

DIVISION 1 – GENERAL REQUIREMENTS

101	APPLICATIONS, DEFINITIONS, AND ABBREVIATIONS	1
101.01.00	APPLICABILITY OF THE STANDARD CONSTRUCTION SPECIFICATIONS.....	1
101.02.00	APPLICABILITY OF DIVISIONS	1
101.03.00	DEFINITIONS	1
101.04.00	ABBREVIATIONS.....	6
102	PROPOSAL REQUIREMENTS.....	7
102.01.00	FACSIMILE TRANSMISSIONS	7
102.02.00	EQUAL EMPLOYMENT OPPORTUNITY	7
102.03.00	BID PROPOSAL.....	7
102.03.01	PREPARATION AND SUBMITTAL OF PROPOSAL.....	7
102.03.02	PROPOSAL GUARANTEE AND SIGNATURE	7
102.03.02A	PROPOSAL GUARANTEE	7
102.03.02B	PROPOSAL SIGNATURE.....	7
102.03.03	WITHDRAWAL, MODIFICATION, OR ALTERATION OF PROPOSAL.....	7
102.03.04	LATE PROPOSALS	8
102.03.05	RESIDENT BIDDERS.....	8
102.04.00	EXAMINATION OF CONTRACT DOCUMENTS AND SITE OF WORK	8
102.05.00	INTERPRETATION OF CONTRACT DOCUMENTS.....	8
102.06.00	ADDENDA TO CONTRACT DOCUMENTS.....	8
102.07.00	FAMILIARITY WITH LAWS AND ORDINANCES	9
102.08.00	AMOUNT OF WORK TO BE DONE.....	9
102.09.00	BID PRICES TO COVER ENTIRE WORK.....	9
102.10.00	ACCEPTANCE OR REJECTION OF PROPOSAL.....	9
103	AWARD AND EXECUTION OF CONTRACT.....	9
103.01.00	AWARD OF CONTRACT	9
103.02.00	EXECUTION OF CONTRACT.....	9
103.02.01	FAILURE TO EXECUTE CONTRACT	10
103.03.00	RETURN OF PROPOSAL GUARANTEE	10
103.04.00	SUBCONTRACTING LIMITATIONS	10
103.04.01	TRANSFER OF CONTRACT AND INTERESTS THEREIN.....	10
103.05.00	PERFORMANCE AND PAYMENT BOND	10
103.06.00	PROOF OF CARRIAGE OF INSURANCE.....	10
103.07.00	NONRESIDENT CONTRACTOR	10
104	SCOPE OF WORK	11
104.01.00	CONTRACT DOCUMENTS.....	11
104.01.01	PRECEDENCE OF CONTRACT DOCUMENTS	11
104.02.00	SHOP DRAWINGS	11
104.03.00	CHANGES IN THE WORK.....	12
104.03.01	CHANGES REQUESTED BY THE CONTRACTOR.....	12
104.03.02	CHANGES INITIATED BY THE OWNER.....	12
104.04.00	CHANGED CONDITIONS	12
104.05.00	EXTRA WORK.....	12
104.06.00	FORCE ACCOUNT WORK.....	13
105	CONTROL OF WORK.....	13
105.01.00	AUTHORITY OF THE CITY ENGINEER.....	13
105.02.00	AUTHORITY AND DUTIES OF INSPECTORS	14
105.02.01	INSPECTION BY OTHERS	14
105.03.00	DISPUTED WORK.....	14
105.04.00	RESPONSIBILITY OF THE CONTRACTOR	14
105.05.00	NOTIFICATIONS RELATIVE TO CONTRACTOR'S ACTIVITIES.....	15
105.05.01	GENERAL.....	15

105.05.02	STREET CLOSURES	15
105.05.03	WATER WORKS PROJECTS.....	15
105.05.03A	UNSCHEDULED INTERRUPTION OF WATER SERVICE.....	15
105.06.00	PROTECTION OF WORK.....	16
105.07.00	USE OF IMPROVEMENT DURING CONSTRUCTION	16
105.08.00	USE OF LIGHT, POWER, WATER, AND PROPERTY	16
105.09.00	SUBSURFACE DATA	16
105.10.00	VERBAL AGREEMENTS	16
105.11.00	WATER AND AIR POLLUTION CONTROL	17
105.12.00	NOISE	17
105.13.00	WORKING HOURS	17
105.14.00	ACCESS TO THE WORK.....	17
105.15.00	DEFECTIVE OR UNAUTHORIZED WORK	17
105.15.01	GENERAL.....	17
105.15.02	UNAUTHORIZED WORK.....	18
105.15.03	RETAINING NON-CONFORMING WORK.....	18
105.16.00	FINAL INSPECTION	18
106	CONTROL OF MATERIALS	19
106.01.00	PREFERENCE FOR USE OF OREGON PRODUCTS	19
106.02.00	QUALITY OF MATERIALS	19
106.03.00	SAMPLING AND TESTING	19
106.04.00	CERTIFICATION.....	19
106.05.00	TRADE NAMES, APPROVED EQUALS, OR SUBSTITUTIONS.....	20
106.06.00	STORAGE AND PROTECTION OF MATERIALS	20
107	LEGAL RELATIONS AND RESPONSIBILITIES	20
107.01.00	LAWS AND REGULATIONS	20
107.02.00	SUBCONTRACTORS	20
107.03.00	NO WAIVER OF LEGAL RIGHTS.....	20
107.04.00	OTHER CONTRACTS	21
107.05.00	INSURANCE	21
107.05.01	PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE	21
107.05.02	FIRE AND/OR STANDARD EXTENDED COVERAGE INSURANCE	21
107.05.03	WORKERS' COMPENSATION INSURANCE	22
107.06.00	ROYALTIES AND PATENTS.....	22
107.07.00	PERMITS	22
107.08.00	WAGE RATES	22
107.09.00	EMPLOYER'S CONTRACT FOR MEDICAL CARE OF EMPLOYEES.....	22
107.10.00	PAYMENT OF OBLIGATIONS	23
107.11.00	PROTECTION OF OTHER GOVERNMENTAL AUTHORITIES	23
107.12.00	LABOR COMPLIANCE.....	23
107.13.00	RAILROAD CROSSINGS OR RIGHT-OF-WAYS	23
107.14.00	RIGHT-OF-WAYS, EASEMENTS, AND PREMISES	23
107.15.00	WARRANTY	24
107.15.01	WATER WORKS PROJECTS.....	24
107.16.00	PUBLIC SAFETY AND CONVENIENCE.....	24
107.17.00	PUBLIC HEALTH.....	24
107.18.00	USE OF EXPLOSIVES	25
107.19.00	VERMIN CONTROL.....	25
107.20.00	PERSONAL SAFETY	25
107.21.00	CONDUCT OF CONTRACTOR'S EMPLOYEES.....	25
108	PROSECUTION AND PROGRESS OF WORK.....	25
108.01.00	PRECONSTRUCTION CONFERENCE.....	25
108.01.01	CONTRACTOR'S CONSTRUCTION SCHEDULE	25
108.02.00	NOTICE TO PROCEED	26

108.03.00	CONTRACT TIME.....	26
108.04.00	SUSPENSION OF WORK.....	26
108.04.01	SUSPENSION BY OWNER, WITHOUT CAUSE	26
108.04.02	SUSPENSION FOR CAUSE	27
108.04.03	VOLUNTARY SUSPENSION BY CONTRACTOR.....	27
108.04.04	RESPONSIBILITY OF CONTRACTOR	27
108.04.05	RESUMPTION OF WORK.....	27
108.05.00	CONTRACT TIME EXTENSIONS	27
108.06.00	LIQUIDATED DAMAGES	28
108.07.00	CONTRACTOR'S REPRESENTATIVE	29
108.08.00	CONFLICTS, ERRORS, OMISSIONS, AND ADDITIONAL DRAWINGS.....	29
108.09.00	OWNER'S RIGHT TO DO WORK	29
108.10.00	TERMINATION OF CONTRACT.....	29
108.11.00	DEFAULT BY CONTRACTOR	30
108.12.00	COMPLETION AND ACCEPTANCE.....	30
109	MEASUREMENT AND PAYMENT.....	31
109.01.00	MEASUREMENT OF QUANTITIES.....	31
109.02.00	SCOPE OF PAYMENT	32
109.03.00	PAYMENT FOR CHANGES INITIATED BY THE OWNER	32
109.03.01	CONTRACT UNIT PRICES.....	32
109.03.02	STIPULATED UNIT PRICES	32
109.04.00	ELIMINATED ITEMS	32
109.05.00	PAYMENT FOR EXTRA WORK.....	32
109.06.00	PAYMENT FOR FORCE ACCOUNT WORK.....	33
109.06.01	GENERAL.....	33
109.06.02	PERCENTAGE ALLOWANCE OVER ACTUAL COST	33
109.06.03	LABOR.....	33
109.06.04	MATERIALS	33
109.06.05	EQUIPMENT RENTAL.....	34
109.07.00	PROGRESS PAYMENTS AND RETAINAGE.....	34
109.07.01	PROGRESS PAYMENTS.....	34
109.07.02	RETAINAGE	35
109.08.00	DEFERMENT OF PAYMENTS.....	35
109.09.00	FINAL ESTIMATE AND PAYMENT.....	35
109.10.00	ACCEPTANCE OF FINAL PAYMENT.....	36

DIVISION 2 – GENERAL TECHNICAL REQUIREMENTS

201 MOBILIZATION.....	1
201.01.00 DESCRIPTION.....	1
201.02.00 CONSTRUCTION.....	1
201.03.00 MEASUREMENT AND PAYMENT	1
201.03.01 LUMP-SUM BASIS.....	1
201.03.02 INCIDENTAL BASIS	1
202 TEMPORARY TRAFFIC CONTROL	1
202.01.00 MATERIALS AND APPLICABLE REGULATIONS	1
202.02.00 CONSTRUCTION.....	1
202.02.01 ACCESS TO PUBLIC AND PRIVATE PROPERTY.....	1
202.02.02 DETOURS	2
202.02.03 NONCOMPLIANCE WITH SPECIFIED REQUIREMENTS.....	2
202.03.00 MEASUREMENT AND PAYMENT	2
202.03.01 LUMP-SUM BASIS.....	2
202.03.02 INCIDENTAL BASIS	2
203 CLEARING AND GRUBBING.....	2
203.01.00 DEFINITION.....	2
203.02.00 MATERIALS.....	3
203.02.01 EXPLOSIVES.....	3
203.03.00 CONSTRUCTION.....	3
203.03.01 EXCAVATION.....	3
203.03.02 SALVAGEABLE MATERIALS	3
203.04.00 MEASUREMENT AND PAYMENT	3
203.04.01 LUMP-SUM BASIS.....	3
203.04.02 INCIDENTAL BASIS	3
204 EXCAVATION, BACKFILL, AND OTHER SITE WORK	4
204.01.00 DEFINITIONS.....	4
204.01.01 UNCLASSIFIED EXCAVATION	4
204.01.02 TRENCH EXCAVATION.....	4
204.01.03 BORROW MATERIAL.....	4
204.01.04 FILL	4
204.01.05 FOUNDATION STABILIZATION.....	4
204.01.06 PIPE BEDDING.....	4
204.01.07 PIPE ZONE	4
204.01.08 TRENCH BACKFILL	4
204.01.09 BASE COURSE.....	4
204.01.10 OVERBREAK.....	4
204.02.00 MATERIALS.....	4
204.02.01 BORROW AND FILL MATERIALS.....	4
204.02.02 FOUNDATION STABILIZATION.....	5
204.02.03 PIPE ZONE MATERIAL	5
204.02.04 NATIVE BACKFILL MATERIAL	5
204.02.05 SELECT BACKFILL MATERIAL	5
204.02.06 TOPSOIL	5
204.02.07 EXPLOSIVES.....	5
204.03.00 GENERAL CONDITIONS.....	5
204.03.01 CONSTRUCTION STAKING.....	5
204.03.01A REPLACEMENT OF CONSTRUCTION STAKES AND MARKS.....	5
204.03.02 PROTECTION OF SURVEY MARKERS AND MONUMENTS.....	6
204.03.02A REPLACEMENT OF SURVEY MARKERS AND MONUMENTS.....	6
204.03.03 PROTECTION OF PROPERTY.....	6

204.03.04	EXISTING UTILITIES AND IMPROVEMENTS.....	6
204.03.04A	LOCATION OF UTILITIES	6
204.03.04B	EXCAVATION	6
204.03.04C	PROTECTION AND MAINTENANCE.....	7
204.03.04D	REPAIR OF UTILITIES DAMAGED DURING CONSTRUCTION.....	7
204.03.04E	OWNER MAINTENANCE AND REPAIR.....	7
204.03.05	SALVAGED MATERIALS.....	7
204.03.05A	REUSE OF SALVAGED MATERIALS	7
204.03.06	GENERAL CLEANUP.....	7
204.04.00	CONSTRUCTION.....	8
204.04.01	GENERAL EXCAVATION	8
204.04.01A	OVEREXCAVATION AND FOUNDATION STABILIZATION.....	8
204.04.02	SAWCUTTING AND SURFACE REMOVAL FOR TRENCHES	8
204.04.02A	REMOVAL AND REPLACEMENT OF EXISTING TOPSOIL	9
204.04.03	TRENCH EXCAVATION AND SHORING.....	9
204.04.03A	TRENCHING MACHINES.....	9
204.04.03B	TRENCH WIDTH	9
204.04.03C	SHEETING AND SHORING OF TRENCHES	9
204.04.04	PIPE ZONE MATERIAL	10
204.04.04A	CONCRETE CRADLE BEDDING.....	10
204.04.04B	GRANULAR FOUNDATION BEDDING	10
204.04.05	TRENCH BACKFILL	11
204.04.05A	SELECT BACKFILL	11
204.04.05B	NATIVE BACKFILL	11
204.04.05C	WATER COURSE UNDERCROSSINGS.....	11
204.04.06	SURFACE MAINTENANCE OF TRENCHES AND OTHER EXCAVATIONS... 11	
204.04.06A	GRAVELED AREAS.....	11
204.04.06B	IMPROVED SURFACES	12
204.04.07	TEMPORARY SURFACE RESTORATION.....	12
204.04.07A	GRAVELED SURFACES.....	12
204.04.07B	IMPROVED SURFACES	12
204.04.08	COMPACTION REQUIREMENTS.....	12
204.04.08A	COMPACTION SPECIFICATIONS	12
204.04.08B	COMPACTION METHODS AND EQUIPMENT	13
204.04.08C	COMPACTION TESTING.....	13
204.04.08D	NONCOMPLIANCE WITH SPECIFIED DENSITY REQUIREMENTS ... 14	
204.04.09	SLOPE GRADING	14
204.04.10	DISPOSAL OF EXCESS EXCAVATED MATERIALS.....	14
204.04.11	DEWATERING	14
204.04.12	FILL	15
204.04.12A	ROADWAY AND STRUCTURAL FOUNDATION FILL	15
204.04.12B	PIPELINE FILL.....	15
204.05.00	MEASUREMENT AND PAYMENT	15
204.05.01	UNCLASSIFIED EXCAVATION AND BACKFILL	15
204.05.01A	UNCLASSIFIED EXCAVATION.....	15
204.05.01B	SELECT BACKFILL	15
204.05.01C	NATIVE BACKFILL	15
204.05.02	TRENCH EXCAVATION AND BACKFILL.....	16
204.05.02A	IMPROVED SURFACE REMOVAL FOR TRENCHES.....	16
204.05.03	FILL	16
204.05.04	OVEREXCAVATION AND FOUNDATION STABILIZATION	16
204.05.05	IMPORTED TOPSOIL	16
204.05.06	INCIDENTALS.....	16
205	CONCRETE, ASPHALT, AND AGGREGATE MATERIALS.....	17

205.01.00	PORTLAND CEMENT CONCRETE PRODUCTS	17
205.01.01	PORTLAND CEMENT	17
205.01.01A	TYPES	17
205.01.01B	SPECIFICATIONS	17
205.01.01C	APPLICATIONS	17
205.01.02	PORTLAND CEMENT CONCRETE	17
205.01.02A	MIX DESIGN	17
205.01.02B	AGGREGATES	18
205.01.02C	WATER	18
205.01.02D	ADMIXTURES	18
205.01.02E	SAMPLING AND TESTING	18
205.01.03	PORTLAND CEMENT MORTAR	19
205.01.04	PORTLAND CEMENT GROUT	19
205.01.04A	TYPE A GROUT	19
205.01.04B	TYPE B GROUT	19
205.01.04C	NON-SHRINK GROUT	19
205.01.05	PORTLAND CEMENT TREATED BASE (CTB)	19
205.01.05A	MIX DESIGN	19
205.01.05B	COMPOSITION OF MIXTURE	19
205.01.05C	AGGREGATE	19
205.01.05D	PORTLAND CEMENT	20
205.01.05E	WATER	20
205.01.05F	ASPHALT MATERIALS	20
205.01.06	PORTLAND CEMENT CONCRETE FOR EXTRUSIONS	20
205.01.06A	AGGREGATE	20
205.01.06B	PORTLAND CEMENT	20
205.01.06C	WATER	20
205.02.00	ASPHALT CEMENT PRODUCTS	20
205.02.01	ASPHALT CEMENT	20
205.02.01A	HOT MIX ASPHALT	20
205.02.01B	TACK COAT	20
205.02.01C	JOINT SEALER	20
205.02.01D	CURING SEAL	20
205.02.02	ASPHALT CONCRETE PAVEMENT	20
205.02.02A	APPLICATIONS	20
205.02.02B	MIX FORMULA	21
205.02.02C	MATERIALS	21
205.02.02D	PROPORTIONS OF MATERIALS	21
205.02.02E	ACCEPTANCE OF MATERIALS	21
205.03.00	AGGREGATES	21
205.03.01	AGGREGATE BASE	21
205.03.02	TRENCH BACKFILL	21
205.03.02A	PIPE ZONE MATERIAL	21
205.03.02B	SELECT BACKFILL MATERIAL	21
205.03.03	FOUNDATION STABILIZATION MATERIAL	22
205.03.04	ACCEPTANCE OF MATERIALS	22
205.04.00	MEASUREMENT AND PAYMENT	22
206	CONCRETE STRUCTURES	22
206.01.00	APPLICABILITY OF SECTION	22
206.02.00	MATERIALS	22
206.02.01	PORTLAND CEMENT CONCRETE	22
206.02.02	JOINT MATERIALS	23
206.02.02A	PREFORMED EXPANSION JOINT FILLERS	23
206.02.03	EPOXY CEMENT	23

206.02.04	STEEL REINFORCEMENT	23
206.02.04A	BAR REINFORCEMENT	23
206.02.04B	DOWELS	23
206.02.04C	BAR MATS	23
206.02.04D	SPIRAL REINFORCEMENT	23
206.02.04E	WELDED WIRE FABRIC	23
206.02.04F	TIES AND SUPPORTS	23
206.02.05	CURING MATERIALS FOR PORTLAND CEMENT CONCRETE	23
206.02.06	FABRICATED METAL ADJUSTMENT RINGS	24
206.03.00	CONSTRUCTION	24
206.03.01	MIXING AND DELIVERY OF CONCRETE	24
206.03.01A	MIXING AT SITE	24
206.03.01B	TRUCK MIXING	24
206.03.01C	TIME OF HAULING AND PLACING MIXED CONCRETE	24
206.03.02	FORMWORK	25
206.03.02A	FALSEWORK	25
206.03.02B	REMOVAL OF FORMWORK	25
206.03.03	REINFORCEMENT	25
206.03.03A	PLACING	26
206.03.03B	SPLICING	26
206.03.03C	WELDING REINFORCING STEEL	26
206.03.04	WEATHER LIMITATIONS	26
206.03.05	HANDLING AND PLACING	27
206.03.06	JOINTS IN PORTLAND CEMENT CONCRETE	27
206.03.06A	CONSTRUCTION JOINTS	27
206.03.06B	CONTRACTION JOINTS	28
206.03.06C	COLD JOINTS	28
206.03.06D	KEYWAY JOINTS	28
206.03.07	SURFACE FINISHING	28
206.03.08	CURING	28
206.03.08A	SHEET COVERINGS	28
206.03.08B	LIQUID, MEMBRANE-FORMING COMPOUNDS	28
206.03.08C	WATER CURING	29
206.03.08D	OTHER MATERIALS	29
206.03.09	PROTECTION OF CONCRETE	29
206.03.10	ADJUSTMENT OF EXISTING CONCRETE STRUCTURES TO GRADE	29
206.03.10A	EXCAVATION AND BACKFILL	29
206.03.10B	RAISING TOPS OF CONCRETE STRUCTURES	29
206.03.10C	LOWERING TOPS OF CONCRETE STRUCTURES	30
206.04.00	MEASUREMENT AND PAYMENT	30
206.04.01	CONCRETE STRUCTURES	30
206.04.02	ADJUSTMENT OF EXISTING CONCRETE STRUCTURES TO GRADE	30
206.04.03	INCIDENTALS	30
207	BORING AND JACKING	30
207.01.00	LEGAL RESPONSIBILITIES	30
207.01.01	PIPELINE CROSSING AGREEMENT	30
207.01.02	INSURANCE	30
207.01.03	SAFETY	31
207.02.00	MATERIALS	31
207.02.01	PIPE ZONE AND BACKFILL MATERIAL	31
207.02.02	CARRIER PIPE	31
207.02.03	CASING PIPE	31
207.03.00	CONSTRUCTION	31
207.03.01	EXCAVATION	31

207.03.02	JACKING AND BORING	31
207.03.03	CONCRETE PIPE.....	32
207.03.04	STEEL CASING	32
207.03.05	FILLING VOIDS BETWEEN CARRIER PIPE AND CASING	32
207.03.06	FILLING VOIDS OUTSIDE CARRIER PIPE OR CASING	32
207.03.07	CARRIER PIPE INSULATORS.....	32
207.04.00	MEASUREMENT AND PAYMENT	32
207.04.01	BORING AND JACKING	32
208	RESURFACING.....	33
208.01.00	APPLICABILITY OF SECTION	33
208.02.00	MATERIALS.....	33
208.02.01	HOT MIX ASPHALT CONCRETE	33
208.02.02	COLD MIX ASPHALT CONCRETE	33
208.02.03	TACK COAT	33
208.02.04	JOINT SEALER.....	33
208.02.05	PAVEMENT BASE	33
208.02.06	FORMS	33
208.02.07	ROCK SURFACING	33
208.03.00	CONSTRUCTION.....	33
208.03.01	PAVEMENT RESTORATION.....	33
208.03.01A	SAWCUTTING AND SURFACE REMOVAL	33
208.03.01B	PAVEMENT BASE.....	34
208.03.01C	SURFACE SMOOTHNESS AND WORKMANSHIP	34
208.03.01D	WEATHER LIMITATIONS	34
208.03.01E	PROTECTION OF ADJACENT STRUCTURES AND PROPERTY.....	34
208.03.01F	RESTORATION OF PAVEMENT MARKINGS.....	35
208.03.02	TEMPORARY COLD MIX ASPHALT	35
208.03.03	ASPHALT CONCRETE PAVEMENT	35
208.03.03A	TACK COAT.....	35
208.03.03B	ASPHALT CONCRETE PLACEMENT.....	35
208.03.03C	JOINT SEALER	35
208.03.04	PORTLAND CEMENT CONCRETE PAVEMENT.....	35
208.03.05	CONCRETE DRIVEWAYS, SIDEWALKS, AND CURBS	35
208.04.00	MEASUREMENT AND PAYMENT	36
208.04.01	TEMPORARY COLD MIX ASPHALT	36
208.04.02	ASPHALT AND PORTLAND CEMENT CONCRETE PAVEMENT REPLACEMENT 36	
208.04.03	SIDEWALK AND DRIVEWAY REPLACEMENT	36
208.04.04	CURB REPLACEMENT	36
208.04.05	INCIDENTALS.....	37
209	CLEANUP AND SITE RESTORATION	37
209.01.00	GENERAL	37
209.02.00	CONSTRUCTION.....	37
209.02.01	RESTORATION OF PLANTED AREAS.....	37
209.02.02	REMOVAL OF EQUIPMENT AND MATERIALS.....	37
209.02.03	CLEANING DRAINS.....	37
209.02.04	CLEANING PAVED SURFACES AND APPURTENANCES	37
209.02.05	RESTORING MOBILIZATION, BORROW, AND DISPOSAL AREAS	37
209.03.00	MEASUREMENT AND PAYMENT	38
209.03.01	INCIDENTAL BASIS	38
210	STREET TREE STANDARDS.....	38
210.01.00	APPLICATION OF STANDARDS.....	38
210.02.00	STREET TREE SELECTION	38
210.03.00	STREET TREE QUALITY AT TIME OF PLANTING	38

210.04.00	STREET TREE SIZE AT TIME OF PLANTING.....	38
210.05.00	STREET TREE CONDITION AT TIME OF PLANTING.....	38
210.05.01	BALLED AND BURLAPPED AND IN WIRE BASKETS.....	38
210.05.02	IN A CONTAINER.....	39
210.05.03	BARE ROOT.....	39
210.06.00	STREET TREE PLANTING LOCATION.....	39
210.06.01	GENERAL.....	39
210.06.02	MINIMUM STREET TREE PLANTING CLEARANCES.....	39
210.06.03	MINIMUM DISTANCE FROM SIDEWALKS AND CURBS.....	40
210.06.04	MINIMUM DISTANCE FROM BURIED UTILITY LINES THAT TRAVERSE THE PLANTING STRIP.....	40
210.06.05	OVERHEAD UTILITY LINES.....	40
210.06.06	MINIMUM RECOMMENDED DISTANCE FROM BUILDINGS.....	40
210.06.07	VEHICULAR AREA.....	40
210.06.08	SHRUBS PLANTED IN THE STREET-SIDE RIGHT-OF-WAY.....	40
210.06.09	LINEAR SPACING.....	40
210.06.10	WIDTH OF PLANTING AREA WITHIN CITY RIGHTS-OF-WAY (I.E., DISTANCE BETWEEN THE CURB AND SIDEWALK).....	40
210.06.11	WIDTH OF MEDIANS.....	40
210.06.12	EXEMPTIONS TO THE TREE LOCATION STANDARDS.....	40
210.07.00	STREET TREE PLANTING PROCEDURES.....	41
210.07.01	Planting Season.....	41
210.07.02	PREPARATION OF TREE PLANTING HOLES.....	41
210.07.02A	BALLED AND BURLAPPED AND CONTAINER GROWN TREES.....	41
210.07.02B	BARE-ROOT STOCK.....	41
210.07.03	PLANTING CONDITIONS.....	41
210.07.03A	BALLED AND BURLAPPED TREES.....	41
210.07.03B	CONTAINER GROWN TREE.....	41
210.07.03C	BARE ROOT TREES.....	41
210.07.04	SEATING OF TREES.....	41
210.07.05	STAKING.....	42
210.08.00	ESTABLISHMENT STANDARDS.....	42
210.08.01	ESTABLISHMENT PERIOD.....	42
210.08.02	MAINTENANCE.....	42
210.08.02A	GENERAL.....	42
210.08.02B	MULCHING.....	42
210.08.02C	PRUNING REQUIREMENTS.....	42
210.08.03	TREE REPLACEMENT.....	42
210.08.03A	DEAD TREE.....	42
210.08.03B	STRESSED TREE.....	43
210.08.03C	NON-APPROVED TREE.....	43
210.08.04	TREE PROTECTION.....	43
210.08.04A	MULCH.....	43
210.08.04B	ROOT ZONE PROTECTION.....	43
210.08.04C	PROTECTIVE FENCING.....	43

DIVISION 3 – STREETS

301	SUBGRADE	1
301.01.00	CONSTRUCTION.....	1
301.01.01	CLEARING AND GRUBBING	1
301.01.02	EXCAVATION.....	1
301.01.03	UNTREATED SUBGRADE.....	1
301.01.04	OVEREXCAVATION AND FOUNDATION STABILIZATION	1
301.02.00	MEASUREMENT AND PAYMENT	1
301.02.01	PREPARATION OF SUBGRADE.....	1
301.02.02	FOUNDATION STABILIZATION.....	1
301.02.03	INCIDENTALS.....	1
302	AGGREGATE BASES	1
302.01.00	MATERIALS.....	1
302.01.01	AGGREGATE.....	1
302.02.00	CONSTRUCTION	2
302.02.01	PREPARATION OF SUBGRADE.....	2
302.02.02	SURFACE CONDITIONS.....	2
302.02.03	PLACEMENT OF BASE AND SUB-BASE.....	2
302.02.03A	THICKNESS OF LIFTS.....	2
302.02.03B	COMPACTION	2
302.02.04	DENSITY REQUIREMENTS	2
302.02.05	SURFACE FINISH	2
302.02.06	SAMPLING AND TESTING	2
302.03.00	MEASUREMENT AND PAYMENT	2
302.03.01	AGGREGATE BASE AND SUB-BASE	2
302.03.01A	SQUARE-YARD BASIS.....	3
302.03.01B	CUBIC-YARD BASIS	3
302.03.02	INCIDENTALS.....	3
303	CEMENT TREATED BASE (CTB).....	3
303.01.00	MATERIALS.....	3
303.01.01	CEMENT TREATED BASE	3
303.01.02	CURING SEAL.....	3
303.02.00	CONSTRUCTION.....	3
303.02.01	PREPARATION OF SUBGRADE.....	3
303.02.02	MIXING.....	3
303.02.03	SURFACE AND WEATHER CONDITIONS.....	4
303.02.04	HAULING.....	4
303.02.05	PLACING.....	4
303.02.05A	SPREADING	4
303.02.05B	THICKNESS AND NUMBER OF LIFTS	4
303.02.05C	CONSTRUCTION JOINTS	4
303.02.05D	COMPACTION	5
303.02.06	DENSITY REQUIREMENTS	5
303.02.07	CURING OF CTB.....	5
303.02.08	SURFACE FINISH	5
303.02.09	SAMPLING AND TESTING	5
303.03.00	MEASUREMENT AND PAYMENT	5
303.03.01	CEMENT TREATED BASE	5
303.03.02	INCIDENTALS.....	6
304	ASPHALT CONCRETE PAVEMENT	6
304.01.00	MATERIALS.....	6
304.02.00	CONSTRUCTION.....	6

304.02.01	PREPARATION OF SUBGRADE	6
304.02.02	PREPARATION OF PAVEMENT BASE	6
304.02.02A	RECONDITIONING EXISTING AGGREGATE BASE	6
304.02.03	MIXING	7
304.02.04	SURFACE AND WEATHER LIMITATIONS	7
304.02.05	ASPHALT TACK COAT	7
304.02.06	PLACING	7
304.02.06A	TEMPERATURE OF MIX	7
304.02.06B	SPREADING	8
304.02.06C	THICKNESS OF LIFTS	8
304.02.06D	TRANSVERSE AND LONGITUDINAL JOINTS	8
304.02.06E	COMPACTION AND COMPACTION EQUIPMENT	8
304.02.07	DENSITY REQUIREMENTS	9
304.02.08	SURFACE FINISH	9
304.02.09	SAMPLING AND TESTING	9
304.03.00	MEASUREMENT AND PAYMENT	9
304.03.01	ASPHALT CONCRETE PAVEMENT	9
304.03.01A	SQUARE-YARD BASIS	10
304.03.01B	TON BASIS	10
304.03.03	INCIDENTALS	10
305	PORTLAND CEMENT CONCRETE PAVEMENT	10
305.01.00	MATERIALS	10
305.01.01	PORTLAND CEMENT CONCRETE	10
305.01.02	CURING MATERIALS	10
305.02.00	CONSTRUCTION	10
305.02.01	PREPARATION OF SUBGRADE	10
305.02.02	PREPARATION OF PAVEMENT BASE	10
305.02.02A	RECONDITIONING EXISTING AGGREGATE BASE	11
305.02.03	MIXING	11
305.02.04	SURFACE AND WEATHER LIMITATIONS	11
305.02.05	HAULING	11
305.02.06	FORMS	11
305.02.07	PAVING MACHINES	11
305.02.08	PLACING	11
305.02.08A	COMPACTION, TAMPING, AND SCREEDING	12
305.02.09	FINISHING	12
305.02.10	JOINTS	12
305.02.10A	CONSTRUCTION JOINTS	12
305.02.10B	CONTRACTION JOINTS	12
305.02.11	CURING	13
305.02.12	PROTECTION OF CONCRETE	13
305.02.13	SURFACE TOLERANCE AND TESTING	13
305.02.13A	STRAIGHTEDGE TESTING AND TOLERANCE	13
305.02.13B	GRAPHIC PROFILE TESTING AND TOLERANCE	13
305.02.14	CORRECTION OF DEFICIENCIES	14
305.02.14A	PLASTIC PCC FAILURE TO MEET STRAIGHTEDGE	14
305.02.14B	HARDENED PCC FAILURE TO MEET SMOOTHNESS RQMTS	14
305.03.00	MEASUREMENT AND PAYMENT	14
305.03.01	PORTLAND CEMENT CONCRETE PAVEMENT	14
305.03.02	INCIDENTALS	14
306	CURBS, GUTTERS, SIDEWALKS, DRIVEWAY APPROACHES, AND ACCESS RAMPS	14
306.01.00	MATERIALS	14
306.02.00	CONSTRUCTION	14
306.02.01	WHEELCHAIR RAMPS	15

306.02.02	PREPARATION OF SUBGRADE.....	15
306.02.03	PREPARATION OF BASE.....	15
306.02.04	WEATHER LIMITATIONS.....	15
306.02.05	FORMS.....	15
306.02.06	PLACING CONCRETE.....	15
306.02.07	FINISHING.....	15
306.02.07A	SIDEWALKS, DRIVEWAY APPROACHES, AND ACCESS RAMPS.....	15
306.02.07B	CURBS AND GUTTERS.....	16
306.02.08	CURB DRAINS.....	16
306.02.09	CURING.....	16
306.02.10	JOINTS IN PORTLAND CEMENT CONCRETE.....	16
306.02.10A	CONTRACTION JOINTS.....	16
306.02.10B	COLD JOINTS.....	16
306.02.11	DOWELS, TIE BARS, REINFORCING.....	16
306.02.12	PROTECTION OF CONCRETE.....	17
306.03.00	MEASUREMENT AND PAYMENT.....	17
306.03.01	CURBS AND COMBINATION CURB AND GUTTER.....	17
306.03.02	SIDEWALKS AND DRIVEWAY APPROACHES.....	17
306.03.03	WHEELCHAIR RAMPS.....	17
306.03.03A	PER-EACH BASIS.....	17
306.03.03B	INCIDENTAL BASIS.....	17
306.03.04	INCIDENTALS.....	17

DIVISION 4 – SANITARY SEWERS AND STORM DRAINS

401	PIPE AND FITTINGS FOR SANITARY SEWERS AND STORM DRAINS	1
401.01.00	MATERIALS	1
401.01.01	CERTIFICATION OF MATERIALS	1
401.01.02	PIPE	1
401.01.02A	DUCTILE IRON PIPE	1
401.01.02B	CONCRETE PIPE	1
401.01.02C	POLYVINYL CHLORIDE (PVC) PIPE	1
401.01.02D	STEEL AND ALUMINUM ALLOY PIPE	2
401.01.03	FITTINGS	2
401.01.03A	CONCRETE FITTINGS	2
401.01.03B	DUCTILE AND CAST IRON FITTINGS	2
401.01.03C	PVC FITTINGS	2
401.01.03D	FITTINGS FOR STEEL AND ALUMINUM ALLOY PIPE	2
401.01.04	PIPE AND FITTING CONNECTIONS	2
401.01.04A	LUBRICANTS FOR JOINT GASKETS	2
401.01.04B	CONCRETE PIPE	2
401.01.04C	DUCTILE IRON PIPE	2
401.01.04D	PVC PIPE	2
401.01.04E	STEEL AND ALUMINUM ALLOY PIPE	3
401.01.05	FLEXIBLE, MECHANICAL COUPLINGS AND ADAPTERS	3
401.02.00	CONSTRUCTION	3
401.02.01	EXCAVATION AND BACKFILL	3
401.02.02	TOLERANCES IN SPECIFIED LINE AND GRADE	3
401.02.03	DELIVERY AND ACCEPTANCE OF MATERIALS	3
401.02.04	PIPE INSTALLATION	3
401.02.04A	PIPE LAYING	3
401.02.04B	CUTTING PIPE	4
401.02.04C	SEWER SERVICE AND STORM DRAIN SERVICE LATERALS	4
401.02.05	PIPE AND FITTING CONNECTIONS	4
401.02.05A	CONCRETE PIPE	4
401.02.05B	DUCTILE IRON PIPE	4
401.02.05C	STEEL AND ALUMINUM ALLOY PIPE	5
401.02.06	MECHANICAL PIPE COUPLERS AND ADAPTERS	5
401.02.07	REPAIR OF EXISTING UTILITIES	5
401.02.08	WATER LINE CROSSINGS	5
401.02.09	CONCRETE PIPE ENCASEMENT AND ARCH SUPPORT	5
401.02.10	CONCRETE CLOSURE COLLARS	5
401.02.11	MARKERS	6
401.02.12	SURFACE RESTORATION	6
401.02.13	TESTING SANITARY SEWERS AND STORM DRAINS	6
401.02.13A	AIR TESTING GRAVITY SANITARY SEWERS	6
401.02.13B	DEFLECTION TEST FOR PVC PIPE	8
401.02.13C	TELEVISED INSPECTION OF SANITARY AND STORM SEWERS	8
401.02.13D	NON-COMPLIANCE WITH SPECIFIED TEST REQUIREMENTS	8
401.03.00	MEASUREMENT AND PAYMENT	8
401.03.01	SANITARY SEWER AND STORM DRAIN PIPE	8
401.03.02	INCIDENTALS	8
402	MANHOLES, INLETS, AND CATCH BASINS	9
402.01.00	MATERIALS	9
402.01.01	BASE ROCK	9
402.01.02	PORTLAND CEMENT CONCRETE AND MORTAR	9

402.01.03	NON-SHRINK GROUT	9
402.01.04	MANHOLES	9
402.01.04A	CONES AND FLAT SLAB MANHOLE TOPS	9
402.01.04B	MANHOLE BASES	9
402.01.04C	MANHOLE GRADE RINGS	9
402.01.04D	JOINTING MATERIALS.....	9
402.01.04E	MANHOLE FRAME AND COVER ASSEMBLIES	10
402.01.04F	STEP ASSEMBLIES	10
402.01.05	STORM DRAIN INLETS AND CATCH BASINS.....	10
402.01.05A	FRAME AND GRATE ASSEMBLIES FOR CATCH BASINS	10
402.01.05B	TOP SECTIONS FOR CURB INLETS.....	10
402.01.06	PIPE AND FITTINGS	11
402.02.00	CONSTRUCTION.....	11
402.02.01	EXCAVATION AND BACKFILL.....	11
402.02.02	MANHOLES.....	11
402.02.02A	CAST-IN-PLACE MANHOLE BASES	11
402.02.02B	PIPE CONNECTIONS TO NEW MANHOLES.....	12
402.02.02C	DROP CONNECTIONS.....	12
402.02.02D	ADJUSTMENT OF MANHOLES TO GRADE	12
402.02.02E	LEAKAGE TESTING OF MANHOLES.....	12
402.02.03	CONSTRUCTION OF INLETS AND CATCH BASINS	13
402.02.03A	PIPE CONNECTIONS TO INLETS AND CATCH BASINS	13
402.02.03B	INLET AND CATCH BASIN EXTENSIONS	13
402.02.04	CLEANING	13
402.03.00	MEASUREMENT AND PAYMENT	13
402.03.01	MANHOLES.....	13
402.03.02	DROP ASSEMBLIES.....	14
402.03.03	CATCH BASINS AND INLETS.....	14
402.03.04	INCIDENTALS.....	14
403	WORK ON EXISTING SANITARY SEWERS AND STORM DRAIN STRUCTURES	14
403.01.00	MATERIALS.....	14
403.02.00	CONSTRUCTION.....	14
403.02.01	EXCAVATION AND BACKFILL.....	14
403.02.02	MANHOLES CONSTRUCTED OVER EXISTING STRUCTURES	14
403.02.03	CONNECTIONS TO EXISTING STRUCTURES.....	15
403.02.04	REMOVAL AND ABANDONMENT OF EXISTING STRUCTURES.....	15
403.02.04A	REMOVAL.....	15
403.02.04B	ABANDONMENT IN PLACE	15
403.02.05	PERMANENT PLUGS.....	15
403.02.06	ADJUSTMENT OF EXISTING CONCRETE STRUCTURES TO GRADE.....	16
403.02.07	CONNECTIONS TO EXISTING SEWER AND STORM DRAIN PIPES	16
403.02.07A	SANITARY SEWER TAPS	16
403.02.07B	STORM DRAIN TAPS	16
403.03.00	MEASUREMENT AND PAYMENT	16
403.03.01	MANHOLES CONSTRUCTED OVER EXISTING STRUCTURES	16
403.03.01A	DROP ASSEMBLIES	16
403.03.02	CONNECTIONS TO EXISTING MANHOLES, INLETS, AND CATCH BASINS.....	17
403.03.03	CONNECTIONS TO EXISTING SEWER AND STORM DRAIN PIPES	17
403.03.04	ABANDONMENT OF MANHOLES, INLETS, AND CATCH BASINS.....	17
403.03.05	INCIDENTALS.....	17

DIVISION 5 – WATER

501	WATER PIPE AND FITTINGS.....	1
501.01.00	MATERIALS.....	1
501.01.01	DUCTILE IRON PIPE.....	1
501.01.01A	DUCTILE IRON PIPE JOINTS.....	1
	PUSH-ON JOINTS.....	1
	MECHANICAL JOINTS.....	1
	FLANGED JOINTS.....	2
501.01.02	RED-BRASS PIPE.....	2
501.01.03	GALVANIZED STEEL PIPE AND FITTINGS.....	2
501.01.04	DUCTILE AND CAST IRON FITTINGS.....	2
501.01.05	LIGHTWEIGHT MECHANICAL COUPLINGS AND ADAPTERS.....	3
501.01.06	BACKFILL.....	3
501.02.00	CONSTRUCTION.....	3
501.02.01	EXCAVATION AND BACKFILL.....	3
	501.02.01A WORKING AROUND EXISTING AC WATER LINES.....	3
501.02.02	OPERATION OF EXISTING VALVES.....	3
501.02.03	GRADE AND ALIGNMENT.....	4
501.02.04	UTILITY CONFLICTS.....	4
501.02.05	CONNECTION TO EXISTING, IN-SERVICE MAINS.....	4
501.02.06	SANITARY SEWER CROSSINGS.....	5
501.02.07	PIPE AND FITTING INSTALLATION.....	5
	501.02.07A SANITARY PRACTICES DURING INSTALLATION.....	5
	501.02.07B PIPE AND FITTING INSTALLATION.....	5
	501.02.07C PIPE CONNECTION PROCEDURES.....	5
	501.02.07D CUTTING DUCTILE IRON PIPE.....	6
	501.02.07E ALLOWABLE DEFLECTION OF PIPE.....	6
501.02.08	STANDARD DEAD-END MAIN BLOWOFFS.....	6
501.02.09	ANCHORAGE.....	7
	501.02.09A GENERAL.....	7
	501.02.09B MECHANICAL THRUST RESTRAINT.....	7
	501.02.09C CONCRETE THRUST BLOCKING.....	7
501.02.10	REPAIR OF DAMAGED WATER LINES.....	7
501.02.11	SURFACE RESTORATION.....	8
501.03.00	MEASUREMENT AND PAYMENT.....	8
501.03.01	PIPE INSTALLATION.....	8
501.03.02	ASSEMBLIES.....	8
501.03.03	INCIDENTALS.....	8
502	VALVES AND RELATED EQUIPMENT.....	8
502.01.00	MATERIALS.....	8
502.01.01	RESILIENT-SEATED, IRON BODY GATE VALVES.....	8
502.01.02	BUTTERFLY VALVES.....	8
502.01.03	TAPPING VALVES AND SLEEVES.....	9
	502.01.03A TAPPING VALVES.....	9
	502.01.03B TAPPING SLEEVES.....	9
502.01.04	VALVE OPERATOR EXTENSIONS.....	10
502.01.05	ADJUSTABLE VALVE BOX ASSEMBLIES.....	10
502.01.06	AIR VALVES.....	10

502.01.07	HAND VALVES FOR AIR VALVE ASSEMBLIES.....	10
502.02.01A	VALVE INSTALLATION	10
502.02.01B	VALVE BOX INSTALLATION.....	11
502.02.02	TAPPING VALVES AND SLEEVES	11
502.02.03	AIR VALVES.....	11
502.03.00	MEASUREMENT AND PAYMENT	12
502.03.01	VALVE ASSEMBLIES.....	12
502.03.02	INCIDENTALS	12
503	FIRE HYDRANTS.....	12
503.01.00	MATERIALS.....	12
503.01.01	FIRE HYDRANTS	12
503.01.02	FIRE HYDRANT EXTENSIONS.....	12
503.01.03	BACKFILL.....	12
503.02.00	CONSTRUCTION.....	12
503.02.01	EXCAVATION AND BACKFILL	12
503.02.02	FIRE HYDRANTS.....	13
503.02.03	SURFACE RESTORATION.....	13
503.03.00	MEASUREMENT AND PAYMENT	13
503.03.01	HYDRANT ASSEMBLIES.....	13
503.03.02	INCIDENTALS	13
504	WATER SERVICE INSTALLATION.....	14
504.01.00	MATERIALS.....	14
504.01.01	GENERAL.....	14
504.01.02	COPPER WATER TUBE.....	14
504.01.03	BRASS/BRONZE FITTINGS	14
504.01.03A	CORPORATION STOPS.....	14
504.01.03B	ANGLE METER VALVES.....	14
504.01.03C	1½ INCH AND TWO-INCH METER SETTER.....	14
504.01.03D	COPPER SERVICE COUPLINGS.....	15
504.01.03E	CUSTOMER SERVICE VALVES.....	15
504.01.04	SERVICE SADDLES.....	15
504.01.05	METERS.....	15
504.01.06	CONCRETE METER BOXES.....	15
504.01.07	BACKFILL.....	16
504.02.00	CONSTRUCTION.....	16
504.02.01	EXCAVATION AND BACKFILL	16
504.02.02	PIPE AND FITTING INSTALLATION	16
504.02.02A	PIPE INSTALLATION.....	16
504.02.02B	CUTTING, SIZING, AND BENDING COPPER TUBING.....	16
504.02.02C	SERVICE TAPS.....	16
504.02.02D	CORPORATION STOPS AND ANGLE METER VALVES	17
504.02.03	METER AND METER BOX INSTALLATION	17
504.02.04	REPAIR OF DAMAGED WATER LINES	17
504.02.05	SURFACE RESTORATION.....	17
504.03.00	MEASUREMENT AND PAYMENT	17
504.03.01	SERVICES.....	17
504.03.02	METER ASSEMBLIES.....	18
504.03.03	INCIDENTALS	18
505	HYDROSTATIC PRESSURE/LEAKAGE TESTING AND DISINFECTION.....	18
505.01.00	PRESSURE AND LEAKAGE TESTING.....	18

505.01.01	GENERAL.....	18
505.01.02	PRESSURE AND LEAKAGE TESTING.....	18
505.01.02A	ISOLATED LOCATIONS.....	19
505.01.02B	ALLOWABLE LEAKAGE.....	19
505.02.00	DISINFECTION OF WATER MAINS.....	19
505.02.02	FLUSHING.....	20
505.02.02A	WATER FOR FLUSHING.....	20
505.02.03	CHLORINATION.....	20
505.02.03A	DISPOSAL OF CHLORINATED WATER.....	21
505.02.03B	CONNECTION ASSEMBLIES AND EMERGENCY REPAIRS.....	21
505.02.04	BACTERIOLOGICAL TESTING.....	21