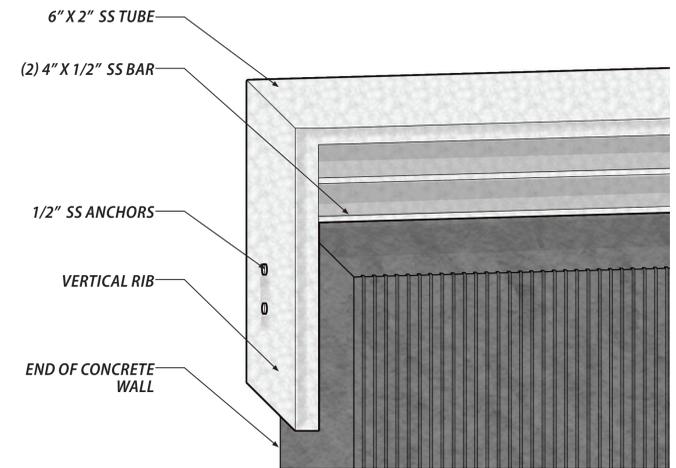
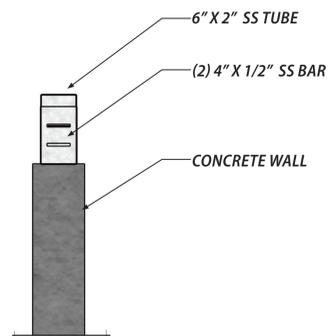
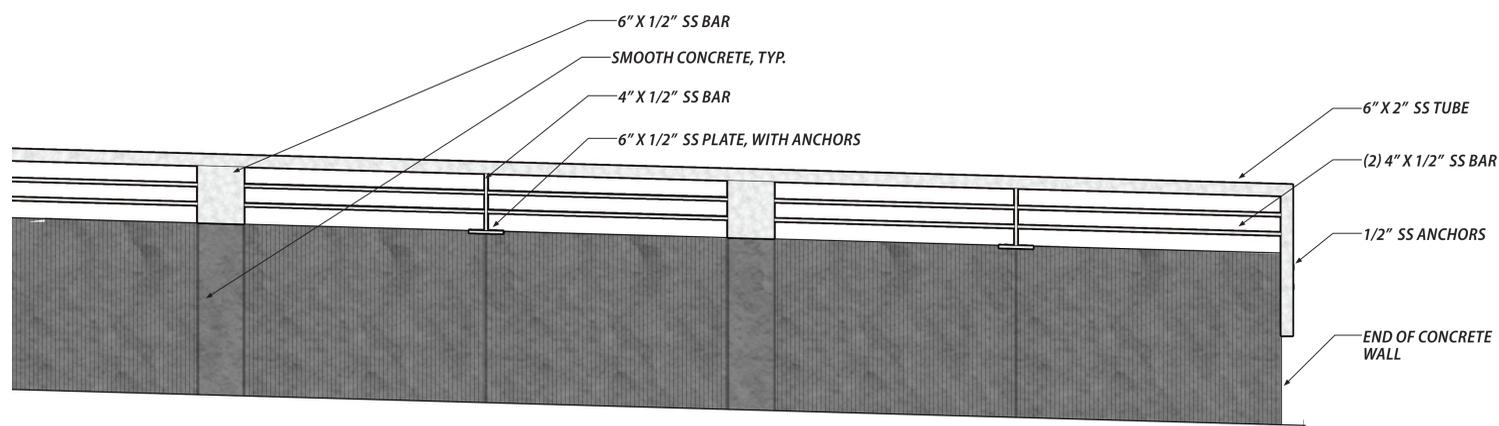
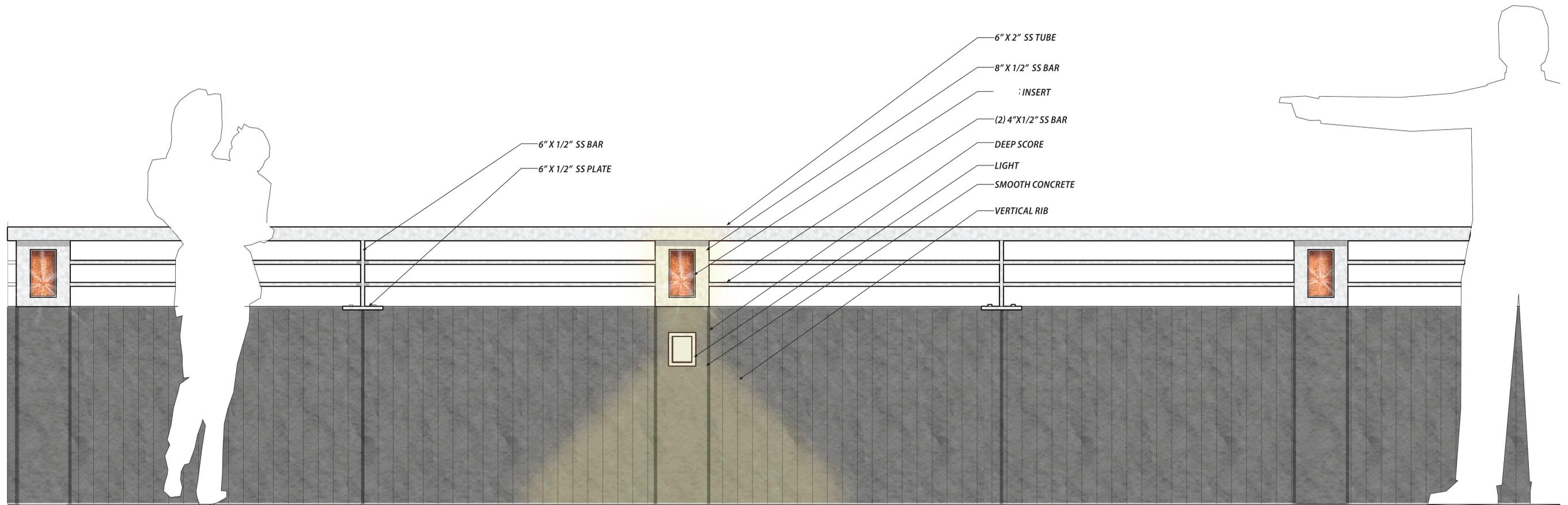


**PREFERRED ELEVATION**



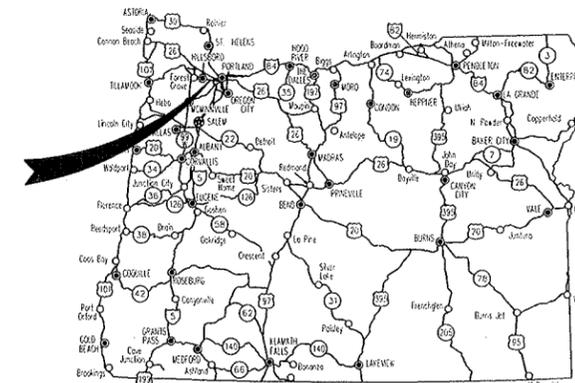
INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
1A	Index Of Sheets

STATE OF OREGON  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR PROPOSED PROJECT

GRADING, DRAINAGE, STRUCTURES, PAVING,  
SIGNING, ILLUMINATION, ROADSIDE DEVELOPMENT & UTILITIES

**SW ROSE BIGGI:  
HALL BLVD - CRESCENT ST (BEAVERTON)  
VARIOUS STREETS**

WASHINGTON COUNTY  
OCTOBER 2013

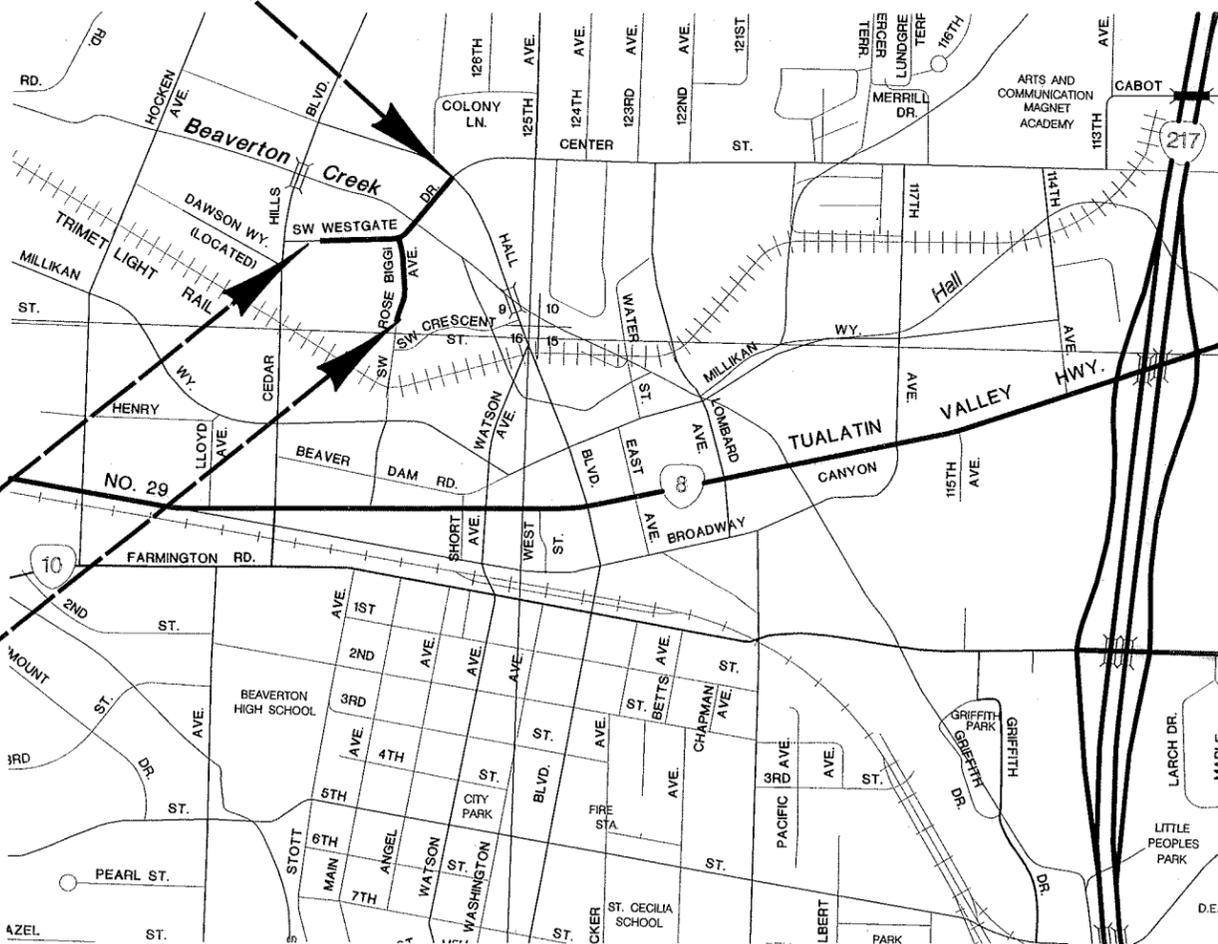


Overall Length Of Project - 0.19 Miles

**END OF PROJECT**  
STA. "W" 11+19.55 STP-0535(039)

**BEGINNING OF PROJECT**  
STA. "W" 6+04.69 STP-0535(039)

**BEGINNING OF PROJECT**  
STA. "R" 0+99.02 STP-0535(039)



**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.)



**CITY OF BEAVERTON**  
4755 S.W. Griffith Drive  
P.O. Box 4755 Beaverton, Or 97076  
Ph: 503-526-2220  
Fx: 503-526-2535

**OREGON TRANSPORTATION COMMISSION**  
Pat Egon CHAIR  
David Lohman COMMISSIONER  
Mary F. Olson COMMISSIONER  
Mark Frohnmoyer COMMISSIONER  
Tommy Boney COMMISSIONER  
Matthew L. Garrett DIRECTOR OF TRANSPORTATION

These plans were developed using AASHTO design standards. Exceptions to these standards, if any, have been submitted and approved by the ODOT Chief Engineer or their delegated authority.

Approving Authority: \_\_\_\_\_  
Signature & date  
\_\_\_\_\_  
Print name and title  
\_\_\_\_\_  
Concurrence by ODOT Chief Engineer

**SW ROSE BIGGI:  
HALL BLVD - CRESCENT ST (BEAVERTON)  
VARIOUS STREETS  
WASHINGTON COUNTY**

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	STP-0535(039)	1

T. 1 S., R. 1 W., Sec. 9 W.M.



INDEX OF SHEETS CONT.	
SHEET NO.	DESCRIPTION
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2 thru 2A-2 Incl.	Typical Sections
2B thru 2B-4 Incl.	Grading Details
2B-5 & 2B-6	Roadway Details
2C	Traffic Control
2D & 2D-2	Pipe Data Sheet
3	General Construction Plan & Profile
3A	General Construction Notes
4 thru 6 Incl.	General Construction Plan & Profile
<b>GEO/ENVIRONMENTAL</b>	
GA	Erosion Control: Clearing, Demolition, & Mass Grading
GA-2	Erosion Control: Utility, Street Construction, Final Stabilization Plan
GA-3 thru GA-6 Incl.	Erosion Control Details
GJ	Stormwater Swale Plan
GJ-2	Stormwater Swale Plan & Profile
GJ-3 thru GJ-5 Incl.	Stormwater Details
GN & GN-2	Roadside Development Plan
GN-3	Roadside Development Details
GN-4	Landscape Plan And Details
GN-5	Landscape Details
<b>BRIDGE NO. 21612</b>	
92524	Plan And Elevation
92525	General Notes
92526	Foundation Data Sheet 1 Of 2
92527	Foundation Data Sheet 2 Of 2
92528	Foundation Plan
92529	Drilled Shaft Details
92530	Deck Plan
92531	Typical Deck Section
92532	Bent 2 Plan And Elevation
92533	Slab Details And Schedule
92534	Modified Parapet Details
92535	Wall - Plan
92536	Wall - Elevations
92537	Wall - Details
92538	Illumination Bridge Details
92539	Illumination Bridge Details
92540	Illumination Bridge Details

INDEX OF SHEETS CONT.	
SHEET NO.	DESCRIPTION
<b>TRAFFIC</b>	
ST thru ST-4 Incl.	Signing And Striping Details
ST-5	Signing And Striping Plan
<b>ILLUMINATION</b>	
IL & IL-2	Illumination Plan
IL-3	Illumination Detail-Light Pole And Junction Box
IL-4	Illumination Detail-Panel 2 (Existing)
IL-5	Illumination Detail-Panel 2 Wiring Schematics
IL-6	Illumination Details-Panel 3
IL-7	Westgate Bridge Decorative Light Details
<b>UTILITIES</b>	
UT thru UT-6 Incl.	Water Plan And Profile
UT-7	Bridge Waterline Support Plan & Section
UT-8	Pipe Support Details
UT-9	Private Utilities
COB thru COB-6 Incl.	City of Beaverton Standard Drawings
CWS thru CWS-4 Incl.	Clean Water Services Standard Drawings

City of Beaverton Standard Drg. Nos.

- 130 - Standard AC Monument Box
- 135 - Asphalt Centerline Monuments
- 210 - Standard Commercial Driveway
- 270 - Standard Block Wall
- 300 - Pipe Trench Backfill
- 301 - Conduit Trench Backfill
- 302 - Pavement Cut Restoration
- 330 - CWS (USA) Standard Manhole With C.O.B. Modifications
- 336 - Shallow Manhole Cone
- 606 - Straddle Thrust Block Existing Pipe Connection
- 615 - Water Valve Box And Cover
- 620 - Water Operator Extension
- 625 - Standard Fire Hydrant Assembly
- 633 - Temporary Blowoff
- 640 - 1" Copper Service Connection
- 641 - 1-1/2" or 2" Copper Service Installation
- 645 - Sampling Station Installation
- 660 - Reduced Pressure Backflow Preventer

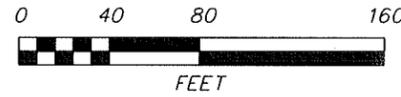
Clean Water Services Standard Drg. Nos.

- 100 - Manhole Step
- 110 - Suburban And Standard Manhole Frame And Cover Sanitary
- 120 - Storm Water Manhole Lid
- 300 - Gutter & Curb Inlet Catch Basin
- 310 - Gutter & Curb Inlet Catch Basin (CG-2) Reinforcement
- 320 - Catch Basin Frame And Grate (CG-2)
- 380 - Area Drain Type II
- 390 - Ditch Inlet
- 400 - Ditch Inlet Frame And Grate
- 520 - Side Sewer / Side Storm Pipeline

Standard Drg. Nos.

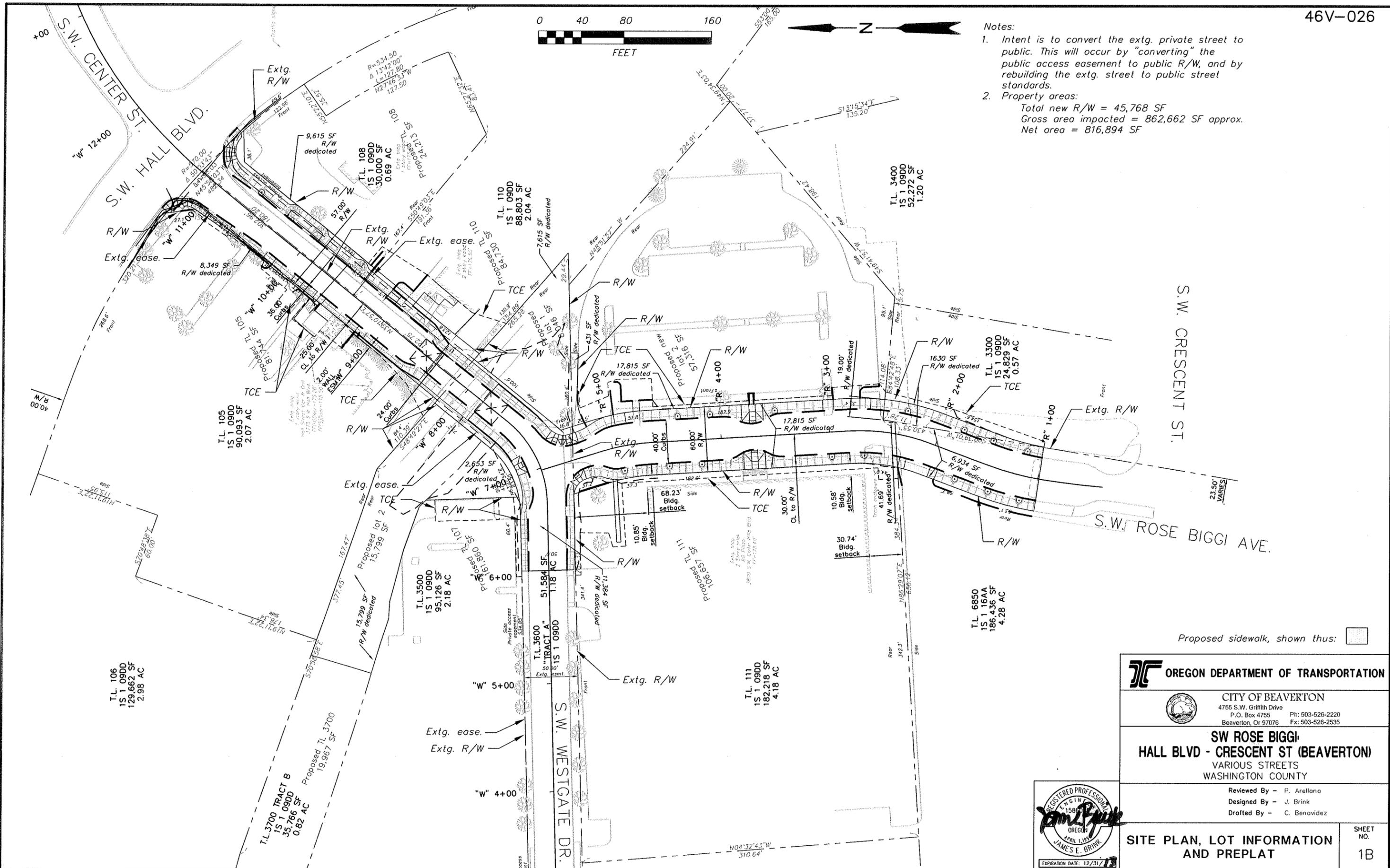
- RD700 - Curbs
- RD720 - Sidewalks
- RD740 - Separated Sidewalk Driveways - Local Jurisdictions
- RD745, RD750 - Curb Line Sidewalk Drawings - Local Jurisdictions
- RD755 - Sidewalk Ramp Details
- RD757 - Sidewalk Ramp Placement
- RD759 - Truncated Dome Detectable Warning Surface Details And Location
- BR165 - Bridge End Panel
- BR221 - 32" Vertical Concrete Parapet
- BR415 - 21" Precast Prestressed Slab
- BR445 - Precast Prestressed Boxes & Slab
- BR720 - Standard Gravity Retaining Wall Details
- BR970 - Luminaire Base On Structures With Mounting Details
- TM204 - Flag Board Mounting Details
- TM500, TM501, TM503 - Pavement Markings Standard Details
- TM521 - Durable Pavement Markings
- TM525 - High Performance Markings Modified Urethane Protected Inlaid
- TM530 - Intersection Pavement Markings
- TM531 - Turn Arrow Markings Details
- TM560, TM561 - Alignment Layout
- TM670 - Wood Post Sign Supports
- TM677 - Sign Mounts
- TM681, TM687, TM688 - Square Tube Sign Supports
- TM800 - Tables, Abrupt Edge And PCMS Details
- TM810 - Temporary Reflective Pavement Markers
- TM820 - Temporary Barricades
- TM821 - Temporary Sign Supports
- TM840 - Closure Details
- TM841, TM842 - Intersection Work Zone Details
- TM843 - Intersection Details
- TM844 - Temporary Pedestrian Access Routing
- TM850 - 2-Lane, 2 Way Roadways
- TM851, TM852 - Non-Freeway Multi-Lane Sections
- TM870 - Bridge Construction
- No R/W Map

<b>SW ROSE BIGGI HALL BLVD - CRESCENT ST (BEAVERTON)</b>		
VARIOUS STREETS WASHINGTON COUNTY		
FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	STP-0535(039)	1A



Notes:

1. Intent is to convert the extg. private street to public. This will occur by "converting" the public access easement to public R/W, and by rebuilding the extg. street to public street standards.
2. Property areas:  
 Total new R/W = 45,768 SF  
 Gross area impacted = 862,662 SF approx.  
 Net area = 816,894 SF



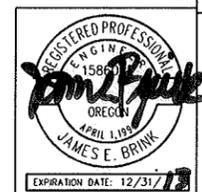
Proposed sidewalk, shown thus: [hatched box symbol]

**OREGON DEPARTMENT OF TRANSPORTATION**

**CITY OF BEAVERTON**  
 4755 S.W. Griffith Drive  
 P.O. Box 4755 Ph: 503-526-2220  
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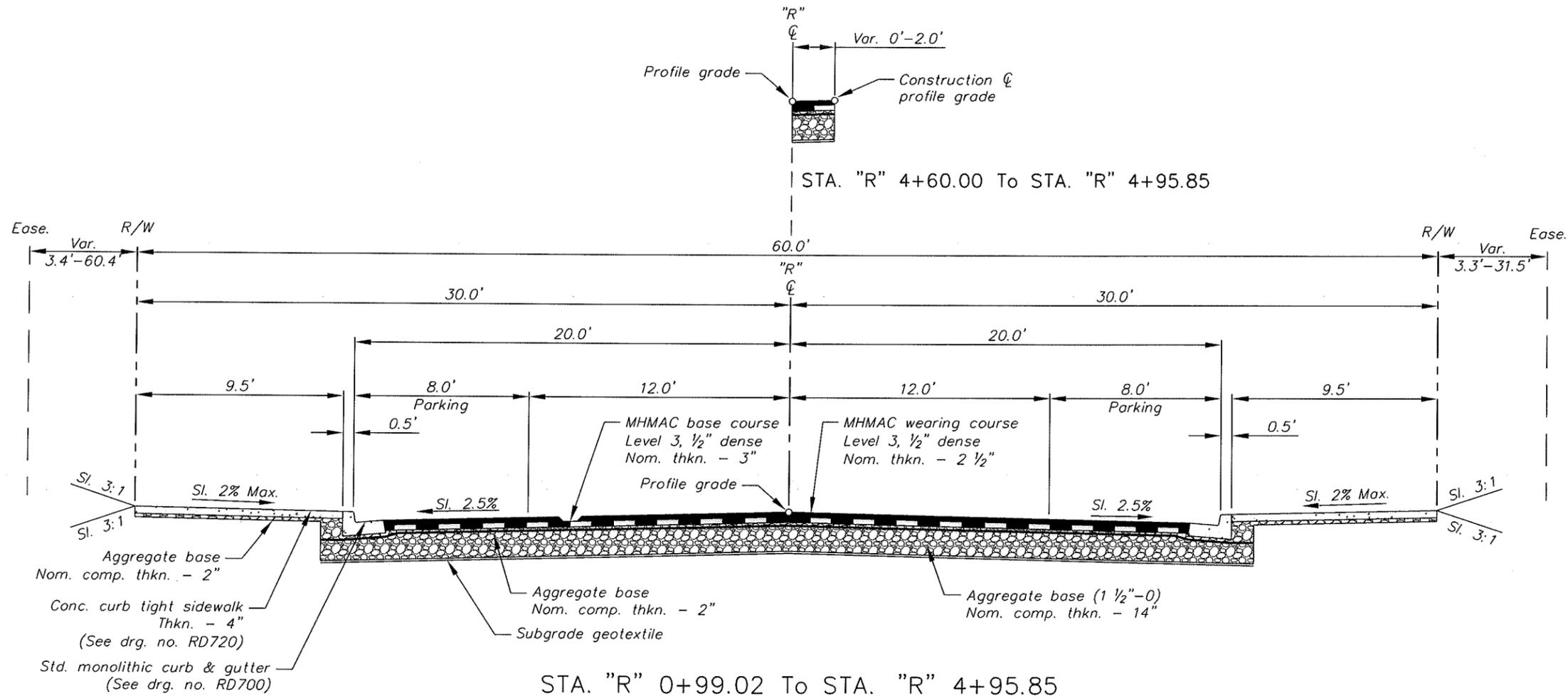
**SW ROSE BIGGI HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benavidez

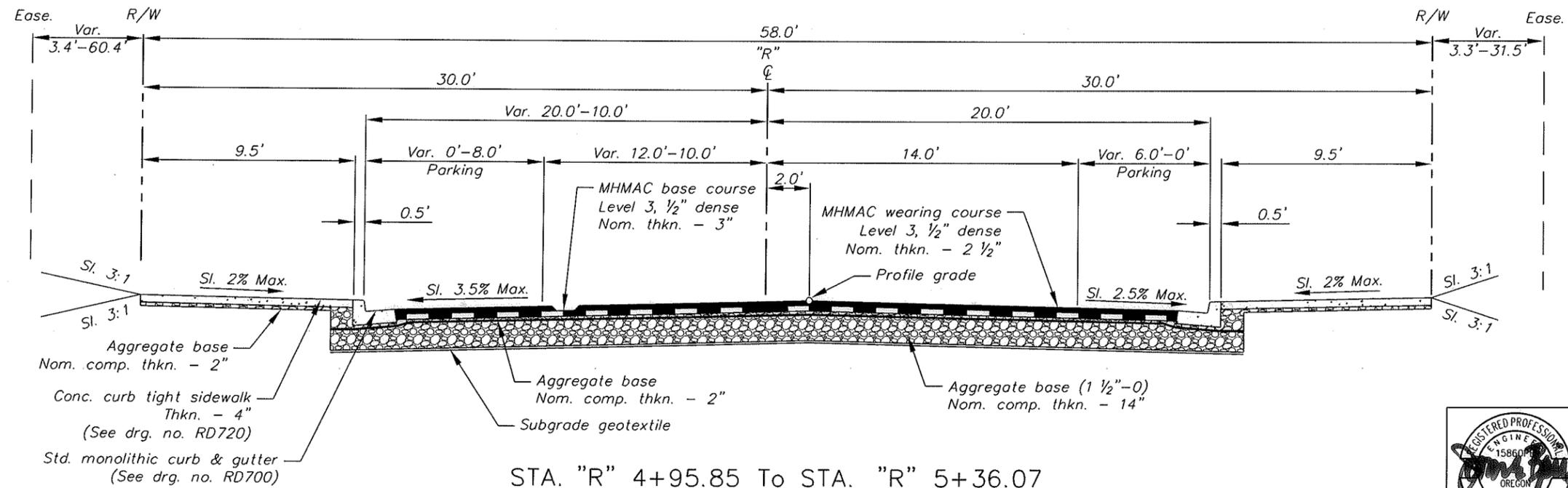


**SITE PLAN, LOT INFORMATION AND PREPLAT**

SHEET NO.  
**1B**



STA. "R" 0+99.02 To STA. "R" 4+95.85



STA. "R" 4+95.85 To STA. "R" 5+36.07

Note:  
Slopes shown are H:V.

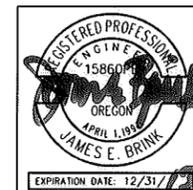
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4755 S.W. Griffith Drive  
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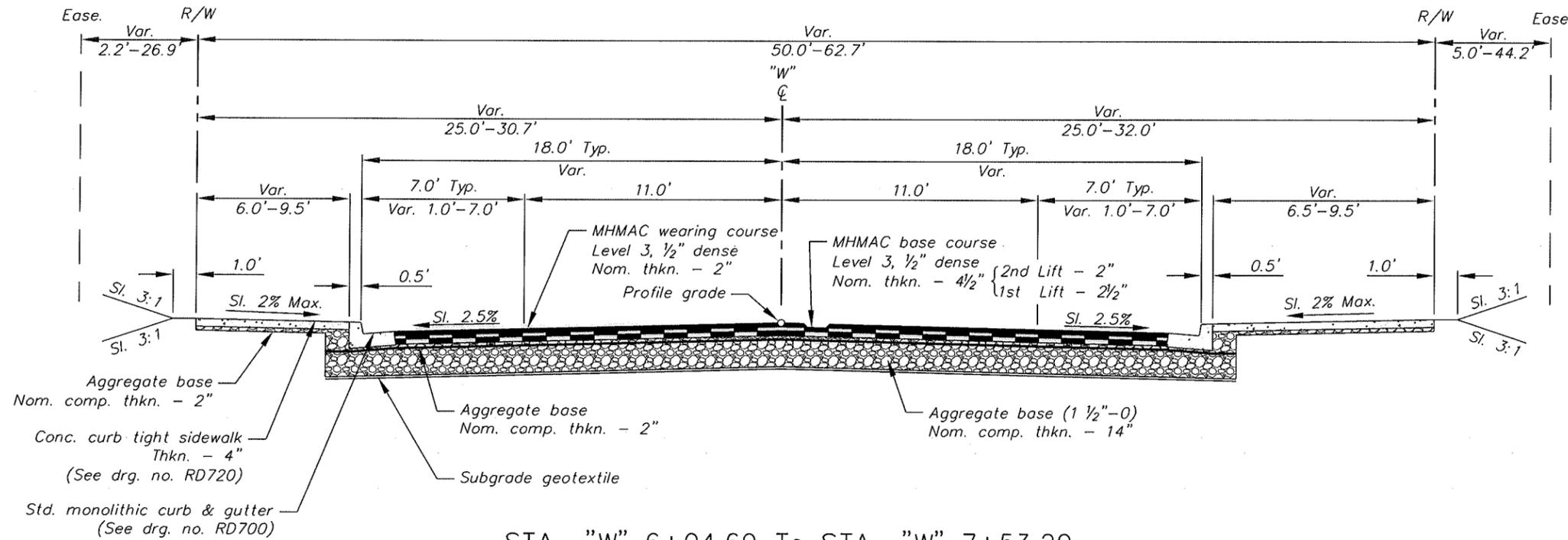
**SW ROSE BIGGI-  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benavidez

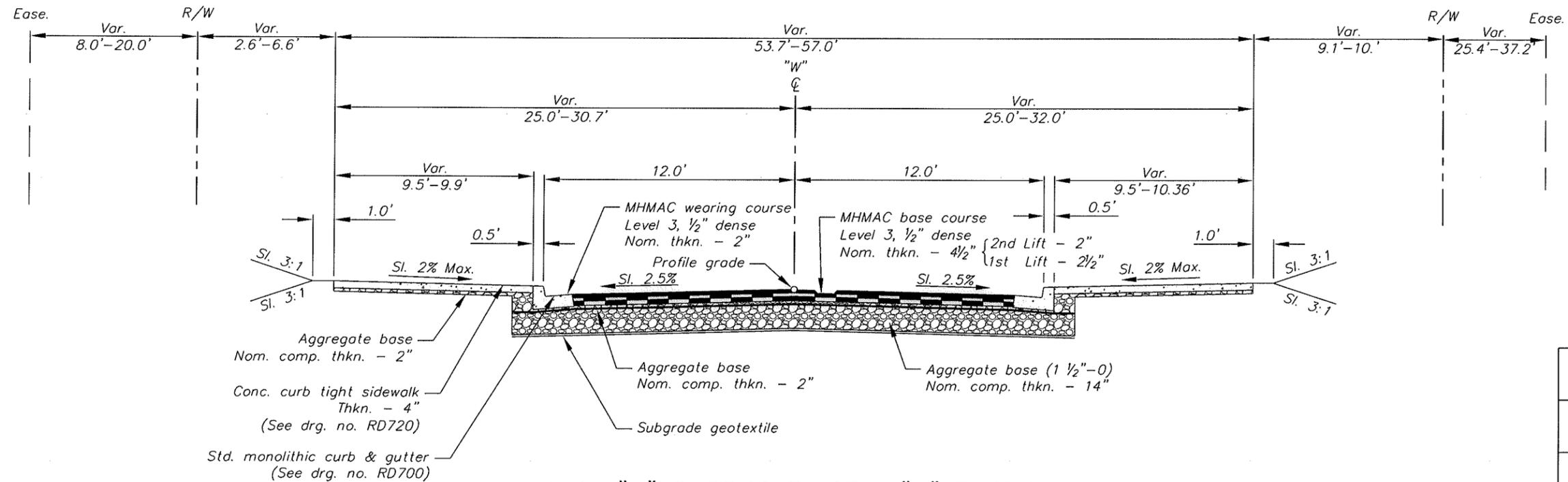


**TYPICAL SECTIONS**

SHEET NO.  
**2**



STA. "W" 6+04.69 To STA. "W" 7+53.20



STA. "W" 7+53.20 To STA. "W" 7+83.50  
 "W" 7+83.50 To "W" 8+38.50 (Structure)  
 "W" 8+38.50 To "W" 8+43.01

Note:  
Slopes shown are H:V.

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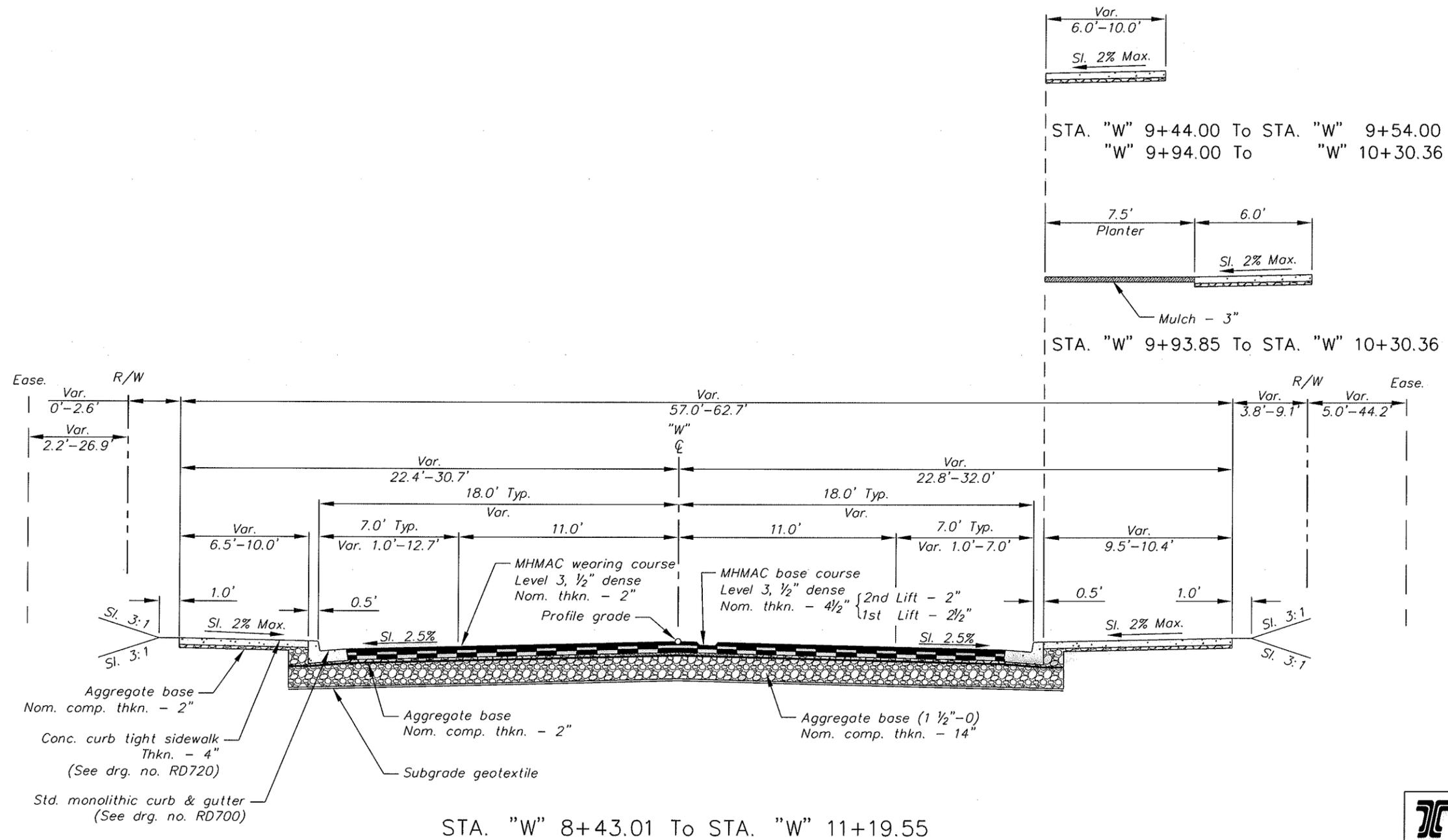
**SW ROSE BIGGI-  
 HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benovidez



**TYPICAL SECTIONS**

SHEET NO.  
**2A**

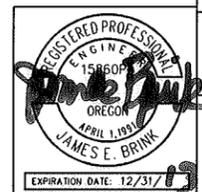


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 Beaverton, Or 97076 Fx: 503-526-2535

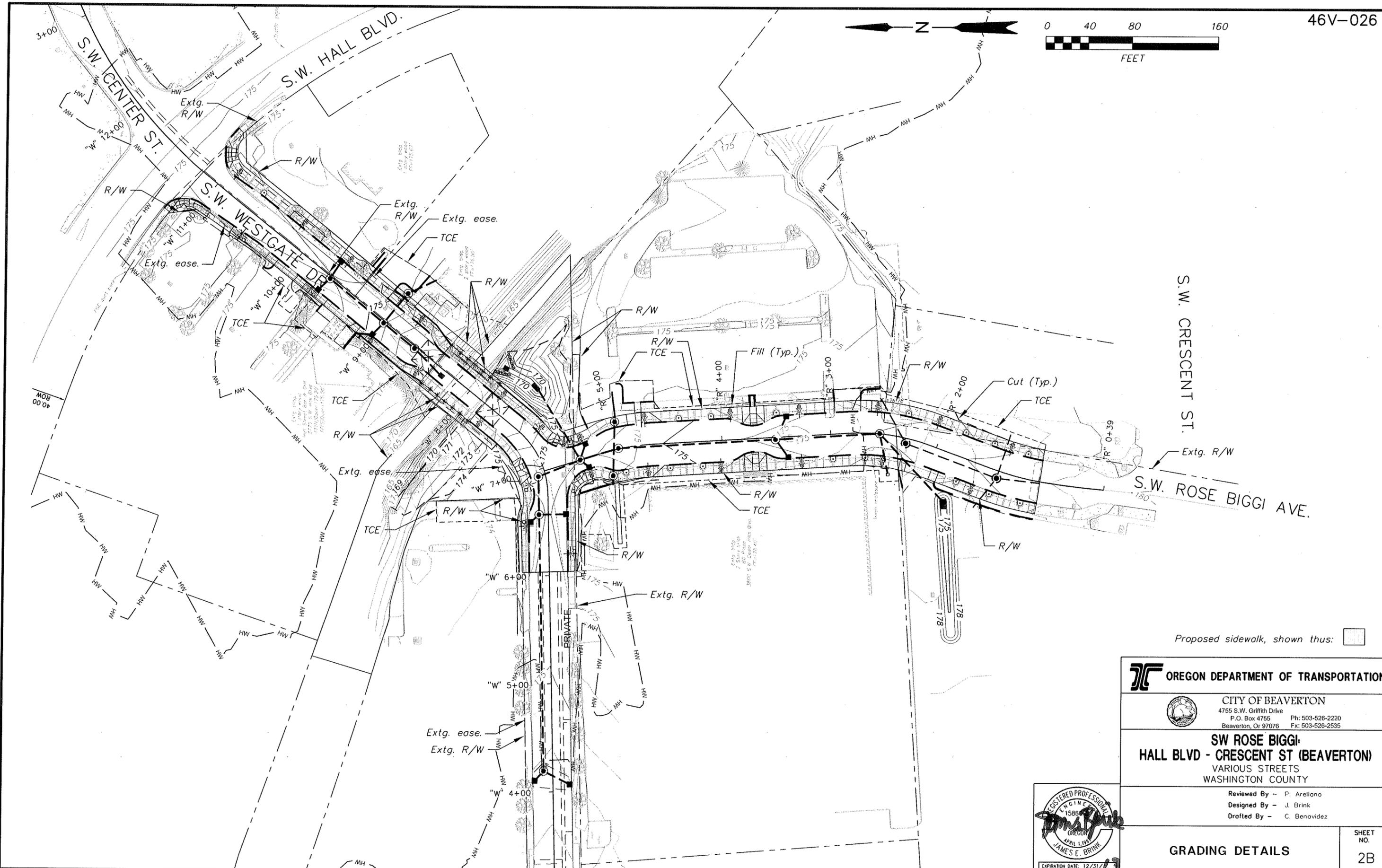
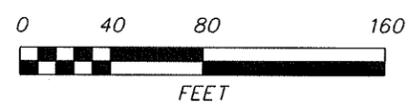
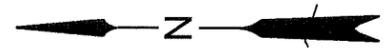
**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benovidez



**TYPICAL SECTIONS**

SHEET NO. 2A-2



Proposed sidewalk, shown thus:

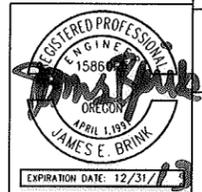
OREGON DEPARTMENT OF TRANSPORTATION

CITY OF BEAVERTON  
4755 S.W. Griffith Drive  
P.O. Box 4755  
Beaverton, Or 97076

Ph: 503-526-2220  
Fx: 503-526-2535

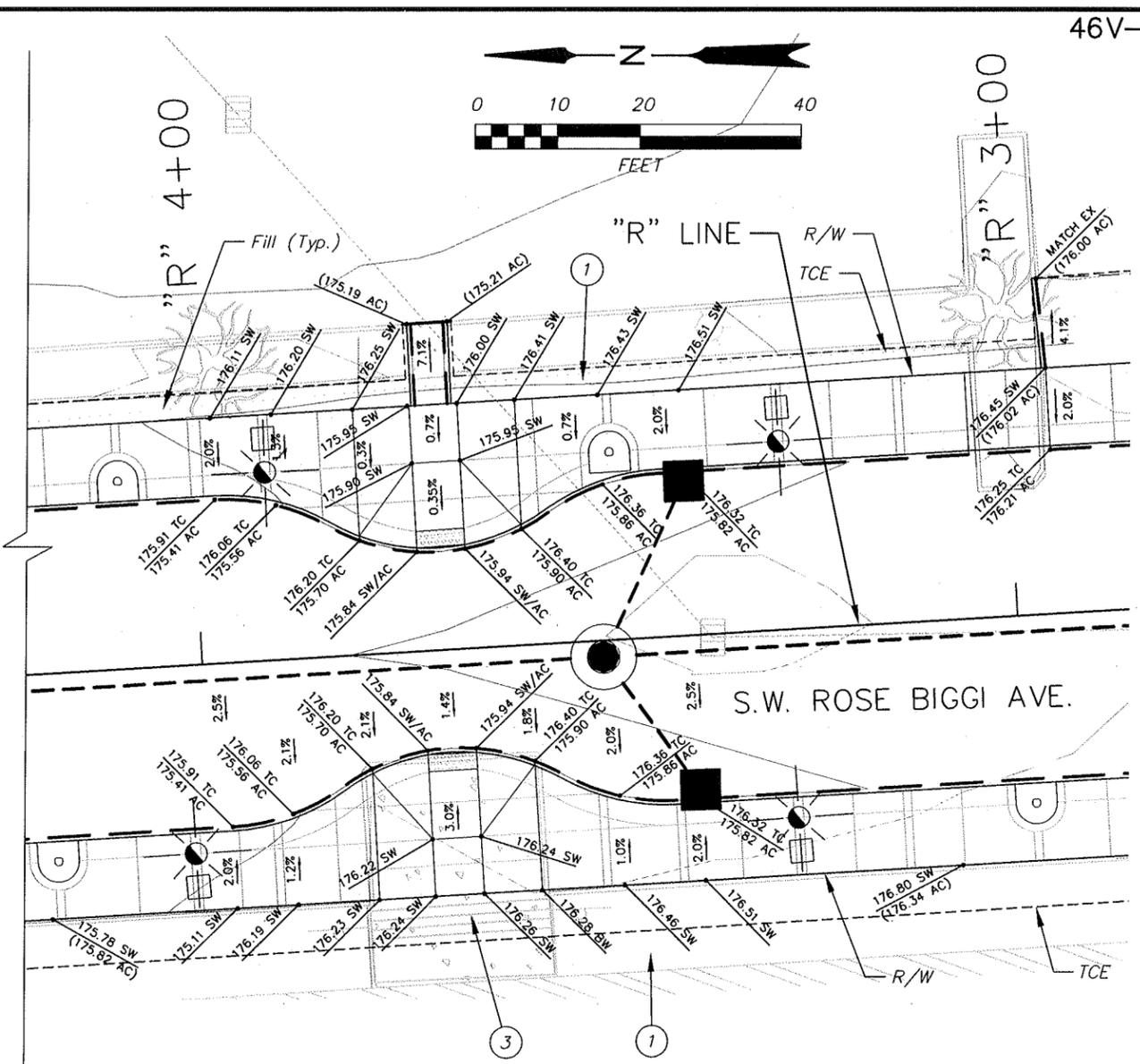
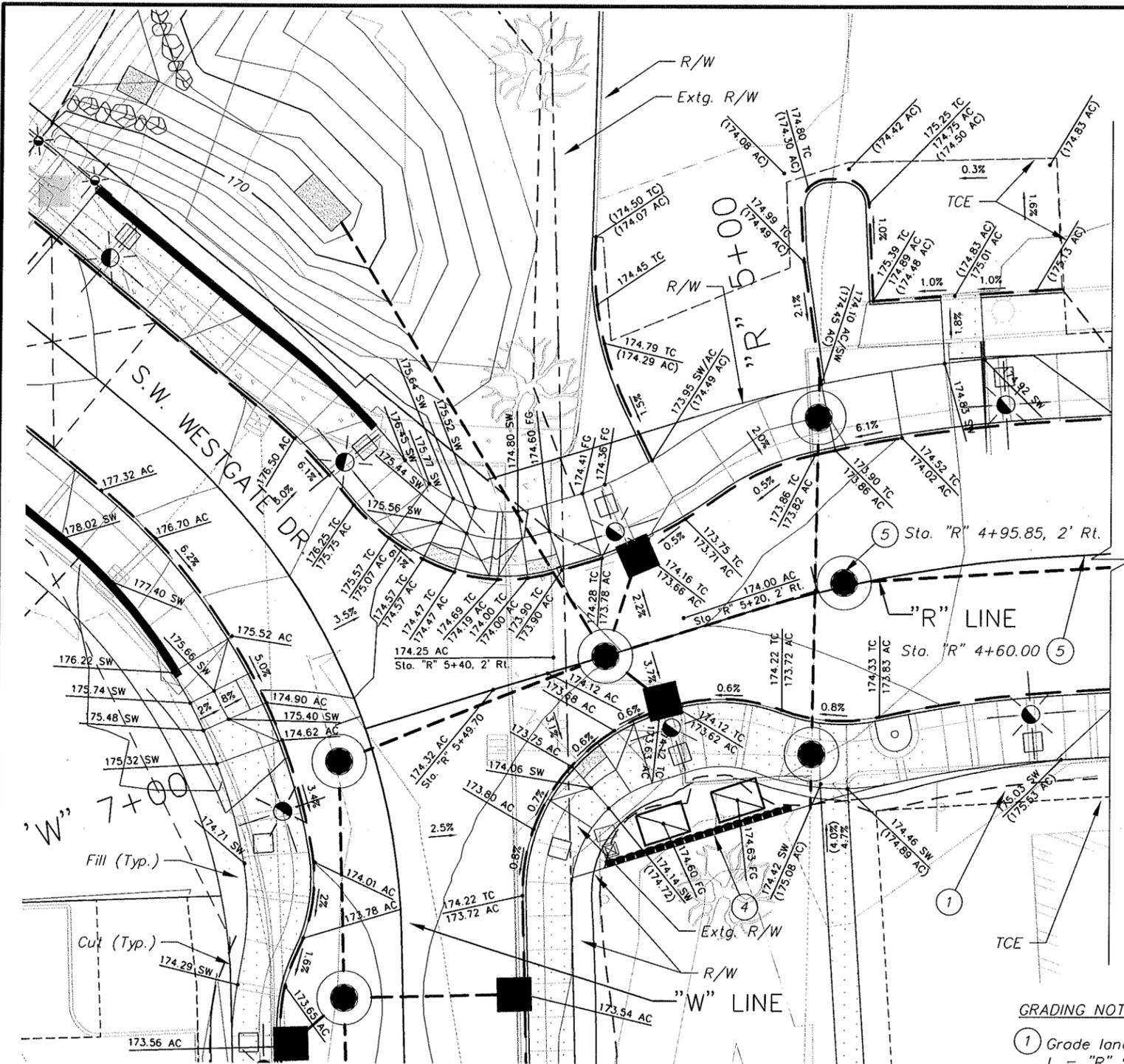
**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez



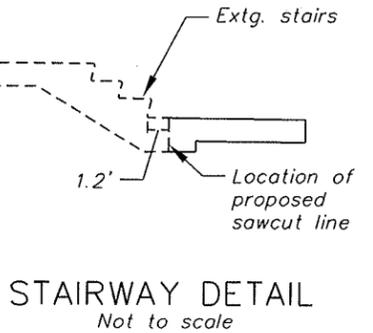
GRADING DETAILS

SHEET NO.  
2B



NOTE:  
 1. Tree root zones to be protected during construction at all times.

- GRADING NOTES:**
- Grade landscape area to drain to sidewalk. Fill as needed with top soil, 70cy.  
 L = "R" Sta. 0+99.02 to "R" Sta. 5+42  
 W = 5' on west side and 3.5' on east side  
 D = 6 inches
  - Reconnect conc. sidewalk. Finish to be exposed aggregate to match extg. walk. Max 2% x-slope, and 5% max running slope.
  - Remove and reinstall two posts in order to const. sidewalk as directed by engineer.
  - Sta. "R" 5+12.95, 30' Lt. to Sta. "R" 5+41.49, 30' Lt.  
 Inst. standard block wall.  
 (For details, see sht. COB-2, drg. no. 270)  
 Bottom of wall = 173.83  
 Top of wall = 175.84
  - See sht. 2 for typical section details



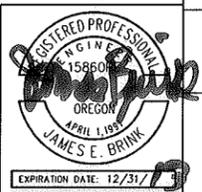
Proposed sidewalk, shown thus:

**OREGON DEPARTMENT OF TRANSPORTATION**

**CITY OF BEAVERTON**  
 4755 S.W. Griffith Drive  
 P.O. Box 4755 Ph: 503-526-2220  
 Beaverton, Or 97076 Fx: 503-526-2535

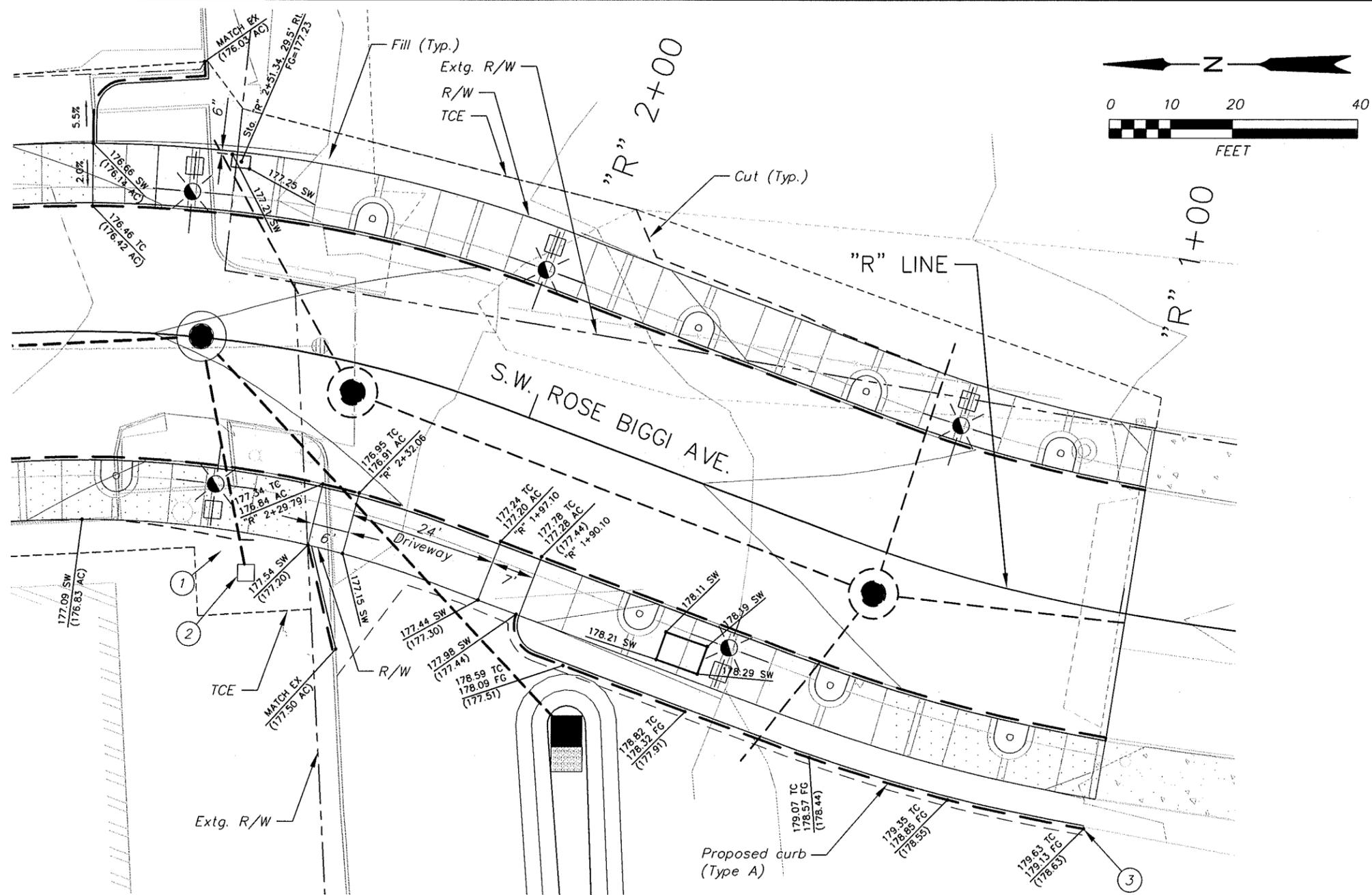
**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benovidez



**GRADING DETAILS**

SHEET NO.  
**2B-2**



Proposed sidewalk, shown thus:

**GRADING NOTES:**

- ① Grade landscape area to drain to sidewalk. Fill as needed with soil, 70cy. (For details, see note 1 on sht. 2B-2)
- ② Grade planter area to drain into ditch inlet.
- ③ Connect to extg. curb.

**NOTE:**

- 1. Tree root zones to be protected during construction at all times.

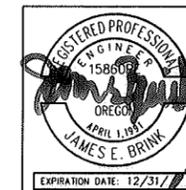
**OREGON DEPARTMENT OF TRANSPORTATION**



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 4755 S.W. Griffith Drive  
 P.O. Box 4755  
 Beaverton, Or 97076  
 Ph: 503-526-2220  
 Fx: 503-526-2635

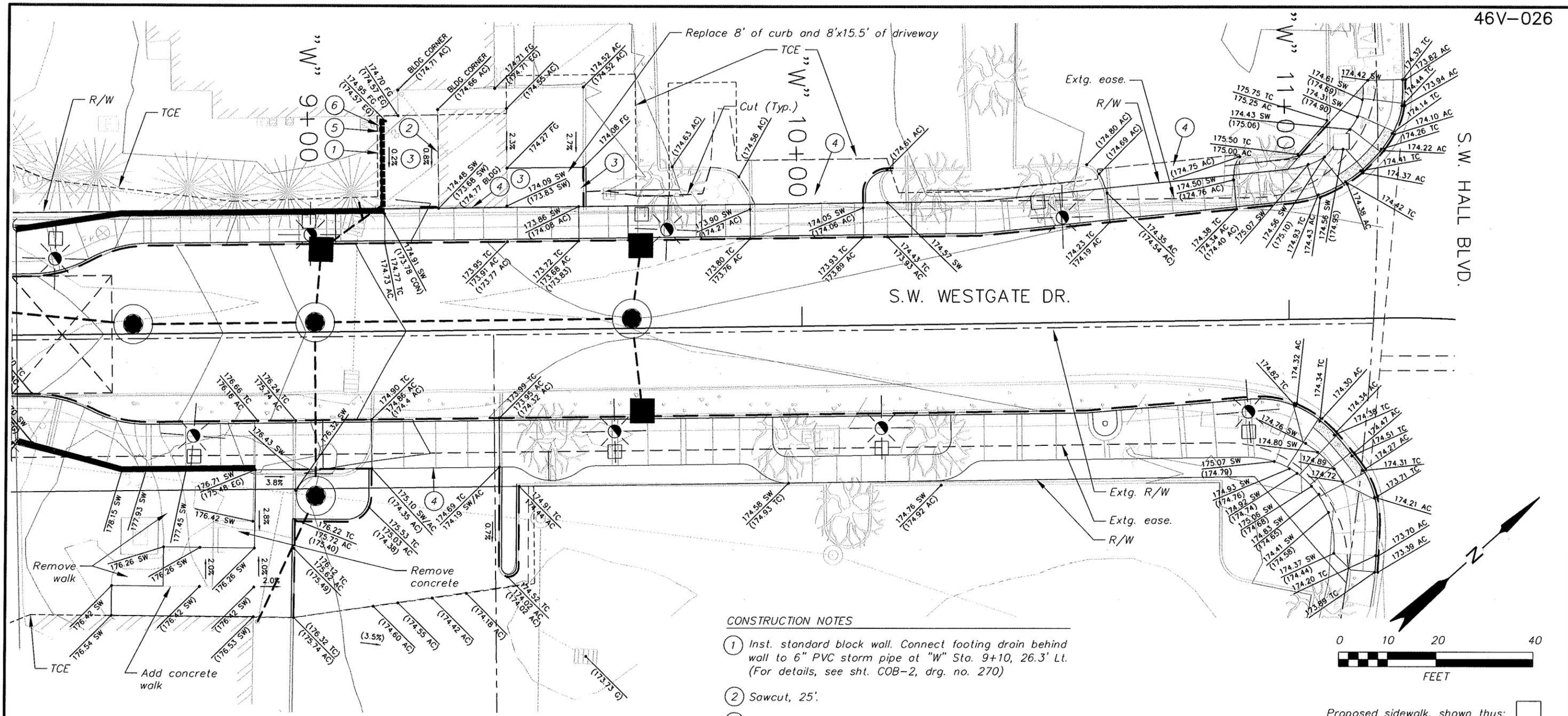
**SW ROSE BIGGI  
 HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benovidez



**GRADING DETAILS**

SHEET NO.  
**2B-3**

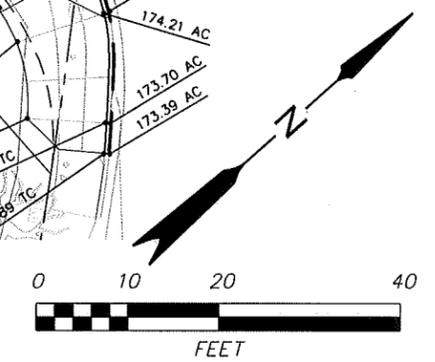


**CONSTRUCTION NOTES**

- ① Inst. standard block wall. Connect footing drain behind wall to 6" PVC storm pipe at "W" Sta. 9+10, 26.3' Lt. (For details, see sht. COB-2, drg. no. 270)
- ② Sawcut, 25'.
- ③ Remove and replace driveway in this area, 333 sq. ft.
- ④ Driveways in this location will require verification of widths and elevations prior to construction.
- ⑤ Adjust cleanout.
- ⑥ Protect extg. gas service.

**NOTE:**

- 1. Tree root zones to be protected during construction at all times.



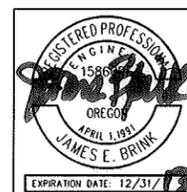
Proposed sidewalk, shown thus:

**OREGON DEPARTMENT OF TRANSPORTATION**

**CITY OF BEAVERTON**  
 4755 S.W. Griffith Drive  
 P.O. Box 4755  
 Beaverton, Or 97076  
 Ph: 503-526-2220  
 Fax: 503-526-2535

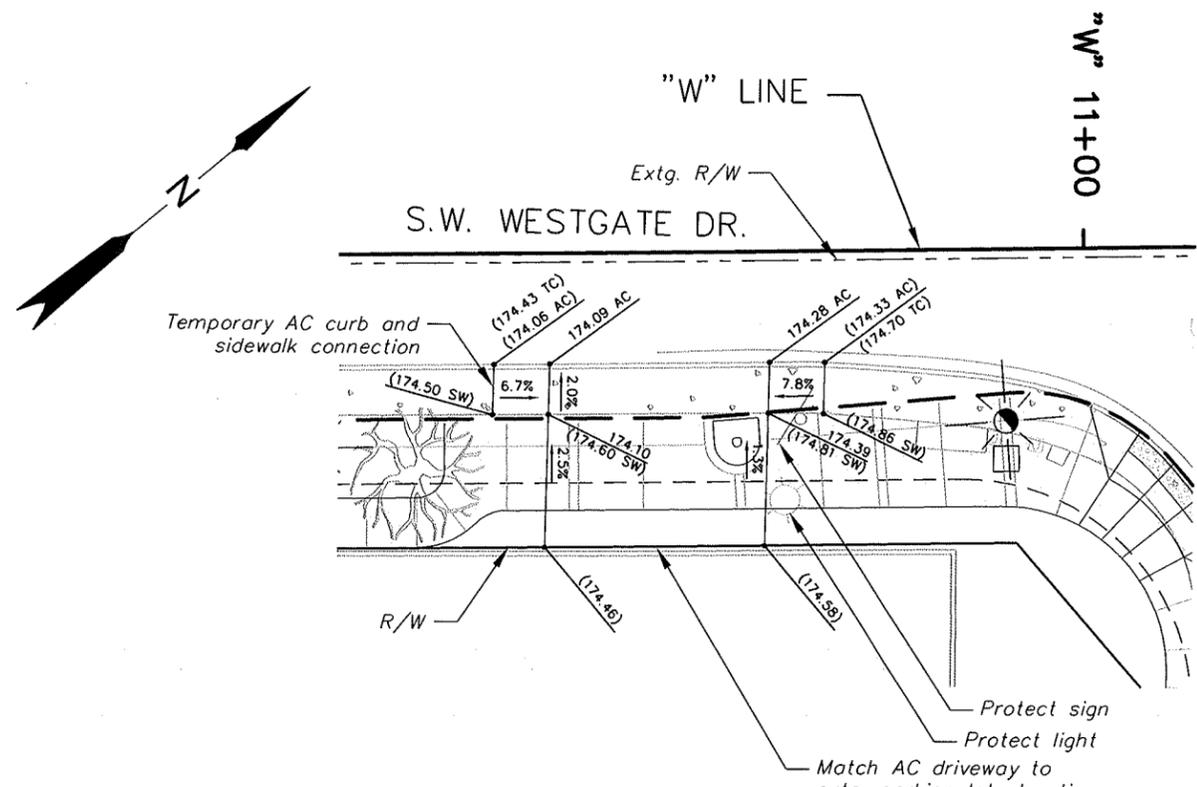
**SW ROSE BIGGI  
 HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benavidez



**GRADING DETAILS**

SHEET NO.  
**2B-4**



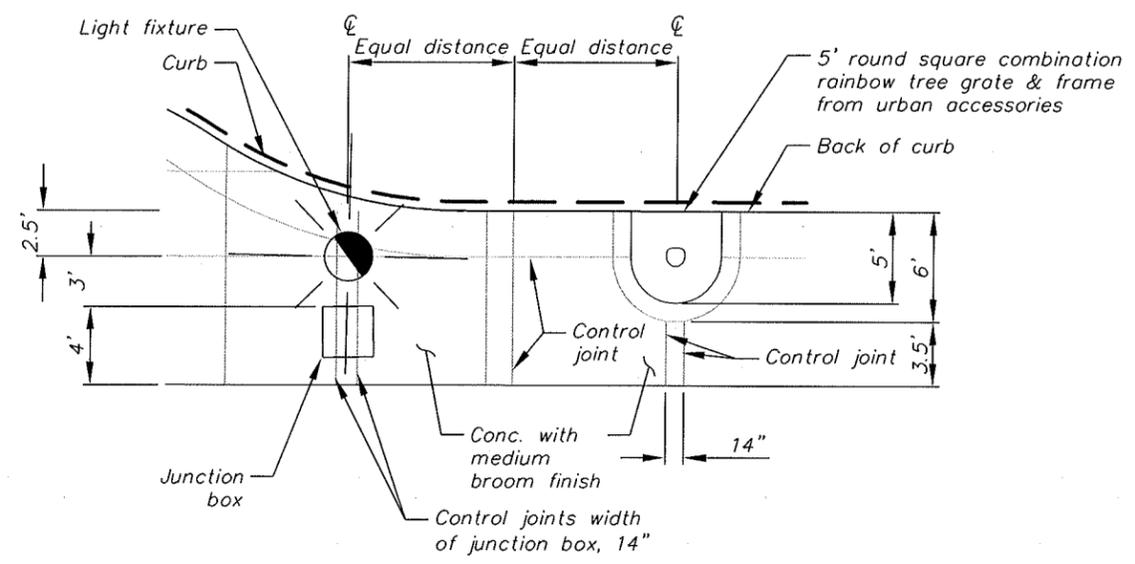
TEMPORARY DRIVEWAY  
AT KEY BANK/BEAVERCREEK VILLAGE  
Scale: 1"=10'

9 inch - Sta. "W" 11+19.6, 9.24' Rt. to Sta. "W" Sta. 12+33.1, 4.7' Rt. (3 Lifts)  
6 inch - Sta. "W" 1+24, 9.0' Rt. to Sta. "W" 6+04.7, 9.0' Rt. (2 Lifts)  
2 inch - all of the above

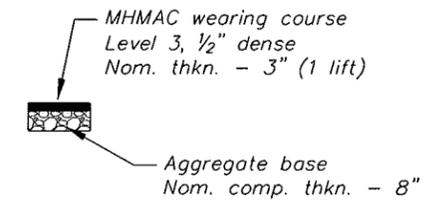
Trench Resurfacing, depth MHMAC  
Level 3, 1/2" dense

TRENCH RESURFACING

S.W. HALL BLVD.



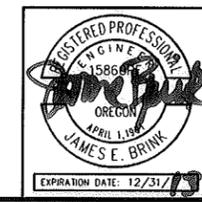
SIDEWALK TYPICAL DETAIL  
Scale: 1"=5'

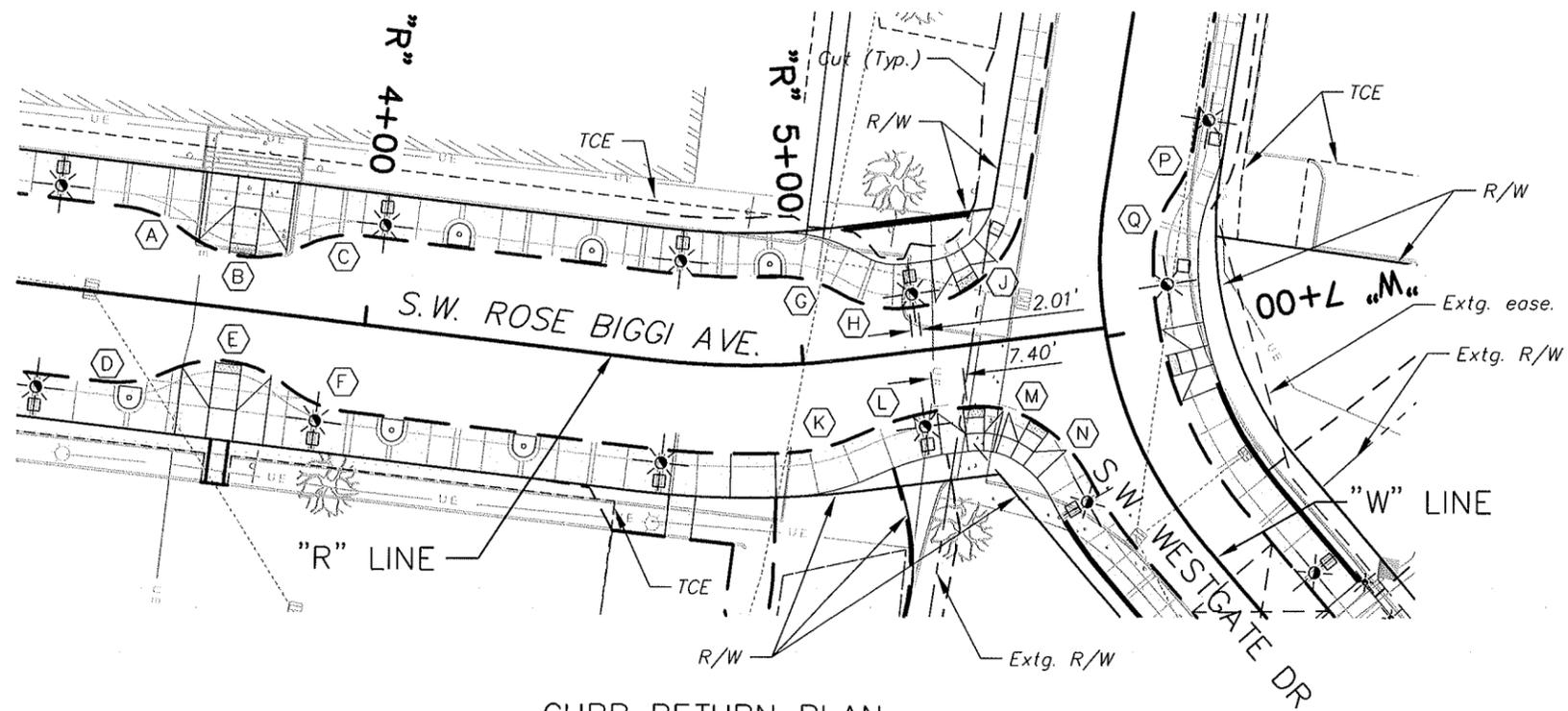
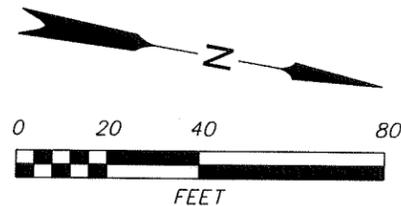


PAVEMENT SECTION AT  
PARKING LOT  
Scale: 1"=3'

Proposed sidewalk, shown thus:

OREGON DEPARTMENT OF TRANSPORTATION	
CITY OF BEAVERTON 4755 S.W. Griffith Drive P.O. Box 4755 Beaverton, Or 97076 Ph: 503-526-2220 Fx: 503-526-2535	
<b>SW ROSE BIGGI</b> <b>HALL BLVD - CRESCENT ST (BEAVERTON)</b> VARIOUS STREETS WASHINGTON COUNTY	
Reviewed By - P. Arellano Designed By - J. Brink Drafted By - C. Benovidez	
ROADWAY DETAILS	SHEET NO. 2B-5





CURB RETURN PLAN  
Scale: 1"=20'

CURB RETURN DATA

CURVE DATA	STREET STATION	CURVE DATA	STREET STATION	CURVE DATA	STREET STATION	CURVE DATA	STREET STATION	CURVE DATA	STREET STATION
(A) $\Delta = 32.8547$ $R = 25.00'$ $T = 7.37'$ $L = 14.34'$	PC 3+43.12, 20.00' LT ROSE BIGGI PRC 3+56.69, 16.00' LT ROSE BIGGI	(D) $\Delta = 32.8647$ $R = 25.00'$ $T = 7.37'$ $L = 14.34'$	PC 3+43.13, 20.00' RT ROSE BIGGI PRC 3+56.70, 16.00' RT ROSE BIGGI	(G) $\Delta = 33.4352$ $R = 25.00'$ $T = 7.51'$ $L = 14.59'$	PRC 4+95.04, 20.00' LT ROSE BIGGI PRC 5+10.05, 15.30' LT ROSE BIGGI	(K) $\Delta = 22.5438$ $R = 40.00'$ $T = 8.10'$ $L = 15.99'$	PCC 4+95.85, 20.00' RT ROSE BIGGI PRC 5+10.14, 17.49' RT ROSE BIGGI	(N) $\Delta = 29.6963$ $R = 33.00'$ $T = 8.75'$ $L = 17.10'$	PCC 7+13.27, 20.50' RT WESTGATE PRC 7+26.49, 13.63' RT WESTGATE
(B) $\Delta = 65.7197$ $R = 25.00'$ $T = 16.15'$ $L = 28.68'$	PRC 3+56.69, 16.00' LT ROSE BIGGI PRC 3+83.82, 16.00' LT ROSE BIGGI	(E) $\Delta = 65.7297$ $R = 25.00'$ $T = 16.15'$ $L = 28.68'$	PRC 3+56.70, 16.00' RT ROSE BIGGI PRC 3+83.83, 16.00' RT ROSE BIGGI	(H) $\Delta = 38.0118$ $R = 25.00'$ $T = 8.61'$ $L = 16.59'$	PRC 5+10.05, 15.30' LT ROSE BIGGI PT 5+25.45, 10.00' LT ROSE BIGGI	(L) $\Delta = 15.4839$ $R = 70.00'$ $T = 9.52'$ $L = 18.92'$	PRC 5+10.14, 17.49' RT ROSE BIGGI PT 5+28.67, 14.00' RT ROSE BIGGI	(P) $\Delta = 27.5842$ $R = 25.00'$ $T = 6.14'$ $L = 12.04'$	PT 6+52.75, 18.00' LT WESTGATE PRC 6+64.79, 15.31' LT WESTGATE
(C) $\Delta = 32.8503$ $R = 25.00'$ $T = 7.37'$ $L = 14.34'$	PRC 3+83.82, 16.00' LT ROSE BIGGI PT 3+97.38, 20.00' LT ROSE BIGGI	(F) $\Delta = 32.8647$ $R = 25.00'$ $T = 7.37'$ $L = 14.34'$	PRC 3+83.83, 16.00' RT ROSE BIGGI PT 3+97.38, 20.00' RT ROSE BIGGI	(J) $\Delta = 74.4081$ $R = 28.00'$ $T = 21.26'$ $L = 36.36'$	PC 5+27.46, 10.00' LT ROSE BIGGI PT 6+71.07, 18.00' RT WESTGATE	(M) $\Delta = 36.6693$ $R = 25.00'$ $T = 8.28'$ $L = 16.00'$	PC 5+36.07, 14.01' RT ROSE BIGGI PCC 7+13.27, 20.50' RT WESTGATE	(Q) $\Delta = 34.3775$ $R = 25.00'$ $T = 7.73'$ $L = 15.00'$	PRC 6+64.79, 15.31' LT WESTGATE PCC 6+81.03, 12.00' LT WESTGATE

Proposed sidewalk, shown thus:

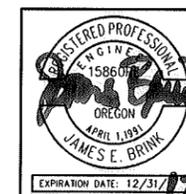
**OREGON DEPARTMENT OF TRANSPORTATION**



CITY OF BEAVERTON  
4755 S.W. Griffith Drive  
P.O. Box 4755  
Beaverton, Or 97076  
Ph: 503-526-2220  
Fx: 503-526-2635

**SW ROSE BIGGI -  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

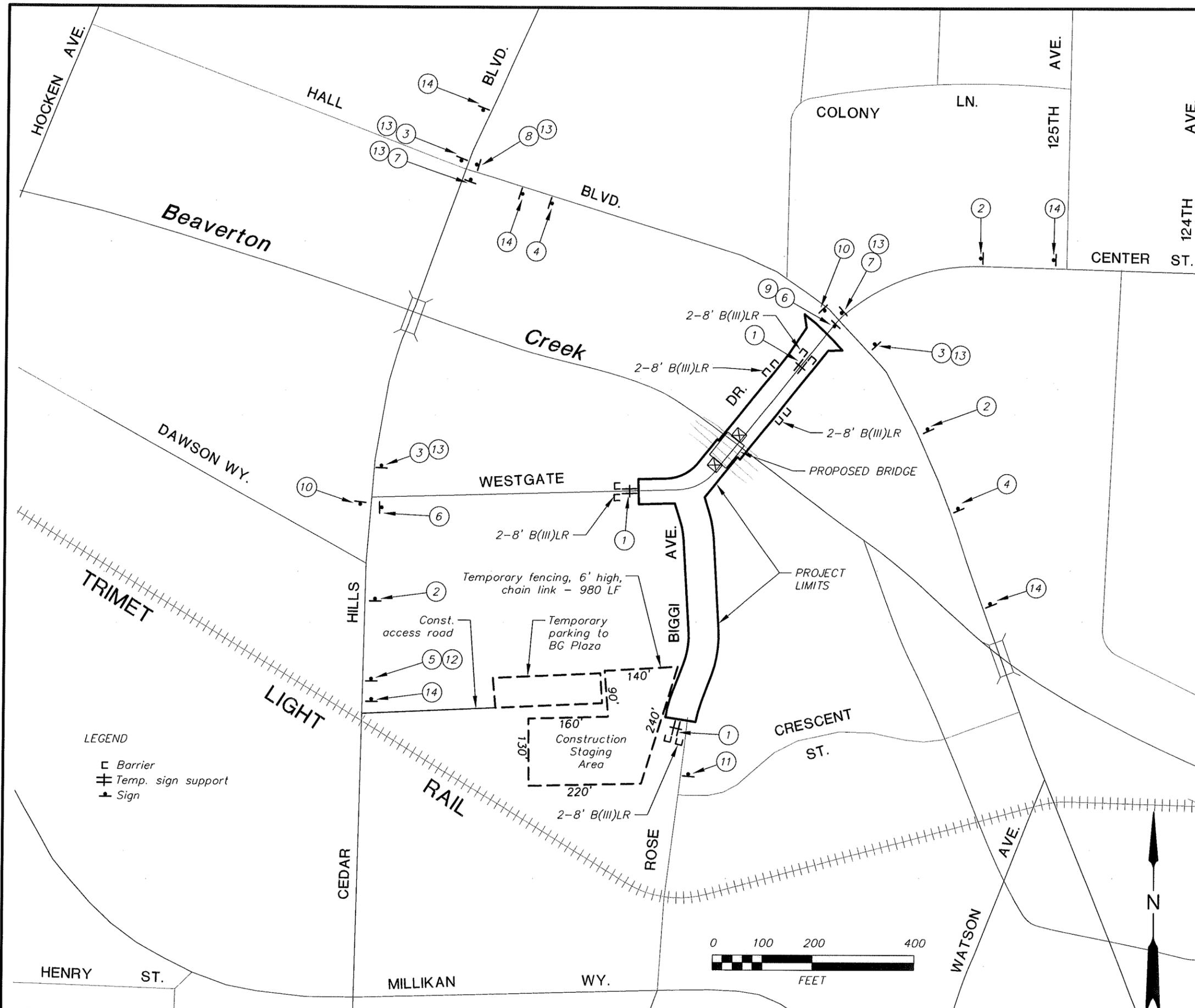
Reviewed By - P. Arellono  
Designed By - J. Brink  
Drafted By - C. Benovidez



ROADWAY DETAILS

SHEET NO.  
2B-6

To be accompanied by drg. nos. TM800, TM810, TM820, TM821, TM840, TM841, TM842, TM843, TM844, TM850, TM851, TM852, TM870



**ROAD CLOSED**  
48x30  
Type "W1"  
(Mount On TSS)  
1

**DETOUR AHEAD**  
48x48  
Type "W1"  
2

**DETOUR**  
30x24  
7

**DETOUR**  
30x24  
8

**DETOUR**  
48x18  
9

**END DETOUR**  
30x24  
10

**ROAD WORK AHEAD**  
36x36  
4

**CONSTRUCTION ENTRANCE**  
48x30  
Type "W1"  
5

**ROAD CLOSED TO THRU TRAFFIC LOCAL ACCESS ONLY**  
60x30  
Type "W1"  
6

**ROAD CLOSED AHEAD**  
48x48  
11

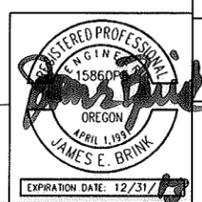
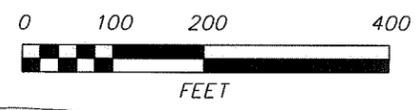
**BG PLAZA PARKING**  
30x24  
Type "B"  
12

**WESTGATE DR**  
36x12  
13

**WESTGATE DR CLOSED AT BRIDGE**  
AT BRIDGE  
XX/XX/13-XX/XX/15  
54x39  
14

Notes:  
1. Exact location of signs to be determined in the field by the engineer and contractor.  
2. Sign spacing is 100 feet min.

**LEGEND**  
 □ Barrier  
 ⊕ Temp. sign support  
 ▲ Sign



**OREGON DEPARTMENT OF TRANSPORTATION**

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**SW ROSE BIGGI-  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benavidez

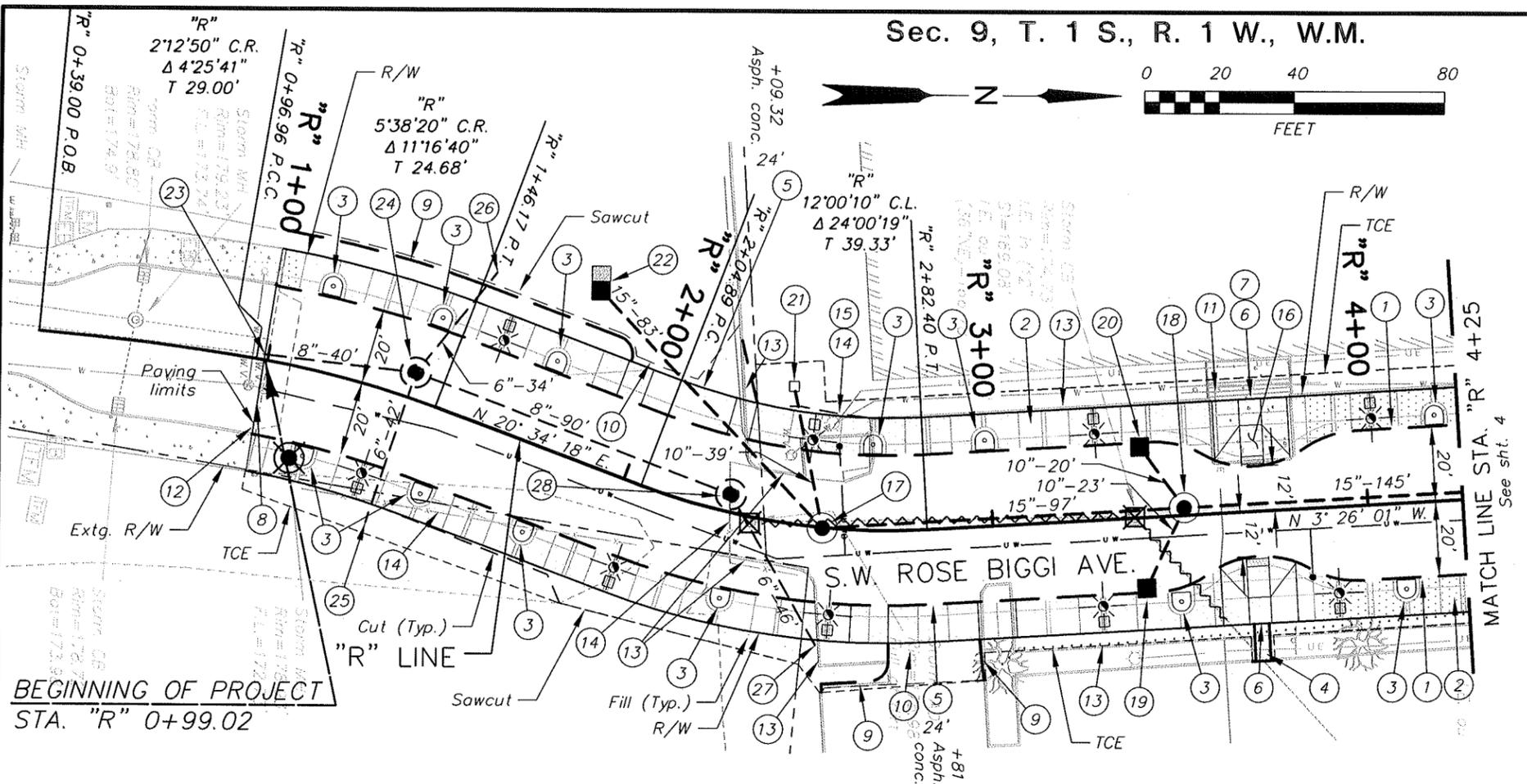
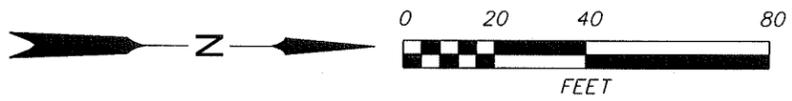
**TRAFFIC CONTROL**

SHEET NO.  
2C



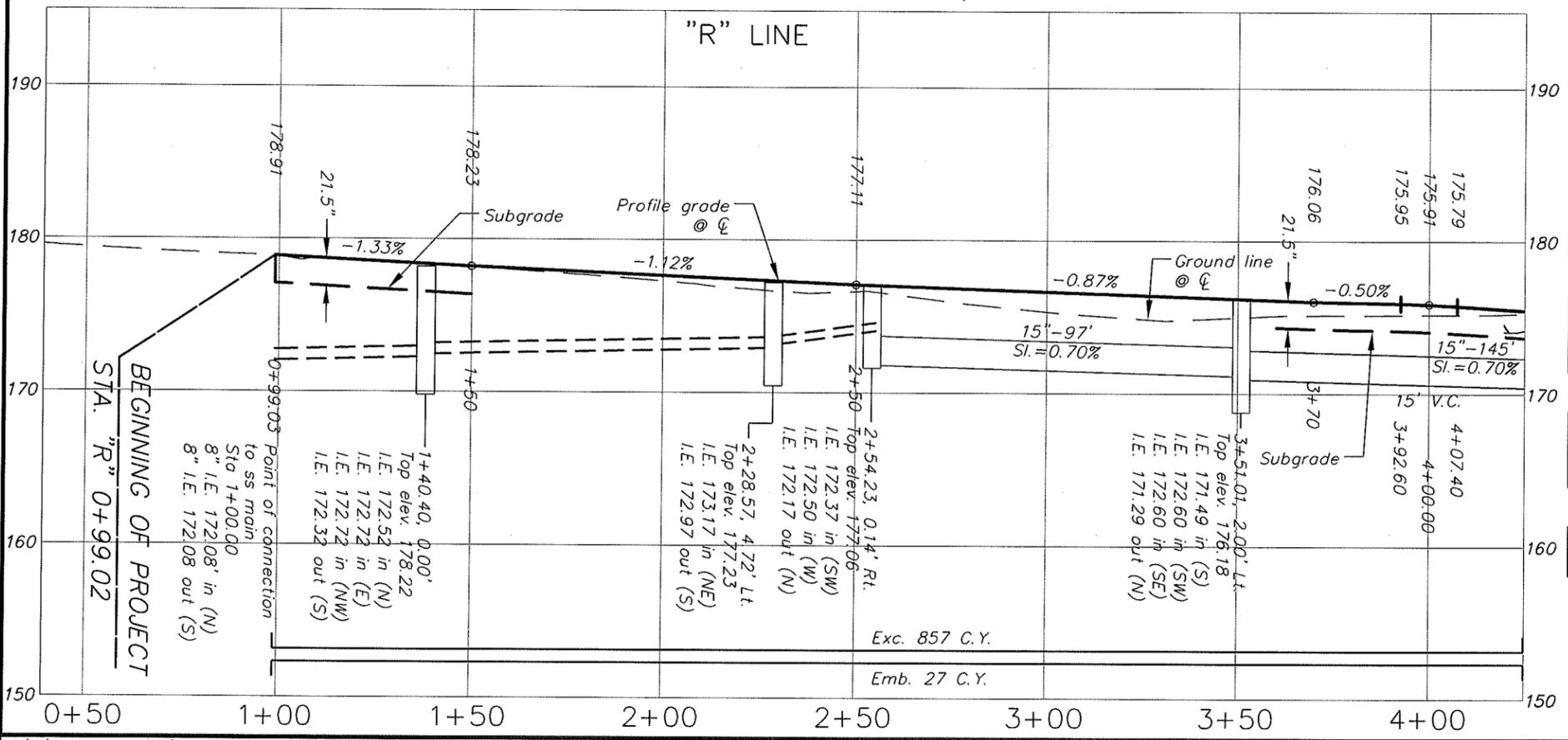


Sec. 9, T. 1 S., R. 1 W., W.M.



BEGINNING OF PROJECT  
STA. "R" 0+99.02

MATCH LINE STA. "R" 4+25  
See sht. 4



MATCH LINE STA. "R" 4+25  
See sht. 4

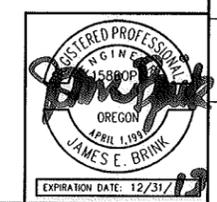
- Proposed sidewalk, shown thus:
- Remove extg. manhole, shown thus:
- Remove extg. inlet, shown thus:
- Remove extg. pipe, shown thus:

OREGON DEPARTMENT OF TRANSPORTATION

CITY OF BEAVERTON  
4755 S.W. Griffith Drive  
P.O. Box 4755 Ph: 503-526-2220  
Beaverton, Or 97076 Fx: 503-526-2535

**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez



**GENERAL CONSTRUCTION  
PLAN & PROFILE**

SHEET  
NO.  
**3**

CONSTRUCTION NOTES:

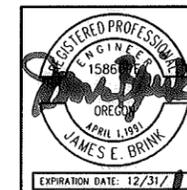
- 1 Const. curb and gutter - 24" width  
e=6"  
(See drg. no. RD700)
- 2 Const. 9.5' PCC sidewalk  
(See drg. no. RD720)
- 3 Const. tree grate - 12  
(For details, see shts. GN, GN-2 & GN-5)
- 4 Const. 4' PCC sidewalk  
(For details, see shts. 2B-2 & 2B-3)  
(See drg. no. RD720)
- 5 Const. commercial driveway  
(For details, see sht. COB drg. no. 210)
- 6 Const. sidewalk ramp (Perpendicular)  
(For details, see sht. 2B-2)  
(See drgs. no. RD755 & RD759)
- 7 Connect sidewalk to extg. building steps, verify sidewalk elevations  
prior to placement of curb.  
(For details, see sht. 2B-2)
- 8 Connect to existing street. Sawcut 1' from existing pavement edge.
- 9 Const. standard curb w/ 5' radius and weepholes every 25'  
e=6"  
(See drg. no. RD700)
- 10 Inst. parking lot section  
(For details, see sht. 2B-5)
- 11 Temporarily remove two posts in order to const. sidewalk. Provide  
temporary support for overhang. Replace posts after sidewalk is  
placed and cured to min. required strength.  
(For details, see sht. 2B-2)
- 12 Remove extg. street barricade and conc. anchors
- 13 Remove extg. curb
- 14 Remove extg. fence
- 15 Remove extg. trash enclosure (By others)
- 16 Remove extg. sidewalk

DRAINAGE NOTES:

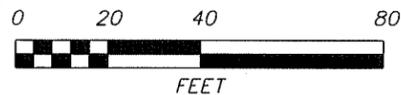
- 17 Sta. "R" 2+54.23, 0.14' Rt.  
Const. shallow 48" manhole cone  
Inst. 97' of 15" C900 @ S=0.0070  
(For details, see sht. COB-3 drg. no. 336)
- 18 Sta. "R" 3+51.01, 2.0' Lt  
Const. shallow 48" manhole cone  
Inst. 145' of 15" C900 @ S=0.0070  
(For details, see sht. COB-3 drg. no. 336)
- 19 Sta. "R" 3+40.0, 18.88' Rt.  
Const. storm filter catch basin, conc. single  
CB 8  
Rim=175.82  
10" I.E. = 172.97 W.  
Inst. 23' of 10" C900 @ S=0.016  
(For details, see shts. GJ-3 & GJ-5)
- 20 Sta. "R" 3+40.00, 18.88' Lt.  
Const. storm filter catch basin, conc. single  
CB 7  
Rim=175.82  
10" I.E. = 173.0 E.  
Inst. 20' of 10" C900 @ S=0.020  
(For details, see shts. GJ-3 & GJ-5)
- 21 Sta. "R" 2+40.40, 36.3' Lt.  
Const. area drain type II  
AD 1  
Rim=177.50  
10" I.E. = 173.27 E.  
Inst. 39' of 10" PVC 3034 @ S=0.020  
(For details, see sht. CWS-3 drg. no. 380)
- 22 Sta. "R" 1+76.28, 44.6' Lt.  
Const. ditch inlet  
Rim=174.49  
15" I.E. = 172.86 N.E.  
Inst. 83' of 15" PVC 3034 @ S=0.006  
(For details, see sht. CWS-3 drg. no. 390)

SANITARY NOTES:

- 23 Connect to extg. 8" PVC 3034
- 24 Sta. "R" 1+38.42, 6.9' Lt.  
Const. 48" manhole  
Inst. 40' of 8" PVC 3034 @ S=0.0060  
(For details, see sht. COB-3 drg. no. 330)
- 25 Sta. "R" 1+39.11, 35.1' Rt.  
Inst. 42' OF 6" PVC 3034 lateral  
Sl.=1.0%  
FG at end=176.72  
6" IE @ end=173.14  
(For details, see sht. CWS-4 drg. no. 520)
- 26 Sta. "R" 1+48.60, 39.2' Lt.  
Inst. 34' of 6" PVC 3034 lateral  
Sl.=1.0%  
FG at end=178.12  
6" IE @ end=173.06  
(For details, see sht. CWS-4 drg. no. 520)
- 27 Sta. "R" 2+55.28, 31.4' Rt.  
Inst. 46' of 6" C900 @ S=0.200 lateral  
Sl.=2.0%  
FG at end=176.78  
6" IE @ end=174.09  
(For details, see sht. CWS-4 drg. no. 520)
- 28 Sta. "R" 2+28.57, 4.7' Lt.  
Const. 48" shallow cone manhole  
Inst. 90' of 8" PVC 3034 @ S=0.0050  
(For details, see sht. COB-3 drg. no. 336)

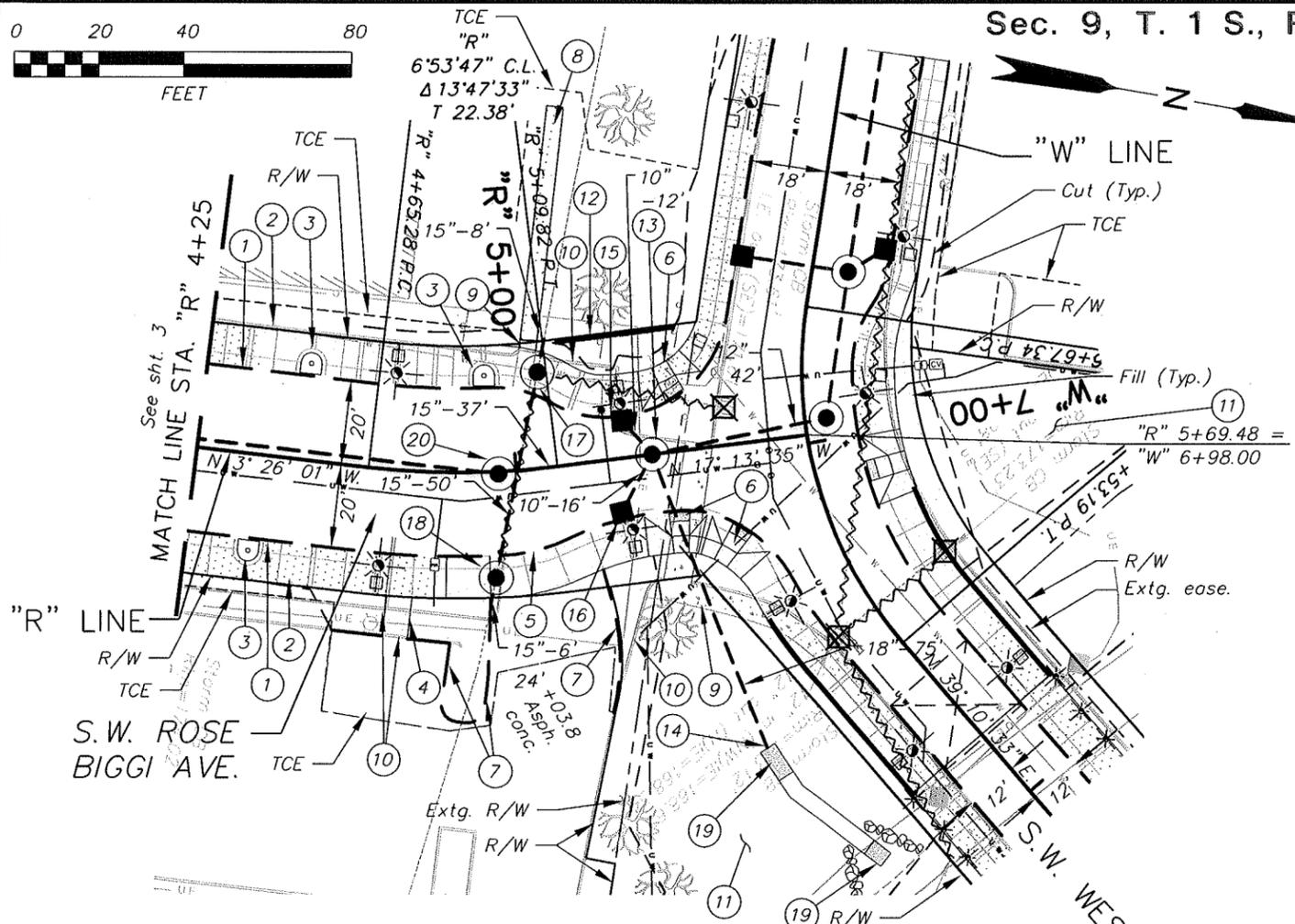


<p>OREGON DEPARTMENT OF TRANSPORTATION</p>	
<p>CITY OF BEAVERTON 4755 S.W. Griffith Drive P.O. Box 4755 Beaverton, Or 97076</p>	
<p>Ph: 503-526-2220 Fx: 503-526-2535</p>	
<p><b>SW ROSE BIGGI</b> <b>HALL BLVD - CRESCENT ST (BEAVERTON)</b> VARIOUS STREETS WASHINGTON COUNTY</p>	
<p>Reviewed By - P. Arellano Designed By - J. Brink Drafted By - C. Benavidez</p>	
<p>GENERAL CONSTRUCTION NOTES</p>	<p>SHEET NO. 3A</p>



Sec. 9, T. 1 S., R. 1 W., W.M.

46V-026



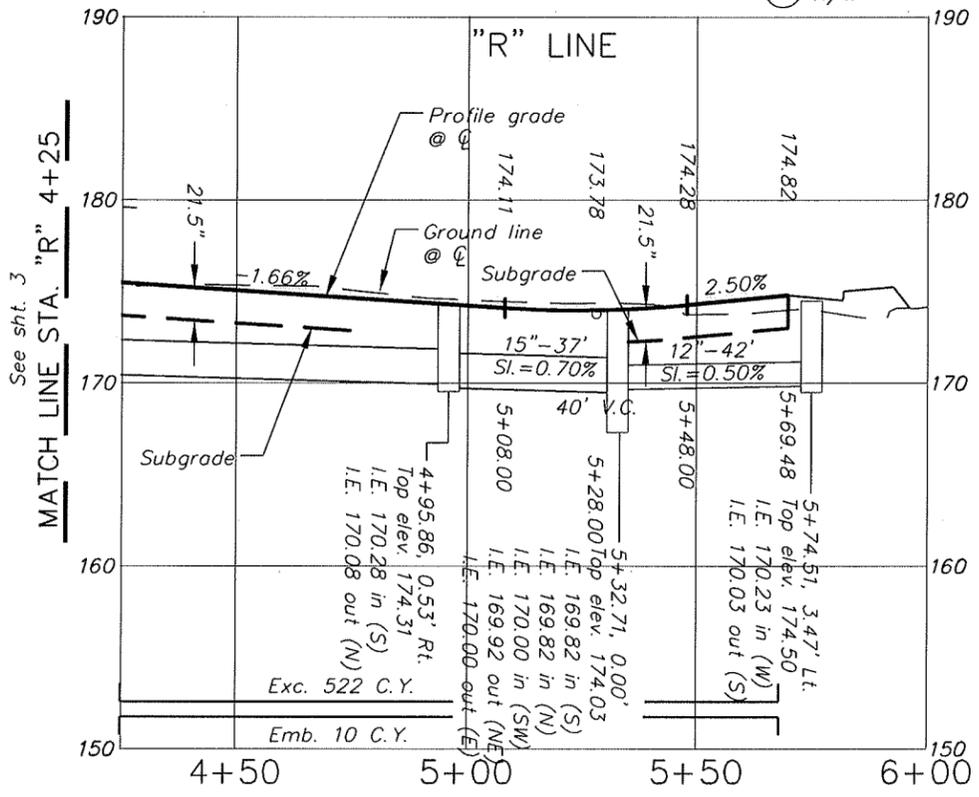
CONSTRUCTION NOTES:

- 1 Const. curb and gutter - 24" width e=6"
- 2 Const. 9.5' sidewalk
- 3 Const. tree grate - 3 (For details, see shts. GN, GN-2 & GN-5)
- 4 Const. 6' sidewalk (For details, see sht. 2B-2) (See drg. no. RD720)
- 5 Const. commercial driveway (For details, see sht. COB drg. no. 210)
- 6 Const. sidewalk ramp (Option I and L ramps as appropriate) (For details, see sht. 2B-2) (See drg. nos. RD757 & RD759)
- 7 Const. standard curb w/ 5' radius and weepholes every 25' e=6"
- 8 Const. 4' sidewalk (For details, see sht. 2B-2) (See drg. no. RD720)
- 9 Remove extg. sidewalk
- 10 Remove extg. curb
- 11 Remove and relocate extg. boulders as directed by engineer
- 12 Const. block wall (For details, see sht. 2B-2)

DRAINAGE NOTES:

- 13 Sta. "R" 5+32.71, 0.0' Const. 60" manhole Inst. 42' of 12" C900 @ S=0.0050 (For details, see sht. COB-3 drg. no. 330)
- 14 Sta. "R" 5+51.18, 72.79' Rt. 18" I.E. = 168.39 out N.E. Inst. 75' of 18" PVC 3034 (For details, see shts. GJ & GJ-2)
- 15 Sta. "R" 5+26.5, 8.88' Lt. Const. storm filter catch basin, conc. single CB 6 Rim=173.62 10" I.E. = 170.77 N. Inst. 12' of 10" C900 @ S=0.067 (For details, see shts. GJ-3 & GJ-5)
- 16 Sta. "R" 5+23.89, 12.79' Rt. Const. storm filter catch basin, conc. single CB 5 Rim=173.66 10" I.E. = 170.81 N. Inst. 16' of 10" C900 @ S=0.051 (For details, see shts. GJ-3 & GJ-5)
- 17 Sta. "R" 5+07.52, 22.88' Lt. Const. 48" manhole Rim=174.33 15" I.E. = 168.35 in W. 15" I.E. = 168.35 out E. Inst. 50' of 15" PVC 3034 @ S=0.009 8' of 15" PVC 3034 connect to extg. 15" pipe with flexible coupling and stainless steel shear bands (For details, see sht. COB-3 drg. no. 330)
- 18 Sta. "R" 4+94.37, 25.25' Rt. Const. 48" manhole Rim=174.53 15" I.E. = 167.89 in W. 15" I.E. = 167.89 out E. 6' of 15" PVC 3034 connect to extg. 15" CMP pipe with flexible coupling and stainless steel shear bands (For details, see sht. COB-3 drg. no. 330)
- 19 Const. loose rip-rap (Class 100) - 2.8 cu. yd. (For details, see sht. GJ-2)
- 20 Sta. "R" 4+95.86, 0.53' Rt. Const. shallow 48" manhole cone Inst. 37' of 15" C900 @ S=0.0070 (For details, see sht. COB-3 drg. no. 336)

- Proposed sidewalk, shown thus:
- Remove extg. manhole, shown thus:
- Remove extg. inlet, shown thus:
- Remove extg. pipe, shown thus:



**OREGON DEPARTMENT OF TRANSPORTATION**

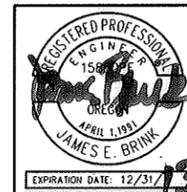
**CITY OF BEAVERTON**  
4755 S.W. Griffith Drive  
P.O. Box 4755  
Beaverton, Or 97076  
Ph: 503-526-2220  
Fx: 503-526-2535

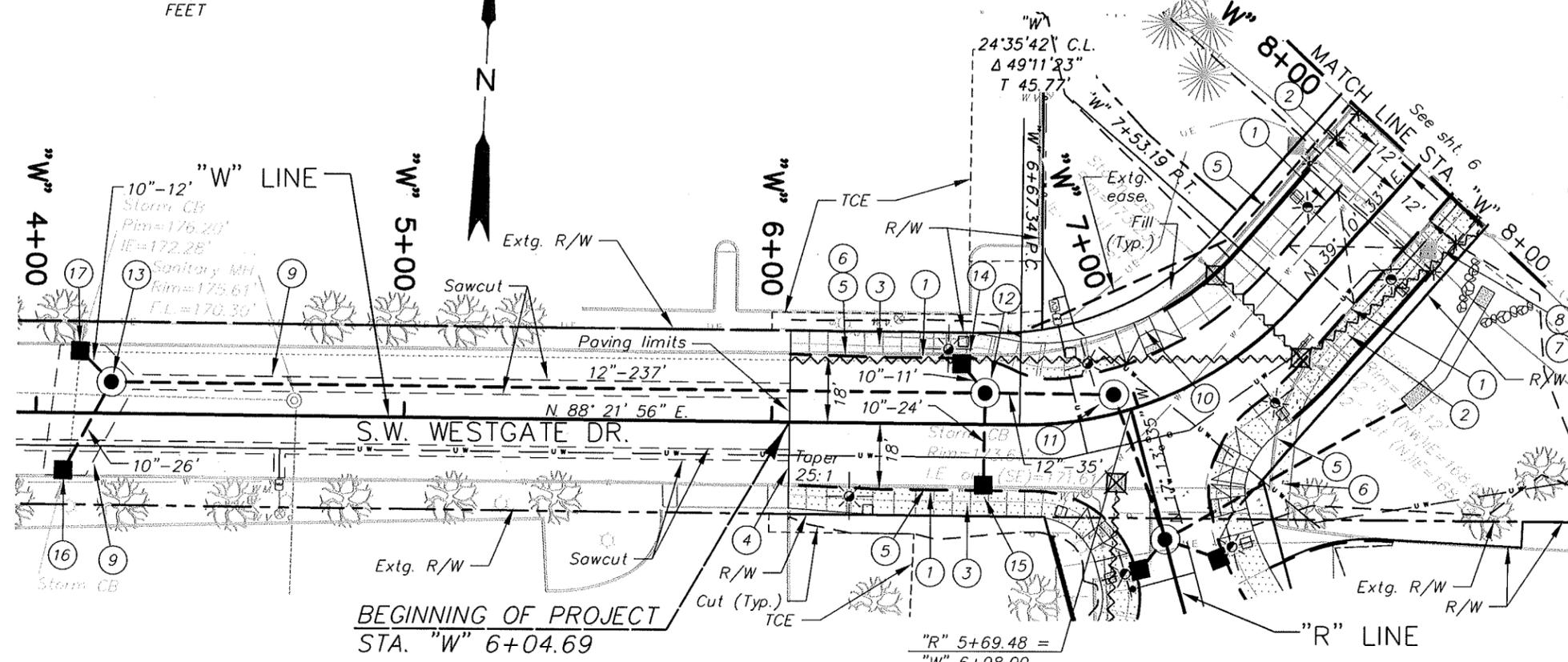
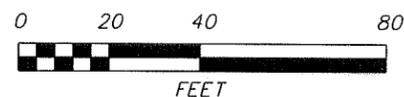
**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez

**GENERAL CONSTRUCTION PLAN & PROFILE**

SHEET NO. 4



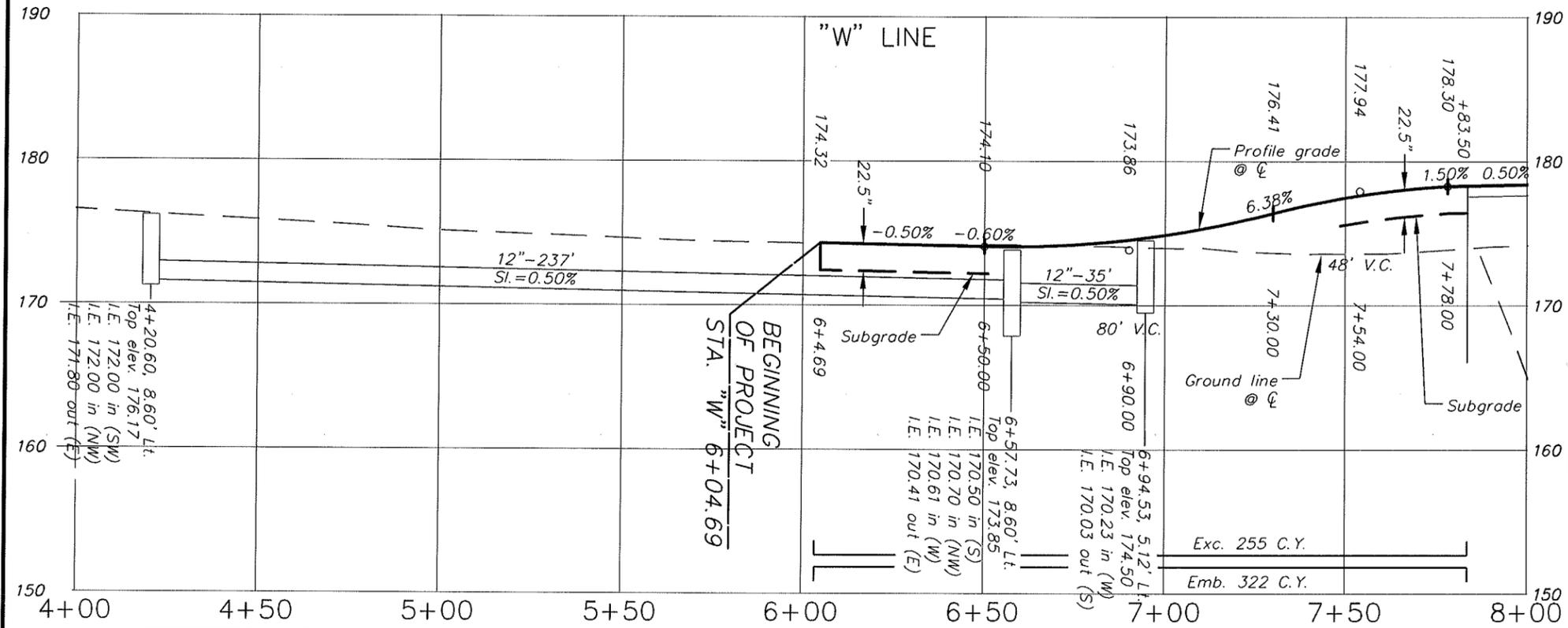


CONSTRUCTION NOTES:

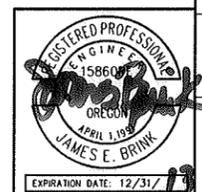
- ① Const. curb and gutter - 24" width e=6"
- ② Const. 9.5' sidewalk
- ③ Const. 6.5' sidewalk
- ④ Connect to extg. street. Sawcut 1' from extg. pavement edge.
- ⑤ Remove extg. curb
- ⑥ Remove extg. sidewalk
- ⑦ Remove extg. bridge
- ⑧ Structure no. 21612 Sta. "W" 7+83.50 to Sta. "W" 8+38.50 Const. structure - 55' Rdwy. width 24' with 10' walk, Lt. & Rt. and reinf. panel at bridge ends (For drg. nos., see sht. 1A)
- ⑨ Resurface trench with 6" MHMAC (For details, see sht. 2B-5)
- ⑩ Const. sidewalk ramp (Perpendicular) (For details, see sht. 2B-2) (See drg. nos. RD755 & RD759)

DRAINAGE NOTES:

- ⑪ Sta. "W" 6+94.53, 5.12' Lt. Const. shallow 48" manhole cone Inst. 35' of 12" C900 @ S=0.0050 (For details, see sht. COB-3 drg. no. 336)
- ⑫ Sta. "W" 6+57.73, 8.60' Lt. Const. shallow 48" manhole cone Inst. 237' of 12" C900 @ S=0.0050 (For details, see sht. COB-3 drg. no. 336)
- ⑬ Sta. "W" 4+20.60, 8.60' Lt. Const. shallow 48" manhole cone (For details, see sht. COB-3 drg. no. 336)
- ⑭ Sta. "W" 6+51.14, 16.50' Lt. Const. storm filter catch basin, conc. single CB 3 Rim=173.56 10" I.E. = 170.81 S.E. Inst. 11' of 10" C900 @ S=0.010 (For details, see shts. GJ-3 & GJ-5)
- ⑮ Sta. "W" 6+57.60, 16.50' Rt. Const. storm filter catch basin, conc. single CB 4 Rim=173.54 10" I.E. = 170.65 N. Inst. 24' of 10" C900 @ S=0.0060 (For details, see shts. GJ-3 & GJ-5)
- ⑯ Sta. "W" 4+07.70, 15.60' Rt. Const. storm filter catch basin, conc. single CB 9 Rim=176.01 10" I.E. = 173.16 N.E. Inst. 26' of 10" C900 @ S=0.044 (For details, see shts. GJ-3 & GJ-5)
- ⑰ Sta. "W" 4+11.86, 16.94' Lt. Const. storm filter catch basin, conc. single CB 10 Rim=176.20 10" I.E. = 173.35 S.E. Inst. 12' of 10" C900 @ S=0.011 (For details, see shts. GJ-3 & GJ-5)



- Proposed sidewalk, shown thus:
- Remove extg. manhole, shown thus:
- Remove extg. inlet, shown thus:
- Remove extg. pipe, shown thus:



**OREGON DEPARTMENT OF TRANSPORTATION**

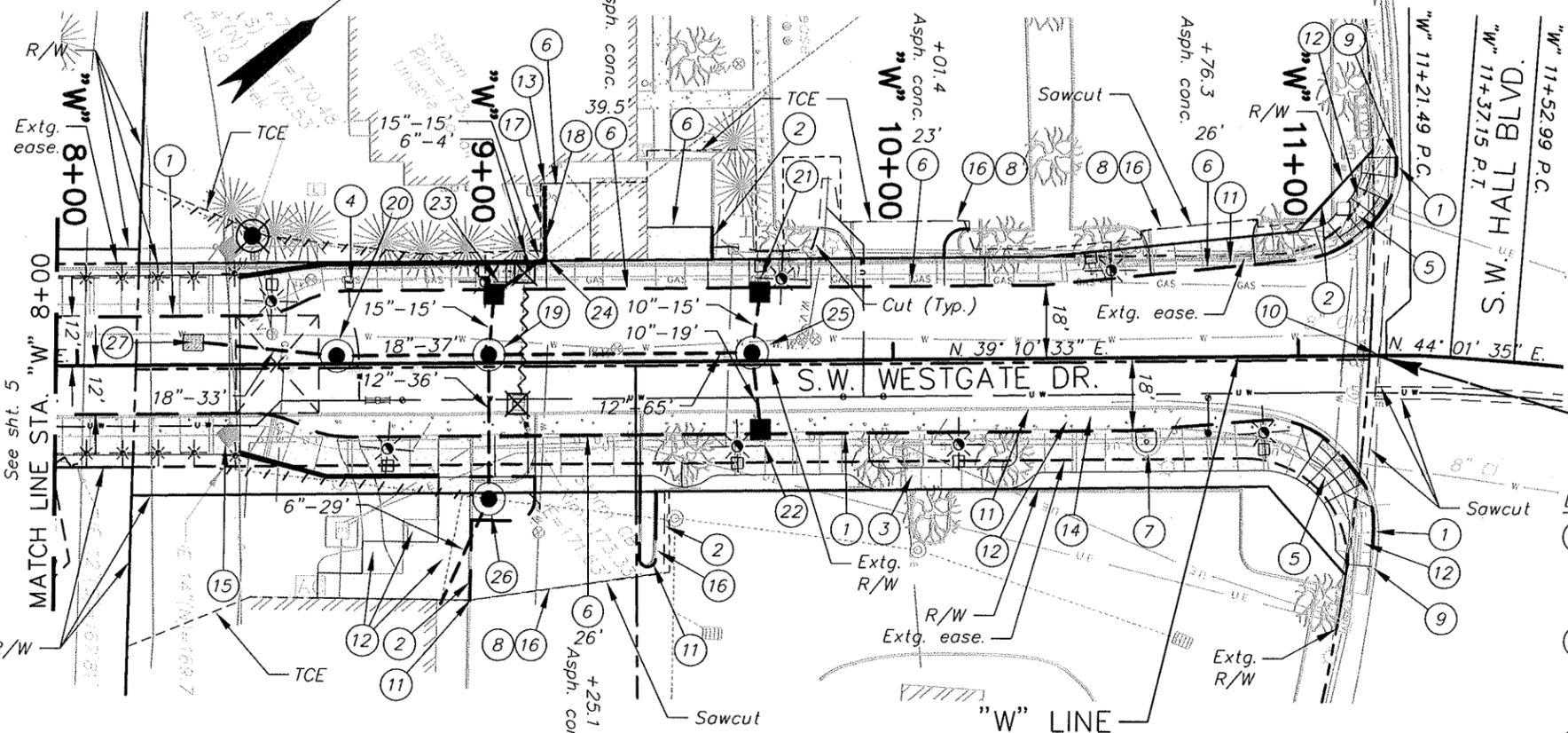
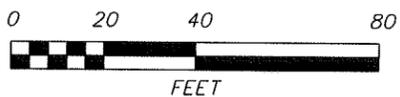
**CITY OF BEAVERTON**  
 4755 S.W. Griffith Drive  
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**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benovidez

**GENERAL CONSTRUCTION PLAN & PROFILE**

SHEET NO. 5



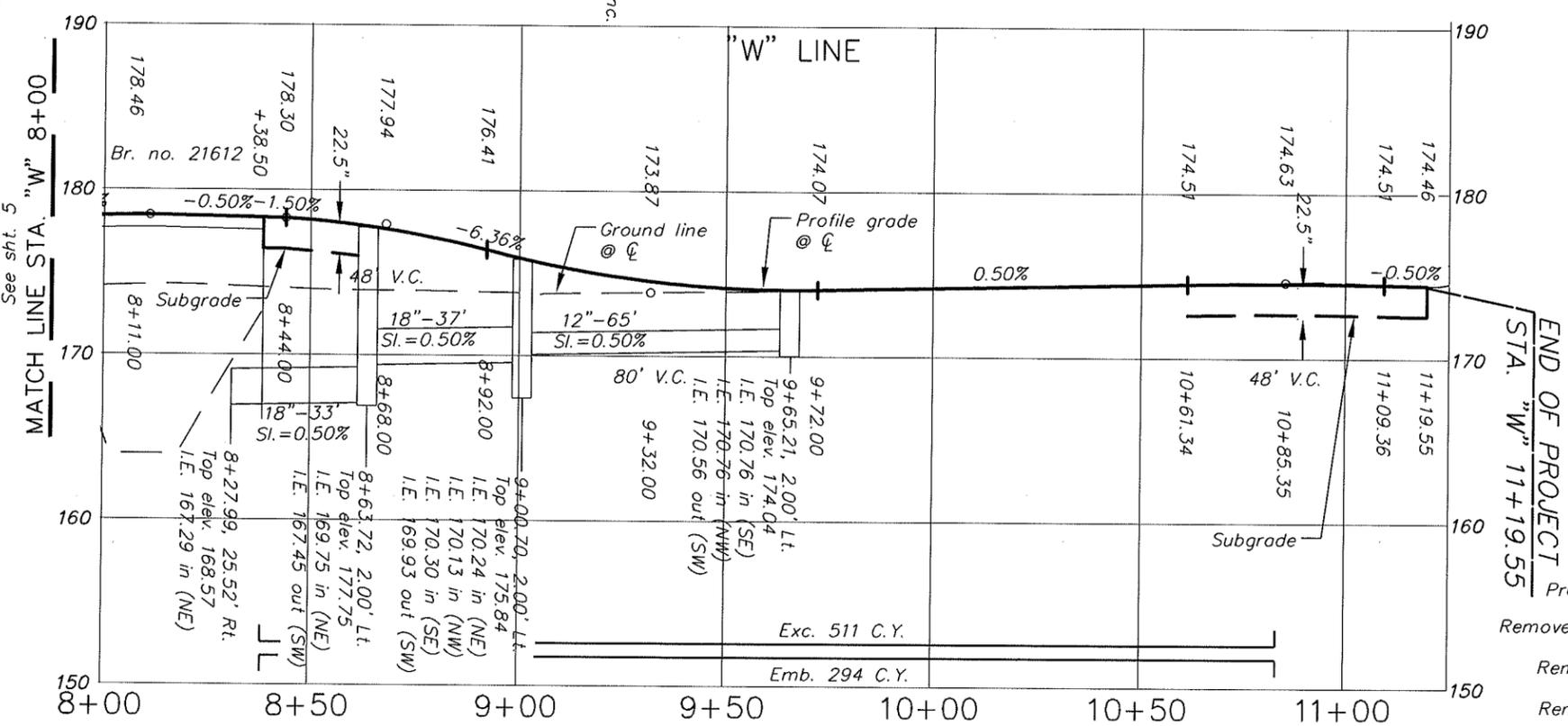
CONSTRUCTION NOTES:

- 1 Const. curb and gutter - 24" width e=6"
- 2 Const. standard curb w/ 5' radius and weepholes every 25' e=6"
- 3 Const. 9.5' sidewalk
- 4 Const. 6.5' sidewalk
- 5 Const. sidewalk ramp - 11.3' (Option K) (For details, see sht. 2B-4) (See drg. nos. RD757 & RD759)
- 6 Const. commercial driveway (For details, see sht. COB drg. no. 210)
- 7 Const. tree grate - 1 (For details, see shts. GN, GN-2 & GN-5)
- 8 Pave parking area (For details, see sht. 2B-5)
- 9 Connect to extg. curb and gutter Sta. "W" 11+23.76, 48.7' Lt. Sta. "W" 11+17.53, 51.9' Rt.
- 10 Connect to extg. street at Sta. "W" 11+19.55 Sawcut 1' from extg. pavement edge.
- 11 Remove extg. curb
- 12 Remove extg. sidewalk
- 13 Replace extg. fence to grade (By others).
- 14 Temporary driveway (For details, see sht. 2B-5)
- 15 Remove extg. bridge
- 16 Sawcut
- 17 Remove extg. electrical conduit, wiring, and duplex receptacle (By others).
- 18 Const. block wall (For details, see sht. 2B-4)

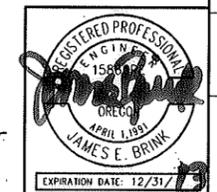
END OF PROJECT STA. "W" 11+19.55

DRAINAGE NOTES:

- 19 Sta. "W" 9+00.70, 2.0' Lt. Const. 48" manhole Inst. 37' of 18" PVC 3034 @ S=0.0050 (For details, see sht. COB-3 drg. no. 330)
- 20 Sta. "W" 8+63.72, 2.0' Lt. Const. storm filter water quality 96" manhole Inst. 33' of 18" PVC 3034 @ S=0.0050 (For details, see sht. GJ-4)
- 21 Sta. "W" 9+67.21, 16.88' Lt. Const. type CG-2 inlet CB 1 Rim=173.64 10" I.E. = 170.91 S.W. Inst. 15' of 10" DIP @ S=0.010 (For details, see sht. CWS-2 drg. no. 300)
- 22 Sta. "W" 9+67.21, 16.88' Rt. Const. type CG-2 inlet CB 2 Rim=173.64 10" I.E. = 170.95 N.W. Inst. 19' of 10" DIP @ S=0.010 (For details, see sht. CWS-2 drg. no. 300)
- 23 Sta. "W" 9+02.07, 16.88' Lt. Const. type CG-2 inlet CB 12 Rim=175.38 15" I.E. = 170.4 in N.E. 15" I.E. = 170.2 out S. Inst. 15' of 15" PVC 3034 @ S=0.005 (For details, see sht. CWS-2 drg. no. 300)
- 24 Connect to extg. private plumbing F.G.=174.6 15" I.E. In = 170.75 Field verify I.E. prior to storm construction Inst. 15' of 15" PVC 3034 @ S=0.023 Connect extg. 6" pipe to 15" PVC with tee and 4' of 6" PVC
- 25 Sta. "W" 9+65.21, 2.0' Lt. Const. shallow 48" manhole cone Inst. 65' of 12" C900 @ S=0.0050 (For details, see sht. COB-3 drg. no. 336)
- 26 Sta. "W" 9+00.58, 33.46' Rt. Const. 48" manhole Rim=176.07 6" I.E. = 171.2 in S.E. 12" I.E. = 170.9 in N.E. (Extg.) 12" I.E. = 170.7 out N.W. Inst. 29' of 6" PVC 3034 Inst. 36' of 12" PVC 3034 (For details, see sht. COB-3 drg. no. 330)
- 27 Const. loose rip-rap (Class 100) - 2.8 cu. yd. (For details, see sht. GJ-2)



- Proposed sidewalk, shown thus:
- Remove extg. manhole, shown thus:
- Remove extg. inlet, shown thus:
- Remove extg. pipe, shown thus:
- Abandon extg. pipe, shown thus:



**OREGON DEPARTMENT OF TRANSPORTATION**

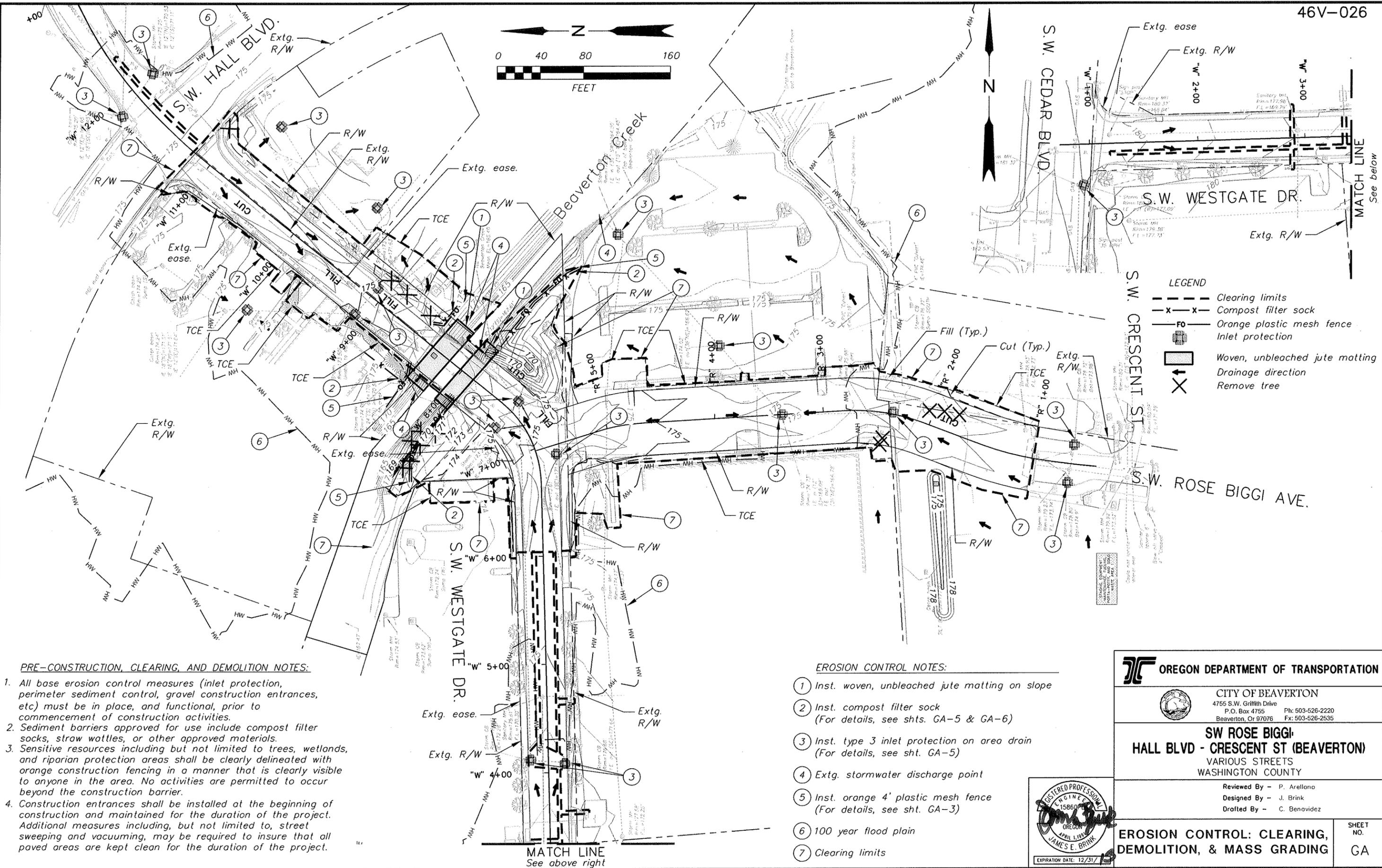
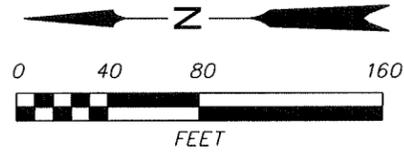
**CITY OF BEAVERTON**  
4755 S.W. Griffith Drive  
P.O. Box 4755  
Beaverton, Or 97076  
Ph: 503-526-2220  
Fx: 503-526-2535

**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez

**GENERAL CONSTRUCTION PLAN & PROFILE**

SHEET NO. 6



- LEGEND**
- - - Clearing limits
  - x - x Compost filter sock
  - FO Orange plastic mesh fence
  - Inlet protection
  - Woven, unbleached jute matting
  - Drainage direction
  - Remove tree

**PRE-CONSTRUCTION, CLEARING, AND DEMOLITION NOTES:**

1. All base erosion control measures (inlet protection, perimeter sediment control, gravel construction entrances, etc) must be in place, and functional, prior to commencement of construction activities.
2. Sediment barriers approved for use include compost filter socks, straw wattles, or other approved materials.
3. Sensitive resources including but not limited to trees, wetlands, and riparian protection areas shall be clearly delineated with orange construction fencing in a manner that is clearly visible to anyone in the area. No activities are permitted to occur beyond the construction barrier.
4. Construction entrances shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures including, but not limited to, street sweeping and vacuuming, may be required to insure that all paved areas are kept clean for the duration of the project.

**EROSION CONTROL NOTES:**

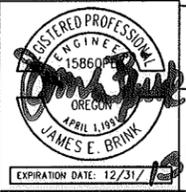
- 1 Inst. woven, unbleached jute matting on slope
- 2 Inst. compost filter sock (For details, see shts. GA-5 & GA-6)
- 3 Inst. type 3 inlet protection on area drain (For details, see sht. GA-5)
- 4 Extg. stormwater discharge point
- 5 Inst. orange 4' plastic mesh fence (For details, see sht. GA-3)
- 6 100 year flood plain
- 7 Clearing limits

**OREGON DEPARTMENT OF TRANSPORTATION**

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Beaverton, Or 97076 Fax: 503-526-2535

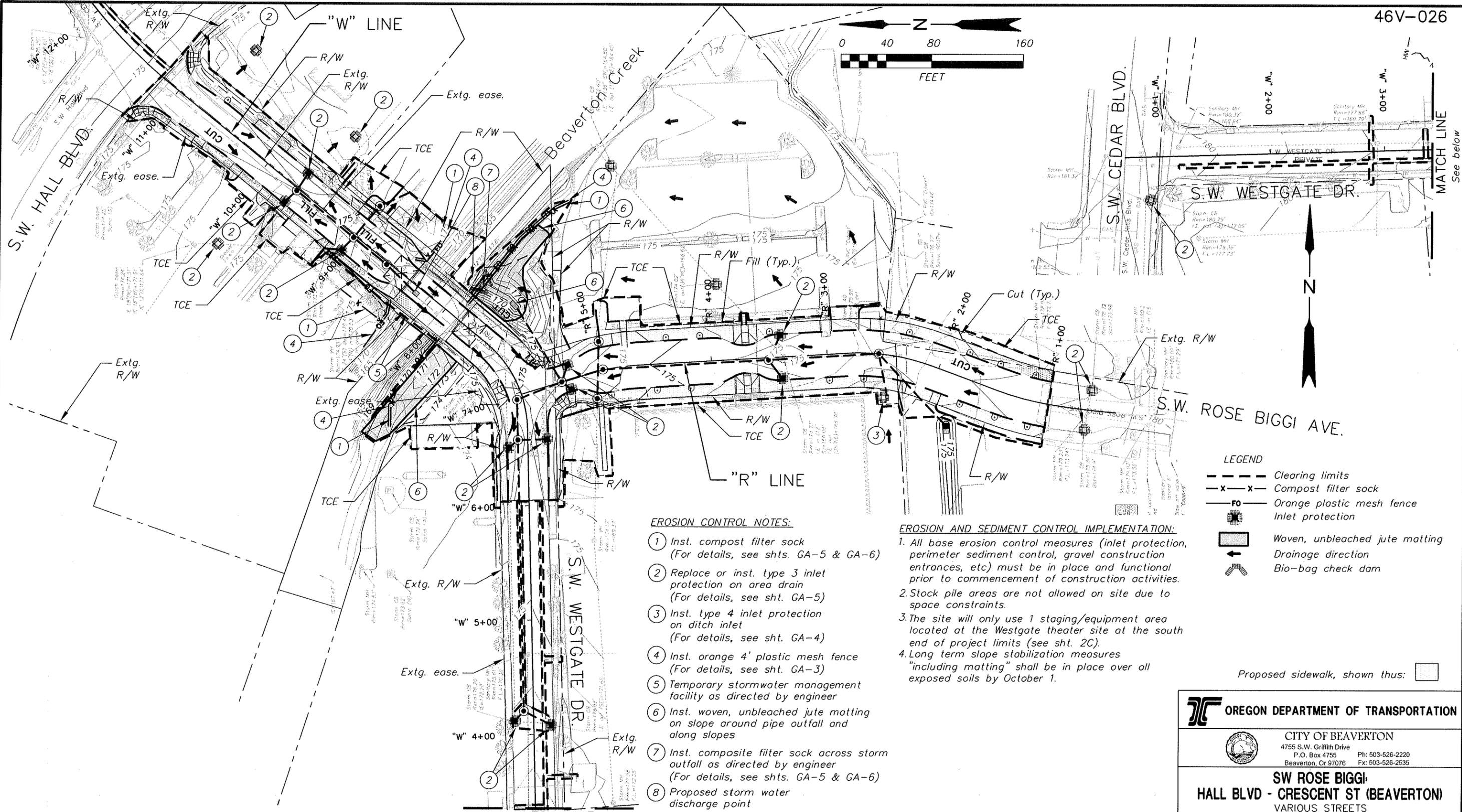
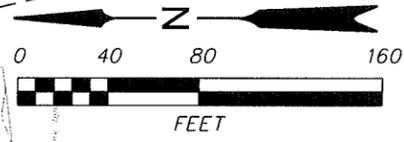
**SW ROSE BIGGI HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez



**EROSION CONTROL: CLEARING, DEMOLITION, & MASS GRADING**

SHEET NO. GA



**EROSION CONTROL NOTES:**

- ① Inst. compost filter sock (For details, see shts. GA-5 & GA-6)
- ② Replace or inst. type 3 inlet protection on area drain (For details, see sht. GA-5)
- ③ Inst. type 4 inlet protection on ditch inlet (For details, see sht. GA-4)
- ④ Inst. orange 4' plastic mesh fence (For details, see sht. GA-3)
- ⑤ Temporary stormwater management facility as directed by engineer
- ⑥ Inst. woven, unbleached jute matting on slope around pipe outfall and along slopes
- ⑦ Inst. composite filter sock across storm outfall as directed by engineer (For details, see shts. GA-5 & GA-6)
- ⑧ Proposed storm water discharge point

**EROSION AND SEDIMENT CONTROL IMPLEMENTATION:**

- 1. All base erosion control measures (inlet protection, perimeter sediment control, gravel construction entrances, etc) must be in place and functional prior to commencement of construction activities.
- 2. Stock pile areas are not allowed on site due to space constraints.
- 3. The site will only use 1 staging/equipment area located at the Westgate theater site at the south end of project limits (see sht. 2C).
- 4. Long term slope stabilization measures "including matting" shall be in place over all exposed soils by October 1.

**LEGEND**

- - - Clearing limits
- x - x - Compost filter sock
- FO - Orange plastic mesh fence
- ☐ Inlet protection
- ☐ Woven, unbleached jute matting
- Drainage direction
- ⌒ Bio-bag check dam

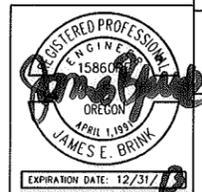
Proposed sidewalk, shown thus: ☐

**OREGON DEPARTMENT OF TRANSPORTATION**

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P.O. Box 4755  
Beaverton, Or 97076

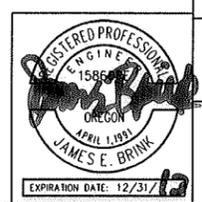
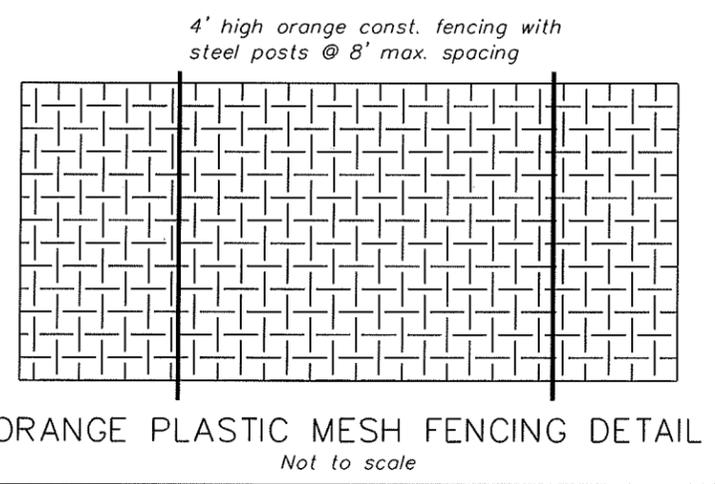
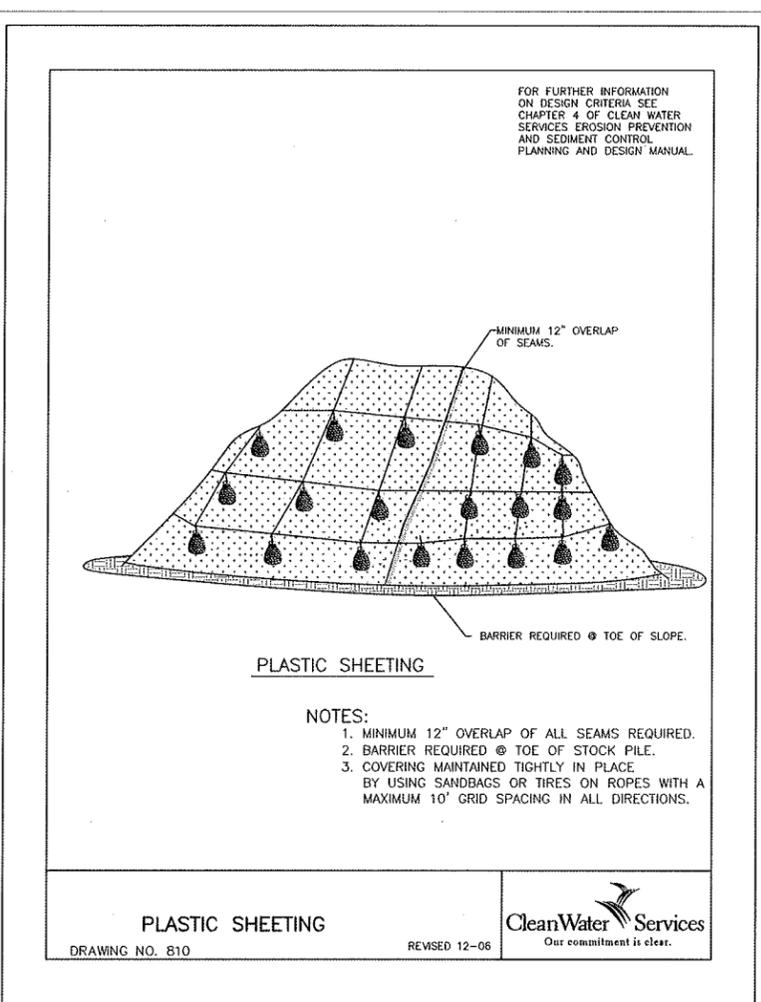
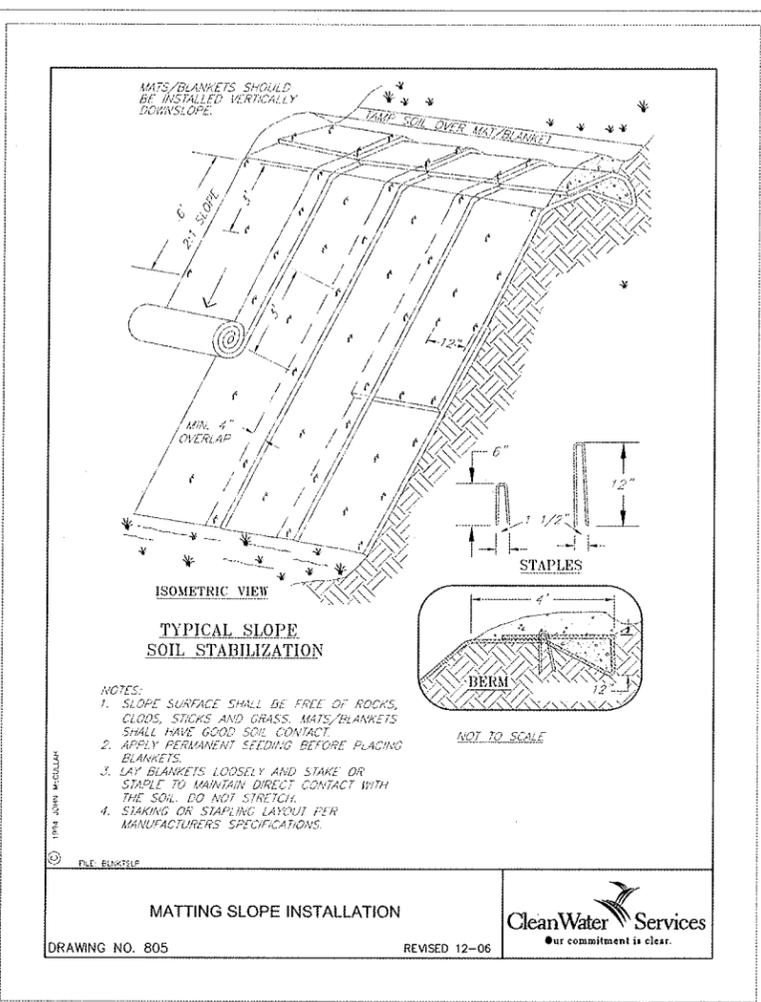
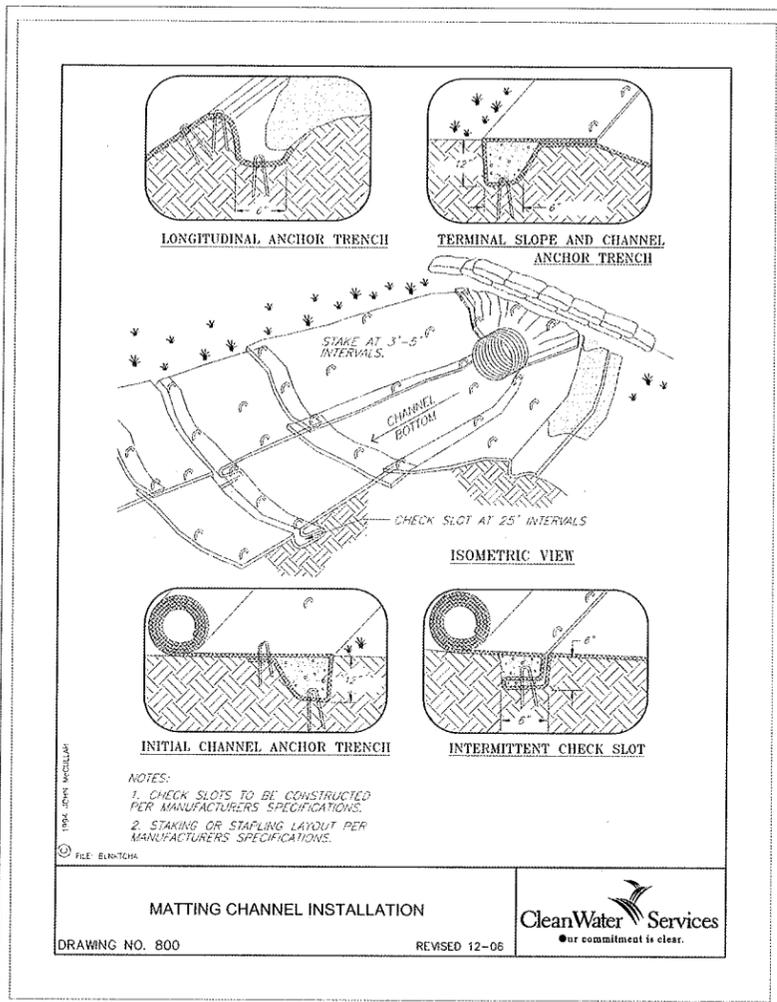
**SW ROSE BIGGI - HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez



**EROSION CONTROL: UTILITY, STREET CONSTRUCTION, FINAL STABILIZATION PLAN**

SHEET NO. GA-2



**OREGON DEPARTMENT OF TRANSPORTATION**

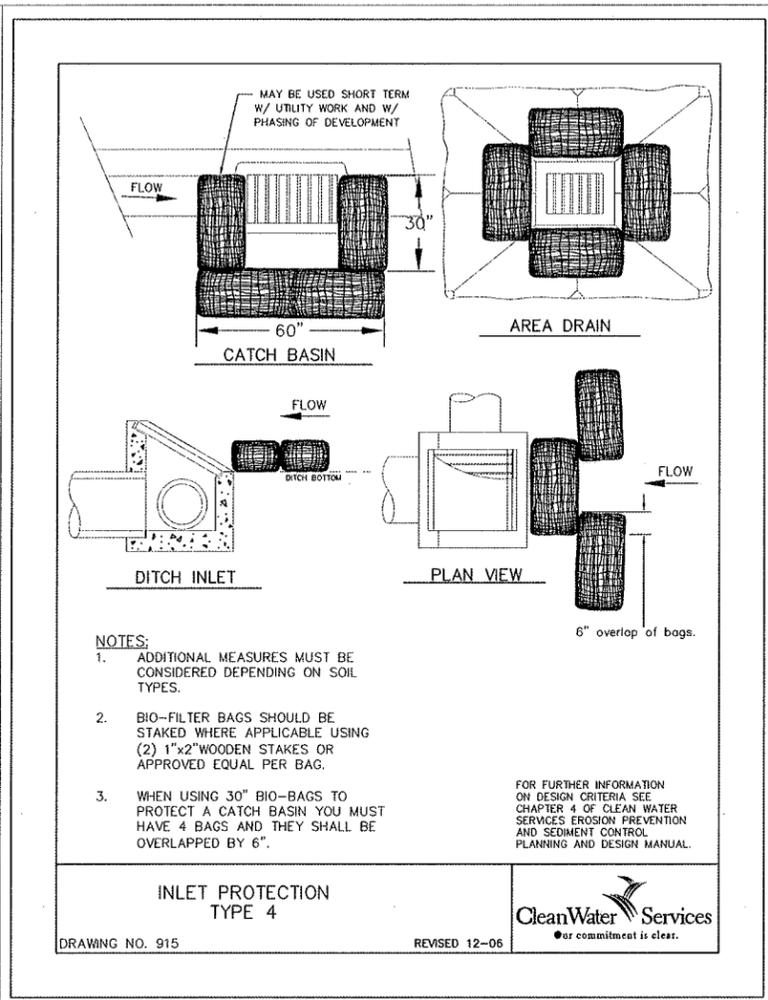
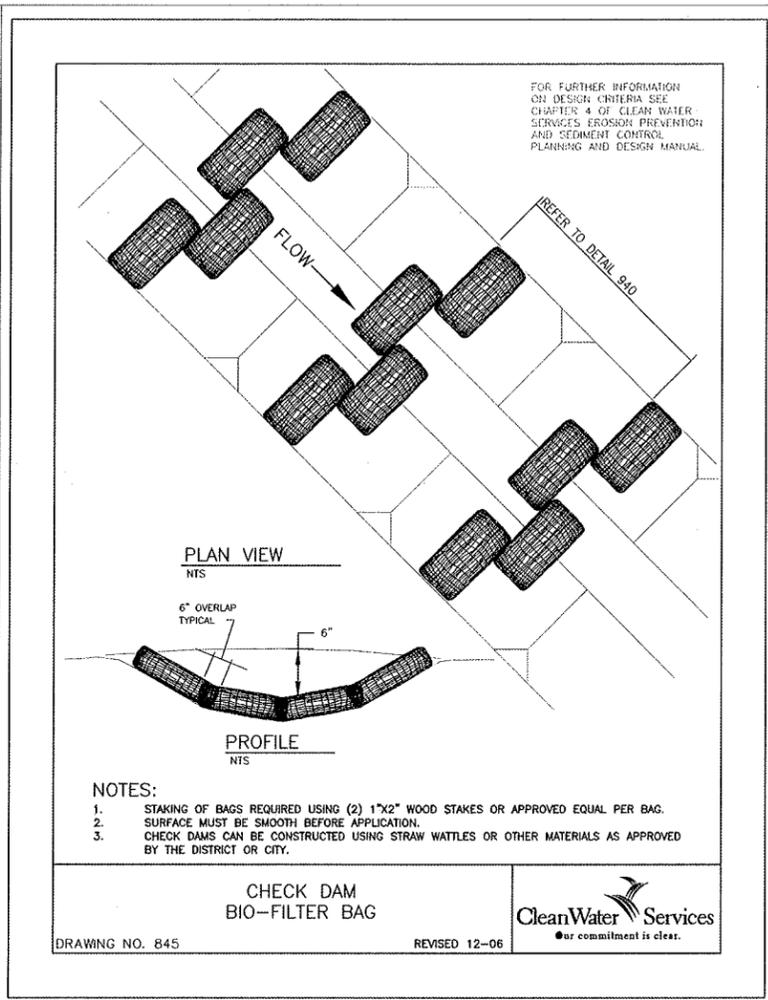
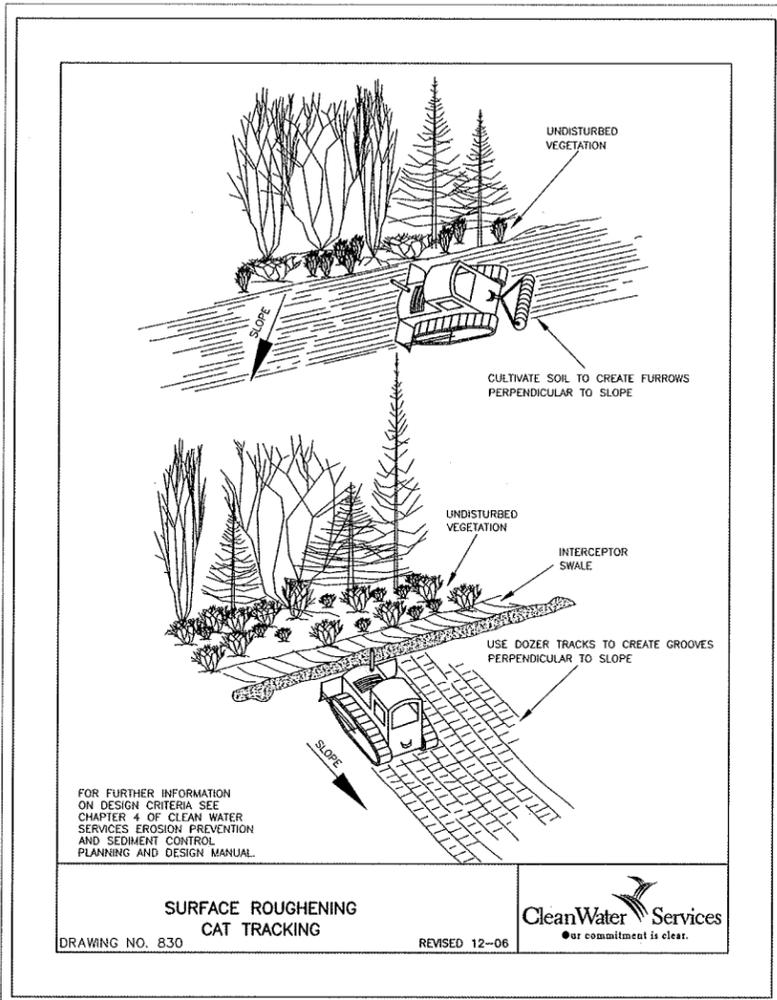
**CITY OF BEAVERTON**  
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 P.O. Box 4755 Ph: 503-526-2220  
 Beaverton, Or 97076 Fx: 503-526-2635

**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benavidez

**EROSION CONTROL DETAILS**

SHEET NO. GA-3

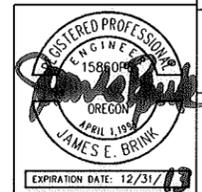


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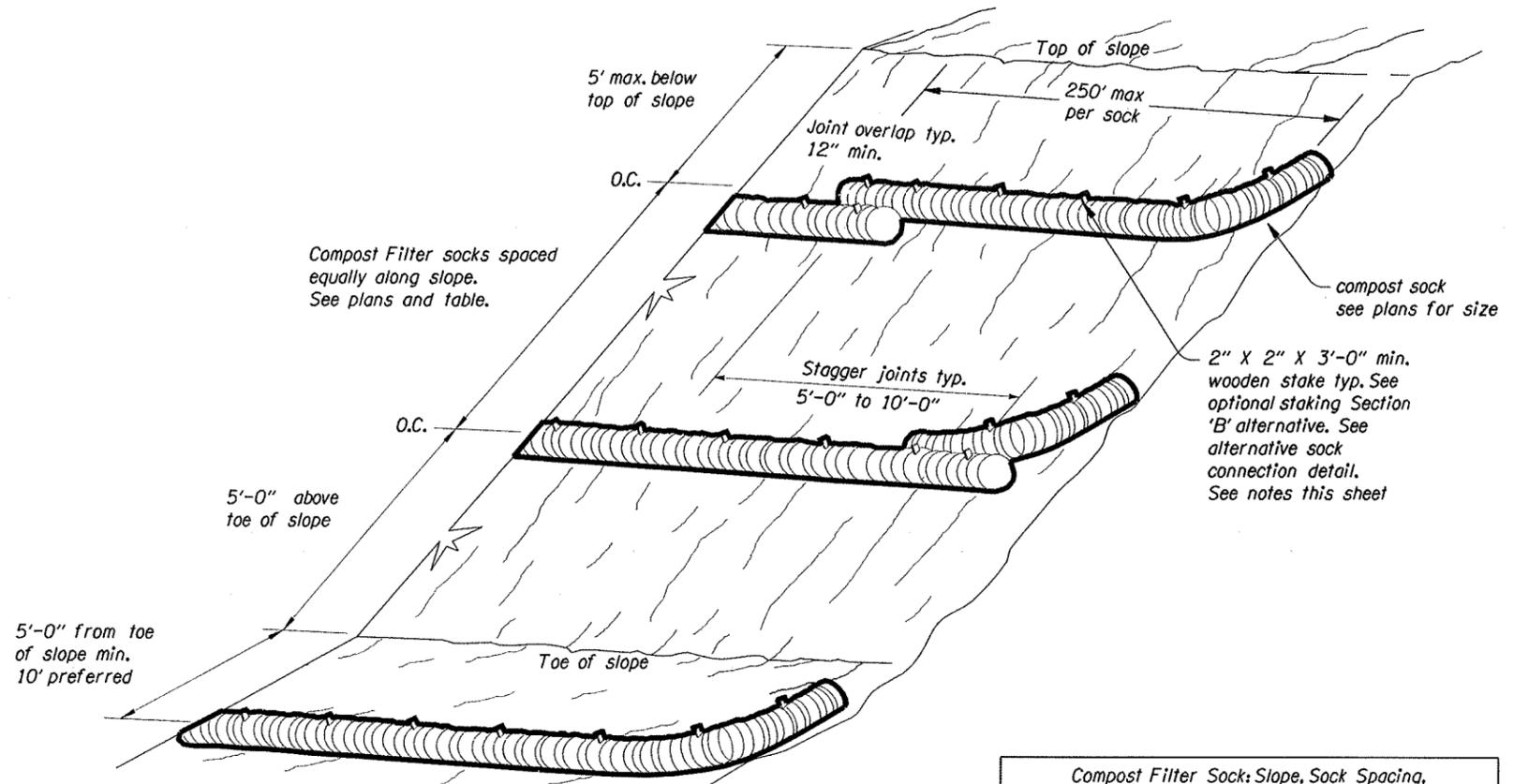
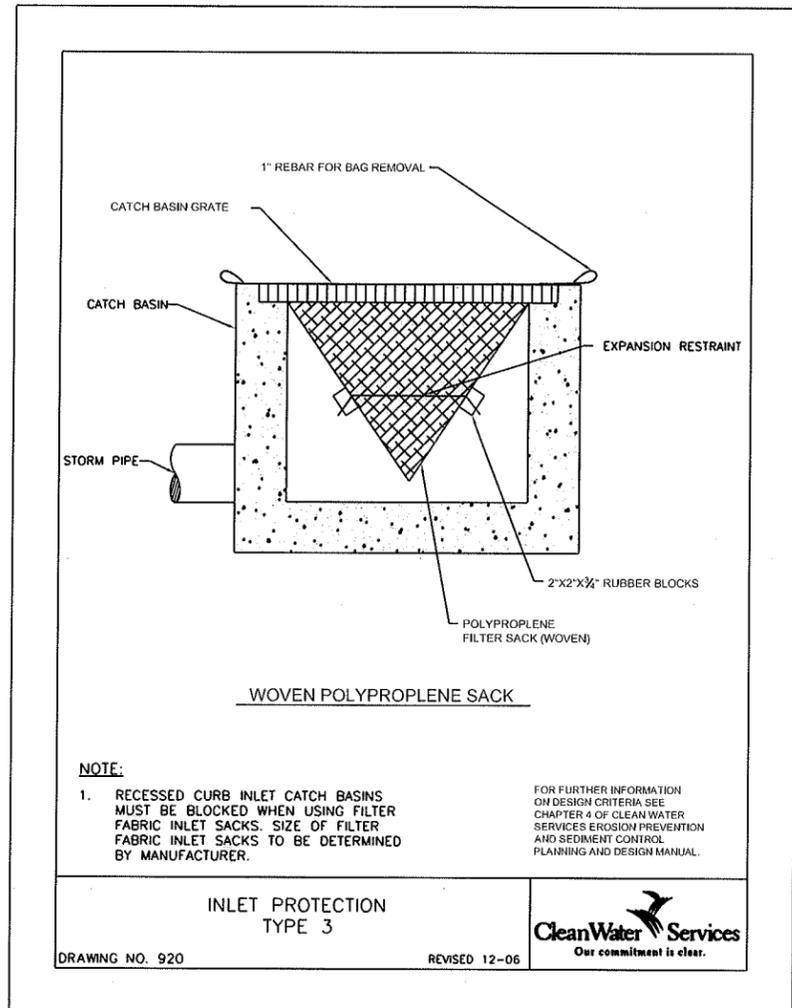
**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez



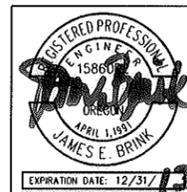
**EROSION CONTROL DETAILS**

SHEET NO. GA-4



Slope	Spacing (ft)	Sock Diameter (inches)
< 50:1	250	8
50:1 - 10:1	125	12
10:1 - 5:1	100	12
3:1 - 2:1	50	18
> 2:1	25	18

**COMPOST FILTER SOCK SEDIMENT BARRIER (TYPE 8)**  
Not to scale



**OREGON DEPARTMENT OF TRANSPORTATION**

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**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

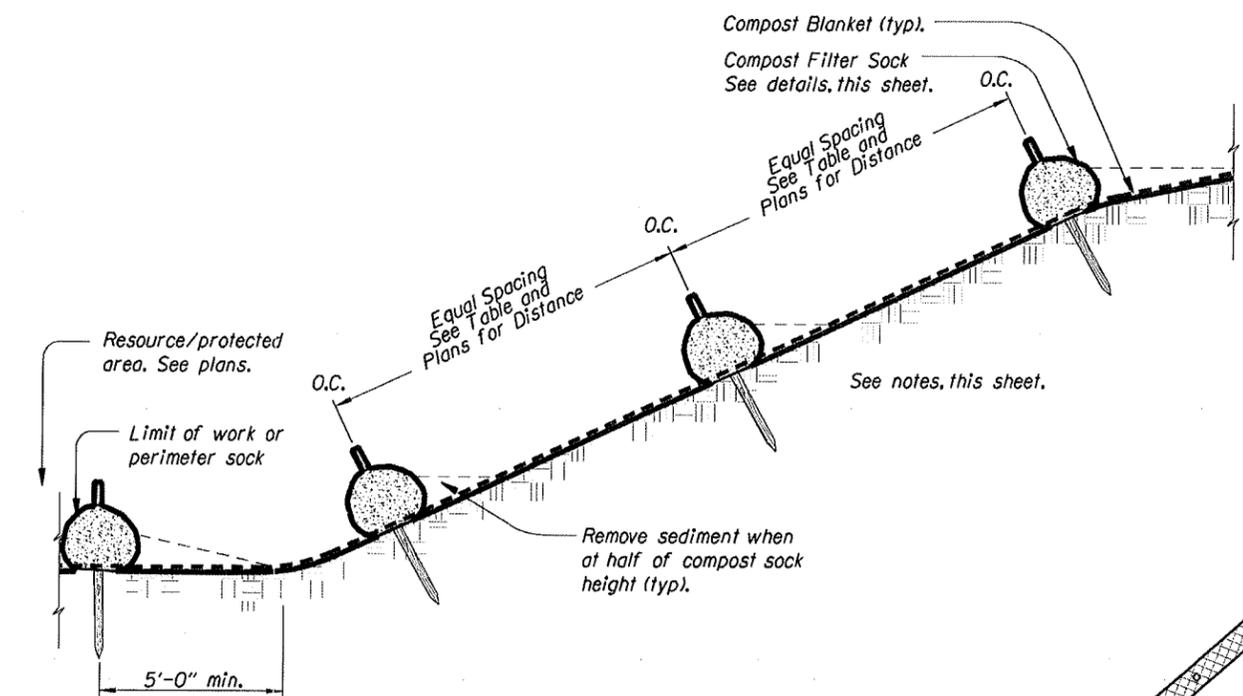
Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez

**EROSION CONTROL DETAILS**      SHEET NO. GA-5

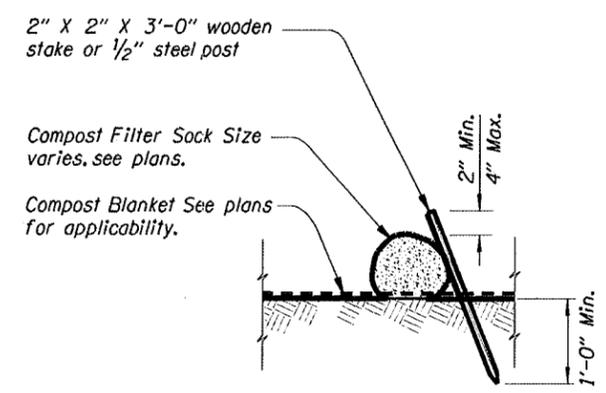
COMPOST FILTER SOCK

Compost Filter Sock General Notes

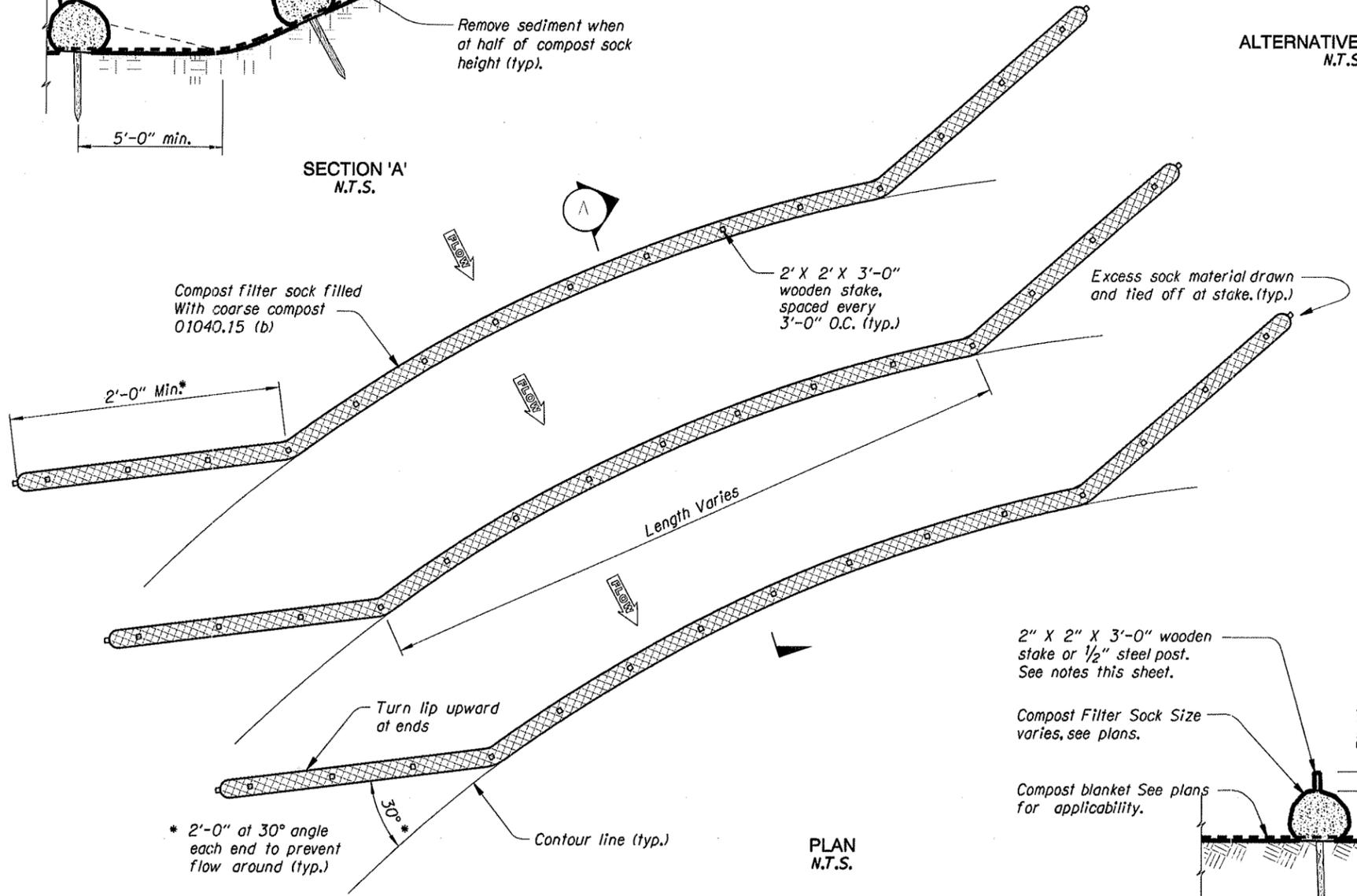
1. Filter socks can be placed at the top, on the face, and at the toe of slopes as sediment-trapping devices for sheet flow runoff and sediment per these notes and compost filter sock details, plans and specifications. See Section 00280, Oregon Standard Specifications.
2. Place filter socks on slopes along or on the ground contour. Filter socks applied at toe of a slope should be placed at minimum, 5 feet from toe to provide sediment storage. The maximum drainage area is 1/4 acre per 100 LF of 12 inch diameter filter sock.
3. For ditch applications, maximum drainage area shall be 15 acres. At sites which outfall to high-quality or sediment-impaired streams, maximum drainage area shall be limited to 10 acres. Compost filter socks shall not be used in streams, wetlands, or other natural water resources unless directed by Agency. Compost filter socks shall not be used in ditches with continuous flows.
4. For ditch applications, minimum installed height of single sock nominally. Socks are placed perpendicular to flow of water. Filter socks shall continue up side slopes to top of bank or maximum 3 feet above installed height. Filter socks shall remain in place until all upstream areas are permanently stabilized and remain at Agency discretion.
5. Filter socks are typically supplied and installed in 8, 12, 18, or 24 inch diameters. Diameter tolerance is 2 inches, as filter socks tend to flatten out when placed.
6. Steel posts may be used and shall be rolled from high carbon steel and have a minimum of 1.25 lb/ft. Posts shall be hot-dipped galvanized or painted with high-grade weather resistant brown or black steel paint. Steel posts shall be equipped with anchor plate having a minimum area of 14 square inches. Posts shall be studded, embossed, or punched. Posts and anchor plates shall conform to the requirements of ASTM A702.
7. Live stakes can be used in addition to wooden stakes and shall be in accordance with project specifications and plans. See plans for applicability and species selection and spacing.
8. Filter socks are filled at project site and may be up to 250 feet long. When used on long slopes, filter socks may be jointed or staggered as shown in details.
9. Remove sediment from behind the filter sock once it accumulates to one-half of the original height of the filter sock.
10. Inspect filter socks after each runoff event. Remove and replace if signs of undercutting or downstream rills are observed.
11. Filter socks should be removed from slopes after stabilization is complete, unless directed to leave in place by Agency.
12. Removal shall be accomplished by cutting sock open and spreading the fill material on the site. All non-biodegradable materials shall be removed. Filter socks applied in ditches shall be completely removed once vegetation is established or as directed otherwise by Agency.



SECTION 'A'  
N.T.S.

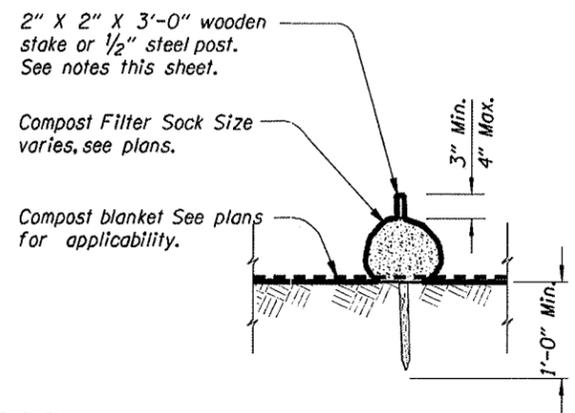


ALTERNATIVE 1 (Staking)  
N.T.S.

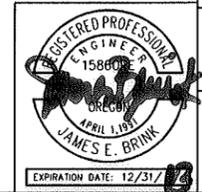


PLAN  
N.T.S.

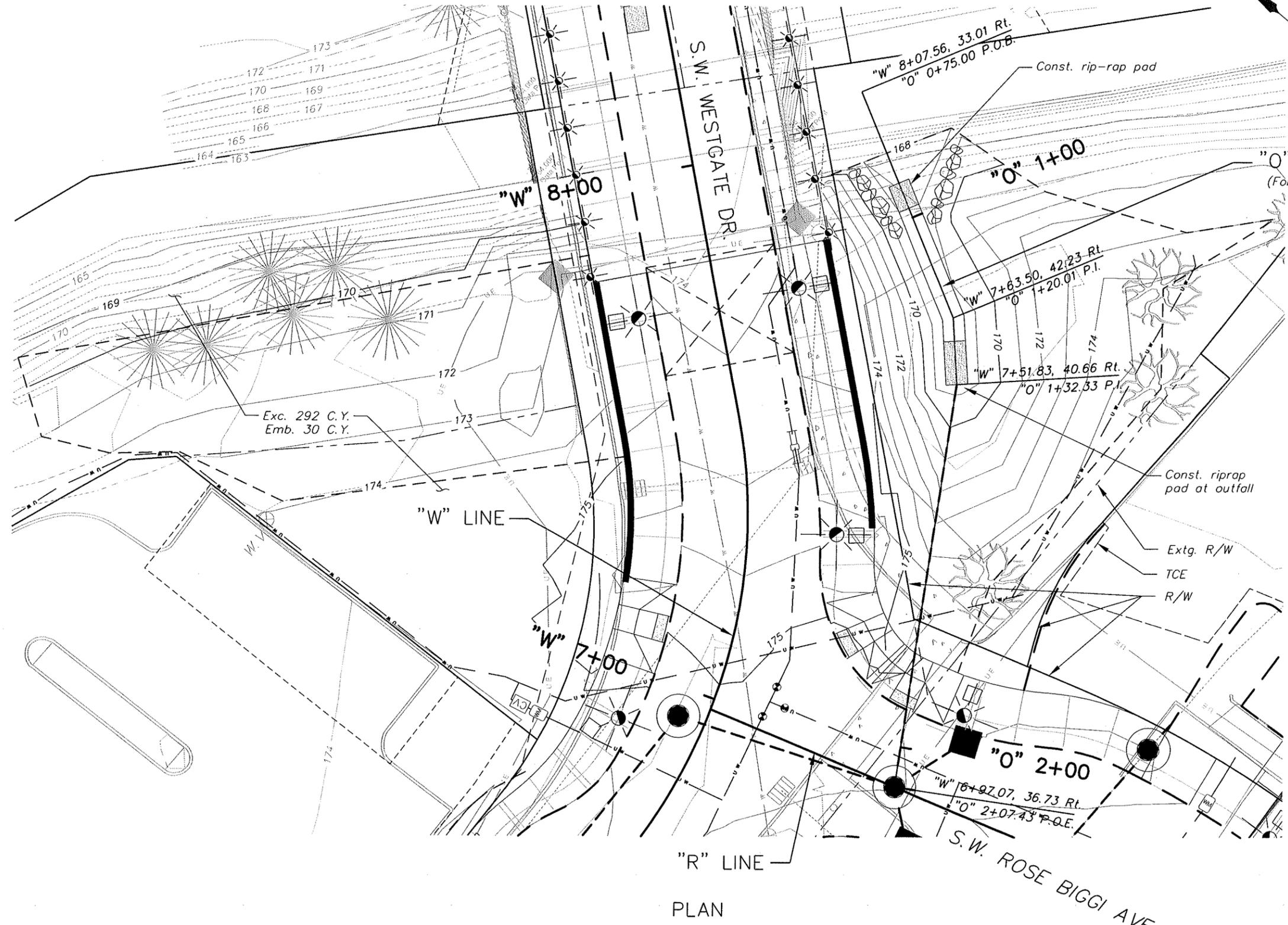
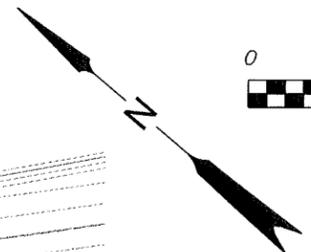
COMPOST FILTER SOCK  
PLAN AND STAKING  
Not to scale



ALTERNATIVE 2 (Staking)  
N.T.S.



CITY OF BEAVERTON 4755 S.W. Griffith Drive P.O. Box 4755 Beaverton, Or 97076 Ph: 503-526-2220 Fax: 503-526-2535	
SW ROSE BIGGIE HALL BLVD - CRESCENT ST (BEAVERTON) VARIOUS STREETS WASHINGTON COUNTY	
Reviewed By - P. Arellano Designed By - J. Brink Drafted By - C. Benóvidez	SHEET NO. GA-6



"O" LINE  
(For profile, see sht. GJ-2)

"W" LINE

"R" LINE

PLAN

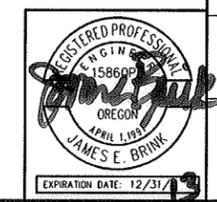
Proposed sidewalk, shown thus:

OREGON DEPARTMENT OF TRANSPORTATION

CITY OF BEAVERTON  
4755 S.W. Griffith Drive  
P.O. Box 4755 Ph: 503-526-2220  
Beaverton, Or 97076 Fx: 503-526-2535

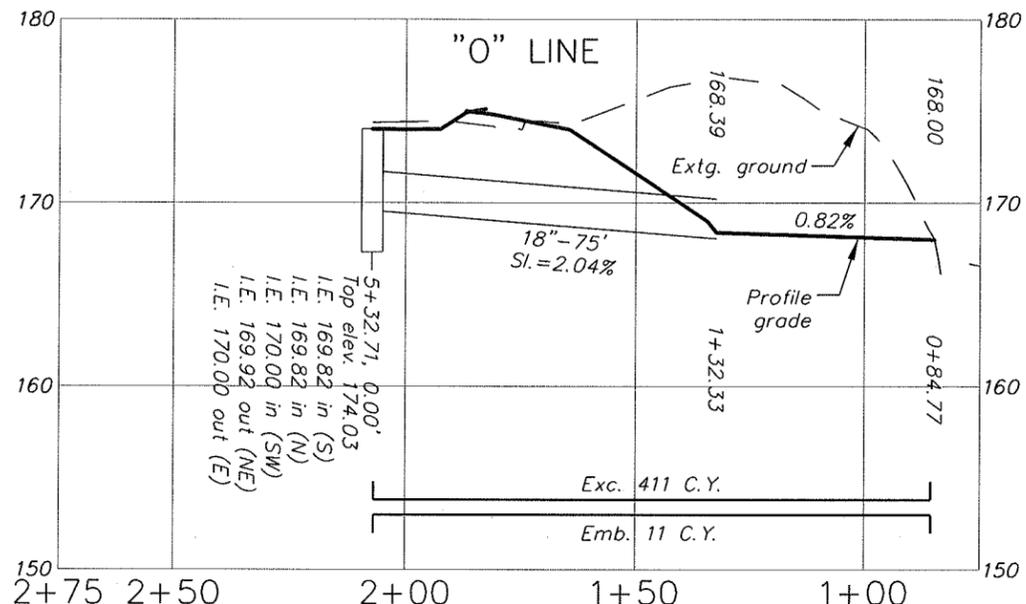
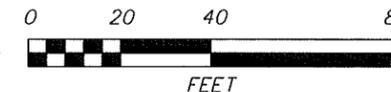
**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benavidez

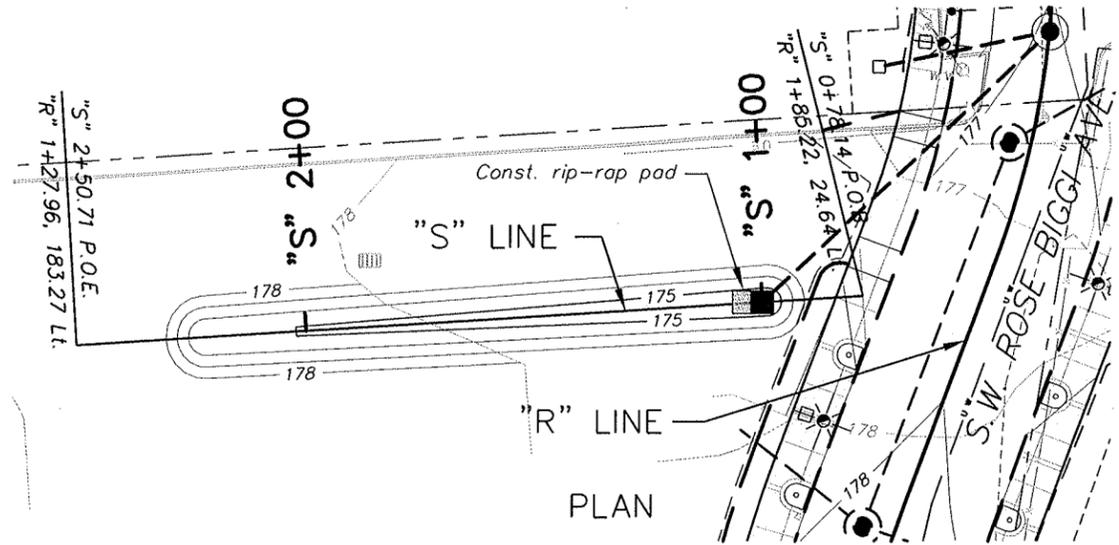


**STORMWATER SWALE NO. 1  
PLAN**

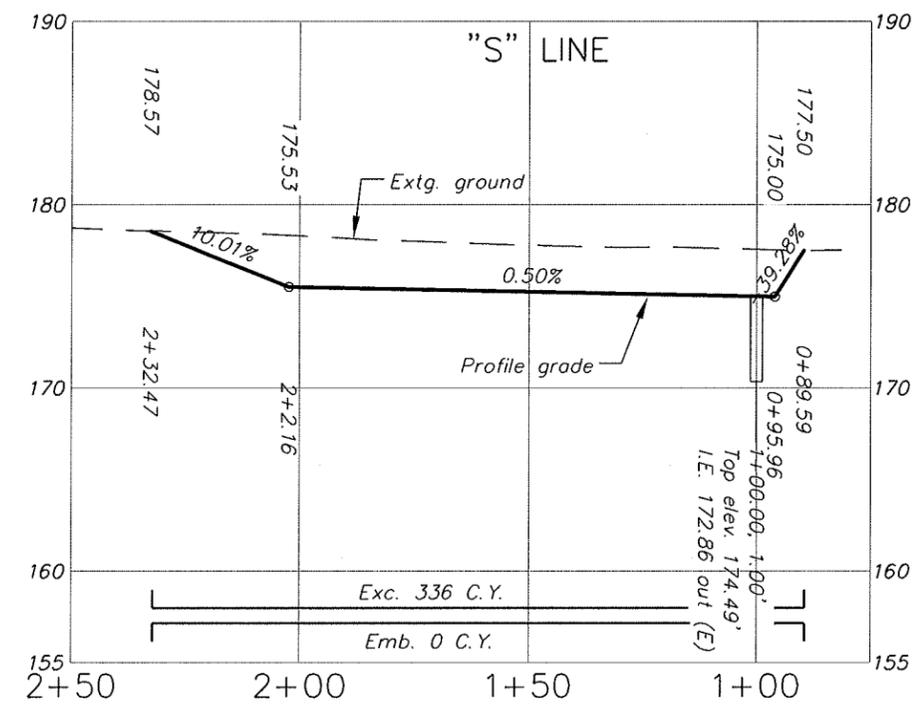
SHEET NO.  
GJ



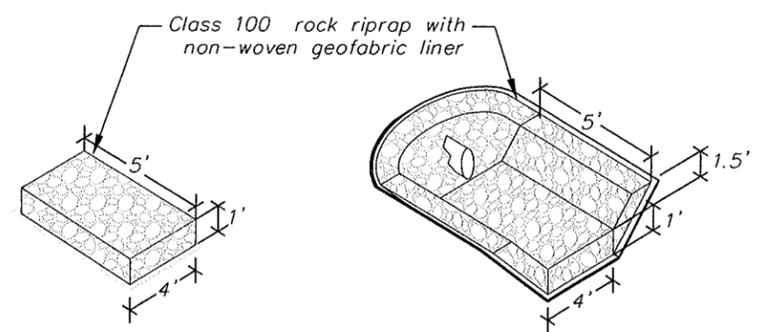
PROFILE  
WATER QUALITY SWALE NO. 1



PLAN



PROFILE  
WATER QUALITY SWALE NO. 2



RIP-RAP PAD  
Not to scale

RIP-RAP PAD  
AT OUTFALL  
Not to scale

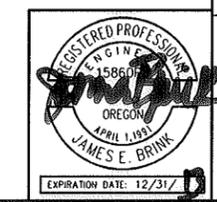
Proposed sidewalk, shown thus:

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4755 S.W. Griffith Drive  
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**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez



**STORMWATER SWALE  
PLAN & PROFILE**

SHEET NO.  
GJ-2

I CARTRIDGE CONCRETE CATCH BASIN STORMFILTER DATA				I CARTRIDGE CONCRETE CATCH BASIN STORMFILTER DATA				I CARTRIDGE CONCRETE CATCH BASIN STORMFILTER DATA				I CARTRIDGE CONCRETE CATCH BASIN STORMFILTER DATA				I CARTRIDGE CONCRETE CATCH BASIN STORMFILTER DATA				I CARTRIDGE CONCRETE CATCH BASIN STORMFILTER DATA					
STRUCTURE ID		CB 3		STRUCTURE ID		CB 4		STRUCTURE ID		CB 5		STRUCTURE ID		CB 6		STRUCTURE ID		CB 7		STRUCTURE ID		CB 8			
WATER QUALITY FLOW RATE (cfs)		.02		WATER QUALITY FLOW RATE (cfs)		.02		WATER QUALITY FLOW RATE (cfs)		.02		WATER QUALITY FLOW RATE (cfs)		.014		WATER QUALITY FLOW RATE (cfs)		.016		WATER QUALITY FLOW RATE (cfs)		.017			
PEAK FLOW RATE (< 1 cfs)		X.XX		PEAK FLOW RATE (< 1 cfs)		X.XX		PEAK FLOW RATE (< 1 cfs)		X.XX		PEAK FLOW RATE (< 1 cfs)		X.XX		PEAK FLOW RATE (< 1 cfs)		X.XX		PEAK FLOW RATE (< 1 cfs)		X.XX			
RETURN PERIOD OF PEAK FLOW (yrs)		25		RETURN PERIOD OF PEAK FLOW (yrs)		25		RETURN PERIOD OF PEAK FLOW (yrs)		25		RETURN PERIOD OF PEAK FLOW (yrs)		25		RETURN PERIOD OF PEAK FLOW (yrs)		25		RETURN PERIOD OF PEAK FLOW (yrs)		25			
CARTRIDGE FLOW RATE (15 OR 7.5 gpm)		15		CARTRIDGE FLOW RATE (15 OR 7.5 gpm)		15		CARTRIDGE FLOW RATE (15 OR 7.5 gpm)		15		CARTRIDGE FLOW RATE (15 OR 7.5 gpm)		15		CARTRIDGE FLOW RATE (15 OR 7.5 gpm)		15		CARTRIDGE FLOW RATE (15 OR 7.5 gpm)		15			
MEDIA TYPE (CSF, PERLITE, ZPG)		PERLITE		MEDIA TYPE (CSF, PERLITE, ZPG)		PERLITE		MEDIA TYPE (CSF, PERLITE, ZPG)		PERLITE		MEDIA TYPE (CSF, PERLITE, ZPG)		PERLITE		MEDIA TYPE (CSF, PERLITE, ZPG)		PERLITE		MEDIA TYPE (CSF, PERLITE, ZPG)		PERLITE			
RIM ELEVATION		173.56'		RIM ELEVATION		173.54'		RIM ELEVATION		173.66'		RIM ELEVATION		173.62'		RIM ELEVATION		175.82'		RIM ELEVATION		175.82'			
PIPE DATA:				PIPE DATA:				PIPE DATA:				PIPE DATA:				PIPE DATA:				PIPE DATA:					
I.E.		MATERIAL		DIAMETER		I.E.		MATERIAL		DIAMETER		I.E.		MATERIAL		DIAMETER		I.E.		MATERIAL		DIAMETER			
INLET		NA		NA		NA		NA		NA		INLET		NA		NA		INLET		NA		NA			
OUTLET		170.81'		C900		10"		170.65'		C900		10"		170.81'		C900		10"		170.77'		C900		10"	
CONFIGURATION				CONFIGURATION				CONFIGURATION				CONFIGURATION				CONFIGURATION				CONFIGURATION					
OPTIONS (AVAILABLE AT EXTRA COST): <input type="checkbox"/> HOLE FOR OUTLET STUB OTHER THAN 12" <input type="checkbox"/> CLEAN-OUT IN WEIR OTHER THAN 4" <input type="checkbox"/> CORED HOLE FOR INLET PIPE <input type="checkbox"/> DEEP OUTLET CORING <input type="checkbox"/> OTHER: XXX				OPTIONS (AVAILABLE AT EXTRA COST): <input type="checkbox"/> HOLE FOR OUTLET STUB OTHER THAN 12" <input type="checkbox"/> CLEAN-OUT IN WEIR OTHER THAN 4" <input type="checkbox"/> CORED HOLE FOR INLET PIPE <input type="checkbox"/> DEEP OUTLET CORING <input type="checkbox"/> OTHER: XXX				OPTIONS (AVAILABLE AT EXTRA COST): <input type="checkbox"/> HOLE FOR OUTLET STUB OTHER THAN 12" <input type="checkbox"/> CLEAN-OUT IN WEIR OTHER THAN 4" <input type="checkbox"/> CORED HOLE FOR INLET PIPE <input type="checkbox"/> DEEP OUTLET CORING <input type="checkbox"/> OTHER: XXX				OPTIONS (AVAILABLE AT EXTRA COST): <input type="checkbox"/> HOLE FOR OUTLET STUB OTHER THAN 12" <input type="checkbox"/> CLEAN-OUT IN WEIR OTHER THAN 4" <input type="checkbox"/> CORED HOLE FOR INLET PIPE <input type="checkbox"/> DEEP OUTLET CORING <input type="checkbox"/> OTHER: XXX				OPTIONS (AVAILABLE AT EXTRA COST): <input type="checkbox"/> HOLE FOR OUTLET STUB OTHER THAN 12" <input type="checkbox"/> CLEAN-OUT IN WEIR OTHER THAN 4" <input type="checkbox"/> CORED HOLE FOR INLET PIPE <input type="checkbox"/> DEEP OUTLET CORING <input type="checkbox"/> OTHER: XXX				OPTIONS (AVAILABLE AT EXTRA COST): <input type="checkbox"/> HOLE FOR OUTLET STUB OTHER THAN 12" <input type="checkbox"/> CLEAN-OUT IN WEIR OTHER THAN 4" <input type="checkbox"/> CORED HOLE FOR INLET PIPE <input type="checkbox"/> DEEP OUTLET CORING <input type="checkbox"/> OTHER: XXX					

I CARTRIDGE CONCRETE CATCH BASIN STORMFILTER DATA				I CARTRIDGE CONCRETE CATCH BASIN STORMFILTER DATA									
STRUCTURE ID		CB 9		STRUCTURE ID		CB 10							
WATER QUALITY FLOW RATE (cfs)		.018		WATER QUALITY FLOW RATE (cfs)		.017							
PEAK FLOW RATE (< 1 cfs)		X.XX		PEAK FLOW RATE (< 1 cfs)		X.XX							
RETURN PERIOD OF PEAK FLOW (yrs)		25		RETURN PERIOD OF PEAK FLOW (yrs)		25							
CARTRIDGE FLOW RATE (15 OR 7.5 gpm)		15		CARTRIDGE FLOW RATE (15 OR 7.5 gpm)		15							
MEDIA TYPE (CSF, PERLITE, ZPG)		PERLITE		MEDIA TYPE (CSF, PERLITE, ZPG)		PERLITE							
RIM ELEVATION		176.01		RIM ELEVATION		176.20'							
PIPE DATA:				PIPE DATA:									
I.E.		MATERIAL		DIAMETER		I.E.		MATERIAL		DIAMETER			
INLET		NA		NA		NA		INLET		NA			
OUTLET		173.16'		C900		10"		173.35'		C900		10"	
CONFIGURATION				CONFIGURATION									
OPTIONS (AVAILABLE AT EXTRA COST): <input type="checkbox"/> HOLE FOR OUTLET STUB OTHER THAN 12" <input type="checkbox"/> CLEAN-OUT IN WEIR OTHER THAN 4" <input type="checkbox"/> CORED HOLE FOR INLET PIPE <input type="checkbox"/> DEEP OUTLET CORING <input type="checkbox"/> OTHER: XXX				OPTIONS (AVAILABLE AT EXTRA COST): <input type="checkbox"/> HOLE FOR OUTLET STUB OTHER THAN 12" <input type="checkbox"/> CLEAN-OUT IN WEIR OTHER THAN 4" <input type="checkbox"/> CORED HOLE FOR INLET PIPE <input type="checkbox"/> DEEP OUTLET CORING <input type="checkbox"/> OTHER: XXX									

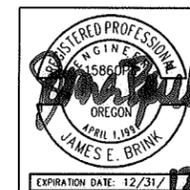
**OREGON DEPARTMENT OF TRANSPORTATION**



**CITY OF BEAVERTON**  
 4755 S.W. Griffith Drive  
 P.O. Box 4755 Ph: 503-526-2220  
 Beaverton, Or 97076 Fx: 503-526-2535

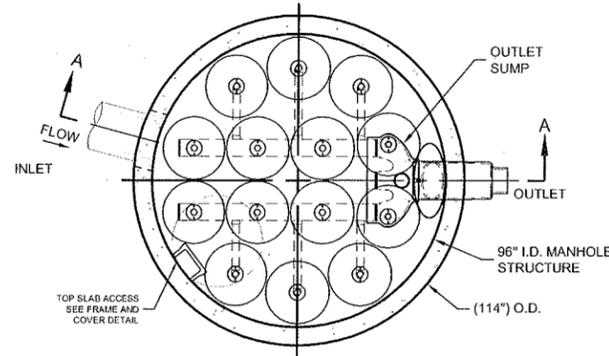
**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benavidez

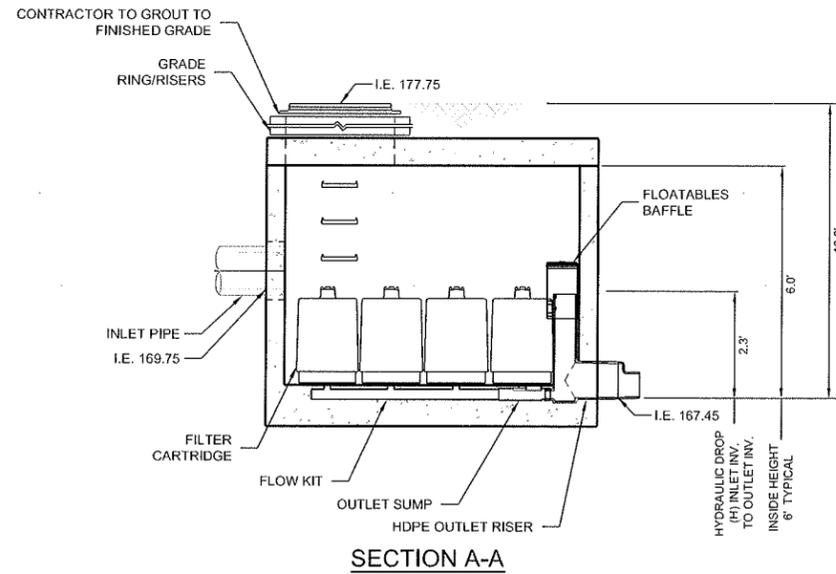


**STORMWATER DETAILS**

SHEET NO.  
**GJ-3**



**PLAN VIEW**  
STANDARD OUTLET RISER  
FLOWKIT: 43A



**SECTION A-A**

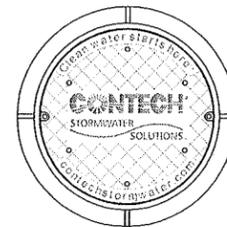


**STORMFILTER DESIGN NOTES**

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (14). VOLUME SYSTEM IS ALSO AVAILABLE WITH MAXIMUM 14 CARTRIDGES. Ø96 MANHOLE STORMFILTER PEAK HYDRAULIC CAPACITY IS 1.8 CFS. IF THE SITE CONDITIONS EXCEED 1.8 CFS AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

**CARTRIDGE SELECTION**

CARTRIDGE HEIGHT	27"		18"		LOW DROP	
RECOMMENDED HYDRAULIC DROP (H)	3.05'		2.3'		1.8'	
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/ft <sup>2</sup>	1 gpm/ft <sup>2</sup>	2 gpm/ft <sup>2</sup>	1 gpm/ft <sup>2</sup>	2 gpm/ft <sup>2</sup>	1 gpm/ft <sup>2</sup>
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	15	7.5	10	5



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

**SITE SPECIFIC DATA REQUIREMENTS**

STRUCTURE ID	SDMH WQ1		
WATER QUALITY FLOW RATE (cfs)	0.285		
PEAK FLOW RATE (cfs)	*		
RETURN PERIOD OF PEAK FLOW (yrs)	25		
# OF CARTRIDGES REQUIRED	9		
CARTRIDGE FLOW RATE	15		
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)	PERLITE		
<b>PIPE DATA:</b>	<b>I.E.</b>	<b>MATERIAL</b>	<b>DIAMETER</b>
INLET PIPE #1	169.75	PVC 3034	18
INLET PIPE #2	*	*	*
OUTLET PIPE	167.45	PVC 3034	18
UPSTREAM RIM ELEVATION	175.84		
DOWNSTREAM RIM ELEVATION	187.4		
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT	
	*	*	
NOTES/SPECIAL REQUIREMENTS:			
* PER ENGINEER OF RECORD			

**GENERAL NOTES**

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH CONSTRUCTION PRODUCTS REPRESENTATIVE. [www.contech-cpi.com](http://www.contech-cpi.com)
4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET AASHTO M306 LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION
6. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 39 SECONDS.
7. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

**INSTALLATION NOTES**

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

**CONTECH**  
CONSTRUCTION PRODUCTS INC.  
[www.contech-cpi.com](http://www.contech-cpi.com)  
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069  
800-338-1122 513-645-7000 513-645-7993 FAX

SFMH96  
STORMFILTER  
STANDARD DETAIL

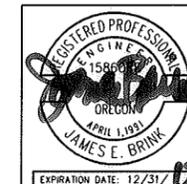
**OREGON DEPARTMENT OF TRANSPORTATION**



**CITY OF BEAVERTON**  
4755 S.W. Griffith Drive  
P.O. Box 4755 Ph: 503-526-2220  
Beaverton, Or 97076 Fx: 503-526-2535

**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

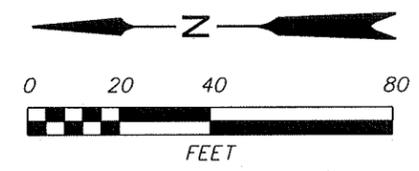
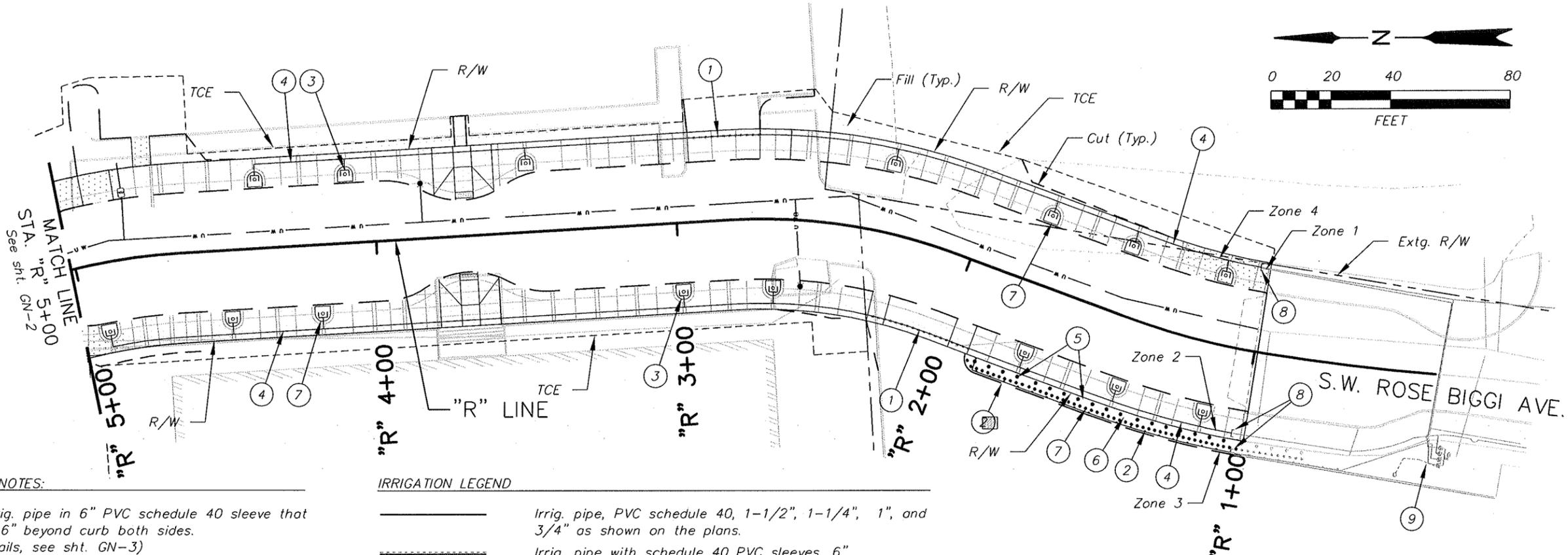
Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez



**STORMWATER DETAILS**

SHEET NO.  
**GJ-4**





S.W. CRESCENT ST.

S.W. ROSE BIGGI AVE.

**IRRIGATION NOTES:**

- ① Place irrig. pipe in 6" PVC schedule 40 sleeve that extends 6" beyond curb both sides. (For details, see sht. GN-3)
- ② Inst. pop-up sprinkler head, Rainbird 1806-PRS at 5' spacing. - 20 (For details, see sht. GN-3)
- ③ Inst. irrig. bubbler system - 15 (For details, see sht. GN-5)
- ④ Inst. 1" PVC schedule 40 irrig. pipe.
- ⑤ Plant Suwannee River Japanese privet shrubs (For details, see sht. GN-5)
- ⑥ Plant Vinca major (For details, see sht. GN-5)
- ⑦ Mulch planting bed with 3" medium grind bark
- ⑧ Connect to extg. 1" irrig. pipe.
- ⑨ Extg. irrigation controller and irrigation valve for zones 1-4 located at Sta. "R" 0+39 Lt.

**IRRIGATION LEGEND**

- Irrig. pipe, PVC schedule 40, 1-1/2", 1-1/4", 1", and 3/4" as shown on the plans.
  - Irrig. pipe with schedule 40 PVC sleeves, 6"
  - ⊕ Remote control valve, Rainbird 150-PEB-PRS-d, 1 1/2"
- HEAD KEY**
- Spray head Rainbird 1806-PRS-full, 3/4 & part circle-6" h 5' radius, 30 PSI, pop-up body with 5 series MPR nozzle.
  - ⊥ Bubbler Bubbler assembly with two (2) rainbird nozzles (Model 1402, full circle, trickle pattern)
  - Sprinkler, Long range Rainbird 3500-S-PC, nozzle type 4, 35 PSI, 33' radius Install on riser (For details, see sht. GN-3)
  - ⊗ Valve, ball Rainbird, BV series
  - Valve, quick Coupling Rainbird, 33dRC
  - ⊕ Valve, drain

IRRIGATION PIPE DATA				
PIPE	ROSE BIGGI			
	ZONE 2	3	4	
1.5"				
1.25"				
1"	380	95	343	
.75"	56		49	

Rose Biggi zone 1 - not used.

Proposed sidewalk, shown thus:

**TREE WELL SCHEDULE**

Sta.	Lt.	Sta.	Rt.
"R" 1+12.6	Lt.	"R" 1+15.3	Rt.
"R" 1+40.1	Lt.	"R" 1+50.9	Rt.
"R" 1+72.1	Lt.	"R" 1+79.6	Rt.
"R" 2+67.1	Lt.	"R" 2+31.7	Rt.
"R" 2+99.0	Lt.	"R" 3+49.0	Rt.
"R" 4+18.9	Lt.	"R" 4+09.1	Rt.
"R" 4+48.9	Lt.	"R" 4+39.0	Rt.
"R" 4+93.1	Lt.		

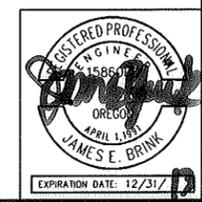
SYMBOL	QUANTITY	NAME	SIZE	SPACING
<b>Trees</b>				
	16	ACER TRUNCATUM x ACER PLATANOIDES Pacific Sunset Maple	2" Cal.	30'
<b>Shrubs</b>				
	20	LIGUSTRUM JAPONICUM "SUWANNEE RIVER" Suwannee River Japanese Privet	2 Gal.	5' O.C.
<b>Ground cover</b>				
	48	VINCA MAJOR Periwinkle	1 Gal.	24" O.C.

**OREGON DEPARTMENT OF TRANSPORTATION**

**CITY OF BEAVERTON**  
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Beaverton, Or 97076 Fx: 503-526-2535

**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

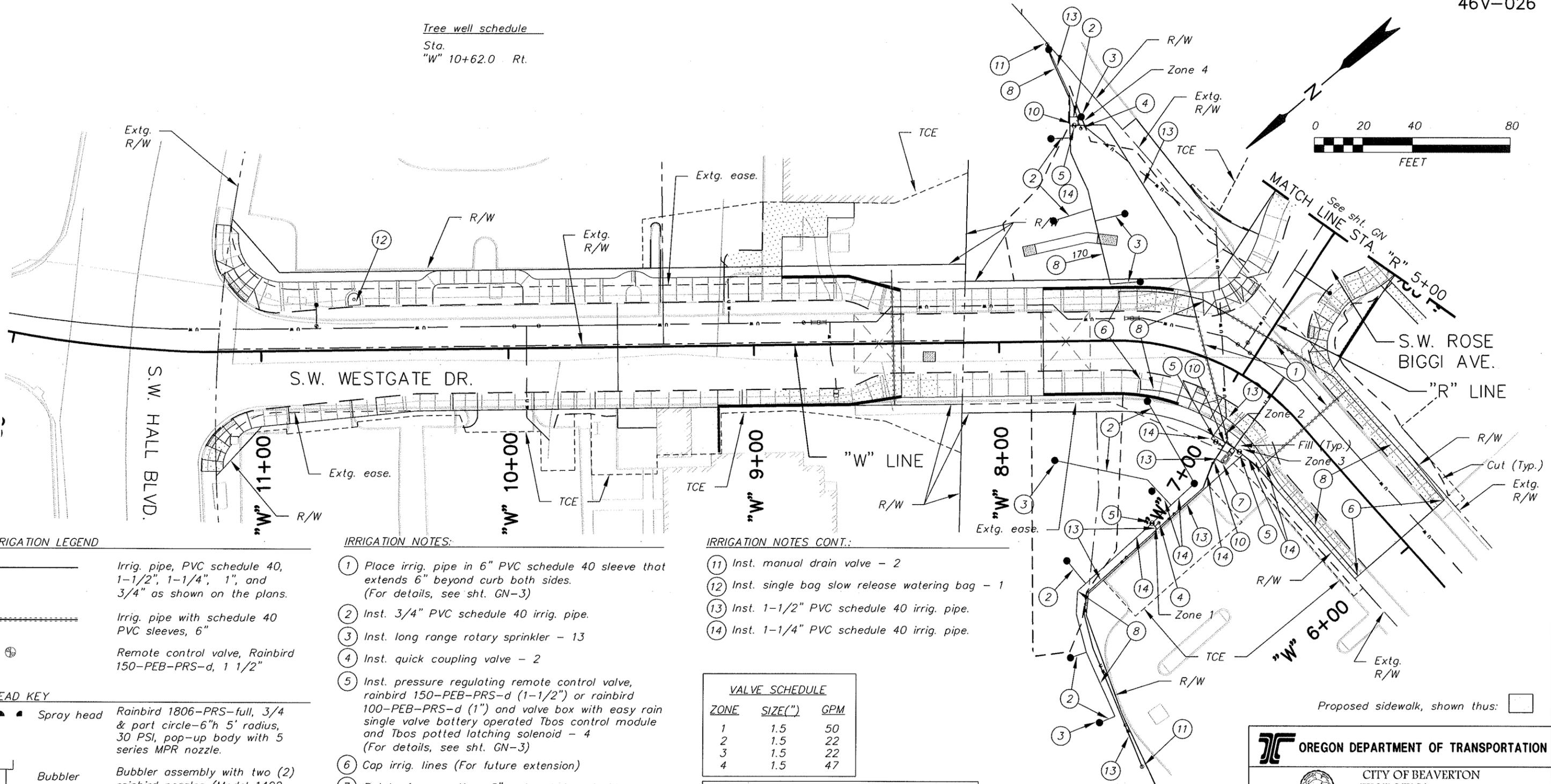
Reviewed By - P. Areltono  
Designed By - J. Brink  
Drafted By - C. Benovidez



**ROADSIDE DEVELOPMENT PLAN** SHEET NO. GN

Tree well schedule

Sta.  
"W" 10+62.0 Rt.



**IRRIGATION LEGEND**

- Irrig. pipe, PVC schedule 40, 1-1/2", 1-1/4", 1", and 3/4" as shown on the plans.
- Irrig. pipe with schedule 40 PVC sleeves, 6"
- Remote control valve, Rainbird 150-PEB-PRS-d, 1 1/2"

**HEAD KEY**

- Spray head Rainbird 1806-PRS-full, 3/4 & part circle-6" h 5' radius, 30 PSI, pop-up body with 5 series MPR nozzle.
- Bubbler Bubbler assembly with two (2) rainbird nozzles (Model 1402, full circle, trickle pattern)
- Sprinkler, Long range Rainbird 3500-S-PC, nozzle type 4, 35 PSI, 33' radius Install on riser (For details, see sht. GN-3)
- Valve, ball Rainbird, BV series
- Valve, quick Coupling Rainbird, 33dRC
- Valve, drain

**IRRIGATION NOTES:**

- 1 Place irrig. pipe in 6" PVC schedule 40 sleeve that extends 6" beyond curb both sides. (For details, see sht. GN-3)
- 2 Inst. 3/4" PVC schedule 40 irrig. pipe.
- 3 Inst. long range rotary sprinkler - 13
- 4 Inst. quick coupling valve - 2
- 5 Inst. pressure regulating remote control valve, rainbird 150-PEB-PRS-d (1-1/2") or rainbird 100-PEB-PRS-d (1") and valve box with easy rain single valve battery operated Tbos control module and Tbos potted latching solenoid - 4 (For details, see sht. GN-3)
- 6 Cap irrig. lines (For future extension)
- 7 Point of connection: 2" water meter, double check backflow. (For details, see sht. GN-3)  
1. Inst. city provided 2" water meter. Provide city 7 days notice for when meter is needed.  
2. Inst. double check backflow assy, Febco 850. Requires plumbing permit and testing.
- 8 Inst. 1" PVC schedule 40 irrig. pipe.
- 9 Note not used
- 10 Inst. ball valve, rainbird BV series in a rainbird VB-10RN valve box - 5

**IRRIGATION NOTES CONT.:**

- 11 Inst. manual drain valve - 2
- 12 Inst. single bag slow release watering bag - 1
- 13 Inst. 1-1/2" PVC schedule 40 irrig. pipe.
- 14 Inst. 1-1/4" PVC schedule 40 irrig. pipe.

VALVE SCHEDULE		
ZONE	SIZE(")	GPM
1	1.5	50
2	1.5	22
3	1.5	22
4	1.5	47

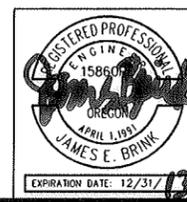
PIPE	WESTGATE			
	ZONE 1	2	3	4
1.5"	162	4	7	198
1.25"	48	13	58	2
1"	82	122	164	100
.75"	108	7	7	47

OREGON DEPARTMENT OF TRANSPORTATION

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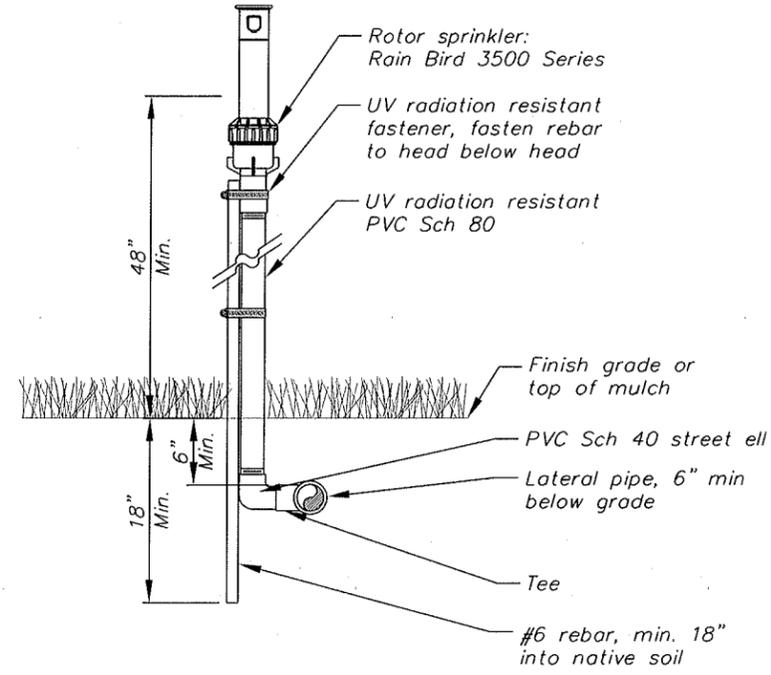
**SW ROSE BIGGI HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez

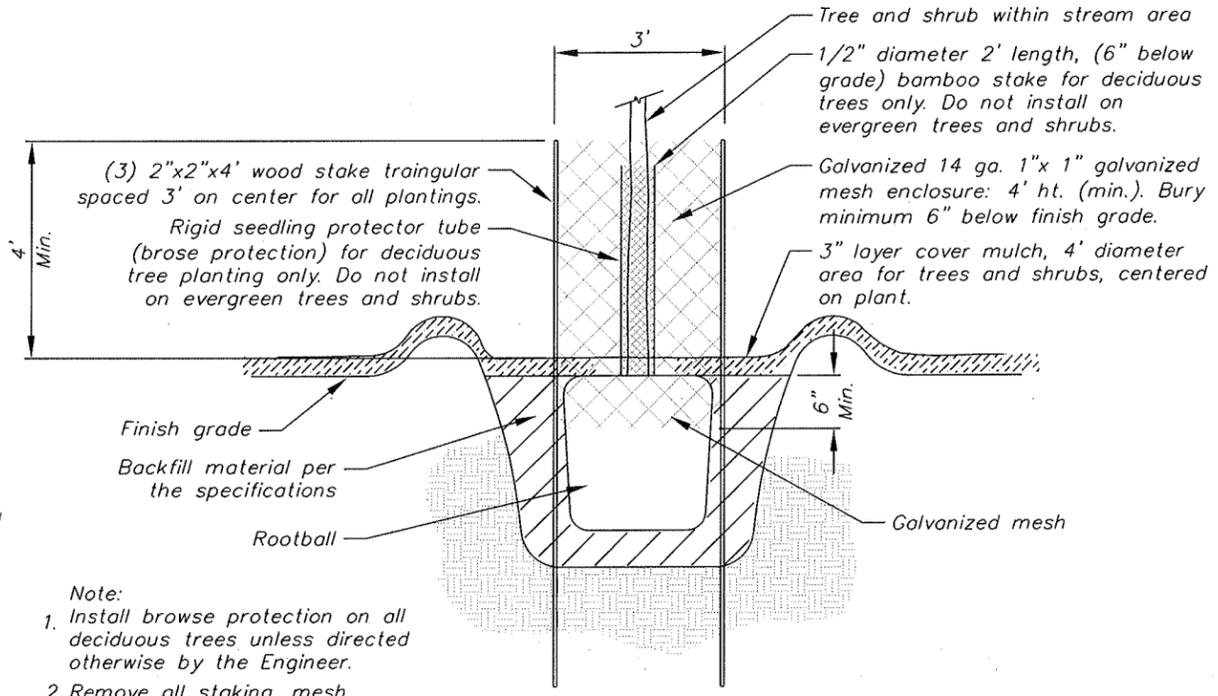


ROADSIDE DEVELOPMENT PLAN

SHEET NO.  
GN-2

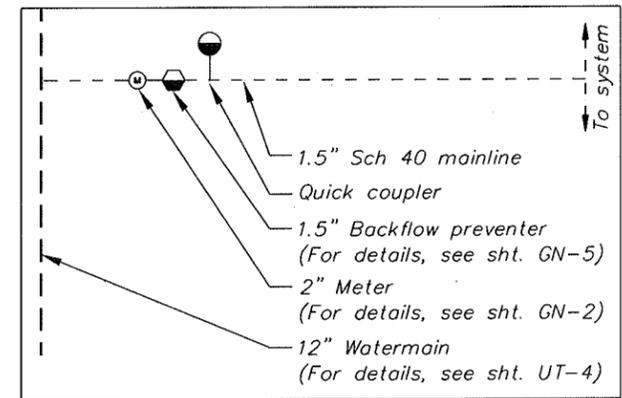


**ABOVE GROUND ROTOR STAKING**  
Not to scale

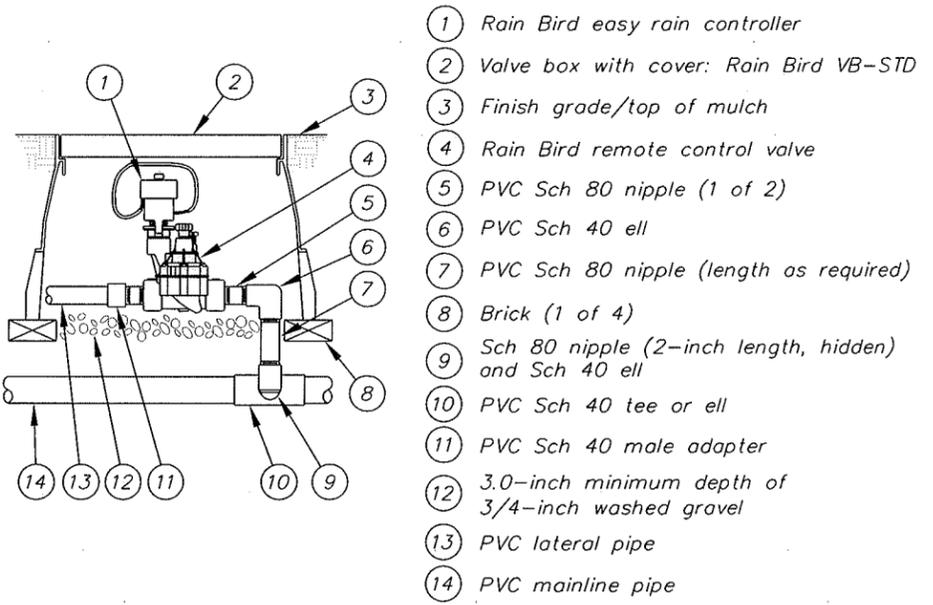


Note:  
1. Install browse protection on all deciduous trees unless directed otherwise by the Engineer.  
2. Remove all staking, mesh enclosure, brose protection and weed fabric after the end of the maintenance period.

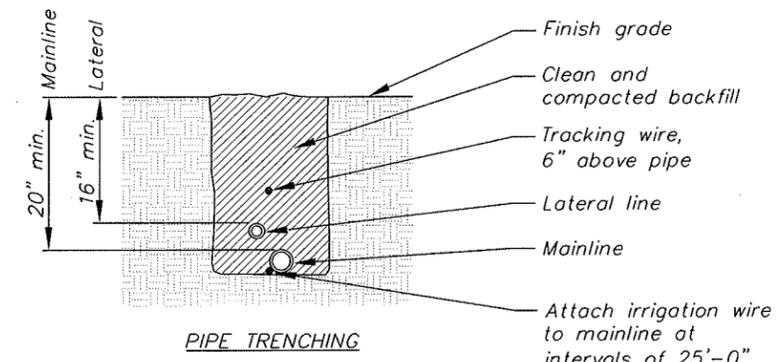
**BROWSE PROTECTION**  
Not to scale



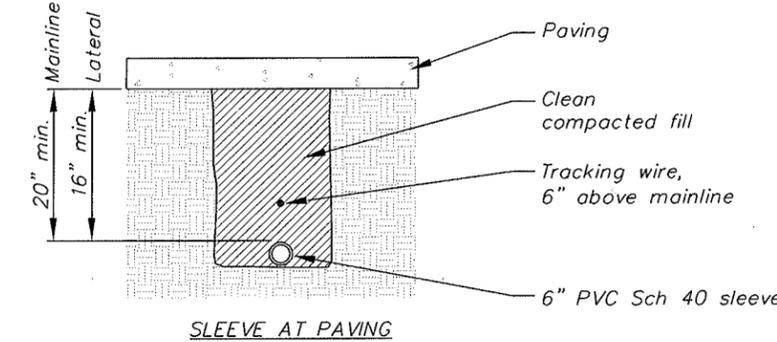
**POINT OF CONNECTION**  
Not to scale



**SINGLE VALVE BATTERY OPERATED CONTROLLER, "EASY RAIN"**  
Not to scale

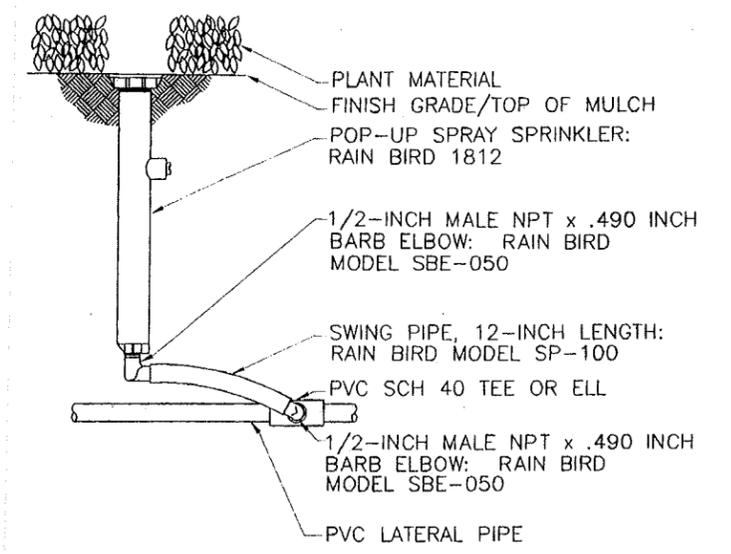


**PIPE TRENCHING**



**SLEEVE AT PAVING**

**IRRIGATION SLEEVE AND TRENCHING**  
Not to scale



**POP-UP SPRAY SPRINKLER**  
Not to scale

**OREGON DEPARTMENT OF TRANSPORTATION**

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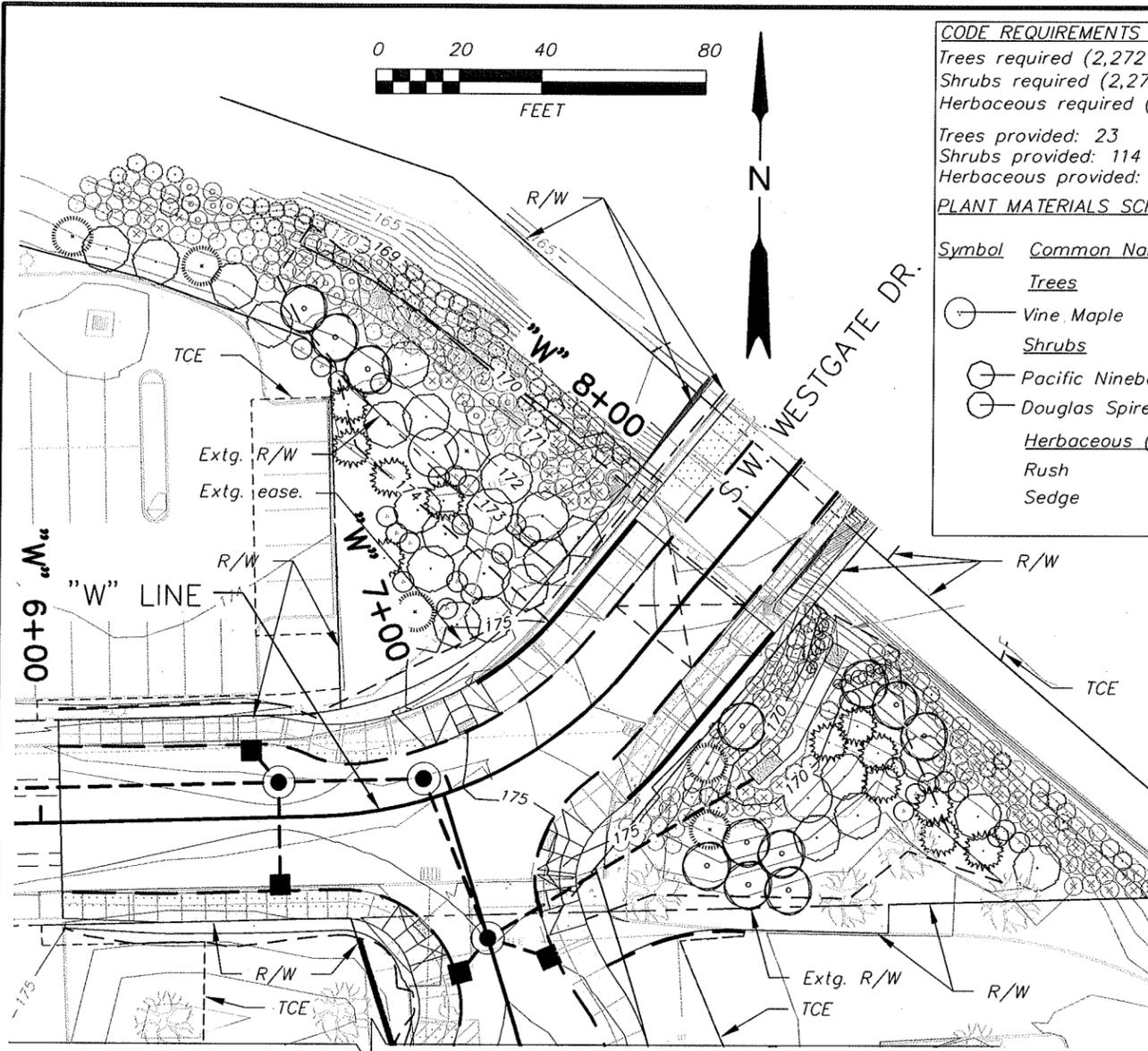
**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

REGISTERED PROFESSIONAL ENGINEER  
15860  
OREGON  
APRIL 1, 1994  
JAMES E. BRINK  
EXPIRATION DATE: 12/31/04

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benavidez

**ROADSIDE DEVELOPMENT DETAILS**

SHEET NO. **GN-3**



**CODE REQUIREMENTS PER CWS - TOTAL AREA: 2,272 SF**

Trees required (2,272 sf x .01) - 23  
 Shrubs required (2,272 sf x .05) - 114  
 Herbaceous required (432 sf x 1.15) - 498

Trees provided: 23  
 Shrubs provided: 114  
 Herbaceous provided: 498

**PLANT MATERIALS SCHEDULE - S.W. ROSE BIGGI AVE.**

Symbol	Common Name	Botanical Name	Size	Spacing	Quantity
<b>Trees</b>					
⊙	Vine Maple	Acer circinatum	2 gal.	4'-0" o.c.	23
<b>Shrubs</b>					
⊙	Pacific Ninebark	Physocarpus capitatus	1 gal.	4'-0" o.c.	57
⊙	Douglas Spirea	Spiraea Douglasii	1 gal.	4'-0" o.c.	57
<b>Herbaceous (Wetland Plants)</b>					
	Rush	Juncus Patens	Small container	12" o.c.	249
	Sedge	Carex Obnupta	Small container	12" o.c.	249
					498

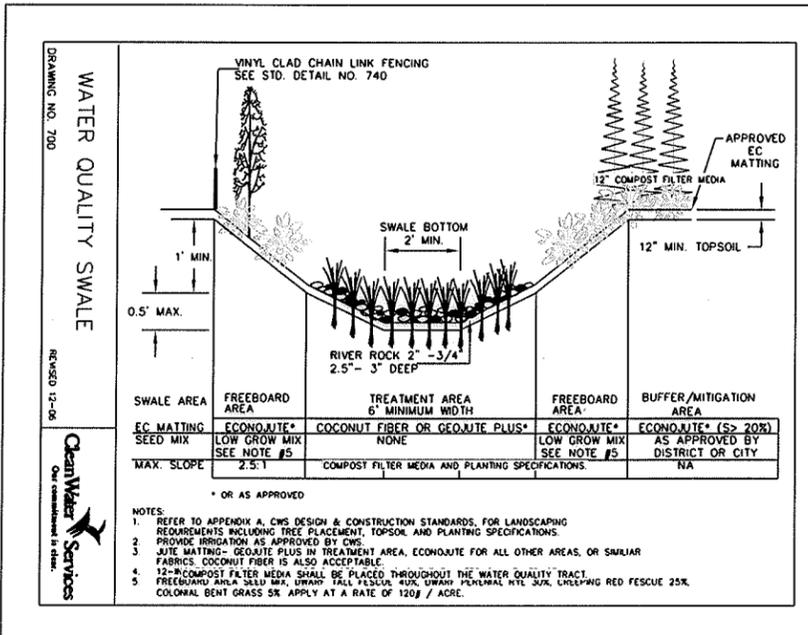
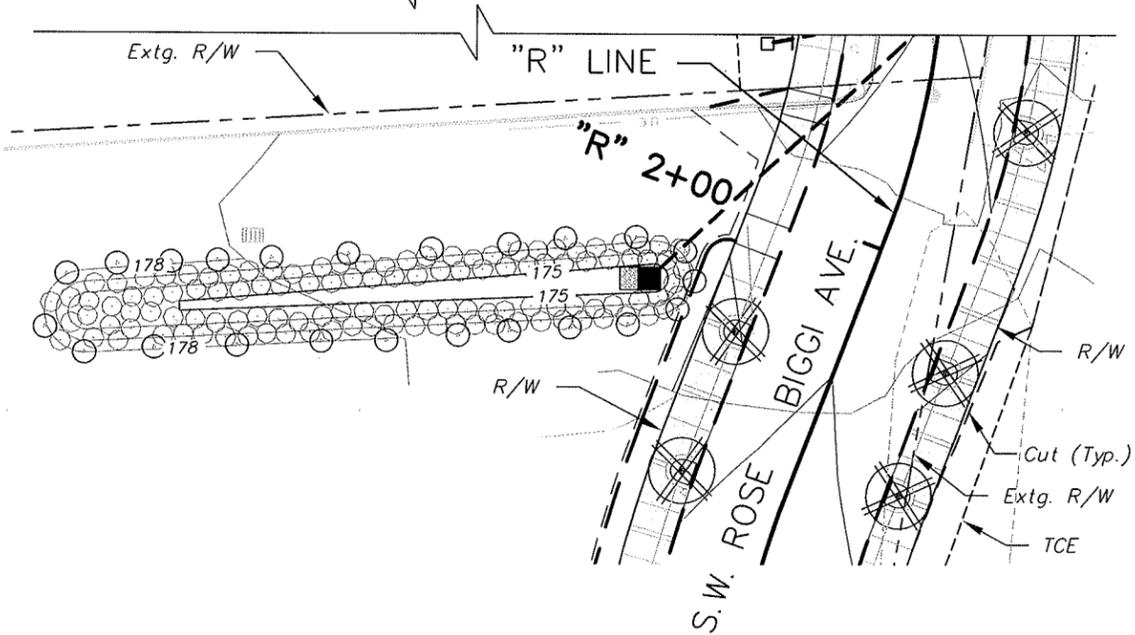
**CODE REQUIREMENTS PER CWS - TOTAL AREA: 11,643 SF**

Trees required (11,643 sf x .01) - 116  
 Shrubs required (11,643 sf x .05) - 582  
 Herbaceous required (1044 sf x 1.15) - 1200

Trees provided: 116  
 Shrubs provided: 582  
 Herbaceous provided: 1200

**PLANT MATERIALS SCHEDULE - S.W. WESTGATE DR.**

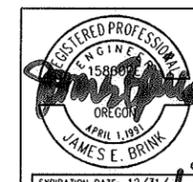
Symbol	Common Name	Botanical Name	Size	Spacing	Quantity
<b>Trees</b>					
⊙	Bigleaf Maple	Acer macrophyllum	2 gal.	10'-0" o.c.	5
⊙	Oregon Ash	Fraxinus latifolia	2 gal.	10'-0" o.c.	14
⊙	Red Alder	Alnus rubra	1 gal.	10'-0" o.c.	32
⊙	Douglas Fir	Pseudotsuga menziesii	2 gal.	10'-0" o.c.	24
⊙	Vine Maple	Acer circinatum	2 gal.	4'-0" o.c.	12
⊙	Pacific Willow	Salix lasiandra	1 gal.	10'-0" o.c.	24
⊙	Grand Fir	Abies grandis	2 gal.	10'-0" o.c.	5
					116
<b>Buffer Shrubs</b>					
⊙	Red Twig Dogwood	Cornus stolonifera	1 gal.	4'-0" o.c.	93
⊙	Pacific Ninebark	Physocarpus capitatus	1 gal.	4'-0" o.c.	116
⊙	Nootka Rose	Rosa nutkana	1 gal.	4'-0" o.c.	48
⊙	Red Currant	Ribes sanguineum	1 gal.	4'-0" o.c.	93
⊙	Common Snowberry	Symphoricarpos albus	1 gal.	4'-0" o.c.	116
⊙	Douglas Spirea	Spiraea Douglasii	1 gal.	4'-0" o.c.	116
					582
<b>Herbaceous (Wetland Plants)</b>					
	Rush	Juncus Patens	Small container	12" o.c.	600
	Sedge	Carex Obnupta	Small container	12" o.c.	600
					1200



**LANDSCAPE PLANTING NOTES:**

- Contractor shall remove all trees & vegetation and 6" of existing material in the area to be planted.
- Place 6" of topsoil & a 2" layer of soil conditioner within the area to be planted. Mix topsoil and soil conditioner prior to planting.
- Place 3" of bark mulch within the area to be planted.
- Place browse protection on all trees.

Proposed sidewalk, shown thus:



**OREGON DEPARTMENT OF TRANSPORTATION**

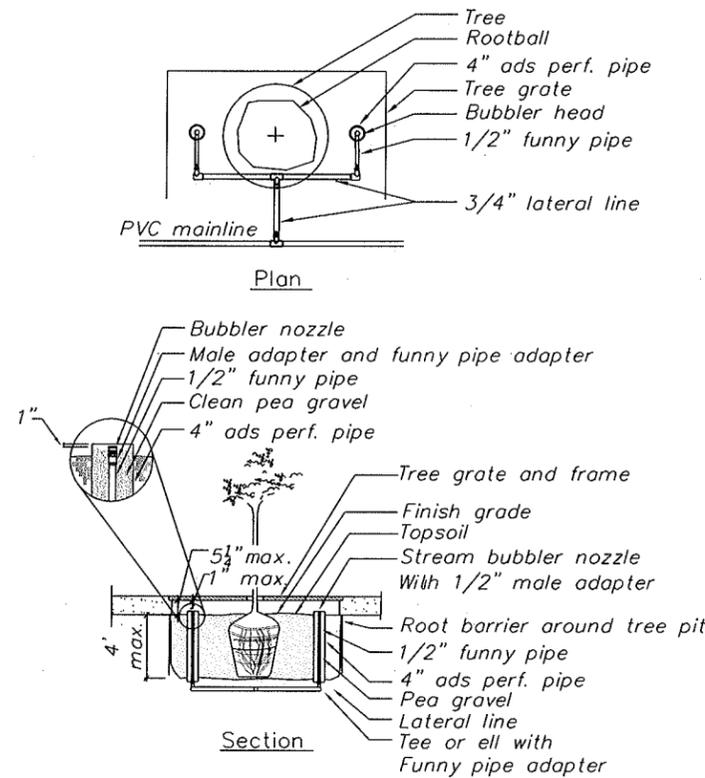
**CITY OF BEAVERTON**  
 4755 S.W. Griffith Drive  
 P.O. Box 4755  
 Beaverton, Or 97076  
 Ph: 503-526-2220  
 Fx: 503-526-2535

**SW ROSE BIGGI  
 HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

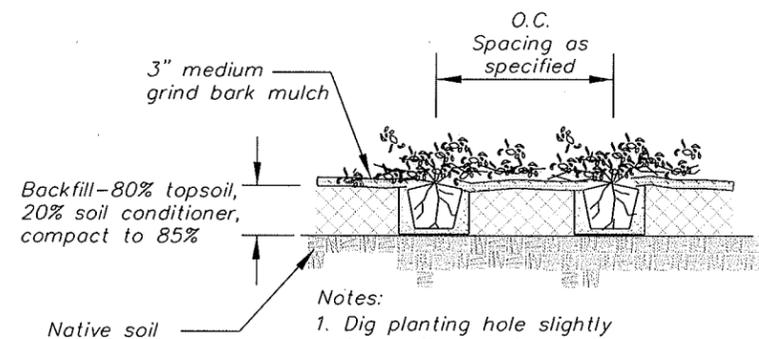
Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benavidez

**LANDSCAPE PLAN AND DETAILS**

SHEET NO. **GN-4**

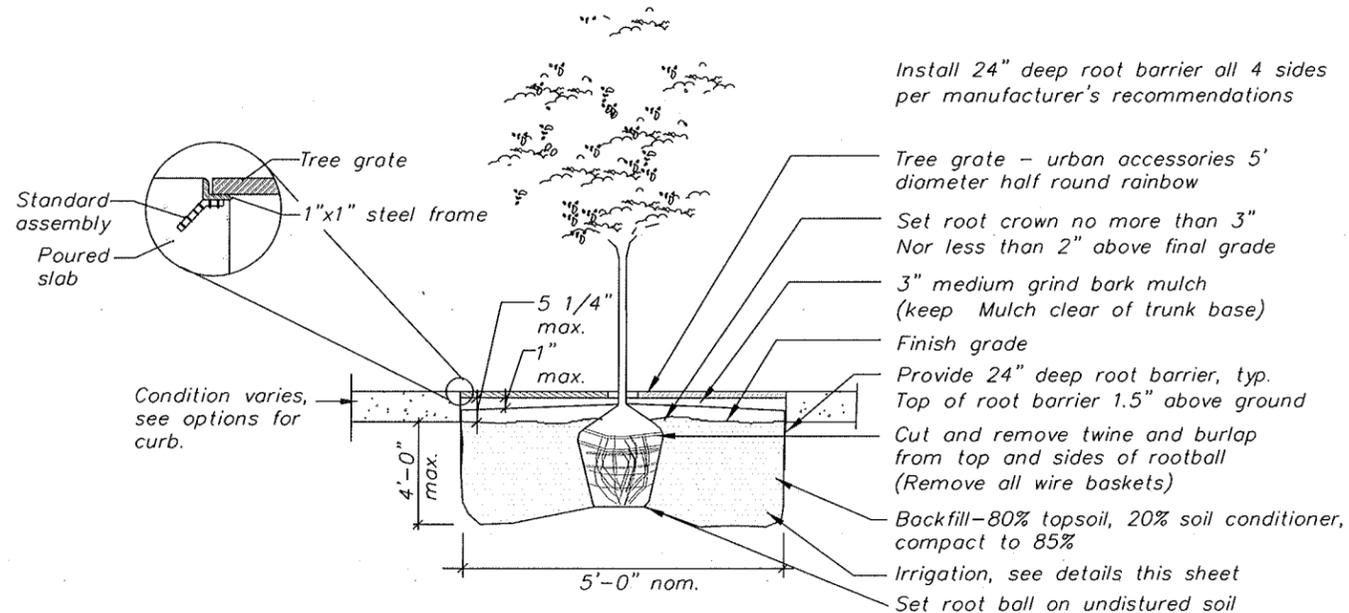


**IRRIGATION IN TREE GRATES**  
Not to scale

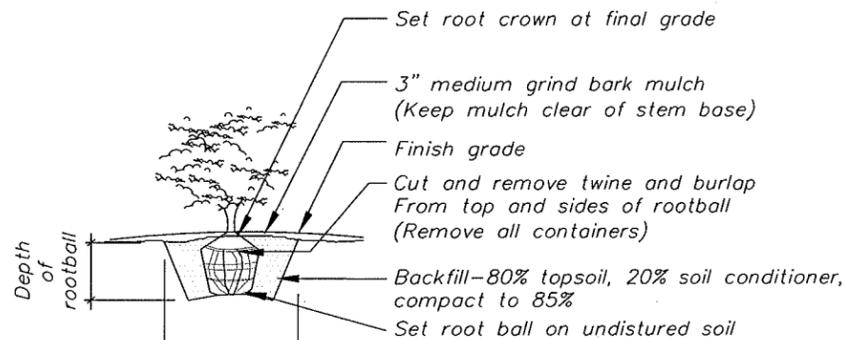


**GROUNDCOVERS**  
Not to scale

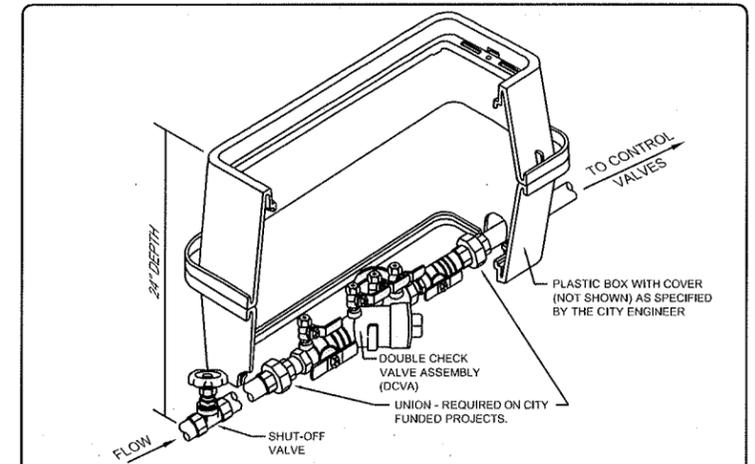
- Notes:
1. Dig planting hole slightly larger than root mass
  2. Loosen sides of root mass before planting by scraping with knife or stick
  3. Backfill with topsoil taken from hole and lightly hand pack



**DECIDUOUS TREE PLANTING IN TREE GRATE**  
Not to scale



**SHRUB PLANTING**  
Not to scale



**INSTALLATION REQUIREMENTS:**

1. When required, backflow prevention assemblies for the protection of the public water system shall meet the requirements set forth in the current Oregon Administrative Rules Chapter 333-061-0070, Uniform Plumbing Code, and City of Beaverton Code 4.02.160 and 4.02.165. Contact the cross-connection inspector, in the City of Beaverton Engineering Department, for current requirements.
2. All boxes located in driveways and sidewalks shall have approved traffic-rated covers.
3. Double Check Valve Assemblies (DCVA's) up to and including 1-inch shall be installed in Pacific Water Works meter box MBE #86. The DCVA shall be readily accessible with adequate space for testing and maintenance. DCVA's larger than 1-inch and up to 2-inches shall be installed in an approved size box with at least 6-inches of clearance on both sides and under the DCVA. DCVA's larger than 2-inches shall be installed in an approved vault. Contact the cross-connection inspector, by calling the City of Beaverton Engineering Department, for proper sizing.
4. When the DCVA is installed below ground, the test ports **MUST NOT** be facing downward. The test ports must be plugged with threaded plugs. No dissimilar metals for plugs.
5. The DCVA shall be installed at a depth of 24-inches below ground; plumbing code requires 24-inches, allowing for freeze protection.
6. The DCVA shall be tested by a State certified tester following installation and annually thereafter, and when moved or repaired.
7. Oregon Administrative Rules require installation of a DCVA at the service connection where an approved air gap does not exist.
8. A plumbing permit is required to install an irrigation sprinkler system.
9. Upon completion of installation, the City of Beaverton shall be notified within 24 hours for City personnel to inspect the installation.
10. This is to be a private facility, governed by UPC and Oregon Dept. of Human Services, as applicable.



ENGINEERING DEPARTMENT		PRIVATE DOUBLE CHECK VALVE ASSEMBLY FOR DOMESTIC AND LANDSCAPE IRRIGATION SYSTEMS	
UTILITIES ENGINEER David A. Winship, P.E.	DATE 6-10-04	DRAWN BY JH - CPD	DRAWING NO. 662

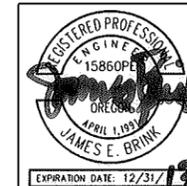
**OREGON DEPARTMENT OF TRANSPORTATION**



CITY OF BEAVERTON  
4755 S.W. Griffith Drive  
P.O. Box 4755  
Beaverton, Or 97076  
Ph: 503-526-2220  
Fx: 503-526-2535

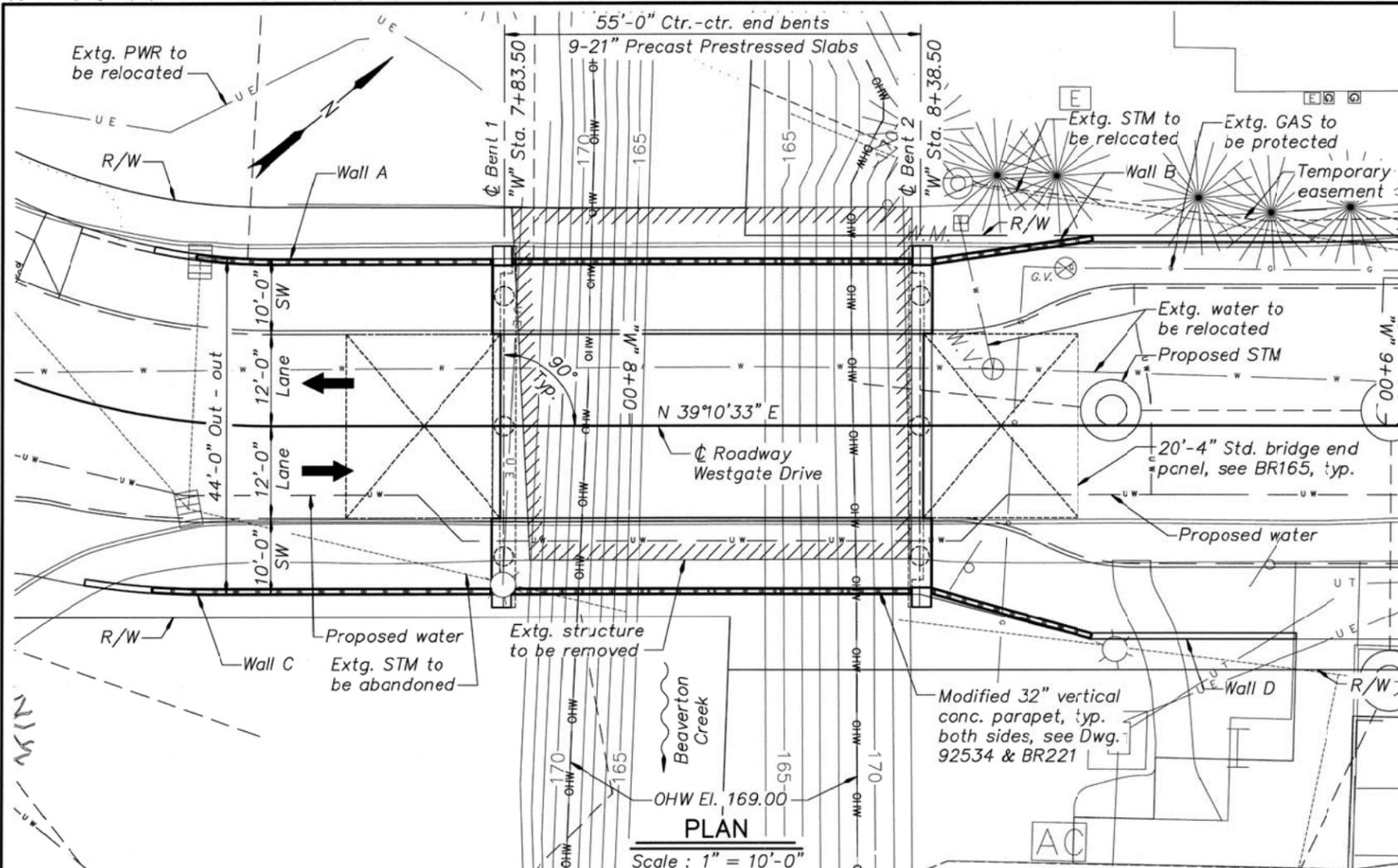
**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benavidez

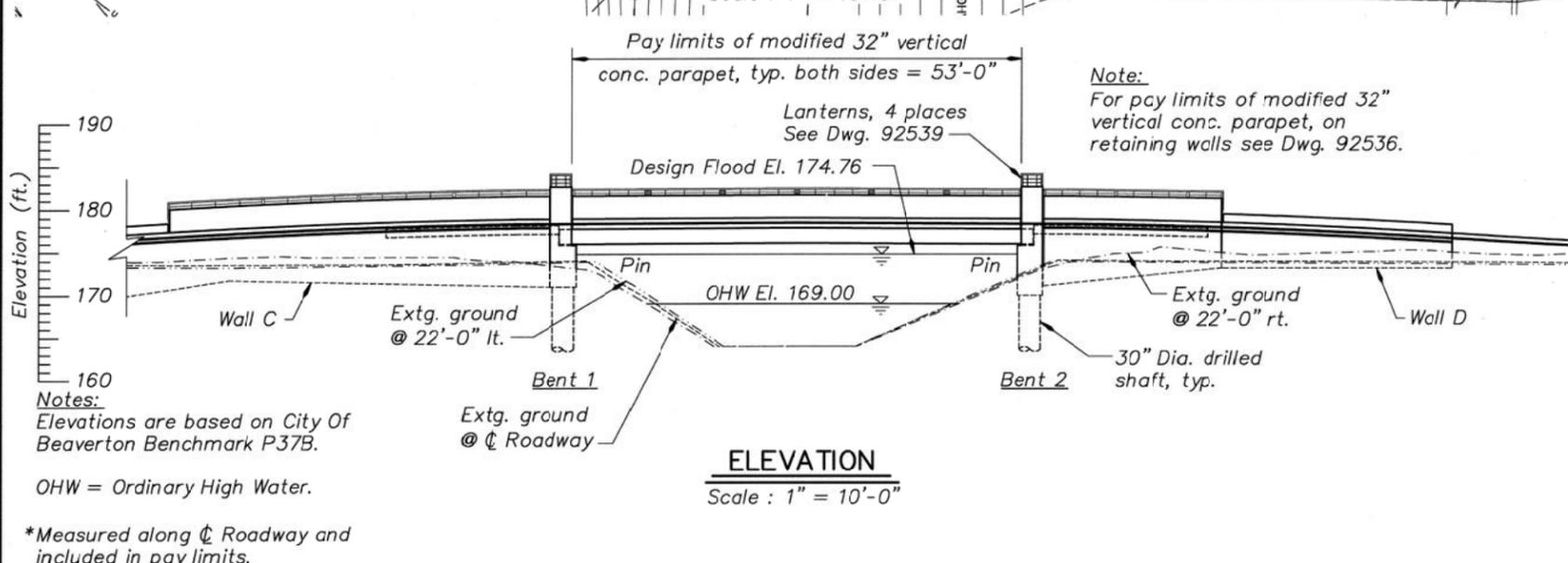


**LANDSCAPE DETAILS**

SHEET NO.  
GN-5



**PLAN**  
Scale: 1" = 10'-0"

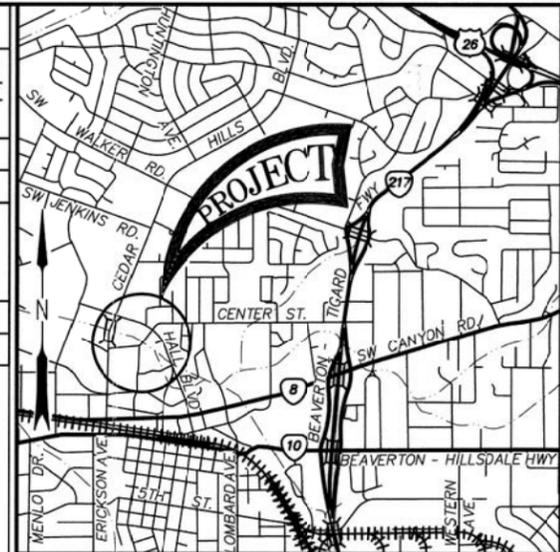


**ELEVATION**  
Scale: 1" = 10'-0"

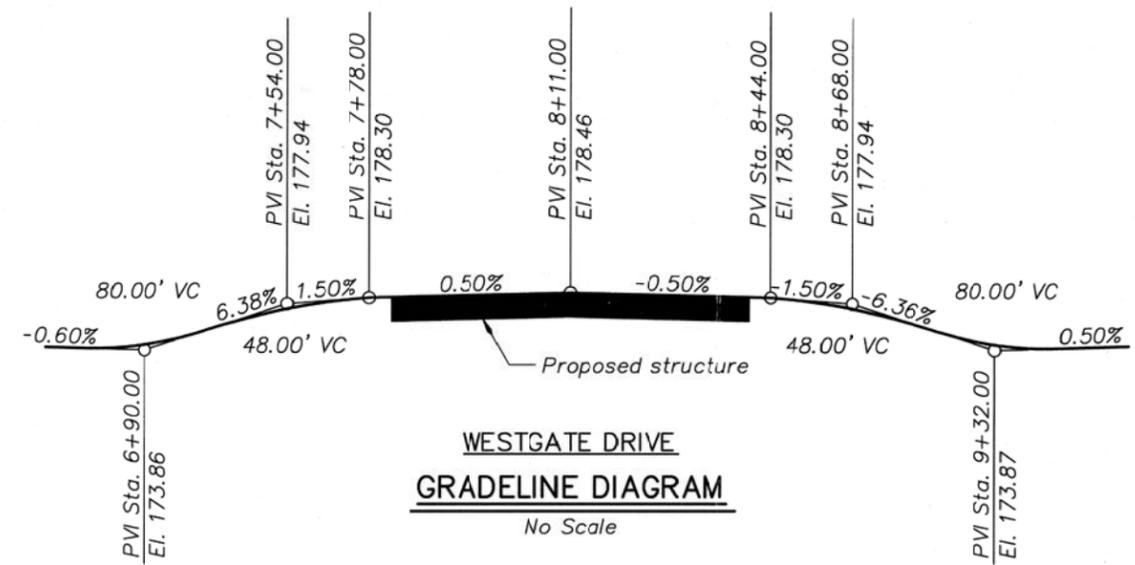
**Notes:**  
Elevations are based on City Of Beaverton Benchmark P37B.  
OHW = Ordinary High Water.  
\*Measured along  $\hat{C}$  Roadway and included in pay limits.

HYDRAULIC DATA				
ITEMS	UNITS	DESIGN FLOOD	BASE FLOOD	MAXIMUM PROBABLE FLOOD
DISCHARGE	ft. <sup>3</sup> /s	1034	1474	1761
RECURRANCE INTERVAL	years	10	100	500
HIGH WATER ELEVATION AT UPSTREAM FACE OF BRIDGE ALONG EMBANKMENT	feet	174.76	176.29	176.70
BACKWATER	feet	0	0.08	0.14
SCOUR DEPTH **	feet	N/A	N/A	0.95

\*\*Scour depth is contraction scour minus deposition.



SEC. 9, T. 1 S., R. 1 W., W.M.  
**LOCATION MAP**  
No Scale



**WESTGATE DRIVE GRADELINE DIAGRAM**  
No Scale

DATE	REVISION	BY

ACCOMPANIED BY DWGS. 92525-92540, BR165, BR221, BR415, BR445, BR720, BR970

DRAFTER: Alan Mitchell  
DESIGNER: Mikal Mitchell  
CHECKER: Benjamin Sundberg  
REVIEWER: Terry Stones



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

STRUCTURE NO. 21612  
DATE August 2013  
CALC. BOOK 6618

BEAVERTON CREEK, WESTGATE DRIVE  
SW ROSE BIGG: HALL BLVD - CRESCENT ST (BEAVERTON)  
WASHINGTON COUNTY  
**PLAN AND ELEVATION**

SHEET 1 OF 17  
DRAWING NO. 92524

**GENERAL NOTES:**

Provide all materials and perform all work according to the 2008 Oregon Standard Specifications for Construction.

Bridge is designed in accordance to the 2010 AASHTO LRFD Bridge Design Specifications and the 2004 ODOT Bridge Design & Drafting Manual (BDDM), updated April, 2011.

Design includes an allowance of 25 psf for future wearing surface and all of the following Live Loads according to the 2010 AASHTO LRFD Bridge Design Specifications (including interim revisions:

**Service and Strength-1 Limit States:**

HL-93: Design truck or the design tandems and the design lane load.  
85 psf: Pedestrian load

**Strength-2 Limit States:**

ODOT Type STP-5BW Permit truck  
ODOT Type STP-4E Permit truck

Seismic design is performed in accordance with the AASHTO Guide Specifications for LRFD Seismic Bridge Design as modified by the ODOT Bridge Design & Drafting Manual for 500- and 1000-year criteria. The Horizontal Peak Ground Acceleration Coefficients (PGA) for the 500 year (Serviceable) and 1000 year (No Collapse) return periods are 0.19g and 0.26g respectively, based on 2002 USGS Seismic Hazard Maps. The bridge site is defined as a Site Class D with Site Factors (Fpga) of 1.42 and 1.28 respectively.

Provide all reinforcing steel according to ASTM Specification A706, or ASTM A615 Grade 60. Use the following splice lengths unless shown otherwise:

Reinforcing Splice Lengths (Class B) Grade 60 f'c = 3.3 ksi											
Bar Size	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
Uncoated	1'-0"	1'-4"	1'-8"	2'-0"	2'-9"	3'-7"	4'-6"	5'-9"	7'-0"	Not Permitted	

Increase all splice lengths 40% for horizontal or nearly horizontal bars so placed that more than 12" of fresh concrete is cast below the bar.

Splice reinforcing steel at alternate bars, staggered at least one splice length or as far as possible, unless shown otherwise.

All reinforcing shall have 2" of concrete cover unless shown otherwise.

All reinforcing spacing is intended to be maximum unless shown otherwise.

Provide concrete and prestressing steel in precast prestressed units according to detail plans.

Provide a 3/4" chamfer on all exposed concrete edges unless noted otherwise.

Field verify all dimensions prior to submitting drawings or fabricating materials.

Provide Class HPC4000 - 1 1/2", 1", or 3/4" concrete for end panels.

Provide Class 4000 - 3/8" concrete for drilled shafts.

Provide Class 3300 - 1 1/2", 1", or 3/4" concrete for all other concrete.

Bent and bridge rail concrete shall be colored according to Special Provision 00542.

Construction joint shall have roughend surface according to 00540.43a.

**MODIFIED PARAPET GENERAL NOTES:**

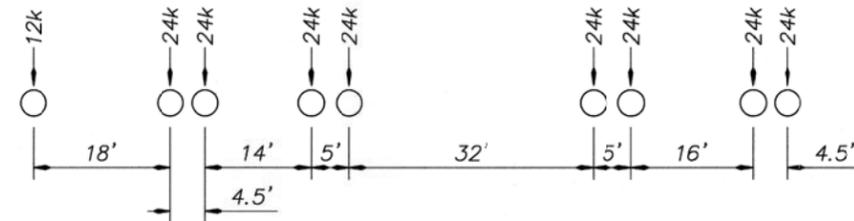
Provide steel tubing conforming to ASTM Specification A500, Grade B.

Provide steel posts and plates conforming to AASHTO Specification M183 or (ASTM A36) unless otherwise noted.

Construct rail (posts and parapet) vertical in the longitudinal and transverse direction.

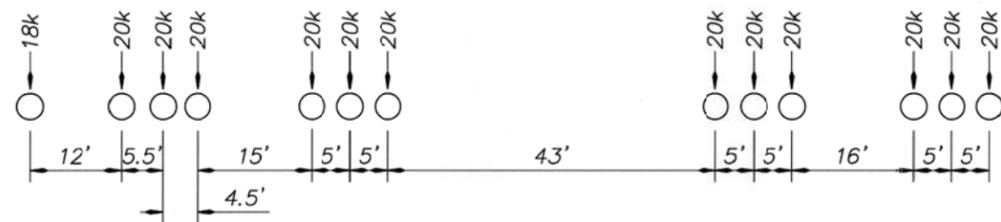
Hot-dip galvanize structural steel including fasteners after fabrication. Provide Galvanize-Control Silicon posts and horizontal rail steel tubing according to ODOT Specification 02530.70. Tap nuts and inserts 0.021" oversize after galvanizing in accordance with ASTM A563.

Provide and install resin bonded anchors (AASHTO M314, Grade 36, ASTM A307) according to ODOT Specifications 00535. Tighten anchor nuts by turn-of-the-nut method with a nut rotation of 60° turn from a snug tight condition.



**OR-STP-5BW PERMIT TRUCK DIAGRAM**

No Scale



**OR-STP-4E PERMIT TRUCK DIAGRAM**

No Scale

DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure

DRAFTER: Alan Mitchell  
 DESIGNER: Mikal Mitchell  
 CHECKER: Benjamin Sundberg  
 REVIEWER: Terry Stones



**OREGON DEPARTMENT OF TRANSPORTATION**

**DAVID EVANS AND ASSOCIATES INC.**  
 530 Center Street N.E., Suite 605  
 Salem Oregon 97301  
 Phone: 503.361.8335

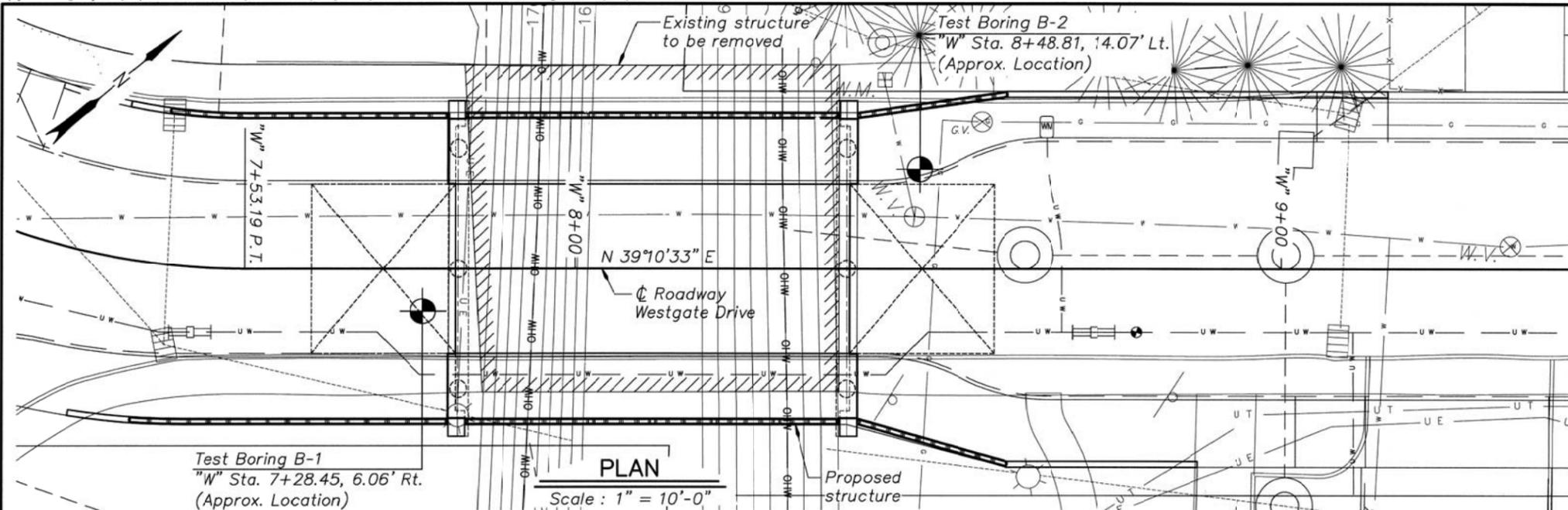
SCALE WARNING  
 If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO. 21612  
 DATE August 2013  
 CALC. BOOK 6618

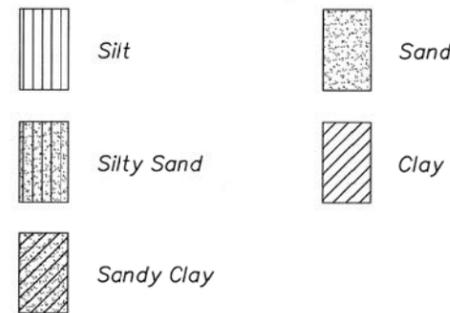
BEAVERTON CREEK, WESTGATE DRIVE  
 SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON)  
 WASHINGTON COUNTY

GENERAL NOTES

SHEET 2 OF 17  
 DRAWING NO. 92525

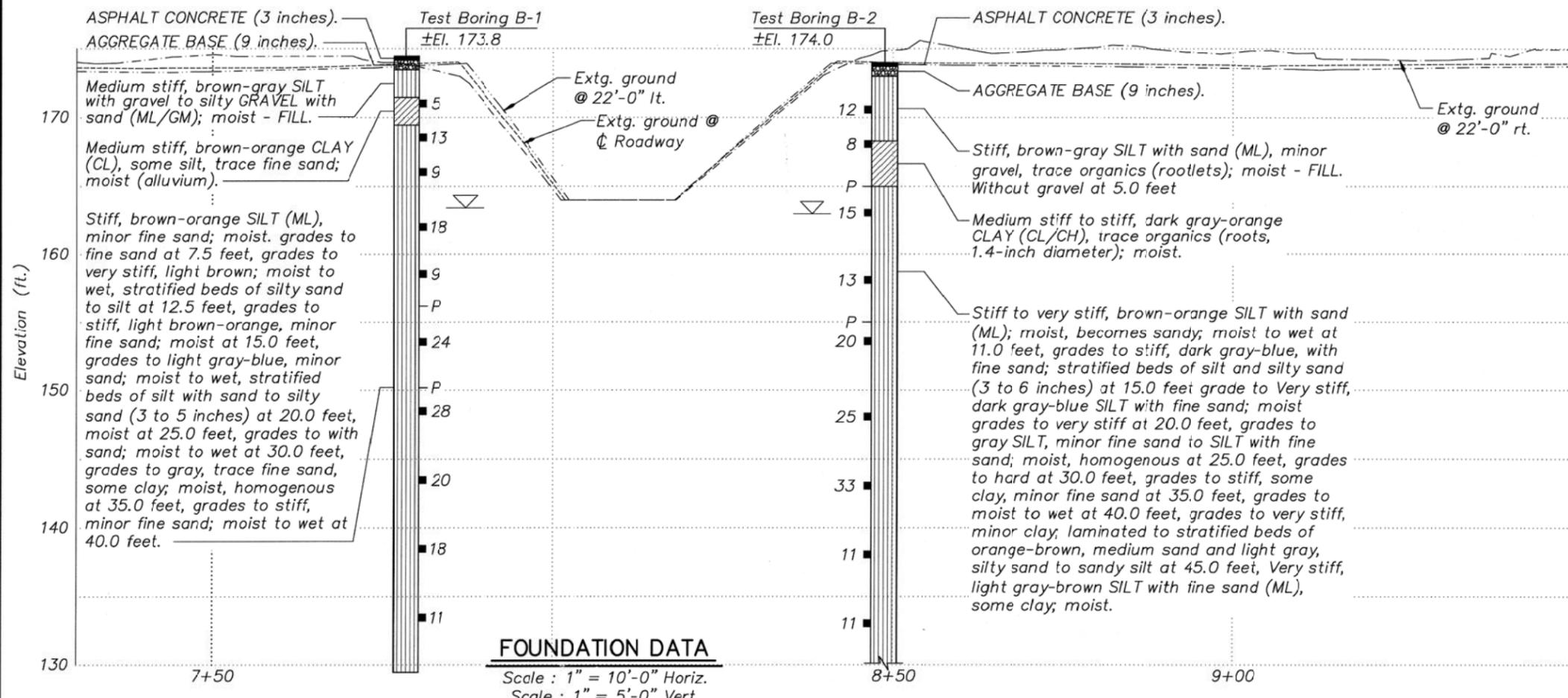


**LEGEND OF MATERIALS**



- 26 = Standard penetration test N value (uncorrected), in accordance with ASTM D 1586
- P = Shelby Tube sampler in accordance with ASTM D 1587
- ▽ = Elevation of groundwater measured in the test hole on the date described in drill logs.
- ⊙ = Test boring

**Note:**  
Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from drill logs. Differences may exist between profile and actual conditions. The drill logs and any other exploration data used in compiling this drawing are available upon request. Contractor shall refer to Geotechnical Reports and drill logs and the information contained therein.



DATE	REVISION	BY
		Alan Mitchell
		Nick Paveglia
		Brett Shipler
		Jeffery Tucker

ACCOMPANIED BY DWGS. See sheet 1 for this structure

REGISTERED PROFESSIONAL ENGINEER  
No. 1994  
STATE OF OREGON  
JEFFERY D. TUCKER  
EXPIRES: 6/30/14

**OREGON DEPARTMENT OF TRANSPORTATION**

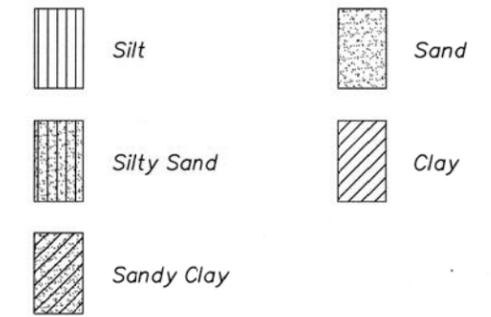
**DAVID EVANS AND ASSOCIATES INC.**  
530 Center Street N.E., Suite 605  
Salem Oregon 97301  
Phone: 503.361.8635

**SCALE WARNING**  
If scale bar doesn't measure one inch then drawing is not to scale

<b>STRUCTURE NO.</b> 21612	BEAVERTON CREEK, WESTGATE DRIVE SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON) WASHINGTON COUNTY	<b>SHEET</b> 3 OF 17
<b>DATE</b> August 2013		<b>DRAWING NO.</b> 92526
<b>CALC. BOOK</b> 6618	<b>FOUNDATION DATA SHEET 1 OF 2</b>	

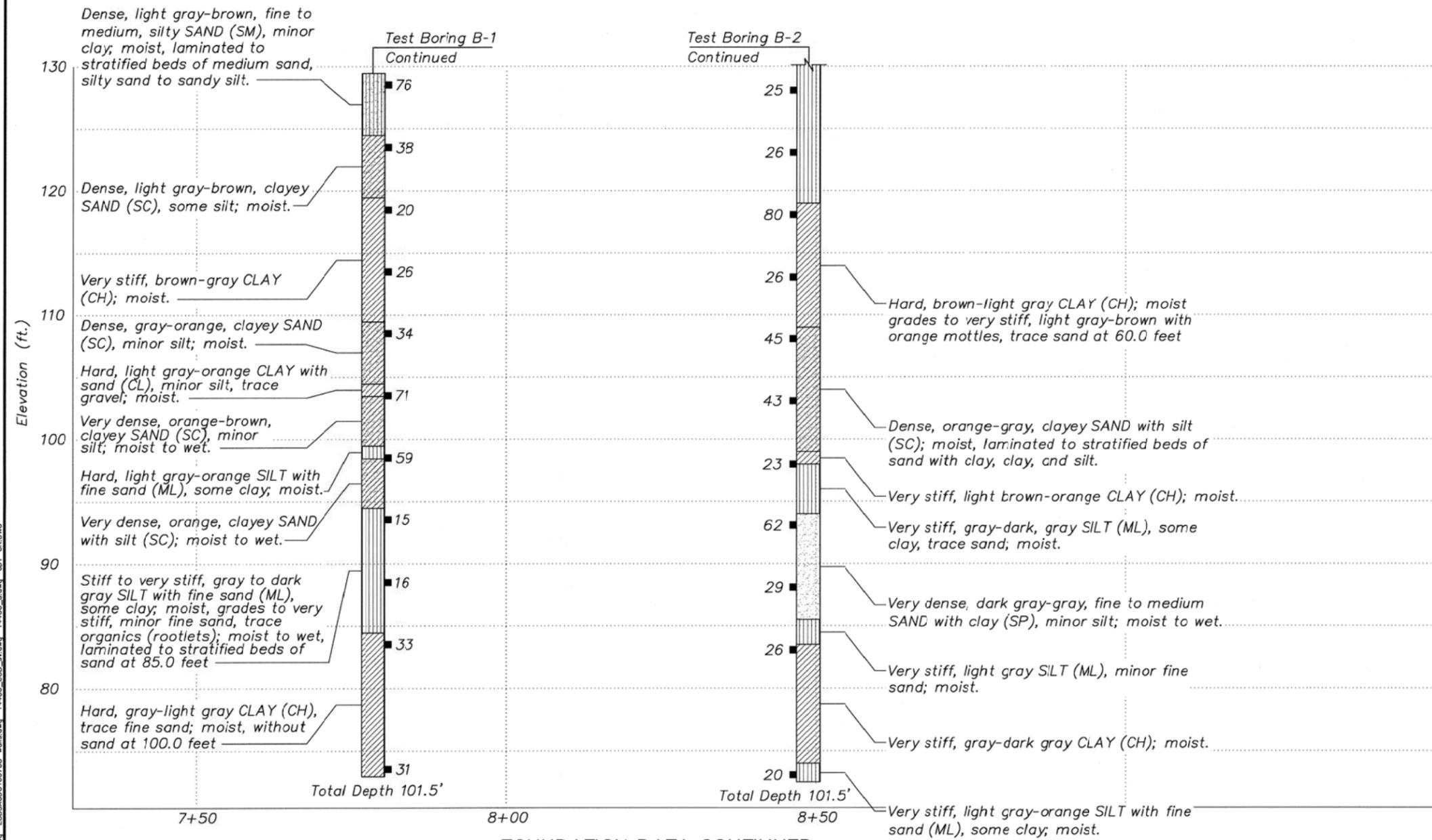


**LEGEND OF MATERIALS**



- 26 Standard penetration test N value (uncorrected), in accordance with ASTM D 1586
- P = Shelby Tube sampler in accordance with ASTM D 1587
- = Elevation of groundwater measured in the test hole on the date described in drill logs.
- Test boring

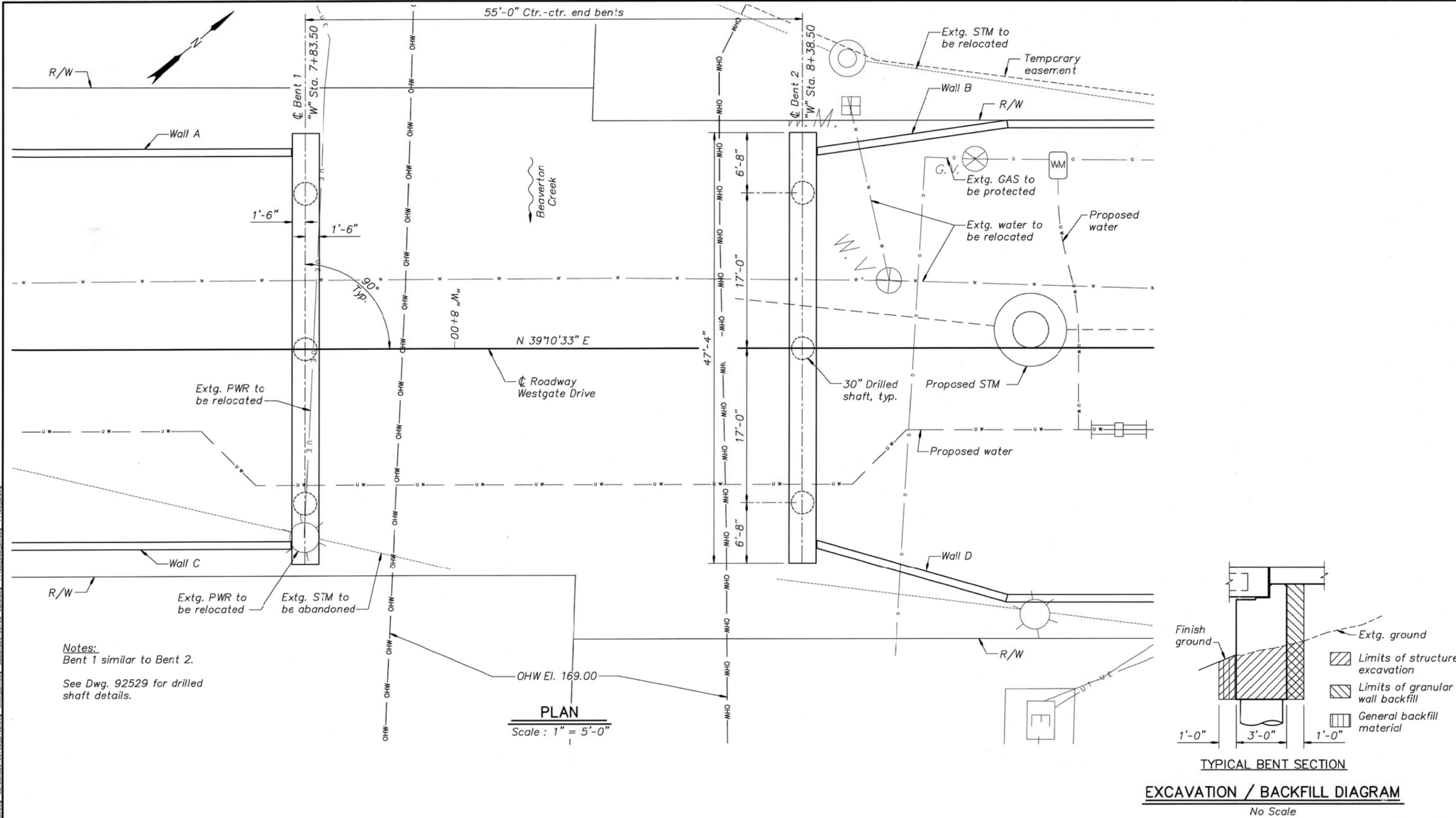
**Note:**  
 Geotechnical data shown on this drawing are a consolidation of information and/or revision in terminology from drill logs. Differences may exist between profile and actual conditions. The drill logs and any other exploration data used in compiling this drawing are available upon request. Contractor shall refer to Geotechnical Reports and drill logs and the information contained therein.



**FOUNDATION DATA CONTINUED**  
 Scale : 1" = 10'-0" Horiz.  
 Scale : 1" = 5'-0" Vert.

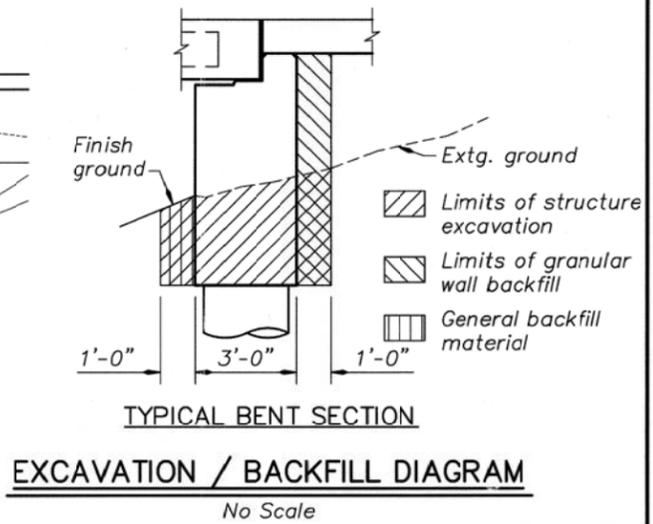


	DATE	REVISION	BY	Alan Mitchell DRAFTER:			STRUCTURE NO.	BEAVERTON CREEK, WESTGATE DRIVE SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON) WASHINGTON COUNTY	SHEET
				Nick Paveglio DESIGNER:			21612		4
				Brett Shipler CHECKER:			DATE	FOUNDATION DATA SHEET 2 OF 2	OF
				Jeffery Tucker REVIEWER:			August 2013		17
ACCOMPANIED BY DWGS. See sheet 1 for this structure						DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	CALC. BOOK		DRAWING NO.
							6618		92527

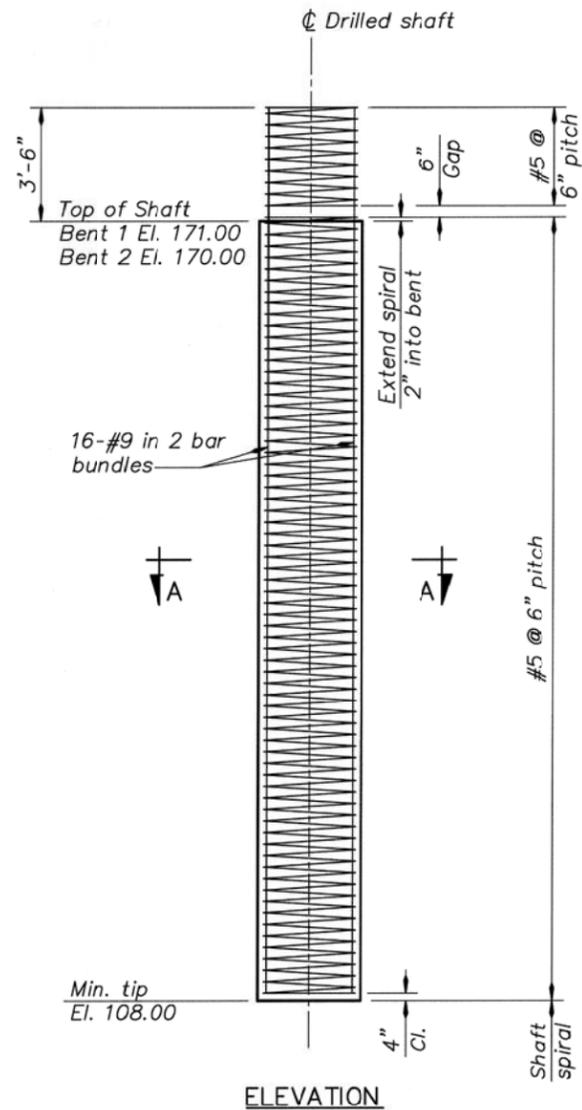


Notes:  
Bent 1 similar to Bent 2.  
See Dwg. 92529 for drilled shaft details.

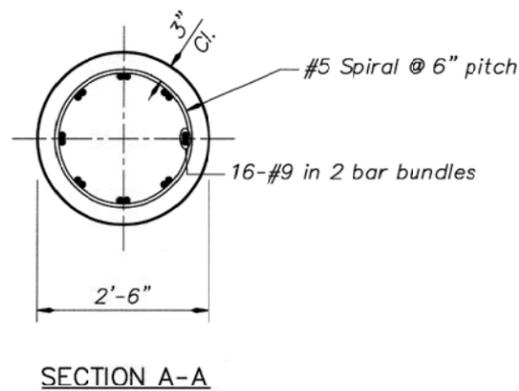
PLAN  
Scale: 1" = 5'-0"



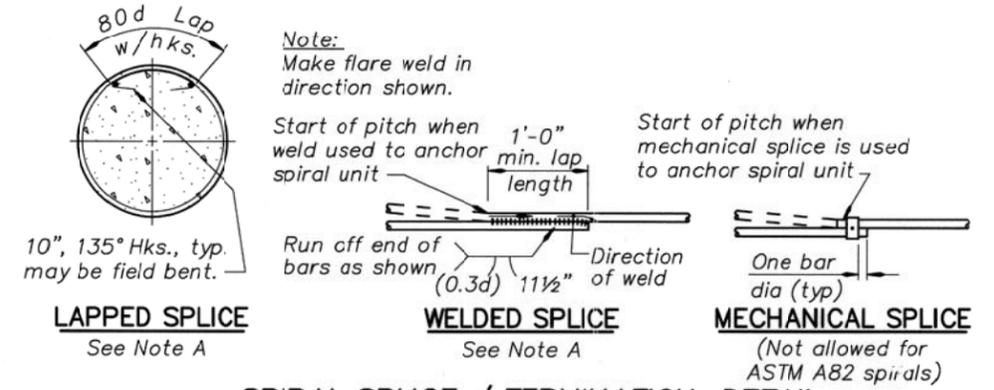
DATE	REVISION	BY	DRAFTER: Alan Mitchell	REGISTERED PROFESSIONAL ENGINEER 77778PE MAY 10, 2011 MIKAL MAXWELL MITCHELL EXPIRES: 12-31-2014	 OREGON DEPARTMENT OF TRANSPORTATION DAVID EVANS AND ASSOCIATES INC. 530 Center Street N.E., Suite 605 Salem Oregon 97301 Phone: 503.361.8635	STRUCTURE NO. 21612	BEAVERTON CREEK, WESTGATE DRIVE SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON) WASHINGTON COUNTY	SHEET 5 OF 17
			DESIGNER: Mikal Mitchell			DATE August 2013		DRAWING NO. 92528
CHECKER: Benjamin Sundberg			REVIEWER: Terry Stones	DAVID EVANS AND ASSOCIATES INC. SCALE WARNING If scale bar doesn't measure one inch then drawing is not to scale		CALC. BOOK 6618	FOUNDATION PLAN	
ACCOMPANIED BY DWGS. See sheet 1 for this structure								



**Notes:**  
 Do not splice shaft vertical bars within 30 feet of top of shaft elevation.  
 Provide full penetration weld splices of longitudinal #9 reinforcing capable of developing 1.25 fy.

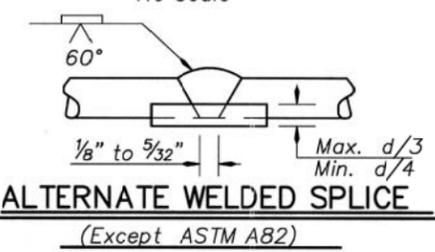


**DRILLED SHAFT DETAILS**  
 No Scale



**Note - A:**  
 Use ASTM A706 for all welded splices, except ASTM A615 Grade 60, ASTM A82 or ASTM A496 may be used if copies of the chemical composition analysis are submitted and approved as weldable by the Engineer. Anchor spirals at each end or discontinuity with one extra turn and a splice to itself as shown. Where permitted on plans, provide closed hoops conforming to the requirements of this detail.

**SPIRAL SPLICE / TERMINATION DETAIL**  
 No Scale



Weld reinforcing steel splices in accordance with the latest edition of AWS D1.4. "Structural Welding Code Reinforcing Steel"  
 No Scale

DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure

DRAFTER: Alan Mitchell  
 DESIGNER: Mikal Mitchell  
 CHECKER: Benjamin Sundberg  
 REVIEWER: Terry Stones



**OREGON DEPARTMENT OF TRANSPORTATION**

**DAVID EVANS AND ASSOCIATES INC.**  
 530 Center Street N.E., Suite 605  
 Salem Oregon 97331  
 Phone: 503.361.8235

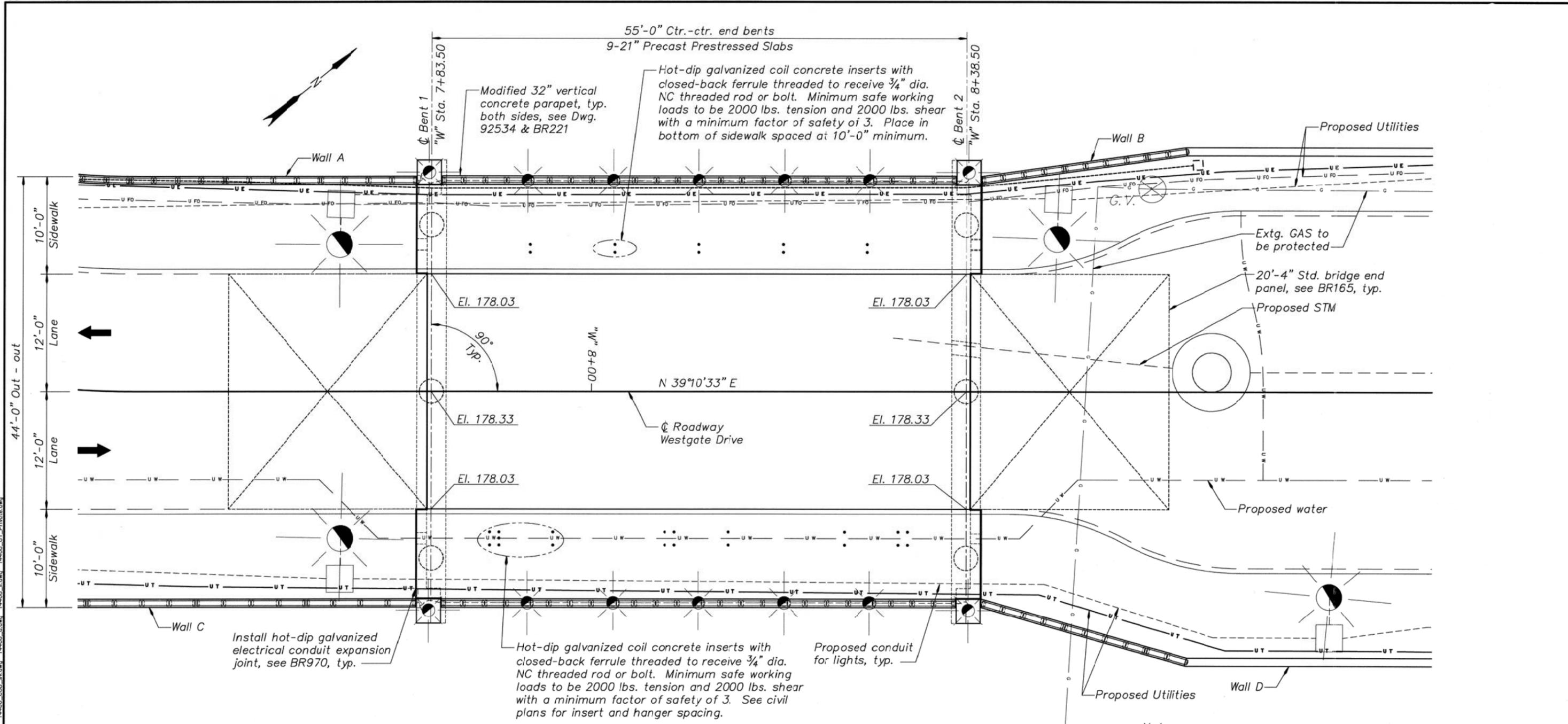
SCALE WARNING: If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO. 21612  
 DATE August 2013  
 CALC. BOOK 6618

BEAVERTON CREEK, WESTGATE DRIVE  
 SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON)  
 WASHINGTON COUNTY

**DRILLED SHAFT DETAILS**

SHEET 6 OF 17  
 DRAWING NO. 92529



**PLAN**  
Scale : 1" = 5'-0"

DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure

DRAFTER: Alan Mitchell  
 DESIGNER: Mikal Mitchell  
 CHECKER: Benjamin Sundberg  
 REVIEWER: Terry Stones



**OREGON DEPARTMENT OF TRANSPORTATION**

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

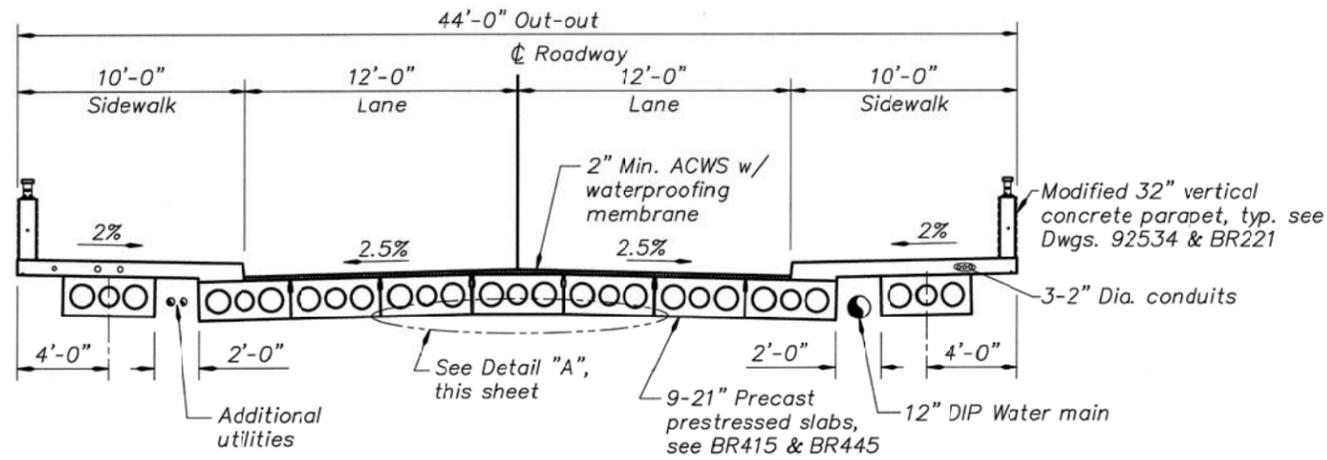
SCALE WARNING  
 If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO. 21612  
 DATE August 2013  
 CALC. BOOK 6618

BEAVERTON CREEK, WESTGATE DRIVE  
 SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON)  
 WASHINGTON COUNTY

DECK PLAN

SHEET 7 OF 17  
 DRAWING NO. 92530



**TYPICAL DECK SECTION**

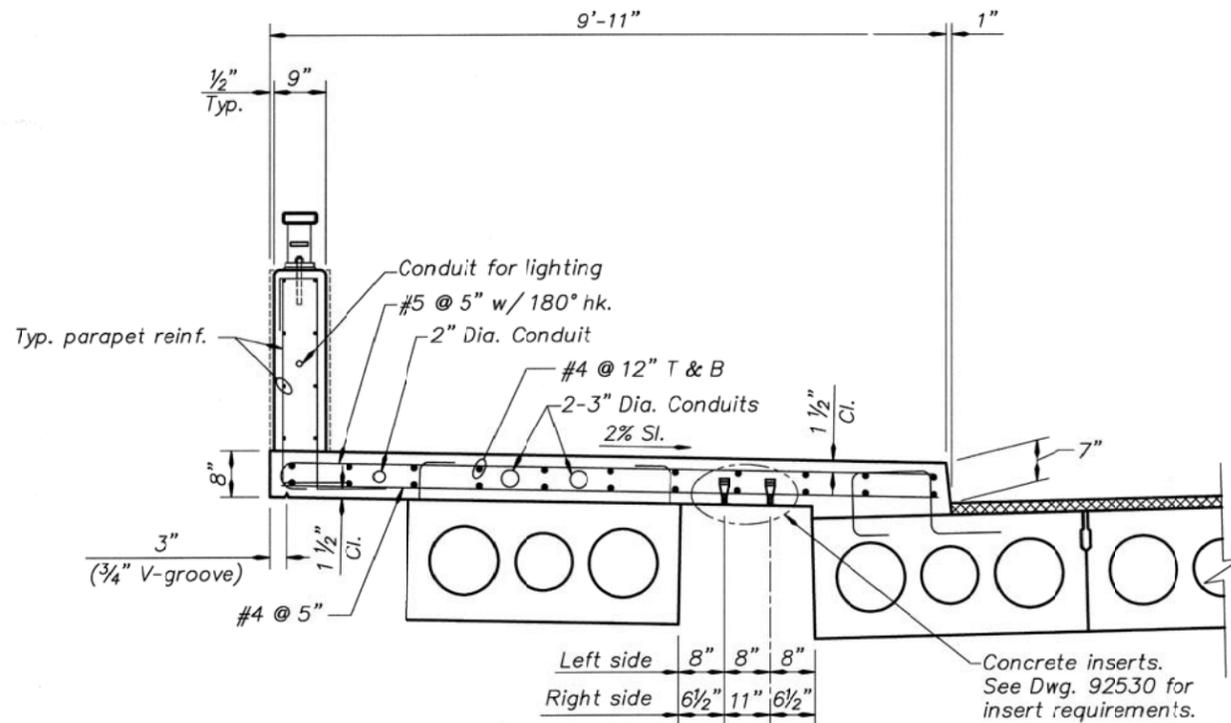
Scale : 1/4" = 1'-0"

**Note:**  
See Dwg. 92530, 92533, and civil plans for insert and hanger requirements.



**DETAIL "A"**

No Scale



**TYPICAL SIDEWALK REINFORCING**

Scale : 3/4" = 1'-0"  
(Left side shown: Right side similar)

DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure

DRAFTER: Alan Mitchell  
 DESIGNER: Mikai Mitchell  
 CHECKER: Benjamin Sundberg  
 REVIEWER: Terry Stones



**OREGON DEPARTMENT OF TRANSPORTATION**

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

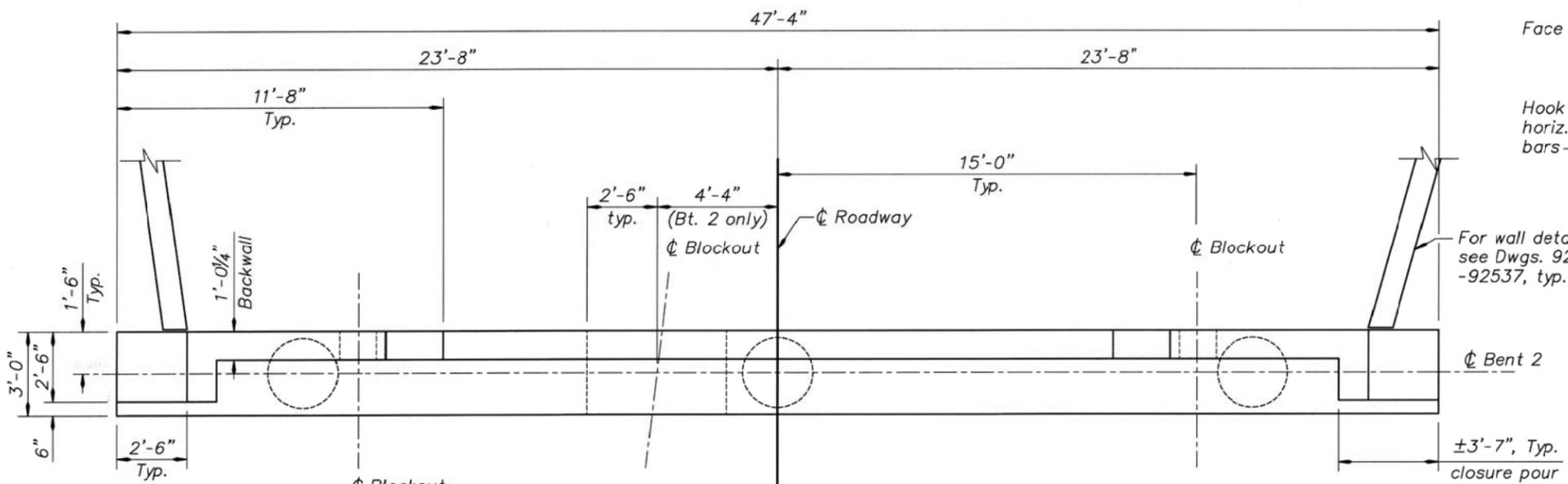
SCALE WARNING  
 If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO. 21612
DATE August 2013
CALC. BOOK 6618

BEAVERTON CREEK, WESTGATE DRIVE  
 SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON)  
 WASHINGTON COUNTY

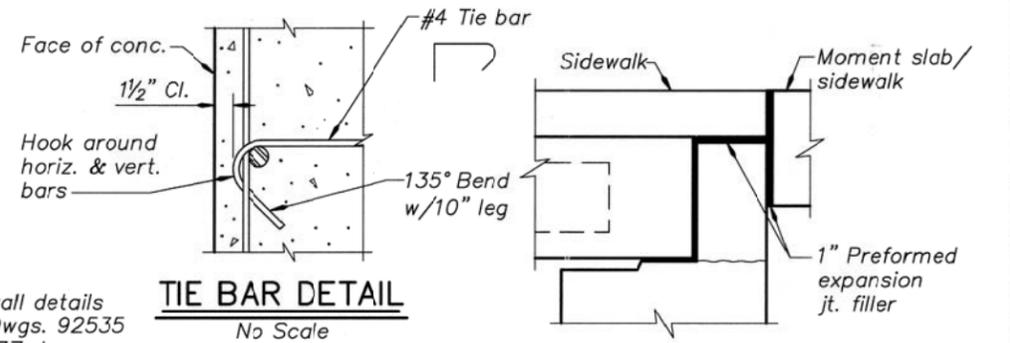
**TYPICAL DECK SECTION**

SHEET 8 OF 17
DRAWING NO. 92531



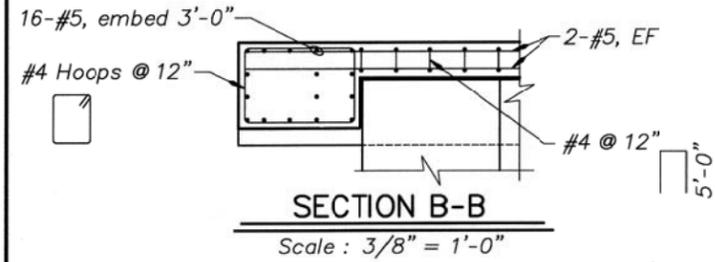
Top of conc. pad		Top of backwall	
Location	Elev.	Location	Elev.
(A)	176.28	(E)	176.85
(B)	175.98	(F)	177.85
(C)	176.19	(G)	177.80
(D)	176.27	(H)	177.89
		(I)	178.04

**BENT 2 PLAN**  
Scale: 3/8" = 1'-0"



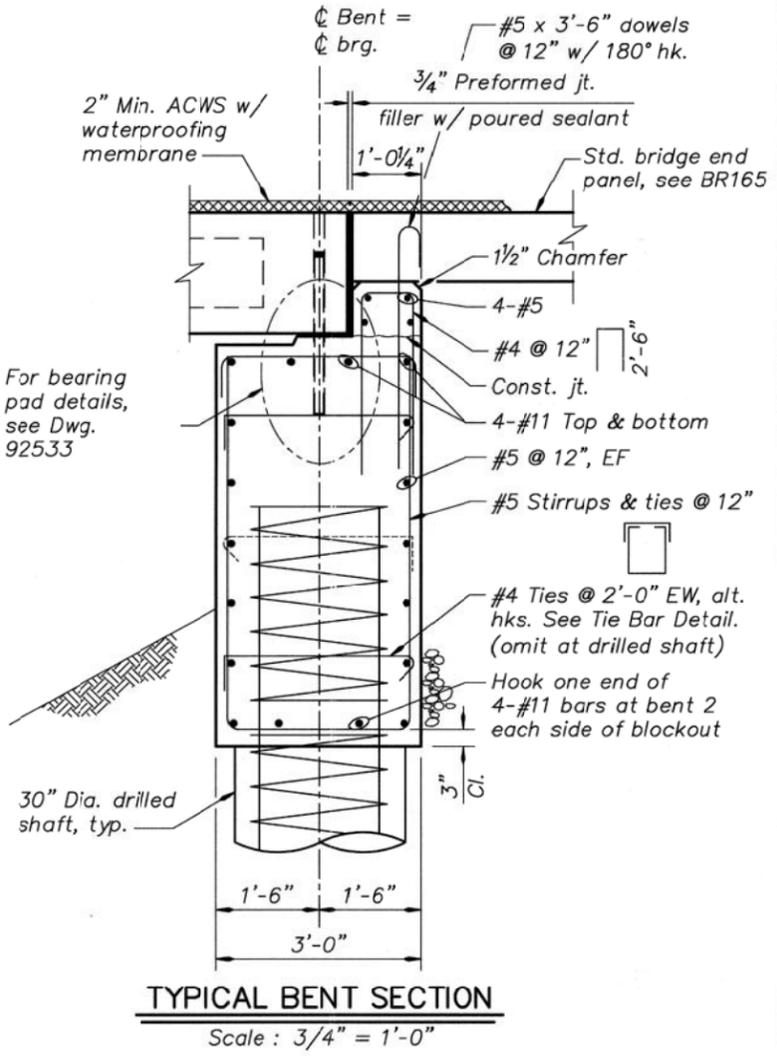
**TIE BAR DETAIL**  
No Scale

**SECTION A-A**  
Scale: 3/4" = 1'-0"

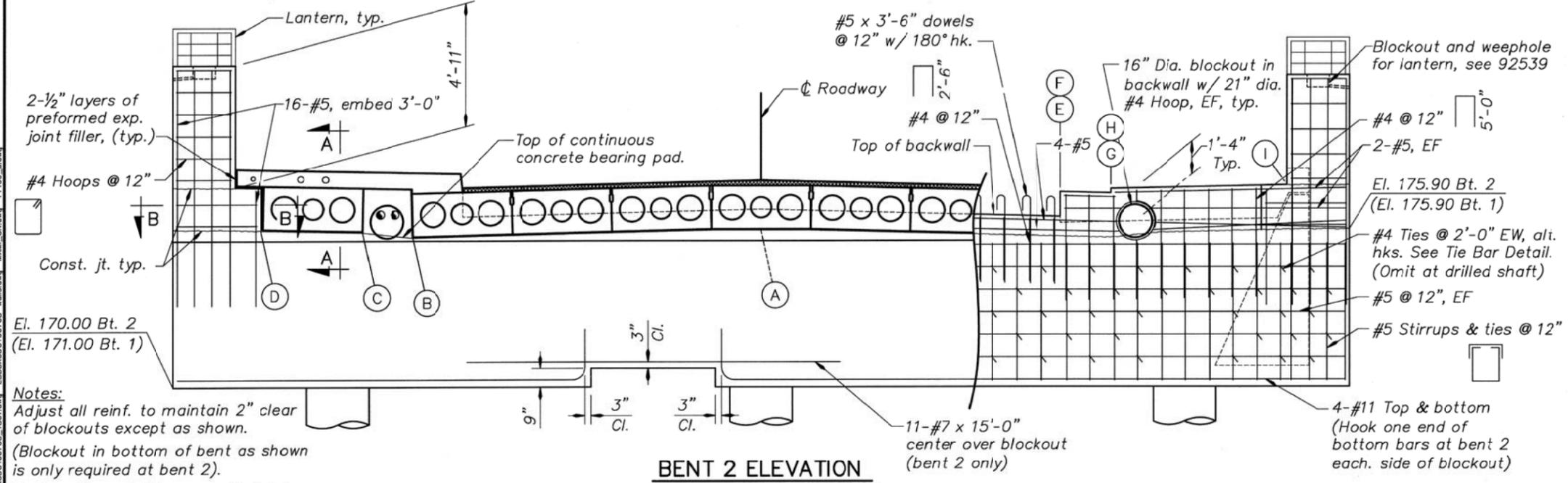


**SECTION B-B**  
Scale: 3/8" = 1'-0"

Adjust top of conc. pad elevations for actual camber. Elevations identical at bent 1.



**TYPICAL BENT SECTION**  
Scale: 3/4" = 1'-0"



**BENT 2 ELEVATION**  
Scale: 3/8" = 1'-0"  
(Bent 1 similar, looking back on station)

**Notes:**  
Adjust all reinf. to maintain 2" clear of blockouts except as shown.  
(Blockout in bottom of bent as shown is only required at bent 2).  
Bent surface shall be smooth finish according to Special Provision 00542.  
Bent concrete shall be colored according to Special Provision 00542.

DATE	REVISION	BY

DRAFTER: Alan Mitchell  
 DESIGNER: Mikal Mitchell  
 CHECKER: Benjamin Sundberg  
 REVIEWER: Terry Stones

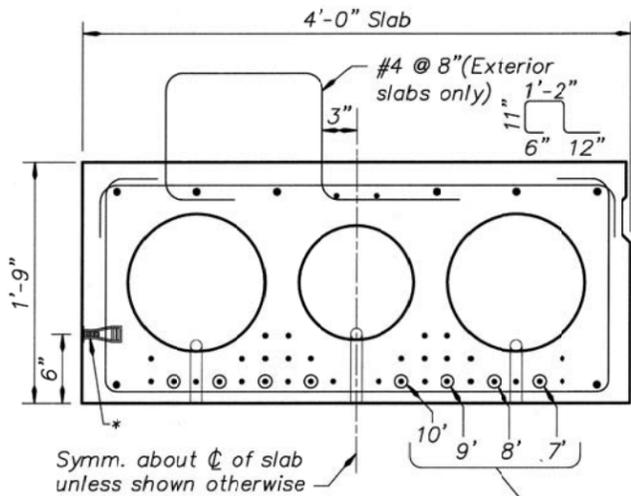


<b>STRUCTURE NO.</b> 21612
<b>DATE</b> August 2013
<b>CALC. BOOK</b> 6618

BEAVERTON CREEK, WESTGATE DRIVE  
SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON)  
WASHINGTON COUNTY

**BENT 2 PLAN AND ELEVATION**

<b>SHEET</b> 9 <b>OF</b> 17
<b>DRAWING NO.</b> 92532



**TYPICAL SECTION SLAB NO. 1**

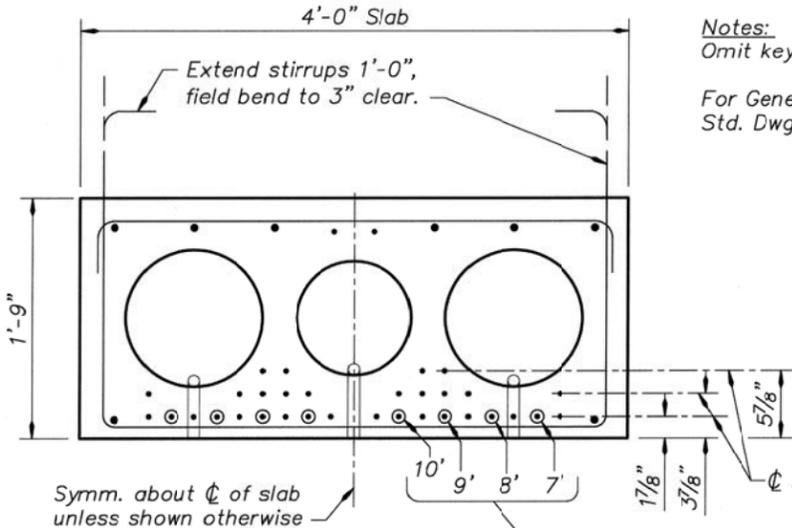
Scale: 1 1/2" = 1'-0"

**Notes:**  
Keyway typical both sides of slabs No. 1, omit on exterior side of exterior slabs No. 1.

For General Notes and details not shown, see Std. Dwgs. BR415 & BR445.

\*Inserts on exterior side of exterior slab No. 1 right side only. Hot-dip galvanized expanded coil concrete inserts with closed-back, ferrule threaded to receive 3/4" dia. NC threaded rod or bolt. Minimum safe working loads to be 2000lbs tension and 2000lbs shear with a minimum factor of safety of 3. see civil plans for insert spacing.

Dimension shown indicates the length of tube required, at both ends, to debond the indicated strand. Detension strands in order of increasing tube length shown.



**TYPICAL SECTION SLAB NO. 2 AT SIDEWALK**

Scale: 1 1/2" = 1'-0"

**Notes:**  
Omit keyways on both sides of slabs No 2.

For General Notes and details not shown, see Std. Dwgs. BR415 & BR445.

Dimension shown indicates the length of tube required, at both ends, to debond the indicated strand. Detension strands in order of increasing tube length shown.

**21" STANDARD PRECAST PRESTRESSED SLABS**

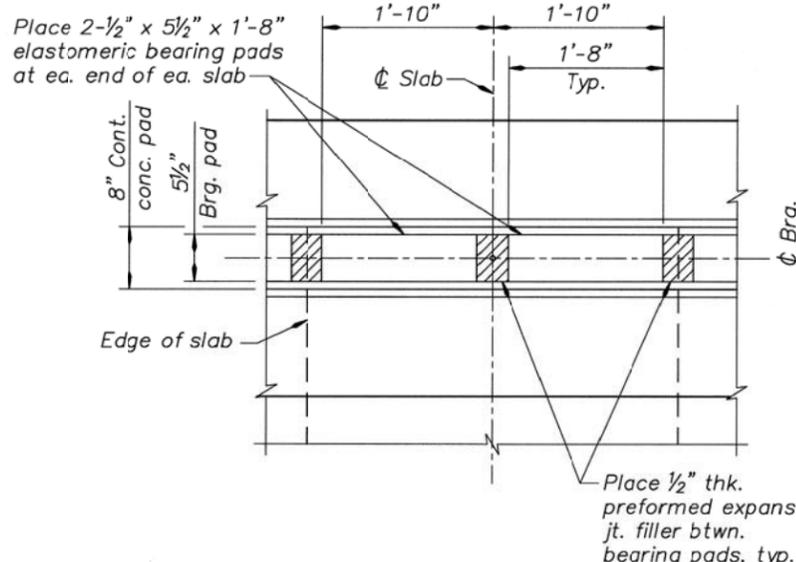
Slab No.	No. Slabs Required	Span No.	Horizontal Length 0-0 at slab $\phi$ , ft. (after Shortening)	Skew Angle		Total Strand	Debonded Strands	Distance "Yc" to c.g. strand at midspan, in.	Distance "Yu" to c.g.s. at midspan subtracting top strand, in.	CONCRETE CLASS, psi	Min. Concrete Strength Req'd. by Design Loading, ksi	Minimum Concrete Strength at Transfer of Prestress, ksi	Estimated Initial Strand Stress Loss, ksi	Estimated Midspan Deflection (in.)					
				Back	Ahead									Upward at Transfer of Prestress	Upward 3 months after transfer of Prestress (No SIDL)	Upward 5 years after transfer of Prestress (No SIDL)	Instantaneous Downward Due to SIDL	Downward Due to SIDL 5 years after loading	Estimated Shortening 3 weeks after Transfer of Prestress (in.)
1	7	1	55'-10"	0°	0°	34	8	3.88	3.00	7000	7.0	4.5	9.00	1.33	2.34	3.20	0.63	1.83	0.38
2	2	1	55'-10"	0°	0°	34	8	3.88	3.00	7000	7.0	4.5	9.00	1.33	2.34	2.70	1.11	2.76	0.38

The superimposed dead load (SIDL) includes ACWS, sidewalk & bridge rails.

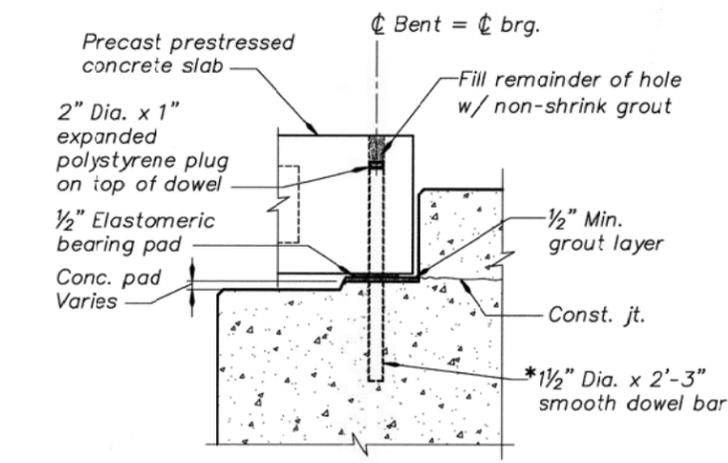
**Note:**  
Slabs and dowel bars must be in place and tie rods tightened prior to placing backfill behind bent walls.

Form concrete pad (varying thickness and cross slope) integrally with supporting member. Allow concrete to cure 3 days or until concrete obtains design strength. Place 1/2" min. grout layer immediately before placing slabs. Place elastomeric bearing pads, preformed expansion joint filler and prestressed slabs before grout is fully set to insure uniform bearing across full width of slab. If uniform bearing is not achieved, lift slab and repeat procedure. Any excess grout protruding above bottom of bearing pads shall be removed immediately after placing slabs.

\* Use a 1 1/2" dia. x 2'-3" smooth dowel (A36) at each end of slab. Drill a 2" dia. hole 1'-0" min. deep into the pile cap using a low impact rotary drill, after slabs are in place and tie rods have been tightened.



PLAN



SECTION

**BEARING PAD DETAIL**

Scale: 1" = 1'-0"

DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: Alan Mitchell  
 DESIGNER: Mikal Mitchell  
 CHECKER: Benjamin Sundberg  
 REVIEWER: Terry Stones



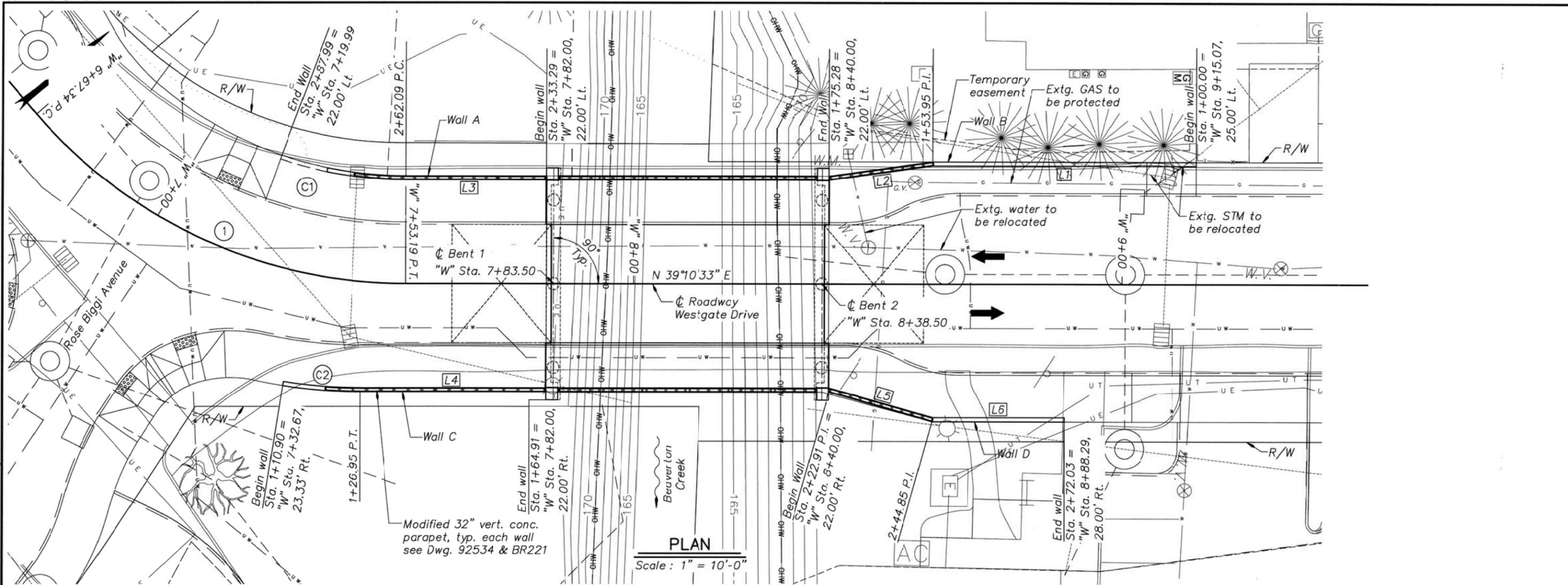
STRUCTURE NO. 21612  
 DATE August 2013  
 CALC. BOOK 6618

BEAVERTON CREEK, WESTGATE DRIVE  
 SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON)  
 WASHINGTON COUNTY

SLAB DETAILS AND SCHEDULE

SHEET 10 OF 17  
 DRAWING NO. 92533





NORTH WALL HORIZONTAL GEOMETRY TABLE

#	START STA.	END STA.	DELTA (Δ)	RADIUS	TANGENT	LENGTH	DIRECTION
L1	1+00.00	1+53.95				53.95'	S39°10'33"W
L2	1+53.95	1+75.28				21.34'	S31°05'35"W
L3	1+75.28	2+62.09				86.81'	S39°10'33"W
C1	2+62.09	2+87.99	19°01'29"	78.00'	13.07'	25.90'	

SOUTH WALL HORIZONTAL GEOMETRY TABLE

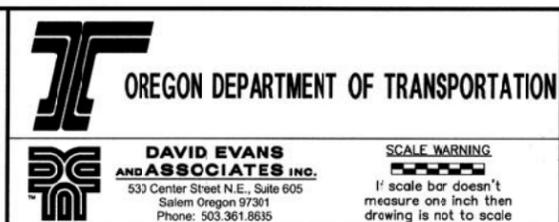
#	START STA.	END STA.	DELTA (Δ)	RADIUS	TANGENT	LENGTH	DIRECTION
C2	1+00.00	1+26.95	15°08'11"	102.00'	13.55'	26.95'	
L4	1+26.95	2+22.91				95.96'	N39°10'33"E
L5	2+22.91	2+44.85				21.94'	N55°02'48"E
L6	2+44.85	2+72.03				27.18'	N39°10'33"E

① Westgate Curve Data  
 100' R.C.L.  
 Δ 49°11'23"  
 L 85.85'

DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure

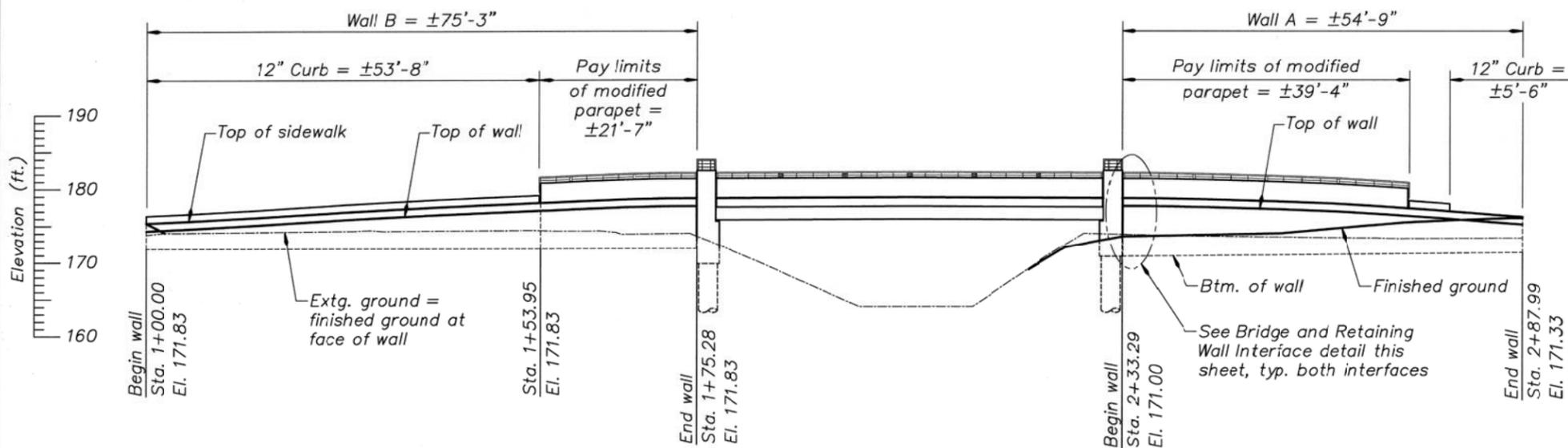
DRAFTER: Alan Mitchell  
 DESIGNER: Mikal Mitchell  
 CHECKER: Benjamin Sundberg  
 REVIEWER: Terry Stones



STRUCTURE NO.  
21612  
 DATE  
August 2013  
 CALC. BOOK  
6618

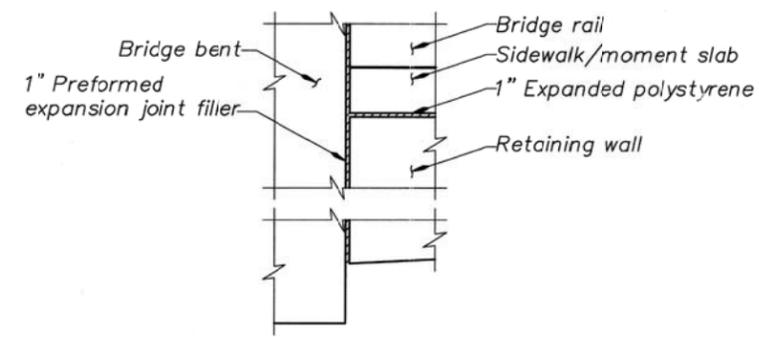
BEAVERTON CREEK, WESTGATE DRIVE  
 SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON)  
 WASHINGTON COUNTY  
 WALL - PLAN

SHEET  
12  
OF  
17  
 DRAWING NO.  
92535



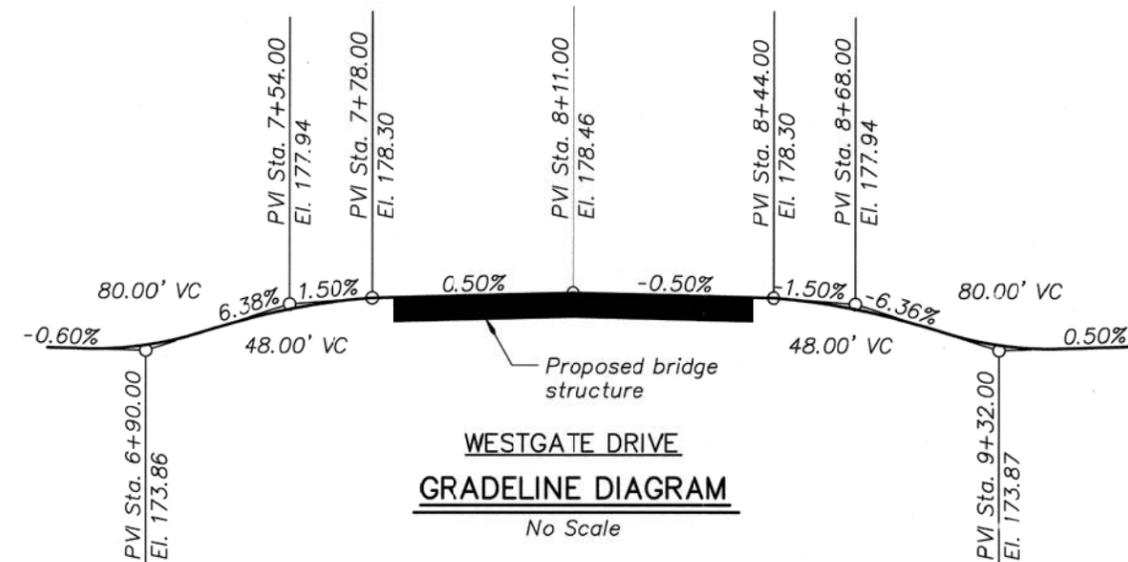
**NORTH WALL - DEVELOPED ELEVATION**

Scale : 1" = 10'-0"



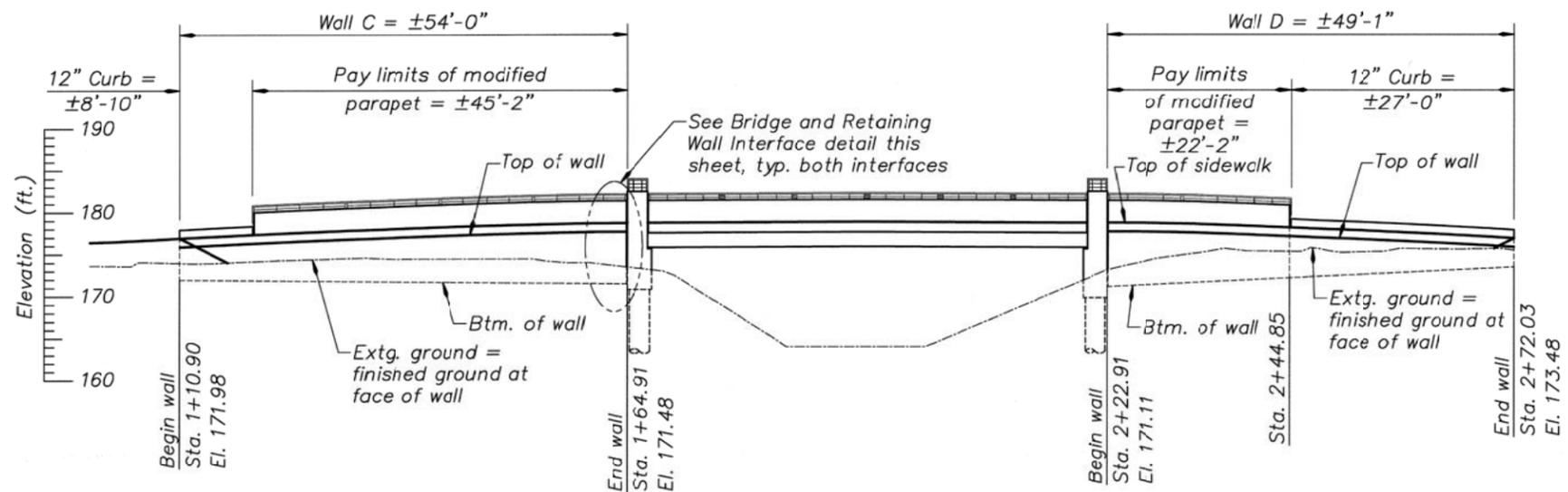
**BRIDGE AND RETAINING WALL INTERFACE**

No Scale



**WESTGATE DRIVE GRADELINE DIAGRAM**

No Scale



**SOUTH WALL - DEVELOPED ELEVATION**

Scale : 1" = 10'-0"

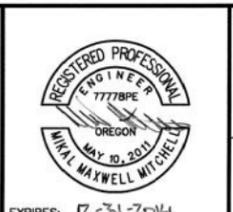
**Notes:**  
Elevations are based on City Of Beaverton Benchmark P37B.

Wall elevations shown are at bottom of wall.

DATE	REVISION	BY

ACCOMPANIED BY DWGS. See sheet 1 for this structure.

DRAFTER: Alan Mitchell  
 DESIGNER: Mikal Mitchell  
 CHECKER: Benjamin Sundberg  
 REVIEWER: Terry Stones



**OREGON DEPARTMENT OF TRANSPORTATION**

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

SCALE WARNING: If scale bar doesn't measure one inch then drawing is not to scale

STRUCTURE NO. 21612  
 DATE August 2013  
 CALC. BOOK 6618

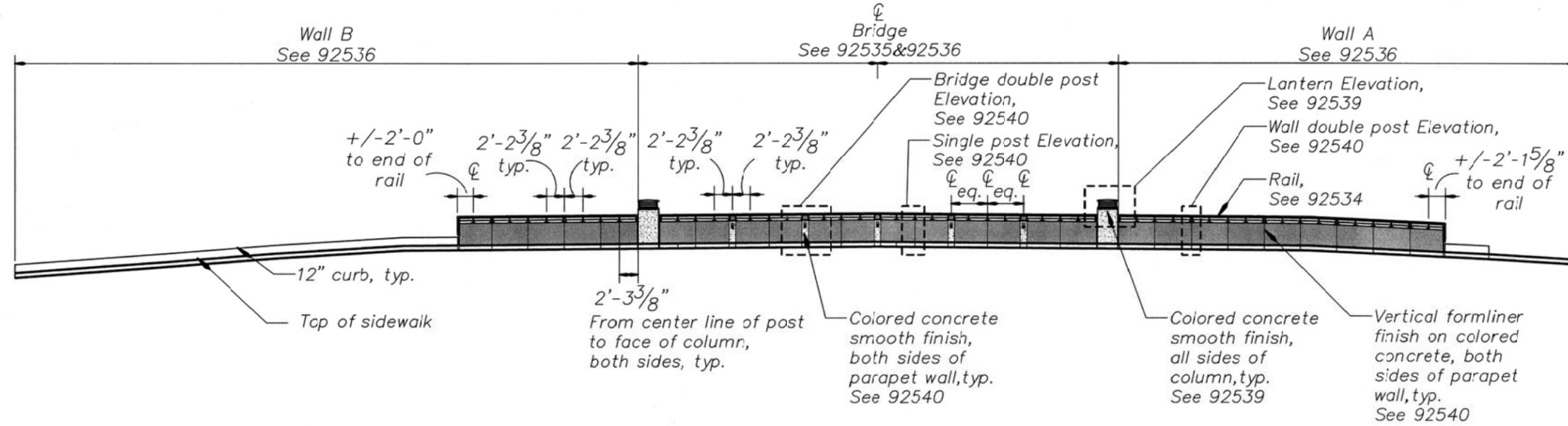
BEAVERTON CREEK, WESTGATE DRIVE  
 SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON)  
 WASHINGTON COUNTY

**WALL - ELEVATIONS**

SHEET 13 OF 17  
 DRAWING NO. 92536

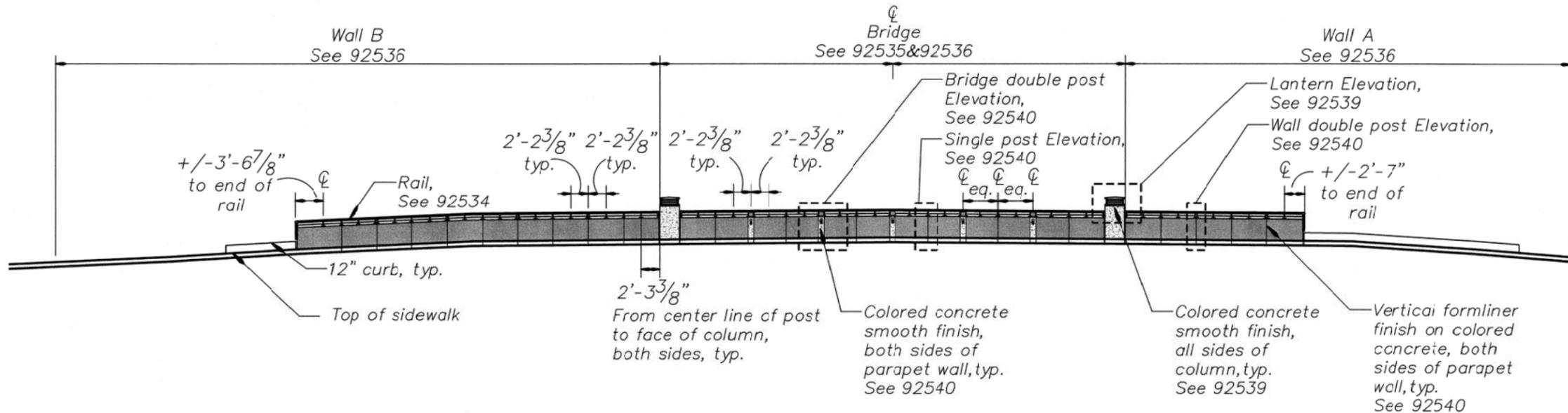


Note:  
See special provision 00542 for all architectural finishes



**NORTH WALL- INTERIOR VIEW ELEVATION**

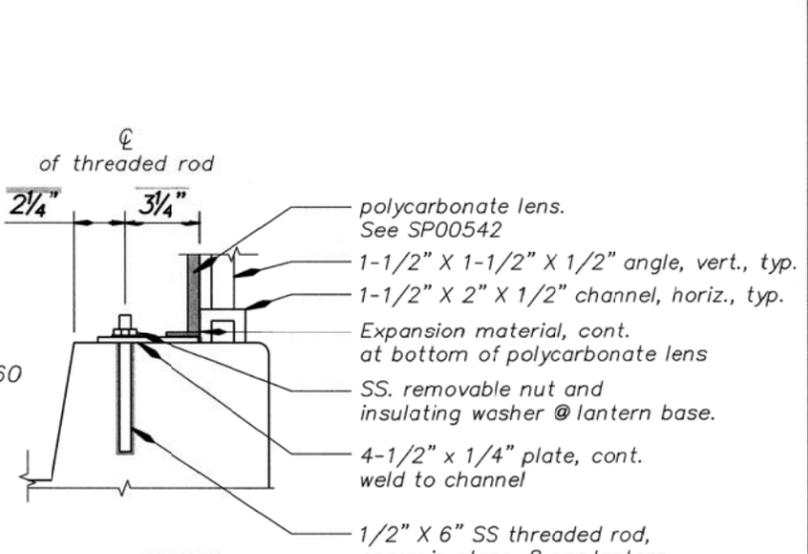
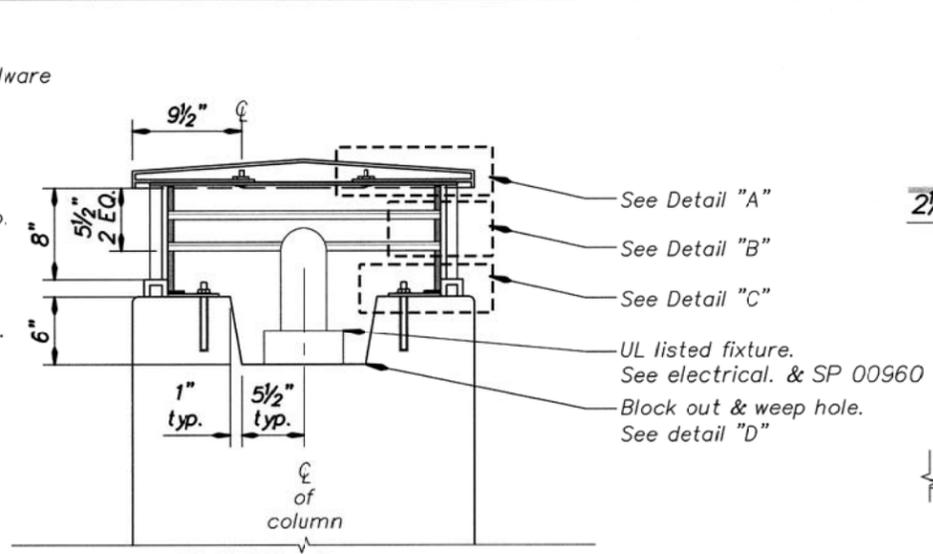
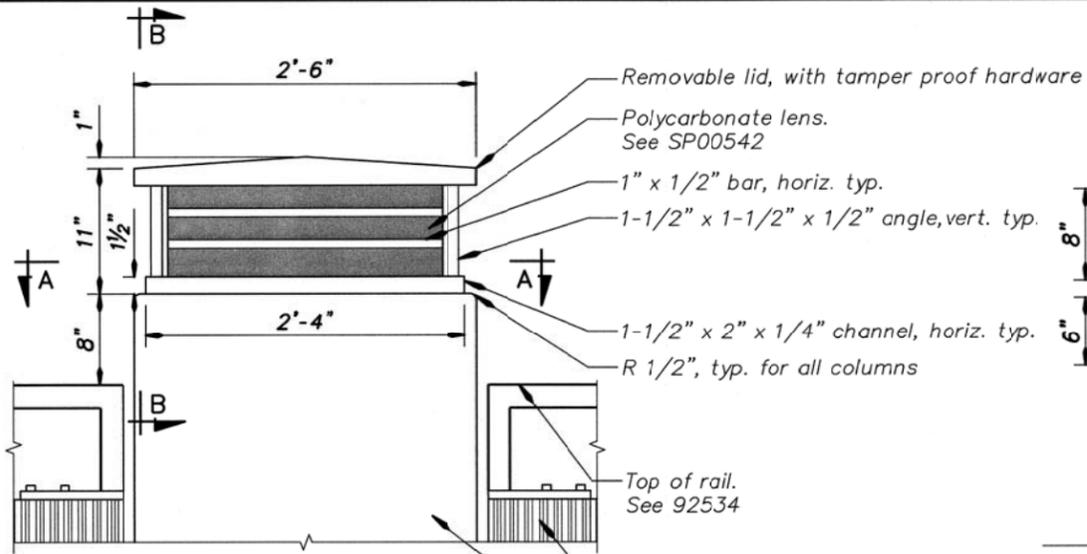
Scale : 1/8" = 1'-0"



**SOUTH WALL- INTERIOR VIEW ELEVATION**

Scale : 1/8" = 1'-0"

	DATE	BY	DRAFTER: <b>N Koppen</b>			STRUCTURE NO. 21612	BEAVERTON CREEK, WESTGATE DRIVE SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON) WASHINGTON COUNTY	SHEET 15 OF 17					
			DESIGNER: <b>N Koppen/M Zilis</b>							DATE August 2013	DRAWING NO. 92538		
			CHECKER: <b>D Olson</b>									SCALE WARNING if scale bar doesn't measure one inch then drawing is not to scale	CALC. BOOK -----
			REVIEWER:										
ACCOMPANIED BY DWGS. See Sheet 1 for this structure			REGISTERED 222 MICHAEL W. ZILIS D/2009 OREGON LANDSCAPE ARCHITECT		WALKER-MACNY LANDSCAPE ARCHITECTURE   URBAN DESIGN   PLANNING 111 SW OAK STREET, SUITE 300   PORTLAND, OREGON 97204 P: 503.228.1122   F: 503.278.8878   WALKERMACNY.COM								

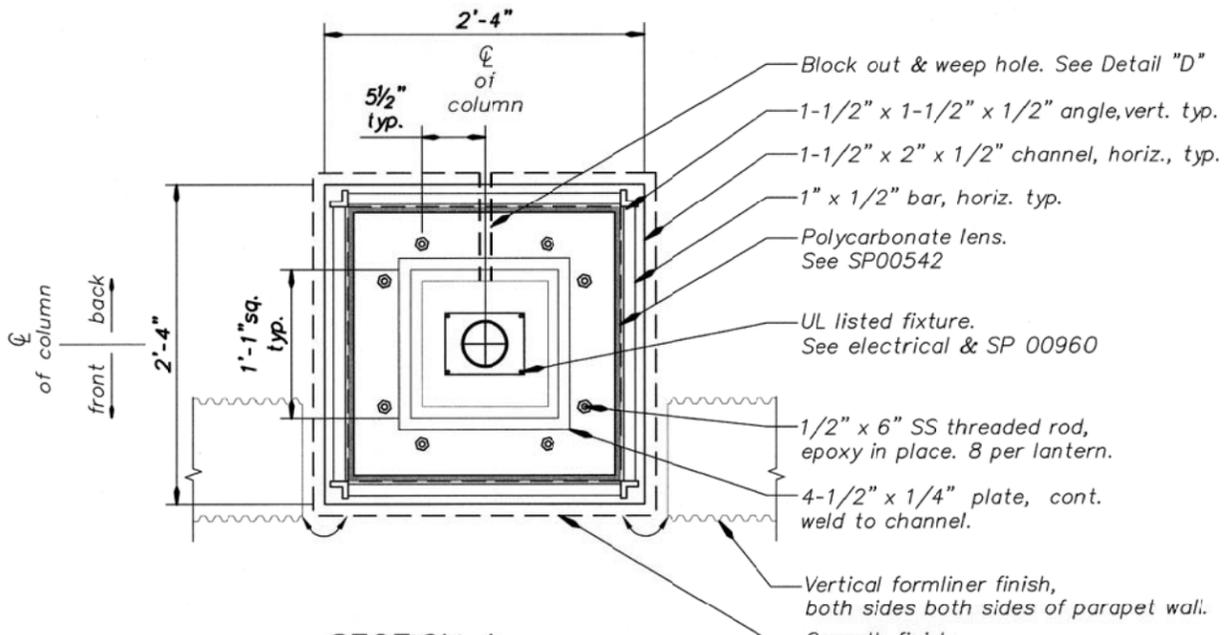


**Note:**  
Fabricator to provide complete shop drawings, including weld locations, for review and approval prior to fabrication of lantern and architectural finishes. See Special Provision 00542

All exposed welds to be ground smooth  
Construct on site mock up for review and approval of formliner application concrete finishes, and score joint details.

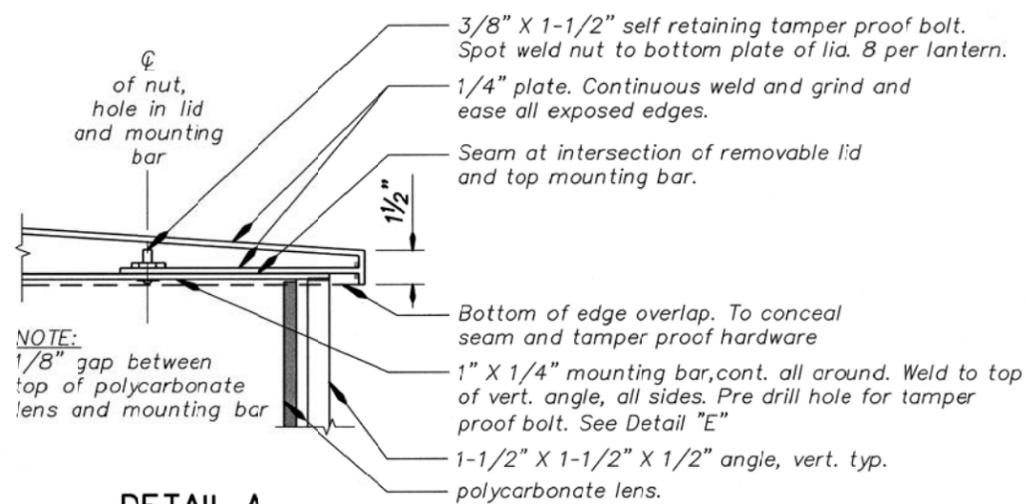
**LANTERN ELEVATION**

Scale : 1-1/2" = 1'-0"



**SECTION A**

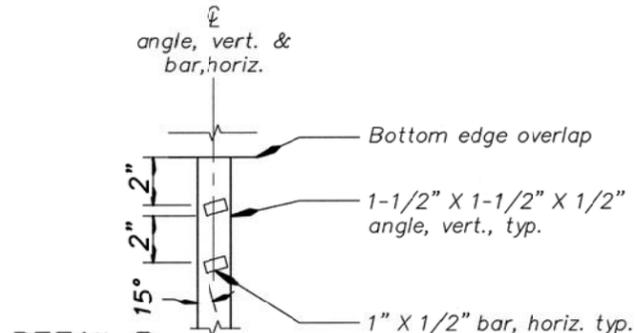
Scale : 1-1/2" = 1'-0"



**DETAIL A**

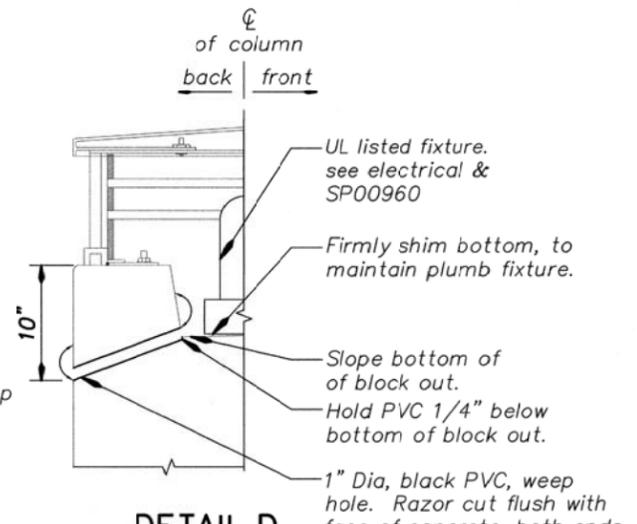
Scale : 3" = 1'-0"

**NOTE:**  
1/8" gap between top of polycarbonate lens and mounting bar



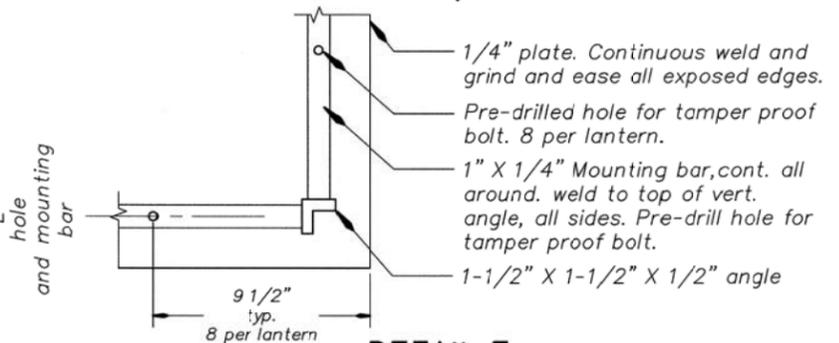
**DETAIL B**

Scale : 3" = 1'-0"



**DETAIL D**

Scale : 1-1/2" = 1'-0"



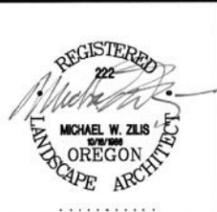
**DETAIL E**

Scale : 3" = 1'-0"

DATE	BY	DRAFTER: N Kappen
		DESIGNER: N Kappen/M Zilis
		CHECKER: D Olson
		REVIEWER:

ACCOMPANIED BY DWGS. See Sheet 1 for this structure

REGISTERED  
MICHAEL W. ZILIS  
LANDSCAPE ARCHITECT

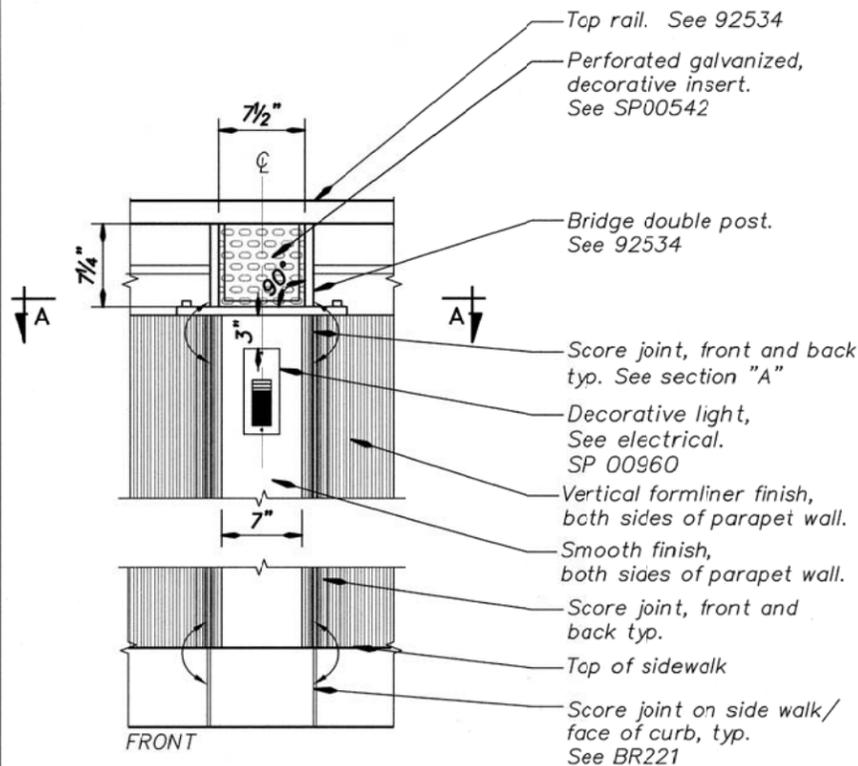


**OREGON DEPARTMENT OF TRANSPORTATION**  
WALKER-MACY  
LANDSCAPE ARCHITECTURE | URBAN DESIGN | PLANNING  
111 SW OAK STREET, SUITE 200 | PORTLAND, OREGON 97204  
P: 503.228.3122 | F: 503.278.8878 | WALKERMACY.COM

STRUCTURE NO. 21612  
DATE August 2013  
CALC. BOOK

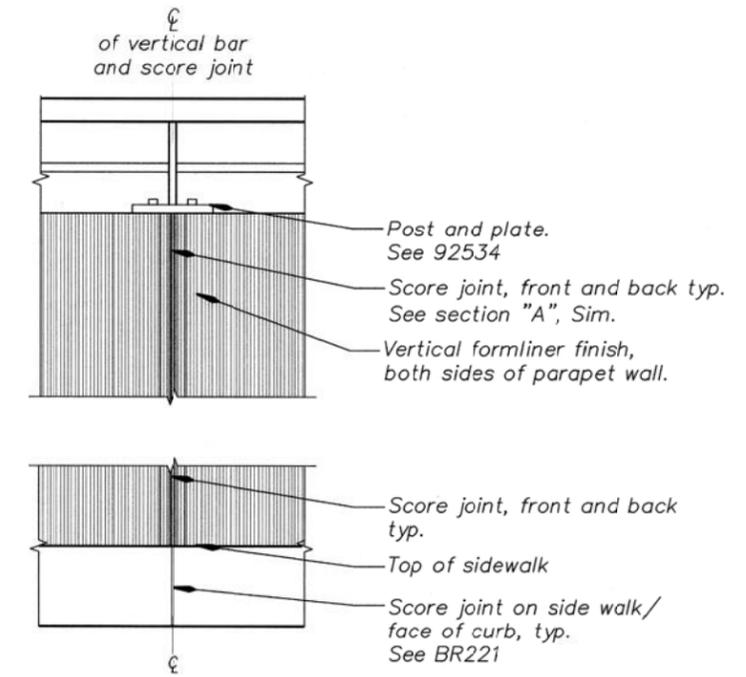
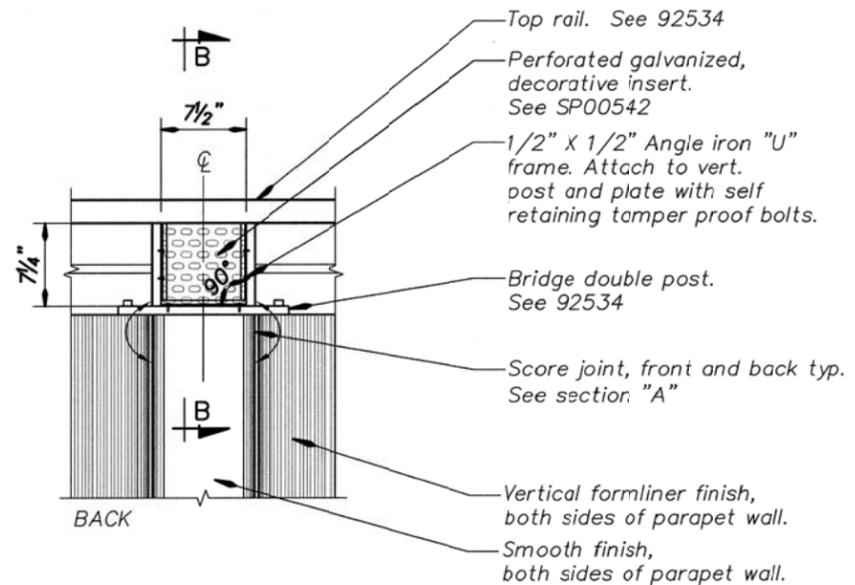
BEAVERTON CREEK, WESTGATE DRIVE  
SW ROSE BIGGI: HALL BLVD - CRESCENT ST (BEAVERTON)  
WASHINGTON COUNTY  
ILLUMINATION BRIDGE DETAILS

SHEET 16 OF 17  
DRAWING NO. 92539



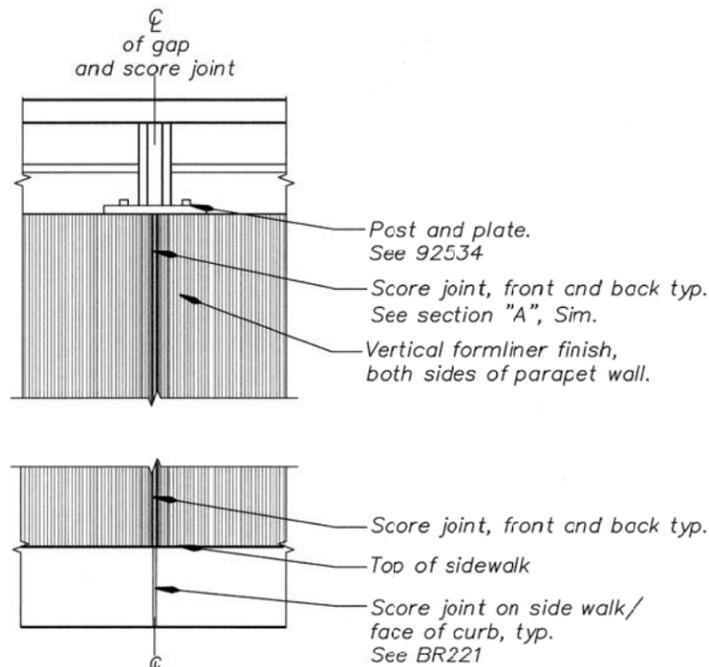
**BRIDGE DOUBLE POST-ELEVATION**

Scale : 1-1/2" = 1'-0"



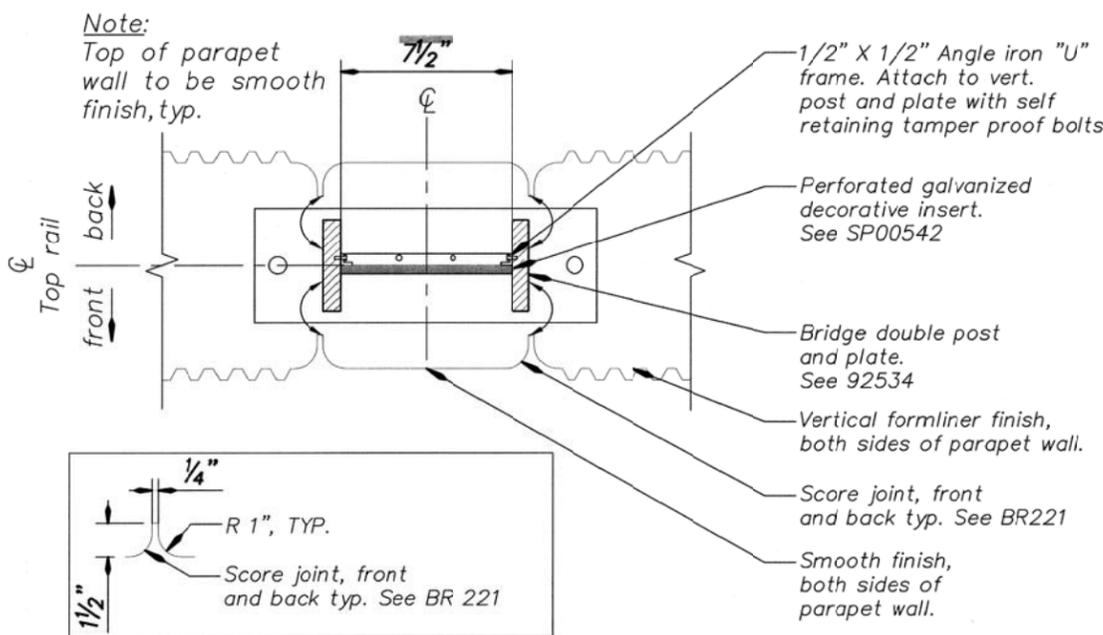
**SINGLE POST-ELEVATION**

Scale : 1-1/2" = 1'-0"



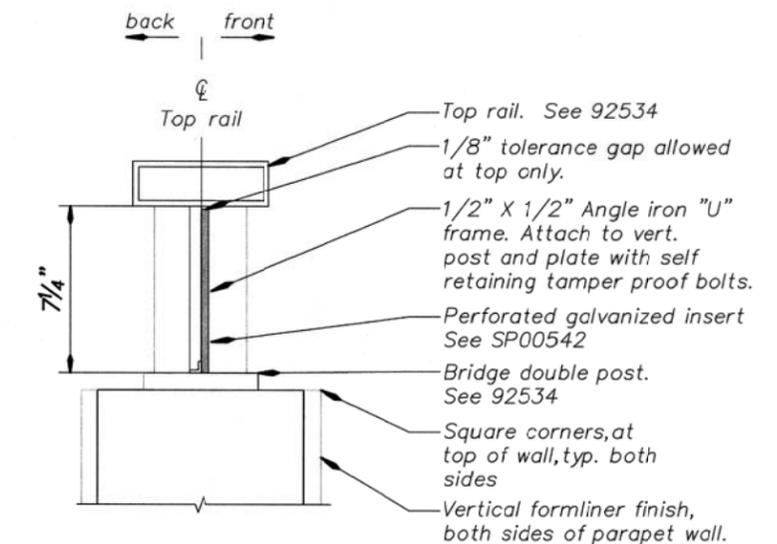
**WALL DOUBLE POST-ELEVATION**

Scale : 1-1/2" = 1'-0"



**SECTION "A"**

Scale : 3" = 1'-0"



**SECTION "B"**

Scale : 3" = 1'-0"

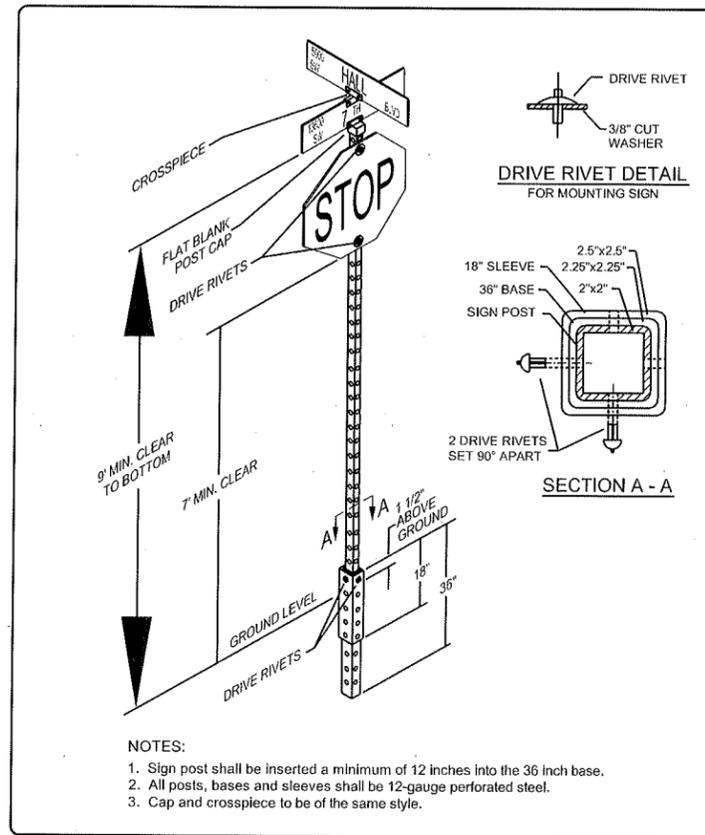
Work: 1236-Section-Elevation.dwg October 2013 1236-Section-Elevation\_modified\_text.dwg

DATE	BY	DRAFTER	N Kappen	STRUCTURE NO.	21612	BEAVERTON CREEK, WESTGATE DRIVE	SHEET
		DESIGNER	N Kappen/M Zilis				
ACCOMPANIED BY DWGS. See Sheet 1 for this structure		CHECKER	D Olson	CALC. BOOK	---	WASHINGTON COUNTY	DRAWING NO.
		REVIEWER				ILLUMINATION BRIDGE DETAILS	92540

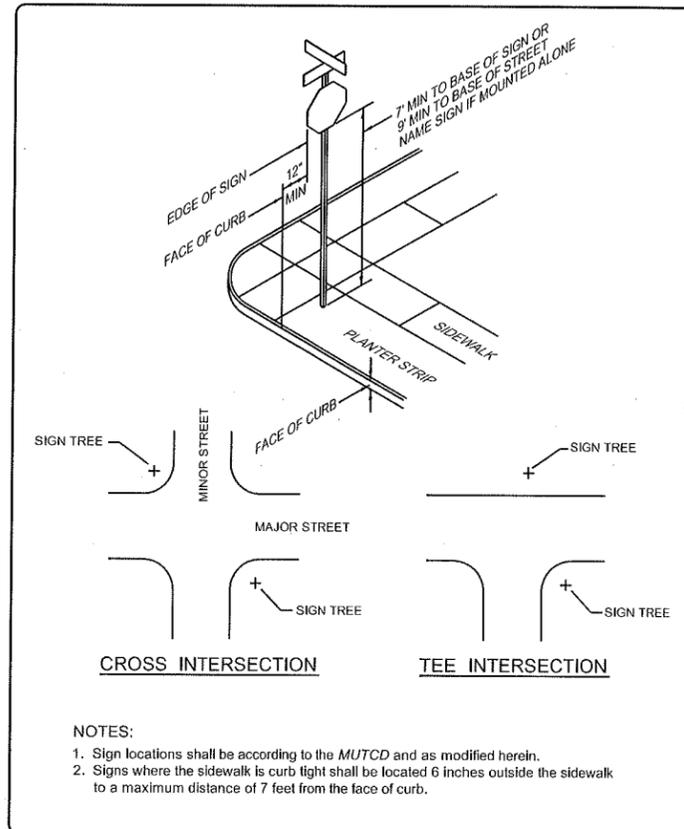


SCALE WARNING  
 If scale bar doesn't measure one inch then drawing is not to scale

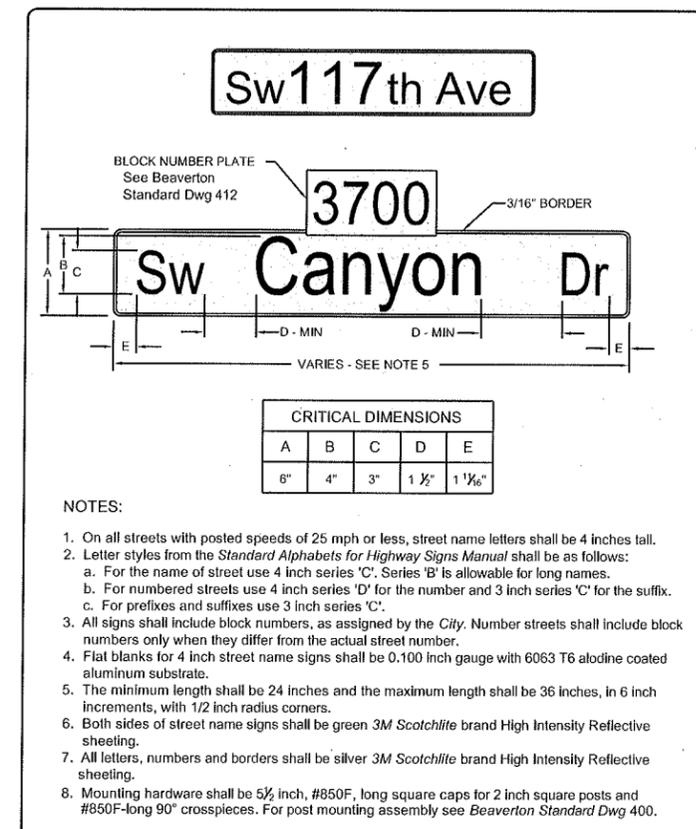
To be accompanied by  
 drg. nos. TM500, TM501,  
 TM503, TM521, TM525,  
 TM530, TM531, TM560,  
 TM561



<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		TYPICAL SIGN ASSEMBLY	
	TRAFFIC ENGINEER Randall R. Woolley	DATE 5 - 03 - 06	DRAWN BY JR - CPD	DRAWING NO. 400



<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		TYPICAL SIGN LOCATIONS	
	TRAFFIC ENGINEER Randall R. Woolley	DATE 6 - 21 - 06	DRAWN BY LA - CIP	DRAWING NO. 405



<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		STREET NAME SIGN - 4 INCH	
	TRAFFIC ENGINEER Jabra D. Khashto	DATE 4 - 8 - 13	DRAWN BY AML	DRAWING NO. 410

**OREGON DEPARTMENT OF TRANSPORTATION**

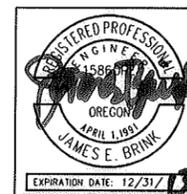
**CITY OF BEAVERTON**  
 4755 S.W. Griffith Drive  
 P.O. Box 4755  
 Beaverton, Or 97076  
 Ph: 503-626-2220  
 Fax: 503-626-2535

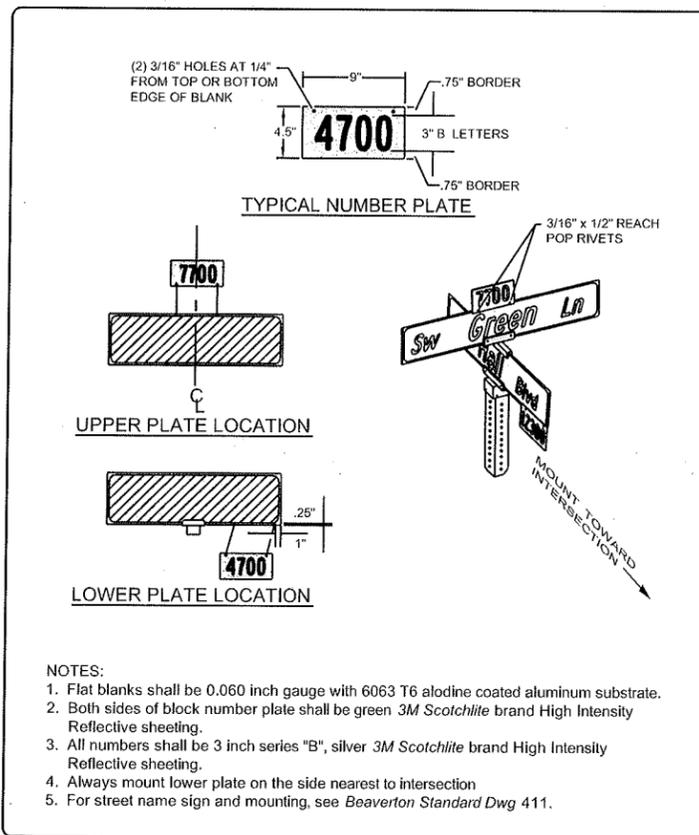
**SW ROSE BIGGI  
 HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benovidez

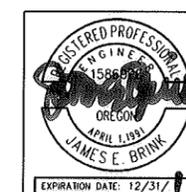
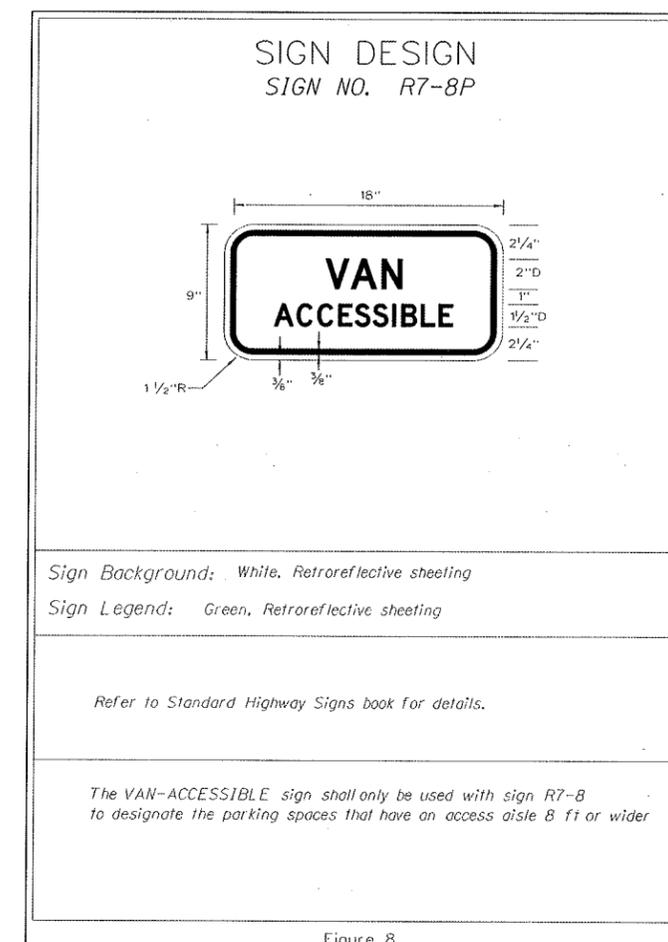
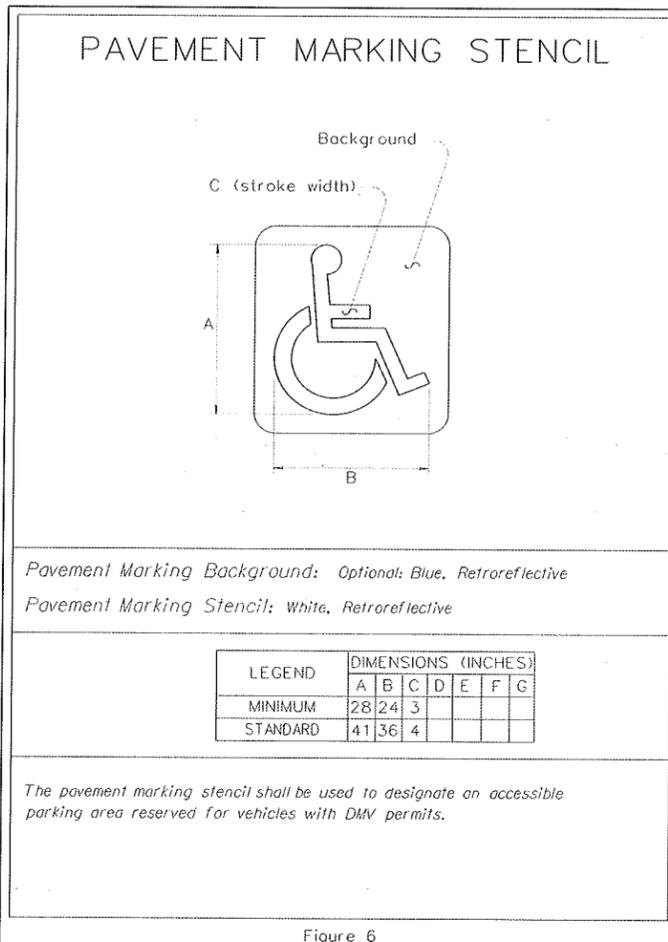
**SIGNING AND STRIPING  
 DETAILS**

SHEET NO.  
**ST**





<p>City Of Beaverton</p>	<b>PUBLIC WORKS DEPARTMENT</b>		<b>BLOCK NUMBER PLATE MOUNTING</b>	
	TRAFFIC ENGINEER Jabra D. Khasho	DATE 4-9-13	DRAWN BY AML	DRAWING NO. 412



**OREGON DEPARTMENT OF TRANSPORTATION**

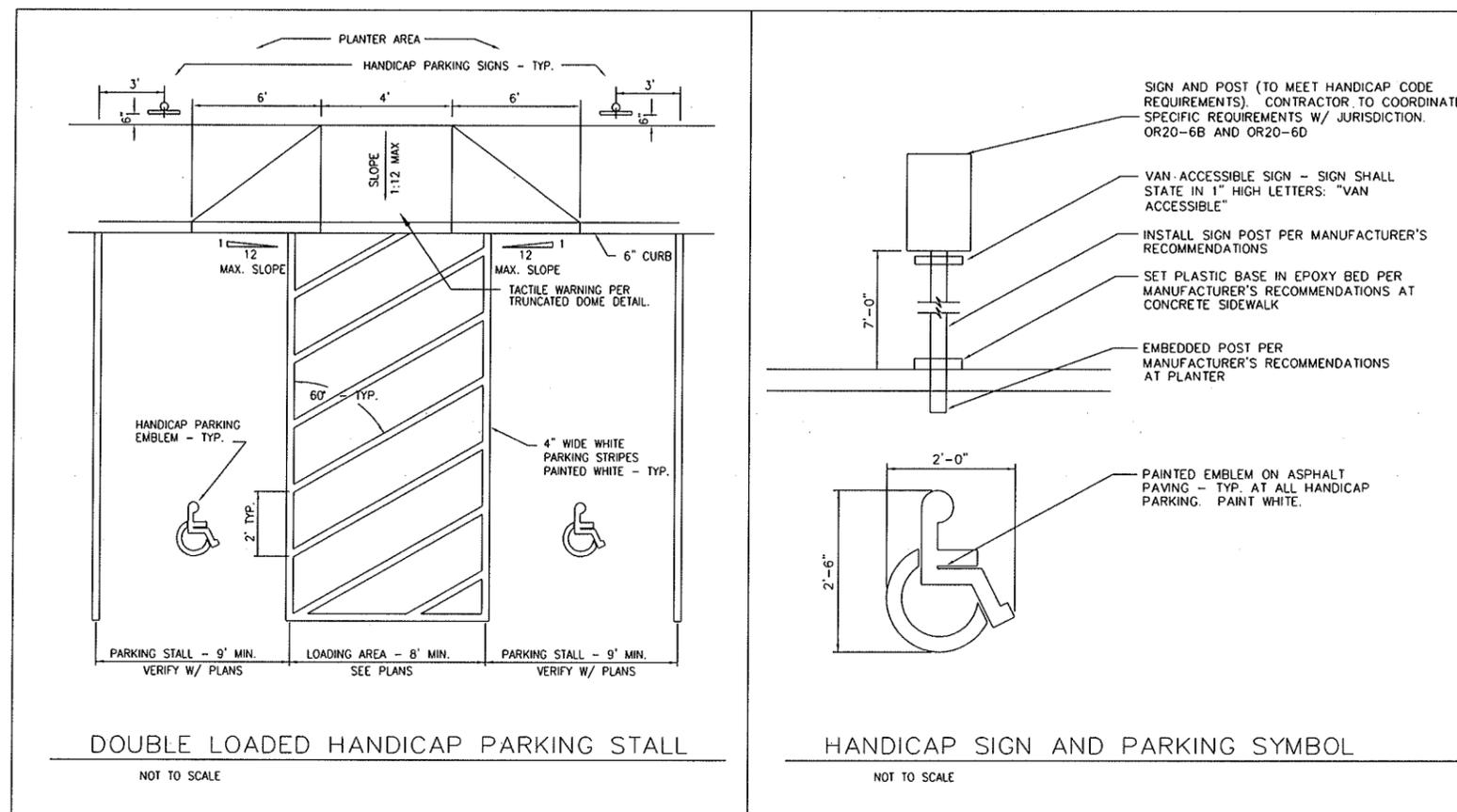
**CITY OF BEAVERTON**  
 4755 S.W. Griffith Drive  
 P.O. Box 4755 Ph: 503-526-2220  
 Beaverton, Or 97076 Fx: 503-526-2535

**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

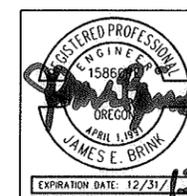
Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benovidez

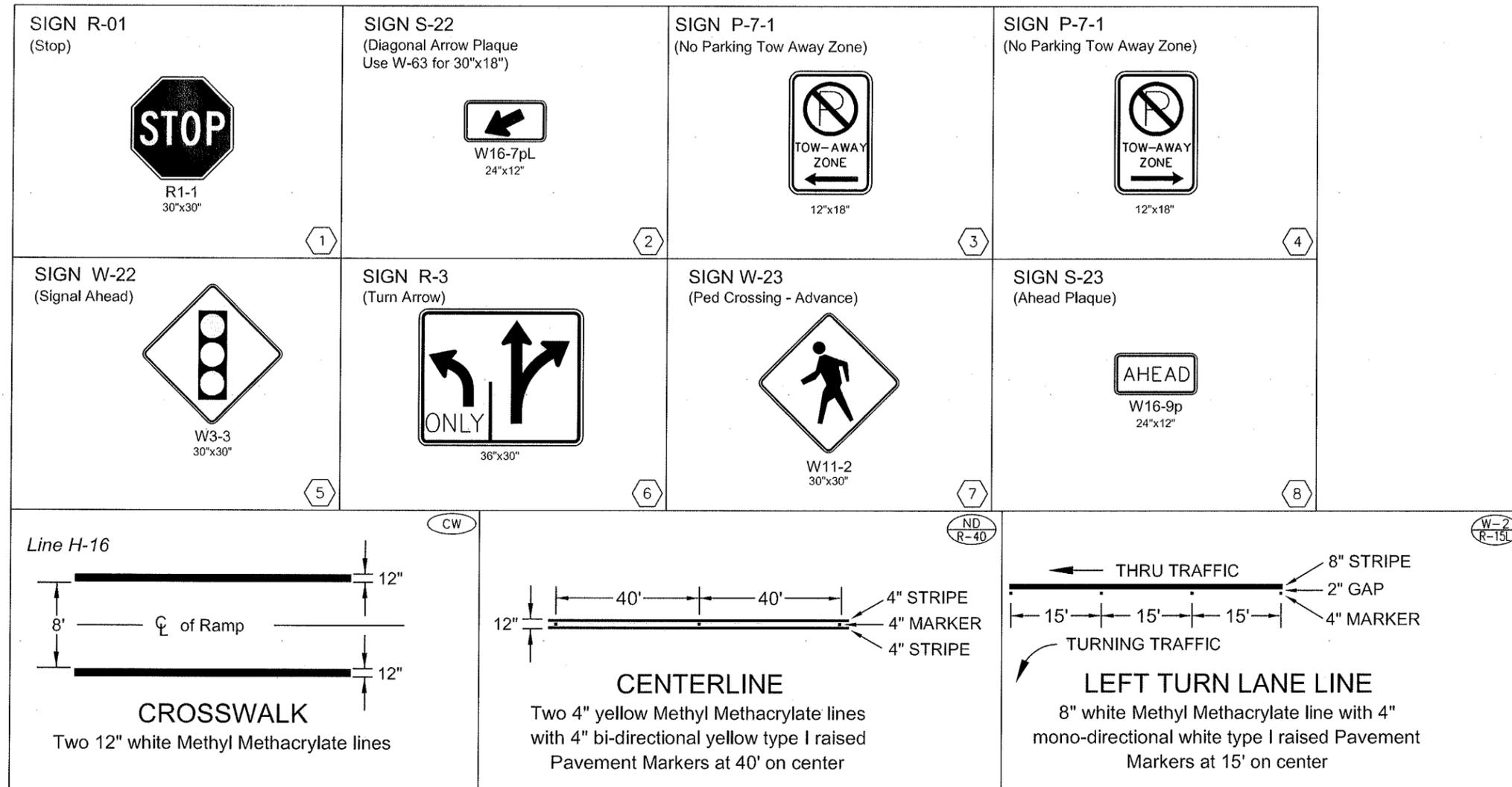
**SIGNING AND STRIPING DETAILS**

SHEET NO. ST-2



<b>OREGON DEPARTMENT OF TRANSPORTATION</b>	
<b>CITY OF BEAVERTON</b> 4755 S.W. Griffith Drive P.O. Box 4755      Ph: 503-526-2220 Beaverton, Or 97076      Fx: 503-526-2535	
<b>SW ROSE BIGGI</b> <b>HALL BLVD - CRESCENT ST (BEAVERTON)</b> VARIOUS STREETS WASHINGTON COUNTY	
Reviewed By - P. Arellano Designed By - J. Brink Drafted By - C. Benovidez	
<b>SIGNING AND STRIPING</b> <b>DETAILS</b>	SHEET NO. <b>ST-3</b>



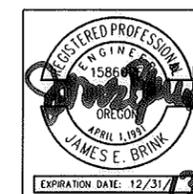


**OREGON DEPARTMENT OF TRANSPORTATION**

**CITY OF BEAVERTON**  
4755 S.W. Griffith Drive  
P.O. Box 4755 Beaverton, Or 97076  
Ph: 503-526-2220  
Fx: 503-526-2535

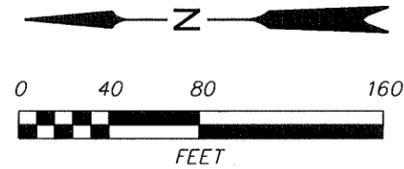
**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benavidez



**SIGNING AND STRIPING  
DETAILS**

SHEET NO.  
**ST-4**



STRIPING LEGEND

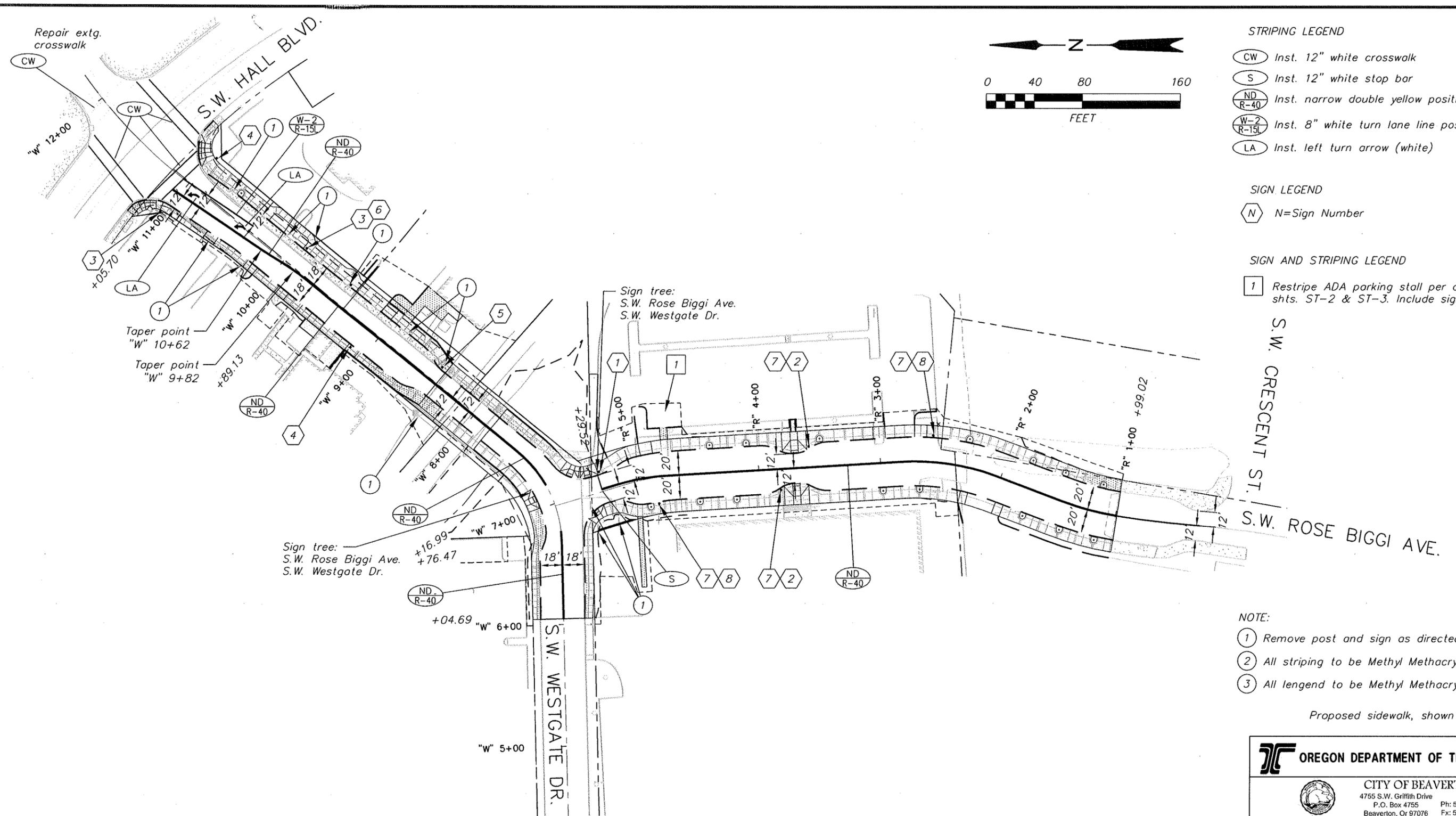
- (CW) Inst. 12" white crosswalk
- (S) Inst. 12" white stop bar
- (ND R-40) Inst. narrow double yellow positioning guide
- (W-2 R-15L) Inst. 8" white turn lane line positioning guide
- (LA) Inst. left turn arrow (white)

SIGN LEGEND

- (N) N=Sign Number

SIGN AND STRIPING LEGEND

- [1] Restripe ADA parking stall per details shown on sheets ST-2 & ST-3. Include sign and symbols.



NOTE:

- (1) Remove post and sign as directed by engineer
- (2) All striping to be Methyl Methacrylate
- (3) All legend to be Methyl Methacrylate

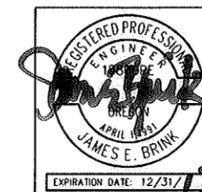
Proposed sidewalk, shown thus:

OREGON DEPARTMENT OF TRANSPORTATION

CITY OF BEAVERTON  
 4755 S.W. Griffith Drive  
 P.O. Box 4755 Ph: 503-526-2220  
 Beaverton, Or 97076 Fx: 503-526-2535

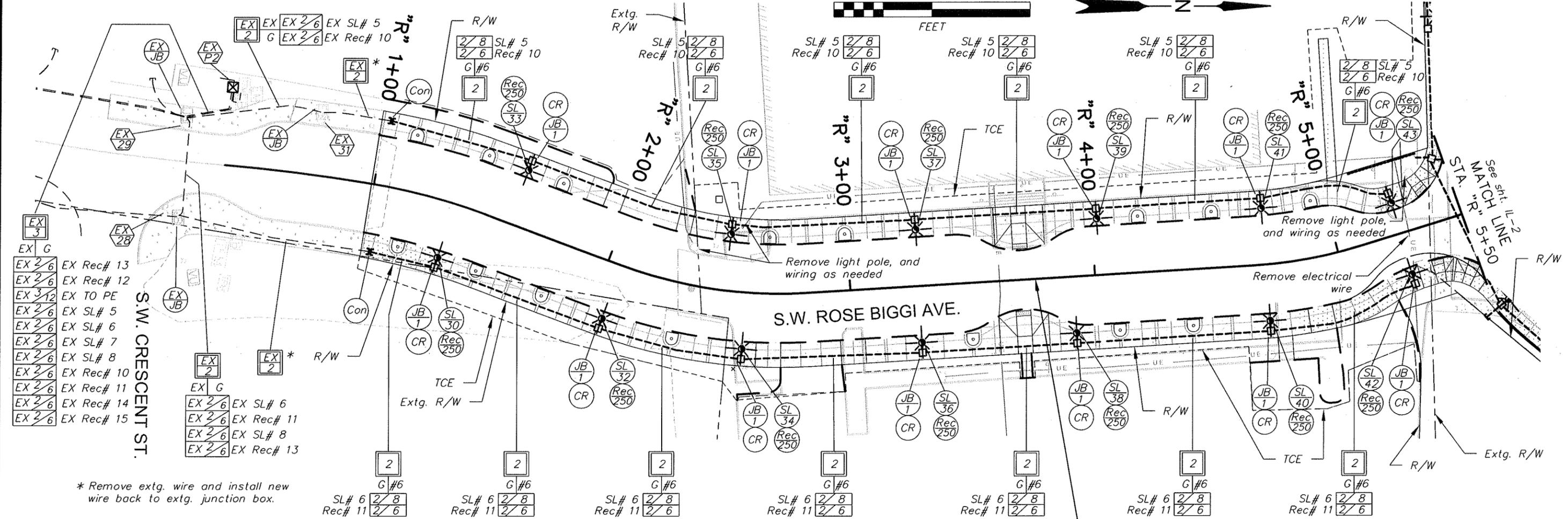
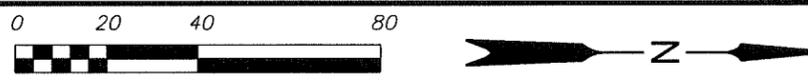
**SW ROSE BIGGI  
 HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benovidez



**SIGNING AND STRIPING PLAN**

SHEET NO.  
**ST-5**



**ILLUMINATION LEGEND**

- Install 75 Watt LED lamp in round globe luminaire, catalog #KG20R-BAAC(Etched)-III-75(SSL)-5000-120:240-K50-BRS-PEC on ornate aluminum pole catalog #KM90RE-13.9-AB-GFI Canterbury as manufactured by King Luminaire. N=Pole Number.
- Existing street light pole. N=Number from previous project.
- Short conduit run from concrete junction box to inside pole. See conduit run into pole base detail on sht. IL-3.
- Install 17"x10"x12" (min. dimension) precast concrete junction box with metal lid. See details sht. IL-3.
- Install 20"x12"x12" (min. dimension) precast concrete junction box with metal lid. See details sht. IL-3.
- Install PGE junction box, per sht. UT-9
- Retain and protect existing junction box.
- Connect new conduit to existing conduit.
- Install GFI Duplex receptacle on pole. "W" = maximum Wattage per pole's receptacle. See details on sht. IL-3.
- Stub out and cap conduit. Extend 18" past new work at location indicated.

- Stub out and cap conduit. Extend 5' past new work at location indicated.
- Install Illumination Control Cabinet P3 for street lighting, receptacles, and decorative lighting. See details shts. IL-4, IL-6, and IL-7.
- Existing Street light controller cabinet
- Install PGE 644 vault, per sht. UT-9
- Light pole to be supplied with electronic photocell.
- Install conduit deflection fitting. See ODOT std. dwg. no. BR970.
- Install (S) in. rigid non-metallic electrical conduit (Conduit shall be rigid metallic electrical conduit when embedded in the bridge rail.)
- Retain and protect existing (S) in. rigid non-metallic electrical conduit
- Install 3" PVC PGE conduit, per sht. UT-9

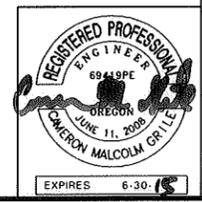
- Install N=Number of S=Size XHHW copper wire. (N=Number of conductors, S=Size of conductors)
- Retain and protect (N) existing AWG size (S) electrical conductors
- SL# N / EX SL#N Install / Existing Street Light circuit No.(N)
- Rec# N / EX Rec# N Install / Existing Receptacle circuit No.(N)
- DL #N Install decorative light circuit No. (N)
- G #S Install one S=Size stranded copper ground wire with 600 volt green insulation
- EX G Existing ground wire

Proposed sidewalk, shown thus:

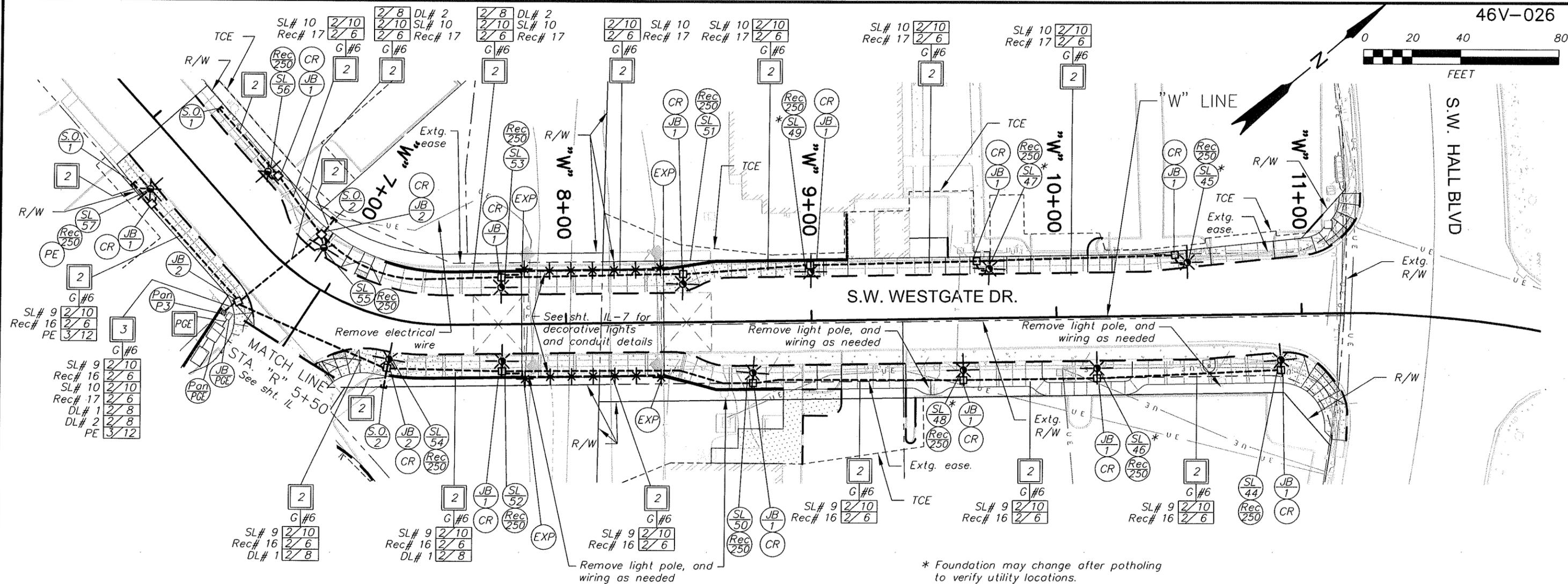
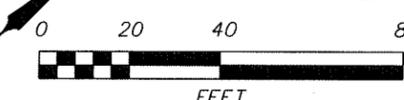
**OREGON DEPARTMENT OF TRANSPORTATION**  
**DAVID EVANS AND ASSOCIATES, INC.**  
 2100 Southwest River Parkway  
 Portland Oregon 97201 Ph: 503.223.6663

**SW ROSE BIGGI  
 HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - K. Rudisil  
 Designed By - C. Grife  
 Drafted By - C. Benavidez



**ILLUMINATION PLAN** SHEET NO. IL



**STREET LIGHT POLE TABLE  
(POLES ON SW ROSE BIGGI AVE.)**

POLE NO.	STATION	OFFSET	NOTES
30	1+33	23.0 RT	FTG
31	EXISTING LIGHT POLE		
32	2+06	23.0 RT	FTG
33	1+57	23.0 LT	FTG
34	2+58	23.0 RT	FTG
35	2+49	23.0 LT	FTG
36	3+28	23.0 RT	FTG
37	3+28	23.0 LT	FTG
38	3+91	23.0 RT	FTG
39	4+02	23.0 LT	FTG
40	4+70	23.0 RT	FTG
41	4+70	23.0 LT	FTG
42	5+26	17.0 RT	FTG
43	5+26	13.0 LT	FTG

**STREET LIGHT POLE TABLE  
(POLES ON SW WESTGATE DR)**

POLE NO.	STATION	OFFSET	NOTES
44	10+91	18.7 RT	FTG
45	10+54	21.5 LT	FTG
46	10+16	21.0 RT	FTG
47	9+73	20.1 LT	FTG
48	9+61	21.0 RT	FTG
49	9+00	20.0 LT	FTG
50	8+76	20.9 RT	FTG
51	8+48	15.6 LT	FTG
52	7+74	15.0 RT	FTG
53	7+74	15.0 LT	FTG
54	7+32	16.4 RT	FTG
55	6+89	15.0 LT	FTG
56	6+47	20.5 LT	FTG
57	6+21	20.0 RT	FTG, PE

NOTE:  
See sht. IL for legend

**POLE TABLE LEGEND**  
 FTG = Precast concrete footing. See details Sheet IL-3.  
 PE = Pole supplied with electronic photocell.

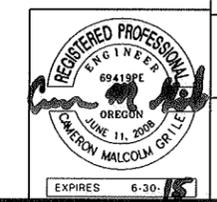
\* Foundation may change after potholing to verify utility locations.

Proposed sidewalk, shown thus:

**OREGON DEPARTMENT OF TRANSPORTATION**

**DAVID EVANS AND ASSOCIATES, INC.**  
 2100 Southwest River Parkway  
 Portland Oregon 97201 Ph: 503.223.6663

**SW ROSE BIGGI - HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY



Reviewed By - K. Rudisil  
 Designed By - C. Grille  
 Drafted By - C. Benovidez

**ILLUMINATION PLAN** SHEET NO. IL-2

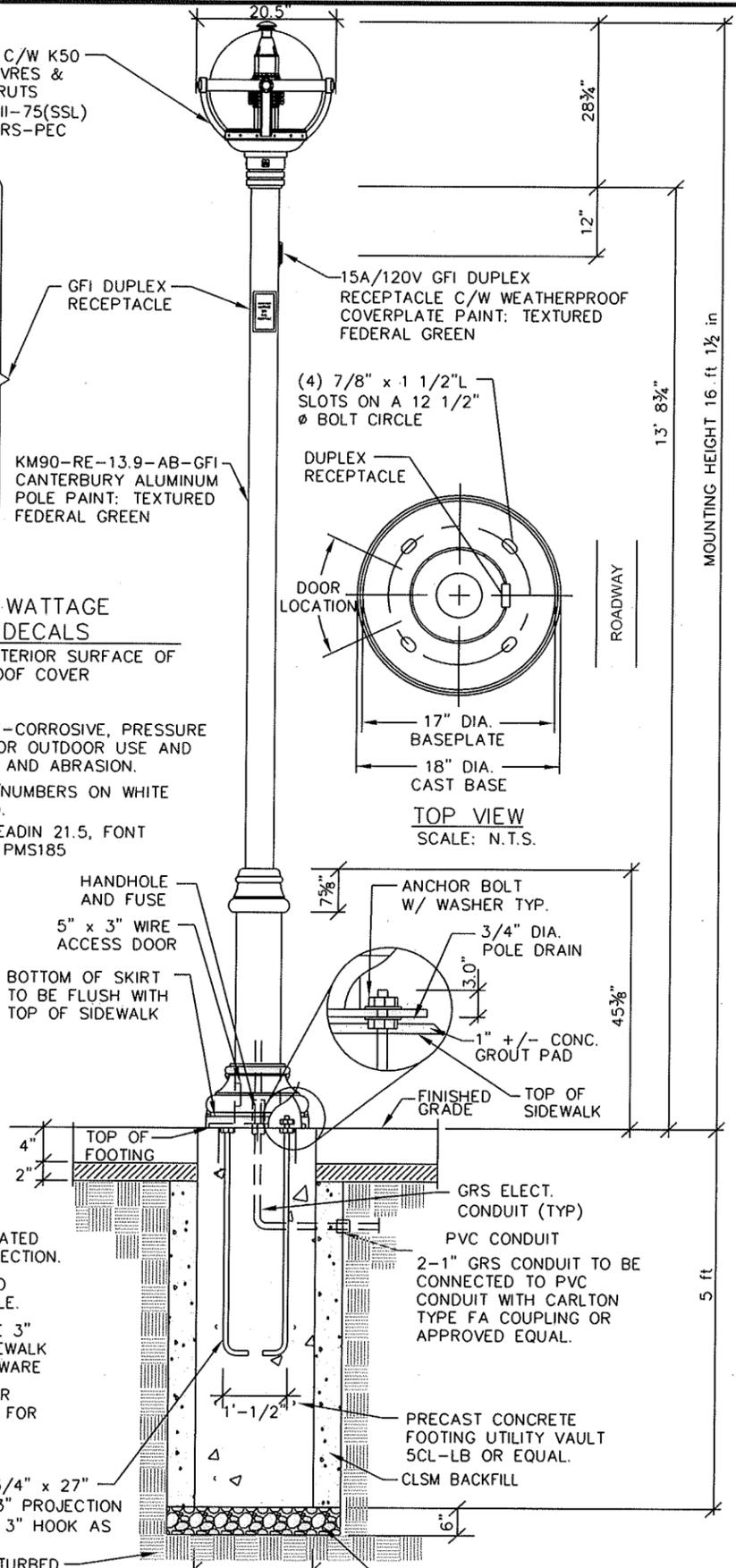
KG20 GLOBE LUMINAIRE C/W K50 CAPITAL & TYPE III LOUVRES & CUSTOMIZED RING & STRUTS  
 KG20R-BAAC(ETCHED)-III-75(SSL)  
 -5000-120:240-K50-BRS-PEC

**MAXIMUM WATTAGE  
 250  
 THIS  
 RECEPTACLE**

**MAXIMUM WATTAGE  
 2000  
 THIS  
 RECEPTACLE**

RECEPTACLE WATTAGE  
 LIMITATION DECALS  
 TO BE PLACED ON EXTERIOR SURFACE OF  
 WEATHERPROOF COVER

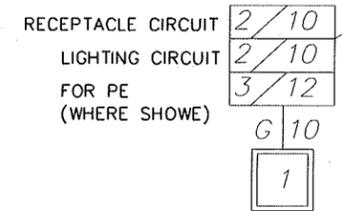
- NOTES:
1. LABELS MADE OF NON-CORROSIVE, PRESSURE SENSITIVE MATERIAL FOR OUTDOOR USE AND RESISTANT TO FADING AND ABRASION.
  2. HAVE RED LETTERING/NUMBERS ON WHITE COLORED BACKGROUND.
  3. USE POINT SIZE 18, LEADIN 21.5, FONT AERIAL BLACK, COLOR PMS185



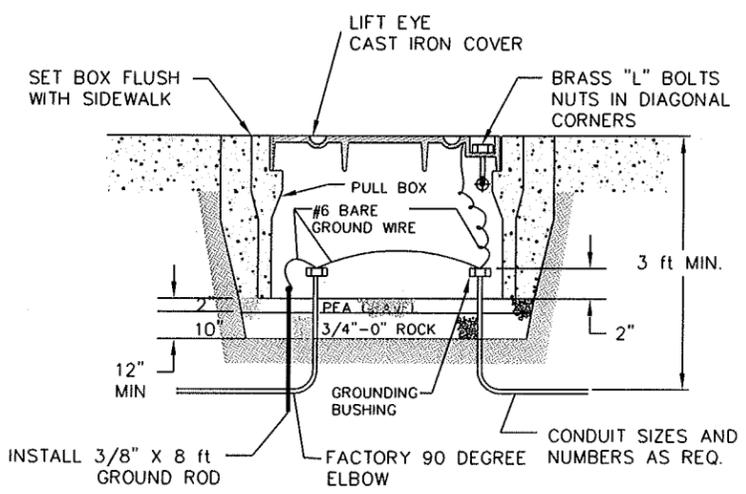
- NOTES:
1. HAND HOLE TO BE LOCATED UNDER 2 PIECE BASE SECTION.
  2. STREET LIGHT J-BOX TO BE 3 ft MAX. FROM POLE.
  3. ANCHOR BOLTS REQUIRE 3" PROJECTION ABOVE SIDEWALK FOR ADJUSTMENT HARDWARE
  4. PROTECT/COVER ANCHOR BOLTS WHEN CONCRETE FOR SIDEWALK IS PLACED

ANCHOR BOLTS - (4) 3/4" x 27" H.D. GALVANIZED WITH 3" PROJECTION ABOVE BASEPLATE AND 3" HOOK AS SHOWN.

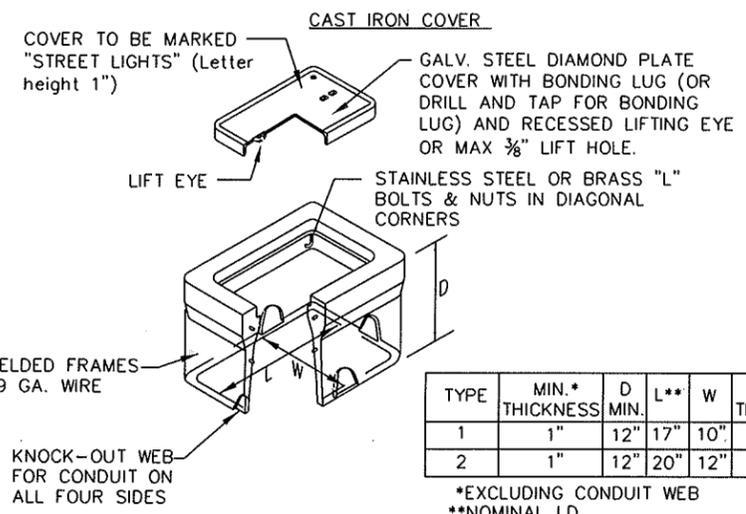
**LIGHT POLE FOOTING INSTALLATION**  
 SCALE: N.T.S.



**CONDUIT RUN INTO POLE BASE**



**TYPICAL JUNCTION BOX INSTALLATION**  
 SCALE: N.T.S.

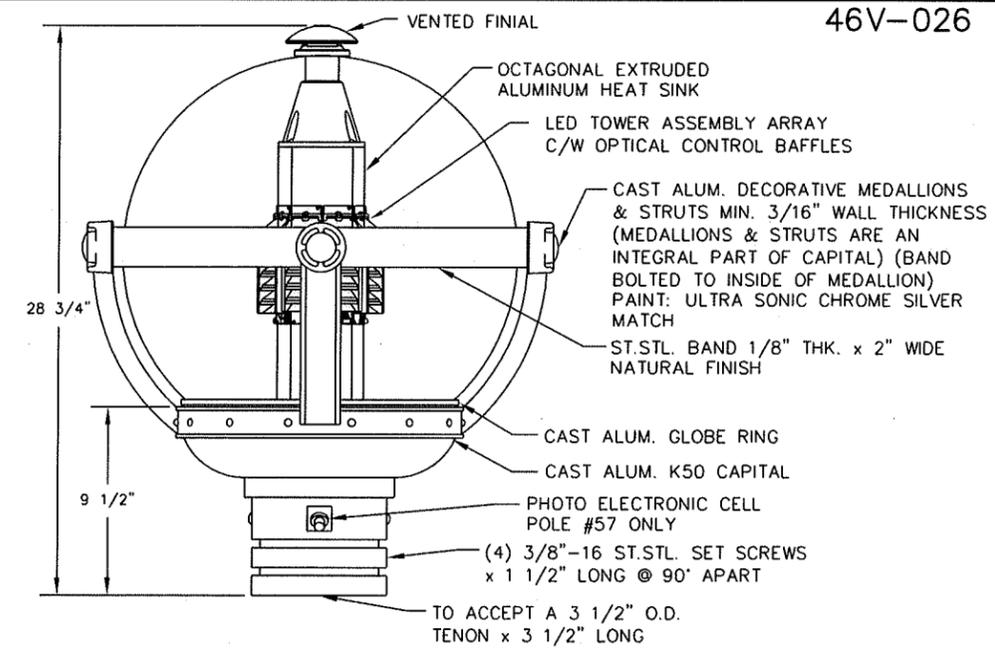


TYPE	MIN.* THICKNESS	D MIN.	L**	W	EDGE THICKNESS
1	1"	12"	17"	10"	1"
2	1"	12"	20"	12"	2"

\*EXCLUDING CONDUIT WEB  
 \*\*NOMINAL I.D.  
**JUNCTION BOX DIMENSION TABLE**

**STREET LIGHT JUNCTION BOX**  
 SCALE: N.T.S.

Not to be used in travel lanes, shoulders, or areas exposed to traffic.  
 For location and junction box dimensions, see plans.



**SPECIFICATIONS**

CATALOG NO.: KG20R-BAAC(ETCHED)-III-75(SSL)  
 -5000-120:240-K50-BRS-PEC  
 QUANTITY:  
 OPTICAL SYSTEM: BAFFLED ARRAY ACRYLIC (ETCHED)  
 IES LTG. CLASS.: TYPE III  
 WATTAGE: 75W  
 LIGHT SOURCE: SOLID STATE LIGHTING  
 SERIES: 5000  
 LINE VOLTAGE: 120:240V  
 POLE ADAPTOR: K50  
 PAINT: TEXTURED FEDERAL GREEN  
 OPTIONS: BEAVERTON RING & STRUTS & PHOTO ELECTRONIC CELL

**BALLAST SPECIFICATIONS**

SUPPLIED  
 BALLAST TYPE: ELECTRONIC  
 BALLAST MANU.:  
 CATALOGUE NO.:

**OPTIONS**

QUICK DISCONNECT   
 TERMINAL BLOCK   
 OTHER: 540 JOULE @ 2mS  
 20kA-8/20uS SURGE PROTECTION

**GLOBE LUMINAIRE**  
 SCALE: N.T.S.

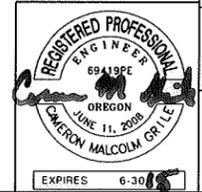
- NOTES:
1. SEE SHT. 2B-5 FOR TYPICAL LOCATION OF JUCTION BOX AND POLE.
  2. CONDUIT ENDS SHALL HAVE A 1-INCH CLEARANCE FROM OTHER CONDUITS, RODS, AND WALLS AND BE 2-INCH ABOVE THE GRAVEL FILL.
  3. CONDUITS SHALL BE LOCATED NEAR THE SIDE OF THE BOX THAT CORRESPONDS TO THE DIRECTION OF THE RUN.
  4. CONDUIT ENDS SHALL HAVE TERMINAL ADAPTERS AND BUSHINGS AND SHALL BE SEALED WITH MOLDED PLUG PREFORMED FOAM.
  5. CONDUIT ENDS SHALL BE ORIENTED TOWARDS THE TOP OF THE BOX SUCH THAT CONDUCTORS MAY BE PULLED OUT OF THE BOX WITHOUT TOUCHING THE SIDE OF THE BOX.

**OREGON DEPARTMENT OF TRANSPORTATION**

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 2100 Southwest River Parkway  
 Portland Oregon 97201 Ph: 503.223.6663

**SW ROSE BIGGI  
 HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - K. Rudisil  
 Designed By - C. Grile  
 Drafted By - C. Benovidez

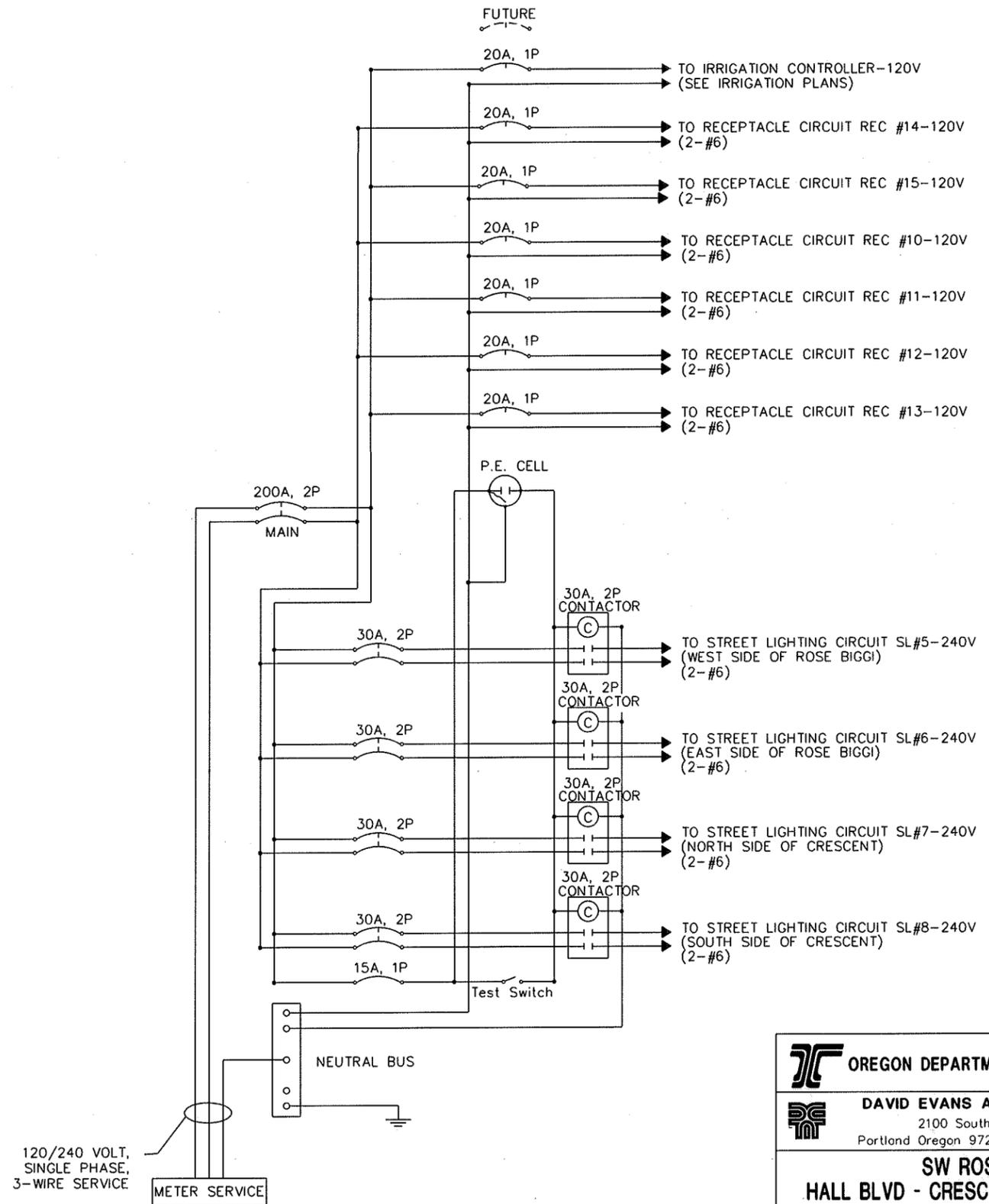
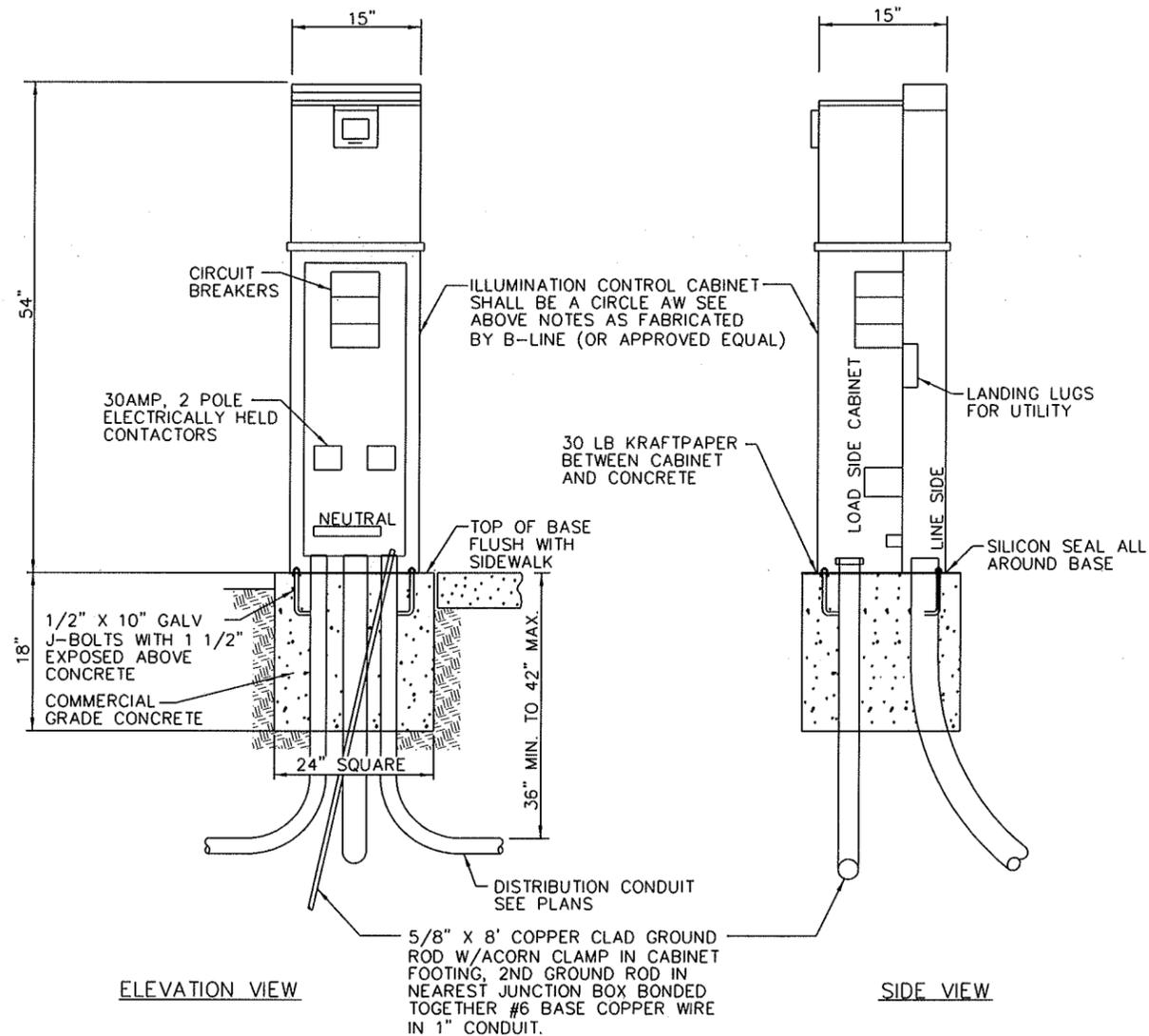


**ILLUMINATION DETAIL-LIGHT POLE AND JUNCTION BOX**

SHEET NO.  
 IL-3

**NOTES**

- ILLUMINATION CONTROL CABINET FOR STREET LIGHTS SHALL BE COOPER B-LINE CATALOG NO. CMP4121 MC-1 WITH MOUNTING BASE MB1515 AS FABRICATED BY B-LINE. CABINET SHALL BE U.L. LISTED LABEL ATTACHED TO CABINET FOR USE AS SERVICE EQUIPMENT AND BE RATED 3R. CABINET INCLUDES A 200 AMP MAIN AND BUS RATING FOR A SINGLE PHASE, 3 WIRE, 240 VOLT, METERED SERVICE, (OR APPROVED EQUAL)
- ILLUMINATION CONTROL CABINET TO HAVE PROVISIONS FOR PADLOCK AND SEALING ON LINE A LOAD SIDES ACCESS DOORS. PANEL SHALL BE PAINTED A "LIGHT GREEN" COLOR INSIDE AND OUT.
- THE ILLUMINATION CONTROL CABINET MAIN AND DISTRIBUTION CIRCUIT BREAKERS SHALL BE SHORT CIRCUIT CURRENT RATING OF 10,000 RMS SYMMETRICAL AMPERES AT 240 VAC.
- THE ELECTRICAL HELD CONTACTORS SHALL BE 30 AMP 2-POLE.



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**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - K. Rudisil  
 Designed By - C. Grile  
 Drafted By - C. Benovidez

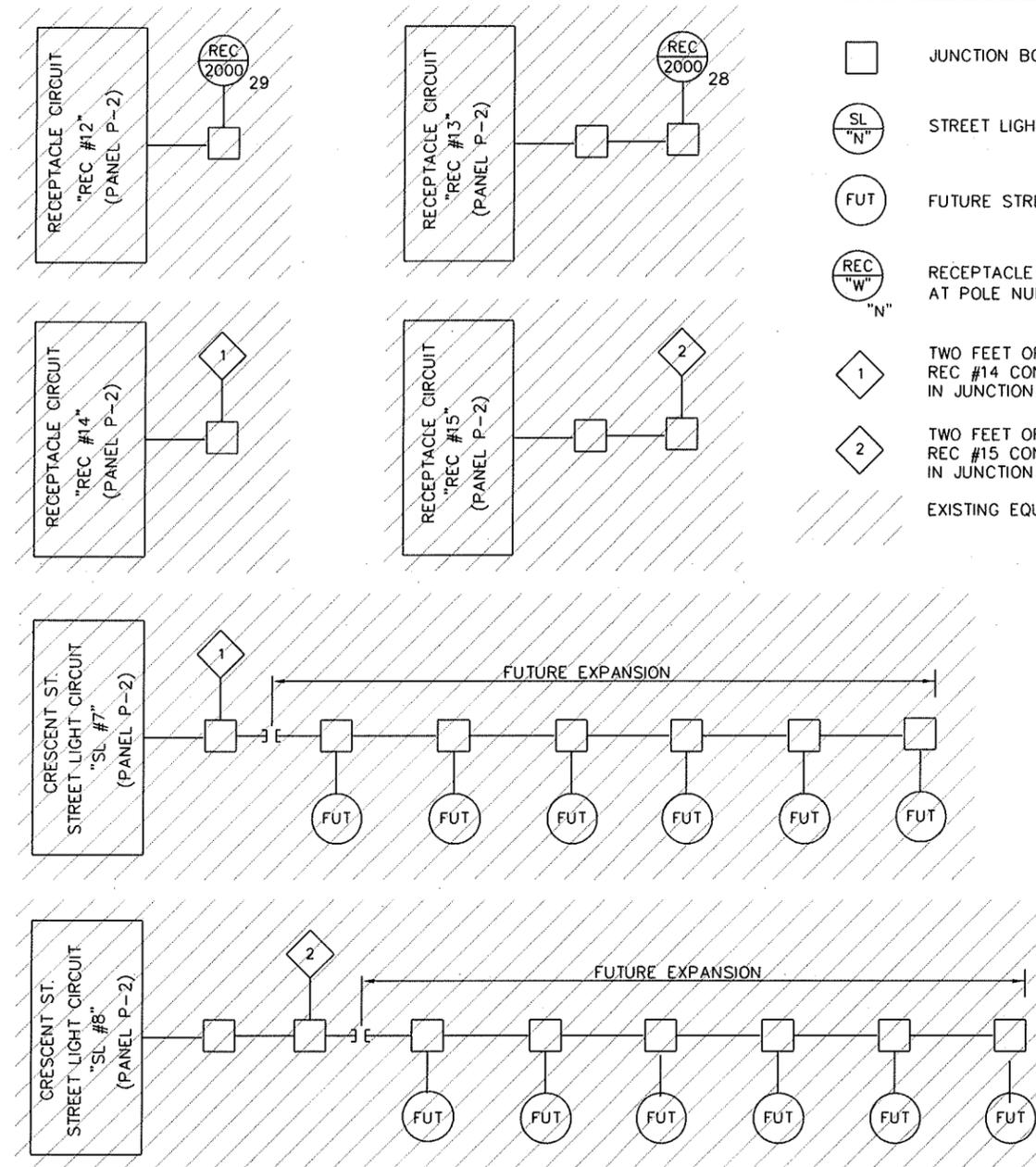
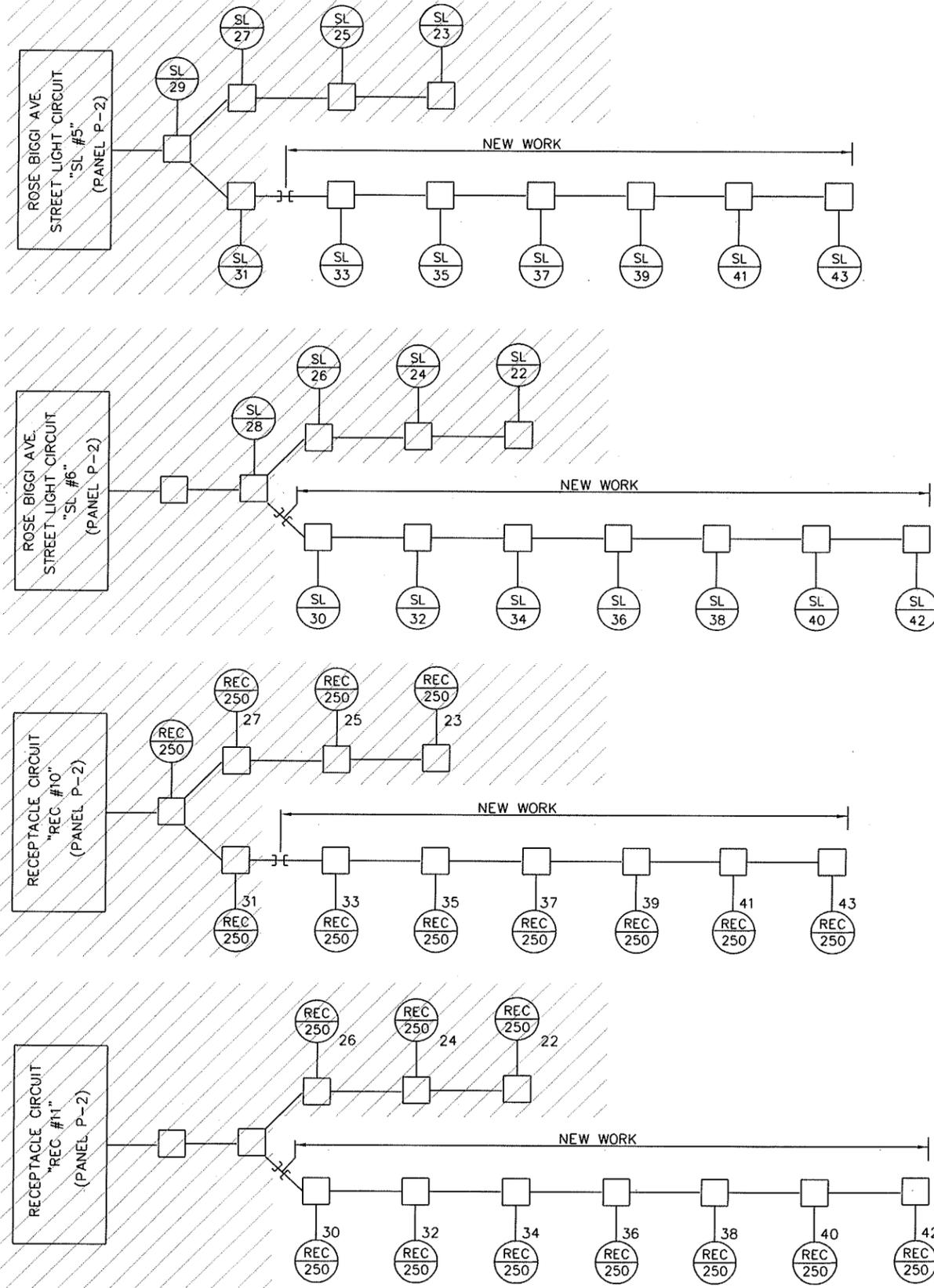


**ILLUMINATION DETAIL -**  
**PANEL 2 (EXISTING)**

SHEET NO.  
 IL-4

WIRING SCHEMATICS LEGEND

-  JUNCTION BOX
-  STREET LIGHT POLE NUMBER "N"
-  FUTURE STREET LIGHT
-  RECEPTACLE MAXIMUM WATTAGE "W" AT POLE NUMBER "N"
-  TWO FEET OF CIRCUIT SL #7 AND REC #14 CONDUCTORS ARE COILED IN JUNCTION BOX FOR FUTURE USE
-  TWO FEET OF CIRCUIT SL #8 AND REC #15 CONDUCTORS ARE COILED IN JUNCTION BOX FOR FUTURE USE
-  EXISTING EQUIPMENT

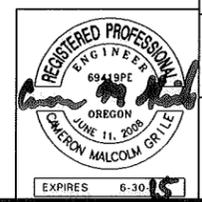


WIRING SCHEMATICS FOR EXISTING CIRCUITS IN PANEL P-2 ON ROSE BIGGI  
NTS

**OREGON DEPARTMENT OF TRANSPORTATION**  
**DAVID EVANS AND ASSOCIATES, INC.**  
 2100 Southwest River Parkway  
 Portland Oregon 97201 Ph: 503.223.6663

**SW ROSE BIGGI  
 HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

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 Drafted By - C. Benovidez

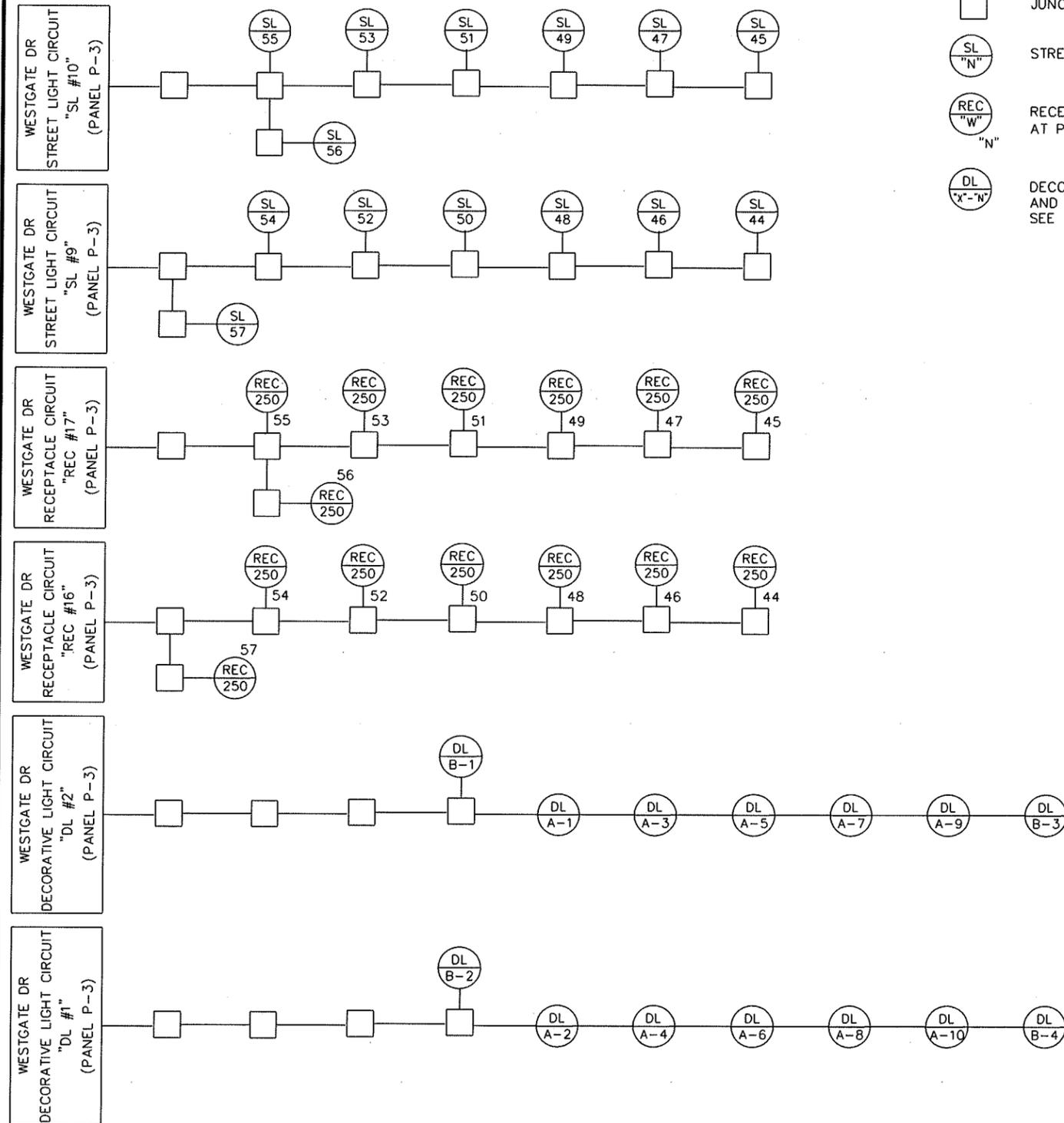


**ILLUMINATION DETAIL-  
 PANEL 2 WIRING SCHEMATICS**

SHEET NO.  
 IL-5

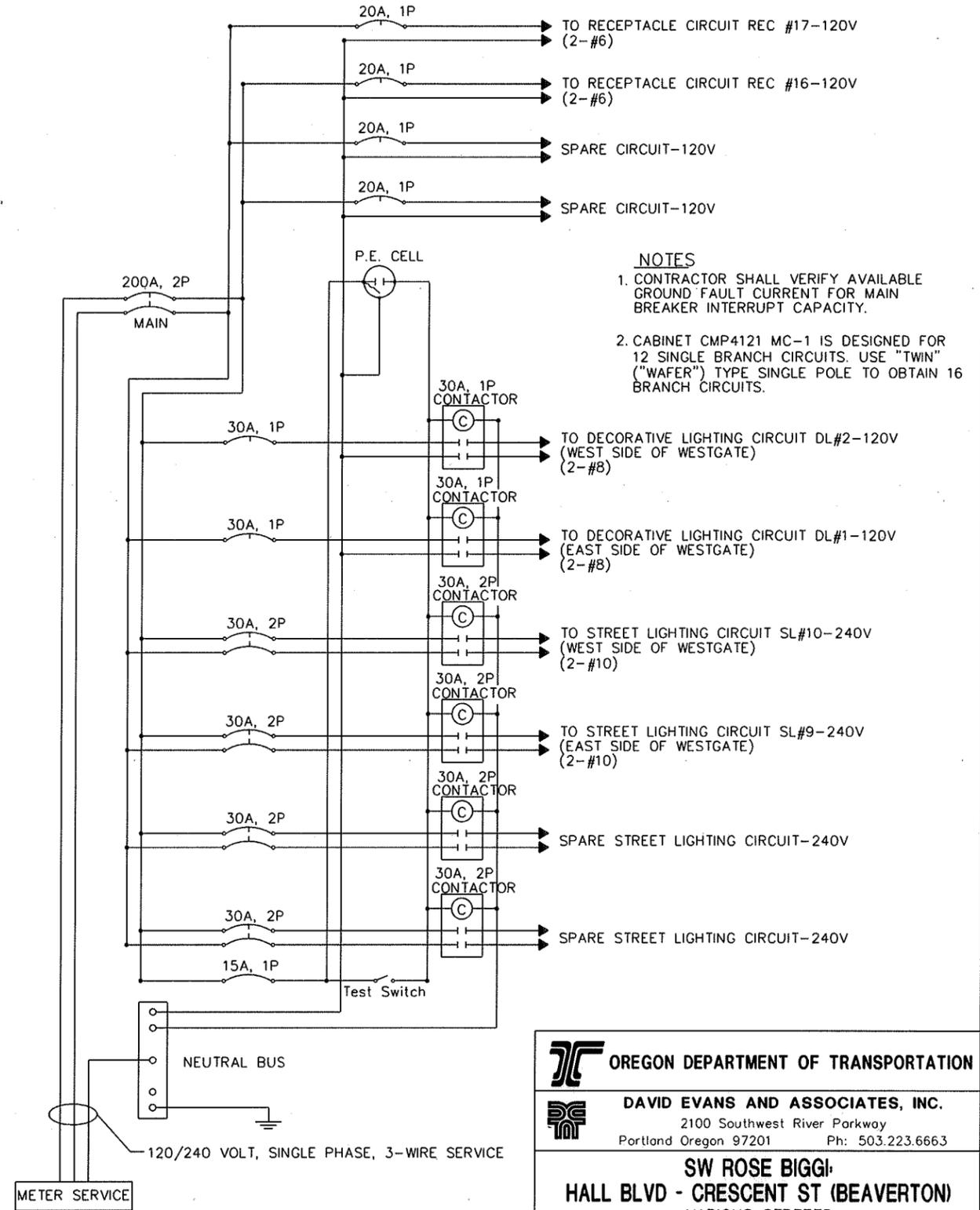
WIRING SCHEMATICS FOR CIRCUITS IN PANEL P-3 AT CORNER OF ROSE BIGGI & WESTGATE

NTS



WIRING SCHEMATICS LEGEND

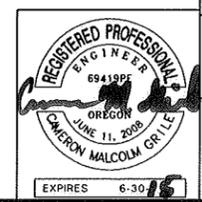
- JUNCTION BOX
- SL "N" STREET LIGHT POLE NUMBER "N"
- REC "W" RECEPTACLE MAXIMUM WATTAGE "W" AT POLE NUMBER "N"
- DL "x"-N" DECORATIVE LIGHT TYPE "x" AND LIGHT NUMBER "N". SEE SHT. IL-7 FOR LIGHT TYPES.



NOTES

1. CONTRACTOR SHALL VERIFY AVAILABLE GROUND FAULT CURRENT FOR MAIN BREAKER INTERRUPT CAPACITY.
2. CABINET CMP4121 MC-1 IS DESIGNED FOR 12 SINGLE BRANCH CIRCUITS. USE "TWIN" ("WAFFER") TYPE SINGLE POLE TO OBTAIN 16 BRANCH CIRCUITS.

ILLUMINATION CONTROL CABINET SCHEMATIC (Panel P-3 at int. of Rose Biggi & Westgate STA 6+77 RT) N.T.S.



**OREGON DEPARTMENT OF TRANSPORTATION**

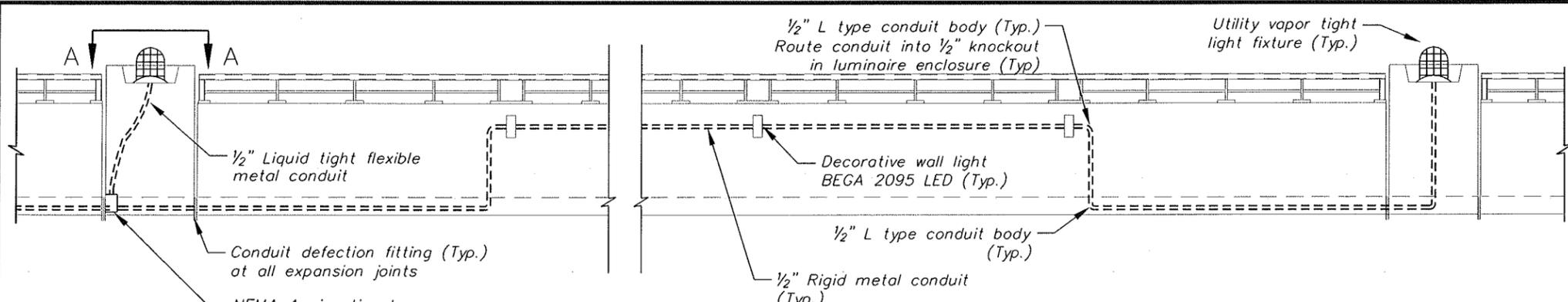
**DAVID EVANS AND ASSOCIATES, INC.**  
2100 Southwest River Parkway  
Portland Oregon 97201 Ph: 503.223.6663

**SW ROSE BIGGI HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

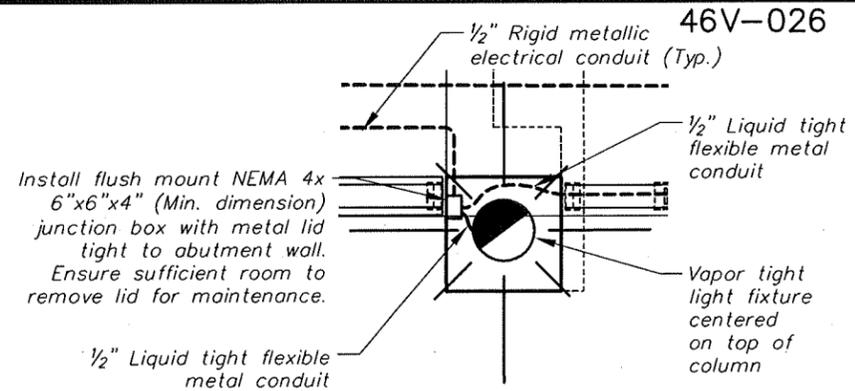
Reviewed By - K. Rudisil  
Designed By - C. Grile  
Drafted By - C. Benavidez

**ILLUMINATION DETAILS- PANEL 3**

SHEET NO. IL-6



ELEVATION DETAIL  
Scale: 1"=2'



SECTION A-A  
Scale: 1"=2'

LEGEND

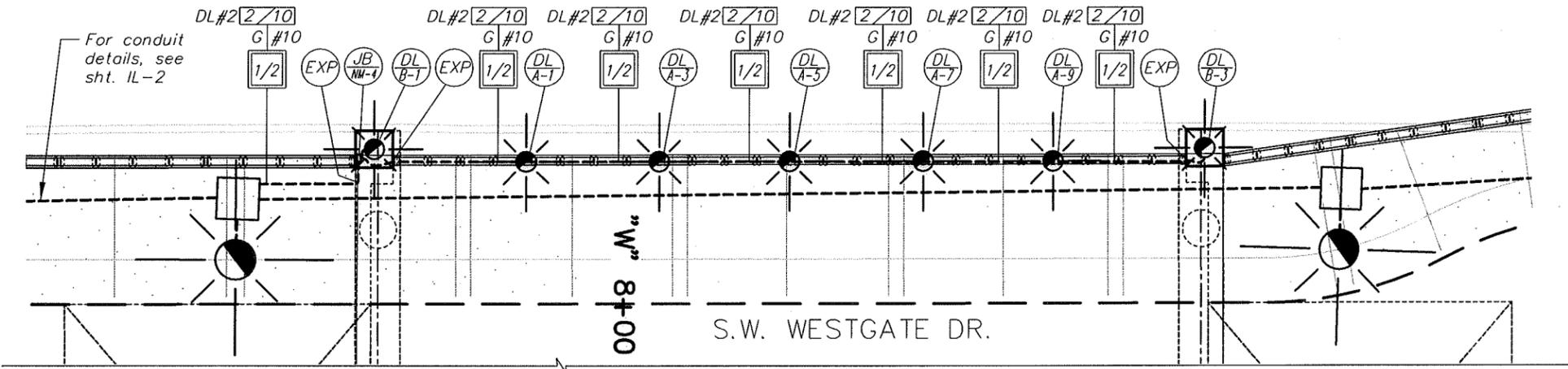
- DL#N Install BEGA 2095 LED 2 watt LED recessed luminaire in bridge rail. See architectural shts. RB115 and RB117 for location and height in rail.
- DL#N Install maximum 150 watt incandescent vapor tight fixture in the center of the column. See architectural sht. RB116 for location and height in rail.
- JB#N Install 6"x6"x4" (Min. dimension) flush mount NEMA 4x junction box with metal lid tight to abutment wall. Ensure sufficient room to remove lid for maintenance.
- EXP Install conduit deflection fitting. See ODOT std. dwg. no. BR970.
- S Install (S) in rigid metallic electrical conduit
- N/S Install N=Number of S=Size XHHW copper wire. (N=Number of conductors, S=Size of conductors)
- DL#N Install decorative lighting circuit No. (N)
- G#S Install one S=size stranded copper ground wire with 600 volt green insulation

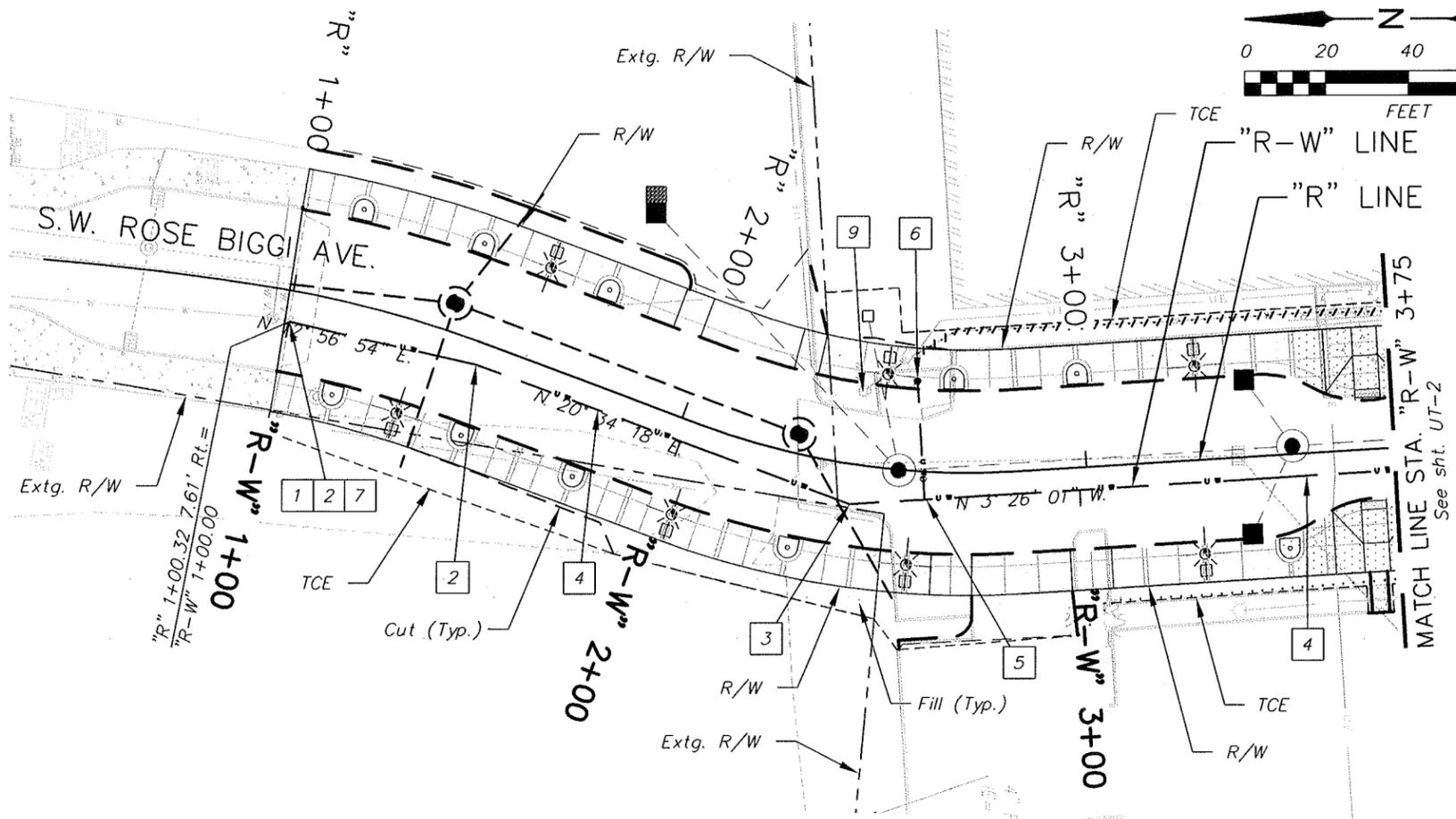
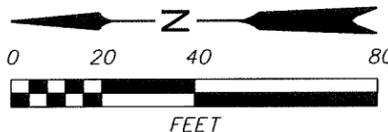
DECORATIVE LIGHT FIXTURE TABLE  
(LIGHTS ON SW WESTGATE DR. BRIDGE)

LIGHT NO.	APPROXIMATE STATION	APPROXIMATE OFFSET	NOTES
A-1	7+93	21.6 LT	-
A-2	7+93	21.6 RT	-
A-3	8+02	21.6 LT	-
A-4	8+02	21.6 RT	-
A-5	8+11	21.6 LT	-
A-6	8+11	21.6 RT	-
A-7	8+20	21.6 LT	-
A-8	8+20	21.6 RT	-
A-9	8+29	21.6 LT	-
A-10	8+29	21.6 RT	-
B-1	7+83	22.4 LT	-
B-2	7+83	22.3 RT	-
B-3	8+39	22.4 LT	-
B-4	8+39	22.3 RT	-

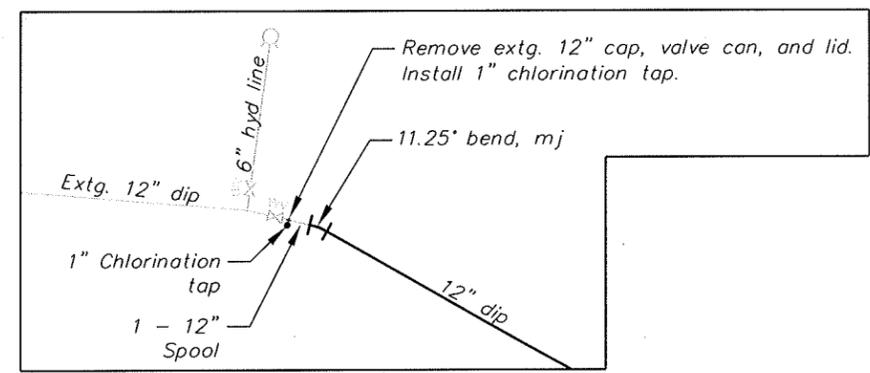
Notes:  
See architectural shts. RB115 and RB117 for decorative light spacing relative to scoring pattern and rail members.

Proposed sidewalk, shown thus:

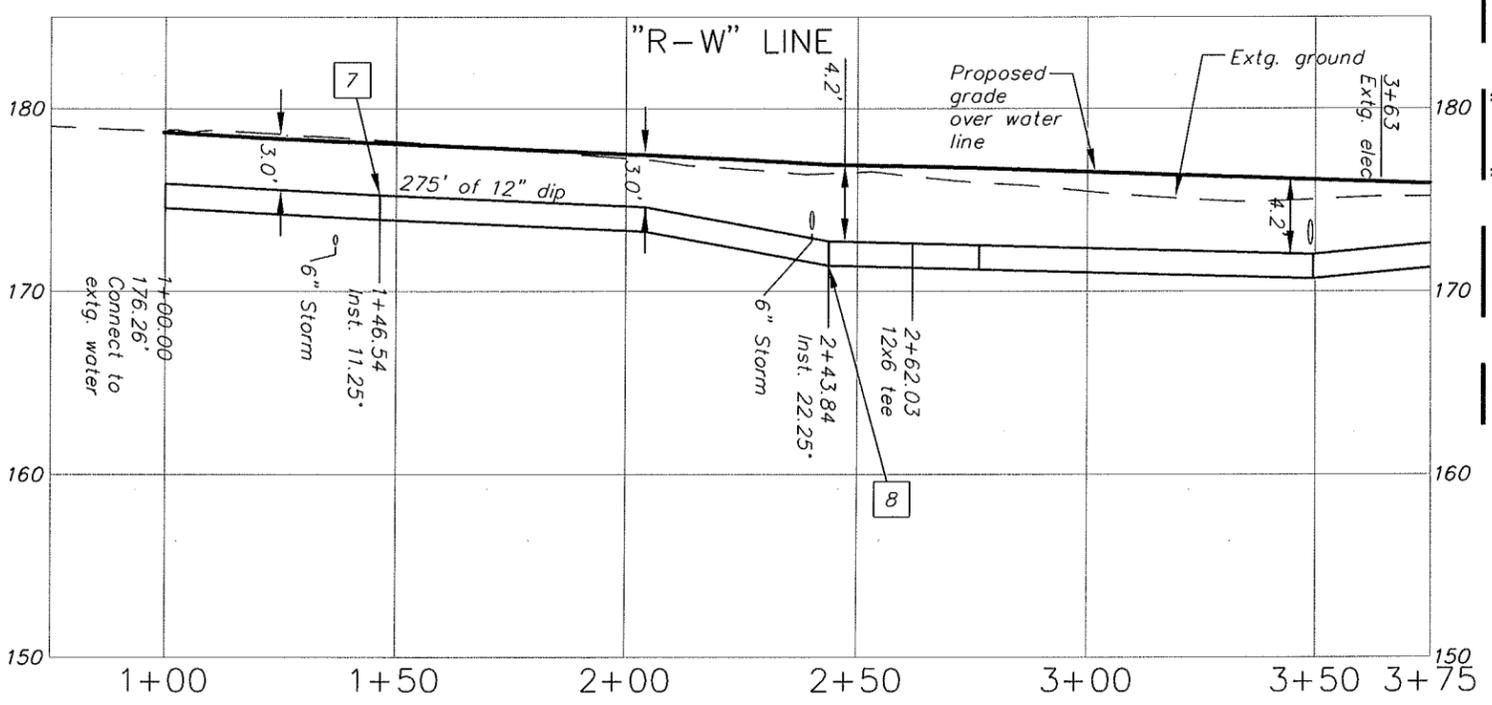




- WATER NOTES:**
- 1 Sta. "R" 1+00.00  
Remove cap and connect to 12" dip extg. waterline approximately 3' deep.  
Inst. 1" chlorination tap.
  - 2 Inst. 12" 11.25' bend, mj  
(For connection details, see this sht.)
  - 3 Inst. 12" 22.25' bend, mj
  - 4 Inst. 12" dip water main
  - 5 Inst. 12x6 tee, mj
  - 6 Inst. hydrant assembly with 12"x6" tee, 6" gate valve, and 29' of 6" dip
  - 7 Restrain min. 4' each side of bend
  - 8 Restrain min. 6' each side of bend
  - 9 Remove fire hydrant to elbow.  
Plug extg. 6" CIP with grout.



**WATER CONNECTION DETAIL**  
Not to scale



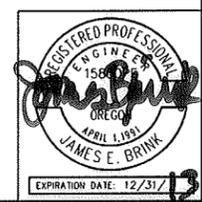
Proposed sidewalk, shown thus:   
Abandon extg. pipe, shown thus: - - - -

**OREGON DEPARTMENT OF TRANSPORTATION**

**CITY OF BEAVERTON**  
4755 S.W. Griffith Drive  
P.O. Box 4755 Ph: 503-526-2220  
Beaverton, Or 97076 Fx: 503-526-2535

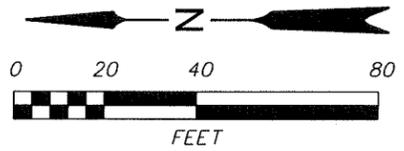
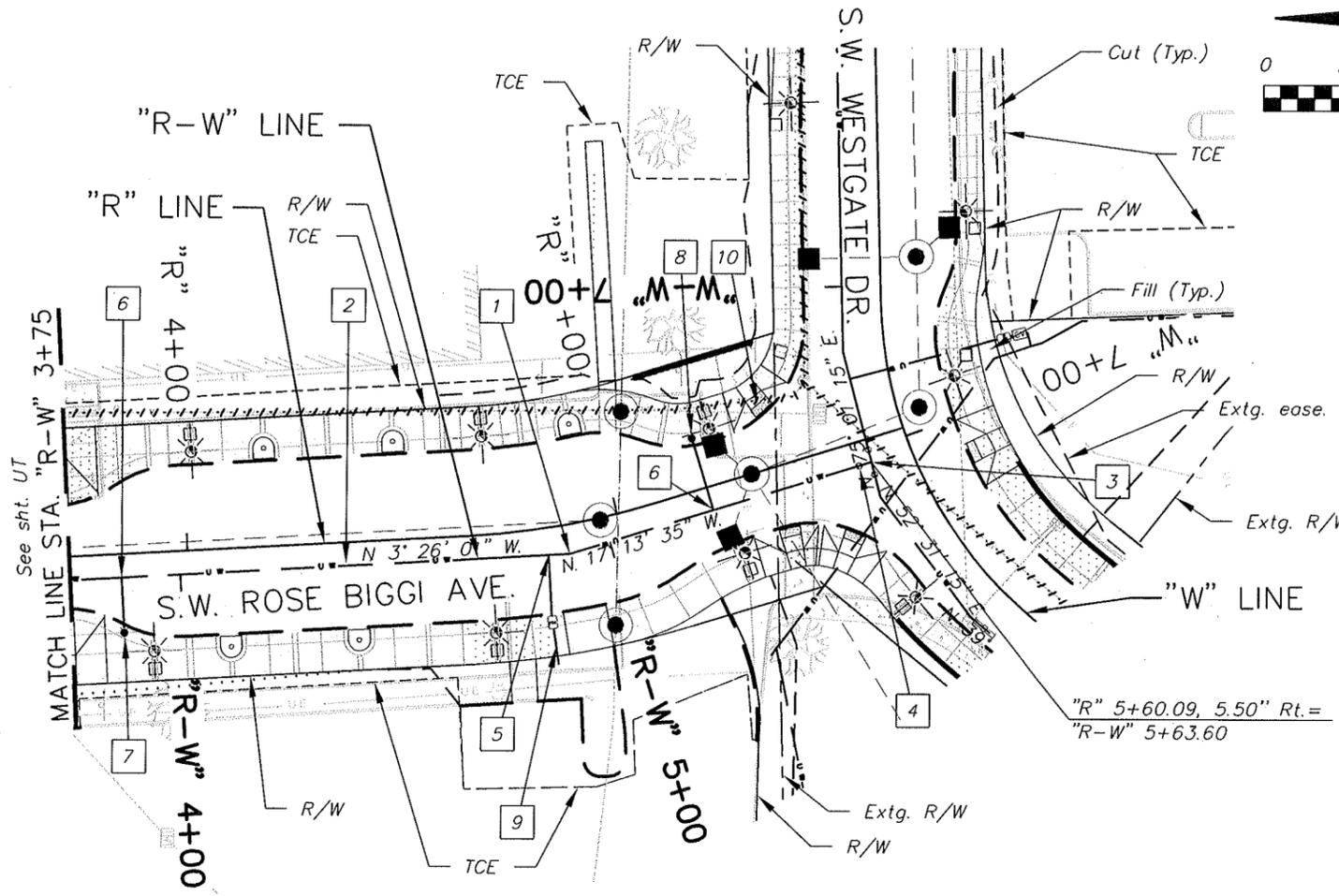
**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
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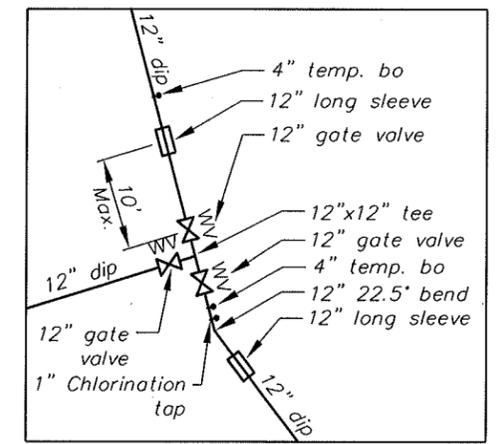
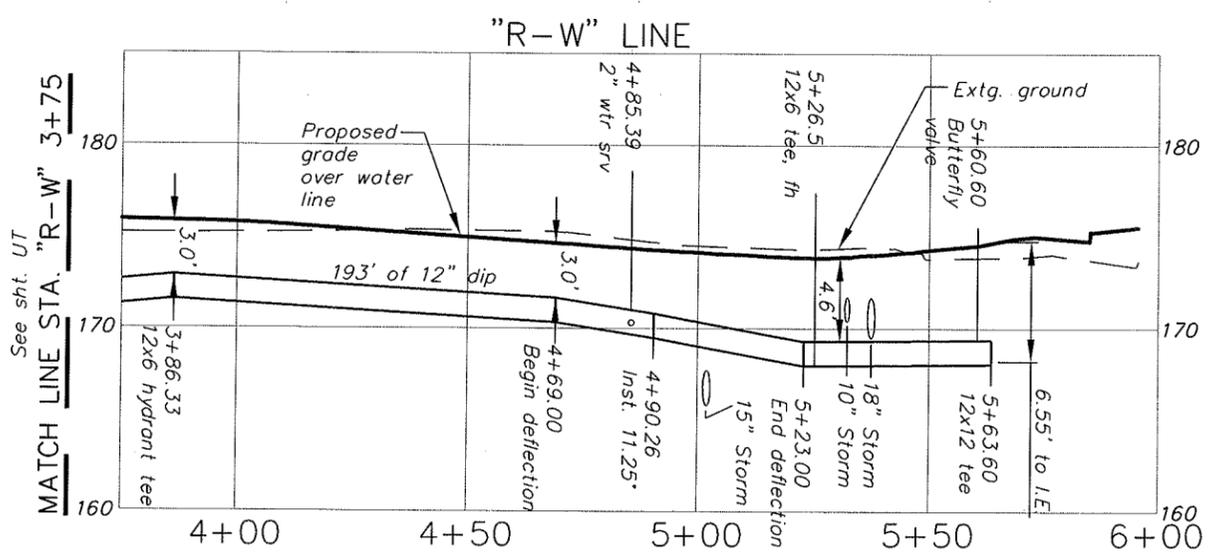
**WATER PLAN & PROFILE**

SHEET NO.  
**UT**



**WATER NOTES**

- 1 Inst. 12" 11.25° bend, mj.  
Restrain min. 3' each side of bend.
- 2 Inst. 12" dip water main
- 3 Inst. 12x12 tee, mj  
(For connection details, see detail A this sht.)
- 4 Inst. 12" gate valve, mj
- 5 Inst. 2" water service and box.  
(For details, see sht. COB-6, drg. no. 641)
- 6 Inst. 12x6 tee, mj
- 7 Inst. hydrant assembly with tee, gate valve, and 16.5' of 6" dip
- 8 Inst. hydrant assembly with tee, gate valve, and 17.5' of 6" dip
- 9 Inst. 9' of 2" water service from box to back of sidewalk.  
Cap both ends
- 10 Remove fire hydrant to elbow.  
Plug extg. 6" CIP with grout.



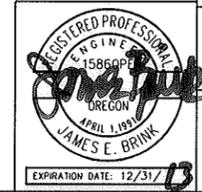
**WATER CONNECTION  
DETAIL A**

Not to scale  
Proposed sidewalk, shown thus:   
Abandon extg. pipe, shown thus: - - - - -

**OREGON DEPARTMENT OF TRANSPORTATION**

**CITY OF BEAVERTON**  
4755 S.W. Griffith Drive  
P.O. Box 4755 Ph: 503-526-2220  
Beaverton, Or 97076 Fx: 503-526-2535

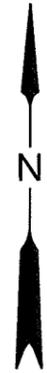
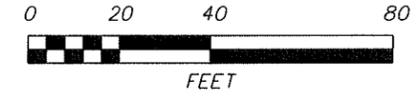
**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY



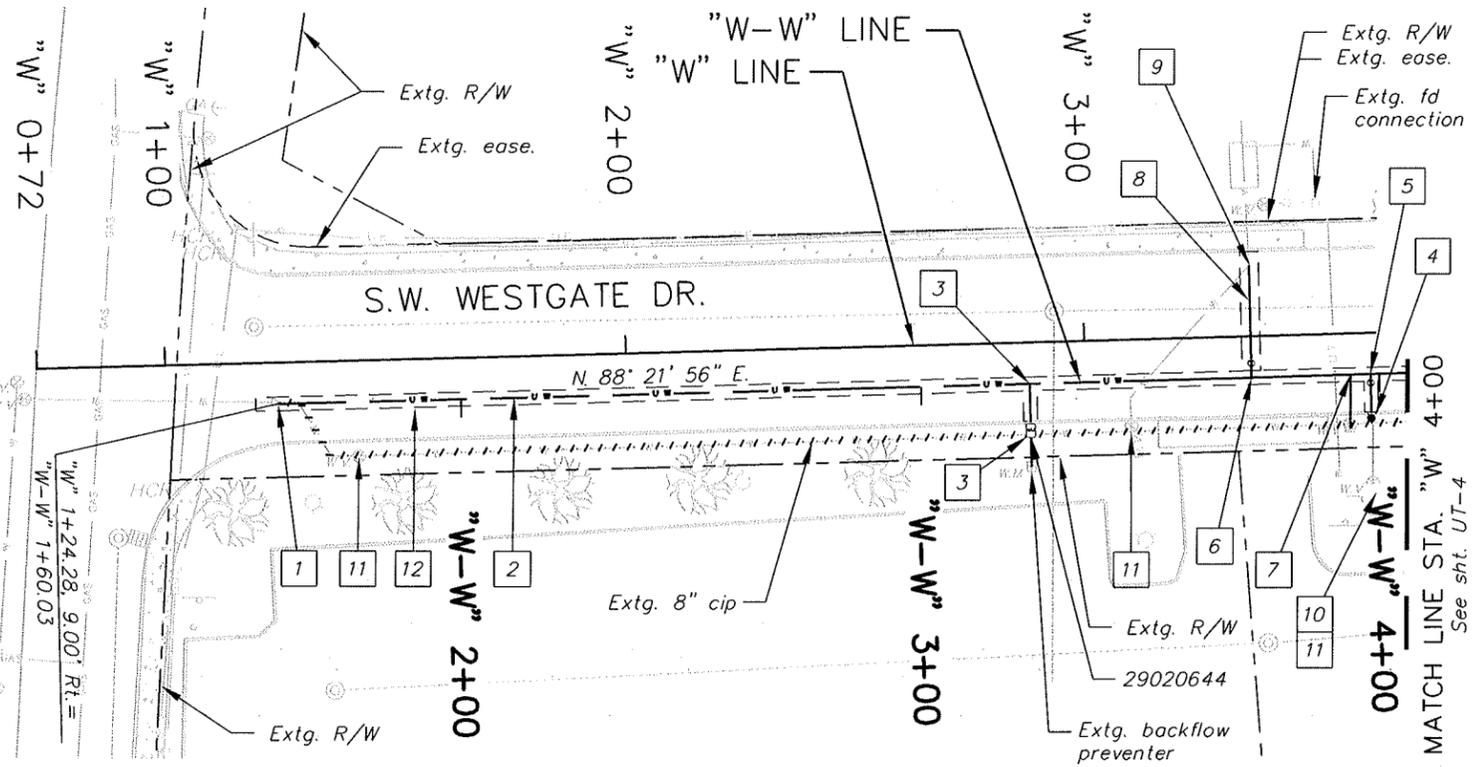
Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez

**WATER PLAN & PROFILE**

SHEET NO.  
**UT-2**

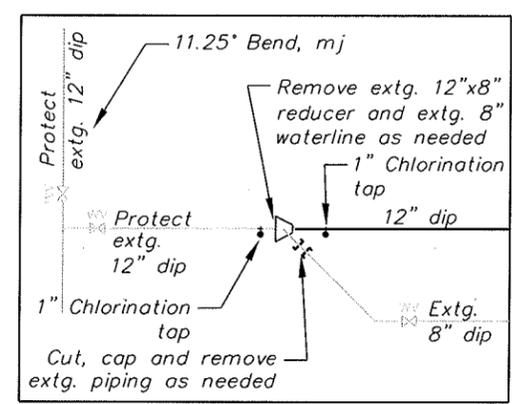
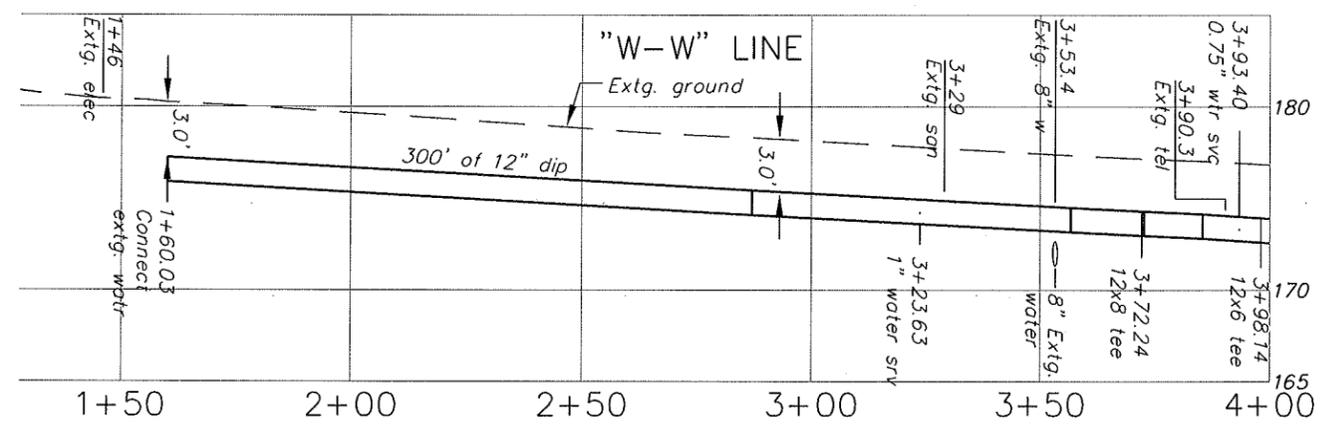


S.W. CEDAR HILLS BLVD.

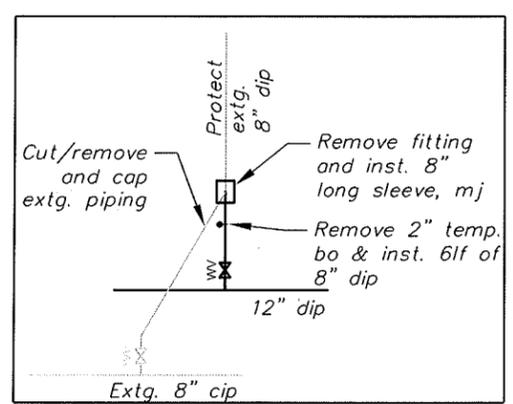


**WATER NOTES:**

- 1 Connect to extg. waterline  
(For connection details, see detail A this sht.)
- 2 Inst. 12" dip water main
- 3 Inst. 1" water service and box.  
(For details, see sht. COB-5 drg. no. 640)  
Connection of new meter to extg. service must be done during non-business hours.
- 4 Inst. fire hydrant  
(For details, see sht. COB-5 drg. no. 625)
- 5 Inst. 12x6 tee mj x flg with 6" rsgv mj x mj
- 6 Inst. 12x8 tee, mj x mj with 8" rsgv mj x mj
- 7 Inst. 3/4" water service for sampling station  
(For details, see shts. COB-5 & COB-6 drg. nos. 640 and 645)
- 8 Inst. 2" temp. blowoff
- 9 After satisfactory testing, remove fitting and connect to extg. 8" dip.  
(For connection details, see detail B this sht.)  
Connection must be done during non-business working hours at Goodwill store.
- 10 Remove fire hydrant to elbow.  
Plug extg. 6" cip with grout.
- 11 Remove valve box and lid
- 12 Resurface trench with 6" MHMAC  
(For details, see sht. 2B-5)



**WATER CONNECTION  
DETAIL A**  
Not to scale



**WATER CONNECTION  
DETAIL B**  
Not to scale

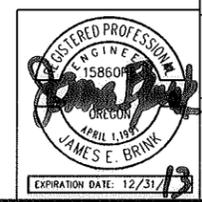
Proposed sidewalk, shown thus:   
Abandon extg. pipe, shown thus:

**OREGON DEPARTMENT OF TRANSPORTATION**

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Fx: 503-526-2535

**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

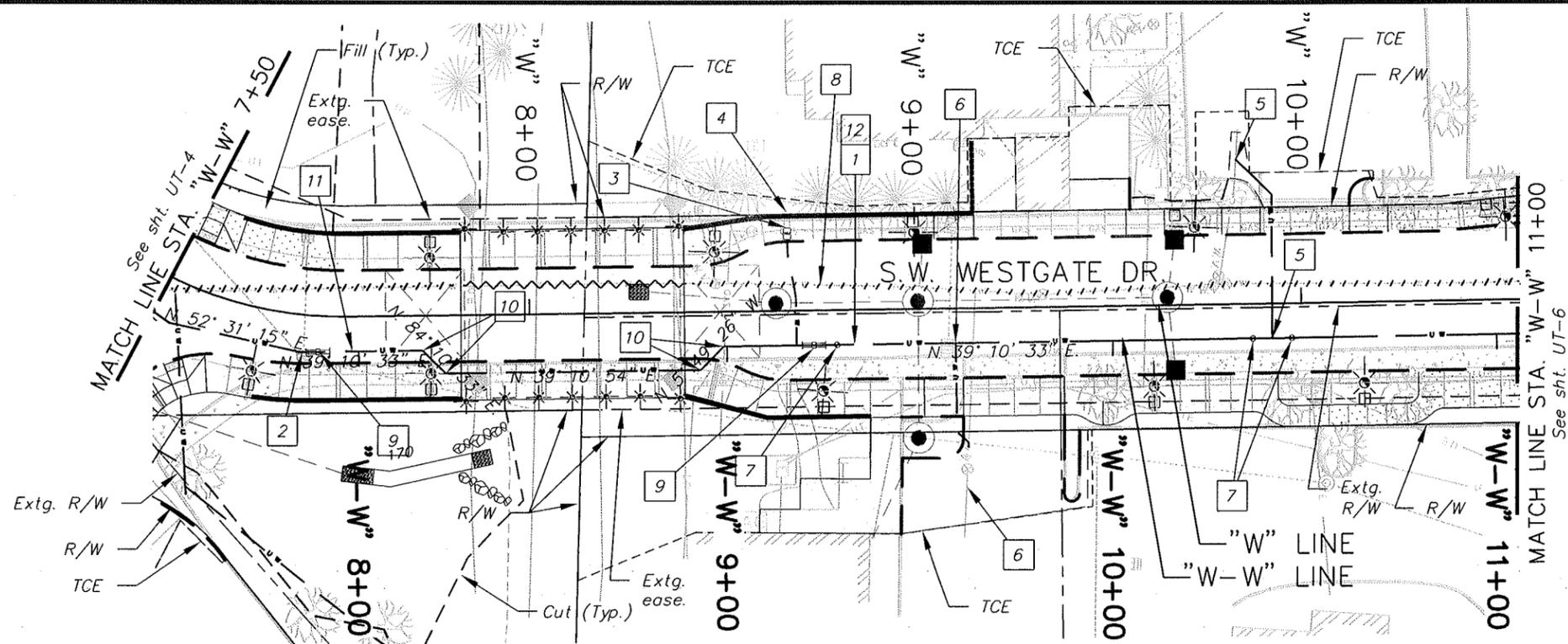
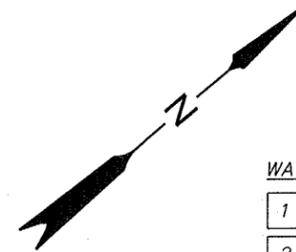
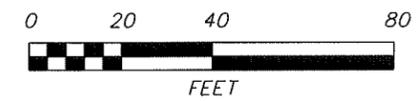
Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benovidez



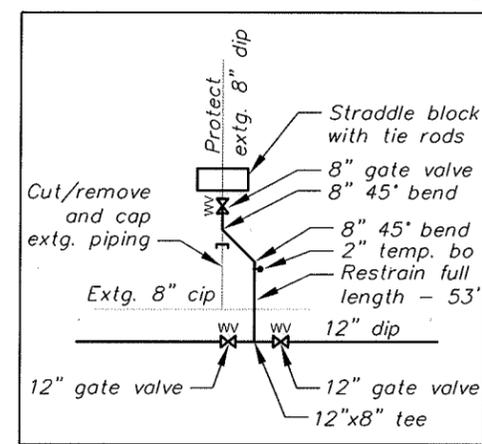
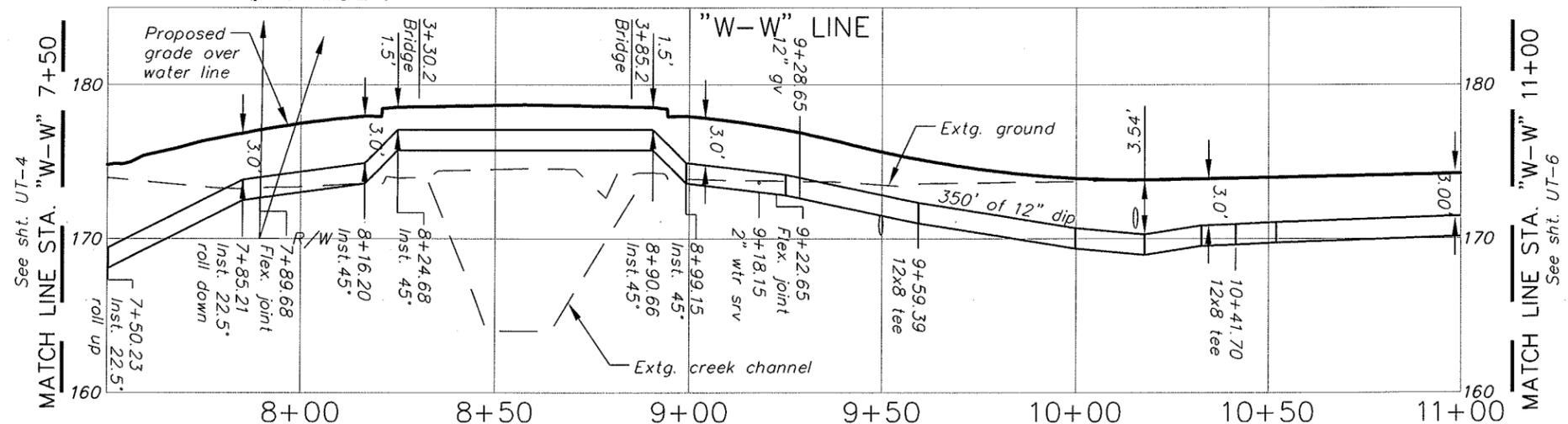
**WATER PLAN & PROFILE**

SHEET NO.  
**UT-3**

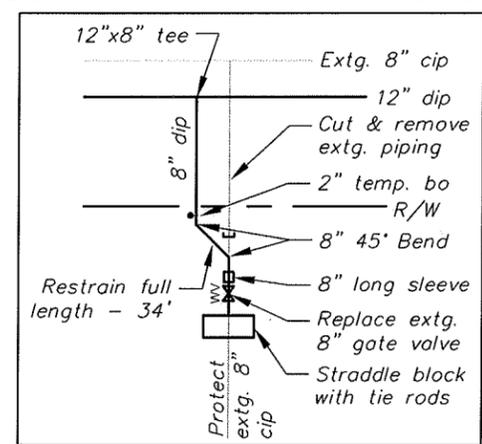




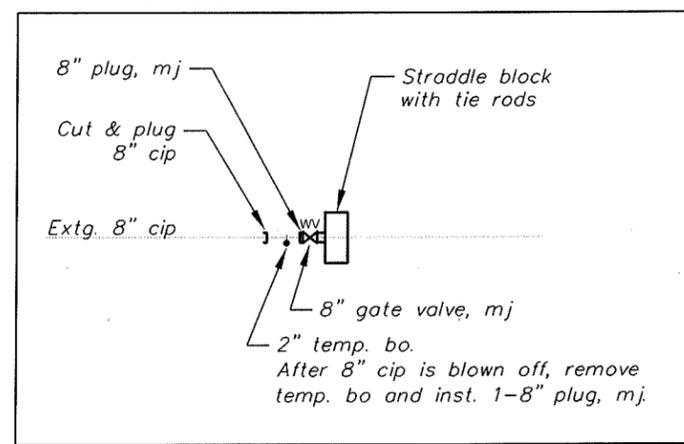
- WATER NOTES:**
- 1 Inst. 12" dip water main
  - 2 Inst. 22.5' bend, mj
  - 3 Inst. 2" water service and box  
(For details, see sht. COB-6 drg. no. 641)
  - 4 Extend 1 1/2" sch40 pvc pipe from meter box through wall, 8lf. Cap pipe.
  - 5 Connection must be done during non-business working hours at Hall St. Bar & Grill.  
(For connection details, see detail A this sht.)
  - 6 Connection must be done during non-business working hours at Beaver Creek Village.  
(For connection details, see detail B this sht.)
  - 7 Inst. 12" gate valve, mj
  - 8 Inst. straddle block with tie rods.  
(For connection details, see detail C this sht.)  
(For details, see sht. COB-4 drg. no. 606)  
1-8" gate valve, mj;  
1-2" temp. bo.  
(For details, see sht. COB-5 drg. no. 633)  
1-8" plug, mj;  
Tie straddle block to gate valve.  
Shut down of 8" cip only during non-business hours.
  - 9 Inst. 12" force balanced flexible expansion joint, mj
  - 10 Inst. 45' bend, mj
  - 11 Sta. 7+41.79 to Sta. 8+24.68  
Restrain 12" water
  - 12 Sta. 8+75.66 to Sta. 9+59.39  
Restrain 12" water



**WATER CONNECTION  
DETAIL A**  
Not to scale



**WATER CONNECTION  
DETAIL B**  
Not to scale



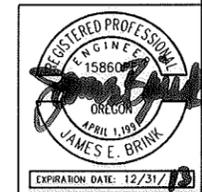
**WATER CONNECTION  
DETAIL C**  
Not to scale

Proposed sidewalk, shown thus:   
 Remove extg. pipe, shown thus:   
 Abandon extg. pipe, shown thus:

**OREGON DEPARTMENT OF TRANSPORTATION**  
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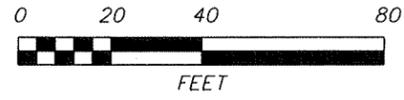
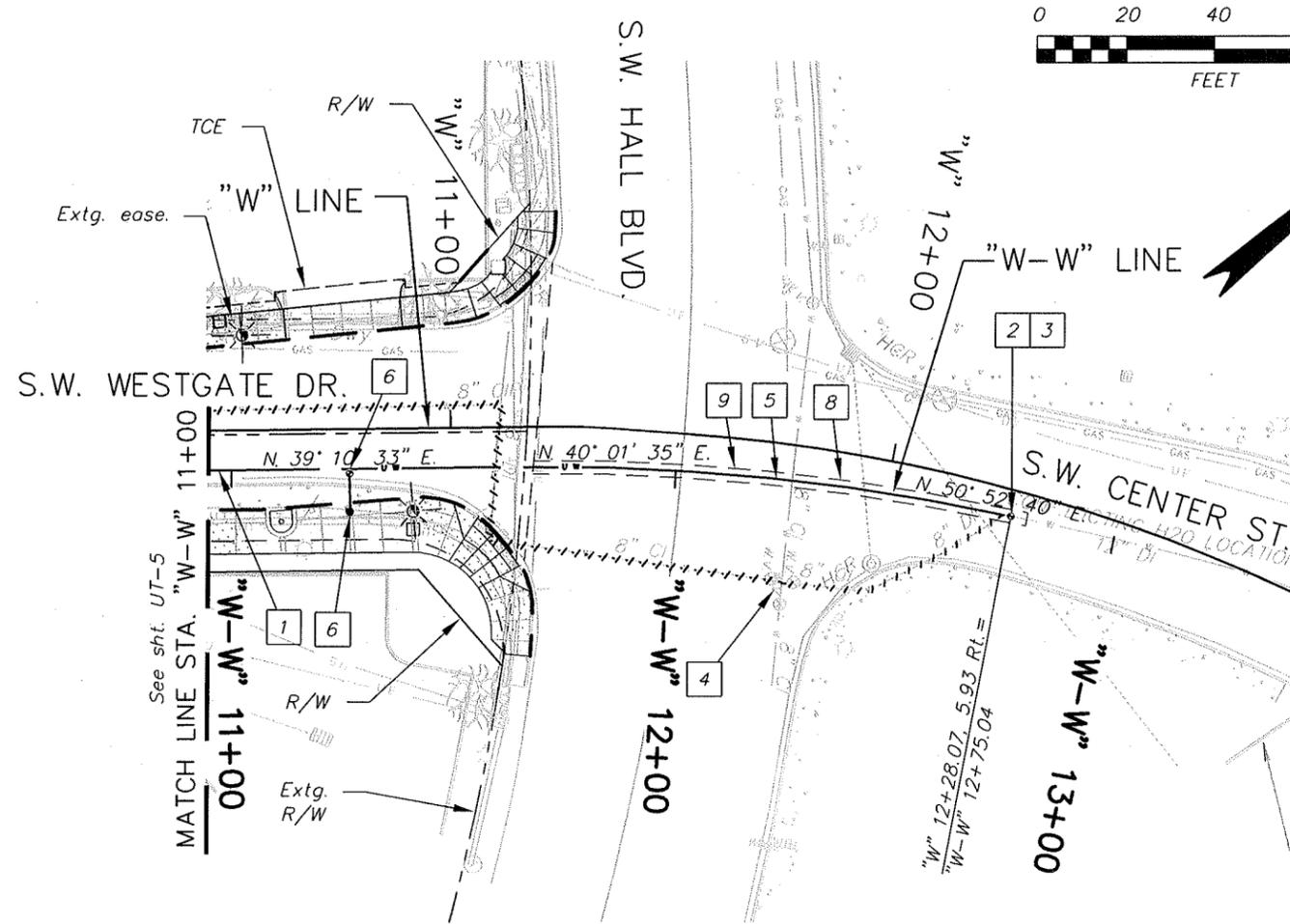
**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benavidez



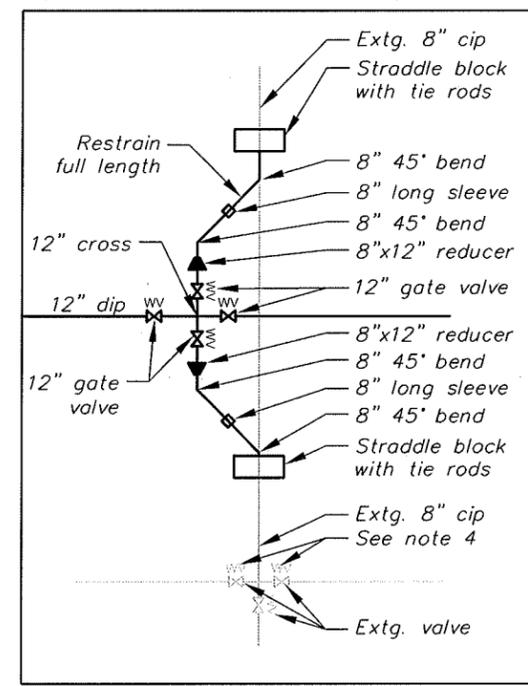
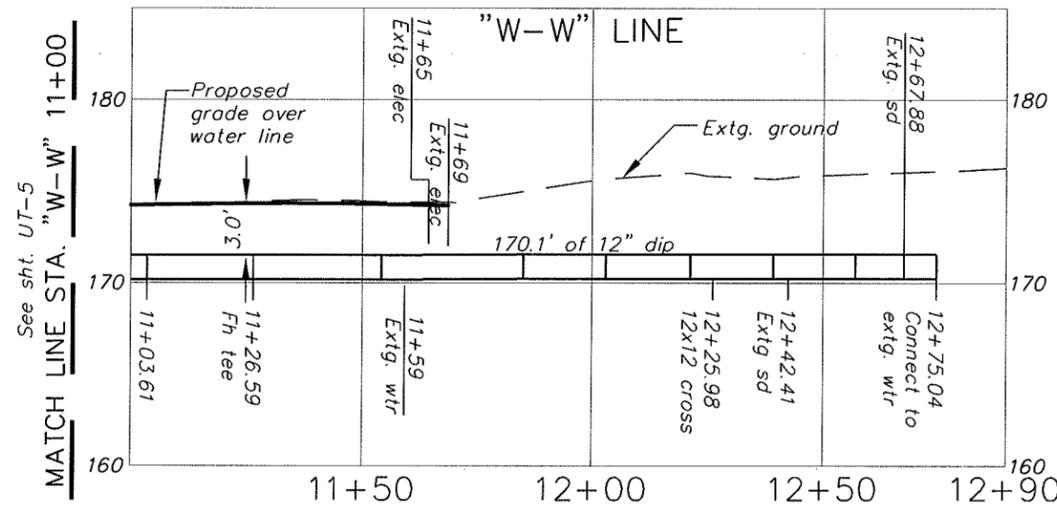
**WATER PLAN & PROFILE**

SHEET NO.  
**UT-5**

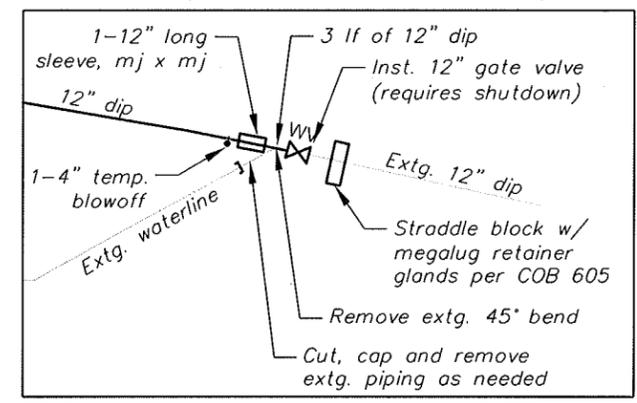


**WATER NOTES:**

- 1 Inst. 12" dip water main
- 2 Connect to extg. 12" di waterline  
(For connection details, see detail B this sht.)
- 3 Inst. 12" gate valve
- 4 After new 12" w is tested and in service, remove east and west valves at extg. cross and plug east and west sides of cross.
- 5 Connect to extg. 8" cl waterline.  
(For connection details, see detail A this sht.)  
Restrain full length.
- 6 Inst. 12x6 tee mj x flg with 6" rsgv mj x mj
- 7 Inst. fire hydrant  
(For details, see sht. COB-5 drg. no. 625)
- 8 Sta. 12+00.00 to Sta 12+75.04  
Restrain 12" water
- 9 Resurface trench with 9" MHMAC  
(For details, see sht. 2B-5)

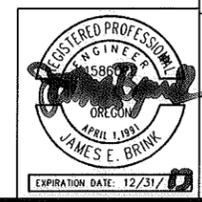


**WATER CONNECTION  
DETAIL A**  
Not to scale



**WATER CONNECTION  
DETAIL B**  
Not to scale

Proposed sidewalk, shown thus:   
Abandon extg. pipe, shown thus:



**OREGON DEPARTMENT OF TRANSPORTATION**

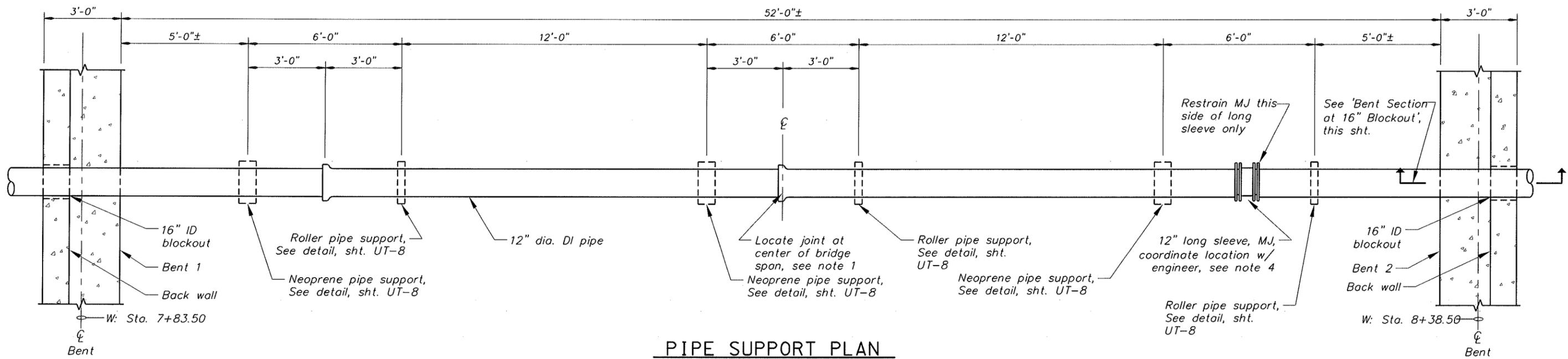
**CITY OF BEAVERTON**  
4755 S.W. Griffith Drive  
P.O. Box 4755  
Beaverton, Or 97076  
Ph: 503-526-2220  
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**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

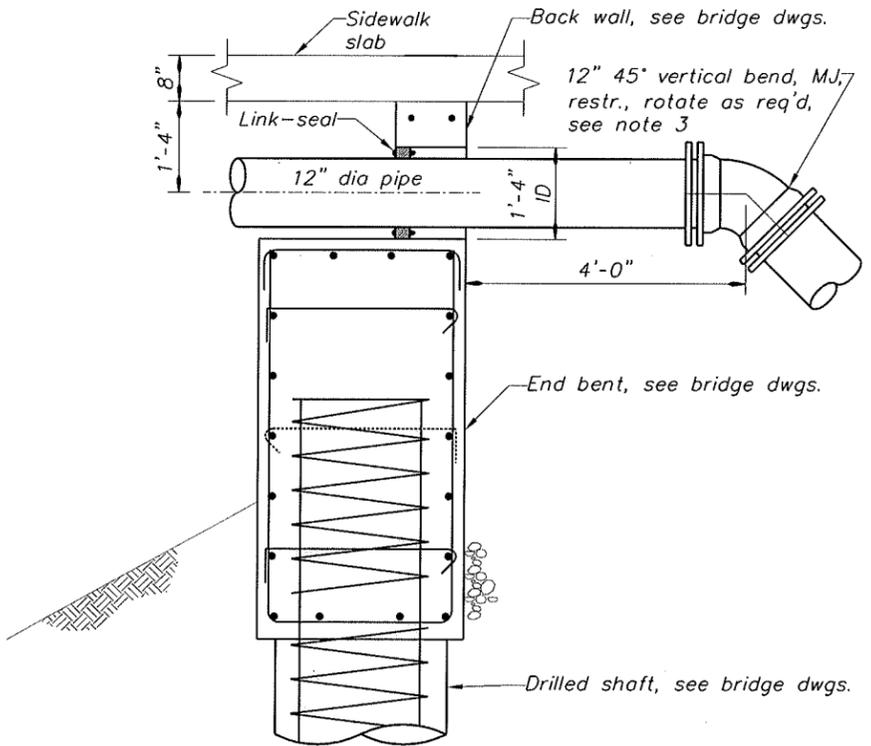
Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benavidez

**WATER PLAN & PROFILE**

SHEET NO.  
**UT-6**



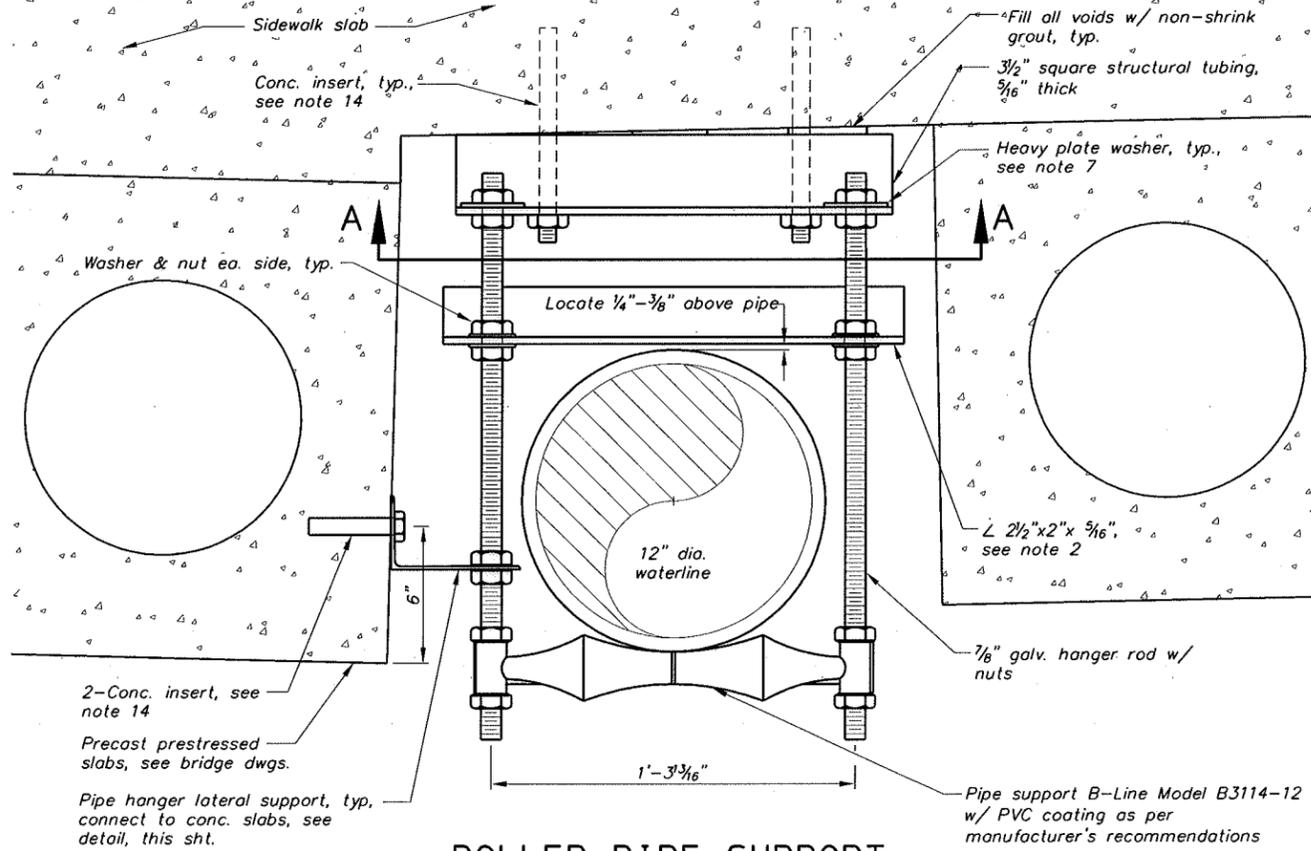
**PIPE SUPPORT PLAN**  
Scale: 1/2" = 1'-0"



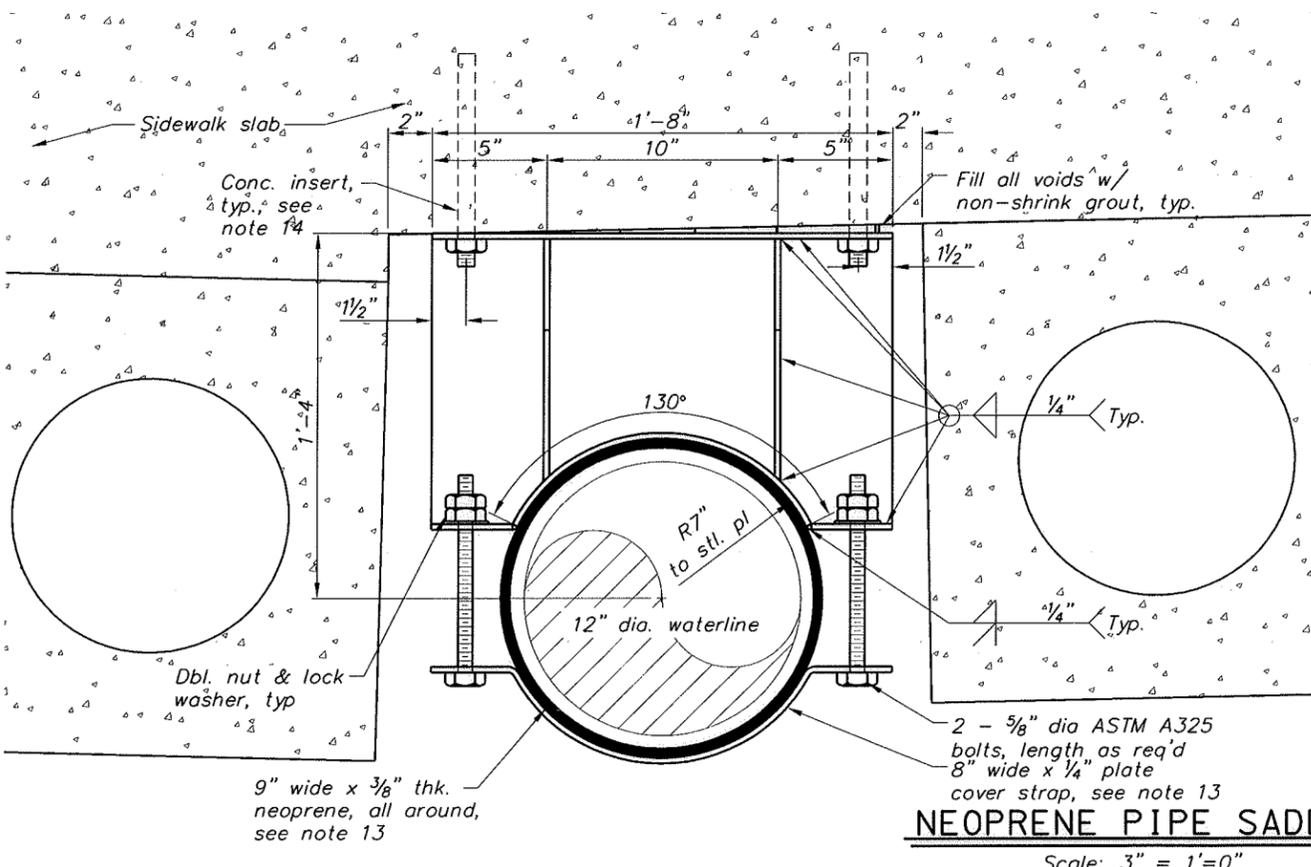
**BENT SECTION AT 16" BLOCKOUT**  
Scale: 3/4" = 1'-0"

- Notes:**
1. All pipe push on bell and spigot pipe joints shall be unrestrained on bridge, unless otherwise noted.
  2. Ductile iron pipe shall be installed on bridge pipe support system such that a 1/4-inch gap is provided between spigot end of the pipe and the shoulder of the connecting pipe bell.
  3. See bridge deck plan and waterline drawings for waterline alignment beyond bridge bents.
  4. Optional long sleeve shown for constructability. If installed, restrain only one MJ bell, use standard follower gland on other MJ bell.

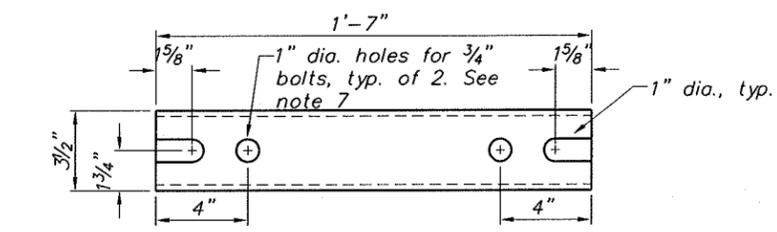
<p><b>SW ROSE BIGGI HALL BLVD - CRESCENT ST (BEAVERTON) VARIOUS STREETS WASHINGTON COUNTY</b></p>	
<p>Reviewed By - J. Jones Designed By - T. Martinez Drafted By - D. Kuhlman</p>	
	<p><b>BRIDGE WATERLINE SUPPORT PLAN &amp; SECTION</b></p>
	<p>SHEET NO. <b>UT-7</b></p>



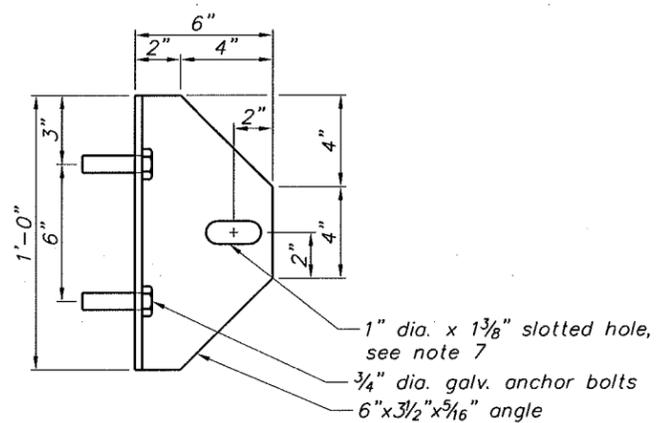
**ROLLER PIPE SUPPORT**  
Scale: 3" = 1'-0"



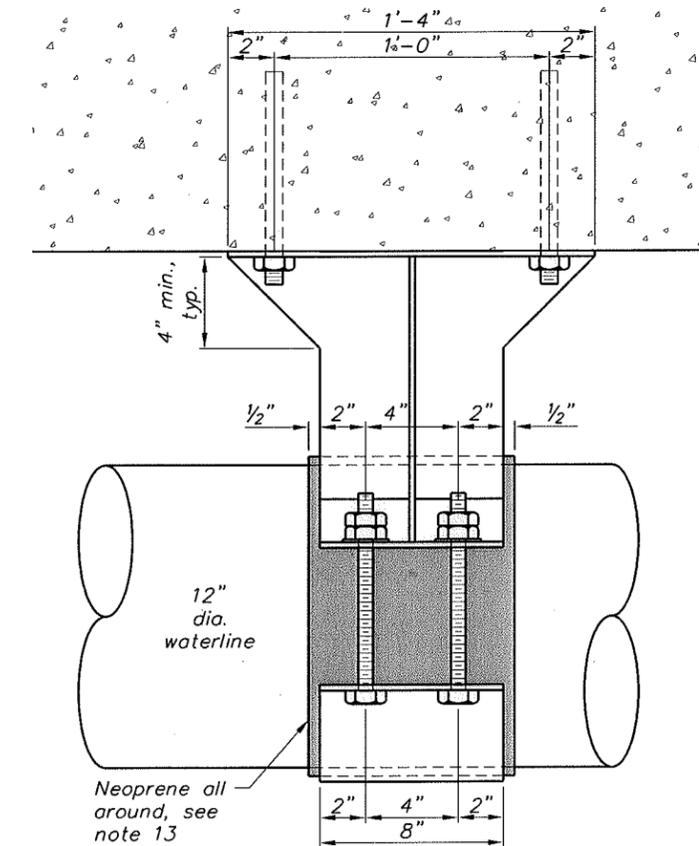
**NEOPRENE PIPE SADDLE**  
Scale: 3" = 1'-0"



**SECTION A-A**  
Scale: 3" = 1'-0"



**PIPE HANGER LATERAL SUPPORT**  
Scale: 3" = 1'-0"



**Notes:**

1. Install hangers at locations per pipe support plan, sheet UT-7.
2. 2 1/2" x 2 1/2" x 5/16" angle with 2 penetrations centered on bottom leg secure with nuts installed above and below bottom leg. Provide 1/4" clearance from pipe.
3. All steel shall be ASTM A36.
4. Pipe support assembly shall be shop fabricated. All holes shall be drilled in shop, not cut.
5. All fabricated steel pieces shall be hot dip galvanized, unless otherwise specified.
6. All steel plates for neoprene pipe saddles shall be 1/4" thick.
7. Edge distances and oversized bolt holes shall comply with AISC Manual of Steel Construction specifications and recommendations. Heavy duty plate washers shall be used at all slotted and oversized holes.
8. Install pipe support & align pipes prior to securing pipe supports. See specs for alignment tolerances.
9. All structural steel for saddles to be A36.
10. All bolts & nuts to be A325, length of bolts as required to develop full grip.
11. All dimensions in inches, unless otherwise specified.
12. Install 1/16" washers or leveling nuts as required for leveling pipe supports. Pipe support shall be leveled such that contact of pipe occurs throughout full width of support.
13. On neoprene pipe supports, tighten cover strap such that neoprene is held in place with cover strap and saddle is not coming in direct contact with pipe. Cover strap shall be tightened sufficiently to provide pipe restraint.
14. Hot dip galvanized expanded coil concrete inserts with closed back ferrule threaded to receive 3/4" diameter NC threaded rod or bolt. Minimum safe working loads to be 2000 pounds tension and 2000 pounds shear with a minimum factor of safety of 3.

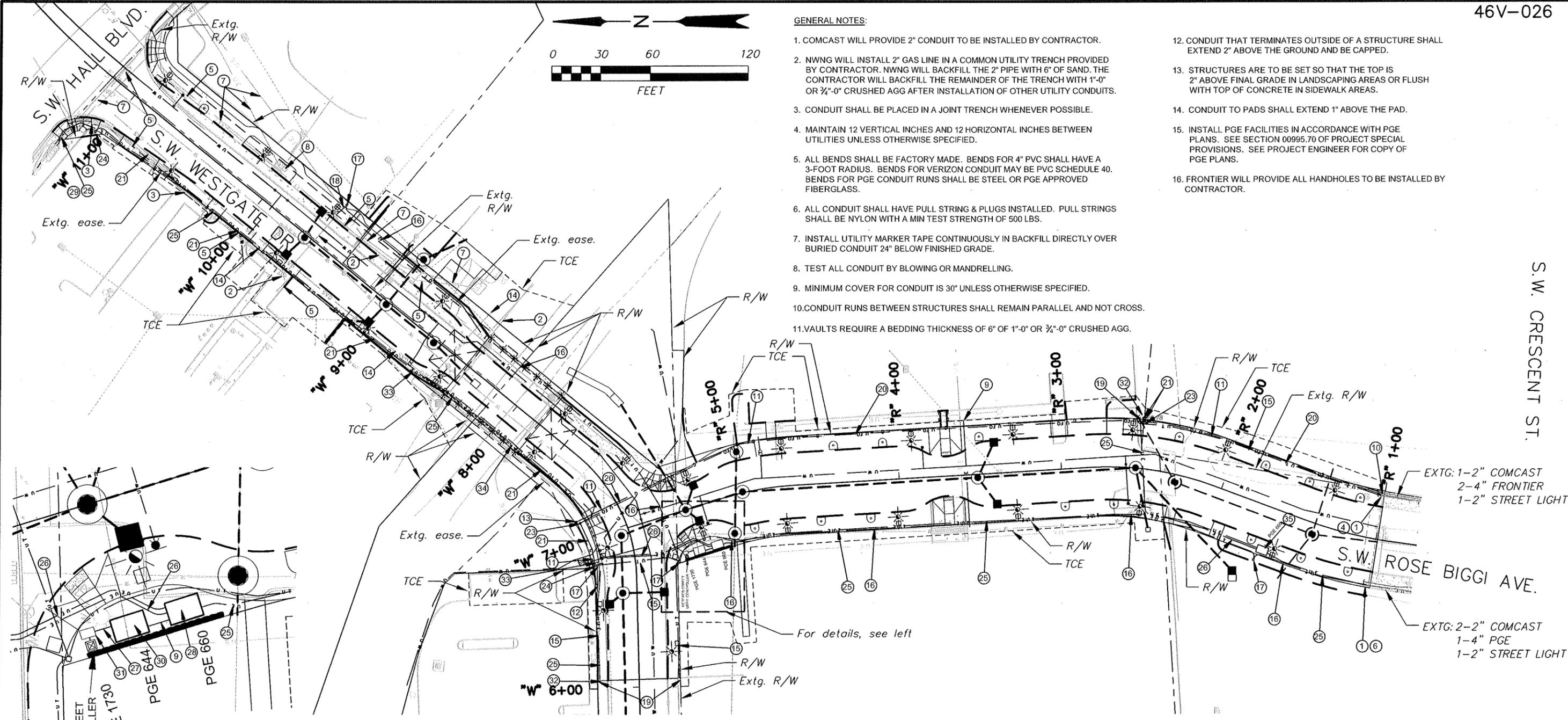
**OREGON DEPARTMENT OF TRANSPORTATION**  
Murray Smith & Associates, Inc.  
Engineers/Planners  
111 SW Salmon, Suite 200 Portland, Oregon 97204 PHONE 503-255-9010 FAX 503-255-9622

**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - J. Jones  
Designed By - T. Martinez  
Drafted By - D. Kuhlman

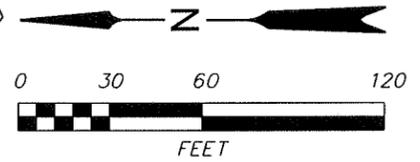


**PIPE SUPPORT DETAILS**  
SHEET NO. **UT-8**



GENERAL NOTES:

- COMCAST WILL PROVIDE 2" CONDUIT TO BE INSTALLED BY CONTRACTOR.
- NWNG WILL INSTALL 2" GAS LINE IN A COMMON UTILITY TRENCH PROVIDED BY CONTRACTOR. NWNG WILL BACKFILL THE 2" PIPE WITH 6" OF SAND. THE CONTRACTOR WILL BACKFILL THE REMAINDER OF THE TRENCH WITH 1'-0" OR 3/4'-0" CRUSHED AGG AFTER INSTALLATION OF OTHER UTILITY CONDUITS.
- CONDUIT SHALL BE PLACED IN A JOINT TRENCH WHENEVER POSSIBLE.
- MAINTAIN 12 VERTICAL INCHES AND 12 HORIZONTAL INCHES BETWEEN UTILITIES UNLESS OTHERWISE SPECIFIED.
- ALL BENDS SHALL BE FACTORY MADE. BENDS FOR 4" PVC SHALL HAVE A 3-FOOT RADIUS. BENDS FOR VERIZON CONDUIT MAY BE PVC SCHEDULE 40. BENDS FOR PGE CONDUIT RUNS SHALL BE STEEL OR PGE APPROVED FIBERGLASS.
- ALL CONDUIT SHALL HAVE PULL STRING & PLUGS INSTALLED. PULL STRINGS SHALL BE NYLON WITH A MIN TEST STRENGTH OF 500 LBS.
- INSTALL UTILITY MARKER TAPE CONTINUOUSLY IN BACKFILL DIRECTLY OVER BURIED CONDUIT 24" BELOW FINISHED GRADE.
- TEST ALL CONDUIT BY BLOWING OR MANDRELLING.
- MINIMUM COVER FOR CONDUIT IS 30" UNLESS OTHERWISE SPECIFIED.
- CONDUIT RUNS BETWEEN STRUCTURES SHALL REMAIN PARALLEL AND NOT CROSS.
- VAULTS REQUIRE A BEDDING THICKNESS OF 6" OF 1'-0" OR 3/4'-0" CRUSHED AGG.
- CONDUIT THAT TERMINATES OUTSIDE OF A STRUCTURE SHALL EXTEND 2" ABOVE THE GROUND AND BE CAPPED.
- STRUCTURES ARE TO BE SET SO THAT THE TOP IS 2" ABOVE FINAL GRADE IN LANDSCAPING AREAS OR FLUSH WITH TOP OF CONCRETE IN SIDEWALK AREAS.
- CONDUIT TO PADS SHALL EXTEND 1" ABOVE THE PAD.
- INSTALL PGE FACILITIES IN ACCORDANCE WITH PGE PLANS. SEE SECTION 00995.70 OF PROJECT SPECIAL PROVISIONS. SEE PROJECT ENGINEER FOR COPY OF PGE PLANS.
- FRONTIER WILL PROVIDE ALL HANDHOLES TO BE INSTALLED BY CONTRACTOR.



- CITY**
- 33 INSTALL 12X20 HANDHOLE
  - 34 2-3" PVC CITY
- NW NATURAL**
- 10 CONNECT TO ONE EXTG 2" GAS (BY NWNG)
  - 11 INSTALL 1-2" NWNG (BY NWNG). COORDINATE W/MARK ALLARD, NWNG, (503)806-1034, DURING CONSTRUCTION
  - 12 INSTALL LOCATE RISER W/ FINK (BY NWNG)
  - 13 INSTALL GAS VALVE (BY NWNG)
  - 14 EXTG NWNG PIPE

- COMCAST**
- 1 CONNECT TO TWO EXTG 2" PVC COMCAST CONDUITS
  - 2 1-2" EXTG COMCAST CONDUIT
  - 3 2-2" EXTG COMCAST CONDUIT
  - 15 INSTALL 1-2" PVC COMCAST
  - 16 INSTALL 2-2" PVC COMCAST
  - 17 INSTALL PEDESTAL (BY COMCAST)
  - 18 EXTEND 2-2" COMCAST TO NEW PEDESTAL (BY COMCAST)
  - 19 CAP END OF COMCAST CONDUITS

- FRONTIER**
- 4 CONNECT TO TWO EXTG 4" PVC CONDUITS (FRONTIER)
  - 5 EXTG FRONTIER CONDUIT(S)
  - 8 REPLACE CABINET WITH 2X3X2 HANDHOLE (BY FRONTIER)
  - 20 INSTALL 2-4" PVC FRONTIER
  - 21 INSTALL 1-4" PVC FRONTIER
  - 22 NOT USED
  - 23 INSTALL 2X3X2 HANDHOLE
  - 24 INSTALL 9"x9" HANDHOLE (LANDSCAPE AREA)

- PGE**
- 6 CONNECT TO ONE EXTG 4" PVC CONDUIT (PGE)
  - 7 EXTG PGE CONDUIT(S)
  - 9 INSTALL 1-2" PVC PGE
  - 25 INSTALL 1-4" PVC PGE
  - 26 INSTALL 2-4" PVC PGE
  - 27 INSTALL 1-3" PVC PGE
  - 28 INSTALL PGE 660 VAULT W/ 660-B-PGE BASE, 64-352P-PGE TOP AND 64-3667 ADJUSTABLE COVER SLAB. DOORS ARE SPRING ASSISTED, GALV. DIAMOND PLATE W/ LOCKING LATCH.
  - 29 CONNECT TO EXTG PGE VAULT
  - 30 INSTALL PGE 644 VAULT W/ 644-B-PGE BASE AND 64-332P-2125 PGE TOP. DOORS ARE SPRING ASSISTED, GALV. DIAMOND PLATE W/ LOCKING LATCH.

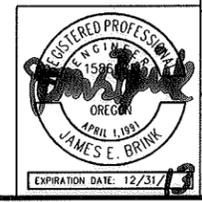
- PGE CONTINUED**
- 31 INSTALL PGE JUNCTION BOX (17X30)
  - 32 CAP END OF PGE CONDUIT
  - 35 INSTALL PGE 660 VAULT W/ 660-B-PGE BASE, 64-AT-352P-NS-PGE TOP AND 64-3667 ADJUSTABLE COVER SLAB. DOORS ARE SPRING ASSISTED, NON-SLIP WITH LOCKING LATCH.

**OREGON DEPARTMENT OF TRANSPORTATION**

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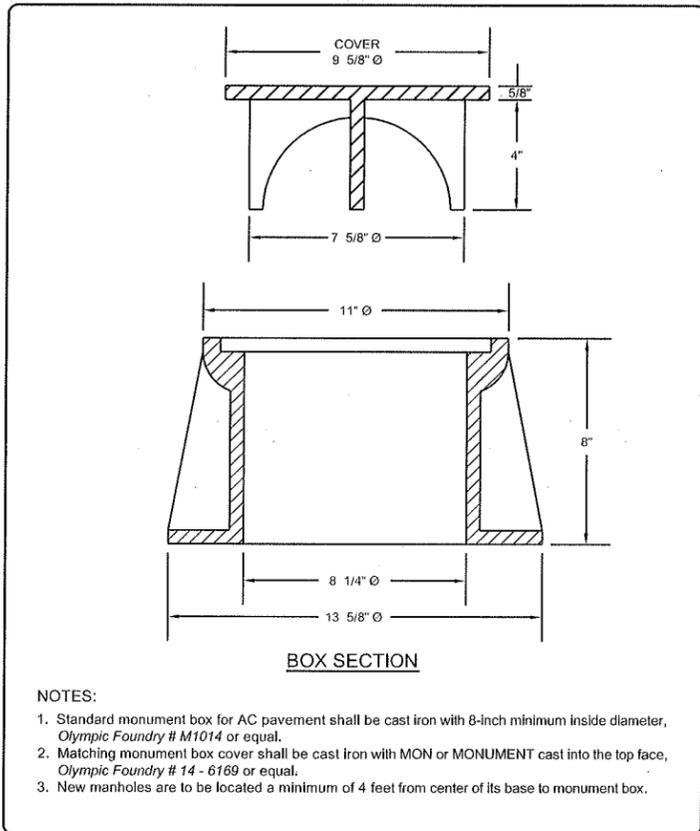
**SW ROSE BIGGI  
 HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benavidez

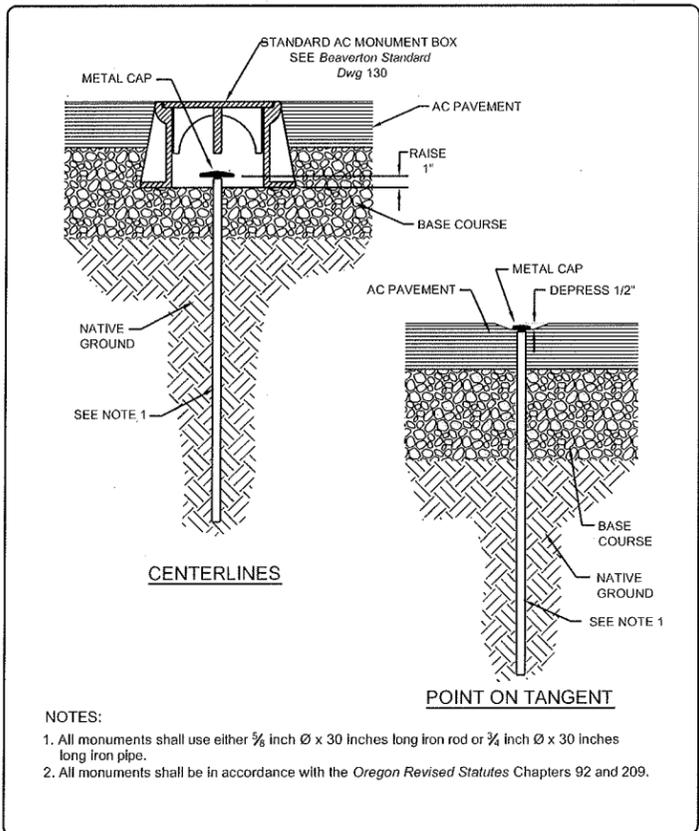


**PRIVATE UTILITIES**

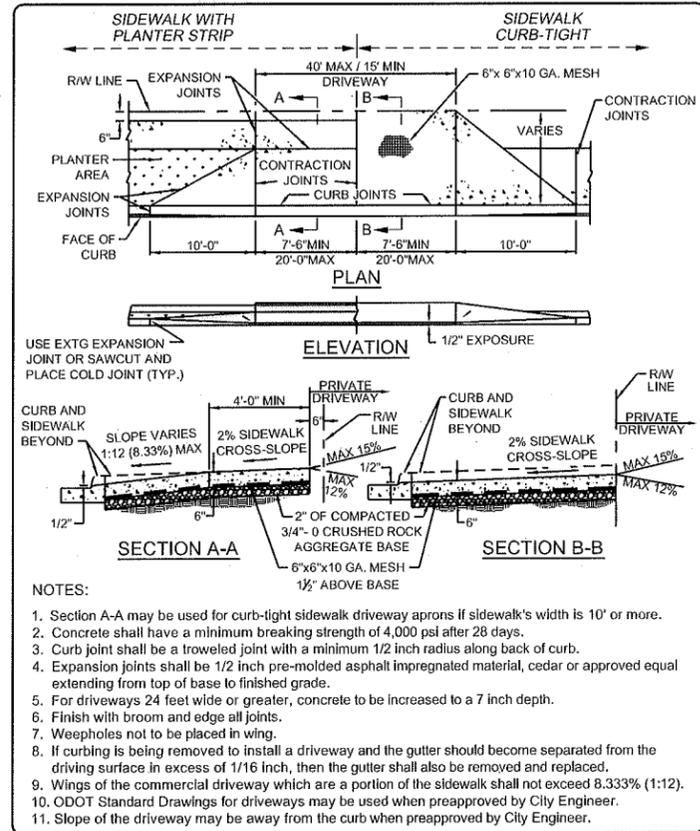
SHEET NO.  
**UT-9**



<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		STANDARD AC MONUMENT BOX	
	CITY ENGINEER Terry Walske, P.E.	DATE 5-09-06	DRAWN BY JR - CPD	DRAWING NO. 130

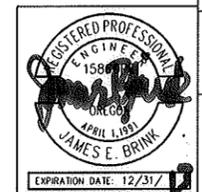


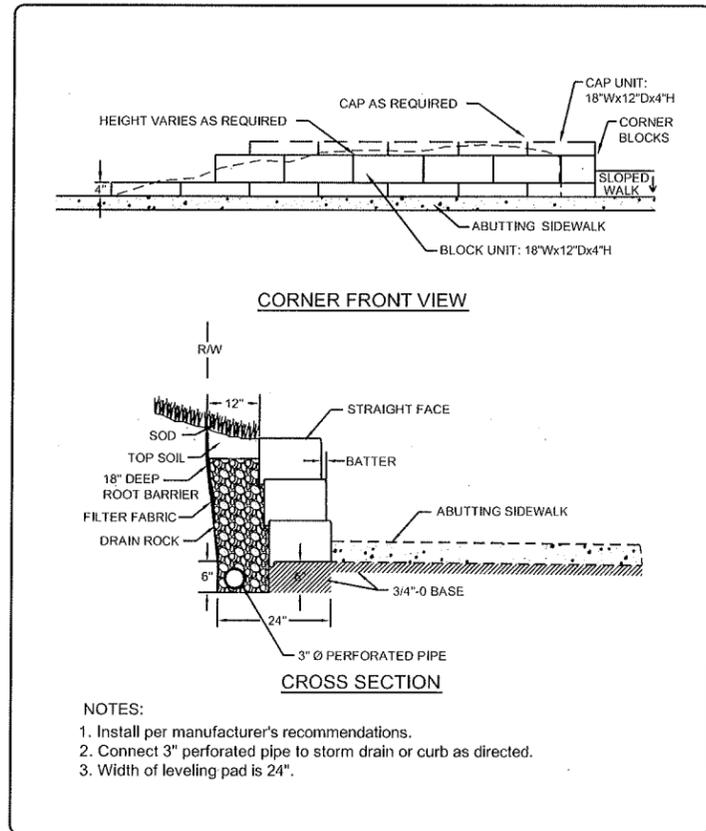
<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		ASPHALT CENTERLINE MONUMENTS	
	CITY ENGINEER Terry Walske, P.E.	DATE 4-27-06	DRAWN BY JR - CPD	DRAWING NO. 135



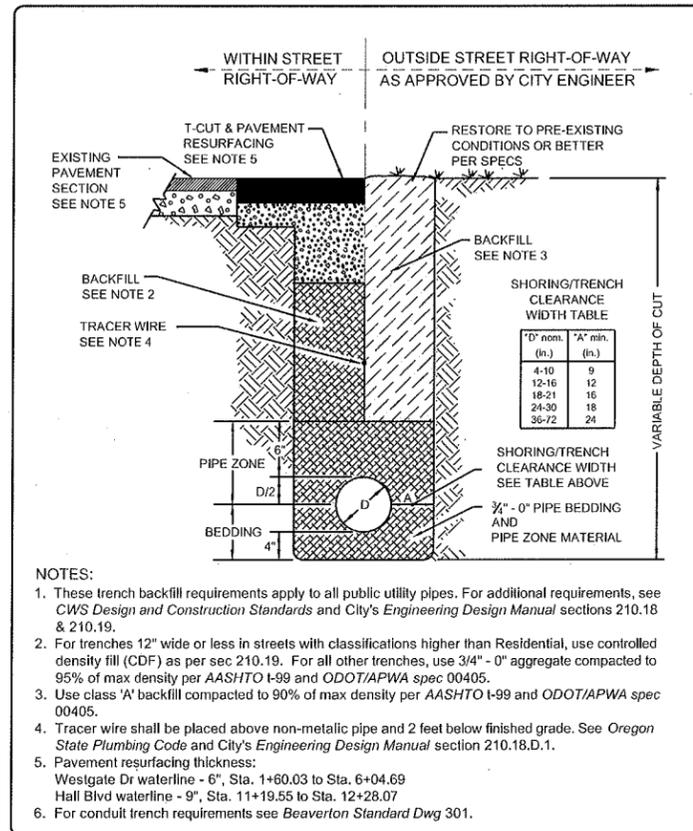
<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		STANDARD COMMERCIAL DRIVEWAY	
	CITY ENGINEER Terry Walske, P.E.	DATE 5-05-06	DRAWN BY JR - CPD	DRAWING NO. 210

<p>OREGON DEPARTMENT OF TRANSPORTATION</p>	
<p>CITY OF BEAVERTON 4755 S.W. Griffith Drive P.O. Box 4755 Beaverton, Or 97076 Ph: 503-526-2220 Fx: 503-526-2535</p>	
<p><b>SW ROSE BIGGI</b> <b>HALL BLVD - CRESCENT ST (BEAVERTON)</b> VARIOUS STREETS WASHINGTON COUNTY</p>	
<p>Reviewed By - P. Arellano Designed By - J. Brink Drafted By - C. Benavidez</p>	
<p>CITY OF BEAVERTON STANDARD DRAWINGS</p>	<p>SHEET NO. COB</p>

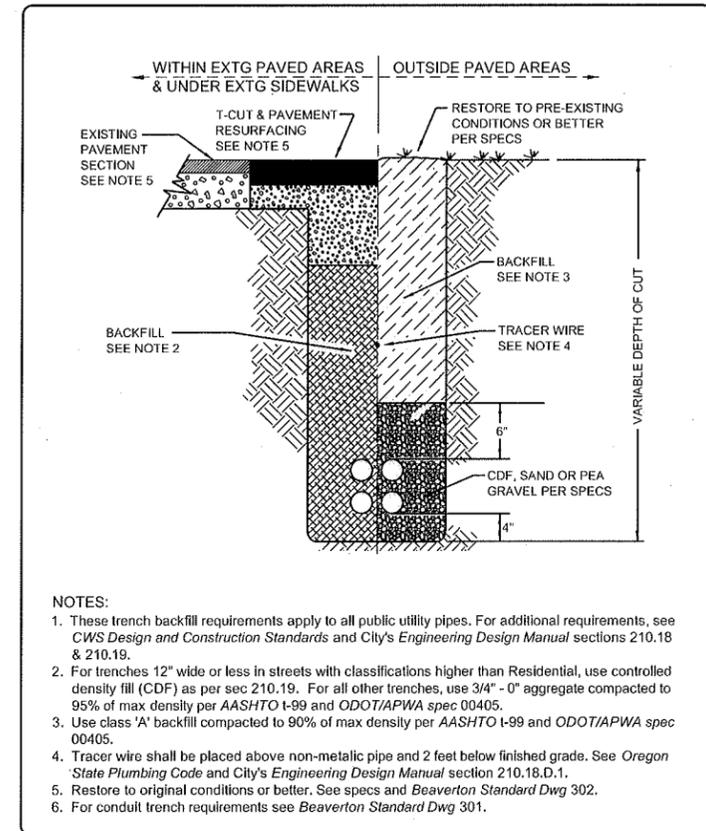




<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		STANDARD BLOCK WALL	
	CITY ENGINEER Terry Waldels, P.E.	DATE 5 - 12 - 06	DRAWN BY JR - CPD	DRAWING NO. 270



<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		PIPE TRENCH BACKFILL	
	CITY ENGINEER Terry Waldels, P.E.	DATE 2 - 22 - 07	DRAWN BY JR - ED	DRAWING NO. 300



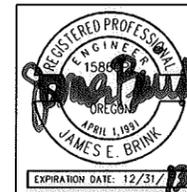
<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		CONDUIT TRENCH BACKFILL	
	CITY ENGINEER Terry Waldels, P.E.	DATE 2 - 22 - 07	DRAWN BY JR - ED	DRAWING NO. 301

**OREGON DEPARTMENT OF TRANSPORTATION**

**CITY OF BEAVERTON**  
 4755 S.W. Griffith Drive  
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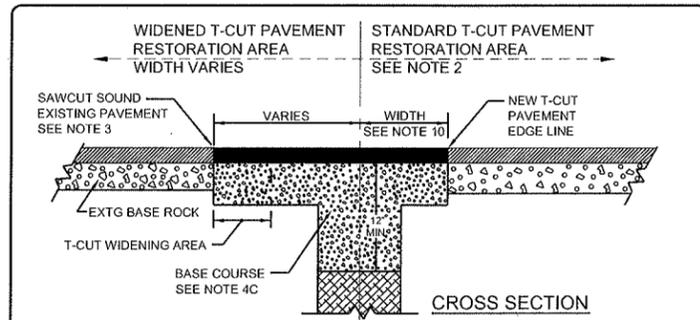
**SW ROSE BIGGI**  
**HALL BLVD - CRESCENT ST (BEAVERTON)**  
 VARIOUS STREETS  
 WASHINGTON COUNTY

Reviewed By - P. Arellano  
 Designed By - J. Brink  
 Drafted By - C. Benovidez



**CITY OF BEAVERTON**  
**STANDARD DRAWINGS**

SHEET NO.  
**COB-2**



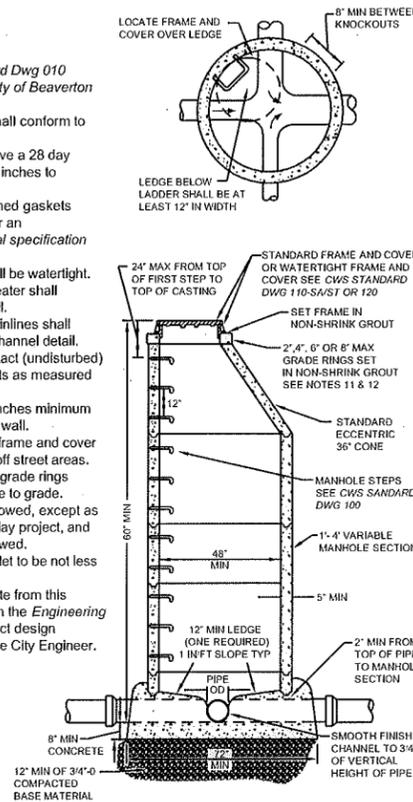
- NOTES:**
- This drawing applies to trench cuts and other kinds of pavement cuts.
  - For width dimensions, see *Engineering Design Manual* sections 150.6.D, 210.19 and the notes that follow.
  - Sawcut existing AC pavement full depth.
  - Restore existing pavement material(s) to pre-existing or better conditions. Thickness shall be as follows:
    - For existing Portland Cement Concrete (PCC): existing pavement thickness plus 2 inches, but not less than 8 inches. On Arterial and Collector streets, concrete patching material shall be high early strength class 5,000 psi PCC approved by City Engineer.
    - For existing Asphalt Concrete (AC): resurface to a minimum of 3 1/2 inches of class 'C' AC or existing AC thickness plus 2 inches, whichever is greater, but do not exceed 6 inches. Compact AC in 2-inch maximum lifts to 91% of maximum density (Rice).
    - Base course shall be 3/4"-0 aggregate compacted to 95% of max density as per AASHTO T-99 and ODOT/APWA Spec 00405. Minimum thickness shall be 8 inches under AC pavement and 2 inches under PCC pavement.
  - All cut edges of AC shall be sand sealed with CRS-1 or CRS-2 emulsified asphalt or equal.
  - If new edge of pavement is less than three feet from another patch, curb or edge of street, replace the pavement in between.
  - If any part of more than one pre-existing patch edge is within 3 feet of the T-cut, remove and restore the pavement to the far edge of the furthest pre-existing patch.
  - On longitudinal pavement cuts, the edge of the T-cut shall not lie in a wheel path. Width of T-cut shall be widened where necessary to move the edge out of the wheel path and either to parallel and 6 inches from the nearest lane line, or to the location required by note 6 or 7 above as applicable, whichever is the furthest from the pavement cut.
  - If an edge of a T-cut will be within 5 feet or less of an area of distressed existing pavement, the length and width of the pavement restoration shall be determined by City Engineer upon notification by the Contractor.
  - Width from edge of trench shall be 6 inches minimum for trenches that are 12 inches wide or less and 12 inches minimum for trenches wider than 12 inches. The width may be increased up to 10 feet on both sides of the pavement cut as approved by City Engineer. See *Engineering Design Manual* section 150.6.

<p>City of Beaverton</p>	PUBLIC WORKS DEPARTMENT		PAVEMENT CUT RESTORATION	
	CITY ENGINEER Terry Wadtele, P.E.	DATE 2-22-07	DRAWN BY JR - ED	DRAWING NO. 302

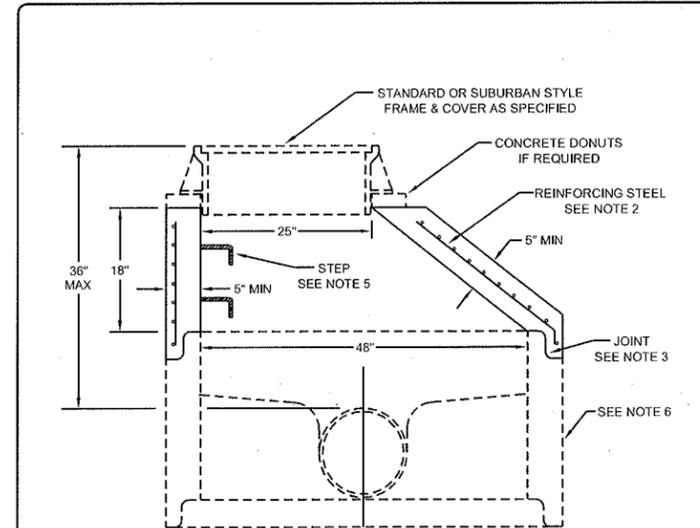
**NOTES:**

- This drawing replaces CWS Standard Dwg 010 and has been modified for use by City of Beaverton Ordinance #4303.
- All precast manhole riser sections shall conform to the requirements of ASTM C 478.
- All poured in place concrete shall have a 28 day strength of 3000 psi, and slump of 2 inches to 4 inches.
- All joints shall be sealed with preformed gaskets such as Kent-Seal #2, Ram-Neck, or an approved equal conforming to federal specification SS-S00210.
- All pipe connections to manhole shall be watertight.
- \*Pipe connections of 24 inches or greater shall require a manhole and channel detail.
- Pipe connections of four or more mainlines shall require a manhole connection and channel detail.
- Provide a minimum of 8 inches of intact (undisturbed) manhole wall between pipe breakouts as measured on the inside face of the manhole.
- Breakout of wall for pipe shall be 2 inches minimum and 4 inches maximum clear of pipe wall.
- Watertight / tamper proof manhole frame and cover shall be used in all easement and off street areas.
- \*No more than 8 inches of concrete grade rings shall be used to adjust any manhole to grade.
- \*Metal paving rings/risers are not allowed, except as necessary during a pavement overlay project, and then only one (1) paving ring is allowed.
- \*Minimum fall between inlet and outlet to be not less than 0.10 feet.
- \*The City reserves the right to deviate from this drawing and related requirements in the *Engineering Design Manual* as dictated by project design parameters, and as approved by the City Engineer.

\* INDICATES MODIFICATIONS OF CWS STANDARD DWG 010



<p>City of Beaverton</p>	PUBLIC WORKS DEPARTMENT		CWS (USA) STANDARD MANHOLE WITH C.O.B. MODIFICATIONS	
	CITY ENGINEER Terry Wadtele, P.E.	DATE 5-09-06	DRAWN BY JR - CPD	DRAWING NO. 330



**NOTES:**

- Manhole cone shall be manufactured by Cascade Concrete Products Inc, Hanson Pipe & Products Inc or approved equal and conform to the requirements of ASTM C-478 and applicable provisions of Beaverton Standard Dwg 330.
- Reinforcing steel is grade 60. Steel area is 0.12 square inch per foot, (D3 on 3 inch spacing), 2 inches clear of the external surface.
- All joints and rubber gaskets shall conform to the requirements of ASTM C-433.
- Concrete shall have a 28 day ultimate strength of 4000 psi.
- Two reinforced polypropylene steps shall be provided at the locations shown.
- Lower section height varies and is to be determined by engineer.

<p>City of Beaverton</p>	PUBLIC WORKS DEPARTMENT		SHALLOW MANHOLE CONE	
	CITY ENGINEER Terry Wadtele, P.E.	DATE 5-10-06	DRAWN BY JR - CPD	DRAWING NO. 336

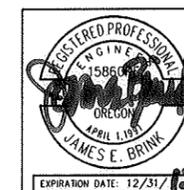
**OREGON DEPARTMENT OF TRANSPORTATION**



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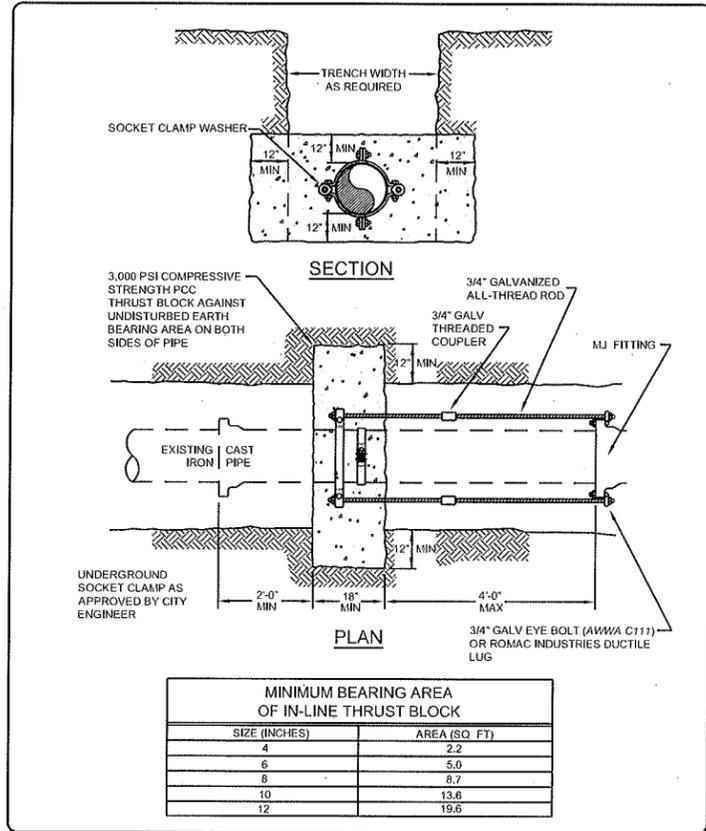
**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benavidez



CITY OF BEAVERTON  
STANDARD DRAWINGS

SHEET NO.  
COB-3

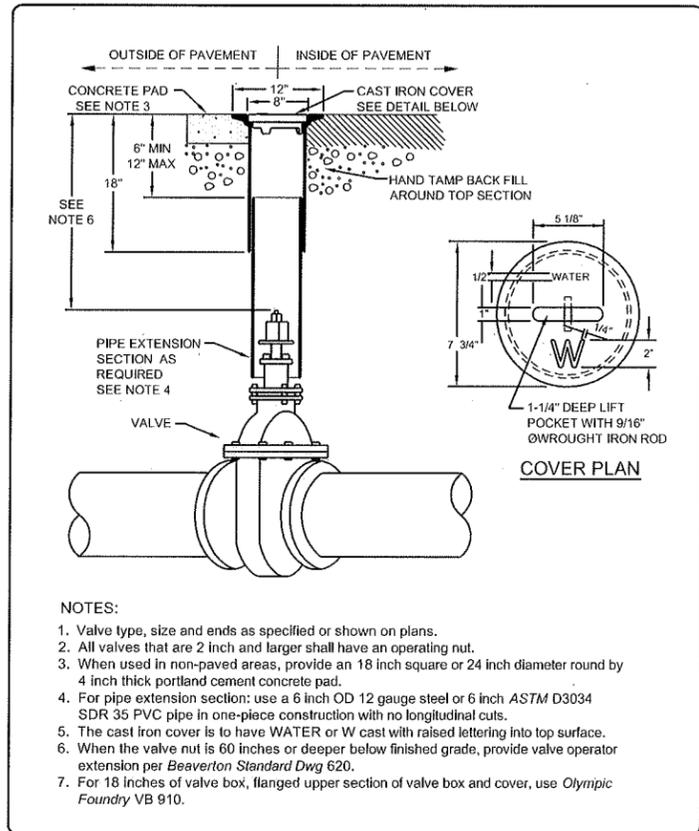


**MINIMUM BEARING AREA OF IN-LINE THRUST BLOCK**

SIZE (INCHES)	AREA (SQ. FT.)
4	2.2
6	5.0
8	8.7
10	13.6
12	19.6

City Of Beaverton

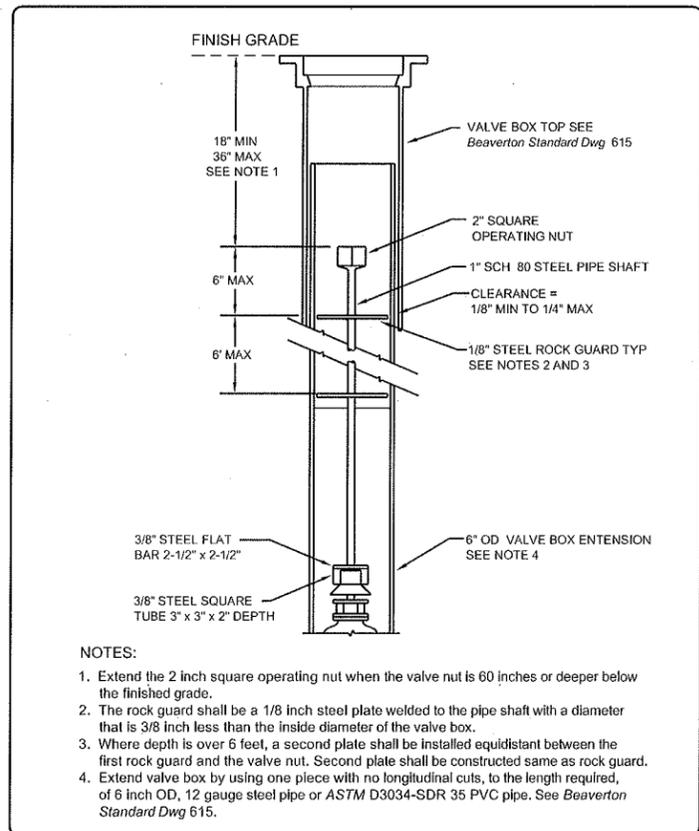
PUBLIC WORKS DEPARTMENT		STRADDLE THRUST BLOCK EXISTING PIPE CONNECTION	
UTILITIES ENGINEER David A. Winship, P.E.	DATE 2-13-07	DRAWN BY JR - ED	DRAWING NO. 606



- NOTES:**
1. Valve type, size and ends as specified or shown on plans.
  2. All valves that are 2 inch and larger shall have an operating nut.
  3. When used in non-paved areas, provide an 18 inch square or 24 inch diameter round by 4 inch thick portland cement concrete pad.
  4. For pipe extension section: use a 6 inch OD 12 gauge steel or 6 inch ASTM D3034 SDR 35 PVC pipe in one-piece construction with no longitudinal cuts.
  5. The cast iron cover is to have WATER or W cast with raised lettering into top surface.
  6. When the valve nut is 60 inches or deeper below finished grade, provide valve operator extension per *Beaverton Standard Dwg 620*.
  7. For 18 inches of valve box, flanged upper section of valve box and cover, use *Olympic Foundry VB 910*.

City Of Beaverton

PUBLIC WORKS DEPARTMENT		WATER VALVE BOX AND COVER	
UTILITIES ENGINEER David A. Winship, P.E.	DATE 2-13-07	DRAWN BY JR - ED	DRAWING NO. 615



- NOTES:**
1. Extend the 2 inch square operating nut when the valve nut is 60 inches or deeper below the finished grade.
  2. The rock guard shall be a 1/8 inch steel plate welded to the pipe shaft with a diameter that is 3/8 inch less than the inside diameter of the valve box.
  3. Where depth is over 6 feet, a second plate shall be installed equidistant between the first rock guard and the valve nut. Second plate shall be constructed same as rock guard.
  4. Extend valve box by using one piece with no longitudinal cuts, to the length required, of 6 inch OD, 12 gauge steel pipe or ASTM D3034-SDR 35 PVC pipe. See *Beaverton Standard Dwg 615*.

City Of Beaverton

PUBLIC WORKS DEPARTMENT		WATER VALVE OPERATOR EXTENSION	
UTILITIES ENGINEER David A. Winship, P.E.	DATE 2-13-07	DRAWN BY JR - ED	DRAWING NO. 620

**OREGON DEPARTMENT OF TRANSPORTATION**

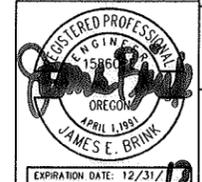
CITY OF BEAVERTON  
4755 S.W. Griffith Drive  
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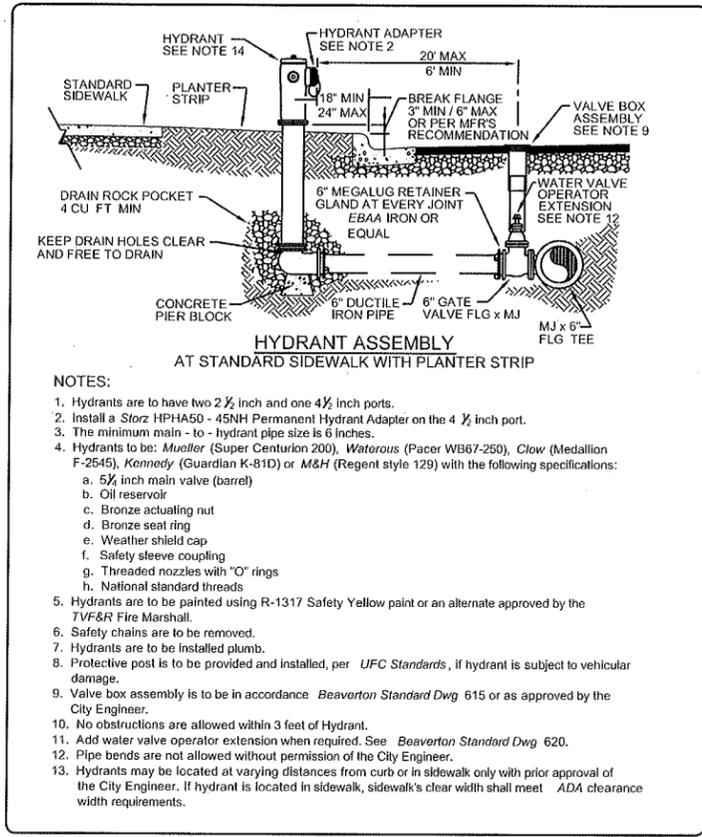
**SW ROSE BIGGI  
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VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - C. Benavidez

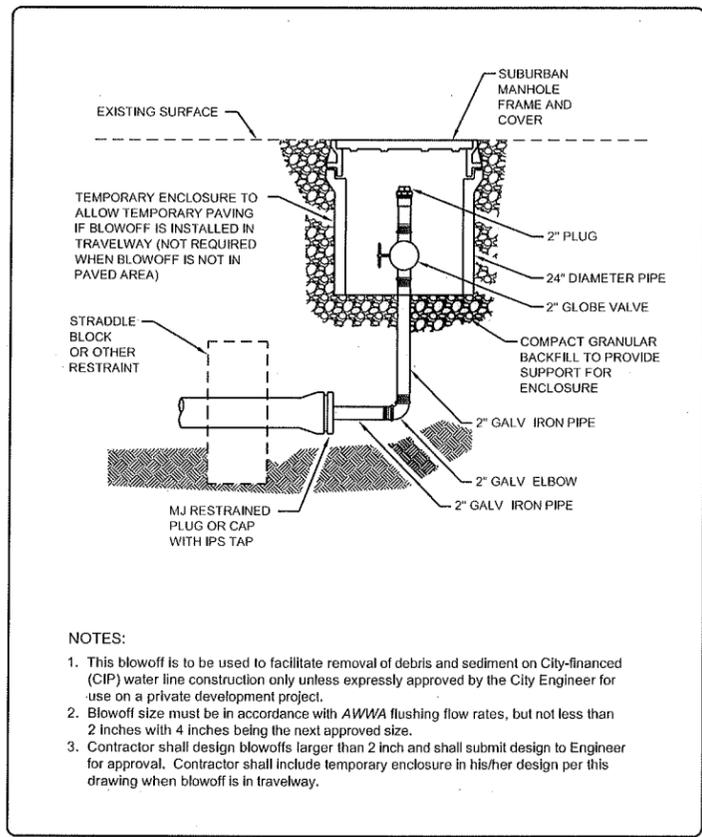
CITY OF BEAVERTON  
STANDARD DRAWINGS

SHEET NO.  
COB-4

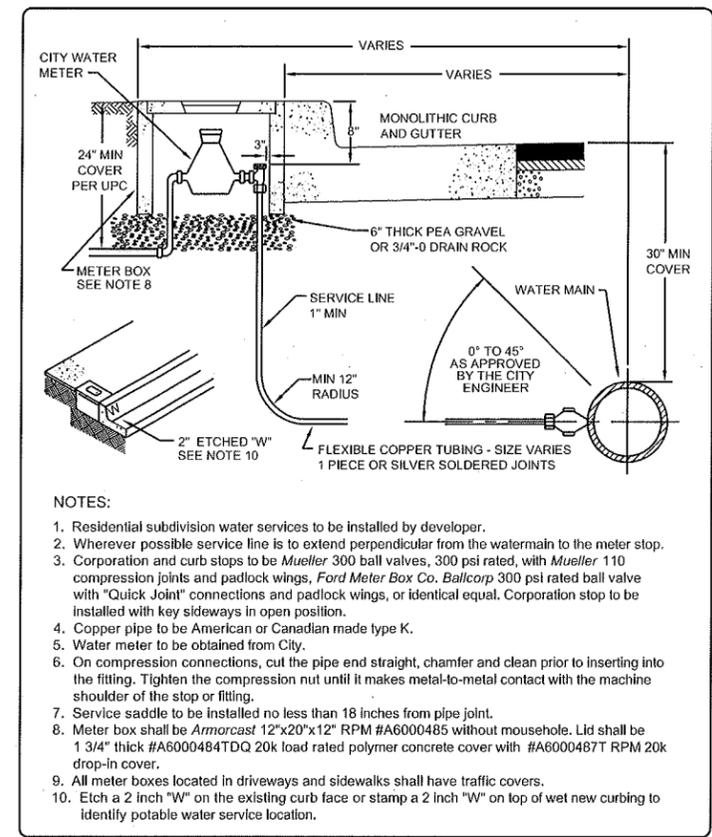




<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		STANDARD FIRE HYDRANT ASSEMBLY	
	UTILITIES ENGINEER David A. Winship, P.E.	DATE 5-3-05	DRAWN BY JR - CPD	DRAWING NO. 625



<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		TEMPORARY BLOWOFF FOR CONSTRUCTION PURPOSES ON CITY C.I.P. PROJECTS ONLY	
	UTILITIES ENGINEER David A. Winship, P.E.	DATE 6-10-04	DRAWN BY JCH - CPD	DRAWING NO. 633



<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		1" COPPER SERVICE CONNECTION	
	CITY ENGINEER PETER ARELLANO, P.E.	DATE 11-12-09	DRAWN BY AB	DRAWING NO. 640

**OREGON DEPARTMENT OF TRANSPORTATION**

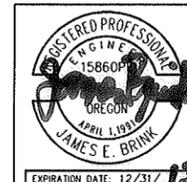
**CITY OF BEAVERTON**  
4755 S.W. Griffith Drive  
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Ph: 503-526-2220  
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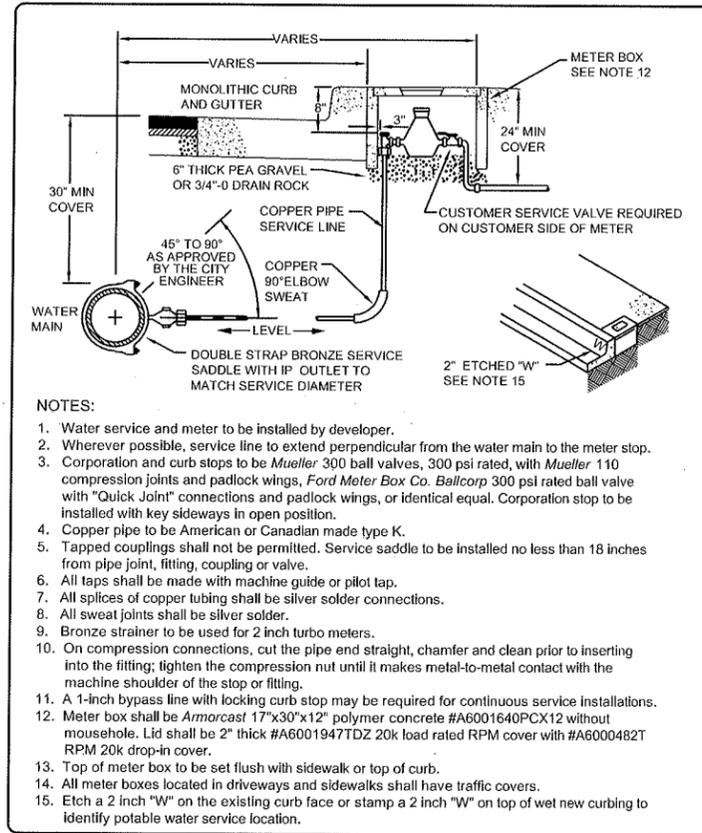
**SW ROSE BIGGI  
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VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
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Drafted By - C. Benovidez

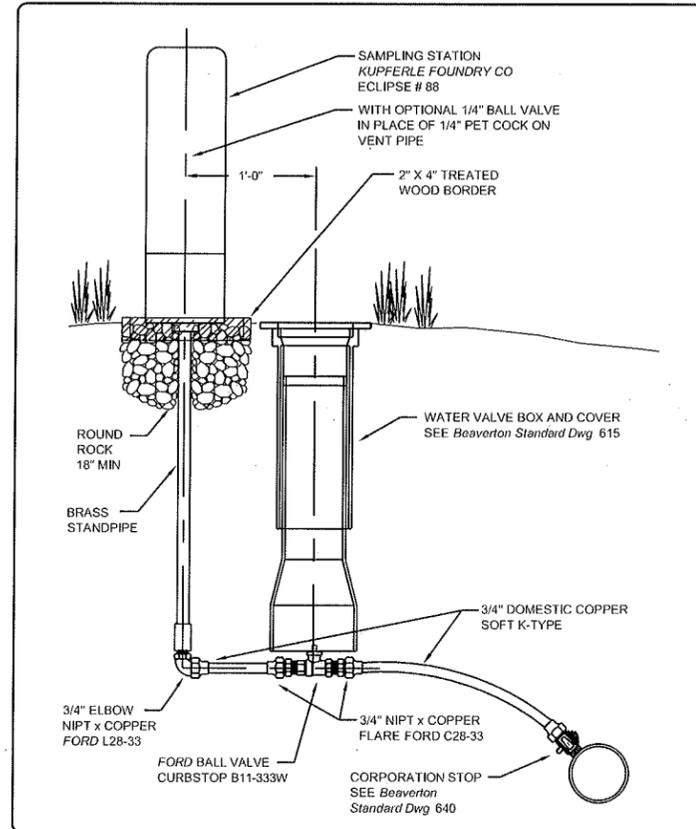
**CITY OF BEAVERTON  
STANDARD DRAWINGS**

SHEET NO.  
**COB-5**

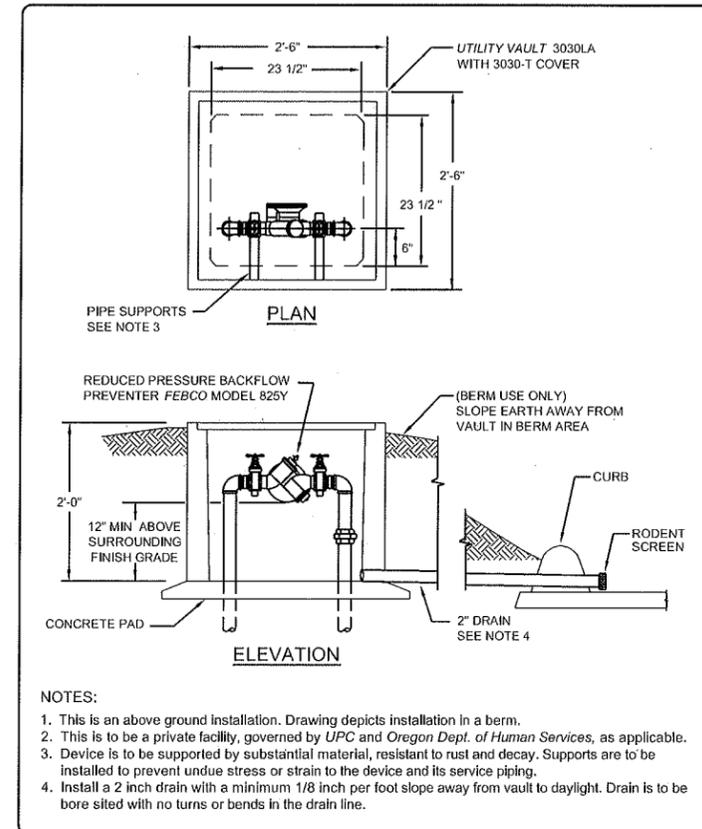




<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		1-1/2" OR 2" COPPER SERVICE INSTALLATION	
	UTILITIES ENGINEER David A. Winship, P.E.	DATE 2-13-07	DRAWN BY CDH - WD	DRAWING NO. 641



<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		SAMPLING STATION INSTALLATION	
	UTILITIES ENGINEER David A. Winship, P.E.	DATE 2-13-07	DRAWN BY CDH - WD	DRAWING NO. 645



<p>City Of Beaverton</p>	PUBLIC WORKS DEPARTMENT		PRIVATE 1" REDUCED PRESSURE BACKFLOW PREVENTER	
	UTILITIES ENGINEER David A. Winship, P.E.	DATE 2-05-07	DRAWN BY CDH - WD	DRAWING NO. 660

**OREGON DEPARTMENT OF TRANSPORTATION**

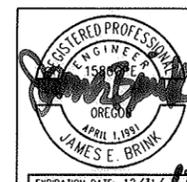
**CITY OF BEAVERTON**  
4755 S.W. Griffith Drive  
P.O. Box 4755 Ph: 503-526-2220  
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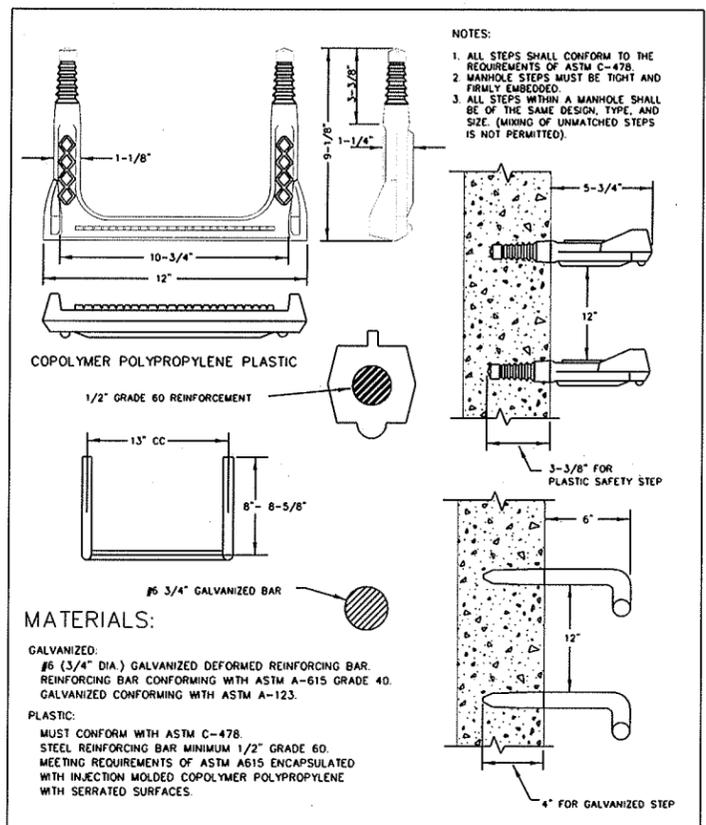
**SW ROSE BIGGI  
HALL BLVD - CRESCENT ST (BEAVERTON)**  
VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
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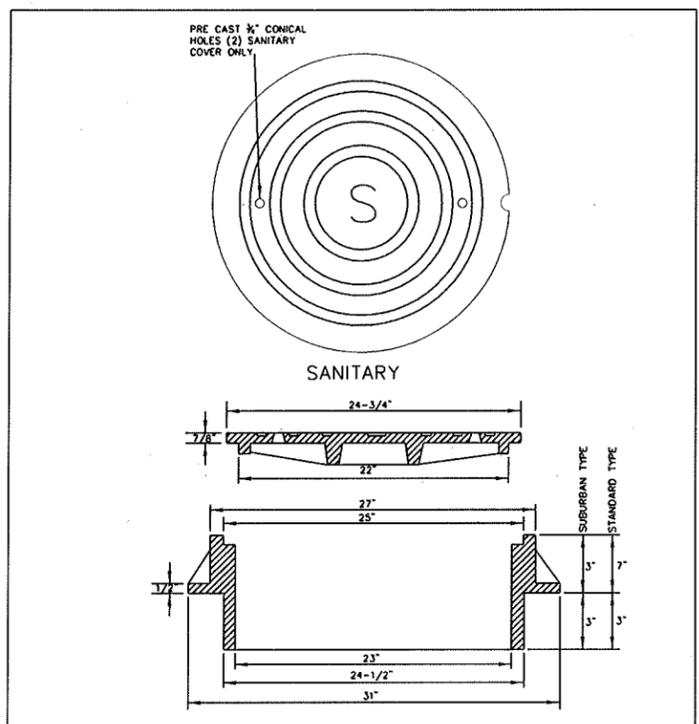
**CITY OF BEAVERTON  
STANDARD DRAWINGS**

SHEET NO.  
COB-6





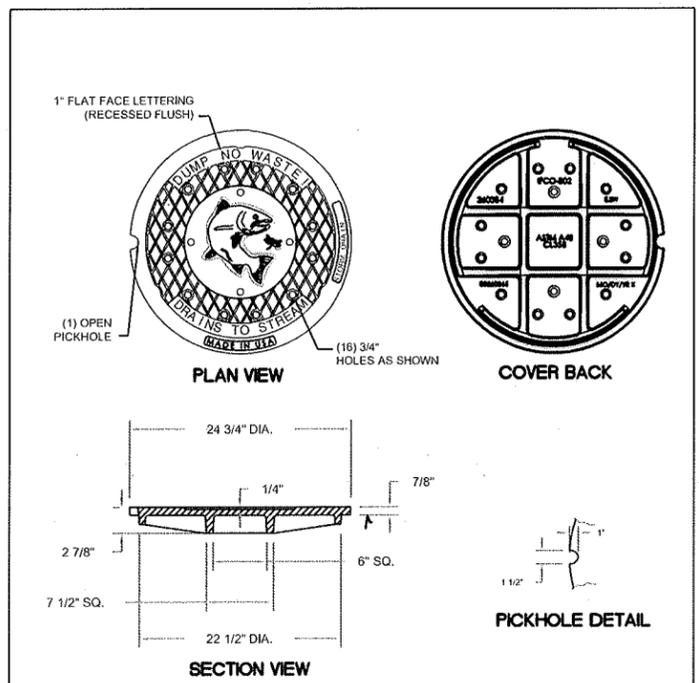
**MANHOLE STEP**  
DRAWING NO. 100  
REVISED 02-03  
CleanWater Services  
Our commitment is clear.



**NOTES:**

1. SUBURBAN TYPE NOT FOR USE IN TRAFFIC AREAS OF COLLECTOR AND ARTERIAL STREETS
2. COVER AND FRAME SHALL BE GRAY CAST IRON ASTM A-48 CLASS 30.
3. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
4. NOTCH LID FOR LIFTING HOOK.

**SUBURBAN AND STANDARD MANHOLE FRAME AND COVER SANITARY**  
DRAWING NO. 110  
REVISED 12-06  
CleanWater Services  
Our commitment is clear.



SEE DETAIL #110 FOR MANHOLE FRAME SPECIFICATIONS.

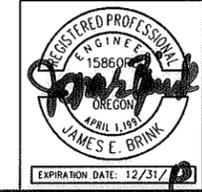
**STORM WATER MANHOLE LID**  
DRAWING NO. 120  
REVISED 12-06  
CleanWater Services  
Our commitment is clear.

**OREGON DEPARTMENT OF TRANSPORTATION**

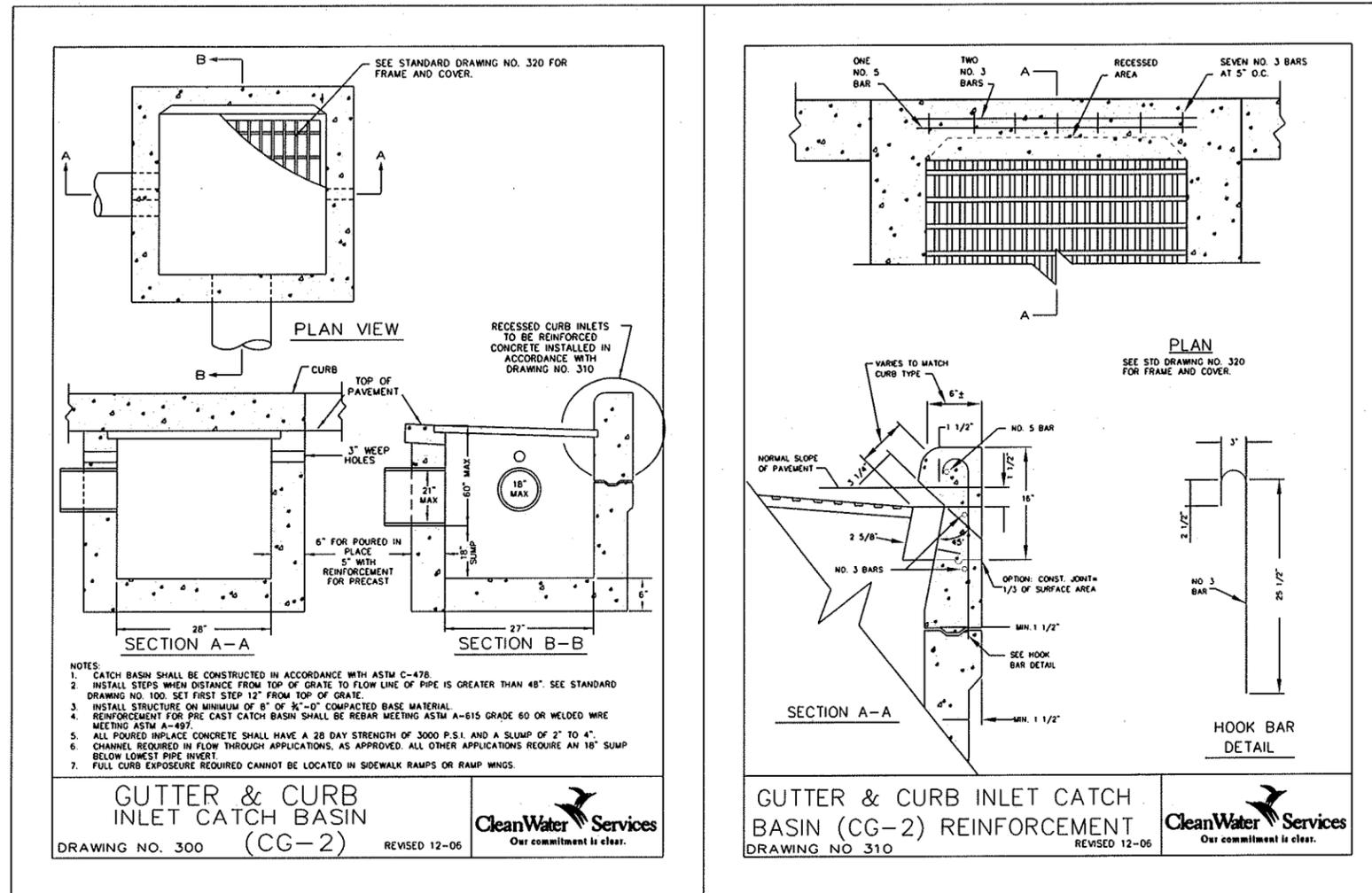
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**SW ROSE BIGGI  
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VARIOUS STREETS  
WASHINGTON COUNTY

Reviewed By - P. Arellano  
Designed By - J. Brink  
Drafted By - Christine Benovidez



**CLEAN WATER SERVICES  
STANDARD DRAWINGS**  
SHEET NO. CWS



**OREGON DEPARTMENT OF TRANSPORTATION**

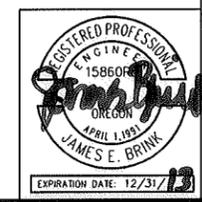
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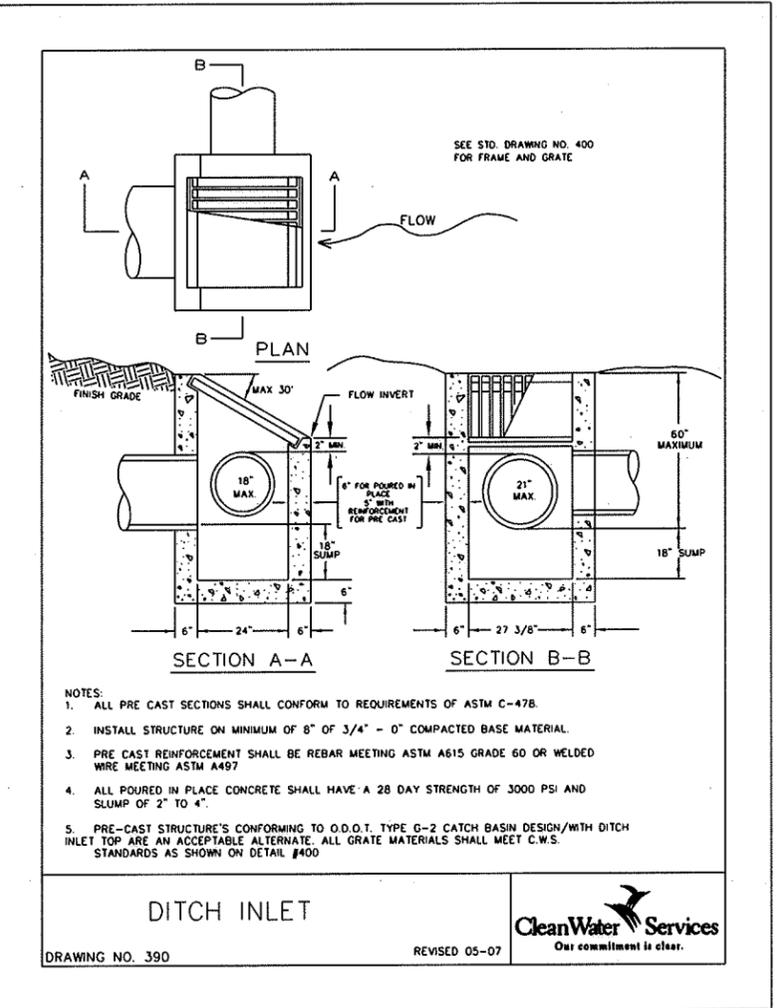
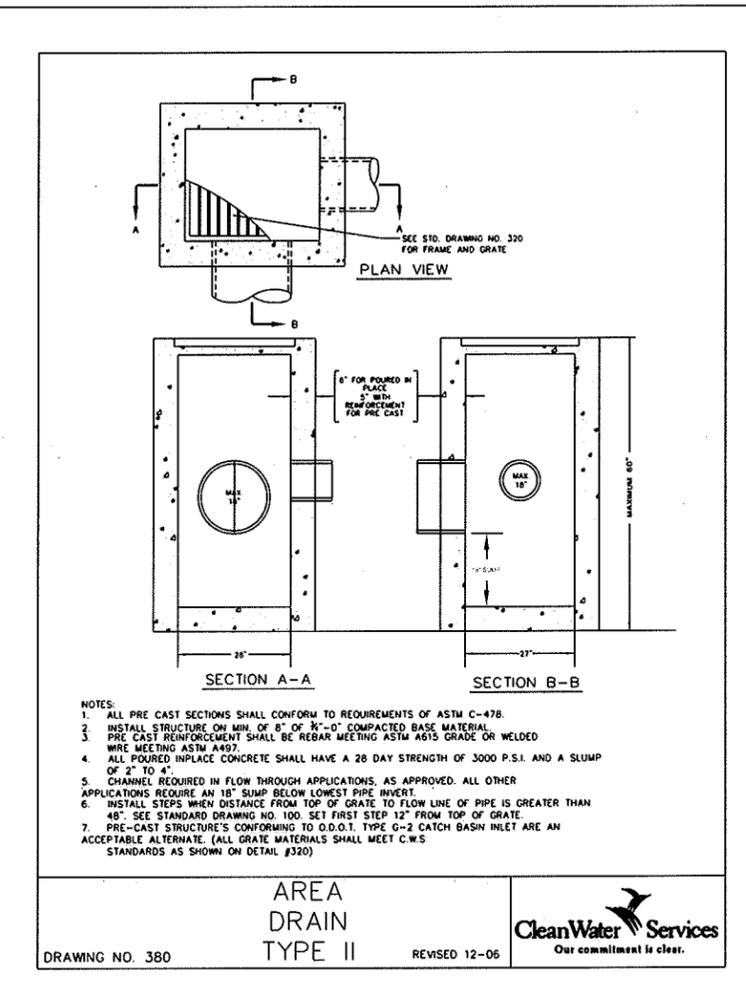
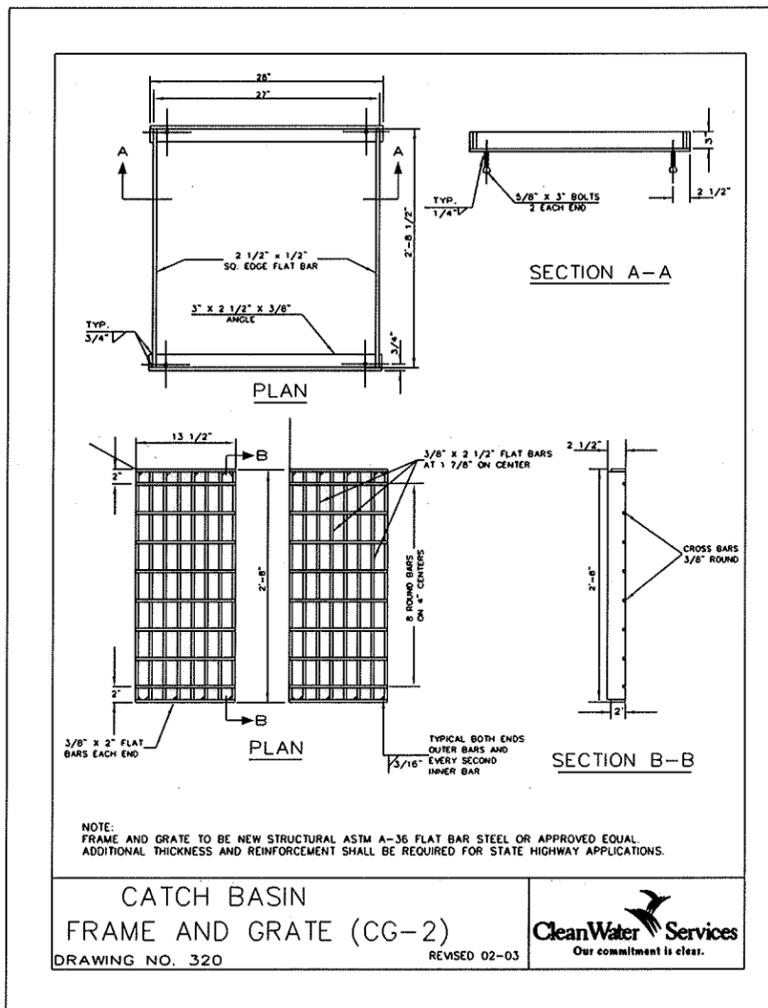
**SW ROSE BIGGI**  
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 VARIOUS STREETS  
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Reviewed By - P. Arellano  
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**CLEAN WATER SERVICES**  
**STANDARD DRAWINGS**

SHEET NO.  
**CWS-2**





**OREGON DEPARTMENT OF TRANSPORTATION**

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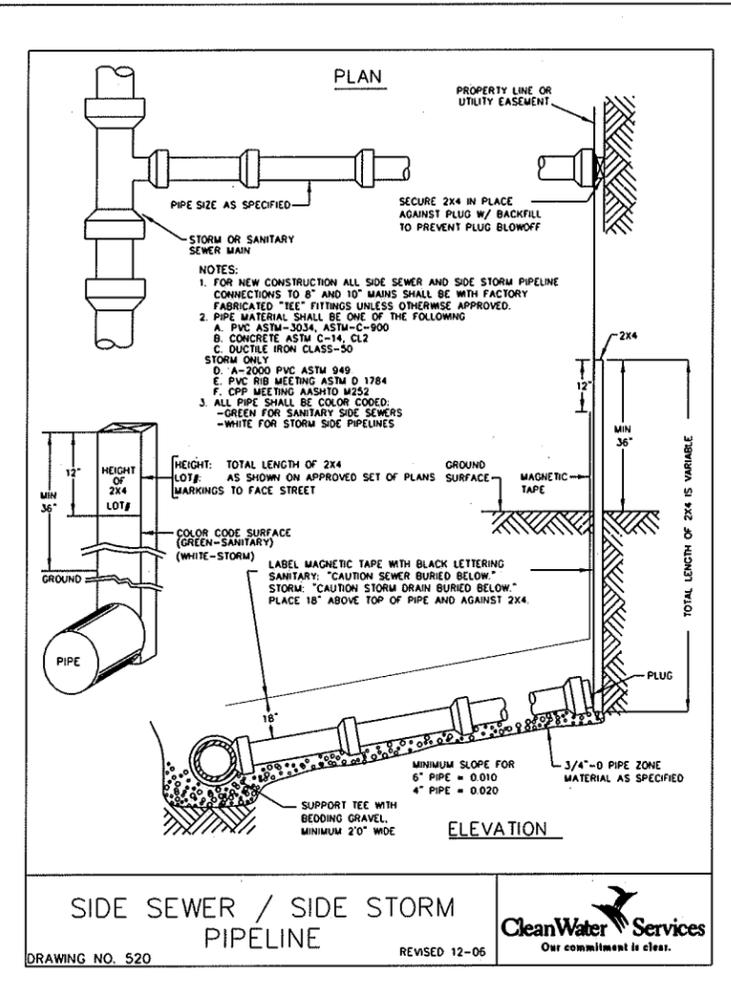
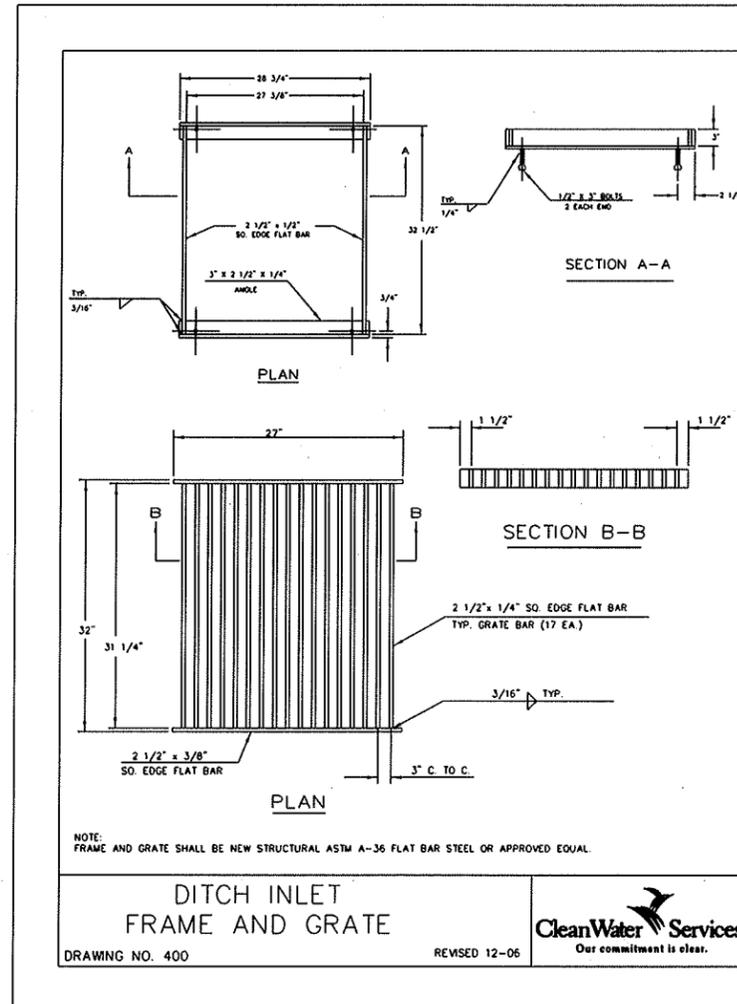
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WASHINGTON COUNTY

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**CLEAN WATER SERVICES  
STANDARD DRAWINGS**

SHEET NO. **CWS-3**





**OREGON DEPARTMENT OF TRANSPORTATION**

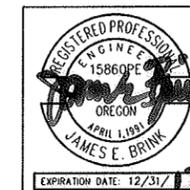
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**SW ROSE BIGGI  
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Designed By - J. Brink  
Drafted By - Christine Benovidez

**CLEAN WATER SERVICES  
STANDARD DRAWINGS**

SHEET NO.  
**CWS-4**



EXPIRATION DATE: 12/31/13