



**RIDGEFIELD CITY COUNCIL
MEETING AGENDA**

**Thursday, October 10, 2024
RACC - Columbia Assembly Room
510 Pioneer Street, Ridgefield, WA 98642**

I. SPECIAL MEETING - 5:30 P.M.

- 1. City Council Member Selection Process & Interviews - Steve Stuart, City Manager**

II. PUBLIC COMMENT - Opportunity to provide public comment regarding the candidates

III. GENERAL SESSION CALL TO ORDER - 6:30 PM

- 1. Flag Salute**
- 2. Roll Call**
- 3. Late changes to the agenda**

IV. PUBLIC COMMENT

Anyone requesting to speak to the Council regarding all items not subject to a specific Public Hearing may come forward at this time. Please state your name and limit comments to three minutes. Written comments may be submitted to the Clerk prior to the meeting.

V. PROCLAMATION

- 1. National Wildlife Refuge Week**
- 2. Breast Cancer Awareness Month**

VI. EXECUTIVE SESSION PURSUANT TO RCW 42.30.110(1)(h)

VII. DELIBERATION AND SELECTION OF POSITION NO. 6

- 1. Oath of Office - City Council Position No. 6**

VIII. CONSENT AGENDA

- 1. Approval of Claims And/Or Payroll**

2. Approval of Minutes from the September 26, 2024 Meeting

IX. PRESENTATION

1. Paradise Pointe Park Master Plan Presentation - Corey Crownhart, Park Manager

X. BUSINESS

- 1. Resolution No. 655 - Approval of 2024 Engineering Standards Update - Chuck Green, Public Works Director**
- 2. Second Reading of Ordinance No. 1430 - Changes to posted and unposted speed limits for portions of Pioneer Street, S. 15th Street, S 35th Place, S. 10th Way, S 25th Place, S. 4th Way, S. Wells Drive, S 11th Street, Union Ridge Parkway and S Hillhurst Road - Chuck Green, Public Works Director**
- 3. Second Reading of Ordinance No. 1432 - Greely Farms Development Agreement Amendment - Steve Stuart, City Manager**

XI. PUBLIC HEARING/BUSINESS

- 1. Public Hearing and First Reading of Ordinance No. 1433 - Golden Acres Petition to Annex - Claire Lust, Community Development Director**
- 2. Public Hearing and First Reading of Ordinance No. 1434 - Development Agreement with Clark College - Steve Stuart, City Manager**

XII. PUBLIC COMMENT

Anyone requesting to speak to the Council regarding all items not subject to a specific Public Hearing may come forward at this time. Please state your name and limit comments to three minutes. Written comments may be submitted to the Clerk prior to the meeting.

XIII. COUNCIL/PRESIDING OFFICER/STAFF REPORTS

- 1. Council**
- 2. Mayor**
- 3. City Manager**

XIV. ADJOURN

**CITY OF RIDGEFIELD
REQUEST FOR COUNCIL ACTION**

MEETING DATE: October 10, 2024

AGENDA ITEM NAME: Approval of Claims And/Or Payroll

GOVERNING LEGISLATION

Revised Code of Washington Title 35A

PREVIOUS COUNCIL ACTION TAKEN:

The City Council approves claims and/or payroll of the City on a regular basis

SUMMARY/BACKGROUND:

Vendor claims

BUDGET/FINANCIAL IMPACTS:

See vendor details attached

RECOMMENDED ACTION OR MOTION:

Approve the claims and/or payroll by making the following motion:

"I move to approve the consent agenda as presented"

STAFF CONTACT: Kirk Johnson, Finance Director

ATTACHMENTS:

1. October 10, 2024 Claims Report

City of Ridgefield

Claims Payment Report

For Approval on:

October 10th, 2024

Sum of Amount					
Vendor Name	Vendor Number	Invoice Number	Resp. Department	Description	Total
AKS ENGINEERING & FORESTRY LLC	3908	10210-13	Community Development	08.2024 Development Engineering Review Services	482.50
AKS ENGINEERING & FORESTRY LLC Total					482.50
ALLISON SENNETT	3834	3834-20241010	Administration	3CMA Conference Airport Parking Reimb. - Sennett	96.00
		3834-20241002	Administration	Digital Day Conference Meals per Diem - Sennett	98.00
ALLISON SENNETT Total					194.00
ARBORSCAPE LTD INC	3562	24-91801	Public Works	111 NE 38th Pl Prune Walnut Tree	3,478.40
ARBORSCAPE LTD INC Total					3,478.40
BACKWOOD BARK	3944	15181	Public Works	09.2024 Yard Debris Removal	173.92
BACKWOOD BARK Total					173.92
Bodine Chelsea	UB*01058	(blank)	Genl Govt/Facilities	Refund Check 013141-000 314 S 34th Pl	184.03
Bodine Chelsea Total					184.03
Bowman Shaun	UB*01060	(blank)	Genl Govt/Facilities	Refund Check 014954-001 20 N Depot St	87.01
Bowman Shaun Total					87.01
BPB HOLDING CORP	4061	P76269878	Genl Govt/Facilities	PW Message Board Batteries	7.59
			Public Works	PW Message Board Batteries	121.53
BPB HOLDING CORP Total					129.12
BSK ASSOCIATES	2119	VH02857	Public Works	09.2024 Coliform Testing	1,685.00
BSK ASSOCIATES Total					1,685.00
Bukant Jay & Karri	UB*01052	(blank)	Genl Govt/Facilities	Refund Check 011265-000 1833 S Dusky Dr	30.00
Bukant Jay & Karri Total					30.00
CASCADE COLUMBIA DISTRIBUTION COMPANY	2707	906195	Public Works	Potassium Permanganate 25kg	833.77
CASCADE COLUMBIA DISTRIBUTION COMPANY Total					833.77
CINNAMON BAY INC.	4042	145852-2	Public Works	Splash Pad Titrating Chlorine	84.76
		145853-2	Public Works	Splash Pad Test Strips	18.44
		145745-2	Public Works	Splash Pad GLB Supersonic Water Treatment	128.41
CINNAMON BAY INC. Total					231.61
CLARK COUNTY	102	CI068000	Public Safety	Q4.2024 CRESA Emergency Management	4,364.25
		CI068110	Public Safety	2 Dell Laptops - PD	6,020.09
		CI068076	Public Safety	Q4.2024 CRESA Dispatch - Radio Operations and ER&R	40,002.25
		CI067392	Public Works	08.2024 Traffic Signals & ITS Services	1,487.93
		CI067459	Judicial	08.2024 Pretrial Supervision & Investigations	4,274.51
CLARK COUNTY Total					56,149.03
COLUMBIAN PUBLISHING	116	48786	Public Works	Ridgefield Planning Commision & Parks Board Rules	21.60
			Community Development	Ridgefield Planning Commision & Parks Board Rules	21.60
		48780	Public Works	Park Laundry Clean-Up Notice of Intent	141.90
		48740	Community Development	Golden Acres Annexation	93.60
COLUMBIAN PUBLISHING Total					278.70
CONSOR NORTH AMERICA INC.	3949	W233613WA.00-6	Public Works	08.2024 Eastside Elevated Water Reservoir	138,671.91
CONSOR NORTH AMERICA INC. Total					138,671.91
CSD ATTORNEYS AT LAW P.S.	3294	124936	Genl Govt/Facilities	08.31.2024 Pacific Wood Treater's Site	1,248.00
CSD ATTORNEYS AT LAW P.S. Total					1,248.00
CT PUBLISHING LLC	3753	283061	Public Works	Ridgefield Planning Commision & Parks Board Rules	34.00

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CT PUBLISHING LLC	3753	283061	Community Development	Ridgefield Planning Commision & Parks Board Rules	34.00
		283307	Public Works	Invitation to Bid P22004: I-5 Bridge Decorative Fence	105.40
		282738	Public Works	Park Laundry Clean-Up Notice of Intent	170.50
CT PUBLISHING LLC Total					343.90
DEPARTMENT OF LICENSING - EPAY	154	91433582	Public Safety	Driving Record - PD - Siem & Lucero	30.00
			Public Works	Driving Record - PWSTW - Venne	13.50
			Community Development	Driving Record - PWSTW - Venne	1.50
		RG0001696-2024	Genl Govt/Facilities	CPL Fees	18.00
		RG0001705-2024	Genl Govt/Facilities	CPL Fees	18.00
		RG0001703-2024	Genl Govt/Facilities	CPL Fees	18.00
		RG0001697-2024	Genl Govt/Facilities	CPL Fees	18.00
		91112081	Genl Govt/Facilities	Driving Record - Shaw	2.25
			Public Works	Driving Record - Shaw	12.75
		RG0001706-2024	Genl Govt/Facilities	CPL Fees	18.00
		RG0001700-2024	Genl Govt/Facilities	CPL Fees	18.00
		RG0001702-2024	Genl Govt/Facilities	CPL Fees	18.00
		RG0001701-2024	Genl Govt/Facilities	CPL Fees	18.00
		RG0001695-2024	Genl Govt/Facilities	CPL Fees	18.00
		91371859	Genl Govt/Facilities	Driving Record - DeMoss & Sennett	30.00
		RG0001704-2024	Genl Govt/Facilities	CPL Fees	18.00
DEPARTMENT OF LICENSING - EPAY Total					270.00
DEPARTMENT OF NATURAL RESOURCES	715	9178233	Genl Govt/Facilities	2024 Forest Land Assessment	364.20
DEPARTMENT OF NATURAL RESOURCES Total					364.20
ENCORE ONE LLC	3890	591605	Genl Govt/Facilities	Janitorial Services - PW Ops	35.28
				Janitorial Services - CH	278.69
			Public Safety	Janitorial Services - PD	687.71
			Public Works	Janitorial Services - PW Ops	435.40
			Community Development	Janitorial Services - PW Ops	72.97
			Public Works	Janitorial Services - PW Ops	140.19
ENCORE ONE LLC Total					1,650.24
EXPRESS SERVICES INC.	4012	31354398	Public Works	09.16.2024-09.22.2024 PWSTW Temp Services - Smith	1,206.00
		31326914	Public Works	09.09.2024-09.15.2024 PWSTW Temp Services - Smith	1,206.00
EXPRESS SERVICES INC. Total					2,412.00
FERGUSON ENTERPRISES INC # 8423	181	1281007	Public Works	Water Line Wrenches	269.44
		1278990	Public Works	4 OMNI Water Meters	3,692.17
		1283506	Public Works	Hydrant Meter Repair & Replacement Kit	968.34
FERGUSON ENTERPRISES INC # 8423 Total					4,929.95
GENERAL PACIFIC	2942	1502440	Public Safety	GPD Flight Tracker - Drone Tracking Software	2,173.99
		1502159	Public Safety	PD Drone Training	1,293.60
GENERAL PACIFIC Total					3,467.59
GISI MARKETING GROUP	2811	285106	Genl Govt/Facilities	2024 Ridgefield Newsletter Edition #3	4,303.01
GISI MARKETING GROUP Total					4,303.01
GLOBAL SECURITY & SAFETY COMMUNICATIONS INC	3447	4634478	Genl Govt/Facilities	10.2024 PW Ops Alarm Monitoring Services	6.62
			Public Works	10.2024 PW Ops Alarm Monitoring Services	92.06
			Community Development	10.2024 PW Ops Alarm Monitoring Services	29.47
GLOBAL SECURITY & SAFETY COMMUNICATIONS INC. Total					128.15

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GRAY AND OSBORNE INC	207	23231.00-13	Community Development	08.2024 On-Call Development Review	433.88
		23231.14-3	Community Development	09.2024 Carty Road Pump Station PLZ-23-0106-0107	347.10
		23231.13-7	Community Development	09.2024 Sanderling Park Phase 4 ENG-23-0111	148.06
		23231.11-9	Community Development	09.2024 Quail Ridge Subdivision	1,650.75
GRAY AND OSBORNE INC Total					2,579.79
GROUNDWATER SOLUTIONS INC.	2971	00727.001-66R	Public Works	08.2024 Hydrological Study	13,517.25
GROUNDWATER SOLUTIONS INC. Total					13,517.25
H.D. FOWLER COMPANY	2036	16835746	Public Works	PWWTR Supplies - Gripper Wing Nut Plug & Hand-Tite Plug	578.92
H.D. FOWLER COMPANY Total					578.92
Hanenkratt Megan	UB*01059	(blank)	Genl Govt/Facilities	Refund Check 015535-000 8716 N 5th St	2.01
Hanenkratt Megan Total					2.01
HARPER HOUF PETERSON RIGHELLIS INC.	1678	59491	Public Works	08.2024 51st Roundabout & Pioneer Widening	44,550.85
HARPER HOUF PETERSON RIGHELLIS INC. Total					44,550.85
HARRY'S KEY SERVICE INC.	982	11240117	Public Works	PWWTR Scada Room Lock	869.06
HARRY'S KEY SERVICE INC. Total					869.06
HD SUPPLY INC.	3886	INV00488153	Genl Govt/Facilities	PWFAC Rain Pants & Boots	66.42
			Public Works	PWFAC Rain Pants & Boots	474.74
		INV00482629	Public Works	PWWTR Chemicals - Water Treatment Chlorine	320.48
				PWWTR Operational Supplies	94.45
		INV00477984	Public Works	PWWTR Printer Cartridge	33.64
HD SUPPLY INC. Total					989.73
Hein Gerald	UB*01056	(blank)	Genl Govt/Facilities	Refund Check 010818-000 75 N 78th Pl	1.60
Hein Gerald Total					1.60
HELENA GREEN	3763	91224	Judicial	09.12.2024 Interpreting Services	50.00
HELENA GREEN Total					50.00
HID GLOBAL CORPORATION	3831	13402020321	Public Safety	10.2024-09.2025 PD LiveScan Fingerprint Services Warranty	1,144.61
HID GLOBAL CORPORATION Total					1,144.61
HOME DEPOT VISA - EPAY	1805	184564	Public Works	Parks Supplies - Klean Strip Sealer	39.09
HOME DEPOT VISA - EPAY Total					39.09
HONEY BUCKETS	223	554424541	Genl Govt/Facilities	09.17.24-10.14.24 PW Shop Port-a-Potty	61.69
			Public Works	09.17.24-10.14.24 PW Shop Port-a-Potty	987.31
HONEY BUCKETS Total					1,049.00
J2 BLUE PRINT SUPPLY	243	AR157977	Community Development	09.2024 Plotter Contract	63.32
J2 BLUE PRINT SUPPLY Total					63.32
Jaacksch Sandra	UB*01057	(blank)	Genl Govt/Facilities	Refund Check 011852-000 4605 S 19th St	11.70
Jaacksch Sandra Total					11.70
JS MD SIGMA	4069	1070	Public Safety	PD Employees Heart Screening Program	11,936.00
JS MD SIGMA Total					11,936.00
JULIE SWARTS	3875	3875-20241010	Public Works	WA Water Distribution Manager Exam Reimb. - Swarts	193.00
JULIE SWARTS Total					193.00
KEITH'S SPORTING GOODS INC.	3049	08142024RPD	Public Safety	Patrol Rifle Optic	1,516.37
KEITH'S SPORTING GOODS INC. Total					1,516.37
KILLA BITES	3727	12838	Genl Govt/Facilities	2024 BirdFest Festival Treats	456.00
KILLA BITES Total					456.00
Kinsman Anna & Joe	UB*01053	(blank)	Genl Govt/Facilities	Refund Check 015380-000 2017 N 2nd Way	111.32
Kinsman Anna & Joe Total					111.32

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L.N. CURTIS AND SONS	3075	INV866774	Public Safety	40mm Exact Impact Rounds	395.78
		INV868440	Public Safety	2 Short Sleeved Polos - Bowerman	122.94
L.N. CURTIS AND SONS Total					518.72
MARTA L. OCHOA-RUTHERFORD	3396	633	Judicial	09.26.2024 Interpreting Services	65.00
		63	Judicial	09.19.2024 Interpreting Services	86.66
		631	Judicial	09.12.2024 Interpreting Services	130.00
MARTA L. OCHOA-RUTHERFORD Total					281.66
MEGAN DEMOSS	3480	3480-20241002	Administration	Digital Day Conference Meals per Diem - DeMoss	98.00
MEGAN DEMOSS Total					98.00
MJB CONSULTING INC	3117	2304	Genl Govt/Facilities	08.2024 State Lobbyist	3,000.00
		2312	Genl Govt/Facilities	09.2024 State Lobbyist	3,000.00
MJB CONSULTING INC Total					6,000.00
Mortenson	UB*01055	(blank)	Genl Govt/Facilities	Refund Check 016123-001 Hydrant Meter 7000 Pioneer St	353.47
	UB*01061	(blank)	Genl Govt/Facilities	Refund Check 016123-002 Hydrant Meter 7000 Pioneer St Location 2	339.62
Mortenson Total					693.09
NAPA AUTO PARTS	498	443066	Public Works	PWSTW Ventac Mower Air Filter	70.83
				PWSTW Loom & Glass Cleaner	23.11
		439886	Public Works	PWSTW O-Ring Kit	(15.18)
NAPA AUTO PARTS Total					78.76
NICHOLAS JOHNSON	3443	3443-20241010	Public Works	AWWA Exam Preparation Reimb. - J. Johnson	32.60
NICHOLAS JOHNSON Total					32.60
NORTH COAST ELECTRIC COMPANY	4057	S013605877.005	Public Works	Acorn Light Pole	6,491.16
		S013605877.001	Public Works	Acorn Light Pole Anchors	296.83
NORTH COAST ELECTRIC COMPANY Total					6,787.99
NORTHSTAR CHEMICAL INC.	1019	293735	Public Works	Sodium Hypochlorite	1,371.80
NORTHSTAR CHEMICAL INC. Total					1,371.80
ON-HOLD CONCEPTS INC	2217	648223	Information Technology	10.2024 On Hold Music Services	24.95
ON-HOLD CONCEPTS INC Total					24.95
PBS ENGINEERING AND ENVIRONMENTAL LLC	342	0078194.000-5	Public Works	08.2024 Systemic Horizontal Curve Safety Improvements	6,111.00
		0071402.000-14	Public Works	08.2024 S 35th Avenue Alternatives Analysis	6,462.26
		0078341.002-6	Community Development	08.2024 Pioneer & 51st Roundabout Design Review	9,519.25
		0078346.000-3	Public Works	08.2024 Hillhurst School Zone Safety Design	6,031.50
PBS ENGINEERING AND ENVIRONMENTAL LLC Total					28,124.01
Peterson Gabrielle	UB*01054	(blank)	Genl Govt/Facilities	Refund Check 015346-000 1275 S Quail Hill Pl	1.99
Peterson Gabrielle Total					1.99
PLATT ELECTRIC SUPPLY	766	5008995	Public Works	PWWTR Well Building & Chlorine Building Lights	204.20
PLATT ELECTRIC SUPPLY Total					204.20
ROBERT TUCKER	4070	131	Genl Govt/Facilities	2024 BirdFest and Bluegrass Performance	400.00
ROBERT TUCKER Total					400.00
SEATTLE DAILY JOURNAL OF COMMERCE	3980	3403136	Public Works	Invitation to Bid P22004: I-5 Bridge Decorative Fence	1,076.10
SEATTLE DAILY JOURNAL OF COMMERCE Total					1,076.10
SYSTEMS FOR PUBLIC SAFETY INC.	1788	48237	Public Safety	PD Vehicles Unit Numbers	111.74
SYSTEMS FOR PUBLIC SAFETY INC. Total					111.74
TAC 1 SYSTEMS	1634	SI-015016	Genl Govt/Facilities	Radio Parts	(6.66)
			Public Safety	Radio Parts	83.16
TAC 1 SYSTEMS Total					76.50

City of Ridgefield

Claims Payment Report

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THE MASTERS TOUCH LLC	1786	92297	Public Works	08.2024 UB Statements	1,055.53
		P92297	Public Works	08.2024 UB Statements - Postage	2,055.33
THE MASTERS TOUCH LLC Total					3,110.86
THE PARR COMPANY	964	26714569	Genl Govt/Facilities	2x4 Lumber for Locker - PW Ops Center	0.25
			Public Works	2x4 Lumber for Locker - PW Ops Center	3.37
			Community Development	2x4 Lumber for Locker - PW Ops Center	1.08
THE PARR COMPANY Total					4.70
TRAFFIC SAFETY SUPPLY	432	INV073958	Genl Govt/Facilities	Trucks Make Wide Turns - Roundabout Sign	(40.51)
			Public Works	Trucks Make Wide Turns - Roundabout Sign	506.11
TRAFFIC SAFETY SUPPLY Total					465.60
TRI MOUNTAIN INVESTORS LLC	3866	2024-126	Public Safety	08.2024 101 Mills St Ste 110 Wastewater	60.89
				07.2024 - 08.2024 101 Mills St Ste 110 Water	52.29
				10.2024 101 Mill St Ste 110 Estimated Monthly NNN	2,300.00
				10.2024 101 Mill St Ste 110 Lease	31,058.32
		2024-127	Genl Govt/Facilities	10.2024 101 Mill St Ste 210 Estimated Monthly NNN	984.00
				10.2024 101 Mill St Ste 210 Natual Gas	8.32
				10.2024 101 Mill St Ste 210 Wastewater	20.99
				10.2024 101 Mill St Ste 210 Lease	6,250.00
			Public Safety	10.2024 101 Mill St Basement Est. Monthly NNN	269.00
				10.2024 101 Mill St Basement Lease	952.60
TRI MOUNTAIN INVESTORS LLC Total					41,956.41
UNIFIRST CORPORATION	3904	2240144132	Genl Govt/Facilities	PWFAC Uniforms	8.54
				PW Ops Floor Mats	2.73
			Public Works	PWFAC Uniforms	61.04
				PW Ops Floor Mats	44.51
				PWWTR Uniforms	40.55
				PWSTW Uniforms	59.02
			Community Development	PW Ops Floor Mats	5.64
		2240146537	Genl Govt/Facilities	09.24.2024 Floor Mats - RACC	3.41
			Community Development	09.24.2024 Floor Mats - RACC	7.08
		2240146540	Genl Govt/Facilities	PWFAC Uniforms	18.94
				PW Ops Floor Mats	2.73
			Public Works	PWFAC Uniforms	135.41
				PW Ops Floor Mats	44.52
				PWWTR Uniforms	40.55
				PWSTW Uniforms	59.02
			Community Development	PW Ops Floor Mats	5.64
		2240146539	Public Safety	09.24.2024 Floor Mats - PD	39.52
		2240146538	Genl Govt/Facilities	09.24.2024 Floor Mats - CH	16.46
UNIFIRST CORPORATION Total					595.31
WA STATE DEPARTMENT OF TRANSPORTATION	688	RE44JD17340L008	Public Works	08.2024 Overpass Safety Screen Plan Review	240.98
WA STATE DEPARTMENT OF TRANSPORTATION Total					240.98
WALTER E. NELSON COMPANY	3553	1893925	Genl Govt/Facilities	PW Shop Paper Supplies	12.18
			Public Works	PW Shop Paper Supplies	195.00
				Parks Paper Supplies	207.18
		1897146	Genl Govt/Facilities	PW Shop - Paper Supplies	2.96

City of Ridgefield
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WALTER E. NELSON COMPANY	3553	1897146	Public Works	PW Shop - Paper Supplies	47.55
				Parks - Hand Soap	63.87
		1895382	Public Safety	PD Hand Soap	75.34
WALTER E. NELSON COMPANY Total					604.08
WELLS FARGO - EPAY	1681	202408-0794	Human Resources	Knottnerus Pelra AI/Chat GPT Webinar 1 Of 2 - Knottnerus	5.00
WELLS FARGO - EPAY Total					5.00
WELLWORKS FOR YOU	3414	32953	Human Resources	09.2024 Wellness Program	793.51
WELLWORKS FOR YOU Total					793.51
WOODLAND SAW AND CYCLE INC.	2223	3749	Public Works	PWSTW Weed Control Sprayer & Chainsaw Chain	181.26
		3744	Public Works	PWSTW Chainsaw	436.98
WOODLAND SAW AND CYCLE INC. Total					618.24
WSP USA INC.	3338	40088854	Community Development	06.2024 Comprehensive Plan and System Plan Updates	27,882.92
WSP USA INC. Total					27,882.92
Grand Total					423,545.38

**CITY OF RIDGEFIELD
REQUEST FOR COUNCIL ACTION**

MEETING DATE: October 10, 2024

AGENDA ITEM NAME: Approval of Minutes from the September 26, 2024 Meeting

GOVERNING LEGISLATION

N/A

PREVIOUS COUNCIL ACTION TAKEN:

N/A

SUMMARY/BACKGROUND:

Staff has prepared the minutes for Council consideration of adoption for the Council meeting(s).

BUDGET/FINANCIAL IMPACTS:

N/A

RECOMMENDED ACTION OR MOTION:

Approve the minutes by making the following motion: 1. "I move to approve the consent agenda"

STAFF CONTACT:

ATTACHMENTS:

1. 09-26-2024



**CITY OF RIDGEFIELD, WASHINGTON
CITY COUNCIL MEETING MINUTES
SEPTEMBER 26, 2024**

Regular Meeting - 5:00 PM

I. STUDY SESSION - 5:00 P.M.

- 1. 2025 Budget - Personnel, Initiatives and Capital Projects - Kirk Johnson, Finance Director**

II. GENERAL SESSION CALL TO ORDER - 6:30 PM

- 1. Flag Salute**
- 2. Roll Call**

Present:

Council Member Clyde Burkle
Council Member Katie Favela
Council Member Judy Chipman
Council Member Lee Wells
Mayor Pro Tem Matt Cole

Absent:

Mayor Ron Onslow

MOTION: MOVED TO EXCUSE MAYOR ONSLOW FROM THE MEETING.

RESULT: (UNANIMOUS)

MOVER: Council Member Judy Chipman

SECONDER: Council Member Clyde Burkle

AYES: Mayor Pro Tem Cole, Council Member Wells, Council Member Chipman, Council Member Burkle, Council Member Favela

- 3. Late changes to the agenda**

III. PROCLAMATION

- 1. Disability Employment Awareness Month**

The proclamation was read into the record by Mayor Pro Tem Cole.

IV. PUBLIC COMMENT

Anyone requesting to speak to the Council regarding all items not subject to a specific Public Hearing may come forward at this time. Please state your name and limit comments to three minutes. Written comments may be submitted to the Clerk prior to the meeting.

Comments received during public testimony can be heard on the City’s website under [City Council Meeting Audio Files | Ridgefield, WA \(ridgefieldwa.us\)](#).

V. CONSENT AGENDA

MOTION: MOVED TO APPROVE AS PRESENTED.

RESULT:	(UNANIMOUS)
MOVER:	Council Member Clyde Burkle
SECONDER:	Council Member Katie Favela
AYES:	Mayor Pro Tem Cole, Council Member Wells, Council Member Chipman, Council Member Burkle, Council Member Favela

- 1. **Approval of Claims And/Or Payroll**
- 2. **Approval of Minutes from the September 12, 2024 Meeting**

VI. BUSINESS

- 1. **Resolution No. 654 - Approval to Submit a Department of the Interior Bureau of Reclamation Grant Application - Kirk Johnson, Finance Director**

The City’s Water System Plan Update (2024) found that Ridgefield will be in a water storage deficit as early as 2026 with its current infrastructure. Accordingly, the plan recommends the Eastside Elevated Reservoir, a new 2.5 million gallon elevated tank reservoir with an estimated cost of \$24 million, as a high priority project. The Eastside Elevated Reservoir will increase the City’s water storage capacity by 225%, would ensure adequate water storage for the City for the next 20 years, and would have a 100-year lifespan. The City Council approved the Motion to Award of Design Consultant Contract for the Eastside Elevated Reservoir in February 2024 to Consor. The plans for the reservoir should be completed by spring 2025, allowing for construction to start in the summer or fall of 2025. It is estimated that the project will take 24 months to complete once construction begins. The Department of the Interior’s Bureau of Reclamation offers a competitive Drought Resiliency Grant for which the Eastside Elevated Reservoir is an eligible project. The maximum award amount is \$3 million, which requires a local match of at least \$3 million. This local match may be paid out of any non-Federal source, including Drinking Water State Revolving Fund loans. The Grant Steering Committee discussed this grant opportunity and recommended moving forward with the application. Several community stakeholders have already agreed to provide letters of support, including the Cowlitz Indian Tribe and the Ridgefield Chamber of Commerce. In order to apply, in accordance with Financial Policy #15: Grant Management, the City Council must approve of the application project. The Bureau of Reclamation requests that the City Council pass an approving resolution to be included with the grant application, demonstrating the City’s commitment to this project.

MOTION: MOVED TO ADOPT RESOLUTION NO. 654 AS PRESENTED.

RESULT:	(UNANIMOUS)
MOVER:	Council Member Clyde Burkle

SECONDER:	Council Member Lee Wells
AYES:	Mayor Pro Tem Cole, Council Member Wells, Council Member Chipman, Council Member Burkle, Council Member Favela

2. Motion - Ridgefield Recreation and Community Center Project Management Contract - Steve Stuart, City Manager

In 2019, the City engaged Bluerock Ventures and the YMCA to plan and construct a community and recreation center in Ridgefield. Due to delays associated with lack of agreement between the City of Ridgefield and the YMCA on the overall square footage of the building, the design of the separate SR 501 (Pioneer Street) right-of-way project needed to coordinate the YMCA site design, and costs associated with different project designs, that work has yet to be completed. To date, Bluerock has worked with the YMCA, Aetta, and the City to complete multiple iterations of draft site plan (accounting for different building envelopes and road connections), environmental delineations, civil work, and LEED assessment. Bluerock has additionally created finance plans for both the YMCA and City to meet construction needs and timelines. To complete design and permitting work necessary to produce construction documents for the Ridgefield Community and Recreation Center, a new contract for services was necessary to sign with Aetta. City Staff do not have the expertise or bandwidth to manage the contract with Aetta to assure design and permitting work is completed in an efficient manner to assure readiness for construction Q3 2025. Bluerock is uniquely suited to provide the City with these services, as evidenced in the Sole Source Vendor Statement attached to this staff report. Specifically, Bluerock has been the primary development partner with the City and YMCA on site and building design to this point, and as such has exclusive expertise and knowledge of the project. Thus, Bluerock meets all legal procurement requirements for qualifying as a sole source vendor as required by the State of Washington. The request is to award Bluerock the project management contract for final design and permitting of the Ridgefield Community and Recreation Center in an amount not to exceed \$200,000.

MOTION: MOVED TO APPROVE AWARDING A PROFESSIONAL SERVICES CONTRACT WITH BLUEROCK VENTURES TO SERVE AS PROJECT MANAGER/CITY OWNER REP TO COMPLETE BUILDING/SITE DESIGN AND PERMITTING FOR THE RIDGEFIELD COMMUNITY AND RECREATION CENTER PROJECT IN AN AMOUNT NOT TO EXCEED \$200,000, AND AUTHORIZE THE CITY MANAGER TO SIGN THE NECESSARY AGREEMENT TO IMPLEMENT APPROVED SCOPE AND FEE.

RESULT:	(UNANIMOUS)
MOVER:	Council Member Katie Favela
SECONDER:	Council Member Judy Chipman
AYES:	Mayor Pro Tem Cole, Council Member Wells, Council Member Chipman, Council Member Burkle, Council Member Favela

3. Motion - Approval of Permanent Park Improvement Proposal for Davis Park - Corey Crownhart, Park Manager

The Ridgefield Garden Club has proposed a series of permanent improvements to Davis Park. The proposal includes replacing the two western flowerbeds with native plants, aiming to enhance both the aesthetic appeal and educational value of the park. In addition to the plant replacements, the Garden Club has agreed to install interpretive signage and small plant designation signs for each plant, which will help educate visitors on native plants and their environmental impact. All signage will need approval from the city placement prior to installation. If approved, the removal of non-native plants, apart from the trees in the flowerbed and the planting of the native plants, would take place in the fall of 2024 and spring of 2025. Conjunctively, the Ridgefield Garden Club has agreed to take over maintenance of these flowerbeds

from January 1, 2025, to December 31, 2026, pending annual reviews by the city. The agreement will ensure the flowerbeds are maintained to the city's current level of service for Davis Park and will be subject to periodic inspection by city staff. The Parks Board of Commissioners reviewed the proposal at their August 14th public meeting and unanimously approved a motion to recommend the proposal to City Council.

MOTION: MOVED TO ADOPT THE PERMANENT PARK IMPROVEMENT PROPOSAL SUBMITTED BY THE RIDGEFIELD GARDEN CLUB AS PRESENTED.

RESULT:	(UNANIMOUS)
MOVER:	Council Member Katie Favela
SECONDER:	Council Member Judy Chipman
AYES:	Mayor Pro Tem Cole, Council Member Wells, Council Member Chipman, Council Member Burkle, Council Member Favela

4. Motion - Agreement for Right-of-Way and Temporary Construction Easement Acquisition from the Schmitz Family for the Pioneer Widening and 50th Place Roundabout Project - Chuck Green, Public Works Director

Right-of-way acquisition has been underway to secure rights-of-way and temporary construction easements for the Pioneer Widening and 50th Place roundabout project. One of the remaining acquisitions is from the Schmitz family on the north side of Pioneer Street. An agreement has been reached through negotiations with family representatives for a purchase price as well as construction obligations from the City, including providing for a water service stub to their property. The terms of the negotiations are for a total of \$78,000 for both the right-of-way and temporary construction easements, \$750 for statutory evaluation costs (reimbursement of attorney's fees for review of the transaction documents) upon submission of the bills or paid receipts, construct a water stub from the City's water line for private water service to the property (location to be determined by the City and the property owner; System Development Charges for connection to the water system are the responsibility of the property owner), and move their existing fencing back to the new right-of-way line prior to the completion of the Pioneer Project Construction).

MOTION: MOVED TO AUTHORIZE THE CITY MANAGER OR DESIGNEE TO EXECUTE THE OBLIGATION AND SETTLEMENT AGREEMENT WITH THE SCHMITZ FAMILY.

RESULT:	(UNANIMOUS)
MOVER:	Council Member Judy Chipman
SECONDER:	Council Member Katie Favela
AYES:	Mayor Pro Tem Cole, Council Member Wells, Council Member Chipman, Council Member Burkle, Council Member Favela

5. Motion - Agreement for Right-of-Way and Temporary Construction Easement Acquisition from the Haagenson Family for the Pioneer Widening and 50th Place Roundabout Project - Chuck Green, Public Works Director

Right-of-way acquisition has been underway to secure rights-of-way and temporary construction easements for the Pioneer Widening and 50th Place roundabout project. One of the remaining acquisitions is from the Schmitz family on the north side of Pioneer Street. An agreement has been reached through negotiations with family representatives for a purchase price as well as construction

obligations from the City, including providing for a water service stub to their property. The terms of the negotiations are for a total of \$88,200 for both the right-of-way and temporary construction easements (\$79,224.00 for the deeded property and \$8,976.00 for the temporary construction easement).

MOTION: MOVED TO AUTHORIZE THE CITY MANAGER OR DESIGNEE TO EXECUTE THE OBLIGATION AGREEMENT WITH THE HAAGENSON FAMILY.

RESULT:	(UNANIMOUS)
MOVER:	Council Member Judy Chipman
SECONDER:	Council Member Lee Wells
AYES:	Mayor Pro Tem Cole, Council Member Wells, Council Member Chipman, Council Member Burkle, Council Member Favela

VII. PUBLIC HEARING/BUSINESS

1. Public Hearing and First Reading of Ordinance No. 1430 - Changes to posted and unposted speed limits for portions of Pioneer Street, S. 15th Street, S 35th Place, S. 10th Way, S 25th Place, S. 4th Way, S. Wells Drive, S 11th Street, Union Ridge Parkway and S Hillhurst Road - Chuck Green, Public Works Director

The proposed changes are the outcome of a comprehensive safety study of city collectors and arterial, with particular emphasis on horizontal curves, as well as safety for all users. The engineering study conducted by the City Engineer considered prevailing speed, land use context and roadway conditions, including:

- Roadway environment, including roadside development, number and frequency of driveways and access points, and land use);
- Functional classification (principal or minor arterial, collector, etc.);
- Presence of on-street parking;
- Pedestrian and bicycle facilities and activity;
- Roadway characteristics such as lane widths, shoulder condition, grade, alignment, median type, and sight distance;
- Geographic context such as an urban district, rural town center, non-urbanized rural area, suburban area, and scenic corridors;
- Reported crash experience for at least a 12-month period (including from both the 2022 and 2024 Ridgefield City Safety Plans); and
- A review of past speed studies to identify any trends in operating speeds.

The results of the engineering study include proposed speed limit changes for the following locations:

- Pioneer Street, east of 9th Avenue/Hillhurst to 65th Avenue, reduce from 40 mph to 35 mph;
- S. 15th Street/S 35th Place/S. 10th Way/S 25th Place, west of S Royle Road, establish a 25 mph speed limit for the entire scenic collector (Gee Creek Plateau)
- S. 4th Way, S 21st Place to S 25th Place, establish a 20 mph speed limit
- S. Wells Drive, Royle Rd. to future Discovery Drive (approximately 5500 block), reduce from 35 mph to 30 mph;
- Union Ridge Parkway, S 5th Street to Pioneer Street, establish a 35 mph speed limit;
- Union Ridge Parkway, north of Pioneer Street along Clark College building to a future extension to N 10th Street, establish a 25 mph speed limit for the current and future corridor

- S Hillhurst Road, Great Blue to south of Carty Road, reduce from 35 mph to 30 mph.

MAYOR PRO TEM COLE OPENED THE PUBLIC HEARING: 7:22PM

No testimony was received.

MAYOR PRO TEM COLE CLOSED THE PUBLIC HEARING: 7:22PM

First reading conducted.

2. Public Hearing and First Reading of Ordinance No.1431 - Establishing Temporary Speed Limits for portions of S. Royle Road and Pioneer Street. - Chuck Green, Public Works Director

The City Engineer recently conducted a review of speed and traffic data, pavement conditions for South Royle Road and work zone conditions for the Pioneer Street Widening project. For Royle Road from S Wells Drive/S 15th Street to Hillhurst Road, the road is narrow, pavement is in disrepair and rough, there are vertical curves with limited sight distance, and there are no shoulders for pedestrians or bicyclists to use. With more frequent events occurring at the Ridgefield Outdoor Recreation Complex and the High School, increased pedestrian and bicycle activity have been observed along this section of Royle Road. While improvements are in the design stage, construction will not occur until at least 2026. For the Pioneer Street Widening Project, the current condition of Pioneer is a narrow, two lane former state highway with narrow shoulders and no sidewalks. The project currently has heavy construction equipment operating adjacent to the roadside or crossing the road between work sites. Although there are warning signs and visible construction activity, motorists have been observed to continue to travel at higher speeds than what would be considered safe. The State of Washington and the City of Ridgefield have focused on traffic safety and work zone safety in the past few years. Programs called "Vision Zero" and "Target Zero" have provided for emphasis programs and patrols. State laws have been changed to double the fines for speeding in work zones. In the case of Pioneer Street through the work zones between Royle Road and 56th Place, warning signs requesting people to slow down have had limited effect. The City Engineer's review indicates that having a work zone speed limit in place, enforceable by ordinance and code, is necessary to allow for enforcement and to enhance work zone safety.

The City Engineer is requesting Council action on the following proposals which would establish temporary or work zone speed limits until such time Council rescinds them :

- Royle Road, S Wells Drive/15th Street to Hillhurst Road, establish a 30 mph temporary speed limit
- Pioneer Street, Royle Road to 56th Place, establish a 25 mph work zone speed limit.

MAYOR PRO TEM COLE OPENED THE PUBLIC HEARING: 7:37PM

No testimony was received.

MAYOR PRO TEM COLE CLOSED THE PUBLIC HEARING: 7:38PM

MOTION: MOVE TO APPROVE ORDINANCE NO. 1431 AS PRESENTED, ESTABLISHING TEMPORARY SPEED LIMITS FOR PORTIONS OF S. ROYLE RD AND PIONEER STREET, TO WAIVE SECOND READING AND FOR PUBLIC HEALTH AND SAFETY ENACT THIS ORDINANCE IMMEDIATELY WITH A UNANIMOUS VOTE OF CITY

COUNCIL.

RESULT:	(UNANIMOUS)
MOVER:	Council Member Clyde Burkle
SECONDER:	Council Member Katie Favela
AYES:	Mayor Pro Tem Cole, Council Member Wells, Council Member Chipman, Council Member Burkle, Council Member Favela

3. Public Hearing and First Reading of Ordinance No. 1432 - Greely Farms Development Agreement Amendment - Steve Stuart, City Manager

The developers, Urban Downs LLC and Ridgefield East Development LLC, are obligated under a Development/Pre-Annexation Agreement to dedicate to the City certain park improvements as part of the Greely Farms PUD Subdivision. Eight total acres of park land dedication were contemplated in the Development/Pre-Annexation Agreement, with two (2) acres to be dedicated without additional compensation (which has already occurred), two (2) acres to be dedicated with compensation in the form of Park Impact Fee (PIF) Credits, and four (4) acres to be dedicated with compensation in the form of cash payment. The rate of compensation was to be determined through an appraisal from a mutually agreed upon source. The City and Developers reached an agreed-upon appraised value of \$250,000 per acre for park land to be dedicated at Greely Farms. The Developers also identified an additional 0.9 acres of land that could be suitable for public parks/open space which the City agreed to purchase as part of the overall land dedication. City and Developers agreed upon an amended payment structure that gives Developers needed PIF Credits and cash while minimizing and spreading out City cash outlay for the acquisition. The Second Amendment to the Development Agreement memorializes the terms for transfer of the remaining 6.9 acres which have not already been transferred.

Under the terms of this Amendment, the City agrees to the following:

1. The City agrees to issue PIF Credits for the purchase of three (3) acres, as well as an additional nine-tenths (0.9) acre of available adjacent land. Total PIF Credits issued shall be Nine Hundred and Seventy-Five Thousand (\$975,000), which is the sum of 3.9 acres x \$250,000/acre;
2. The City agrees to provide cash payment for the purchase of an additional three (3) acres at the agreed total purchase price of \$250,000 per acre, for a total of \$750,000. Payment shall occur in two equal installments of \$375,000 – the first due on closing of the property conveyance, and the second due on February 1, 2025;
3. The Developers agree to submit a Boundary Line Application to add the agreed upon acreage to adjacent Tract G which is currently owned by the City. The City agrees to pay all costs associated with processing the BLA application;
4. The City agrees to continue deferring collection of PIFs from building permit submittals by Holt Homes in Greely Farms until issuance of the PIF credits to allow Holt the opportunity to utilize the credits for payment of PIFs on those submittals.

MAYOR PRO TEM COLE OPENED THE PUBLIC HEARING: 7:46PM

No testimony was received.

MAYOR PRO TEM COLE CLOSED THE PUBLIC HEARING: 7:46PM

First reading conducted.

VIII. PUBLIC COMMENT

Anyone requesting to speak to the Council regarding all items not subject to a specific Public Hearing may come forward at this time. Please state your name and limit comments to three minutes. Written comments may be submitted to the Clerk prior to the meeting.

Comments received during public testimony can be heard on the City's website under [City Council Meeting Audio Files | Ridgefield, WA \(ridgefieldwa.us\)](https://www.ridgefieldwa.us/City-Council-Meeting-Audio-Files).

IX. COUNCIL/PRESIDING OFFICER/STAFF REPORTS

1. Council

Council Member Chipman - Attended CRWWD meeting, CREDC meeting.

Council Member Favela - Attended CCFR meeting, City staff appreciation lunch. September is suicide prevention month.

Council Member Wells - Attended the Clark Regional Alliance meeting.

Council Member Burkle - Attended a ribbon cutting ceremony, Oktoberfest event, Budget Committee meeting, City staff appreciation lunch, Port of Ridgefield meeting, City Manager briefing.

2. Mayor

Mayor Pro Tem Cole - City Council public forum reminder, attended CTRAN open house, leadership Clark County Class of 2025 update.

3. City Manager

City Manager Steve Stuart - Thank you to Council and Commissioner Joe Melroy for attending and helping out with the employee appreciation picnic. Council candidate public forum reminder.

Public Works Director Chuck Green - Provided an update on citywide projects.

Community Development Director Claire Lust - Provided an update on code updates and city programs.

Deputy City Manager Lee Knottnerus - Provided an update on upcoming City events.

Police Chief Cathy Doriot - Pink patch release date is October 1st.

X. ADJOURN

8:07PM

Julie Ferriss, City Clerk

Ron Onslow, Mayor

**CITY OF RIDGEFIELD
REQUEST FOR COUNCIL ACTION**

MEETING DATE: October 10, 2024

AGENDA ITEM NAME: Paradise Pointe Park Master Plan Presentation

GOVERNING LEGISLATION

8.18.090 - Park master plan standards.

PREVIOUS COUNCIL ACTION TAKEN:

Included in 2024 Budget

SUMMARY/BACKGROUND:

The Paradise Pointe Park Master Plan is progressing and is set for completion by December 31, 2024. Tonight's presentation offers a chance to review the project area and its key features while discussing the overall scope of work, including site analysis, potential recreational facilities, and environmental preservation.

This presentation serves as an opportunity for City Council to provide valuable feedback, which will help refine the plan's vision. Input gathered will shape the design, ensuring alignment with community needs and city goals.

BUDGET/FINANCIAL IMPACTS:

N/A

RECOMMENDED ACTION OR MOTION:

City Council Discussion:

1. **Recreation:** What recreational activities should be prioritized in the park's design?
2. **Balancing Spaces:** How should we balance active and passive areas?
3. **Integration of History:** What role should historical elements, like the dam or oaks, play in the design?
4. **Accessibility:** How can we ensure the park is accessible to everyone?
5. **Sustainability:** What long-term strategies should we consider for maintaining the park post-development?

STAFF CONTACT: Corey Crownhart, Park Manager

ATTACHMENTS:

1. CC2024.10.10 - Paradise Pointe Park MP Intitial Discussion



Paradise Pointe Park Master Plan

Initial Council Discussion

Parks, Trails, and Recreation Division

City Council Public Meeting | October 10, 2024





Introduction

Master Plan Process Objectives

- Engage community for input to align with values, expectations, and needs.
- Provide a conceptual framework highlighting potential amenities and the park's overall feel.
- Master Plan Process to be complete by December 31, 2024.

Tonight's Discussion

- Review the site inventory and conditions
- Gather Council feedback and perspectives
- Discuss next steps for the planning process



How We Got Here

Developer and Pre-Annexation Agreement

Community Park Dedication

- Developer to dedicate a minimum of 15 acres to City for a Community Park.
- Developer to complete development of Community Park and its assets by final plat approval.
- At dedication, Community Park to be owned, operated, and maintained by City.

Trail Network Dedication

- Developer to dedicate a trail network connecting Community Park, Paradise Pointe Development, and nearby trails.

Completion Timeline

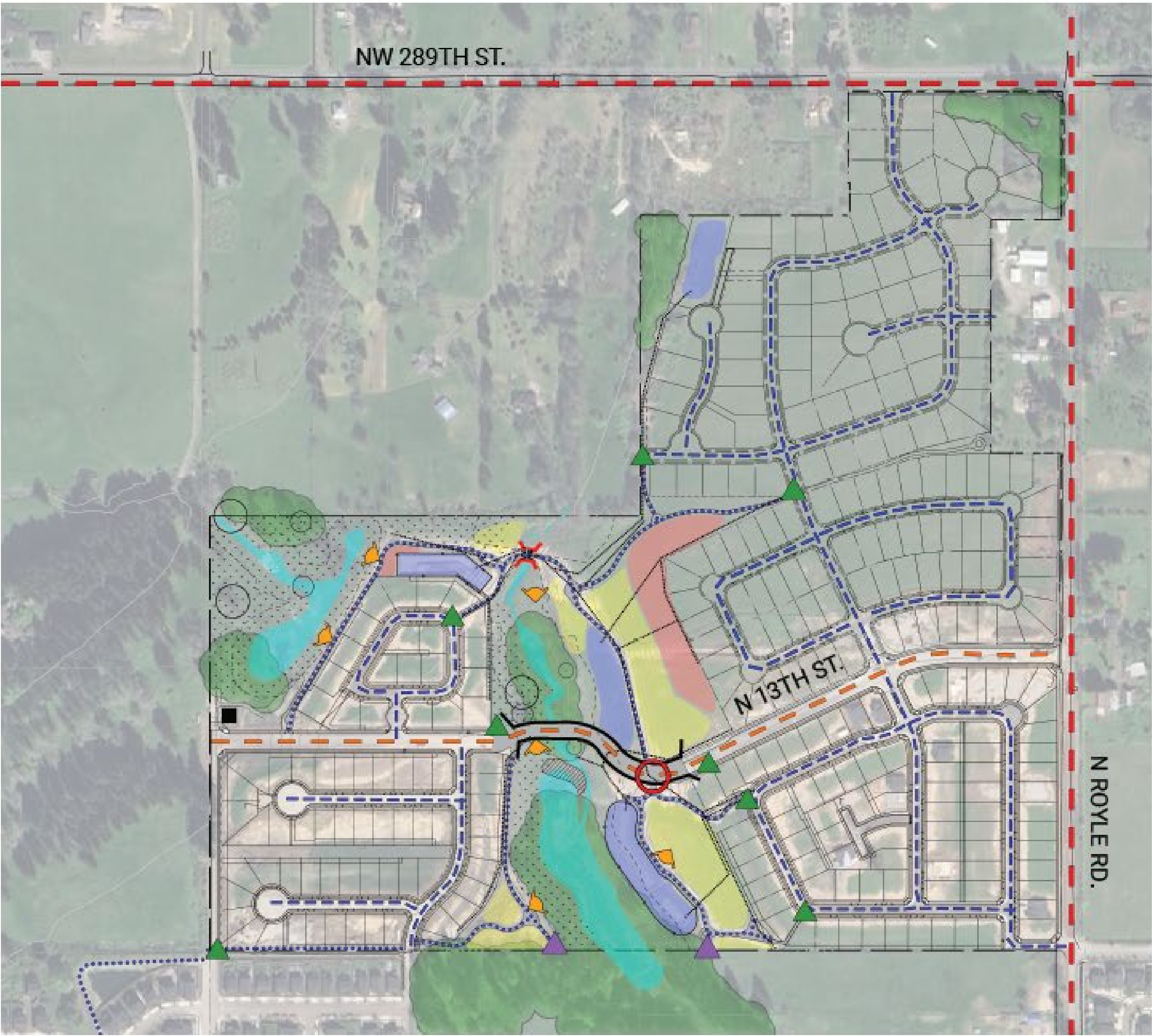
- Master Plan to be adopted by City no later than December 31, 2024.
- Final Plat Approval to take place no later than September 30, 2026.

Maintenance Agreement

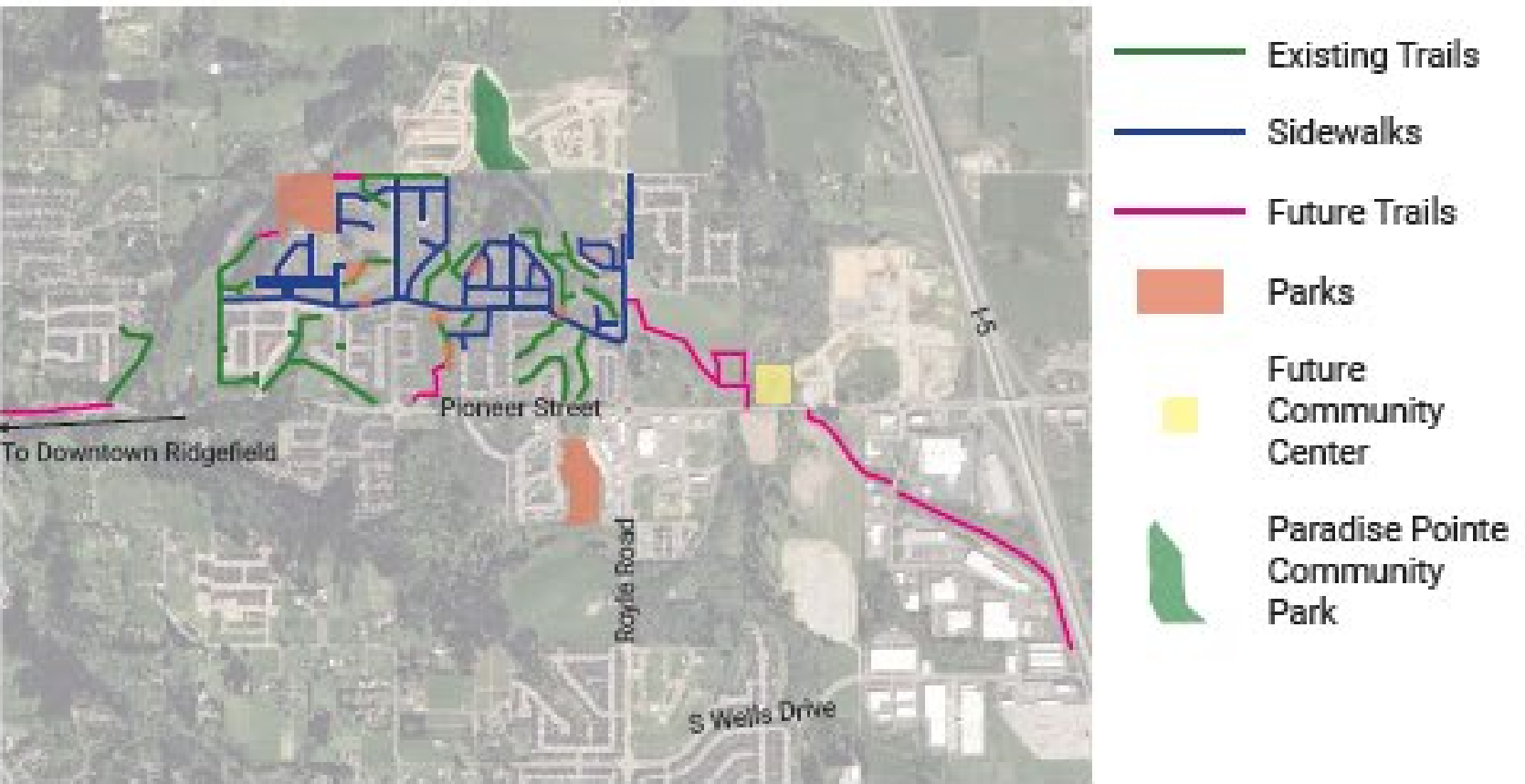
- Developer, then HOA, to contribute \$20,000 annually toward maintenance of dedicated improvements.
(Contribution to be adjusted for inflation annually)



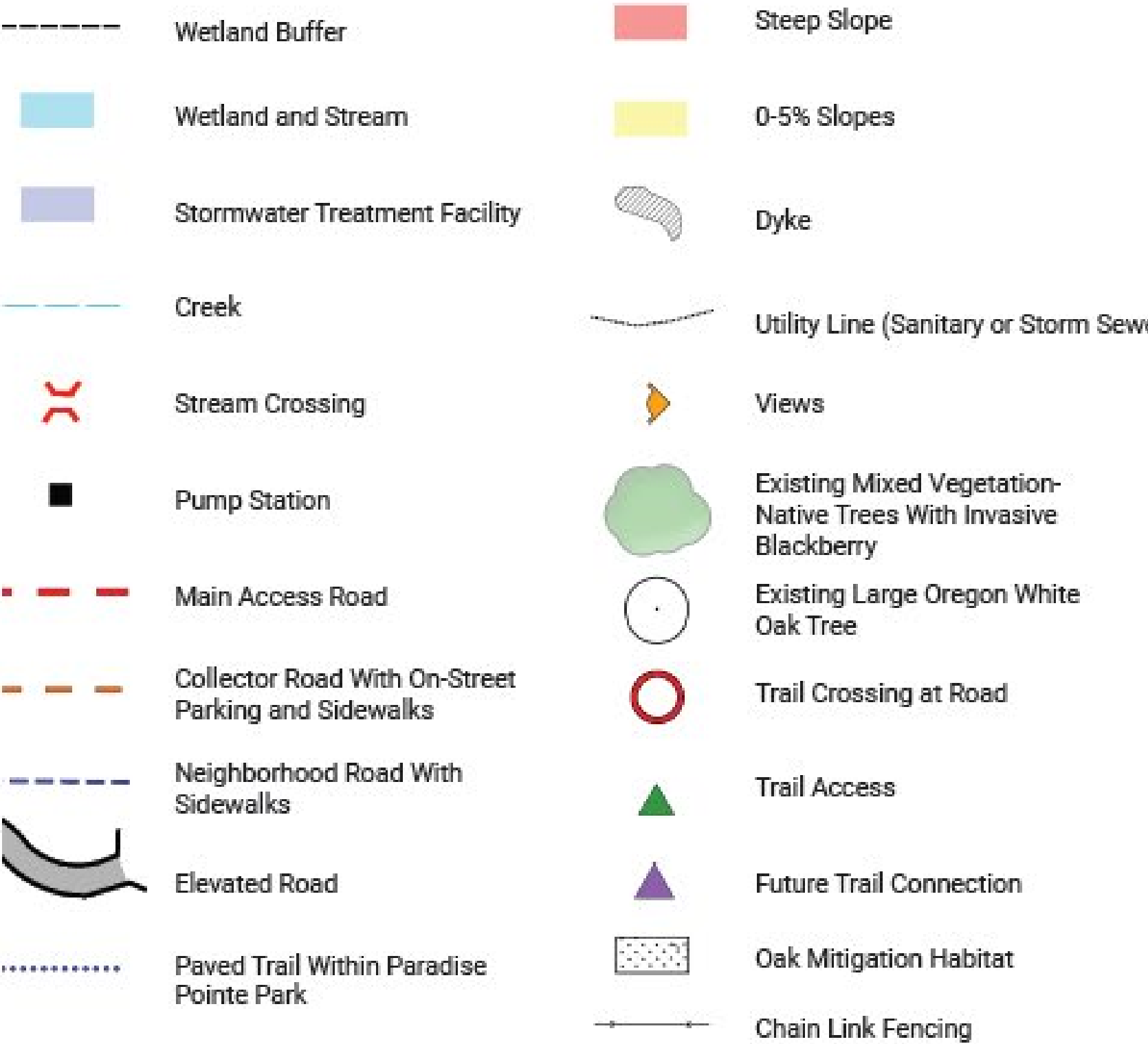
Current Site Inventory & Analysis



Regional Trails and Parks



Legend



City Council Discussion

1. **Recreation:** What recreational activities should be prioritized in the park's design?

2. **Balancing Spaces:** How should we balance active and passive areas?

3. **Integration of History:** What role should historical elements, like the dam or oaks, play in the design?

4. **Accessibility:** How can we ensure the park is accessible to everyone?

5. **Sustainability:** What long-term strategies should we consider for maintaining the park post-development?



Thank You / Questions?



Corey Crownhart, MSML Parks Manager
Public Works Department | City of Ridgefield
Phone: (360) 887-6010
Email: corey.crownhart@ridgefieldwa.us



Emily Mills, PLA Landscape Architect
MacKay Sposito
Phone: (360) 823-1318
Email: emills@mackaysposito.com



Ridgefield Roundtable
Learn more about this project at:
www.ridgefieldroundtable.org/paradise-pointe



**CITY OF RIDGEFIELD
REQUEST FOR COUNCIL ACTION**

MEETING DATE: October 10, 2024

AGENDA ITEM NAME: Resolution No. 655 - Approval of 2024 Engineering Standards Update

GOVERNING LEGISLATION

None

PREVIOUS COUNCIL ACTION TAKEN:

Adoption of Resolution 528: Amendment to Ridgefield Engineering Standards for Public Works Construction (2017)

SUMMARY/BACKGROUND:

The City's Engineering Standards provide guidance for the design and construction of public and private development projects. The Engineering Standards may be revised in two ways. Minor revisions and edits may be completed by an Administrative Change at a staff level by the City Engineer, and more comprehensive updates require adoption by the City Council. The City's Engineering Standards last received a comprehensive update in 2017.

This 2024 Engineering Standards Update consists of two volumes:

- Volume 1: Engineering and Planning Standards
- Volume 2: Construction Specifications and Standard Details and Drawings.

The 2024 update will also include a future Volume 3, Parks and Trail Standards, that is anticipated to be reviewed later this fall.

The proposed 2024 revisions have been in the works for most of this year, and have included several opportunities for vetting and review with the design and construction community. Staff presented an overview of these changes to Council at the August 22, 2024 meeting.

The major changes proposed in the 2024 Engineering Standards update include:

- Roads and streets, including more robust pavement sections to extend the life of roadways
- Street trees, including an update for narrower planter strips
- Downtown mailbox permits and restrictions
- Stormwater, including incorporation of most components of the 2019 Stormwater Management Manual for Western Washington
- Water
- Street lights

- Construction
- Development Review and Inspection Procedures.

The proposed updates to the Engineering Standards are included with changes tracked. Appendices with Design and Construction Details, Updated Street Tree List, a new checklist for required construction inspections, and other special details are also attached to this report.

A brief presentation is also attached to this report.

BUDGET/FINANCIAL IMPACTS:

None

RECOMMENDED ACTION OR MOTION:

Council review and action is requested on this item. Approval. Adoption would be via approval of Resolution No. 655. A suggested motion would be:

“I move to approve Resolution No. 655 to adopt the 2024 Engineering Standards update as presented.”

STAFF CONTACT: Chuck Green, Public Works Director

ATTACHMENTS:

1. Engineering Standards Update_Council_10-10-24
2. Volume_1 Draft-2024_draft final _100124
3. Volume_2 Draft-2024_draft final 100224
4. Appendix A
5. Appendix B
6. Appendix C

RESOLUTION NO. 655

A RESOLUTION OF THE CITY OF RIDGEFIELD, WASHINGTON REVISING THE ENGINEERING STANDARDS FOR PUBLIC WORKS CONSTRUCTION (2024 EDITION)

WHEREAS, the current City of Ridgefield Engineering Standards for Public Works Design and Construction were adopted by the City of Ridgefield under Resolution No. 528 on May 25, 2017, replacing previous updates; and

WHEREAS, the Ridgefield Engineering Standards for Public Works Design and Construction are comprised of Volume 1 Planning and Design and Planning and Volume 2 Construction; and

WHEREAS, industry standards and regulatory requirements for public works design and construction have evolved since the last revision to the Ridgefield Engineering Standards for Public Works Construction; and

WHEREAS, the City desires to complete a comprehensive update to the standards including streets and sidewalks, stormwater facility design, street lighting, street trees and water; and

WHEREAS, the City has sought, received and incorporated comments from the engineering and development community on the revised Ridgefield Engineering Standards for Public Works Design and Construction; and,

WHEREAS, it is the desire of the City to adopt a uniform set of standards for development without the necessity of redrafting or amending a title of the City ordinance; and

WHEREAS, the City Council for the City of Ridgefield finds that it is in the public interest and will benefit the public safety, health and welfare to have updated engineering standards.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF RIDGEFIELD, WASHINGTON HEREBY RESOLVES AS FOLLOWS:

1. The Ridgefield Engineering Standards for Public Works Design and Construction are hereby amended and updated, and shall be deemed the City's technical standards for all facets of public works within the existing and future municipal limits of the City of Ridgefield, Washington. The updated sections of "Ridgefield Engineering Standards for Public Works Design and Construction" Volume 1 – Design and Planning and Volume 2 – Construction" and associated appendices dated September 2024 are attached by reference to this Resolution.
2. This Resolution shall supersede all previous resolutions pertaining to the Ridgefield Engineering Standards for Public Works Construction.

Adopted at a regular session of the City Council of the City of Ridgefield, Washington this 10th day of October, 2024.

By:

Ron Onslow, Mayor

ATTEST/AUTHENTICATED:

Julie Ferriss,
City Clerk



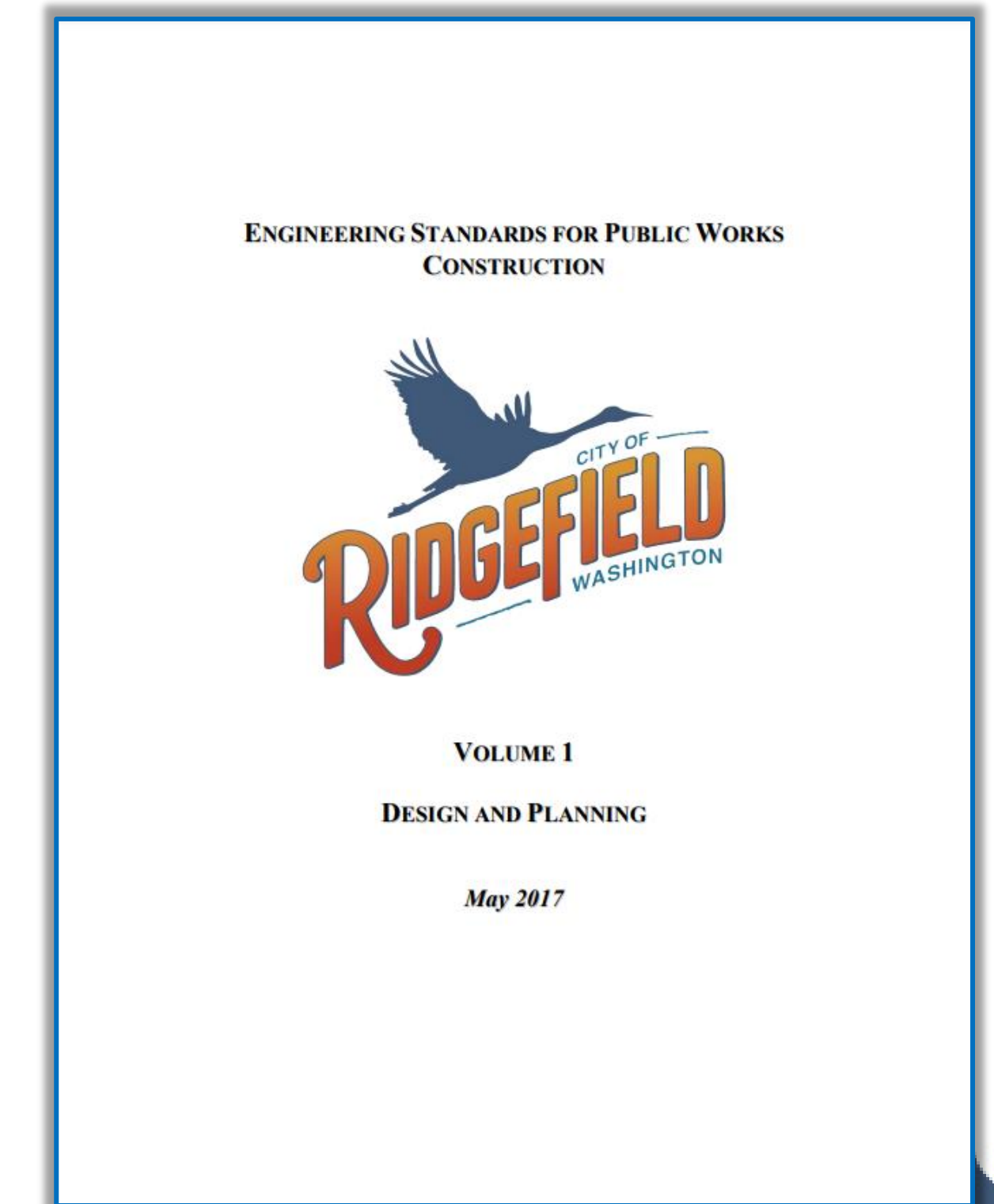
Engineering Standards Proposed 2024 Updates



Ridgefield City Council | October 10, 2024

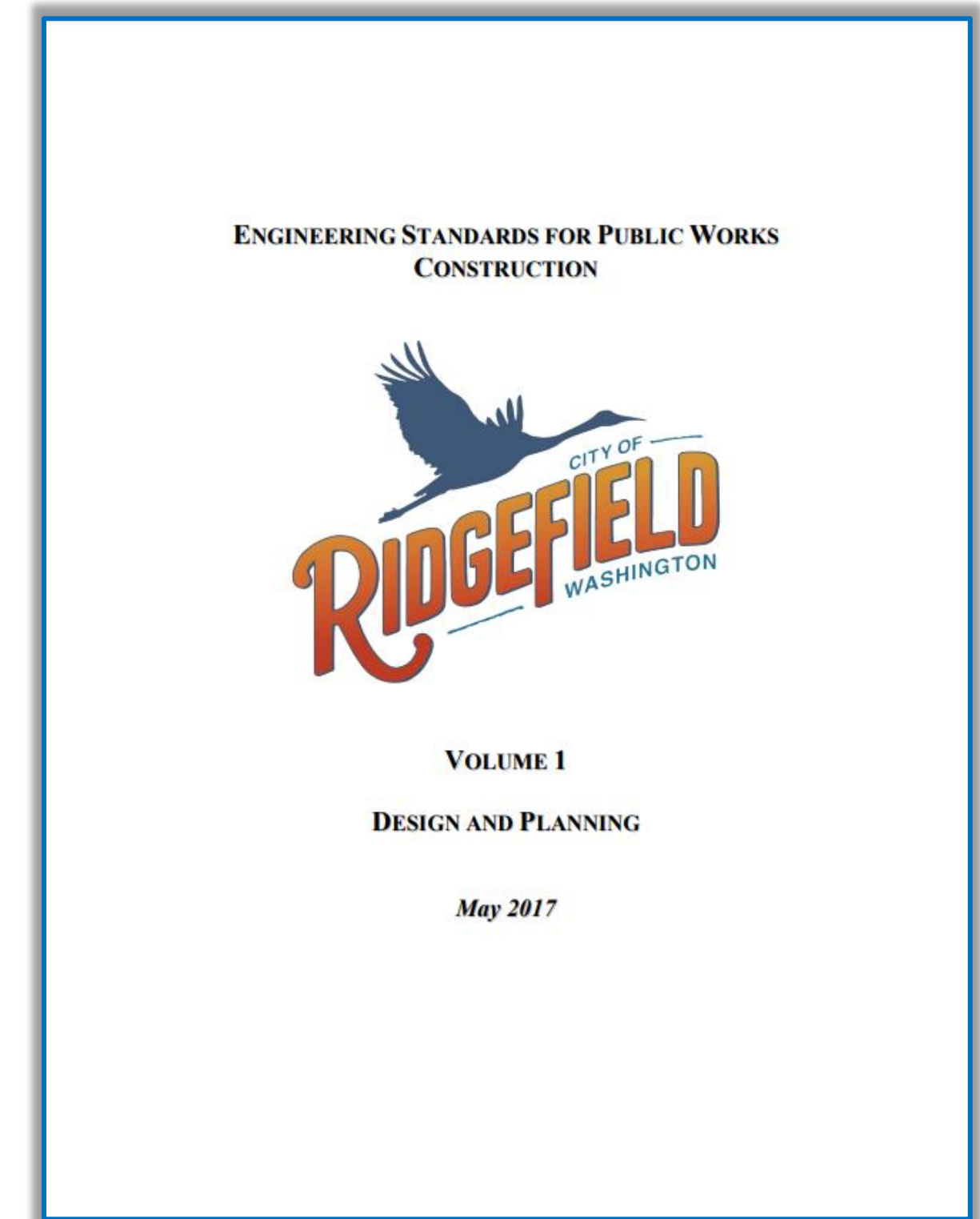
What Does this Update Cover?

- Roads and streets
- Street trees
- Downtown mailbox permits
- Stormwater
- Water
- Street lights
- Construction
- Development Review and Inspection Procedures
- Maintenance bonds/warranties



Why Are We Doing this Now?

- Last update was in 2017
- Reflects changed industry standards over past seven years
- New pavement standards extend pavement life
- New, night-sky friendly street light technology
- Begin phase-in of stormwater requirements under Phase II permit
- Incorporates changed procedures, “lessons learned” from past seven years



How Have We Vetted the Proposed Changes?

- Open House (January 2024, contractors, consultants, others)
- Building Industry Association (February)
- Engineering community in general
- Industry associations
- Other Public Works departments around the county
- Council presentation session at August 22, 2024 meeting.



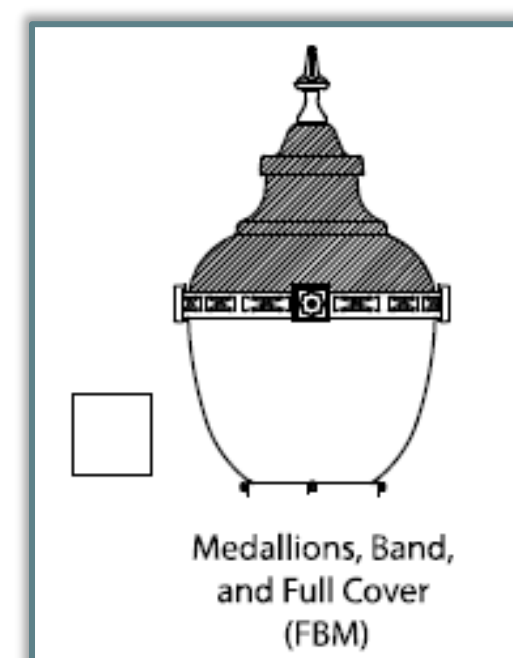
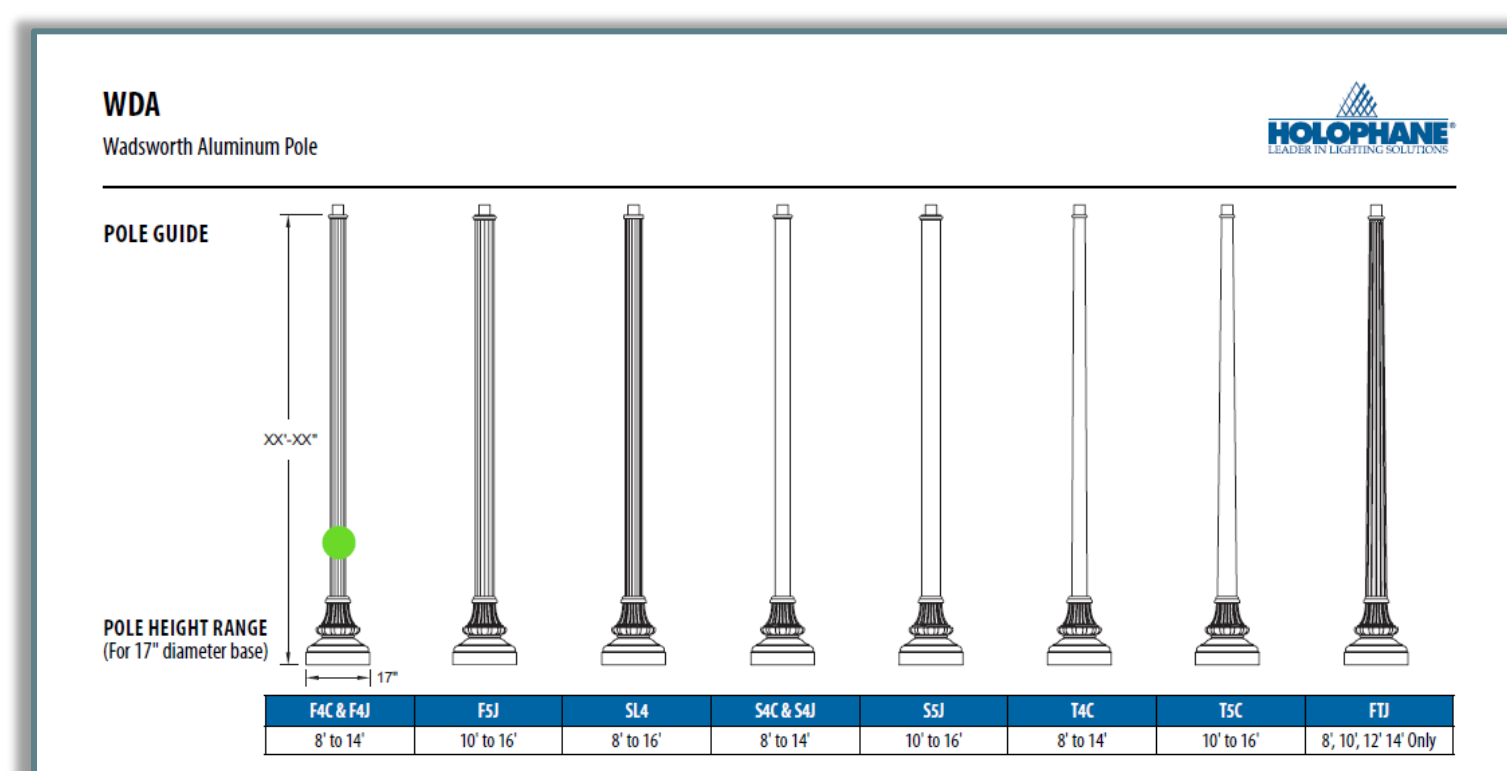
Roads and Streets

- Modified pavement sections & compaction requirements (extends pavement life)
- Standards and details on concrete treated base
- Transportation Impact Studies
- Traffic control plans
- Driveway modification requests
- Street name signs (details)
- Street trees & updated list
- New: Downtown mailbox permits



Streetlights

- Updated specifications and details
- “Night Sky Friendly” products
- Streetlight approved products list
- Approval process to add approved equal to qualified products list



Storm Drainage

- Phased-in compliance with Phase II MS4 Municipal Discharge Permit
- New stormwater details (currently there are no City standard drawings)
- Erosion control plans
- Updates to minimum pipe sizing
- Laterals.



Water

- Updates to details and standard drawings
- Updates approved product lists
- Allowance for submitting alternate products to match specifications



Construction

- Updated inspection procedures & checklist
- Updated cross-connection control and backflow guidance
- Maintenance bonds/ warranties
- New:
 - Street cut restriction (new pavement surfaces <5 years old): future code amendment
 - Restoration tolerances for utility cuts/trenches



Items from August 22 Council Discussion

- Maintainability review step for all new plans included (public and private)
- Added section on trash collection requirements for private streets
- Warranty/maintenance period:
 - Keep at 2 years for infrastructure, 3 years for landscaping.
 - Cannot transfer bonds to private interests (City holds bond)
 - Contractor warranty of private items
 - Extend warranty period for multi-phased developments with construction using same access
- Downtown Mailboxes
 - Discussion with Ridgefield Postmaster
 - Restrictions on new mailboxes along Pioneer (5th to Main) and Main (Pioneer to Mill)



Requested Action

Council action is requested on this item. Adoption will be via approval of Resolution No. 655. A suggested motion is:

“I move to approve Resolution No. 655 to adopt the 2024 Engineering Standards update as presented.”



Keep in Touch



Chuck Green, Public
Works Director
Direct: (360) 857-5022



Chuck Green: chuck.green@ridgefieldwa.us



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Ridgefield, WA 98642



www.ridgefieldwa.us



**ENGINEERING STANDARDS FOR PUBLIC WORKS
CONSTRUCTION**



VOLUME 1

DESIGN AND PLANNING

September 2024

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CHAPTER 1

GENERAL PLANNING, DESIGN, AND APPROVAL REQUIREMENTS

CHAPTER 1 - GENERAL PLANNING, DESIGN, AND APPROVAL REQUIREMENTS

1.00 Requirements For Public and Private Improvements

A. General

The purpose of these standards is to define requirements for the design and construction of public and private improvements to serve new and future developments. These include street, bikeway, drainage, and water improvements as required by the development review process, City Ordinance, and other City policies adopted by the City Council or the Mayor. Requirements for neighborhood parks, including furnishings, play structures, bicycle racks and other park infrastructure shall be in accordance with the most recent edition of the City's Parks and Recreation Comprehensive Plan. Where not governed by building or other codes, standards for site grading, erosion control, parking lot and driveway construction, and other infrastructure on private property shall ~~also~~ be governed by these standards for the purposes of design and inspection. No such work shall commence prior to City approval of the construction plans. Designs submitted shall be stamped by a registered Professional Engineer licensed to practice in the State of Washington.

All public improvements and private streets, parking lots, sidewalks, and driveways shall be designed and constructed according to the most recent edition of the *ADA Standards for Accessible Design* and the Public Right of Way Accessibility Guidelines in such a manner as to be readily accessible to and usable by individuals with disabilities as per the requirements of the Americans with Disabilities Act of 1990. This includes providing curb ramps at intersections with pedestrian crosswalks to allow a smooth transition between street and sidewalk elevations.

The Washington State Department of Transportation Standard Specifications including their most recent revisions are hereby adopted and incorporated as part of this document by reference except as modified herein.

B. Organization of Standards

These Standards are separated into ~~two~~ three volumes; 1) Volume 1 - Design and Planning, ~~and~~ 2) Volume 2 - Construction Specifications and Details, and 3) Volume 3 - Parks, Trails and Recreation Design and Construction Requirements.

C. Shortened Designation

These City of Ridgefield Engineering Standards for Public Works shall be cited routinely in the text as the "Standards".

D. Applicability

These Standards shall govern all new construction and upgrading of facilities both in the ~~right-of-way~~ right-of-way and ~~onsite-on private property~~ for: transportation related facilities; storm drainage facilities and stream channel improvements; water improvements; and park, recreation, and ~~open space~~ open space facilities used by the public.

E. Requirements for Public Welfare

It is the purpose of these standards to provide for and promote the health, safety, and welfare of the general public, and not create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by the terms of these standards.

The Standards established by this Chapter are intended to represent the minimum design standards. Compliance with these Standards does not relieve the designer of the responsibility to apply sound professional judgment to protect the health, safety, and welfare of the general public. Additionally, since these are minimum standards, special site conditions and environmental constraints may require a greater level of protection than would normally be required under these Standards. The designer must apply these Standards bearing in mind these constraints.

F. Two-year Maintenance Surety Bond Requirement

The developer is required to provide a maintenance bond for a minimum of 20% of the full cost of construction for all public and private improvements for a period of two (2) years after acceptance of the project, which will not be released without written approval by the City. The developer is to provide from their Contractor an itemized contractor's cost worksheet on the City's cost estimating template. Contractor shall use State Prevailing Wage costs to develop estimate. Coordinate with City for latest template. The 2 year maintenance agreement includes public and private construction work. The Contractor shall place the following note on the worksheet: "To the best of my knowledge the itemized quantities and cost included herein are an accurate account of the full cost of construction to be provided as required to meet the City's Maintenance Bond requirement".

For multi-phased developments where public access road(s) was (were) built and accepted for an earlier phase, and where the access road(s) will serve as construction access for future phase(s), the City will request the developer and their contractor to extend the surety bond for such access road(s) until such time a second access road is built for the development, or until all phases are completed. The surety bond period will then be extended for two years after completion and construction acceptance of the public and private improvements of that final phase. Its release is subject to final inspection and acceptance by the City, or acceptance of repairs requested by the City as part of the maintenance bond inspection prior to the expiration of the bond.

G. Requirement for Street Utility Extension to Limits of Property

Public streets, bikeways/multi-purpose trails, water mains, and storm sewer mains shall be extended through and to the extremes of the property being developed for extension to future development as determined by the City. The developer shall not be reimbursed for utility extensions to the limits of the property being served. If a utility line must be oversized to serve the ultimate tributary area beyond the proposed development, the developer may request compensation for over sizing as authorized by Ridgefield Municipal Code. Such requests shall be in writing and shall be made to the City Engineer.

H. City Acceptance Process- Planned Unit Developments (PUD) and Subdivisions

Various permits required for completion and occupancy of any home within a PUD or subdivision must meet the requirements listed herein. These requirements are in addition to any requirements of the City Building or Community Development departments.

1.) Model Home Permits

The following requirements shall be met before the issuance of any building permit.

- a. The lot on which the home is to be constructed shall have either property corner pins or a building pad survey.

- b. At a minimum, 20-foot gravel roads shall be installed from a paved public street to the lot on which the home is to be constructed.
- c. Street signage must be installed from an existing public street to the lot on which the home is to be constructed.
- d. If the final plat for the subdivision has not been recorded, the subdivision shall display temporary signage that clearly indicates the original property address prior to subdivision. If the property had no situs address, prominent signage with the subdivision name shall be installed to assist emergency services in locating the property in the event of an emergency.
- e. An active fire hydrant must be located within 500 feet of any combustible construction.
- f. A bond shall be provided for 150-percent% of the cost of all landscape required by the subdivisions Notice of Decision (NOD) or Final Order. This landscaping shall include all required street trees.
- g. A bond shall be provided for 100-percent% of the cost of three years landscape maintenance for all landscape required by the subdivisions NOD or Final Order. This requirement may be waived by the City Engineer if an acceptable maintenance agreement is provided.

2.) Building Permits

The following requirements shall be met before the issuance of any building permit other than a model home permit.

- a. All requirements listed in Section H.1 above.
- b. The subdivision Final Plat must be recorded.

3.) Water Meter issuance

The following requirements shall be met Pprior to issuance of a water meter for a single-family residence the following requirements shall be met.

- a. Inspection approval of all water lines, including pressure testing and bacterial tests in accordance with Volume II of these Standards.
- b. Inspection approval of all meter boxes and meter setters.
- c. Accepted water meter setters include: The Ford 70 series coppersetter Part number VH74-15W-41-44-Q-NL or Approved Equal.
- d. Accepted water meter boxes include: Concrete Meter Box w/ drop in CI Reader Lid 8" top section, 10" bottom section Brooks 65, Raven Meter box, or approved equal.

4.) Acceptance and Final Occupancy

The following requirements shall be met Pprior to final occupancy of any building within a PUD, or phase thereof; the following requirements shall be met.

- a. All requirements listed in Sections H.1 through H.3 above.
- b. All required inspections are completed through the inspection checklist as maintained in the development portal (currently Smartgov/GovWell).

c. A maintenance bond for 20-percent% of the cost of all public and private improvements.

a-d. Submittal of aApproved as-built drawings and files shall be submitted in PDF and AutoCAD formats.

- i. AutoCAD files shall consist of design linework, lot lines, right-of-way lines, and utilities (public and private) at a minimum. The City may request additional files for records.

1.01 Precedence of Documents

If there is a conflict between approval documents, the document highest in precedence shall control. The precedence shall be:

First: Permits from other agencies or jurisdictions, as may be required by law.

Second: Facilities Review, Notice of Decision and Final Order Conditions of Approval, and project specific Development Agreements, Site Development Permit, and Planning Commission Conditions of Approval.

Third: City of Ridgefield Engineering Standards for Public Works Construction.

Fourth: City of Ridgefield Ordinances (Ridgefield Municipal Code).

Fifth: Plans and details prepared by the design engineer and approved by the City.

Sixth: American Public Works Association / Washington State Department of Transportation Standard Specifications, latest edition.

Seventh: Reference specifications.

Supplemental written agreements and approved revisions to plans and specifications by the appropriate jurisdictions will take precedence over documents listed above. Detailed plans shall have precedence over general plans. In any event, the determination of the City Engineer shall be final.

1.02 Abbreviations and Definitions

AASHTO	American Association of State Highway and Transportation Officials
AC	Asphaltic Concrete
ACI	American Concrete Institute
ADA	Americans with Disabilities Act of 1990
ADT	Average Daily Traffic
ANSI	American National Standards Institute
APWA	American Public Works Association
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
Bicycle Facilities	A general term denoting improvements and provisions which accommodate or encourage bicycling, including parking facilities, maps, signs, pathways, bike lanes, widened sidewalks, bikeways and shared roadways designated for bicycle use.

Bicycle Lane (Bike Lane)	A portion of a roadway which has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists
Bicycle Path (Off-Street Pathway)	A paved pathway physically separated from motorized vehicular traffic by an open space or barrier within an independent right-of-way
Bicycle Route (Bike Route)	A segment of a system of bikeways designated by the jurisdiction having authority with appropriate directional and informational markers, with or without a specific bicycle route number or as designated on a bicycle map, brochure or guidebook
Bikeway	Any road, path or way which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes
CBE	Crushed base equivalent (CBE) is the number that directly relates the traffic coefficient to the required number of inches of rock for street structural sections
CBR	California Bearing Ratio
City	City of Ridgefield with the Public Works Director as the lead contact person
City Engineer	City of Ridgefield's consulting or staff city engineer having authority specified in State law or City ordinances, or their designated representative
Contractor	The agent of the developer completing the construction activities associated with a given project
Contractor's Equipment	The phrase "Contractor's Equipment" shall include all items of materials or equipment remaining in the contractor's ownership and removed from the site upon completion of the project
Developer	The owner and/or his their agent responsible for a given project
DAHP	The Department of Archaeology and Historic Preservation
Engineer	The City Engineer
<u>Engineering Acceptance</u>	<u>Acceptance of ownership of donated assets by the City. Initiates the two-year maintenance period for the developer.</u>
Engineering Standards	The latest edition of the "City of Ridgefield Engineering Standards for Public Works Construction".
EPA	U.S. Environmental Protection Agency
Equipment	The machinery, accessories, appurtenances and manufactured articles to be furnished and/or installed under the Project
FEMA	Federal Emergency Management Agency

GPS	Global Positioning System
IE	Invert Elevation
Intersection	Refers to the area jointed by two (2) or more roads intersecting. For approaches of a continuous street at an acute curve or some other angle point with different street names
Item	A convenient subdivision of work under these specifications, as herein separately described
Material(s)	These words shall be construed to embrace machinery, manufactured articles, materials of construction (fabricated or otherwise) and any other classes of material to be furnished in connection with the project
MUTCD	Manual on Uniform Traffic Control Devices
Or Equal	Any manufactured article, material, method, or work which, in the opinion of the Engineer, is equally desirable or suitable for the purposes intended in these specifications and contract, as compared with similar articles specifically mentioned herein
OSHA	Occupational Safety and Health Administration
Parking Lot	Paved surfaces on private property intended for the movement and storage of vehicles
Plans	The plans shall mean all official drawings or reproductions of drawings made or to be made pertaining to the work provided for in the contract, or to any structure connected therewith
<u>Private Improvements</u>	<u>Any improvements that will be owned and/or maintained in common by a future Homeowner's Association, Business Association, lot owners, or tenants (i.e. are not publicly owned)</u>
Project	The structure or improvement to be constructed in whole or in part through the performance of the contract
PRV	Pressure Reducing Valve
Sidewalk	The portion of a street designed for preferential or exclusive use by pedestrians
Specifications	The specifications shall mean the prescribed directions, requirements, explanations, terms and provisions pertaining to the various features of the work to be done, or manner and method of performance, and the manner and method of measurements and payments. They also include directions, requirements, and explanations as set forth on the plans
Standards	City of Ridgefield Engineering Standards for Public Works Construction, Volume 1, and 2, latest edition
Standard Details	The latest edition of the City of Ridgefield's standard details for public works construction. Reduced copies are included in Appendix A of Volume 2 of these standards

Standard Specifications	The latest edition of the "Standard Specifications for Road, Bridge, and Municipal Construction" as published by the Washington State Department of Transportation and the American Public Works Association
Street	A public way which affords the principal means of access to abutting property
Traffic Coefficient	A number used in determining the structural section of a street
Trail	In the context of the Standards - "Trail" is synonymous with Multi-use Path (off-street pathway)
UL	Underwriter's Laboratory
WSDOT	The Washington State Department of Transportation
Wetlands	Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Identification and delineation of jurisdictional wetlands and wetland boundaries shall be done by a qualified biologist using applicable State and Federal guidelines.
Words and Phrases	Whenever the words, "as directed", "as required", "as permitted", or words of like effect are used, it shall be understood that the direction, requirement or permission of the Owner and Engineer is intended. The words, "sufficient", "necessary", "proper", and the like shall mean sufficient, necessary or proper in the judgment of the Owner and Engineer. The words, "approved", "acceptable", "satisfactory", or words of like import shall mean approved by or acceptable to the Owner and Engineer
Work	The work necessary to manufacture and deliver machinery, equipment and material and/or the furnishings of all labor, tools, material, equipment, construction equipment, working drawings, where required, and other, necessities for the construction or erection of the structures shown and called for in the plans, specifications and contract, and the act of constructing or erecting said structures complete.

1.03 Permits

Permits, approvals, or agreements are required by the City, and sometimes other jurisdictions, prior to initiating any construction or demolition work elements described within these Standards.

Construction of improvements without the required permits may, at the discretion of the City Engineer or Public Works Director, result in the following penalties:

- Immediate stop work order in force until all applicable permits are received
- Removal and reconstruction of improvements in accordance with approved plans

- Increased maintenance bond amounts
- Increased warranty periods
- Refusal of City to accept improvements with applicable permits

The majority of work covered under these Standards will require multiple permit authority reviews and approvals. Several types of permits and approvals require prior approval from the authority before a building or other substantial permit can be issued. Any questions regarding information about permits, approvals, and agreements should be directed to the ~~City Clerk~~City Engineer.

The following general categories describe the major permits, approvals, and agreements, along with issuing permit/code authority ~~if other than the City of Ridgefield identified in parentheses:~~

A. Environmental Review

For most projects, including clearing and grading activity, an Environmental Checklist must be completed by the applicant and submitted along with plans, specifications, and other information when approval or permits are being requested for a project. The Community Development Director conducts the Environmental Review and makes a SEPA Threshold Determination for the City.

Projects larger than one acre require coverage under the State of Washington Department of Ecology's Construction Stormwater General Permit. No grading permit shall be issued until proof of coverage has been provided.

B. Building Permits

A Building Permit is required for all construction work for structures including alteration, repairs and demolition. This includes retaining walls over 4 feet in height or with a surcharge loading and fences over six (6) feet tall. Box and arch culverts are also included.

C. Approvals and Other Permits

There are several other permits or approvals which may be required and referred to in these Standards: Developer Extension Agreements; plat and short plat approvals; and Certificate of Occupancy.

In addition, there are several other City approvals (land use) which may have been obtained prior to the above listed permits and which may affect the Standards as contained in this document.

1.04 General Requirements for Utility Extensions (Storm Sewer, Water)

- A. When extension of the existing utility system for service is required, the developer shall submit site and improvement plans, utility design plans and design review and administration fees. The utility design plans shall be prepared and submitted as described in these Standards.
- B. Easements for the utility system shall be prepared by a surveyor or engineer licensed to practice in the State of Washington. The easement shall be reviewed and approved by the City prior to acceptance. All public utility easements shall be a minimum of 15-feet wide unless otherwise noted in these standards or required by the City Engineer. Width and location of private utility easements shall be determined by the City Engineer or the Building Official as appropriate.

- C. Upon final completion and final inspection approval, Public Works will issue a letter of "Engineering Acceptance"~~a "Statement of Completion"~~ to the developer indicating acceptance by the City ~~for maintenance and operation~~ of the developer extension. The two-year maintenance period for all developer constructed improvements begins on the date of Engineering Acceptance.
- D. The developer shall have a surveyor licensed in the State of Washington provide final as-built elevations of manhole inverts and tops, gravity pipe grades, and utility locations. All elevations shall be from Clark County ~~datum~~Datum NGVD 1929(47).

1.05 Submittal Requirements

A. General

1. The following documents shall be submitted for engineering review:

- Design Plans for all streets, stormwater facilities, and water utilities
 - Sanitary sewer utilities to be included for City reference. Plans will be reviewed by the approving agency
- Grading Plans
- Erosion Control Plans
- Lighting Plans
- Landscape Plans
- Traffic Control Plans
- Stormwater Technical Information Report, including all model outputs
 - If requested by the City Engineer, stormwater modeling program files
- For resubmittals, a response to the comments that addresses each City comment from a prior review~~Submittal requirements consist of design plans, grading plans (where required), erosion control plans (where required), drainage calculations, and other information as required. Letters of transmittal shall accompany all submittals. Resubmittals must include the previous set of "redlines" and a letter detailing responses to comments.~~

B. Transportation/Traffic Impact Analysis (TIA)

1. A TIA will be required if the project generates more than 10 p.m. peak hour trips or more than 100 daily trips. The TIA shall evaluate surrounding roadways and intersections and any improvements found to be necessary will be required to be completed. The applicant's traffic engineering should submit a scoping memo to the Public Works Director/ City Engineer with a proposed scoping of the TIA. Work should not proceed on a TIA without the approval or modification of the TIA scope by the Public Works Director/City Engineer.
2. If a TIA is not required, a traffic memo estimating the number of average daily and p.m. peak hour project trips based on the Institute of Transportation Engineers (ITE) manual will be required for the purposes of assessing Traffic Impact Fees. This memo will be used in lieu of a full TIA to track trips in PUDs or Development Agreement site plans where the "build-out" trips have been vested, as well as for assessment of Transportation/Traffic Impact Fees. This memo should also include supporting documentation if adjustment(s) from ITE trip generation rates are requested.

3. Requests to modify the number of daily trips subject to Traffic/Transportation Impact Fees (TIF) shall be submitted to the City Engineer/Public Works Director. Requests shall be in a technical memo. Factors to be considered can include site trips which are internalized in a larger site or neighborhood context and thus do not impact the collector/arterial system, as well as connections between sites of compatible uses where shared or joint access may trips internalize trips that would otherwise use the collector or arterial system. Requests to waive assessment of traffic/transportation impact fees altogether will not be considered.
4. Traffic/transportation impact fee credits can be calculated in one of three ways:
 - Proportionate share of the TIF eligible road construction completed based on the currently-adopted Capital Facilities Plan/TIF spreadsheet; or
 - Calculation of actual costs of the improvement(s) completed on TIF eligible corridors minus the cost of the same facility if it were built as a local access street. The difference is the "public" cost of the facility and will serve as the amount of TIF credits to be issued.
 - Determination as part of a Development Agreement approved by City Council.
 - The issuance of TIF credits is by decision of the Public Works Director/City Engineer.

~~1. The Standard Specifications including their most recent revisions are hereby adopted and incorporated as part of this document by reference except as modified herein.~~

1.06 General Requirements for Engineering Plans

A. Design Plan Format

1. The plans shall be submitted in PDF format, with standard print sizes of 22-inch x 34-inch or 24-inch x 36-inch sheets. Plans of any other size will not be reviewed or accepted without prior written approval from the City Engineer.
- ~~1.2.~~ All sheets shall have a 1.5-inch x 3.0-inch blank space in the upper right-hand corner for batch stamping of plans by the City and Clark-Cowlitz Fire & Rescue.
- ~~2.3.~~ Title/-Cover sheet to include project name, vicinity map, name and mailing address of developer/owner and engineering firm, general notes, notice to excavators, sheet index, and a signature block for Clark Regional Wastewater District and Clark-Cowlitz Fire and Rescue. If the project is outside of the City water service area, a signature block for Clark Public Utilities is also required. blocks for city, sewer district and fire/rescue approval stamps or signatures in the lower right quadrant. Vicinity maps shall show the location of the project in respect to the nearest major street intersection.
- ~~3.4.~~ A north arrow shall be shown on each plan view sheet of the plans and adjacent to any other drawing which is not oriented the same as other drawings on the sheet.
- ~~4.5.~~ Copies of Each Applicable City Standard Detail - Reference each City Standard Drawing by number on the Plan Sheets.
- ~~5.6.~~ The scale shall be 1-inch = 2 feet, 3 feet, 4 feet, 5 feet, or 10 feet vertically and shall be 1-inch = 10 feet, 20 feet, 30 feet, 40 feet, or 50 feet horizontally for all drawings except structural details. A different scale may be used on drawings and shall be 1-inch = 2

feet, 3 feet, 4 feet, 5 feet, or 10 feet vertically. Scale shall be shown with north arrow at a minimum, and within a title block.

~~6.7.~~ Letter size shall not be smaller than 0.12~~0~~ of an inch high on full-size plan sheets.

~~7.8.~~ The location and elevation of a National Geodetic Survey, United States Geological Survey, Clark County, or City of Ridgefield bench mark shall be referenced on the plans. The datum shall be Clark County Datum NGVD 1929(47). No other datum shall be used without permission of the City Engineer. Temporary control bench marks and elevations shall also be shown on the plans.

~~8.9.~~ A title block shall appear on each sheet of the plan set and shall be placed in the lower right-hand corner of the sheet, across the bottom edge of the sheet, or across the right-hand edge of the sheet. The title block shall include the names of the project, the engineering firm, the owner, the sheet title, and the sheet number.

~~9.10.~~ The seal of the registered Washington Professional Engineer responsible for preparation of the plans shall appear on each sheet.

~~10.11.~~ The description and date of all revisions to the plans shall be shown on each sheet affected, and shall be approved and dated by the registered Professional Engineer of record as evidenced by an original signature or initial. The location of all revisions on each plan sheet shall be clearly identified through the use of "clouds", triangles or some other visible feature.

~~11.12.~~ Through use of standard drafting symbols, indicate the location and direction of view for all sections.

~~12.13.~~ The following statement shall appear on the cover sheet of all plans at a location immediately above, ~~or~~ below or immediately adjacent to the developer engineer's professional stamp - **"I hereby certify that these plans, and related design, were prepared in strict conformance with the City of Ridgefield Engineering Standards for Public Works Construction, as modified by Approved Modification, Variance, or Condition of Approval".**

B. Site Development Plans shall be organized as follows:

1. Title sheet.
2. Approved preliminary plat or approved site plan(if it is a subdivision).
3. Existing Conditions Plan - A topographic survey be performed on and within ~~one hundred (100)~~100 feet of the site and is to include, but not limited to the following; topography at 2 foot contour interval; contours shall be labeled with elevations at ten foot interval, watercourses (intermittent creek, streams, Rivers, etc.) and areas prone to flooding; FEMA designated floodplains and floodway; designated Shoreline areas; water bodies and known wetlands, wetland delineated boundaries and buffers; unstable slopes and landslide hazard areas; significant habitat areas and buffers; significant historic sites; Show layout and dimensions of all existing (parent) parcels; location of adjacent property lines; location of any existing building(s) on the site and use; location and width of existing easements for access, drainage, utilities, etc.; name, location, width of existing right-of-way, centerline and right-of-way radius of existing roadways that abut the site; name location, width and surface material (e.g. gravel, asphalt or concrete) of roadway and easement (private and public); location and width of existing driveways and those driveways across the street; location and width of existing pedestrian and bicycle facilities on and within 100 feet of the site; location

and direction to nearest fire hydrant; location of existing sewage disposal systems and wells on site and within 100 feet of the site (as available from the city or health district) This sheet shall also note the source of information, date of field work, datum and benchmark, and location of original document.

4. Traffic control plans. See Section 1.07 for requirements of these plans.

4.5. Grading and erosion control plan with maximum existing and proposed contour intervals of 2 feet. The extent and limits of sensitive lands and buffers, as defined by the City Municipal Code shall be delineated on this sheet.

5.6. Street and storm sewer, showing existing and finished contours at 2-foot intervals. Storm sewer information may be included on water and sewer sheets where practical. In all cases, all proposed utilities shall be shown on each utility sheet, although notes and call-outs may be segregated per individual sheet.

6.7. Street and storm sewer profiles showing vertical curve information and stormwater invert and rim elevations. Sanitary sewer, water and other private utilities shall be shown for reference including crossings within profiles.

8. Stormwater detention facility plan, sections, details and calculations showing cell and pond volumes and critical storm elevations of the Water Quality, 2-yr, 10-yr and 100-yr modeled storm events.

7.9. Sanitary sewer and water plan sheets, including service, valve, and fire hydrant locations. Sanitary sewer and water plan sheets may be separate if needed for clarity or where required by the City Engineer.

8.10. Water and sewer profiles showing locations of water air releases and invert and rim elevations of sanitary sewer pipes. Sanitary sewer and water profile sheets may be separate if needed for clarity or where required by the City Engineer. Storm sewer and other private utilities shall be shown for reference including crossings within profiles.

11. Landscape plan including plants, trees, sidewalks, bikeways, trails, driveways, retaining walls, irrigation, and lighting. Street light location, spacing, and type should be called out. Electrical service design may be provided as a separate submittal.s shall be shown for conflict identification.

9.12. Lighting and Photometric plans designed by a licensed electrical engineer or electrician. Street light location, spacing, and type should be called out.

10.13. Signage and striping plan showing locations and types of street signage and striping. This plan may be included on other sheets provided that it is legible.

1.07 Requirements for Traffic Control Plans

A.- General Requirements

1. Projects that are not conducted by the City of Ridgefield Public Works Department shall require an encroachment permit when work will occur within or impact existing roadways. As part of the permit, site specific traffic control plans shall be prepared.

2. Site specific Traffic Control Plans are required to be included in Final Engineering submittals when planned work will occur within existing roads.

- a. The plans will be used to prove construction feasibility and identify other potential risks or concerns with adjacent developments, improvements, projects or safety
3. Traffic Control Plans shall include:
 - a. Information on roadway speeds, widths, and tapers
 - b. Information on detours and durations
 - c. Information for pedestrian and bicyclist routing through or around the construction zone
4. City Engineer has authority to waive or modify requirements regarding traffic control for this section.
5. Applicant may request ~~for~~ a deferred Traffic Control Plan submittal to the City Engineer. If approved, all Traffic Control Plans shall be submitted following requirements of Section 1.12 and shall be submitted, reviewed and approved prior to the Pre-Construction meeting.

B. Requests for Lane or Road Closures

1. Planned work in the public right-of-way requires an encroachment permit (non-City projects) or approval by the Public Works Director or designee (City projects).
2. Requests for planned lane or full road closures lasting 24 consecutive hours or more are subject to City Public Works Policy 24-01 or amendments thereto. This policy will apply in all cases where there is a planned lane or full road closure on the City's collector or arterial road system of duration lasting at least one day (24 hours). For emergency situations such as snow/ice events, utility emergencies, slides or other unexpected event(s), those situations will be handled on a case-by-case basis.
3. Requests for single lane closures of less than 24 consecutive hours are subject to work hours restrictions. For lane closures on school days on Hillhurst Road, Royle Road or Pioneer Street, work impacting traffic shall occur between the hours of 9AM and 2:30PM or as otherwise approved by the Public Works Director or designee.
4. Requests for full road closures are subject to City Public Works Policy 24-01 and require approval of both the Public Works Director or designee, and the City Manager.
5. All requests considered under this Policy must be made at least three (3) weeks prior to the planned closure in order for the City to convene to develop a plan with appropriate notice to all affected agencies.

1.078 Requirements for Public and Private Street Improvement Plans

A. Plan Views shall show the following:

1. Right-of-Way, property, tract, and easement lines (existing and proposed). Tract naming shall be consistent with the naming on the preliminary plat or preliminary site plan.
2. Subdivision name, lot numbers, street names, and other identifying labels. Lot numbering shall be consistent with the approved preliminary plat. Subdivision and street names are subject to review and approval of the City Community Development Director.

3. Location and stationing of existing and proposed street center lines and curb faces.
4. Horizontal alignment and curve data of street center lines and curb returns.
5. Existing underground utilities and trees over 6-inches in diameter within and extending 50 feet beyond the construction limits.
- ~~5-6.~~ Location of any designated heritage trees.
- ~~6-7.~~ Location of existing buildings, wells, septic tanks, drain fields, fuel tanks, and any other buried structures. An American Land Title Association (ALTA) survey shall be required for at least 100 feet surrounding any of the above items to remain.
- ~~7-8.~~ Match lines with sheet number references.
- ~~8-9.~~ Street stationing to be noted at a minimum of 100-foot intervals.
- ~~9-10.~~ Top of curb elevations along curb returns at quarter-delta's, and at 100-foot stations.
- ~~10-11.~~ Location of the low points of street grades and curb returns.
- ~~11-12.~~ Sidewalk locations. This shall include ramps, transitions in location or width, and relationship with driveways.
- ~~12-13.~~ Crown lines along portions of streets transitional from one typical section to another.
- ~~13-14.~~ Center line stationing of all intersecting streets.
- ~~14-15.~~ Location and description of existing survey monuments, including but not limited to: section corners, quarter corners, donation land claim corners, and City bench marks.
- ~~15-16.~~ Location of proposed street intersection monument boxes.
- ~~16-17.~~ FEMA designated 100-year flood plains and flood ways, or areas of flooding during a 100-year storm event.
- ~~17-18.~~ Wetland areas and storm water quality undisturbed corridors (buffer strips).
- ~~18-19.~~ Legend.
- ~~19-20.~~ Any additional information that the City deems necessary.

B. Profile Views shall show the following:

1. Stationing, elevations, vertical curve data (including curve k factors), and slopes for center of streets or top of curbs. For off-set or superelevation cross-sections, both curbs shall be profiled. Where curbs are not to be constructed, center line of street and ditch inverts shall be shown.
2. Original ground along the center line and if necessary at the edges of the right-of-way if grade differences are significant.
3. Center line, top of curb or edge of pavement, and gutter flow lines of existing streets for a distance of at least ~~three hundred (300)~~ 300 feet each way at intersections with proposed streets. For stub streets that may be extended in the future, the vertical alignment shall be designed for at least 300 feet beyond the scope of the proposed construction. At the discretion of the City Engineer, additional design information

concerning the vertical and horizontal alignment of future street extensions may be required.

4. Vertical alignment of streets, including existing center line monumentation.
5. The top of curb for all cul-de-sacs, eyebrows and curb returns.
6. Existing drainage facilities, including off-site facilities, upstream and downstream that affect the design (i.e., downstream restrictions that back water onto project site). In addition, base flood elevations shall be shown on the profile.
7. Profiles for revised ditch and creek flowlines shall extend a minimum of two hundred (200) feet beyond the project, both upstream and downstream. Typical cross sections at fifty (50) foot intervals shall also be submitted.
8. Designate structures using alpha or numeric labels on profiles to correspond to plan view notation.
9. All existing and proposed sanitary, water, storm lines and other utilities in parallel to or crossing the profile.

1.098 Site Grading Plan

The City of Ridgefield requires a site grading plan as part of the Application for any development that involves the excavation or fill of greater than fifty (50) cubic yards of material. Grading contours (existing & proposed) shall be at no more than 2 foot intervals, shall be labeled with elevations at no more than ten foot intervals, and shall extend off-site a minimum of 50 feet. This sheet shall also note source of information, date of field work, and location of original document, the calculated cut and fill quantities, location of stripping stockpile location of critical areas and buffers, and any additional information that the city deems necessary.

-A geotechnical evaluation report must be performed and referenced on the plan for site specific geotechnical recommendations. Plan must define recommendations to be followed from report. A copy of the report must accompany the plan for review and approval by the City Engineer. A modification to this requirement must be submitted to the City Engineer for approval.

If the site is greater than one acre in size, the permit number issued by the Department of Ecology for coverage under the NPDES Construction General Permit shall be noted on the plans (WAR#).

All soil disturbing construction activity must adhere to the requirements of the City of Ridgefield Engineering Standards, approved Erosion Control Plans, applicable state requirements. A detailed erosion control plan shall be shown in conjunction with the site grading plan.

1.1009 Erosion Control Plans

A. Required Components

Erosion control plan drawings shall, at a minimum, include the following:

1. Locations, types and applicable dimensions of erosion control measures;
2. Applicable details of erosion control measures showing full dimensions and construction information;

3. Eexisting and proposed ground contours;
4. Locations and sizes of existing and proposed drainage pipes and channels (labeled as such and with arrows indicating flow direction);
5. Construction site entrances/exits;
6. Applicable erosion control notes and standard details;
7. If the site erosion control plan includes sediment traps or ponds, the applicant shall also submit calculations used for determining trap or pond sizing.
- 7.8. All planned stockpile locations and associated erosion control measures for stockpiles.

B. Design

Erosion control measures shall be designed in accordance with the Western Washington Manual.

C.- Erosion Control Approval

-Approval of a construction erosion control plan by the City does not relieve the applicant's responsibility to ensure that erosion control measures are constructed and maintained to contain sediment on the construction site. Erosion control measures shown are considered the minimum required and additional measures may be required as directed by the City Engineer or Development Inspector.

1.110 Requirements for Utility Plans (Water, Storm Drainage)

A.- General Requirements

1. In plan view, location, stationing, materials, size, of all proposed utility lines (water, storm, sanitary). Location of all fire hydrants. Stationing shall be located in relationship to the street stationing at all manholes or other key locations.
2. Show all proposed manholes, inlets, and catch basins with all invert and top elevations.
3. For drainage plans, show existing drainage facilities, including off-site facilities, upstream and downstream that affect the design (i.e., downstream restrictions that back water onto project site). In addition, base flood elevations shall be shown on the profile.
4. Designate structures using alpha or numeric labels on profiles to correspond to plan view notation. For water plans, each fitting/valve shall have attachment type listed (e.g. FL, MJ, FL x MJ, etc.).
5. For water plans, provisions for cross-connection control must be clearly shown on the plans, including any retro-fitting of existing water service connections and existing auxiliary water supplies, conversions to City of Ridgefield water service that are required as a condition of development approval, upgrading of existing service connections by replacement of same, and any other cross connection control required by state and local rules and codes.
6. All lengths and dimensions shall be horizontal distances, no slope distances on plans.
7. Indicate type of pavement restoration required (if working in existing streets).
8. Dimension existing and new utility locations from right-of-way line and/or property line. For water plans, drawings shall reference distance to nearest existing valve/hydrant from new point of connection to existing water main.

~~9. Check that base map conforms to all requirements listed herein.~~

~~10.9.~~ On plans show existing manholes or give reference distances to existing manholes near project including manhole number and invert/rim elevations

~~11.10.~~ General construction notes must be included on first plan sheet. Remove notes that don't apply and add additional notes to the list if necessary.

~~12.11.~~ List vertical datum on plan and show bench mark to be used for vertical control during construction.

~~13.12.~~ ~~13.~~ The developer/contractor is responsible for sending a letter and preliminary plan to existing utility companies to inform them of new construction and requesting as-built information for incorporation into plans. At a minimum the following utilities shall be contacted:

- Clark Regional Wastewater District
- Cable television
- Natural gas
- Power
- Telephone
- Clark Public Utilities (water) if project is outside of the Ridgefield water service area

~~14.13.~~ ~~14.~~ Draft plans shall be sent to the above listed utilities to allow coordination of projects.

B. Plan View

1. List pipe length, size and material alongside of pipe, e.g. 150 l.f. ~~8"~~ 8" PVC.
2. Pipe length is to be based on horizontal distance between centers of manholes.
3. Indicate direction of flow with arrows on end of pipe entering manhole.

~~3.~~

C. Profile View

1. List pipe length, size, material and slope to 4 decimal places (ft. per ft.), e.g. 150 l.f. ~~8"~~ 8" PVC s=0.0125.
2. Slope based on invert elevation out of upstream manhole, invert elevation into downstream manhole, and horizontal distance between center of manholes.
3. Provide profiles for existing and proposed storm sewer and sanitary sewers. Profiles shall also be provided for new sewer force mains and new water mains.
4. Show all existing and proposed sanitary, water, storm lines and other utilities crossing the profile.
5. For drainage plans, profiles for revised ditch and creek flowlines shall extend a minimum of two hundred (200) feet beyond the project, both upstream and downstream. Typical cross sections at fifty (50) foot intervals shall also be submitted.

1.121 Requirements for Supplemental Submittal Information

A. Technical Information Report (TIR):

The TIR shall be a comprehensive report that contains all technical information and analysis necessary to complete the final engineering plans based on geotechnical, hydrologic, hydraulic, and water quality design. The TIR shall be comprised of the minimum following items:

- Table of Contents
- Project Overview
- Summary of Minimum Requirements and how each is met
- Flow control analysis and design
- Runoff treatment analysis and design
- Source control
- Wetland protection
- Conveyance system analysis and design
 - Where inlet spacing or roadway width parameters are changed from the standard, a spread analysis will be required to be performed meeting requirements of the WSDOT Hydraulics Manual (current edition).
- Reports used in design and reference for the design
- Operations and Maintenance manual
- Appendices
 - This section shall include all program calculation outputs, runoff drainage systems, ~~Drainage calculations shall be presented in a clear, concise and complete manner and shall generally follow the format presented in Section 3 of these standards. These calculations shall address all runoff into the drainage system;~~ areas contributing flow to each inlet must be computed separately and each inlet with contributing area shall be designated and shown on an accompanying contour map work sheet, basin/catchment maps conforming with model and plans in a way that clearly ties all elements together, initial time of concentration calculation with assumptions listed and charts or nomographs used shall be included with drainage calculations.

A table of the primary parameters used in modeling shall be included in the report. This table shall include, for and pre- and post- development, at a minimum, time of concentration, impervious area percentages, average curve numbers, basin areas, and flows.

The TIR shall address all minimum requirements as required by the ~~2005~~2019 Stormwater Management Manual for Western Washington, and as amended herein Chapter 3.

B. Other information to be shown on the construction drawings or the other submittals include:

1. The design assumptions for each street (ex: traffic coefficient, R-value).
2. The design elements such as:
 - Street classification;

- Design speed;
 - Superelevation;
 - Average Daily Traffic (ADT) or Design Hourly Volume (DHV).
3. Structural construction plans and the necessary calculations shall be submitted for proposed structures (ex: walls, box culverts, bridges).
 4. Any additional information that the City Engineer deems necessary to review the plans and assure compliance with design standards.

C. Detail sheets.

1. Detail sheets shall be provided showing all standard details.
2. City of Ridgefield standard details shall be used when available.
3. WSDOT standard plans may be used for any item for which the City does not have a detail.
4. If a detail from another agency is desired for use, it shall be requested and approved via the Design Modification Process (see Section 1.17).

D. Standard Notes.

~~The following s~~The following standard notes in their entirety shall be included on the first or second sheet in the plan set. The following shall be the minimum required notes to be included:

1. Construction shall conform to the requirements of the *City of Ridgefield Engineering Standards, Volume 2 -- Construction Specifications and Details*, the latest edition of the APWA/WSDOT Standard Specification for Road, Bridge, and Municipal Construction, and the Land Use Conditions of Approval. It shall be the sole responsibility of the applicant and the professional civil engineer of record to correct any error, omission, or variation from the above requirements found in these plans.
2. Approval of plans for an individual grading permit by the City does not constitute an approval of any other construction (e.g. domestic water conveyance, storm drainage, gas, electrical, etc.) unless specifically noted otherwise within the approval.
3. Before commencement of any construction or development activity, a preconstruction meeting must be held between the City, Clark Regional Wastewater District, the applicant, the applicants consulting engineer and construction representatives. Additionally, all private utilities within the project limits or performing work for the project shall also be included, including but not limited to: Clark Public Utilities District, NW Natural, and all communication companies (as applicable).
4. A copy of these approved plans must be on the job site whenever construction is in progress.
5. In accordance with Ridgefield Municipal Code Section 9.14.010, hours of permitted construction are limited to 7 a.m. to 10 p.m. Monday through Friday and 9 a.m. to 6 p.m. Saturday, Sunday and City observed holidays. Each violation shall be a civil noise infraction and shall result in a \$500 civil fine. Requests for extended or modified hours

of construction must be submitted to the Public Works Director for review and approval at least two business days in advance.

6. It shall be the Applicant's/Contractor's responsibility to obtain all construction easements and/or right of entries prior to construction work.
7. Vertical Datum shall be Clark County Datum NGVD 1929(47) unless otherwise approved by the City Engineer.
8. All utility trenches shall be backfilled and compacted to ~~950-percent%~~ maximum density as determined by AASHTO T-180.

9. All ~~roadway~~ minimum compaction of materials for roadways shall be as follows:

a. ~~s~~Subgrade within the roadway prism shall be backfilled and compacted to ~~90 percent maximum density~~ as determined by AASHTO T-180. ~~All roadway aggregate base rock within the roadway prism shall and the aggregate base rock be~~ compacted to 95-percent% maximum density as determined by AASHTO T-180.

~~a.b.~~ ~~The a~~Asphalt compaction shall be at least ~~921-percent%~~ based on a Rice theoretical maximum density, as determined in conformance with AASHTO T 209, as modified by WSDOT.

~~9.10.~~ The ~~base-leveling~~ course and wearing course of asphalt concrete (AC) for streets shall ~~at a minimum~~ be WSDOT Standard Hot Mix Asphalt Class ½-inch, PG ~~64-2258H-22~~, except for arterials which shall be Class ½-inch and PG 58V-22.

11. Open cutting of existing roadways is not allowed unless specifically approved by the City and noted on these approved plans. Any open cut shall be restored in accordance with the standard trench restoration details and notes.

12. Any proposed traffic control plans are subject to approval as defined in Section 1.07 above. Requests shall be emailed to traffic@ridgefieldwa.us a minimum of five (5) business days prior to implementation for work within Pioneer Street, Hillhurst Road, or Royle Road. Traffic control proposed on other City streets shall be emailed a minimum of two (2) business days prior to implementation. The email shall contain the following information:

- Project Name
- Traffic Control Plan
- Impacted Streets
- Date(s) of proposed traffic impact
- Times of proposed traffic impact
- Proposed impact (i.e. lane closure with flagging, road closure with detour, shoulder work, intermittent flagging).

Proposed traffic control and implementation is **not** approved until a response email with approval for execution of the submitted information is received from the City. City may approve with conditions or require corrections be addressed and resubmitted for review and approval.

~~10.13.~~ The Contractor shall be responsible for providing adequate safeguards, safety devices, protective equipment, flaggers, and any other needed actions to protect the

life, health and safety of the public, and to protect property in connection with the performance of work covered by the contractor. Any work within the traveled right-of-way that may interrupt traffic flow shall require at least one flagger for each lane of traffic affected. Section 1-07.23 "Traffic Control" of the WSDOT Standard Specifications shall apply in its entirety.

- ~~11.14.~~ 14. Upon discovery of potential, ~~or known~~ or unknown archaeological resources at the subject site prior to or during on-site construction, the developer, ~~e~~Contractor, and/or any other parties involved in construction shall immediately cease all on-site construction in accordance with RCW 27.53.060.

1.132 Review Procedure

~~One (1) set, or as directed by the City Engineer, and e~~Electronic copies of complete draft plans shall be submitted to the City for review. Plans shall be complete and shall be stamped and signed by the developer's engineer. The complete set of plans shall include planning sheets (i.e., landscape, planting, site plan, illumination, etc.) combined with engineering sheets. Electronic copies of supporting information and documentation, such as technical information report, geotechnical report, preliminary plat, and water drainage and water system calculations, shall also be submitted.

Electronic copies of supplemental review documents including but not limited to Geotechnical Report, Critical Area and Mitigation Report, and current NPDES Permit for the project, U.S. Army Corps of Engineers Permits and/or Ecology Wetland impact permits, WSDOT concurrence/approved documents including hydraulic reports and plans, and any other related or applicable permit shall also be submitted for review and confirmation approvals have been provided.

Upon completion of the detailed review by the City, the City will return ~~a letter detailing the City's comments and required revisions~~an electronic set of redlined plans and documents. After the developer's engineer has completed all revisions, ~~one (1) hard copy and~~ an electronic copy of all revised plans and supporting information, as well as a comment response letter shall be returned to the City on each iteration of plan review.

Following concurrence for approval of draft plans and calculations by the City Engineer, and following the signing of approval of the cover sheet by Clark Regional Wastewater District, ~~and the Clark County Cowlitz Fire District & Rescue, Clark Public Utilities (as applicable), and WSDOT (as applicable),~~ the developer's engineer shall submit the complete compiled set of final plans the cover of the approved plans for Planning/Community Development (site plan and addressing) and the City Engineer's approval signature. The complete compiled set shall include any previously approved sheets from Community Development. The City Engineer will stamp and approve the full set only after Planning has stamped approval of the site plan. ~~Following obtaining all approval signatures the developer's engineer shall provide the City with two hard copies and an electronic copy of the approved and signed plan set, and electronic copies of all final supporting information and reports.~~

Plan review priority will be given to plans submitted for final review. This plan review and approval is valid for two (2) years from the date of Engineering Plan approval~~plan review fee payment~~. Extensions to the permit may be made by the City Engineer in extenuating circumstances, upon written request by the Developer.

Plan approval means that the plans have been reviewed for reasonableness and compliance with minimum City specifications and standards. This approval does not supersede those standards and specifications, unless specifically varied by the City. Plan approval does not relieve the developer's engineer from responsibility for errors, omissions or deficiencies in the plans.

Please note that Final Engineering plan approval for construction cannot be released until all other reviewing agencies have provided approvals and/or permits.

Once engineering approval has been received, the applicant shall identify a contractor and contact the City's Development Review Coordinator to schedule a preconstruction conference (see Section 1.02 of Volume 2 for details on the preconstruction conference).

1.134 As-Built Drawings

Following completion of construction, the developer's engineer shall submit ~~one two (4) complete set bond (paper)~~ an electronic copy of the as-built drawings in PDF format to the City as built to the City for review. After City review and approval of the as-built drawings the developer's engineer shall submit ~~one (1) complete set of mylar as-built drawings, and one CD containing electronic as-built drawings in PDF, and AutoCAD DWG file formats.~~ DWG files are to include project linework base files for hardscape and utility improvements.

As-built drawings shall contain any and all revisions to the previously approved construction ~~plans, and plans.~~ The cover sheet of the as-builts shall be accompanied by the following statement next to a new stamp and signature from the developer's engineer:

" I, (Name of Developer's Engineer), certify that I, or personnel under my supervision, have reviewed field data from a registered professional land surveyor for the stormwater and water utilities as show in these record drawings. According to the horizontal and vertical datum, dimensions and grades which can be verified after construction, the connected stormwater and water utilities meet the standards of the City of Ridgefield."

~~-shall be accompanied by a completion certification letter from the developer's engineer.~~ As-built information shall be obtained and provided to the developer's engineer by a surveyor licensed in the State of Washington. The as-built drawings shall include all the approved plan information plus the revised data as obtained by the as-built survey and shall include the landscaping & irrigation and lighting & electrical plan sets. The design information shall be lined out where revised by the addition of the as built data. All as built information shall be made electronically; no hand written information will be accepted. Additional as built information may be required by the City Engineer.

Each sheet of the as-constructed drawings, including the cover sheet, shall be stamped "As-Built" or "Record Drawing", and signed and dated by the developer's engineer. This signature constitutes a certification that the public and private-improvements, grading, and other elements of the engineered drawings have been completed in accordance with the City approved plans and to the standards of the City.

~~As-builts shall be black India ink on originals or reverse reading, fixed-line, photographically reproduced 4-mil mylar, 22-inch x 34-inch or 24-inch x 36-inch in size and to engineering~~

~~scale. Electronic copies (PDF) of the as-built drawings shall be exact duplicates of the Mylar copy.~~

Submission of as-built drawings shall be made prior to final inspection of a completed project.

1.154 Professional Qualifications

Professionals in the technical fields of Civil Engineering, Electrical Engineering, Geotechnical Engineering, Landscape Architecture, Soils Engineering, Structural Engineering, and Surveying who prepare or are responsible for the preparation of drawings, plans, specifications, technical reports, etc. for the process of obtaining required permits/approvals shall be currently licensed or registered in the State of Washington and qualified by both experience and educational background in the specific technical areas as warranted by the specific needs of the proposed development project.

1.165 Changes to Standards

From time to time changes may be needed to add, delete, or modify the provisions of these standards. The City Engineer may propose changes to these Standards and upon approval of the Public Works Director, they shall become effective and shall be incorporated into the existing provisions. Comprehensive revisions to the Standards shall be proposed by the City Engineer and Public Works Director and adopted by the City Council.

1.167 Design Modifications Process

A. Submittal

Requests to modify City Standards shall be submitted in writing by the developer's engineer, to the City Engineer. This written request shall state the desired modification(s), the reason(s) for the request(s) and a comparison between the specification(s), standard(s), and the modification(s).

Any request for modification or variance of City Standards should be documented with reference to nationally accepted specifications/standards.

B. Review

The request to modify shall be reviewed by the City Engineer, who shall consult the appropriate review authorities and make one of the following decisions:

1. Approve as is,
2. approve with changes,
3. or deny with an explanation.

The modification, if approved, is for project specific use. Approval of a request shall not constitute a precedent.

C. Appeal

The applicant may appeal the City Engineer's decision to the City ManagerHearing Examiner.

D. Criteria for Modification of Standards

The City Engineer may grant a modification to the adopted specifications or standards when any one of the following conditions are met:

1. The specification or standard does not apply in the particular application.
2. Topography, right-of-way, or other geographic conditions impose an economic hardship on the applicant and an equivalent alternative which can accomplish the

same design is available that does not compromise public safety or accessibility for the disabled.

3. A change to a specification or standard is required to address a specific design or construction problem which if not enacted will result in an undue hardship.

1.187 Errors and Omissions

At the discretion of the City, any significant errors or omissions in the approved plans or information used as a basis for such approvals may constitute grounds for withdrawal of any approvals and/or stoppage of any or all of the permitted work. It shall be the responsibility of the developer to show cause why such work should ~~continue, and~~continue and make such changes in plans that may be required by the City before the plans are reapproved.

1.189 Railroad Crossings

A. General

Crossings of railroad rights-of-way shall be done in a manner which conforms to the requirements of the railroad having jurisdiction. If any bonds and/or certificates of insurance protection are required, they shall be furnished by the Contractor or Owner to the railroad company with the City as an additionally-named insured.

B. Permits or Easements

Crossing agreements, permits, and/or easements for such crossings will be obtained by the applicant and all the terms of such permits or easements shall be met by the Owner and Contractor.

1.2019 Penalties

Failure to comply with these ~~s~~Standards will be cause for withholding or withdrawing approval of plans or plats, forfeiture of bond, withholding Temporary and/or Final Certificate of Occupancy, and/or other penalties as provided by law. Public improvements constructed without approved plans may not be accepted by the City and may be subject to removal and reconstruction at the discretion of the City Engineer or Public Works Director.

CHAPTER 2

STREETS

CHAPTER 2 - STREETS

2.00 Functional Classification

The functional classification of existing and proposed roads is established by the City on an individual basis using the existing land use and existing operational characteristics. Ridgefield classifies roads and streets as follows:

A. Major Arterials.

–These facilities are the supporting elements of both the principal routes and collector systems. Major arterials, in combination with principal routes, are intended to provide a high level of mobility for travel within the region. All trips from one sub-area through an adjacent sub-area traveling to other points in the region should occur on a major arterial or principal route. No direct land access is permitted on to major arterial unless no other access is available. Where permitted, shared access between lots may be required.

B. Minor Arterials.

–The minor arterial system complements and supports the principal and major systems, but is primarily oriented toward travel within and between adjacent sub-areas. An adequate minor arterial system is needed to ensure that these movements do not occur on principal routes or major arterials. These facilities provide connections to major activity centers and provide access from the principal and major arterial systems into each sub-area. No direct land access is permitted on to minor arterial unless no other access is available. Where permitted, shared access between lots may be required.

C. Collectors.

–The collector system is deployed nearly entirely within sub-regions to provide mobility between communities and neighborhoods or from neighborhoods to the minor and major arterial systems. An adequate collector system is needed to ensure these movements do not occur on principal routes or major arterials. Emphasis is on collection and distribution of trips within an arterial grid and direct access from parcels is limited to the extent possible. Subcategories of collectors include standard collectors, scenic collectors (see below), campus collectors (applies to Union Ridge Parkway through Clark College campus area only) and industrial/commercial collectors.

D. Local Streets.

The local street system is used throughout developed areas to provide for local circulation and direct land access. It provides mobility within neighborhoods and other homogenous land uses, and comprises the largest percentage of total street mileage. In general, local traffic should not occur on major arterials and principal routes. Subcategories of local streets include residential access and residential local.

Residential access streets shall be required where the local street system connects to higher classification streets such as collectors or arterials, on local streets that will serve more than 50 lots, and on local streets that will serve more than one current or future development unless otherwise approved by the City Engineer.

Industrial local access streets provide circulation and access within commercial or industrial developments and centers and access between individual sites and lots.

E. Scenic Collector

Scenic collectors are collector streets which pass through scenic or natural areas with topographical or habitat constraints that preclude their widening to the full collector standard. They are narrower cross sections and have lower design speeds than collector streets. Reiman Road, Gee Creek Plateau, and Carty Road in the Carty Road Subarea are the currently designated Scenic Collectors on the City's functional classification system.

2.01 General Requirement for Layout

The City's Comprehensive Plan states that future street construction will encourage connectivity. Additionally, the City has adopted a Complete Streets Policy to encourage connectivity and accessibility for pedestrians and bicyclists. Street sizing for arterials and collectors assumes that the transportation system will encourage non-motorized transportation. To meet the planning objectives, the City has established a standard of at least eight (8) through streets per mile on local streets to allow neighborhood trips on a smaller scale. The City's objective is to impose ~~a maximum~~ an average spacing for new local streets of five hundred (500) feet (a 500-foot maximum grid) within all new developments and to the limits of the entire parcel of property being developed.

Layout of new development will provide the capability of extending future streets through adjacent parcels by having streets proposed for that development extended to the limits of the property and located so as to provide a spacing of 500-400 to 600 feet. Where this requirement is not feasible due to topography, zoning constraints, or critical area impacts, an 8-foot wide paved trail consistent with the type 3 standard can be substituted for the street if approved by the City Engineer. Said trail shall follow the general grid pattern of the street layout (500 foot grid) and shall extend from the ~~ends of dead-end streets~~ where said ~~dead-end~~ streets are not capable of being extended to the limits of the property due to topographic constraints, or shall be established mid-block to provide pedestrian connectivity between parallel streets. To meet the through street planning objectives, streets or bikeway\multipurpose trails shall be designed and constructed to extend to the limits of the property with the all costs borne by the developer of the property without reimbursement by the City.

2.02 Access

Access to public and private streets shall conform to the requirements listed herein. The City Engineer and the Public Work Director shall have the authority to limit access and designate access locations on public and private streets under the jurisdiction of the City. Access to streets and highways under Clark County or State of Washington jurisdiction must be formally approved by those entities at the applicant's initiative and expense.

2.03 Street Cross Sections

- A. Street Cross sections are defined by the functional classification of the road. Tables 2.03A through 2.03C list the design parameters for each of the functional classifications. Required street cross sections can be found in the Transportation Details which are an appendix to this Volume. It should be noted that public utility easements beyond the right-of-way are typically required.

All new roadways shall be provided with a centerline crown with an allowable cross slope between 2% and 4%.

B. Alleys.

–Alleys may be used to provide alternative access to lots only under unusual circumstances as approved by the City Engineer. Table 2.03B provides alley requirements. Alleys may not be used to provide primary access to lots.

Alleys must be provided with a gutter or other means for collecting storm water runoff, and must meet the requirement of Section 503 of the International Fire Code (IFC)

Table 2.03A – Street Cross Sections

Parameter	Roadway Classification								
	Major Arterial	Minor Arterial	Downtown Minor Arterial	Standard Collector	Industrial/Commercial Collector	Scenic Collector	Industrial Local	Residential Access	Residential Local A
Right-of-Way	100	80	60	70	70	60	60	60	48
Total <u>Roadway</u> Pavement	52	46	40	46	46	24	42	36	28
Number of Drive Lanes	2	2	2	2	2	2	2	2	2
Width of Drive Lanes	12/14	12	12	10	12	12	14	10	10
Number of Turn Lanes/Median	1	1	0	0	1	0	1	0	0
Width of Turn Lanes/Median	12	12	0	0	12	0	14	0	0
Number of Parking Lanes	1	0	2	2	0	0	0	2	1
Width of Parking Lane	8	0	8	8	0	0	0	8	8
Number of Bike Lanes ¹	1	2	0	2	2	0	0	0	0
Width of Bike Lane	6	5	0	5	5	0	0	0	0
Number of Sidewalks ^{1,2}	1	2	2	2	2	1	2	2	2
Width of Sidewalks	6	6	10	6	6	6	6	5	5
Number of Planter Strips ³	1	2	0	2	0	0	0	2	2
Width of Planter Strip (incl. curb)	7	11	0	6	0	0	0	7	5
Design Speed	45	45 0	25	35	35	25 35	25	25	20 25

Notes:

1. Major arterials include one bike lane, one sidewalk, and one 10_-foot multimodal path. See Standard Detail T-2.1.
2. Sidewalks on arterials are widened to 10 feet when adjacent to commercial zoned areas.
3. Major arterials include one planter strip and one 35-foot landscape area with a 10_-foot multimodal path. See Standard Detail T-2.1
4. Design speed shall be established for each project or development proposal by the City Engineer
- ~~3-5.~~ Certain primitive, non-arterials roads shall have a design speed of 20-25 mph.

Table 2.03B – Gee Creek Plateau and Carty Road Subarea Street Cross Sections

<u>Parameter</u>	<u>Roadway Classification</u>	
	<u>Gee Creek Plateau Scenic Collector</u>	<u>Carty Road Subarea Collector</u>
<u>Right-of-Way</u>	<u>70</u>	<u>80</u>
<u>Total Roadway Pavement</u>	<u>28</u>	<u>28</u>
<u>Number of Drive Lanes</u>	<u>2</u>	<u>2</u>
<u>Width of Drive Lanes</u>	<u>10</u>	<u>12</u>
<u>Number of Turn Lanes/Median</u>	<u>0</u>	<u>0</u>
<u>Width of Turn Lanes/Median</u>	<u>N/A</u>	<u>N/A</u>
<u>Number of Parking Lanes</u>	<u>0</u>	<u>0</u>
<u>Width of Parking Lane</u>	<u>N/A</u>	<u>N/A</u>
<u>Number of Bike Lanes¹</u>	<u>0¹</u>	<u>0</u>
<u>Width of Bike Lane</u>	<u>N/A</u>	<u>N/A</u>
<u>Number of Sidewalks²</u>	<u>2²</u>	<u>1⁴</u>
<u>Width of Sidewalks</u>	<u>See Note 2</u>	<u>See Note 4</u>
<u>Number of Planter Strips</u>	<u>See Note 3</u>	<u>0⁵</u>
<u>Width of Planter Strip (incl. curb)</u>	<u>See detail in Appendix</u>	<u>N/A</u>
<u>Design Speed</u>	<u>25-30</u>	<u>35-40</u>

Notes:

1. Two 4' shoulders and multi-modal trail on one side (see detail in the Appendix)
2. Includes 6' concrete sidewalk on one side, 10' multi-modal path on the other side
3. Includes drainage swale on each side and landscape strip on one side
4. Includes 10' multi-modal trail on one side (see detail in the Appendix)
5. Includes drainage swale on one side (see detail in the Appendix)

Table 2.03BC – Alley Requirements

	Short Alley¹	Long Alley¹
Function and Limitations	Alleys provide direct access to adjoining lots. They reduce the number of required curb cuts along public streets and improve the appearance and human scale of streetscapes (i.e., by reducing the amount of parking and parking garages oriented to the street). Short alleys are appropriate in low-density residential zones with minimal traffic generation and relatively short blocks (i.e. 200-400 feet). Short alleys may function as through-travel lanes terminating at public streets or parking courts (e.g. hammer-head terminus) only. When used as parking courts, alleys may not exceed 150 feet in length. Alleys may not be used in a “grid” type pattern.	Long alleys are appropriate for low-density residential development on longer blocks (i.e. 400-500 feet), and medium and high-density residential development when parking bays are provided. They may also provide access to commercial development. Long alleys may function as through-travel lanes terminating at public streets or parking courts (e.g. hammer-head terminus) only. When used as parking courts for more than four vehicles, alleys may not exceed 150 feet in length (i.e. from street access to parking bay). Alleys may not be used in a “grid” type pattern.
Access	Full access to adjoining lots provided that all lots having alley access front on a public or private street and provided that alleys are a permanent secondary not primary means of access to the lot, unless otherwise authorized by the Planning Director, Public Works Director, or hearings examiner.	Full access to adjoining lots provided that all lots having alley access front on a public or private street and provided that alleys are a permanent secondary not primary means of access to the lot, unless otherwise authorized by the Planning Director, Public Works Director, or hearings examiner.
Average Daily Trips	Under 150+/-	Under 500+/-
A. Right-of-Way or Easement	12 feet minimum 15 feet maximum	20 feet minimum and maximum except as wider sections may be approved as necessary for parking courts.
B. Pavement Width	10 feet (1-foot clear zone on both sides)	18 feet (1-foot clear zone on both sides)
D. Building Setbacks and Clear Vision Zones	Please refer to zoning chapters.	Please refer to zoning chapters.
E. Lighting	Low-profile, security lighting shall be required with new development.	Low-profile, security lighting shall be required with new development.
1. The city engineer shall determine which alley standard is used. 2. Additional right-of-way or easement area may be required when parking bays are incorporated into the streetscape, or when slopes/physical conditions require additional right-of-way. Right-of-way requirements shall be determined through the subdivision and site design review permit process. 3. Alleys will be considered public streets to be owned and maintained by the City unless otherwise stated in the Conditions of Approval in the final land use approval or on the Final Plat. Must meet IFC Section 503 if determined by the Fire District to be a Fire Accessible Roads.		

2.04 Number of Lanes

The number of lanes for each class of road shall be as directed by the City Engineer. Additional lanes may be required at intersections in excess of the road sections shown in the Transportation Details.

Right-of-way may be needed in addition to that shown in the Transportation Details to accommodate the increased number of lanes at intersections.

2.05 Design Speed

~~Table 2.03A shows design speeds by functional classification. The design speed for arterials may be reduced due to unique topographic or traffic conditions if approved by the City Engineer. The design speed may also be temporarily reduced in construction zones, as determined by the City Engineer.~~

~~The minimum design speed for each road classification shall be as follows:~~

~~Arterial: 45 MPH~~

- ~~• Downtown Minor Arterial: 25 MPH~~
- ~~• Collector: 35 MPH~~
- ~~• Residential Access and Local: 25 MPH~~

~~The design speed for arterials may be reduced due to unique topographic or traffic conditions if approved by the City Engineer. The design speed may also be temporarily reduced in construction zones, as determined by the City Engineer.~~

2.06 Dedications

- A. Right-of-Way shall be deeded for streets and other improvements as required to accommodate motorized and non-motorized transportation, landscaping, utility and buffer requirements. ~~Some reduction in the minimum right-of-way requirement may be granted by the City Engineer where it can be demonstrated that sufficient area has been provided for all functions within the right-of-way and/or alternate locations.~~ Conveyance shall be fee simple using a statutory warranty deed.
- B. Easements for all public systems shall be provided as required. Specific requirements for water and storm drainage easements are detailed in the relevant chapters. Particular design features of a road may necessitate slope, wall or drainage easements. Such easements may be required by the City Engineer in conjunction with dedication or acquisition of right-of-way and other standard easements (temporary construction, right of entry, sidewalk, pedestrian, street lighting, and traffic control devices, etc.).
- C. All subdivisions and short subdivisions (short plats) will be required to deed additional right-of-way, as a condition of approval of the subdivision, where the existing right-of-way for a public street is not adequate to incorporate necessary frontage improvements for public safety and provide compatibility with area's circulation system and to meet the City's most recent Comprehensive Plan and Transportation Capital Facilities Plan.

All short subdivisions (short plats) will be required to deed additional right-of-way, as a condition of approval of the short plat, under one or more of the following conditions:

1. The short plat abuts an existing substandard public street and the additional right-of-way is necessary to incorporate future frontage improvements necessary for public safety, or
 2. Additional right-of-way is needed to provide right-of-way for the extension of existing public street improvements necessary for public safety, or
 3. Additional right-of-way is needed to provide future street improvements necessary for public safety for planned new public streets.
- D. It is within the authority of the City Engineer to refuse to approve or sign any land partition, partition plat, or subdivision plat that the owner or developer has not obtained the necessary right-of-way and easements for the public infrastructure to serve the proposed and affected existing lots. Such approval may be withheld until it can be verified that the location and width of proposed rights of way and easements are adequate for the required infrastructure.
- E. Easements are subject to the approval of the City Attorney prior to recording. Variation from the City standard form of conveyance shall be allowed only when extraordinary circumstances warrant, as determined by the City Engineer and City Attorney.
- F. Easement Widths
1. Trail easements or tracts for system trails as identified in the City's Parks and Recreation Comprehensive Plan shall be dedicated to the City. Type 1 trails require a 30-foot wide easement, type 2 trails require a 25-foot easement and type 3 trails require a 20-foot easement.
 2. In residential subdivisions or residential short subdivisions, panhandle access (flag) driveway easement may be allowed for access to a maximum of two (2) lots and must have a minimum easement width of twenty (20) feet and shall not exceed ~~one hundred (100)~~100 feet in length unless approved by the City Engineer. A greater width may be required to accommodate grading, utility requirements, or ~~the Fire District~~to comply with the International Fire Code.
 3. In commercial subdivisions or commercial short subdivisions, a private roadway easement or panhandle (flag) access easement may be allowed for access to a maximum of two (2) lots and must have a minimum easement width of thirty (30) feet. A greater width may be required to accommodate grading, utility requirements, or ~~the Fire District~~to comply with the International Fire Code.
- I. All recording costs for easements created by private development shall be borne by the developer unless specifically agreed to by the City.

2.07 Private Streets

- A. Criteria for Authorization. It is the City of Ridgefield's policy to discourage private streets and to only permit them under unusual circumstances as applied with small infill developments of a maximum of eight (8) lots. Private roads serving more than eight (8) lots qualify as private communities and must meet the requirements of Section ~~2.08 Private Communities~~ 2.08 Private Communities. When allowed, private streets will only be permitted under the following conditions:
1. Covenants have been approved, recorded, and verified with the City which provide for maintenance of the private streets and associated parking areas by owners in the development, and

2. Provision is made for the streets to be open at all times for emergency and public service vehicles, and
 3. The private streets will not obstruct public street circulation, and
 4. A private street shall ultimately serve a maximum of eight (8) residential or commercial lots. Any access serving three or more dwelling units shall be either a public or private street.
 - a) The private street has been approved by the Fire District
 5. At least one of the following conditions exist:
 - a) The roadways serving commercial or industrial facilities where no circulation continuity is necessary.
 - ~~b)~~ The City Engineer determines that no other access is available and the private road is adequate.
- B. Notice. A statement is required on the face of any plat or short plat containing a private road that reads: "The City of Ridgefield has no responsibility to improve or maintain the private roads and it shall be the sole responsibility of the property owners to improve or maintain the private roads providing access to the property contained within and described in this plat". The developer or benefiting property owners shall submit a private road maintenance agreement for review by the City Engineer. The private road maintenance agreement shall be recorded with the plat.
- C. Easements.
1. The minimum easement for private roads serving 1-4 lots and less than 200 feet in length shall be twenty (20) feet.
 2. The minimum easement for private roads serving 5-8 lots, or greater than 200 feet in length shall be thirty (30) feet.
- D. Design Requirements. Private streets shall conform to public street construction standards with the exceptions noted herein.
1. Private streets shall be improved with a minimum road section ~~of 3-inches of asphalt concrete over 8-inches of crushed rock~~ matching City Standard Detail T-2.8. The minimum paved width shall be twenty (20) feet (curb face to curb face). Private roads serving more than 4 lots must include curb and gutter, and sidewalk on one side of the roadway (see E below).
 2. The maximum grade for private roadways shall be ~~eighteen percent (18%)~~. Roadways that must be used to provide access to fire vehicles, as determined by the Fire District, shall be a maximum of ten ~~(10) percent (10 percent%)~~, unless otherwise approved by the ~~fire marshal~~ Fire District.
 3. Drainage improvement requirements shall be as specified in Chapter 3 of these Standards.
 - ~~4.~~ 5. Utility requirements shall be per this chapter, and Chapter 4 of these Standards.
 - ~~4.5.~~ Provisions shall be made to allow trash collection for all lots served by the private road. For curbside service, adequate access shall be provided for collection trucks to safely access all lots, and all property owners shall sign a Damage Release Form as required by Waste Connections. If either of these conditions are not met, an appropriate location shall be provided nearby, accessed by a street meeting public standard, with adequate space for non-curbside service for all affected properties

5.6. Street illumination is required at the intersection of a private street and a public street. No street lighting is required on private streets.

- E. The City encourages the use of “Sustainable Street” concepts and also Low Impact Development (LID) concepts and techniques in proposed private street designs.

2.08 Private Communities

- A. Criteria for Authorization. Private communities are allowed only as part of a Planned Unit Development. Where allowed, private communities must meet the following conditions:

1. Covenants have been approved, recorded, and verified with the City which provide for maintenance of the private streets and associated parking areas by owners in the development, and

2.1. Private communities may be gated, but the following conditions must be met:

- a. Provision must be made for the streets to be open at all times to emergency and public service vehicles.
- b. Stacking area. Each access point shall show an area of sufficient length and width to safely stack traffic coming onto the property from the adjacent roadway. The length of the stacking area shall be based on the adjacent roadway type, design configuration, and number of lots accessed through gates, but in no case shall be no less than 40-feet. A parking area shall be provided to the right of the entry lane to accommodate visitors not able to open the gate.
- c. Entrance/Exit Design. Adequate vision clearance shall be provided so that motorists leaving a gated community have a clear view of the sidewalk on either side of the exit, and so that approaching pedestrians have a clear view of any approaching vehicle. Gated community entrances and exits shall be designed to achieve travel speeds not to exceed 5 miles per hour, and shall require a vehicle stop directly prior to crossing the street sidewalk. Entrance and exit areas shall be designed so that vehicles approaching or leaving the gated community can queue to enter/exit the traffic stream without blocking the sidewalk.
- d. Turnaround feature. Each gate access point shall have an area that allows traffic to safely maneuver a turnaround when the gate is in closed position.
- e. Gate Width. Fire and emergency access vehicles require passing room within the entrance to the development. Twenty feet of unobstructed driving surface is required on the interior side of the access point and gate.
- f. No encroachment into publicly owned right-of-way. The gates, operating equipment and fencing shall be located wholly within the private portion of the property. The property line shall be clearly indicated on the site plan. Swing gates are not allowed to encroach into the public right-of-way. The drives, streets and lanes inside a gated community are to remain private.
- g. Pedestrian Access. Separate pedestrian access from driving lanes. Each access point shall have a pedestrian access and walkway that is separate from the driving lanes and links directly to the public sidewalk. Pedestrian walkways shall meet all standards for accessibility required by the Americans with Disability Act, and shall not be gated.

- h. Lighting. Lighting fixtures consistent with Section 2.27 shall be provided for vehicle and pedestrian safety. Lights in private communities shall be metered and electricity costs will be the responsibility of the residents.
- i. Sight Distance. Each access point shall demonstrate adequate sight distance as required by Section 2.16
- j. Gate Material. The moving portion of the gate shall be constructed of material that is no more than 20~~percent~~% opaque. Typically, wrought iron or other decorative material is used.
- k. Automatic gates shall have battery backup power. In the event of a power failure, the gates shall open and remain open until power is restored.

~~3.2.~~ The private streets within the private community will not obstruct public street circulation.

~~4.3.~~ The private streets and gate configuration shall be approved by the Fire District

- B. -Notice. A statement is required on the face of any plat or short plat containing a private road that reads: "The City of Ridgefield has no responsibility to improve or maintain the private roads and it shall be the sole responsibility of the property owners to improve or maintain the private roads providing access to the property contained within and described in this plat". The developer or benefiting property owners shall submit a private road maintenance agreement for review by the City Engineer. The private road maintenance agreement shall be recorded with the plat.
- C. Easements. —The minimum easement or tract width for a private road within a private community shall be forty-eight (48) feet.
- D. -Design Requirements. Private Streets within private communities shall conform to standards established for Local Residential streets.

2.09 Horizontal Alignment

Street alignments shall meet the following requirements:

- Center line alignment of improvements should be parallel to the center line of the right-of-way.
- Center line of a proposed street extension shall be aligned with the existing street center line.
- Horizontal curves in alignments shall meet the minimum radius requirements as shown in Table 2.09A or the low speed curve table at the end of this section for residential local streets.
- Except on residential local streets, reversing horizontal curves shall be separated by no less than 50 feet of tangent. On arterials, the separation shall be no less than 100 feet.

Table 2.09A - Design Speed / Center Line Radius - Minimums

Arterials Streets and Commercial/Industrial Collectors		
Design Speed (mph)	Minimum Centerline Radius (ft)	
	Crown	(e) 6%
30	430'	273'
35	610'	380'
40	860'	509'
45	1,080'	656'

Collectors and Residential Streets				
Design Speed (mph)	Minimum Centerline Radius (ft)			
	Crown	(e) 2%	(e) 4%	(e) 6%
25	180'	155'	145'	135'
30	300'	250'	230'	215'
35	460'	375'	345'	320'

NOTES:

1. For Table 2.09A - off right-of-way runoff shall be controlled to prevent concentrated cross flow in super-elevated sections.
2. Super elevations may only be used with the written approval of the City Engineer. Where super elevation is used, street curves should be designed per AASHTO guidelines except that the maximum super elevation rate of 0.04 shall be used. If terrain dictates sharp curvature, a maximum super elevation of 0.06 is justified if the curve is long enough to provide an adequate super elevation transition.
3. On local streets, requests for design speeds less than 25 miles per hour shall be based on topography, right of way, or geographic conditions which impose an economic hardship on the applicant. Requests must show that a reduction in center line radius will not compromise safety. There will be posting requirements associated with designs below 25 miles per hour.
4. Off-set crown cross-sections are not acceptable as super elevation sections.
5. Super elevation transitions shall be designed to not allow concentrations of storm water to flow over the travel lanes.

Low speed curves may be used on residential local streets. Minimum centerline and curb radius for low speed curves shall be as follows:

	<u>Up to 75°</u>	<u>75° & Over</u>
A. Minimum Centerline Radius (2-lane)	100'	55'
B. Minimum Curb Radius	80'	35'

The intersection angle between the two roadways ~~are~~ is to be as close to 90° (perpendicular) as practical.

2.10 Vertical Alignment

—Street alignments shall meet the following requirements:

- A. Minimum tangent street gradients shall be one-half (0.5) percent along the crown and curb.

- B. Maximum street gradients shall be ~~fifteen (15) percent%~~ for residential streets, and ten (10) percent for all other streets. Grades in excess of ~~fifteen (15) percent%~~ must be approved in writing by the City Engineer on an individual basis.
- C. Local streets intersecting with a residential collector or greater functional classification street or streets intended to be posted with a stop sign shall provide a landing averaging five (5) percent or less. Landings are that portion of the street within twenty (20) feet of the projected curb line of the intersecting street at full improvement.
- D. Grade changes of more than one (1) percent shall be accomplished with vertical curves.
- E. At street intersections, the crown of the major (higher classification) street shall continue through the intersection. The roadway section of the minor street will flatten to match the longitudinal grade of the major street at the projected curb line.
- F. Street grades, intersections, and super elevation transitions shall be designed to not allow concentrations of storm water to flow across the travel lanes.
- G. Off-set crowns shall be allowed only with the specific prior approval of the City Engineer.
- H. Slope easements shall be dedicated or obtained for the purposes of grading outside of the right-of-way.
- I. Streets intersected by streets not constructed to full urban standards shall be designed to match both present and future (as far as practicable) vertical alignments of the intersecting street. The requirements of this manual shall be met for both present and future conditions.

When new streets are built adjacent to or crossing drainage ways, the following standards shall govern the vertical alignment:

Functional Classification	Vertical Standard
Arterial Streets	Travel lanes at or above the 50 year flood elevation but not lower than 6 inches below the 100 year flood elevation
All other streets	Travel lanes at or above the 25 year flood elevation but not lower than 6 inches below the 50 year flood elevation

~~If alternate access is available for properties served by a particular local street, a design could be considered for approval by the City Engineer that would set the travel lanes at or above the 10 year flood elevation but not lower than 6 inches below the 25 year flood event.~~

Crest and sag vertical curves shall conform to the values found in Tables 2.10A and 2.10B. At controlled intersections, the K-value for crest vertical curves may be reduced, if approved by the City Engineer.

Table 2.10A
Design Controls for Crest Vertical Curves
Based on Stopping Sight Distance

Design Speed	Minimum k
25	12
30	19
35	29
40	44
45	61
50	84
55	114

Table 2.10B
Design Controls for Sag Vertical Curves
Based on Stopping Sight Distance

Design Speed	Minimum k
25	26
30	37
35	49
40	64
45	79
50	96
55	115

AASHTO provides the designer of sag vertical curves the option of using shorter curves with the installation of street lighting. These "comfort" designs can also be slightly modified by providing a one (1) percent grade break at each end of the curve. Table 2.10C compares sag curve lengths using these criteria.

Table 2.10C – Design Controls for Lighted Sag Vertical Curves
25 Miles per Hour

Algebraic Difference in Grades	Standard (k)	Comfort (k)	Comfort with Grade Breaks (k)
5.00%	26	13.4	8
7.50%	26	13.4	9.9
12.50%	26	13.4	11.3
17.50%	26	13.4	11.9

At the intersection of a local street with another local street or a minor collector street, a minimum design speed of 15 MPH is allowed on the intersecting street. Minimum k factors for lighted sag curves are shown in Table 2.10D.

Table 2.10D – Design Controls for Lighted Sag Vertical Curves
15 Miles per Hour

Algebraic Difference in Grades	Comfort (k)	Comfort with Grade Breaks (k)
5.00%	4.8	3
7.50%	4.8	3.6
12.50%	4.8	4.1
17.50%	4.9	4.3

2.11 Transitions

- A. Street width transitions from a narrower width to a wider width shall be designed with a 3 to 1 taper. Delineators, as approved by the City Engineer, shall be installed to define the configuration.
- B. For street width transitions from a wider width to a narrower width, the length of transition taper shall be determined as follows:

$$L = S \times W \text{ (for } S = 45 \text{ MPH or more)}$$

$$L = \frac{W \times S^2}{60} \text{ (for } S = \text{less than } 45)$$
 Where L = minimum length of taper (feet)
 S = Design speed (MPH)
 W = EP to EP offset width
- C. Delineators, as approved by the City Engineer, may be installed to define the configuration. Maximum spacing of delineators shall be the numerical value of the design speed, in feet (i.e. 35- foot spacing for 35 MPH).
- D. In situations where a tapered transition cannot be provided, a barricade shall be installed at the end of the wider section of the street and a taper shall be appointed and delineated as approved by the City Engineer. The Type III barricade shall conform to the Standard Drawing WSDOT Standard plans. If the wider section does not provide an additional travel lane, only a barricade is required without the transition.

2.12 Street Frontage Improvements

All residential subdivisions, commercial developments and short plats shall install street frontage improvements at the time of construction as detailed in their subdivision or short plat approval, as detailed in their approved building engineering plans, or as directed by the City Engineer. Such improvements as determined by the City Engineer shall commence from the centerline of the right-of-way and is to include: sawcut and replacement of existing pavement and road section to the centerline of the traveled way or the centerline of right-of-way; curb and gutter; sidewalk; street storm drainage; street lighting system; traffic signal modification, relocation or installation; utility relocation and undergrounding; landscaping and irrigation and street widening all per these Standards. Plans shall be prepared and signed by a licensed civil engineer registered in the State of Washington.

-Any modification to the requirement for a half-street improvements must be approved by the City Engineer before preliminary land use approval with the approved modification to be set forth in a "Condition of Approval" for the specific project.

-If the existing pavement in the remaining half street opposite the project frontage is found to be in substandard condition as determined by a geotechnical engineer for the traffic generated by the project, and/or if any additional longitudinal utilities are to be installed with the frontage improvements within the existing paved width opposite the project frontage, an additional grind and overlay may also be required over the that half of the street for the extent of the frontage improvements as determined by the City Engineer.

- A. Plan Preparation shall be as specified in Chapter 1 of these Standards.
- B. Street Frontage design shall incorporate all applicable sections of these Standards and other standard reference materials. The designer shall utilize good engineering practice in any situation not specified in these Standards.

2.13 Street Ends

- A. All street lengths shall be measured from the face of curb of the intersecting street.
- B. Turnarounds shall be provided at all permanent public street ends, ~~and Turnarounds shall be provided at~~ ends of private streets longer than one hundred fifty (150) feet.

C. Temporary Dead Ends.

-Where a street is temporarily dead ended, ~~turn-around~~turnaround provisions must be provided where the road serves more than four lots or is longer than one hundred and fifty (150) 150 feet in length. The turnaround may be a hammerhead as approved by the Fire District and the City Engineer if the dead end is less than one hundred and fifty (200) feet in length. If over five hundred (500) feet long, a cul-de-sac is required. All temporary turnarounds shall be asphalt; gravel surfaces will not be acceptable.

In the event a temporary turnaround is installed on a street that will be extended in the future, the party responsible for extending the road shall also be responsible for removing the temporary turnaround and installing all necessary curbing, sidewalk, landscaping, etc. within the removal area to meet current City standards.

D. Design Requirements.

-The following specifies the minimum requirements for cul-de-sacs, eyebrows, and turnaround areas. Other turnaround geometrics may be used when conditions warrant and City Engineer approves the design and application of its use.

1. Cul-de-sacs shall have a minimum outside curb radius ~~of forty-five (45) feet for residential streets and~~ forty-eight (48) feet for ~~industrial~~all streets.
2. Cul-de-sacs, eyebrows, and turnaround areas shall be allowed only on local and commercial/industrial streets.
3. Cul-de-sacs shall be not be more than five-hundred (500) feet in length unless serving a topographically isolated area (such as a narrow ridge) as determined by the Community Development Director and City Engineer. The length of a cul-de-sac shall be measured along the center line of the roadway from the near side right-of-way of the nearest through traffic intersecting street to the farthest point of the cul-de-sac right-of-way.
4. The minimum curb radius for transitions into cul-de-sac bulbs shall be twenty-~~eight~~five (258) feet.
5. The right-of-way radius for the cul-de-sac shall be sufficient to maintain the same right-of-way to curb spacing as in the adjacent portion of the road (i.e. a local residential street requires forty ~~eight~~five (458) foot curb radius with a fifty ~~eight~~five(585) foot right-of-way radius)
6. Hammerheads are only permitted them under unusual circumstances as applied with small infill developments of a maximum of eight (8) lots. Hammerheads may be used in lieu of a cul-de-sac provided that the street serves Eight (8) or less lots and the street is less than two hundred (200) feet in length. Hammerhead geometry shall be approved by the Fire District and the City Engineer.
7. An eyebrow corner may be used on a local street where expected ADT will not exceed 500 vehicles per day or as otherwise approved by the City Engineer. Minimum curb radius on the outside of an eyebrow corner is 36 feet; minimum right-of-way radius is 45 feet. Eyebrow geometry shall be evaluated on the basis of turning requirements for Fire Department vehicles.
8. The turnaround shall be posted and painted "Fire Lane - No Parking".

2.14 Medians

- A. A median shall be in addition to, not part of, the specified roadway width unless shown on the standard street cross-sections. Medians shall be designed so as not to limit turning radius or sight distance at intersections. Landscaping and irrigation shall be installed when directed by the City Engineer.
- B. Where raised medians are allowed, the following criteria must be met:
 1. Edges shall be vertical curb in urban areas, and either vertical curb or thickened edge in suburban areas.
 2. Landscaping and irrigation are required. Plans shall be prepared by a qualified Landscape Architect.
 3. Pedestrian refuges shall be provided where crosswalks intersect medians.
 4. Pedestrian crossing flashing beacons shall be at the discretion of the City (Traffic) Engineer. When approved or required, the flashing beacon shall be:
 - Rectangular Rapid Flashing Beacon (RRFB);
 - Internally Illuminated Flashing Beacon; or
 - Pedestrian Hybrid Beacon in high traffic, high speed situations.

RRFB's shall be designed consistent with City of Vancouver standard plan T23-03¹

3.5. Raised medians shall be designed so as not to limit turning radius or sight distance at intersections.

- The raised median shall be set back at least 1 foot from the median lane on both sides, unless otherwise approved by the City Engineer
- Street lighting shall be sufficient to provide illumination of the raised median.
- Objects, such as trees, shrubs, signs, and light poles shall not physically or visually interfere with traffic control devices, as well as vehicle or pedestrian traffic in the travel way.
- The style and design of the raised median shall be site specific. The raised median shall be safe for the design speed, and shall be subject to City approval.

2.15 Intersections and Curb Returns

- A. Traffic control will be as specified in the MUTCD or as modified by the City Engineer as a result of appropriate traffic engineering studies.
- B. Traffic signal modification, relocation or installation is required when roadway or driveway geometrics interfere with existing signal facilities, or would result in an unsignalized approach or intersection that meets signal warrants.
- C. Angle between intersections. The interior angle at intersecting streets shall be kept as near to 90 degrees as possible and in no case shall it be less than 75 degrees. A tangent section shall be carried a minimum of 25 feet each side of intersecting right-of-way lines.
- D. Maximum street spacing - 500 feet.
- E. Minimum centerline offset of adjacent streets.
 - 1. Residential - 160 feet
 - 2. Residential or arterials intersecting arterials - 300 feet
- F. When determining the distance between a roundabout and another access, the measurement is not taken from the centerline. Instead, the point of reference is the outer edge of the inscribed circle diameter (Yield Line) on the nearest approach.
- G. Sloping approaches. On sloping approaches, including commercial driveways, garage entrances, and private street openings, landings are not to exceed two (2) feet difference in elevation for a distance of thirty (30) feet approaching an arterial or twenty (20) feet approaching a local collector or industrial or commercial street, measured from the back of sidewalk or the back of curb if no sidewalk exists.
- H. Curb returns. Curb radii at intersections shall be in accordance with Table 2.15A for the various functional classifications. The right-of-way radii at intersections shall be sufficient to include the entire sidewalk and ramp within the public right-of-way and shall have a minimum radii of 20-feet.

¹ <https://www.cityofvancouver.us/wp-content/uploads/2024/03/T23-03.pdf>

**Table 2.15A - Turning Radii (Feet)
Edge of Pavement/Curb -Minimums**

Street Classification	Major/Minor Arterial Street	Residential Collector Street	Commercial Industrial Street	Residential Access/Local Street
Major/Minor Arterial Street	55	30	40	25
Residential Collector Street	30	25	30	20
Commercial Industrial Street	40	30	40	25
Local Street	25	25	20	20

* If bike lane or on-street parking exists, above radii may be reduced by five (5) feet.

* The radii of the major street will be used for all intersection curb returns.

2.16 Sight Obstruction Requirements

- Sight distance should be maintained at all driveways, building or commercial garage entrances where structures, wing walls, etc. are located adjacent to or in close proximity to a pedestrian walkway.
- Sight lines to traffic control devices (signs, signals, etc.) should not be obscured by landscaping, street furniture, marquees, awnings or other obstructions. Refer to the MUTCD for required sightlines.
- Sight Distance. It is the policy of the City to have the developer's engineer evaluate safe intersection sight distance using the principles and methods recommended by AASHTO. Table 2.16A presents minimum intersection and commercial driveway sight distances.

Table 2.16A - Corner Sight Distance

Design Speed (MPH)	Minimum Corner Sight Distance (Feet)
20	225
30	335
40	445
50	555
60	665

The sight distances in table 2.16A assume a stopped passenger car turning left onto a two lane road with no median and grades of 3-percent or less. For other conditions the time gap must be adjusted and the sight distance recalculated. Intersection sight distance should always be measured from a driver's eye 3.5 feet high and 15 feet from the near edge of the nearest lane to an object height of 3.5 feet. Stopping sight distances must also be checked on the actual vertical and horizontal values of the proposed improvement. There shall be nothing to block observation of objects between the driver's eye height of 3.5 feet and an object height of 2.0 feet above grade in both directions. The only exceptions should be for luminaire or utility poles, conforming traffic control devices, and fire hydrants. Cumulative effects must be considered, and all efforts taken to minimize sight obstructions.

Modifications or exceptions to these standards shall be approved by the City Engineer.

2.17 Curb and Gutter - Types and Application

- A. Vertical curb and gutter shall be utilized on all streets (residential, commercial or arterial) and on all islands and medians except when emergency vehicle access across the median is required.

Rollled Curb may be used at the end of cul-de-sacs where approved by the City Engineer.

- B. The following specifies the requirements for curbs and cross-slope grading for streets:
1. All streets shall include curbs on both sides, except in the situations of interim width improvements. Interim designs, where approved in writing by the City Engineer, shall have shoulders and ditches.
 2. Interim width streets shall have 2-foot side shoulders adjacent to the street at a 2 percent cross-slope and roadside ditches each side of the shoulders with a maximum side-slope of 2 horizontal to 1 vertical. The 2-foot shoulder area may consist of a section of pavement and/or a section of crushed rock. The pavement section shall be a minimum of 2 feet wide and a maximum of 6 feet wide.
- C. Grading outside the improved areas shall be as follows, unless approved in writing by the City Engineer:
1. Arterials shall have a maximum 2 percent upward grading to the right-of-way line, and no steeper than 3 to 1 up, or 3 to 1 down, outside the right-of-way.
 2. Local Street and Commercial/Industrial functional classifications shall have a maximum 2 percent upward grading to the right-of-way line, and no steeper than 3 to 1 up, or 3 to 1 down outside the public right-of-way.
 3. Retaining walls shall be used if slopes are greater than the 3 to 1 requirement in the paragraphs above or where slope stability is a problem.
 4. If slopes are to be maintained (mowed) by the City, a maximum of 4 to 1 slope will be required.

2.18 Survey Monuments

As a minimum standard for monumenting city right of ways, survey monuments shall be located at each street intersection, intersection points of the extension of the project perimeter boundary lines and the centerline of frontage streets; right of way PC, PT, bends and intersections with all property lines including the perimeter boundary lines of all subdivisions and short plats. Additional monumentation may be required by the City Engineer.

2.19 Concrete Sidewalks

Concrete sidewalks shall be provided on both sides of the street.

A. Exceptions:

- Sidewalks may be omitted under the following conditions if approved by the City Engineer:
1. Where subdivision design provides an acceptable surfaced and maintained internal walkway system as approved by the City Engineer, a sidewalk may not be required adjacent to the street.
 2. Private roads serving more than four (4) lots require sidewalks on at least one side of the private road, as needed for connection to a pedestrian path or multiuse trail.

3. Alleys do not require sidewalks.
4. Where roadways abut sensitive lands, the sidewalk may be omitted from one side of the street, provided that an alternative pedestrian route acceptable to the City Engineer is provided.

A.B. Width:

1. Required sidewalk widths for each street classification can be found in the Transportation Details.
2. Width of sidewalk does not include curb.
3. Meandering sidewalks shall maintain the full design width around obstructions that cannot be relocated. Additional Right-of-Way (or easement) may be required to either relocate the obstruction or meander the sidewalk.
4. Sidewalk widening behind a mailbox or other obstruction shall be no less than five (5) feet long with a ten to one (10:1) taper to the standard sidewalk section.

C. Material:

-All sidewalks shall be four (4) inch thick Class 3,000 PSIB concrete over 2 inches of crushed rock. At driveways the concrete shall be six (6) inches thick. A pervious paving material may be substituted if approved by the City Engineer.

D. Landscape/Separation:

-Where planter strips are required, the back of sidewalk should be placed 6-inches#from the right-of-way line, unless approved by the City Engineer. Meandering sidewalks may be allowed where they provide an attractive planned alternative to straight sidewalks. A minimum three (3) foot separation between the back of the curb and sidewalk is required for landscaping and appurtenance locating purposes unless no practicable alternative exists and when approved in writing by the Engineer. Sidewalks shall meander no more than six (6) feet from the curb at all pedestrian crossings and at driveways.

E. Curb Ramps:

1. -In accordance with State law, curb ramps meeting current Americans with Disabilities Act (ADA) requirements shall be provided at all pedestrian crossings with curb sections. The edge of the sidewalk shall merge into curb ramps. One ramp is used on each curb return on residential streets and unsignalized intersections. At signalized intersections, a curb ramp shall be aligned with each crosswalk.
2. All curb ramps at curb returns with an average slope greater than 5% and ramps tying into public facilities shall be specifically designed by the developer's engineer. Design shall include an individual detail with elevations shown at all angle points and grade breaks within the ramp so as to indicate to the contractor how the ramp is to be installed to ADA requirements.

F. Defective Sidewalk:

1. All sidewalks shall be maintained in a level, nonhazardous condition. Sidewalks shall be deemed to be "defective" and require repair when deficiencies are identified which include:

A. Improper placement

B. Placement of sidewalk on unstable areas of uncompacted soil

C. Tree roots popping up sidewalk leading to jagged and uneven surfaces exceeding ADA allowances

D. Wear and tear having led to cracks and holes in the sidewalk

Responsibilities for maintaining sidewalk in good condition is under Ridgefield Municipal Code 12.04.080 - Responsibility of abutting property owner—Liability for damages. All construction, repair, upkeep, reconstruction and maintenance of sidewalks and curbs within the city limits, unless specifically excepted in Section C of this chapter, is the responsibility of the abutting property owner. Where in front of commercial and industrial facilities, developer/owner shall be responsible to repair and restore defective sidewalk in a timely manner. Where in front of residential lots, owners shall contact City and provide information and photos of the defective sidewalk.

2.20 Asphalt Sidewalks

- A. Asphalt sidewalks may be allowed in lieu of concrete sidewalks where the sidewalk as determined by the City Engineer is deemed to be of a temporary nature (such as during construction activities) or due to future construction considerations.

2.21 Trails

A. Multi-Use Trails:

1. Trail widths shall be as follows:
 - a. Type 1 trail 10-12 feet
 - b. Type 2 trail 8-10 feet
 - c. Type 3 trail 6-8 feet
2. Materials shall be per the requirements of Section 2.33 Surfacing Requirements ~~2.33 —Surfacing Requirements~~.
3. Multi-use trails shall be a minimum of four (4) feet from the edge of the vehicular travel way unless no practicable alternative exists and when approved by the Engineer.
4. Maximum grade is fifteen percent (15%). Type II barricade shall be installed at the end of trail sections as directed by the City Engineer.
5. Trails may be used as a substitute for concrete sidewalks or bike lanes in planned unit developments where the City Engineer deems that non-motorized transportation goals of the City are being met.

B. Off-Road Trails:

1. All City Trail Systems are to meet the multi-use standards above as reasonably possible. For Trail Systems that cannot meet the multi-use standards above, as determined by the City Engineer, the minimum standards for the design and construction shall generally follow as a practical guide for trail work the 2007 Edition of the "Trail Construction and Maintenance Notebook" and the 2007 Edition of the "Wetland Trail Design and Construction", Forest Service Publication List Document Numbers 0723-2806-MTDC and 0123-2833-MTDC respectively. These practical guides can be located on the Federal Highway Administration (FHWA) website at http://www.fhwa.dot.gov/environment/recreational_trails/publications/fs_publications/index.cfm.

2.22 Bikeways/Bike Lanes

- A. Bikeway construction is required in conjunction with commercial development, plat or short plat approval, when the need for such a bikeway is established by the Community Development Director.
- B. Separated bikeways (bicycles only) shall be a minimum of five (5) feet wide for one way and ten (10) feet wide for two (2) way flow. Separated bikeways combined with pedestrian facilities shall be a minimum of ten (10) feet wide.
- C. Where joint vehicular and bicycle facilities (Bike lanes) are constructed, the curb lane shall be fourteen (14) feet wide and use eighteen (18) inch wide Type A curb and gutter.
- D. Surfacing requirements for separated bikeways shall be as specified in Section 2.33.
- E. Maximum grade for separated bikeways shall be ten percent (10%). Minimum curve radius is ~~one hundred (100)~~100 feet. Curves should be minimized.
- F. Bump outs. A "bump out" at street intersections per Standard Drawings shall be installed on all routes with bike lanes using the following criteria:
 1. Two-lane roadway - not applicable.
 2. Three-lane roadway - "bump out" at all signalized intersections only.
 3. Four- to five-lane roadway - "bump out" at all signalized intersections and at major side street intersections where the right turn volume onto the minor street exceeds 600 ADT.

2.23 Driveways

A. General Requirements-

1. Standard residential or commercial driveways shall be required for all developments.
2. In new residential subdivisions or residential short subdivisions, panhandle and flag lot driveways shall be less than ~~one hundred and fifty (150)~~150 feet and have a minimum paved access driveway of twelve (12) feet in width and shall provide access to no more than two (2) lots. The private or public road standards shall be used for access to more than two (2) lots.
3. Only one driveway access per residential lot shall be allowed unless approved by the City Engineer.
4. A private intersection opening shall be used in lieu of a conventional driveway in commercial areas where the following criteria or as determined by the City Engineer are met:
 - Projected driveway usage is greater than two-thousand (2,000) vehicles per day.
 - In any case where traffic signalization is approved and provided.
 - A minimum ~~one hundred (100)~~100 foot storage area is provided between the street and any turning or parking maneuvers within the development.
 - The opening is at least ~~one hundred and fifty (150)~~150 feet from any other intersection opening.
 - The opening is at least ~~one hundred and fifty (150)~~150 feet away from any other driveway on the property frontage under control of the applicant.

B. Conditions of Approval-

1. Driveways directly giving access onto arterials may be denied if alternate access is available. Driveways giving access onto other roadways may be denied, if in the opinion of the City Engineer, they create a potentially unsafe or hazardous condition.
2. All abandoned driveway areas on the street frontage to be improved shall be removed and new curb, gutter, and sidewalk shall be installed.
3. No commercial driveway shall be approved where backing onto the sidewalk or street will occur.
4. Left turns from and to a driveway may be restricted as a development condition or in the future if such maneuvers are found by the City Engineer to be unduly hazardous.
5. Driveways shall be aligned wherever possible with existing driveways on the opposite side of the street.
6. If driveways cannot be aligned directly across from a driveway on the opposite side of the street, they shall be offset a minimum of ~~one hundred (100)~~100 feet from driveways on the opposite side of the street whenever possible.
7. All driveways shall be angled ninety-degrees (90°) to the street, unless designated as right turn only with the approval of the City Engineer.
8. Driveways approved by the City Engineer providing for access onto collectors shall be a minimum of 100 feet from any intersection, and a minimum of 150 feet for access onto arterials. All distances shall be measured from the centerline of the street or driveway.
9. Driveway modification requests will be reviewed under the Design Modification Process in Section 1.17 except for the following, which can be reviewed through a written request to the Public Works Director, prior to construction:
 - a. Where two or more parcels or tax lots have been previously combined into a single lot.
 - b. Requests for circular driveways (one way in and out) where lot configuration, topography or other site conditions affect the ability to build one driveway.
 - a-c. All requests for driveway modifications in residential zoning will be reviewed for conformance to applicable Codes, Covenants and Restrictions (CC&R) for the residential location.

C. Design Criteria:

1. Width.
 - a) For certain residential uses, driveway widths are limited. These are referenced in RMC 18.206.020 – Single-family design standards, 18.206.050 – Duplex and triplex, and 18.206.060 – Townhouse.
 - b) Where not limited in Subsection (a) above, for all other residential uses, the maximum driveway width shall be 30 feet or 50% of the lot frontage, whichever is less. For residential uses the maximum driveway width shall be 30 feet or 50% of the lot frontage, whichever is less.

c) For commercial uses, the maximum driveway width shall be 30 feet. A wider commercial driveway width may be approved by the City Engineer where a substantial percentage of oversized vehicle traffic exists and where it can be justified via modeling or some other approved means. In this case the driveway should be sized to accommodate the largest vehicles, but shall be no wider than fifty (50) feet. Where intersection openings are approved, the width shall be as determined by the City Engineer.

d) Driveways on residential or local access streets serving detached single-family homes may be up to 32 feet in width, subject to approval by the City Engineer.

a)e) Driveways on local access streets serving detached single-family homes may be up to thirty (32) feet in width, subject to approval by the City Engineer. There shall be adequate top of curb space provided between detached single-family driveway aprons at the property line for location of water meters, landscaping, and street lighting.

2. Elevation. For new development, driveways on local access streets serving single family homes adjacent to detached sidewalk (i.e. standard detail sheets T-2.8 and T-2.9) shall match the same elevation as the front of the walk adjacent to the driveway approach. Any variation to this requirement is to follow city standards as approved by the City Engineer.

3. Clearance from structures. No object (including fire hydrants, light or power poles, street trees) shall be placed or allowed to remain within ~~fifteen (15)~~5 feet of the driveway edge.

Where the building facade or other design element is less than ten (10) feet behind the sidewalk front setback both pedestrian and vehicular sight distance shall be maintained. Vehicular sight distance shall be per Section 2.15.

4. Sight Distance. Pedestrian sight distance shall be as follows: The driver of an exiting vehicle shall be able to view a one (1) foot high object fifteen (15) feet away from either edge of the driveway throat when the driver's eye is fourteen (14) feet behind the back of the sidewalk.

5. Maximum driveway grade shall be ~~fifteen percent (15%)~~.

6. On sloping approaches, a landing as described in Section 2.09, shall be provided.

7. Approach grades and configuration shall accommodate future street widening to prevent major driveway reconstruction.

2.24 Bridges

A. Design Principles. All bridges, whether on public or private roadways, shall meet the minimum requirements set forth in the latest addition of "Standard Specifications for Highway Bridges", adopted by AASHTO. All new bridges shall be designed to carry an AASHTO HS-20-44 live load or greater.

B. Geometrics. In the general case, the bridge shall comprise the full width and configuration of the road being served (traveled way plus curb, sidewalk, walkway, bike lane, and/or shoulder on one or both sides). Requirements of utilities shall be considered. Traffic and pedestrian railings or combination traffic-pedestrian railings

shall meet AASHTO specifications. Overhead vertical clearances on the traveled street or under overpasses shall be sixteen and one-half (16.5) feet minimum.

2.25 Landscaping in the Right-Of-Way, Easements and Access Tracts

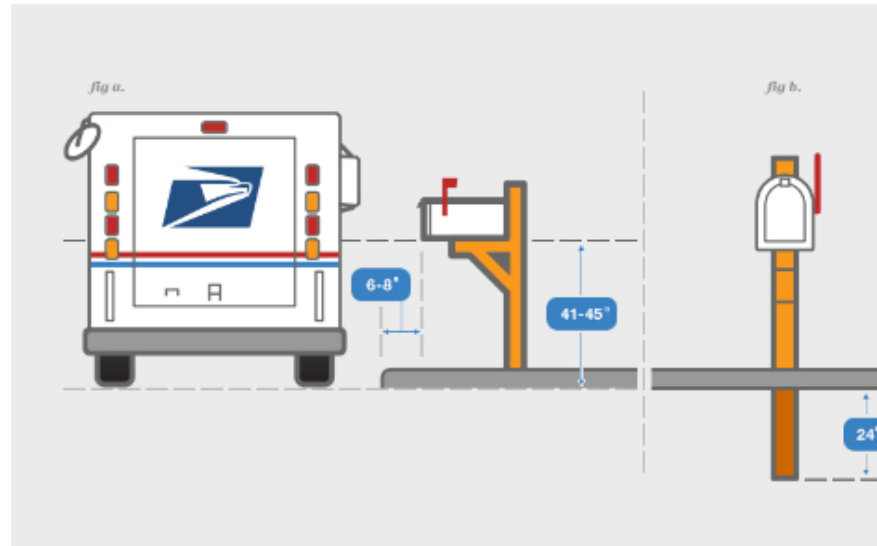
- A. Plantings established in the right-of-way shall be maintained by the abutting property owner on local and access streets. Plantings established in the right-of-way along collector and arterial streets shall be maintained by the Home Owner's Association / Business Association.
- B. Any existing planting areas within the right-of-way that are disturbed by construction activity shall be restored to their original condition.
- C. Any plantings or other improvements placed within the right-of-way (by abutting property owners) are subject to removal when the right-of-way is needed for public use. The property owner is responsible for removing any landscaping or other improvements upon official notice. The property owners shall be responsible for survival of the relocated plantings.
- D. Measures shall be taken by the developer to provide groundcover in areas within the right-of-way which have been stripped of natural vegetation or have a potential for erosion. Native plants shall be used whenever possible.
- E. Plantings within the right-of-way shall comply with the following provisions:
 - 1. All landscaping shall comply with the sight distance provisions of these standards.
 - 2. Where existing landscaping maintained by the City exists every effort shall ~~be made~~ be made—taken to protect and preserve the existing vegetation during construction. Plants shall be relocated or removed only upon approval of the Public Works Department. Damaged landscape areas shall be restored prior to issuing a final occupancy permit.
 - 3. In areas where an existing landscaping concept or pattern has been established or approved, all new landscaping shall conform to the intent of the concept. Plantings shall be of a similar variety, size, and spacing to those already established and/or approved for the area.
 - 4. All trees planted in areas with adjacent pedestrian usage shall maintain a seven (7) foot clearance to the lowest branches.
 - 5. Approval from the Public Works Department must be received before trees are planted in or adjacent to sidewalk sections.
 - 6. Landscaping in public right of way with low maintenance, drought tolerant ground cover is encouraged. Native plant lists and list of nuisance and prohibited plants are included in RMC Section 18.830.
- F. Street trees shall be selected from the City's approved tree list (see Volume I - Appendix A: City of Ridgefield Street Tree Selection).
- G. Street trees shall provide a minimum of 10-ft of separation from water meters. This standard shall also apply to onsite improvements.
- H. Street trees shall have root barriers installed where adjacent to pavement (i.e. curbs, sidewalk, etc.).

I. Street trees shall not obstruct visibility of intersections, signs, or other critical roadside elements. The following are minimum clearances that shall be met:

1. 20-ft from the front of stop -and street name signs.
2. 20-ft from the front and 5-ft from the back of other directional, traffic control and/or safety signs, such as yield, pedestrian crossing, school, speed limit, etc.
3. 15-ft from street lights for narrow-growing tree species. Otherwise, 25-ft from street lights.
- 7.4. 25-ft from traffic signals.

2.26 Mailboxes

- A. Mailboxes should be clustered together when practical and when reasonably convenient to the houses served. Community mailboxes are required in new developments and require approval by the Ridgefield Postmaster.
- B. When mailboxes are located in the sidewalk, individually or in clusters, sidewalk shall be widened to provide the full design width around the mail boxes.
- C. In the case of new road construction, or reconstruction requiring mailboxes to be moved back or rearranged, the designer and builder shall coordinate with the ~~local~~ Ridgefield postmaster of the U.S. Postal Service. Mailbox locations approved by the Post Office shall be shown on approved road construction plans.
- D. Requests for new mailboxes in the downtown area shall be submitted to the Ridgefield Postmaster for approval. The City will review these requests to ensure they do not block sidewalks, and if there is a sidewalk present, they can surface mount the mailbox (i.e. attach it to the concrete surface and would not need to dig through the sidewalk), and the mailbox unit when installed will leave at least 48" behind the mailbox for ADA/wheelchair passage. A template from the USPS ~~in in Section is located~~ below. Those installing mailboxes which involve in-ground installation shall call the utility locator service 811 before they dig to avoid damaging underground utilities. Mailbox requests along Pioneer Street between 5th and Main Avenue, and Main Avenue between Pioneer Street and Mill Street, will not be accepted unless the request is for compliance with accessibility requirements under the Americans with Disabilities Act, or if no other location options are feasible.



2.27 Street Illumination

A. ~~Plats and Short Plats:~~

Street lighting is required for all public streets and private communities. The street lighting design shall be reviewed and approved by the City Engineer prior to final plat approval. The cost of all street lighting shall be paid for by the developer.

The City will accept maintenance and power cost responsibility for the public street light system only. Until the public improvements have been fully accepted by the City, the developer is responsible for the maintenance and energy charges for the street lighting system.

Street lighting is not required on private streets within a plat. However, a street lighting system is encouraged. The City does not install or maintain private street lighting systems. On private streets, all street light maintenance and power cost shall be paid by the developer, homeowner, or homeowners association.

B. ~~Existing Residential Areas:~~

-If a resident or group of residents desires the installation of a new street light they must apply to the Public Works Director.

C. ~~Commercial:~~

-Street lighting is required on all public street frontages. The developer is responsible for design, installation or relocation of new or existing lighting. Commercial development shall replace existing lighting systems on power poles with a new lighting system serviced by underground power.

B. ~~General Considerations:~~

D.

All public street light designs shall be prepared by a licensed engineer experienced in lighting design. The design plans and calculations should indicate luminaire type, luminaire spacing, illumination levels, uniformity ratio, line losses and the electrical and physical layout of the system, including its connection to the existing system and foundation design.

Street lights shall meet requirements of Municipal Code Section 18.715.050 for alignment and shielding requirements. direct light downward. Lights shall be provided with a cap or shield to ~~prevent stray light from going upward.~~ Street lights are intended to be “night sky friendly”. In addition to code requirements, lights shall be provided with a cap to minimize stray light going up. All public street light systems shall be accessible for public maintenance by a wheeled vehicle weighing ~~twentythousand~~twenty thousand pounds (20,000 lbs.).

All street light installations including wiring, conduit, and power connections shall be located underground. Exception: existing residential areas with existing above ground utilities may have street lighting installed on the existing power poles as approved by the Public Works Director as noted above.

All street lights shall be on one hundred twenty (120v) volt single phase systems. The exact location of the power source should be indicated together with the remaining capacity of that circuit. System continuity and extension should be considered.

Contractor cabinets equipped with electrical meters, time clocks, circuit breakers and other required components are required on commercial installations of five (5) or more street lights. Is this considered metered lights? If so, the city has said no more metered lights.

Particular attention shall be given to locating luminaires near intersections, at all street ends and at pedestrian and/or equestrian crossings.

E. Illumination-

–The lighting engineer shall use the standard specifications of the Washington State Department of Transportation for ~~SR-501~~ (Pioneer Street), and for all other City streets shall use the following requirements:

Table 2.27A – Illumination Levels

Street Classification	Horizontal Foot Candles	Uniformity Ratio (average to minimum)
Principal Arterials	1.2 FC	3:1
<u>Roundabouts**</u>	<u>1.2 FC*</u>	<u>3:1</u>
Minor and Collector Arterials	0.8 FC	3:1
Local Commercial/Industrial	0.8 FC	3:1
Residential Access	0.4 FC	3:1
Local Residential Streets	0.3 FC	4:1

* On lower pedestrian activity intersections, 0.9 FC shall be used. Coordinate with City Engineer for confirmation of designation.

** Roundabouts shall follow WSDOT Design Manual standards for analysis zones per Chapter 1040.

F. Approved Street Lighting Fixtures and Poles

All lighting projects within the City of Ridgefield and the City of Ridgefield Urban Growth Area shall use the products listed below or an approved equal. Contact the City Engineer to request approval for products not listed below (approved equal) or for a list of approved equals. Part numbers listed for fixtures and poles are based on current catalogs, which are subject to change by manufacturers at any time. The developer shall be responsible to verify part numbers with the appropriate vendors to ensure the correct lighting, poles, colors, and mounting hardware are received. Street light requirements including type, wattage, and pole height will be established by City of Ridgefield staff.

All lighting to meet current version of ANSI C136.15 for Field Wattage Identification and must have a label attached from an OSHA accredited Nationally Recognized Testing Lab. All light fixtures shall be warrantied for 5 years from the date of installation. All light poles shall be warrantied for 1 year from the date of installation.

1. Local Streets – Standard Light Fixtures and Poles

For local streets, including new subdivisions and short plats, all -streetlights shall be decorative acorn single fixtures on cast aluminum decorative poles. The luminaire shall be LED in 3000K with minimum output of 5000 lumens. Optic shall meet Municipal Code requirements. Fixture shall be DLC listed.

The light fixtures shall be the following or approved equivalent:

Name: Holophane AWDE3 Acrylic Washington Postilite Utility LED3

Performance Package: 5,884 Lumens, 40 Watts, 147 LPW

Catalog Code: AWDE3 P20 30K MVOLT MS AL3 BK FBM CR TGL PR7 AO PCLL

Holophane Custom Vendor Code for City of Ridgefield: RFD339387

Description: Acrylic Washington Postilite Utility LED3 Fixture, P20 Performance Package, 3000K CCT, Auto-Sensing 120-277V 50/60HZ, Modern Style Swing Open Design, Acrylic Type III, Black Housing, Full Cover with Medallions and Band, Cross Finial, Dimming Photocontrol Receptacle - 7 PIN, Field Adjustable Output, Long Life DTL Twistlock Photocontrol for Solid State, MVOLT. Custom Vertical Slotted Band and Cross Finial Painted Gold, Medallions and Full Cover Painted Black.

The light poles shall be the following or approved equivalent:

Name: Holophane WDA Wadsworth Aluminum Pole

Catalog Code: WDA 14 F4C 17D C03 BK AB-31-4

Description: WDA Wadsworth Aluminum Pole, 14 Feet Height, 4" Diameter Fluted, .125 Wall, 17" Base, Diamon Pattern Bolt Circle, 3X3 Tenon, Black Finish, 3/4" Anchor Bolt Set Galvanized Steel.

Pole foundations shall be designed by a licensed engineer for site specific conditions and shall be adequate to accommodate all loads and anchorage means specified by the pole manufacturer.

2. Standard Light Fixtures – Roundabouts, Collectors and Arterials

For roundabouts, collectors and arterials, all -streetlights shall be cobra head fixtures on aluminum poles. The luminaire shall be LED 4000K with a minimum output of 9450 lumens. Fixture shall be DLC listed.

The light fixtures shall be the following or approved equivalent:

Name: American Electric Lighting Autobahn Series ATB0 Roadway Lighting

Performance Package: 10,260 Lumens, 70 Watts, 148 LPW

Catalog Code: ATB0 P203 MVOLT R3 BK NL P7 AO PCLL

Description: Autobahn LED Roadway Series Fixture, P203 Performance Package, Multi-volt 120V-277V, Roadway Type III Optics, 4000K CCT, Black Paint, Nema Label, 7 Pin Photocontrol Receptacle, Field Adjustable Output, Solid State Long Life Photocontrol.

The light poles shall be the following or approved equivalent:

Name: HAPCO Arlen Style Special 34' Light Pole

Catalog Code: HAPCO Customer Vendor Code for the City of Ridgefield: B86264-P1

Description: B86264-P1 Custom Light Pole for the City of Ridgefield with textured black finish, 20" diameter base with 22" base height. ASTM F1554 Grade 55 x 42" length all thread rod anchor bolts.

Pole foundations shall be designed by a licensed engineer for site specific conditions and shall be adequate to accommodate all loads and anchorage means specified by the pole manufacturer.

2.28 Traffic Control and Signing

- A. Traffic Control Devices. The City Engineer shall review and approve all traffic control devices.

- B. Signing. In new plats the developer shall install all traffic control signs which shall include but not be limited to street name, parking, stop, dead end, and pedestrian signing. The developer will be responsible for supplying and installing the required signs.
- C. Pavement Marking. In new plats or commercial developments pavement markings, including buttons, paint, thermoplastics and delineators will be required for roadway safety. Such markings shall be provided and installed by the developer. All markings shall be approved by the City Engineer prior to installation.
- D. Temporary Traffic Control. It is the responsibility of the developer to provide adequate temporary traffic control to ensure traffic safety during construction activities.
- E. Traffic Signal Modification. Traffic signal modification designs shall be prepared by a licensed engineer experienced in traffic signal design.
- F. Design Requirements
 - 1. Traffic Control Devices. All traffic control devices shall conform to the Manual on Uniform Traffic Control Devices (M.U.T.C.D.) as adopted by the Washington State Department of Transportation (WSDOT).
 - 2. Signing. Sign sizes shall conform M.U.T.C.D standards. Sign installations shall be per City Standard Detail T-3.1A and T-3.1B. WSDOT Standard Drawings shall be used for typical installations and details. Sign posts shall be constructed of 2"x 2" perforated square aluminum post set in a sleeve per the WSDOT Standard Plans.
 - i. Street name signs shall be green with a white border. Lettering shall follow MUTCD guidance. On residential street name signs the initial upper case letters shall be 6" tall with subsequent lower case letters 4.5" tall. Street signs should be flat aluminum and double sided. See City Standard detail T-3.1C for sign dimensioning and additional requirements.
 - 3. Pavement Marking. All markings shall conform to the current M.U.T.C.D. as adopted by WSDOT.
 - 4. Temporary Traffic Control. All traffic control devices shall conform to the current M.U.T.C.D. as adopted by WSDOT or as modified by the City Engineer.
 - 5. Speed Humps. Speed humps shall be three (3) inches in height with a length of at least twelve (12) feet at base per City Standard Detail T-3.2.
 - 6. Traffic Signal Modification. The developer's engineer shall use the standard specifications developed by the City Engineer in conjunction with the current edition of WSDOT's Standard Plans and Specifications for Road, Bridge, and Municipal Construction.
 - 6.7. Enhanced Pedestrian Crossings: the City Engineer shall assess and determine if certain enhanced pedestrian crossings are required and develop a set of guidelines for consideration of such devices. Enhancements include a High Intensity Actuated Crossing ("HAWK") signal, a Rectangular Rapid Flashing Beacon ("RRFB") and Internally Illuminated Actuated Flashing Sign.

2.29 Clear Zone and Appurtenances

An appurtenance shall be considered to be any fixed object located adjacent to the roadway and deemed to be a possible safety hazard.

- A. All non-breakaway appurtenances shall be located a minimum of three (3) feet behind the face of the curb to the face of the object. Where no curb exists the distance from the edge of the travel way to the face of the object shall be at least six (6) feet.
- B. All breakaway objects shall be located a minimum of two (2) feet behind the face of curb to the face of the object. All objects having properties up to that of a 4" x 4" wooden post shall be considered breakaway.
- C. Appurtenances shall be located outside of the sidewalk area except when the sidewalk is widened around the appurtenance to the satisfaction of the City Engineer.

2.30 Franchise Utilities

- A. Non-City owned franchise utilities are required to relocate existing facilities at their own expense when a conflict results between their facilities and public street improvements. For development related work, the proposed improvements must be required by the non-City owned utility in order for the relocation work to be the financial responsibility of the utility, otherwise all costs shall be the responsibility of the developer.
- B. All non-City owned utility distribution or collection systems, franchise or otherwise, including power, telephone, and television cable in new plats or short plats and along roadway frontage improvements shall be underground.
- C. As a minimum on all new single family plats and short plats, a minimum five (5) foot wide common or individual non-exclusive utility easement shall be provided connecting any lots without public street frontage to a public street. Easements for existing or future utility lines which do not lie along rear or side lot lines shall be of a width specified by the serving utility.

2.31 Safety Railing

- A. Where a sidewalk or other non-motorized transportation facility is to be constructed above a slope or adjacent to a wall where the lowest finished elevation of the slope or wall is to be thirty (30) inches or more below the finished elevation of the sidewalk or other facility, a safety railing shall be required when:
 - 1. The plane of a wall face is less than four (4) feet in horizontal distance from the near side face of the sidewalk or other facility.
 - 2. The plane of the wall face is greater than four (4) feet horizontal distance to the near side face of the sidewalk or other facility but the slope down to the wall top exceeds three to one (3H:1V).
 - 3. The slopes adjacent to the sidewalk or other facility average greater than two to one (2H:1V).
- B. Safety railings or other approved devices (such as walls, high curbs, landscape features or guard rails) shall be required where grading operations will produce a parking area, service yard or other vehicle area which has a drop-off grade separation in relation to adjoining properties or streets.
- C. Safety railings shall be constructed of 2-inch galvanized steel pipe or aluminum with vertical supports ten (10) feet on center and 3 horizontal railings fourteen (14) inches on center, the lowest railing center being fourteen (14) inches above finished grade. All joints shall be welded, cold galvanized if welded after galvanizing, and the entire safety railing painted or vinyl coated to assure corrosion protection and a pleasing appearance at the

City's option. Railings shall be erected and adjusted, if necessary, after initially set to assure a continuous line and grade. Warning signs stating "Danger, Please Keep Off" shall be attached to the railing spaced every 50 feet or as directed by the City Engineer.

C.D. Safety rails shall be placed in sidewalk adjacent to bioretention facilities located within the public right-of-way. Project abuts existing bioretention facilities, safety rails shall be retrofit installed. See City installation detail ST-13.0.

2.32 Guard Rails

For purposes of warrants, design, and location, all guard rails along roadways shall conform to the criteria of the "Washington State Department of Transportation Design Manual" as may be amended or revised. The decision of whether to install a guardrail or not shall be based on information found in AASHTO publication, Guide for Selecting, Locating, and Designing Traffic Barriers.

2.33 Surfacing Requirements

All materials and workmanship shall be in accordance with the Standard Specifications, these Standards, and as approved by the Engineer.

A. Minimum Structural Section.

Minimum section requirements for surfacing of specific facilities are included in the City Standard Details. -The following are the *minimum* requirements for surfacing for specific facilities ~~as described elsewhere in these Standards~~ covered in the Standard Details.

Facility		Surfacing Requirements
1.	Roadways	
	Arterials	5" Hot Mix Asphalt Class 1/2-inch, PG 70-22 over 14" crushed base rock
	Industrial/Commercial	
	Residential Collector	4" Hot Mix Asphalt Class 1/2-inch, PG 64-22 over 12" crushed base rock
	Access & Local Residential Streets	3" Hot Mix Asphalt Class 1/2-inch, PG 64-22 over 10" crushed base rock
12.	Concrete Sidewalks	4" Portland Cement Concrete over 2" of crushed <u>surfacing top course</u> base rock
3.	Trail	2 1/2" Hot Mix Asphalt Class 1/2-inch, PG 64-22 over 4" Crushed Rock Base, unless approved as an un-paved trail (type 3 trails only). Unpaved trails shall be 3" of 3/8 minus crushed rock over 3" of Crushed Rock Base

All minimum surfacing requirements assume an acceptable, well drained, stable, compacted subgrade. Additional requirements may be imposed at the discretion of the City Engineer if suitable subgrade conditions are not met. A pervious material may be used for trails and sidewalks with approval of the City Engineer.

B. Alternative Sections:

-Streets may be constructed of any of the following:

1. Asphaltic concrete with crushed rock base or treated base.

a. Cement treated bases and subgrades, where proposed, shall be designed and approved by the City prior to Final Engineering plan approval.

1. Design shall have geotechnical investigation performed to obtain samples and determine cement percentage required to obtain 3,000 psi 30-day compressive strength, in addition to optimal moisture content.
2. Full depth asphaltic concrete.
3. Portland cement concrete with cushion course of crushed rock or on a base of crushed rock or treated base.

For pavement sections, other than those in Section 2.33.A, alternative sections may be approved by the City Engineer following submission of calculations by a registered engineer and per the design requirements described herein. Soil testing to obtain the strength of the soil is required for all roads and streets in order to analyze and design the structural section. Soil tests are needed on undisturbed samples of the subgrade materials that are expected to be within three (3) feet of the planned subgrade elevation. Samples are needed for each five hundred (500) feet of roadway and for each visually observed soil type. Soil tests are required from a minimum of three (3) locations.

The selected design structural strength of the soil shall be consistent with the subgrade compaction requirements. The strength and compaction moisture content, at optimum to slightly over optimum, shall be specified. The soils report shall address subgrade drainage and ground water considerations for year-round conditions.

~~Recommendations for both summer and winter construction shall be included.~~ The required density of treated and untreated subgrade materials shall not be less than 95% ~~percent~~ maximum density as determined by AASHTO T-99.

B.C. Aggregate Base

All aggregate shall meet WSDOT specifications for base rock.

During compaction, materials shall be maintained within two (2) percent of the optimum moisture content. The contractor shall begin compaction of each layer immediately after the material is ~~spread, and~~spread and continue until a density of not less than 95 ~~percent~~% of the maximum density has been achieved. Maximum density will be determined by AASHTO T-180, or WSDOT Test Method 705.

C.D. Asphalt Pavement Design

The base course and wearing course of asphalt concrete (AC) for streets shall be WSDOT "Superpave" Hot Mix Asphalt (HMA) Class 1/2-inch, PG ~~64~~58H-22, except for arterial facilities where HMA Class 1/2-inch, PG 58V-22 will be required.

The compaction shall be at least ~~94~~92% ~~percent~~ based on a Rice theoretical maximum density, as determined in conformance with AASHTO T 209, as modified by WSDOT. In addition, for each mix used, a 50 blow Marshall (AASHTO T 245) shall be performed and all related test data shall be provided to the City Engineer. The minimum stability shall be 1,800 pounds, the flow shall be between 8.0 and 16.0 hundredths of an inch, and the voids shall be between ~~three (3)~~three (3) and ~~five (5)~~five (5) percent. The Marshall requirement may be waived by the City Engineer on a ~~case by case~~case by case evaluation.

Asphalt pavement shall be designed by the Asphalt Institute Method, or an approved equivalent method provided it is a nationally recognized procedure.

Design of asphalt concrete pavement structures by the Asphalt Institute Method shall conform to the guidelines of The Asphalt Institute Publication, Thickness Design Asphalt Pavements for Highways and Streets Manual Series No. I.

1. AASHTO T-193 (CBR Method), or
2. AASHTO T-190 (R-Value Method), or
3. If the CBR value of the subgrade exceeds twenty (20) or the R value of the subgrade exceeds sixty (60), then CBR and R-value methods shall not be used.

E. Portland Cement Concrete Pavement:

–The design of Portland cement concrete streets shall be governed by the guidelines and requirements of the Portland Cement Association (PCA) design procedures found in the following publications:

1. Concrete Streets: Typical Pavement Sections and Jointing Details
2. Thickness Design for Concrete Highway and Street Pavements
3. Joint Design for Concrete Highway and Street Pavements

The subgrade shall be tested to determine the Modulus of Subgrade Reaction, k, in order to design the street structure. A correlation of CBR to k may be made using Figure 2, provided in Thickness Designs for Concrete Highway and Street Pavements. In addition, the City requires that the following be incorporated into the design and construction specifications:

1. Use a minimum twenty (20) year design period.
2. Minimum thickness of Portland cement concrete shall be five (5) inches.
3. The minimum concrete specifications shall be 5,000 psi (compressive) and 650 psi (flexural) in 28 days. The minimum cement content will be 660 pounds per yard, with a maximum water / cement ratio of 0.48. Slump shall range from 3-inch to 4-1/2-inch. Entrained air shall be from ~~four (4) to six (6)~~ percent.
4. A design joint plan shall be prepared and incorporated into the street construction plans. Longitudinal and transverse joint locations shall be clearly delineated. Transverse joints shall be skewed forward two (2) feet per lane with right and left curb street stationing noted for each end. Joint spacing (in feet) should not exceed 1.5 to 1.75 times the slab thickness (in inches). For example, an 8-inch thick slab would have a maximum joint spacing of 12 to 14 feet. The maximum length to width ratio shall be 1.25: 1.0 for any panel unless there are other constraints that the City Engineer will examine on a case by case basis.

2.34 Utilities

A. Curb Markings:

–When new curbing is being placed, a stamp shall be placed to mark where each water and sanitary sewer service crosses the curb line. The method of marking the curb shall be approved by the City Engineer and noted on the approved construction plans. If an imprinting stamp is used, the impression left for a water service shall be the letter "W"; for a sanitary sewer service, it shall be the letter "S". These impressions shall be two (2) inches high, placed on the face of the curb.

B. Trench Restoration:

-Trench restoration shall be either by a patch or overlay method as determined by the Public Works Director or the City Engineer. Unless otherwise approved, trenches cut in the travel lane parallel to the roadway will require a grind and overlay of the entire travel lane from the centerline to the edge of pavement. When a patch method is used, the trench limits shall be saw cut prior to the final patch.

All trench and pavement cuts shall be made by saw cuts. The saw cuts shall be a minimum of one (1) foot outside the trench width. If the permit requires an overlay, the contractor may use a zipper or other approved method for the cutting of the existing pavement.

During trench construction, temporary restoration/cover of the trench shall not have a separation ("lip") between the trench surface and adjacent pavement of more than ¼ inch (1/4").

C. Utility Locations-

-Utilities shall be located horizontally within the right-of-way in accordance with City Standards.

2.35 Traffic Calming

Traffic calming measures shall be used by the developer on all Collector and Residential Access streets to reduce traffic speeds unless otherwise approved by the City Engineer. Traffic calming measures may also be required by the City Engineer and/or Community Development Director to mitigate traffic impacts or as required by Ridgefield Municipal Code. Coordinate with the City Engineer on acceptable traffic calming measures ~~are provided in Appendix A.~~

2.36 Commercial Cross Circulation

Pedestrian, bicycle and vehicular cross circulation shall be maintained between adjacent commercial developments, especially to reduce or eliminate the use of the City's arterial and collector system for trips between adjacent uses. Access shall be no greater than 750 feet in length away from another access point or public connection unless approved otherwise by the City Engineer. A minimum of one cross connection shall be provided. Cross connection shall be designed to accommodate emergency services.

In the event of a secured site or other instances where providing commercial cross circulation may negatively impact public health and safety, requests to waive or modify this requirement shall be submitted through a design modification for review and action by both the Public Works Director and Community Development Director.

2.37 Roundabout Design

Roundabouts shall be designed following the guidance from the National Cooperative Highway Research Program (NCHRP) Research Report 1043 published by the Transportation Research Board and the WSDOT Design Manual. Design information provided to City shall include the following:

A. Fastest Path

As part of the engineering submittals, exhibits showing the fastest paths for all movements shall be provided including calculations of the radii and speeds. Offsets for path alignment shall follow guidance from the WSDOT Design Manual.

B. Vehicle Turning

As part of the engineering submittals, exhibits showing the vehicular turning movements for all legs and movements originating from each leg of the roundabout. Vehicles used shall be those of the design vehicles for the roundabout. Additionally, movements shall be shown for other vehicles that are intended to use the roundabout less frequently but will be accommodated (i.e. fire truck).

C. Signage

Signage for the roundabout and approaches shall follow MUTCD standards.

D. Central Island

The central island shall include a 20-24" tall "knee wall" to protect workers and the interior features from vehicles which may attempt to encroach in the roundabout. That knee wall feature is included in Figure xx-x in the standard details.

The central island for the roundabout shall be designed flat and consist of low maintenance ground covers. The design shall provide irrigation sleeves and power conduit sleeves under the roadway to the island for future services.

- E.** The City's Roundabout Committee will make ~~final determinations~~ recommendations of central island designs to City Council, who will have final decision on the design. If applicant desires a specific concept, the proposal shall be presented to the committee and approved prior to inclusion in submittal documentation. The inner central landscaped island shall include City's standard "Knee Wall" detail directly behind the truck aprons inner curbing.

F. Pedestrian Crosswalks

All new roundabouts shall include pedestrian crosswalks. All new multilane roundabouts shall include an actuated pedestrian crossing flashing beacon system. Under guidelines adopted by the United States Access Board that took effect September 7, 2023, the Public Right-Of-Way Accessibility Guidelines (PROWAG) require that all roundabouts with flashing beacon indications shall have accessible pedestrian systems (APS)^{2 3}. These APS systems shall include a locator tone that repeats every second, audible 6-12 ft from the button or to the building line, with intensity responsive to ambient sound.

2.38 Street Cut Restrictions (Reserved Pending Adoption of Municipal Code Revision)

The City of Ridgefield is putting additional care and significant investment into its expanding roadway network for its residents. This includes pavement management projects under a voter-approved Transportation Benefit District. As such, to construct and maintain this infrastructure to a high standard, street cut restrictions will be enforced on the effective date of a pavement cut restriction ordinance.

For five (5) years after a street receives final acceptance for construction, reconstruction, pavement rehabilitation or pavement preservation treatments a street cut prohibition will be in effect. Streets constructed with permeable materials will have a street cut prohibition for

² <https://polara.com/guide/prowag-accessibility-requirements>

³ <https://www.access-board.gov/prowag/technical.html#r308-accessible-pedestrian-signal-walk-indications>

the life of the street. Pavement cuts may be allowed if a more reasonable alternative for service delivery does not exist and alternative engineering and trenchless construction methods (e.g., pushing, boring or bore-pulling) have been explored.

Requests for cutting of a street under a street cut prohibition shall be considered design modifications. The design modification request shall include reasons why a pavement cut(s) is necessary and why alternatives to a street cut are not feasible.

CHAPTER 3
STORM DRAINAGE

CHAPTER 3 - STORM DRAINAGE

3.00 General Approval Requirements

- A. See Chapter 1 for general construction requirements, including the requirements for extension of all drainage conveyance pipes to limits of property, surety bond, utility review, and other general requirements.
- B. These requirements shall apply to all storm drainage facilities in existing and proposed public right-of-way, public drainage easements, and tracts of common ownership in the City. Storm drainage systems include, but are not limited to: inlets, pipes, ditches, creeks, rivers, wetlands, and stormwater quality and quantity facilities. Storm facilities located on, and serving private property are required to follow the requirements of this section for the design and sizing of water quality treatment and detention facilities.
- ~~B.C.~~ As the City transitions into the requirements of a Phase 2 City, stormwater requirements will be updated based on Washington Department of Ecology needs. Standards and timelines for transitions will posted on the City's website at a later date detailing finalized requirements all developers will be required to meet. Until said information is made available by the Department of Ecology, the following requirements stated in Chapter 3 shall be followed.

3.01 Planning Criteria

- A. The City of Ridgefield has established the requirements for the design of facilities intended to protect the public health, safety, and welfare from damage due to flooding. Beyond that level of protection, additional measures are specified in this chapter which are intended to minimize any potential flooding damage and allow for efficient operation, repair, and maintenance of the storm drainage system.
- B. In residential and commercial development, storm sewer main extensions are required to assure orderly and adequate extension of the storm sewer system. These extensions are to be in accordance with requirements of development and service availability as established by the City and the Washington State Department of Ecology.
- C. For development proposals that may contribute to areas of known flooding as determined by the City Engineer, the initial land use application submittal for development proposals may be required to include an off-site analysis report beyond what may be required by the referenced Washington State Department of Ecology Manuals. The off-site analysis is to contain an assessment of potential off-site drainage impacts associated with the development proposal; and propose appropriate mitigations to those impacts.
- D. Design and construction of drainage facilities, including but not limited to: open channels, conveyance pipe, and inlets shall be in compliance with the latest addition of the City's Ordinances, these Standards, the Standard Details and the ~~2005~~2019 edition of "Stormwater Management Manual for Western Washington" (hereinafter referred to as the Western Washington Manual) prepared by the Washington State Department of Ecology, as amended herein.
- E. Storm drainage pipes shall be extended through and to the extremes of the property being developed along the natural drainage ways, to provide connection points for future development of unserved property as determined by the City Engineer. No private storm sewer shall be located within any lot other than the lot which is the site of the building or structure served by such sewer. The exception to this may be common areas in planned

unit developments, and/or City right of-ways, or as otherwise approved by the City Engineer.

- F. Provisions must be made for gravity drainage of roofs and foundation drains for all new buildings and structures. Roof and foundation drains shall be piped directly to on-site stormwater systems, through private easements if necessary, or pipe through the curb and discharged to the gutter unless otherwise approved by the City Engineer.
- G. Provisions must be made for stormwater from private property to remain on private property or be collected and directed to a public or private stormwater system or natural drainage way. Runoff from that portion of driveways behind the back of sidewalk (outside the right-of-way) may be permitted to drain directly to the street, provided that treatment and detention facilities are sized to handle this flow.
- H. Stormwater systems on private property shall be designed and constructed to the most recent edition of the Uniform Plumbing Code.
- I. Private stormwater systems that connect to a public conveyance system routed to a local public stormwater facility may be required to be designed and constructed to public standards as required by the City Engineer.
- J. Check that base map conforms to all requirements listed in the water and sewer utilities standard plan format per Chapter 1.

3.02 Exemptions

- A. The following types of projects are exempt from this section:
 - 1. Forest practices regulated under Title 222 Washington Administrative Code, except for Class IV General forest practices that are conversions from timber land to other uses.
 - 2. Commercial agriculture practices involving working the land for production.
 - 3. Road maintenance practices as follows: pothole and square cut patching, overlaying existing asphalt or concrete pavement with asphalt or concrete without expanding the area of coverage, shoulder grading, reshaping/regrading drainage systems, crack sealing, resurfacing with in-kind material without expanding the road prism, and vegetation maintenance.

3.03 General Design Requirements

- A. The City of Ridgefield has adopted the ~~2005~~2019 Western Washington Manual as amended herein.
- B. The City encourages the use of “Sustainable Street” concepts and also Low Impact Development (LID) concepts and techniques. Low-Impact Development (LID) techniques shall generally be designed in conformance with the ~~2005~~2019 Low Impact Development Technical Guidance Manual for Puget Sound, published by the Puget Sound Action Team/WSU Pierce County Extension.
- ~~B.C.~~ These standards shall also apply to both public and privately owned and maintained systems to comply with current Department of Ecology requirements for the City of Ridgefield.

3.04 Water Quantity and Quality Standards

- A. The minimum standards for the design and construction of stormwater facilities in the City of Ridgefield shall be the same as the Western Washington Manual except as amended herein.
- B. The provisions of this section apply to all new development or redevelopment that:
1. Results in ~~five thousand~~ (5,000) square feet or more of new effective impervious surface within an urban area or has more than 7,000 square feet of land disturbing activities, or converts $\frac{3}{4}$ acres or more from native vegetation to lawn or landscaped areas, or converts 2.5 acres or more native vegetation to pasture;
 2. Results in the addition or replacement of more than ~~one thousand~~ (1,000) square feet of effective impervious surface for any of the development or redevelopment activities requiring oil/water separators per Section 33.11;
 3. Redevelopment that results in ~~ten thousand~~ (10,000) square feet or more of replaced effective impervious surface is subject to the provisions of this section for the portion of the site that is redeveloped.
- C. Projects ~~shall~~ may utilize the Santa Barbara Unit Hydrograph (SBUH) method for hydrologic and hydraulic analysis and facility sizing. A Soil Conservation Society (SCS) Type 1A rainfall distribution resolved to a maximum of 10-minute time intervals shall be used. Otherwise, facilities shall be sized with an approved Continuous Stormwater Modeling software (Western Washington Hydraulic Model of MGSflood).
1. Isopluvial maps used for analysis shall be "Isopluvial Maps for Design Storms in Clark County," as published in National Oceanic and Atmospheric Administration (NOAA) Atlas 2, "Precipitation - Frequency Atlas for the Western United States," Volume IX, Washington. Isopluvial maps are available from the City of Ridgefield Engineering Department.
 2. Curve numbers used for analysis shall be as specified in "USDA SCS TR-55", June 1986 published by the SCS.
 3. All facilities shall provide emergency overflow routes for storm events that exceed the design capacity of the facility.
- Definitions; "effective impervious surface" shall be defined as those impervious surfaces that are connected via sheet flow or discrete conveyance to a drainage system. Impervious surfaces on residential development sites are considered ineffective if the runoff is dispersed through at least one hundred feet of native vegetation. For small residential infill development sites of 8 lots or less, and at the discretion of the City Engineer, the existing impervious areas may be deducted from the total proposed (developed) effective impervious area for the threshold calculation of the "new effective impervious area".
- D. If a site is proposed to be constructed in phases, the first phase shall have a stormwater facility designed to accommodate the ultimate development of the site. The stormwater facility may be constructed in phases provided a plan for phasing is submitted and approved by the City Engineer.

- E. Infiltration is the preferred BMP if site conditions are appropriate and groundwater quality will not be impaired. All applicable discharges to groundwater shall comply with the requirements of the Washington State Department of Ecology Underground Injection Control Program.
 - a. Infiltration systems shall be designed and sized in accordance with Chapter 3.3 of Volume III of the Western Washington Manual or A Review of Infiltration Standards and Practices in Clark County, July 31, 2009 as prepared by the Southwest Washington Branch of the American Society of Civil Engineers.
 - b. Infiltration facilities shall be designed to infiltrate the 100-year design storm. Facilities that infiltrate less than the 100-year design storm shall meet the quantity standards of this section.
- F. Soil groups used for analysis shall be as defined in the most current version of "Hydrologic Soil Groups for Soils in Clark County," published by the SCS. Alternatively, hydrological soil groups from the United States Department of Agriculture (USDA) "Web Soil Survey" can be used, or soil groups can be developed by a Registered Soil Scientist.

3.05 Design of Conveyance Facilities

- A. Storm drain conveyance systems shall be sized to convey the 25-year storm event, and to pass the 100-year storm event through the site with zero property damage. Where a natural drainage way is designated to remain in open-space as shown on the City's Comprehensive Plan, and that drainage way is not part of the regional conveyance facility, stormwater shall be conveyed through that drainage way by closed conduit sized for the 10-year storm event.
- B. Closed conveyance system elements shall be designed to operate in an open flow, not pressure flow regime, for the design storm.
- C. Runoff from the 100-year storm may leave pipes and channels but shall not rise to elevations more than 2 feet below that of the lowest finished floor of buildings.
- D. For roadway flooding conditions during the 100-year storm, one travel lane in either direction shall remain open to emergency vehicles at all times. A travel lane will be considered to be open to emergency vehicles if the maximum depth of flow in the travel lane does not exceed 0.5 feet.
- E. For parking lot flooding conditions during the 100-year storm, the maximum depth of ponding shall not exceed 1-foot. Storage volumes resulting from ponding in street and parking lot areas may be used to meet the storage requirements of [Section 3.09](#) for the maximum design storm.
- F. Pipelines shall be designed as required below:
 - 1. The minimum pipe size for stormwater main lines shall be 12-inches. The minimum size for pipes connecting inlets to mainline shall be 8-inches.

2. The minimum slope for stormwater mainlines shall be as follows:

Inside Pipe Diameter (inches)	Minimum Pipe Slope		Design Capacity (CFS)	As-built Velocity (fps)
	Design	As-built		
12	0.00250	0.00200	1.786	2.034
15	0.00200	0.00150	2.897	2.044
18	0.00170	0.00120	4.343	2.065
24	0.00110	0.00080	7.523	2.042
30	0.00088	0.00058	12.200	2.018
36	0.00065	0.00045	17.051	2.007

Note: Mains installed at a flatter slope than the as-built slope shall be re-laid by the contractor at their expense.

- G. Minimum slope for pipes connecting mainlines to inlets shall be 0.0050.

1. Manholes shall be used to connect inlet lines to mainlines and at all locations where there is a change in direction and/or slope.
2. All inside drops and pollution control structures must be 60 inch or larger diameter structures and must be constructed with pipes; no partitions will be allowed.
3. All storm sewer pipe installed in the City shall be one of the following materials meeting the requirements of the Standard Specifications:
 - Smooth Walled Corrugated Polyethylene (ADS N-12 or equal)
 - PVC Sewer Pipe (ASTM D-3034)
 - Class 52 ductile iron
 - PVC Pressure Pipe (AWWA C-900 or C-905)
4. All trench backfill material shall be imported crushed surfacing base course per the Standard Specifications Section 9-03.9(3).
5. Pipe anchor blocks shall be shown at 20 feet on center where pipe slope exceeds 20%.
6. Horizontal Locations
 - a. Locate storm sewer mains in public right-of-way, within the paved road width, per City Standards.
 - b. Outside of right-of-way, locate utilities in easements through paved areas wherever practical. Particular attention should be given to avoiding landscaped areas where trees may be planted.
7. Cap end of existing storm sewer lines to be abandoned as follows:
 - a. Asbestos cement lines: use end cap coupling equal to ROMAC EC501.
 - b. Cast or ductile iron lines: use M.J. cap or plug
 - c. Clay or concrete lines: fill end of line with cement concrete minimum of 12 inches from end of line.
 - d. Plastic lines: use cap or plug fitting compatible with plastic pipe to be abandoned.

8. Depth of Bury (Cover) and Special Protection

- a. Storm sewer pipe shall be installed with a minimum depth of bury from finished grade of 3 feet unless otherwise approved by the City Engineer. In no case will the depth of bury from finished grade be less than 2 feet or greater than 20 feet. Pipe material shall be based on depth of bury from finished grade as outlined below:
 - i. 2.0 feet to 3.0 feet: Ductile iron pipe or AWWA C900.
 - ii. 3.0 feet to 20 feet: Any pipe listed in 3.05FG.53 above.
- b. Storm sewer pipe shall be encased in steel casing when crossing under rockeries or retaining walls. The casing shall extend beyond footings or rockery face a minimum of 5 feet or the height of the wall or rockery, whichever is greater.
- c. Changes in pipe material may only occur at structures.
- d. Buried metal pipe shall be encased in 8-mil polyethylene per AWWA C-105, where required by the City Engineer.

H. Manholes

1. Maximum length of main line between manholes shall be 400 feet.
2. Where inlets connect to manhole, crown of inlet shall be equal to or above main line crown, but not to exceed 18 inches above the invert of the main sewer.
3. Manhole Sizing
 - Manholes shall be sized such that the structural legs between core holes in the wall of the manhole is no less than 8 inches.
- a. The minimum angle between the incoming and the outgoing pipe shall be 90°, unless otherwise approved by the City Engineer. Pipe shall be radial with the center of manhole.
- b. The above configurations shall provide adequate shelves and room for maintenance and performing T.V. inspections.
4. Access shall be provided to every manhole and shall be appropriately sized for maintenance vehicles as determined by the City Engineer. In necessary locations as determined by the city engineer, vehicle access may be provided to every other manhole.

I. A backwater analysis shall be performed under any of the following conditions:

- a. Pipes with slopes less than 0.5 percent;
- b. Pipes with subcritical flow velocities over 6.5 feet per second;
- c. Stormwater main lines forming an angle of 45 degrees or more at junctions;
- d. Pipes with inverts less than three feet deep.
- e. When backwater analysis is required the hydraulic grade line shall be calculated for both the 25 and 100-year storm events. For the 25-year event there shall be a minimum of one foot of freeboard between the water surface and the top of any manhole or catch basin. For the 100-year event the stormwater flows must meet the requirements of section 3.04(A)(2)-(4).

- J. Backwater analysis shall be performed as described in Section 6-6 of the WSDOT Hydraulics Manual, ~~2007~~current edition, as prepared by WSDOT.
- K. Building setback requirements:
 - 1. 5 feet minimum from covered parking.
 - 2. 10 feet minimum from buildings and retaining walls, or equal to depth of pipe, whichever is greater.
 - 3. 20 feet minimum easement shall be provided between buildings.
 - 4. When passing between any two buildings (residential or commercial, etc.) which are 25 feet apart or less: the sewer line shall be oversized two (2) nominal pipe sizes above the capacity requirements between nearest manholes beyond limits of buildings.

3.06 Clearances / Other Utilities

- A. Water services and inlet lines shall have at least 5 feet horizontal separation.
- B. Check for crossing or parallel utilities. Maintain minimum vertical and horizontal clearances. Avoid crossing at highly acute angles (smallest angle measure between utilities should be between 45 and 90 degrees).
- C. Horizontal clearances between the storm sewer and all other utilities shall be a minimum, of 5 feet.
- D. Vertical clearances between the storm sewer and all other utilities shall be a minimum of 1 foot.
- E. The developer/contractor shall send a letter and preliminary plan to existing utilities to inform them of new construction and shall request as-built information for incorporation into plans. At a minimum the following utilities shall be contacted:
 - 1. Cable television
 - 2. Natural gas
 - 3. Power
 - 4. Telephone

3.07 Connections to Existing Systems

- A. New storm sewer mains shall connect to existing storm sewer mains at existing manholes, or with new manhole on existing sewer per standard detail.
- B. Where new main is larger in diameter than existing downstream main, check that capacity of existing main is not exceeded by flow from new main.
- C. When connecting to existing manhole, check that requirements of Section 3.05D above are satisfied.
- D. If connecting to existing manhole which has access less than 24 inches in diameter and/or concentric cone (manholes over 5 feet deep), manhole shall be upgraded to include new 24-inch frame and cover and/or eccentric cone.
- E. Connections to end of existing pipe:
 - 1. If end of pipe is known to have a bell and the new pipe is same material as existing, plans can specify connection by inserting spigot of new pipe into the existing bell end.

2. If existing line is plain end, or must be cut, plans shall specify use of a coupling to connect new and existing lines.
- F. Approved couplings for use on storm sewer mains include:
 1. Ductile iron mechanical couplings (equal to ROMAC) on ductile iron, concrete, or pipes with differing materials or diameters.
 2. On PVC or PE mains, PVC or PE couplings with compatible dimension ratio and gaskets to connect new and existing pipes shall be used.

3.08 Design of Stormwater Inlets

Stormwater inlets shall be designed and installed so that stormwater does not accumulate on or flow across roadways. The following general guidelines shall be used in designing stormwater inlets:

1. Inlet spacing shall be based upon the amount of water that each inlet can capture. Inlet calculations shall be included in the Stormwater Technical Information Report.
2. In lieu of providing inlet calculations, the following maximum inlet spacing may be used:

Roadway Slope (%)	Maximum Spacing (lf)
0.5 to 1	200
1 to 6	350
6 to 8	250
8 to 12	150
12 to 15	100

These spacings shall be allowed assuming roadway cross-sections from City standards are retained. If roadway sections vary from the approved standard cross-sections, an inlet spacing analysis shall be required to be completed following the requirements within the WSDOT Hydraulics Manual for on grade and sag locations per Section 5-4.

3. For most cases, inlets should be Type 1 catch basins with herring bone grates. For slopes greater than 4%, vaned grates should be used. At the bottom of sag vertical curbs, combination curb inlets should be used.
4. Curb inlets may be used in certain situations with approval of the City Engineer.
5. Inlets should not be located directly in front of ADA ramps. Inlets should be located so as to reduce the amount of water passing in front of ADA ramps.
6. Catch basins shall be WSDOT Type 1 or Type 2, as necessary. Type 1 catch basins shall have a minimum catch of 18-inches below the invert. Type 2 catch basins shall have a minimum catch of 24-inches below the invert.

3.09 Design of Stormwater Detention Facilities:

Stormwater detention facilities shall be designed to provide adequate access for maintenance. Underground detention facilities shall be designed to provide inspection access points at both ends of facility or where deemed necessary to provide proper inspection and maintenance.

The following general guidelines shall be used in designing stormwater detention facilities:

A. Facilities shall be designed in accordance with the ~~2005~~2019 Western Washington Manual, except as amended herein.

B. Stormwater facilities shall be fenced as required by the Western Washington manual. Natural looking non-fenced facilities are strongly encouraged wherever possible.

~~B.C.~~ Facilities shall be identified with a sign (see Section 3.13).

~~C.D.~~ Facilities shall be provided with a paved access road with a maximum slope of 15%, unless approved by the City Engineer. Gravel access roads are allowed in private facilities that are to be privately owned and maintained. A turnaround shall be provided for all access roads unless approved by the City Engineer.

~~D.E.~~ When sizing facilities and calculating the rate and volume of runoff leaving a project site, the following criteria shall be met:

1. The peak release rate for the two-year design storm after development shall not exceed one-half the pre-developed two-year design storm peak runoff rate.
2. The peak release rate for the 10- and 100-year design storms after development shall not exceed the respective pre-developed design storm peak runoff rates.
3. After meeting the requirements of subsections (D)(1) and (D)(2) of this section, the pond volume shall be increased by the following multiplication factor F: $F = (\text{composite curve number} / 46) - 0.6$. This correction factor is to be applied to the volume of the pond without changing its depth or the design of its outlet structure, which shall result in an increase in surface area.

3.10 Design of Stormwater Quality Treatment Facilities

A. Stormwater treatment facilities shall be designed in accordance with the Western Washington Manual. Facilities shall be designed to provide adequate access for maintenance.

B. Treatment facilities shall be sized to capture, hold and treat the water quality design storm as follows:

1. Water Quality Design Storm Volume: The volume of runoff predicted from a 24-hour storm with a six-month return frequency (a.k.a., six-month, 24-hour storm. This storm may be assumed to be 2/3 of the 2-year, 24-hour storm).
2. Water Quality Design Storm Flow Rate: The flow rate predicted from a 24-hour storm with a six-month return frequency (a.k.a., six-month, 24-hour storm).
 - a) Downstream of detention facilities the water quality design flow rate must be the full two-year release rate from the detention facility. Alternative methods may be used if they identify volumes and flow rates that are at least equivalent.

C. Water quality treatment of runoff from sidewalks, separated bike paths, roofs, fenced fire lanes, and infrequently used maintenance access roads is not required if the stormwater drains away from pollution generating surfaces. Runoff from these surfaces that mix with runoff from pollution generating surfaces will require treatment.

D. For vegetated wet facilities including, but not limited to, wet biofiltration swales, stormwater treatment wetlands, wet ponds and wetpools, plantings are required to be plugs, rootstock or nursery stock. Seeding of wet facilities is not allowed unless it can be demonstrated to the satisfaction of the Director that facility vegetation will be fully established before the facility receives stormwater.

E. Bioretention facilities shall be designed as detailed and defined in the Western Washington Manual. Bioretention facility sizing shall be determined with an approved Continuous Storm Water Modelling system (Western Washington Hydraulic Model [WWHM] or MGSflood).

F. The level of treatment for projects for basic or enhanced/metals will be determined from the Western Washington Manual. Unless identified below, projects will be required to meet basic level of treatment if triggered:

Enhanced treatment is required for the following project sites that discharge to fish-bearing streams, lakes, or to waters or conveyance systems tributary to fish-bearing streams or lakes:

- Industrial project sites
- Commercial project sites
- Multi-family project sites
- and High AADT roads as follows:
 - Within Urban Growth Management Areas:
 - Fully controlled and partially controlled limited access highways with Annual Average Daily Traffic (AADT) counts of 15,000 or more
 - All other roads with an AADT of 7,500 or greater
 - Outside of Urban Growth Management Areas:
 - Roads with an AADT of 15,000 or greater unless discharging to a 4th Strahler order stream or larger;
 - Roads with an AADT of 30,000 or greater if discharging to a 4th Strahler order stream or larger (as determined using 1:24,000 scale maps to delineate stream order).

G. Where mechanical treatment is used within the public right-of-way, the following are the approved devices for use by the City:

1. Basic Treatment – StormFilter using ZPG Medial by Contech Engineered Solutions, LLC

a. PhosphoSorb Media will be allowed where required to meet Washington Department of Ecology TMDL requirements.

2. Enhanced/Metals Treatment - Filterra System by Contech Engineered Solutions, LLC

Where conflicts exist with the above listed systems, the developer's engineer may request a design modification following requirements Section 1.17 addressed to the City Engineer. Submittal of the design modification does not indicate approval of the alternative, and allowance to deviate from the required structures will be at the discretion of the City Engineer and City's stormwater manager.

3.11 Oil/Water Separators

- A. The following development activities require American Petroleum Institute (API) or Coalescing Plate Separator (CPS)-type oil/water separators:
 - 1. Industrial machinery and equipment, trucks and trailer, aircraft, parts and aerospace, railroad equipment
 - 2. Log storage and sorting yards
 - 3. Airfields and aircraft maintenance
 - 4. Fleet vehicle yards
 - 5. Railroads
 - 6. Fueling stations
 - 7. Retail/wholesale vehicle and equipment dealers
 - 8. Vehicle maintenance and repair
 - 9. Construction businesses including paving, heavy equipment storage and maintenance, storage of petroleum products (this does not include construction sites)
 - 10. Other activities that exhibit a significant risk of high oil loading in runoff.
- B. The following development activities shall require Spill Control (SC) type oil/water separators
 - 1. Restaurants
 - 2. Multi-family residential projects creating parking spaces for twenty-five25 or more vehicles
 - 3. Other activities where the risk of oil spills or illegal dumping of oil or grease is significant as determined by the City Engineer C. For development activities cited in subsections A and B of this section, oil/water separators shall not be required on portions of a site where the risk of oil or grease spills or dumping is minimal.
- C. Oil/water separators shall be designed in accordance with Chapter 11 of Volume V of the Western Washington Manual.

3.12 Maintenance and Ownership.

- A. Ownership of Stormwater Facilities – Private ownership of stormwater facilities is required where the facility will treat runoff from private property, as well as where private runoff and runoff from public right-of way will be combined prior to treatment. City ownership of stormwater facilities is required for all facilities that will treat only runoff from the right-of-way. Such facilities are to be located within a public right-of-way.
- B. Acceptance of Ownership by the City.
 - 1. Provisional Acceptance. Stormwater facilities, which are to be owned by the City, will be provisionally accepted for ownership upon the approval of the record drawings and approval of an inspection of the facilities by the City. Provisional acceptance of the facilities shall not relieve the applicant from any obligation to undertake any remedial measures to correct deficiencies in the design, construction, maintenance or operation of the facilities.
 - 2. Final Acceptance of Ownership by the City. No sooner than twenty four (24) months following the provisional acceptance of the facilities, the applicant shall notify the City Engineer that the facilities are eligible for final acceptance of ownership by the City. Prior to their final acceptance for ownership, the facilities shall be inspected to determine that they are in satisfactory condition. The City Engineer may require the applicant to conduct tests of the facilities to reasonably demonstrate that they are operating as designed and to the City standards for quality and quantity control as a condition of final acceptance. Upon approval of the facilities by the City Engineer and all necessary ownerships and easements entitling the City to properly access and maintain the facilities have been conveyed to the City and recorded with the County Auditor, they will be finally accepted for ownership by the City.
- C. Maintenance of Stormwater Facilities.
 - 1. City-Owned Facilities.
 - a. Initial Maintenance and Repair. For a period of at least two (2) years following the provisional acceptance of stormwater facilities or thereafter until the facilities are finally accepted by the City, the developer constructing the facilities shall maintain, repair, redesign, reconstruct the facilities to ensure that they operate as designed and to the City standards for quality and quantity control. This obligation shall extend to remedying any damage caused to the facilities by builders or other third parties during the initial maintenance period. The required maintenance shall be performed according to the Stormwater Facilities Maintenance Manual as adopted by Clark County.
 - b. During the initial maintenance period, remedial work to correct deficiencies shall be the responsibility of the developer and shall be completed prior to final acceptance. Required remedial work to correct maintenance and construction deficiencies shall be completed by the applicant prior to final acceptance.
 - c. Long-Term Maintenance. Following their final acceptance for City ownership, the City shall maintain stormwater facilities.
 - 2. Privately Owned Facilities.
 - a. Responsibility for Maintenance. For stormwater facilities for which the City will not provide long-term maintenance, the developer shall make arrangements with the existing or future (as appropriate) occupants or owners of the subject property for assumption of maintenance to the City's Stormwater Facilities Maintenance Manual as adopted by Clark County Chapter 13.26A. The City

Engineer prior to City approval of the final stormwater plan shall approve such arrangements. Final plats shall specify the party(ies) responsible for long-term maintenance of stormwater facilities within the Plat notes for the subdivision or short plat

~~The City may inspect privately maintained facilities for compliance with the City's requirements. If the parties responsible for long term maintenance fail to maintain their facilities to acceptable standards, the City shall issue a written notice specifying required actions to be taken in order to bring the facilities into compliance. If these actions are not performed in a timely manner, the City shall take enforcement action and recover from parties responsible for the maintenance.~~

b. Initial Maintenance and Repair. For a period of at least two (2) years following the provisional acceptance of stormwater facilities or thereafter until the facilities are finally accepted by the City, the developer constructing the facilities shall maintain, repair, redesign, reconstruct the facilities to ensure that they operate as designed and to the City standards for quality and quantity control. This obligation shall extend to remedying any damage caused to the facilities by builders or other third parties during the initial maintenance period. The required maintenance shall be performed according to the Stormwater Facilities Maintenance Manual as adopted by Clark County.

c. During the initial maintenance period, remedial work to correct deficiencies shall be the responsibility of the developer and shall be completed prior to final acceptance. Required remedial work to correct maintenance and construction deficiencies shall be completed by the applicant prior to final acceptance.

d. Long-Term Maintenance. Following final acceptance, the responsible parties shall maintain stormwater facilities.

e. Easements Required. Easements or a covenant acceptable to the City Engineer shall be provided to the City for purposes of inspection of privately maintained facilities. The minimum dimensions of easements for stormwater facilities are as follows:

- (i) Pond design and easements shall allow access to all areas within the pond and drainage structures by standard maintenance equipment vehicles
- (ii) Widths of easements for conveyance facilities shall be a minimum of 15 foot in width, unless otherwise approved or required by the City Engineer.
- (iii) Commercial sites shall provide covenant over the property for access and inspection for City staff of storm infrastructure and facilities.

3. Privately-Owned Facilities (Subject to Municipal Code amendments to implement the requirements of the City's Phase II MS4 Municipal Discharge Permit)

(a) Stormwater Improvement Restrictive Covenant. The applicant shall prepare a stormwater improvement restrictive covenant that runs with the land for each site and each lot that contains stormwater facilities. The applicant shall record the covenant(s) with the Clark County auditor.

(b) Required Elements of Stormwater Improvement Restrictive Covenant. The stormwater improvement restrictive covenant shall be in a form approved by the city, and shall include, at a minimum:

- (i) Designate Responsible Party. Designate the owner or other legally established entity (responsible party) which shall be permanently responsible for operating and maintaining the stormwater facilities and source control BMPs.

- (ii) Pass Responsibility to Successors. Pass the responsibility for such operation and maintenance to successors in title.
- (iii) Establish an Operation and Maintenance Plan. Establish a written stormwater operation and maintenance plan in a form approved by the city as described in Ridgefield Municipal Code or stormwater management plan.
- (iv) Restrict the removal and alteration of stormwater and drainage facilities without approval from the city.
- (v) Right of Entry for Stormwater Authority. For those stormwater improvement restrictive covenants prepared for a commercial site or subdivision, grant community development and its representatives the right of entry at reasonable times and in a reasonable manner for the purposes of inspecting all stormwater facilities and source control BMPs. This includes the right to enter a property to perform inspections pursuant to this chapter and when community development has a reasonable basis to believe that a violation of this chapter is occurring or has occurred and to enter when necessary for abatement of a public nuisance or correction of a violation of this chapter. This includes the right to maintain, repair, and/or restore stormwater facilities that have not been properly operated and maintained and the right to charge the property owner for the cost of such maintenance, repair, and/or restoration. (Ordinance or code citation to come)

3.13 Location of Stormwater Facilities

- A. Runoff treatment and runoff control facilities shall be located prior to the point of discharge into a stream, lake, or fish-bearing water or prior to discharge to groundwater.
- B. Unless otherwise approved by the City Engineer, infiltration systems shall be located as follows:
 - 1. 50 feet from the top of any slope greater than 15 percent%;
 - 2. 100 feet from municipal water supply wells; and
 - 3. 100 feet from existing or proposed septic drain fields.
 - 4. Located and designed to prevent influencing existing or proposed building foundations. Infiltration systems used for stormwater disposal shall be located at least one hundred feet from domestic water supply wells.
- C. Swales and other stormwater treatment facilities using biofiltration shall be located outside easements and corridors used by phone, electric, water, natural gas, and other utilities unless the utilities are installed prior to construction of the biofiltration system.
- D. Stormwater facilities, other than closed conveyance systems, shall be located at least one hundred feet from existing and proposed on-site sewage system drainfields.
- E. Stormwater facilities located in critical area buffers shall comply with the applicable siting restrictions in RDC 18.280.

3.14 Signing and Fencing

- A. Above ground detention facilities shall be fenced following the requirements of the Western Washington Manual.
- B. All facilities shall be provided with a free-standing sign as placed for maximum visibility from adjacent streets, sidewalks, and path follows:
 - 1. Sign shall be on a 48-inch by 24-inch aluminum sheet of 0.1250gauge
 - i. Top of sign no higher than 42 inches from ground surface.
 - ii. Do not block any access road.
 - iii. Do not place within 6 feet of structural facilities (e.g. manholes, spillways, pipe inlets).
 - 2. Sheeting to be non-reflective vinyl
 - 3. Lettering on signage shall be silk screen enamel where possible, or vinyl letters.
 - 4. Sign background to be of a beige color, with teal letters.
 - a. Sign to have 1/8 inch wide white border with located 1/4 inch from edge of sign
 - 5. Text will be of the following Helvetica Condensed with following heights:
 - a. Main Title: 3-inch height
 - i. Main title shall describe the main facility type (i.e. Stormwater Pond, Stormwater Treatment Wetland, etc.)
 - b. Sub-Title: 1-1/2 inch height
 - i. Sub-title shall describe maintainer of facility and contact information.
 - c. Text: 1-inch height
 - i. Text shall include educational information about the facility and its function.
 - ii. If facility is lined, text shall reflect this feature.
 - d. All text shall be located no closer than 1-3/4-inch from border.
 - 6. Posts shall be made of pressure treated 4-inch by 4-inch posts and shall extend 1-1/2 inch above sign with beveled tops. Post shall be installed in 8-inch diameter concrete filled holes 30-inch into the ground.

CHAPTER 4

WATER

CHAPTER 4 - WATER

4.00 General Approval Requirements

- A. In the City's water service area, watermain extensions are required to assure orderly and adequate extension of the water utility system. These extensions are to be in accordance with requirements of development and service availability as established by the City and the Washington State Department of Health.
- B. Water mains shall be extended to the limits of the property being served for service to adjacent parcels where directed by the City Engineer.
- C. For multifamily residential developments, mobile home parks, RV parks, commercial facilities, and industrial facilities, public water mains shall be extended through easement to individual structures. For purpose of reducing potential water quality problems, such extensions of public water shall be made to the limits of the roadway, parking access serving said buildings. Water mains shall be routed across pavement whenever possible. Each building shall be served by a separate water meter from the public water main.

4.01 Planning Criteria

- A. Ensure adjacent properties can be provided water service (extend to extreme of property with adequate capacity and pressure).
- B. Demand projections:
 1. Unit demand, Average daily demand (ADD):
 - a. ~~Single family residential~~ - 160 gallons per capita per day (GPCD), or 400 gallons per day per Equivalent Residential Unit
 - b. Multi-family residential - 80 GPCD
 - c. ~~Nonresidential~~ - Use WSDOH Water System Design Manual Table 5-2
 2. Peaking factors:
 - a. ~~Maximum day demand~~ (MDD) = $ADD \times 2.4$
 - b. Peak Hour Demand = Use WSDOH Water System Design Manual Equation 5-3.
- C. System parameters:
 1. Water velocity in mains - velocities shall not exceed 10 feet per second during highest demand and fire flow.
 2. Distribution system pressures (measured at building elevation):

Desirable- Minimum 50 psi
Maximum 80 psi

Allowable-Minimum 40 psi
Maximum 100 psi
 - * Pressure reducing valves are required on all services when water pressure exceeds 80 psi. Pressure reducing valves shall be installed on ~~main lines rather than~~ individual services rather than main lines unless otherwise directed by the City Engineer.
 3. Reservoir replenishment - facilities (e.g., transmission mains, pump stations) shall be sized to enable storage facilities to be refilled within 3-1 days after an emergency or major fire.

- D. Fire flow requirements shall be as determined by the Clark-Cowlitz County Fire & Rescue.
 - 1. Determination of available fire flow shall be computed using a computer simulated model acceptable to the City with a base demand equal to the maximum daily demand.
 - 2. Minimum system pressure during fire flow analysis shall be 20 psi at all hydrants and throughout the water system.

4.02 General Design Standards

- A. Check that base map conforms to all requirements listed in the water and sewer utilities standard plan format per Chapter 1.
- B. Thrust Restraint
 - 1. All thrust restraint for waterlines shall be accomplished through the use of restrained joints.
 - a. Restrained joints for pipe shall be appropriately designed for the required test pressure. The following is an approved list of restrained joint systems:
 - i. LOC TYTE and MJ-TJ pipe with Megalugs, Pacific States Cast Iron Pipe Company
 - ii. Fast Grip and Lok Ring, American Cast Iron Pipe Company
 - iii. TR Flex and Field Lok, United States Pipe and Foundry Company
 - iv. Snap Lock, Griffin Pipe Products Company
 - v. Megalug, EBAA Iron, Inc.
 - vi. Super Lock, Clow
 - vii. Restrained Joint, McWane
 - 2. Collar thrust blocks or other special blocking designs may be used if necessary. Show all blocking on plans and profiles.
 - 3. A restraint table shall be provided in the plan set for the pipe size and fittings used.
- C. Check with City Engineer to determine how surrounding development will affect design:
 - 1. Serve to extreme of property if adjacent property has potential for future development.
 - 2. All systems shall be looped systems where possible.
 - 3. Where dead end lines cannot practically be avoided as determined by the City Engineer, a permanent blow off capable of providing a 2.5 fps flushing velocity shall be provided along with provisions as needed for disposal of flushing water.
- D. To assure compatibility with existing system, check with City Engineer to determine hydraulic gradients.
- E. Cap end of existing water lines to be abandoned as follows:
 - 1. Asbestos cement lines: use end cap coupling and thrust blocking.
 - 2. Cast or ductile iron lines: Use M.J. cap or plug and thrust blocking.
- F. Minimum watermain size
 - 1. 8-inch minimum diameter when serving fire hydrants.

2. 6-inch minimum diameter may be used in localized conditions where fire hydrants are served by looped lines, subject to City Engineer approval.
- G. One water sampling station shall be provided for every one-hundred (100) lots developed. All subdivisions with more than fifty (50) lots shall install a sampling station. The sampling station shall be installed per the City of Ridgefield Standard Details.
- H. No lengths of ductile iron pipe less than 3 feet in length will be allowed to be installed with the exception of valve and tee/cross connections.
- I. Local high points and local low points shall be avoided whenever possible. ~~Blow-off assemblies and a~~ air release valves shall be installed where necessary at ~~low and~~ high points in watermain to allow ~~for removal of sediments and for~~ release of air. Blow-off assemblies will not be required unless requested otherwise by City. Where feasible, locate hydrant assemblies at low points to allow for removal of sediments.
- J. Toning wire shall be included on all pipe installations. Toning wire connectors shall be Pro-Trace TW Connector, part number 96PTWCBLUE.

4.03 Valving

- A. 500 feet maximum distance between valves on distribution mains. Long transmission mains with limited services may provide isolation valves at 1,000 foot spacing with the approval of the City Engineer.
- B. Provide valve at both ends of an easement.
- C. Valves shall be placed at all legs of watermain intersections, unless otherwise indicated by the City.
- D. Additional valving may be required for area isolation.
- E. Valves 12 inches and smaller shall be gate valves.
- F. Valves 14 inches and greater shall be butterfly valves.
- G. An in-line valve with appropriate restraint shall be placed at all temporary dead-ends that are likely to be extended in the future to facilitate future connection.

4.04 Fire Hydrants

- A. Fire hydrants shall be public if they are serviced off of a public water main, whether or public or on private property. Public fire hydrants and the connecting water main shall be placed in a public easement.
- B. Fire hydrants may be private when they are located past (after) a private water meter and are served by a private water main.
- A.C. The number and locations of fire hydrants, fire flow requirements and fire sprinkler components will be determined by the City, or Clark ~~-Cowlitz County~~ Fire & Rescue. Following are general requirements for fire hydrant locations:
 1. **Commercial Buildings:** Fire hydrants shall be located so that no part of a commercial building is more than 250 feet from a fire hydrant measured along a route accessible to fire department vehicles. When a fire department connection (FDC) is installed in

conjunction with an automatic sprinkler system, it is required to have a fire hydrant located within 40 feet of the FDC. The FDC shall be located remote from the building and outside of the building collapse zone. This area should be clearly marked "Fire Zone No Parking". No building access road can be blocked by fire hose while making the fire department connection.

2. **Non-Commercial Buildings:** Unless otherwise approved by Clark-County-Cowlitz Fire & Rescue, a fire hydrant shall be placed at each street intersection, or at spacing not exceeding 600 feet. Intermediate hydrants are required when the distances to any part of noncommercial buildings exceeds 500 feet measured along a route accessible to fire department vehicles.

3.- Industrial and Commercial Buildings: Fire Hydrants located in street right-of-way ROW cannot shall not be placed within 25 feet- of the top of a driveway flare.-

- B. Fire hydrants shall not be connected to mains less than 8 inches, or 6 inches in diameter where the length of the 6-inch main is less than 50 feet.
- C. Fireline/hydrant run over 50 feet in length must be 8 inches in diameter (terminate with tee, plug and hydrant assembly).
- D. Hydrant shall be located minimum 50 feet from any building, unless approved by the Fire Marshall.
- E. As per the IFC, fire hydrants shall be located to allow a 36-inch clear space surrounding the hydrant. For example, street lights, sign posts, protective posts, or retaining walls shall be no closer than 36 inches from the nearest portion of a hydrant. There shall also be no obstructions directly in line with any of the ports of the hydrant.
- F.- Piping between fire sprinkler vaults and protected building shall not be shown on water design.
- G.- Guard posts are to be used only in parking lots when no curbs are present or in exposed areas in parking lots.
- H. Fire hydrants more than 15 feet from an approved access road or fire lane that serves a proposed building shall not be counted in any calculation of fire hydrant spacing. On-site fire hydrants and water supplies on adjacent properties shall not be considered available, unless accessible by fire apparatus on an approved access road. Fire hydrants located on the opposite side of a roadway shall not be considered in the fire hydrant placement calculations unless specifically approved by the Fire Marshal or CCFR.

4.05 Pipe Class / Protection / Cover

- A.- All waterlines shall be ductile iron pipe Class 52 unless otherwise noted herein. When crossing under rockeries and retaining walls, pipe shall be installed in a steel casing that extends beyond the footings or rockery face a minimum of 5 feet and extends beyond the back of rockery or wall equal to the height of the wall or rockery or a minimum of 5 feet.
- B.- Watermain depth of cover shall be 3 feet minimum and 6 feet maximum from final grade.
- C.- Building setback requirements:

- 5 feet minimum from covered parking to watermain.
- 10 feet minimum from building (and retaining walls) to watermain.
- 20 feet minimum easement shall be provided between buildings.

When passing between single family residential buildings which are 25 feet apart or less, Class 53 ductile iron pipe shall be used to a point 5 feet beyond the limits of building.

When passing between commercial or multifamily buildings which are 25 feet apart or less, the waterline shall be encased in steel pipe. The casing shall be wrapped with polyethylene as per City standards. The line shall be encased to a point 5 feet beyond the limits of the building.

- D. All ductile iron pipe and adjacent fittings shall be encased in 8-mil polyethylene per AWWA C-105 when crossing gas lines or paralleling within 5 feet where directed by the City Engineer.

4.06 Clearances -/Other Utilities

- A. Clearances between water and sanitary sewer mains shall be as follows:

Horizontal and Vertical Separation (Parallel)

A minimum horizontal separation of 10 feet between water lines and any existing or proposed sewer mains, and a minimum vertical separation of 18 inches between the bottom of the water line and the crown of the sanitary sewer mains shall be maintained. The distance shall be measured edge to edge (i.e., from the outer diameter of the pipes.) as shown in Figure C1-2 in the Criteria for Sewage Works Design (rev. 10/2006).

Vertical Separation (Perpendicular)

Water lines crossing Sewer lines at angles including perpendicular shall be laid above the sewer lines to provide a separation of at least 18 inches between the invert of the water line and the crown of the sewer. In the event 18-inches of vertical separation cannot be achieved or the sewer line is required to be installed above the water line, the following is required.

Gravity Sewers Passing Under Water Lines

- Sewer pipe shall be encased in controlled density fill (CDF) with a minimum compressive strength of 300 psi or in a one quarter-inch thick continuous steel, ductile iron, or pressure rated PVC pipe with a dimension ratio (DR) of 18 or less, with all voids pressure-grouted with sand-cement grout or bentonite. Commercially available pipe skids and end seals are acceptable. When using steel or ductile iron casing, design consideration for corrosion protection should be considered. Encasement shall extend a minimum of 10-feet on each side of the crossing.
- One full length of sewer pipe shall be centered at the point of crossing so that the joints will be equidistant and as far as possible from the water line. The sewer pipe shall be the longest standard length available from the manufacturer.

Gravity Sewers Passing Over Water Lines

Water lines shall be protected by providing:

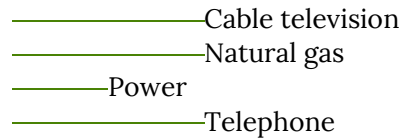
- A vertical separation of at least 18 inches between the invert of the sewer and the

crown of the water line.

- Adequate structural support for the sewers to prevent excessive deflection of joints and settling on and breaking of the water lines.
- The length of sewer pipe shall be centered at the point of crossing so that the joints will be equidistant and as far as possible from the water line. The sewer pipe shall be the longest standard length available from the manufacturer.
- A water line encased in controlled density fill (CDF) with a minimum compressive strength of 300 psi or in a one quarter-inch thick continuous steel, ductile iron, or pressure rated PVC pipe with a dimension ratio (DR) of 18 or less, with all voids pressure-grouted with sand-cement grout or bentonite. Commercially available pipe skirts and end seals are acceptable. When using steel or ductile iron casing, design consideration for corrosion protection should be considered. Encasement shall extend a minimum of 10-feet on each side of the crossing.

Pressure Sewers under Water Lines

- Pressure sewers shall be constructed only under water lines with pressure rated pipe encased in controlled density fill (CDF) with a minimum compressive strength of 300 psi or in a one quarter-inch thick continuous steel, ductile iron, or pressure rated PVC pipe with a dimension ratio (DR) of 18 or less, with all voids pressure-grouted with sand-cement grout or bentonite. Commercially available pipe skirts and end seals are acceptable. When using steel or ductile iron casing, design consideration for corrosion protection should be considered. Encasement shall extend a minimum of 10-feet on each side of the crossing.
- B. Check for crossing or parallel utilities. Maintain minimum vertical and horizontal clearances. Avoid crossing at highly acute angles (smallest angle measure between utilities should be between 45 and 90 degrees).
- C. At points where thrust blocking is required, minimum clearance between the concrete blocking and other buried utilities or structures shall be 5 feet.
- D. Horizontal clearances from watermain:
- | | |
|----------------|--------|
| _____Cable TV | 5 feet |
| _____Gas | 5 feet |
| _____Power | 5 feet |
| _____Storm | 5 feet |
| _____Telephone | 5 feet |
- E. Vertical clearances from watermain:
- | | |
|----------------|-------------|
| _____Cable TV | _____1 foot |
| _____Gas | 1 foot |
| _____Power | 1 foot |
| _____Storm | 1 foot |
| _____Telephone | 1 foot |
- F. The developer/contractor is responsible for sending a letter and preliminary plan to existing utilities to inform them of new construction and requesting as-built information for incorporation into plans. At a minimum the following utilities shall be contacted:



4.07 Slopes

- A. Vertical bends shall be used when joint deflection would exceed 3 degrees.
- B. All pipe joints shall be restrained where slopes are 20% or greater. Anchor blocks shall be used in conjunction with joint restraint where slopes are 25% or greater.

4.08 Connections to Existing System

- A. When tapping water mains, use stainless steel full booted tees conforming to 18-8 Type 304 stainless steel with a CF 8 cast stainless steel flanged end with ANSI 150 lb drilling. Bolts and hardware shall be Type 304 stainless steel.
- B. Connections to existing mains 8-inch diameter and larger shall be via a wet tap unless otherwise approved by the City.
- C. Connections to existing mains smaller than 8-inches in diameter shall be by cutting in a tee, unless otherwise approved by the City Engineer.
- D. Size on size tapping tees are not allowed unless otherwise approved by the City Engineer.

4.09 Easements

- A. Show all utility easements and identify width. If easement is defined as a constant width on each side of watermain, then show a segment of the easement and label as typical (typ).
- B. All easements shall be a minimum of 15 foot in width, unless otherwise approved or required by the City Engineer.

4.10 Services

- A. Locate water services and indicate size. Sizes shall be determined by the developer and approved by the City Engineer.
- B. For offices, multi-family developments and plats with planter areas, provide irrigation services.
- C. Irrigation shall be by separate water main connection and service unless approved by the Public Works Director. Deduct meters may be allowed for commercial/industrial development.
- D. Static service pressures at ground floor elevation shall be determined at all lots/buildings to ensure compliance with system pressure standards.
- E. Plan shall identify lots/buildings where builder/owner should install individual pressure reducing valves. Individual service PRVs are required on customer side of service lines (after water meter box) when service pressures exceed 80 psi.
- F. Meter boxes shall be located within the right-of-way inside the corresponding property lines for the lot being served unless otherwise noted. Meter boxes shall be placed outside

of hard surfaces where practical. Where no other option exists and meter box has to be installed in a paved surface, a Design Modification request per Section 1.17 shall be sent to City for review and approval.

4.11 Backflow Prevention

- A. Private fire protection systems shall comply with minimum backflow requirements as outlined in the following charts on the following page or as determined by the Clark ~~County~~-Cowlitz Fire Marshall's Office or Clark ~~County~~-Cowlitz Fire District 12-.
- B. Irrigation and special domestic services, because of the varying degrees of hazard shall comply with minimum backflow requirements as outlined below. Some of the concerns with these systems are:
 - 1. The growth of offensive micro-organisms which can create taste and odor problems.
 - 2. The leaching of heavy metals such as zinc, cadmium, iron, or lead into the water.
 - 3. The addition of corrosion inhibitors or antifreeze compounds to protect the piping system.
 - 4. A loss of pressure on the public water supply main or an increase in pressure on the user's system which would reverse the water flow into the public supply.
- C. Installation shall comply with the City of Ridgefield requirements and regulations as approved by the State of Washington, Department of Health.
- D. Following any water meter, a minimum of a double check valve assembly shall be installed. Service pipe and backflow devices installed after the water meter are considered private and the responsibility of the property owner to maintain.
- 5.1. Food carts shall include a reduced pressure backflow assembly after water meter connections and prior to connection to the unit.
- ~~C.E.~~ All private fire systems such as double check valve assemblies from the mainline control gate valve shall be owned and maintained by the property owner.
- ~~D.F.~~ All backflow preventers shall be installed in vaults outside of building as close as possible to supplying main.
- ~~E.G.~~ Fire systems in existing buildings being revised or upgraded shall comply with current regulations.
- ~~F.H.~~ Special "health hazard" facilities (facilities named in cross-connection control W.A.C. 248-54-285) such as hospitals, morgues, wastewater plants, metal plating facilities, laboratories, and food beverage plants, usually contain water connections that could backflow hazardous materials into the potable water supply. Therefore, these types of facilities are required to have backflow prevention devices as noted on the chart on the following page.

Private Firelines and Fire Sprinkler System Chart

	Double Check Valve Assembly	Double Check Valve Assembly with Detector	Reduced Pressure Backflow Assembly	Reduced Pressure Backflow Assembly with Detector
1. Fire system - (without chemical addition) 3-inch & larger		X		
2. Fire system - (without chemical addition) 3/4-inch to 2-1/2-inch	X			
3. Private fire system with hydrants		X		
4. Fire system - (with chemical addition) 3-inch & larger				X
5. Fire system - (with chemical addition) 3/4-inch to 2 1/2-inch				X

Notes:

1. All backflow prevention assemblies require test and inspection at the time of installation and annual test thereafter.
2. Backflow assemblies shall be installed per the standards details.

Irrigation and Domestic Service Backflow Protection Chart

	Double Check Valve Assembly	Reduced Pressure Backflow Assembly	Double Check Valve Assembly and by- pass
1. Irrigation system - (without chemical injection)	X		
2. Irrigation systems - (with chemical injection)		X	
3. Tall buildings - over 30 feet above ground level <u>or</u> with in-line booster pump interrupted service permissible	X		
4. Tall building - over 30 feet above ground level <u>or</u> with in-line booster pump uninterrupted service required			X
5. Facilities with health hazards, i.e., hospitals, laboratories, sewage lift stations, car washes etc.**		X	

Notes:

1. All backflow prevention assemblies require test and inspection at the time of installation and annual test thereafter.
2. Backflow assemblies shall be installed per the standards details.
3. If service is uninterruptable, then bypass with RPBD is required.

4.12 Reclaimed Water Systems

- A. Applicability. It is the City's policy to require that all reclaimed water systems meet applicable state standards for the distribution and use of reclaimed water. Where

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reclaimed water is available for use, the City may require that this water source be given preference as a substitute for non-potable water or irrigation use. Where reclaimed water systems are authorized or required by the City, they shall be designed per Washington State Department of Ecology standards.

**ENGINEERING STANDARDS FOR PUBLIC WORKS
CONSTRUCTION**



VOLUME 2

CONSTRUCTION SPECIFICATIONS AND DETAILS

September 2024

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CHAPTER 1

GENERAL CONSTRUCTION REQUIREMENTS

CHAPTER 1 - GENERAL CONSTRUCTION REQUIREMENTS

1.00 General Requirements

A. General

The purpose of these standards is to define the requirements for the construction of ~~public~~public or private improvements to serve new and future developments. No such work shall commence prior to City approval of the full set of construction plans. Mass grading activities may be allowed prior to approval of the construction drawings at the discretion of the City Engineer provided the grading and erosion control plans are approved and all applicable permits are obtained. Designs submitted shall be stamped by a registered Professional Engineer licensed to practice in the State of Washington.

B. Standards

All work and materials shall be in accordance with the latest edition of the City of Ridgefield Engineering Standards For Public Works which shall be cited routinely in the text as the "Standards". The Standards are in two volumes, the second of which comprises this document. Volume 1 addresses engineering and planning issues. This volume (Volume 2) includes standard details and standard drawings which shall be considered part of the engineering plans approved by the City.

C. Standard Specifications

All work and materials shall be in accordance with this document, the latest edition of the APWA/WSDOT Standard Specifications for Road, Bridge, and Municipal Construction, hereafter referred to as Standard Specifications, and other standards as noted herein. Where conflicts exist the more stringent specification shall apply.

D. Applicability

These Standards shall govern all new construction and upgrading of facilities both in the right-of-way and onsite for: ~~transportation related~~transportation related facilities; storm drainage facilities and stream channel improvements; water improvements; and park, recreation, open space facilities used by the public, and land alteration activities that require City Engineering or grading approval.

E. Completion of Public Infrastructure for Developments

All public infrastructure, including water systems, sanitary sewer systems, storm sewer systems, and transportation systems must be fully installed and accepted by the Public Works Director and/or City Engineer and other permitting agencies such as Clark Regional Wastewater District prior to issuance of any building permits.

F. Permitting

Permits, approvals, or agreements are required by the City, and sometimes other jurisdictions, prior to initiating any construction or demolition work elements described within these Standards. Contractor shall have copies of approved permits onsite during all construction activity.

The majority of work covered under these Standards will require multiple permit authority review and approvals. Several types of permits and approvals require prior approval from the authority before a building or other substantial permit can be issued. Any questions regarding information about permits, approvals, and agreements should be directed to the City Permit Technician.

A Building Permit is required for all construction work including alteration, repairs and demolition. This includes retaining walls over 4 feet in height or with a surcharge loading.

1.01 Abbreviations and Definitions

Abbreviations and definitions shall be as listed in Chapter 1 of Volume 1 of the Standards.

1.02 Preconstruction Conference

Upon completion of the design and approval by the City Engineer, a preconstruction meeting will be held with the City at which time construction inspection will be scheduled. No public works construction work shall commence prior to the preconstruction meeting. [See Volume 1 for additional information on preconstruction meeting requirements. At the preconstruction meeting, Contractor shall have a copy of their Stormwater Pollution Prevention Plan ready for submittal and review by City.](#) After completion of construction and submittal of required documents and fees, final acceptance will be given by the City.

1.03 Seasonal Limits

Land alteration operations shall be limited by the seasonal limitations specified.

- A. When public works construction or land alteration activities are interrupted by heavy rain, operations shall not be resumed until the City determines that erosion control facilities are adequate.
- ~~B.~~ Special erosion control requirements are required from October 1 – April 30. Denuded soils must be covered within 48 hours of exposure.
- ~~B.C.~~ ~~C.~~ Public works construction or land alteration activities near sensitive areas, including slopes over 15%, wetlands and corresponding wetland buffers, flood plains, or habitat and riparian corridors shall not occur between October 1st and April 30th unless otherwise approved by the City Engineer. Permits from other agencies in addition to the City may be required by law for such work. It is the responsibility of the developer to obtain such permits prior to beginning work and to see that all applicable regulations are complied with at all times during the course of the work.
- D. Work shall be stopped and the site shall be secured from erosion at any time when weather conditions change or the threat of heavy rain makes erosion problems likely.

1.04 100_Year Flood Plain

There is a prohibition on encroachments, including fills, new construction, substantial improvements, and other development within the regulatory floodway unless certification by a registered professional engineer is provided demonstrating through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge (i.e. 100-year).

1.05 Environmental Protection During Construction

A. General Policy and Requirements

1. It is the policy of the City of Ridgefield to require temporary and permanent measures for all construction projects to lessen the adverse effects of construction on the environment.

The Contractor shall properly install, operate, and maintain both temporary and permanent works as provided in this section or in an approved plan, to protect the environment during the term of the project.

The City may, in addition, require that a construction project be scheduled so as to minimize erosion or other environmental harm.

Nothing in this section shall relieve any person from the obligation to comply with the regulations or permits of any federal, state, or other local authority.

2. For all projects, the prohibitions and regulations of this section shall apply. The City may temporarily suspend the work or require additional protection measures if it appears, based upon observed conditions of the project, that the approved plan is insufficient to prevent environmental harm, and that such suspension or additional measures will prevent or minimize such harm.

B. Air Pollution Control

1. Dust. Dust shall be minimized to the extent practicable, utilizing all measures necessary, including, but not limited to:
 - a. Sprinkling haul and access roads and other exposed dust producing areas with water. Obtaining water from a hydrant will require specific authorization from the City or applicable water jurisdiction.
 - b. Applying Washington State Department of Ecology (DOE) approved dust palliatives on access and haul roads.
 - c. Establishing temporary vegetative cover.
 - d. Placing wood chips or other effective mulches on vehicle and pedestrian use areas.
 - e. Maintaining the proper moisture condition on all fill surfaces.
 - f. Pre-wetting cut and borrow area surfaces.
 - g. Use of covered haul equipment.

2. Fumes, Smoke, and Odors

- a. Tires, oils, paints, asphalts, coated metals, or other such materials will not be permitted in combustible waste piles, and will not be burned at the construction site.
- b. Open burning shall not be permitted unless approved by the Southwest Clean Air Agency and the County Fire Marshal's Office.

C. Stormwater Discharge and Erosion Control

All construction work shall be completed in accordance with the Department of Ecology Construction General Permit. All construction standards must meet or exceed these requirements for the installation and maintenance of erosion control devices.

Demonstration that SEPA requirements have been met and evidence that a National Pollutant Discharge Elimination (NPDES) Permit has been obtained (if required) must be provided prior to commencing any construction activities.

1.06 Clearing and Grading on Environmentally Sensitive Lands

Clearing and grading shall be prohibited in sensitive areas including steep slopes, wetlands and wetland buffers, or flood plains except as allowed by the City's Critical Areas Ordinance.

1.07 Preservation of Existing Vegetation

- A. As far as is practicable, natural vegetation shall be protected and left in place. Work areas shall be carefully located and marked to reduce potential damage. Trees shall not be used as anchors for stabilizing working equipment.
- B. All excavations and fills shall be kept outside the critical root zone of trees and shrubs to remain. The critical root zone shall be defined as the drip line of the tree or shrub. Minor grading (less than six-inches) may occur within the drip line. Heavy equipment and material stockpiles shall be kept outside of the critical root zone.
- C. During clearing operations, trees shall not be permitted to fall outside the work area. In areas designated for selective cutting or clearing, care in falling and removing trees and brush shall be taken to avoid injuring trees and shrubs to be left in place.

1.08 Vegetation Restoration

- A. Vegetation shall be restored on those areas of the site disturbed by the land alteration activity which are not covered by permanent impervious surface improvements (e.g., buildings, parking lots, etc.) at the earliest possible time consistent with appropriate planting times. The soil shall be stabilized prior to vegetation restoration since vegetation alone cannot provide an effective erosion control cover and prevent soil

slippage on a soil that is not stable due to its texture, structure, water movement or excessive slope.

- B. In no case will the period between the land alteration operation and final and complete restorative, or permanent erosion control, vegetation planting for a given project or project phase be longer than one year. Said planting shall restore the vegetation on site to a condition equal to or better than the pre-cleared condition to the maximum extent possible. Temporary erosion and sedimentation control measures shall be maintained in full operating condition for all areas to be restored until said restoration is complete and the site fully stabilized.
- C. All hydroseeding or other seeding activities used for erosion control purposes must be completed no later than October 1st, unless otherwise approved by the City. After October 15th, sod, jute matting or other measures that provide immediate erosion control must be used. ~~in addition to seeding for erosion control purposes.~~

1.09 Maintaining Surface Water Quality

- A. Construction between stream banks is not permitted without applicable governmental agency approvals (i.e. - Washington State Department of Ecology (ECY), Washington State Department of Fish and Wildlife (WDFW), ACOE, etc.) shall be kept to a minimum.
- B. Pollutants such as fuels, lubricants, bitumens, raw sewage, and other harmful materials shall not be discharged into or near rivers, streams, or impoundments. Sterilizing water from water line construction activities shall not be directly discharged into the public storm drainage system without dechlorination.
- C. No water from a stream or impoundment shall be used during construction activities.

1.10 Fish and Wildlife Habitat Preservation

- A. Construction shall be done in a manner to minimize adverse effects on wildlife and fishery resources.
- B. The requirements of local, state, and federal agencies charged with wildlife and fish protection shall be adhered to by the entire construction work force.

1.11 Stream and Creek Crossings

- A. The Contractor shall comply with all provisions of the permits required by the Washington State Department of Fish and Wildlife and the U.S. Army Corps of Engineers.
- B. Before any work may be performed in any stream, the method of operation and the schedule of such work shall be approved in writing by the City Engineer in compliance with above listed agencies. ~~Work within major streams shall be scheduled to take place~~

~~as specified in the applicable permits for such work, and once started, shall be completed without interruption of the work. Mechanized equipment approved for use within the stream, shall enter streams only when necessary, and only within the immediate work area.~~

1.12 Work Hour Limitations

~~A. Allowable work hours for construction are defined in Paragraph A of Section 9.14.010 of the Ridgefield Municipal Code (RMC): "between the hours of seven a.m. and ten p.m. on weekdays and nine a.m. to six p.m. on Saturdays, Sundays and observed city holidays." the more restrictive hours of 7:00 a.m. to 10:00 p.m. Monday through Friday, and 9:00 a.m. to 6:00 p.m. on weekends and City observed Holidays. No work shall occur outside of these hours unless pre-approved by the Public Works Director (City-sponsored projects), or by or that which is stated on the Project Plans, or pre-determined at the Preconstruction meeting. Work occurring outside of these hours without prior written approval by the Public Works Director or City Engineer. Violation(s) is/are subject to fines and ultimately a Stop Work Order.~~

~~A.B. Projects requesting early start hours shall avoid early construction within 300 feet of residences.~~

~~B. Work occurring outside of normal business hours requires prior written approval from the City inspector. Normal business hours are Monday through Friday, 7:30 a.m. to 5:00 p.m., excluding City observed holidays.~~

1.13 Control of Noise Levels

Construction noise shall be minimized by the use of proper engine mufflers, protective sound reducing enclosures, and other sound barriers. Construction activities producing excessive noise that cannot be reduced by mechanical means shall be restricted to locations where their sound impact is reduced to a minimum at the edge of the work area.

1.14 Historical and Archaeological Areas

When burial sites, buried camp areas, village sites, and other distinctive archaeological or historical items are uncovered, or other items suspected of being of historical or archaeological significance are encountered, the Contractor shall report the matter to the City and DAHP Construction operations shall be stopped until the appropriate authorities can examine the area and give clearance to proceed with the work.

Under the Natural Historical Preservation Act, state liaison officers shall be notified when historical or archaeological items are unearthed.

The Washington Criminal Code prohibits disinterment of a corpse without permission of the appropriate authorities.

1.15 Use of Pesticides

- A. The use of pesticides including insecticides, herbicides, defoliants, soil sterilants, and so forth, must strictly adhere to federal, state, county, and local restrictions. Time, area, method, and rate of application must be approved by all relevant authorities and their requirements followed.
- B. All materials delivered to the job site shall be covered and protected from the weather. None of the materials shall be exposed during storage. Waste material, rinsing fluids, and other such material shall be disposed of in such a manner that pollution of groundwater, surface water, or the air does not occur. In no case shall toxic materials be dumped into drainage ways.
- C. All personnel shall stay out of sprayed areas for the prescribed time. All such areas should be fenced, appropriately signed, or otherwise protected to restrict entry.

1.16 Inspection

- A. General Requirements
 - 1. Work performed within the public right-of-way, or as described in these standards, whether by or for a private developer, by City forces, or by a City contractor, shall be done to the satisfaction of the City and in accordance with the Standard Specifications, any approved plans and these Standards. Any revision to construction plans must be approved by the City before being implemented.
 - 2. The City shall have authority to enforce the Standards as well as other referenced or pertinent specifications. The City will appoint project engineers, assistants and inspectors, as necessary, to inspect the work and exercise such authority as the City Engineer may delegate.
 - 3. It is the responsibility of the developer, contractor or their agents to have an approved set of plans, permits, Standard Specifications, and Volume 2 of the City's Standards on the job site wherever work is being accomplished.
 - 4. It is the responsibility of the developer, contractor, or their agents to notify the City in advance of the commencement of any authorized work. A preconstruction conference and/or field review shall be required before the commencement of any work.
 - 5. Failure to comply with the provisions of these standards may result in stop work orders, removal of work accomplished, or other penalties as established by ordinance.
 - 6. Inspection performed by the City does not relieve the contractor from constructing improvements as required by the City Standards and the approved plans and revisions.

B. Substitution of Materials

It is not the intent of these Standards to exclude other equipment or materials of equal value, quality, or merit. Whenever a product is designated, or manufacturer's name, brand, or item designation is given or described, it shall be understood that the words "or approved equal" follows such name, designation, or description, whether in fact they do so or not. Determination of quality in reference to the project design requirement will be made by the City Engineer. A contractor shall not use an "equal" product without prior written approval of the City Engineer.

C. City Inspector's Activities

Inspecting services provided by the City shall include:

1. Monitoring both work progress and performance testing results.
2. The performance of administrative and coordination activities as required to support the processing and completion of the project.
3. The issuance of a stop work order by notice to the contractor to stop the work. The City's Inspector, at the discretion of the City Engineer, may post a stop work order.
4. Maintaining a completion file containing the following:
 - a. The project completion ~~documentation~~documentation;
 - b. The results of material tests, compaction tests, and soil analysis.
5. Inform the City Engineer of any observed plan changes, material changes, stop work orders, or errors or omissions in the approved plans or specifications as soon as practical. Any revision to approved plans must be under the direction of the City Engineer. It shall be at the discretion of the City's Inspector as to whether the revision is significant enough to warrant review by the City Engineer. Any revisions requiring review by the City Engineer and identified as significant enough, will be clarified in writing by the Inspector to the Contractor. If a revision is ~~necessary~~necessary, the developer's engineer shall submit one (1) printed copy and one electronic copy of the proposed revision for approval.
6. No work affected by any revision shall be done until written approval by the City Engineer is provided. Work completed without approval by the City Engineer is subject to removal and reinstallation per the approved plans, at the developer's cost, whether it is believed to be installed correctly or not, for verification and inspection purposes.

1.17 Contractor's Responsibility for Scheduling

A. Sequence of Operations

The Contractor shall plan construction work and execute operations with a minimum of interference with the operation of the existing public facilities. It may be necessary to do certain parts of the construction work outside normal working hours in order to avoid

undesirable conditions, and it shall be the obligation of the Contractor to do this work at such times. This scheduling, however, is subject to the City's approval and does not relieve the Contractor from making work available for inspection.

The Contractor shall notify the City at least 48 hours (two full working days) prior to any City Inspection. Connections between existing work and new work shall not be made until necessary inspection and tests have been completed on the new work and it is found to conform in all respects to the requirements of the plans and specifications.

B. Step Inspections

The following items of work shall be inspected by City forces.

1. For street ~~or sidewalk~~ work, subgrade shall be inspected ~~and proofrolled~~ by the City (and tested ~~and~~ by the Contractor) prior to placement of crushed surfacing. Contractor shall proof roll in presence of City inspector to receive concurrence to move forward.
2. Crushed surfacing shall be inspected ~~and proofrolled~~ by the City (and tested by the Contractor) prior to placement of paving, ~~and~~ curb, ~~or sidewalks~~. Contractor shall proof roll in presence of City inspector to receive concurrence to move forward.
3. Pavement, curbs, and sidewalk. Notify the City prior to the placement of any paving, curbs, or sidewalk.
4. Compaction of bedding and backfill of utility trenches.
5. Compaction of bedding within public right-of-way and slope easement.

C. Progress of Construction

Construction shall proceed in a systematic manner that will result in a minimum of inconvenience to the public.

In the case of a pipelaying job for sanitary sewer, storm drainage, and water improvements the trenching equipment at no time shall be greater than 100 feet ahead of the pipelaying crew, unless given permission by the City Engineer. The trench shall be backfilled so that no section of the trench or pipe is left open longer than 24 hours.

Trenches located in an existing arterial or collector must be backfilled and patched the same day unless otherwise approved by the City Engineer or Inspector. Trenches located in other ~~public~~ public or private streets shall be completely backfilled and/or plated before the contractor leaves the site each day.

1.18 Contractor's Requirement for Compaction Testing

A. General

Compaction testing shall be performed by a certified independent testing laboratory hired by the developer or developer's contractor with the results being supplied to the City

Engineer and City Inspector. The developer or contractor shall pay the cost of all testing as outlined herein.

Compaction test locations shall be selected randomly by City representatives. Minimum testing requirements outlined herein are for tests that meet the requirements of the City's standards or construction specifications. For each test result less than minimum requirements, additional testing will be completed by the Contractor at no cost to the City.

The testing is not intended to relieve the contractor from any liability. It is intended to provide the inspector with general information regarding quality control.

The City Engineer, or his designated representative, may require additional testing not outlined herein. The Contractor, or Developer, shall pay the cost of all additional tests.

See Sections 2 through 4 of Volume 2 for specific requirements.

B. Asphalt Testing

1. Compaction shall be at least 92 percent based on a Rice theoretical maximum density, as determined in conformance with AASHTO T 209, as modified by WSDOT. Number of tests required for each lift:
 - a. For ~~public~~public or private streets, provide one test per every 5,000 square feet of surface area.
 - b. For surface restoration of utility trenches, provide one test per every 200 feet of trench as measured along the trench centerline.

C. Subgrade and Crushed Surfacing Testing

1. Compaction testing as specified in the Standard Specifications. Number of tests required:
 - a. For streets and sidewalks, provide one test of the subgrade and one test of the crushed surfacing for every 5,000 square feet of surface area of pavement, curb, and sidewalk.

D. Bedding and Backfill for Utility Trenches

1. Compaction testing as specified in the Standard Specifications. Number of tests required for all utility trenches (water, sanitary sewer, storm sewer):
 - a. Provide one test at bottom of trench excavation prior to placement of pipe or bedding for each pipe run or every 500 feet of trench whichever is less.
 - b. Provide one test at bedding for each pipe run or every 500 feet of trench, whichever is less.
 - c. Provide one test for each lift of backfill for each pipe run or every 500 feet of trench, whichever is less.

E. Embankment

1. Compaction testing as specified in the Standard Specifications. Number of tests required for all embankment:

- a. For embankment under pavement, curb, or sidewalk, provide one test for every 20 cubic yards of fill material placed, or for every 5,000 square feet of pavement or sidewalk, whichever is less.
- b. For embankment outside the limits of pavement, curb, or sidewalk, provide one test for every 40 cubic yards of fill material placed.

1.19 Safety Requirements

The Contractor is responsible for observing the safety of the work and of all persons and property coming into contact with the work. The contractor shall conduct work in such a manner as to comply with all the requirements prescribed by OSHA. Traffic control in work zones shall conform to the MUTCD. Unless otherwise approved by the City Engineer, a traffic control plan shall be submitted and approved prior to construction.

The City Inspector's role is not one of supervision or safety management, but is one of observation only. Nothing contained in this section or elsewhere in this book shall be interpreted to obligate the City to act in any situation, nor shift the owner's responsibility for safety compliance to the City. No responsibility for the safety of the work or for construction means, methods, techniques, sequences, or procedures shall attach to the City by virtue of its action or inaction under this section.

1.20 Preservation, Restoration, and Cleanup

A. Site Restoration and Cleanup

The Contractor shall keep the premises clean and orderly at all times during the work and leave the project free of rubbish or excess materials of any kind upon completion of the work. During construction, the Contractor shall stockpile excavated materials so as to do the least damage to adjacent lawns, grassed areas, gardens, shrubbery, trees, or fences, regardless of the ownership of these areas. All excavated materials shall be removed from these areas, and these surfaces shall be left in a condition equivalent to their original condition and free from all rocks, gravel, boulders, or other foreign material. Stockpiling of construction materials shall not be allowed on existing sidewalks or the driving surface of existing streets.

All existing storm systems shall be cleaned and flushed, and original drainage restored. Sediment, rock, and other debris shall be collected and disposed of in a proper manner. In no case shall debris be flushed down a storm or sanitary sewer for disposal. All damaged irrigation and house drainage pipe, drain tiles, sewer lateral, and culverts shall be repaired expeditiously, to original condition or better.

All areas disturbed by the Contractor's operations inside dedicated rights-of-way or easements shall be restored to original condition. Areas outside of the easements or rights-of-way which are disturbed by the Contractor's operations shall be graded and reseeded in a method acceptable to the property owner. The Contractor shall obtain a written release from such property owners for any claims of injury or property damage prior to final acceptance of the work by the City.

B. Street Cleanup

The Contractor shall clean all spilled dirt, gravel, or other foreign material caused by the construction operations from all streets and roads at the conclusion of each day's operation. Cleaning shall be by street sweeping supplemented by power brushing, and hand labor, unless otherwise approved by the City. No washing of roads is permitted. The contractor shall follow the City's erosion control procedures.

As soon as practical after completion of all paving and gravel shoulder resurfacing, the Contractor shall remove all dirt, mud, rock, gravel, and other foreign material from the paved surface and storm drainage system.

C. Protection of Property

The Contractor shall exercise all due care in protecting property along the route of the improvement. This protection shall include, but not be limited to, trees, yards, fences, drainage lines, mail boxes, driveways, shrubs, and lawns. If any of the above has been disturbed, they shall be restored to their original condition or better.

1.21 Railroad Crossings

A. General

Crossings of railroad rights-of-way shall be done in a manner which conforms to the requirements of the railroad having jurisdiction. If any bonds and/or certificates of insurance protection are required, they shall be furnished by the Contractor or Owner to the railroad company with the City as an additionally-named insured.

B. Permits or Easements

Crossing agreements, permits, and/or easements for such crossings will be obtained by the applicant and all the terms of such permits or easements shall be met by the Owner and Contractor.

1.22 Surveying

All surveying activities, including construction surveying and collection of as-built information must be completed under the supervision of a Professional Land Surveyor registered in the State of Washington.

1.23 Two-year Surety Bond Requirement

The developer is required to provide a maintenance bond for a minimum of 20% of the full cost of construction for all ~~public~~public and ~~or~~private improvements for a period of two (2) years after acceptance of the project, which will not be released without written approval by the City. The developer is to provide from their Contractor an itemized contractor's cost worksheet on the City's cost estimating template. Coordinate with City for latest template. Contractor shall use State

Prevailing Wage costs to develop estimate. The Contractor shall place the following note on the worksheet; "To the best of my knowledge the itemized quantities and cost included herein are an accurate account of the full cost of construction to be provided as required to meet the City's Maintenance Bond requirement".

For multi-phased developments where public access road(s) was (were) built and accepted for an earlier phase, and where the access road(s) will serve as construction access for future phase(s), the City will request the developer and their contractor to extend the surety bond for such access road(s) until such time a second access road is built for the development, or until all phases are completed. The surety bond period will then be extended for two years after completion and construction acceptance of the public and private improvements of that final phase. Its release is subject to final inspection and acceptance by the City, or acceptance of repairs requested by the City as part of the maintenance bond inspection prior to the expiration of the bond.

1.243 Penalties

Failure to comply with these standards will be cause for stop work orders, withholding or withdrawing approval of plans or plats, revocation of permits, forfeiture of bond, withholding Temporary and/or Final Certificate of Occupancy, and/or other penalties as provided by law.

1.25 Minimum Inspection Requirements

Contractor shall review the Public Works Development Inspection Checklist located in Appendix B. It is the Contractor's responsibility to inform the City and City Inspector when inspections are anticipated for the items noted in the list. At least two (2) business days' notice is required for inspection requests. Under special circumstances, additional inspections may be required beyond those noted in the list. Contractor will not be allowed to move forward with inspections from the listed order until the previous inspection has been signed off in the City's online ~~GovWell~~ development portal (currently Smart Gov).

CHAPTER 2

STREETS CONSTRUCTION

CHAPTER 2 - STREETS CONSTRUCTION

2.00 General Requirements

A. Construction Standards

All street, roadway, or sidewalk construction within public right-of-way shall conform to the most recent design standards of the City and other requirements of the City. All work and materials shall be in accordance with this document and the Standard Specifications (WSDOT Standard Specifications for Road, Bridge, and Municipal Construction). Where conflicts exist the more stringent specification shall apply, as determined by the City Engineer.

B. Plans and Specifications

The installation of street and sidewalks shall be in accordance with construction plans and specifications prepared by the developer's engineer and reviewed and approved by the City.

2.01 Surfacing Requirements

A. General Requirements

Subgrade, aggregate base, and pavement shall be constructed in accordance with the Standard Specifications.

B. Aggregate Base

All aggregate shall meet WSDOT specifications for base rock.

During compaction, materials shall be maintained within 2 percent of the optimum moisture content. The contractor shall begin compaction of each layer immediately after the material is spread, and continue until a density of not less than 95 percent of the maximum density has been achieved. Maximum density will be determined by AASHTO T-180, or WSDOT Test Method 705.

C. Asphalt Pavement

The base and wearing course of asphalt concrete (AC) streets shall comply with the project plans and specifications in accordance with Volume 1 Design Standards.

Compaction shall be at least 92 percent based on a Rice theoretical maximum density, as determined in conformance with AASHTO T 209, as modified by WSDOT. In addition, for each mix used, a 50 blow Marshall (AASHTO T 245) shall be performed and all related test data shall be provided to the City Engineer. The minimum stability shall be 1800 pounds, the flow shall be between 8.0 and 16.0 hundredths of an inch, and the voids shall be between 3.0 and 5.0 percent. The Marshall requirement may be waived by the City Engineer on a ~~case by case~~ case by case evaluation.

2.02 Curb & Gutter

All curb and gutter shall be constructed with Class 3000 ~~concrete,~~ and concrete and shall be constructed over a prepared foundation of compacted aggregate.

When new curbing is being placed, a stamp shall be placed to mark where each water and sanitary sewer service crosses the curb line. The method of marking the curb shall be approved by the City Engineer and noted on the approved construction plans. If an imprinting stamp is used, the impression left for a water service shall be the letter "W"; for a sanitary service, it shall be the letter "S". These impressions shall be 2 inches high, placed on the face of the curb.

2.03 Concrete Sidewalks

All sidewalks shall be four (4) inch thick Class 3000 ~~concrete,~~ and concrete and shall be constructed over a prepared foundation of compacted aggregate with a stiff broom finish. At driveways the concrete shall be six (6) inches thick.

2.04 Mailboxes

It shall be the responsibility of the developer to ascertain mailbox design requirements as required by the Postmaster. Mailboxes, in the general case, shall be set:

- A. Bottom or base of box forty-four (44) inches above road surface or as directed by the Postmaster.
- B. Placement in relation to curb or sidewalk:
 1. Local Streets. Front of mailbox one (1) foot back of vertical curb face or outside edge of shoulder; six (6) inches behind back edge of rolled curbs.
 2. Arterial Streets. Front of mailbox one (1) foot behind the back of sidewalk.
- C. On posts strong enough to give firm support but not to exceed 4" x 4" wood or one and one-half (1-1/2) inch diameter pipe, or material with comparable breakaway characteristics.
- D. Sidewalk widening behind the mailbox shall be no less than five (5) feet long with a ten to one (10:1) taper to the standard sidewalk section.

E. Mailbox installation shall meet the requirements from Volume 1.

2.05 Survey Monuments

Monument case and cover shall be per WSDOT Standard Drawings or as approved by city engineer.

2.06 Street Signage and Striping

- A. Signing. See ~~WSDOT~~ WSDOT Standard Drawings and City of Ridgefield Standard Details for typical installations and details.
- B. Pavement Marking. All materials shall conform to the "State of Washington Standard Specifications for Road, Bridge, and Municipal Construction," latest edition. Pavement markings for channelization shall be reflectorized hot or cold applied plastic. Extruded or sprayed markings shall be dressed with glass beads for initial reflectance. All materials shall have beads throughout the material to maintain reflectance while the material wears. All pavement markings shall be laid out with spray paint and approved by the City before

they are installed. Approval may require a three working day advance notice to have field layout approved by the City.

- C. Traffic Signal Modification. The developer's engineer shall use the standard specifications developed by the City Engineer in conjunction with the current edition of the Washington State Department of Transportation's (WSDOT) "Standard Plans and Specifications for Road, Bridge, and Municipal Construction".

2.07 Safety Railings

Safety railings shall be constructed of 2-inch galvanized steel pipe or aluminum with vertical supports ten (10) feet on center and 3 horizontal railings fourteen (14) inches on center, the lowest railing center being fourteen (14) inches above finished grade. All joints shall be welded, cold galvanized if welded after galvanizing, and the entire safety railing vinyl coated to assure corrosion protection and a pleasing appearance. Railings shall be erected and adjusted, if necessary, after initially set to assure a continuous line and grade. Warning signs stating "Danger, Please Keep Off" shall be attached to the railing spaced every 50 feet or as directed by the City Engineer.

2.08 Fences

Chain link fencing shall conform to Section 9-16 of the Standard Specifications as modified herein. Fence material shall be black vinyl coated and provided with black plastic slats per the Standard Specifications. The fence shall be heavy steel guard fence with a top and bottom tension wire. Rails, posts, and accessories shall be galvanized and powder coated. At the discretion of the City Engineer, fence color, slats or other aesthetic features may be modified or removed for fencing of open spaces and stormwater facilities.

2.09 Utilities

- A. Depth
Underground utilities shall be buried a minimum depth of thirty-six (36) inches as measured from finished grade to top of utility. See Chapters 3, and 4 for additional requirements.
- B. Trench Restorations – General
General trench restoration requirements are identified below. There may be additional requirements for specific utilities as noted in subsequent chapters, or per City Ordinance.

Trench restoration shall be either by a patch or overlay method as determined by the Public Works Director or the City Engineer. Unless otherwise approved, trenches cut in the travel lane parallel to the roadway will require a grind and overlay of the entire travel lane from the centerline to the edge of pavement. When a patch method is used, the trench limits shall be sawcut prior to the final patch.

All trench and pavement cuts shall be made by sawcuts. The sawcuts shall be a minimum of one (1) foot outside the trench width. If the permit requires an overlay, the contractor may use a zipper or other approved method for the cutting of the existing pavement.

All trenching shall be backfilled with CDF or Crushed Surfacing Top Course materials conforming to Section 4-04 of the WSDOT Standard Specifications. The trench shall be compacted to a minimum of ninety percent (95%) maximum density (AASHTO T-180), as described in Section 2-03 of the WSDOT Standard Specifications.

Backfill compaction shall be performed in 8 to 12 inch lifts. The compaction tests shall be performed in two (2) foot increments maximum. The test results shall be given to the City Engineer for review and approval prior to paving. Number of tests required shall be as specified in Chapter 1 or as directed by the City. Temporary restoration of trenches for overnight use shall be accomplished by using MC mix (cold mix) ~~or ATB. ATB used for temporary restoration may be dumped directly into the trench, bladed out and rolled.~~ After rolling, the trench must be filled flush with asphalt to provide a smooth riding surface. Steel plates may be allowed at the discretion of the Public Works Director and the City Engineer for low traffic volumes and low speed areas.

Tack shall be applied to the existing pavement and edge of sawcuts and shall be emulsified asphalt grade CSS1 as specified in Section 9-02.1(6) of the Standard Specifications. Tack coat shall be applied as specified in Section 5-04 of the WSDOT Standard Specifications.

Hot mix asphalt shall be placed on the prepared surface by an approved method and shall be in accordance with the applicable requirements of Section 5-04 of the WSDOT Standard Specifications, project plans and specifications. Longitudinal joints between successive layers of asphalt concrete shall be displaced laterally a minimum of twelve (12) inches or unless otherwise approved by the City Engineer. Fine and coarse aggregate shall be in accordance with Section 9-03.8 of the WSDOT Standard Specifications. Hot mix asphalt over two (2) inches thick shall be placed in equal lifts not to exceed two (2) inches each.

All street surfaces, walks or driveways within the street trenching areas affected by the trenching shall be feathered and shimmed to an extent that provides a smooth-riding connection and expeditious drainage flow for the newly paved surface. Shimming and feathering as required by the Engineer shall be accomplished by raking out the oversized aggregates from the mix as appropriate.

Surface smoothness shall be per Section 5-04.3(13) of the WSDOT Standard Specifications. The paving shall be corrected by removal and repaving of the trench only.

Asphalt patch depths will vary based upon the streets being trenched and whether the trenching is parallel or perpendicular to the streets. The actual depths of asphalt shall be shown on the Right-of-Way Encroachment Permit and the work shall be performed as required by the attached details or as specified by the City Engineer.

Compaction of all lifts of asphalt shall be an average of ninety-one percent (92%) based on a Rice theoretical maximum density, as determined in conformance with AASHTO T 209, as modified by WSDOT. Number of tests required shall be as specified in Chapter 1.

All joints shall be sand sealed using paving asphalt CSS1.

When trenching within the roadway shoulder(s), the shoulder shall be restored to its original or better condition.

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The final patch shall be completed as soon as possible and shall be completed within thirty (30) days after first opening the trench. This time frame may be adjusted if delays are due to inclement weather, or other adverse conditions that may exist. However, delaying of final patch or overlay work is allowable only subject to the City Engineer's approval. The City Engineer may deem it necessary to complete the work within the thirty (30) days' time frame and not allow any time extension. If this occurs, the Contractor shall perform the necessary work as directed by the City Engineer.

2.10 Progress of Construction

Construction shall proceed in a systematic manner that will result in a minimum of inconvenience to the public.

2.11 Contractor's Requirement for Testing

Testing shall be performed per the requirements of the Standard Specifications and Chapter 1 of Volume 2 of these Standards.

2.12 Illumination Material Confirmation

Prior to installation of illumination, Contractor shall bring luminaires to City Public Works office to have City provide confirmation of lights are those approved. Lights installed without City confirmation of the luminaires may require Contractor to remove or City may impose fees.

CHAPTER 3

STORM DRAINAGE CONSTRUCTION

CHAPTER 3 - STORM DRAINAGE CONSTRUCTION

3.00 General Requirements

- A. Provisions must be made for gravity drainage of roofs and foundation drains for all new buildings and structures. Roof and foundation drains shall be piped directly to on-site stormwater systems or piped through the curb to the gutter.
- B. Provisions must be made for stormwater from private property to remain on private property wherever feasible. Runoff from driveways shall be directed to adjacent lawn whenever practical and not be permitted to drain directly to the street unless topography presents undue constraints.
- C. These requirements shall apply to all storm drainage facilities in existing and proposed public right-of-way, public drainage easements, and tracts of common ownership in the City. Storm drainage systems include, but are not limited to: inlets, pipes, ditches, creeks, rivers, wetlands, and storm water quality and quantity facilities. [These standards shall also apply to privately owned and maintained systems to comply with current Department of Ecology requirements for the City of Ridgefield.](#)

3.01 Connection to Existing Systems

- A. Connection of new pipe lines to existing manholes shall be core drilled for connection. Connection shall be made with a water-tight gasketed connection, Kor-N-Seal, or equal.
- B. Connection of a pipe line to a system where a manhole is not available shall be accomplished by pouring a concrete base and setting manhole sections. The existing pipe shall not be cut into until approval is received from the City.
- ~~C.D.~~ Connections to manholes using inside or outside drop structures shall be as approved by the City Engineer.
- D. Connection to an existing manhole requires the installation of one fourth (1/4) inch mesh screen in the downstream line while making connection to eliminate debris from entering the existing system, unless otherwise approved by the City Inspector. After the connection has been completed the new incoming pipe shall be plugged until City approval of the upstream system.

3.02 Roadway and Railway Crossing

- A. The owner shall use the method which has been designed on the plans and is acceptable to the City Engineer and the governmental or private agency having control of the crossing. Permits are required and shall be obtained prior to the City granting construction approval.

3.03 Trench Excavation

- A. Trench excavation shall be completed in accordance with Section 7-08 of the WSDOT Standard Specifications.
- B. Trenching operations shall not proceed more than one hundred (100) feet in advance of pipe laying except with written approval of the City.
- C. When trenching operations involve cutting through concrete pavement, the pavement shall be removed to width of eighteen (18) inches greater than the top width of the trench. The concrete shall be cut on a straight line and shall be beveled so that the cut will be approximately one (1) inch wider at the top than at the bottom.

3.04 Pipe Laying

- A. Pipe laying shall be in accordance with Section 7-08 of the WSDOT Standard Specifications.
- B. The first section of pipe not less than one hundred (100) feet in length installed by each crew shall be witnessed by the City inspector in order to qualify the crew and/or material. Successful installation of this section shall be a prerequisite to further pipe installation by said crew.
- C. Regardless of the pipe material or size or the amount of cover from finished grade, existing or newly installed pipe shall not be subject to construction traffic, including excavators, trucks, pavers, etc., until the backfill has reached a minimum of 2-feet above the top of the pipe. Backfill material may be compacted in piles over the top of the pipe, but must not be removed during paving or any other construction activities. The City Engineer may require television inspection, removal and reinstallation or other measures as deemed necessary at the Contractor's expense should pipes be subject to construction traffic prior to providing the minimum 2-feet of cover.
- D. Tracer wire shall be installed with all pipe sections unless exempted by the City Engineer or the Development Inspector. Splices in tracer wire shall be made with a manufactured connection to ensure conductivity through the splice. Tracer wire connectors shall be Pro-Trace part number 96PTWCBLUE.

3.05 Pipe Bedding and Backfill

- A. Imported bedding will be required of all storm sewer pipe. Bedding shall be compacted to 90% of the maximum theoretical density as measured by the modified proctor method (AASHTO T-180) prior to placement of the next layer.
- B. Backfill material in roadway areas shall be imported granular material meeting the requirements of WSDOT Standard Specification for Crushed Surfacing Base Course (Section 9-03.9(3)). Backfill material shall be compacted to 95% of maximum dry density as measured by the modified proctor method (AASHTO T-180).

3.06 Pipe in Construction Areas

- A. Fills:

Where pipe is to be installed in fill areas, special treatment may be required at the discretion of the City. This treatment may consist of the following:

 - Compacting the backfill in six (6) inch layers
 - Careful choice of backfill materials
 - Use of a mechanical joint
 - Use of ductile iron pipe or such other reasonable methods or combination as may be deemed necessary by the City.

3.07 Manholes, Inlets and Catch Basins

- A. Materials and construction shall be per Section 7-05 of the WSDOT Standard Specifications.
- B. All manholes, inlets and catch basins shall be constructed to finished grade. Any re-adjustment of finish grade by the developer or lot owner shall require that party to adjust the manhole and/or cleanout fixtures to the new finished grade.
- C. Provide locking manhole covers in areas outside of public right-of-way.
- D. All pipe connections to manholes shall be made with a gasketed boot connection, Kor-N-Seal boot or equal.
- E. All manhole covers shall be set flush with ground surface, except where otherwise designated by the City Engineer. Manholes in easements shall have locking lids.
- F. Concrete closure collars shall be provided around all manhole adjustment sections per standard detail S-3.0.
- G. Terminal manholes (at end of main) shall not be channeled. Slope manhole base to provide positive drainage toward pipe; use 3,000 psi cement concrete.
- H. Channels shall be centered in manhole.
- I. Ladder rungs shall be placed on side of manhole with largest shelf.
- J. Any manhole less than 5 feet deep (rim to invert) shall be provided without a cone section. All other manholes shall be provided with an eccentric cone.
- L. All manholes shall be provided with gasketed joints.

3.08 Testing Bedding and Backfill for Trenches

Compaction testing shall be in accordance with Section 1, Volume 2 of these Standards.

3.09 Cleaning and Flushing

- A. Clean and flush all new storm sewers per Section 7-17 of the WSDOT Standard Specifications. Clean existing drainage structures as specified in Section 7-07 of the WSDOT Standard Specifications.

3.10 Testing of Storm Sewers, Laterals, and Manholes

- A. Prior to any testing of storm sewers, the contractor shall flush, clean, and remove all debris from the system 3.098 of this section.
- B. All mainline and lateral sewers shall be tested after backfilling by either the exfiltration test, or air test per Section 7-04.3(1) of the WSDOT Standard Specifications.
- C. Television inspection shall also be completed on all new ~~public~~public or private storm sewer pipe and private storm sewer pipe along with existing sections of pipe which are disturbed or affected by new construction. All mainline and laterals constructed of flexible pipe shall be deflection tested not less than 30 days after the trench backfill and compaction has been completed. Testing and corrective action as required shall be per Section 7-17.3(2) of the WSDOT Standard Specifications. The costs incurred in making the inspection shall be borne by the developer.

- D. Local variations in slope (i.e., “bellies”) must be not more than ½” in 8-inch pipe, ¾” in 10-inch pipe, and 1” in pipes 12-inches or greater. Variations in excess of these tolerances must be repaired at the Contractor’s expense to the satisfaction of the City.
- E. The developer shall bear all costs incurred in correcting any deficiencies found during television inspection including the cost of any additional television inspection that may be required by the City to verify the correction of said deficiency.
- F. Test films will become the property of the City.
- G. Repair by chemical grouting will not be allowed.

3.11 Culverts

- A. All exposed culvert ends shall be beveled. Materials and construction shall conform to Section 7-02 of the WSDOT Standard Specifications.

3.12 Embankment

- A. Embankment for stormwater retention or detention basins shall be placed as required by the site-specific geotechnical report. Embankments shall be constructed per Section 2-03 of the Standard Specifications.

3.13 Oil/Water Separator

- A. Oil/water separators shall be constructed as shown in the standard details and/or the approved plans. Excavation for precast vaults shall be sufficient to provide a minimum of 12 inches between the vault and the side of the excavation. Vaults shall be placed at proper depth to set vault cover flush with finish grade. If additional depth of cover is required over inlet or outlet piping, vault riser sections shall be installed to raise vault cover a maximum of 24 inches.
- B. The oil/water separator shall be placed on firm soil. If the foundation material is inadequate, the Contractor shall use foundation gravel or bedding concrete under the normal base to support the separator.
- C. Vault shall be placed and set plumb so as to provide vertical sides. The completed separator shall be rigid and watertight.
- D. Joints of precast concrete sections shall be thoroughly wetted and completely filled with mortar, plastered and trowled smooth with 3/4" of mortar in order to attain a watertight surface.
- E. All lift holes, if any, on precast items shall be completely filled with expanding mortar and smoothed both inside and out, to insure water-tightness. All steel loops, if any, on precast section must be removed, flush with the vault wall. The stubs shall be covered with mortar and smoothed. Rough, uneven surfaces will not be permitted.
- F. Precast vaults, shall be provided with 8-inch diameter knockouts at all pipe openings or have openings core-drilled prior to installation.
- G. All rigid pipe entering or leaving the structure shall be provided with flexible joints within twelve (12) inches of the manhole structure and shall be placed on firmly compacted bedding. Special care shall be taken to see that the openings through which pipes enter the structure are completely and firmly filled with mortar from the outside to ensure water-tightness. All P.V.C. pipe connections to vault shall be made with gasketed coupling as approved by the City.

CHAPTER 4

WATER CONSTRUCTION ~~PROCEDURES~~

CHAPTER 4 - WATER CONSTRUCTION PROCEDURES

4.00 General Requirements

A. Water Quality

The quality, taste and odor of water drawn from new construction water mains shall be the same as the water in the existing facility classed as acceptable for use by the City. Should the water not be acceptable for use because of taste, required steps as approved by the City shall be accomplished to attain water quality acceptable for use.

B. Operation of all waterlines valves and appurtenances shall be by City personnel only once new waterlines are connected to the City's existing system, regardless of whether or not the overall project has been accepted by the City.

4.01 Water Meters

A. Water meters shall be furnished and set by the City. The owner is required to apply and pay all meter and installation fees prior to the acceptance of the project. The City will install meters and lock off meter setters and turn on as requested by the owner after acceptance by the City. Water meters will be set only after box and setter are installed per the standard details.

D. All irrigation systems require the installation of certified backflow devices. Certification must be either City or State approved.

All irrigation systems will be set and turned on after acceptance of the water system by the City. The City will not accept a water system until all the requirements of these standards have been completed and all the fees have been paid.

E. Adjustments, repairs or replacement of the service line, meter box or setter shall be the responsibility of the property owner.

G. Water services are to be single runs from the main line to each meter. Splices or joints of any kind are not allowed on new services or service line repairs completed by the contractor. Multiple meters on a single service line will only be accepted when all meters serve a single property owner.

H. Materials and construction shall be in accordance with Section 7-15 of the WSDOT Standard Specifications and the Standard Details.

4.02 Cross Connection Control

Backflow devices shall be installed in accordance with the requirements of the "Accepted Procedure and Practice in Cross Connection Control" manual, the Uniform Plumbing Code and Engineering Standards.

4.03 Connections to Existing Pipelines

A. Connections may be made to existing pipes under pressure with a tapping machine by determining the size and type of pipe and installing tapping sleeve to fit complete with tapping gate valve. Where cut-ins requiring a shut-down of existing lines are permitted to be made, the work shall be conducted at such a time and in such a manner as to

- minimize the interruption of service. -Cut-in time must be approved by the City. Necessary pipe, fittings and gate valves shall be assembled at the site ready for installation prior to the ~~shutting-off~~ shutting off of water in the existing main. Once the water has been shut off, the work shall be performed vigorously and shall not be halted until the line is restored to service. Operation of all water main line valves shall be by the City. The City shall witness all wet taps and cut-in connections and requires ~~fortyeight~~ forty-eight business (~~48~~) hours' notice and approval by the City.
- B. The Contractor shall have the responsibility of giving at least a ~~forty-eight~~ business (48) hour notice to the City and affected customers of intention to disrupt service.
 - C. Shut-down of the system at the requested time is not guaranteed. If City personnel are not available at the requested time or if the Contractor does not have the necessary equipment and materials on site, the shut-down will be moved back to allow for re-notification.
 - D. Pipes to be abandoned shall be capped with mechanical couplings. Abandoned pipes left in place that are larger than 8-inches in diameter must be completely filled with grout.
 - E. When tapping water mains, use stainless steel conforming to 18-8 Type 304 stainless steel with a CF 8 cast stainless steel flanged end with ANSI 150 lb drilling. Bolts and hardware shall be Type 304 stainless steel.
 - F. ~~Connections~~ Connections to existing mains larger than 8-inch diameter shall be via a wet tap unless otherwise approved by the City.
 - G. Connections to existing mains smaller than 8-inches in diameter shall be by cutting in a tee, unless otherwise approved by the City Engineer.
 - H. Size on size tapping tees are not allowed unless otherwise approved by the City Engineer.

4.04 Roadway and Railway Crossing

The Contractor shall use the method which has been designed on the plans and is acceptable to the City and the government or private agency having control of the road. Permits are required and shall be obtained prior to construction approval.

4.05 Trench Excavation

- A. Clearing and grubbing, where required, shall be performed within the easement or public right-of-way and as permitted by the property owner and/or governing agencies. Debris resulting from the clearing and grubbing shall be disposed of by the developer.
- B. The work necessary to excavate, bed, and backfill water pipelines shall conform to the requirements of Section 7-9 of the WSDOT Standard Specifications and the Standard Drawings.
- C. Trenching and shoring operations shall not proceed more than one-hundred (100) feet in advance of pipe laying without written approval of the City.
- D. Where a utility crosses under an existing asbestos cement water main or where a trench alters the bedding of an existing asbestos cement water main, the existing A.C. pipe shall be cut three (3) feet minimum from each side of the trench wall and replaced with a

corresponding size ductile iron pipe Class 52. The ductile iron pipe shall be connected to A.C. pipe with transition couplings.

4.06 Pipe in Filled Areas

Special treatment may be required at the discretion of the City for pipe installed in fill areas. This treatment may consist of compacting the backfill in six (6) inch layers, careful choice of backfill materials, use of Mechanical Joint Ductile Iron Pipe in short lengths, or such other reasonable method or combinations as may be necessary or as required by the City.

4.07 Pipe Installation For Water Mains

A. General

Pipe shall be laid per Section 7-08 of the Standard Specifications as modified and/or amended herein.

B. Line and Grade

Waterlines shall be installed to the line and grade shown on the plans. Construction staking providing both line and grade information shall be provided at locations of all fittings and valves and at intermediate locations spaced not more than 60 feet apart. Pipelines shall not deviate from the straight line at any joint in excess of 2 inches horizontally and 1 inch vertically. The Contractor shall pothole and locate existing utilities far enough in advance of pipe laying operations such that horizontal and vertical changes in pipeline and grade can be achieved with joint deflections.

C. Pipe and Fittings Materials

Use only Class 52 ductile iron pipe and fittings in accordance with Section 7-9 of the WSDOT Standard Specifications.

D. Bolts

Bolts for buried flanged fittings shall be stainless steel. Bolts for mechanical joints shall be NSS Corten steel on ductile iron fittings only.

E. Permissible Deflection of Joints

Wherever it is necessary to deflect pipe from a straight line either in a vertical or horizontal plane, or where long-radius curves are permitted, the amount of deflection allowed shall not exceed the values in the following table:

Maximum Deflection Permitted*

18-Foot Length Pipe

Diameter (Inches)	Mechanical Joint Maximum Deflection**		Push-on Joint Maximum Deflection	
	Angle (Degrees- Minutes)	Deflection (Inches)	Angle (Degrees)	Deflection (Inches)
4	8-18	31	5	18
6	7-07	27	5	18
8	5-21	20	5	18
10	5-21	20	5	18
12	5-21	20	5	18

* The maximum deflection shall be whichever is less, the table or that recommended by the pipe manufacturer.

** Safe deflection for 150 pounds pressure. For higher pressure, reduce tabulated deflection proportionally 10 percent for each 150 pounds added pressure.

F. Downtime Protection

When stopping work for the day, the contractor shall plug pipe ends to prevent rodents, other small animals, or debris from entering the pipe. Use an inflatable ball as a plug in addition to a tight-woven canvas, securely tied around outside of pipe end.

G. Detectable Tracer Wire

Water main and services shall be installed with a 12 gauge **solid** insulated copper tracer wire. Wire shall be terminated at valve boxes and meter boxes. Splices in tracer wire shall be made with a manufactured connection to ensure conductivity through the splice. Tracer wire connectors shall be Pro-Trace part number 96PTTWCBLUE.

H. Sanitary Sewer Crossings

Horizontal and Vertical Separation (Parallel)

A minimum horizontal separation of 10 feet between sanitary sewers and any existing potable water lines, and a minimum vertical separation of 18 inches between the bottom of the drinking water line and the crown of the sewer shall be maintained. The distance shall be measured edge to edge (i.e., from the outer diameter of the pipes.) as shown in Figure C1-2 in the Criteria for Sewage Works Design (rev. 10/2006).

Vertical Separation (Perpendicular)

Sewer lines crossing water lines at angles including perpendicular shall be laid below the water lines to provide a separation of at least 18 inches between the invert of the water line and the crown of the sewer.

In the event 18-inches of vertical separation cannot be achieved or the sewer line is required to be installed above the water line, the following is required.

Gravity Sewers Passing Under Water Lines

- Sewer pipe shall be encased in CDF with a minimum compressive strength of 300 psi or in a one quarter-inch thick continuous steel, ductile iron, or pressure rated PVC pipe with a dimension ratio (DR) of 18 or less, with all voids pressure-grouted

with sand-cement grout or bentonite. Commercially available pipe skids and end seals are acceptable. When using steel or ductile iron casing, design consideration for corrosion protection should be considered. Encasement shall extend a minimum of 10-feet on each side of the crossing.

- One full length of sewer pipe shall be centered at the point of crossing so that the joints will be equidistant and as far as possible from the water line. The sewer pipe shall be the longest standard length available from the manufacturer.

Gravity Sewers Passing Over Water Lines

Water lines shall be protected by providing:

- A vertical separation of at least 18 inches between the invert of the sewer and the crown of the water line.
- Adequate structural support for the sewers to prevent excessive deflection of joints and settling on and breaking of the water lines.
- The length of sewer pipe shall be centered at the point of crossing so that the joints will be equidistant and as far as possible from the water line. The sewer pipe shall be the longest standard length available from the manufacturer.
- A water line encased in CDF with a minimum compressive strength of 300 psi or in a one quarter-inch thick continuous steel, ductile iron, or pressure rated PVC pipe with a dimension ratio (DR) of 18 or less, with all voids pressure-grouted with sand-cement grout or bentonite. Commercially available pipe skids and end seals are acceptable. When using steel or ductile iron casing, design consideration for corrosion protection should be considered. Encasement shall extend a minimum of 10-feet on each side of the crossing.

Pressure Sewers under Water Lines

- Pressure sewers shall be constructed only under water lines with pressure rated pipe encased in CDF with a minimum compressive strength of 300 psi or in a one quarter-inch thick continuous steel, ductile iron, or pressure rated PVC pipe with a dimension ratio (DR) of 18 or less, with all voids pressure-grouted with sand-cement grout or bentonite. Commercially available pipe skids and end seals are acceptable. When using steel or ductile iron casing, design consideration for corrosion protection should be considered. Encasement shall extend a minimum of 10-feet on each side of the crossing.

I. Separation from Existing Water Systems

New waterline piping shall not be connected to existing systems until all pressure testing and disinfection has been completed. New pipes shall be installed such that there is a physical gap between the existing waterline and the new waterline. Visual inspection of the tie-in to the existing system under working pressure is required prior to backfilling.

4.08 Pipe Class / Protection / Cover

A. Watermain depth of cover:

- 3 feet minimum from final grade
- 6 feet maximum from final grade
- Regardless of the pipe material or size or the amount of cover from finished grade, existing or newly installed pipe shall not be subject to construction traffic, including excavators, trucks, pavers, etc., until the backfill has reached a minimum of 2-feet above the top of the pipe. Backfill material may be compacted in piles over the top of the pipe, but must not be removed during paving or any other construction activities. The City Engineer may require television inspection, removal and reinstallation or other measures as deemed necessary at the Contractor's expense should pipes be subject to construction traffic prior to providing the minimum 2-feet of cover.

C. Building setback requirements:

- 5 feet minimum from covered parking to watermain.
- 10 feet minimum from building (and retaining walls) to watermain.
- 20 feet minimum easement shall be provided between buildings.

D. All ductile iron pipe and adjacent fittings shall be encased in 8-mil polyethylene per AWWA C-105 where directed by the City Engineer.

4.09 Bedding and Backfill

Use crushed surfacing top course for bedding and backfill of all water main pipe installed under pavement, curbs, sidewalks, or usable shoulder. Bed and backfill pipe and appurtenances in accordance with Section 7-9 of the WSDOT Standard Specifications. Bedding shall be compacted to 90% of the maximum theoretical density as measured by the standard proctor method (AASHTO T-180) prior to placement of the next layer. Backfill material shall be compacted to 95% of maximum dry density as measured by the standard proctor method (AASHTO T-180). In non-roadway areas, native material may be used above the pipe zone (12-inches above pipe) as approved by the City Engineer.

4.10 Hydrostatic Tests

The contractor shall make pressure and leakage tests on all newly laid pipe. The test shall be conducted at a pressure not less than 225 psi for a duration of 60 minutes with no loss in pressure. Contractor shall be required to furnish all necessary equipment and material, make all taps in the pipe as required, provide all temporary thrust blocking as required, and conduct the tests. The City's Inspector shall witness the test; if the test does not pass inspection for any reason, additional trips required to witness the test shall be at the owner's expense.

A. Correction of Excessive Leakage

Should any test of pipe laid disclose leakage greater than that allowed, locate and repair the defective joints or pipe until the leakage of a subsequent test is within the specified allowance.

B. Testing Against Valves

Pressure testing against valves will not be allowed unless approved by the City Engineer.

- C. Provide temporary 2-inch blow off assemblies for testing and disinfection of new watermains (where hydrants are not available). Place blow-off at high end of line, where possible.

4.11 Sterilization and Flushing of Water Mains

Pipeline intended to carry potable water shall be sterilized before connection to the existing water system. All waterlines must be subject to and pass a pressure test prior to starting sterilization procedures. Sterilizing procedures shall conform to AWWA C-601 as hereinafter modified or expanded, and Section 7-09.3(24) of the WSDOT Standard Specifications.

- A. Method of Disinfection

All pipelines shall be sterilized using a continuous feed method. Placement of dry Calcium Hypochlorite or other chlorine bearing compounds in individual pipe lengths will not be allowed. The potable water pipeline shall be disinfected with a solution containing a minimum of 25 ppm chlorine to a maximum 50 ppm chlorine. The disinfecting solution must remain in the pipeline for a period of 24 hours or greater. After the 24 hours, all portions of the pipe must have a minimum of 10 ppm. If the chlorine residual is less than 24 hours, the line shall be flushed and the disinfection process repeated. After disinfection, the pipe shall be flushed until the chlorine residual is the same as that of the source of the flushing water. After flushing, the water shall remain in the pipeline for a 24 hour period prior to taking the samples.

- B. Disposal of Sterilizing Water

Dispose of sterilizing water in an approved manner. Do not allow sterilizing water to flow into a waterway without adequate dechlorination. Dechlorination procedures are to be submitted in writing and approved by the City Engineer prior to flushing system.

- C. Collection of Samples

The Contractor shall hire an independent laboratory to collect and analyze water samples for the presence of bacteria. The City's Inspector shall determine the quantity and location of samples to be taken and witness the sampling completed by the laboratory. Results of all tests shall be given to the Inspector upon completion.

4.12 Valves for Water Mains

- A. Materials and construction shall be in accordance with Section 7-12 of the WSDOT Standard Specifications and the Standard Details.
- B. Valve marker posts shall be reinforced concrete posts, 4" x 4" on one end, 6" x 6" on the other end, forty-two (42) inches long. Valve marker post shall be painted white hi-gloss Rust-oleum with painted black dimension from marker to valve boxes.

4.13 Hydrants

- A. As per the Uniform Fire Code, fire hydrants shall be located to allow a 36-inch clear space surrounding the hydrant. For example, street lights, sign posts, protective posts, or retaining walls shall be no closer than 36 inches from the nearest portion of a hydrant. There shall also be no obstructions directly in line with any of the ports of the hydrant.
- B. Fire hydrants shall have Storz fittings.

- C. Materials and construction shall be in accordance with Section 7-14 of the WSDOT Standard Specifications and the Standard Details.
- D. Approved hydrants include the following: requests for substitutions shall be submitted to the City Engineer for review and approval:
 - Waterous Pacer WB67
 - Clow Medalion
 - Kennedy K-81D

4.14 Cross Connection Control and Backflow Assemblies

A. Installation and Testing

Backflow prevention assemblies shall be installed at the water service connection on the customer side of the meter. Backflow assemblies 3" diameter and larger shall be installed above ground in a heated, protected location. After installation, all backflow prevention assemblies which are installed, must be tested upon installation by a State of Washington certified tester. Commercial or irrigation only meters will be locked out pending the backflow test, Contact public works to turn water on. The permit # (or) meter # is required on the test report and The results of the testing shall be received by the City prior to issuance of "final occupancy".

C. Fire Services and Domestic Services

1. No part of the backflow prevention assembly shall be submerged in water (Note: numerous devices are under water.) or installed in a location subject to flooding. In a vault or chamber, adequate drainage shall be provided; and test cocks shall be plugged. The plugs shall not be of dissimilar metals. Drains and or drainage rock shall be installed to limit flooding impact to backflow.
2. The backflow assembly shall be protected from freezing and other severe weather conditions.
3. All backflow assemblies shall have a minimum 12-inch clearance on the backside, 24-inch clearance on the test-cock side, and 12 inches below the assembly. Adequate clearance (6 inches minimum) must be maintained above gate-valve stem at full extension. Headroom of 6 foot, 0 inches is required in vaults without a full opening top. Access to the device and to any vault or chamber shall remain clear at all times.

D. Special for Fire Service Only

1. Fire Service backflow prevention assemblies shall be installed at the property line, or edge of the public water line easement unless otherwise required by Fire District. The fire service from the public main to the backflow assembly shall be privately owned and meet all City's Standard Drawings.
2. Only approved resilient seat indicating valves are allowed on fireline assemblies.
3. Only approved Double Check Detector I or II Check Valve Assemblies are to be used for system containment on fire line services in the City. The meter on the bypass assembly shall read in cubic feet.
4. Fire Line Flow and Tamper Switches installed, as required by Uniform Building Code sec. 3803, must be connected to a monitored Fire Detection System approved by the

Fire Marshal. ~~The tamper switches are required on the outside stem and yoke gate valves in the vault, as well as any other indicating control valves on the fire protection system.~~ The tamper switches are required on the outside stem and yoke gate valves in the vault and any other indicating control valves on the fire protection system.

Electrical inspection and permit is required.

5. The remote reader (if allowed) shall be rigidly mounted on an exterior building wall (near the domestic meter), enclosed in a metal box with a slot opening which allows reading the remote without opening the box, and at an elevation of 5 feet above the ground level.

The remote reader shall have the same number configuration as the metering device itself, and read in cubic feet. All wires to the remote reader shall be enclosed in a heavy plastic or rigid metal conduit. All wiring shall be in conformance with appropriate sections of the National Electric Code.

54.15 Water System Vault Installations

To ensure proper operation and accessibility of all vaults, the following requirements shall apply unless otherwise approved by the City Engineer.

- A. All vaults shall be sealed with Crystal Seal or approved equal on the outside of the vault.
- B. Vault penetrations shall be preformed or core drilled to produce a smooth hole. Penetrations shall be sealed with a watertight Link Seal as manufactured by Thunderline or approved equal. Where approved by the City Engineer, non-shrink grout may be used to seal penetrations. Apply water proof coating over grout. Backfill around vault per the manufacturer's specifications.
- C. Access to all vaults shall be through a double door, H-20 rated hatch. The doors shall open to 90 degrees and automatically lock with a stainless steel hold-open arm with an integral stainless steel compression spring. The unit shall lock with a stainless steel slam lock with removable key and have a covered, recessed locking hasp. Hinges and all hardware shall be stainless steel. The hatch shall be Halliday Series H2W or equal.
- D. Provide an aluminum ladder if the vault or chamber depth is 3 foot 0 inches or greater. Ladders shall include an aluminum ladder extension. At a minimum, ladders shall be braced at the top, bottom and one intermediate location. All non-aluminum accessories shall be stainless steel or hot-dipped galvanized.
- E. Adequate drainage for the vault or chamber shall be provided. Gravity drainage to piped storm systems is allowed provided a check valve is installed. If gravity drainage is not possible, vaults shall be equipped with a sump pump. Vault floors must be sloped towards vault drain or sump. Surface drainage shall be directed away from water system vaults and chambers. The drain from the access door shall be piped directly to the sump or the vault drain.
- F. Vault must be equipped with a moisture proof light fixture if adequate lighting is not available.
- G. Vault is to have no other use, except for use described by these standards.

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- H. Vault shall be installed on a subgrade consisting of $\frac{3}{4}$ "-0 gravel base compacted to 95 percent of maximum density (AASHTO T-99).
- I. Piping shall be installed with a clearance of 1 to 3 feet above the vault floor and a minimum clearance of 9 inches from the edge of flanges to any wall.
- J. All miscellaneous bolts and fasteners shall be stainless steel unless otherwise approved or noted herein.
- K. Assembly is to be adequately supported from the floor, and suitably restrained from movement. Supports shall consist of steel supports or approved equal; no wood supports shall be used.
- L. All electrical wiring shall be inspected by the Washington State Electrical Inspector (Permit is required).
- ~~M.~~ The assembly shall be readily accessible with adequate room for maintenance.

4.16 Pressure Reducing Valve Vaults

PRV vaults are unique to each situation. Minimum requirements shall be as listed in Section ~~54.14~~¹⁴⁵ (Water System Vault Installations). The engineer shall detail the vault on the plans and submit for review. The City will review the vault for size and compliance with the general requirements listed under this section.

4.17 Appurtenances

A. Air and Vacuum Release Valves

1. Air and vacuum release valves shall be APCO - Valve and Primer Corporation, "Heavy-Duty", combination air release valve, or equal.
2. Installation shall be as shown on the Standard Details.
3. Piping and fittings shall be copper or brass. Location of the air release valves as shown on the plans is approximate. The installation shall be set at the high point of the line. Water line must be constructed so the air release valve may be installed in a convenient location.

APPENDIX A
STANDARD DETAIL LIST

General Details

Dwg.	Title
G-1.1	Underground Utility Locations
G-1.2	Standard Pipe Bedding
G-1.3	Typical Trench Sections
G-4.1	General Water Notes

STANDARD DETAIL LIST

(Continued)

Water Details

Dwg.	Title
W-1.2	Standard Water Service – 1”
W-1.3	Standard Water Service – 1 ½” and 2”
W-1.4	Standard Water Service – 3” and Larger
W-1.5	Standard Thrust Block (Blank)
W-1.6	Vertical Anchor Block (Blank)
W-2.1	Standard Fire Hydrant Assembly
W-2.2	Standard Valve Box and Cover
W-2.4	Combination Air Release Valve
W-2.5	Standard Blow-off Assembly
W-2.6	Standard Temporary Blow-off Assembly
W-2.7	Standard Manual Air Release Valve (Blank)
W-2.8	Pipe and Casing Detail
W-2.9	Fire Hydrant Guard Post
W-2.10	Water Sampling Station
W-3.1	Double Check Valve Assembly – 2” and & Smaller
W-3.2	Blank
W-3.3	Double Check Valve Assembly – 2 ½” and Larger
W-3.4	Reduce Pressure Principle Backflow Assembly – 2 ½” and Larger
W-3.5	Reduce Pressure Principle Backflow Assembly – 2” and Smaller
W-3.6	Fire Protection Service, Backflow Prevention & Irrigation Deduct Meter Locations

STANDARD DETAIL LIST

(Continued)

Transportation Details

Dwg.	Title
T-2.1	Major Arterial Section
T-2.2	Minor Arterial Section
T-2.3	Downtown Minor Arterial Section
T-2.4	Industrial / Commercial Collection Section
T-2.5	Standard Collector Section
T-2.6	Scenic Collector Section
T-2.7	Industrial Local Section
T-2.8	Residential Access Section
T-2.9	Residential Local A Section
T-2.10	Trail Sections
T-2.11	Typical Arterial/Collector Light Standard
T-2.12	Typical Arterial/Collector Light Foundation Standard
T-2.13	Concrete Driveway Approach Standard
T-2.14	Concrete Driveway Approach Type 3
T-2.15	Major Commercial Concrete Approach Standard
T-2.16	Pioneer Street- (SR-501) From 45 th Ave. to 56 th Pl. Conceptual Cross Section
T-2.17	Pioneer Street- (SR-501) From 32 nd Ave. to 45 th Ave. Conceptual Cross Section
T-2.18	Gee Creek Plateau Collector Section
T-2.19	Carty Road Subarea Collector Section
T-2.20	Carty Road Subarea Residential Local A Section
T-3.1A	Street Name Signs
T-3.1B	Street Name Signs
T-3.1C	Street Name Signs
T-3.2	Speed Hump

STANDARD DETAIL LIST

(Continued)

Erosion Control Details

<u>Dwg.</u>	<u>Title</u>
<u>EC-1.0A</u>	<u>Erosion Control General Notes</u>
<u>EC-1.0B</u>	<u>Erosion Control General Notes</u>
<u>EC-1.1</u>	<u>Matting General Notes</u>
<u>EC-2.0</u>	<u>Silt Fence</u>
<u>EC-2.1A</u>	<u>Single Family Erosion Prevention Plan</u>
<u>EC-2.1B</u>	<u>Single Family Erosion Prevention Notes</u>
<u>EC-2.2A</u>	<u>Tree Protection Fence</u>
<u>EC-2.2B</u>	<u>Tree Protection Fence Notes</u>
<u>EC-3.0</u>	<u>Stabilized Construction Entrance / Exit</u>
<u>EC-4.0</u>	<u>Inlet Protection (Bio-Filter Bag)</u>
<u>EC-4.1</u>	<u>Inlet Protection (Catch Basin Insert)</u>
<u>EC-4.2</u>	<u>Inlet Protection (Sediment Dam)</u>
<u>EC-5.0</u>	<u>Temporary Outlet Protection (Rip-Rap)</u>
<u>EC-6.0</u>	<u>Wattle</u>
<u>EC-7.0</u>	<u>Plastic Covering</u>
<u>EC-8.0</u>	<u>Concrete Washout</u>

STANDARD DETAIL LIST

(Continued)

Stormwater Details

<u>Dwg.</u>	<u>Title</u>
<u>ST-1.0</u>	<u>Stormwater General Notes & Testing</u>
<u>ST-2.0</u>	<u>Manhole</u>
<u>ST-2.1A</u>	<u>Flow Control Manhole (Tee Type)</u>
<u>ST-2.1B</u>	<u>Flow Control Manhole (Tee Type) Notes</u>
<u>ST-2.2A</u>	<u>Flow Control Manhole (Notch Type)</u>
<u>ST-2.2B</u>	<u>Flow Control Manhole (Notch Type) Notes</u>
<u>ST-2.3</u>	<u>Top Slab for Manhole</u>
<u>ST-2.4</u>	<u>Manhole Frames and Covers</u>
<u>ST-2.5</u>	<u>Manhole Step</u>
<u>ST-2.6</u>	<u>Storm Cleanout</u>
<u>ST-3.0A</u>	<u>Catch Basin (Type 1)</u>
<u>ST-3.0B</u>	<u>Catch Basin (Type 1) Notes</u>
<u>ST-3.1</u>	<u>Catch Basin (Type 40)</u>
<u>ST-3.2</u>	<u>Catch Basin (Rolled Curb)</u>
<u>ST-3.3</u>	<u>Spill Control (SC) Separator</u>
<u>ST-4.0</u>	<u>Ditch Inlet (Type 1L)</u>
<u>ST-5.0</u>	<u>Gutter Pan</u>
<u>ST-5.1</u>	<u>Storm Grates</u>
<u>ST-6.0</u>	<u>Rip-Rap</u>
<u>ST-6.1</u>	<u>Beveled End Section</u>
<u>ST-6.2</u>	<u>Trash Screen</u>
<u>ST-7.0</u>	<u>Pipe Anchor</u>
<u>ST-8.0</u>	<u>Chain Link Fence & Gate</u>
<u>ST-9.0</u>	<u>(Blank)</u>
<u>ST-10.0</u>	<u>Compost Amended Vegetated Filter Strip</u>
<u>ST-10.1</u>	<u>Concentrated Flow Dispersion – Diagonal Berms</u>
<u>ST-10.2</u>	<u>Concentrated Flow Dispersion – Slotted Drains</u>
<u>ST-10.3</u>	<u>Sheet Flow Dispersion Trench</u>
<u>ST-10.4</u>	<u>Sheet Flow Dispersion</u>
<u>ST-11.0</u>	<u>Plant Bedding Cross-Section</u>

STANDARD DETAIL LIST

(Continued)

Stormwater Details (Continued)

<u>Dwg.</u>	<u>Title</u>
<u>ST-12.0</u>	<u>Typical Downspout Infiltration Trench</u>
<u>ST-12.1</u>	<u>Alternative Downspout Infiltration Trench System for Course Sand and Gravel</u>
<u>ST-12.2</u>	<u>Typical Downspout Dispersion Trench</u>
<u>ST-12.3</u>	<u>Downspout Splash Block Dispersion</u>
<u>ST-12.4</u>	<u>Perforated Stub-Out Connection</u>
<u>ST-13.0</u>	<u>Bioretention Railing Detail</u>
<u>ST-14.0</u>	<u>Grass Paver Maintenance Pulloff</u>

ADA Details

Details for ADA curb ramps and driveway ramps shall be in accordance with the latest revision of the Washington State Department of Transportation Standard Plans.

Stormwater Details

~~Details for stormwater facilities including pipes, inlets, and catch basins shall be in accordance with the latest revision of the Washington State Department of Transportation Standard Plans.~~

APPENDIX B
PRECONSTRUCTION AND INSPECTION CHECKLISTS

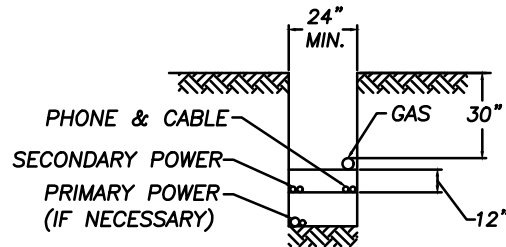
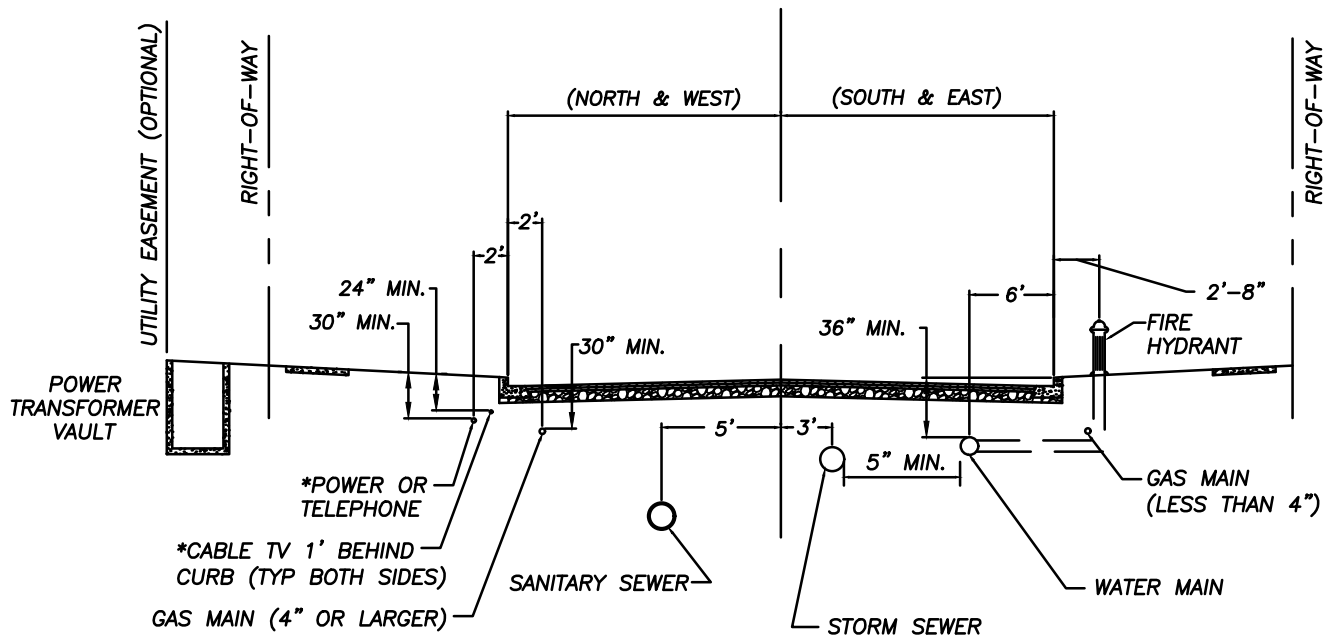
APPENDIX C
OTHER SPECIAL DETAILS

ENGINEERING STANDARDS FOR PUBLIC WORKS CONSTRUCTION



APPENDIX A

Engineering Standard Details and Street Tree Selection



*JOINT TRENCH DETAIL (OPTIONAL)

NOTES:

1. LOCATIONS SHOWN ARE TYPICAL. ON STREETS WITH CENTER TURN LANES OR MEDIANS, THE LOCATION OF THE SEWER OR STORM LINES MAY BE ADJUSTED TO KEEP MANHOLES OUT OF MEDIANS AND MANHOLES CONES ARE TO BE ROTATED TO KEEP MANHOLE COVER LOCATED OUTSIDE OF WHEEL PATH.
2. ANY VARIATION FROM THIS DESIGN MUST BE APPROVED BY THE CITY ENGINEER.
3. FRANCHISE UTILITIES – IF SIX FOOT UTILITY EASEMENT IS PRESENT ALONG PROPERTY FRONTAGE, PLACEMENT SHALL BE AT BACK OF SIDEWALK WITHIN UTILITY EASEMENT. ALTERNATE LOCATIONS CONSIDERED ONLY TO SALVAGE CORE ROADWAY, OR TO AVOID SUBSTANTIAL CONFLICT WITH EXISTING UTILITIES. GAS VALVES ARE TO BE LOCATED 2' MIN. FROM FACE OF CURB.
 MINIMUM COVER:
 GAS – 30"
 CABLE TV – 24" IN STREET
 18" IN SIDEWALK–EXISTING SUBDIVISION
 ALL OTHERS – 36"

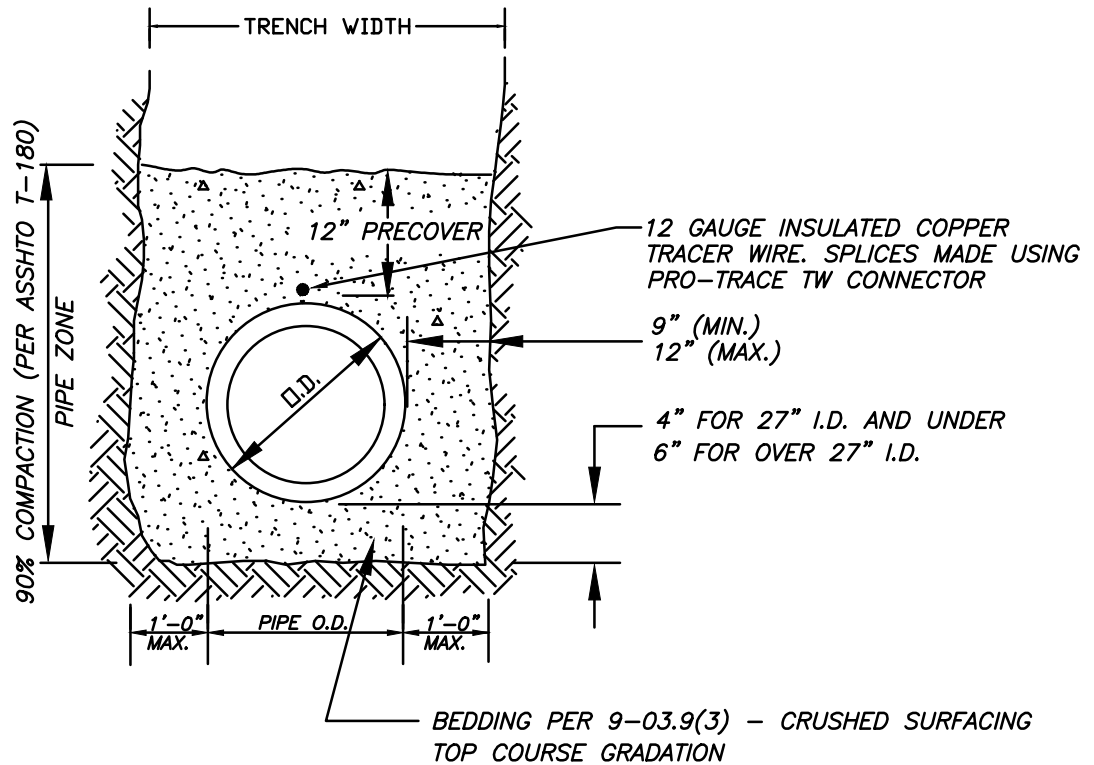
REV. 2/26/08 SCH

UNDERGROUND UTILITY LOCATIONS

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
G - 1.1



NOTES:

1. WHERE DIRECTED BY THE ENGINEER, GRANULAR TRENCH FOUNDATION STABILIZATION SHALL BE PLACED PRIOR TO PLACEMENT OF THE BEDDING. SIZE AND DEPTH ARE DEPENDENT ON SOIL CONDITIONS.
2. BEDDING AND BACKFILL MATERIALS IN THE PIPE ZONE SHALL BE COMPACTED AS SPECIFIED PRIOR TO BACK-FILLING THE REMAINDER OF THE TRENCH.
3. FOR ROCK AND OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6" AND REFILLED WITH GRANULAR MATERIALS AS DIRECTED BY THE ENGINEER.
4. BACKFILL AND COMPACTION ABOVE THE PIPE ZONE SHALL BE AS SHOWN IN STANDARD PLAN NO. G-1.3.
5. CITY WATER LINE SHALL HAVE 36" MINIMUM COVER FROM TOP OF PIPE TO FINISHED GRADE.

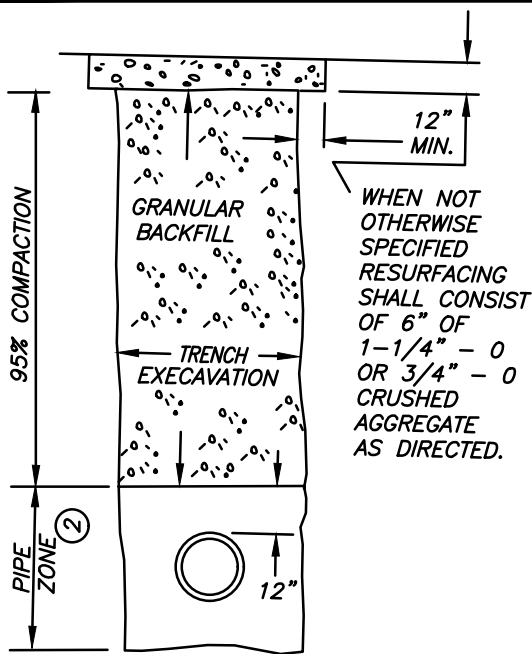
REV. 4/7/17 BGK

STANDARD PIPE BEDDING

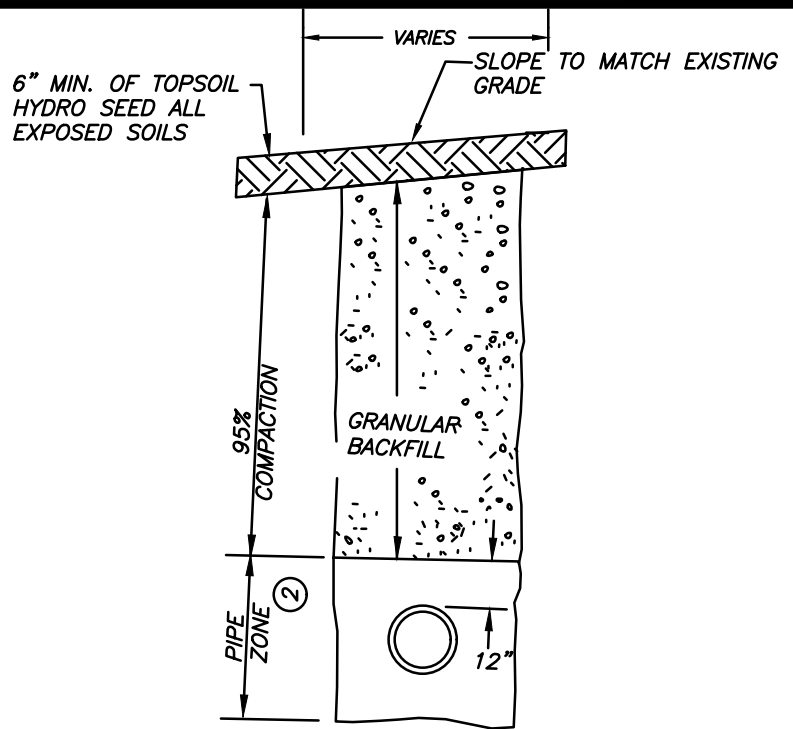
STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
G-1.2



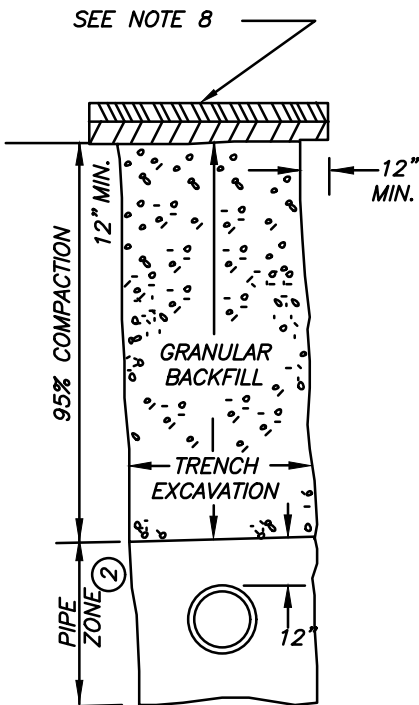
GRAVEL STREET
OR SHOULDER



UNIMPROVED AREAS

NOTES:

1. SEE WSDOT SPECIFICATION FOR COMPACTION REQUIREMENTS. COMPACTION PERCENTAGES REFER TO MAXIMUM DRY DENSITY AS DETERMINED BY MODIFIED PROCTOR (AASHTO T-180)
2. FOR PIPE ZONE BEDDING AND COMPACTION REQUIREMENTS, SEE STD. PLAN NO. G-1.2
3. CONTRACTOR MAY USE UP TO 2-1/2" DEPTH OF 5/8"-0 OR 3/4" - 0 CRUSHED AGGREGATE IN LIEU OF 1-1/4" - 0 BASE ROCK UNDER SURFACING FOR LEVELING COURSE.
4. ALL EXISTING PAVED SURFACES SHALL BE SAW CUT A MINIMUM OF 12" OUTSIDE OF EDGE OF TRENCH TO PROVIDE A NEAT STRAIGHT EDGE.
5. THE EDGES OF ALL EXISTING ASPHALT SURFACES SHALL BE CLEANED AND A TACK COAT SHALL BE APPLIED PER STD. SPEC. SECTION 5-04.3(5)A. ALL JOINTS SHALL BE SEALED WITH AR-4000 AND SANDED.
6. ALL BACKFILL SHALL BE MECHANICALLY COMPACTED IN LIFTS WHICH DO NOT EXCEED RATED CAPABILITY OF EQUIPMENT USED, BUT IN NO CASE EXCEED 12" LOOSE.
7. GRANULAR BACKFILL SHALL BE CRUSHED SURFACING IN ACCORDANCE WITH WSDOT SECTION 9-03.9(3) BASE COURSE GRADATION.
8. CLASS 1/2", PG 58-22 SUPERPAVE, ASPHALT SHALL BE PLACED IN 2 LIFTS, 5" DEPTH FOR ARTERIALS, 4" DEPTH FOR COLLECTOR & RESIDENTIAL STREETS.
9. FOR UTILITIES INSTALLED WITHIN THE TRAVEL LANE AND PARALLEL WITH THE CENTERLINE OF THE ROAD, A HALF STREET GRIND AND OVERLAY SHALL BE REQUIRED



PAVED SURFACED

REV. 08/01/24 CPG

TYPICAL TRENCH SECTIONS

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
G-1.3

GENERAL WATER NOTES:

1. ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE "CITY OF RIDGEFIELD ENGINEERING STANDARDS FOR PUBLIC WORKS CONSTRUCTION" AND THE LATEST EDITION OF THE "STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND MUNICIPAL CONSTRUCTION" HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS" PREPARED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, EXCEPT AS NOTED HEREIN OR ON THE STANDARD PLANS. ALL REFERENCES TO AWWA AND/OR APWA SPECIFICATIONS SHALL MEAN THEIR LATEST REVISION.
2. ALL WATER LINE CONSTRUCTION IS SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF RIDGEFIELD, PRIOR TO COVER. ALL TESTING SHALL BE APPROVED PRIOR TO PAVING. THE CONTRACTOR SHALL NOTIFY THE CITY DEVELOPMENT INSPECTOR AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO THE BEGINNING OF CONSTRUCTION.
3. ALL PIPES FURNISHED SHALL BE NEW, AND CONFORM TO THE REQUIREMENTS OF AWWA DI CL52.
4. A TRAFFIC CONTROL PLAN IS REQUIRED PRIOR TO CONSTRUCTION WITHIN A CITY RIGHT-OF-WAY.
5. WHERE EXISTING SERVICE MUST BE INTERRUPTED, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE CITY AND NOTIFY ALL CUSTOMERS AFFECTED AS TO THE DATE AND DURATION OF THE INTERRUPTION. NOTIFICATION MUST BE DONE TWO (2) WORKING DAYS IN ADVANCE OF INTERRUPTION. THE CONTRACTOR SHALL SCHEDULE CONSTRUCTION TO PROVIDE MINIMUM INTERRUPTION OF SERVICES AS DETERMINED BY THE INSPECTOR. UNDER NO CIRCUMSTANCES SHALL A CONTRACTOR SCHEDULE A WATER MAIN SHUT-DOWN WITHOUT THE REQUIRED 48 HOUR NOTICE. THE CONTRACTOR SHALL NOT OPERATE THE CITY'S WATER FACILITIES WITHOUT APPROVAL FROM THE CONSTRUCTION INSPECTOR.
6. WHEN EXTENDING AN EXISTING LINE THE CONTRACTOR IS REQUIRED MAINTAIN PHYSICAL SEPARATION BETWEEN THE EXISTING AND NEW SYSTEM UNTIL THE NEW SYSTEM HAS BEEN TESTED AND DISINFECTED.. AFTER PASSING TESTS THE FITTINGS AND PIPE USED FOR THE CONNECTION TO THE EXISTING SYSTEM MUST BE WETTED WITH A CHLORINE SOLUTION UNDER INSPECTION OF CITY STAFF.

WATER METERS:

7. ALL WATER METERS WILL BE FURNISHED AND INSTALLED BY THE CITY.

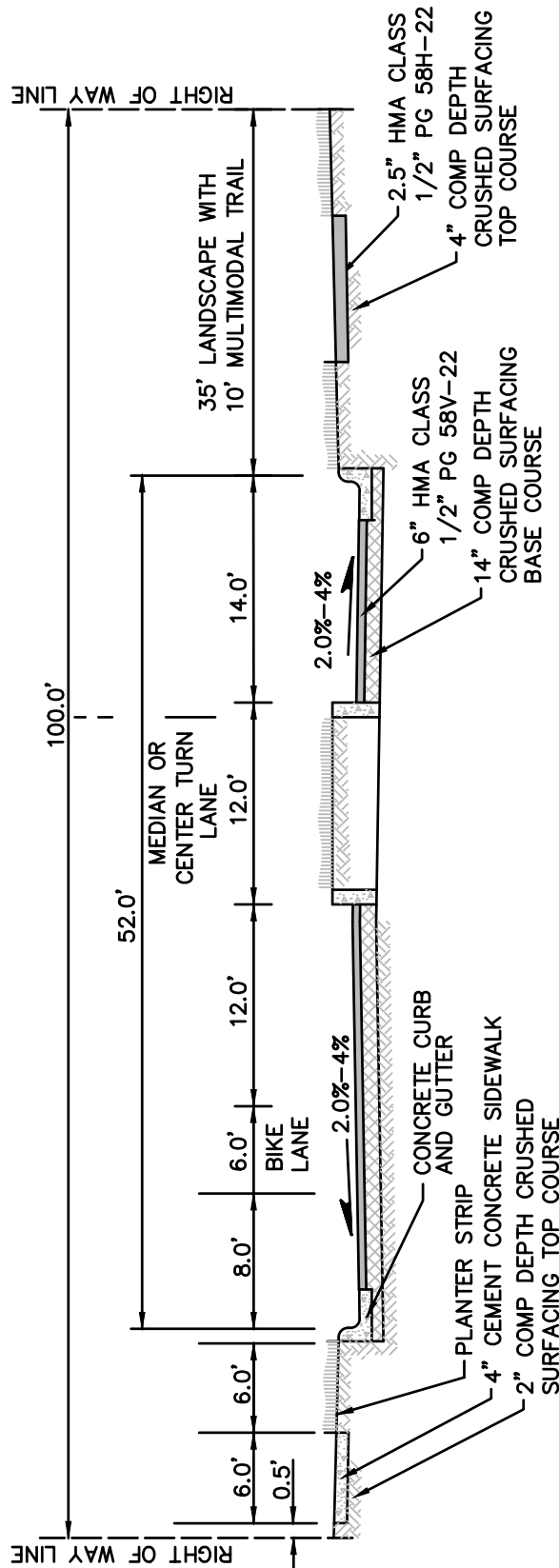
REV 08/01/24 CPG

GENERAL WATER NOTES

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
G-4.1



NOTES: 1. PIONEER STREET (SR-501) CROSS SECTION VARIES. SEE T-2.16 THROUGH T-2.17

2. WIDEN SIDEWALK TO 10' ADJACENT TO COMMERCIAL ZONED AREAS

MAJOR ARTERIAL SECTION

NOT TO SCALE

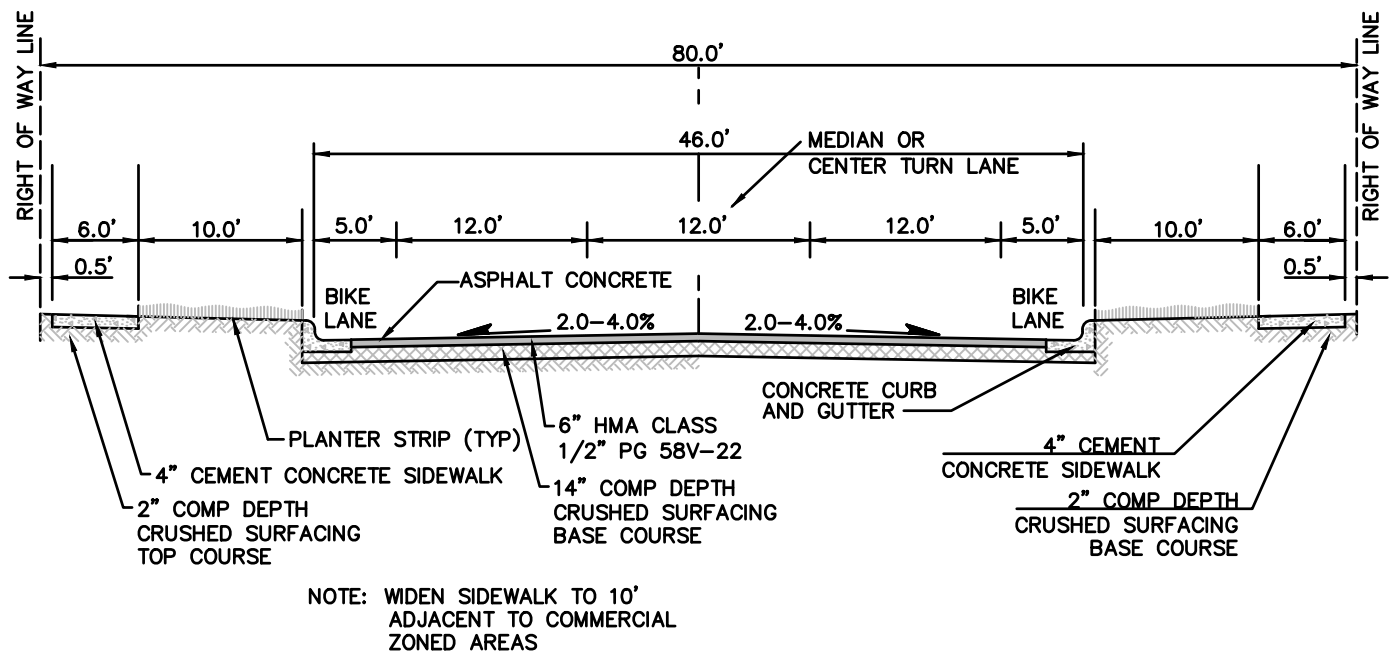
REV. 08/01/24 CPG

MAJOR ARTERIAL SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.1



MINOR ARTERIAL SECTION

NOT TO SCALE

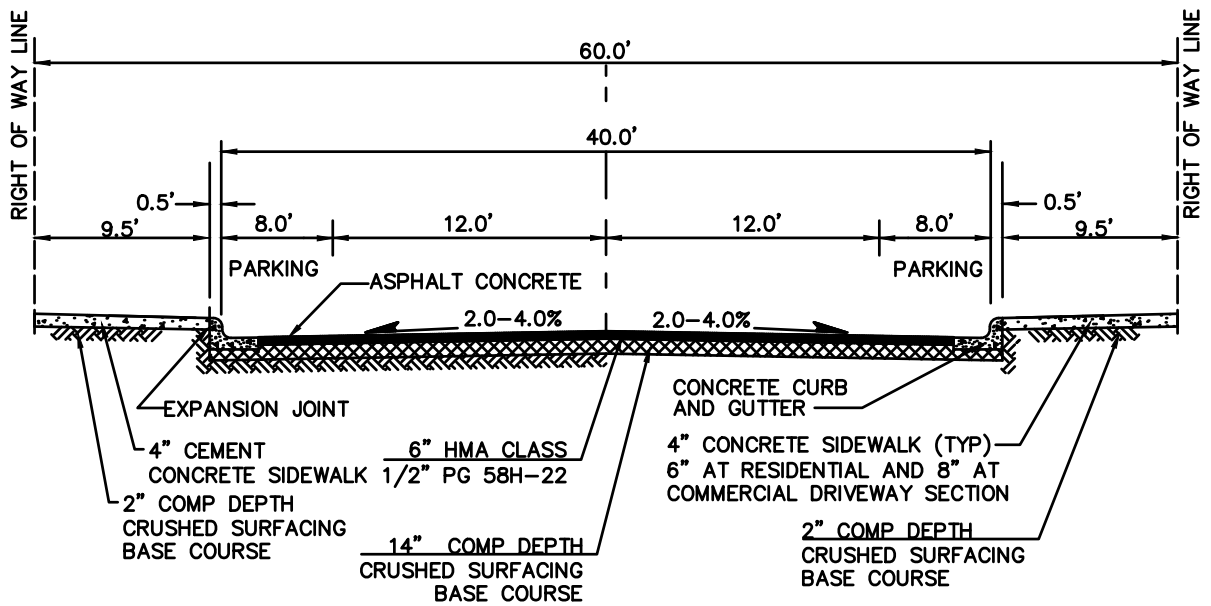
REV. 08/01/24 CPG

MINOR ARTERIAL SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.2



NOTES: TREE WELLS SHALL BE INSTALLED IN SIDEWALK AT 25' O.C OR AS DIRECTED BY PUBLIC WORKS DIRECTOR OR COMMUNITY DEVELOPMENT DIRECTOR

DOWNTOWN MINOR ARTERIAL SECTION

NOT TO SCALE

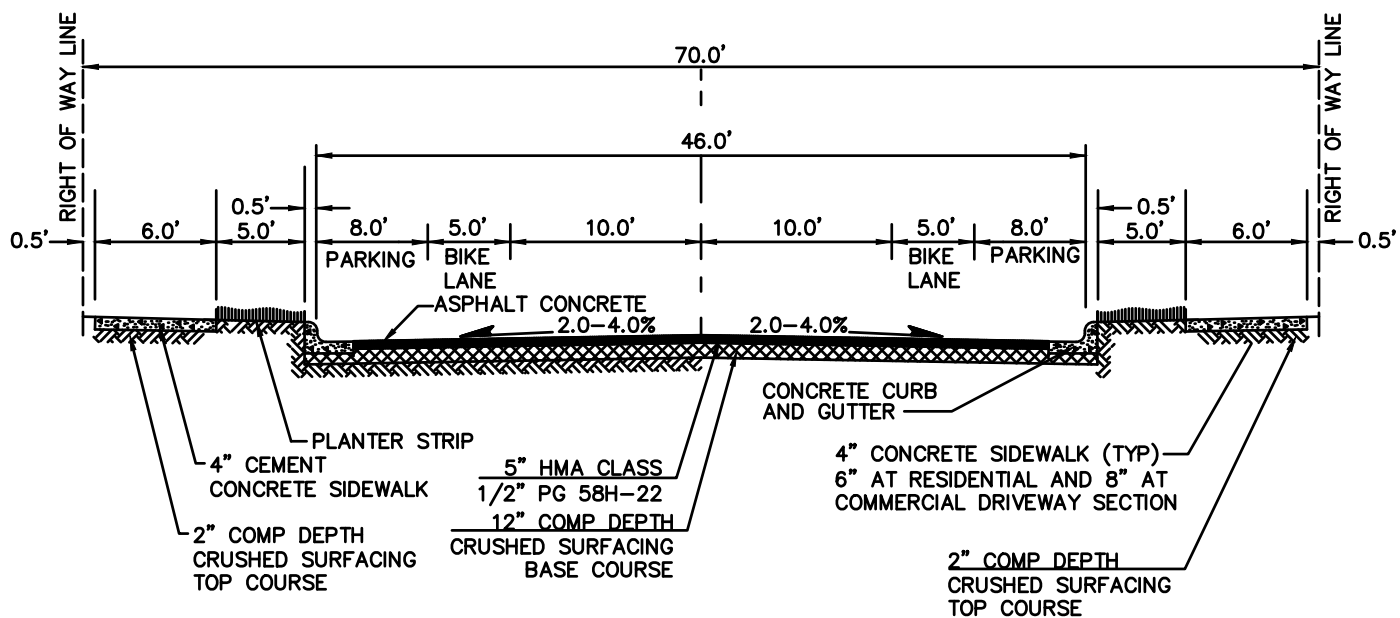
REV. 08/01/24 CPG

DOWNTOWN MINOR ARTERIAL SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.3



STANDARD COLLECTOR SECTION

NOT TO SCALE

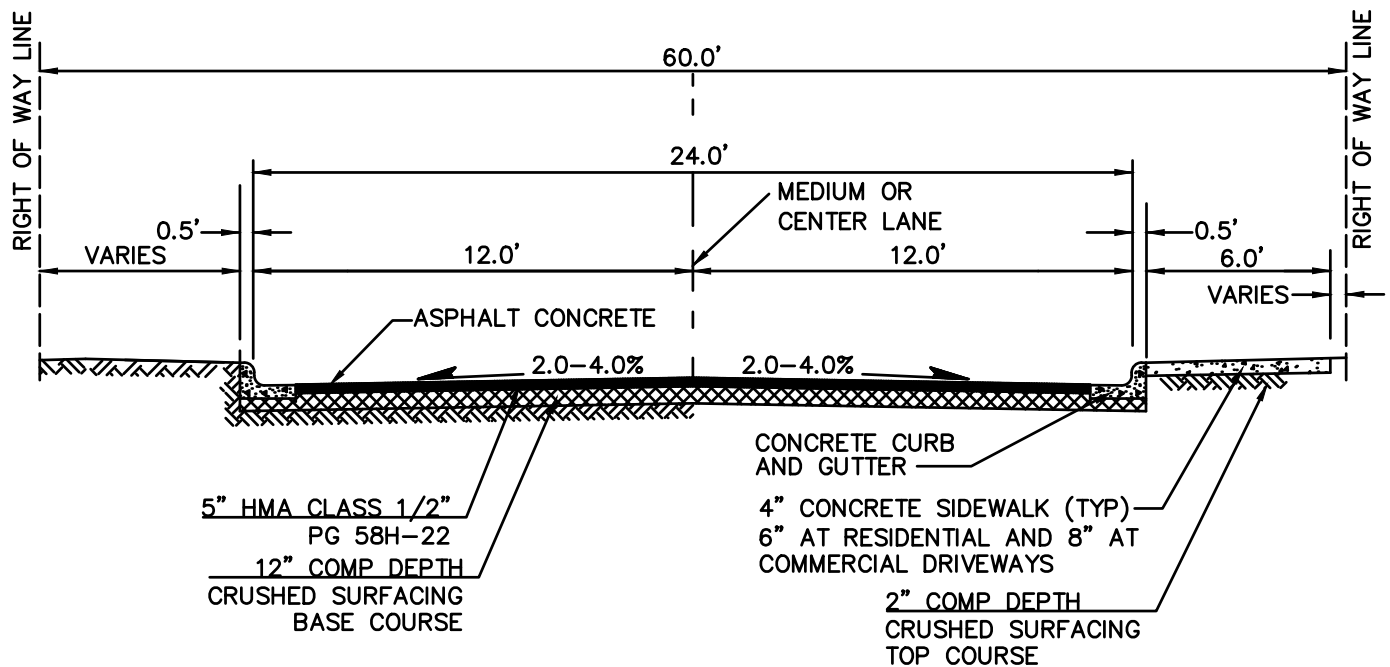
REV. 08/01/24 CPG

STANDARD COLLECTOR SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.5



SCENIC COLLECTOR SECTION

NOT TO SCALE

NOTE: SIDEWALK MAY BE A DETACHED PATH

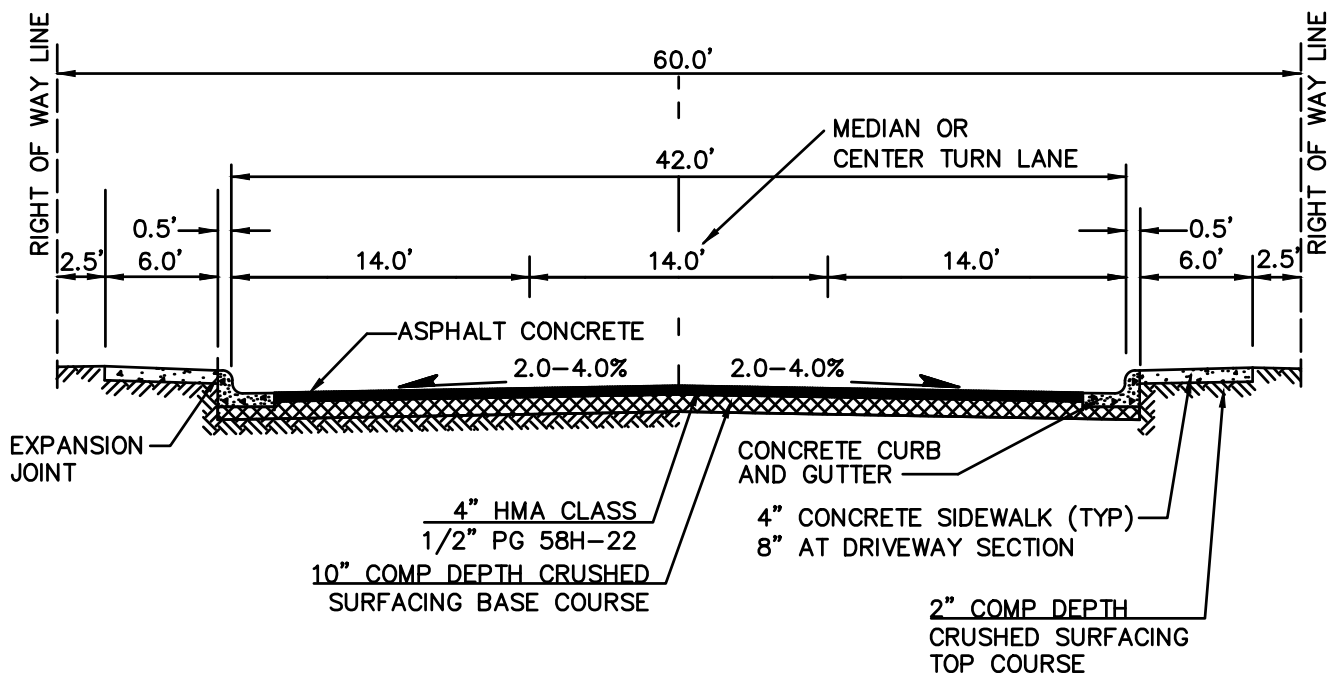
REV. 08/01/24 CPG

SCENIC COLLECTOR SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.6



INDUSTRIAL LOCAL SECTION

NOT TO SCALE

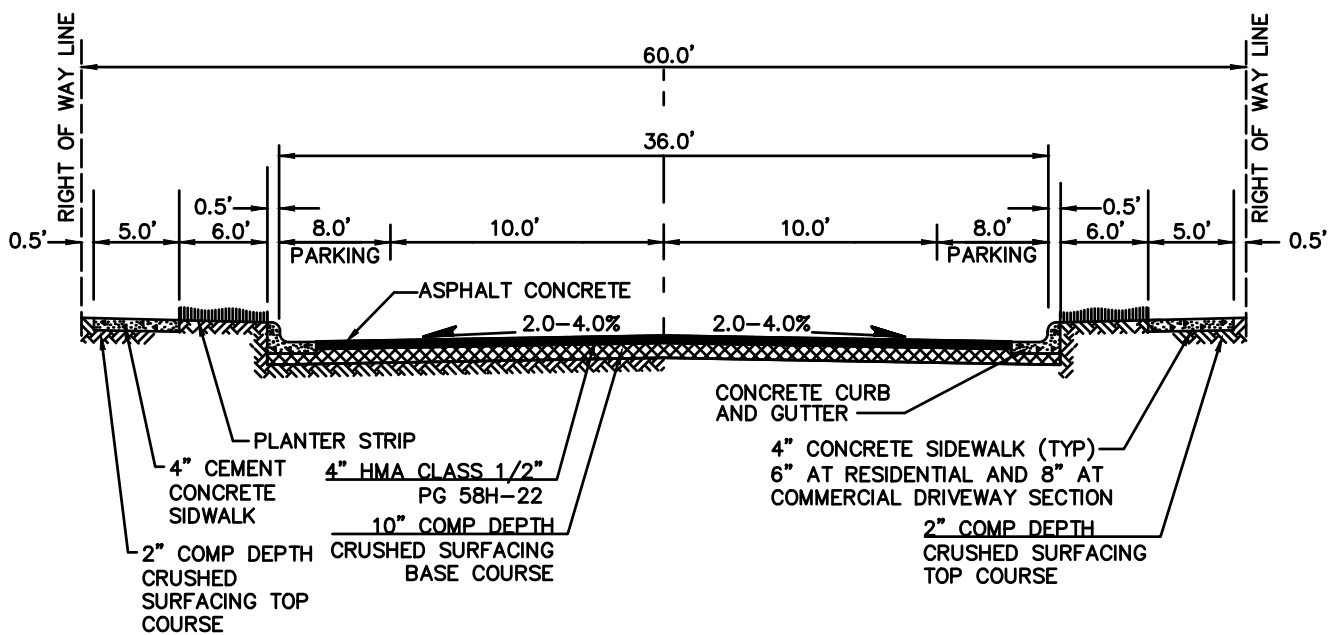
REV. 08/01/24 CPG

INDUSTRIAL LOCAL SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.7



RESIDENTIAL ACCESS SECTION

NOT TO SCALE

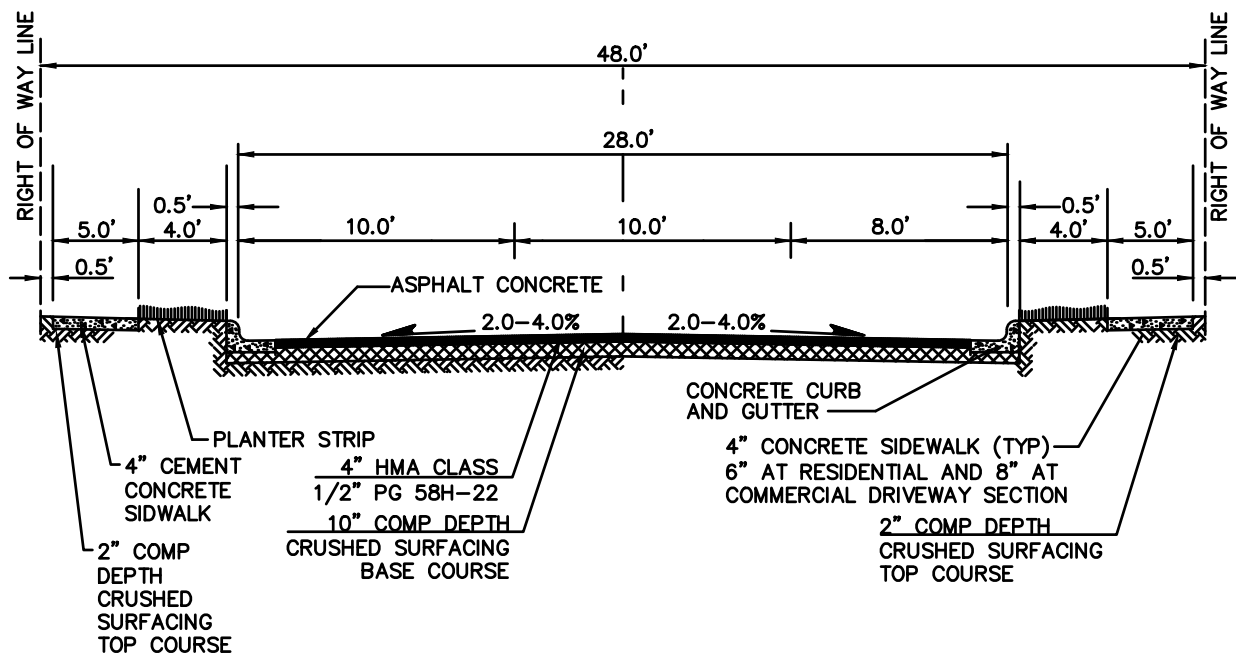
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RESIDENTIAL ACCESS SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.8



RESIDENTIAL LOCAL A SECTION

NOT TO SCALE

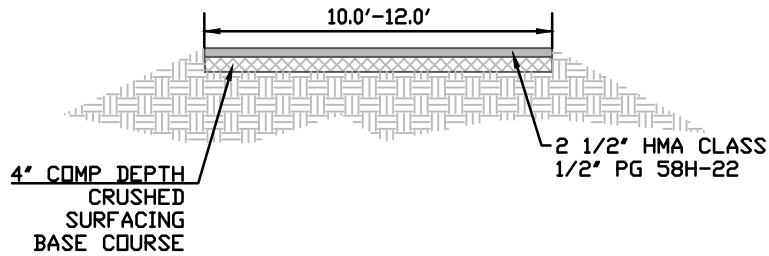
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RESIDENTIAL LOCAL A SECTION

STANDARD
DETAILS

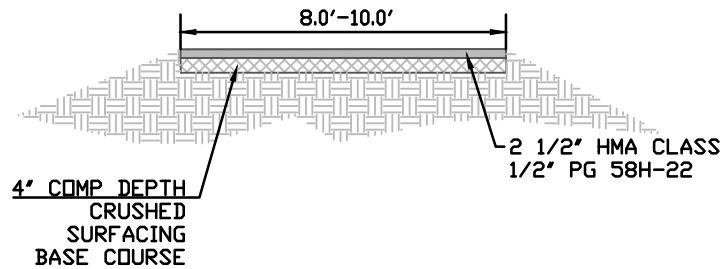
CITY OF RIDGEFIELD

SHEET
T - 2.9



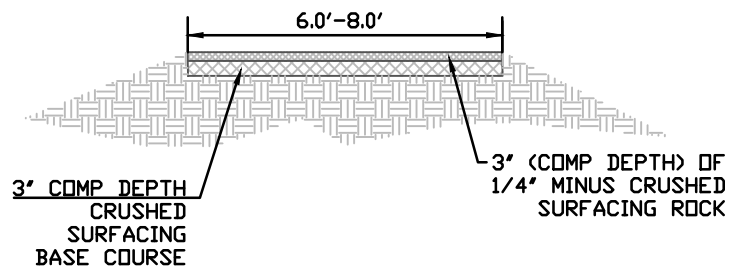
TRAIL TYPE 1

NOT TO SCALE



TRAIL TYPE 2

NOT TO SCALE



TRAIL TYPE 3

NOT TO SCALE

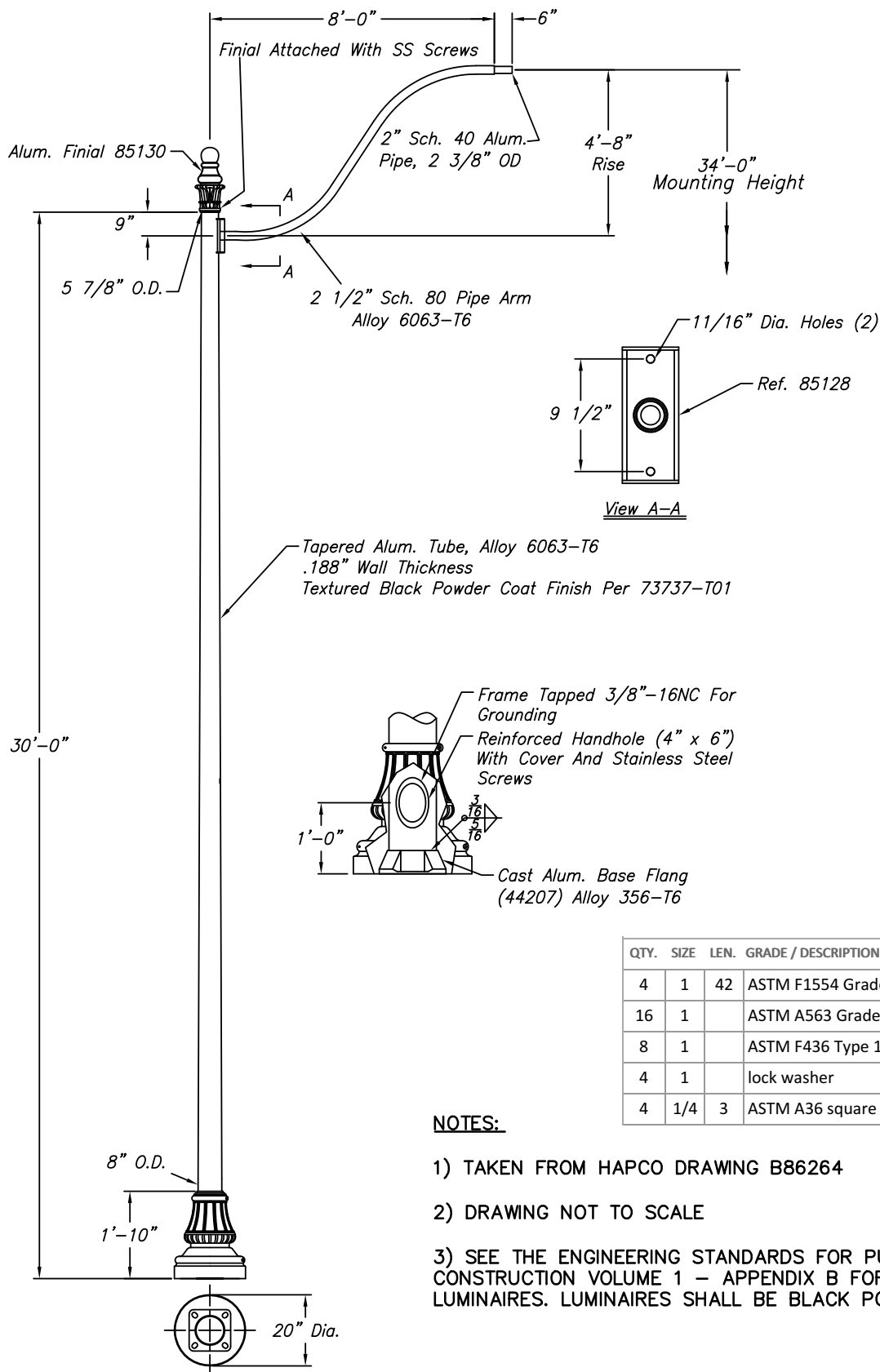
REV. 08/01/24 CPG

TRAIL SECTIONS

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.10



QTY.	SIZE	LEN.	GRADE / DESCRIPTION
4	1	42	ASTM F1554 Grade 55 all thread rod
16	1		ASTM A563 Grade DH heavy hex nut
8	1		ASTM F436 Type 1 hardened washer
4	1		lock washer
4	1/4	3	ASTM A36 square plate

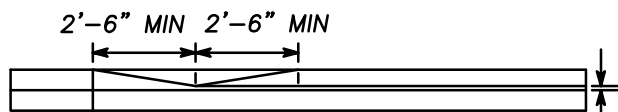
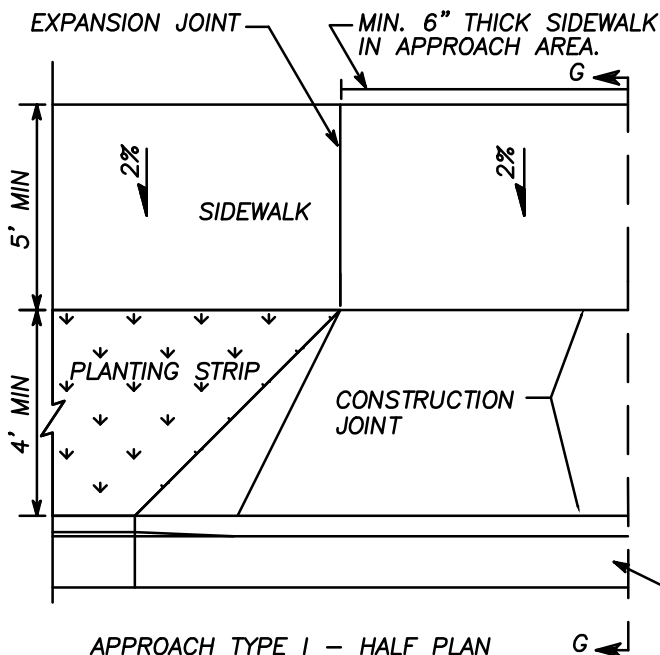
NOTES:

- 1) TAKEN FROM HAPCO DRAWING B86264
- 2) DRAWING NOT TO SCALE
- 3) SEE THE ENGINEERING STANDARDS FOR PUBLIC WORKS CONSTRUCTION VOLUME 1 – APPENDIX B FOR APPROVED LUMAIRES. LUMAIRES SHALL BE BLACK POWDER COAT FINISH

REV. 08/01/24 CPG

TYPICAL ARTERIAL/COLLECTOR LIGHT STANDARD

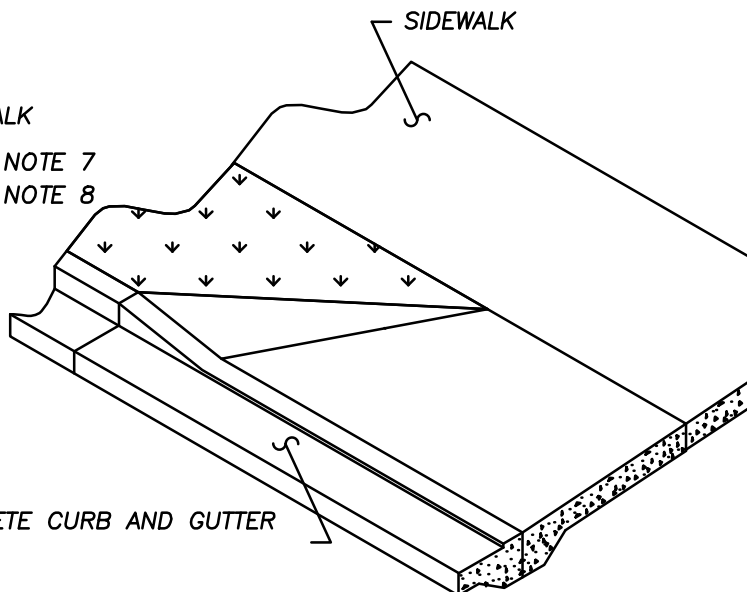
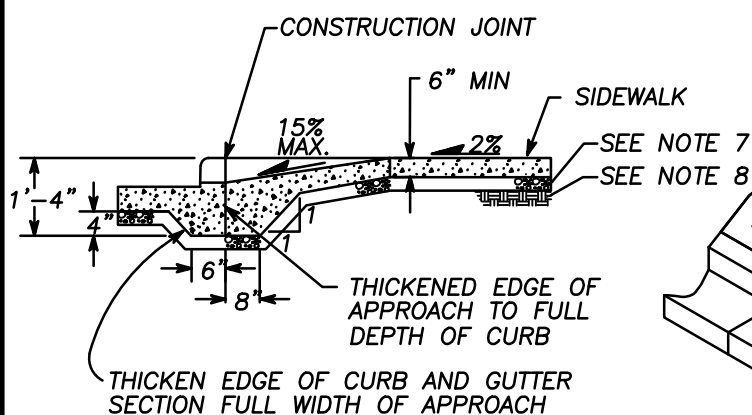
STANDARD DETAILS	CITY OF RIDGEFIELD	SHEET T-2.11
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NOTE: USE TYPE 1 APPROACH ONLY WHEN A SIDEWALK IS USED AT THE BACK OF THE APPROACH.

- NOTES:**
1. A MINIMUM 4' WIDE ACCESSIBLE ROUTE SHALL BE MAINTAINED IN ALL PEDESTRIAN ACCESSIBLE AREAS.
 2. CONTRACTION POINTS SHALL BE PLACED ALONG SIDEWALKS IN ACCORD WITH SIDEWALK DETAIL. ALL JOINTS SHALL BE CLEANED AND EDGED.
 3. CHANGES IN LEVEL UP TO 1/4" MAY BE VERTICAL AND WITHOUT EDGE TREATMENT. CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 2:1.
 4. CEMENT CONCRETE APPROACHES SHALL BE CONSTRUCTED OF AIR-ENTRAINED CLASS 3000 AND MAY BE POURED INTEGRAL WITH CURB.
 5. EXISTING CURB, GUTTER, AND SIDEWALK TO BE SAWCUT AND REMOVED FOR INSTALLATION OF APPROACH.
 6. COMMERCIAL DRIVEWAY REQUIRES REINFORCING STEEL (#4 REBAR @ 12" O.C IN EACH DIRECTIONS) MAINTAIN MIN. 3" COVER.
 7. 3" DEPTH 3/4"-0 CRUSHED AGGREGATE BASE COMPACTED TO 95% OF MAX. DRY DENSITY.
 8. SUBGRADE PREPARATION PER WSDOT STD. SPEC. 2-06.3(1).

CEMENT CONCRETE CURB AND GUTTER SECTION SHOWN (SEE STANDARD PLANS FOR OTHER CURB DESIGNS).



REV. 3/04/08 SCH

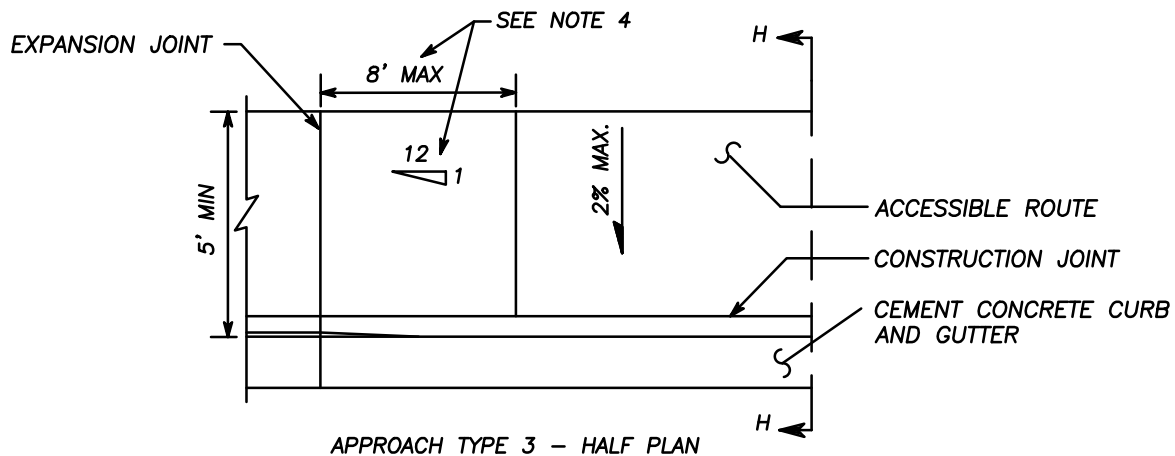
APPROACH TYPE I - HALF ISOMETRIC

CONCRETE DRIVEWAY APPROACH STANDARD

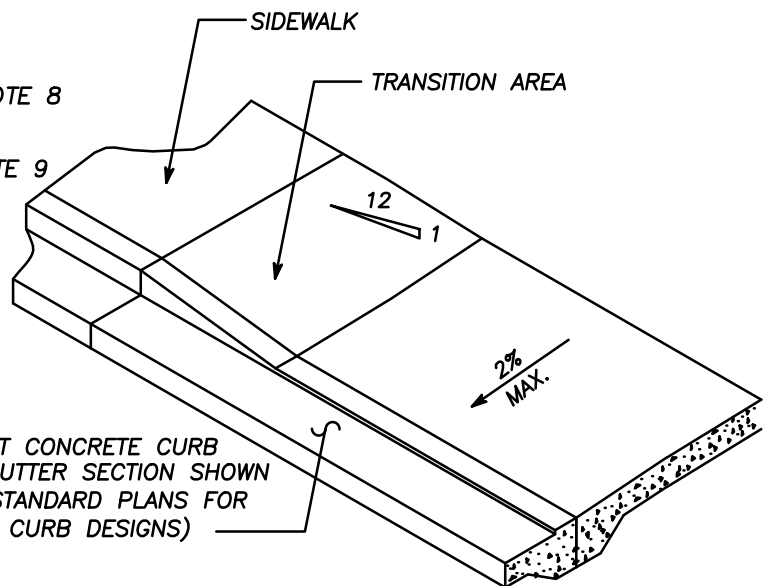
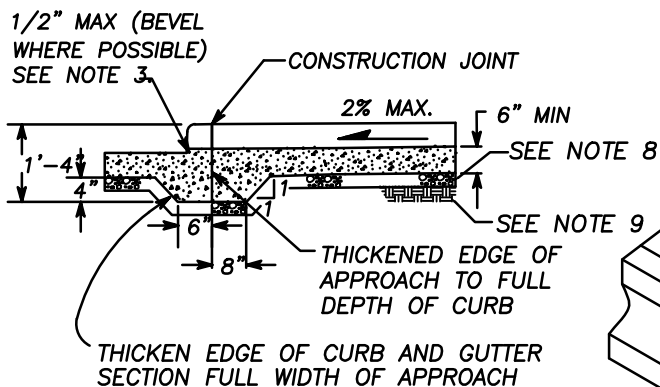
STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.13



APPROACH TYPE 3 - HALF PLAN



NOTES:

1. A MINIMUM 4' WIDE ACCESSIBLE ROUTE SHALL BE MAINTAINED IN ALL PEDESTRIAN ACCESSIBLE AREAS.
2. CONTRACTION JOINTS SHALL BE PLACED ALONG SIDEWALKS IN ACCORD WITH SIDEWALK DETAIL. ALL JOINTS SHALL BE CLEANED AND EDGED.
3. CHANGES IN LEVEL UP TO 1/4" MAY BE VERTICAL AND WITHOUT EDGE TREATMENT. CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 2:1.
4. TRANSITION AREA TO BE SLOPED AT 1v TO 12h, UNLESS STREET GRADE WOULD CREATE A TRANSITION LENGTH GREATER THAN 8', THEN THE MAXIMUM LENGTH OF 8' GOVERNS SLOPE.

APPROACH TYPE 3 - HALF ISOMETRIC

5. CEMENT CONCRETE APPROACHES SHALL BE CONSTRUCTED OF AIR-ENTRAINED CONCRETE CLASS 3000 AND MAY BE POURED INTEGRAL WITH CURB.
6. EXISTING CURB, GUTTER AND SIDEWALK TO BE SAWCUT AND REMOVED FOR INSTALLATION OF APPROACH.
7. COMMERCIAL DRIVEWAY REQUIRES REINFORCING STEEL (#4 REBAR @ 12" O.C. IN EACH DIRECTION), MAINTAIN MIN. 3" COVER.
8. 3" DEPTH 3/4"-0 CRUSHED AGGREGATE BASE COMPACTED TO 95% OF MAX. DRY DENSITY.
9. SUBGRADE PREPARED PER WSDOT STD. SPEC. 2-06.3(1)

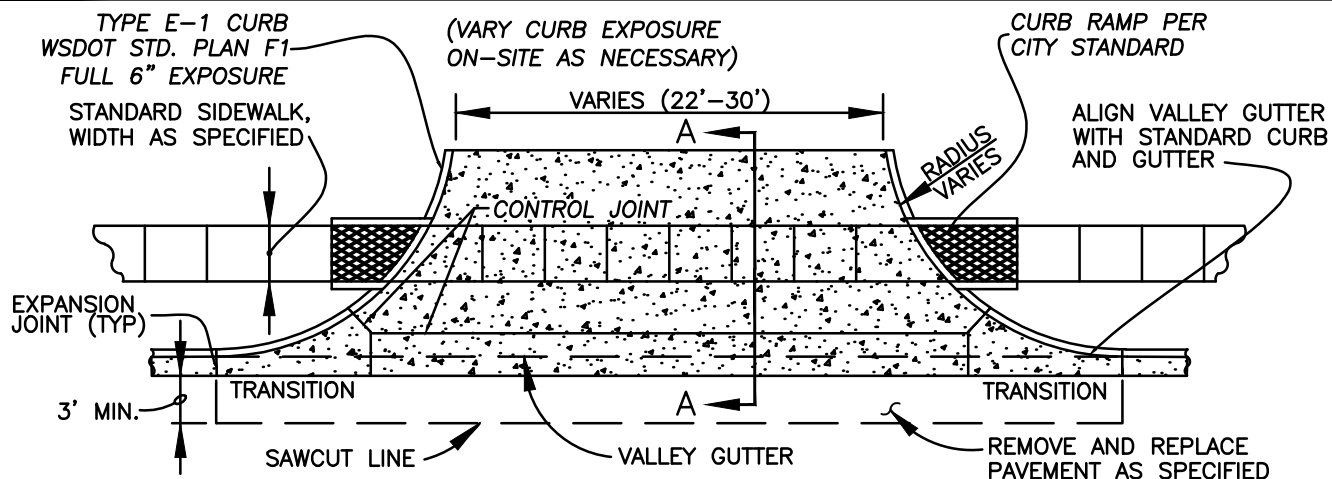
REV. 3/04/08 SCH

CONCRETE DRIVEWAY APPROACH TYPE 3

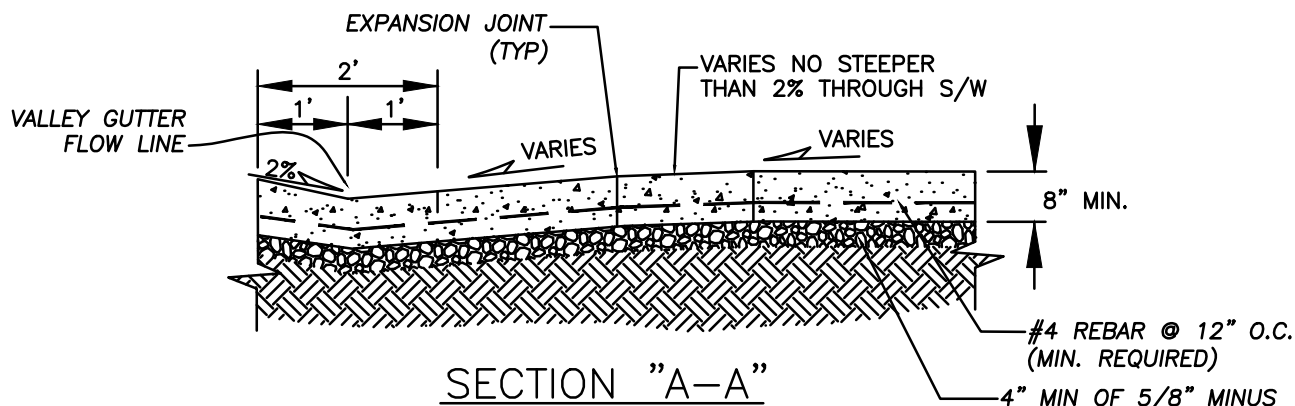
STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.14



PLAN VIEW
COMMERCIAL DRIVEWAY ENTRANCE



NOTES:

1. CONCRETE SHALL BE 3300 PSI (MIN. BREAKING STRENGTH @ 28 DAYS) WITH 3" SLUMP (± 1 "). TOTAL AIR CONTENT (% BY VOLUME OF CONCRETE) SHALL NOT BE LESS THAN 4% OR MORE THAN 7%. MEDIUM BROOM FINISH PARALLEL TO DRIVEWAY CENTERLINE.
2. ALL JOINTS SHALL BE FINISHED WITH 1/4" RADIUS EDGE UNLESS OTHERWISE NOTED.
3. DRIVEWAYS EXCEEDING 15' IN TOTAL WIDTH SHALL HAVE ADDITIONAL LONGITUDINAL JOINTS AS DIRECTED. CONTROL JOINT SPACING SHALL NOT EXCEED 15'.
4. DRIVEWAY SHALL BE CONSTRUCTED WITH REINFORCING STEEL, MINIMUM REQUIRED SHALL BE #4 REBAR @ 12" O.C WITH MIN. 3" COVER.
5. ALL EXISTING EDGES SHALL BE SAW CUT.
6. 4" DEPTH 5/8"-0 CRUSHED AGGREGATE BASE COMPACTED TO 95% OF MAX. DRY DENSITY.
7. SUBGRADE PREPARATION PER WSDOT STD. SPEC. 2-06.3(1).
8. EXISTING CURB SHALL BE REMOVED TO EXISTING JOINT OR SAWCUT SUCH THAT 3' MIN. OF NEW STREET SECTION IS CONSTRUCTED ADJACENT TO NEW DRIVEWAY.
9. MAXIMUM 2% CROSS SLOPE ACROSS PEDESTRIAN CROSSING.
10. CURB RADIUS TO BE 20-FOOT MINIMUM AND 35-FOOT MAXIMUM, AS APPROVED BY CITY ENGINEER.

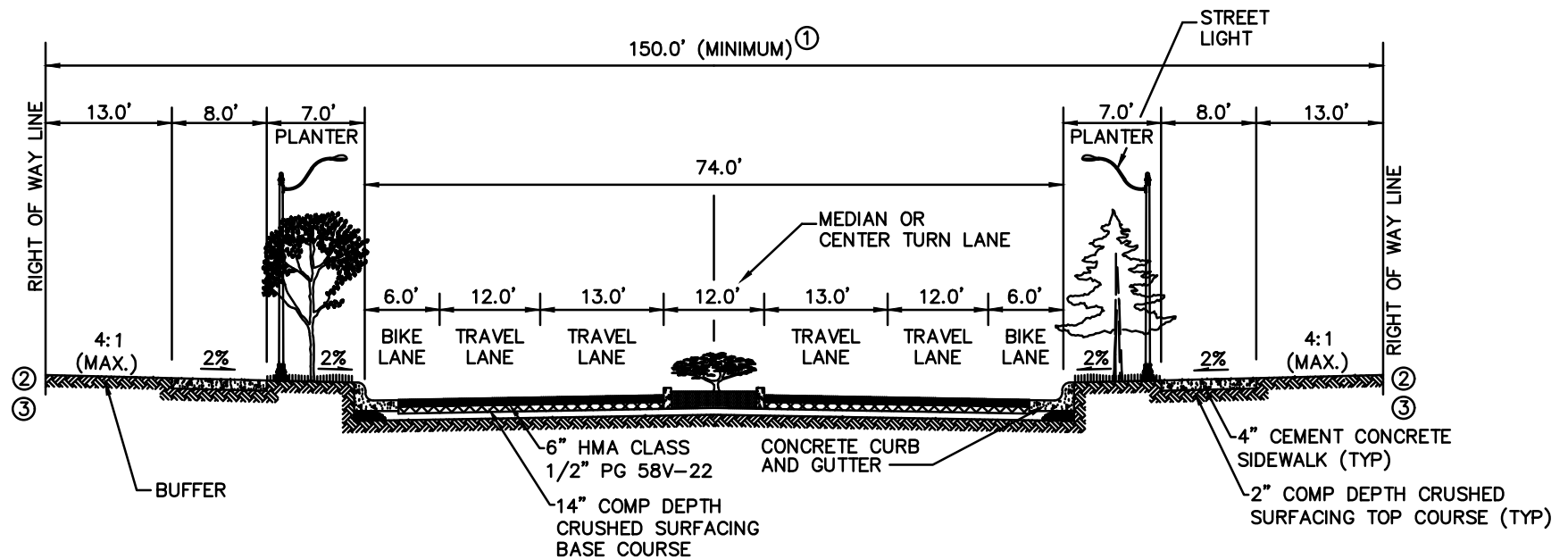
REV. 2/08/08 SCH

MAJOR COMMERCIAL CONCRETE APPROACH STANDARD

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.15



PIONEER STREET FROM 45TH AVENUE TO 56TH PLACE CROSS SECTION

NOT TO SCALE

- ① Additional right of way width may be required for additional turn lanes, stormwater treatment facilities, side slopes, and/or otherwise required by the City of Ridgefield.
- ② Additional on-site grading and/or construction of retaining walls outside the right of way may be required to match grade at right of way.
- ③ All new residential development shall be required to install brick, stone, or wrought iron fence at the right-of-way per city code.
- ④ Separate off-line facilities for treatment and detention of stormwater from the right-of-way are required and shall be located in separate tracts dedicated or donated to the City.

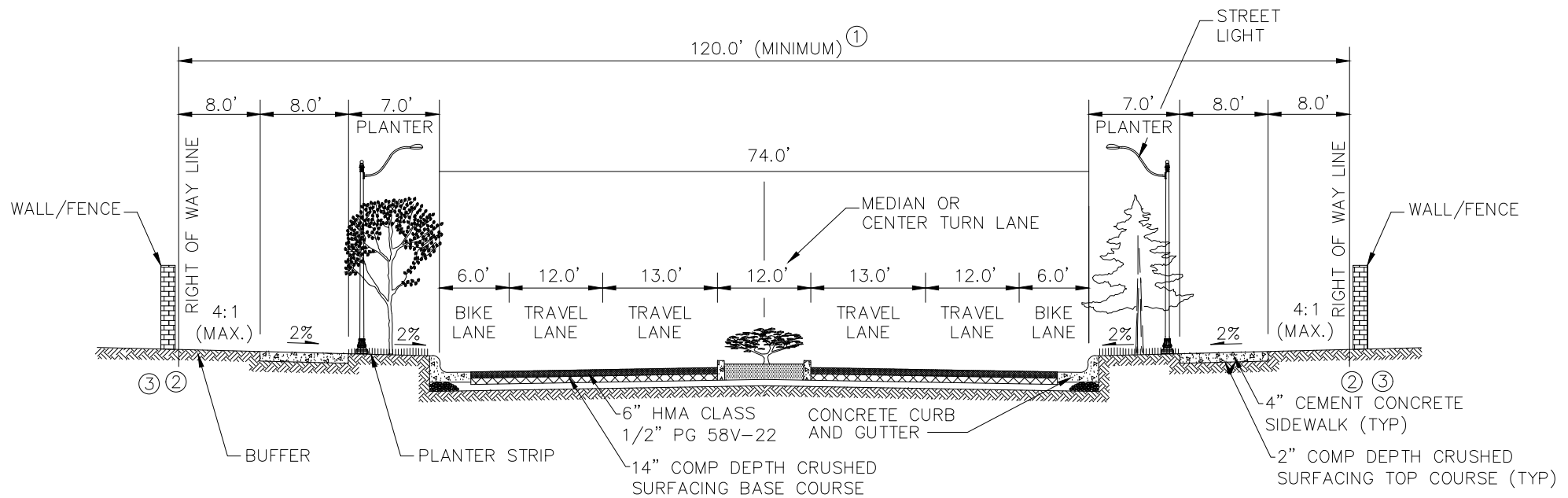
REV. 08/01/24 CPG

PIONEER STREET FROM 45TH AVENUE TO 56TH PLACE CROSS SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.16



PIONEER STREET FROM 32ND AVENUE TO 45TH AVENUE CROSS SECTION

NOT TO SCALE

- ① Additional right of way width may be required for additional turn lanes, stormwater treatment facilities, side slopes, and/or otherwise required by the City of Ridgefield.
- ② Additional on-site grading and/or construction of retaining walls outside the right of way may be required to match grade at right of way.
- ③ All new residential development shall be required to install brick, stone, or wrought iron fence at the right-of-way per city code.
- ④ Separate off-line facilities for treatment and detention of stormwater from the right-of-way are required and shall be located in separate tracts dedicated or donated to the City.

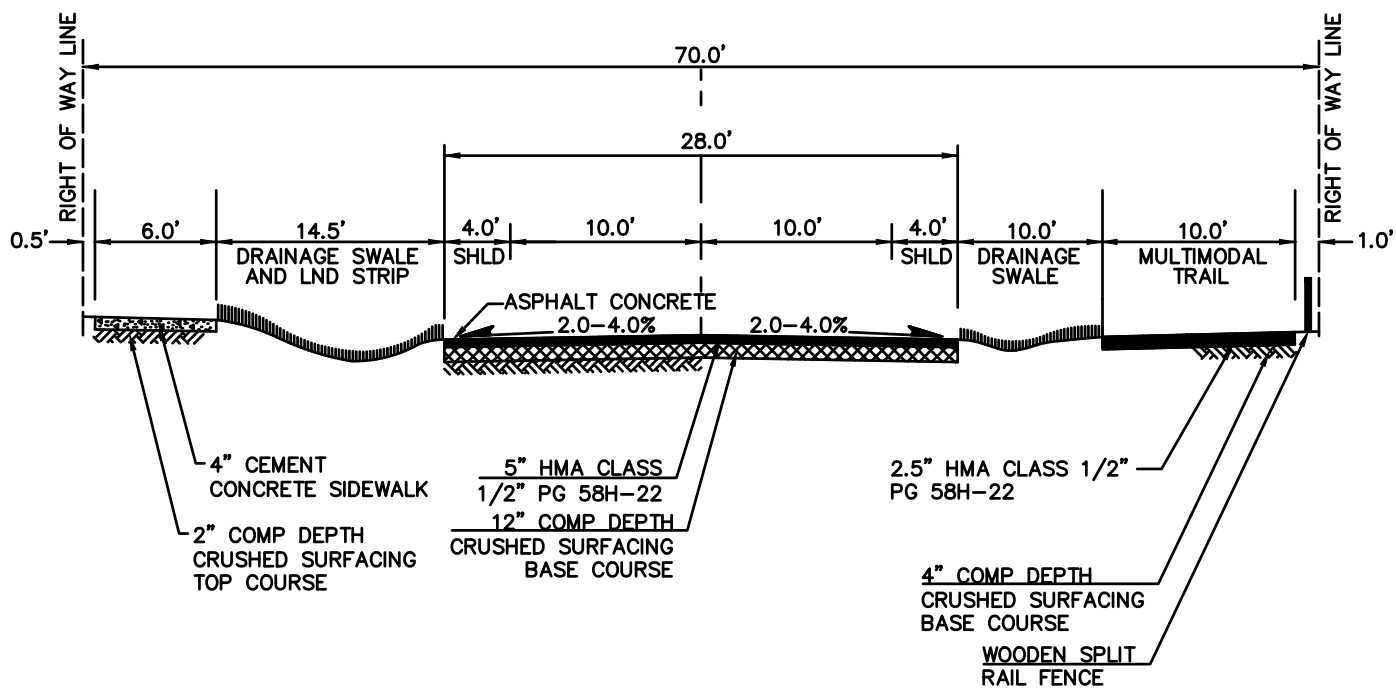
REV. 08/01/24 CPG

PIONEER STREET FROM 32ND AVENUE TO 45TH AVENUE CROSS SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.17



GEE CREEK PLATEAU COLLECTOR SECTION

NOT TO SCALE

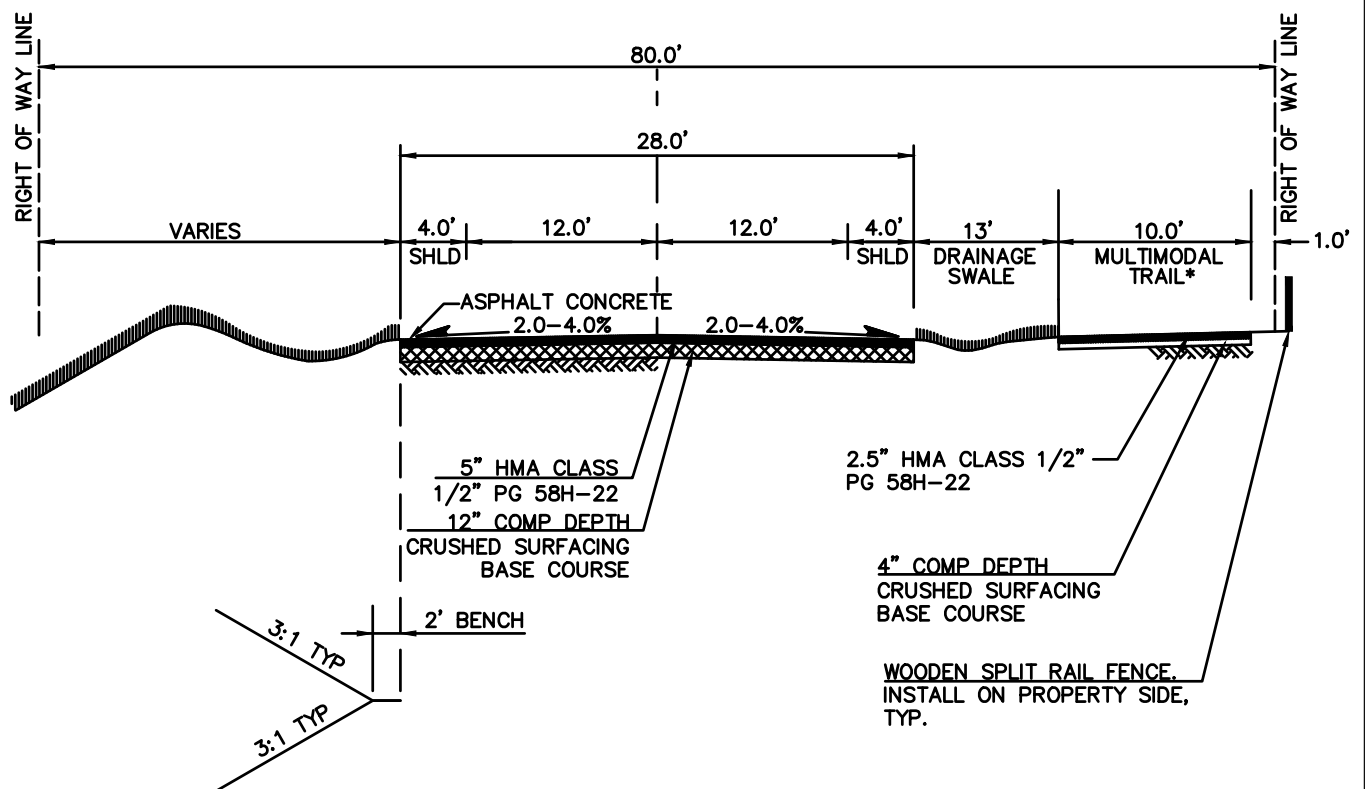
REV. 08/01/24 CPG

GEE CREEK PLATEAU COLLECTOR SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.18



* TRAIL SHALL BE ON SOUTH AND EAST SIDES OF CARTY ROAD.

CARTY ROAD SUBAREA COLLECTOR SECTION

NOT TO SCALE

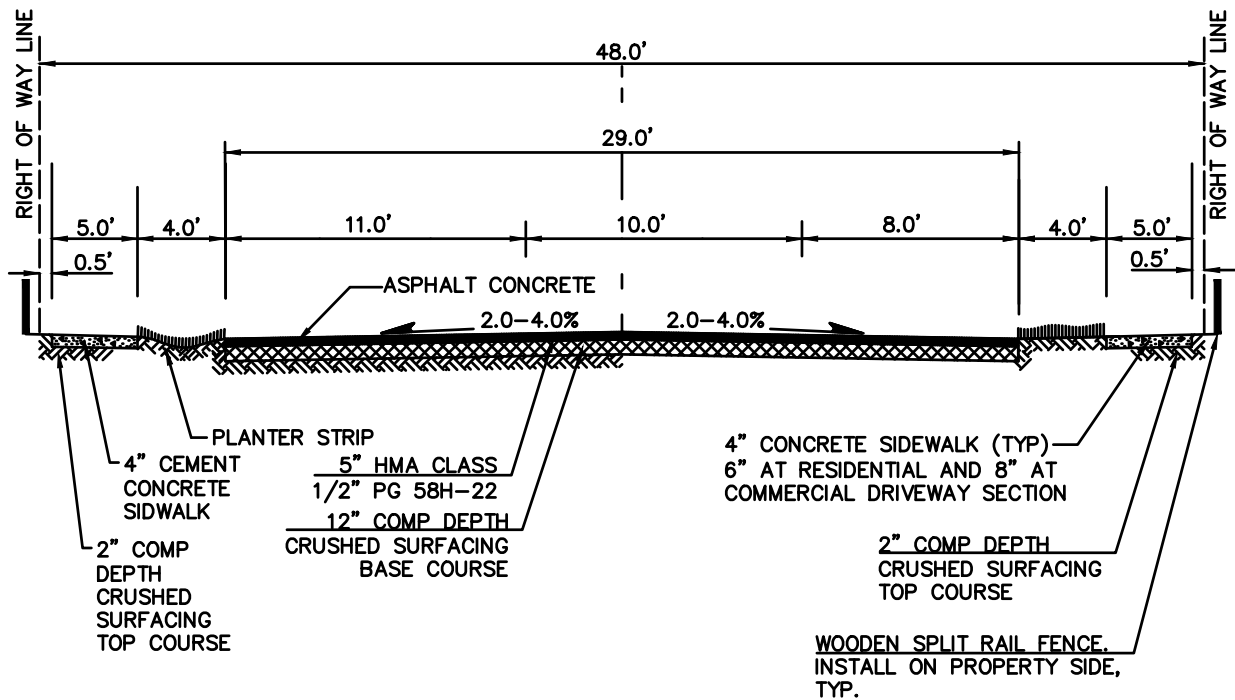
REV. 08/01/24 CPG

CARTY ROAD SUBAREA COLLECTOR SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.19



CARTY ROAD SUBAREA RESIDENTIAL LOCAL A SECTION

NOT TO SCALE

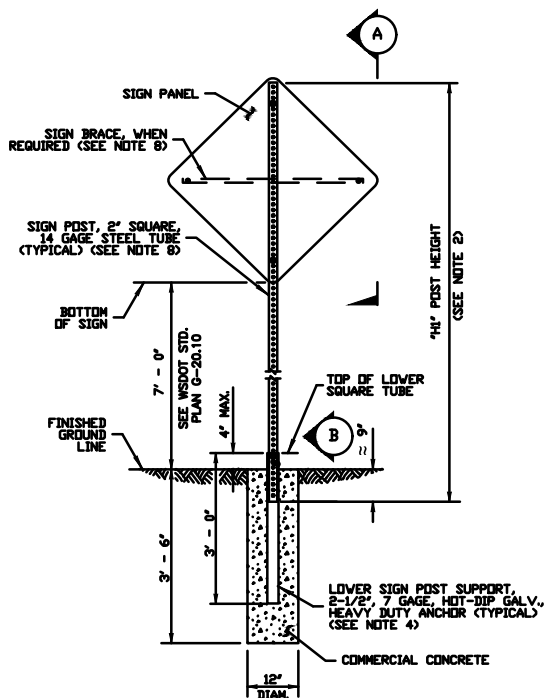
REV. 08/01/24 CPG

CARTY ROAD SUBAREA RESIDENTIAL LOCAL A SECTION

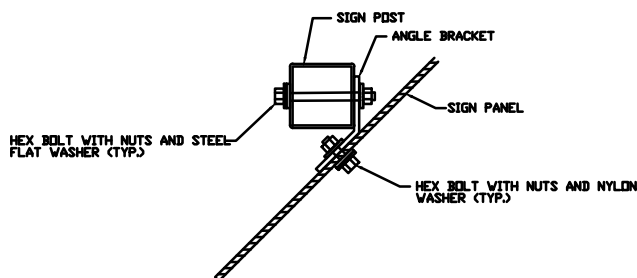
STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 2.20



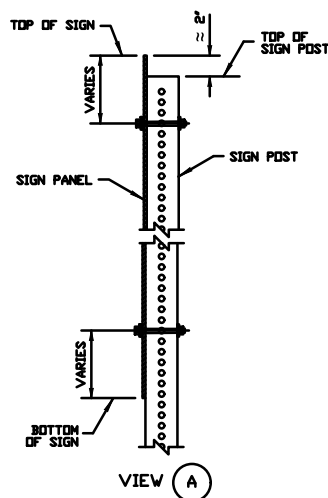
TYPE ST-4 SIGN SUPPORT



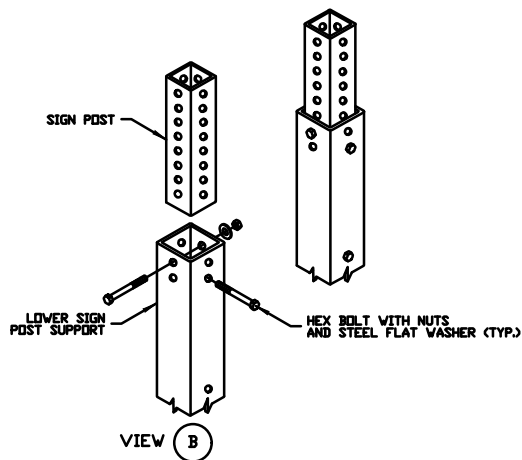
DETAIL 1

NOTES:

1. DIMENSIONS FOR THE PARTS USED TO ASSEMBLE THE BASE CONNECTIONS ARE INTENTIONALLY NOT SHOWN. BASE CONNECTIONS ARE PARENTED, MANUFACTURED PRODUCTS THAT ARE IN COMPLIANCE WITH NCHRP 350 CRASH TEST CRITERIA. THE BASE CONNECTION DETAIL ARE SHOWN ON THIS PLAN TO ILLUSTRATE HOW THE PARTS ARE ASSEMBLED.
2. STREET NAME SIGNS SHALL BE GREEN WITH WHITE BORDER. LETTERING SHALL FOLLOW MUTCD GUIDANCE. ON RESIDENTIAL STREET NAME SIGNS THE INITIAL UPPER CASE LETTER SHALL BE 6" TALL WITH SUBSEQUENT LOWER CASE LETTERS 4.5" TALL. STREET SIGNS SHOULD BE FLAT ALUMINUM.
3. FOR "H1" REFER TO THE SIGN SPECIFICATION TABLES IN THE CONTRACT.
4. DEPENDING UPON THE SIGN AREA, SIGN POST MAY BE A 2", 12 OR 14 GAGE POST OR 2-1/2", 12 OR 14 GAGE POST. SEE CONTRACT PLAN.
5. 2-1/2", 7 GAGE HEAVY DUTY ANCHOR IS REQUIRED WITH 2" POST. 3" 7 GAGE HEAVY DUTY ANCHOR IS REQUIRED WITH 2-1/2" POST. SEE CONTRACT PLAN.
6. ANGLE BRACKET SHALL BE USED FOR SIGN POST SQUARE TUBE GALVANIZED STEEL TUBE ATTACHMENT AT 45 DEGREES, SHOWN IN DETAIL 1.
7. HEX BOLT WITH NUTS AND NYLON WASHER SHALL BE USED FOR SIGN ATTACHMENT. HEX BOLT WITH NUTS AND STEEL FLAT WASHER SHALL BE USED FOR ANCHOR ATTACHMENT.
8. CONTRACT PLAN MAY ALLOW THE USE OF STEEL OR TIMBER SIGN SUPPORT SYSTEM, SPECIFIED IN THE WSDOT STANDARD PLAN. DEPENDING UPON THE SPECIFIC CONDITIONS AND SOIL TYPE, UPON APPROVAL BY THE ENGINEER.
9. SIGN AND BRACES ARE REQUIRED FOR SIGN WIDTHS OF 48" (IN) OR GREATER. FOR SIGN WIDTHS OF 36" (IN) OR LESS, SIGN BRACES ARE ONLY REQUIRED WHEN SPECIFIED IN THE CONTRACT. SEE WSDOT STANDARD PLAN G-50.10-03 FOR FURTHER DETAILS.



VIEW A



VIEW B

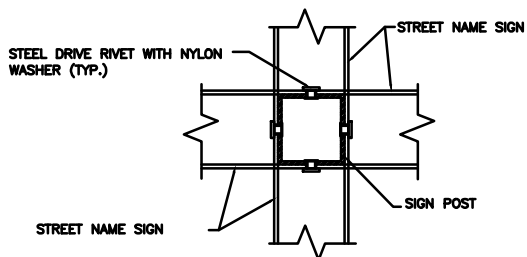
REV. 08/01/24 CPG

STREET NAME SIGNS

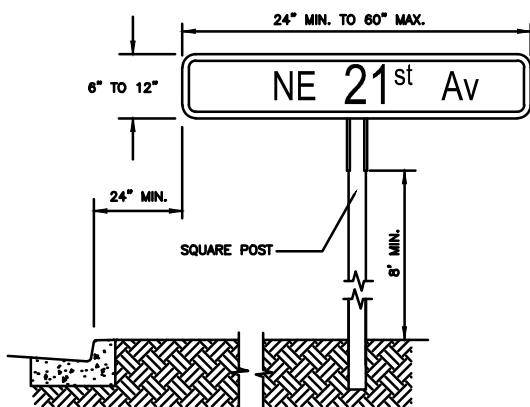
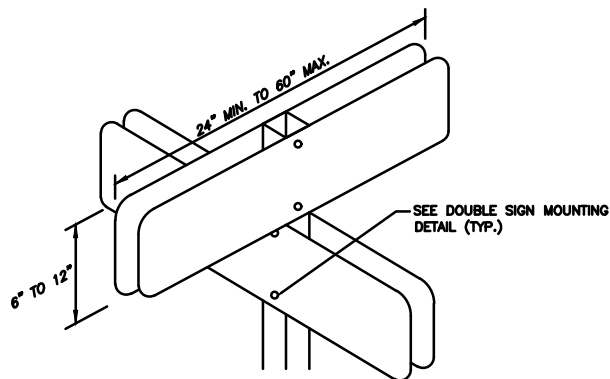
STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 3.1A



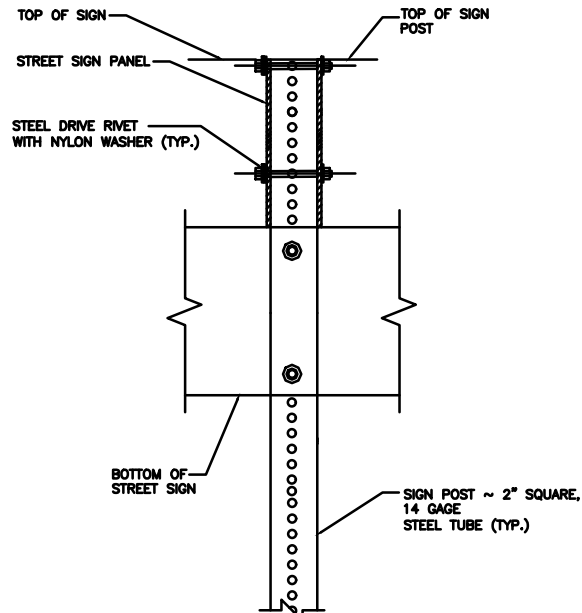
TOP VIEW
DOUBLE SIDED SIGN MOUNTING DETAIL



GROUND MOUNTED
STREET NAME SIGN

NOTES:

1. BOLT IN LIEU OF STEEL RIVET PERMITTED WITH THE ENGINEER'S APPROVAL. BOLTS WITH NUTS IN LIEU OF RIVETS REQUIRED FOR SIGNS 42 INCHES AND LONGER.
2. CONTRACT PLAN MAY ALLOW THE USE OF OTHER TYPES OF STEEL OR TIMBER SIGN SUPPORT SYSTEM, SPECIFIED IN THE WSDOT STANDARD PLAN, DEPENDING UPON SPECIFIC CONDITION AND SOIL TYPE.
3. SIGN BRACES ARE REQUIRED WHEN STREET NAME SIGNS ARE 42 INCHES OR GREATER IN WIDTH.



POST TYPE ST-4

STREET NAME SIGN
INSTALLATION DETAIL

REV. 08/01/24 CPG

STREET NAME SIGNS

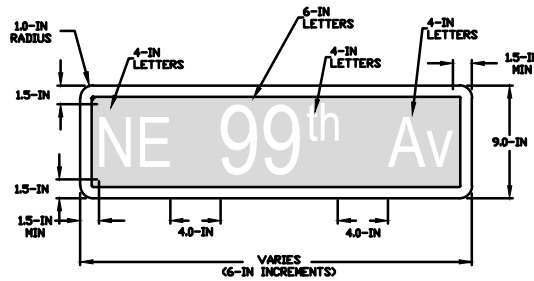
STANDARD
DETAILS

CITY OF RIDGEFIELD

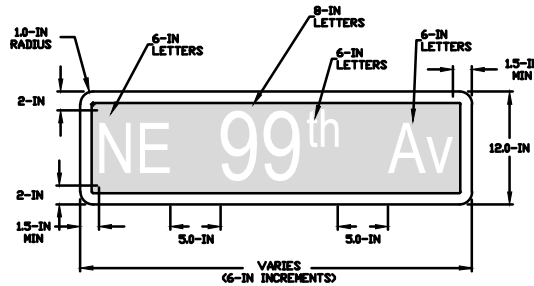
SHEET
T - 3.1B

D-3 STREET NAME SIGNS

ALL STREETS EXCEPT AS
NOTED BELOW

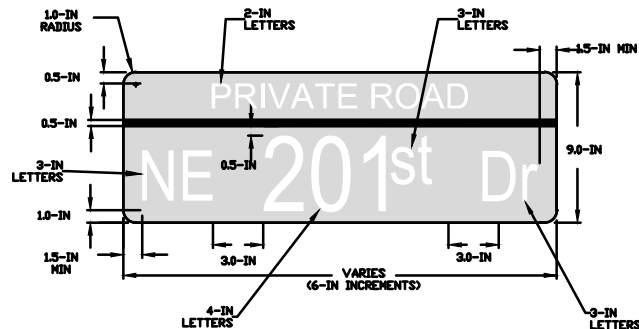


MULTI-LANE STREETS WITH
POSTED SPEED > 40 MPH



D-3P PRIVATE ROAD NAME SIGNS

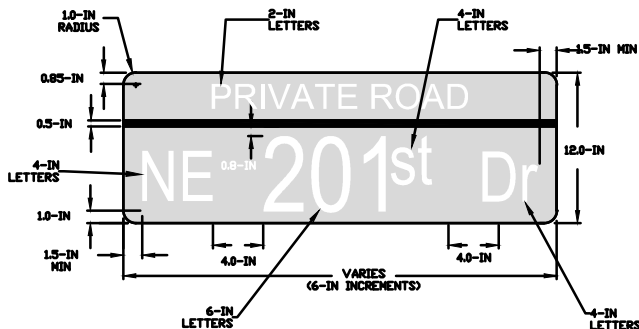
LOCAL TWO-LANE STREETS WITH
POSTED SPEED ≤ 25 MPH



TWO-LANE STREETS WITH
POSTED SPEED > 25 MPH

OR

MULTI-LANE STREETS WITH
POSTED SPEED ≤ 40 MPH



NOTES:

1. LETTERS AND NUMBERS ARE 'C' SERIES LETTERS. THE 'B' SERIES FONT MAY BE USED IF THE SIGN BLADE IS GREATER THAN 48 INCHES IN LENGTH.
2. D-3 STREET NAME SIGNS AND D3-P PRIVATE ROAD NAME SIGNS SHALL BE WHITE ON DOUBLE SIDED GREEN TYPE IV ALUMINUM SHEETING MATERIAL.
3. SIGN BLADES SHALL BE IN 6-IN INCREMENTS (18-IN, 24-IN, 30-IN, ETC). 1.5-IN CLEAR FROM LETTERING TO SIDES OF SIGNS SHALL BE MINIMUM, WITH MESSAGE CENTERED ON SIGN BLADE.
4. SIGN BLADES UNDER 36-IN IN LENGTH SHALL BE ON 0.080 ALUMINUM. 36-IN OR LONGER BLADES SHALL BE ON 0.125-IN ALUMINUM.

REV. 08/01/24 CPG

STREET NAME SIGNS

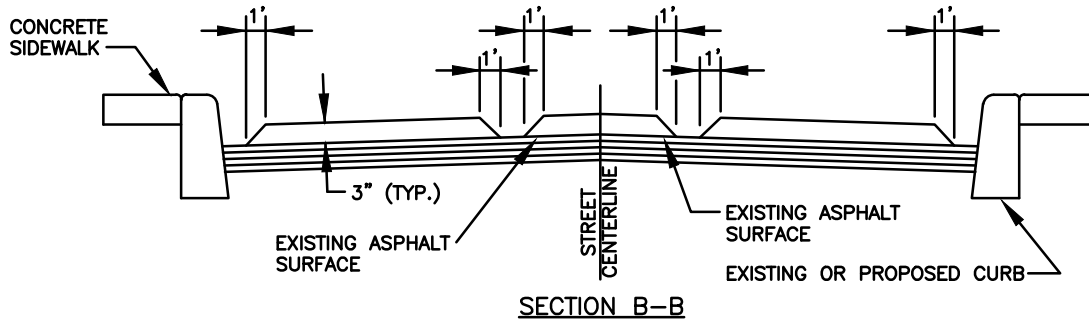
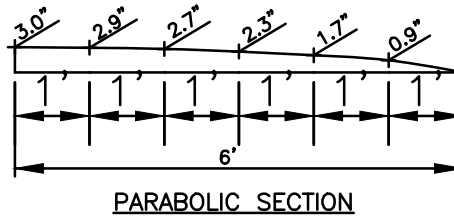
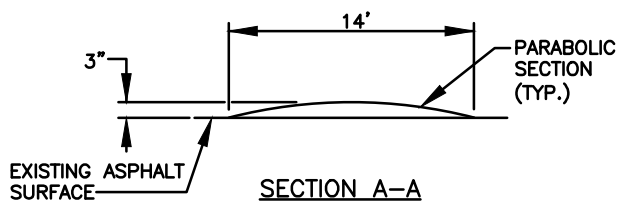
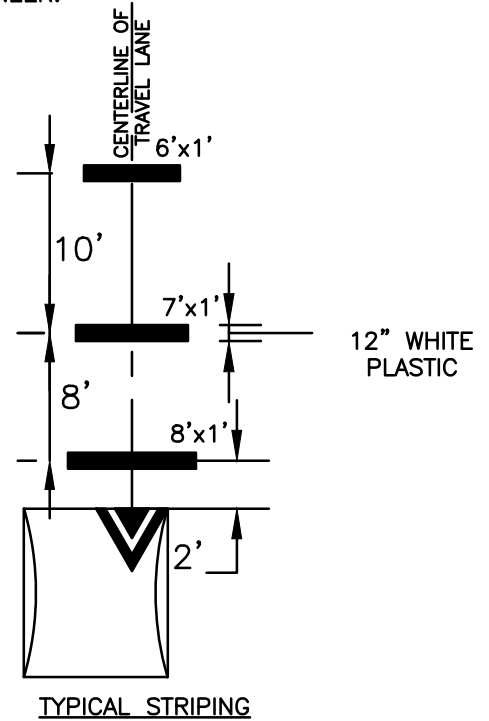
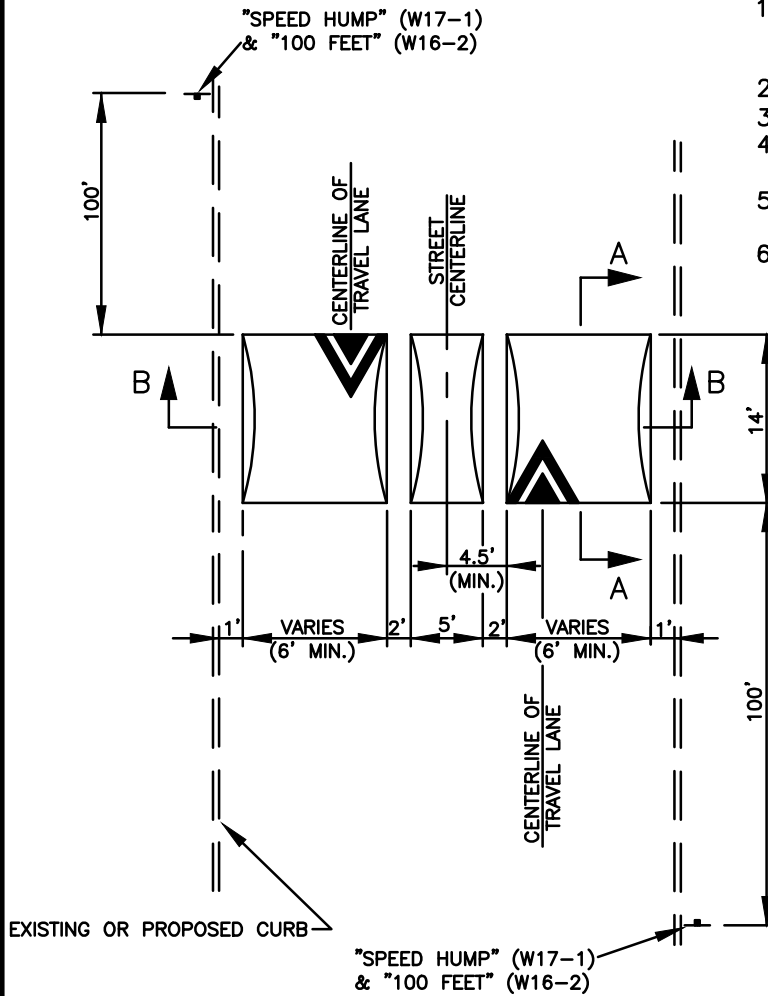
STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 3.1C

NOTES:

1. ALL STRIPING TO BE WSDOT TYPE B THERMOPLASTIC MATERIAL AND IS REQUIRED IN BOTH DIRECTIONS.
2. SIGNAGE PER LATEST EDITION OF MUTCD.
3. SPEED HUMP TO BE CLASS "A" ASPHALT.
4. SIGN MOUNTING PER DETAIL T-3.1A AND T-3.1B.
5. MAY BE USED ON LOCAL "A" OR NEIGHBORHOOD COLLECTOR CLASSIFIED STREET.
6. MAY BE USED ONLY WHEN APPROVED BY THE CITY ENGINEER.



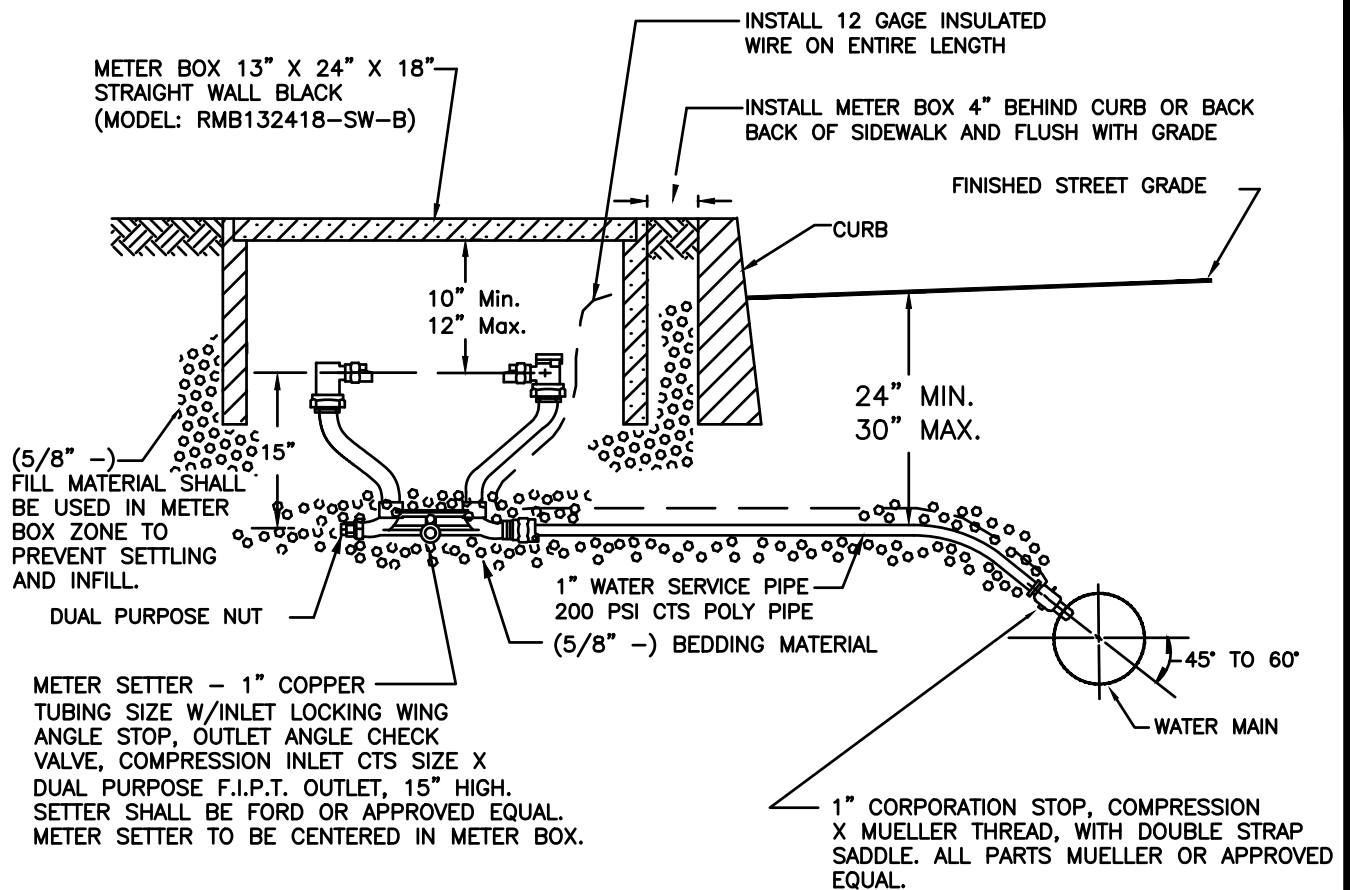
REV. 08/01/24 CPG

SPEED HUMP

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
T - 3.2



NOTES:

1. METER BOX SHALL BE MANUFACTURED BY RAVEN PRODUCTS UNLESS OTHERWISE APPROVED
2. METER BOX IS NOT ALLOWED IN HARD SURFACE AREAS.
3. ALL METERS SHALL BE INSTALLED BY THE CITY OF RIDGEFIELD
4. PRIOR TO INSTALLATION OF METER A REQUEST FOR METER INSTALLATION MUST BE SUBMITTED, ALL SERVICE FEES PAID IN FULL AND THE WATER MAIN SHALL BE TESTED AND ACCEPTED BY THE CITY. ALLOW 1-2 WEEKS FOR METER INSTALLATION.
6. PRIOR TO FINAL OCCUPANCY OF BUILDING BACKFILL MUST BE PLACED AROUND METER BOX, THE BOX SET TO FINISHED GRADE AND SURROUNDING LANDSCAPING INSTALLED. CALL PUBLIC WORKS AT 360-857-5014 FOR FINAL INSPECTION PRIOR TO FINAL OCCUPANCY. ALLOW 48 HOURS FOR FINAL INSPECTION.
7. WATER SERVICES UP TO AND INCLUDING THE SETTER SHALL BE PRESSURE TESTED WITH THE MAIN.
8. LICENSED PLUMBER TO INSTALL OR REATTACH CUSTOMER SIDE PLUMBING.

N.T.S

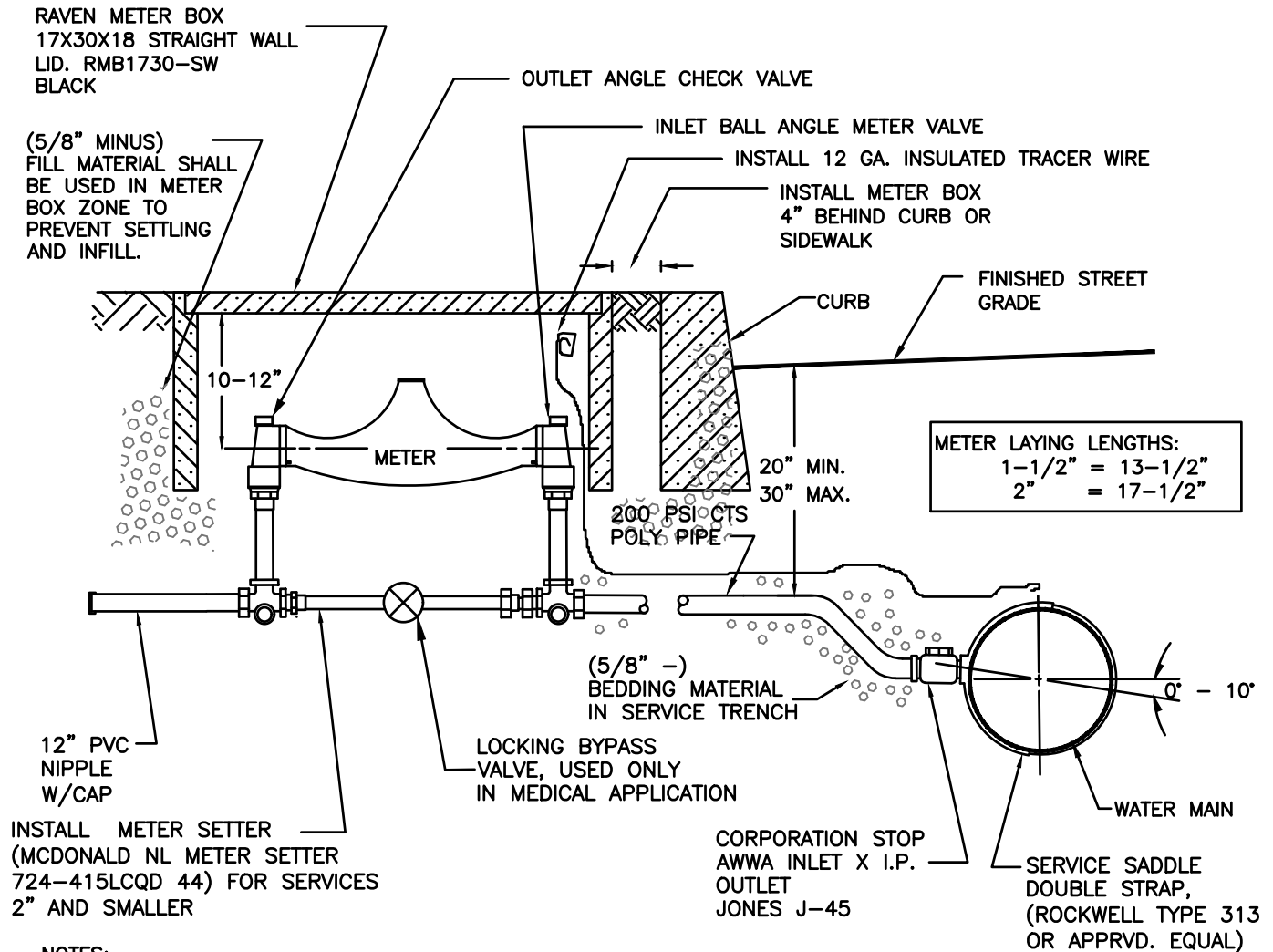
REV. 08/01/24 CPG

STANDARD WATER SERVICE - 1"

**STANDARD
DETAILS**

CITY OF RIDGEFIELD

**SHEET
W - 1.2**



NOTES:

1. ALL METERS SHALL BE INSTALLED BY THE CITY OF RIDGEFIELD.
2. PRIOR TO CITY INSTALLATION OF METERS, ALL SERVICE APPLICATIONS MUST BE COMPLETED AND APPROVED. SERVICE FEES PAID IN FULL AND AS-BUILTS SUBMITTED AND APPROVED.
3. CONTRACTOR SHALL CONTACT CITY PUBLIC WORKS OFFICE (360)887-8251 48 HOURS PRIOR TO INSTALLING ANY WATER SERVICE CONNECTIONS.
4. METERS WILL NOT BE SET BY THE CITY PRIOR TO DISINFECTION OF THE MAIN AND SERVICE, AND PRIOR TO A SUCCESSFUL BACTERIOLOGICAL TEST.
5. WATER SERVICES SHALL BE PRESSURE TESTED ALONG WITH THE MAIN.
6. DURING THE PRESSURE TEST, THE MAIN SHALL BE OPEN FOR INSPECTION OF ALL CORPORATION STOPS.
7. USE 1-7/8" BIT FOR ALL 2" SADDLE TAPS AND 1-3/8" BIT FOR 1-1/2" SADDLE TAPS.
8. USE PRO-TRACE CONNECTORS.
9. METER BOX NOT ALLOWED IN HARD SURFACE AREAS.

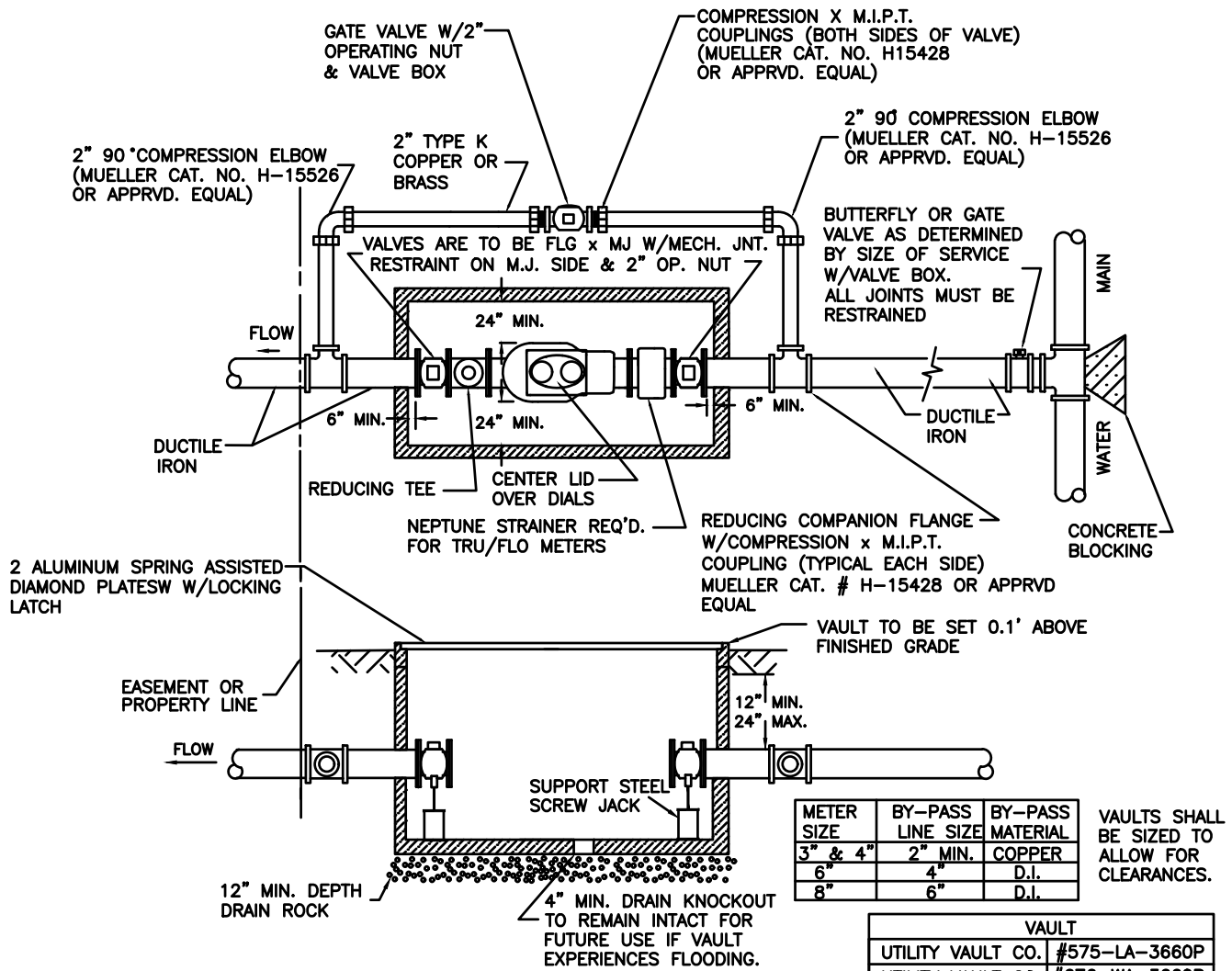
REV 8/01/24 CPG

STANDARD WATER SERVICE - 1 1/2" & 2"

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
W-1.3



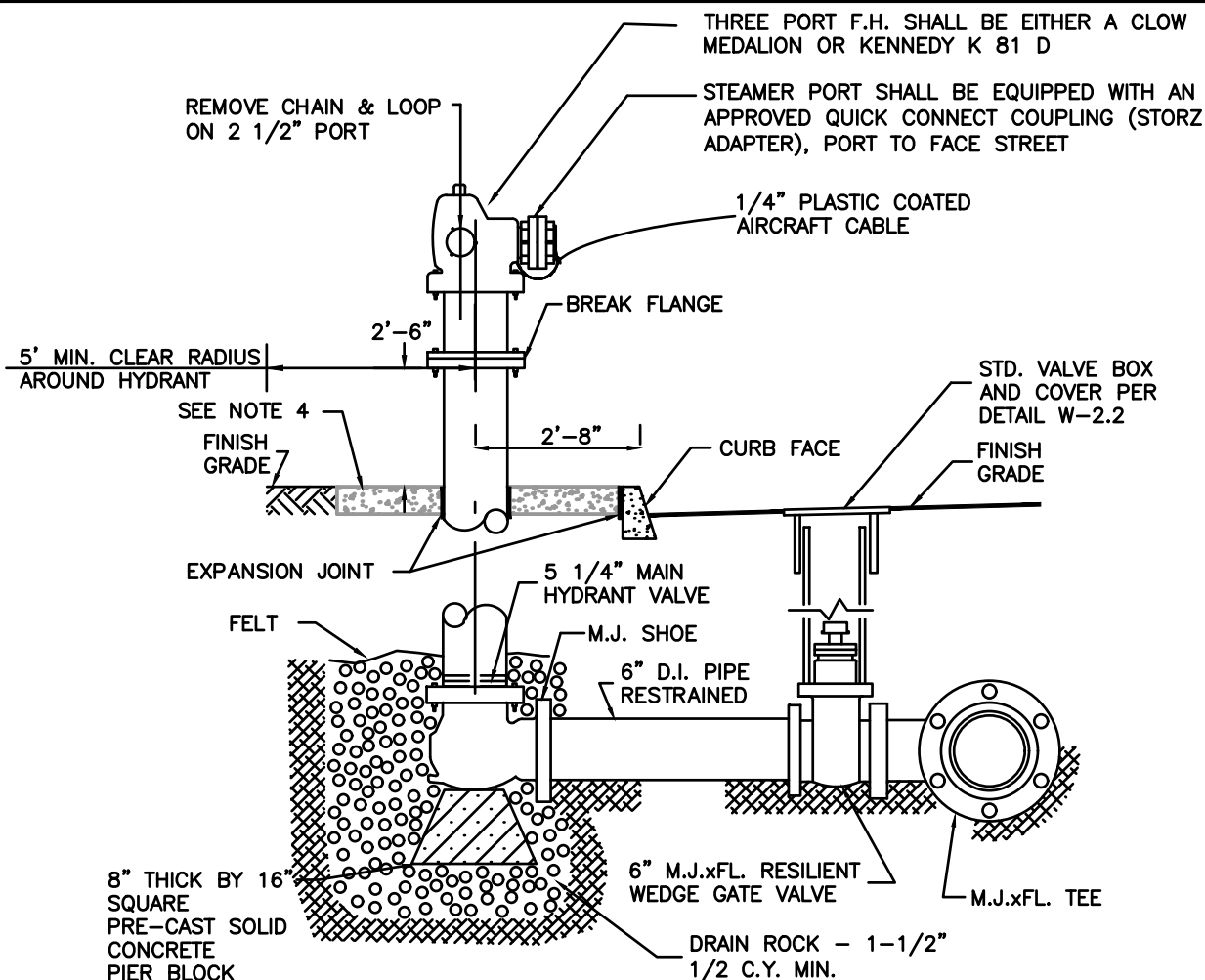
REV. 08/01/24 CPG

STANDARD WATER SERVICE - 3" AND LARGER

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
W - 1.4



NOTES:

1. FIRE HYDRANT INSTALLATIONS SHALL BE APPROVED BY THE CITY INSPECTOR PRIOR TO BACKFILLING.
2. FIRE HYDRANT LOCATIONS SHALL BE AS SHOWN ON THE PLANS. FIRE HYDRANTS SHALL NOT BE SET UNTIL LOCATION AND DEPTH ARE APPROVED BY THE CITY.
3. FIRE HYDRANT STANDARD BURY IS 4' UNLESS OTHERWISE NOTED ON THE PLANS.
4. A 4'x4'x4" CONCRETE PAD SHALL BE CENTERED AROUND THE FIRE HYDRANT.
5. CONCRETE PAD SHALL BE PLACED FLUSH W/BACK OF CURB OR SIDEWALK. EXPANSION JOINT MATERIAL SHALL BE PLACED BETWEEN THE CONCRETE PAD AND CURB/SIDEWALK.
6. ALL PIPING MUST BE RESTRAINED, WITHOUT EXCEPTION.
7. FIRE HYDRANTS SHALL BE FACTORY PAINTED WITH SAFETY YELLOW HIGH GLOSS EQUIPMENT ENAMEL. HYDRANT SHALL BE FRESHLY PAINTED PRIOR TO CITY ACCEPTANCE.
8. FIRE HYDRANT MAINS SHALL BE 8" MIN., A 6" MAIN CAN BE USED FOR A DEAD-END RUN OF LESS THAN 50' TO A HYDRANT SUBJECT TO ADEQUATE FIRE FLOW.
9. NO BENDS SHALL BE ALLOWED ON FIRE HYDRANT RUNS.
10. TONING WIRE SHALL BE RUN UP TO STORZ ADAPTER.

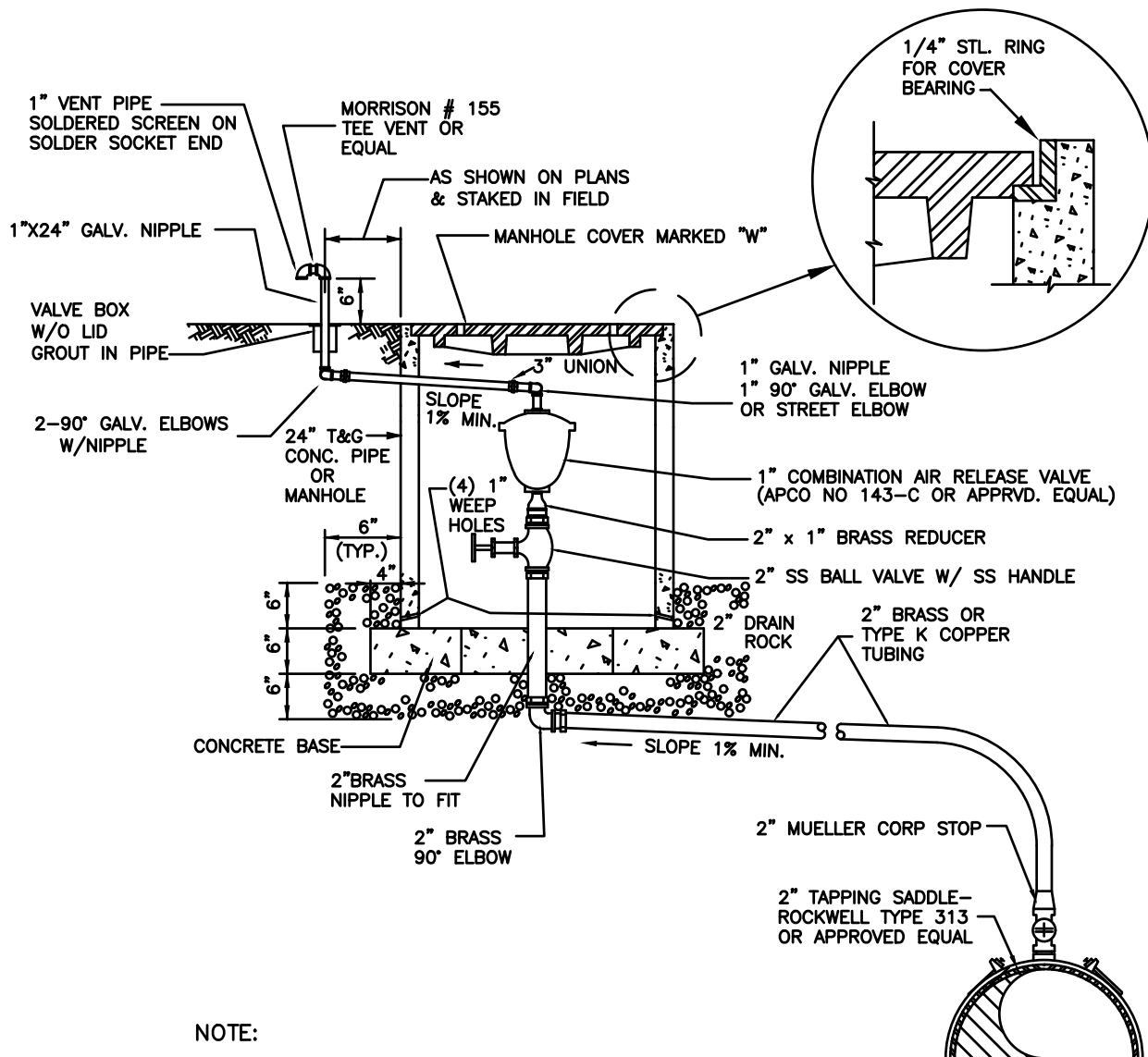
REV. 08/01/24 CPG

STANDARD FIRE HYDRANT ASSEMBLY

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
W - 2.1



NOTE:

- 1) PLACE VENT AND AIR RELEASE UNIT ASSEMBLY OUTSIDE OF HARD SURFACE AREA IN R.O.W. OR 15' EASEMENT DEDICATED TO THE CITY OF RIDGEFIELD.
- 2) MUST BE USED FOR ALL AIR RELEASE LOCATIONS UNLESS OTHERWISE APPROVED BY CITY ENGINEER.
- 3) TONING WIRE SHALL BE BROUGHT UP TO THE BOTTOM OF THE LID.

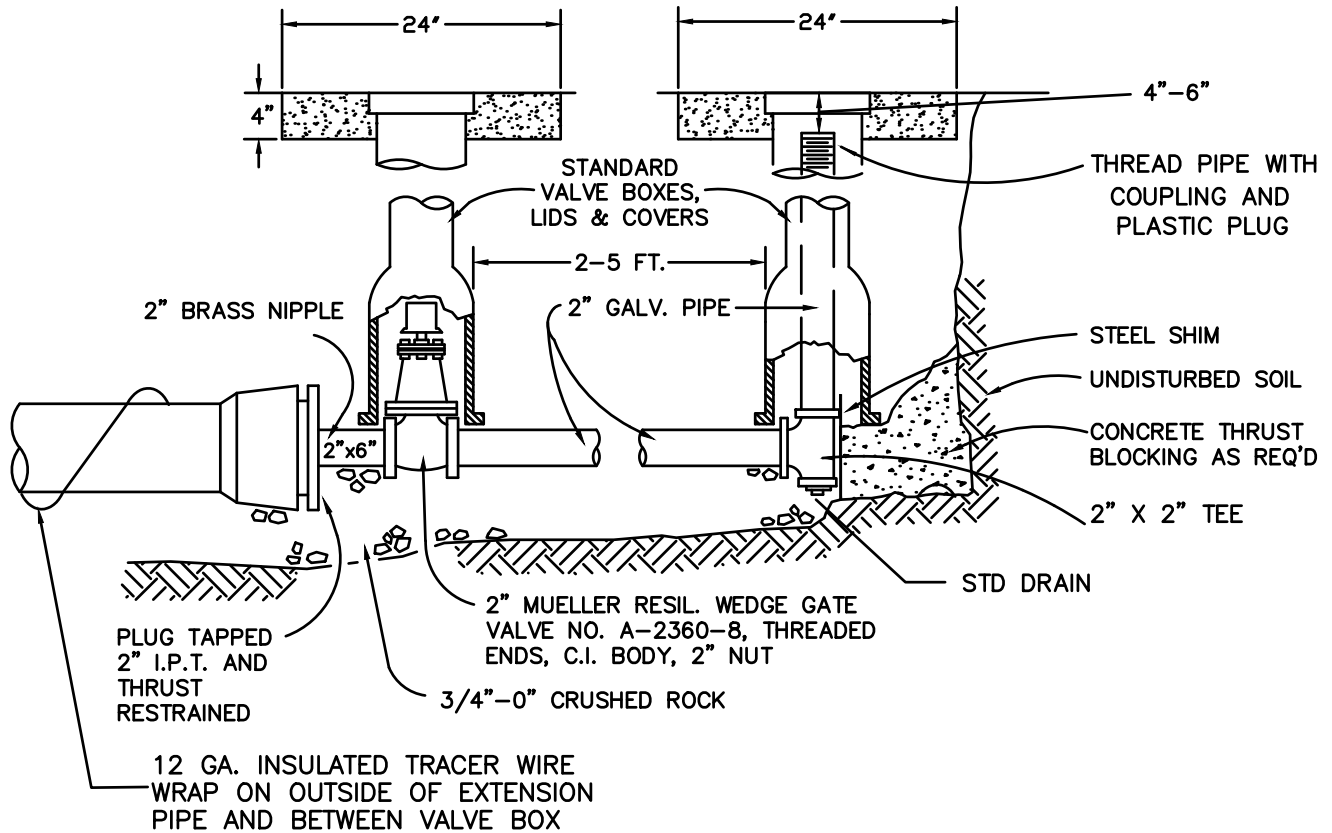
REV. 08/01/24 CPG

COMBINATION AIR RELEASE VALVE

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
W - 2.4



NOTES:

1. VALVE BOX TO BE CONCRETE ENCASED AS SHOWN, IF NOT IN PAVED AREA.
2. BLOW-OFF UNIT SHALL BE BACKFILLED WITH 3/4"-0" CRUSHED ROCK AND COMPACTED TO 95% OF MAX. DENSITY DETERMINED BY AASHTO T-180.
3. PLACE BLOW-OFF STANDPIPE 3 FT. INSIDE R.O.W. LINE AT END OF STREET (2 FT. FROM BARRICADE).
4. TONING WIRE SHALL FOLLOW STANDARDS OF STANDARD VALVE BOX ASSEMBLY CITY OF RIDGEFIELD STANDARD DETAIL W-2.2.

**BLOW-OFF
SIZES REQUIRED**

MAIN SIZE	BLOW-OFF SIZE
<12"	2"
≥12"	4"

REV 4/7/17 BGK

STANDARD BLOWOFF ASSEMBLY

**STANDARD
DETAILS**

CITY OF RIDGEFIELD

**SHEET
W-2.5**

MAIN DIAMETER	BLOW-OFF DIAMETER
<12"	2" MINIMUM
≥12"	4" MINIMUM

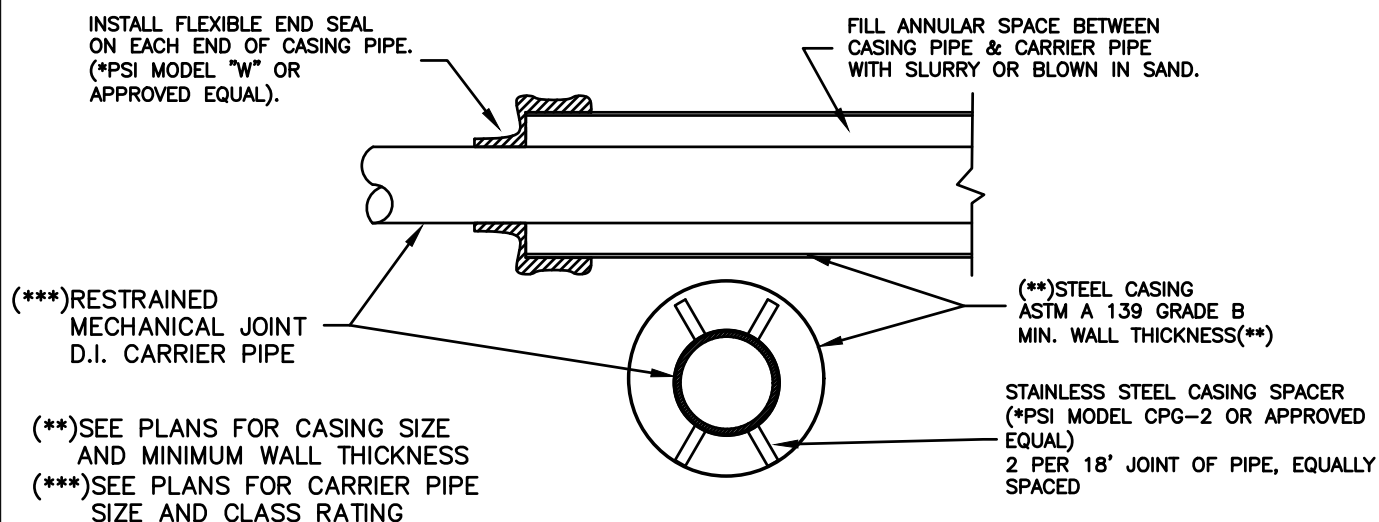


REV. 08/01/24 CPG

STANDARD TEMPORARY BLOWOFF ASSEMBLY

CITY OF RIDGEFIELD

SHEET
W-2.6

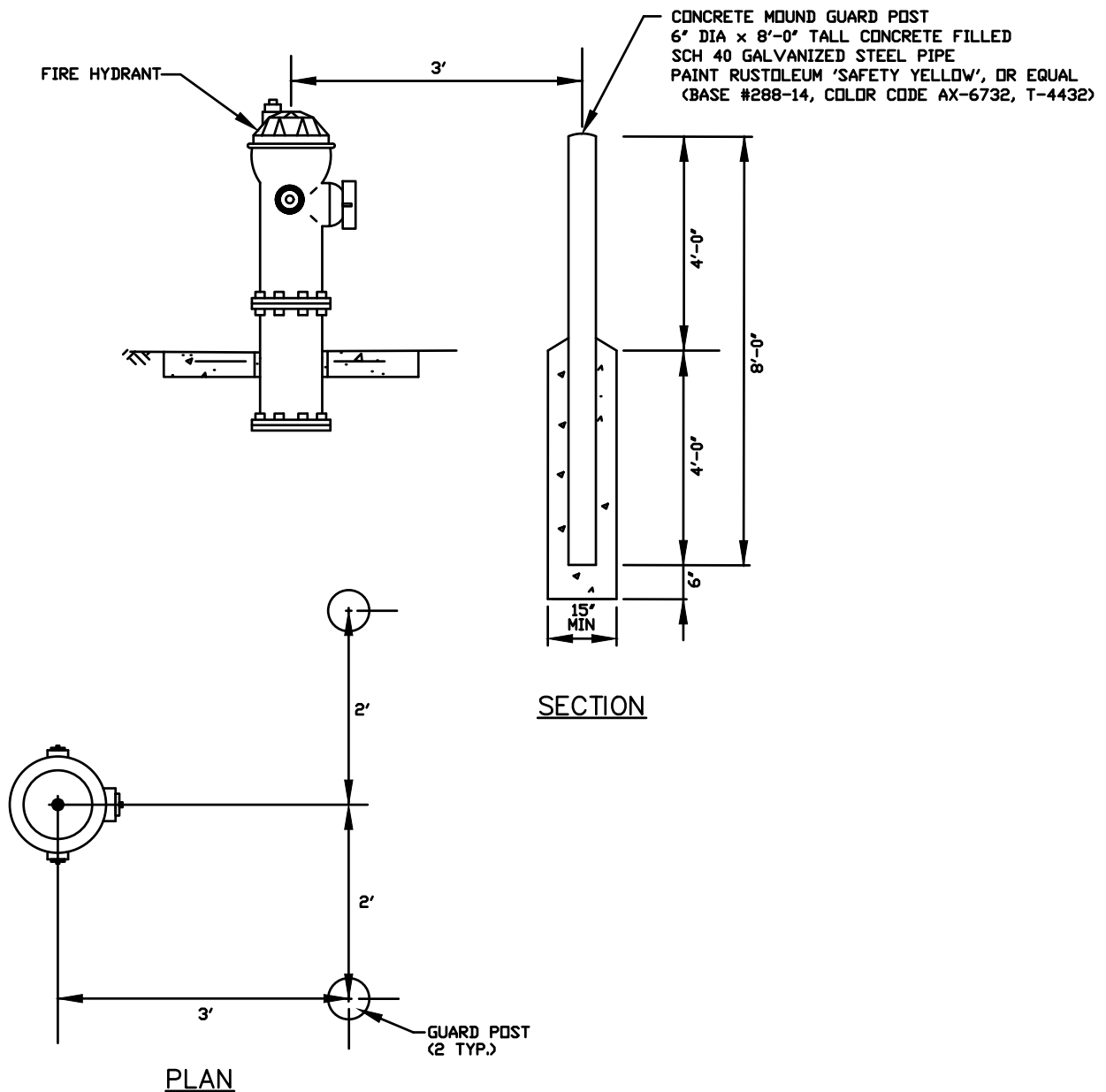


CASING SIZING REQUIREMENTS

NOTES

REV. 2/06/08 SCH

STANDARD DETAILS



NOTES:

1. CONCRETE GUARD POSTS SHALL BE INSTALLED WHEN REQUIRED BY CITY ENGINEER

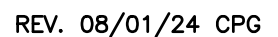
REV. 05/08/23 JRJ

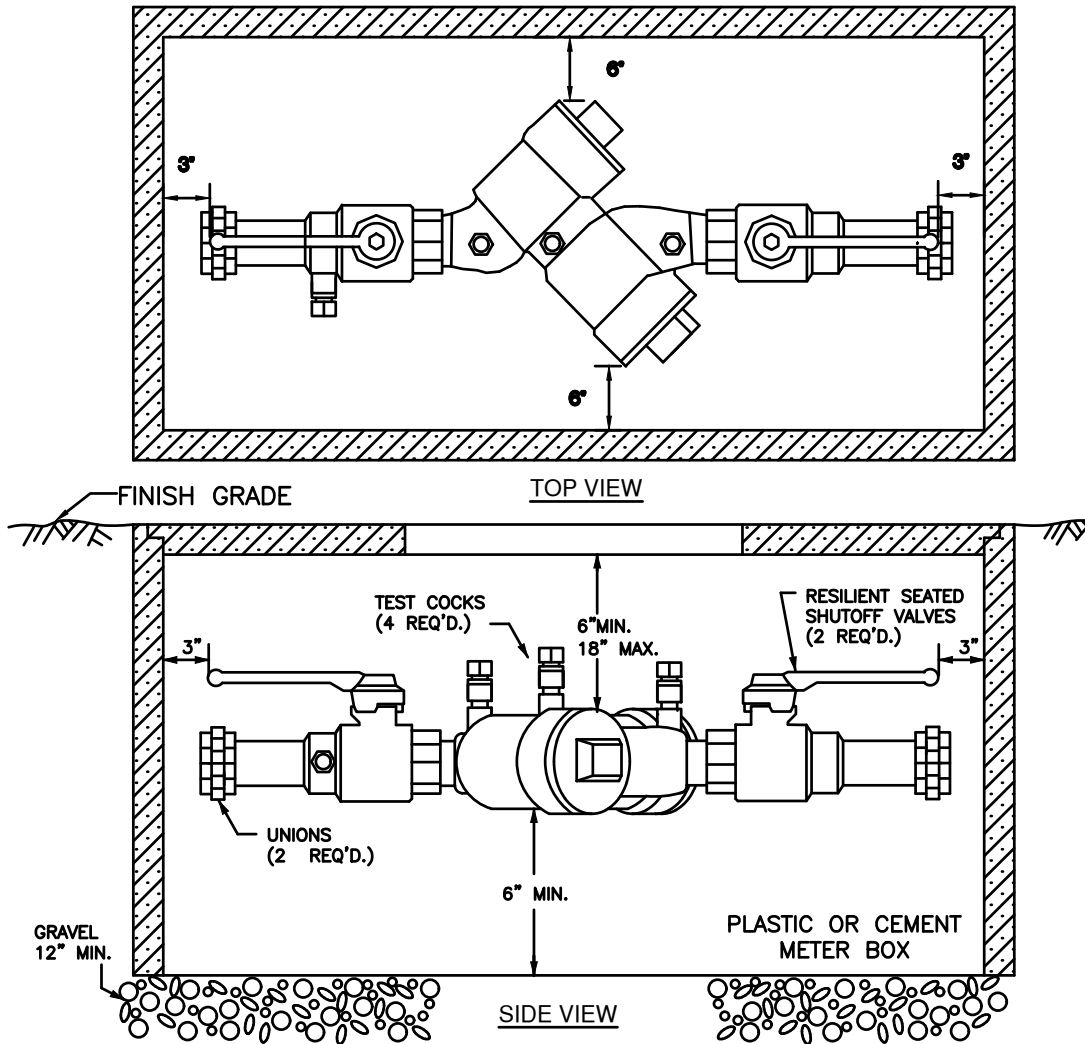
FIRE HYDRANT GUARD POST

**STANDARD
DETAILS**

CITY OF RIDGEFIELD

**SHEET
W - 2.9**





NOTES:

1. APPROVED DOUBLE CHECK VALVE ASSEMBLY (DCVA) TO LAY HORIZONTAL WITH GROUND. (VERTICAL ALLOWED IF APPROVED BY WA. DEPT. OF HEALTH)
2. DCVA MAY BE INSTALLED ABOVE OR BELOW GROUND PROVIDED ALL CLEARANCES ARE MET.
3. DESIGN FOR BACK SIPHONAGE AND BACK PRESSURE.
4. TEST COCKS TO EITHER FACE OUTWARDS OR UPWARDS FROM ASSEMBLY.
5. THOROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
6. DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING.
7. DCVA MUST BE ACCESSIBLE.
8. PROTECT DCVA FROM FREEZING.
9. DCVA SHALL BE APPROVED BY THE STATE OF WASHINGTON DEPARTMENT OF HEALTH.
10. A PLUMBING PERMIT IS REQUIRED-CONTACT THE CITY PERMITS COUNTER
11. DCVA MUST BE TESTED AFTER INSTALLATION, THEN ANNUALLY BY A WA. STATE CERTIFIED BACKFLOW TESTER. RESULTS SHALL BE SENT TO THE CITY PUBLIC WORKS OFFICE.

DOUBLE CHECK VALVE ASSEMBLY - 2" & SMALLER

**STANDARD
DETAILS**

CITY OF RIDGEFIELD

**SHEET
W - 3.1**

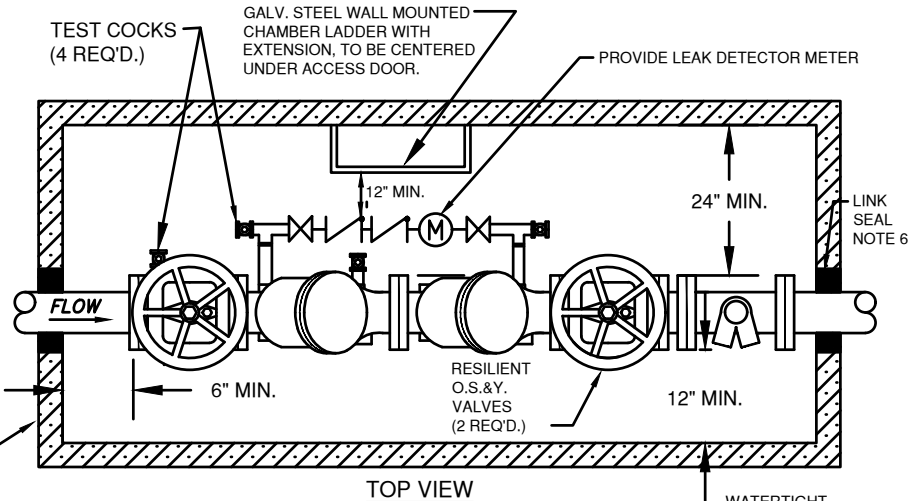
**UTILITY VAULT SIZING CHART
(OR APPROVED EQUAL)**

DEPTH OF PIPE UP TO	DCVA SIZE	FDC TEE INSIDE VAULT	FDC TEE OUTSIDE VAULT
4'	4"	675-WA W/2-332P	575-WA W/2
6'	4"	676-WA	577-WA
4'	6"	687-WA	675-WA W/2
6'	6"		676-WA
6'	8"	5106-WA	687-WA
6'	10"	5106-WA	5106-WA

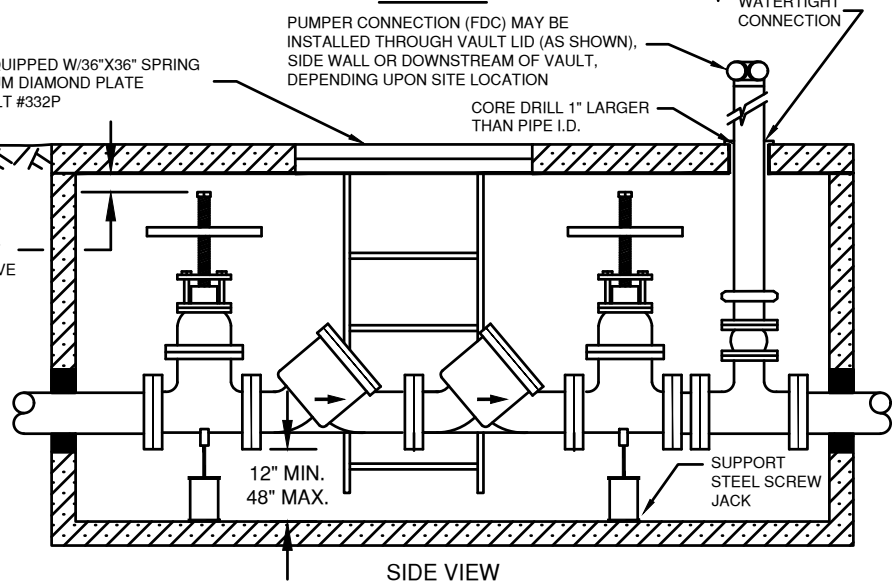
PRE-CAST CONC. VAULT
H-20 LOADING
W/LADDER

VAULT SHALL BE EQUIPPED W/36"X36" SPRING ASSISTED, ALUMINUM DIAMOND PLATE DOOR. UTILITY VAULT #332P

A CITY APPROVED ISOLATION VALVE IS REQ'D. BETWEEN THE SUPPLY MAIN AND THE VAULT



TOP VIEW



SIDE VIEW

NOTES:

1. THE DCVA MAY BE INSTALLED ABOVE OR BELOW GROUND PROVIDED ALL CLEARANCES ARE MET.
2. APPROVED DCVA TO LAY HORIZONTAL WITH THE GROUND. (VERTICAL IF APPROVED BY DEPT. OF HEALTH)
3. DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
4. THE WATER LINE SHALL BE DISINFECTED, FLUSHED AND PRESSURE TESTED PRIOR TO INSTALLING THE BACKFLOW ASSEMBLY. THE DCVA SHALL BE PROTECTED FROM FREEZING AND FLOODING.
5. ALL PIPE, VALVE AND FITTING JOINTS, FROM SUPPLY MAIN, SHALL BE FLANGED OR RESTRAINED.
6. PIPE ENTRANCE AND EXIT TO BE PROVIDED WITH LINK SEAL APPROVED EQUAL MECHANICAL SEAL.
7. ALL VAULTS SHALL BE PRE-APPROVED PRIOR TO INSTALLATION.
8. DCVA SHALL BE INSTALLED AT THE PROPERTY LINE OR EASEMENT LINE AND ON OWNER'S PROPERTY.
9. DCVA SHALL HAVE A MINIMUM OF 3' CLEARANCE FROM ALL STRUCTURES.
10. DCVA SHALL BE TESTED AFTER INSTALLATION AND PRIOR TO ACCEPTANCE AND ALSO YEARLY THEREAFTER BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO THE CITY PUBLIC WORKS OFFICE.

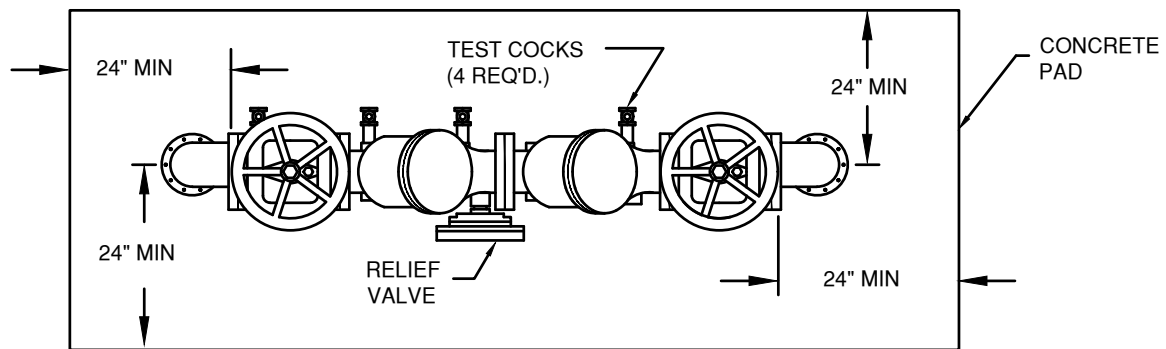
REV. 3/07/08 SCH

DOUBLE CHECK VALVE ASSEMBLY - 2 1/2" & LARGER

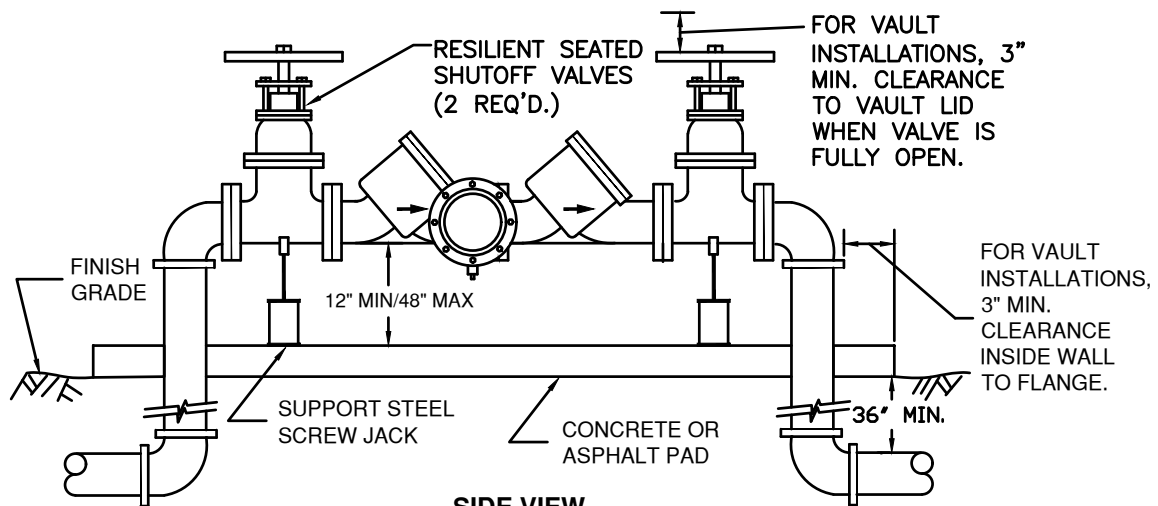
**STANDARD
DETAILS**

CITY OF RIDGEFIELD

**SHEET
W - 3.3**



TOP VIEW



SIDE VIEW

NOTE:

1. APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA) TO LAY HORIZONTAL ONLY. (VERTICAL IF APPROVED BY DEPT. OF HEALTH)
2. DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
3. THE WATER LINE SHALL BE DISINFECTED, FLUSHED AND PRESSURE TESTED PRIOR TO INSTALLING THE RPBA. THE RPBA SHALL BE PROTECTED FROM FREEZING AND FLOODING.
4. ALL PIPE, VALVES AND FITTING JOINTS FROM SUPPLY MAIN, SHALL BE FLANGED AND RESTRAINED.
5. PIPE ENTRANCE AND EXIT PROVIDED WITH LINK SEAL, OR APPROVED EQUAL MECHANICAL SEAL.
6. ALL ENCLOSURES SHALL BE PRE-APPROVED PRIOR TO INSTALLATION.
7. RPBA SHALL BE INSTALLED AT PROPERTY LINE OR EASEMENT LINE AND ON OWNER'S PROPERTY.
8. ADEQUATE GRAVITY DRAINAGE SYSTEM REQUIRED WITH APPROVED AIR GAP.
9. MINIMUM 24" CLEARANCE ON ALL SIDES AROUND RPBA.
10. THE RPBA SHALL BE TESTED AFTER INSTALLATION AND PRIOR TO ACCEPTANCE, ALSO YEARLY THEREAFTER BY A CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO THE CITY PUBLIC WORKS OFFICE.
11. A CITY APPROVED VALVE IS REQUIRED BETWEEN THE SUPPLY MAIN AND THE R.P.B.A.
12. PROVIDE HEAT AND/OR INSULATION TO PREVENT FREEZING.
13. SUPPORT PIPE AND FITTINGS TO BE SCHEDULE 80 OR AS APPROVED BY CITY ENGINEER.

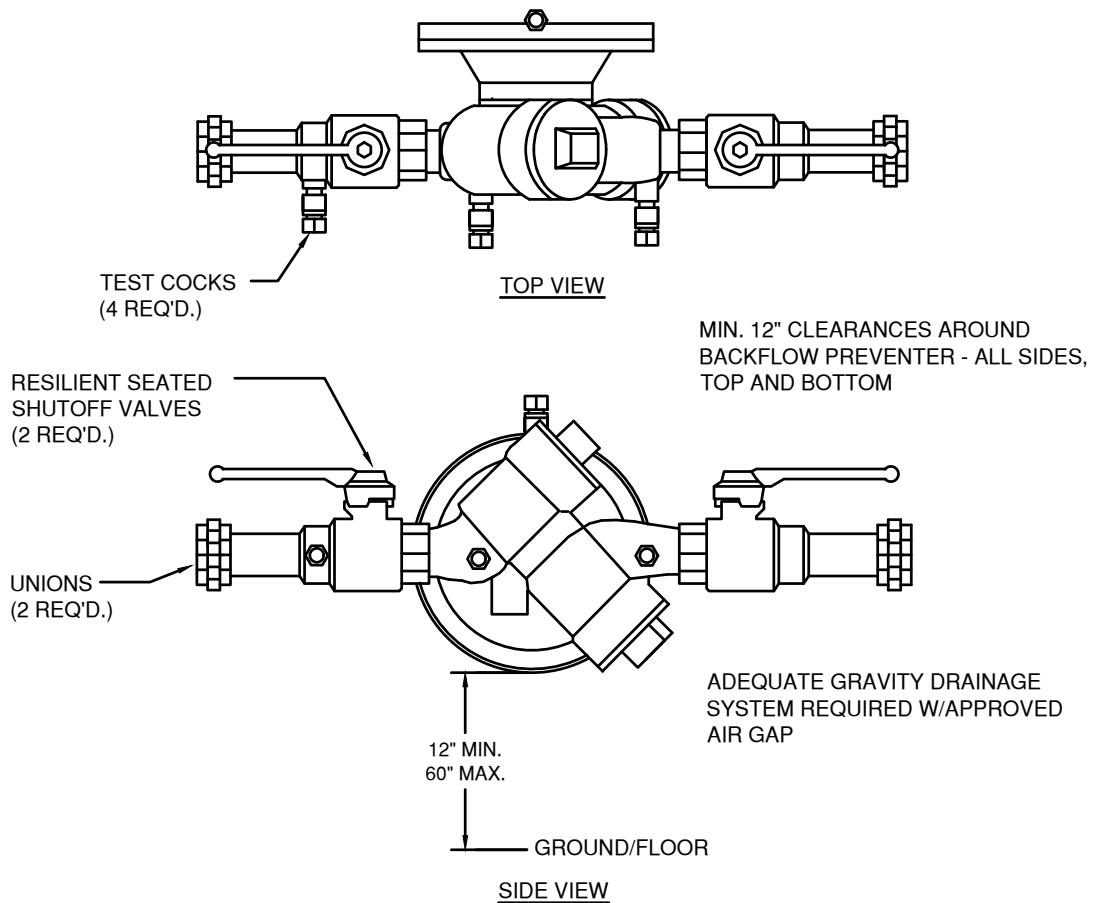
(ABOVE GROUND INSTALLATION ONLY)

REDUCED PRESSURE PRINCIPLE BACKFLOW ASSEMBLY 2-1/2" & LARGER

**STANDARD
DETAILS**

CITY OF RIDGEFIELD

**SHEET
W - 3.4**



NOTES:

1. APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA) TO LAY HORIZONTAL WITH GROUND. (VERTICAL ALLOWED IF APPROVED BY WA. DEPT. OF HEALTH)
2. DESIGN RPBA FOR BACK SIPHONAGE AND BACK PRESSURE.
3. THOROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
4. DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING.
5. RPBA MUST BE ACCESSIBLE.
6. PROTECT RPBA FROM FREEZING.
7. A PLUMBING PERMIT IS REQUIRED-CONTACT THE APPROPRIATE JURISDICTION'S PERMITS COUNTER
8. RPBA MUST BE TESTED AFTER INSTALLATION, THEN ANNUALLY BY A WA. STATE CERTIFIED BACKFLOW TESTER. RESULTS SHALL BE SENT TO THE CITY PUBLIC WORKS OFFICE.
9. RPBA SHALL BE APPROVED BY THE STATE OF WASHINGTON. A LIST OF THE APPROVED DEVICES IS AVAILABLE FROM THE DEPARTMENT OF HEALTH.
10. A CITY APPROVED VAULT AND LID REQUIRED. PROVIDE HEAT AND/OR INSULATION TO PREVENT FREEZING,
11. SUPPORT PIPES AND FITTINGS TO BE SCHEDULE 80 PVC OR, AS APPROVED BY THE CITY ENGINEER.

(ABOVE GROUND INSTALLATION ONLY)

REV. 4/15/08 SCH

REDUCE PRESSURE PRINCIPLE BACKFLOW ASSEMBLY - 2" & SMALLER

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
W - 3.5

STANDARD NOTES FOR EROSION CONTROL PLAN

1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN BMP'S AS SHOWN AND PERFORM ALL ACTIONS NECESSARY TO PREVENT EROSION, AND CONTROL SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. CONTRACTOR SHALL COMPLY WITH THE CITY OF RIDGEFIELD MUNICIPAL CODE 18.755.050-060.
2. ALL EROSION CONTROL MEASURES SHALL BE IN-PLACE AND IN WORKING CONDITION PRIOR TO DISTURBING AND EXPOSING ANY SOIL SURFACES.
3. ALL EROSION PREVENTION AND CONTROL BMP'S SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. NEEDED REPAIRS SHALL BE MADE AS SOON AS POSSIBLE. THEY ARE TO REMAIN IN PLACE AND OPERATIONAL DURING ALL PHASES OF CONSTRUCTION. CONSTRUCTION ACTIVITIES SHALL NOT CONTINUE OR RESUME UNTIL REPAIRS TO EROSION CONTROL FACILITIES ARE MADE AND THE FACILITIES ARE FUNCTIONAL. ANY SEDIMENT LEAVING THE SITE OR DISCHARGING TO A SENSITIVE AREA SHALL BE STOPPED AND CONTROLLED IMMEDIATELY. CONTAMINATED AREAS SHALL BE CLEANED AND RESTORED.
4. CLEARING LIMITS AND WORK AREA LIMITS SHALL BE DELINEATED AND MARKED. DO NOT DISTURB MORE AREA THAN NEEDED FOR CONSTRUCTION REQUIREMENTS.
5. ALL SENSITIVE OR CRITICAL AREAS (WETLANDS, STEEP SLOPES, NATURAL WATERWAYS) AND BUFFERS SHALL BE CLEARLY DELINEATED AND MARKED AND PROTECTED FROM SEDIMENT DEPOSITION.
6. SEDIMENT LADEN RUNOFF SHALL BE PREVENTED FROM ENTERING ALL EXISTING STORM WATER CATCH BASINS AND INLETS.
7. NO DENUDED SOILS SHALL REMAIN UNSTABILIZED FOR MORE THAN TWO DAYS DURING THE PERIOD OCTOBER 1 THRU APRIL 30 OR FOR MORE THAN SEVEN DAYS DURING THE PERIOD OF MAY 1 THROUGH OCTOBER 1. ALL DISTURBED SOIL SURFACES SHALL BE STABILIZED BY A SUITABLE BMP.
 - 7.1. DEVELOPMENTS WITH TEN ACRES OR FEWER NET DEVELOPABLE AREA SHALL HAVE NO MORE THAN 2.5 DISTURBED ACRES, AT ANY GIVEN TIME.
 - 7.2. DEVELOPMENTS WITH GREATER THAN TEN ACRES OF NEW DEVELOPABLE AREA SHALL HAVE NO MORE THAN 5 DISTURBED ACRES, OR 25% OF THE NET DEVELOPABLE AREA, WHICHEVER IS FEWER, AT ANY GIVEN TIME.
 - 7.3. THE PUBLIC WORKS DIRECTOR MAY APPROVE ADDITIONAL DISTURBED AREA IN WRITING FOLLOWING A FULL INSPECTION OF ALL BMP'S.
8. WHERE FEASIBLE, NO MORE THAN 500 FEET OF TRENCH SHALL BE OPEN AT ONE TIME. EXCAVATED MATERIAL SHALL BE PLACED ON THE UP-HILL SIDE OF TRENCHES PROVIDED IT DOES NOT CONFLICT WITH SAFETY REQUIREMENTS.
9. DEWATERING DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP OR SEDIMENT POND. NO DISCHARGE SHALL BE MADE TO A PAVED STREET OR STORMWATER COLLECTION SYSTEM WITHOUT FIRST REMOVING SEDIMENT.
10. SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. RUNOFF SHALL BE PREVENTED FROM UNDERCUTTING THE BASE OF SLOPES.
11. ANY SOIL OR DEBRIS TRANSPORTED ONTO ROADWAYS AND SIDEWALKS SHALL BE REMOVED. DEPOSITS SHALL BE COMPLETELY REMOVED BY SHOVELING AND/OR SWEEPING. WASHING SHALL NOT BE UTILIZED UNLESS SPECIFICALLY APPROVED IN WRITING BY THE CITY. SHOULD THERE BE ANY EVIDENCE OF SEDIMENT, MUD, OR DEBRIS BEING TRANSPORTED ONTO A ROAD SURFACE, IT WILL BE CLEANED IMMEDIATELY AND A WHEEL WASH SHALL BE INSTALLED.
12. ALL CONVEYANCE CHANNELS, BOTH TEMPORARY AND PERMANENT SHALL BE STABILIZED TO PREVENT EROSION OF THE CHANNEL. STABILIZATION SHALL EXTEND TO AREAS AT OUTLETS AND DOWNSTREAM REACHES VULNERABLE TO EROSION.
13. IF SPECIFIED BMP'S ARE UTILIZED BUT ARE INSUFFICIENT TO PREVENT SEDIMENT FROM REACHING WATER BODIES, ADJACENT PROPERTIES, OR PUBLIC RIGHTS-OF-WAY THEN ADDITIONAL BMP'S SHALL BE IMPLEMENTED IMMEDIATELY.

REV. 08/01/24 CPG

EROSION CONTROL GENERAL NOTES

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SHEET
EC-1.0A

STANDARD NOTES FOR EROSION CONTROL PLAN (CONTINUED)

14. STABILIZED AREAS SHALL BE PROVIDED FOR EMPLOYEE PARKING AND STORAGE OF CONSTRUCTION MATERIALS. EROSION CONTROL BMP'S SHALL BE UTILIZED AS NECESSARY TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING OR SEDIMENT BEING TRANSPORTED FROM THESE AREAS FROM VEHICLE ACTIVITY.
15. INLET PROTECTION MUST ALLOW FOR OVERFLOW IN A SEVERE STORM EVENT.
16. REPAIR OR REPLACE MATERIALS AS NEEDED TO ENSURE PROPER FUNCTION.
17. ALL POLLUTANTS THAT OCCUR DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORM WATER.
18. ALL EROSION AND SEDIMENT CONTROL BMPS SHALL BE REGULARLY INSPECTED, MAINTAINED, AND REPAIRED AS NEEDED BY THE PROPERTY OWNER OR PERMIT HOLDER TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. A MAINTENANCE LOG SHALL BE PROVIDED AND KEPT AS PERMANENT RECORD. THE MAINTENANCE LOG SHALL BE IN A DESIGNATED ON-SITE LOCATION. INSPECT ONCE DAILY ON ACTIVE SITES, ONCE EVERY TWO WEEKS ON INACTIVE SITES, AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
19. ALL CONSTRUCTION ACTIVITIES SHALL BE SUPERVISED BY AN INDIVIDUAL WHO SHALL HAVE SUCCESSFULLY COMPLETED FORMAL TRAINING IN EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION BY A RECOGNIZED ORGANIZATION ACCEPTABLE TO THE CITY. A CERTIFICATION OR SUFFICIENT EVIDENCE OF SUCCESSFUL COMPLETION OF SUCH TRAINING SHALL BE SUBMITTED PRIOR TO CONSTRUCTION.
20. ALL TEMPORARY BMP'S SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED.
21. CONSTRUCTION SHALL NOT BE CONSIDERED COMPLETE AND ACCEPTABLE UNTIL ALL DISTURBED SOIL SURFACES HAVE BEEN PROTECTED FROM EROSION.
22. VEGETATED STABILIZATION AND LANDSCAPING SHALL BE FERTILIZED, WATERED AND MAINTAINED TO ENSURE THAT GROWTH OF VEGETATION IS ESTABLISHED AND SUSTAINED.
23. DURING DRY WEATHER CONSTRUCTION PERIODS THE CONTRACTOR SHALL PROVIDE PROJECT-SPECIFIC DUST CONTROL MEASURES. THE CONTRACTOR SHALL MAINTAIN THE DUST CONTROL MEASURES THROUGH DRY WEATHER PERIODS UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED. IMMEDIATELY RE-STABILIZE AREAS DISTURBED BY CONTRACTOR'S OPERATIONS OR OTHER ACTIVITIES (WIND, WATER, VANDALISM, ETC.).
24. ENTRY ONTO THE CONSTRUCTION SITE SHALL BE RESTRICTED TO A SINGLE APPROVED ENTRANCE AS SHOWN ON THE PLAN.
25. MAINTENANCE AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES WHICH INVOLVE POTENTIAL CONTAMINANTS (OIL, SOLVENTS, HYDRAULIC FLUID, ETC.) MUST BE CONDUCTED IN A MANNER WHICH PREVENTS CONTAMINATION OF SOILS, SURFACE WATER AND GROUND WATER. TARPS, DRIP PANS, OR OTHER APPROPRIATE MEASURES SHALL BE USED AS NECESSARY.
26. STRIPPING, TOPSOIL, AND UNSUITABLE MATERIAL STOCKPILES SHALL BE HYDROSEED. MAINTENANCE OF STOCKPILE AREAS AND REAPPLICATION OF HYDROSEED COVERING SHALL BE REQUIRED IF BARE SOIL IS PRESENT.

TEMPORARY EROSION CONTROL SEED MIX			
	% WEIGHT	% PURITY	% GERMINATION
CHEWINGS OR ANNUAL BLUE GRASS	40	98	90
<i>FESTUCA RUBRA VAR. COMMUTATA OR POA ANNA</i>			
PERENNIAL RYE –	50	98	90
<i>LOLIUM PERENNE</i>			
REDTOP OR COLONIAL BENTGRASS	5	92	85
<i>AGROSTIS ALBA OR AGROSTIS TENUIS</i>			
WHITE DUTCH CLOVER	5	98	90
<i>TRIFOLIUM REPENS</i>			

27. THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT FROM THE CATCH BASINS, UTILITY TRENCHES, AND STORM PIPES PRIOR TO ACCEPTANCE BY THE CITY.

REV. 08/01/24 CPG

EROSION CONTROL GENERAL NOTES

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CITY OF RIDGEFIELD

SHEET
EC-1.0B

MATTING NOTES:

1. THERE ARE A WIDE RANGE OF MATERIALS AND COMBINATION OF MATERIALS USED TO PRODUCE MATTING INCLUDING, BUT NOT LIMITED TO: STRAW, JUTE, WOOD FIBER, COIR (COCONUT FIBER), PLASTIC NETTING, AND BONDED FIBER MATRIX.
2. GENERALLY, MATTING IS USED ON SLOPES 2:1 AND STEEPER
3. SURFACE MUST BE GRADED SMOOTH TO REMOVE ALL DEBRIS AND UNDULATIONS LARGER THAN 2" IN ANY DIRECTION.
4. APPLY SEED AND FERTILIZER PRIOR TO MATTING. INSTALL SO THAT MATTING IS IN COMPLETE CONTACT WITH SOIL SURFACE.
5. ORGANIC MATTING MATERIALS (EXCELSIOR, JUTE, AND COIR) BIODEGRADE AND ARE USEFUL FOR APPLICATIONS REQUIRING STABILIZATION FOR UP TO THREE MONTHS. USE ORGANIC BLANKETS, WHICH RETAIN MOISTURE AND PROVIDE ORGANIC MATTER TO THE SOIL, FOR SLOPE PROTECTION AND SHORT-TERM WATERWAY PROTECTION AND TO IMPROVE THE SPEED AND SUCCESS OF REVEGETATION.
 - EXCELSIOR BRAND (ASPEN WOOD FIBER), WOVEN STRAW, AND COIR BLANKETS MAY BE INSTALLED WITHOUT MULCH BECAUSE THEY PROVIDE COMPLETE SURFACE PROTECTION.
6. SYNTHETIC MATS ARE MADE FROM NON-BIODEGRADABLE MATERIALS AND WILL REMAIN IN PLACE FOR YEARS (SOME PHOTODEGRADATION DOES OCCUR). USE SYNTHETIC BLANKETS FOR LONG-TERM (LONGER THAN 3 MONTHS) STABILIZATION OF WATERWAYS.
 - TURF REINFORCEMENT MATS (TRM) ARE MADE FROM POLYMER NETTING OR MONOFILAMENTS FORMED INTO A SYNTHETIC 3-D MAT. TRMs PROTECT SEED AND INCREASE GERMINATION AND ALSO ACTS AS PART OF THE ROOT STRUCTURE; GIVING THE TURF HIGHER STRENGTH.
 - EROSION CONTROL AND REVEGETATION MATS (ECRM), COMPOSED OF HEAT-FUSED MONOFILAMENTS AND MONOFILAMENTS STITCHED BETWEEN NETTING ACT AS PERMANENT MULCH. ECRM ALLOW GROWTH THROUGH THE MAT.
7. REPAIR ANY DAMAGED AREAS OF THE NET OR BLANKET AND STAPLE INTO THE GROUND ANY AREAS NOT IN CLOSE CONTACT WITH THE GROUND SURFACE.
8. IF EROSION OCCURS, REPAIR AND PROTECT THE ERODED AREA.

REV. 08/01/24 CPG

MATTING GENERAL NOTES

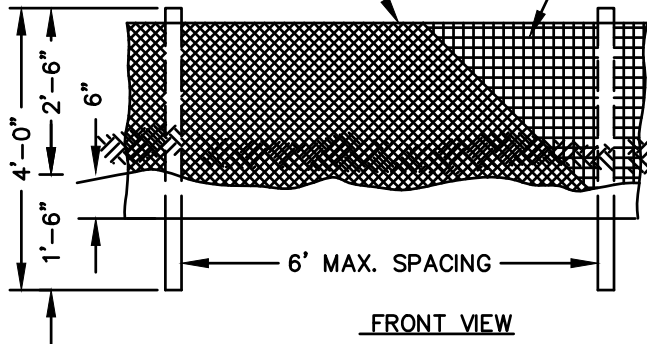
**STANDARD
DETAILS**

CITY OF RIDGEFIELD

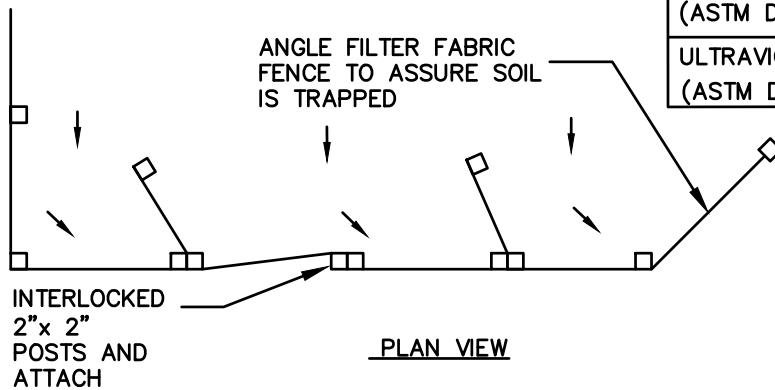
**SHEET
EC-1.1**

FILTER FABRIC
MATERIAL 36" WIDE
ROLLS SEE FABRIC
SPECIFICATIONS

2"x2"x14 GA. WIRE OR EQUIVALENT, IF
STANDARD STRENGTH FABRIC USED

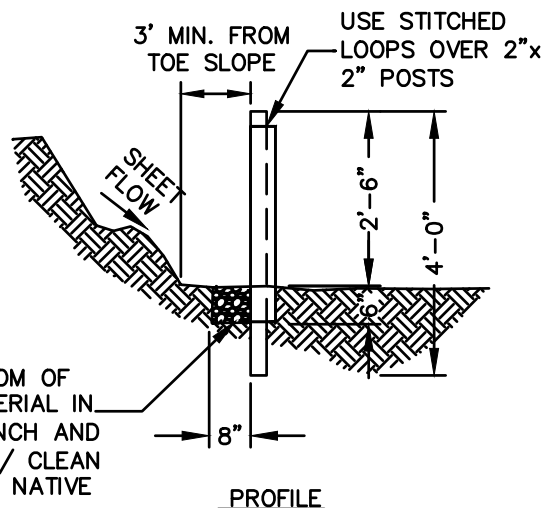


SILT FENCE FABRIC SPECIFICATIONS	
POLYMERIC MESH AOS (ASTM D4751)	0.60 MM MAXIMUM FOR SLIT WOVENS (#30 SIEVE). 0.30 MM MAXIMUM FOR ALL OTHER GEOTEXTILE TYPES (#50 SIEVE). 0.15 MM MAXIMUM FOR ALL FABRIC TYPES (#100 SIEVE).
WATER PERMITTIVITY (ASTM D4491)	0.02 SEC ⁻¹ MINIMUM
GRAB TENSILE STRENGTH (ASTM D4632)	180 LBS. MINIMUM FOR EXTRA STRENGTH FABRIC. 100 LBS. MINIMUM FOR STANDARD STRENGTH FABRIC.
GRAB TENSILE STRENGTH (ASTM D4632)	30% MAXIMUM
ULTRAVIOLET RESISTANCE (ASTM D4355)	70% MAXIMUM



NOTES:

1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
3. SILT FENCE TO BE SPACED ON SLOPES PER TABLE BELOW.
4. SEDIMENT DEPOSITS MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
5. DAMAGED SILT FENCE SHALL BE REMOVED AND REPLACED PROMPTLY.
6. STAPLING OF SILT FENCE ONTO WOODEN POSTS IS NOT ALLOWED.
7. REFER TO BMP C233 IN VOLUME II OF THE WESTERN WASHINGTON MANUAL FOR MORE INFORMATION.



BURY BOTTOM OF
FILTER MATERIAL IN
8"x12" TRENCH AND
BACKFILL W/ CLEAN
COMPACTED NATIVE
SOIL

INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS		
% SLOPE	SLOPE	MAX. SPACING ON SLOPE
10% FLATTER	10:1 OR FLATTER	300 FT.
10>%<15	10:1>x<7.5:1	150 FT.
15>%<20	7.5:1>x<5:1	100 FT.
20>%<30	5:1>x<3.5:1	50 FT.
30>%<50	3.5:1>x<2:1	25 FT.

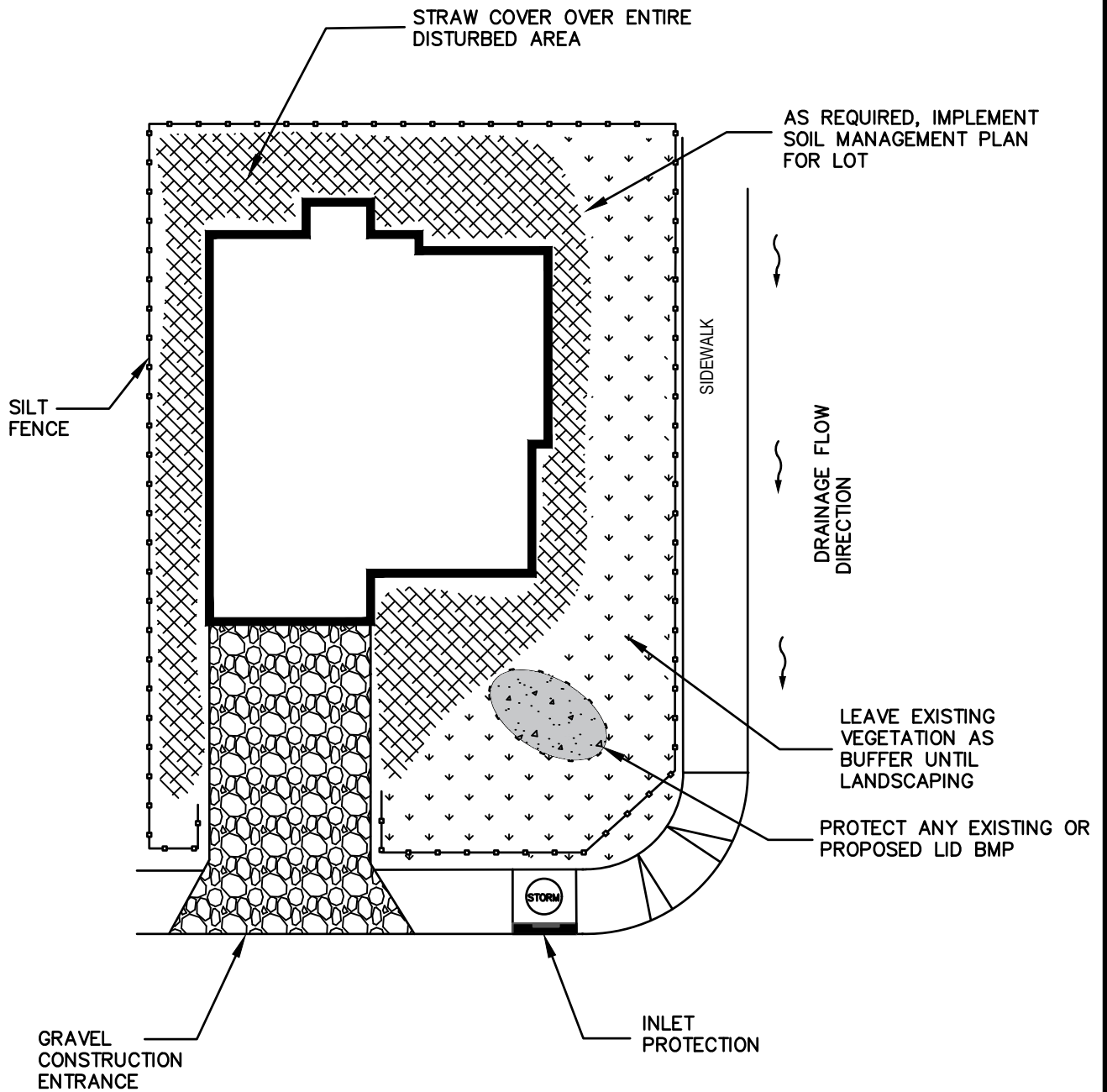
REV. 08/01/24 CPG

SILT FENCE

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
EC-2.0



REV. 01/29/24 CPG

SINGLE FAMILY EROSION PREVENTION PLAN

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
EC-2.1A

SINGLE FAMILY RESIDENTIAL EROSION PREVENTION PLAN

NOTES:

THE FOLLOWING BMP'S WILL BE REQUIRED FOR ALL CONSTRUCTION UNLESS IT CAN BE SHOWN THAT IT IS NOT NECESSARY:

1. A GRAVEL CONSTRUCTION ENTRANCE SHALL BE PLACED FROM THE CURB TO THE STRUCTURE PRIOR TO POURING THE FOUNDATION. THE ROCK MUST EXTEND THE FULL WIDTH OF THE INGRESS/EGRESS AREA (MIN. 20'). $\frac{3}{4}$ " ROCK IS THE MINIMUM SIZE ROCK ALLOWED AND LARGER ROCK IS PREFERABLE. THE CONSTRUCTION ENTRANCE SHALL BE KEPT FREE OF EXCESSIVE MUD AND SHALL BE REPAIRED TO GOOD WORKING CONDITION, AS NECESSARY. IF IT IS DISCOVERED THAT THE CONSTRUCTION ENTRANCE IS BEING CIRCUMVENTED, CONSTRUCTION FENCING WILL BE IMMEDIATELY REQUIRED AROUND THE ENTIRE PROPERTY PERIMETER.
2. SILT FENCE SHALL BE INSTALLED ON THE ENTIRE FRONTAGE OF ALL IMPERVIOUS SURFACES, AT ANY PROPERTY LINE COMMON WITH AN ALREADY DEVELOPED PROPERTY, AT ANY PROPERTY LINE ADJACENT TO A STORMWATER FACILITY, AND AT ANY PROPERTY LINE WHERE STEEP SLOPES AND/OR CRITICAL AREAS (WETLAND BUFFERS, ETC.) EXIST. THE CORRECTLY INSTALLED SILT FENCE SHALL "J-HOOK" AT THE ENDS. THE PURPOSE OF THIS FENCE IS TO PROTECT NEIGHBORING PROPERTIES, CRITICAL AREAS AND RIGHTS-OF-WAY FROM SEDIMENT DEPOSITS, DELINEATE CLEARING LIMITS, AND TO CHANNEL ALL CONSTRUCTION TRAFFIC TO THE GRAVEL CONSTRUCTION AREA.
3. INLET PROTECTION MUST BE INSTALLED PER RIDGEFIELD STANDARD DETAIL EC-4.1 CATCH BASIN INSERT OR RIDGEFIELD STANDARD DETAIL EC-4.2 SEDIMENT DAM. INLET PROTECTION SHALL BE MAINTAINED UNTIL FINAL LANDSCAPING. THIS INCLUDES THE REMOVAL OF SEDIMENT BUILDUP IN FRONT OF THE INLET AND REPLACEMENT AS NECESSARY.
4. NO DISCHARGE SHALL BE MADE TO A PAVED STREET OR STORMWATER COLLECTION SYSTEM WITHOUT FIRST REMOVING SEDIMENT. SEDIMENT LADEN RUNOFF SHALL BE PREVENTED FROM ENTERING ALL EXISTING STORMWATER CATCH BASINS AND INLETS.
5. DENUDED SOILS SHALL BE STABILIZED AS QUICKLY AS POSSIBLE, AND SHALL BE EXPOSED NO MORE THAN 48 HOURS. ON STEEPER SLOPES, STRAW COVERING MAY NOT BE APPROVED AND A MORE ROBUST MEASURE MAY BE NEEDED. THE STRAW COVERING SHALL BE THICK ENOUGH SO THAT NO BARE EARTH IS VISIBLE.
6. CONSIDER THE PLACEMENT OF STRAW WATTLES BEHIND ADA CURBING (RIDGEFIELD STANDARD DETAIL EC-6.0) AND AT DRIVEWAY DROPS DURING THE WET SEASON (OCTOBER 1ST TO APRIL 30TH). STRAW WATTLES CAN EASILY BE DRIVEN OVER WITH VEHICLES OR EQUIPMENT WHILE MAINTAINING SITE CONTAINMENT.
7. PROTECT EXISTING AND PROPOSED LID STRUCTURES AND SYSTEMS FROM IMPACTS BY EROSION, COMPACTION, AND SEDIMENTATION. PREVENT COMPACTION OF AREAS PLANNED FOR LID BMP'S BY EXCLUDING CONSTRUCTION EQUIPMENT. AVOID UNNECESSARY FOOT TRAFFIC, AND ALLOW NECESSARY FOOT TRAFFIC ONLY WHEN SOILS ARE NOT WET. HIGH VISIBILITY FENCING OR SILT FENCE MAY BE NECESSARY TO PROTECT LID AREAS.
8. IN DEVELOPMENTS WHERE A BUILDER IS BUILDING MORE THAN ONE RESIDENCE, A CONCRETE WASHOUT SHALL BE INSTALLED AND MAINTAINED.
9. IF SPECIFIED BMP'S ARE UTILIZED BUT ARE INSUFFICIENT TO PREVENT SEDIMENT FROM REACHING WATER BODIES, ADJACENT PROPERTIES, OR PUBLIC RIGHTS-OF-WAY THEN ADDITIONAL BMP'S SHALL BE IMPLEMENTED IMMEDIATELY.

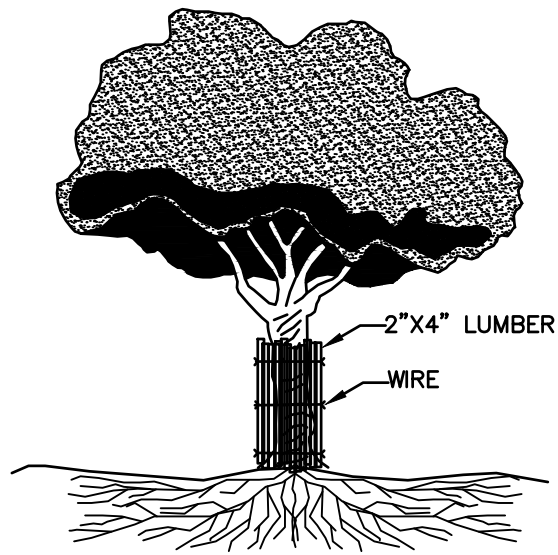
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SINGLE FAMILY EROSION PREVENTION NOTES

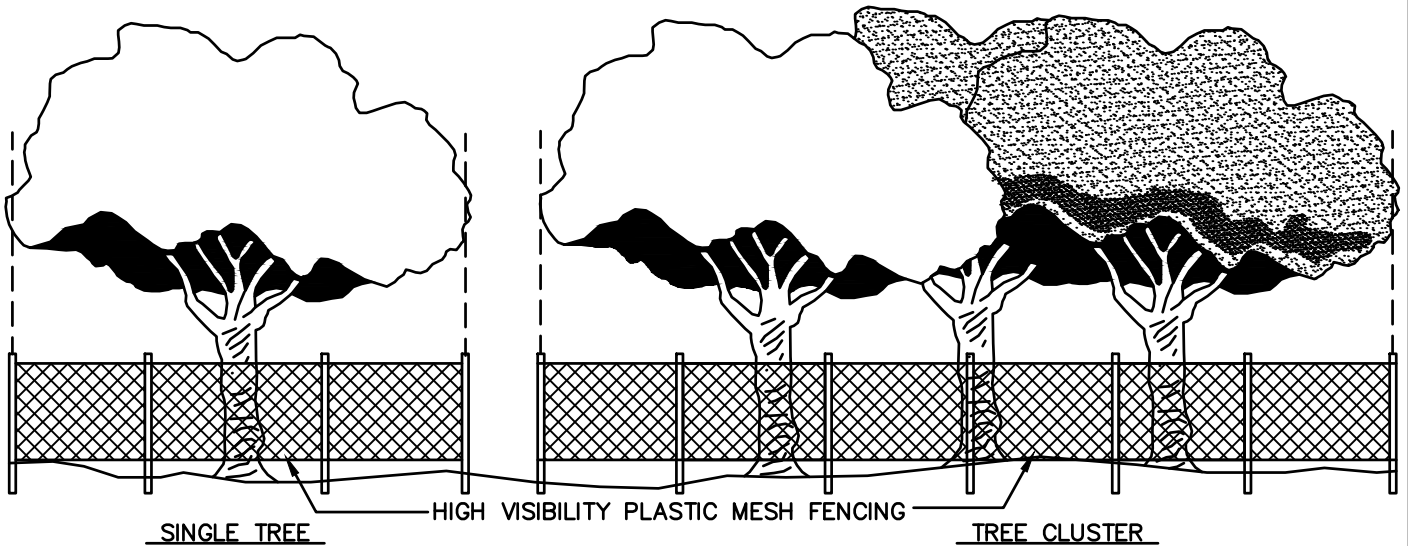
STANDARD
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CITY OF RIDGEFIELD

SHEET
EC-2.1B



TRUNK PROTECTION



FOR NOTES SEE RIDGEFIELD STANDARD DETAIL EC-2.2B

REV. 08/01/24 CPG

TREE PROTECTION FENCE NOTES

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
EC-2.2A

THE FOLLOWING ACTIVITIES ARE PROHIBITED WITHIN THE LIMITS OF THE CRITICAL ROOT ZONE OF ANY PROTECTED TREE SUBJECT TO THE PROVISIONS OF THE TREE PRESERVATION ORDINANCE R.M.C. 18.840. THE FOLLOWING PROCEDURES SHALL BE FOLLOWED ON ALL TYPES OF CONSTRUCTION PROJECTS (INCLUDING RESIDENTIAL, COMMERCIAL, AND MUNICIPAL / PUBLIC WORKS PROJECTS).

1. MATERIAL STORAGE: NO STORAGE OR PLACEMENT OF MATERIALS INTENDED FOR USE IN CONSTRUCTION OR WASTE MATERIALS ACCUMULATED DUE TO EXCAVATION OR DEMOLITION SHALL BE PLACED WITHIN THE LIMITS OF THE CRITICAL ROOT ZONE OF ANY PROTECTED TREE.
2. EQUIPMENT CLEANING/LIQUID DISPOSAL: NO EQUIPMENT SHALL BE CLEANED OR OTHER LIQUIDS, INCLUDING, WITHOUT LIMITATION, PAINT, OIL, SOLVENTS, ASPHALT, CONCRETE, MORTAR OR SIMILAR MATERIALS DEPOSITED OR ALLOWED TO FLOW INTO THE CRITICAL ROOT ZONE OF A PROTECTED TREE.
3. TREE ATTACHMENTS: NO SIGNS, WIRES OR OTHER ATTACHMENTS, OTHER THAN THOSE OF A PROTECTIVE NATURE, SHALL BE ATTACHED TO ANY PROTECTED TREE.
4. VEHICULAR TRAFFIC: NO VEHICULAR AND/OR CONSTRUCTION EQUIPMENT TRAFFIC OR PARKING SHALL TAKE PLACE WITHIN THE CRITICAL ROOT ZONE OF ANY PROTECTED TREE OTHER THAN ON EXISTING STREET PAVEMENT. THIS RESTRICTION DOES NOT APPLY TO SINGLE INCIDENT ACCESS WITHIN THE CRITICAL ROOT ZONE FOR PURPOSES OF ESTABLISHING THE BUILDING PAD AND ASSOCIATED LOT GRADING, VEHICULAR TRAFFIC NECESSARY FOR ROUTINE UTILITY MAINTENANCE, EMERGENCY RESTORATION OF UTILITY SERVICE, OR ROUTINE MOWING OPERATIONS.
5. NO HEAVY EQUIPMENT, INCLUDING BUT NOT LIMITED TO TRUCKS, TRACTORS, TRAILERS, BULLDOZERS, BOBCAT TRACTORS, TRENCHERS, COMPRESSORS, AND HOISTS, SHALL BE ALLOWED INSIDE THE DRIP-LINE OF ANY PROTECTED TREE ON ANY CONSTRUCTION SITE WITHOUT PRIOR WRITTEN APPROVAL OF THE ADMINISTRATIVE OFFICIAL.

THE FOLLOWING PROCEDURES SHALL BE FOLLOWED ON ALL TYPES OF CONSTRUCTION PROJECTS (INCLUDING RESIDENTIAL, COMMERCIAL, AND MUNICIPAL / PUBLIC WORKS PROJECTS).

1. PROTECTIVE FENCING: PRIOR TO THE ISSUANCE OF ANY BUILDING OR EARTH DISTURBANCE PERMIT, OR COMMENCING CONSTRUCTION, THE OWNER, CONTRACTOR OR SUBCONTRACTOR SHALL CONSTRUCT AND MAINTAIN, FOR EACH PROTECTED TREE ON A CONSTRUCTION SITE, A PROTECTIVE FENCING WHICH ENCIRCLES THE OUTER LIMITS OF THE CRITICAL ROOT ZONE OF THE TREE TO PROTECT IT FROM CONSTRUCTION ACTIVITY OR IN CASES OF HEAVILY WOODED SITES, AS APPROVED BY THE CITY ENGINEER.
2. ALL PROTECTIVE FENCING SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY SITE WORK AND REMAIN IN PLACE UNTIL ALL EXTERIOR CONSTRUCTION ACTIVITY AT THE SITE HAS BEEN COMPLETED.
3. PROTECTIVE FENCING SHALL BE AT LEAST FOUR (4) FEET HIGH, CLEARLY VISIBLE.
4. THE USE OF ORANGE VINYL CONSTRUCTION FENCING OR OTHER SIMILAR FENCING IS GENERALLY PERMITTED ONLY IF THERE IS NO CONSTRUCTION OR VEHICULAR ACTIVITY WITHIN TEN (10) FEET OF THE FENCE. IF CONSTRUCTION ACTIVITY OR VEHICULAR TRAFFIC IS EXPECTED WITHIN TEN (10) FEET OF THE FENCE, THE FENCE SHALL BE CONSTRUCTED OF CHAIN LINK OR OTHER SIMILAR METAL, WOODEN MATERIAL, OR SEMI-RIGID VINYL TAPE FENCING SUPPORTED WITH A TOP SUPPORT WIRE OR EQUIVALENT SUPPORT MATERIAL AFFIXED TO METAL OR WOODEN POSTS, ALL OF WHICH SHALL BE SIX (6) FEET IN HEIGHT.
5. ALL PROTECTIVE FENCING SHALL BE SUPPORTED AT A MAXIMUM OF TEN (10) FOOT INTERVALS BY APPROVED METHODS SUFFICIENT ENOUGH TO KEEP THE FENCE UPRIGHT AND IN PLACE FOR THE DURATION OF THE CONSTRUCTION.
6. THE OWNER SHALL CAUSE THE REQUIRED FENCING TO BE INSTALLED AND MAINTAINED FOR THE DURATION OF THE CONSTRUCTION.
7. FOR PERMITS INVOLVING TRENCHING SUCH AS SEWER SERVICES, IRRIGATION SYSTEMS, OR UNDERGROUND ELECTRICAL WORK, THE APPLICANT SHALL PROVIDE SUFFICIENT PLANS TO PROVIDE PROTECTION OF THE TREES IN THE VICINITY OF THE WORK.
8. ALL OF THE ABOVE CONDITIONS MUST BE ADHERED TO AND INSPECTED BY A CITY INSPECTOR PRIOR TO THE ISSUANCE OF ANY PERMITS.
9. IN SITUATIONS WHERE A PROTECTED TREE REMAINS IN THE IMMEDIATE AREA OF INTENDED CONSTRUCTION AND THE TREE MAY BE IN DANGER OF BEING DAMAGED BY CONSTRUCTION EQUIPMENT OR OTHER ACTIVITY, THE CONTRACTOR OR SUBCONTRACTOR SHALL PROTECT THE TREE WITH 2"x4" LUMBER ENCIRCLED WITH WIRE OR OTHER MEANS THAT DO NOT DAMAGE THE TREE. THE INTENT IS TO PROTECT THE TRUNK OF THE TREE AGAINST INCIDENTAL CONTACT BY LARGE CONSTRUCTION EQUIPMENT.

FOR DETAIL SEE RIDGEFIELD STANDARD DETAIL EC-2.2A

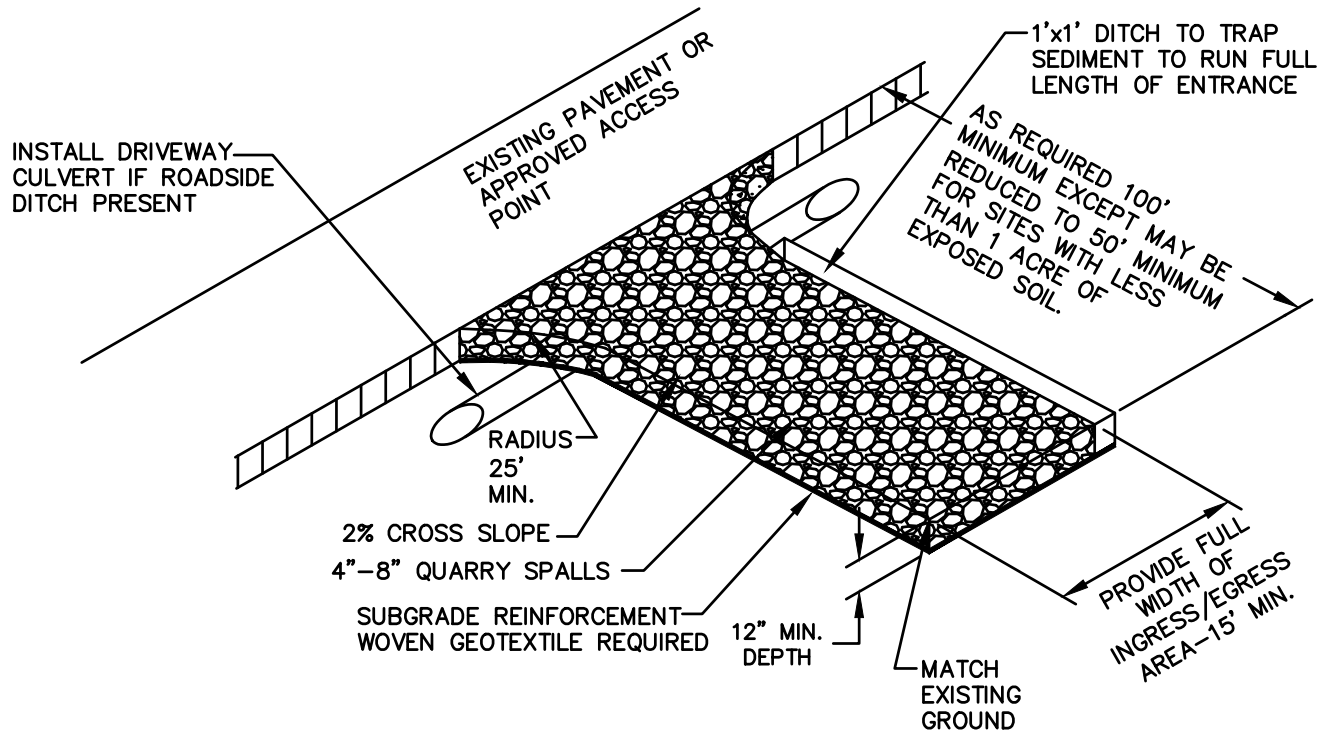
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TREE PROTECTION FENCE NOTES

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
EC-2.2B



NOTES:

1. INSTALL WOVEN GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.
2. VEHICLE WHEELWASH AREA, IF REQUIRED, SHALL BE INSTALLED AND USED TO REMOVE SEDIMENT FROM VEHICLES THAT ARE ABOUT TO ENTER AN ESTABLISHED ROAD. SEE DETAIL EC-3.01.
3. AT TIME OF PRE-CONSTRUCTION CONFERENCE, THE CITY INSPECTOR MAY REQUIRE THE ENTRANCE TO BE PAVED TO THE EDGE OF THE RIGHT-OF-WAY PRIOR TO THE INSTALLATION OF A CONSTRUCTION ENTRANCE TO AVOID DAMAGE TO THE EXISTING ROADWAY.
4. THE CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL) IS TO ENSURE THAT ALL VEHICLES USE THIS ENTRANCE AND ARE TO BE INSPECTED AND CLEANED OF SOILS BEFORE LEAVING PROJECT, AND THAT THE ENTRANCE IS TO BE KEPT CLEAN AT ALL TIMES.
5. TOP DRESS THE PAD WITH CLEAN 3" MINUS ROCK WHEN THE CONSTRUCTION ENTRANCE BECOMES CLOGGED WITH SEDIMENT.
6. ANY SEDIMENT CARRIED FROM THE SITE ONTO THE STREET SHALL BE CLEANED UP IMMEDIATELY. PRESSURE WASHING NOT ALLOWED. SWEEPING IS THE PREFERRED METHOD.
7. REFER TO BMP C105 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.

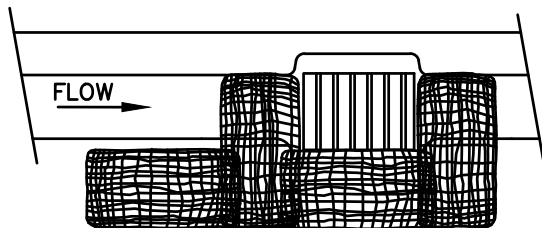
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STABILIZED CONSTRUCTION ENTRANCE / EXIT

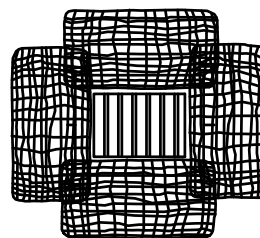
**STANDARD
DETAILS**

CITY OF RIDGEFIELD

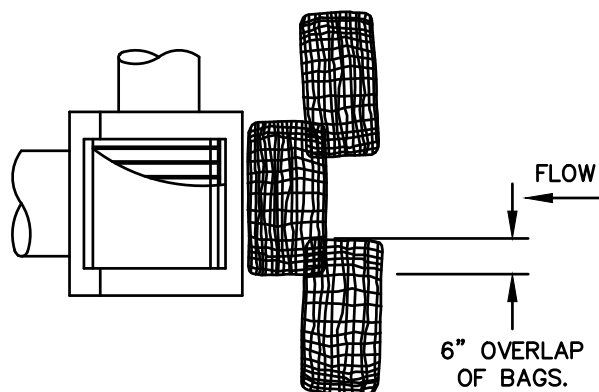
**SHEET
ST-3.0**



CATCH BASIN AT
CURB LINE



AREA DRAIN OR
CATCH BASIN



DITCH INLET

NOTES:

1. BIO-FILTER BAGS ARE NOT TO BE USED WITHIN CITY OF RIDGEFIELD ROW UNLESS APPROVED BY CITY ENGINEER. IF APPROVED, BIO-FILTER BAGS SHALL BE USED IN CONJUNCTION WITH CATCH BASIN INSERT (RIDGEFIELD STANDARD DETAIL EC-4.1), OR SEDIMENT DAM (RIDGEFIELD STANDARD DETAIL EC-4.2).
2. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPE.
3. BIO-FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.

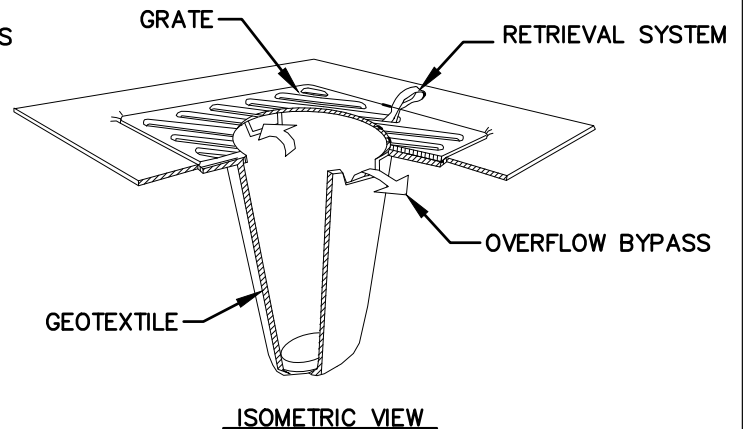
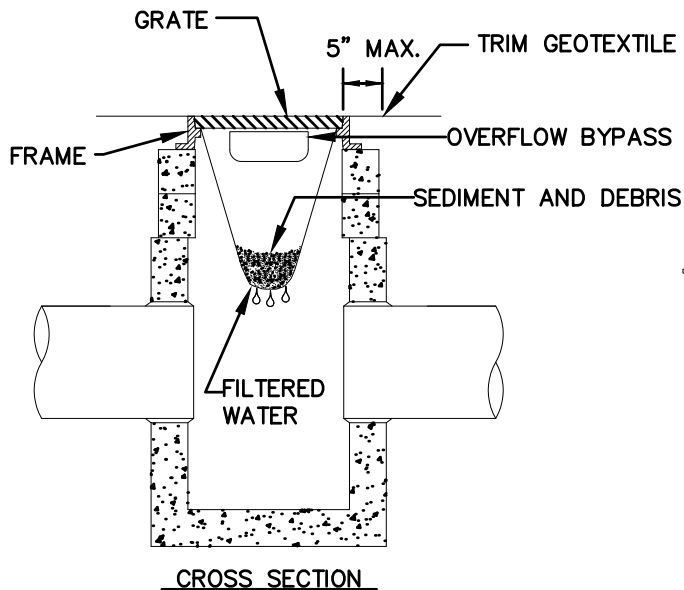
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INLET PROTECTION (BIO-FILTER BAG)

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
EC-4.0



NOTES:

1. THE INLET SEDIMENT CONTROL DEVICE SHALL BE OF HIGH FLOW DESIGN (200 GAL/MIN/SQ FT), AS PER THE MANUFACTURER'S SPECS.
2. SUBSTITUTION OF A SHEET OF FILTER FABRIC PLACED OVER THE OPENING OF THE INLET IS NOT APPROVED.
3. THE FILTER SHALL BE REPLACED OR CLEANED WHEN THE INSERT BECOMES HALF FULL.
4. FOR SEDIMENT DAM REFER TO RIDGEFIELD STANDARD DETAIL EC-4.2.
5. REFER TO BMP C220 IN VOLUME II OF THE WESTERN WASHINGTON MANUAL FOR MORE INFORMATION.

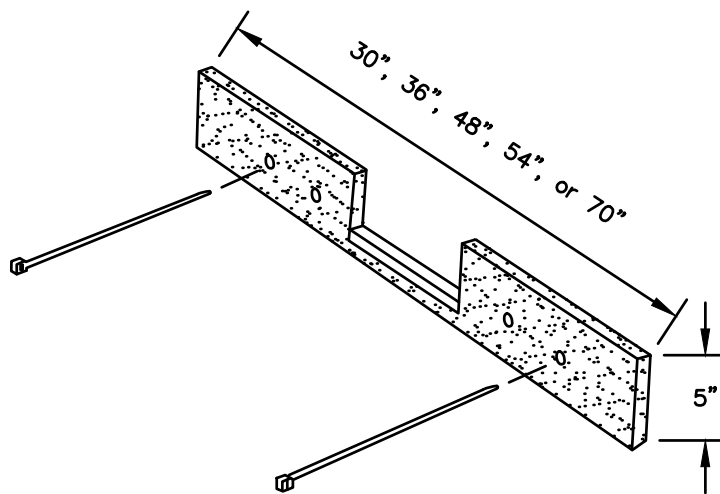
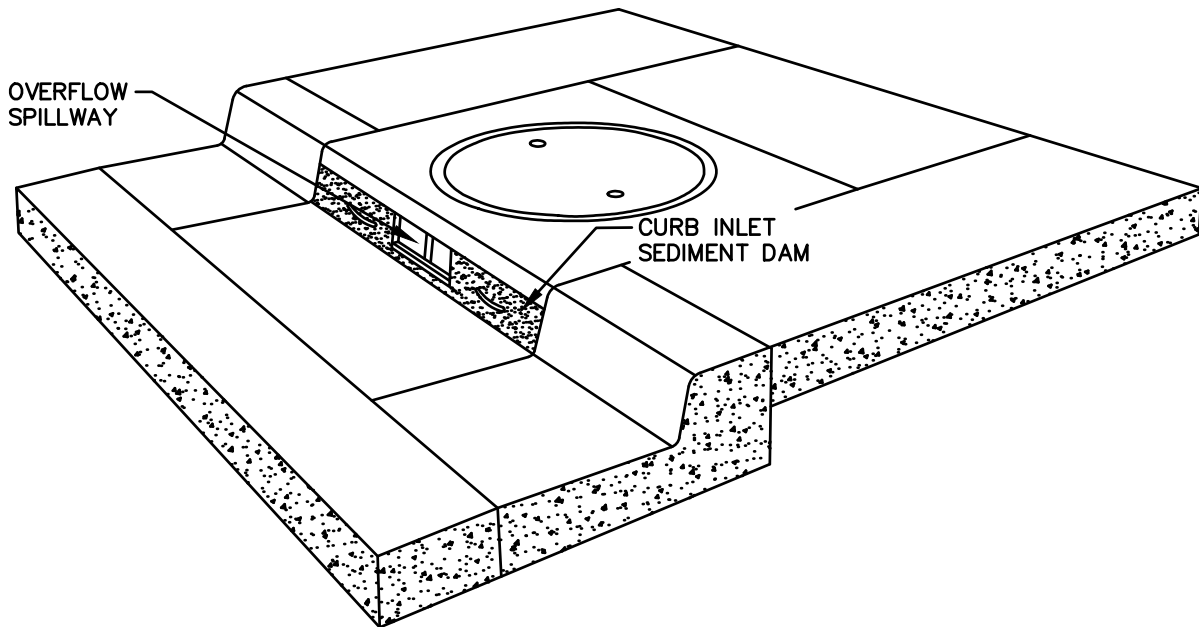
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INLET PROTECTION (CATCH BASIN INSERT)

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
EC-4.1



NOTES:

1. SEDIMENT DAM SHALL BE MADE FROM 100% NON-WOVEN POLYFIBER

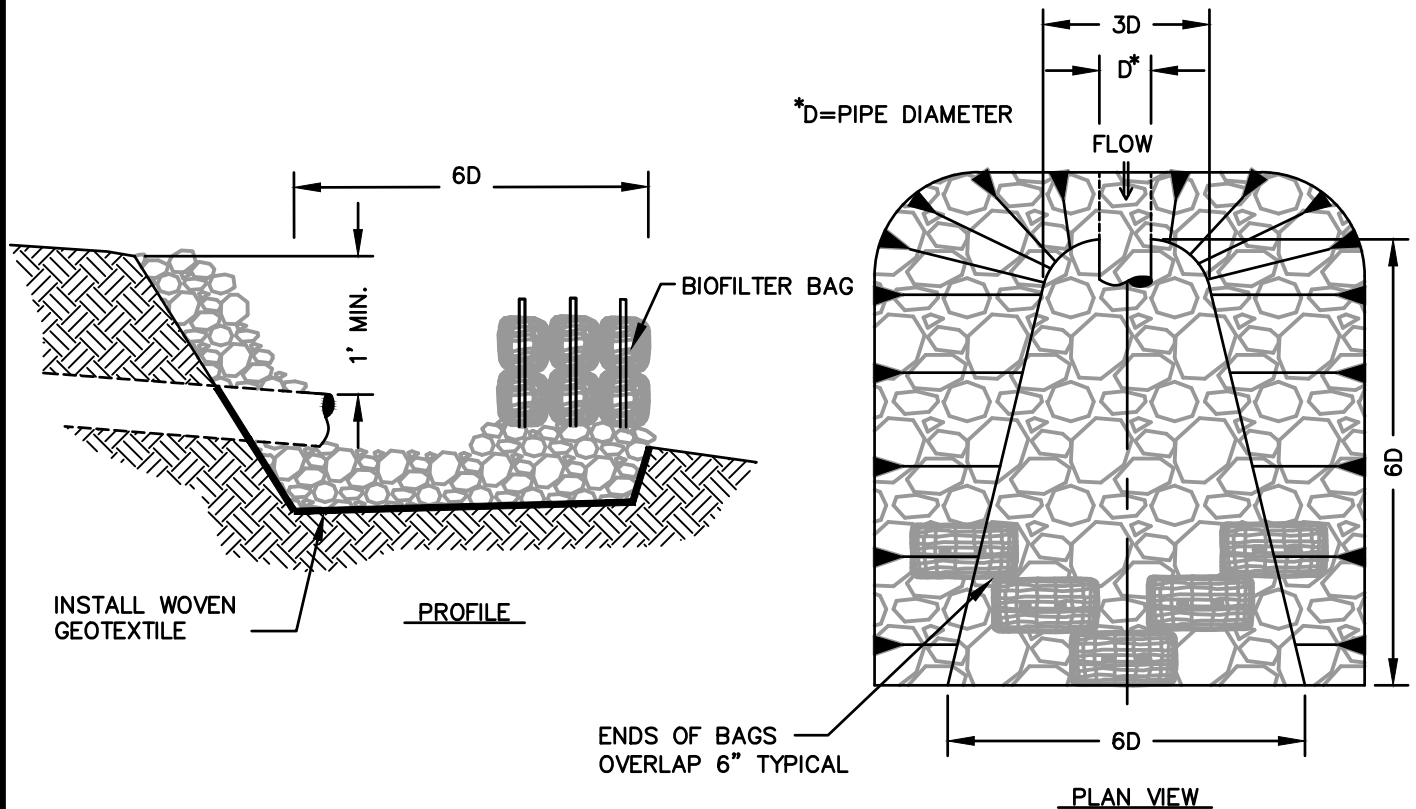
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INLET PROTECTION (SEDIMENT DAM)

**STANDARD
DETAILS**

CITY OF RIDGEFIELD

**SHEET
EC-4.2**



NOTES:

1. BIO-FILTER BAGS ONLY REQUIRED WHEN DISCHARGING SEDIMENT LADEN WATER. FOR STAKING OF BAGS REFER TO RIDGEFIELD STANDARD DETAIL EC-4.0.
2. RIP-RAP SIZING GOVERNED BY THE SIDE SLOPES ON THE OUTLET CHANNEL, ASSUMED TO BE 3:1.
3. PLACE WOVEN GEOTEXTILE ALONG BOTTOM AND SIDE SLOPES TO CROWN OF PIPE, AND INSTALL ROCK TO 1' ABOVE PIPE CROWN ALONG BOTH SIDES OF CHANNEL.
4. RIP-RAP SHALL BE IN ACCORDANCE WITH SECTION 9-13.1 OF THE WSDOT STANDARD SPECIFICATIONS.
5. IF THERE IS SCOURING AT THE OUTLET, PROTECT THE ERODED AREA BY INCREASING THE SIZE OF THE RIP RAP AREA.
6. REFER TO BMP C209 IN VOLUME II OF THE WESTERN WASHINGTON MANUAL FOR MORE INFORMATION.

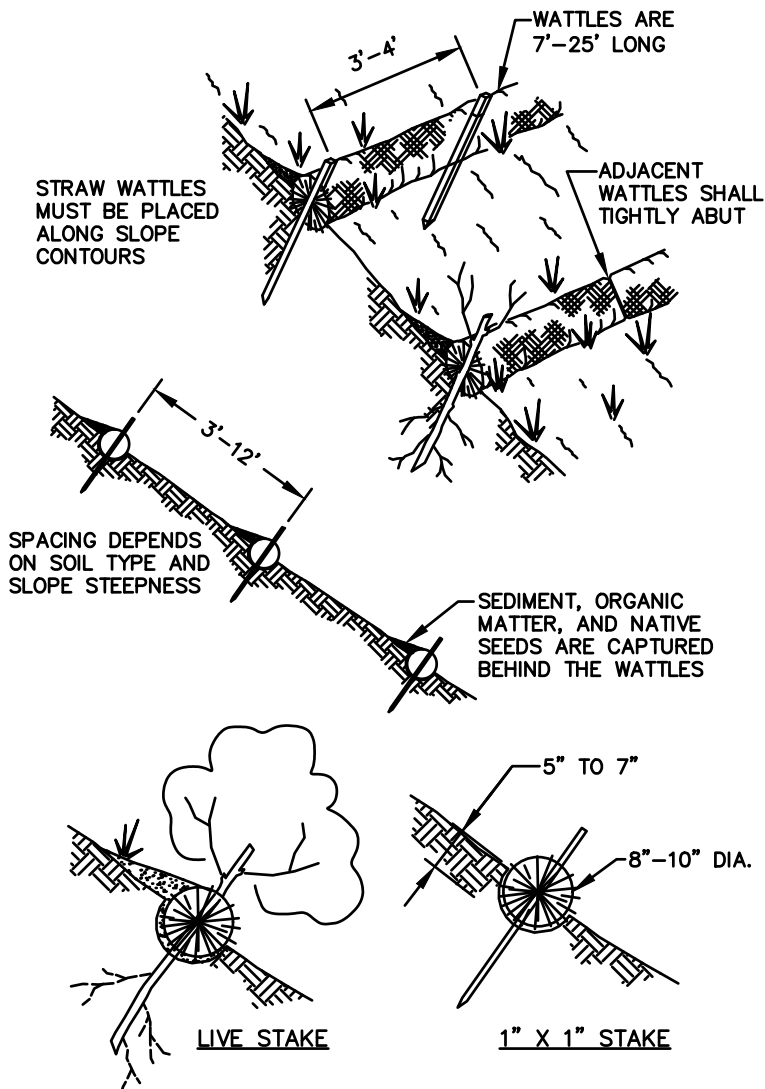
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TEMPORARY OUTLET PROTECTION (RIP-RAP)

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
EC-5.0



NOTES:

1. PREPARE THE SLOPE BEFORE THE WATTLING PROCEDURE IS STARTED.
2. SHALLOW GULLIES SHOULD BE SMOOTHED AS WORK PROGRESSES.
3. DIG SMALL TRENCHES ACROSS THE SLOPE ON CONTOUR, TO PLACE WATTLES IN. THE TRENCH SHOULD BE DEEP ENOUGH TO BURY THE WATTLE $1/2 - 2/3$ OF ITS THICKNESS OR 5"-7".
4. START BUILDING TRENCHES AND INSTALL WATTLES FROM THE BOTTOM OF THE SLOPE AND WORK UP.
5. CONSTRUCT TRENCHES AT CONTOUR INTERVALS OF 10-25 FEET APART DEPENDING ON STEEPNESS OF SLOPE. THE STEEPER THE SLOPE, THE CLOSER TOGETHER THE TRENCHES.
6. LAY THE WATTLE ALONG THE TRENCHES FITTING IT SNUGLY AGAINST THE SOIL. MAKE SURE NO GAPS EXIST BETWEEN THE SOIL AND THE STRAW WATTLE.
7. USE A STRAIGHT BAR TO DRIVE HOLES THROUGH THE WATTLE AND INTO THE SOIL FOR THE WILLOW OR WOODEN STAKES.
8. DRIVE THE STAKE THROUGH PREPARED HOLE INTO SOIL. LEAVE ONLY 1 OR 2 INCHES OF STAKE EXPOSED ABOVE WATTLE.
9. INSTALL STAKES AT LEAST EVERY 4 FEET APART THROUGH THE WATTLE. ADDITIONAL STAKES MAY BE DRIVEN ON THE DOWNSLOPE SIDE OF THE TRENCHES ON HIGHLY EROSION OR VERY STEEP SLOPES.
10. RESEED OR REPLANT VEGETATION IF NECESSARY UNTIL THE SLOPE IS STABILIZED.
11. RUNOFF SHALL NOT RUN UNDER OR AROUND WATTLE.
12. WATTLES ARE EFFECTIVE FOR ONE OR TWO SEASONS.
13. REFER TO BMP C235 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.

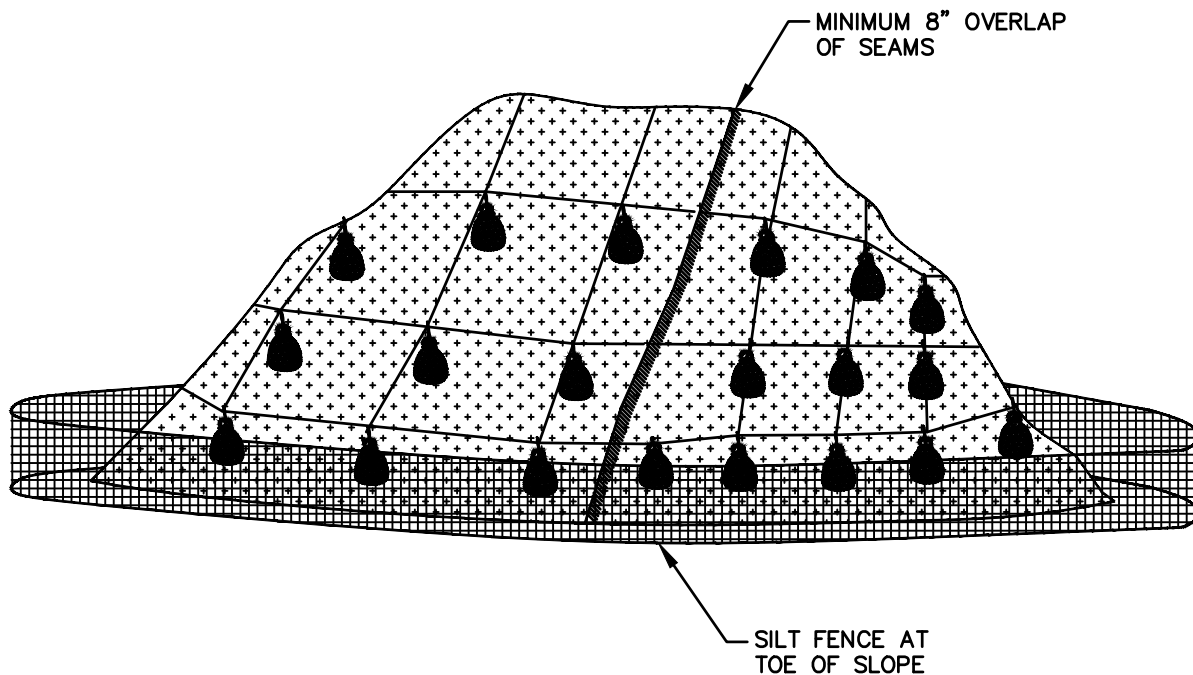
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WATTLE

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
EC-6.0



NOTES:

1. PLASTIC SHEETING SHALL BE A MINIMUM OF 0.06 MILLIMETERS THICK.
2. PLASTIC SHEETING MAY BE USED ON DISTURBED AREAS THAT REQUIRE COVER MEASURES FOR LESS THAN 30 DAYS.
3. DO NOT USE PLASTIC COVERING UPSLOPE OF AREAS SUCH AS STEEP AND/OR UNSTABLE SLOPES THAT MIGHT BE ADVERSELY AFFECTED BY CONCENTRATED RUNOFF.
4. WHEN POSSIBLE, INSTALL AN INTERCEPTOR DIKE AT THE TOP OF THE PLASTIC TO DIVERT FLOWS AWAY FROM THE PLASTIC WHEN USED ON SIDE SLOPES.
5. TOE-IN THE TOP OF THE SHEETING IN A 6"x6" TRENCH BACKFILLED WITH COMPACTED NATIVE MATERIAL.
6. INSTALL A GRAVEL BERM, RIPRAP, OR OTHER SUITABLE PROTECTION AT THE TOP OF THE SLOPE IN ORDER TO DISSIPATE RUNOFF VELOCITY.
7. ANCHOR THE PLASTIC USING SANDBAGS OR OTHER SUITABLE TETHERED ANCHOR SYSTEM EVERY 3-6 FEET ALONG SEAMS.
8. OVERLAP SEAMS 8" (MIN.), TAPE, ROLL AND STAKE THE SEAMS AND THEN WEIGH DOWN THE ENTIRE LENGTH.
9. REPLACE TORN SHEETS AND REPAIR OPEN SEAMS. COMPLETELY REMOVE AND REPLACE PLASTIC WHEN IT BEGINS TO DETERIORATE.
10. REFER TO BMP C123 IN VOLUME II OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.

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PLASTIC COVERING

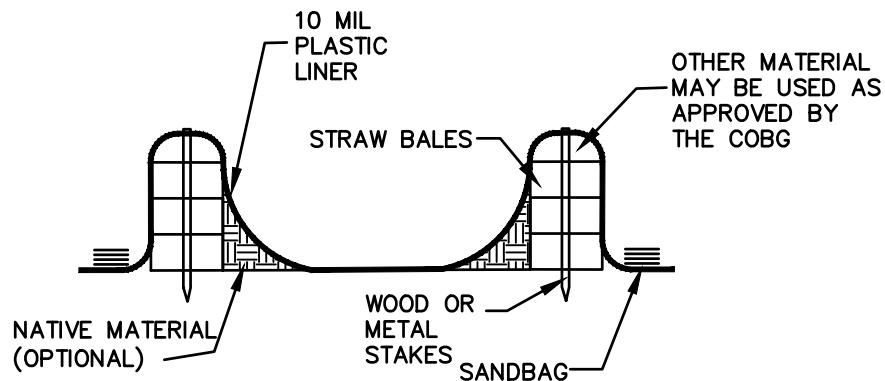
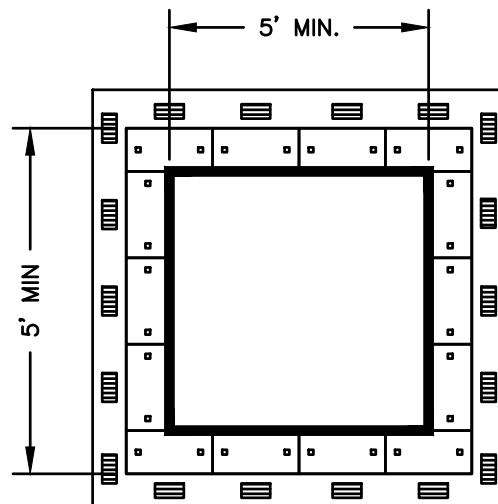
**STANDARD
DETAILS**

CITY OF RIDGEFIELD

**SHEET
EC-7.0**

NOTES:

1. NO WASHING OUT OF CONCRETE TRUCKS OR WASHING OF SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS IS ALLOWED.
2. EXCESS CONCRETE IS NOT ALLOWED TO BE DUMPED ON-SITE, EXCEPT IN DESIGNATED TEMPORARY CONCRETE WASHOUT PIT AREAS.
3. ON-SITE TEMPORARY CONCRETE WASHOUT AREAS WILL BE LOCATED AT LEAST 50 FEET FROM STORM DRAINS, OPEN DITCHES, OR WATER BODIES AS DETERMINED IN THE FIELD.
4. TEMPORARY CONCRETE WASHOUT FACILITIES WILL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASH GENERATED BY WASHOUT OPERATIONS.
5. WASHOUT FACILITIES WILL BE CLEANED OUT OR REPLACED ONCE THE WASHOUT IS 75% FULL.
6. PLASTIC LINING MATERIAL WILL BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND WILL BE FREE OF HOLES, TEARS, OR OTHER DEFECTS.
7. WHEN WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR WORK, THE HARDENED CONCRETE WILL BE REMOVED AND DISPOSED OF OFFSITE. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES WILL BE REMOVED FROM THE SITE AND DISPOSED OF.



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CONCRETE WASHOUT

**STANDARD
DETAILS**

CITY OF RIDGEFIELD

**SHEET
EC-8.0**

GENERAL NOTES:

1. MATERIALS AND WORKMANSHIP FOR DRAINAGE WORK SHALL CONFORM TO THE LATEST EDITION OF THE WSDOT/APWA "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE & MUNICIPAL CONSTRUCTION".
2. MATERIALS AND WORKMANSHIP FOR STORM SEWER WORK SHALL CONFORM TO THE LATEST EDITION OF THE "CITY OF RIDGEFIELD STANDARD DETAILS" & "VOLUME 1 AND VOLUME 2 – ENGINEERING STANDARDS FOR PUBLIC WORKS CONSTRUCTION."
3. THE CONTRACTOR IS TO VERIFY ALL INVERT AND TOP ELEVATIONS OF EXISTING STORM SEWERS, AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION AND TO NOTIFY THE ENGINEER OF ANY POTENTIAL CONFLICTS. THE CONTRACTOR SHALL POTHOLE OVER ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION TO DETERMINE THEIR EXACT LOCATION. CALL 811 OR (360) 696-4848 (UTILITY COORDINATING COUNCIL), FOR LOCATION OF EXISTING UTILITIES, A MINIMUM OF 2 WORKING DAYS PRIOR TO START OF CONSTRUCTION.
5. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER AND/OR CONTRACTOR TO PROCURE ALL APPLICABLE PERMITS, LICENSES AND CERTIFICATES RELATIVE TO THE TRADES TO COMPLETE THE PROJECT AND FOR THE USE OF SUCH WORK WHEN COMPLETED. COMPLIANCE SHALL BE AT ALL LEVELS, FEDERAL, STATE AND CITY, RELATING TO THE PERFORMANCE OF THIS WORK.
6. THE CONTRACTOR SHALL OBTAIN ALL OFFSITE CONSTRUCTION EASEMENTS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THAT ALL OFFSITE UTILITIES EASEMENTS HAVE BEEN OBTAINED BY THE OWNER PRIOR TO THE COMMENCEMENT OF ANY OFFSITE CONSTRUCTION.
7. PIPES OVER 15" DIA. SHALL HAVE A TRASH SCREEN AT END OF PIPE, EXCEPT WHERE PIPE IS LOCATED WITHIN A FENCED STORM FACILITY. (SEE RIDGEFIELD STANDARD DETAIL ST-6.6)
8. LOCKING LID MUST BE USED ON MANHOLES LOCATED IN NON-HARDSCAPE AREAS EXCEPT WHERE MANHOLE IS LOCATED WITHIN FENCED STORM FACILITY.
9. MATERIAL CERTIFICATION FOR ALL STORM MANHOLES, CATCH BASINS, AND CURB INLETS SHALL BE PROVIDED TO THE CITY INSPECTOR.
10. ALL ROOF AND LOWPOINT DRAINS TO BE DIRECTED TO APPROVED DRAINAGE PER PLANS.

TESTING:

1. ALL MAIN LINE RUNS AND LATERALS SHALL BE TESTED FOLLOWING REQUIRMENTS OF ENGINEERING STANDARDS FOR PUBLIC WORKS CONSTRUCTION – VOLUME 2. VARIATIONS IN EXCESS OF REQUIRED TOLERANCES MUST BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE CITY.
2. EXFILTRATION TEST WSDOT SPECIFICATION 7-04.3(1)B FOR DETAINAGE OR AS REQUIRED BY CITY ENGINEER.

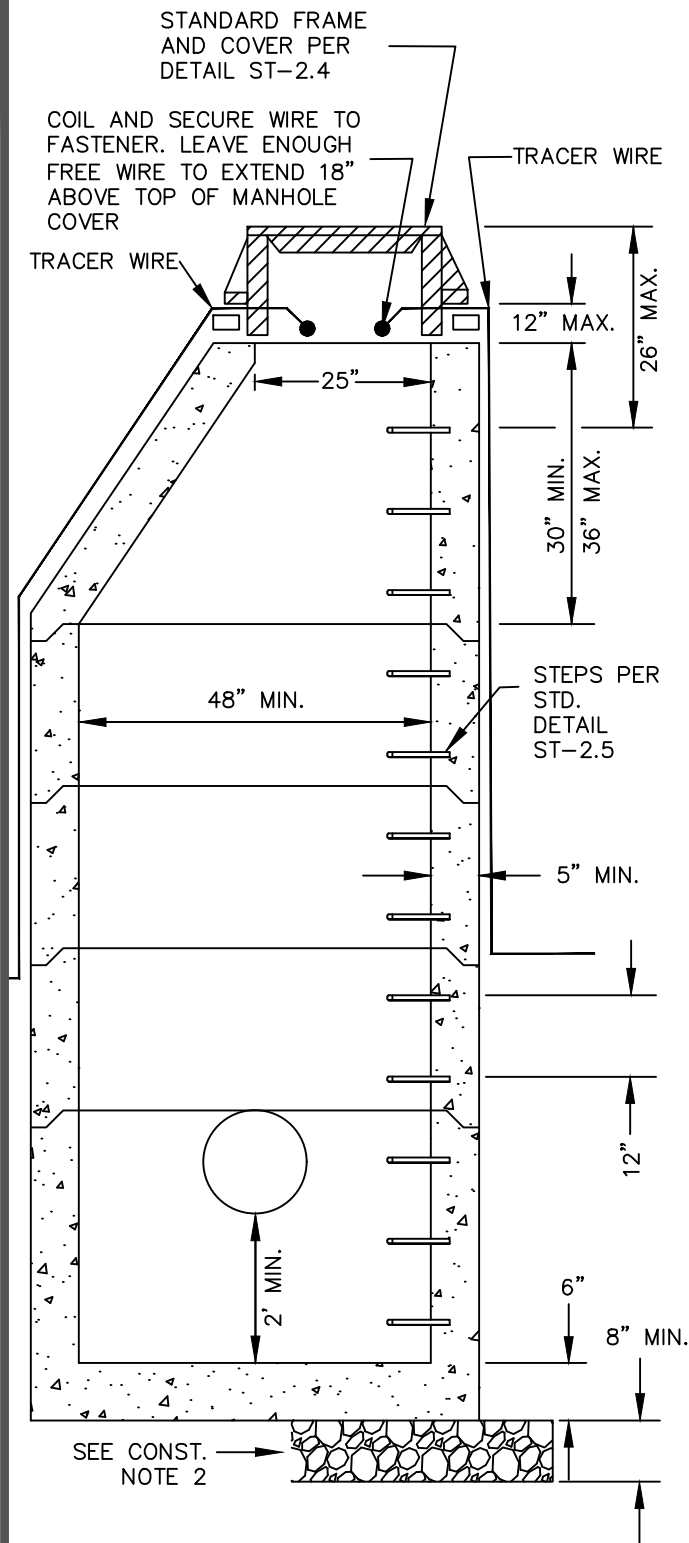
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STORMWATER GENERAL NOTES & TESTING

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-1.0



CONSTRUCTION NOTES:

1. IN OVER EXCAVATED AREAS PROVIDE SUPPORT FOR THE PIPE AS FOLLOWS: PLACE $\frac{3}{4}$ " MINUS CRUSHED ROCK OVER UNDISTURBED GROUND IN 6" LAYERS AND COMPACT.
2. BACKFILL MATERIAL BELOW & TO SIDE OF STRUCTURE SHALL BE ASTM D2321 CLASS I OR II CRUSHED STONE OR GRAVEL, PLACED UNIFORMLY. BACKFILL TO MEET WSDOT 7-05 & AASHTO T-99 95% COMPACTION.
3. ALL DIMENSIONS SUBJECT TO ALLOWABLE SPECIFICATION TOLERANCES.
4. ANY PROTRUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED TO THE SATISFACTION OF ENGINEER.
5. LIFT HOLES MUST BE GROUTED.

STRUCTURE NOTES:

1. MANHOLE TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 & C890 UNLESS SHOWN ON PLANS OR NOTED IN WSDOT STANDARD SPECIFICATIONS.
2. ALL PRECAST MANHOLE SECTIONS AND CONES SHALL CONFORM TO ASTM C-478 WITH CAST IN STEPS.
3. BASE CONCRETE SHALL BE 3000 P.S.I., 2-4 IN. SLUMP. FLOW LINES AND INSIDE SURFACES SHALL BE TROWELED SMOOTH & UNIFORM AT TIME OF POUR.
4. CAST-IN-PLACE, MONOLITHIC MANHOLE MAY BE SUBSTITUTED WITH SPECIFIC APPROVAL OF THE CITY ENGINEER.
5. JOINTS SHALL BE CONSTRUCTED SO AS TO BE WATERTIGHT. KENT-SEAL NO. 2 OR APPROVED EQUAL SHALL BE USED ON TONGUE & GROOVE SECTIONS, AND ON RISER RINGS PREMOLDED "O-RING" MAY BE SUBSTITUTED ON BELL & SPIGOT SECTIONS. ALL JOINTS SHALL BE GROUTED WITH PORTLAND CEMENT CONCRETE GROUT & STRUCK EVEN WITH THE WALL.
6. MANHOLES UNDER 5'-0" IN DEPTH FROM RIM TO INVERT SHALL HAVE A TOP SLAB IN LIEU OF CONE, SEE RIDGEFIELD STANDARD DETAIL ST-2.3.
7. WHIRLY GIG © MANHOLE RISER COLLAR SYSTEM MAY BE USED IN PLACE OF RISER RING.
8. ALL REINFORCED STEEL SHALL HAVE 1 $\frac{1}{2}$ " CLEAR COVER UNLESS OTHERWISE NOTED, AND SHALL BE GRADE 60 (ASTM A615).
9. STEEL REINFORCED OR POLYPROPYLENE FIBER REINFORCED UNITS ARE ALLOWABLE.

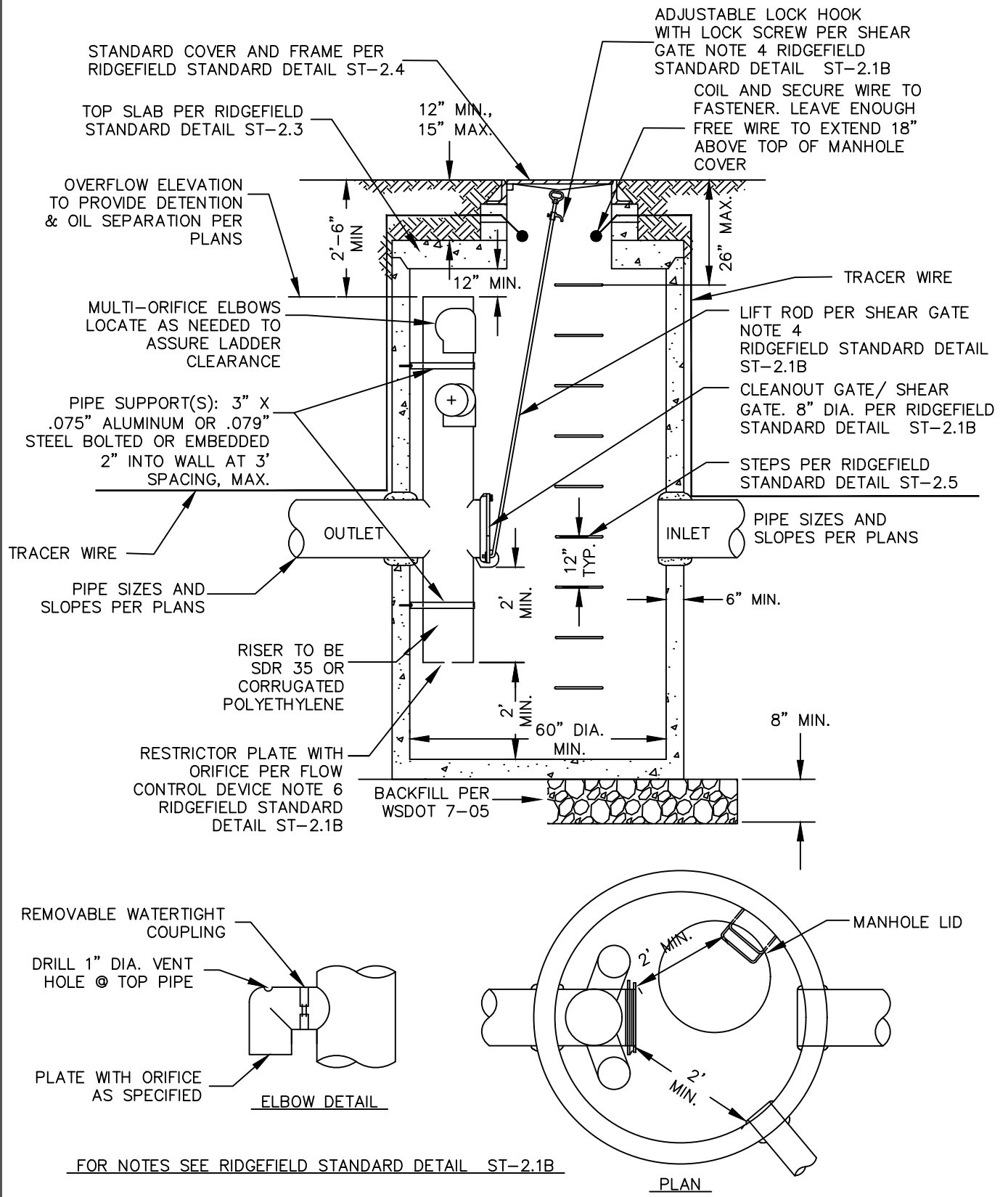
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MANHOLE

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST - 2.0



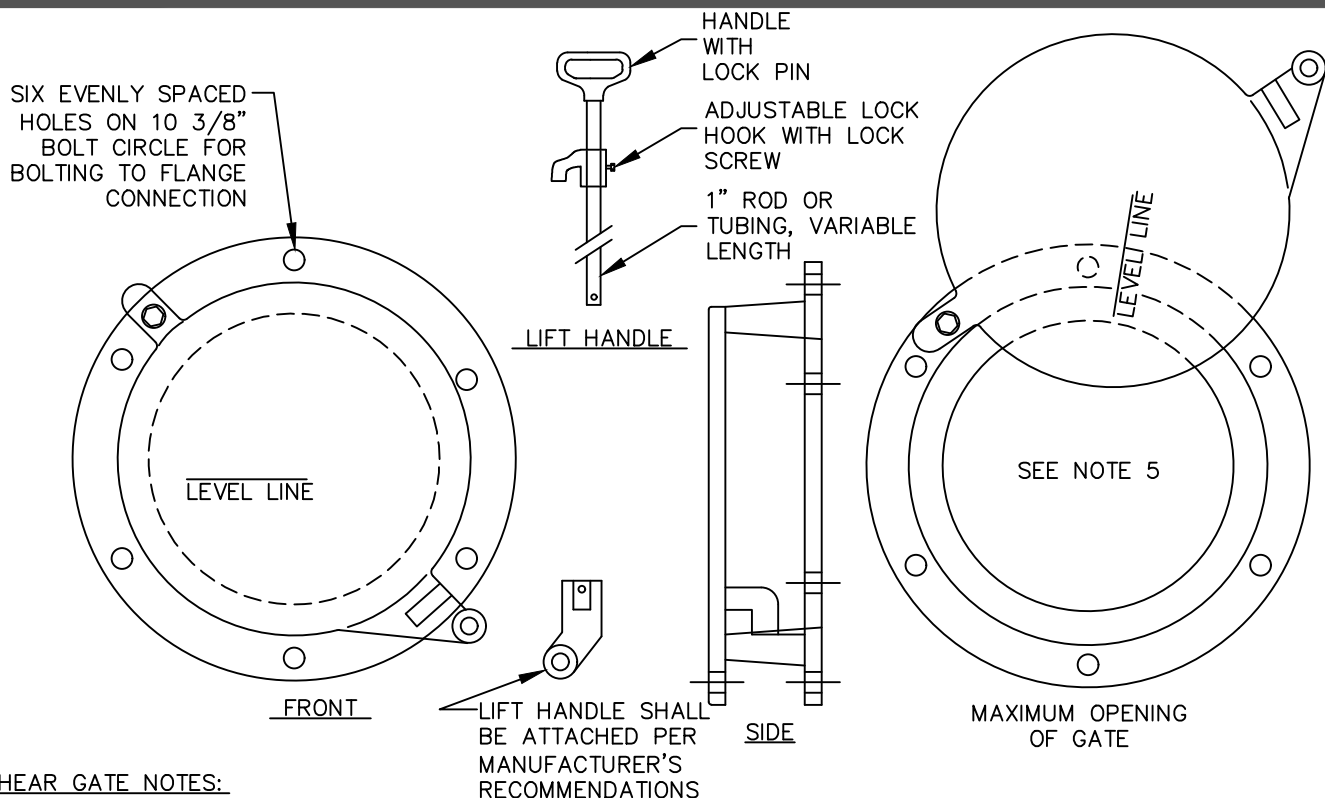
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FLOW CONTROL MANHOLE (TEE TYPE)

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-2.1A



SHEAR GATE NOTES:

1. SHEAR GATE SHALL BE ALUMINUM ALLOY PER ASTM B-26-ZG-32a OR CAST IRON ASTM A48 CLASS 30B AS REQUIRED.
2. GATE SHALL BE 8" DIA. UNLESS OTHERWISE SPECIFIED.
3. GATE SHALL BE JOINED TO TEE SECTION BY BOLTING (THROUGH FLANGE), WELDING, OR OTHER SECURE MEANS.
4. LIFT ROD: AS SPECIFIED BY MFR. WITH HANDLE EXTENDING TO WITHIN ONE FOOT OF COVER AND ADJUSTABLE HOOK LOCK FASTENED TO FRAME OR UPPER HANDHOLD. IF ATTACHED TO STEPS, MAKE SURE IT DOES NOT CREATE A TRIP HAZARD OR REDUCE ENTRY SPACE. MUST BE OPERATIONAL WITHOUT ENTERING MANHOLE.
5. GATE SHALL NOT OPEN BEYOND THE CLEAR OPENING BY LIMITED HINGE MOVEMENT, STOP TAB, OR SOME OTHER DEVICE.
6. NEOPRENE RUBBER GASKET REQUIRED BETWEEN RISER MOUNTING FLANGE AND GATE FLANGE.
7. MATING SURFACES OF LID AND BODY TO BE MACHINED FOR PROPER FIT.
8. FLANGE MOUNTING BOLTS SHALL BE 3/8" DIA. STAINLESS STEEL.
9. ALTERNATE CLEANOUT/SHEAR GATES TO THE DESIGN SHOWN ARE ACCEPTABLE, PROVIDED THEY MEET THE MATERIAL SPECIFICATIONS ABOVE AND HAVE SIX BOLTS, 10-3/8" BOLT CIRCLE FOR BOLTING TO THE FLANGE CONNECTION.

FLOW CONTROL DEVICE NOTES:

1. FOR DETAILS SHOWING GRADE RING, LADDER, STEPS, HANDHOLDS, AND TOP SLABS, SEE RIDGEFIELD STANDARD DETAIL ST-2.1A.
2. THE RESTRICTOR/SEPARATOR AND PIPE SUPPORTS SHALL BE OF THE SAME MATERIAL AND SHALL BE FABRICATED FROM 0.060" ALUMINUM OR 0.064" ALUMINIZED STEEL OR 0.064" GALVANIZED STEEL PIPE IN ACCORDANCE WITH AASHTO M 36, M 196, M 197 AND M 274. GALVANIZED STEEL SHALL HAVE TREATMENT 1.
3. THE VERTICAL RISER STEM OF THE RESTRICTOR/SEPARATOR SHALL BE THE SAME DIAMETER AS THE HORIZONTAL OUTLET PIPE WITH AN 8" MIN. SIZE.
4. FRAME AND LADDER, OR STEPS TO BE OFFSET SO THAT:
 - A. CLEANOUT GATE IS VISIBLE FROM TOP.
 - B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE.
 - C. FRAME IS CLEAR OF CURB (IF ANY EXISTS).
5. MULTI-ORIFICE ELBOWS MAY BE LOCATED AS SHOWN OR ALL ON ONE SIDE OF RISER TO ASSURE LADDER CLEARANCE. SIZE OF ELBOWS TO BE DETERMINED BY ENGINEER.
6. RESTRICTOR PLATE WITH ORIFICE AS SPECIFIED IN THE PLANS. OMIT PLATE IF ONLY FOR OIL POLLUTION CONTROL. SPECIFIED OPENING TO BE CUT ROUND AND SMOOTH EDGED.

FOR DETAIL SEE RIDGEFIELD STANDARD DETAIL ST-2.1A

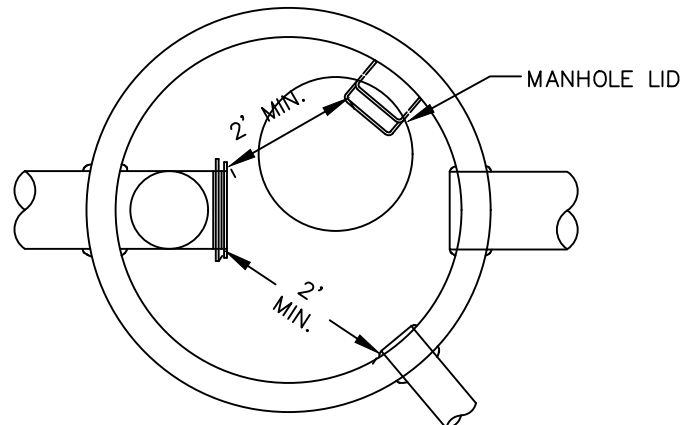
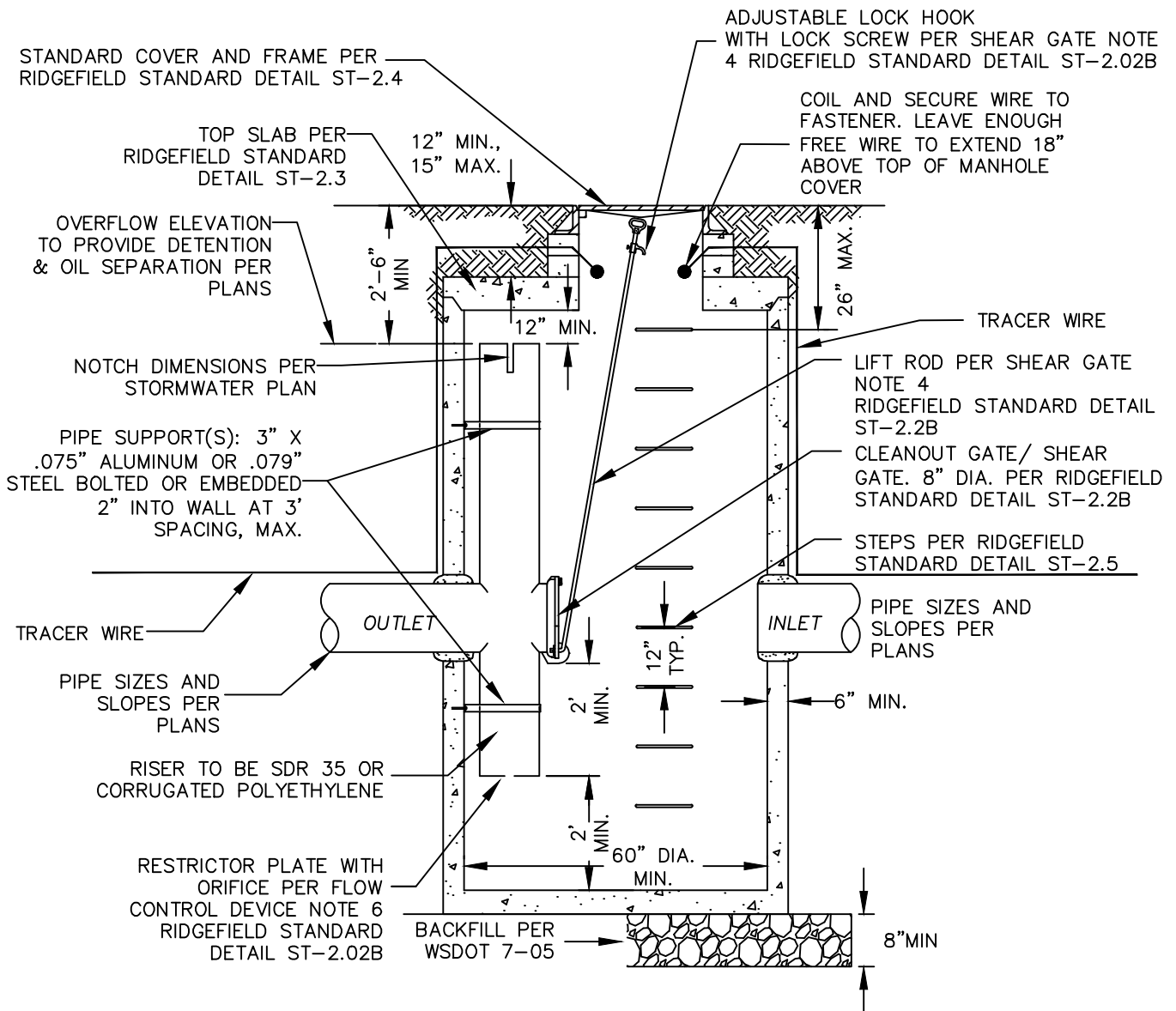
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FLOW CONTROL MANHOLE (TEE TYPE) NOTES

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-2.1B



FOR NOTES SEE RIDGEFIELD STANDARD DETAIL ST-2.2B

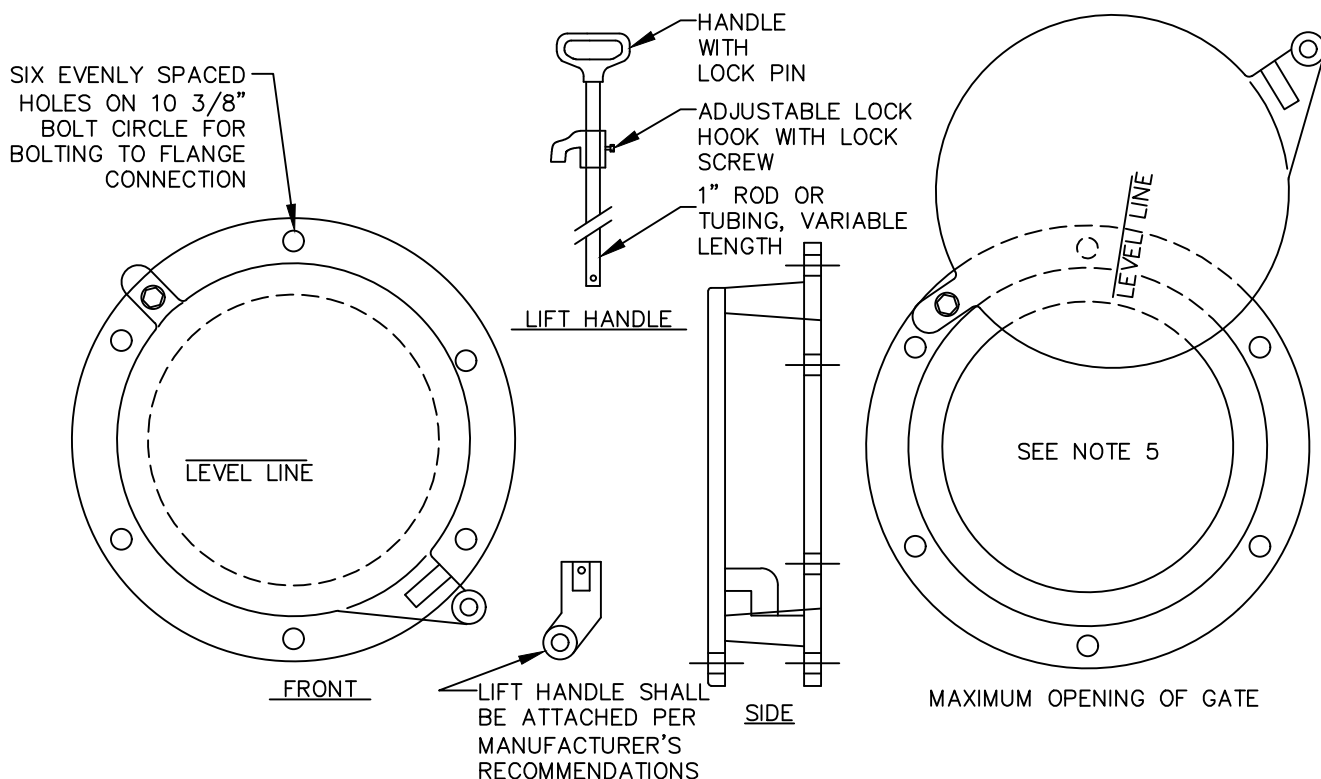
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FLOW CONTROL MANHOLE (NOTCH TYPE)

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST - 2.2A



SHEAR GATE NOTES:

1. SHEAR GATE SHALL BE ALUMINUM ALLOY PER ASTM B-26-ZG-32a OR CAST IRON ASTM A48 CLASS 30B AS REQUIRED.
2. GATE SHALL BE 8" DIA. UNLESS OTHERWISE SPECIFIED.
3. GATE SHALL BE JOINED TO TEE SECTION BY BOLTING (THROUGH FLANGE), WELDING, OR OTHER SECURE MEANS.
4. LIFT ROD: AS SPECIFIED BY MFR. WITH HANDLE EXTENDING TO WITHIN ONE FOOT OF COVER AND ADJUSTABLE HOOK LOCK FASTENED TO FRAME OR UPPER HANDHOLD. IF ATTACHED TO STEPS, MAKE SURE IT DOES NOT CREATE A TRIP HAZARD OR REDUCE ENTRY SPACE. MUST BE OPERATIONAL WITHOUT ENTERING MANHOLE.
5. GATE SHALL NOT OPEN BEYOND THE CLEAR OPENING BY LIMITED HINGE MOVEMENT, STOP TAB, OR SOME OTHER DEVICE.
6. NEOPRENE RUBBER GASKET REQUIRED BETWEEN RISER MOUNTING FLANGE AND GATE FLANGE.
7. MATING SURFACES OF LID AND BODY TO BE MACHINED FOR PROPER FIT.
8. FLANGE MOUNTING BOLTS SHALL BE 3/8" DIA. STAINLESS STEEL.
9. ALTERNATE CLEANOUT/SHEAR GATES TO THE DESIGN SHOWN ARE ACCEPTABLE, PROVIDED THEY MEET THE MATERIAL SPECIFICATIONS ABOVE AND HAVE SIX BOLTS, 10-3/8" BOLT CIRCLE FOR BOLTING TO THE FLANGE CONNECTION.

FLOW CONTROL DEVICE NOTES:

1. FOR DETAILS SHOWING GRADE RING, LADDER, STEPS, HANDHOLDS, AND TOP SLABS, SEE RIDGEFIELD STANDARD DETAIL ST-2.2A.
2. THE RESTRICTOR/SEPARATOR AND PIPE SUPPORTS SHALL BE OF THE SAME MATERIAL AND SHALL BE FABRICATED FROM 0.060" ALUMINUM OR 0.064" ALUMINIZED STEEL OR 0.064" GALVANIZED STEEL PIPE IN ACCORDANCE WITH AASHTO M 36, M 196, M 197 AND M 274. GALVANIZED STEEL SHALL HAVE TREATMENT 1.
3. THE VERTICAL RISER STEM OF THE RESTRICTOR/SEPARATOR SHALL BE THE SAME DIAMETER AS THE HORIZONTAL OUTLET PIPE WITH AN 8" MIN. SIZE.
4. FRAME AND LADDER, OR STEPS TO BE OFFSET SO THAT:
 - A. CLEANOUT GATE IS VISIBLE FROM TOP.
 - B. CLIMB-DOWN SPACE IS CLEAR OF RISER AND CLEANOUT GATE.
 - C. FRAME IS CLEAR OF CURB (IF ANY EXISTS).
5. MULTI-ORIFICE ELBOWS MAY BE LOCATED AS SHOWN OR ALL ON ONE SIDE OF RISER TO ASSURE LADDER CLEARANCE. SIZE OF ELBOWS TO BE DETERMINED BY ENGINEER.
6. RESTRICTOR PLATE WITH ORIFICE AS SPECIFIED IN THE PLANS. OMIT PLATE IF ONLY FOR OIL POLLUTION CONTROL. SPECIFIED OPENING TO BE CUT ROUND AND SMOOTH EDGED.

FOR DETAIL SEE RIDGEFIELD STANDARD DETAIL ST-2.2A

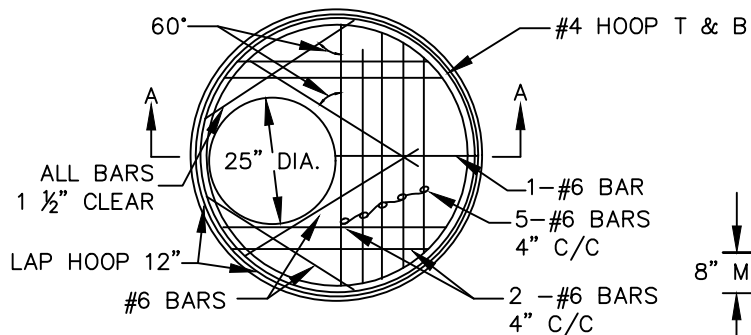
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FLOW CONTROL MANHOLE (NOTCH TYPE) NOTES

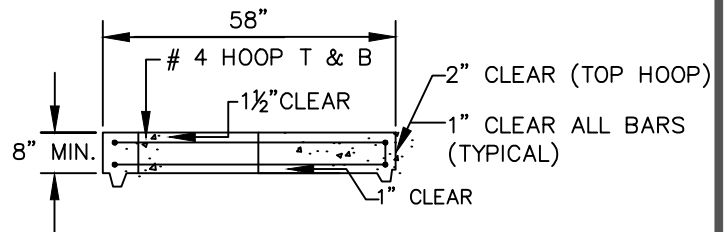
STANDARD
DETAILS

CITY OF RIDGEFIELD

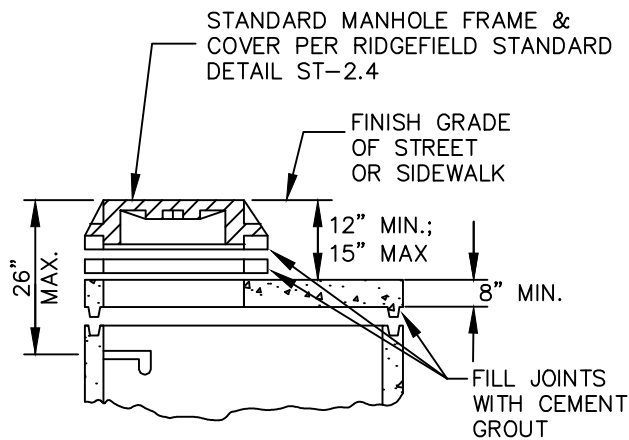
SHEET
ST - 2.2B



PLAN VIEW



SECTION A-A



FLAT SLAB ALTERNATE

NOTES:

1. ALL PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478.
2. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 P.S.I. & 2" TO 4" SLUMP. INSIDE SURFACES SHALL BE TROWELED SMOOTH AND UNIFORM AT TIME OF POUR.
3. ALL REINFORCING SHALL BE GRADE 40 STEEL.
4. MANHOLES UNDER 5'-0" IN DEPTH FROM RIM TO INVERT SHALL HAVE TOP SLAB IN LIEU OF CONE.
5. WHIRLY GIG ©MANHOLE RISER COLLAR SYSTEM MAY BE USED IN PLACE OF RISER RING.

REV. 8/01/24 CPG

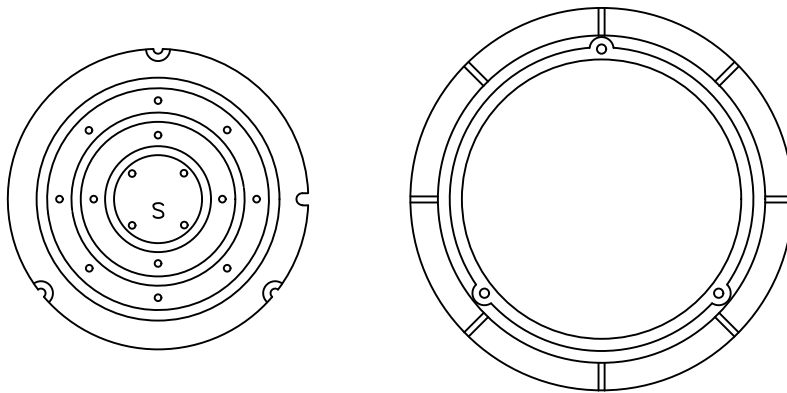
TOP SLAB FOR MANHOLE

STANDARD
DETAILS

CITY OF RIDGEFIELD

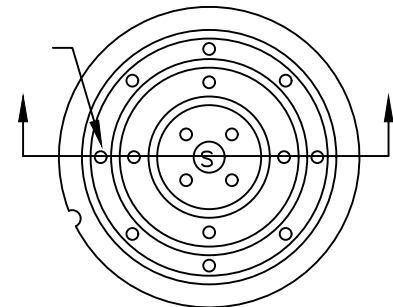
SHEET
ST - 2.3

LOCKING

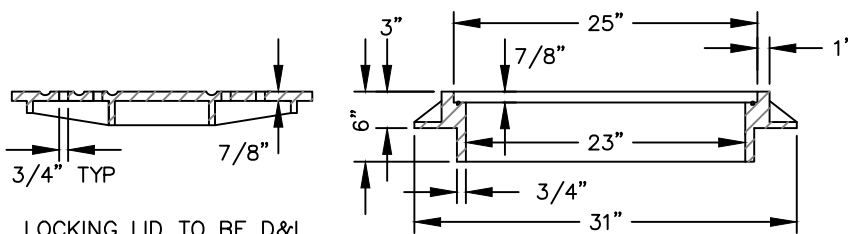


STANDARD

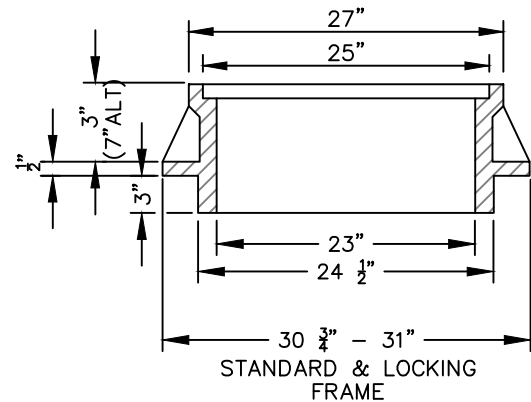
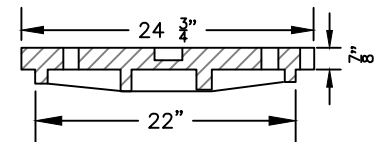
$\frac{7}{8}$ " ϕ
HOLES



16 HOLE STORM SEWER ONLY



LOCKING LID TO BE D&L
FOUNDRY PART NUMBER
A-2107-R5-03 HALF &
HALF OR APPROVED EQUAL.



NOTES:

1. COVER & FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
2. MATERIAL SHALL BE OF GRAY CAST IRON. A.S.T.M. A-48, CLASS 30.
3. LOCKING LID MUST BE USED ON MANHOLES LOCATED IN NON-HARDSCAPE AREAS EXCEPT IN FENCED STORM FACILITIES.

REV. 8/01/24 CPG

MANHOLE FRAMES AND COVERS

STANDARD
DETAILS

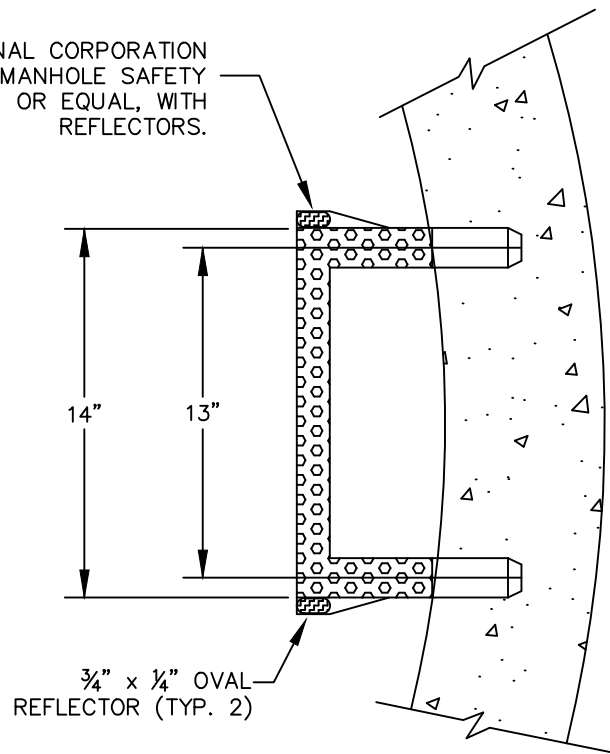
CITY OF RIDGEFIELD

SHEET
ST - 2.4

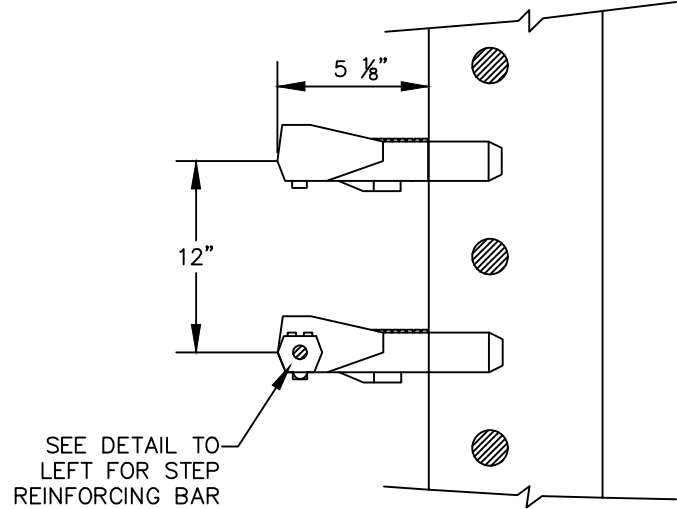
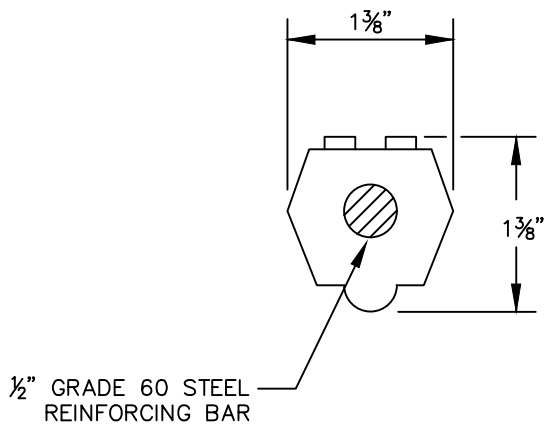
LANE INTERNATIONAL CORPORATION
POLYPROPYLENE MANHOLE SAFETY
STEP P-14850, OR EQUAL, WITH
REFLECTORS.

NOTES:

1. ALL STEPS MUST MEET ASTM C-478 AND AASHTO M-199 SPECIFICATIONS, POLYPROPYLENE ASTM D4104-08, THE 1/2" GRADE 60 DEFORMED REINFORCING BAR ASTM A-615.
2. INSTALLATION METHOD MUST RESIST 1,500 LB. HORIZONTAL PULL OUT FORCE AND 500 LB. VERTICAL LOAD



PLAN



ELEVATION

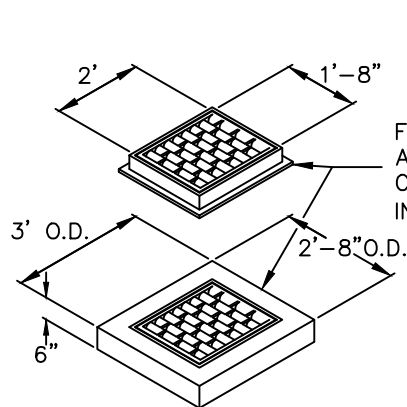
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MANHOLE STEP

STANDARD
DETAILS

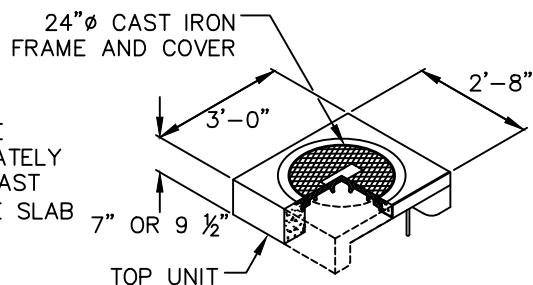
CITY OF RIDGEFIELD

SHEET
ST-2.5

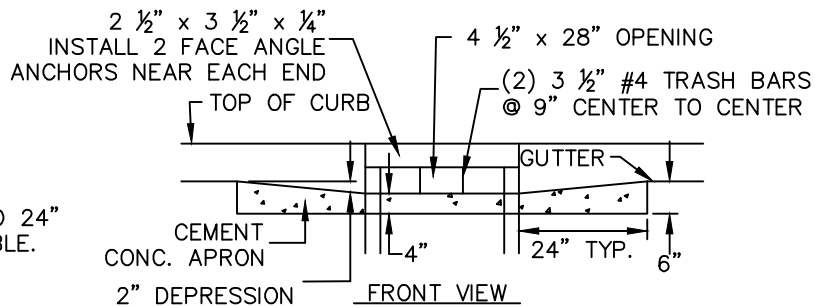


CATCH BASIN TOP

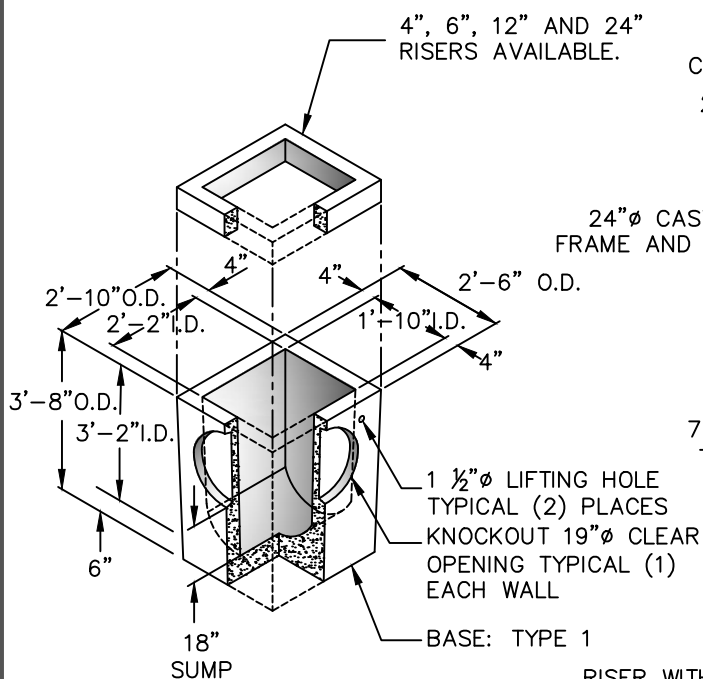
FRAME AND GRATE
AVAILABLE SEPARATELY
OR WITH FRAME CAST
INTO 6" CONCRETE SLAB



TOP UNIT



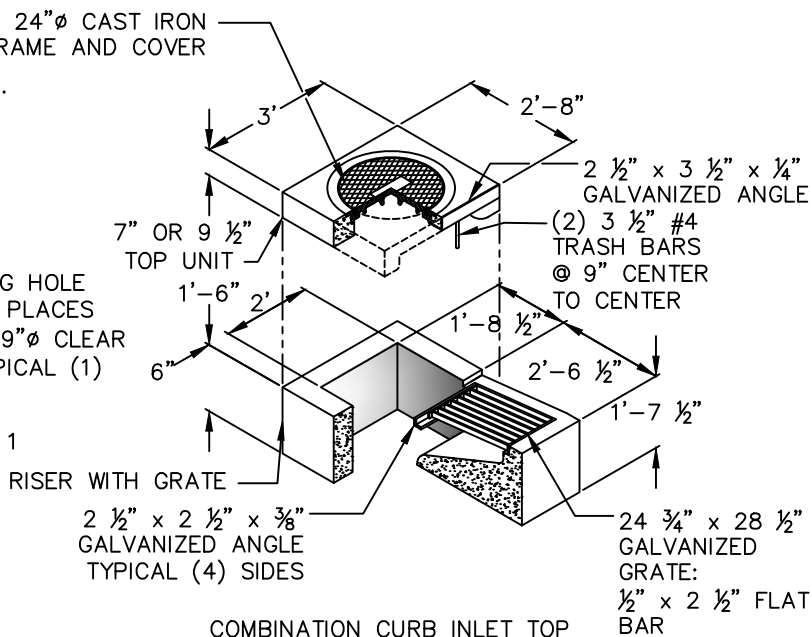
FRONT VIEW
CURB INLET TOP
(CITY OF RIDGEFIELD PREFERRED TOP)



BASE UNIT

4", 6", 12" AND 24"
RISERS AVAILABLE.

24" Ø CAST IRON
FRAME AND COVER



COMBINATION CURB INLET TOP

FOR NOTES SEE RIDGEFIELD STANDARD DETAIL ST-3.0B

REV. 8/01/24 CPG

CATCH BASIN (TYPE 1)

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-3.0A

CONSTRUCTION NOTES:

1. IN OVER EXCAVATED AREAS PROVIDE SUPPORT FOR THE PIPE AS FOLLOWS: PLACE $\frac{3}{4}$ " MINUS CRUSHED ROCK OVER UNDISTURBED GROUND IN 6" LAYERS AND COMPACT.
2. BACKFILL MATERIAL BELOW & TO SIDE OF STRUCTURE SHALL BE ASTM D2321 CLASS I OR II CRUSHED STONE OR GRAVEL, PLACED UNIFORMLY. BACKFILL TO MEET WSDOT STANDARD SPECIFICATION SECTION 7-05 & AASHTO T-99 95% COMPACTION.
3. ALL DIMENSIONS SUBJECT TO ALLOWABLE SPECIFICATION TOLERANCES.
4. LATERALS WILL BE CONSTRUCTED TO ENTER THE STRUCTURE PERPENDICULAR TO THE WALL. THE LATERAL WILL ENTER ONLY AT THE LOCATION OF KNOCKOUT WITH NO LATERALS ALLOWED TO ENTER THE BASE AT THE CORNERS. IF NEEDED, A 45° BEND (MAX.) MAY BE USED WITHIN 5 FEET OF STRUCTURE.
5. TAPER GUTTER DOWN TO INLET. (CURB INLET & COMBINATION CURB INLET ONLY)
6. GUTTER PAN TO BE UTILIZED ON CATCH BASIN TOP AND COMBINATION CURB INLET TOP PER STD. DETAIL ST-5.00.
7. USE VANED GRATE WHERE LONGITUDINAL SLOPE IS 4% OR GREATER, SEE RIDGEFIELD STANDARD DETAIL ST-5.2.
8. USE HERRINGBONE GRATE WHERE LONGITUDINAL SLOPE IS LESS THAN 4%, SEE RIDGEFIELD STANDARD DETAIL ST-5.2.
9. THE MAX. DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'-0".
10. ANY PROTRUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED TO THE SATISFACTION OF ENGINEER.
11. LIFT HOLES MUST BE GROUTED.

STRUCTURE NOTES:

1. STRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 & C890 UNLESS SHOWN ON PLANS OR NOTED IN WSDOT STANDARD SPECIFICATIONS.
2. BASE CONCRETE SHALL BE 3000 P.S.I., 2-4 IN. SLUMP. FLOW LINES AND INSIDE SURFACES SHALL BE TROWELED SMOOTH & UNIFORM AT TIME OF POUR.
3. CAST-IN-PLACE, MONOLITHIC BASE UNIT MAY BE SUBSTITUTED WITH SPECIFIC APPROVAL OF THE ENGINEER.
4. ALL JOINTS SHALL BE GROUTED WITH PORTLAND CEMENT CONCRETE GROUT & STRUCK EVEN WITH THE WALL. RISERS SHALL BE PREMOLDED.
5. ALL REINFORCED STEEL SHALL HAVE 1 $\frac{1}{2}$ " CLEAR COVER UNLESS OTHERWISE NOTED, AND SHALL BE GRADE 60 (ASTM A615).
6. STEEL REINFORCED OR POLYPROPYLENE FIBER REINFORCED UNITS ARE ALLOWABLE.
7. BASE UNIT SHALL HAVE 18" SUMP BELOW INVERT OUT.

SEE RIDGEFIELD STANDARD DETAIL ST-3.0A FOR STRUCTURE DETAIL

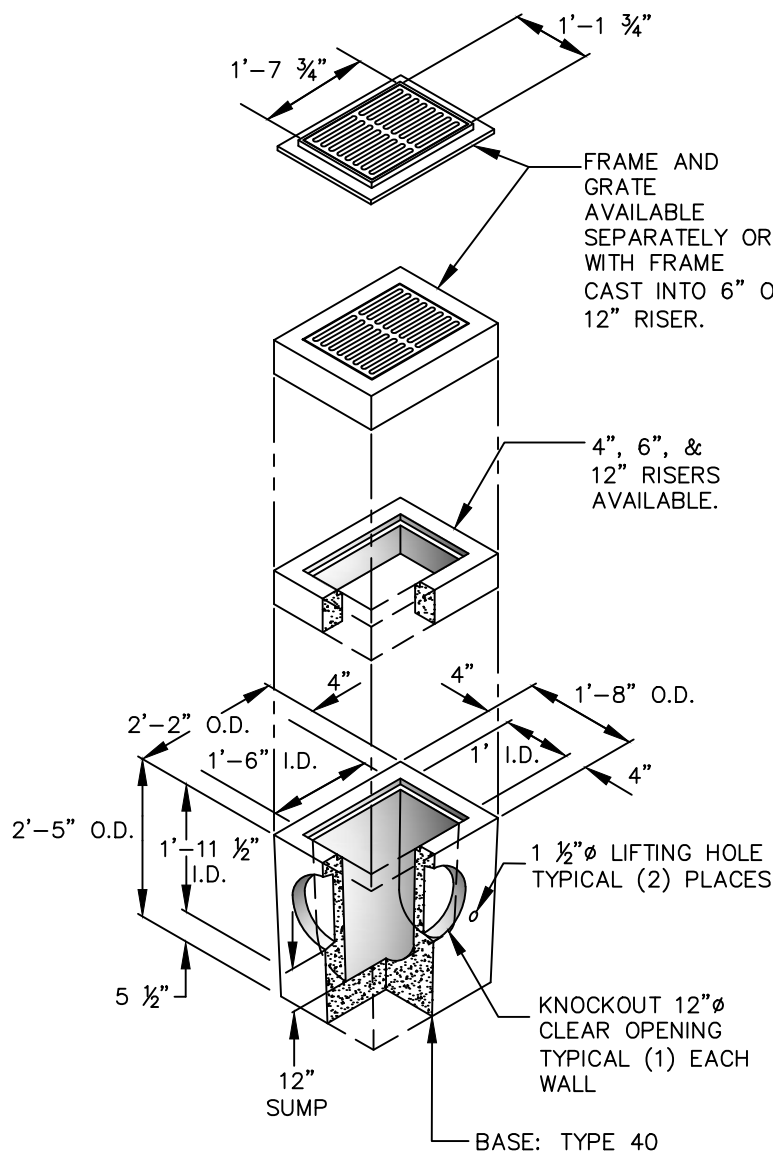
REV. 8/01/24 CPG

CATCH BASIN (TYPE 1) NOTES

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-3.0B



CONSTRUCTION NOTES:

1. IN OVER EXCAVATED AREAS PROVIDE SUPPORT FOR THE PIPE AS FOLLOWS: PLACE 3/4" MINUS CRUSHED ROCK OVER UNDISTURBED GROUND IN 6" LAYERS AND COMPACT.
2. BACKFILL MATERIAL BELOW & TO SIDE OF STRUCTURE SHALL BE ASTM D2321 CLASS I OR II CRUSHED STONE OR GRAVEL, PLACED UNIFORMLY. BACKFILL TO MEET WSDOT STANDARD SPECIFICATION SECTION 7-05 & AASHTO T-99 95% COMPACTION.
3. ALL DIMENSIONS SUBJECT TO ALLOWABLE SPECIFICATION TOLERANCES.
4. LATERALS WILL BE CONSTRUCTED TO ENTER THE STRUCTURE PERPENDICULAR TO THE WALL. THE LATERAL WILL ENTER ONLY AT THE LOCATION OF KNOCKOUT WITH NO LATERALS ALLOWED TO ENTER THE BASE AT THE CORNERS. IF NEEDED, A 45° BEND (MAX.) MAY BE USED WITHIN 5 FEET OF STRUCTURE.
5. GUTTER PAN TO BE UTILIZED PER RIDGEFIELD STANDARD DETAIL ST-5.0.
6. THE MAX. DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'-0".
7. ANY PROTRUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED TO THE SATISFACTION OF ENGINEER.
8. LIFT HOLES MUST BE GROUTED.

STRUCTURE NOTES:

1. STRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 & C890 UNLESS SHOWN ON PLANS OR NOTED IN WSDOT STANDARD SPECIFICATIONS.
2. BASE CONCRETE SHALL BE 3000 P.S.I., 2-4 IN. SLUMP. FLOW LINES AND INSIDE SURFACES SHALL BE TROWELED SMOOTH & UNIFORM AT TIME OF POUR.
3. CAST-IN-PLACE, MONOLITHIC BASE UNIT MAY BE SUBSTITUTED WITH SPECIFIC APPROVAL OF THE ENGINEER.
4. ALL JOINTS SHALL BE GROUTED WITH PORTLAND CEMENT CONCRETE GROUT & STRUCK EVEN WITH THE WALL. RISERS SHALL BE PREMOLDED.
5. ALL REINFORCED STEEL SHALL HAVE 1 1/2" CLEAR COVER UNLESS OTHERWISE NOTED, AND SHALL BE GRADE 60 (ASTM A615).
6. STEEL REINFORCED OR POLYPROPYLENE FIBER REINFORCED UNITS ARE ALLOWABLE.
7. BASE UNIT SHALL HAVE 12" SUMP BELOW INVERT OUT.

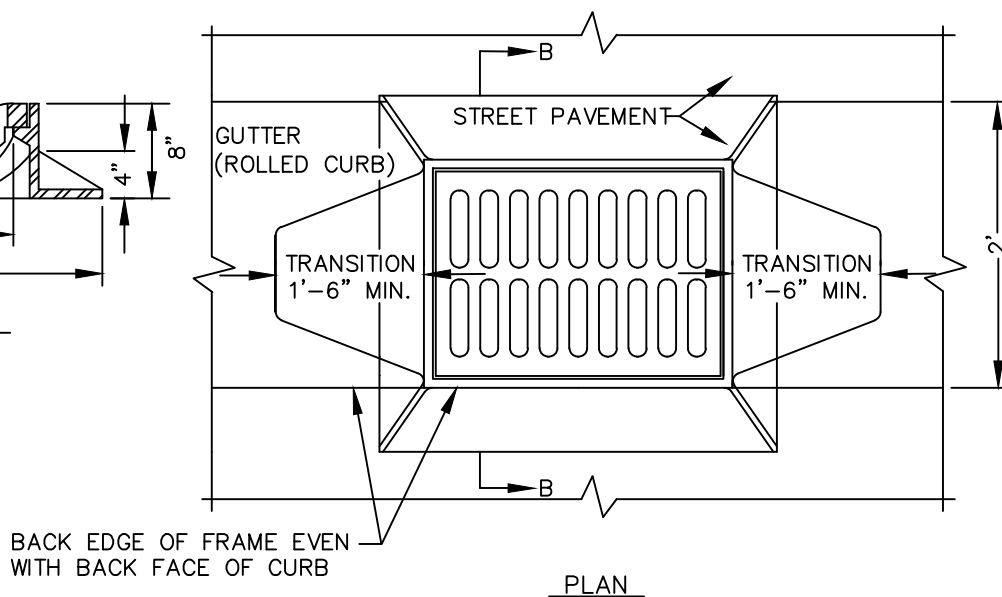
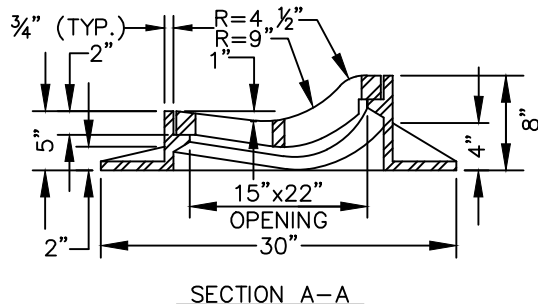
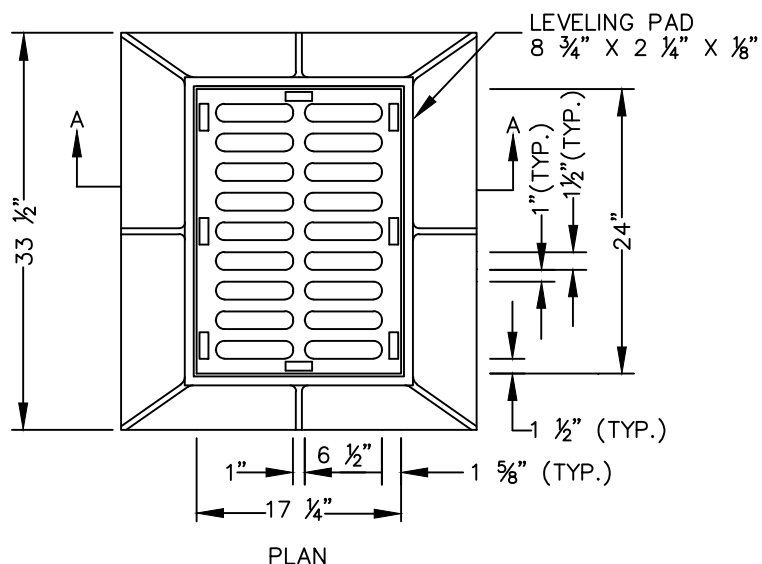
REV. 8/01/24 CPG

CATCH BASIN (TYPE 40)

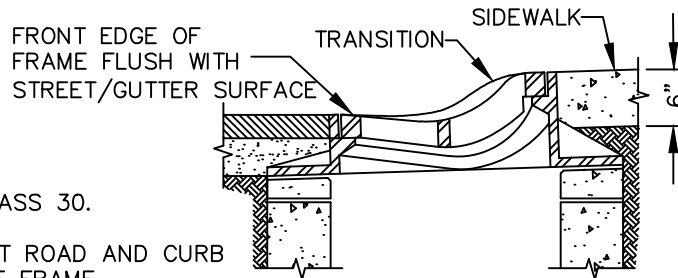
STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-3.1



BACK EDGE OF FRAME EVEN
WITH BACK FACE OF CURB



NOTES:

1. MATERIAL IS CAST IRON ASTM A48 CLASS 30.
2. SET FRAME TO GRADE AND CONSTRUCT ROAD AND CURB TO BE FLUSH AT FRONT AND BACK OF FRAME.

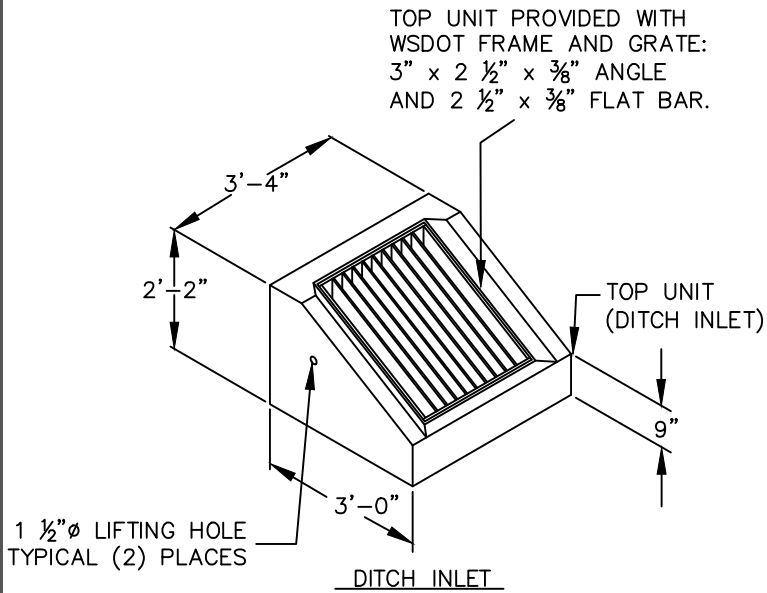
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CATCH BASIN (ROLLED CURB)

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-3.2

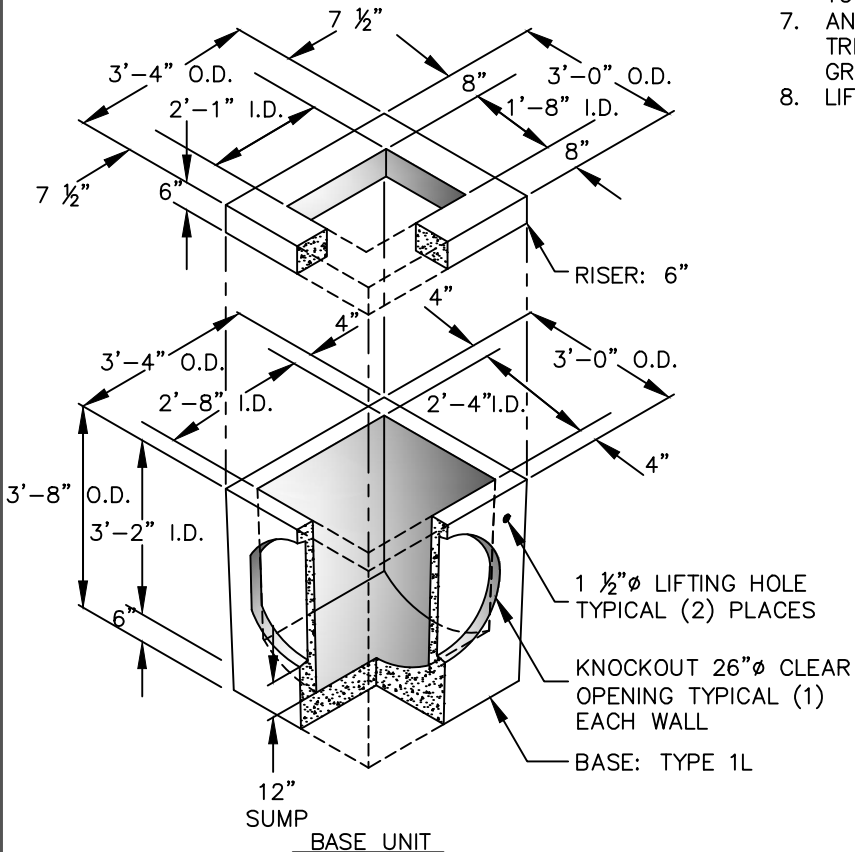


CONSTRUCTION NOTES:

1. IN OVER EXCAVATED AREAS PROVIDE SUPPORT FOR THE PIPE AS FOLLOWS: PLACE 3/4" MINUS CRUSHED ROCK OVER UNDISTURBED GROUND IN 6" LAYERS AND COMPACT.
2. BACKFILL MATERIAL BELOW & TO SIDE OF STRUCTURE SHALL BE ASTM D2321 CLASS I OR II CRUSHED STONE OR GRAVEL, PLACED UNIFORMLY. BACKFILL TO MEET WSDOT STANDARD SPECIFICATION SECTION 7-05 & AASHTO T-99 95% COMPACTION.
3. ALL DIMENSIONS SUBJECT TO ALLOWABLE SPECIFICATION TOLERANCES.
4. LATERALS WILL BE CONSTRUCTED TO ENTER THE STRUCTURE PERPENDICULAR TO THE WALL. THE LATERAL WILL ENTER ONLY AT THE LOCATION OF KNOCKOUT WITH NO LATERALS ALLOWED TO ENTER THE BASE AT THE CORNERS. IF NEEDED, A 45° BEND (MAX.) MAY BE USED WITHIN 5 FEET OF STRUCTURE.
5. INSTALL REMOVABLE OUTLET TRAP OR EQUAL PER STD. DETAIL ST-5.01.
6. THE MAX. DEPTH FROM THE FINISHED GRADE TO THE PIPE INVERT IS 5'-0".
7. ANY PROTRUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED TO THE SATISFACTION OF ENGINEER.
8. LIFT HOLES MUST BE GROUTED.

STRUCTURE NOTES:

1. STRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 & C890 UNLESS SHOWN ON PLANS OR NOTED IN WSDOT STANDARD SPECIFICATIONS.
2. BASE CONCRETE SHALL BE 3000 P.S.I., 2-4 IN. SLUMP. FLOW LINES AND INSIDE SURFACES SHALL BE TROWELED SMOOTH & UNIFORM AT TIME OF POUR.
3. CAST-IN-PLACE, MONOLITHIC BASE UNIT MAY BE SUBSTITUTED WITH SPECIFIC APPROVAL OF THE ENGINEER.
4. ALL JOINTS SHALL BE GROUTED WITH PORTLAND CEMENT CONCRETE GROUT & STRUCK EVEN WITH THE WALL. RISERS SHALL BE PREMOLDED.
5. ALL REINFORCED STEEL SHALL HAVE 1 1/2" CLEAR COVER UNLESS OTHERWISE NOTED, AND SHALL BE GRADE 60 (ASTM A615).
6. STEEL REINFORCED OR POLYPROPYLENE FIBER REINFORCED UNITS ARE ALLOWABLE.
7. BASE UNIT SHALL HAVE 12" SUMP BELOW INVERT OUT.



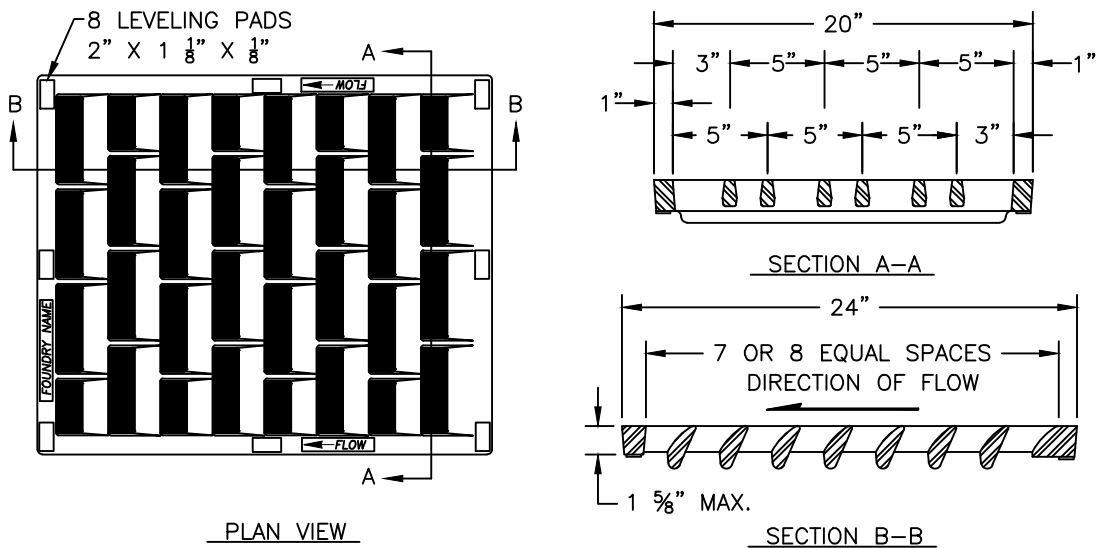
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DITCH INLET (TYPE 1L)

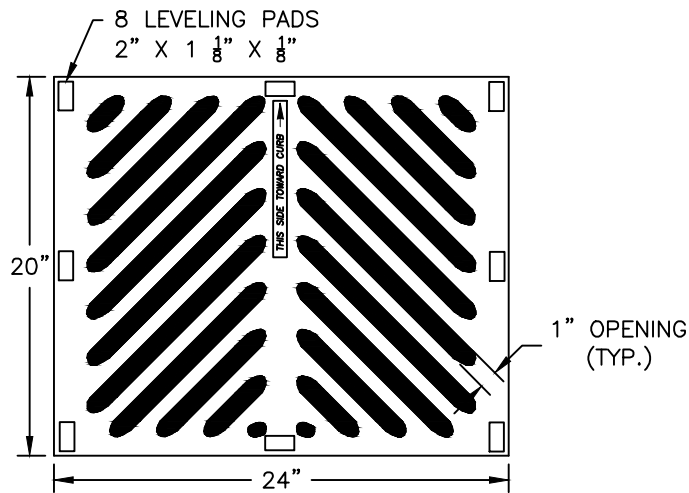
STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-4.0



VANED



HERRINGBONE

NOTES:

1. MATERIAL IS CAST IRON ASTM A48 CLASS 30.
2. USE VANED GRATE WHERE LONGITUDINAL SLOPE IS 4% OR GREATER.
3. USE HERRINGBONE GRATE WHERE LONGITUDINAL SLOPE IS LESS THAN 4%.
4. REFER TO WSDOT STANDARD SPECIFICATION SECTION 9-05.15(2) FOR ADDITIONAL REQUIREMENTS.
5. THE THICKNESS OF THE GRATE SHALL NOT EXCEED 1 $\frac{5}{8}$ ".

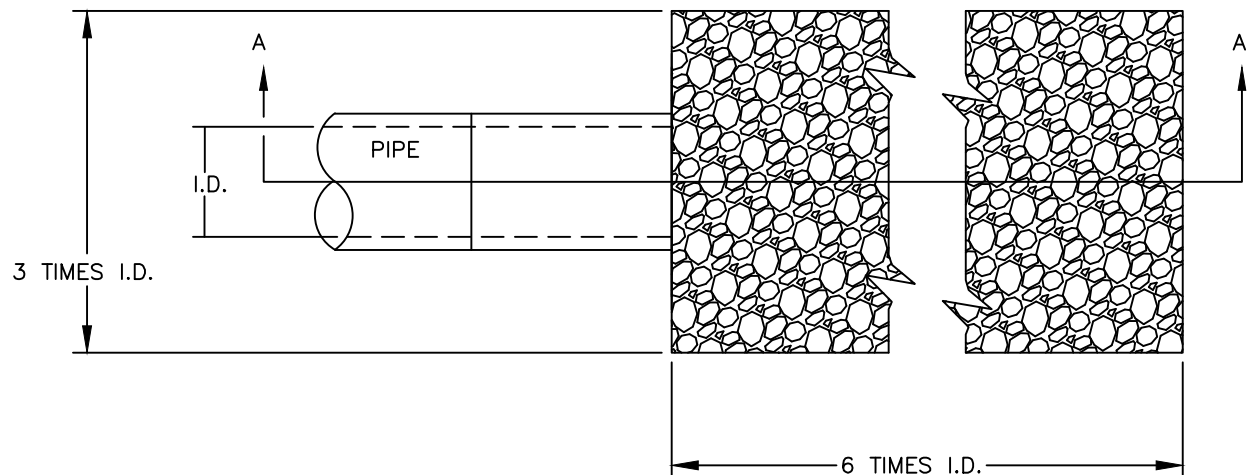
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STORM GRATES

STANDARD
DETAILS

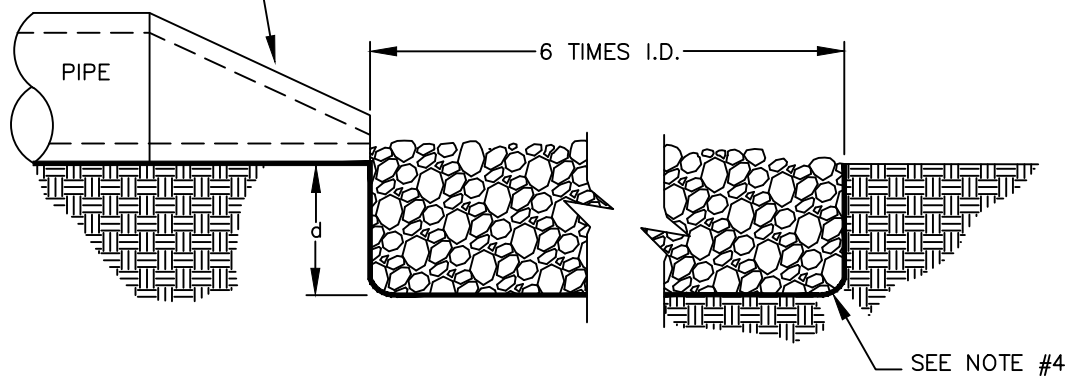
CITY OF RIDGEFIELD

SHEET
ST-5.1



PLAN VIEW

BEVELED END SECTION
PER RIDGEFIELD
STANDARD DETAIL
ST-6.1



SECTION 'A-A'

NOTES:

1. ROCK MATERIAL SHALL BE BETWEEN 3" AND 8" AND INSTALLED PER WSDOT STANDARD SPECIFICATION SECTION 9-13.1.
2. $d = 1.5$ TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 4.5".
3. IN A WELL-DEFINED CHANNEL EXTEND RIP-RAP UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. A FILTER BLANKET OR FILTER FABRIC SHALL BE INSTALLED BETWEEN THE RIP-RAP AND SOIL FOUNDATION.

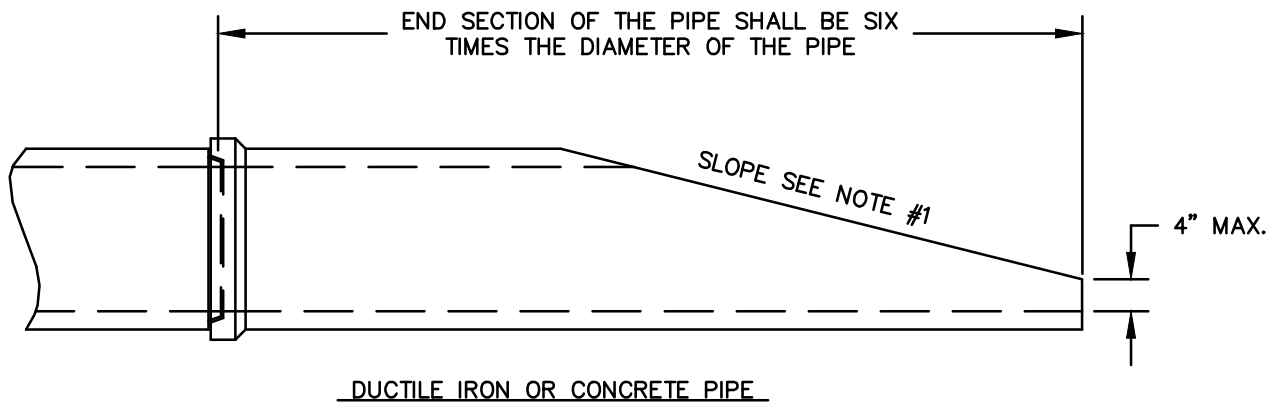
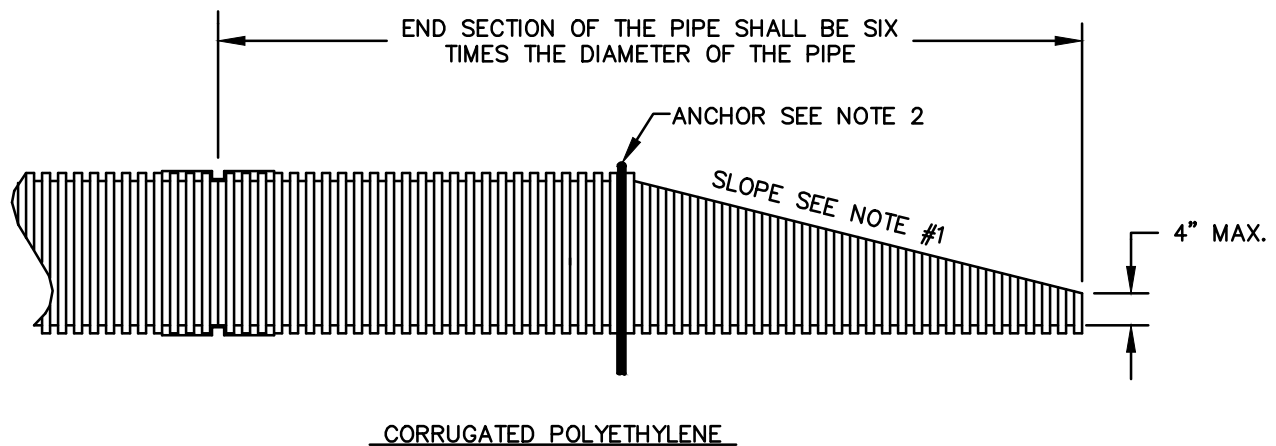
REV. 8/01/24 CPG

RIP-RAP

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-6.0



NOTES:

1. THE CULVERT ENDS SHALL BE BEVELED TO MATCH THE EMBANKMENT OR DITCH SLOPE, WITHOUT EXCEEDING THE LIMITS SHOWN ON THE PLAN. SLOPE FOR BEVELED END SECTION SHALL MATCH BANK SIDE SLOPE UP TO A MAX. OF 3:1.
2. THE END OF CORRUGATED POLYETHYLENE SHALL BE ANCHORED. SEE RIDGEFIELD STANDARD DETAIL ST-7.0.
3. FOR PIPES 15" OR LARGER, TRASH SCREEN REQUIRED. SEE RIDGEFIELD STANDARD DETAIL ST-6.2.

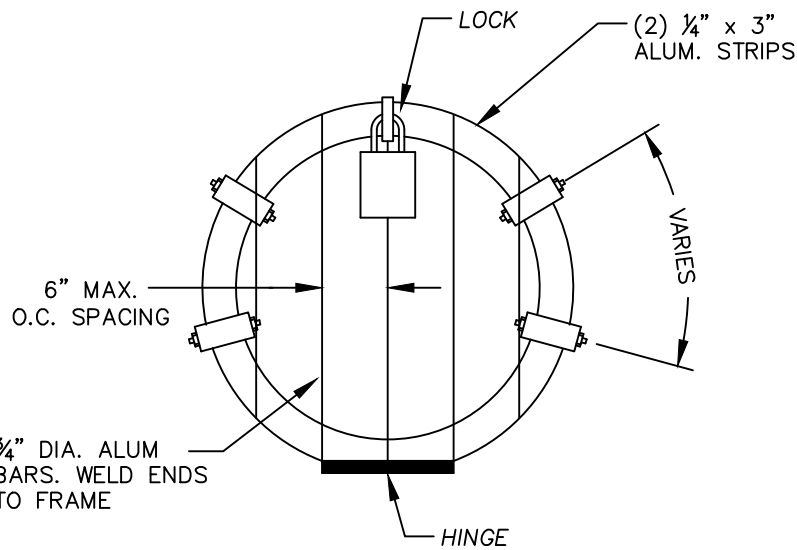
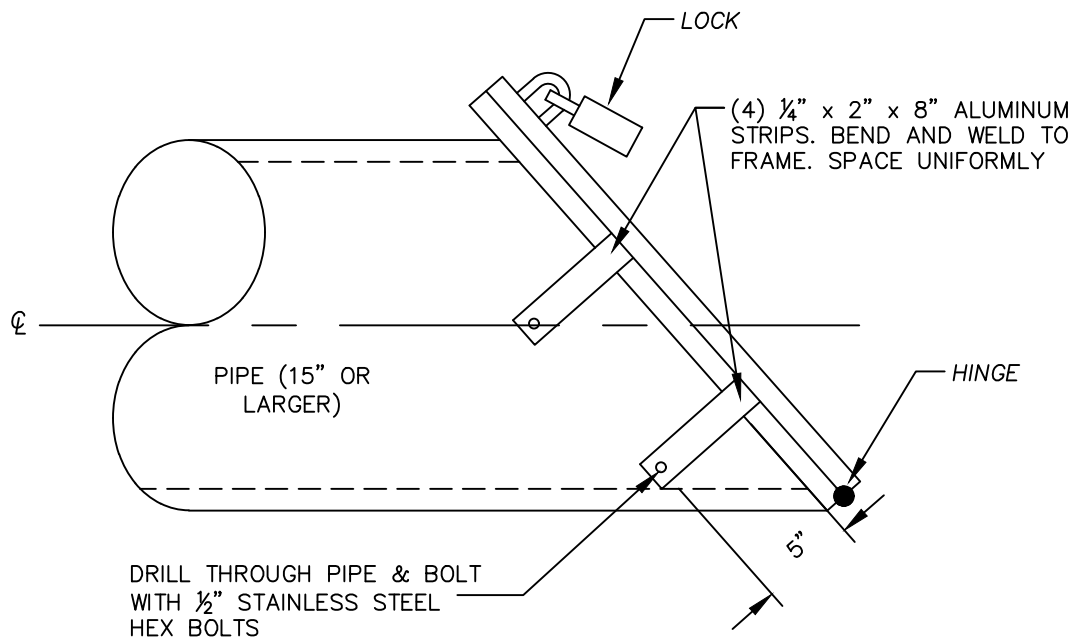
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BEVELED END SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-6.1



NOTES:

1. WELD ALL JOINTS.
2. SUBMITTAL SHOP DRAWING REQUIRED TO CITY INSPECTOR FOR REVIEW AND APPROVAL.
3. CONTRACTOR TO BE RESPONSIBLE FOR SUPPLYING LOCK. SPECIFICATIONS ON LOCK TO BE PROVIDED BY CITY INSPECTOR.

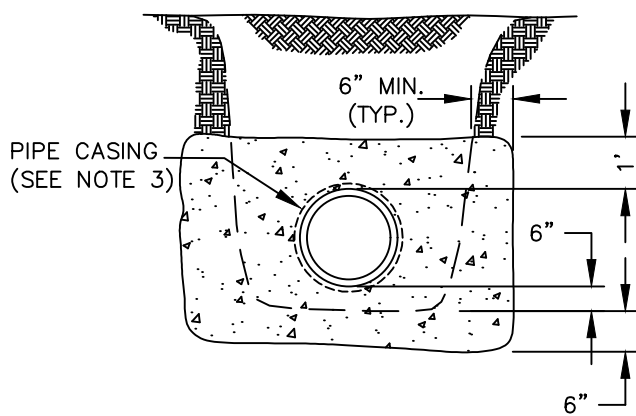
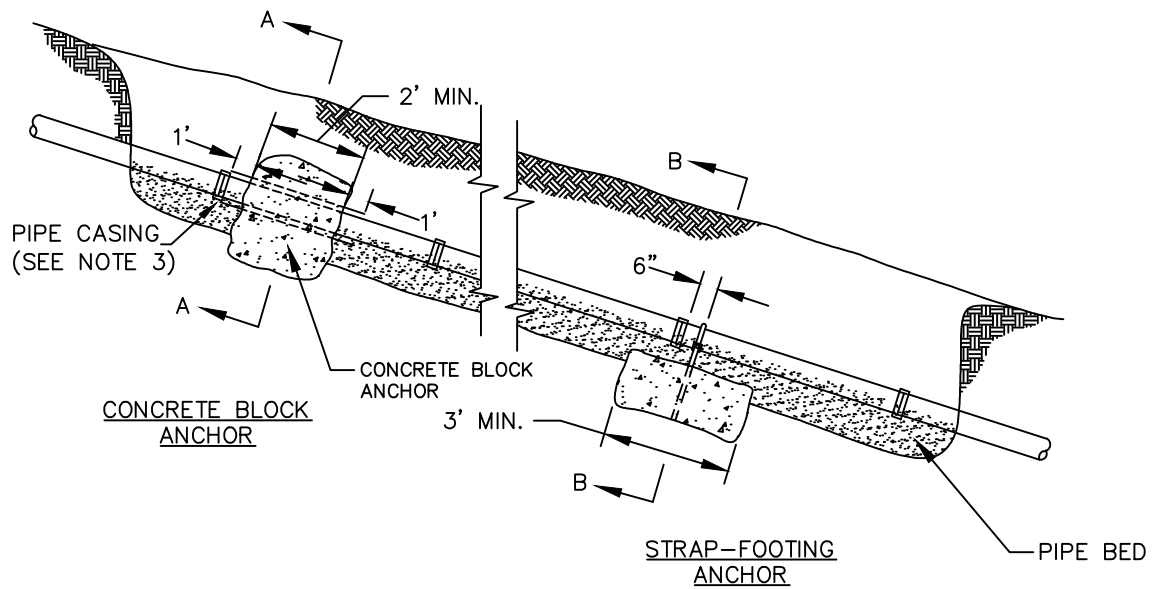
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TRASH SCREEN

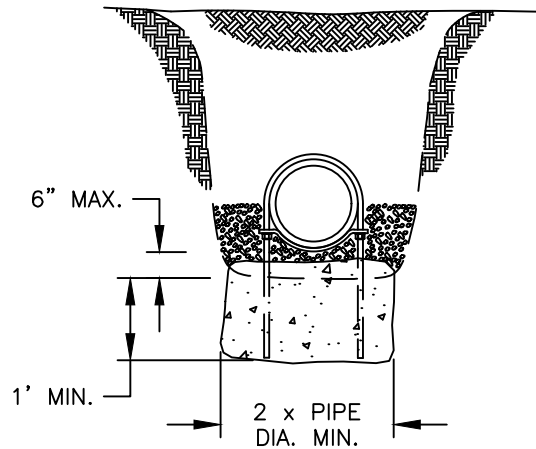
**STANDARD
DETAILS**

CITY OF RIDGEFIELD

**SHEET
ST-6.2**



SECTION A-A



SECTION B-B

NOTES:

1. CONCRETE SHALL BE 3000 PSI MIN. MEETING WSDOT STANDARD SPECIFICATION SECTION 6-02.3(2)B.
2. CONCRETE SHALL BE POURED AGAINST FORMS OR STABLE UNDISTURBED SOIL.
3. FOR HDPE, PIPE MUST BE FREE TO SLIDE INSIDE A 4' (MIN.) LONG SECTION OF PIPE ONE SIZE DIAMETER LARGER.
4. ANCHORS TO BE USED WHERE GRADE IS 20% OR GREATER. MINIMUM SPACING AS FOLLOWS:
 NOT OVER 36' CENTER TO CENTER ON GRADES OF 20% AND UP TO 35%
 NOT OVER 24' CENTER TO CENTER ON GRADES OF 35% AND UP TO 50%
 NOT OVER 16' CENTER TO CENTER ON GRADES OF 50% AND MORE

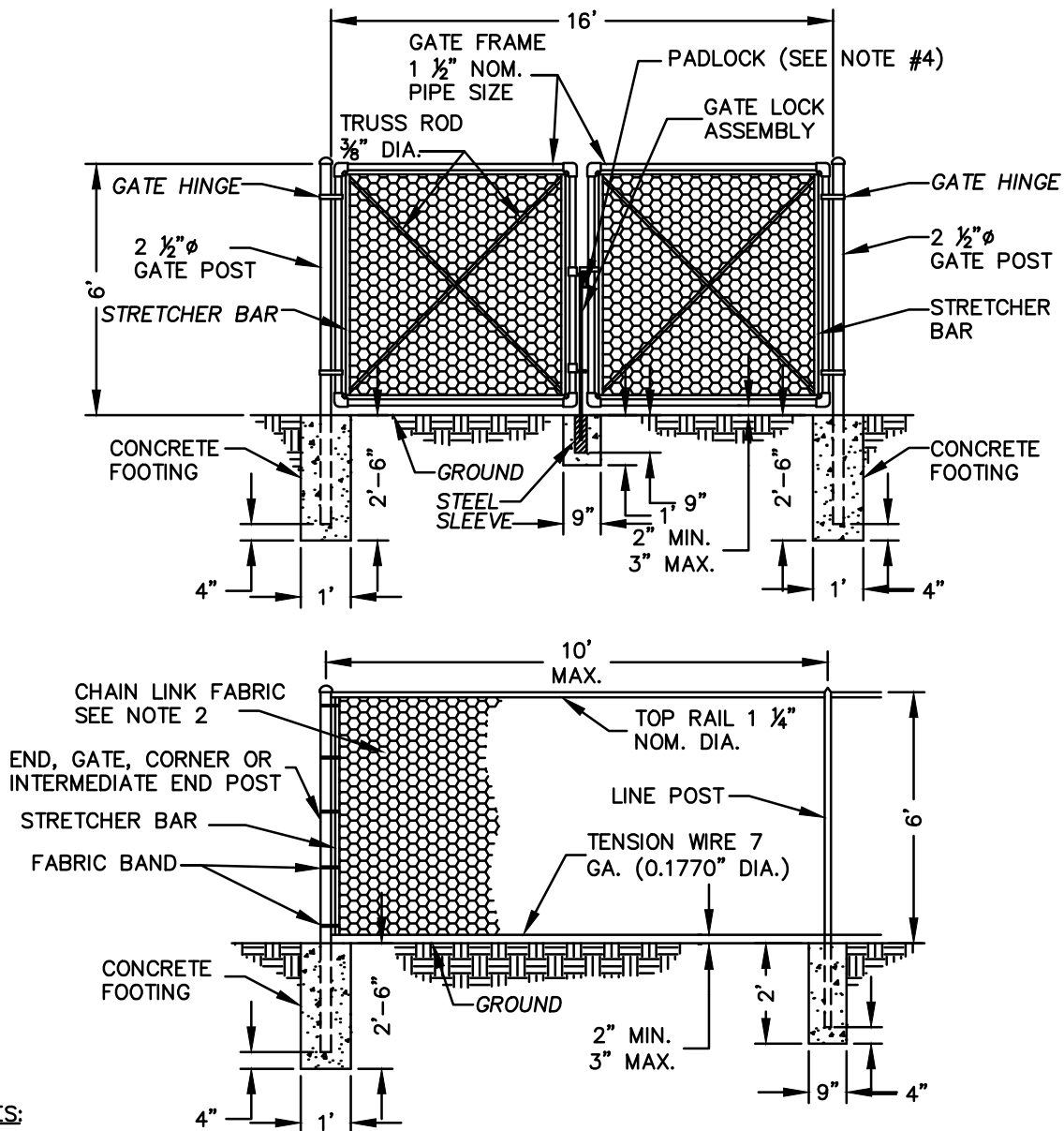
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PIPE ANCHOR

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-7.0



NOTES:

1. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
2. CHAIN LINK FENCE FABRIC TO MEET OR EXCEED REQUIREMENTS OF WSDOT STANDARD SPECIFICATION SECTION 9-16.1(1)A. CHAIN LINK FENCE FABRIC SHALL BE HOT DIP GALVANIZED WITH A MINIMUM OF 0.8 OUNCE PER SQUARE FOOT OF SURFACE AREA. FENCING MATERIALS SHALL BE COATED WITH AN ULTRAVIOLET INSENSITIVE PLASTIC OR OTHER INERT MATERIAL AT LEAST 2 MILS IN THICKNESS. ANY PRETREATED OR COATING SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. THE MANUFACTURER'S WRITTEN SPECIFICATIONS DETAILING THE PRODUCT AND METHOD OF FABRICATION SHALL BE PROVIDED TO CITY OF BATTLE GROUND PRIOR TO CONSTRUCTION.
3. FENCE SHALL BE BLACK VINYL COATED.
4. FENCE SHALL BE STRETCHED FROM CORNER POST TO CORNER POST. WRAPPING OF FENCE AROUND CORNER POST IS NOT PERMITTED.
5. CONTRACTOR TO BE RESPONSIBLE FOR SUPPLYING LOCK. SPECIFICATIONS ON LOCK TO BE PROVIDED BY CITY INSPECTOR.

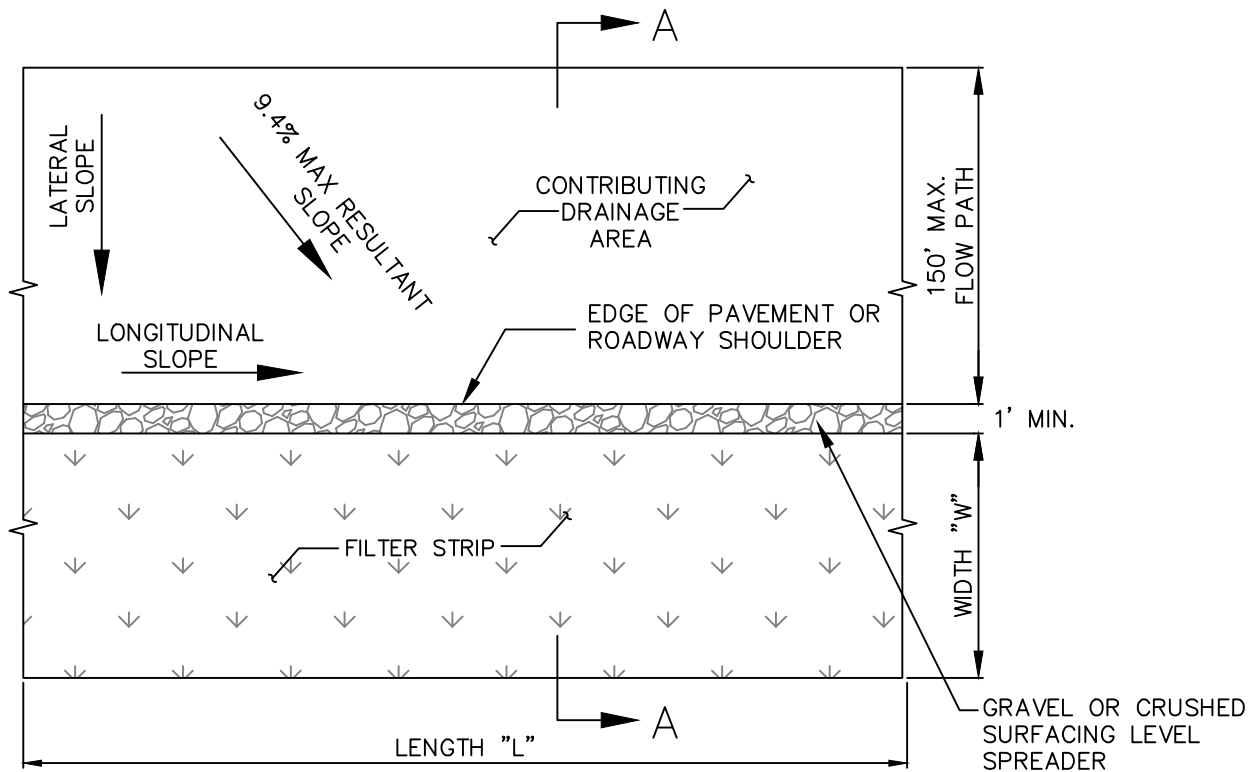
REV. 8/01/24 CPG

CHAIN LINK FENCE & GATE

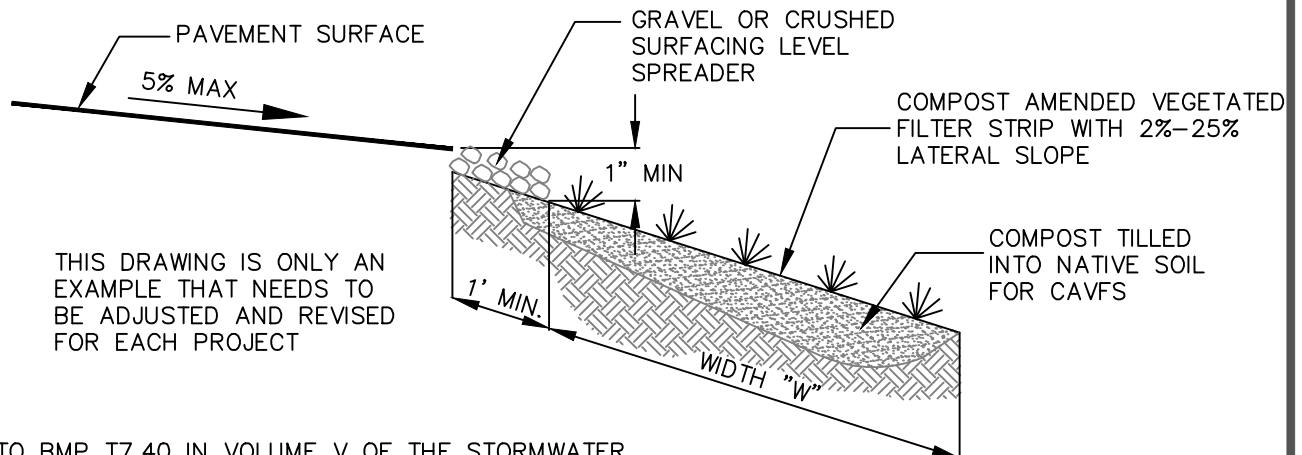
STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-8.0



PLAN



SECTION A-A

NOTE:

REFER TO BMP T7.40 IN VOLUME V OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON.

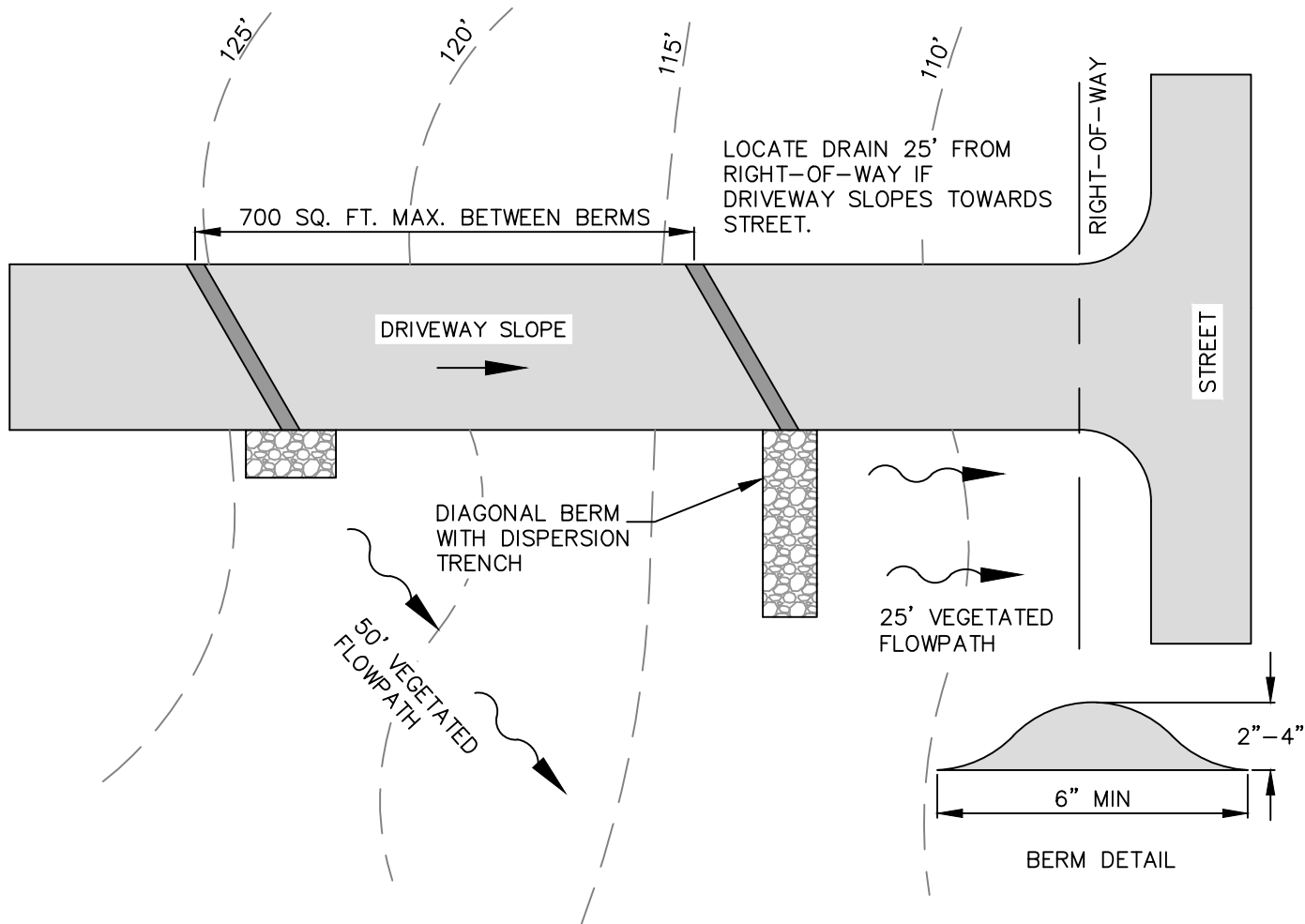
REV. 8/01/24 CPG

COMPOST AMENDED VEGETATED FILTER STRIP

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-10.0



STEEP DRIVEWAY WITH DIAGONAL BERMS

NOTE:

REFER TO BMP T5.11 IN VOLUME V OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.

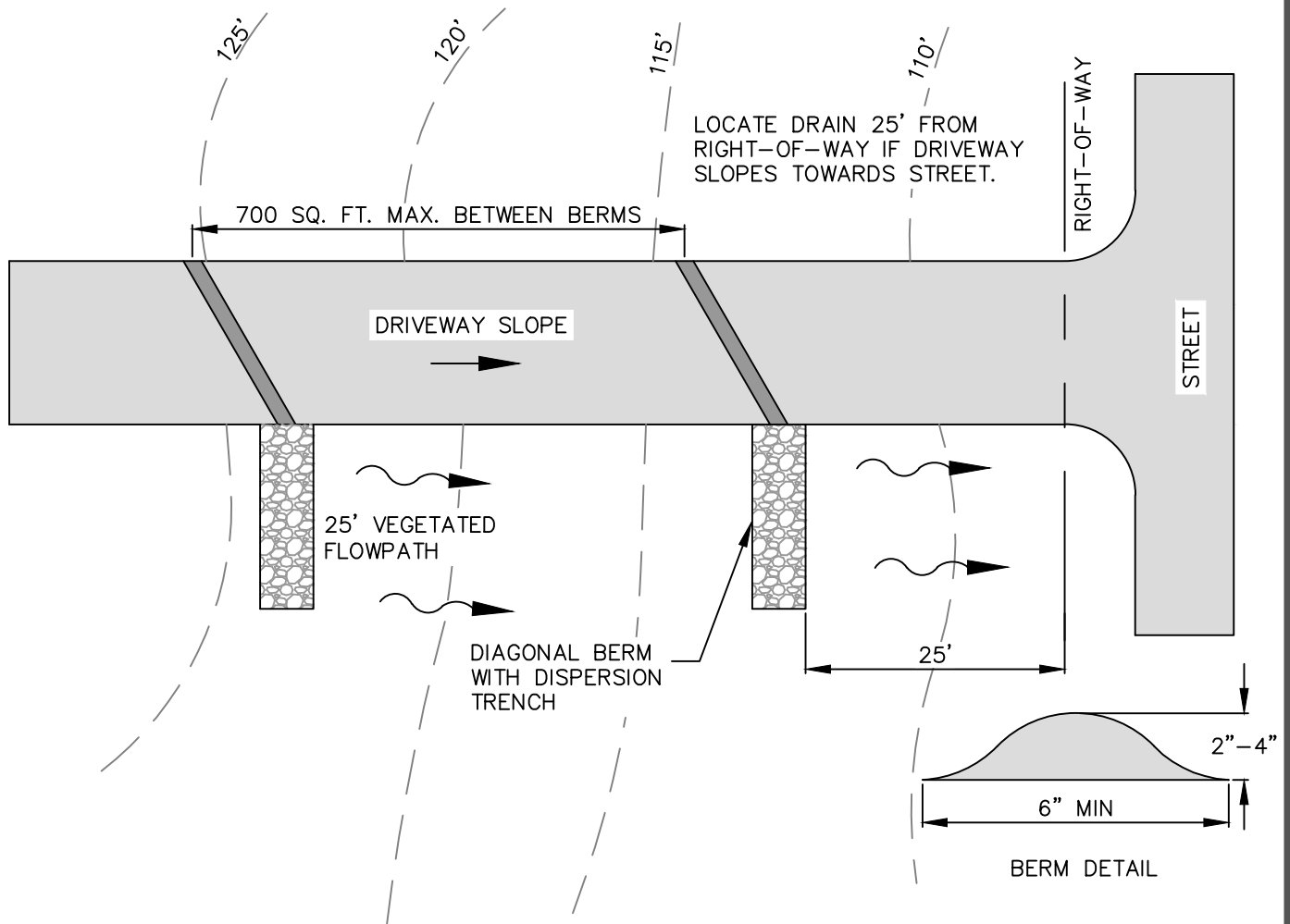
REV. 8/01/24 CPG

CONCENTRATED FLOW DISPERSION – DIAGONAL BERMS

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-10.1



SHEET FLOW DRIVEWAY DISPERSION TRENCH
DRIVEWAY SLOPE VARIES AND SLOPES TOWARDS STREET

NOTE:

REFER TO BMP T5.12 IN VOLUME V OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.

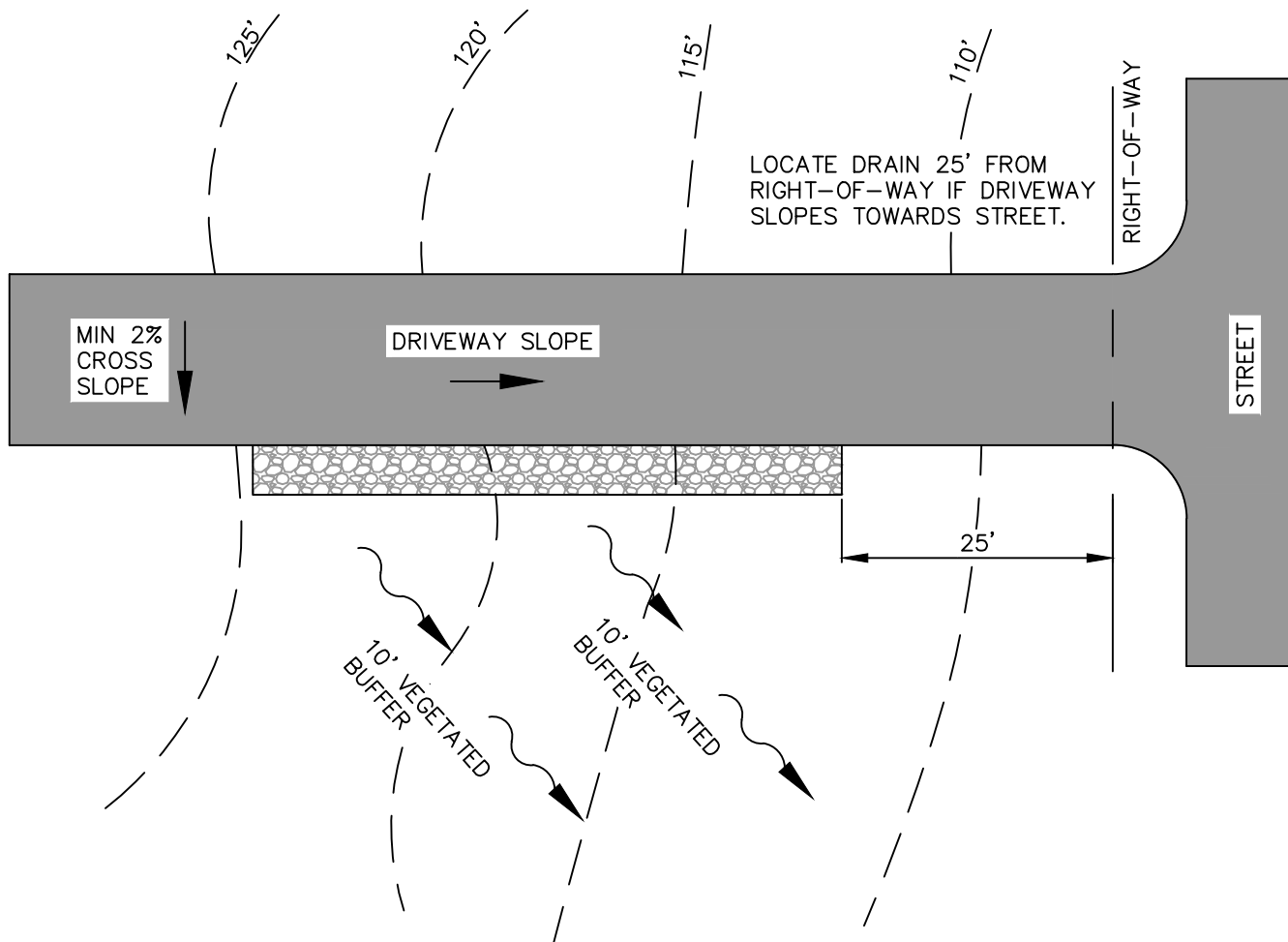
REV. 8/01/24 CPG

SHEET FLOW DISPERSION TRENCH

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-10.3



SHEET FLOW DISPERSION FROM A DRIVEWAY
FLAT TO MODERATELY SLOPING DRIVEWAYS

NOTE:

REFER TO BMP T5.12 IN VOLUME V OF THE STORMWATER
MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE
INFORMATION.

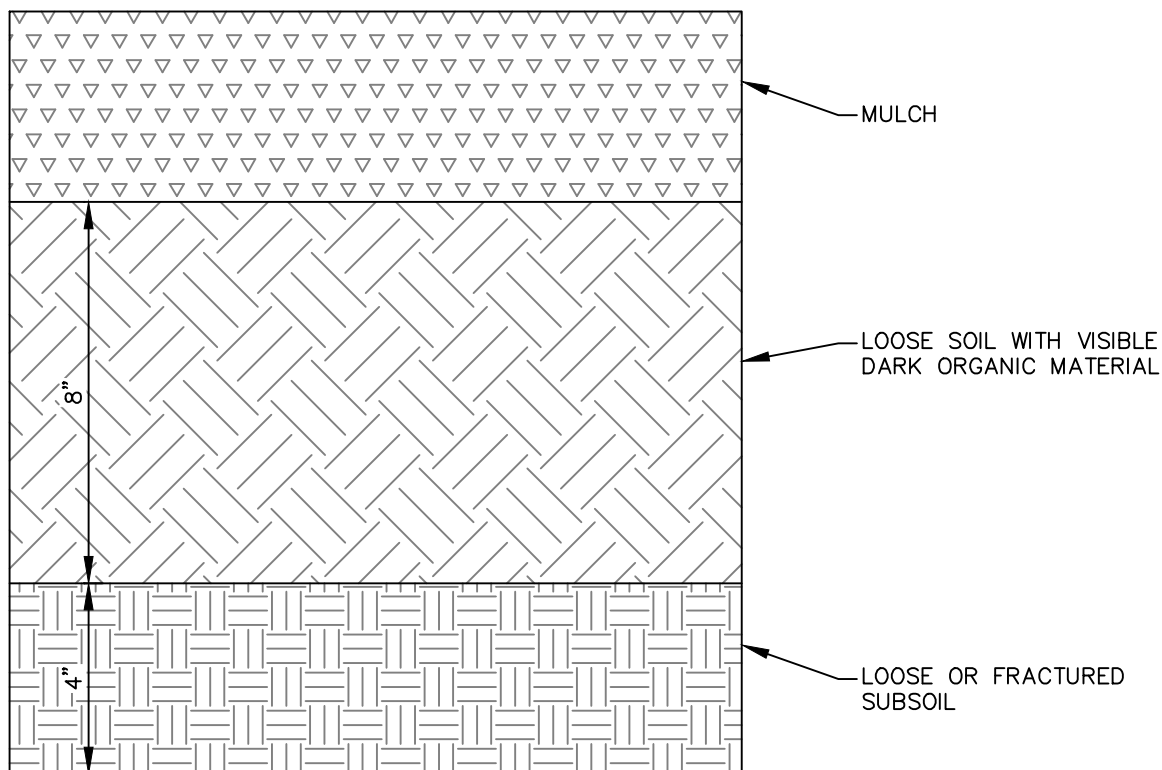
REV. 8/01/24 CPG

SHEET FLOW DISPERSION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-10.4



NOTE:

REFER TO BMP T5.13 IN VOLUME V OF THE STORMWATER
MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE
INFORMATION.

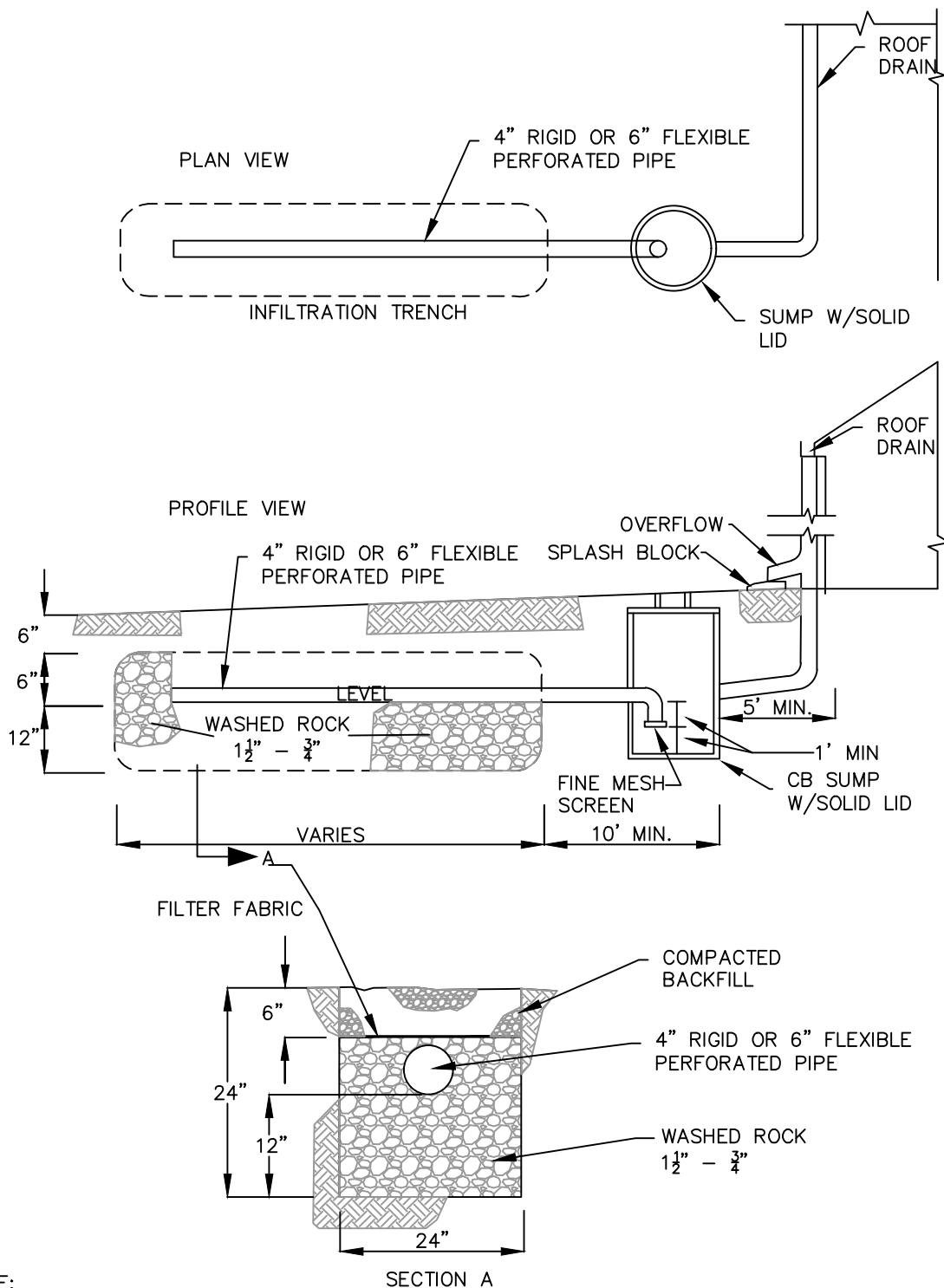
REV. 8/01/24 CPG

PLANTING BED CROSS-SECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-11.0



NOTE:

REFER TO BMP T5.10A IN VOLUME III OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.

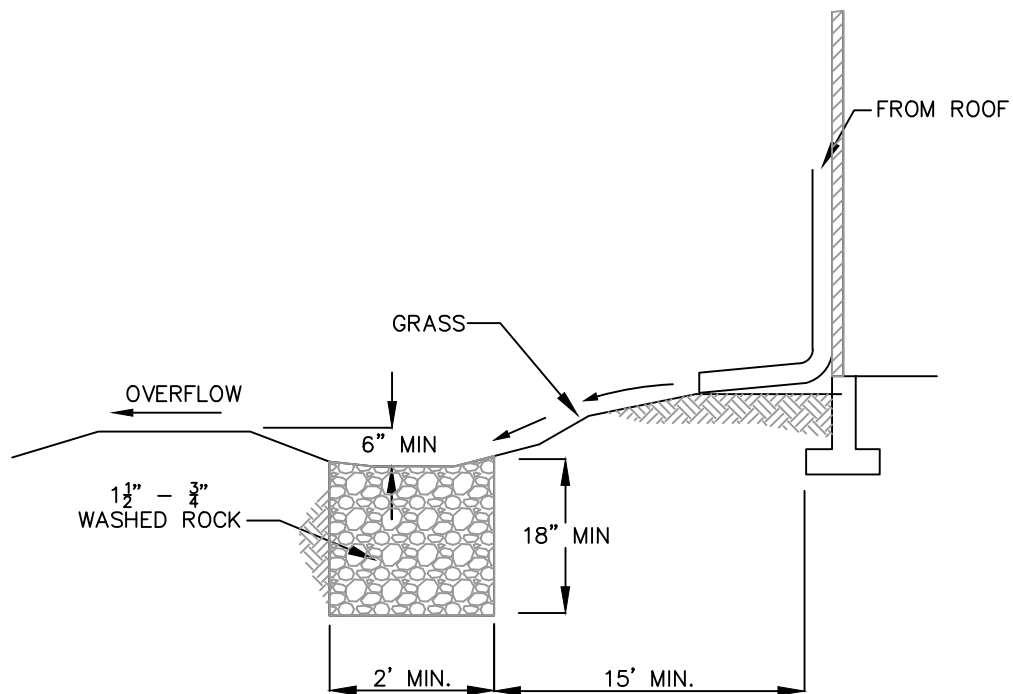
REV. 8/01/24 CPG

TYPICAL DOWNSPOUT INFILTRATION TRENCH

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-12.0



CROSS SECTION

NOTES:

1. SAME LENGTH DIMENSIONS AND SITE LIMITATION AS TYPICAL SYSTEM.
2. REFER TO BMP T5.10A IN VOLUME III OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.

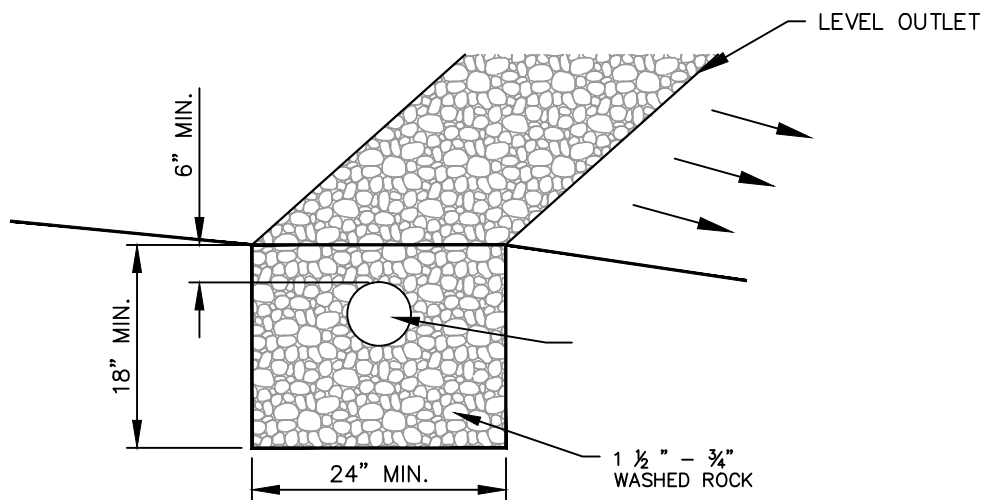
REV. 8/01/24 CPG

ALTERNATIVE DOWNSPOUT INFILTRATION TRENCH
SYSTEM FOR COURSE SAND AND GRAVEL

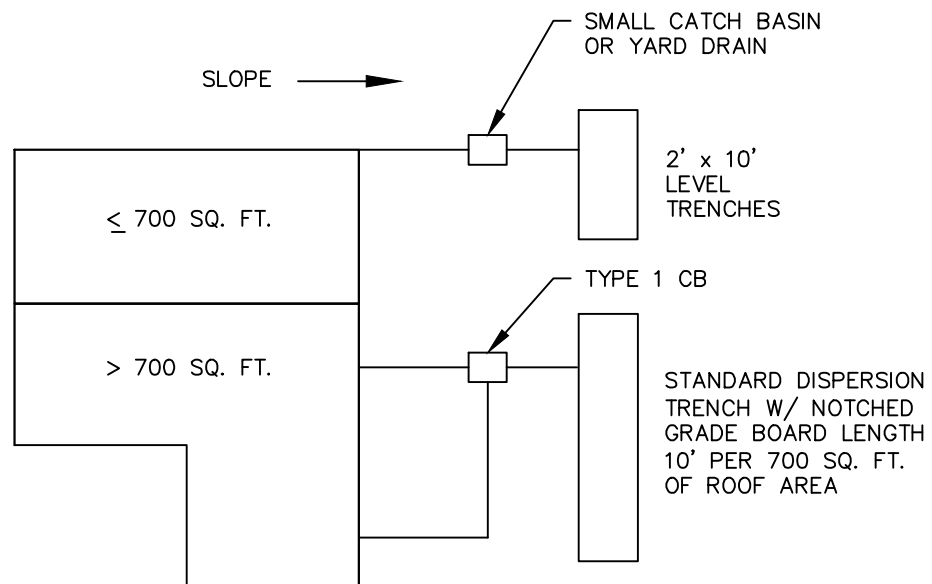
STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-12.1



TRENCH CROSS-SECTION



PLAN VIEW OF ROOF

NOTE:

REFER TO BMP T5.10B IN VOLUME III OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.

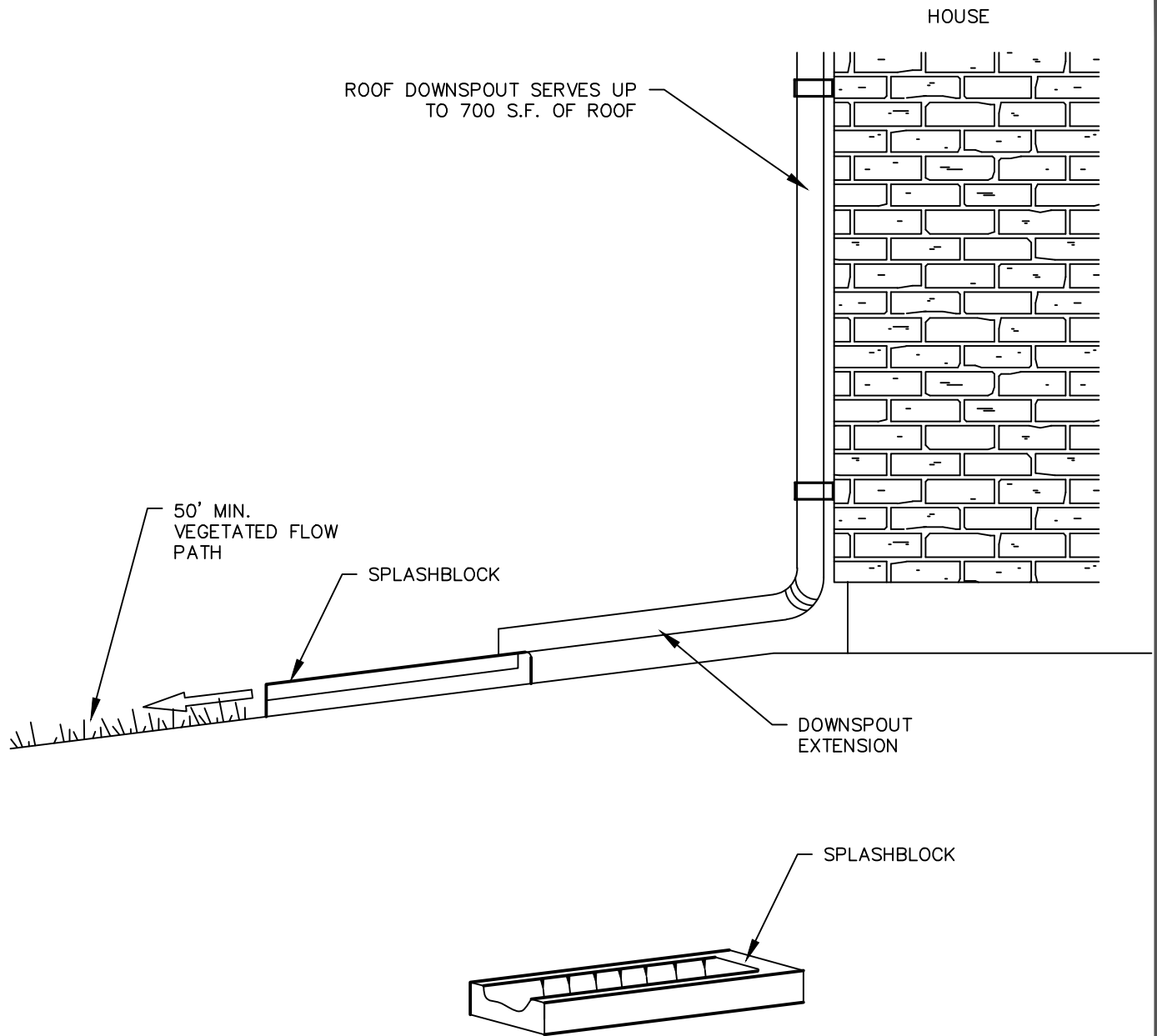
REV. 8/01/24 CPG

TYPICAL DOWNSPOUT DISPERSION TRENCH

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-12.2



NOTE:

REFER TO BMP T5.10B IN VOLUME III OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.

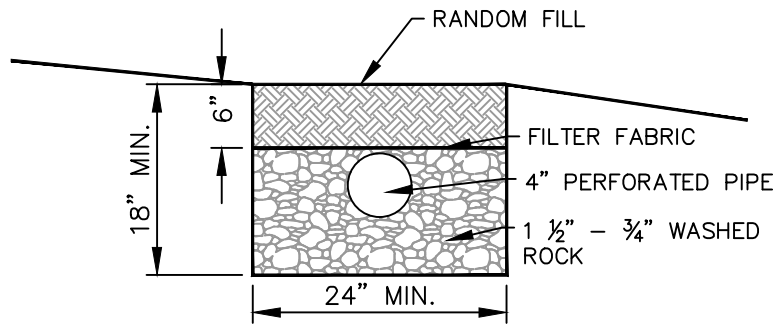
REV. 8/01/24 CPG

DOWNSPOUT SPLASHBLOCK DISPERSION

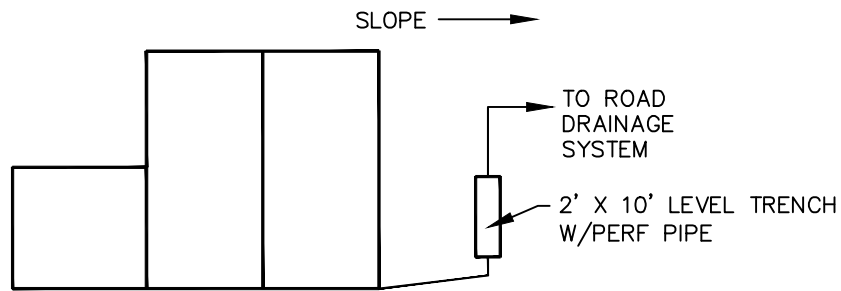
STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-12.3



TRENCH CROSS SECTION



PLAN VIEW OF ROOF

NOTE:

REFER TO BMP T5.10C IN VOLUME III OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON FOR MORE INFORMATION.

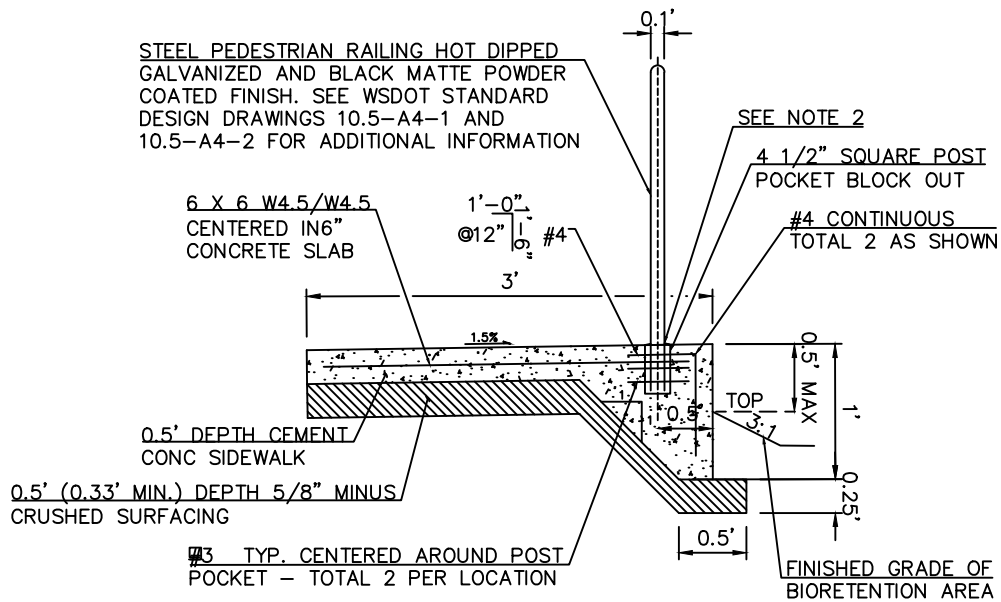
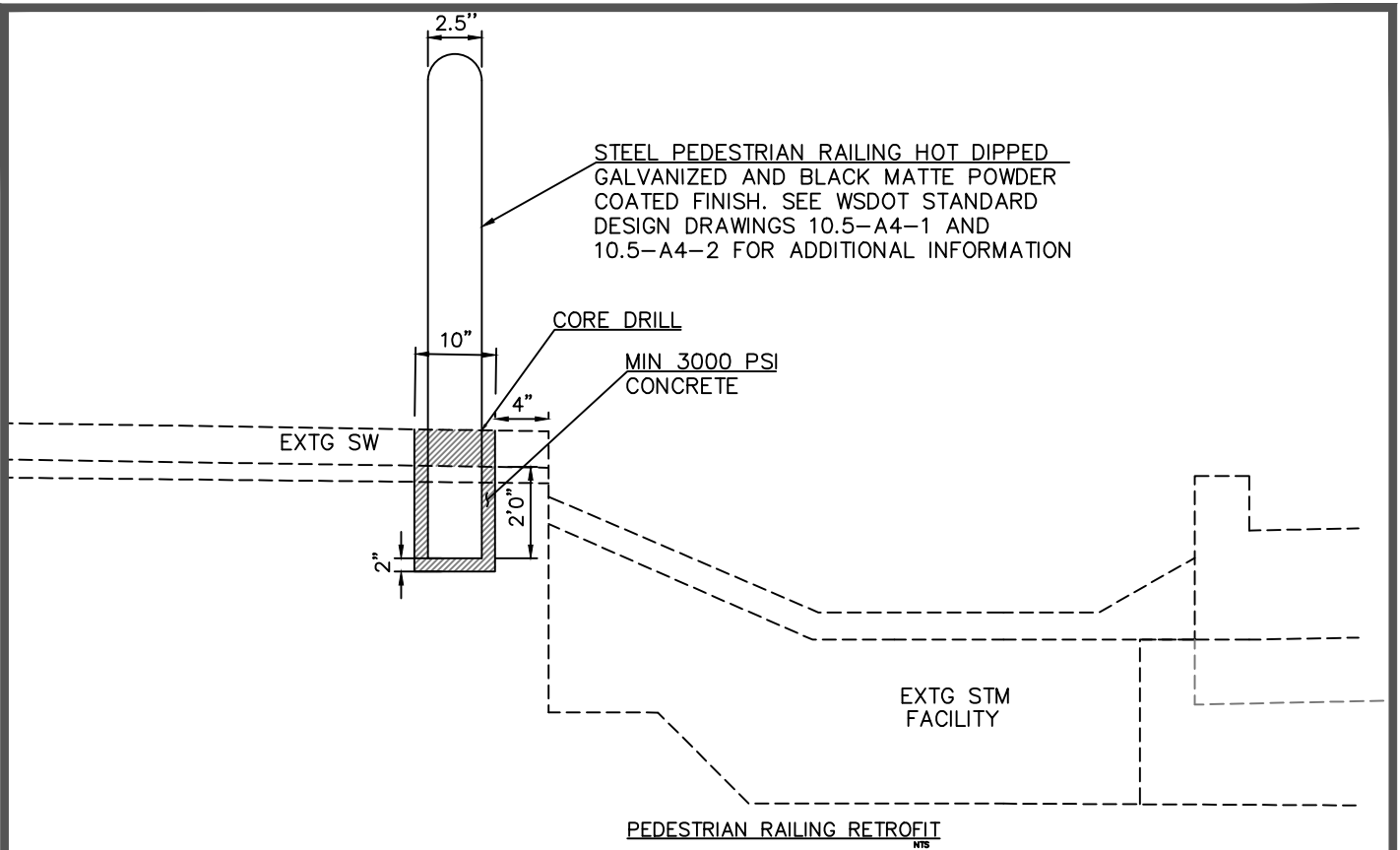
REV. 8/01/24 CPG

PERFORATED STUB-OUT CONNECTION

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST-12.4



- NOTES:
1. USE 2000 PSI MINIMUM STRENGTH LOW SHRINK GROUT TO FILL POST POCKETS. UNUSED POCKETS SHALL ALSO BE FILLED WITH THE SAME GROUT MATERIAL.
 2. PROVIDE 1/4" CROWN ABOVE TOP OF SIDEWALK WITH GROUT SURROUNDING RAILING POST AS SHOWN TO PREVENT PONDING.

THICKENED SIDEWALK
AT BIORETENTION

NTS

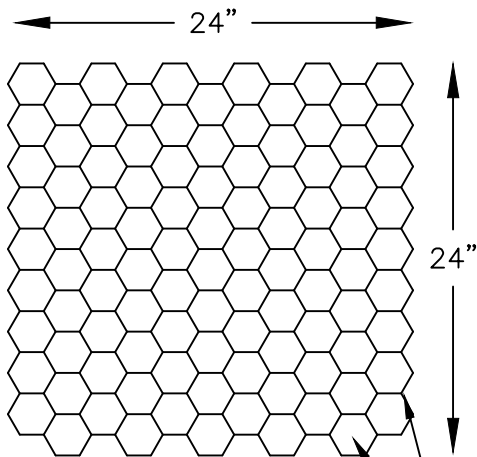
REV. 8/01/24 CPG

BIORETENTION RAILING DETAIL

STANDARD
DETAILS

CITY OF RIDGEFIELD

SHEET
ST - 13.0



PLAN VIEW

PRODUCT DESCRIPTION

PANEL SIZE: 24" X 24" X 1 1/2"
 CELLS PER PANEL: (120) 2-1/2"
 HEXAGONAL CELLS

NESTED HONEYCOMB CELL: 81,744 PSF
 LAYOUT COMPRESSIVE: 568 PSI
 STRENGTH: EXCEEDS H2O LOADING

SOIL SEPARATOR MAY BE REQUIRED ABOVE
 STONE BASE MATERIAL IF USING AGGREGATE
 WITH A HIGH VOID RATIO.

SNAP LATCHING SYSTEM

GRASS ROAD PAVER

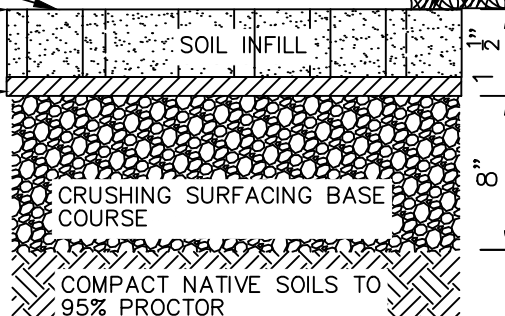
"SEED" PLANTING LEVELS

ADJOINING FINISH GRADE

GRASS ROAD PAVER

PAVER GRID WORK
 FINISH GRADE

NON-WOVEN
 GEOTEXTILE FABRIC



NOT TO SCALE

REV. 8/01/24 CPG

GRASS PAVER MAINTENANCE PULLOFF

STANDARD
 DETAILS

CITY OF RIDGEFIELD

SHEET
ST - 14.0

City of Ridgefield
Street Tree Selection

Minimum 4' Planting Strip Width

Call (360) 887-8251 for a site inspection before planting a street tree.
Updated 2015

Common Name	Scientific Name	Cultivar	Height (in FT)	Width (in FT)	Shape	Features/Considerations	Drought Tolerant	Overhead Utilities OK	Soil Type
Trident Maple	<i>Acer buergeranum</i>		25	20	round	red in fall	✓	✓	all
Hedge Maple	<i>Acer campestre</i>	Queen Elizabeth	30	30	rounded	low maintenance; yellow in fall	✓	✓	all
Rocky Mountain Glow Maple	<i>Acer grandidentatum</i>	Schmidt	25	15	oval	orange/red in fall	✓	✓	well drained
Paperbark Maple	<i>Acer griseum</i>		25	20	upright/round	peeling brown bark; red in fall	✓	✓	all
Henry Maple	<i>Acer henryi</i>		25	25	Broadly oval/round	Trifoliate, green with a bronze tint in spring; red in fall		✓	all
Pacific Sunset Maple	<i>Acer tuncatum x platanoides</i>	Warrenred	30	25	upright spreading	vigorous grower; yellow-orange to bright red in fall	✓		all
Spring Flurry Serviceberry	<i>Amelanchier laevis</i>	JFS-Arb	35	20	Upright oval	white flowers, edible fruit; strong central leader	✓		all
Autumn Brilliance Serviceberry	<i>Amelanchier x grandiflora</i>	Autumn Brilliance	20	15	upright, spreading	white flowers, edible fruit; red in fall		✓	all
Princess Diana Serviceberry	<i>Amelanchier x grandiflora</i>	Princess Diana	25	15	gracefully spreading	white flowers, edible fruit		✓	all
* American Hornbeam	<i>Carpinus caroliniana</i>		25	20	oval	smooth gray trunk; yellow to orange in fall		✓	all
Eastern Redbud	<i>Cercis canadensis</i>		25	35	horizontal	purple-pink flowers; yellow in fall		✓	all
Glorybower	<i>Clerodendrum trichotomum</i>		20	20	rounded	fragrant flowers in summer; blue berries in fall	✓	✓	all
June Snow Dogwood	<i>Cornus contorversa</i>	June Snow	30	40	layered/spreading	large white flowers; red fall color, fast growing			well drained
Eddie's White Wonder Dogwood	<i>Cornus</i>	Eddie's Wh. Wond.	25	20	upright/pyramidal	White flowers; red in fall; transplants readily		✓	all
Heart Throb Dogwood	<i>Cornus kousa</i>	Schmred	20	20	rounded	long lasting pink flowers; deep red fall color		✓	well drained
Celestial Dogwood	<i>Cornus kousa x florida</i>	Rutdan	20	20	upright spreading	disease resistant; white flowers		✓	all
Stellar Pink Dogwood	<i>Cornus kousa x florida</i>	Rutgan	20	20	upright spreading	disease resistant; pink flowers		✓	all
Venus Dogwood	<i>Cornus kousa x nutalli</i>	KN 30-8	25	20	Upright oval	very large white flowers; vigorous growth		✓	well drained
Thornless Cockspur Hawthorn	<i>Crataegus crus-galli</i>	Inermis	25	25	rounded	no thorns; orange fall color	✓	✓	all
Black Hawthorn	<i>Crataegus douglasii</i>		20	15	oval	native/wildlife, shade tolerant	✓	✓	all
Crimson Cloud Hawthorn	<i>Crataegus laevigata</i>	Crimson Cloud	25	18	shrubby/round	red flowers; fruit with star-shaped area in center	✓	✓	all
Washington Hawthorn	<i>Crataegus phaenopyrum</i>		25	20	oval/rounded	white flowers; red fruit; orange/red in fall	✓	✓	all
Lavalle Hawthorn	<i>Crataegus x lavaliei</i>		28	20	irregular/vase	white flowers; orange fruit		✓	all
Golden Desert Ash	<i>Fraxinus excelsior</i>	Aureafoia	20	20	rounded	golden twigs	✓	✓	all
Flowering Ash	<i>Fraxinus ornus</i>		30	15	pyramidal/round	yellow in fall	✓		all
* Goldenrain Tree	<i>Koelreuteria paniculata</i>		30	30	rounded	yellow floral clusters; summer flowering	✓	✓	all
* Amur Maackia	<i>Maackia amurensis</i>		25	20	vase	white flower clusters	✓	✓	all
Butterflies Magnolia	<i>Magnolia acuminata x denudata</i>	Butterflies	20	20	upright/pyramidal	showy yellow flowers		✓	well-drained
Edith Bogue Magnolia	<i>Magnolia grandiflora</i>	Edith Bogue	30	15	tightly pyramidal	broadleaf evergreen tree; large creamy white flowers			well drained
Galaxy Magnolia	<i>Magnolia liliflora x sprengeri</i>	Galaxy	30	15	pyramidal to oval	deciduous; strong central leader	✓		well drained
Merrill Magnolia	<i>Magnolia x loebneri</i>	Merrill	25	25	oval/rounded	white/pink flowers at early age			all
Golden Raindrops	<i>Malus spp.</i>	Golden Raindrops	20	15	vase	deep cut leaves; golden fruit	✓	✓	all
Prairiefire Crabapple	<i>Malus spp.</i>	Prairiefire	20	20	upright/rounded	disease resistant; pink flowers; red foliage	✓	✓	all
Robinson Crabapple	<i>Malus spp.</i>	Robinson	25	25	upright rounded	fast growing; pink flowers; red fruit	✓	✓	all
Sugar Tyme Crabapple	<i>Malus spp.</i>	Sutyzam	18	15	oval	pink buds; white flower	✓	✓	all
* Zumi Calocarpa Crabapple	<i>Malus x zumi</i>	Calocarpa	20	25	Rounded/spreading	disease resistant; white flowers; red fruit	✓	✓	all
Tschonoskii Crabapple	<i>Malus tschonoskii</i>		28	14	narrowly oval	white flowers; greenish fruit	✓	✓	all
American Hophornbeam	<i>Ostrya virginiana</i>		35	25	upright oval	hop-like fruit; yellow in fall	✓		all
Persian Parrotia	<i>Parrotia persica</i>		30	20	rounded	early flowers; mix of fall color			well drained
Thundercloud Plum	<i>Prunus cerasifera</i>	Thundercloud	20	20	upright/rounded	light pink flowers; purple leaves	✓	✓	all
Cascade Snow Cherry	<i>Prunus</i>	Berry	25	20	upright spreading	disease resistant; white flowers		✓	all
Snow Goose Cherry	<i>Prunus</i>	Snow Goose	20	20	upright/wide	disease resistant; white flowers; widens w/ age		✓	all
Capital Pear	<i>Pyrus calleryana</i>	Capital	35	12	columnar	white flowers; red in fall	✓		all
Redspire Pear	<i>Pyrus calleryana</i>	Redspire	35	25	pyramidal	white flowers; red in fall	✓		all
Cascara	<i>Rhamnus purshiana</i>		25	28	oval	native/wildlife; shade tolerant; yellow-purple in fall		✓	all
Japanese Stewartia	<i>Stewartia pseudocamellia</i>		30	20	pyramidal/oval	white flowers; peeling bark; avoid high heat/drought	✓	✓	moist acidic
* Japanese Snowbell	<i>Styrax japonicus</i>		25	25	rounded	bell shaped flowers; yellow in fall	✓	✓	well drained
* Ivory Silk Japanese Tree Lilac	<i>Syringa reticulata</i>	Ivory Silk	20	15	upright/rounded	creamy panicles; heavy flowering			all
Emerald Sunshine Elm	<i>Ulmus propinqua</i>	JFS-Bieberich	35	25	vase	fast growing; urban tolerant; yellow in fall	✓		all
* City Sprite Zelkova	<i>Zelkova serrata</i>	JFS-KW1	24	18	compact oval/vase	bright green foliage; low maintenance	✓	✓	all

* Also approved for planting strips 3.0-3.9' in width (based on City of Portland approved tree list)

City of Ridgefield Street Tree Selection

Minimum 6' Planting Strip Width

*Refer to 4' tree list for additional trees for use under power lines

Call (360) 887-8251 for a site inspection before planting a street tree.

Updated 2015

Common Name	Scientific Name	Cultivar	Height (in FT)	Width (in FT)	Shape	Features/Considerations	Drought Tolerant	Overhead Utilities OK*	Soil Type
Armstrong Maple	<i>Acer rubrum</i>	Armstrong	45	15	narrow	fast growing; yellow-orange in fall			all
Bowhall Maple	<i>Acer rubrum</i>	Bowhall	40	15	narrow	great fall color	✓		all
Redpointe Maple	<i>Acer rubrum</i>	Frank Jr.	45	30	broadly pyramidal	strong central leader; urban tolerant; bright red in fall	✓		all
October Glory Maple	<i>Acer rubrum</i>	October Glory	40	35	broadly oval	outstanding fall color; bright red	✓		all
Green Mountain Maple	<i>Acer saccharum</i>	Green Mountain	45	35	broadly oval	heat tolerant; reddish-orange fall color	✓		all
Norwegian Sunset Maple	<i>Acer truncatum x platanoides</i>	Keithsform	35	25	upright/oval	uniform canopy; orange/red in fall	✓		well drained
Red Horse Chestnut	<i>Aesculus x carnea</i>	Briotti	30	35	rounded	long rosy cluster; small variety; spiky nuts	✓		all
European Hornbeam	<i>Carpinus betulus</i>	Fastigiata	35	25	upright/oval	catkins turn brown in November; yellow in fall	✓		all
Japanese Hornbeam	<i>Carpinus japonicus</i>		30	25	rounded vase	white/yellow flowers; red in fall	✓	✓	all
Hackberry	<i>Celtis occidentalis</i>		45	35	broadly arching	very urban tolerant; rarely lifts sidewalks	✓		all
Katsura Tree	<i>Cercidiphyllum japonicum</i>		40	40	pyramidal/rounded	heart shaped leaves; red-orange in fall			all
Yellowwood	<i>Cladrastis kentukea</i>		30	40	round	fragrant summer flowers; yellow in fall	✓		all
Autumn Applause Ash	<i>Fraxinus americana</i>	Autumn Applause	40	25	oval	maroon fall color; colors early			all
Autumn Purple Ash	<i>Fraxinus americana</i>	Junginger	45	40	rounded	fall color varies from yellow orange to deep purple			all
Cimmaron Ash	<i>Fraxinus pennsylvanica</i>	Cimmzam	45	30	upright oval	excellent summer foilage; rusty red in fall	✓		all
Marshall Ash	<i>Fraxinus pennsylvanica</i>	Marshall	50	40	broadly oval	tough/adaptable; yellow in fall	✓		all
Summit Ash	<i>Fraxinus pennsylvanica</i>	Summit	45	25	narrowly oval	yellow in fall	✓		all
Autumn Gold Ginkgo	<i>Ginkgo biloba</i>	Autumn Gold	35	30	columnar	seedless male; yellow in fall	✓		all
Princeton Sentry Ginkgo	<i>Ginkgo biloba</i>	Princeton Sentry	40	15	columnar	seedless male; yellow in fall	✓		all
Skyline Honeylocust	<i>Gleditsia triacanthos</i>	Skycole	45	35	broadly pyramidal	tolerant of pollution; golden in fall	✓		all
Shademaster Honeylocust	<i>Gleditsia triacanthos</i>	Shademaster	45	35	vase	upright branching; yellow in fall	✓		all
Mountain Silverbells	<i>Halesia monticola</i>		40	25	conical/rounded	white bell shaped flowers; yellow fall color			all
Yulan Magnolia	<i>Magnolia denudata</i>		35	30	pyramidal	creamy flowers; use on non-windy site			all
Fruitless Mulberry	<i>Morus alba</i>	Kingens	35	40	rounded	fruitless	✓		all
Sour Gum / Black Tupelo	<i>Nyssa sylvatica</i>		35	20	pyramidal	red yellow in fall			all
Red Range Tupelo	<i>Nyssa sylvatica</i>	Haymanred	35	20	broadly pyramidal	glossy foliage resistant to leaf spot; bright red in fall	✓		all
European Hophornbeam	<i>Ostrya carpinifolia</i>		40	25	rounded	nutlets in hop-like bunches	✓		all
Macho Cork Tree	<i>Phellodendron amurense</i>	Macho	40	30	vase shaped	seedless; yellow in fall			all
Kwanzan Flowering Cherry	<i>Prunus serrulata</i>	Kwanzan	30	20	vase/rounded	pink, double flowers; hardiest <i>P. serrulata</i> ; orange in fall			all
Aristocrat Pear	<i>Pyrus calleryana</i>	Aristocrat	40	28	pyramidal	open formal appearance; red fall			all
Sawtooth Oak	<i>Quercus acutissima</i>		40	40	rounded	clean foliage; yellow/brown in fall			well drained
Forest Green Oak	<i>Quercus frainetto</i>	Schmidt	50	30	oval	strong central leader	✓		all
Crimean Linden	<i>Tilia x euchlora</i>		40	35	broadly pyramidal	glossy foliage; yellow in fall	✓		all
Redmond Linden	<i>Tilia americana x euchlora</i>	Redmond	35	25	densely pyramidal	rapid grower; develops caliper at a young age			all
Legend Linden	<i>Tilia americana</i>	DTR 123	40	30	broadly pyramidal	strong central leader; glossy leaves	✓		all
Greenspire Linden	<i>Tilia cordata</i>	Greenspire	40	30	pyramidal	strong/uniform; yellow in fall	✓		all
Sterling Silver Linden	<i>Tilia tomentosa</i>	Sterling	45	35	pyramidal	dark green/silver underside; fewer aphids	✓		all
Frontier Elm	<i>Ulmus</i>	Frontier	40	30	arching vase	disease resistant; fast grower; reddish-purple in fall	✓		all
Prospector Elm	<i>Ulmus wilsoniana</i>	Prospector	40	30	vase shaped	disease resistant; urban tolerant; yellow in fall	✓		all
Wireless Zelkova	<i>Zelkova serrata</i>	Schmidtlow	25	35	spreading vase	ideal for use under power lines	✓	✓	all
Village Green Zelkova	<i>Zelkova serrata</i>	Village Green	40	38	vase shaped	clean appearance; red in fall			all

City of Ridgefield Street Tree Selection

Minimum 8' Planting Strip Width

*Refer to 4' tree list for additional trees for use under power lines

Call (360) 887-8251 for a site inspection before planting a street tree.

Updated 2015

Common Name	Scientific Name	Cultivar	Height (in FT)	Width (in FT)	Shape	Features/Considerations	Drought Tolerant	Overhead Utilities OK*	Soil Type
Autumn Blaze Maple	<i>Acer x freemani</i>	Jeffersred	50	40	broadly oval	fast growing; brilliant long-lasting fall color	✓		all
State Street Maple	<i>Acer miyabei</i>	Morton	50	35	rounded	red in fall	✓		all
Crimson King Maple	<i>Acer platanoides</i>	Crimson King	40	35	oval/rounded	purple leaves; reddish bronze in fall			all
Emerald Queen Maple	<i>Acer platanoides</i>	Emerald Queen	50	40	oval/upright	tolerant of pollution			all
Summershade Maple	<i>Acer platanoides</i>	Summershade	42	40	broad/rounded	fast growing; yellow in fall			all
Spaethii Maple	<i>Acer pseudoplatanus</i>	Atropurpureum	40	30	oval/upright	green/purple leaves			all
Red Sunset Maple	<i>Acer rubrum</i>	Franksred	45	35	upright/oval	vigorous/symmetrical; orange/red in fall	✓		all
Schlesinger Maple	<i>Acer rubrum</i>	Schlesingeri	45	35	vase shaped	orange/red in fall	✓		all
Bonfire Maple	<i>Acer saccharum</i>	Bonfire	50	40	broadly oval	fast growing; orange-red in fall	✓		all
Commemoration Maple	<i>Acer saccharum</i>	Commemoration	50	35	oval/rounded	fast growing; develops good caliper as a young tree			all
Legacy Maple	<i>Acer saccharum</i>	Legacy	50	35	oval	glossy leaves; orange-red in fall	✓		all
Heritage River Birch	<i>Betula nigra</i>	Cully	40	30	broadly pyramidal	pinkish tan exfoliating bark; yellow in fall			all
Magnifica Hackberry	<i>Celtis</i>	Magnifica	50	40	broadly oval/vase	fast grower; good insect resistance; yellow in fall	✓		all
Hardy Rubber Tree	<i>Eucommia ulmoides</i>		55	45	conical/globose	yellowish in fall	✓		all
American Beech	<i>Fagus americana</i>		50	40	broadly oval	slow growing; striking grey bark	✓		all
European Beech	<i>Fagus sylvatica</i>		50	35	slightly rounded	leaves persistent through winter; striking bark			well drained
Fernleaf Beech	<i>Fagus sylvatica</i>	Asplenifolia	50	40	Broadly oval	dark green cutleaf foliage; golden brown in fall			well drained
Rivers Purple Beech	<i>Fagus sylvatica</i>	Riversii	50	40	broadly oval	deep purple foliage; striking grey bark			well drained
Oregon Ash	<i>Fraxinus latifolia</i>		50	30	upright oval	native tree; drought and flood tolerant	✓		all
Kentucky Coffeetree	<i>Gymnocladus dioicius</i>		65	50	ovate	bluish green leaflets; yellow in fall	✓		all
Rotundiloba Sweetgum	<i>Liquidambar styraciflua</i>	Rotundiloba	45	25	pyramidal	fruitless; unique rounded lobes; orange to purple in fall	✓		all
Tulip Tree	<i>Liriodendron tulipifera</i>		60	30	oval	yellow flowers; yellow in fall			all
Dawn Redwood	<i>Metasequoia glyptostoboides</i>		60	25	conical	fast growing; deciduous conifer; urban tolerant	✓		all
Bloodgood London Planetree	<i>Platanus x acerifolia</i>	Bloodgood	50	40	broadly pyramidal	exfoliating bark; somewhat disease resistant	✓		all
Swamp White Oak	<i>Quercus bicolor</i>		45	45	rounded	adapted to wet soils	✓		well drained
Scarlet Oak	<i>Quercus coccinea</i>		50	40	upright/oval	red in fall	✓		all
Oregon White Oak	<i>Quercus garryana</i>		65	50	oval	native; slow grower; yellow in fall	✓		all
Pin Oak	<i>Quercus palustris</i>		55	40	pyramidal	strong leader; retains leaves in winter; orange/red in fall	✓		well drained
Willow Oak	<i>Quercus phellos</i>		60	40	rounded/oval	very urban tolerant; transplants easily	✓		all
Shingle Oak	<i>Quercus imbricaria</i>		50	40	broadly oval	transplants readily; beautiful summer foliage	✓		well drained
Red Oak	<i>Quercus rubra</i>		50	45	rounded	fast growing/large; red in fall			well drained
Shumard Oak / Texas Red Oak	<i>Quercus shumardii</i>		50	40	upright/oval	red in fall	✓		well drained
Bald Cypress	<i>Taxodium distichum</i>		55	30	pyramidal/oval	deciduous conifer; wet/dry sites; urban tolerant	✓		all
Accolade Elm	<i>Ulmus</i>	Morton	70	60	arching vase	disease resistant; fast grower; graceful arching habit	✓		all
Homestead Elm	<i>Ulmus</i>	Homestead	50	35	arching vase	tolerant to urban conditions; fast grower; yellow in fall			all
Pioneer Elm	<i>Ulmus</i>	Pioneer	50	50	rounded	disease resistant; vigorous grower	✓		all
Triumph Elm	<i>Ulmus</i>	Morton Glossy	55	45	upright oval/vase	disease resistant; glossy green foliage	✓		all
Valley Forge Elm	<i>Ulmus americana</i>	Valley Forge	70	70	broad vase	disease resistant; traditional American Elm form	✓		all
Green Vase Zelkova	<i>Zelkova serrata</i>	Green Vase	50	40	vase shaped	clean appearance; red in fall	✓		all

ENGINEERING STANDARDS FOR PUBLIC WORKS CONSTRUCTION



APPENDIX B

Construction Checklists

City of Ridgefield
Preconstruction Conference Checklist

Project Name:

Contractor*:

WA State Contractor License #*:

City of Ridgefield Business

License Endorsement from WSDOR*:

Date:

Time:

Meeting Location: PW Building
487 S 56th Place
Ridgefield, WA 98642

Introduction

City of Ridgefield
PO Box 608
Ridgefield, WA 98642

Development Review Coordinator

Development Inspector

Building Official

General

- ☐ Introductions
- ☐ Attendance Sign-off Sheet
- ☐ Printed Plans 22" x 34", or 24" x 36"

*Notify Permitting

Contact List

Developer

Name:

Phone:

Engineer

Name:

Phone:

Project Manager

Name:

Phone:

Superintendent

Name:

Phone:

Traffic Control Supervisor

Name:

Erosion and Sediment Control Lead

Name:

Phone:

Project Surveyor

Name:

Phone:

Geotech

Name:

Phone:

Foreman

Name:

Phone:

Emergency Contact

Name:

Phone:

Starting Date:

Project Duration:

City of Ridgefield Engineering Standards

All work must conform to the *City of Ridgefield Engineering Standards for Public Works Construction, Volume II*. A copy is available on the City website or can be emailed to you upon request.

Hours of Work

- ❑ The hours of construction work including time to warm up equipment shall be confined to the period of 7:00 A.M. to 10:00 P.M, Monday through Friday. 9:00 AM to 6:00 PM weekends and holidays. Work outside these hours will only be allowed with written permission from the City.

Contact

- ❑ City of Ridgefield
 - Development Review Coordinator
 - City Inspector
 - Building Department

Utilities

- ❑ Location of utilities requested (NW Utility Notification Center: 1-800-424-5555)
- ❑ Any utility concerns/conflict? If so, explain.
- ❑ Underground services must be located before excavation.

Water:

- ❑ Water lines must be tested and disinfected prior to connection to the City water system. Notify the City for inspections.
- ❑ Fire Flow Testing will be required, if applicable.
- ❑ If water is needed before meters are installed, hydrant meter is required. Backflow devices are required when using hydrant meter (air gap is allowed).
- ❑ Shoring required when water tie-ins are 4 feet, or deeper.
- ❑ Meter Setters: Installed level, no twists, and gasket faces need to line up. Top of setter should be 9-12" from bottom of lid.

- ❑ Toning wire should be brought up to caps of fire hydrants.
- ❑ Hydrants should sit 2-6" above cement pad. No troughs around bottom of bolts or mounding cement.
- ❑ Combination air release valve shut-off needs to be accessible by reaching in. Should not need to fully enter the space.
- ❑ Watch compaction around Raven meter boxes. Do not allow the sides to bow in.
- ❑ Valve Cans:
 - Vac'd out - no rocks.
 - Toning wire on the outside of the sleeve and accessible from the valve can.
 - Extensions required if over 4' deep.

Stormwater:

- ❑ Vac catch basins and manholes before final inspection.
- ❑ Flush mains before final inspection
- ❑ Establish vegetation and plantings in Stormwater Facilities before pre-pave inspection.
- ❑ Fencing around stormwater facilities complete before final inspection.

Street Clean Up

- ❑ All existing roads shall be cleaned and debris removed at the end of each work day.
- ❑ Mud and dust shall be controlled.
- ❑ Trench cover plates shall be ramped and pinned.
- ❑ All erosion and sediment control shall be provided in accordance with the approved erosion control plan.
- ❑ Erosion control measures must be in place prior to disturbing ground.

Traffic Control

- ❑ Email traffic@ridgefieldwa.us at least 48 hours prior to any traffic disruptions.

- ☐ Emergency services must be notified at least 48 hours prior to a lane closure or other traffic delay.
- ☐ Flaggers must be certified with flagger card on them:
 - Flaggers should use standard paddle and vest.
- ☐ All necessary agencies have been given advanced notice of anticipated scope of work and construction schedule.

Soil Testing Requirements

- ☐ The Contractor shall have an approved testing laboratory perform compaction tests on all bedding and backfill. Proctors used for materials test shall be less than two months' old.
- ☐ All compaction results shall be supplied to the Development Review Coordinator.

Submittals Required

- ☐ Project Schedule, including weekly updates
- ☐ Site Safety Plan
- ☐ Confined Space Entry Plan
- ☐ Encroachment Permit:
 - Traffic Control Plan

Pipe Installation

- ☐ Standard details sheets G-1.2 and G-1.3;
- ☐ Section 7-08 WSDOT Standard specifications;
- ☐ First section of pipe (not less than 100 ft) witnessed by City inspector;
- ☐ Installed pipe not subject to construction traffic until minimum of 2 ft of backfill covers pipe regardless of material or size;
- ☐ Tracer wire installed with all pipe sections with manufactured connection unless exempted by City Engineer or Development Inspector (Pro-Trace);
- ☐ Pipe less than 3 feet of cover on approved plans? Yes / No
 - If yes, where at? _____

- ☐ Pipe greater than 20 feet deep? Yes / No
 - ☐ If yes, where at? _____
- ☐ Bed and Backfill in accordance with Section 7-9 of the WSDOT Standard Specifications:
 - ☐ Bedding – 90% of max theoretical density measured by proctor method
 - ☐ Backfill – 95% of max dry density measured by proctor method

Manholes

- ☐ Constructed to finished grade
- ☐ Locking manhole covers in easements and outside public right of way
- ☐ Pipe connections to manholes made with gasketed boot connections (Kor-N-Seal boot)
- ☐
- ☐ closure collars provided around all manhole adjustment sections
- ☐ Terminal manholes not channeled
- ☐ Slope manhole base for positive drainage toward pipe (3000 psi cement concrete)
- ☐ Channels centered in manhole
- ☐ Ladder rungs on side of manhole with largest shelf
- ☐ Any manhole less than 5 feet deep shall be provided without a cone. All others provided with eccentric cone
- ☐ Connection to existing manhole shall be core drilled for connection
- ☐ Connection to existing manhole requires ¼ inch mesh screen in the downstream line

Testing

- ☐ The designated Inspector will monitor work, progress, and performance of testing results

- ❑ The Development Review Coordinator will maintain a file containing the results of material tests, compaction test, and soil analysis
- ❑ Compaction testing shall be performed by certified independent testing laboratory with results being supplied to Development Review Coordinator
- ❑ The developer or contractor shall hire and pay for testing
- ❑ Compaction test shall be performed in 2 foot increment max
- ❑ Asphalt testing
 - Compaction shall be 91%
 - Public Streets – one test every 5000 sq ft
 - Surface restoration of utility trenches – one test every 200 ft of trench
- ❑ Subgrade and Crushed Surface Testing
 - One subgrade test and one crushed surfacing test every 5000 sq ft
- ❑ Bedding and Backfill for Utility Trenches
 - One test at bottom of trench excavation prior to placement of pipe or bedding for every 500 feet of trench, whichever is less
 - One test at top of bedding for each pipe or every 500 feet of trench, whichever is less
 - One test for each lift of backfill for each pipe run or every 500 feet of trench, whichever is less
- ❑ Embankment
 - Under pavement, curb, or sidewalk – one test every 100 cubic yards of fill material or every 5000 square feet of pavement or sidewalk, whichever is less
 - Outside limits of pavement, curb, or sidewalk – one test for every 2 feet of fill material placed or per Geotech recommendation
- ❑ New waterline piping shall not be connected to existing systems until all pressure testing and disinfection has been completed
- ❑ Hydrostatic tests

- Pressure and leakage tests on all newly laid pipe
- City inspector shall witness the test
- Pressure testing against valves not allowed unless approved by the city engineer
- All waterlines subject to pass a pressure test prior to sterilization
- The Contractor shall hire an independent laboratory to collect and analyze water samples for presence of bacteria. Results given to inspector upon completion
- All backflow prevention assemblies must be tested upon installation. Results shall be received by City prior to issuance of “final occupancy”

General Construction Discussion

- Contractor to explain how they plan to pursue work
- Review of anticipated construction problems
- Project schedule

Other Items?



THE CITY OF RIDGEFIELD

230 Pioneer Street | P.O. Box 608 | Ridgefield, WA 98642

REQUIRED PUBLIC WORKS DEVELOPMENT INSPECTIONS:

1. Initial Erosion Control (prior to any grading work)
2. Continuous Utility Pipe Inspections:
 - a. Stormwater Main and Lateral Installation and Backfill (2 business days' notice)
 - b. Water Main and Services Installation and Backfill (2 business days' notice)
 - c. Sanitary Sewer Main and Lateral Backfill - Contact CRWWD
3. Street subgrade proof roll
4. Curb Line and street base rock proof roll
5. A Pre-Pave Storm meeting is available upon request
6. Pre-Asphalt Paving Inspection:
 - a. Functioning stormwater system
 - b. Established vegetation/plants in stormwater facilities prior to pre-pave inspection
 - c. Storm and Water Tone Testing
 - d. Waterline pressure testing
 - e. Waterline disinfection and bacteria testing (send clear test results)
 - f. Schedule Water tie-in into the existing water main (remove debris in water valve cans)
 - g. Storm main TV
 - h. Storm Mandrel testing
 - i. Trench, Subgrade, and Base Rock Compaction Reports
 - j. Utility As-Builts
7. Asphalt paving inspection
8. Streetlight base forms and rebar inspection
9. ADA ramp forms inspection prior to concrete placement
10. Joint to joint removal to repour for driveways. No exposed aggregate, no horizontal saw cutting.



THE CITY OF RIDGEFIELD

230 Pioneer Street | P.O. Box 608 | Ridgefield, WA 98642

11. Final Inspections:

- a. Water System (City of Ridgefield or Clark PUD)
- b. Storm System
- c. Street - Paving, Sidewalks, Curbs/Gutters, Striping (Bike Lanes, Crosswalks, Stop Bars, etc.), Streetlights, ADA compliance, Trails, Parks, Signs, Trees, Street Signs
- d. Clark-Cowlitz Fire Rescue - Fire Lanes, Hydrants, Turn Arounds
- e. Clark Regional Wastewater District (CRWWD) - Sanitary System
- f. City Building Department - Lot Grade

PROCEDURE:

To request an inspection call (360) 857-5012 or email Lisa.Marmo@ridgefieldwa.us and specify which inspection you are requesting. Every effort will be made to complete inspections within 5 business days of request.

After each inspection, a punch list will be provided if necessary. After all punch list items have been addressed, contact Lisa for reinspection. If upon reinspection all items are found to be complete, each inspector will sign inspection card.

To obtain final acceptance, submit a copy of the fully signed inspection card and a Maintenance Bond Cost Estimate (provided by the City), for all public infrastructure improvements to lisa.marmo@ridgefieldwa.us

After review and approval of the cost estimate, a bond for 20% of the cost of all public infrastructure is required. As-built drawings must be submitted in PDF and CAD format. No final occupancies can be issued prior to Engineering Acceptance.

To request inspections from Clark-Cowlitz Fire Rescue, request it through the online portal under the approved project at <https://clarkfr.geocivix.com/secure/> or call no later than 4:00 p.m. the



THE CITY OF RIDGEFIELD

230 Pioneer Street | P.O. Box 608 | Ridgefield, WA 98642

business day prior to your desired inspection date at 360-887-1684, or email firemarshal@clarkfr.org

Please also note the following requirements:

- To get Water Meters:
 - Inspection approval of water lines and meter boxes
- To get Final Occupancy:
 - Engineering Acceptance, which requires the above plus:
 - Inspection approval of all Public Improvements and Storm Facilities;
 - A Maintenance Bond for 20% of all Public Improvements; and
 - Submittal of approved as-builts in AutoCAD versions.

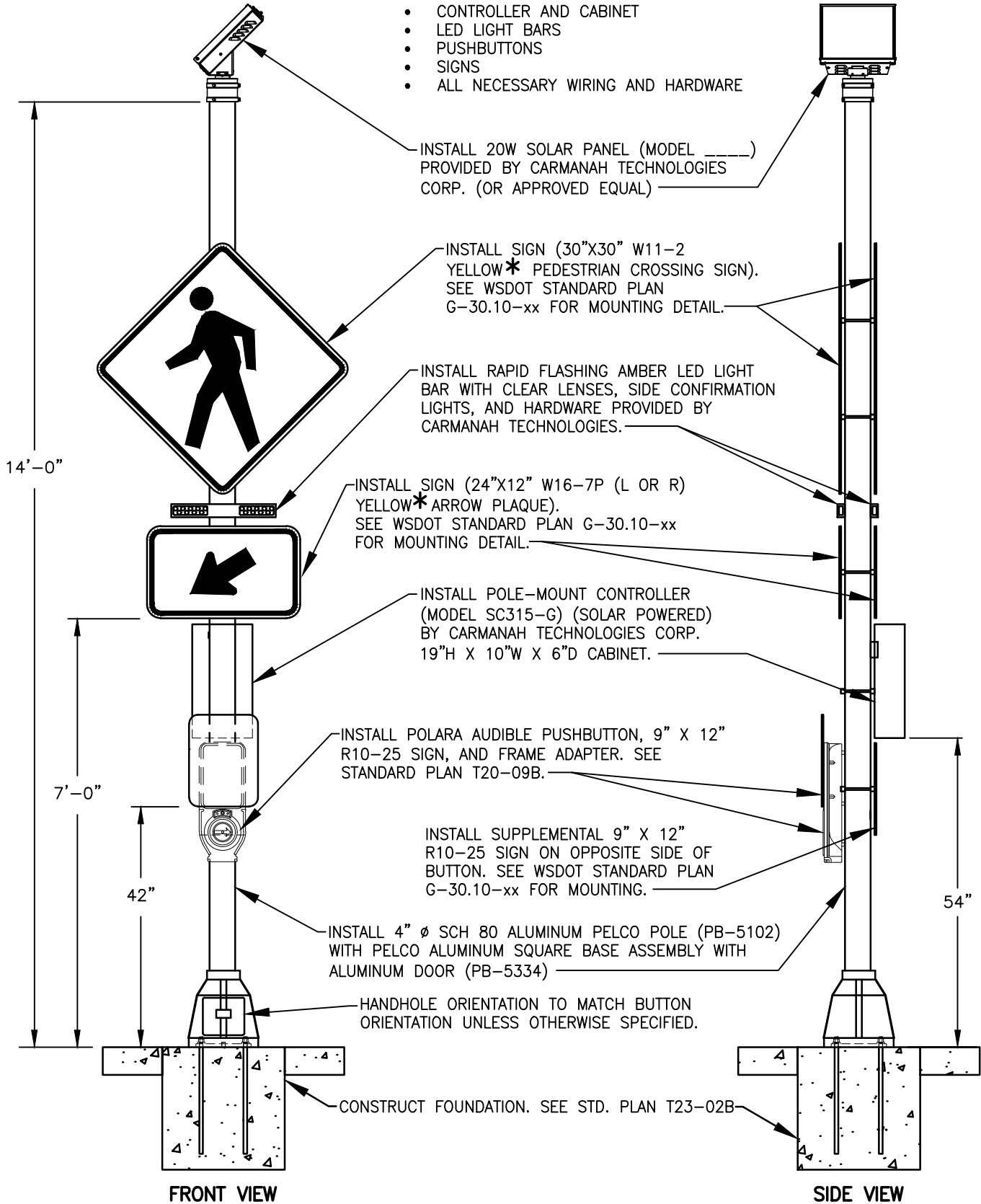
ENGINEERING STANDARDS FOR PUBLIC WORKS CONSTRUCTION



APPENDIX C ***Special Details***

RRFB COMPLETE ASSEMBLY TO INCLUDE:

- POLE AND FOUNDATION
- CONTROLLER AND CABINET
- LED LIGHT BARS
- PUSHBUTTONS
- SIGNS
- ALL NECESSARY WIRING AND HARDWARE



*"YELLOW" SIGNS IN SCHOOL ZONE ARE FLUORESCENT YELLOW-GREEN.

RECTANGULAR RAPID FLASHING BEACON (RRFB) ASSEMBLY WITH SOLAR MOUNTED POWER SOURCE

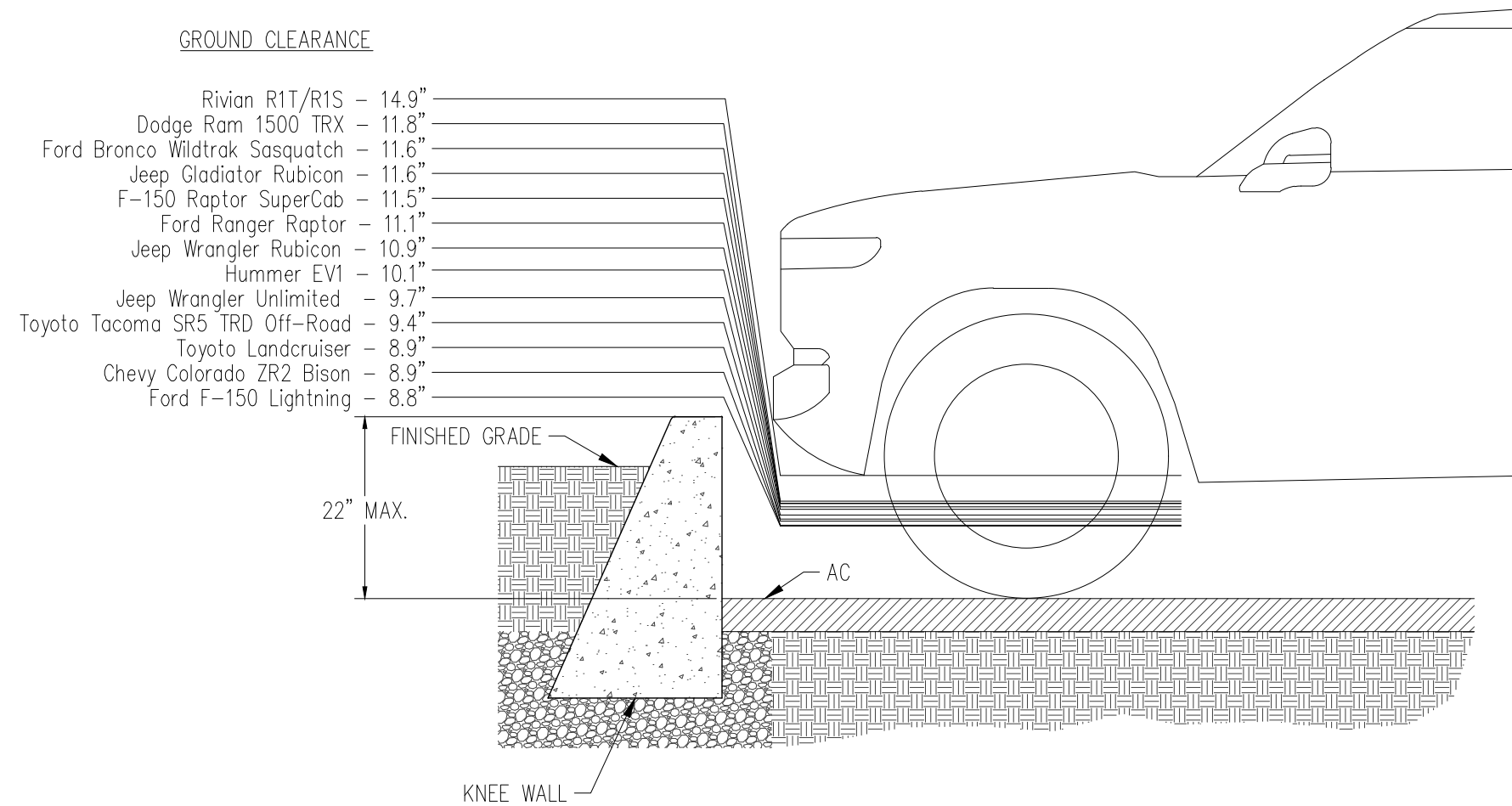


CITY OF VANCOUVER
DEPARTMENT OF PUBLIC WORKS
TRANSPORTATION DIVISION

DRAWN BY	APPROVED BY	APPROVAL DATE
CDC		7/19
REVISION	APPROVED BY	APPROVAL DATE
3		3/24

STD. PLAN NO.
T23-03

DWG: 8098 20240318 KNEE WALL | LAYOUT1



DATE: 3/18/24

GROUND CLEARANCE AND KNEE WALL NTS		EXHIBIT
UNION RIDGE		A
AKS ENGINEERING & FORESTRY, LLC 9600 NE 126TH AVE, STE 2520 VANCOUVER, WA 98682 360.882.0419 WWW.AKS-ENG.COM		DRWN: DJL CHKD: JMM AKS JOB: 8098



**CITY OF RIDGEFIELD
REQUEST FOR COUNCIL ACTION**

MEETING DATE: October 10, 2024

AGENDA ITEM NAME: Second Reading of Ordinance No. 1430 - Changes to posted and unposted speed limits for portions of Pioneer Street, S. 15th Street, S 35th Place, S. 10th Way, S 25th Place, S. 4th Way, S. Wells Drive, S 11th Street, Union Ridge Parkway and S Hillhurst Road

GOVERNING LEGISLATION

RCW 46.61.415 When local authorities may establish or alter maximum limits.
Ridgefield Municipal Code Title 10 (Vehicles and Traffic), Chapter 10.08 (Speed Limits)

PREVIOUS COUNCIL ACTION TAKEN:

Adoption of previous ordinances setting or changing speed limits in the City

SUMMARY/BACKGROUND:

This is the second reading and request for action of proposed permanent speed limit changes on various roadways within the City. These were presented to Council during presentations as part of the Horizontal Curves Safety Project on September 12, and the public hearing and first reading of Ordinance 1430 at the September 26 Council meeting.

TO summarize, these proposals are the outcome of a comprehensive safety study of city collectors and arterial, with particular emphasis on horizontal curves, as well as safety for all users. The engineering study conducted by the City Engineer considered prevailing speed, land use context and roadway conditions, including:

- Roadway environment, including roadside development, number and frequency of driveways and access points, and land use);
- Functional classification (principal or minor arterial, collector, etc.);
- Presence of on-street parking;
- Pedestrian and bicycle facilities and activity;
- Roadway characteristics such as lane widths, shoulder condition, grade, alignment, median type, and sight distance;
- Geographic context such as an urban district, rural town center, non-urbanized rural area, suburban area, and scenic corridors;
- Reported crash experience for at least a 12-month period (including from both the 2022 and 2024 Ridgefield City Safety Plans); and
- A review of past speed studies to identify any trends in operating speeds.

The results of the engineering study include proposed speed limit changes for the following locations:

- Pioneer Street, east of 9th Avenue/Hillhurst to 65th Avenue, reduce from 40 mph to 35 mph;
- S. 15th Street/S 35th Place/S. 10th Way/S 25th Place, west of S Royle Road, establish a 25 mph

speed limit for the entire scenic collector (Gee Creek Plateau)

- S. 4th Way, S 21st Place to S 25th Place, establish a 20 mph speed limit
- S. Wells Drive, Royle Rd. to future Discovery Drive (approximately 5500 block), reduce from 35 mph to 30 mph;
- Union Ridge Parkway, S 5th Street to Pioneer Street, establish a 35 mph speed limit;
- Union Ridge Parkway, north of Pioneer Street along Clark College building to a future extension to N 10th Street, establish a 25 mph speed limit for the current and future corridor
- S Hillhurst Road, Great Blue to south of Carty Road, reduce from 35 mph to 30 mph.

Attached to this staff report is the September 26 presentation of the safety study results and a table showing the results of the engineering study supporting the speed limit reduction proposals. Ordinance 1430 includes these proposed changes as well as depicting the revisions to code to incorporate them.

BUDGET/FINANCIAL IMPACTS:

None

RECOMMENDED ACTION OR MOTION:

Staff requests a second reading of this ordinance and action. If approved, the ordinance is effective 30 days after its passage.

A suggested motion is:

"I move to approve Ordinance 1430 as presented."

STAFF CONTACT: Chuck Green, Public Works Director

ATTACHMENTS:

1. Various Speed Limit Changes

ORDINANCE NO. 1430

AN ORDINANCE OF THE CITY OF RIDGEFIELD, WASHINGTON AMENDING RIDGEFIELD MUNICIPAL CODE CHAPTER 10.08 (SPEED LIMITS) CHANGING POSTED AND UNPOSTED SPEED LIMITS FOR PORTIONS OF PIONEER STREET, S 15TH STREET, S WELLS DRIVE, S 35TH PLACE, S 10TH WAY, S 25TH PLACE, S 4TH WAY, UNION RIDGE PARKWAY AND S HILLHURST RD

WHEREAS, the City of Ridgefield has adopted the Washington State Model Traffic Ordinance (WAC 308-330) which encourages uniform traffic laws throughout Washington State while providing local agencies the authority to raise and lower speed limits on local roadways; and

WHEREAS, RCW 46.61.415 establishes that local authorities may post, increase or decrease speeds on local roadways in their respective jurisdictions following an engineering and traffic investigation on arterial streets; and

WHEREAS, the 2023 Edition of the Manual on Uniform Traffic Control Devices (MUTCD) allows jurisdictions to consider other factors into considerations for modifying speed limits; and

WHEREAS, the City of Ridgefield has adopted previous Ordinances since 1967 pertaining to the established speed limits within the City Limits and enforcement thereof; and

WHEREAS, the Horizontal Curves Safety Project has collected and assessed speed and traffic data at several locations around the City; and

WHEREAS, the City Engineer has conducted an appropriate engineering evaluation consistent with newer guidance from the MUTCD and has determined that modifying or designating speeds limits on several City streets is warranted; and

WHEREAS, the City Engineer has identified the following list of proposed speed limit adjustments to be established in code via this ordinance:

- Pioneer Street, east of 9th Avenue/Hillhurst to 65th Avenue, reduce from 40 mph to 35 mph;
- S. 15th Street/S 35th Place/S. 10th Way/S 25th Place, west of S Royle Road, establish a 25 mph speed limit for the entire scenic collector, to be covered under 10.08.010 - Speed limits established—Generally (25 mph speed limit);
- S. 4th Way, S 21st Place to S 25th Place, establish a 20 mph speed limit;
- S. Wells Drive, Royle Rd. to future Discovery Drive (approximately 5500 block), reduce from 35 mph to 30 mph;
- Union Ridge Parkway, S 5th Street to Pioneer Street, establish a 35 mph speed limit;
- Union Ridge Parkway, north of Pioneer Street along Clark College building to a future extension to N 10th Street, establish a 25 mph speed limit, to be covered under 10.08.010 - Speed limits established—Generally (25 mph speed limit);
- S Hillhurst Road, Great Blue to south of Carty Road, reduce from 35 mph to 30 mph; and

WHEREAS, the existing Chapter 10.08 is being amended to designate these speed limit adjustments;

and

WHEREAS, the Ridgefield City Council conducted a public hearing and the first reading of the proposed amendments to Title 10 during a regularly scheduled City Council meeting held on September 26, 2024; and

WHEREAS, the Ridgefield City Council waived a second reading of this proposed ordinance.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF RIDGEFIELD, WASHINGTON DOES HEREBY ORDAIN AS FOLLOWS:

Section 1. Public Interest. The Ridgefield City Council finds it to be in the public interest to amend Chapter 10.08 regulating speed limits on city collectors and arterials.

Section 2. Ridgefield Municipal Code 10.08.010 Speed limits established—Generally, the following street segments are to be included with twenty-five miles per hour speed limits;

Union Ridge Parkway, north of Pioneer Street along Clark College building to a future extension to N 10th Street

S. 15th Street/S 35th Place/S. 10th Way/S 25th Place, west of S Royle Road to S 4th Way.

Section 3. 10.08.022 - Speed limits established—Twenty miles per hour is hereby amended as follows:

The speed limits on the following street segments shall be twenty miles per hour:

Bertsinger Road/S. 1st Way/S. 21st Place, a nonarterial street, Pioneer Street to S. 4th Way;
S. 4th Way, S 21st Place to S 25th Place.

Section 4. Ridgefield Municipal Code Section 10.08.024 - Speed limits established—Thirty-five miles per hour is hereby amended as follows:

The speed limits on the following street segments shall be thirty-five miles per hour:

Royle Road;
N. 65th Avenue;
N. 85th Avenue;
S. 65th Avenue;
S. Union Ridge Parkway;
S. 74th Place;
S. 10th Street;
S. 5th Street;
S. 85th Avenue;
~~S. Hillhurst Road—S. Great Blue Road to southerly city limits;~~
S. 11th Street, 5500 block (future Discovery Drive) to S Timm Rd.;
~~S. Wells Drive;~~
~~S. 15th Street;~~

~~S. 10th Way;~~

S. Royle Road;

N. 10th Street – N. 65th Avenue to N. 85th Avenue;

NW 229th Street - Hillhurst Road to a point approximately four hundred fifty feet west of S. 40th Place (Ridgefield City Limits);

Pioneer Street, east of 9th Avenue/Hillhurst to 65th Avenue;

Union Ridge Parkway, S 5th Street to Pioneer Street.

Section 5. Ridgefield Municipal Code Section 10.08.025 - Speed limits established— forty miles per hour is hereby amended as follows:

10.08.025 - Speed limits established—Forty miles per hour.

The speed limits on the following street segments shall be forty miles per hour:

~~State Highway 501—milepost 17.39 to 65th Avenue.~~

Section 6. A new section of Ridgefield Municipal Code Section 10.08.023 - Speed limits established— Thirty miles per hour is hereby established as follows:

The speed limits on the following street segments shall be thirty miles per hour:

-

- S. Wells Drive, Royle Rd. to 5500 block (future Discovery Drive)
- S Hillhurst Road, Great Blue to south of Carty Road.

Section 7. Corrections. The City Clerk and the codifiers of this ordinance are authorized to make necessary clerical corrections to this ordinance including, but not limited to, the correction of scrivener's/clerical errors, references, roadway names, ordinance numbering, section/ subsection numbers and any references thereto.

Section 8. Severability. If any section, subsection, sentence, clause, phrase, or other portion of this Ordinance, or its application to or any other person or circumstance is, for any reason, held invalid or unconstitutional by any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance and each section, subsection or portion thereof, irrespective of the fact that any one or more of the other portions be declared invalid or unconstitutional.

Section 9. Applicability. This ordinance shall be applied in the current city limits of the City of Ridgefield.

Section 10. Effective Date. This ordinance shall be in full force and effect thirty (30) calendar days after adoption and publication pursuant to law.

PASSED BY THE CITY COUNCIL OF THE CITY OF RIDGEFIELD, WASHINGTON THIS 10TH DAY OF OCTOBER, 2024.

Ron Onslow, Mayor

ATTEST/AUTHENTICATED:

Julie Ferriss,
City Clerk

APPROVED AS TO FORM:

Janean Parker, City Attorney

First Reading: September 26, 2024

Second Reading/Passage:

Date of Publication:

Effective Date:

Speed Limit Change Proposals Various Locations



Ridgefield City Council | September 26, 2024

Speed Limit Study

- Speed and traffic data collected, multiple locations
- Public request: add S 15th Street “Scenic Collector”
- Used updated 2023 MUTCD speed limit guidelines
- New guidelines: consider prevailing speeds, roadside & land use context, safety, bicycle & pedestrian presence, functional classification.



Proposed Speed Limit Reductions

Location	Current Speed Limit	Proposed Speed Limit	Supporting Data
Pioneer Street, east of 9 th /Hillhurst to 65 th Avenue (Route Jurisdiction Transfer)	40	35	New construction, roundabouts, higher traffic levels, increased pedestrian and bicycle activity. 35 mph consistent with others like Union Ridge Pkwy,, Royle & Hillhurst.
Gee Creek Plateau Corridor Royle Road west to S 25th Pl	35/unposted	25	Scenic collector: narrow road, no shoulders, frequent pedestrians and bicyclists. 20 mph curves; prevailing speed 29-34 mph on straight sections.
S 4 th Way	Unposted	20	Extend 20 mph Bertsinger corridor speed
S Wells Dr, Royle Rd. to future Discovery Drive (east of curves near 51st Place)	35	30	Speed study: prevailing speed 30-34 mph. Curves and sight distance for pedestrians crossing road a consideration. East of Discovery Drive to Timm Rd: keep at 35 mph.
Union Ridge Parkway, S 5 th Street to Pioneer	Not in code	35	Set speed limit at 35 mph for the newly completed Pioneer Street extension
Union Ridge Parkway (Pioneer to S. 5 th Street)	Not in code	25	Set speed limit as 25 mph for future “campus collector” through Clark College area.
S Hillhurst Road, Great Blue to south of Carty Rd.	35	30	Multiple pedestrians, after-school and summer activities on both sides of Hillhurst, high mix of vehicles, pedestrians and bicycles along the corridor.



S. Hillhurst Rd: 35 vs. 30 mph situations



Example of 35 mph



Example of Proposed 30 mph



S. Wells Drive / S 15th Street

35 vs. 30 mph situations



Example of 35 mph



Example of Proposed 30 mph



S. 15th Street / Gee Creek Plateau Collector

35 vs. 25 mph situations



Example of 35 mph



Example of Proposed 25 mph



Council Action Requested

- Conduct a public hearing on these speed limit changes
- Conduct first reading



Keep in Touch



Chuck Green, Public
Works Director
Direct: (360) 857-5022



Chuck Green: chuck.green@ridgefieldwa.us



487 S. 56th Place | PO Box 608
Ridgefield, WA 98642



www.ridgefieldwa.us



**CITY OF RIDGEFIELD
REQUEST FOR COUNCIL ACTION**

MEETING DATE: October 10, 2024

AGENDA ITEM NAME: Second Reading of Ordinance No. 1432 - Greely Farms Development Agreement Amendment

GOVERNING LEGISLATION

RCW 36.70B.170

PREVIOUS COUNCIL ACTION TAKEN:

SUMMARY/BACKGROUND:

The developers, Urban Downs LLC and Ridgefield East Development LLC, are obligated under a Development/Pre-Annexation Agreement to dedicate to the City certain park improvements as part of the Greely Farms PUD Subdivision. Eight total acres of park land dedication were contemplated in the Development/Pre-Annexation Agreement, with two (2) acres to be dedicated without additional compensation (which has already occurred), two (2) acres to be dedicated with compensation in the form of Park Impact Fee (PIF) Credits, and four (4) acres to be dedicated with compensation in the form of cash payment. The rate of compensation was to be determined through an appraisal from a mutually agreed upon source.

The City and Developers reached an agreed-upon appraised value of \$250,000 per acre for park land to be dedicated at Greely Farms. The Developers also identified an additional 0.9 acres of land that could be suitable for public parks/open space which the City agreed to purchase as part of the overall land dedication. City and Developers agreed upon an amended payment structure that gives Developers needed PIF Credits and cash while minimizing and spreading out City cash outlay for the acquisition. The Second Amendment to the Development Agreement memorializes the terms for transfer of the remaining 6.9 acres which have not already been transferred.

Under the terms of this Amendment, the City agrees to the following:

1. The City agrees to issue PIF Credits for the purchase of three (3) acres, as well as an additional nine-tenths (0.9) acre of available adjacent land. Total PIF Credits issued shall be Nine Hundred and Seventy-Five Thousand (\$975,000), which is the sum of 3.9 acres x \$250,000/acre;
2. The City agrees to provide cash payment for the purchase of an additional three (3) acres at the agreed total purchase price of \$250,000 per acre, for a total of \$750,000. Payment shall occur in two equal installments of \$375,000 – the first due on closing of the property conveyance, and the second due on February 1, 2025;
3. The Developers agree to submit a Boundary Line Application to add the agreed upon acreage to adjacent Tract G which is currently owned by the City. The City agrees to pay all costs associated with processing the BLA application;
4. The City agrees to continue deferring collection of PIFs from building permit submittals by Holt Homes in Greely Farms until issuance of the PIF credits to allow Holt the opportunity to utilize

the credits for payment of PIFs on those submittals.

BUDGET/FINANCIAL IMPACTS:

\$975,000 – Park Impact Fee Credits Issued in the total amount of \$975,000

\$750,000 – Cash payment for 3 acres of park land, with ½ due in 2024 and ½ due in 2025

RECOMMENDED ACTION OR MOTION:

"I move to adopt Ordinance No. 1432 as presented."

STAFF CONTACT: Steve Stuart, City Manager

ATTACHMENTS:

1. Ord. 1432 - Greely Farms DA Second Amendment

ORDINANCE NO. 1432

AN ORDINANCE OF THE CITY OF RIDGEFIELD WASHINGTON APPROVING THE SECOND AMENDMENT TO A DEVELOPMENT AGREEMENT WITH RIDGEFIELD EAST DEVELOPMENT, LLC AND URBAN DOWNS LLC - FOR PARK DEDICATION AND ALLOCATION OF IMPACT FEE CREDITS AND CASH PAYMENT

WHEREAS, the City is a Washington Municipal Corporation with land use planning and permitting authority over all land within its corporate limits; and

WHEREAS, the City has the authority to enter into Development Agreement pursuant to RCW 36.70B.170; and

WHEREAS, Ridgefield East Development LLC and Urban Downs LLC (collectively “Developers”) own property within the City of Ridgefield known as the Greely Farms PUD Subdivision (“Subdivision”).

WHEREAS, The City and Developers entered into a Development and Pre-Annexation Agreement with an effective date of April 10, 2008 (“Agreement”).

WHEREAS, The Agreement governs the development, use, and mitigation of certain impacts associated with annexation and development of real property located in Ridgefield, Washington, as more particularly described in the Agreement.

WHEREAS, Contemporaneous with sale of the property to Owner, Predecessors assigned to Owner all rights and obligations under the Agreement.

WHEREAS, Developers and the City have agreed to amend certain terms and conditions of the Agreement, as set forth herein.

WHEREAS, the City has identified a need for these park improvements within its adopted Comprehensive Plan and associated Capital Facilities Plans, and wishes to provide certain impact fee credits and payment associated with the dedication of park land contemplated in the Agreement; and

WHEREAS, the City Council held a public hearing for the proposed Second Amendment to the Agreement at a regular scheduled meeting held on September 26, 2024; and

WHEREAS, the City Council conducted a first reading of this ordinance on September 26, 2024; and

WHEREAS, the City and Developers have reached agreement regarding amendments to certain terms and conditions of the Agreement;

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF RIDGEFIELD, WASHINGTON HEREBY ORDAINS AS FOLLOWS:

Section 1. **Public Interest.** The City Council for the City of Ridgefield, Washington finds, following a public hearing process, that it is in the public interest for the City of Ridgefield to approve the Development Agreement with property owners to clarify the PIF eligibility and park dedication boundaries. .

Section 2. **Development Agreement Amendment Approved.** The City Council for the City of Ridgefield hereby approves the Development Agreement Amendment **attached** hereto as Exhibit “A” and authorizes the City Manager to execute the Amendment substantially in the form

attached and to take such other actions as may be necessary to effect this Amendment.

Section 3. **Corrections**. The City Clerk and the codifiers of this ordinance are authorized to make necessary clerical corrections to this ordinance including, but not limited to, the correction of scrivener's/clerical errors, references, ordinance numbering, section/subsection numbers and any references thereto.

Section 4. **Severability**. Any provision of this ordinance or its application to any person, legal entity, or circumstance is held invalid, the remainder of the ordinance or its application to other persons, legal entities, or circumstances is not affected.

Section 5. **Effective Date**. This ordinance shall be in full force and effect thirty (30) calendar days after adoption and publication pursuant to law.

ADOPTED BY THE CITY COUNCIL OF THE CITY OF RIDGEFIELD, WASHINGTON THIS _____ DAY OF _____ 2024.

CITY OF RIDGEFIELD

Mayor, Ron Onslow

ATTEST:

Julie Ferriss
City Clerk

APPROVED AS TO FORM:

Janean Parker, City Attorney

Public Hearing: September 24, 2024
First reading: September 24, 2024
Second Reading/Passage:
Date of Publication:
Effective Date:

AFTER RECORDING, RETURN TO:

The Holt Group, Inc.

Attn: Jared Dusha

1301 SE Tech Center Drive, Suite #150

Vancouver, WA 98683

GRANTOR(S):	Ridgefield East Development, LLC
GRANTEE(S):	City of Ridgefield
ABBREVIATED LEGAL:	T4RIES23Q3; T4RIES23Q4
REFERENCE NUMBER(S):	None
TAX PARCEL NO(S):	214427-00; 214499-066; 214470-000

SECOND AMENDMENT TO DEVELOPMENT AGREEMENT

This Second Amendment is made and entered into as of _____, 2024, by and between the City of Ridgefield, a political subdivision of the State of Washington (the “City”), Urban Downs, LLC, a Washington limited liability company (“Urban Downs”) and Ridgefield East Development, LLC, a Washington limited liability company, as successor-in-interest to Holt Opportunity Fund (Parallel 1), 2013, LP (“Holt”), collectively (the “Parties”).

RECITALS

A. The Parties entered into that Development Agreement for Annexation of Property recorded in the real property records of Clark County, Washington, as Document No. 4470184, dated June 30, 2008, as amended by that certain First Amendment to Development Agreement recorded in Clark County, Washington, as Document No. 5369316, dated January 20, 2017, (the “First Amendment”) (collectively, the “Agreement”).

B. Under that Agreement certain property was to be dedicated to the City in exchange for PIF credits and certain other property was to be purchased by the City.

C. The Parties now desire to amend a portion of the First Amendment, “Parkland Dedication and Purchase,” Section 4C, for their mutual benefit pursuant to the terms and conditions herein to set for the purchase price and to amend and describe with more specificity the property purchase.

C. Capitalized terms not defined herein shall have the same meaning as such terms are used in the Declaration.

AGREEMENTS

Now, therefore, in consideration of the above recitals and the mutual covenants contained herein, the Agreement is hereby amended in Section 4C of the First Amendment as follows:

1. Immediately upon the Effective Date, the City shall provide correspondence to Holt to document the issuance of PIF credits for the purchase of three (3) acres, as well as an additional nine-tenths (0.9) acre of available adjacent land. The City shall issue such credits in an amount equal to an agreed purchase price of Two Hundred and Fifty Thousand Dollars (\$250,000) per acre, for a total purchase price of Nine Hundred and Seventy-Five Thousand Dollars (\$975,000) in PIF credits (Park Area "C").

2. City shall provide cash payment to Holt for the purchase of three (3) additional acres (1.40 acres in Park Area "B" (60,807 square feet) and 1.60 acres in Park Area "C") at the agreed value of Two Hundred and Fifty Thousand Dollars (\$250,000) per acre, for a total purchase price of Seven Hundred and Fifty Thousand Dollars (\$750,000). Such purchase price shall be paid in two equal installments of Three Hundred and Seventy-Five Thousand Dollars (\$375,000), with the first installment due on closing of the property conveyance, and the second installment due on February 1, 2025.

3. The parties agree that the conveyance of property to the City under paragraphs 1 and 2 herein shall be a Boundary Line Adjustment to the adjacent Tract G, currently owned by the City and that the closing shall occur immediately after the final approval of the Boundary Line Adjustment application which is expected to occur on or before September 30, 2024. Holt agrees to submit the BLA application, provide the survey and legal descriptions for the BLA and the City agrees to pay all costs associated with the processing of the BLA application.

3. As of the Effective Date of this Second Amendment (the "Effective Date"), the City shall defer collection of Park Impact Fees on all future building permit submittals by Holt until final occupancy following the City's issuance of the PIF credits to allow Holt the opportunity to utilize the credits for payment of the Park Impact Fees on such submittals.

4. The City and Holt shall execute a boundary line adjustment of Tract G, expanding Tract G to encompass the additional 6.9 acres contemplated by this Agreement (300,564 square feet), (Park Area "C").

5. Effect of Amendment. Except as specifically set forth in this Second Amendment, the Agreement shall remain unchanged and in full force and effect.

[Signature Pages Follow]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first written above.

GRANTOR:

Ridgefield East Development, LLC,
a Washington limited liability company

By: Holt Group Holdings, LLC,
a Delaware limited liability company
Its: Sole Member

By: _____
Name: _____
Its: Authorized Signer

STATE OF WASHINGTON)
) ss.
County of Clark)

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he signed this instrument, on oath stated that he was authorized to execute the instrument and acknowledged it as the Authorized Signer of Holt Group Holdings, LLC, a Delaware limited liability company, as Sole Member of Ridgefield East Development, LLC, a Washington limited liability company, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

DATED: _____, 2024.

Notary Public for the State of Washington,
Residing in: _____
My Commission Expires: _____

GRANTEES:

City of Ridgefield,
a political subdivision, State of Washington

By: _____
Name: _____
Title: _____

[illegible]

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he signed this instrument, on oath stated that he was authorized to execute the instrument and acknowledged it as the _____ for the City of Ridgefield, a political subdivision in the State of Washington, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

DATED: _____, 2024.

Notary Public for the State of Washington,
Residing in: _____
My Commission Expires: _____

Urban Downs, LLC,
a Washington limited liability company

By: _____
Name: _____

Title: _____

STATE OF WASHINGTON)
County of Clark) ss.

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he signed this instrument, on oath stated that he was authorized to execute the instrument and acknowledged it as the _____ for the Urban Downs, LLC, a Washington limited liability company, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

DATED: _____, 2024.

Notary Public for the State of Washington,
Residing in: _____
My Commission Expires: _____

**CITY OF RIDGEFIELD
REQUEST FOR COUNCIL ACTION**

MEETING DATE: October 10, 2024

AGENDA ITEM NAME: Public Hearing and First Reading of Ordinance No. 1433 - Golden Acres
Petition to Annex

GOVERNING LEGISLATION

RCW 35A.14 - Annexation by Code Cities

PREVIOUS COUNCIL ACTION TAKEN:

Council adopted Resolution No. 648, Golden Acres Intent to Annex, on May 23, 2024.

SUMMARY/BACKGROUND:

See attached staff report.

BUDGET/FINANCIAL IMPACTS:

None.

RECOMMENDED ACTION OR MOTION:

None. Public hearing and first ordinance reading only.

STAFF CONTACT: Claire Lust, Community Development Director

ATTACHMENTS:

1. Staff Report

ORDINANCE NO. 1433

AN ORDINANCE OF THE CITY OF RIDGEFIELD, WASHINGTON ANNEXING INTO THE CORPORATE LIMITS OF THE CITY OF RIDGEFIELD APPROXIMATELY 9.75 ACRES IDENTIFIED AS THE GOLDEN ACRES ANNEXATION AREA AND ASSIGNING THE ZONING OF THE ANNEXED AREA AS RESIDENTIAL LOW DENSITY 4 WITH THE URBAN HOLDING 10 OVERLAY.

WHEREAS, annexations to the City of Ridgefield are regulated by Revised Code of Washington (RCW) Chapter 35A.14, Annexation by Code Cities; and

WHEREAS, the proposed annexation area (Golden Acres Annexation Area comprised of Assessor's parcel 216700000 and adjacent NW Carty Road right-of-way) is within the Ridgefield Urban Growth Area as shown on the Ridgefield Urban Growth Area Comprehensive Plan Map of the Clark County 20-Year Comprehensive Growth Management Plan which the Board of Clark County Councilors adopted on June 28, 2016, Ordinance No. 2016-06-12; and

WHEREAS, RCW 35A.14.010 provides that an unincorporated area lying contiguous to a code city may become part of the charter code city or noncharter code city by annexation; and

WHEREAS, the area proposed to be annexed is contiguous to the city limits; and

WHEREAS, RCW 35A.14.120 provides a direct petition annexation method which requires that prior to circulating a petition for annexation, the initiating party or parties, who shall be the owners of not less than ten percent in value, according to the assessed valuation for general taxation of the property for which annexation is sought, shall notify the legislative body of a charter code city or noncharter code city; and

WHEREAS, on May 23, 2024 the City Council of the City of Ridgefield adopted Resolution No. 648 accepting a notice of intent to annex for the Golden Acres Annexation Area and authorizing the applicant to circulate a petition to annex; and

WHEREAS, the City of Ridgefield received a petition to annex for the Golden Acres Annexation Area and assigned File Nos. MASTER-24-0048 and PLZ-24-0052; and

WHEREAS, RCW 35A.14.120 requires that the petition to annex must be signed by the owners of not less than sixty percent in value, according to the assessed valuation for general taxation of the property for which annexation is petitioned; and

WHEREAS, the Golden Acres petition to annex is signed by the owners of 100 percent in value of the property for which annexation is petitioned; and

WHEREAS, on September 3, 2024, the City of Ridgefield requested that the Clark County Department of Assessment and GIS certify the petition to annex by direct petition method according to RCW 35A.01.040(4) which requires that a petition signed by property owners be transmitted to the county assessor for determination of sufficiency; and

WHEREAS, on September 12, 2024, the Clark County Assessor provided to the City of Ridgefield a Certification of Sufficiency for the annexation petition by the direct petition method; and

WHEREAS, RCW 43.21C.222 exempts annexation of territory by a city or town from compliance with the chapter entitled State Environmental Policy; and

WHEREAS, RCW 35A.14.130 provides that the legislative body of a code city may entertain a petition for annexation and fix a date for a public hearing thereon and cause notice of the hearing to be published in one or more issues of a newspaper of general circulation in the city, and post in three public places within the territory proposed for annexation, and shall specify the time and place of hearing and invite interested persons to appear and voice approval or disapproval of the annexation; and

WHEREAS, the City of Ridgefield met the requirements defined within RCW 35A.14.130 by publishing a notice of public hearing in the Columbian newspaper, posting notice of public hearing at three public places within the territory proposed for annexation, mailing the notice to surrounding property owners, and posting the notice online; and

WHEREAS, on October 10, 2024, the City Council of the City of Ridgefield held and closed a public hearing on the proposed annexation; and

WHEREAS, RCW 35A.14.140 provides that after the public hearing, if the legislative body determines to effect the annexation, then they shall do so by ordinance and file a copy of the ordinance with the board of county commissioners; and

WHEREAS, the proposed annexation area is designated Urban Low as shown on the Comprehensive Plan Map of the Ridgefield Urban Area Comprehensive Plan which the City Council adopted on February 25, 2016, Ordinance No. 1203; and

WHEREAS, the City is designating subject properties Residential Low Density 4 pursuant to RDC 18.210.015.A, the 2016 Ridgefield Urban Area Comprehensive Plan, and the Carty Road Subarea Plan; and

WHEREAS, the City is placing all newly annexed properties in UH-10 pursuant to RDC 18.210.015.B until certification by the city engineer that identifies capital facilities deficiencies have been satisfactorily resolved, as required in RMC 18.270.060, and until Council adopts development standards implementing the Carty Road Subarea Plan;

NOW THEREFORE, the City Council for the City of Ridgefield hereby ordains as follows:

SECTION 1. Annexation. The City of Ridgefield hereby annexes into the corporate limits of the City of Ridgefield the Golden Acres Annexation Area shown in Exhibit A.

SECTION 2. Zoning. The zoning of the annexed area shall be Residential Low Density 4 with the Urban Holding 10 overlay. The Urban Holding 10 overlay shall not be removed until the requirements of RDC 18.210.015.B and 18.270.060 are met and Council has adopted development standards for the Carty Road Subarea.

SECTION 3. City Filing of Certificate with Washington State Office of Financial Management. A Certificate of Annexation shall be filed with the Washington State Office of Financial Management within thirty (30) calendar days of the effective date of this ordinance.

SECTION 4. City Filing with Clark County. A certified copy of the adopted ordinance shall be separately filed with the Board of Clark County Commissioners and the Clark County Department of Assessment and GIS.

SECTION 5. Severability. If any section, sentence, clause or phrase of this ordinance shall be held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or constitutionality of any other section, sentence, clause or phrase of this ordinance.

SECTION 6. Effective Date. This ordinance shall be in full force and effect thirty (30) calendar days after adoption and publication pursuant to law.

SECTION 7. Corrections. The City Clerk and the codifiers of this ordinance are authorized to make necessary clerical corrections to this ordinance including, but not limited to, the correction of scrivener's/clerical errors, references, ordinance numbering, section/subsection numbers and any references thereto.

PASSED BY THE CITY COUNCIL OF THE CITY OF RIDGEFIELD, WASHINGTON THIS 24TH DAY OF OCTOBER, 2024.

Ron Onslow, Mayor

ATTEST/AUTHENTICATED:

Julie Ferriss, City Clerk

APPROVED AS TO FORM:

Janean Parker, City Attorney

First Reading/Passage: October 10, 2024
Second reading/Passage: October 24, 2024
Date of Publication:
Effective Date:

EXHIBIT A:
Legal Description and Map of Annexation Area



COMMUNITY DEVELOPMENT DEPARTMENT

510-B Pioneer Street | PO Box 608 | Ridgefield, WA 98642
(360) 887-3908 | Fax: (360) 887-2507 | www.ridgefieldwa.us

Golden Acres Petition to Annex Staff Report

File No. MASTER-24-0048, PLZ-24-0052
October 10, 2024

I. Basic Facts

Petition to annex submitted: August 19, 2024

Technically complete: September 3, 2024

Council hearing date: October 10, 2024

Applicant/Property Owner: Anthony G. Golden. 2825 NW Carty Rd / Ridgefield, WA 98642. Contact: 360.737.9152, goldenexpedite@gmail.com

Property Information: 2825 NW Carty Rd / Ridgefield, WA 98642. #31 S33 T4N R1E WM, Assessor's #216700000, 9.75 acres.

Current Zoning: Clark County Single-Family Residential (R1-10), Urban Holding 10 (UH-10)

Comprehensive Plan Designation: Urban Low (UL)

Carty Road Subarea Plan Zoning Designation: Residential Low Density 4 (RLD-4)

Staff Contact: Claire Lust, Community Development Director. 360.857.5024, Claire.lust@ridgefieldwa.us

II. Property Information

The Petition to Annex includes one parcel owned by Anthony Golden and adjacent Carty Road right-of-way. See Figures 1 and 2. The subject parcel is within the Ridgefield Urban Growth Area (UGA) and is contiguous with the Ridgefield city limits to the east (Marrett Hills properties), west (Cosgrove property), and south (Sanderling Park). Therefore, the parcel is eligible for annexation. The property information is as follows:

Property Owner	Legal	Square Feet	Acres	2024 Assessed Taxable Property Value for 2025 Taxes	Site Address
GOLDEN ANTHONY G	#31 S33 T4N R1E WM, Assessor's #216700000	424,710	9.75	\$889,927.00	2825 NW Carty Rd

Figure 1. Vicinity map

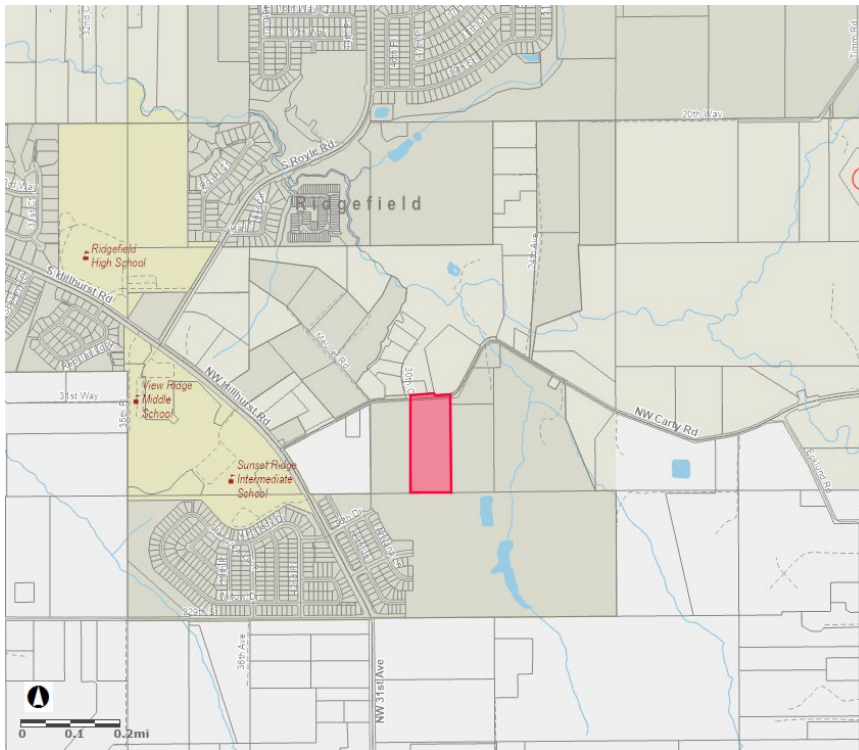
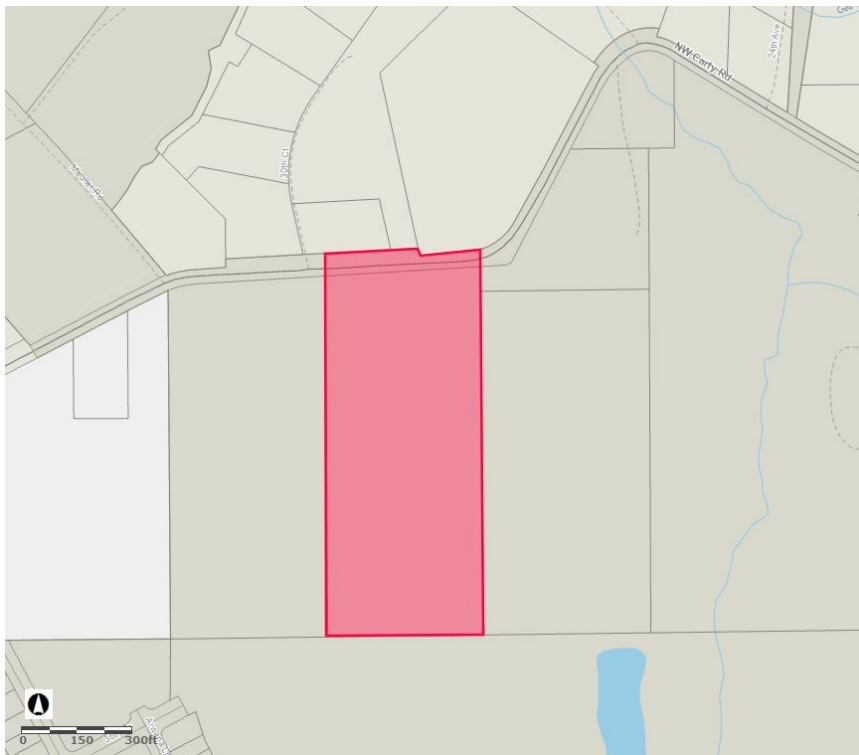


Figure 2. Site map



III. Zoning and Development

Annexation requires concurrent rezoning from the existing Clark County zoning designation to a City zoning designation. Staff finds:

- The County zoning of the proposed annexation area is Single Family Residential R1-10 with the Urban Holding – 10 (UH-10) overlay.
- The 2016 Ridgefield Urban Area Comprehensive Plan designation is Urban Low Density Residential (UL).
- Per RDC 18.210.015.A, the RLD-4, RLD-6, and RLD-8 zoning districts shall implement the UL comprehensive plan designation.
- The adopted Carty Road Subarea Plan assigns RLD-4 zoning to the annexation area.
- Therefore, the proposed City zoning is RLD-4.
- The Urban Holding – 10 (UH-10) overlay shall be assigned until capital facilities deficiencies are adequately resolved and development standards implementing the Carty Road Subarea Plan have been adopted by Council.

The applicant's narrative is attached. Their intent is to develop the property.

IV. Procedure

Intent to Annex

On April 18, 2024, the applicant filed an intent to annex the subject parcel. City Council adopted Resolution No. 648 approving the intent to annex and authorizing the applicant to circulate a petition to annex on May 23, 2024.

Direct petition (60% petition) method for owner-initiated annexation.

The direct petition method of annexation (RCW 35A.14.120-150) requires that owners of 60% or more of the land value of the proposed annexation area must sign the Petition to Annex. Road values are not included in this calculation. Anthony Golden signed the Petition to Annex. Mr. Golden owns 100 percent of the land value of the property proposed for annexation, exceeding the 60% threshold of the Petition to Annex.

Certification of sufficiency.

The Clark County Assessor reviewed the declaration of petition to annex, survey, and legal description and issued a certificate of sufficiency on September 12, 2024.

Council hearing.

Council will hold a public hearing and first ordinance reading for the Golden Acres Petition to Annex on October 10, 2024.

Remaining steps.

- Second ordinance reading: City Council shall hold a second reading and vote to determine whether the city will adopt the Petition to Annex. The second reading is scheduled for October 24, 2024.
- Ordinances: The city shall adopt an ordinance annexing certain lands, adopt a zoning ordinance for the annexed area, and forward the ordinance(s) to the Clark County Assessor's Office, State Department of Revenue, State Department of Commerce, and State Office of Financial Management.
- Census: The City Clerk shall report population increases to census reporting agencies.

Motion.

None. Public hearing and first ordinance reading only.

**CITY OF RIDGEFIELD
REQUEST FOR COUNCIL ACTION**

MEETING DATE: October 10, 2024

AGENDA ITEM NAME: Public Hearing and First Reading of Ordinance No. 1434 - Development Agreement with Clark College

GOVERNING LEGISLATION

RCW 36.70B.170 through RCW 36.70B.210

PREVIOUS COUNCIL ACTION TAKEN:

None.

SUMMARY/BACKGROUND:

In 2016, Clark College developed a long-range master plan for a satellite campus within Ridgefield on 70 acres called Clark College at Boschma Farms. This master plan intended to provide access to underserved populations in north Clark County. Clark College received land use approvals and development permits for an Advance Manufacturing Center (AMC) as the first phase of this campus. The AMC will consist of a 50,000 square foot building with associated parking.

In future years, Clark College and the Clark College Foundation plan to construct additional campus buildings and also include a potential regional business center and other amenities to become a community destination in north Clark County.

As the AMC is nearing completion, Clark College and City officials have been negotiating a Development Agreement (DA). This DA includes the following provisions:

- Clark College will build a north-south connector, a collector now known as Union Ridge Parkway
- At the College's request, Union Ridge Parkway, sidewalk, and utilities will be located in a permanent easement instead of right-of-way.
- The sidewalk along the east side of Union Ridge Parkway will be deferred until development of the abutting property on the east side of the collector.
- The City will be providing three street light poles to the College for the collector.
- All public improvements will have a one-year warranty provided by the College's contractor.
- The estimated cost to construct the Collector is \$1,472,908.00, with \$546,000 related to impacts of development (required frontage improvements) and \$926,908 related to system improvements (public benefit).
- The City agrees to reimburse Clark College for the system improvements portion of the Collector construction costs that are above and beyond those related to the impacts of the Clark College at Boschma Farms development. This reimbursement will be in the form of a combination of TIF Credits in an amount not to exceed \$153,896.00 and monetary reimbursement not to exceed \$773,012.00.

- Approval of this DA is a condition of permanent occupancy of the Clark College AMC building.

BUDGET/FINANCIAL IMPACTS:

Amount of the "Public" portion of the Union Ridge Parkway collector along the site frontage: Traffic Impact Fee Credits of \$153,896., and a cash reimbursement amount not to exceed \$773,012.

RECOMMENDED ACTION OR MOTION:

Council action is requested on this item: conduct a public hearing on Ordinance 1434 (Development Agreement with Clark College) and waive second reading.

A suggested motion is:

"I move to adopt Ordinance No. 1434 as presented."

STAFF CONTACT: Steve Stuart, City Manager

ATTACHMENTS:

1. Development Agreement_CC Signed

ORDINANCE NO. 1434

AN ORDINANCE OF THE CITY OF RIDGEFIELD WASHINGTON APPROVING A DEVELOPMENT AGREEMENT WITH CLARK COLLEGE AND THE CITY OF RIDGEFIELD

WHEREAS, the City is a Washington Municipal Corporation with land use planning and permitting authority over all land within its corporate limits; and

WHEREAS, Clark College is a community college operating under the administration and management of the Washington State Board for Community and Technical Colleges.

WHEREAS, the City has the authority to enter into Development Agreement pursuant to RCW 36.70B.170 through RCW 36.70B.210; and

WHEREAS, Clark College is building the Advanced Manufacturing Center (AMC) at their Ridgefield Boschma Farms Campus; and

WHEREAS, City and College officials have negotiated the terms of the subject Development Agreement; and

WHEREAS, The Agreement governs the terms and conditions of construction and acceptance of a new, public north-south connector known as Union Ridge Parkway along the east side of the AMC site, as more particularly described in the Agreement; and

WHEREAS, the Union Ridge Parkway collector is contained in the City's Transportation Capital Facilities Plan and is included in the Transportation Impact Fee system; and

WHEREAS, the City Council held a public hearing for the proposed Development Agreement at a regular scheduled meeting held on October 24, 2024; and

WHEREAS, the City Council conducted a first reading of this ordinance on October 24, 2024.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF RIDGEFIELD, WASHINGTON HEREBY ORDAINS AS FOLLOWS:

Section 1. Public Interest. The City Council for the City of Ridgefield, Washington finds, following a public hearing process, that it is in the public interest for the City of Ridgefield to approve the Development Agreement with property owners to clarify the terms and conditions of the public roadway infrastructure as built by Clark College.

Section 2. Development Agreement Approved. The City Council for the City of Ridgefield hereby approves the Development Agreement attached hereto as Exhibit "A" and authorizes the City Manager to execute the Amendment substantially in the form attached and to take such other actions as may be necessary to effect this Agreement.

Section 3. Corrections. The City Clerk and the codifiers of this ordinance are authorized to make

necessary clerical corrections to this ordinance including, but not limited to, the correction of scrivener's/clerical errors, references, ordinance numbering, section/subsection numbers and any references thereto.

Section 4. Severability. Any provision of this ordinance or its application to any person, legal entity, or circumstance is held invalid, the remainder of the ordinance or its application to other persons, legal entities, or circumstances is not affected.

Section 5. Effective Date. This ordinance shall be in full force and effect thirty (30) calendar days after adoption and publication pursuant to law.

ADOPTED BY THE CITY COUNCIL OF THE CITY OF RIDGEFIELD, WASHINGTON THIS DAY OF _____
2024.

CITY OF RIDGEFIELD
Mayor, Ron Onslow

ATTEST:
Julie Ferriss
City Clerk

APPROVED AS TO FORM:
Janean Parker, City Attorney
Public Hearing: October 10, 2024
First reading: October 10, 2024
Second Reading/Passage:
Date of Publication:
Effective Date

After Recording Return to:
City of Ridgefield
Planning Department
230 Pioneer Street
P.O. Box 608
Ridgefield, WA 98642

DEVELOPMENT AGREEMENT

GRANTOR(S):	WASHINGTON STATE BOARD FOR COMMUNITY AND TECHNICAL COLLEGES
GRANTEE:	CITY OF RIDGEFIELD, a Washington Municipal Corporation
ABBREVIATED LEGAL DESC:	#7, 62 SEC 22, T4N, R1E WM
ASSESSOR PARCEL NOS:	214196000
FULL LEGAL DESC:	See Exhibit A To This Document

DEVELOPMENT AGREEMENT

THIS DEVELOPMENT AGREEMENT (this "Agreement") is made and entered into by and between the City of Ridgefield, a municipal corporation (the "City"), and Clark College, a public community college and the Washington State Board for Community and Technical Colleges, (collectively hereafter referred to as "Clark College"), hereinafter "Parties". This Agreement is to be implemented in accordance with Chapter 36.70B.170 through 36.70B.210 RCW. It shall become a contract between the Clark College and the City upon the City's approval by ordinance following a public hearing as provided for in Chapter 36.70B.170 RCW.

I. RECITALS:

A. The real property subject to this Development Agreement consists of the following tax parcel located within the City of Ridgefield, Washington: 214196000, commonly known as

Clark College at Boschma Farms and which is legally described on Exhibit A attached to this Agreement and incorporated herein by this reference (the “Property”).

B. The City has land use planning and permitting authority, including site plan approval, for the Property.

C. The Washington State Board for Community and Technical Colleges is the fee owner of the Property subject to this Agreement.

D. Clark College developed a long-range master plan for a satellite campus within Ridgefield on 70 acres called Clark College at Boschma Farms in 2016 to provide access to underserved populations in north Clark County. Clark College is building an Advance Manufacturing Center as the first phase of this campus, which will consist of a 50,000 square foot building with associated parking. In future years, Clark College and the Clark College Foundation plan to potentially construct additional campus buildings and also include a potential regional business center and other amenities to become a community destination in north Clark County.

E. The City Council adopted the Ridgefield Junction Subarea Plan in 2015 that addressed environmental constraints and transportation circulation of both east-west and north-south corridors within the area. Clark College at Boschma Farms is not subject to a binding master plan or a binding City-approved site plan.

The City has adopted a Capital Facilities Plan that addresses the need for a north-south connector between Pioneer in the vicinity of Boschma Farms and an east-west extension of Pioneer.

F. The City and Clark College each recognize the many public benefits to Ridgefield and to the region of having a satellite campus within the City, including providing local educational opportunities and workforce training to enhance the greater Ridgefield and northern Clark County communities.

G. The City and Clark College have negotiated the location of the north-south connector for purposes of the overall development of Clark College at Boschma Farms, and Clark College agrees to construct this north-south connector. This Agreement is intended to set forth the conditions and responsibilities of the Parties related to the construction and dedication to the City of the portion of the north-south connector to be built on tax parcel 214196000, including the City’s contribution to the construction.

H. The Parties are authorized to enter this Agreement by RCW 36.70B.170(1) in order to set forth the development standards, reimbursement provisions, and other provisions that will apply to and govern the development, use and mitigation of the development of real property for the duration specified in the agreement.

I. The City is authorized by RCW 35.72.020 to contract with owners of real estate for the construction of street projects installed by owners related to conditions of development.

J. The City provided notice of and held a public hearing on this Agreement and the City Council has considered public testimony at hearing on the substantive issues contained within this Agreement and has approved the Agreement.

II. AGREEMENT

NOW, THEREFORE, the Parties agree as follows:

1. RECITALS

The Recitals set forth in Section I are hereby incorporated into this Agreement.

2. CONSTRUCTION OF PUBLIC ROAD

- 2.1 For the purposes of this Agreement, the term “Public Road” shall mean a new north-south connector that will be built to the Industrial Collector roadway standard in accordance with the adopted Ridgefield Public Works Standards, including sidewalks on the west side, except with an agreed-upon maximum speed limit of 25 miles per hour, and frontage improvements from Pioneer Street on the South to the northern boundary of Parcel Nos. 21419600 and across Parcel No. 214196000, as more specifically described in Exhibit B, “Public Road Plan.”
- 2.2 The Parties agree that construction of the Public Road is necessary and reasonable to mitigate the traffic impacts for future developments, including Clark College at Boschma Farms, as well as serve the City’s public interest in providing traffic circulation and promoting further development within east Ridgefield.
- 2.3 Clark College agrees to construct a Public Road in the location and in accordance with the plans shown in Exhibit B as a part of the construction of the Phase 1 Advanced Manufacturing Center. Clark College has already submitted construction plans for the Public Road for approval as a part of the Building Permit Application process.
- 2.4 The City agrees to defer the sidewalk on the east side of the north-south collector road until such time as the property with frontage on that side of the roadway is developed or until the City programs its own public project to complete it.
- 2.5 Any contract to construct the Public Road shall include the payment of prevailing wages in accordance with Chapter 39.12 RCW.
- 2.6 Clark College agrees to substantially complete construction of the Public Road before final occupancy of the Advanced Manufacturing Center.
- 2.7 Clark College agrees to pay for all costs of the construction of Public Road and the dedication of the Public Road to the City, with the exception of the street lighting poles, which will be provided by the City.

- 2.8 Clark College agrees to require its contractor to provide a one-year warranty to Clark College to guarantee the repair or replacement of any defective work for a period of one year from final acceptance. In the event of the discovery of defective work, the City will notify Clark College who will be responsible to enforce the warranty to require the contractor correct the defective work. In the event the contractor fails to correct the work to the satisfaction of the City within a reasonable time, the City may, upon thirty days written notice to Clark college, have the defective work corrected and Clark College agrees to pay the City's costs of correcting the defective work within thirty days of receipt of the City's invoice for such work.
- 2.9 After City inspection and approval, Clark College shall dedicate the Public Road to the City and the City shall accept the dedication. Such dedication may be by recording of dedication easement, deed, or other document acceptable to both Parties.
- 2.10 Upon final acceptance, the City agrees to reimburse Clark College a portion of the construction costs and to issue Traffic Impact Fee Credits (TIF Credits) for a portion of the costs as set forth in Paragraph 3 below.

3. ALLOCATION AND PAYMENT OF CONSTRUCTION COSTS

- 3.1 The estimated cost to construct the Collector is \$1,472,908.00 with \$546,000 related to impacts of development and \$926,908 related to system improvements. The City agrees to reimburse Clark College, a public entity, for the portion of the Public Road construction costs that are related to system improvements and not related to the impacts of the Clark College at Boschma Farms development through a combination of TIF Credits in an amount not to exceed \$153,896.00 as authorized by Ridgefield Municipal Code 18.070.150, and monetary reimbursement not to exceed \$773,012.00, as provided herein.
- 3.2 The City has adopted a Traffic Impact Fee (TIF) eligible share available for the issuance of traffic impact credits for certain work for system improvements. However, Clark College, as a public entity, cannot utilize these credits for other development and does not require the full available amount of TIF Credits. Therefore, the Parties agree that the total TIF Credits to be issued to reimburse actual construction costs for the Public Road shall be \$153,896.00.
- 3.3 Clark College has submitted detailed records showing the actual and reasonable construction costs for the Public Road including appraised land value at the time of dedication. Clark College agrees to provide such other additional information as the City may reasonably request to process the TIF Credit allocation in accordance with City regulations.
- 3.4 The TIF Credits will be issued after the Public Road has been completed and accepted by the City in accordance with Ridgefield Municipal Code 18.070.150 and as further limited by this Agreement.

3.5 In addition to the TIF Credits of \$153,896.00, the City agrees to reimburse Clark College an amount not to exceed \$773,012.00 for those actual and reasonable construction costs based on the documentation submitted under 3.3. Payment for reimbursement shall be provided as follows: Within 30 days of City approval of the construction costs submitted under Paragraph 3.3, the City shall issue a check payable to Clark College for the approved actual and reasonable system improvement costs not to exceed \$773,012.00.

3.6 Any and all Public Road construction costs exceeding \$926,908.00 shall be the responsibility of Clark College and the Parties agree that such costs are in mitigation of the impacts of the Advance Manufacturing Center.

4. EFFECTIVE DATE.

The effective date of this Agreement shall be the date of the last signature of the undersigned Parties below after approval by the City Council upon a duly noticed public hearing.

5. TERM OF AGREEMENT

This Agreement shall commence upon the Effective Date and continue in force for a single term with a period of one year or until all of the following conditions have been met, whichever is later: (1) the Public Road improvements described herein have been accepted by the City, (2) the final reimbursement payment has been made by the City, and the one-year warranty period set forth in Section 2.8 of this Agreement has expired and any defects noted during that period have been corrected. This Agreement shall terminate automatically at the end of this Term unless extended in writing by mutual agreement of the Parties.

6. LAND USE VESTING

Land use applications for the Property shall vest under the land use laws in effect at the time a fully complete application is or applications are submitted to the City, after this Agreement becomes effective, as provided above.

Laws shall include all zoning regulations and development and public works standards applicable to the Property.

7. CITY RESERVED AUTHORITY

In accordance with Chapter 36.70B.170 RCW, and notwithstanding anything in this Agreement to the contrary, the City reserves the right and authority to impose new or different regulations to the extent required by a serious threat to public health and safety.

8. MISCELLANEOUS PROVISIONS

8.1 Authorization. The persons executing this Agreement on behalf of the Parties are authorized to do so and, upon execution by such parties, this Agreement shall be a valid and binding obligation of such parties in accordance with its terms. The Parties have each obtained any and all consents required to enter into this Agreement and to consummate or cause to be consummated the transactions contemplated hereby.

8.2 Execution of Agreement, Counterparts, Electronic Signatures and copies. This Agreement may be executed in several counterparts; each of which shall be deemed an original and all of which shall constitute one and the same instrument and shall become effective when counterparts have been signed by each of the Parties and delivered to the other Parties; PROVIDED that all signature pages will be recorded together, and the complete recorded Agreement will constitute the final instrument. Electronic and facsimile copies intended to preserve the original graphic and pictorial appearance of a document, shall constitute effective execution and delivery of this Agreement as to the Parties and may be used in lieu of the original Agreement for all purposes. Signatures of the Parties transmitted by facsimile shall be deemed to be their original signatures for all purposes.

8.3 Run with the Land. This Agreement shall run with the land and be binding upon and inure to the benefit of the undersigned parties, and their respective heirs, successors and assigns.

Provided, however, that the City's agreement to monetary reimbursement to Clark College for the costs of certain system improvements is expressly conditioned on the public benefits and public educational uses identified by the Agreement. In the event that Clark College sells or otherwise transfers the right to develop the Property for any non-campus use, Paragraph 3.4 shall be deleted and the only reimbursement shall be the issuance of TIF Credits for the full TIF eligible share related to system improvements.

8.4 Recording. This Agreement shall be recorded against the real property indicated on Exhibit A with the Clark County Auditor.

8.5 Time is of the Essence. Time is of the essence in the performance of and adherence to each and every provision of this Agreement.

8.6 Future Assurances. Each of the Parties shall promptly execute and deliver such additional documents and shall do such acts that are reasonably necessary, in connection with the performance of their respective obligations under this Agreement, to carry out the intent of this Agreement.

8.7 Future Discretionary Action. Nothing in this Agreement will be construed to limit the authority or the obligation of the City to process any land use approvals, including preliminary plat, PUD, CUP, site plan review or building permit under the processes established by the City; provided, however, that such processing will not impose conditions inconsistent with the provisions of this Agreement.

8.8 Minor Modifications. Minor modifications to the provisions of this Agreement or the exhibits attached hereto that are mutually agreed upon by the parties may be allowed administratively without the necessity of a public hearing.

8.9 Inconsistencies. If any provisions of the Ridgefield Municipal Code, land use regulations, or Developer's future land use approvals are deemed inconsistent with the provisions of this Agreement, the provisions of this Agreement will prevail, excepting the City's reserved authority as defined herein.

8.10 Non-Waiver. Failure by either party at any time to require performance by the other party of any of the provisions hereof will in no way affect the parties' rights hereunder to enforce the same, nor will any waiver by a party of the breach hereof be held to be a waiver of any succeeding breach or a waiver of this non-waiver clause.

8.11 No Third-Party Beneficiaries. The Parties are the only parties to this Agreement and are the only parties entitled to enforce its terms, except as otherwise specifically provided in this Agreement. There are no third-party beneficiaries.

8.12 Severability. If any portion of this Agreement shall be invalid or unenforceable to any extent, the validity of the remaining provisions shall not be affected thereby.

8.13 Survival. Any covenant or condition set forth in this Agreement, the full performance of which is not specifically required prior to the expiration or earlier termination but which by its terms is to survive the termination of this Agreement, will survive the expiration or earlier termination of this Agreement and will remain fully enforceable thereafter.

8.14 Venue and Applicable Law. This Agreement shall be construed in accordance with and governed by the laws of the State of Washington. The Parties agree to venue exclusively in the Superior Court for Clark County, State of Washington, to resolve any disputes that may arise under this Agreement.

8.15 Entire Agreement. This Agreement constitutes the entire agreement between the Parties as to the subject matter of the Agreement.

8.16 Notices. All notices, demands, consents, approval or other communications which are required or desired to be given by either party to the other hereunder will be in writing and will be hand-delivered, sent by a nationally recognized overnight courier service or sent by United States mail, marked certified mail return receipt requested, addressed to the appropriate party at its address as set forth, or at such other address as the party will have last designated by notice to the other. Notices, demands, consents, approvals, and other communications will be deemed given when delivered two (2) days after deposit with the courier or mailing, as the case may be.

Notices to the City:

Steve Stuart
City Manager
Post Office Box 608
Ridgefield, Washington 98642

With copies to:

Janean Parker
City Attorney
Law Office of Janean Z. Parker
P.O. Box 298
Adna, Washington 98532

Notice to Clark College:

Sabra Sand
Clark College
1933 Fort Vancouver Way
Vancouver, WA 98663

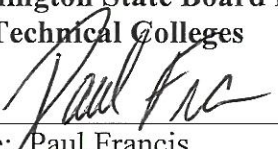
With copies to:

ssand@clark.edu

And to:



**Washington State Board for Community
and Technical Colleges**

By: 
Name: Paul Francis
Title: Executive Director
Date: 9/11/2024

Name:
By:
Title:
Date:

City:

City of Ridgefield

By:
Name: Steve Stuart
Title: City Manager
Date:

ATTEST:
By:
Name:
Title: City Clerk

APPROVED AS TO FORM:
By:
Name: Janean Parker
Title: City Attorney

[Insert Washington Notary Blocks]

STATE OF WASHINGTON)
) ss.
County of Clark)

I certify that I know or have satisfactory evidence that Steve Stuart is the individual who appeared before me, and acknowledged that he/she/they signed this instrument, on oath stated that he/she/they was authorized to execute the instrument and acknowledged it, as the City Manager of the City of Ridgefield to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: _____, 2024.

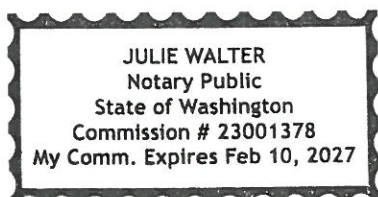
NOTARY PUBLIC in and for the State of
Washington, residing at _____

My appointment expires: _____

STATE OF WASHINGTON)
) ss.
County of Clark)

I certify that I know or have satisfactory evidence that Paul Francis is the individual who appeared before me, and acknowledged that he/she/they signed this instrument, on oath stated that he/she/they was authorized to execute the instrument and acknowledged it, as the Executive Director of SBC7C to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: 9/11, 2024.



Julie Walter
NOTARY PUBLIC in and for the State of
Washington, residing at Thurston County
My appointment expires: 2/10/2027

EXHIBIT A



VANCOUVER OFFICE

18405 SE Mill Plain Boulevard, Suite 100, Vancouver, WA 98683
360.695.3411 | www.mackaysposito.com

17862LDS
07/22/24
PJS

EXHIBIT "A" **RIGHT-OF-WAY EASEMENT LEGAL DESCRIPTION** **CITY OF RIDGEFIELD, CLARK COUNTY, WASHINGTON**

A TRACT OF LAND SITUATED IN THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 22, TOWNSHIP 4 NORTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN, CITY OF RIDGEFIELD, CLARK COUNTY, WASHINGTON, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF SAID SECTION 22, THE WEST LINE OF SAID NORTHWEST QUARTER BEARS NORTH 02°50'21" EAST;

THENCE NORTH 83°58'18" EAST A DISTANCE OF 1307.54 FEET TO A POINT ON THE WEST LINE OF THAT PARCEL CONVEYED TO THE CITY OF RIDGEFIELD, WASHINGTON BY DEED RECORDED UNDER AUDITOR'S FILE NUMBER 6070784, CLARK COUNTY RECORDS, AND THE **TRUE POINT OF BEGINNING**;

THENCE NORTH 79°59'31" WEST 4.50 FEET TO A POINT ON A NON-TANGENT 40.50 FOOT RADIUS CURVE TO THE LEFT, FROM WHICH THE RADIUS POINT FROM BEARS NORTH 79°59'31" WEST;

THENCE ALONG SAID NON-TANGENT 40.50 FOOT RADIUS CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 26°18'50" (LONG CHORD BEARS NORTH 03°08'56" WEST A DISTANCE OF 18.44 FEET), AN ARC LENGTH OF 18.60 FEET TO A 121.50 FOOT RADIUS CURVE TO THE LEFT;

THENCE ALONG SAID 121.50 FOOT RADIUS CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 01°33'47" (LONG CHORD BEARS NORTH 15°31'27" WEST A DISTANCE OF 3.31 FEET), AN ARC LENGTH OF 3.31 FEET;

THENCE NORTH 00°00'00" EAST A DISTANCE OF 235.99 FEET;

THENCE NORTH 90°00'00" WEST A DISTANCE OF 5.50 FEET;

THENCE NORTH 00°00'00" EAST A DISTANCE OF 138.85 FEET;

THENCE NORTH 90°00'00" EAST A DISTANCE OF 5.50 FEET;

Page 1 of 3

THENCE NORTH 00°00'00" EAST 87.22 FEET TO A POINT ON THE NORTH LINE OF SAID PARCEL CONVEYED TO THE WASHINGTON STATE BOARD FOR COMMUNITY AND TECHNICAL COLLEGES SAID POINT BEING 605.03 FEET EAST OF THE NORTHWEST CORNER THEREOF, AS MEASURED ALONG THE NORTH LINE THEREOF;

THENCE SOUTH 88°35'39" EAST, ALONG SAID NORTH LINE 80.02 FEET;

THENCE SOUTH 00°00'00" EAST A DISTANCE OF 388.12 FEET TO A 380.50 FOOT RADIUS CURVE TO THE LEFT;

THENCE ALONG SAID 380.50 FOOT RADIUS CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 07°03'50" (LONG CHORD BEARS SOUTH 03°31'55" EAST A DISTANCE OF 46.88 FEET), AN ARC LENGTH OF 46.91 FEET TO THE NORTH LINE OF THAT PARCEL CONVEYED TO THE CITY OF RIDGEFIELD, WASHINGTON BY DEED RECORDED UNDER AUDITOR'S FILE NUMBER 6070784, CLARK COUNTY RECORDS;

THENCE SOUTH 90°00'00" WEST, ALONG SAID NORTH LINE A DISTANCE OF 75.87 FEET TO THE NORTHWEST CORNER OF SAID CITY OF RIDGEFIELD PARCEL;

THENCE SOUTH 00°00'00" EAST, ALONG THE WEST LINE OF SAID CITY OF RIDGEFIELD PARCEL 39.74 FEET TO A 45.00 FOOT RADIUS CURVE TO THE RIGHT;

THENCE ALONG SAID WEST LINE AND ALONG SAID 45.00 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 10°00'29" (LONG CHORD BEARS SOUTH 05°00'14" WEST A DISTANCE OF 7.85 FEET), AN ARC LENGTH OF 7.86 FEET TO THE **TRUE POINT OF BEGINNING**.

CONTAINING 0.83 ACRES, MORE OR LESS.



8/22/2024

EXHIBIT B

(Public Road Plan)

