

SECTION 02000

DIVISION 2 – SITE WORK

This contract will be constructed and administered under the requirements of the Montana Public Works Standard Specifications (MPWSS), Fifth Edition, March 2003, as Amended, and all supplemental documents contained herein. The Montana Public Works Standard Specifications are included in their entirety, as applicable, and as modified, amended, added, or replaced as follows:

All City of Missoula Standard Drawings are hereby incorporated by reference. These standard drawings can be obtained from the City's website at the following address: <http://www.ci.missoula.mt.us/index.aspx?NID=614>. The most current version of any standard drawing shall be used.

Some of these standards are also included with this Project Manual in Annex A. (Note: some drawings included in this project manual may be more current than what is posted on the website.)

- 02110 GEOTEXTILES (*MPWWS, as amended*)
- 02112 REMOVAL OF EXISTING PAVEMENT, CONCRETE CURB, SIDEWALK, DRIVEWAY AND/OR STRUCTURES (*MPWWS as amended*)
- 02114 RELOCATING OR REMOVING UTILITY POLES, STREET SIGNS AND MAILBOXES (*MPWWS as amended*)
- 02230 STREET EXCAVATION, BACKFILL, AND COMPACTION (*MPWWS as amended*)
- 02502 ASPHALT PRIME AND/OR TACK COAT (*MPWWS as amended*)
- 02510 ASPHALT CONCRETE PAVEMENT (*MPWWS as amended*)
- 02528 CONCRETE CURB AND GUTTER (*MPWWS as amended*)
- 02529 CONCRETE SIDEWALKS, DRIVEWAYS, APPROACHES, CURB TURN FILLETS, VALLEY GUTTERS, AND MISCELLANEOUS NEW CONSTRUCTION (*MPWWS as amended*)
- 02720 STORM DRAIN SYSTEMS (*MPWWS as amended*)
- 02900 LANDSCAPING
- 02905 RESTORE LANDSCAPING
- 02930 EXTEND EXISTING IRRIGATION SYSTEM

**SECTION 02110
GEOTEXTILES**

PART 2: PRODUCTS

Add the following section:

2.4 DRAINAGE FABRIC

- A. Drainage fabric shall be a nonwoven geotextile, Layfield LP 4, or approved equal. Drainage fabric shall be installed per manufacturers recommendation and the detail drawings.

PART 4: MEASUREMENT AND PAYMENT

Delete 4.1 in its entirety and replace with the following:

4.1 DRAINAGE FABRIC

- A. There will be no separate measurement or payment for drainage fabric. All costs of furnishing and installing drainage fabric shall be included in the unit prices named in the proposal for the associated work that includes the fabric.

END OF SECTION 02110

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**SECTION 02112
REMOVAL OF PAVEMENT, CONCRETE, CURB, SIDEWALKS,
DRIVEWAY, AND/OR STRUCTURES**

PART 3: EXECUTION

Add the following:

3.2 CUTTING OF ASPHALT

Remove a maximum of 3 feet asphalt concrete behind the back of proposed sidewalk, unless plans indicate otherwise.

3.3 REMOVE OR ABANDON SUMP

All concrete or appurtenances extending within 2 feet of the proposed finished ground surface shall be removed. Voids spaced within any abandoned sump shall be filled with fill material acceptable to the ENGINEER, placed in lifts not exceeding 12 inches in depth, and compacted as appropriate for road subgrade.

PART 4: MEASUREMENT AND PAYMENT

Replace Section 4.1 with the following:

4.1 REMOVE ASPHALT CONCRETE

All removal of asphalt concrete, including sawcutting, will be measured and paid for by the square foot to the limits shown on the plans. Asphalt removed outside of those limits will be considered incidental and additional compensation will not be provided.

4.2 REMOVE OR ABANDON SUMP

Shall be paid per each, and includes all backfill materials needed.

END OF SECTION 02112

SECTION 02114
RELOCATING OR REMOVING UTILITY POLES, STREET SIGNS AND MAILBOXES

PART 1: GENERAL

Delete and add the following:

1.1 EXISTING STREET LIGHTS, TRAFFIC SIGNAL POLES, TRAFFIC SIGNS AND FENCES.

- A. This item consists of relocating, resetting or removing existing street lights, traffic signal poles, traffic signs and fences. Refer to the most recent versions of City of Missoula Standard Drawings for applicable details. These standard drawings can be obtained from the City's website at the following address:

<http://www.ci.missoula.mt.us/index.aspx?NID=614>

PART 3: EXECUTION

3.2 STREET AND TRAFFIC CONTROL SIGNS

- B. Delete and add the following:

The contractor will remove any existing signs or barricades located within the construction area and install them at the completion of construction. The contractor shall be responsible for all temporary signing required. The Contractor shall coordinate the temporary installation of signs with the City of Missoula or any other jurisdiction.

Add the following:

- K. All signs requiring removal and reinstallation may not be shown on the plans. Sign posts in good condition may be reused. If sign posts are damaged, post shall be replaced with the existing post type unless otherwise approved.

END OF SECTION 02114

SECTION 02230
STREET EXCAVATION, BACKFILL AND COMPACTION

PART 4: MEASUREMENT AND PAYMENT

Delete and add the following:

4.1 PAYMENT

- A. Include all costs associated with clearing and grubbing, excavation, backfill and compaction, and other on-going construction work in the price for various items of work on this project. Additional compensation will not be provided.

END OF SECTION 02230

**SECTION 02502
ASPHALT PRIME AND/OR TACK COAT**

PART 2: PRODUCTS

2.1 GENERAL

- A. Use asphalt material as follows:

<u>Type and Grade</u>	<u>Use</u>
Emulsified Asphalt, SS-1 or SS-1h	Asphalt Tack Coat

PART 4: MEASUREMENT AND PAYMENT

Add the following:

4.4 PAYMENT

- A. No separate measurement or payment will be made for this item. Payment for this work will be subsidiary to other pay items.”

END OF SECTION 02502

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SECTION 02510
ASPHALT CONCRETE PAVEMENT

(This Special Provision references the Montana Public Works Standard Specifications - 2006 Addendum)

PART 2: PRODUCTS

2.2 PLANT MIX AGGREGATES

J. Surface Course Asphalt Plant Mix Aggregate

1. Add at the end of the paragraph:

“The gradation for this Project will be Type B.”

2.3 ASPHALT BINDER MATERIAL

A. Furnish asphalt binder material to be used as specified in the contract documents that meet the type and grade specified requirements in the section in Table 3.

1. Grades:

b. Add the following: “Use (PGAB) PG 58-28 or equivalent.”

2.5 COMPOSITION OF MIXES

A. General

Add the following:

“6. Current job mix is defined as a mix design done within the last 12 months in which no change in material sources or amounts has been made.”

B. Asphalt Concrete Surface Course

3. Change “...93 percent of the maximum density as determined by ASTM D2091...” to “95 percent of Marshall Specimens.”

PART 3: EXECUTION

3.28 DENSITY AND SURFACE REQUIREMENTS

A. Change “...93 percent of the maximum density as determined by ASTM D204...” to “95 percent of Marshall Specimens.”

3.29 PAVEMENT AND MATERIAL TESTING REQUIREMENTS

Add the following:

“G. Minimum compaction will be 95% of the maximum density calculated from the cores. If the core is not 95% of maximum, the material represented by those cores below 95% will be removed and replaced at no cost to the OWNER. The ENGINEER shall provide one asphalt core sample for every 400 lineal feet of asphalt roadway with a minimum of two samples per project. The location of the

core will be specified by the ENGINEER.

- H. Thickness will be a minimum of 2, 3, or 6 inches, or as otherwise shown on the plans, with a maximum tolerance of ¼-inch. The ENGINEER has the right to reject all pavement that does not meet the minimum thickness requirements, and these sections shall be removed and replaced at no cost to the OWNER. The ENGINEER also has the right to reduce the unit price of the material represented by the cores by the same percentage that the cored thickness is less than plan thickness (i.e., less than the minimum thickness within tolerance, 1¾ or 2¾ or 5¾ inches). If the core thickness is less than 75% of plan (i.e., 1½ or 2¼ or 4½ inches) the material represented by the core will be removed and replaced at no cost to the OWNER.
- I. Stability will be measured from the cores and will be a minimum of 1,200 lbs. The unit prices of the material represented by the cores will be reduced by the same percentage that the core stability is less than plan stability. If the core stability is less than 75% of plan, the material represented by the core will be removed and replaced at no cost to the OWNER.”

PART 4: MEASUREMENT AND PAYMENT

- 4.1 TONNAGE BASIS - Delete
- 4.2 SQUARE YARD BASIS - Delete
- 4.3 LINEAR FOOT BASIS

Delete and replace with the following:

Payment for finished asphalt concrete will be measured and paid by the square foot of finished asphalt concrete surface. This payment shall be full compensation for all materials, handling, preparation, installation and finishing necessary to complete the work. **All base and sub-base material and preparation needed to prepare the surface for paving is also included as incidental to this bid item.**

END OF SECTION 02510

**SECTION 02528
CONCRETE CURB AND GUTTER**

PART 1: GENERAL

1.1 DESCRIPTION

Delete Paragraph B. in its entirety and replace with the following:

- B. Refer to the most recent versions of City of Missoula Standard Drawings for applicable details, particularly the following:

STD-121 – Typical “L” Type Curb/Gutter Section

STD-126 – Typical “L” Type Curb Laydown Section\

STD-122, STD-123, STD-127

These standard drawings are attached in Annex A of this document:

PART 3: EXECUTION

3.2 FOUNDATION PREPARATION

- C. Change “3 inches” to “2 inches.”

Add the following section:

3.3 FORMS

- E. Contractors shall check with the City Engineer’s Office prior to any pour within the City right-of-way. Verification will be made as to correctness of forms prior to any ordering of concrete.

Add the following section:

3.12 DRIVEWAY LAYDOWNS

- A. Driveway laydowns as indicated on the plans, or as designated by the ENGINEER, shall be formed while the curb is placed. Locations shall be marked in the field by the contractor prior to the preconstruction field review with the ENGINEER. There will be no separate measurement and payment for this work.”

PART 4: MEASUREMENT AND PAYMENT

Add the following section:

4.2 SAWCUT CURB

This item is paid by the lineal foot, where existing curb can be sawcut to make a laydown instead of pouring new curb, as directed by the ENGINEER.

END OF SECTION 02528

**SECTION 02529
CONCRETE SIDEWALKS, DRIVEWAYS, APPROACHES, CURB TURN FILLETS, VALLEY
GUTTERS, AND MISCELLANEOUS NEW CONCRETE CONSTRUCTION**

PART 1: GENERAL

1.2 REFERENCES

Delete Paragraph A. in its entirety and replace with the following:

- "A. Refer to applicable details on the plans, or to applicable City of Missoula Standard Drawings, particularly those which are attached in Annex A of this document. Note that several drawings included in annex A do not yet have drawing numbers assigned and are not yet posted on the City of Missoula website.

PART 3: EXECUTION

3.2 FOUNDATION PREPARATION

- C. Change "3 inches" to "4 inches."

Add the following section:

3.3 FORMS

- B. Contractors shall check with the City Engineer's Office prior to any pour within the City right-of-way. Verification will be made as to correctness of forms prior to any ordering of concrete.

Add the following section:

3.12 DETECTABLE WARNING SURFACES

- A. A Detectable Warning Surface, DWS, shall be installed in every new or repaired 4-inch concrete handicap curb ramp throughout the entire project. Each DWS shall be 5 feet wide along the curb and extend 2 feet back behind the curb, shall be cast iron or approved equal, and shall be in accordance with City of Missoula Standard Drawing STD-113

3.13 PATTERNED CONCRETE

- A. Description. This item includes all materials and equipment to construct 4" depth, colored, patterned concrete at the locations indicated on the plans.
- B. Submittals. Submit manufacturer's recommendations, color and pattern samples for approval by the Engineer prior to beginning construction. Provide a 4 square foot job site sample of the colored, patterned concrete. This sample, once approved, shall be the standard of quality and workmanship for the remainder of the work.
- C. Construction Requirements. Grade and compact subgrade and crushed base course to the satisfaction of the Engineer. Maximum allowable slope is 5:1 (horizontal:vertical). Furnish Type II cork preformed expansion joint filler meeting AASHTO M213 requirements. Place expansion joints at all radius points and fixed points. Layout contraction joints to align with pattern and to avoid leaving thin areas of concrete. Color

agent and sealer in accordance with manufacturer's recommendations. Apply release agent and sealer in accordance with manufacturer's recommendations.

- D. Material. Provide full-depth, integrally colored, patterned concrete as follows:

Base Color: Davis Color "Yosemite Brown," or approved equivalent.

Release Agent: "Dark Gray," or approved equivalent.

Patterned: Brickform "Cheshire Cobble," or approved equivalent.

PART 4: MEASUREMENT AND PAYMENT

Delete Paragraphs 4.1, 4.2, 4.3, 4.4, and 4.5 in their entirety and replace with the following:

4.1 CONCRETE SIDEWALK

(NOTE: Concrete Driveway replacements are paid the same as Concrete Sidewalk.)

A. 4" CONCRETE SIDEWALK

1. This item is measured and paid for by the square foot price for "4" Thickness Concrete Sidewalk" and payment is full compensation for all material, excavation, backfill, 4 inches of crushed base material, curing of concrete, pre-molded mastic material, equipment, tools and labor, and for work and incidentals necessary to complete this item as shown on the Plans.
2. Where 4" sidewalks will be poured adjacent to asphalt parking or driving areas, the edge of the sidewalk abutting the asphalt shall be thickened to 6" for a width of one foot. This thickened edge is incidental to the 4" concrete sidewalk – no additional payment will be made. This thickened edge assumes that the asphalt will be brought back even with the finished sidewalk surface, or that any reveal will be less than 3 inches.
3. Miscellaneous concrete patches will also be paid under this item.

B. 6" and 8" CONCRETE SIDEWALK

1. These items are measured and paid for by the square foot price for "6" Thickness Concrete Sidewalk" and payment is full compensation for all material, excavation, backfill, 4 inches of crushed base material, curing of concrete, pre-molded mastic material, equipment, tools and labor, and for work and incidentals necessary to complete this item as shown on the Plans.

C. DETECTABLE WARNING SURFACES

1. This item is measured and paid for per each installed detectable warning surface, measuring 5 feet wide along the curb and extending back 2 feet behind the curb in accordance with the plans and City of Missoula standard drawings. Payment is full compensation for all associated labor, equipment and materials.

4.2 PATTERNED CONCRETE

1. Patterned Concrete is measured for payment by the square foot, and includes the underlying crushed aggregate course and all associated work.

END OF SECTION 02529

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**SECTION 02720
STORM DRAIN SYSTEMS**

PART 1: GENERAL

1.4 STANDARD DRAWINGS

Delete and add the following:

- A. Refer to applicable details of the plans or to City of Missoula Standard Drawings for applicable details, particularly the following:

STD-300C – Dry Well or Sump Cover

STD-609 – Straw Bale Sediment Control at Field Catch Basins

PART 3: EXECUTION

Add the following:

3.6 4' DIAMETER STORM DRAIN SUMPS

- A. Construct storm drain sump sections to the specified plan dimensions (4' Dia., total depth as determined by Contractor). CONTRACTOR shall review the soil boring reports to determine the total depth of the concrete structure, as well as the total depth of the excavation to ensure the 3" – 6" drain rock is a minimum of 2' into native gravelly material.

3.7 ABANDON DRAINAGE SUMP

- A. Existing sumps shall be abandoned by removing all concrete, metal and brick associated with the structure that is within two (2) feet of the finished ground surface. Deeper components may be removed or buried in place. Any pipe penetrations shall be plugged with grout. The remaining void space shall be filled with 3/4" minus gravel in lifts not to exceed 12 inches in depth, and compacted to 95% of the maximum dry density. Salvaged hardware shall either be re-used on this project, or delivered to the City.

PART 4: MEASUREMENT AND PAYMENT

Add the following:

4.6 4' DIAMETER STORM DRAIN SUMP

- A. Storm Drain Sumps shall be measured and paid for by the number of storm drain sumps installed, complete in place, at the contract unit price listed in the proposal for "4' Diameter Storm Drain Sump". Measurement and payment shall include all material as shown on the details, including but not limited to the precast concrete structure (regardless of depth), excavation and drain rock, drainage fabric, ring and cover, penetration and grouting to facilitate drainage pipes, and all other material, labor, equipment, and incidentals to complete the item."

4.7 ABANDON DRAINAGE SUMP

- A. Measurement and payment shall be per each as listed in the bid proposal for “Abandon Sump,” and shall include all labor, equipment, materials, and incidentals to abandon sumps per these specifications and local regulations.

END OF SECTION 02720

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**SECTION 02900
LANDSCAPING**

PART 1: GENERAL

1.1 DESCRIPTION

- A. This section includes all labor, equipment, and materials for landscaping, grass lawn seeding, and ornamental rock mulch, as shown on the plans. It includes furnishing and placement of soil backfill mixes; soil preparation, including ripping and rotor-tilling, and furnishing weed barrier fabric over plant beds and basins; and fine grading of planting areas. Furnishing and installation of new trees and shrubs is NOT included in this phase of the project.

1.2 SUBMITTALS

- A. Submit a proposed grass seed mix for approval prior to seeding disturbed sod or new landscape areas.

PART 2: PRODUCTS

2.1 WEED BARRIER FABRIC

- A. Provide 3.0 oz Typlar spun weed barrier fabric or approved equal.

2.2 ROCK MULCH

- A. Provide ½" diameter clean stone chip mulch without fines.

2.3 SEED

- A. Select a grass seed mix that is regionally adapted, drought resistant and appropriate for urban lawn areas. Submit for approval by ENGINEER.

PART 3: EXECUTION

3.1 TOPSOIL

- A. Place 4" of topsoil in areas to be seeded, where called for in the plans. Topsoil shall be placed 1" below the top of curb elevation and below the top of sidewalk elevation, and conform to the typical street sections. If available, and reasonably free of rock and debris, topsoil removed from the site operations may be used for the boulevards. Otherwise, the contractor shall import topsoil to complete installation to the lines and grades shown on the plans.

3.2 WEED BARRIER FABRIC INSTALLATION

- A. Install weed barrier fabric at all locations where Mulch is called for on the plans.
- B. Tuck a minimum of 6" into the soil on all edges of the shrub bed or tree saucer and secure with jute stakes every 3'. Overlap fabric a minimum of 6" at all seams and secure with jute stakes along the seam every 3'. Lay fabric in a fashion to minimize the number of seams. Secure fabric closely to the topsoil and ensure that no fabric shows above the rock mulch.

PART 4: MEASUREMENT AND PAYMENT

4.1 GENERAL

- A. Landscaping is measured and paid for at the unit bid price for the completed and accepted quantities under the following:

<u>Pay Item</u>	<u>Pay Unit</u>
Topsoil (4" Depth) and Seed	Square Foot
Weed Barrier Fabric and Rock Mulch – 3" Depth	Square Foot

- B. Payment indicated to include complete compensation for all labor, equipment, materials, and incidentals required for the completion of the work.

END OF SECTION 02900

**SECTION 02905
RESTORE LANDSCAPING**

PART 1: GENERAL

1.1 DESCRIPTION

- A. Immediately following completion of work, restore all existing landscaped areas to their original condition. This includes, but is not limited to, all labor, equipment, and materials necessary to fine grade, topsoil, seed, sod, mulch, modify and repair sprinkler systems and other improvements on public or private property that were disturbed by the work.

PART 2: PRODUCTS (not used)

PART 3: EXECUTION (not used)

PART 4: MEASUREMENT AND PAYMENT

4.1 PAYMENT

- A. No separate measurement and payment for will be made for restoration of landscaping. Costs associated with these items shall be subsidiary to other items listed in the Proposal.

END OF SECTION 02905

SECTION 02930
EXTEND EXISTING IRRIGATION SYSTEM

PART 1: GENERAL

1.1 DESCRIPTION

- A. This includes all labor, equipment, and materials necessary to modify and extend existing sprinkler irrigation systems to new boulevard areas and tree planters.

PART 2: PRODUCTS

2.1 IRRIGATION SLEEVES

- A. Provide 2" diameter PVC sleeves to tree planters, boulevard areas, and driveway crossings, as directed by the Engineer. Finished sidewalk concrete shall be stamped with a symbol acceptable to the ENGINEER to indicate the location of PVC irrigation sleeves.

2.2 IRRIGATION SPRINKLER SYSTEM

- A. Provide compatible sprinkler system materials of equal or better quality. Remove and salvage reusable components.

PART 3: EXECUTION

3.1 LANDOWNER COORDINATION

- A. Notify each property owner at least one week prior to beginning any work that affects operation of the existing system. Review each system with the property owner to determine appropriate modifications. Determine appropriate flow rates for new planting areas. Upon completion of all work and site restoration, test operation of system with the property owner.

PART 4: MEASUREMENT AND PAYMENT

4.1 PAYMENT

- A. Extend existing irrigation system is measured and paid by each system at the unit price bid for a fully functional system completed in place and accepted by the Engineer.
- B. Payment indicated to include complete compensation for all labor, equipment, materials, and incidentals required for the completion of the work.

END OF SECTION 02930