



FDM 19-7-1 Usage Guidance

June 24, 2016

This procedure establishes guidelines for the proper use of bid items. The goal is to obtain uniformity in bidding practices and to use the right bid item correctly for a given situation. Potential bid items are often released as standardized special provisions prior to becoming standard specification bid items.

See the standardized special provisions (STSP) log for a current list of STSP changes:

<ftp://ftp.dot.wi.gov/dtsd/bpd/stsp/stsplog.pdf>

and the STSP Index for a complete list of STSPs and guidance on the use of STSPs.

<http://wisconsin.gov/Pages/doing-bus/eng-consultants/cnslt-rsrcs/tools/stsp.aspx>

1.1 Updated/Newer Bid Items

The following guidance highlights new or changes to standard specifications bid items. The changes are effective with the August 2016 PS&E submittal.

Standard spec 209 (Granular Backfill) now has bid items for both grade 1 and grade 2 granular backfill.

Designers can specify grade 1 by including the grade 1 standard bid item. Include the grade 2 bid item if either grade 1 or grade 2 is acceptable.

The intent is to pay separately for granular backfill where ever it is called out in the contract under one or more of the following bid items:

- 209.1100 Backfill Granular Grade 1 CY
- 209.1500 Backfill Granular Grade 1 TON
- 209.2100 Backfill Granular Grade 2 CY
- 209.2500 Backfill Granular Grade 2 TON

If the contract requires granular backfill and one of the Backfill Granular bid items is not in the contract, field staff will need to write a change order to and pay for that backfill as extra work. Do not write special provisions that make granular backfill incidental to other work.

Standard spec 210 (Structure Backfill) now has bid items for both type A and type B structure backfill.

Designers can specify type A by including the type A standard bid item. Include the type B bid item if either type A or type B is acceptable.

The intent is to pay separately for structure backfill where ever it is called out in the contract under one or more of the following bid items:

- 210.1100 Backfill Structure Type A CY
- 210.1500 Backfill Structure Type A TON
- 210.2100 Backfill Structure Type B CY
- 210.2500 Backfill Structure Type B TON

The department limits measurement for payment to material placed within the limits the plans show, thus a field conversion from volume to weight is required to determine the pay limit if paying by the TON.

If the contract requires structure backfill and one of the Backfill Structure bid items is not in the contract, field staff will need to write a change order to and pay for that backfill as extra work. Do not write special provisions that make structure backfill incidental to other work.

Standard spec 306 (Salvaged Asphaltic Pavement Base) was eliminated along with all its bid items. The department no longer mandates that the contractor salvage and reuse reclaimed asphalt, instead the contractor can now use material obtained from removing asphaltic pavement and/or surface as they see fit.

Standard spec 405 (Coloring Concrete) now has bid items for coloring concrete custom colors and for custom stamping and coloring concrete. They are designed to use with STSPs that modify these standard spec bid items:

405.0200	Coloring Concrete Custom	STSP 405-020 Coloring Concrete Custom
405.1000	Stamping Colored Concrete	STSP 405-100 Stamping Colored Concrete

Standard spec 416 (Concrete Pavement - Appurtenant Construction) now has only one bid item for 12-inch truck aprons. It was renamed to be used on or off roundabouts and the 8-inch roundabout bid item was deleted:

416.0512 Concrete Truck Apron 12-Inch

Standard spec 450 (General Requirements for Asphaltic Pavements) now has the HMA Cold Weather Paving bid item. The item was moved from 460 to 450 because it now applies to work done under the 460 HMA Pavement and 465 Asphaltic Surface bid items. The item also applies to work done under special provisions that reference contract requirements for 460 paving or 465 surface bid items.

450.4000 HMA Cold Weather Paving

Standard spec 460 (Hot Mix Asphalt Pavement) now has bid items that combine the binder and paving under a single bid item:

460.5000 - 8999 HMA Pavement (gradation) (traffic)(binder)(designation)

Standard spec 490 (Salvaged Asphaltic Pavement) was eliminated along with all its bid items. The department no longer mandates that the contractor salvage and reuse reclaimed asphalt, instead the contractor can now use material obtained from removing asphaltic pavement and/or surface as they see fit.

Standard spec 502 (Concrete Bridges) now has bid items for: adhesive anchors that replace the previous bid items for type S and type L masonry anchors. The new items all use the same adhesive but are distinguished by whether they use rebar or threaded anchor bolts.

502.4100 - 4199 Adhesive Anchors (inch)

502.4200 - 4299 Adhesive Anchors (bar)

Standard spec 514 (Floor Drains, Deck Drains, and Downspouts) now has a bid item for railroad bridge drainage systems renamed to clarify when it is used:

514.1000 Railroad Deck Drain System (railroad structure)

Standard spec 518 (Mortar Rubble Masonry and Dry Rubble Masonry) was eliminated along with all its bid items. The department no longer builds rubble masonry.

Standard spec 601 ((Concrete Curb and Gutter) now has bid items for:

601.0578 Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type R

601.0579 Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type T

601.0584 Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type TBT

601.0586 Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type TBTT

601.0588 Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT

601.0590 Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT

Standard spec 603 (Concrete Barrier) now has a bid item for a 32-inch roadside retaining wall:

603.1432 Concrete Barrier Type S32C

Standard spec 605 (Ditch Checks) was eliminated along with all its bid items. The department no longer builds mortar rubble or concrete ditch checks.

Standard spec 638 (State Owned Signs and Supports) now has two bid items for revising type I signs distinguished by whether the message is removable or not:

638.3210 Revising Signs Type I Demountable

638.3215 Revising Signs Type I Non-Removable

Standard spec 643 (Traffic Control) now has a bid item for portable changeable message signs (PCMS) with remote communications. Also the surveillance and maintenance bid was moved to the STSPs:

643.1051 Traffic Control Signs PCMS with Cellular Communications

643.0200.S Traffic Control Surveillance and Maintenance (project) STSP 643-016

Standard spec 645 (Geotextile Fabrics) now has geogrid bid items for subgrade reinforcement, marsh

reinforcement, and for slope stability reinforcement. The spec requirements for type SR geogrid for subgrade are in the standard specifications. The standard bid items for marsh and slope reinforcement are designed to use with STSPs that modify these standard spec bid items to reflect project-specific engineering requirements:

645.0220	Geogrid Type SR	
645.0240	Geogrid Type MR	STSP 645-024 Geogrid Type MR
645.0260	Geogrid Type SSR	STSP 645-026 Geogrid Type SSR

Also all the 645 geotextile fabric bid items were renamed Geotextile (type) to reflect current industry-wide nomenclature.

Standard spec 646 (Pavement Markings) preformed thermoplastic pavement marking materials have been removed for use from WisDOT projects and have been removed from the standard specification.

Standard spec 649 (Temporary Pavement Markings) now has another bid item for removable high-contrast tape. Also there are bid items for two types of raised pavement markers, the type I we had already plus a new type II for glue-on tabs:

649.0401	Temporary Pavement Marking Removable Contrast Tape 4-Inch
649.2100	Temporary Raised Pavement Markers Type I
649.2102	Temporary Raised Pavement Markers Type II

Standard spec 677 (Cameras) now has multiple bid items for camera poles that include the pole height instead of just one:

677.0130	Install Camera Pole 30-FT
677.0150	Install Camera Pole 50-FT
677.0180	Install Camera Pole 80-FT

1.2 Usage Guidance for Other Items

Excavation and/or Backfill: Excavation and backfill beyond what is normally required to accommodate the structure, formwork, and construction operations is excess excavation and backfill. Minor amounts of excess excavation and backfill can be treated as incidental to the Excavation for Structures bid items. Significant amounts of excess excavation and backfill should be paid for separately under other contract excavation and backfill bid items. Add excavation and backfill bid items to contracts that do not already have the appropriate bid items to cover excess excavation and backfill. Determine the quantities for excess excavation and backfill and include those quantities in the amount shown on the miscellaneous quantities sheet for the affected bid items.

Removing Pavement, Item 204.0100: If the removal is to an existing joint or if sawing is required it should be noted on the plans. Concrete pavement removed in conjunction with Roadway and Drainage Excavation will be measured and paid for as Removing Pavement.

Removing Pavement Butt Joints, Item 204.0105 and Removing Asphaltic Surface Butt Joints, Item 204.0115: Always include a construction detail with these items indicating the pay limits of the butt joint item. If the detail requires a saw cut the saw cut should be paid for separately under the appropriate sawing item.

Excavation Rock, Item 205.0200: When rock is apparent within project limits but is not anticipated to be encountered within the excavation limits, do not include it as a bid item. The boring or sounding information should be shown on the plan but do not show extrapolated rock profiles or cross sections. When the designer is aware of the presence of rock which is apparently outside the excavation limits, there are several alternatives available:

- Perform adequate soundings to verify the rock limits, so an accurate determination can be made whether rock excavation is or is not going to be required.
- Perform adequate soundings as above, then adjust the gradeline to avoid rock excavation entirely.
- When, in the judgment of the designer, the available information is deemed adequate to determine that rock excavation will not be required, place a statement in the plan General Notes that indicates there is reason to believe rock is present within the project limits, but outside the proposed excavation limits, and this information is contained in the district project files.

When rock excavation is known to be required, it shall be included as a contract bid item. Keep in mind that shallow rock cuts or small quantities are more costly on a unit basis than deeper cuts, or larger quantities. When such is the case, as when rock is encountered in a ditch line only, the designer must determine whether the ditch can be altered to avoid rock cut, or if the ditch is even necessary.

Prepare Foundation for Asphaltic Paving (L.S.), Item 211.0100: This item shall be included in contracts meeting one of the following criteria:

- Asphalt pavement is being constructed over existing concrete pavement, over existing asphaltic pavement, or over existing base course shoulders. NOTE: When existing base course shoulders are to be included under this 1 LS item, clarify this for the bidders by either showing the transverse width of the preparation item via a dimension line going to the outside edge of the base course shoulders on the Typical Finished Sections or by noting this in a special provision article. (Also, a Miscellaneous Quantity listing should be included to clarify to all bidders the Sta. – Sta. limits where this LS item applies.)
- Asphaltic pavement is being constructed under a separate contract from the base layers.
- Through traffic will be using the completed base layers
- Existing asphaltic surface is salvaged full depth and there is no base aggregate item in the contract.
- Existing asphaltic surface is salvaged or removed by milling and carries traffic on milled surface.

Prepare Foundation for Asphaltic Shoulders (Stations - per side of the roadway), Item 211.0400: This item shall be included in contracts where an asphaltic shoulder is being constructed adjacent to an existing asphaltic or concrete pavement and requires the excavation notching of the existing crushed aggregate shoulder prior to placement of the asphaltic shoulder and the reconstruction of the base shoulder using the excavated base course material, after the new asphalt shoulder is paved. NOTE 1: Excess shoulder base course material that can't be bladed to a nearby shortage area along the roadway can be trucked to a shortage area by use of item 305.0504.S, "Hauling Excess Shoulder Material" by the CY NOTE 2: Where an existing paved roadway is to be widened with asphalt before the total roadway is to be asphalt resurfaced, the standard item 315.0200, Asphaltic Base Widening (Ton) should be used. The unit price for the tons of asphalt for widening covers all the required work (including excavation, preparation of foundation, reconstruction of shoulders, disposal of unsuitable material, as well as furnishing and placing the asphalt mixture for the widening. The Asphaltic Material for Plant Mixes is paid for separately, so is any Salvaged Asphaltic Pavement material required if a recycled asphaltic mixture is required.

Shaping Shoulders (Stations - per side of the roadway), Item 305.0500: This item shall be included in contracts where the existing asphaltic pavement will be salvaged or removed by milling and it is necessary to blade the existing crushed aggregate shoulder away from the existing asphaltic pavement and then reshaping the shoulders back to the new asphalt after paving. This item is used for one or all of the following reasons:

- for minimizing contamination of the milled material,
- for providing drainage off roadway shoulders, or
- for providing a base shoulder on the same plane as the adjacent milled pavement for traffic handling and then for reshaping the shoulder back into the new asphalt after the asphalt paving is completed.

NOTE: Excess shoulder base course material that can't be bladed to a nearby shortage area along the roadway can be trucked to a shortage area by use of item 305.0504.S, "Hauling Excess Shoulder Material" by the CY.

Shaping Roadway (Stations – per centerline of the roadway), Item 305.0502.S: This item is to be used where all the existing pavement is to be salvaged or removed and the remaining base course shoulders are to be graded and shaped across the whole roadway to prepare a foundation template for new asphalt pavement.

Base Aggregate Dense, Breaker Run, Select Crushed Material, Pit Run and Backfill Granular Conversions, Items 305.0110, 305.0120, 305.0130, 310.0110, 311.0110, 312.0110, 313.0110, 209.0100 and 210.0100: In an effort to gain additional consistency in estimates, the following statewide conversion factors are provided for granular materials. Designers are to use values within the range of the following conversion factors values based on Region experience. The conversions are for compacted material.

Bid Item Number	Material Bid Item Name	Conversion Factor (Tons/Cubic Yard)
305.0110	Base Aggregate Dense 3/4-Inch	1.75 - 2.1
305.0120	Base Aggregate Dense 1 1/4-Inch	1.75 - 2.0
305.0130	Base Aggregate Dense 3-Inch	1.75 - 2.2
310.0110	Base Aggregate Open Graded	1.6 - 1.9
311.0110	Breaker Run	1.7 - 1.8
312.0110	Select Crushed Material	1.7 - 1.9
313.0110	Pit Run	1.6 - 1.8
209.0100	Backfill Granular (Grade 1 or 2)	1.5 - 1.7
210.0100	Backfill Structure (Grade A or B)	1.75 - 2.0

Base Patching, Items 390.0103 - 390.0403: All the “Base Patching” items (per the WisDOT Standard Specifications) are for patching existing Concrete Pavement that will be overlaid with new pavement. The items for Base Patching include 1) Concrete Pavement removal, including removal of any asphaltic overlays and 2) replacement of the removed pavement with either concrete or asphaltic pavement. The standard Base Patching items are:

- “Base Patching” (390.0103 - SY) allows the contractor the option of using either concrete or asphalt for replacement of the removed existing concrete pavement.
- “Base Patching Asphaltic” (390.0201 - Ton or 390.0203 - SY) allows only asphaltic pavement to be use for replacement of the removed existing concrete pavement.
- “Base Patching Concrete” (390.0303 - SY) allows only concrete to be used for replacement of the removed existing concrete pavement.

Base Patching Concrete SHES, Item 390.0403: allows only SHES concrete to be used for replacement of the removed existing concrete pavement. Since this item requires a minimum compressive strength in the concrete of 3000 pounds per square inch within 8 hours of placement, it allows traffic to travel over the patches after 8 hours.

Coloring Concrete WisDOT Red, Item 405.0100: Use when specifying the standard WisDOT red colored concrete. Other colors will require using STSP 405-020 to specify the color and pigment load. Use standard spec 405 to specify coloring concrete for other concrete bid items. In addition the region will need to have comparison samples for each color available to the contractor for viewing at the region office.

Concrete Pavement Gaps, Item 415.0210: The use of paving gaps should be minimized; however, if the designer determines they are necessary they shall be shown on the plan and profile sheets and listed in the miscellaneous quantities. If the staging requires multiple gaps at one roadway location include a quantity for each gap.

Concrete Truck Apron 12-inch, Item 416.0512: Use this bid item for the concrete truck aprons. Include bid item 405.0100 - Coloring Concrete Red when specifying roundabout truck aprons.

Concrete Rumble Strips Intersection, Item 416.1180: Use this bid item on projects requiring concrete rumble strips on approaches to intersections. For rumble strips inlaid into existing HMA or concrete pavement include a Concrete Pavement Replacement or Concrete Pavement Replacement SHES bid item.

Asphaltic Material Performance Grade PGXX-XX: These items are commonly estimated at 5.5 percent. The quantity should be based on the actual anticipated percentage of asphalt to be used in the mix based on the region’s experience. For a discussion of asphaltic material performance grade (PG) refer to [FDM 14-10-5.10](#). For conversion factors for asphalt tack coat refer to [FDM 14-10-5.12](#).

Hot Mix Asphalt (HMA) Cold Weather Paving, Item 450.4000: The intent of the Department is not to pave HMA during cold weather. The proposed construction schedule outlined in the design contract time for completion (refer to [FDM 19-10-30](#)) should not indicate asphalt paving within the locations and during the timeframes outlined below.

However, due to project or community needs, changes in construction schedule, emergencies and weather

variability there will be situations where the Department allows the contractor to pave during cold weather.

Include the HMA Cold Weather bid item when the contractor will likely place HMA under [standard spec 460](#) or [standard spec 465](#) Surface bid items when the ambient temperature is less than 40 degrees Fahrenheit or within the following locations and timeframes :

- in the WisDOT Northern Zone from September 15 through June 1, or
- in the WisDOT Southern Zone from October 1 through May 15.

Unless the designer can determine the quantity more accurately, estimate 25 percent of the HMA placed within the above-mentioned timeframes will be placed under the HMA Cold Weather Paving bid item. For estimating purposes, use \$3.00 per ton as the HMA Cold Weather Paving bid item.

For example, a project located in the Southern Asphalt Zone anticipates that they will be placing a total of 30,000 tons of HMA Pavement Type MT. The design contract time for completion indicates that 10,000 tons will be placed after October 1st. The designer would estimate 2,500 tons as the HMA Cold Weather Paving bid item (10,000 tons x 25%).

In addition, designers should consider carrying over portions of the HMA paving to the following season. Particularly if a project schedule requires a significant amount of late season, or cold weather paving. Designer can use a special provision (SPV) to pave the final layer of HMA the following construction season.

Several factors play into whether or not a project should consider paving the final layer the following year, including:

- Existing pavement structure: Would the lower layers of HMA placed this season be sufficient to support traffic over the winter season? Designers need to consult with the region pavement engineer.
- Soil conditions: Are there poor soils, and therefore an increased risk of sections of pavement needing repair the following year before paving the surface layer?
- Maintenance and cost responsibility: Consider work zone traffic control, detours, temporary and permanent signage, drainage, erosion control, business and pedestrian accommodations, etc. Who will maintain and repair these items over the winter season and who will pay to repair and replace? For example, if there are inlets, manholes or other structures that will require ramping, who would maintain these temporary items and who would pay to repair or replace?
- Business and local resident impacts: Are there reasons that carrying over would cause undue burden to the businesses or local residents? Do these business and local impacts override constructing a better quality surface the following paving season?
- Project schedule impacts: Are there reasons that carry over of this project would cause problems with the staging of other projects? Does the need to complete this project due to other project staging override a better quality surface the following paving season?

There may be additional considerations but these are some items to think about when considering using an SPV to carry over the construction project to the following construction season.

Asphaltic Surface Patching, Item 465.0110: A quantity of Asphaltic Surface Patching should be included on all asphaltic pavement resurfacing contracts that are open to traffic. This will provide the contractor with a means to make minor repairs (i.e - filling pot holes or pop outs that occur under traffic handling and for ramping as directed by the engineer at saw cut match-in joints prior to the asphaltic pavement overlay being constructed). Also, provide a "Remarks" column on the MQ table and explain the intended purpose of each undistributed estimated quantity shown.

Ice Hot Weather Concreting (for Hot Weather Paving Concrete Structures), Item 501.1000.S: As outlined in [Standard Spec 501.3.8.2](#), the contractor is responsible for the quality of concrete placed in hot weather. The contractor must utilize ice or other means to control the concrete temperature in hot weather. Use the following design guidance to determine when and estimate how much ice to include when project includes pouring concrete structures during hot weather.

Include Ice Hot Weather Concreting, Bid Item 501.1000.S in the structure plan when;

1. The structure contract utilizes any quantity of High Performance Concrete (HPC) masonry structures or,
2. The combined contract quantity of the items listed in [Standard Spec 501.3.8.2.1\(2\)](#) is 2,000 CY or more, and
3. The placement of the above-mentioned items is between June 15th and August 15th.

Use the following equation to estimate the quantity of ice for hot weather concreting structures;

$$\text{Ice (lbs)} = (15\%) \times (\text{Concrete Quantity CY}) \times (50 \text{ lbs/CY})$$

Curb and Gutter: When curb and gutter is built under a separate contract from the grading work, the designer shall specify who is responsible for backfilling the two feet behind the curb and gutter.

Adjusting or Reconstructing Inlets and Manholes, 611.8110 - 611.8115: If a new or salvaged frame and cover is to be supplied for an existing structure, up to twelve inches of adjustment of the manhole or inlet is included in the bid item for the new or salvaged cover.

- Use the bid items Adjusting Inlets or Adjusting Manholes when the existing frame and cover will be reused on the existing drainage structure and an adjustment of twelve inches or less is required.
- Use the bid items Reconstructing Inlet or Reconstructing Manhole for any situation requiring an existing drainage structure to be adjusted more than twelve inches.

Barrier System Grading and Shaping Finishing, Item 614.0010: Use this item when grading, shaping and finishing for barrier systems fall outside the grading limits. For work within the grading limits, the work is paid for under other contract items.

Maintenance and Repair of Haul Roads, 618.0100: This is required on all projects on the State Trunk Highway System, except projects within city limits where there's so much other truck traffic that it would be difficult to determine whose trucks did what pavement structure damage and where the city already has a roadway maintenance program.

Mobilization, 619.1000: This is required on all contracts. Contracts with multiple projects shall have one bid item prorated between projects.

Culvert Pipe Checks, 628.7555: This item is measured and paid by the individual bag used, not by specific location.

Signs Type I (reflectivity), Item 637.1000-1999, Signs Type II, Items 637.2000-2999, and Signs Type III, Items 637.3000-3999: Refer to the Sign Code and Sign Plate manuals to determine the type of reflective sheeting for sign.

<http://wisconsindot.gov/Pages/doing-bus/local-gov/traffic-ops/manuals-and-standards/manuals.aspx>

Traffic Control, 643.0100: This is required on all projects that have traffic control work to be done by the contractor. This item is required even when separate items have been included for drums, barricades, etc. NOTE: A lump sum (LS) Traffic Control item should never be used together with a (Days) Traffic Control, Surveillance and Maintenance item in the same project, unless one of the BHO Traffic Engineers has been consulted and granted approval for a special case situation.

Traffic Control Covering Signs Type I, Item 643.0910 and Type II, Item 643.0920: Use these items to cover conflicting permanent type I and type II signs during construction. Indicate in the miscellaneous quantities which signs are to be covered and include a quantity for each time the sign will be covered and uncovered throughout the project. Refer to [FDM 11-50-20.7.2](#) for further guidance.

Pavement Marking Same Day Epoxy, Item 646.0406: Include a quantity for same day marking of the centerline and no passing lines on the surface layer for all projects that are open to traffic. Also, if necessary, include an item for temporarily marking any intermediate layers.

Pavement Marking Late Season, 646.0900.S (STSP 646-010): Include a special provision adding a bid item for late season marking on all projects projected to be completed after November 15. Also use on multi-year projects where pavement markings will need to be placed between November 15 and April 15.

Construction Staking: Consider the time a contractor will need to perform initial staking. Ensure that there is adequate time available after contract execution to complete the initial staking and subsequent contract work within the prescribed contract time. Give large grading projects and projects let late in the year careful consideration. To estimate the contract execution date, assume the contract will be executed approximately 6 weeks after the let date.

If a project's letting date is delayed and the contract includes initial staking, reevaluate whether the contractor will have ample time to complete initial staking and subsequent contract work within the prescribed contract time.

If determined that the contractor will likely be unable to complete the supplemental project survey control, slope staking and subsequent contract work within the prescribed contract time, consider utilizing the survey services of one of the following:

- State or consultant forces.
- Consultants administering or providing support on the project.

- Consultant under surveying master contract.

Construction Staking, Storm Sewer System, Item 650.4000	Include in projects where storm Sewer is being placed and contractor staking is used
Construction Staking, Subgrade, Item 650.4500	Include on grading projects. Item may be added for a dense base contract where the grading was done in previous contract and needs to be rechecked before placing dense base.
Construction Staking, Base, Item 650.5000	Include on base aggregate and asphalt projects. Do not include this item when concrete pavement is being constructed in same contract. Concrete pavement staking covers staking dense base and open-graded base.
Construction Staking, Curb, Gutter, Curb & Gutter, Item 650.5500	This item is for asphalt roadways. Use this item if there is 50 L.F. (15 m) or more of curb and gutter required. Do not include this item with concrete roadways. Do not use this item for staking curb and gutter in rural intersections on resurfacing projects.
Construction Staking, Pipe Culvert, Item 650.6000	Include on projects for staking culvert pipe cross drains. Do not include item for field or private entrance pipes.
Construction Staking, Structure Layout, Item 650.6500	Include in projects for stakeout of structures, box culverts, retaining walls, and sound walls.
Construction Staking, Concrete Pavement, Item 650.7000	Include on concrete paving projects. This item includes staking of dense and open graded base course Construction Staking, Subgrade is not included in this item and should be included as a separate item in the contract if grading is completed within the contract prior to placing concrete pavement.
Construction Staking, Concrete Barrier, Item 650.7500	Include in projects where large quantity is involved. Do not include this item if concrete barrier abuts concrete pavement.
Construction Staking, Resurfacing Reference, Item 650.8000	Include in resurfacing or pulverizing projects
Construction Staking, Electrical Installations, Item 650.8500	Include in all projects where large quantity is involved. Consider not using where numerous installations need field adjustment or plan does not have layout information available.
Construction Staking, Supplemental Control, Item 650.9910	Include in all projects where contractor staking is used.
Construction Staking, Slope Stakes, Item 650.9920	Include on all grading projects when the department is not performing slope staking ..

NOTE: When two or more roadways occur, construction staking subgrade, crushed aggregate base course, concrete pavement, resurfacing reference, and slope stakes will be measured by the linear foot along the centerline or reference line of each roadway.

Temporary Diversion Channels: To construct concrete box culverts, structural plate pipes or structural plate pipe arches, it is sometimes necessary to construct temporary diversion channels to maintain drainage. If a temporary diversion channel is required, bid items for all work to be performed for the construction and removal of the channel shall be included in the contract. If the channel is optional, only the bid items for erosion control shall be included in the contract. The excavation will be considered incidental to the bid item of Excavation for Structures.