

Appendix F: CIP Unit Cost Tables

Unit Cost Table

Costs based on RS Means, collected bid tabs, and recent master planning efforts, adjusted to 2019 prices.

Unit costs escalated to 2019 dollars via ENR Consumer Cost Index.

| Item | Unit | Unit Cost (2019) |
|--|------|------------------|
| Inspection | | |
| Mainline Video Inspection | FT | 3.60 |
| Earthwork | | |
| General Earthwork/Excavation | CY | 20 |
| Embankment | CY | 9 |
| Clear and Grub brush including stumps | AC | 8,300 |
| Amended Soils and Mulch | CY | 46 |
| Jute Matting, Biodegradeable | SY | 6 |
| Tree removal | EA | 310 |
| Geomembrane | SY | 31 |
| Geotextile | SY | 3 |
| Energy dissipation pad - Rip-Rap, Class 50 | CY | 67 |
| Energy dissipation pad - Rip-Rap, Class 100 | CY | 82 |
| Energy dissipation pad - Rip-Rap, Class 200 | CY | 98 |
| Dewatering/Bypass | LS | 20,361 |
| Dewatering | LS | 52,600 |
| Drain Rock | CY | 103 |
| Water Quality Facility Installation | | |
| Pond Outflow Control Structure | EA | 6,210 |
| Pond Inlet Structure | EA | 4,580 |
| Water Quality Facility Plantings with Trees | SF | 6 |
| Rain Garden | SF | 27 |
| Stormwater Planter | SF | 41 |
| Gravel Access Road | SF | 5 |
| Beehive Overflow | EA | 1,530 |
| Structure Installation | | |
| Field Ditch Inlet | EA | 4,100 |
| Precast Concrete Manhole (48", 0-8' deep) | EA | 5,700 |
| Precast Concrete Manhole (48", 9-12' deep) | EA | 6,700 |
| Precast Concrete Manhole (48", 13-20' deep) | EA | 10,400 |
| Precast Concrete Manhole (60", 0-8' deep) | EA | 7,700 |
| Precast Concrete Manhole (60", 9-12' deep) | EA | 9,900 |
| Precast Concrete Manhole (72", 0-8' deep) | EA | 9,900 |
| Precast Concrete Manhole (72", 9-12' deep) | EA | 12,400 |
| 8'x8'x10' Concrete Vault | EA | 16,800 |
| Precast Concrete Manhole (72", >12' deep) | EA | 13,000 |
| Precast Concrete Manhole (84", 0-8' deep) | EA | 14,800 |
| Flow Splitter/WQ Manhole (72", all depths) | EA | 12,500 |
| Contech CDS (Model CDS3025, 72") | EA | 29,300 |
| StormFilter (2-cartridge catch basin unit, 18" cartridges) | EA | 10,300 |
| Drywell (48", 20-25' deep) | EA | 12,400 |
| Curb Inlet | EA | 1,300 |
| Catch Basin, all types | EA | 2,000 |
| Concrete Fill - UIC Decommissioning | EA | 10,400 |
| Connection to Existing Lateral | EA | 1,200 |
| Connection to Existing Structure, standard | EA | 2,000 |
| Abandon Existing Pipe, no excavation (12") | FT | 10 |
| Abandon Existing Pipe, no excavation (15"-18") | FT | 20 |
| Abandon Existing Pipe, no excavation (21"-24") | FT | 25 |
| Abandon Existing Pipe, no excavation (27"-36") | FT | 36 |
| Abandon Existing Structure | EA | 1,000 |
| Demo pipe | LF | 72 |
| Remove existing pavement | SY | 10 |
| Remove structure | EA | 1,000 |
| Plug Existing Pipe | EA | 510 |
| Check dams | EA | 510 |
| Stem wall check dam | LF | 67 |
| Headwall with wingwalls, larger than 48" pipe | EA | 14,300 |

Unit Cost Table

Costs based on RS Means, collected bid tabs, and recent master planning efforts, adjusted to 2019 prices.

Unit costs escalated to 2019 dollars via ENR Consumer Cost Index.

| Item | Unit | Unit Cost (2019) |
|--|------|------------------|
| Headwall with wingwalls, up to 48" pipe | EA | 8,100 |
| Ecology Block Structural Wall | EA | 735 |
| Outfall Improvements | EA | 3,000-10,000 |
| Restoration/Resurfacing | | |
| Non-Water Quality Facility Landscaping | AC | 15,600 |
| Riparian/Wetland Planting (Non-irrigated) | AC | 20,700 |
| Riparian/Wetland Planting (w/temporary irrigation) | AC | 33,100 |
| Planting and Bioengineered Restoration | SY | 41 |
| 4-foot Chain Link Fence | LF | 22 |
| Split Rail Fence | LF | 25 |
| Hydroseed, large quantities | AC | 2500 |
| Seeding, small quantities (< 5,000 sf) | SF | 6 |
| Sidewalk Installation | SF | 7 |
| Trench resurfacing, Permanent ACP, 6-Inch Depth | SY | 72 |
| Permeable Paver Installation | SF | 12 |
| Porous Asphalt Paving | SF | 2.5 |
| Concrete Curbs | FT | 41 |
| Pipe Unit Cost | | |
| Underdrain Pipe, 4" | LF | 30 |
| Underdrain, 6" perforated HDPE | LF | 57 |
| HDPE Inlet Lead (12", 2-5' deep) | FT | 93 |
| HDPE Pipeline w/asphalt resurfacing (12", 5-10' deep) | FT | 140 |
| HDPE Pipeline (12", 5-10' deep) | FT | 130 |
| HDPE Pipeline w/asphalt resurfacing (12", 10-15' deep) | FT | 160 |
| HDPE Pipeline w/asphalt resurfacing (18", 5-10' deep) | FT | 200 |
| HDPE Pipeline (18", 5-10' deep) | FT | 160 |
| HDPE Pipeline w/asphalt resurfacing (24", 5-10' deep) | FT | 280 |
| HDPE Pipeline (24", 5-10' deep) | FT | 190 |
| HDPE Pipeline w/asphalt resurfacing (30", 5-10' deep) | FT | 330 |
| HDPE Pipeline (30", 5-10' deep) | FT | 240 |
| HDPE Pipeline w/asphalt resurfacing (36", 5-10' deep) | FT | 410 |
| HDPE Pipeline (36", 5-10' deep) | FT | 270 |
| HDPE Pipeline (36", 10-15' deep) | FT | 310 |
| HDPE Pipeline w/asphalt resurfacing (36", 10-15' deep) | FT | 330 |
| HDPE Pipeline w/asphalt resurfacing (42", 5-10' deep) | FT | 520 |
| HDPE Pipeline (42", 5-10' deep) | FT | 350 |
| HDPE Pipeline w/ asphalt resurfacing (42", >10' deep) | FT | 375 |
| HDPE Pipeline w/asphalt resurfacing (48", 5-10' deep) | FT | 580 |
| HDPE Pipeline (48", 5-10' deep) | FT | 440 |
| HDPE Pipeline w/ asphalt resurfacing (48", >10' deep) | FT | 540 |
| HDPE Pipeline w/ asphalt resurfacing (54", >10' deep) | FT | 580 |
| HDPE Pipeline w/asphalt resurfacing (60", 5-10' deep) | FT | 830 |
| HDPE Pipeline (60", 5-10' deep) | FT | 690 |
| HDPE Pipeline (84", 5-10' deep) | FT | 1395 |
| CMP Pipeline w/asphalt resurfacing (84", 5-10' deep) | FT | 1170 |
| CMP Pipeline (84", 5-10' deep) | FT | 950 |
| CMP Pipeline w/ no asphalt resurfacing (72", 5-10' Deep) | FT | 875 |
| CMP Pipeline w/ no asphalt (75"x115" arch, 5-10' Deep) | FT | 1355 |
| Extra depth pipe | FT | 52 |
| RCP Pipeline w/ asphalt resurfacing (12", 5-10' deep) | FT | 230 |
| RCP Pipeline w/ asphalt resurfacing (24", 5-10' deep) | FT | 410 |
| RCP Pipeline w/ asphalt resurfacing (30", 5-10' deep) | FT | 530 |
| RCP Pipeline w/ asphalt resurfacing (36", 5-10' deep) | FT | 660 |
| RCP Pipeline w/ asphalt resurfacing (48", 5-10' deep) | FT | 870 |
| RCP Pipeline w/ asphalt resurfacing (60", 5-10' deep) | FT | 1200 |
| RCP Pipeline w/ asphalt resurfacing (72", 5-10' deep) | FT | 1500 |
| RCP Pipeline w/ asphalt resurfacing (84", 5-10' deep) | FT | 1700 |
| Box Culvert (160 LF, 4' x 9') | LS | 103800 |

Unit Cost Table

Costs based on RS Means, collected bid tabs, and recent master planning efforts, adjusted to 2019 prices.

Unit costs escalated to 2019 dollars via ENR Consumer Cost Index.

| Item | Unit | Unit Cost (2019) |
|--|-------------|-------------------------|
| Box Culvert Installation | FT | 900 |
| Contingencies and Multipliers | | |
| Contingency | LS | 30% |
| Capital Expense Total (including contingency) | | |
| Design/Construction Administration (%) | LS | 30% |
| Permitting (%) | LS | 5%/15% |
| Administration (%) | LS | 14% |

CIP #: WG-2-C

NE Halsey Street Pipe Improvements

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|--|------|------------------|----------|--------------------|
| Structure Installation | | | | |
| Precast Concrete Manhole (72", 9-12' deep) | EA | 12,400 | 1 | \$12,400 |
| Precast Concrete Manhole (72", >12' deep) | EA | 13,000 | 14 | \$182,000 |
| Connection to Existing Structure, standard | EA | 2,000 | 13 | \$26,000 |
| Restoration/Resurfacing | | | | |
| Demo pipe | LF | 72 | 3468 | \$249,696 |
| Pipe Unit Cost | | | | |
| Outfall Improvements | EA | 3,000-10,000 | 1 | \$10,000 |
| HDPE Pipeline w/asphalt resurfacing (36", 5-10' deep) | FT | 410 | 521 | \$213,610 |
| HDPE Pipeline w/asphalt resurfacing (36", 10-15' deep) | FT | 330 | 68 | \$22,440 |
| HDPE Pipeline w/asphalt resurfacing (42", 5-10' deep) | FT | 520 | 454 | \$236,080 |
| HDPE Pipeline w/ asphalt resurfacing (42", >10' deep) | FT | 375 | 379 | \$142,125 |
| HDPE Pipeline w/ asphalt resurfacing (48", >10' deep) | FT | 540 | 1426 | \$770,040 |
| HDPE Pipeline w/ asphalt resurfacing (54", >10' deep) | FT | 580 | 620 | \$359,600 |
| Project Sub-Total | | | | \$2,224,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$667,200 |
| Capital Expense Total (including contingency) | | | | \$2,891,000 |
| Design/Construction Administration (%) | LS | 30% | | \$867,300 |
| Permitting (%) | LS | 5% | | \$144,550 |
| Administration (%) | LS | 14% | | \$404,740 |
| TOTAL | | | | \$4,308,000 |

CIP #: WG-2-C-WQ

Kirk Park/Hartley School Water Quality Facilities and Pipe Improvements

DESIGN ASSUMPTIONS

Infiltration facilities provide 3 ft of storage with an infiltration rate of 2 in/hr.

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|--|------|------------------|--------------|--------------------|
| Earthwork | | | | |
| General Earthwork/Excavation | CY | 20 | 5500 | \$110,000 |
| Clear and Grub brush including stumps | AC | 8,300 | 1 | \$8,300 |
| Amended Soils and Mulch | CY | 46 | 2420 | \$111,320 |
| Water Quality Facility Installation | | | | |
| Energy dissipation pad - Rip-Rap, Class 200 | CY | 98 | 8 | \$784 |
| Pond Outflow Control Structure | EA | 6,210 | 2 | \$12,420 |
| Pond Inlet Structure | EA | 4,580 | 2 | \$9,160 |
| Structure Installation | | | | |
| Precast Concrete Manhole (48", 9-12' deep) | EA | 6,700 | 1 | \$6,700 |
| Precast Concrete Manhole (72", 9-12' deep) | EA | 12,400 | 1 | \$12,400 |
| Precast Concrete Manhole (72", >12' deep) | EA | 13,000 | 7 | \$91,000 |
| Connection to Existing Structure, standard | EA | 2,000 | 7 | \$14,000 |
| Restoration/Resurfacing | | | | |
| Abandon Existing Structure | EA | 1,000 | 1 | \$1,000 |
| Demo pipe | LF | 72 | 1627 | \$117,144 |
| Pipe Unit Cost | | | | |
| Outfall Improvements | EA | 3,000-10,000 | 1 | \$10,000 |
| HDPE Pipeline w/asphalt resurfacing (24", 5-10' deep) | FT | 280 | 354 | \$10,000 |
| HDPE Pipeline (24", 5-10' deep) | FT | 190 | 700 | \$133,000 |
| HDPE Pipeline w/asphalt resurfacing (36", 5-10' deep) | FT | 410 | 522 | \$214,020 |
| HDPE Pipeline w/asphalt resurfacing (36", 10-15' deep) | FT | 330 | 1105 | \$364,650 |
| Project Sub-Total | | | | \$1,226,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$367,800 |
| Capital Expense Total (including contingency) | | | | \$1,594,000 |
| Design/Construction Administration (%) | LS | 30% | | \$478,200 |
| Permitting (%) | LS | 5% | | \$79,700 |
| Administration (%) | LS | 14% | | \$223,160 |
| | | | TOTAL | \$2,375,000 |

CIP #: WG-2-WQ

Kirk Park/Hartley School Water Quality Facilities

DESIGN ASSUMPTIONS

Two water quality facilities will be built together.

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|--------------|--------------------|
| Earthwork | | | | |
| General Earthwork/Excavation | CY | 20 | 5500 | \$110,000 |
| Clear and Grub brush including stumps | AC | 8,300 | 1 | \$8,300 |
| Amended Soils and Mulch | CY | 46 | 2420 | \$111,320 |
| Water Quality Facility Installation | | | | |
| Energy dissipation pad - Rip-Rap, Class 200 | CY | 98 | 8 | \$784 |
| Pond Outflow Control Structure | EA | 6,210 | 2 | \$12,420 |
| Pond Inlet Structure | EA | 4,580 | 2 | \$9,160 |
| Structure Installation | | | | |
| Precast Concrete Manhole (48", 9-12' deep) | EA | 6,700 | 1 | \$6,700 |
| Connection to Existing Structure, standard | EA | 2,000 | 3 | \$6,000 |
| Restoration/Resurfacing | | | | |
| Abandon Existing Structure | EA | 1,000 | 1 | \$1,000 |
| Demo pipe | LF | 72 | 240 | \$17,280 |
| Pipe Unit Cost | | | | |
| Outfall Improvements | EA | 3,000-10,000 | | \$3,000 |
| HDPE Pipeline w/asphalt resurfacing (24", 5-10' deep) | FT | 280 | 354 | \$99,120 |
| HDPE Pipeline (24", 5-10' deep) | FT | 190 | 700 | \$133,000 |
| Project Sub-Total | | | | \$518,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$155,400 |
| Capital Expense Total (including contingency) | | | | \$673,000 |
| Design/Construction Administration (%) | LS | 30% | | \$201,900 |
| Permitting (%) | LS | 5% | | \$33,650 |
| Administration (%) | LS | 14% | | \$94,220 |
| | | | TOTAL | \$1,003,000 |

CIP : JC-1-C

NW 1st St./Ava Ave. Pipe Improvements

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|--------------|------------|
| Structure Installation | | | | |
| Catch Basin, all types | EA | 2,000 | 2 | \$4,000 |
| Connection to Existing Structure, standard | EA | 2,000 | 4 | \$8,000 |
| Demo pipe | LF | 72 | 1040 | \$74,880 |
| Precast Concrete Manhole (48", 0-8' deep) | EA | 5,700 | 2 | \$11,400 |
| Connection to Existing Lateral | EA | 1,200 | 2 | \$2,400 |
| Pipe Unit Cost | | | | |
| HDPE Pipeline w/asphalt resurfacing (24", 5-10' deep) | FT | 280 | 1040 | \$291,200 |
| Project Sub-Total | | | | \$392,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$117,600 |
| Capital Expense Total (including contingency) | | | | \$510,000 |
| Design/Construction Administration (%) | LS | 30% | | \$153,000 |
| Permitting (%) | LS | 5% | | \$25,500 |
| Administration (%) | LS | 14% | | \$71,400 |
| | | | TOTAL | \$760,000 |

CIP #: JC-11-C

Elliot Ave. Pipe Improvements

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|----------|------------------|
| Structure Installation | | | | |
| Connection to Existing Structure, standard | EA | 2,000 | 6 | \$12,000 |
| Demo pipe | LF | 72 | 1020 | \$73,440 |
| Precast Concrete Manhole (48", 0-8' deep) | EA | 5,700 | 1 | \$5,700 |
| Field Ditch Inlet | EA | 4,100 | 1 | \$4,100 |
| Pipe Unit Cost | | | | |
| HDPE Pipeline w/asphalt resurfacing (24", 5-10' deep) | FT | 280 | 1250 | \$350,000 |
| Project Sub-Total | | | | \$445,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$133,500 |
| Capital Expense Total (including contingency) | | | | \$579,000 |
| Design/Construction Administration (%) | LS | 30% | | \$173,700 |
| Permitting (%) | LS | 5% | | \$28,950 |
| Administration (%) | LS | 14% | | \$81,060 |
| TOTAL | | | | \$863,000 |

City of Gresham Stormwater Master Plan

CIP #: JC-11-WQ

Elliot Ave. Green Street

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|----------|------------------|
| Inspection | | | | |
| General Earthwork/Excavation | CY | 20 | 625 | \$12,500 |
| Water Quality Facility Installation | | | | |
| Stormwater Planter | SF | 41 | 2800 | \$114,800 |
| Structure Installation | | | | |
| Curb Inlet | EA | 1,300 | 8 | \$10,400 |
| Restoration/Resurfacing | | | | |
| Concrete Curbs | FT | 41 | 940 | \$38,540 |
| Project Sub-Total | | | | \$176,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$52,800 |
| Capital Expense Total (including contingency) | | | | \$229,000 |
| Design/Construction Administration (%) | LS | 30% | | \$68,700 |
| Permitting (%) | LS | 5% | | \$11,450 |
| Administration (%) | LS | 14% | | \$32,060 |
| TOTAL | | | | \$341,000 |

CIP #: KC-2-C

Channel Replacement Southeast of Division and Cleveland

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|--|------|------------------|--------------|--------------------|
| Earthwork | | | | |
| Embankment | CY | 9 | 560 | \$5,040 |
| Clear and Grub brush including stumps | AC | 8,300 | 0.25 | \$2,075 |
| Structure Installation | | | | |
| Precast Concrete Manhole (72", 0-8' deep) | EA | 9,900 | 4 | \$39,600 |
| Connection to Existing Structure, standard | EA | 2,000 | 3 | \$6,000 |
| Dewatering | LS | 52,600 | 1 | \$52,600 |
| Restoration/Resurfacing | | | | |
| Hydroseed, large quantities | AC | 2,500 | 0.5 | \$1,250 |
| Non-Water Quality Facility Landscaping | AC | 15,600 | 0.5 | \$7,800 |
| Pipe Unit Cost | | | | |
| CMP Pipeline w/ no asphalt resurfacing (72", 5-10' Deep) | FT | 875 | 760 | \$665,000 |
| Project Sub-Total | | | | \$779,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$233,700 |
| Capital Expense Total (including contingency) | | | | \$1,013,000 |
| Design/Construction Administration (%) | LS | 30% | | \$303,900 |
| Permitting (%) | LS | 15% | | \$151,950 |
| Administration (%) | LS | 14% | | \$141,820 |
| | | | TOTAL | \$1,611,000 |

CIP #: KC-10-C

Hogan Drive Outfall Extension

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|--|------|------------------|--------------|--------------------|
| Earthwork | | | | |
| General Earthwork/Excavation | CY | 20 | 2000 | \$40,000 |
| Embankment | CY | 9 | 550 | \$4,950 |
| Clear and Grub brush including stumps | AC | 8,300 | 1 | \$8,300 |
| Dewatering | LS | 52,600 | 1 | \$52,600 |
| Structure Installation | | | | |
| Precast Concrete Manhole (72", 9-12' deep) | EA | 12,400 | 2 | \$24,800 |
| 8'x8'x10' Concrete Vault | EA | 16,800 | 1 | \$16,800 |
| Connection to Existing Structure, standard | EA | 2,000 | 4 | \$8,000 |
| Headwall with wingwalls, larger than 48" pipe | EA | 14,300 | 1 | \$14,300 |
| Outfall Improvements | EA | 3,000-10,000 | 1 | \$5,000 |
| Restoration/Resurfacing | | | | |
| Non-Water Quality Facility Landscaping | AC | 15,600 | 1 | \$15,600 |
| Riparian/Wetland Planting (Non-irrigated) | AC | 20,700 | 1 | \$20,700 |
| Hydroseed, large quantities | AC | 2,500 | 1 | \$2,500 |
| Pipe Unit Cost | | | | |
| CMP Pipeline w/ no asphalt resurfacing (72", 5-10' Deep) | FT | 875 | 450 | \$393,750 |
| CMP Pipeline w/ no asphalt (75"x115" arch, 5-10' Deep) | FT | 1,355 | 390 | \$528,450 |
| Project Sub-Total | | | | \$1,136,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$340,800 |
| Capital Expense Total (including contingency) | | | | \$1,477,000 |
| Design/Construction Administration (%) | LS | 30% | | \$443,100 |
| Permitting (%) | LS | 15% | | \$221,550 |
| Administration (%) | LS | 14% | | \$206,780 |
| | | | TOTAL | \$2,348,000 |

CIP #: KC-10-WQ

17th and 18th St. Green Streets Improvements

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|----------|------------------|
| Earthwork | | | | |
| General Earthwork/Excavation | CY | 20 | 1500 | \$30,000 |
| Water Quality Facility Installation | | | | |
| Stormwater Planter | SF | 41 | 6800 | \$278,800 |
| Structure Installation | | | | |
| Curb Inlet | EA | 1,300 | 18 | \$23,400 |
| Project Sub-Total | | | | \$332,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$99,600 |
| Capital Expense Total (including contingency) | | | | \$432,000 |
| Design/Construction Administration (%) | LS | 30% | | \$129,600 |
| Permitting (%) | LS | 5% | | \$21,600 |
| Administration (%) | LS | 14% | | \$60,480 |
| TOTAL | | | | \$644,000 |

CIP #: KC-12-C

Division St. Pipe Improvements

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|--------------|--------------------|
| Structure Installation | | | | |
| Connection to Existing Structure, standard | EA | 2,000 | 20 | \$40,000 |
| Demo pipe | LF | 72 | 2540 | \$182,880 |
| Precast Concrete Manhole (60", 0-8' deep) | EA | 7,700 | 1 | \$7,700 |
| Pipe Unit Cost | | | | |
| HDPE Pipeline w/asphalt resurfacing (36", 5-10' deep) | FT | 410 | 2540 | \$1,041,400 |
| Project Sub-Total | | | | \$1,272,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$381,600 |
| Capital Expense Total (including contingency) | | | | \$1,654,000 |
| Design/Construction Administration (%) | LS | 30% | | \$496,200 |
| Permitting (%) | LS | 5% | | \$82,700 |
| Administration (%) | LS | 14% | | \$231,560 |
| | | | TOTAL | \$2,464,000 |

CIP #: KC-19-C

Powell and Hwy 26 Pipe Improvements

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|----------|--------------------|
| Structure Installation | | | | |
| Precast Concrete Manhole (72", 9-12' deep) | EA | 12,400 | 13 | \$161,200 |
| Connection to Existing Lateral | EA | 1,200 | 3 | \$3,600 |
| Connection to Existing Structure, standard | EA | 2,000 | 10 | \$20,000 |
| Demo pipe | LF | 72 | 2390 | \$172,080 |
| Pipe Unit Cost | | | | |
| HDPE Pipeline (84", 5-10' deep) | FT | 1,395 | 2390 | \$3,334,050 |
| Project Sub-Total | | | | \$3,691,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$1,107,300 |
| Capital Expense Total (including contingency) | | | | \$4,798,000 |
| Design/Construction Administration (%) | LS | 30% | | \$1,439,400 |
| Permitting (%) | LS | 5% | | \$239,900 |
| Administration (%) | LS | 14% | | \$671,720 |
| TOTAL | | | | \$7,149,000 |

CIP #: KC-24-C

SE Salquist Rd. Pipe Improvements

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|--------------|--------------------|
| Earthwork | | | | |
| Energy dissipation pad - Rip-Rap, Class 50 | CY | 67 | 10 | \$670 |
| Structure Installation | | | | |
| Precast Concrete Manhole (72", 9-12' deep) | EA | 12,400 | 4 | \$49,600 |
| Precast Concrete Manhole (72", >12' deep) | EA | 13,000 | 1 | \$13,000 |
| Outfall Improvements | EA | 3,000-10,000 | 1 | \$10,000 |
| Connection to Existing Structure, standard | EA | 2,000 | 2 | \$4,000 |
| Pipe Unit Cost | | | | |
| HDPE Pipeline w/asphalt resurfacing (18", 5-10' deep) | FT | 200 | 175 | \$35,000 |
| HDPE Pipeline w/asphalt resurfacing (24", 5-10' deep) | FT | 280 | 120 | \$33,600 |
| HDPE Pipeline w/asphalt resurfacing (48", 5-10' deep) | FT | 580 | 570 | \$330,600 |
| Abandon Existing Pipe, no excavation (21"-24") | FT | 25 | 390 | \$9,750 |
| Demo pipe | LF | 72 | 410 | \$29,520 |
| Project Sub-Total | | | | \$516,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$154,800 |
| Capital Expense Total (including contingency) | | | | \$671,000 |
| Design/Construction Administration (%) | LS | 30% | | \$201,300 |
| Permitting (%) | LS | 5% | | \$33,550 |
| Administration (%) | LS | 14% | | \$93,940 |
| | | | TOTAL | \$1,000,000 |

CIP #: KC-24-WQ

Wendy Ave. and 16th St. Green Street Improvements

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|----------|------------------|
| Inspection | | | | |
| General Earthwork/Excavation | CY | 20 | 1300 | \$26,000 |
| Water Quality Facility Installation | | | | |
| Stormwater Planter | SF | 41 | 5800 | \$237,800 |
| Structure Installation | | | | |
| Curb Inlet | EA | 1,300 | 18 | \$23,400 |
| Project Sub-Total | | | | \$287,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$86,100 |
| Capital Expense Total (including contingency) | | | | \$373,000 |
| Design/Construction Administration (%) | LS | 30% | | \$111,900 |
| Permitting (%) | LS | 5% | | \$18,650 |
| Administration (%) | LS | 14% | | \$52,220 |
| TOTAL | | | | \$556,000 |

CIP : FC-1-C

Fairview Creek Stark Street Culvert

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|--|------|------------------|--------------|------------------|
| Earthwork | | | | |
| Dewatering/Bypass | LS | 20,361 | 1 | \$20,361 |
| Clear and Grub brush including stumps | AC | 8,300 | 0.1 | \$830 |
| Structure Installation | | | | |
| 8'x8'x10' Concrete Vault | EA | 16,800 | 1 | \$16,800 |
| Demo pipe | LF | 72 | 20 | \$1,440 |
| Headwall with wingwalls, larger than 48" pipe | EA | 10,000 | 1 | \$10,000 |
| Restoration/Resurfacing | | | | |
| Sidewalk Installation | SF | 7 | 300 | \$2,100 |
| 4-foot Chain Link Fence | LF | 22 | 50 | \$1,100 |
| Pipe Unit Cost | | | | |
| RCP Pipeline w/ asphalt resurfacing (60", 5'-10' deep) | FT | 1,200 | 25 | \$141,000 |
| Project Sub-Total | | | | \$194,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$58,200 |
| Capital Expense Total (including contingency) | | | | \$252,000 |
| Design/Construction Administration (%) | LS | 30% | | \$75,600 |
| Permitting (%) | LS | 15% | | \$37,800 |
| Administration (%) | LS | 14% | | \$35,280 |
| | | | TOTAL | \$401,000 |

CIP : FC-1-WQ

Stark Street Water Quality Swale

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|--|------|------------------|--------------|------------------|
| Earthwork | | | | |
| General Earthwork/Excavation | CY | 20 | 578 | \$11,556 |
| Jute Matting, Biodegradeable | SY | 6 | 867 | \$5,200 |
| Amended Soils and Mulch | CY | 46 | 96 | \$4,430 |
| Hydroseed, large quantities | AC | 2,500 | 1 | \$2,500 |
| Riparian/Wetland Planting (w/temporary irrigation) | AC | 33,100 | 0.5 | \$16,550 |
| Structure Installation | | | | |
| Outfall Improvements | EA | 5,000 | 1 | \$5,000 |
| Curb Inlet | EA | 1,300 | 10 | \$13,000 |
| Project Sub-Total | | | | \$58,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$17,400 |
| Capital Expense Total (including contingency) | | | | \$75,000 |
| Design/Construction Administration (%) | LS | 30% | | \$22,500 |
| Permitting (%) | LS | 15% | | \$11,250 |
| Administration (%) | LS | 14% | | \$10,500 |
| | | | TOTAL | \$119,000 |

CIP : FC-3a-C

Wallula Ave. Open Channel

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|--------------|------------|
| Structure Installation | | | | |
| Precast Concrete Manhole (72", 9-12' deep) | EA | 12,400 | 1 | \$12,400 |
| 8'x8'x10' Concrete Vault | EA | 16,800 | 1 | \$16,800 |
| Connection to Existing Structure, standard | EA | 2,000 | 3 | \$6,000 |
| Field Ditch Inlet | EA | 4,100 | 1 | \$4,100 |
| Headwall with wingwalls, larger than 48" pipe | EA | 14,300 | 1 | \$14,300 |
| Beehive Overflow | EA | 1,530 | 1 | \$1,530 |
| Earthwork | | | | |
| General Earthwork/Excavation | CY | 20 | 7901 | \$158,021 |
| Clear and Grub brush including stumps | AC | 8,300 | 1 | \$7,145 |
| Amended Soils and Mulch | CY | 46 | 264 | \$12,139 |
| Jute Matting, Biodegradeable | SY | 6 | 1833 | \$11,000 |
| Tree removal | EA | 310 | 20 | \$6,200 |
| Energy dissipation pad - Rip-Rap, Class 100 | CY | 82 | 139 | \$11,389 |
| Restoration/Resurfacing | | | | |
| Hydroseed, large quantities | AC | 2,500 | 1 | \$2,500 |
| Pipe Unit Cost | | | | |
| HDPE Pipeline w/asphalt resurfacing (48", 5-10' deep) | FT | 580 | 142 | \$82,360 |
| Project Sub-Total | | | | \$346,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$103,800 |
| Capital Expense Total (including contingency) | | | | \$450,000 |
| Design/Construction Administration (%) | LS | 30% | | \$135,000 |
| Permitting (%) | LS | 5% | | \$22,500 |
| Administration (%) | LS | 14% | | \$63,000 |
| | | | TOTAL | \$671,000 |

CIP : FC-3b-C

NE Burnside Rd. Pipe Replacements

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|--------------|--------------------|
| Structure Installation | | | | |
| Catch Basin, all types | EA | 2,000 | 2 | \$4,000 |
| Connection to Existing Structure, standard | EA | 2,000 | 5 | \$10,000 |
| Demo pipe | LF | 72 | 1090 | \$78,480 |
| 8'x8'x10' Concrete Vault | EA | 16,800 | 5 | \$84,000 |
| Connection to Existing Lateral | EA | 1,200 | 2 | \$2,400 |
| Pipe Unit Cost | | | | |
| HDPE Inlet Lead (12", 2-5' deep) | FT | 93 | 40 | \$3,720 |
| RCP Pipeline w/ asphalt resurfacing (72",5'-10' deep) | FT | 1,500 | 1090 | \$1,635,000 |
| Project Sub-Total | | | | \$1,818,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$545,400 |
| Capital Expense Total (including contingency) | | | | \$2,363,000 |
| Design/Construction Administration (%) | LS | 30% | | \$708,900 |
| Permitting (%) | LS | 5% | | \$118,150 |
| Administration (%) | LS | 14% | | \$330,820 |
| | | | TOTAL | \$3,521,000 |

CIP : FC-3c-C

NE 19th Avenue Parallel Pipe

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|--------------|--------------------|
| Structure Installation | | | | |
| Catch Basin, all types | EA | 2,000 | 10 | \$20,000 |
| Connection to Existing Structure, standard | EA | 2,000 | 9 | \$18,000 |
| Demo pipe | LF | 72 | 490 | \$35,280 |
| Precast Concrete Manhole (72", 0-8' deep) | EA | 9,900 | 8 | \$79,200 |
| Connection to Existing Lateral | EA | 1,200 | 10 | \$12,000 |
| Pipe Unit Cost | | | | |
| HDPE Inlet Lead (12", 2-5' deep) | FT | 93 | 400 | \$37,200 |
| HDPE Pipeline (48", 5-10' deep) | FT | 440 | 2120 | \$932,800 |
| Project Sub-Total | | | | \$1,134,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$340,200 |
| Capital Expense Total (including contingency) | | | | \$1,474,000 |
| Design/Construction Administration (%) | LS | 30% | | \$442,200 |
| Permitting (%) | LS | 5% | | \$73,700 |
| Administration (%) | LS | 14% | | \$206,360 |
| | | | TOTAL | \$2,196,000 |

CIP : FC-3-WQ

Liberty Avenue Green Street

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|----------|------------------|
| Structure Installation | | | | |
| Curb Inlet | EA | 1,300 | 36 | \$46,800 |
| Earthwork | | | | |
| General Earthwork/Excavation | CY | 20 | 444 | \$8,889 |
| Water Quality Facility Installation | | | | |
| Stormwater Planter | SF | 41 | 4000 | \$164,000 |
| Restoration/Resurfacing | | | | |
| Concrete Curbs | FT | 41 | 1000 | \$41,000 |
| Sidewalk Installation | SF | 7 | | \$0 |
| Project Sub-Total | | | | \$261,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$78,300 |
| Capital Expense Total (including contingency) | | | | \$339,000 |
| Design/Construction Administration (%) | LS | 30% | | \$101,700 |
| Permitting (%) | LS | 5% | | \$16,950 |
| Administration (%) | LS | 14% | | \$47,460 |
| TOTAL | | | | \$505,000 |

CIP : FC-3f-C

Civic Drive Pipe Improvements

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|----------|--------------------|
| Structure Installation | | | | |
| Connection to Existing Structure, standard | EA | 2,000 | 3 | \$6,000 |
| 8'x8'x10' Concrete Vault | EA | 16,800 | 2 | \$33,600 |
| Demo pipe | LF | 72 | 300 | \$21,600 |
| Pipe Unit Cost | | | | |
| HDPE Pipeline (48", 5-10' deep) | FT | 440 | 40 | \$17,600 |
| HDPE Pipeline (84", 5-10' deep) | FT | 1,395 | 322 | \$449,190 |
| Project Sub-Total | | | | \$528,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$158,400 |
| Capital Expense Total (including contingency) | | | | \$686,000 |
| Design/Construction Administration (%) | LS | 30% | | \$205,800 |
| Permitting (%) | LS | 5% | | \$34,300 |
| Administration (%) | LS | 14% | | \$96,040 |
| TOTAL | | | | \$1,022,000 |

CIP : FC-3g-C

K-Mart Pipe Improvements

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|----------|--------------------|
| Structure Installation | | | | |
| Connection to Existing Structure, standard | EA | 2,000 | 6 | \$12,000 |
| 8'x8'x10' Concrete Vault | EA | 16,800 | 5 | \$84,000 |
| Demo pipe | LF | 72 | 1630 | \$117,360 |
| Abandon Existing Structure | EA | 1,000 | 3 | \$3,000 |
| Pipe Unit Cost | | | | |
| HDPE Pipeline (84", 5-10' deep) | FT | 1,395 | 1630 | \$2,273,850 |
| Project Sub-Total | | | | \$2,490,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$747,000 |
| Capital Expense Total (including contingency) | | | | \$3,237,000 |
| Design/Construction Administration (%) | LS | 30% | | \$971,100 |
| Permitting (%) | LS | 5% | | \$161,850 |
| Administration (%) | LS | 14% | | \$453,180 |
| TOTAL | | | | \$4,823,000 |

CIP : PV-1

Pleasant Valley Planning District Trunk Line Sizing

DESIGN ASSUMPTIONS

Pipe alignment within existing roadway assumes asphalt resurfacing will be required.

Pipe alignment along proposed roadway assumes installed in conjunction with roadway construction.

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|--------------|---------------------|
| Structure Installation | | | | |
| Precast Concrete Manhole (48", 0-8' deep) | EA | 5,700 | 32 | \$182,400 |
| Precast Concrete Manhole (72", 0-8' deep) | EA | 9,900 | 35 | \$346,500 |
| Precast Concrete Manhole (84", 0-8' deep) | EA | 14,800 | 5 | \$74,000 |
| Pipe Unit Cost | | | | |
| HDPE Pipeline (12", 5-10' deep) | FT | 130 | 800 | \$104,000 |
| HDPE Pipeline (18", 5-10' deep) | FT | 160 | 2635 | \$421,600 |
| HDPE Pipeline w/asphalt resurfacing (18", 5-10' deep) | FT | 200 | 1585 | \$317,000 |
| HDPE Pipeline (24", 5-10' deep) | FT | 190 | 2785 | \$529,150 |
| HDPE Pipeline w/asphalt resurfacing (24", 5-10' deep) | FT | 280 | 2120 | \$593,600 |
| HDPE Pipeline (30", 5-10' deep) | FT | 240 | 4020 | \$964,800 |
| HDPE Pipeline w/asphalt resurfacing (30", 5-10' deep) | FT | 330 | 2140 | \$706,200 |
| HDPE Pipeline w/asphalt resurfacing (36", 5-10' deep) | FT | 410 | 3555 | \$1,457,550 |
| HDPE Pipeline w/asphalt resurfacing (42", 5-10' deep) | FT | 520 | 1140 | \$592,800 |
| HDPE Pipeline w/asphalt resurfacing (48", 5-10' deep) | FT | 580 | 535 | \$310,300 |
| Project Sub-Total | | | | \$6,600,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$1,980,000 |
| Capital Expense Total (including contingency) | | | | \$8,580,000 |
| Design/Construction Administration (%) | LS | 30% | | \$2,574,000 |
| Permitting (%) | LS | 5% | | \$429,000 |
| Administration (%) | LS | 14% | | \$1,201,200 |
| | | | TOTAL | \$12,784,000 |

CIP : SW-1

Springwater Planning District Trunk Line Sizing

DESIGN ASSUMPTIONS

Pipe alignment within existing roadway assumes asphalt resurfacing will be required.

Pipe alignment along proposed roadway assumes installed in conjunction with roadway construction.

| ITEM | UNIT | Unit Cost (2019) | Quantity | Total Cost |
|---|------|------------------|--------------|---------------------|
| Structure Installation | | | | |
| Precast Concrete Manhole (48", 0-8' deep) | EA | 5,700 | 62 | \$353,400 |
| Precast Concrete Manhole (72", 0-8' deep) | EA | 9,900 | 25 | \$247,500 |
| Precast Concrete Manhole (84", 0-8' deep) | EA | 14,800 | 5 | \$74,000 |
| Pipe Unit Cost | | | | |
| HDPE Pipeline w/asphalt resurfacing (12", 5-10' deep) | FT | 140 | 1010 | \$141,400 |
| HDPE Pipeline (18", 5-10' deep) | FT | 160 | 1755 | \$280,800 |
| HDPE Pipeline w/asphalt resurfacing (18", 5-10' deep) | FT | 200 | 6705 | \$1,341,000 |
| HDPE Pipeline (24", 5-10' deep) | FT | 190 | 7405 | \$1,406,950 |
| HDPE Pipeline w/asphalt resurfacing (24", 5-10' deep) | FT | 280 | 3940 | \$1,103,200 |
| HDPE Pipeline (30", 5-10' deep) | FT | 240 | 6245 | \$1,498,800 |
| HDPE Pipeline w/asphalt resurfacing (30", 5-10' deep) | FT | 330 | 850 | \$280,500 |
| Project Sub-Total | | | | \$6,728,000 |
| Contingencies and Multipliers | | | | |
| Contingency | LS | 30% | | \$2,018,400 |
| Capital Expense Total (including contingency) | | | | \$8,746,000 |
| Design/Construction Administration (%) | LS | 30% | | \$2,623,800 |
| Permitting (%) | LS | 5% | | \$437,300 |
| Administration (%) | LS | 14% | | \$1,224,440 |
| | | | TOTAL | \$13,032,000 |

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