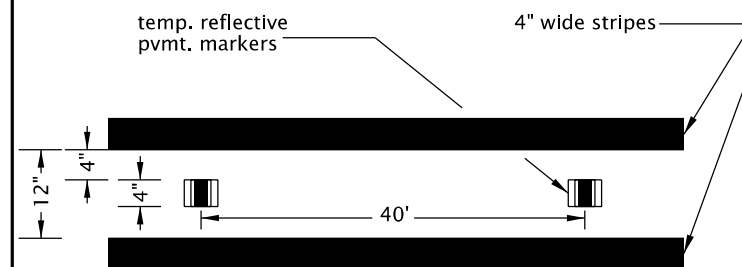
- During staging on finished/existing surfaces.
- HMAC intermediate surfaces.
- Emulsified asphalt surface treatments (chip seals) where permanent pavement markings cannot be placed within two weeks.



**LAYOUT "E"**  
(Simulated Solid Lines)

TYPICAL APPLICATIONS:

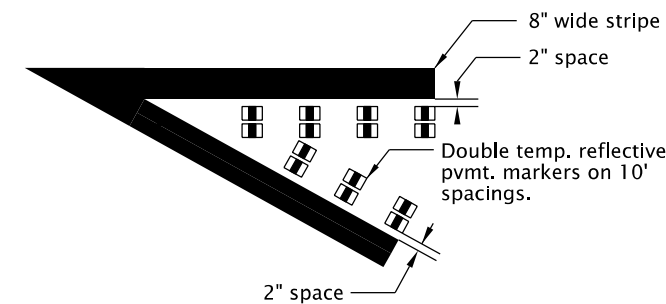
- Alignment shifts or crossovers.
- To discourage lane changes in multilane sections.
- Edge lines for short durations, less than 14 days.



**LAYOUT "F"**  
(Supplemented wide double solid lines)

TYPICAL APPLICATIONS:

- To prohibit lane changes or passing (include appropriate regulatory signs).
- 2 lane, 2 way centerlines.
- 2 lane, 1 way alignments on freeways or multi-lane highways.



**LAYOUT "G"**  
(Supplemented solid 8" line)

TYPICAL APPLICATIONS:

- Gore areas
- Alignment splits (bifurcations)

GENERAL NOTES FOR ALL DETAILS:

- When using Supplemented or Simulated lines:
  1. Yellow Bi-Directional Pavement Markers are required for Two-Way Traffic.
  2. White Mono-Directional Pavement Markers are required for one-way traffic or edge lines.
- Supplemented lines are painted lines enhanced with Reflective Pavement Markers.
- Simulated lines are Reflective Pavement Markers placed in a pattern to substitute for a painted line.
- Pavement marking colors shall conform to the MUTCD.

CALC. BOOK NO. \_\_\_\_\_ N/A \_\_\_\_\_

SDR DATE \_\_\_\_\_ 01-JUL-2020 \_\_\_\_\_

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

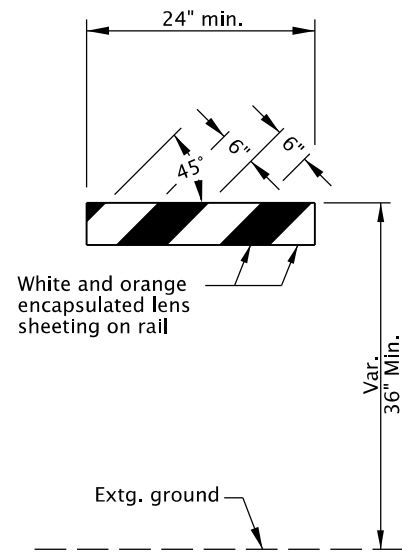
**OREGON STANDARD DRAWINGS**  
**TEMPORARY PAVEMENT MARKINGS**

2021

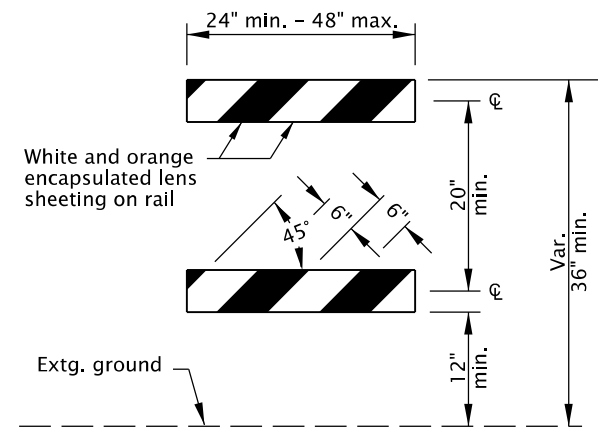
DATE	REVISION	DESCRIPTION

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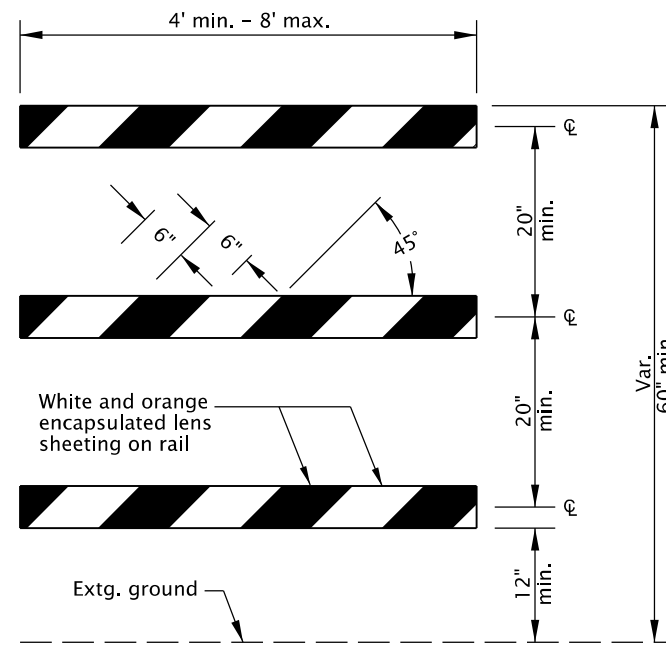
TM810



TYPE I



TYPE II



TYPE III

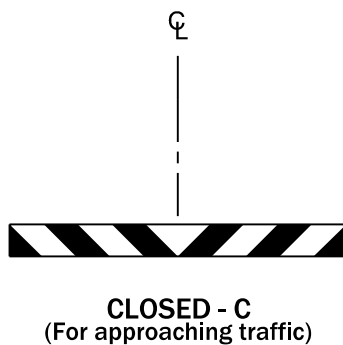
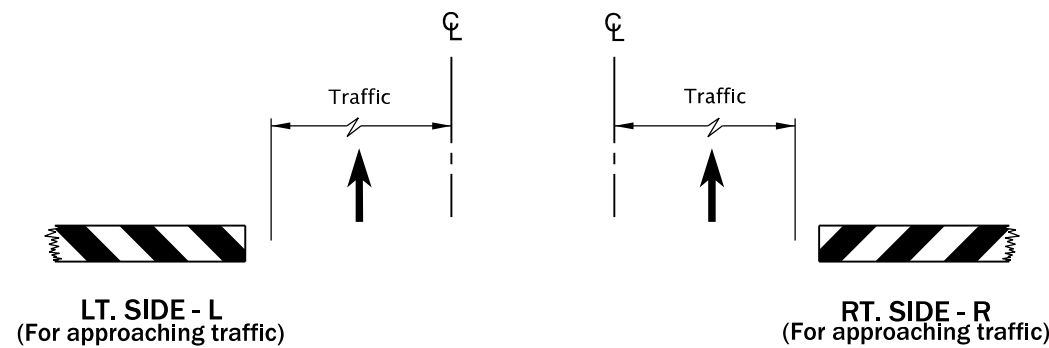
BARRICADE RAIL LAYOUT

GENERAL NOTES FOR ALL DETAILS:

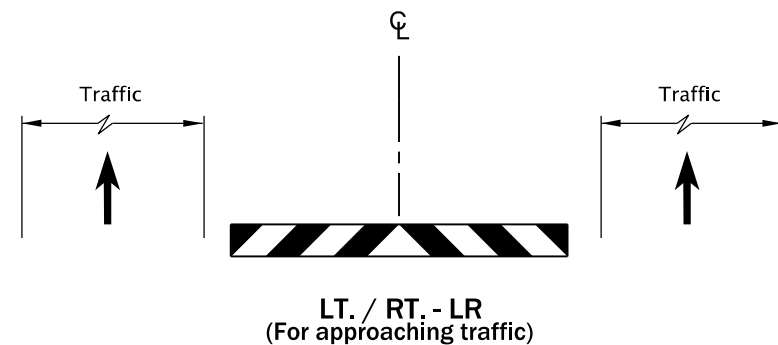
- Sandbags (approximately 25 lb sack filled with sand) may be placed on lower frame to provide additional ballast.
- Ballast shall not extend above bottom rail or be suspended from barricade.
- For rails less than 36" long, 4" wide stripes shall be used.
- Rails must be 8" min. to 12" max. in height.
- Use barricades from ODOT Qualified Products List (QPL).
- Use 4' Type III barricades where horizontal space is limited.
- Do not block bike lanes or shoulders unless the facility is properly closed and signed.
- Do not place barricades in sidewalks unless sidewalk is closed and a temporary pedestrian accessible route (TPAR) is signed according to the TCP. See Dwg. No. TM844.

NOTES:

- Markings for barricade rails shall slope downward at an angle of 45° in the direction traffic is to pass.
- Where a barricade extends entirely across a roadway, it is desirable that the stripes slope downward in the direction toward which traffic must turn in detouring.
- Where both right and left turns are provided for, slope the chevron striping downward in both directions from the center of the barricade.
- For full roadway closures, the C or LR barricade may be used. Extend barricades completely across roadway unless access is required for local road users.

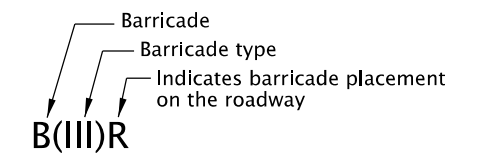


CLOSED - C  
(For approaching traffic)



LT. / RT. - LR  
(For approaching traffic)

DIAGRAM FOR BARRICADE PLACEMENT AND SLOPE MARKING

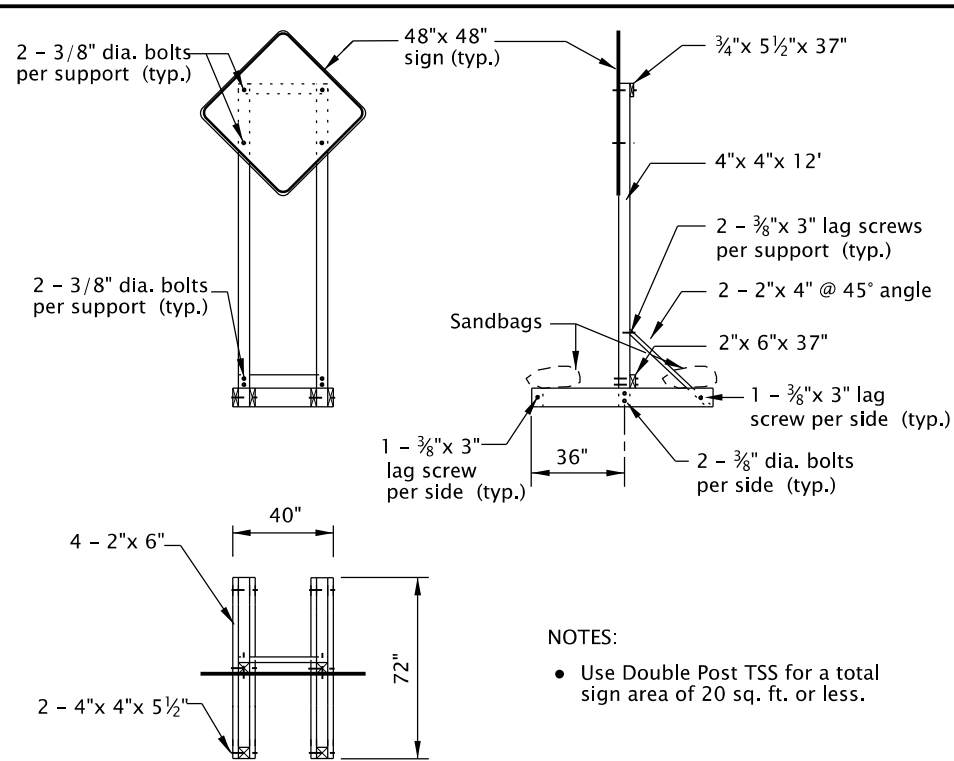


BARRICADE NOTATION

CALC. BOOK NO. _____ N/A _____	SDR DATE _____ 01-JUL-2020 _____
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
<b>OREGON STANDARD DRAWINGS</b>	
<b>TEMPORARY BARRICADES</b>	
2021	
DATE	REVISION DESCRIPTION

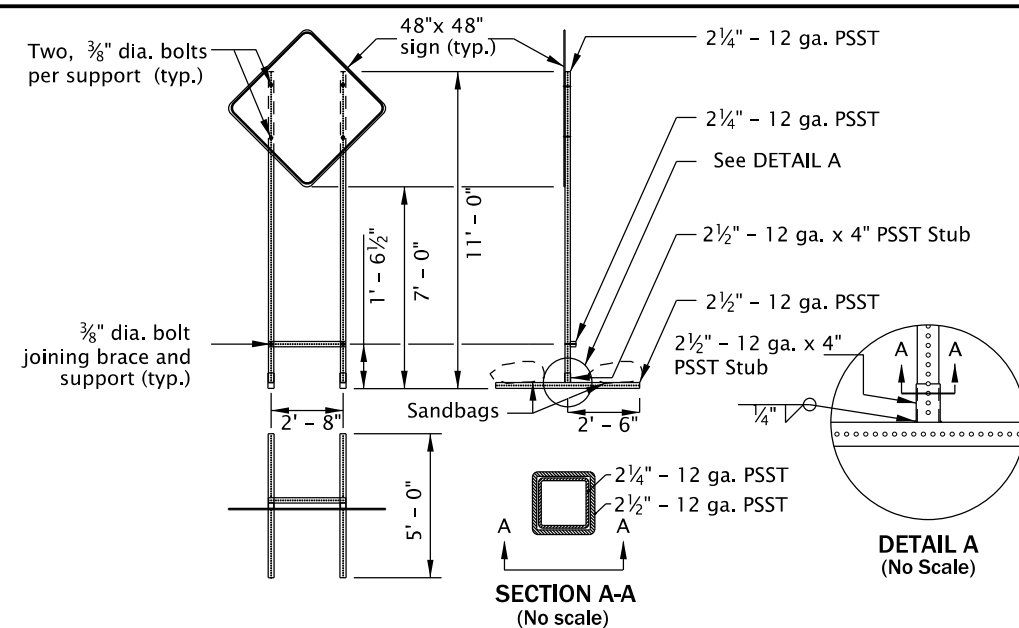
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tm821.dgn 01-JUL-2020



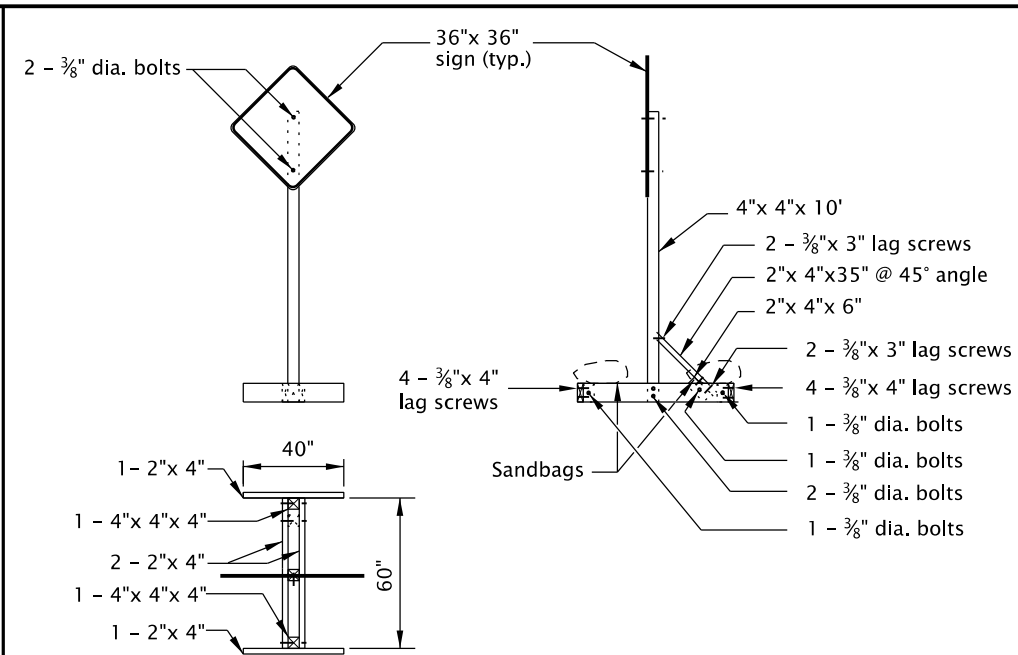
- NOTES:
- Use Double Post TSS for a total sign area of 20 sq. ft. or less.

**DOUBLE POST DETAIL**



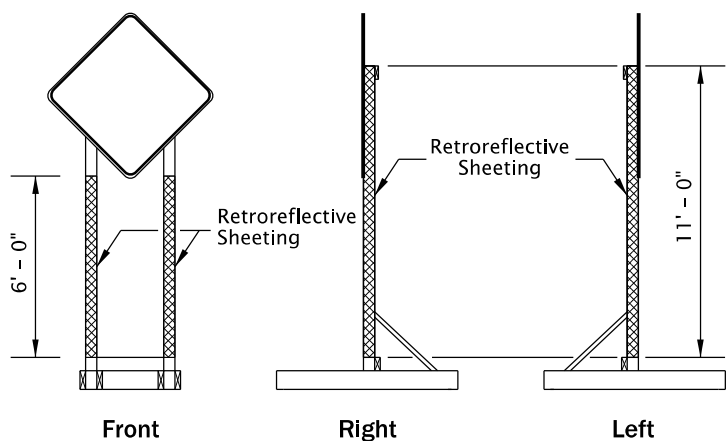
- NOTES:
- Use PSST TSS's for a total sign area of 16 sq. ft. or less.
  - All members shall have a minimum yield stress of 50 ksi.
  - Galvanize steel according to ASTM A653 with coating designation G90. Remove Galvanizing from steel before welding. Repair Galvanizing according to ASTM A780.
  - Use A325 Bolts or equivalent.
  - 2 1/4" - 12 ga. PSST to extend entire length inside of the 2 1/2" - 12 ga. x 4" PSST Stub.
  - Do not use bolt to secure 2 1/4" PSST inside of the 2 1/2" - 12 ga. x 4" PSST Stub.
  - Weld steel according to American Welding Society (AWS) D.1.1.

**PERFORATED STEEL SQUARE TUBE (PSST) DETAIL**

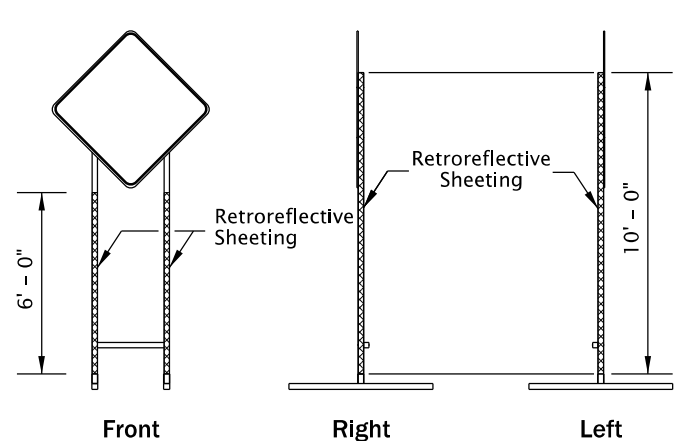


- NOTES:
- Use Single Post TSS for a total sign area of 12 sq. ft. or less.
  - Use Single Post TSS for mounting "Business Access" (CG20-11) signs. Do not mount signs on Type II or III Barricades.

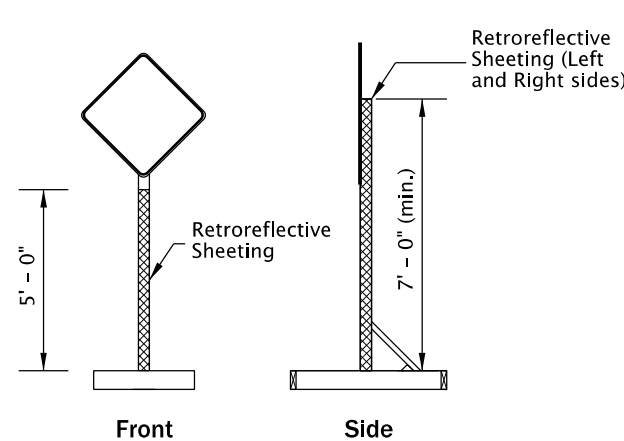
**SINGLE POST DETAIL**



**Double Post**



**Perforated Steel Square Tube (PSST)**



**Single Post**

Retroreflective Sheeting (Left and Right sides)

**TEMPORARY SIGN SUPPORT GENERAL NOTES:**

- Do not tip over TSS at any time.
- Do not locate TSS's in locations that block pedestrian or bicycle traffic.
- For wooden TSS's, use either Douglas Fir or Hem Fir, which is surfaced four sides (S4S) and free of heart center (FOHC).
- See "Temporary Sign Placement" detail on TM822 for sign installation heights.
- Do not place or stack ballast more than 24" above the ground.
- When sign is inconsistent with current work zone conditions, cover sign; or turn sign 90 degrees away from approaching traffic. Remove TSS from roadway when signing is not needed for more than 3 days.
- Place a minimum of 50 lbs of sandbags on each of the four TSS supports legs. (25 lb. max per bag) (min. 100 lbs per side of each TSS).
- See Dwg. No. TM204 for flag board mounting detail.

- NOTES:
- Apply fluorescent orange, ANSI Type VIII or IX retroreflective sheeting to TSS posts, as shown, for all temporary signs, except "STOP" and "DO NOT ENTER". For "STOP" and "DO NOT ENTER" signs, used red ANSI Type III or IV retroreflective sheeting on the TSS posts.
  - Apply sign post retroreflectivity to each TSS post facing front; and to the left and right sides of the TSS, as shown. Use 3" wide sheeting for wood post TSS's. Use 2" wide sheeting for PSST TSS's.
  - Sheeting may be applied directly to post material; or applied to a rigid, lightweight substrate, then securely attached to the posts.

**SIGN POST REFLECTIVE SHEETING PLACEMENT**

CALC. BOOK NO. _____ N/A _____	SDR DATE _____ 01-JUL-2020 _____
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
<b>OREGON STANDARD DRAWINGS</b>	
<b>TEMPORARY SIGN SUPPORTS</b>	
2021	
DATE	REVISION DESCRIPTION

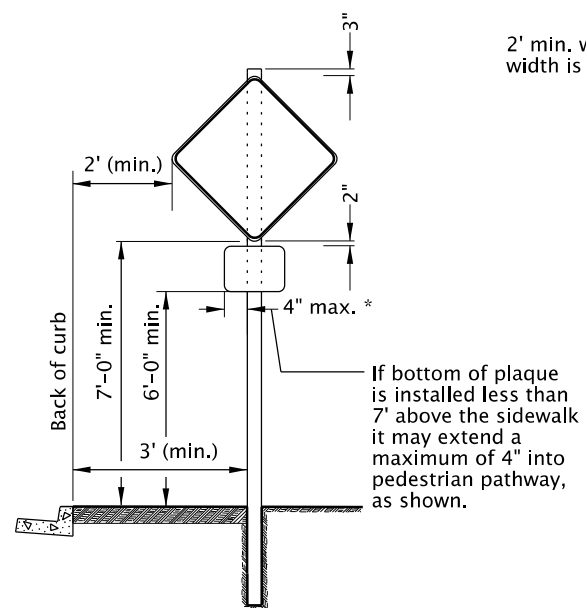
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TM821

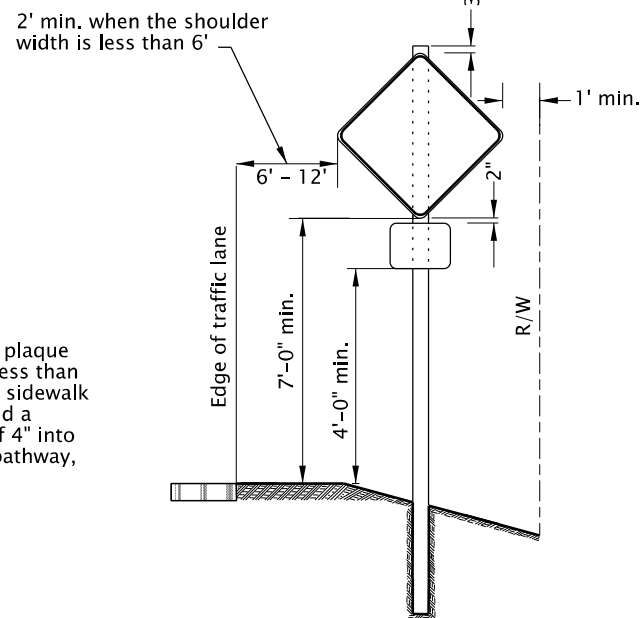


NOTES:

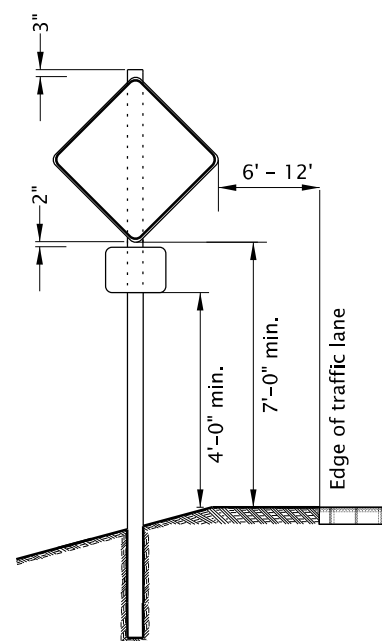
- Do not block bicycle lanes, sidewalks, or TPAR's with sign supports. Maintain minimum widths for these facilities according to TCP Design Manual, MUTCD, ADA, or as directed.
- To be accompanied by Dwg. Nos. TM670, TM671, TM687, TM688 & TM689.



Urban Areas With Curb/Sidewalk

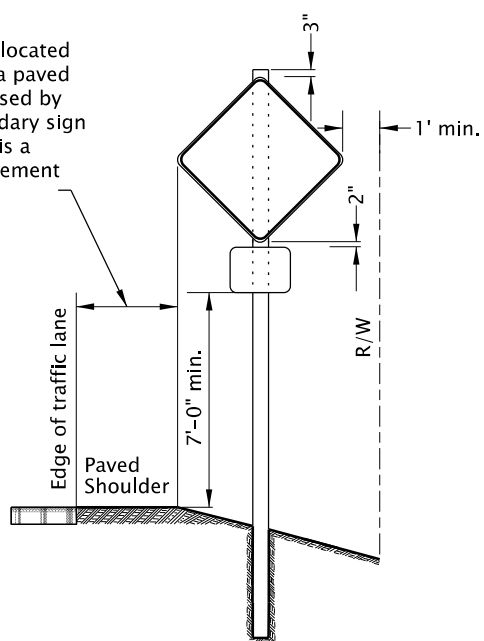


Rural Areas



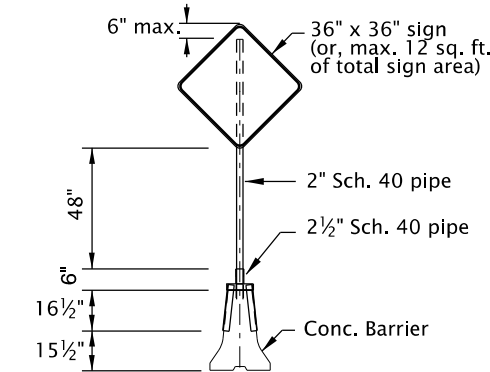
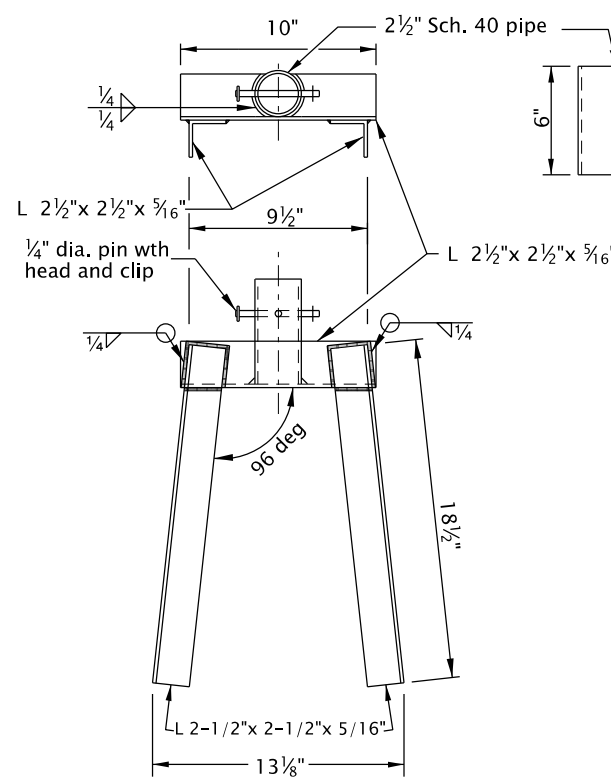
Divided Highway/Freeway Medians  
No Curb/Sidewalk

Where temporary signs are located adjacent to or intrude into a paved shoulder or other surface used by bicycle traffic, install secondary sign (plaque) so bottom of sign is a minimum of 7'-0" above pavement surface, as shown.



Rural or Urban Areas - Curb or No Curb  
Bicycles On Shoulder

TEMPORARY SIGN PLACEMENT



NOTES:

- Drill additional holes so sign can be rotated 90 degrees and pinned when not in use.
- All structural steel shall conform to ASTM A36.
- Support fits both 32" and 42" tall "F" barrier.
- Use for supporting a maximum 12 sq. ft. of total sign area.
- Place support at connection between two concrete barrier sections.
- Weld steel according to American Welding Society (AWS) D.1.1.
- Do not use clipped signs.
- Follow manufacturer recommendation when installing signs on barrier other than concrete.

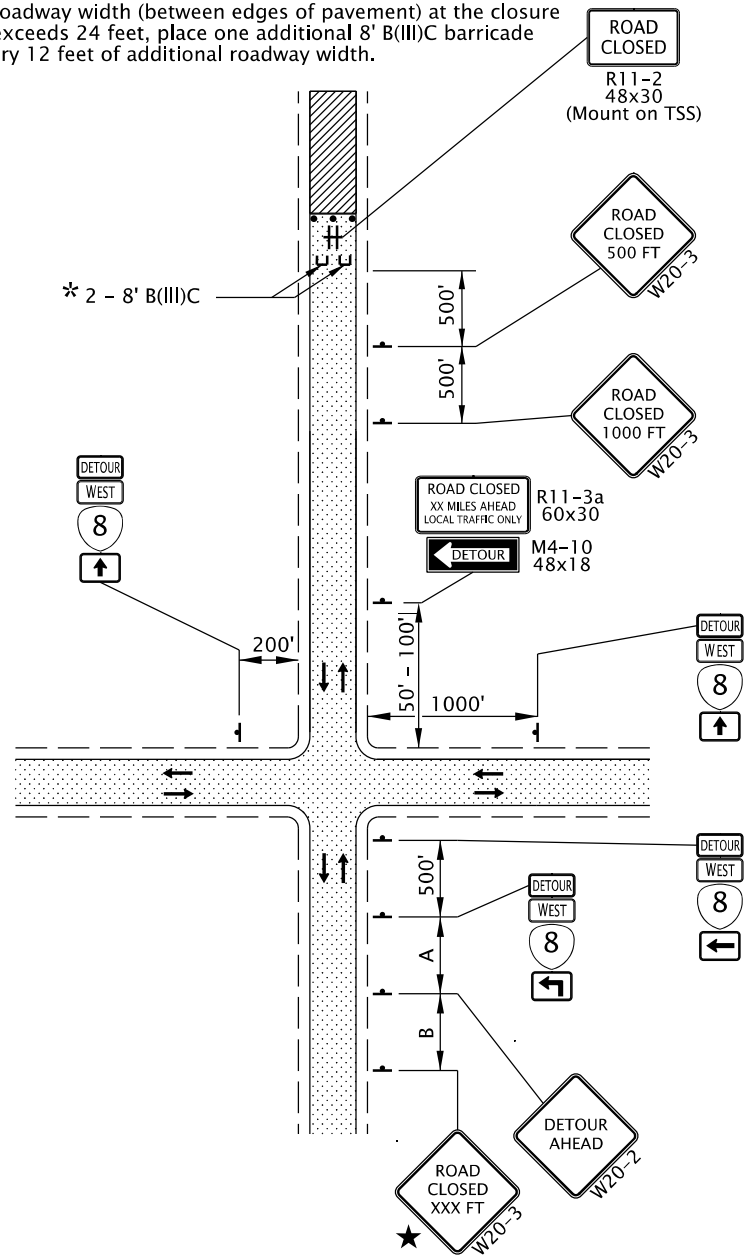
CONCRETE BARRIER SIGN SUPPORT

CALC. BOOK NO. _____ N/A _____	SDR DATE _____ 01-JUL-2020 _____
NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications	
<b>OREGON STANDARD DRAWINGS</b>	
<b>TEMPORARY SIGN SUPPORTS</b>	
2021	
DATE	REVISION DESCRIPTION

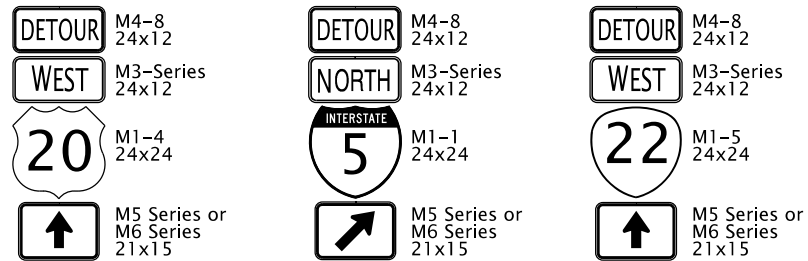
*The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.*

NOTES:  
 If closure point is less than 1500 ft. from nearest intersection, use a "ROAD CLOSED TO THRU TRAFFIC" (R11-4) sign in place of the "ROAD CLOSED XX MILES AHEAD" sign.

\* If the roadway width (between edges of pavement) at the closure point exceeds 24 feet, place one additional 8' B(III)C barricade for every 12 feet of additional roadway width.

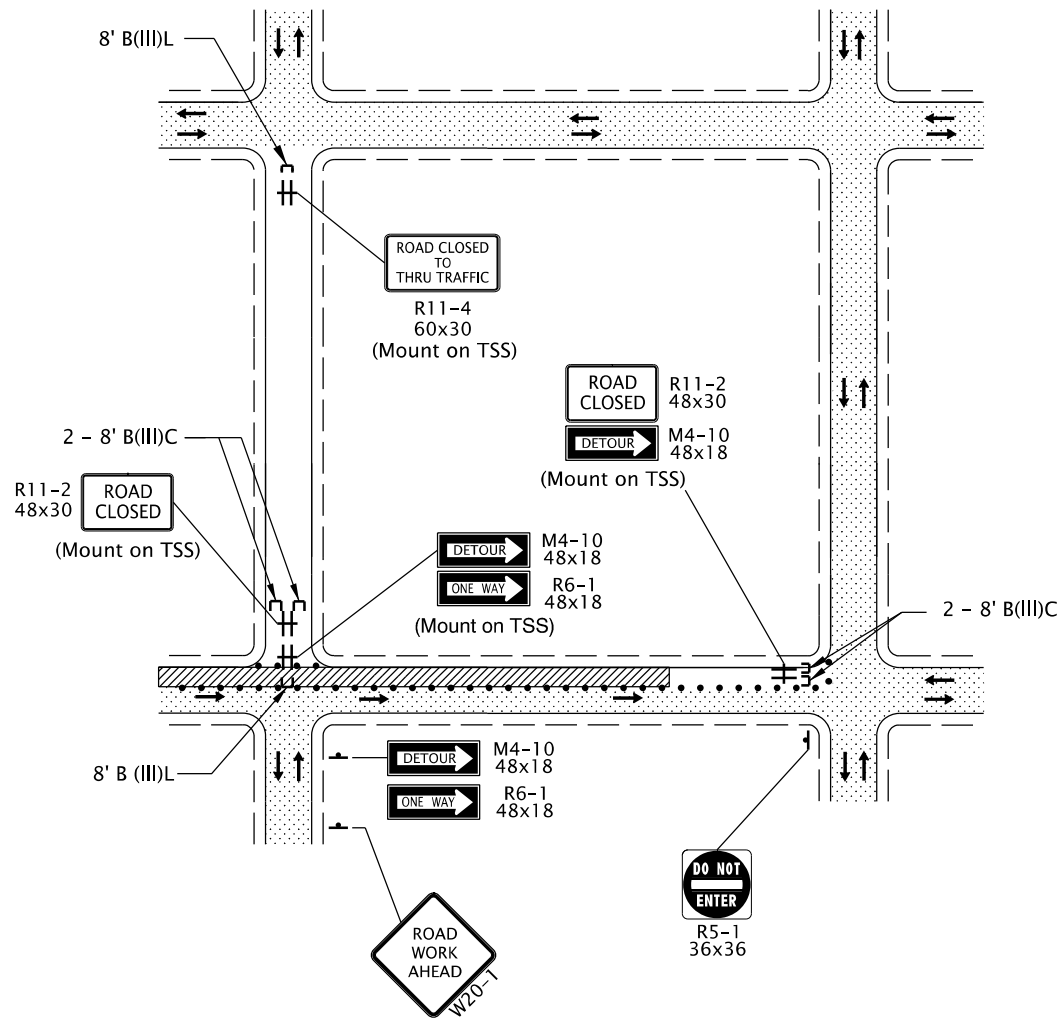


TYPICAL ROAD CLOSURE WITH DETOUR



NOTE:  
 • When detour routes overlap, each Route Shield will include a separate cardinal direction, detour, and directional arrow auxiliary sign assembly.

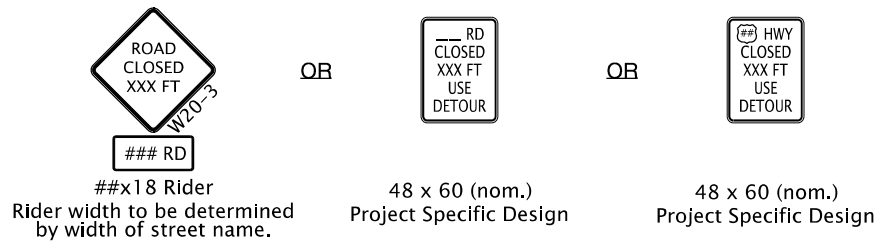
TYPICAL TRAILBLAZER ASSEMBLY



TYPICAL PARTIAL ROAD CLOSURE

GENERAL NOTES FOR ALL DETAILS:

★ A "Street Name" rider may be used to enhance Road Closure signing; or provide a project specific design; or, as shown in the traffic control plan.



• Use a minimum of two Type III barricades for a road closure. For roads  $\geq 36'$  wide between curbs or edge of pavement, use a minimum of three Type III barricades for the closure point.

• For full road closures, the C or LR barricade may be used.

• Place additional signing as directed.

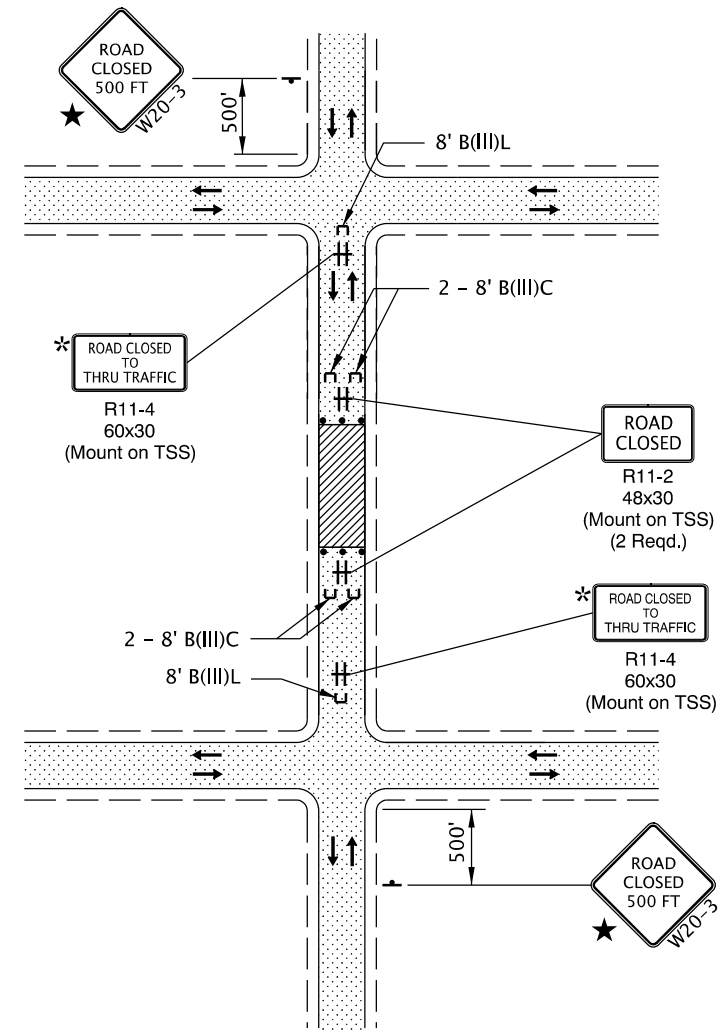
• To determine sign spacing A, B, & C, use the "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. TM800.

• To be accompanied by Dwg. Nos. TM820 & TM821.

••••• 28" Tubular Markers  
 See TCD Spacing Table on TM800 for max. spacing.

••••• UNDER TRAFFIC

••••• UNDER CONSTRUCTION



NOTE:  
 \* If accesses exist between intersection and point of closure, install "ROAD CLOSED TO THRU TRAFFIC" sign as shown.

TYPICAL ROAD CLOSURE

CALC. BOOK NO. \_N/A\_ SDR DATE \_01-JUL-2020\_

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

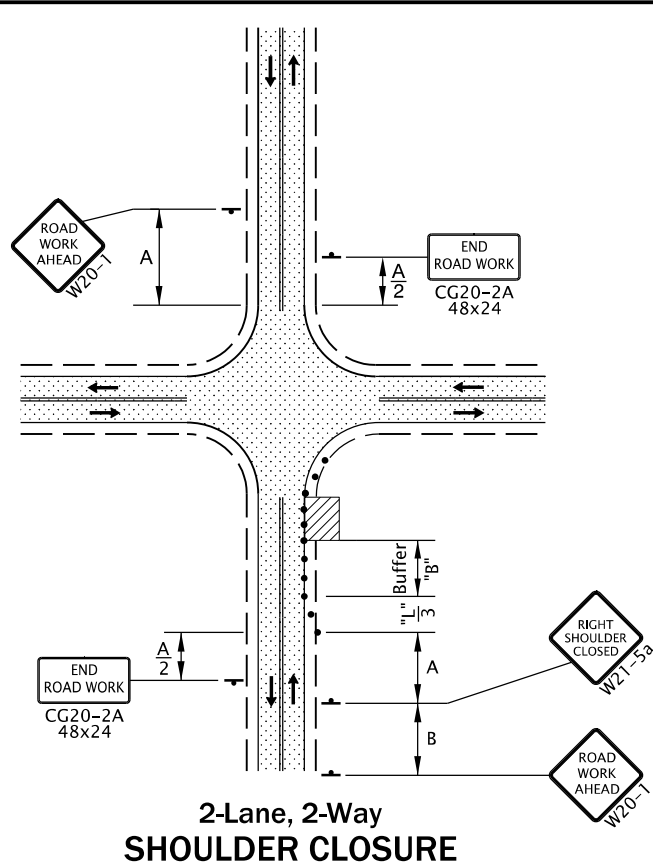
OREGON STANDARD DRAWINGS

CLOSURE DETAILS

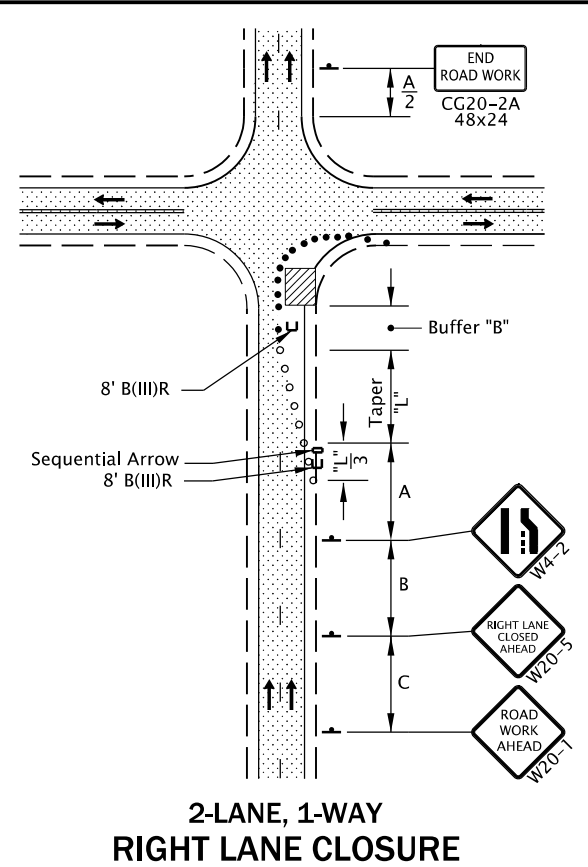
2021

DATE	REVISION DESCRIPTION

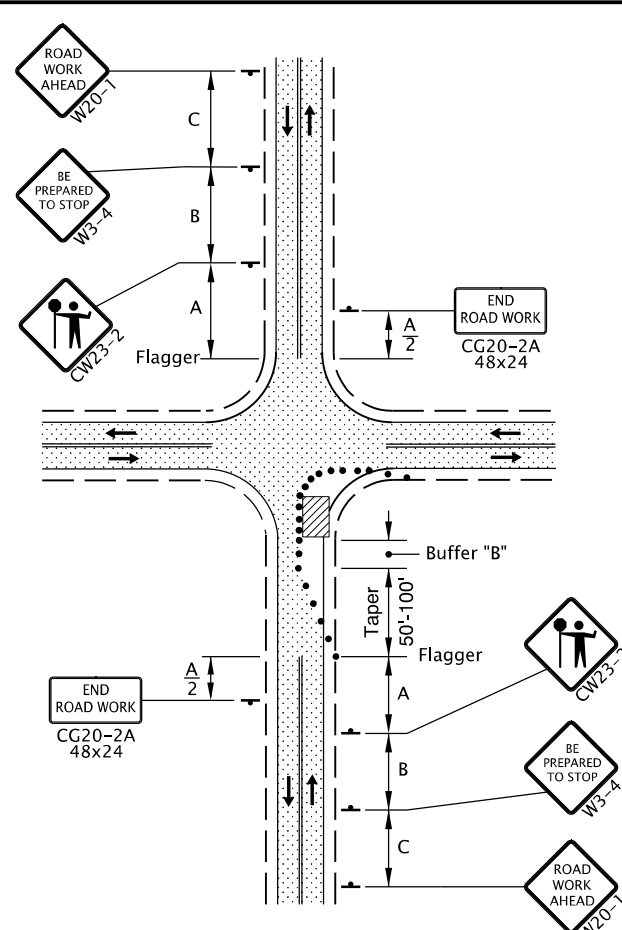
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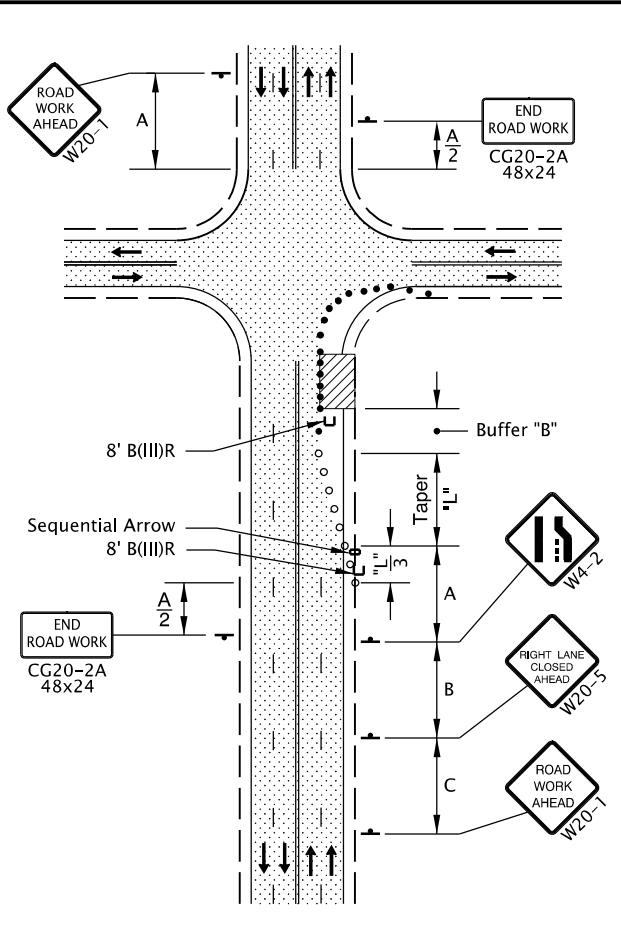
**2-Lane, 2-Way SHOULDER CLOSURE**



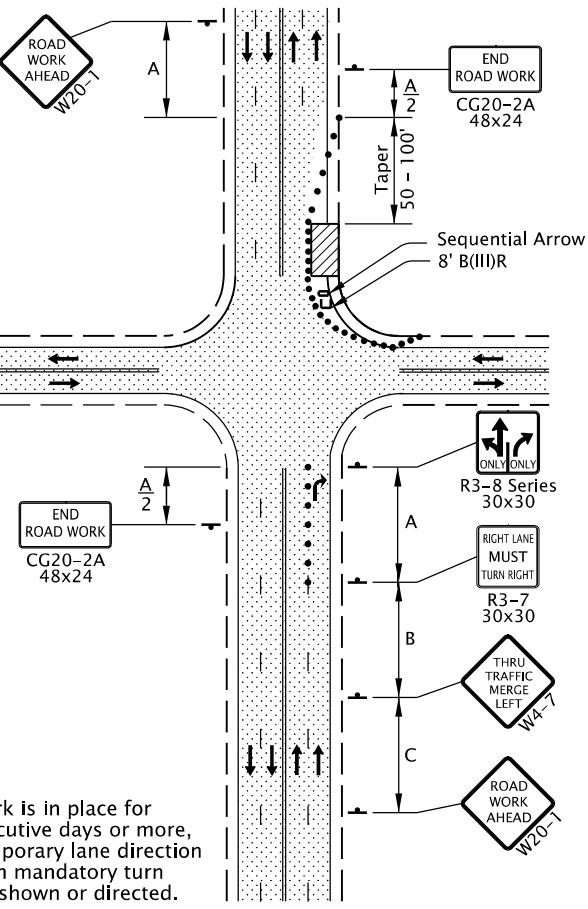
**2-LANE, 1-WAY RIGHT LANE CLOSURE**



**2-Lane, 2-Way ONE LANE CLOSURE**

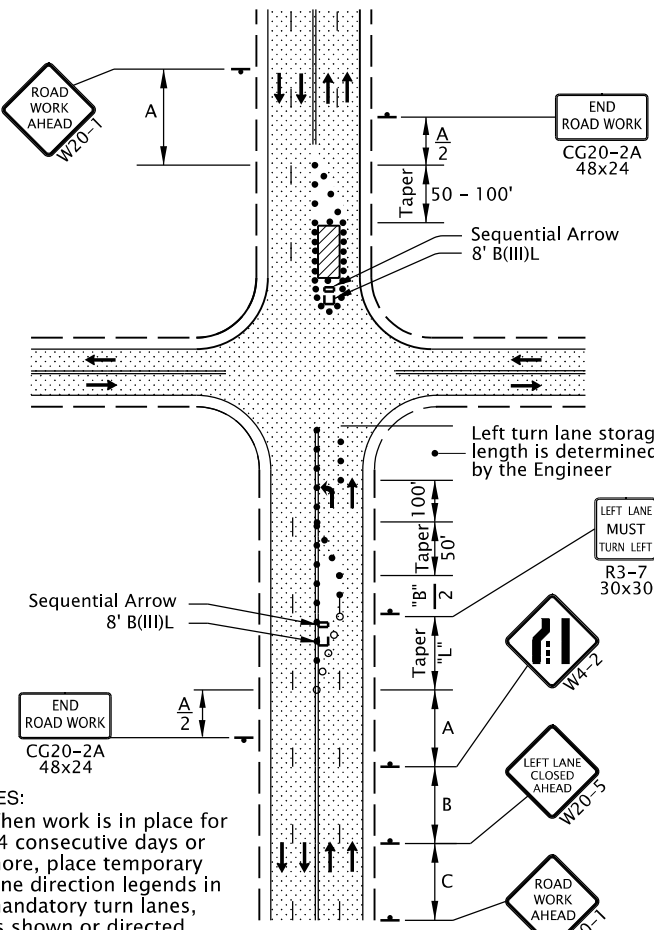


**4-Lane, 2-Way RIGHT LANE CLOSURE, NEAR SIDE**



**4-Lane, 2-Way RIGHT LANE CLOSURE, FAR SIDE**

NOTES:  
 • When work is in place for 14 consecutive days or more, place temporary lane direction legends in mandatory turn lanes, as shown or directed.



**4-Lane, 2-Way LEFT LANE CLOSURE, FAR SIDE**

NOTES:  
 • When work is in place for 14 consecutive days or more, place temporary lane direction legends in mandatory turn lanes, as shown or directed.

**GENERAL NOTES FOR ALL DETAILS:**

- Additional Traffic Control Measures (TCM) may be required for all legs of the intersection.
- The "FLAGGER" (CW23-2) symbol sign shall be used only in conjunction with the "BE PREPARED TO STOP" (W3-4) sign.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" on Dwg. TM800.
- For left lane or shoulder work, place TCD to close left lane or shoulder. Use "LEFT LANE CLOSED AHEAD" (W20-5) sign, "LEFT LANE ENDS" (W4-2L) symbol sign, or "LEFT SHOULDER CLOSED" (W21-5a) sign, where applicable.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. TM800.
- When a through road intersects within the work zone, place a "ROAD WORK AHEAD" (W20-1) sign in advance of the intersection at sign spacing A.
- Tubular markers may be used in lane closure tapers where posted speed is 40 mph or less.
- Where shoulder width is limited, Sequential Arrow may be placed within the lane closure taper.
- Place channelling devices around intersection radii, business accesses and driveways at 10' spacing.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- To be accompanied by Dwg. Nos. TM820, TM821 & TM840.

- • • • • 28" Tubular Markers  
See TCD Spacing Table on TM800 for max. spacing.
- • • • • Temp. Plastic Drums  
See TCD Spacing Table on TM800 for max. spacing.

••••• UNDER TRAFFIC  
 // UNDER CONSTRUCTION

CALC. BOOK NO. \_ \_ \_ \_ \_ N/A \_ \_ \_ \_ \_

SDR DATE \_ \_ \_ \_ \_ 01-JUL-2020 \_ \_ \_ \_ \_

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

**OREGON STANDARD DRAWINGS**

**INTERSECTION WORK ZONE DETAILS**

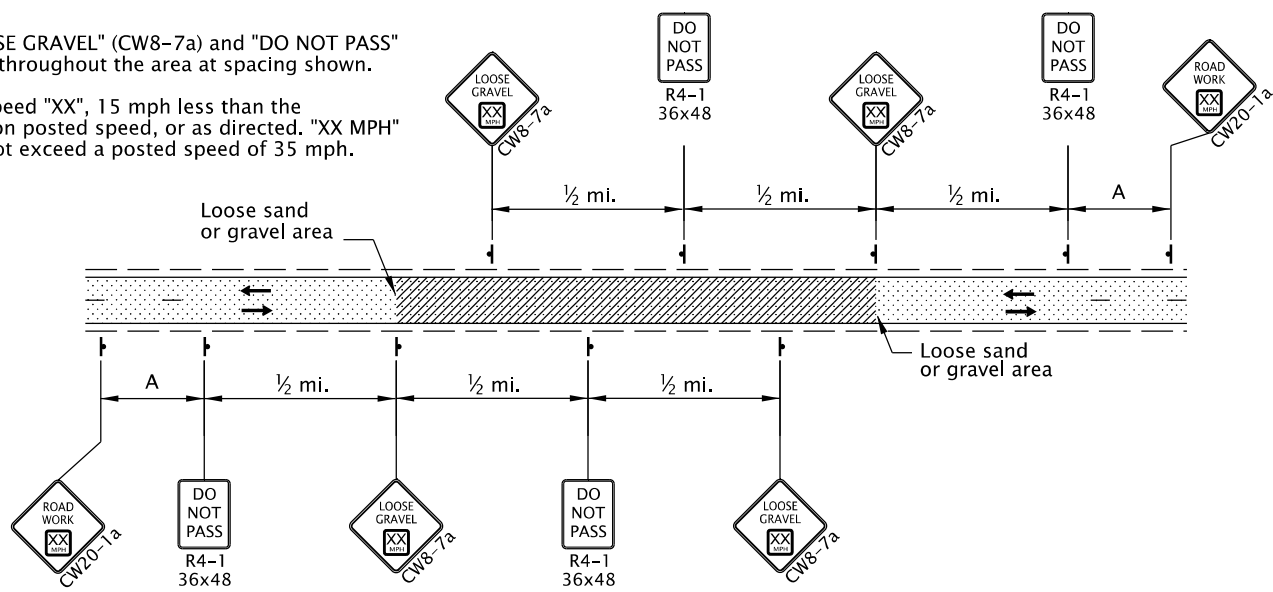
2021

DATE	REVISION DESCRIPTION

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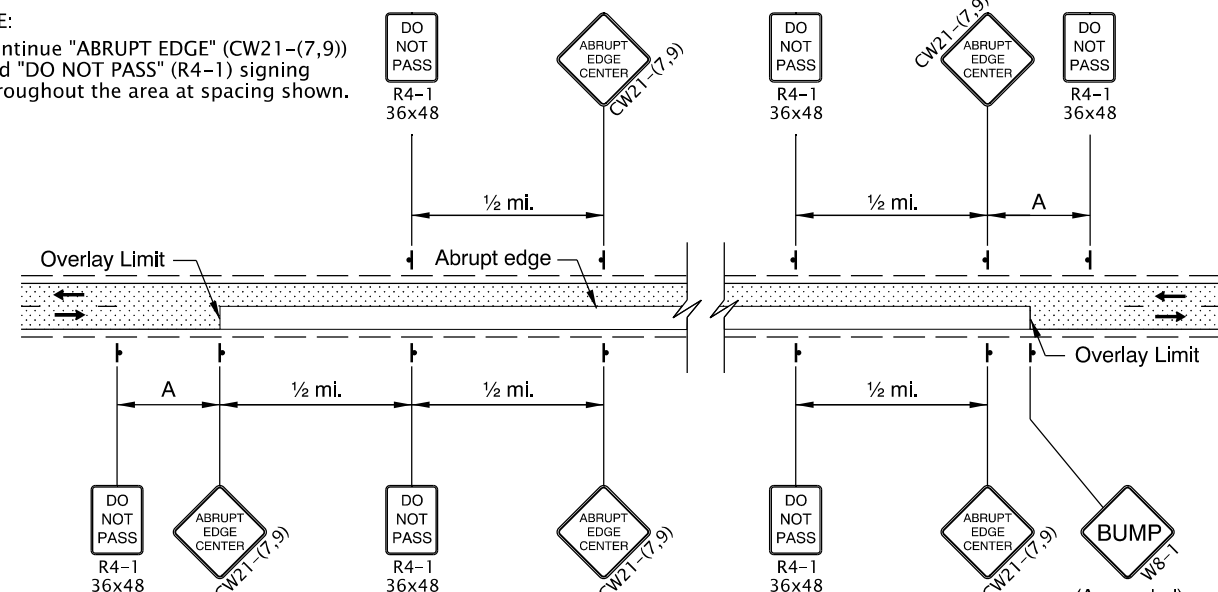
tm850.dgn 01-JUL-2020

- NOTE:
- Continue "LOOSE GRAVEL" (CW8-7a) and "DO NOT PASS" (R4-1) signing throughout the area at spacing shown.
  - Use advisory speed "XX", 15 mph less than the pre-construction posted speed, or as directed. "XX MPH" placard shall not exceed a posted speed of 35 mph.



**2-Lane, 2-Way Roadway  
LOOSE GRAVEL IN ROADWAY SIGNING**

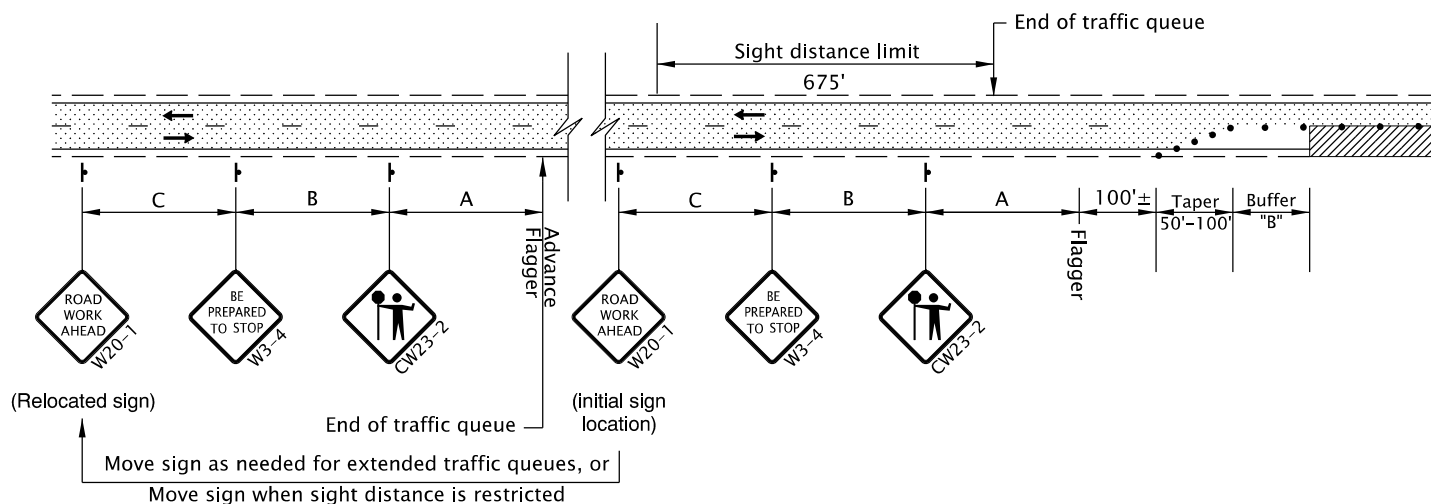
- NOTE:
- Continue "ABRUPT EDGE" (CW21-(7,9)) and "DO NOT PASS" (R4-1) signing throughout the area at spacing shown.



**2-Lane, 2-Way Roadway  
OVERLAY AREA SIGNING**

- NOTES:
- Place Advance Flagger and additional signing when traffic queues extend beyond initial warning signing OR when sight distance is restricted.
  - Relocate initial "ROAD WORK AHEAD" (W20-1) sign in advance of additional "BE PREPARED TO STOP" (W3-4) and Flagger Ahead (CW23-2) signs, as shown.

- Place additional Tubular Markers for Flagger and Advance Flagger Stations according to FLAGGER STATION DELINEATION detail.

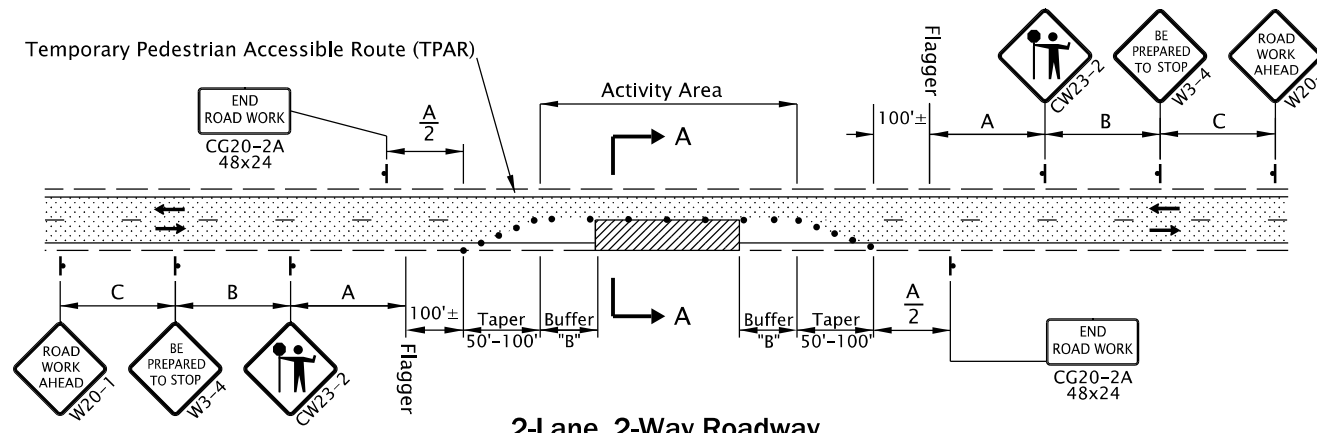


**ADVANCE FLAGGER FOR EXTENDED TRAFFIC QUEUES**

- NOTE:
- When using pilot cars with flaggers to control traffic during paving operations, the Tubular Marker spacing along centerline may be increased to 200' within the Activity Area, as shown or as directed.

- Include "WAIT FOR FLAGGER" (CR4-23) signs mounted on Type II Barricade located approx. 50' before each Flagger.

- Coordinate and control pedestrians movements through the TPAR using Flaggers, other TCM, or as directed. When the existing shoulder is greater than or equal to 4' wide, provide a minimum of 4' of width for the TPAR.



**2-Lane, 2-Way Roadway  
ONE LANE CLOSURE**

**GENERAL NOTES FOR ALL DETAILS:**

- The "FLAGGER" (CW23-2) symbol sign shall be used only in conjunction with the "BE PREPARED TO STOP" (W3-4) sign.
- Cover existing passing zone signing, as directed.
- Install temporary striping as required.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" shown on Dwg. No. TM800.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. No. TM800.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- At night, flagger stations shall be illuminated according to the FLAGGER STATION LIGHTING DELINEATION detail on Dwg No. TM800.

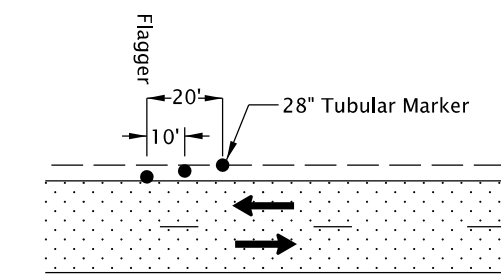
- To be accompanied by Dwg. Nos. TM820 & TM821.

- • • • • 28" Tubular Markers on 20' max. spacing for flagger tapers and stations

- • • • • 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.

- UNDER TRAFFIC
- UNDER CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC

- NOTE:
- Use a minimum of 3 tubular markers in shoulder taper on 10' spacing for flagger station delineation.



**FLAGGER STATION DELINEATION**

CALC. BOOK NO. \_\_\_\_\_ N/A \_\_\_\_\_ SDR DATE \_\_\_\_\_ 01-JUL-2020 \_\_\_\_\_

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**OREGON STANDARD DRAWINGS**

**2-LANE, 2-WAY ROADWAYS**

2021

DATE	REVISION DESCRIPTION

TM850