



Items to be Specified on Plans or in Contract Documents

The SUDAS Specifications specify many items and methods that can be used for the construction of improvements. Following is a list of items in the SUDAS Specifications that are to be noted on the construction drawings and/or in the special provisions whenever there is to be a deviation from the standard requirements of the specifications. This information may include specifying pipe sizes and materials, who is responsible for providing compaction testing, as well as many others.

The project engineer should review the following list and the SUDAS Specifications to make sure all items that are necessary to construct the project are specified on the plans and/or in the special provisions. Please note - this list is not all-inclusive.

Section 2010 - Earthwork, Subgrade, and Subbase

- 2010, 1.08 D, 1, a Specify whenever the depth of cut for stripping and salvaging topsoil is other than 8 inches.

- 2010, 1.08, E Specify the class of excavation as Class 10, Class 12, or Class 13.

- 2010, 1.08, E, 1, b, 2) When the truck count method is to be used for measuring Class 10 or Class 13 excavation, specify if the shrinkage factor is other than 1.35.

- 2010, 1.08, E, 4 Specify whenever stripping, salvaging, and spreading 8 inches of topsoil is NOT a pay item and is included in the payment of Class 10, Class 12, or Class 13 Excavation.

- 2010, 1.08, F, 1 Specify whenever below grade excavation (core out) will NOT be measured and paid as extra work.

- 2010, 1.08, J, 3 Specify whenever removal of pipe and conduits will include capping.

- 2010, 1.08, L Specify when the Contractor is responsible for compaction testing.

- 2010, 2.01 Specify use of compost-amended or off-site topsoil if on-site topsoil is NOT to be used.

- 2010, 2.02, C, 3 Specify the limits of Class 13 excavation.

- 2010, 2.04, C, 5 Specify whenever Type 2 geogrid is to be used in lieu of Type 1.

- 2010, 3.03, F, 1 Specify the desired depth for removal of unsuitable or unstable materials.

- 2010, 3.04, D Specify whenever Type A compaction is to be used in lieu of compaction with moisture and density control.

2010, 3.05	Specify whenever and where unsuitable soils will be allowed in the right-of-way.
2010, 3.06, A	Specify if granular stabilization materials or subgrade treatment is to be used in lieu of select subgrade materials.
2010, 3.07	Specify the type of subgrade treatment (lime, cement, fly ash, asphalt, geogrid, or geotextiles) to be used.
2010, 3.07, A, 1	Specify the depth and rate of incorporation of the subgrade treatment material (lime, cement, fly ash, or asphalt).
2010, 3.07, A, 2	Specify the areas requiring subgrade treatment.
2010, 3.08, B	Specify the type and depth of subbase.
2010, 3.09, A	Specify when the Contractor is responsible for compaction testing.
Figure 2010.102	Specify whenever Type A compaction is desired in lieu of compaction with moisture and density control.

Section 3010 - Trench Excavation and Backfill

3010, 1.08, F	Specify when the Contractor is responsible for trench compaction testing.
3010, 2.03, B	Specify whenever Class V material can be used as other than topsoil.
3010, 2.06, D	Specify if foamed cellular concrete may be substituted for flowable mortar.
3010, 3.05, A, 6	Specify if concrete, flowable mortar, CLSM, or foamed cellular concrete is to be used in lieu of other bedding materials.
3010, 3.05, B, 1, a	Specify if granular bedding material is to be used for pressure pipes.
Figure 3010.101	Specify when over-excavation and foundation stone will be required.
Figure 3010.105	Specify when and where to install a waterstop.

Section 3020 - Trenchless Construction

3020, 2.02, A	Specify the wall thickness of casing pipe. See Section 9C-1.
3020, 2.02, C	Specify inside diameter of casing pipe.
3020, 2.05, B	Specify where special fill materials will be used.
3020, 3.04, A, 2, b	Specify the installation deviation tolerances of casing pipe if different than those included.
3020, 3.04, A, 2, b, 2), b)	Specify the minimum depth of pressurized pipe.
3020, 3.04, D	Specify when to fill the annular space between the carrier and casing pipe with flowable mortar, CLSM, or foamed cellular concrete.

Section 4010 - Sanitary Sewers

- 4010, 1.08, A, 1, c Specify if a pipe lining is to be used.
- 4010, 1.08, A, 2, c Specify if a pipe lining is to be used.
- 4010, 1.08, B, 1, c Specify if a pipe lining is to be used.
- 4010, 1.08, B, 2, c Specify if a pipe lining is to be used.
- 4010, 1.08, E Specify the distance beyond the right-of-way line that the sanitary sewer service stub is to extend, if other than 10 feet.
- 4010, 1.08, H, 3 For removal of sanitary sewer, specify if capping is required.
- 4010, 2.01, A, 1 For solid wall PVC pipe, 8 inch to 15 inch, specify if SDR 35 may be used.
- 4010, 2.01, C, 2, a For corrugated PVC, 8 inch to 10 inch, specify if a minimum pipe stiffness of 46 psi may be used.
- 4010, 2.02, A Specify when joint restraints for ductile iron pipe force mains are required.
- 4010, 2.02, B Specify when restrained joints are required for PVC force mains.
- 4010, 2.02, E, 2 Specify the color of plastic post used for tracer wire station.
- 4010, 3.02, B, 7 Specify the location for installation of wye or tee service fitting.
- 4010, 3.05, B, 2 Specify the location for any installation of a tracer wire station in addition to each end of the force main.
- 4010, 3.06, A Specify the locations for installation of sanitary sewer service stub.
- 4010, 3.06, C Specify the distance beyond the right-of-way line that the sanitary sewer service stub is to extend, if other than 10 feet.
- 4010, 3.06, C, 3 Specify the depth of sanitary sewer service stub at its termination, if other than 10 to 12 feet.
- 4010, 3.06, C, 5 Specify method of marking the end of the sanitary sewer service line.
- 4010, 3.08, B, 2 Specify when to fill an abandoned sanitary sewer with flowable mortar, foamed cellular concrete, or CLSM.
- 4010, 3.10 Specify where to provide sanitary sewer cleanouts.

Section 4020 - Storm Sewers

- 4020, 1.08, D, 3 Specify if capping is required for removal of storm sewer.
- 4020, 2.01, A, 3 Specify when to use a rubber O-ring or profile gasket in lieu of a tongue and groove joint wrapped with engineering fabric.

4020, 2.01, B, 3	Specify when to use a rubber O-ring or profile gasket in lieu of a tongue and groove joint wrapped with engineering fabric.
4020, 2.01, C, 3	Specify when to use a rubber O-ring or profile gasket in lieu of a tongue and groove joint wrapped with engineering fabric.
4020, 2.01, G, 1, d	Specify gage of corrugated metal pipe, if other than Iowa DOT Standard Road Plan DR-104.
4020, 2.01, I, 2	Specify gage of coated corrugated metal pipe, if other than Iowa DOT Standard Road Plan DR-104.
4020, 3.04, A	Specify any special linear trench drain installation requirements.
4020, 3.05, B, 2	Specify the use of a rubber O-ring or profile gasket.
4020, 3.06	Specify where to install pipe aprons, apron footings, and apron guards.
4020, 3.09, B, 2	Specify when to fill a line to be abandoned with flowable mortar, foamed cellular concrete, or CLSM.

Section 4030 - Pipe Culverts

4030, 2.01, C, 5	Specify gage of the structural plate culverts, if other than Iowa DOT Standard Road Plan DR-104.
4030, 3.02, A	Specify the locations to install pipe aprons.
4030, 3.02, B	Specify the locations to install apron footings.
4030, 3.02, E	Specify the locations to install apron guards.
Figure 4030.225	Specify when to extend the bottom cross bar through the apron.

Section 4040 - Subdrains and Footing Drains

4040, 1.08, A, 3	Specify the use of engineering fabric.
4040, 1.08, E	Specify the distance beyond the right-of-way that the storm sewer service stub is to extend, if other than 10 feet.
4040, 3.01, A, 1	Excavate trench and provide pipe bedding and backfill as shown on the figures. Install engineering fabric if specified in the contract documents.
4040, 3.02, B	Specify the use of engineering fabric.
4040, 3.03, A	Specify the locations to install footing drain service stubs.
4040, 3.03, C	Specify the distance beyond the right-of-way that the footing drain service stub is to extend, if other than 10 feet.

- Figure 4040.231 For Type 1 subdrains, specify Case A, B, or C. For Type 2 subdrains, specify Case D or E and the pipe diameter. When using Case A or Case D, specify the distance from back of curb. For both types, specify when engineering fabric is to be used.
- Figure 4040.232 Specify the type of subdrain cleanout to be used.
- Figure 4040.233 Specify when to use a CMP outlet.

Section 4050 - Pipe Rehabilitation

- 4050, 1.07, B Specify if water will not be provided for cleaning and installation of cured-in-place pipe by the Jurisdiction at no cost.
- 4050, 1.08 Specify if bypass pumping is not included in the measurement and payment of other bid items. *Applies to C, 1, c; D, 3; E, 1, c; E, 2, c; F, 1, c; F, 2, c; F, 3, c; and F, 4, c.* {Note - 1.08, G is the bid item for bypass pumping}.
- 4050, 1.08, A, 1, c Specify if unit price will include disposal and associated costs for all debris removed from sewer.
- 4050, 1.08, E, 2, a Specify the length of service pipe to line.
- 4050, 2.01, C, 2 Specify if the CIPP structural requirements are not fully deteriorated conditions.
- 4050, 2.01, Table 4050.01 Specify the ovality reduction factor and height of soil above pipe.
- 4050, 2.02, B Specify the CIPP point repair liner length.
- 4050, 2.02, C Specify if the ovality is a value other than 2%.
- 4050, 2.03, A, 1 Specify the distance the tube should extend from the sewer main into the service.
- 4050, 2.03, B, 2 Specify the service liner length.
- 4050, 2.03, E, 1 Specify if the cured-in-place service liner should be designed following different assumptions than those described in Table 4050.02.
- 4050, 2.03, Table 4050.02 Specify the depth of cover for each service repair location.
- 4050, 2.04, C Specify when to provide a root deterrent chemical to control root regrowth.
- 4050, 2.07, B Specify the materials to use for pipe replacement.
- 4050, 3.01, A, 6 Specify if the Contractor is to pay for disposal fees.
- 4050, 3.05, B, 1 Specify the length of the CIPP service repair.
- 4050, 3.06, B, 2 Specify if the length of the service line grouting plug should be a length other than 18 inches.
- 4050, 3.07, C, 1 Specify the materials to use for the replacement pipe.

Section 4060 - Cleaning, Inspection, and Testing of Sewers

- 4060, 2.01, B, 3 Specify the type of recording media that will be used to record the inspection.
- 4060, 3.03, A, 1 Specify whenever video inspection of storm sewers is not desired.

Section 5010 - Pipe and Fittings

- 5010, 1.08, C Specify whether measurement of fittings will be made by count or by weight.
- 5010, 2.01, A, 1, b Specify the minimum wall thickness for PVC pipe sizes over 24 inches.
- 5010, 2.01, A, 2 Specify joint type for PVC pipe if other than push-on.
- 5010, 2.01, B, 1, b Specify the minimum wall thickness for DIP sizes over 24 inches.
- 5010, 2.01, B, 4 Specify joint type for DIP if other than push-on.
- 5010, 2.04, C Specify when thrust blocks will be used for pipe sizes greater than 16 inches in diameter.
- 5010, 2.07, B Specify the materials to use for water service pipe and appurtenances.
- 5010, 3.01, A, 3 Specify the lines and grades to install pipe with fittings.
- 5010, 3.01, A, 8 For pipes larger than 16 inches, specify when concrete thrust blocks are required in addition to restrained joints.
- 5010, 3.06, E Specify the locations to install ground rods if other than adjacent to connections to existing piping.
- 5010, 3.07, B Specify where to construct utility line supports.
- 5010, 3.08 Specify when the change of piping material is to be on the inside of the structure wall.
- Figure 5010.101 Specify when to use the alternate method of thrust blocks at dead ends.

Section 5020 - Valves, Fire Hydrants, and Appurtenances

- 5020, 1.08, I, 3 Specify if the fire hydrant assembly is to be delivered to the Contracting Authority.
- 5020, 1.08, J, 3 Specify if the valve is to be delivered to the Contracting Authority.
- 5020, 1.08, K, 3 Specify if the valve box is to be delivered to the Contracting Authority.
- 5020, 2.01, A, 2 Specify whenever the opening direction for valves is clockwise.
- 5020, 2.01, D, 7 Specify the locations to use tapping valve assemblies.
- 5020, 2.02, B Specify allowable manufacturer(s) of fire hydrant assemblies.

5020, 2.02, C, 5	Specify whenever the opening direction for fire hydrant assemblies is clockwise.
5020, 2.02, C, 6	For fire hydrant assemblies, specify the operating nut, pumper nozzle, nozzle threads, and main valve nominal opening sizes.
5020, 2.03, A	Specify the type of flushing device (blowoff) to be used.
5020, 2.03, B, 2	Specify the allowable manufacturer(s) for valve boxes.
5020, 3.02	Specify where to install and how to construct flushing device (blowoff).
5020, 3.04, D	Specify if exterior of a new fire hydrant barrel section will be painted a color other than matching the existing fire hydrant.

Section 6010 - Structures for Sanitary and Storm Sewers

6010, 1.08, A, 3	Specify if a manhole lining is to be used.
6010, 2.05, B, 2, b	Specify the use of engineering fabric.
6010, 2.06, B	Specify when to use a concentric cone on sanitary sewer manholes.
6010, 2.11, B, 1	Specify if sanitary sewer manhole exterior is to be coated.
6010, 2.11, B, 2	Specify whenever sanitary sewer manhole lining is required.
6010, 2.13, A, 1	Specify if steps are to be provided in manholes or intakes less than or equal to 20 feet deep.
6010, 3.01, D	Specify if intake lids are NOT to be set to match the longitudinal slope of the adjacent street.
6010, 3.01, J	Specify the type of casting to use for manholes and intakes, except for intakes that have a specific casting type identified on the figures. Specify if casting frame is to be attached to the structure with bolts.
6010, 3.02, B, 2	Specify if reinforcing steel is to lap other than 36 diameters.
6010, 3.04, A, 1	Specify when to install casting extension rings.
6010, 3.04, B, 3	Specify when existing casting may be reinstalled for minor adjustment of existing manhole or intake.
6010, 3.04, C, 4	Specify when existing casting may be reinstalled for major adjustment of existing manhole or intake.
6010, 3.05, C, 1, a	Specify whenever a knockout opening is allowed in lieu of a cored opening.
6010, 3.05, C, 1, b	Specify if sanitary sewer service is NOT required to be maintained at all times when connecting a sanitary sewer to existing manhole or intake.
6010, 3.05, C, 3	Specify whenever a knockout opening is allowed in lieu of a cored opening.

6010, 3.06, A	Specify if removal of manhole or intake is other than to a minimum of 10 feet below top of subgrade in paved areas or 10 feet below finished grade in other areas.
6010, 3.06, B, 3	Specify when to fill abandoned pipe line with flowable mortar or controlled low strength material.
Figure 6010.501	Specify when Type Q grate is to be used in lieu of Type R.
Figure 6010.502	Specify when Type Q grate is to be used in lieu of Type R.
Figure 6010.603	Specify when Type Q grate is to be used in lieu of Type R.

Section 6020 - Rehabilitation of Existing Manholes

6020, 2.02, A	Specify the thickness of the in-situ manhole replacement wall.
6020, 2.02, C	Specify whenever the Contractor is required to provide a PVC or PE plastic liner for in-situ manhole replacement.
6020, 3.01, C	Specify when the use of a urethane chimney seal is allowed.
6020, 3.02, B, 3	Specify whenever a plastic liner is to be installed in an in-situ manhole replacement.

Section 6030 - Cleaning, Inspection, and Testing of Structures

6030, 3.04, A, 1	Specify when exfiltration testing is required for sanitary sewer manholes in lieu of vacuum testing.
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Section 7010 - Portland Cement Concrete Pavement

7010, 2.01, E	Specify the use of an intermediate aggregate for concrete.
7010, 2.01, L, 2	Specify the type of performed expansion jointing filler or sealer to use if NOT using a resilient filler.
7010, 2.02, A, 1	Specify the type of Class C or Class M mix to use.
7010, 2.02, C, 2	Specify the type and amount of supplementary cementitious material in the mix.
7010, 3.01, C, 1, c	Specify the use of stringless paving.
7010, 3.02, H, 5, a	Specify when a textured finished surface other than an artificial turf or burlap drag is desired (i.e. surface tining).
7010, 3.02, H, 5, b	Specify when surface tining is required. <i>Note - longitudinal tining is listed as the default.</i>
7010, 3.02, I, 1, a	Specify when the use of a linseed oil solution is required.
7010, 3.02, J, 1, a	Specify the type and locations for construction of joints.

7010, 3.02, J, 2, i	Specify when to use wet sawing for dust control.
7010, 3.02, J, 3, a	Specify the location of longitudinal and transverse construction joints.
7010, 3.02, J, 4, a	Specify the location of expansion joints.
7010, 3.07, C, 2, a	Specify when the use of a profilograph for pavement smoothness is required.
Figure 7010.101	Specify when to use Detail D-1, D-2, or D-3.

Section 7011 - Portland Cement Concrete Overlays

7011, 2.01, L, 1	Specify the mass per unit area.
7011, 3.02, E, 3, a	Specify the high spots in the existing asphalt surface to be milled.

Section 7020 - Hot Mix Asphalt Pavement

7020, 1.08, A & B	Specify if measurement of HMA pavement is by ton or square yard.
7020, 1.08, C & D	Specify if measurement of HMA base widening is by ton or square yard.
7020, 3.05, B, 1	Specify when the use of profilograph for pavement smoothness is required.
7020, Table 7020.05	Specify if the field laboratory air voids target value is other than 4%.

Section 7021 - Hot Mix Asphalt Overlays

7021, 2.04, A	Specify the asphalt binder grade.
7021, 3.01, A	Specify the milling depth, cross-section, or profile.

Section 7030 - Sidewalks, Shared Use Paths, and Driveways

7030, 1.08, H, 2	Specify whether granular surfacing for driveways will be computed in square yards or tons.
7030, 1.08, I, 1	Specify whenever the Contractor will be responsible for concrete compression or HMA density testing.
7030, 2.03, A	Specify color and surface texture of clay brick pavers, or select from samples submitted by the Contractor.
7030, 2.03, B	If concrete pavers are to be used, specify the material requirements.
7030, 2.04, B	Specify the use of a pre-mixed high performance cold mix in lieu of an HMA setting bed.
7030, 2.06	Specify the use of colored cement for brick/paver joint filler.
7030, 3.01, A-C	Specify removal limits of sidewalks, shared use paths, driveways, bricks, and curbs.

7030. 3.01, E	Specify the locations to grind or saw existing curbs to install sidewalks, shared use paths, and driveways.
7030, 3.04	Specify the line and running slope to construct sidewalks and shared use paths. Specify the cross slope.
7030, 3.04, F, 2, a, 1)	Specify the spacing for transverse joints in shared use paths, if other than equal to the width of the shared use paths.
7030, 3.05	Specify the cross slope.
7030, 3.06, A, 2	Specify the cross-section and patterns to use for brick sidewalks with a concrete base.
7030, 3.11, A	Specify when testing will be the Contractor's responsibility.
Figure 7030.101	Specify the radius for commercial and industrial driveways. Specify when a 'B' joint is to be provided at the back of curb. Specify the driveway width. Specify when a 5 foot sidewalk is to be constructed through the driveway.
Figure 7030.102	Specify the radius for commercial and industrial driveways. Specify the driveway width. Specify when a 5 foot sidewalk is to be constructed through the driveway.
Figure 7030.104	Specify parking grading slope and property slope if different than 4:1.
Figure 7030.201	If a special grade is required for parking slopes, specify the grade. Specify the width of the sidewalk.
Figure 7030.202	Specify one of the curb details for Class A sidewalk.
Figure 7030.203	Specify the brick sidewalk pattern. Specify the jointing of the concrete base.
Figure 7030.205	Specify the use of a BT-3, KT-2, or expansion joint.

Section 7040 - Pavement Rehabilitation

7040, 1.08, K, 3	Specify the use of waterproof bonding material with pavement core replacement.
7040, 2.01, A, 1	Specify if patches are <u>not</u> constructed as standard patches.
7040, 2.01, A, 2	Specify the use of calcium chloride in high early strength patching.
7040, 2.01, B	Specify if an HMA mixture other than a minimum Low Traffic (LT) mixture is desired.
7040, 2.01, C, 5	Specify the use of soil sterilant for crack and joint filler material.
7040, 2.01, G	Specify if a subbase material other than modified subbase is desired.
7040, 2.01, K	Specify the length and diameter of epoxy coated dowel bars.
7040, 3.01, C	Specify the dimensions of full depth and partial depth patches.
7040, 3.01, F	Specify seeding or sodding the area outside the pavement.

7040, 3.02, A, 1	Specify when a second saw cut is required.
7040, 3.02, C, 6	Specify the locations of joints.
7040, 3.03, B, 2	Specify when to tool the joint.
7040, 3.04, J	Specify when pavement smoothness testing is required.
7040, 3.05, B	Specify the depth to mill the pavement area.
7040, 3.05, D	Specify if materials removed are <u>not</u> the property of the Contractor.
7040, 3.06, B, 3	Specify when to clean wet sawn joints.
7040, 3.06, C, 2	Specify the level to heat, handle, and apply joint filler material.
7040, 3.07, A, 3	Specify when to apply soil sterilant.
7040, 3.07, B, 2	For cracks wider than 1 inch, specify when to utilize additional methods to clean cracks of old crack filler.
7040, 3.07, C, 2	For cracks 1/4 inch to 1 inch in width, specify when to utilize additional methods to clean cracks of old crack filler.
Figure 7040.102	Specify the use of a 'CD' joint.
Figure 7040.105	Specify the use of filter fabric. Specify the type of subbase.

Section 7050 - Asphalt Stabilization

7050, 1.02	Specify the crown of the pavement.
7050, 2.01, B	Specify the type of aggregate required.
7050, 3.03, A	Specify the depth of existing roadway surface to reclaim, if other than 4 inches.
7050, 3.07	Specify the type of surface treatment to apply.

Section 7060 - Bituminous Seal Coat

7060, 1.08 A & B	Specify measurement of bituminous seal coat is in area or units.
7060, 2.01, A	Specify the cover aggregate size.
7060, 2.01, B	Specify bituminous material if different than CRS-2P.
7060, 3.02, A, 1	Specify when to patch and joint fill hard surfaced streets.
7060, 3.04, B	Specify the application rate for spreading binder bitumen, if other than shown in the table.
7060, 3.04, D	Specify the application rate for spreading cover aggregate, if other than shown in the table.

- 7060, 3.06, B, 2 Specify the rate for spreading binder bitumen for two course seal coats.
- 7060, 3.06, B, 3 Specify the size of aggregate and the rate for spreading cover aggregate for two course seal coats.
- 7060, 3.07 Specify if sweeping of rural pavements is not necessary.

Section 7070 - Emulsified Asphalt Slurry Seal

- 7070, 1.02, B Specify the application of fine or coarse slurry mixtures.
- 7070, 2.01, B Specify when to use crushed aggregates.
- 7070, 2.02, A Specify the amount of asphalt emulsion to blend with the aggregate.
- 7070, 3.01, B, 1, b Specify the width of slurry mixture application.
- 7070, 3.02, A Specify when to complete pavement patches and joint or crack filling for surface preparation.
- 7070, 3.02, C Specify if water flushing for surface preparation is not allowed.
- 7070, 3.03, C Specify the rate of applying the slurry seal, if other than 10 to 18 pounds per square yard for fine aggregate and 15 to 22 pounds per square yard for coarse aggregate.
- 7070, 3.03, F Specify when to apply a burlap drag.
- 7070, 3.05, E Specify if strip slurry treatment is to be placed in two separate operations.

Section 7080 - Permeable Interlocking Pavers

- 7080, 2.02, A Specify either slotted or perforated underdrain pipes.
- 7080, 2.02, B Specify the size of collector pipe if other than 6 inch diameter is desired.
- 7080, 2.03, C Specify the size of lateral pipe if other than 4 inch diameter is desired.
- 7080, 3.02, A Specify the elevation and grade for the excavation area.
- 7080, 3.02, B Specify the use and location of underdrains.
- 7080, 3.03, A Specify the use of engineering fabric over completed subgrade.
- 7080, 3.04, A, 5 Specify cleanout locations.
- 7080, 3.04, A, 7 Specify the use of underdrain cleanout pipes and observation wells.
- 7080, 3.04, B, 1 Specify underdrain lateral pipe locations.
- 7080, 3.05, A Specify the thickness of storage aggregate.
- 7080, 3.05, C Specify the storage aggregate elevation.

7080, 3.06, C Specify the need to proof roll the filter aggregate.

7080, 3.09 Specify the installation pattern of the pavers.

Section 7090 - Cold-in-Place Pavement Recycling

7090, 2.02 Specify the required strength of the recycled pavement section.

7090, 3.01, B, 1 Specify the width and depth to mill the existing pavement material.

7090, 3.01, B, 2 Specify the use of an asphalt foaming system.

7090, 3.08, C Specify if the compacted recycled roadway does not have to be within 6 inches of the established centerline.

Section 7091 - Full Depth Reclamation

7091, 2.02 Specify the required strength of the reclaimed pavement section as specified in the contract documents.

7091, 3.01, B, 1 Specify the width and depth to reclaim.

7091, 3.01, B, 2 Specify the use of an asphalt foaming system.

7091, 3.05, A Specify if multiple passes are required.

7091, 3.09, C Specify if the compacted, reclaimed roadway does not have to be within 6 inches of the established centerline.

7091, 3.11 Specify when to complete microcracking.

7091, 3.12 Specify the use of an HMA interlayer.

Section 8010 - Traffic Signals

8010, 1.08, B, 3 Specify if pedestrian equipment is required with temporary traffic signal.

8010, 2.01, A, 1, c Specify if a message besides "TRAFFIC SIGNAL" will be required on the handhole cover.

8010, 2.01, B, 3, a, 2) Specify solvent welded, socket type fittings for use other than PVC conduit and fittings.

8010, 2.01, C, 6, a Specify the mode type, size, and number of fibers for fiber optic cable required.

8010, 2.01, C, 6, p Specify the type of fiber distribution panel if a panel other than one capable of terminating a minimum of 24 fibers is desired.

8010, 2.01, C, 6, t Specify the use of fusion splice continuous fiber runs or branch circuit connections in splice enclosures.

8010, 2.02, B, 2, c	Specify the voice message to be used for accessible pedestrian signal push button stations.
8010, 2.02, D, 9	Specify the type of mounting for microwave vehicle detectors.
8010, 2.03, A	Specify the use of traffic monitoring systems.
8010, 2.03, B	Specify the use of fiber optic hub cabinet.
8010, 2.03, C, 2, b	Specify the location to mount the antenna for a wireless interconnect network, if other than near the top of the signal pole nearest the controller cabinet.
8010, 2.04, A, 2, b	Specify dimensions and type of aluminum cabinet riser to be used.
8010, 2.04, A, 2, g	Specify accommodations of phasing and expansibility of cabinet back panel positions.
8010, 2.04, C	Specify the use of emergency vehicle preemption system.
8010, 2.05, A, 1, a	Specify the color of vehicle traffic signal head assembly housing.
8010, 2.05, B, 1, a	Specify the color of pedestrian traffic signal head assembly housing.
8010, 2.05, C, 1, a	Specify the mast arm length and vertical pole height.
8010, 2.05, C, 1, f	Specify where to use a combination street lighting/signal pole. Specify if the luminaire arm is to be mounted somewhere other than the same vertical plane as the signal arm.
8010, 2.05, D, 1, a	Specify the vertical pole height of the traffic signal pedestal pole.
8010, 2.05, F, 3	Specify the street name sign dimensions, letter height and font, and sheeting.
8010, 3.01, B, 3, c	Specify if boring pits are allowed to be closer than 2 feet to the back of curb.
8010, 3.01, C, 9, c	Specify if the conduit cables could be pulled through intermediate junction boxes, handholes, pull boxes, pole bases, or any conduit opening.
8010, 3.01, C, 9, g	Specify how much cable slack to provide in each handhole, junction box, and cabinet.
8010, 3.01, C, 9, h	Specify installation of fiber optic accessories.
8010, 3.01, D, 1	Specify the foundation excavation size, shape, and depth.
8010, 3.02, C	Specify the installation of video detection camera system.
8010, 3.03, A	Specify the installation of traffic monitoring system.
8010, 3.03, B	Specify the installation of fiber optic hub cabinet.
8010, 3.04, A, 1	Specify the installation of controller cabinet and auxiliary equipment.

8010, 3.04, B	Specify the installation of controller.
8010, 3.04, C	Specify the installation of UPS battery backup system.
8010, 3.04, D	Specify the installation of emergency vehicle preemption system.
8010, 3.06	Specify construction of temporary traffic signal.
Figure 8010.104	Specify the length of rectangular detector loop.
Figure 8010.105	Specify the number of signals, signs, and spacing.

Section 8020 - Pavement Markings

8020, 3.02, A, 3, c	Specify lane widths.
8020, 3.02, B, 2	Specify if pavement surface will not be cleaned with a rotary broom or street sweeper.
8020, 3.02, D	Specify if pavement is to be grooved prior to placing marking tape.
8020, 3.02, G, 2	Specify when to place pavement markings in a groove cut into the pavement surface.

Section 8030 - Temporary Traffic Control

8030, 1.08, A, 3	Specify when to include portable dynamic message signs, temporary barrier rail, temporary flood lighting, and pilot cars in the traffic control lump sum bid item.
8030, 2.04, B	Specify if something other than precast concrete units are to be used for temporary barrier rail.
8030, 3.01, C	Specify the locations to place temporary barrier rail.
Figure 8030.117	Specify the use of auxiliary lighting or audible information devices.
Figure 8030.118	Specify the use of a crash cushion to separate the temporary sidewalk from vehicular traffic.
Figure 8030.119	Specify the use of auxiliary lighting or audible information devices.

Section 9010 - Seeding

9010, 2.01, B	Specify PLS, which shall <u>not</u> be less than the accumulated total.
9010, 2.02	Specify seed mixture in the contract documents.
9010, 2.03, A, 2	Specify if fertilizer is <u>not</u> to be applied for temporary conventional seeding.
9010, 3.01, A	Specify when aerial application of seed and fertilizer is desired.
9010, 3.01, M	Specify the use of a no-till attachment if desired.

9010, 3.04, E, 4, a Specify if winter dormant seeding is required.

9010, 3.10, B Specify when a warranty for seeding is required.

Section 9020 - Sodding

9020, 2.04 Specify when contractor is not to provide water and watering equipment.

Section 9030 - Plant Material and Planting

9030, 1.03, E Specify when the contractor is to submit a schedule of unit prices for each size and variety of tree, shrub, and ground cover plant.

9030, 2.01, A, 4 Specify whenever plants in rows do not need to be matched in form or size.

9030, 2.01, E, 1 Specify where to use bare root plants.

9030, 3.05 Specify when tree drainage wells are needed.

9030, 3.08, A Specify when tree wrapping is required.

9030, 3.12, B Specify when a warranty for plants is required.

Figure 9030.102 Specify when tree wrapping is required.

Section 9040 - Erosion and Sediment Control

9040, 1.08, A, 1 Specify if the Contractor will be responsible for the SWPPP preparation.

9040, 1.08, A, 2 Specify if the Contractor will be responsible for the SWPPP management.

9040, 1.08, B Specify thickness for compost blankets.

9040, 1.08, E, 1 Specify the width of temporary RECP.

9040, 1.08, I Specify if level spreaders are not to be removed.

9040, 1.08, L, 1, c Specify the use of anti-seep collars.

9040, 1.08, O Specify measurement for stabilized construction entrance in square yards or tons.

9040, 2.02, B Specify the use of filter berms or compost blankets.

9040, 2.03 Specify the use of filter material in areas other than filter socks and filter berms.

9040, 2.06, A Specify diameter for open weave, degradable netting if other than 9 inches is required.

9040, 2.07, A, 2 Specify if using RECP for permeable check dam.

9040, 2.08, A Specify length of pressure-treated timber for level spreaders.

9040, 2.11, A	Specify class of concrete if <u>not</u> Class C.
9040, 2.11, B	Specify riser diameter for sediment basin outlet structures.
9040, 2.11, C, 1	Specify the number, diameter, and elevation of the holes in the riser of the dewatering device in sediment basin outlet structures.
9040, 2.11, D	Specify barrel diameter of the sediment basin outlet structures.
9040, 2.11, E	Specify riser diameter for anti-vortex device.
9040, 3.02, D	Specify if weekly erosion and sediment control site inspections are <u>not</u> required as a part of SWPPP management.
9040, 3.05, B	Specify depth of compost blankets.
9040, 3.06, A	Specify when the filter berm is <u>not</u> to be installed along the contour.
9040, 3.06, C	Specify when a vegetated berm is required.
9040, 3.07, A, 1	Specify the size and length of filter sock.
9040, 3.07, A, 3	Specify when the filter sock is <u>not</u> to be installed along the contour.
9040, 3.07, B	Specify when to remove the filter sock.
9040, 3.08, A, 2	Specify if placement of seed and fertilizer is to be accomplished before installation of temporary rolled erosion control products.
9040, 3.08, A, 3	Specify if placement of seed and fertilizer is to be accomplished on the anchor trench.
9040, 3.08, B, 1	Specify if placement of seed and fertilizer is to be accomplished before installation of temporary rolled erosion control products.
9040, 3.09, B	Specify when to remove the wattle.
9040, 3.10, A, 2	Specify when to provide an RECP under the check dam.
9040, 3.10, D	Specify when to remove check dams.
9040, 3.12, C	Specify the excavated depth behind the level spreader.
9040, 3.12, E	Specify the minimum depth of depression before accumulated sediment is removed.
9040, 3.15, B, 1	Specify the number, diameter, and configuration of holes in the riser section of sediment basin outlet structures.
9040, 3.17	Specify the size and elevations of sediment traps.
9040, 3.18, A, 1	Specify when the silt fence material is <u>not</u> to be installed along the contour.

9040, 3.19, E	Specify when to install subgrade stabilization fabric prior to placing crushed stone.
9040, 3.19, F	Specify the thickness and dimensions of crushed stone for stabilized construction entrance.
Figure 9040.101	Specify if compost blankets are vegetated or unvegetated.
Figure 9040.102	Specify size of berm if slope is steeper than 3:1. Specify berm placement locations in uncompacted windrow perpendicular to the slope. Specify filter sock diameter.
Figure 9040.105	Specify diameter of wattle. Specify space between wattles.
Figure 9040.107	Specify height between engineering fabric and crest on the rock check dam.
Figure 9040.108	Specify total height of diversion.
Figure 9040.109	Specify excavated depression depth.
Figure 9040.110	Specify the rock thickness (T), width (W), and length (L) for rip rap apron for pipe outlet onto flat ground.
Figure 9040.111	Specify the rock thickness (T), width (W), and length (L) for rip rap apron for pipe outlet into channel.
Figure 9040.112	Specify diameter of pipe for temporary pipe slope drain. Specify A, B, and C anchoring options.
Figure 9040.113	Specify barrel length and diameter for sediment basin without emergency spillway. Specify when anti-seep collars are required.
Figure 9040.114	Specify barrel length and diameter for sediment basin with emergency spillway. Specify when anti-seep collars are required.
Figure 9040.115	Specify elevations and dimensions for sediment basin dewatering device. Specify perforation configurations. Specify diameter of discharge pipe barrel.
Figure 9040.116	Specify riser diameter for anti-vortex device.
Figure 9040.117	Specify when anti-seep collars are required.
Figure 9040.118	Specify width of sediment trap.
Figure 9040.119	Specify spacing of post installation for silt fence.

Section 9050 - Gabions and Revet Mattresses

9050, 1.08, A, 3	Specify PVC coating for gabions.
9050, 1.08, B, 3	Specify PVC coating for revet mattresses.
9050, 2.01	Specify when double twisted wire baskets are <u>not</u> required.

9050, 2.02	Specify when to use welded wire baskets.
9050, 2.05	Specify when to use anchor stakes. Specify the length of anchor stakes.
9050, 3.01, A	Specify when to cut and reshape the area behind a proposed gabion wall to allow for placement of the wall.
9050, 3.01, E	Specify the placement, compaction, and dimensions of granular subbase materials.
9050, 3.04, A	Specify special details of gabion wall installation including height, slope of wall, gabion setback, special backfill materials, and tieback requirements.

Section 9060 - Chain Link Fence

9060, 1.08, A, 3	Specify PVC coating for chain link fence.
9060, 1.08, B, 3	Specify the use of barbed wire for gates.
9060, 1.08, C, 3	Specify the type of barbed wire supporting arm.
9060, 2.01, D, 2	Specify the PVC coating color.
9060, 2.02, A, 2	Specify the nominal diameter of fence height for post use, if other than shown in the table.
9060, 2.05, A	Specify the type of arm configuration for barbed wire supporting arms.
9060, 2.07, A	Specify the type, height, and width of gates.
9060, 3.01, A	Specify fence location and height.
9060, 3.01, B, 2, a	Specify post holes dimensions.
9060, 3.01, B, 2, e	Specify the required brace-post assembly.
9060, 3.01, G	Specify when to use barbed wire.
9060, 3.01, G, 1	Specify the installation of barbed wire, if other than 3 parallel wires on each barbed wire supporting arm on the outside of the area being secured.
9060, 3.01, H	Specify the installation requirements for gates.
9060, 3.01, I, 1	Specify the installation of electrical grounds.
9060, 3.02	Specify when all fences, including posts and footings, are <u>not</u> to be removed from within work areas.
9060, 3.03, A	Specify the height of temporary fence.
Figure 9060.101	Specify the fence fabric width. Specify when to install fence on the roadway side of the right-of-way.

Figure 9060.103 Specify the length of the sidewalk.

Section 9070 - Landscape Retaining Walls

9070, 2.01, B Specify the depth of limestone slabs, if other than 8 inches.

9070, 3.01, B Specify the excavation line and grade.

Section 9071 - Segmental Block Retaining Walls

9071, 3.01, B Specify the excavation line and grade.

9071, 3.02, B Specify leveling pad materials.

9071, 3.02, C Specify the elevation and orientation.

9071, 3.02, D, 1 Specify the use of subdrains.

Section 9072 - Combined Concrete Sidewalk and Retaining Wall

9072, 2.01, A, 3 Specify the type of expansion joint, if resilient filler is not desired.

9072, 3.01, B Specify the excavation line and grade.

9072, 3.04 Specify the formation of rustications.

Section 9080 - Concrete Steps, Handrails, and Safety Rail

9080, 2.04, B Specify when to galvanize handrail and safety rail.

9080, 2.04, C Specify when to apply powder coat to steel, galvanized steel, or aluminum handrail and safety rail.

9080, 3.02, A, 1 Specify the length of rail.

Figure 9080.103 Specify the field painting of safety rail.

Section 10,010 - Demolition

10,010, 1.07, A Specify when the use of explosives is allowed.

10,010, 3.08, D Specify when the removal and disposal of all brush, shrubs, trees, logs, downed timber, and other yard waste on the site is not desired.

10,010, 3.08, E Specify when the removal of all retaining walls is not desired.

10,010, 3.11 Specify what materials are required to be recycled from the demolition site.

Section 11,010 - Construction Survey

- 11,010, 1.02 Specify any additional items to be included in construction survey work.
- 11,010, 3.02, D Specify if property limits are to be marked.
- 11,010, 3.04 Specify which land corners, property corners, permanent reference markers, and benchmarks are to be replaced.

Section 11,040 - Temporary Sidewalk Access

- 11,040, 3.02, A Specify locations to construct temporary granular sidewalks.
- 11,040, 3.03, B Specify locations to locate temporary longitudinal channelizing devices.
- Figure 11,040.102 Specify when to install orange construction safety fence between the top of the bottom rail and the bottom of the top rail.