# Division 7 Miscellaneous Contract Considerations



## 700.01 Hot Mix Asphalt (HMA)

### *(1) Anti-Stripping Additive*

A bid item for "Anti-Stripping Additive" shall be included in all projects with bituminous surface treatment (BST) using cut-back (not emulsified) asphalts, HMA, and asphalt treated base (ATB).

The estimated force account dollar amount for "Anti-Stripping Additive" can be calculated at $1 per ton of HMA/ATB. Round the total estimated amount to the nearest $10.

### *(2) HMA for Approach*

The item "HMA for Approach Cl.____ PG____" is to be used when there are road approaches to be paved on the project.

This is not to be confused with county roads and city street intersections. County road and city street intersections shall be included in main line paving quantities.

In either case, the approaches will be identified by approach sections on the roadway section sheets, and on the Paving Plans, if they are present, so the contractor is aware of the number, locations, and paving requirements.

### *(3) HMA for Preleveling*

The bid item for "HMA for Preleveling Cl. ____ PG ____" is to be provided when a project requires preleveling of the existing roadway surface.

The quantity of preleveling is to be based on a survey of field conditions. In some regions, this survey may be made by the Materials Laboratory and it may provide the prelevel rate or quantity.

### *(4) HMA Quality Assurance*

As an incentive for contractors to provide superior quality HMA, the Washington State Department of Transportation (WSDOT) pays a 3% bonus for providing consistent materials and a 2% bonus for compaction effort.

When a project calls for paving with HMA, the item "Job Mix Compliance Price Adjustment" (JMCPA) will be required if the following condition exists:

- The total tonnage for a class of HMA accepted by statistical evaluation is greater than 2500 tons.

The price adjustment will be calculated using the following formula:

JMCPA = (0.03) (TEC)

where:

TEC = Summation of the Total Estimated Cost of each class of HMA greater

than 2500 tons, with the exception that HMA accepted by commercial evaluation (Standard Specification 5-04.3(8)A, item 1) is not included in the calculation.

Example:

| Description | Quantity | Unit Price | Est. Cost |
|---|---|---|---|
| HMA Cl.<br>1/2 IN. PG_ | 2600 | $70.00 | $182,000 |
| HMA Cl.<br>1/2 IN. PG_ (prelevel) | 1500 | $35.00 | N/A |
| HMA Cl.<br>3/8 IN. PG_ | 1100 | $42.00 | N/A |
| Summation of Total Est. Costs (TEC) = $182,000<br>JMCPA = (0.03)($182,000<br>JMCPA = $5,46<br>Use $5500 for "Job Mix Compliance Price Adjustment" | | | |

When a project calls for paving with HMA, the item "Compaction Price Adjustment" (CPA) will be required, regardless of the tonnage, if the total compacted depth for a class of HMA placed in the traffic lanes is greater than 0.10 foot.

The price adjustment will be calculated using the following formula:

CPA = (0.02) (TWTEC)

where:

TWTEC = Travel Way Total Estimated Cost of HMA with a total depth of 0.10 foot or greater.

**Note: If the same compaction effort is required on the shoulders, the shoulders will be included in the calculations for "Compaction Price Adjustment." For example, where the shoulders are being constructed full depth at the current time because they will become a driving lane in the future or where shoulder driving is going to be allowed. There would also have to be a Special Provision written specifying that the same compaction effort is required on the shoulders as the traveled way.**

Example:

HMA CL 1/2 IN. PG_:
Length: 500'
Width: 2 lanes @ 12' and 2 shoulders @ 10.0'
Depth: 1 lift @ 0.20' depth
Unit Price: $40/ton
Conversion factor: 2.05 t/cy

$$TWTEC = \frac{(500')(24')(0.20')}{(27ft3/cy)}(2.05t/cy)(\$40/ton)$$

TWTEC = $7,288.89

HMA CL ½ IN. PG_:
Length: 300'
Width: 2 lanes @ 12' and 2 shoulders @ 4'

Depth: 1 lift @0.15' depth
Unit Price: $42/ton

$$TWTEC = \frac{(300')(24')(0.15')}{(27ft^3/cy)}(2.05t/cy)(\$42/ton)$$

TWTEC = $3,444.00

Travel Way Total Est. Cost
(TWTEC) = $10,732.89

CPA = (0.02)($10,732.89) = $214.66

**Use $220 for "Compaction Price Adjustment"**

### *(5) Asphalt for Fog Seal*

The item "Asphalt for Fog Seal" is normally associated with bituminous surface treatment (BST) projects, the shoulders of paving projects that only place HMA in the traffic lanes, and is required on all open graded HMA projects as well.

### *(6) Soil Residual Herbicide*

There are no criteria established for when soil residual herbicide is to be used in conjunction with HMA, asphalt concrete sidewalks, bike paths, or parking lots. The designer is to check with the Maintenance Supervisor responsible for the area for a recommendation regarding whether or not soil residual herbicide is required.

## 700.02 Earthwork

### *(1) Aeration*

If it is found necessary or desirable to include the bid item "Aeration" in a project, approval by the Headquarters (HQ) Construction Office is required. A copy of this written approval is to be included in the PS&E portion of the Project File.

### *(2) Borrow Material*

Because WSDOT is committed to conserving valuable mineral resources, it is imperative that careful consideration be given to the earthwork portion of every project, to ensure the most efficient and cost-effective use of the material from the roadway excavations.

If there is insufficient roadway excavation material due to a shortage of on-site material or because all, or a portion of, the on-site material is known to be unacceptable for constructing embankments, material will have to be imported, and a borrow item will be included in the project.

If the borrow is required because the roadway excavation material is not acceptable for embankment construction, the Special Provisions shall identify the locations of the unacceptable roadway excavation material.

If a single type of borrow material is required to supplement the quantity of roadway excavation material, it will be the contractor's responsibility to determine the most efficient means of using the on-site material and the borrow to construct the embankments. The borrow quantities will appear only on the Summary of Quantities, not on the quantity arrows on the profiles. Then the borrow material can be placed by the contractor in the locations determined by the contractor to be the most efficient and cost-effective for their operation.

If the borrow material is being used only at specific, well-defined locations on the project (bridge end embankments, for example), the exact locations are to be identified on the profile by showing the quantity arrow, indicating the station-to-station limits and quantity for the embankment constructed from the borrow material. If profiles are not included in the project, the Special Provisions are to contain a statement such as, "Gravel borrow shall be used to construct the bridge end embankments, L X+XX to L X+XX."

If two or more types of borrow material are required, the specific locations for all but one of the types of borrow shall be identified on the profiles, or in the Special Provisions, as described above. For example:

- If gravel borrow is required for the construction of bridge end embankments, and common borrow is required to supplement the roadway excavation material to construct other embankments, the station-to-station limits of the gravel borrow material are to be shown on the profiles, or the Special Provisions. It will remain the contractor's responsibility to determine the most efficient and cost-effective way to use the common borrow and the roadway excavation material to construct the remaining embankments, so the common borrow quantity will only appear on the Summary of Quantities.

In all cases, the quantities for roadway excavation and embankment shall appear on the Summary of Quantities and on the Profile sheets, or, on smaller projects, tabulated on Quantity Tabulation sheets.

## *(3) Clearing and Grubbing*

For estimating purposes, clearing is to be calculated as being performed 10 feet, and grubbing 7 feet, beyond the toe of slope for embankments and the upper limit of slope treatment in cuts.

If clearing requires the cutting of merchantable timber, amounting to at least one log truck load (approximately 5000 board feet), from within the right of way, the General Special Provision (GSP) for Timber Export Restrictions is to be included in the contract provisions. This GSP notifies the contractor that they will be required to pay to the Department of Revenue the forest excise tax on the harvested lumber.

## *(4) Earthwork for Guardrail Terminals*

It is important that the designer include the earthwork quantities required to construct guardrail terminals. It is easy to assume that these seemingly minor quantities will have little, if any, impact on the final quantities, so they are often left out of the final quantities.

There have been many projects where the earthwork quantities overran, and the reason for the overrun was because the designer had not included the required earthwork quantities for the construction of guardrail widening areas. As minor as these quantities may seem at the time of design, they can have a big impact on the construction project if not accounted for in the contract.

If, after the final guardrail locations are set, a final earthwork run is not made to account for the earthwork quantity in the flare construction, the following is to be used as an estimate of the quantity to be added into the computer-generated earthwork quantity:

- If the installation requires an Slotted Rail Terminal (SRT), use 10 cubic yards for each foot of embankment height

- If the installation requires no flare, use 4 cubic yards for each foot of embankment height

If the project is basically a paver, with isolated areas of widening for guardrail or slope flattening, and profiles are not required for the paving, the earthwork quantities are to be presented in tabular form for each area, broken down into 3 station totals, or some other logical breakout.

### *(5) Embankment In Place*

This bid item is to be used on projects where earthwork consists mainly of borrow excavation. It provides payment for acquiring, excavating, hauling, placing, and compacting borrow materials to construct the embankment. The use of this item requires approval by the HQ Construction Office.

If there are minor quantities of roadway excavation included in the project, this work can be included in the item "Embankment In Place."

Measurement for payment will be by the cubic yard volume between the original ground line and the neat lines of the embankment template. No allowance is made for subsidence or settlement. The request to use this item is to contain the following:

- Assurance that the foundation on which the embankment material is to be placed is unyielding
- Estimated quantities for borrow excavation, embankment compaction, and roadway excavation

### *(6) Earthwork Measurement*

Measurement of earthwork other than as specified in the *Standard Specifications for Road, Bridge, and Municipal Construction (Standard Specifications)* requires the approval of the HQ Construction Office.

### *(7) Truck Measurement of Earthwork Quantities*

Truck measurement can be utilized on projects with 5000 cubic yards or less of embankment to be constructed or when the project consists of numerous small embankment areas where cross-sectioning is not practical.

### *(8) Geotechnical Project Documentation*

(a) The Region Project Development Office or Terminal Engineering Department for WSF is responsible for notifying the HQ Geotechnical Services Division at least 12 to 14 weeks in advance of the Ad or Shelf Date, when the final project geotechnical documentation is due for each pertinent project.

(b) When a Plans, Specifications, and Estimates (PS&E) is near completion, all of the geotechnical design memorandums and materials source reports are compiled to form the Final Geotechnical Project Documentation, to be published for the use of prospective bidders.

(c) The Region Project Development Office or Terminal Engineering Department for the Washington State Ferries (WSF) will identify who they have designated to receive, handle, and continue the publication process of the report.

(d) It is desirable that the final geotechnical documentation be available for printing 10 weeks prior to the Ad or Shelf Date, but absolutely must be available no later than two Fridays prior to the Ad or Shelf date.

(e) When transmitting the final project geotechnical documentation, the HQ Geotechnical Services Division will explicitly identify the geotechnical documentation as **final** and camera-ready. Likewise, the region materials section will concurrently send a camera-ready **final** copy of region-generated reports, to be included as part of the geotechnical documentation for the project.

(f) For Headquarters Ad and Award projects, when the region has received the report, the Region Project Development Office sends the complete package to the HQ Printing Services Office for final publication and to be made available to prospective bidders for purchasing. For Washington State Ferries' projects, WSF's Contracts/Legal Services Office is responsible for copying and making the report available to prospective bidders.

(g) The HQ Contract Ad and Award Office will issue a notice indicating the availability of the geotechnical documentation to bidders.

(h) In addition, some geotechnical information shall be included as part of the contract and will generally consist of the final project boring logs, and/or a Summary of Geotechnical Conditions when applicable. Both of these items are provided by the HQ Geotechnical Services Division.

## 700.03 Equal Employment Opportunity and Training

### *(1) DBE or MWBE Goals*

Disadvantaged Business Enterprise (DBE) goals for federally funded projects are **mandatory**, not voluntary, goals. The HQ Construction Office and the HQ External Civil Rights Office establish and monitor these goals and participation. Minority and Women's Business Enterprise (MWBE) goals for state-funded projects are all voluntary.

### *(2) Training Goals*

The bid item for "Training" is to be provided on most federal-aid projects. The training goals, in terms of the total number of training hours required, are established by the HQ External Civil Rights Office. The region may submit a training recommendation for consideration by the External Civil Rights Office.

## 700.04 Materials Sources

### *(1) Aggregate Stockpiles*

The regions are authorized to spend M5 funds for acquisition of aggregates, under the construction contract, provided the region's biennial M5 allocation is not exceeded.

The following Headquarters offices need to be advised by the region of all M5 aggregate stockpile acquisitions made under a construction contract:

- Administrative Services Office, Purchasing and Inventory Branch
- Comptroller's Office, Budget Management Branch
- Program Management Office, Program Manager
- Pre-Contract Administration Office

### *(2) Amortization of Materials and Stockpile Sites*

If a state source of materials is provided, the project report form is to include the dollar amount to be amortized, providing the region intends that amortization be included in the project.

The estimate will include the dollar amount so that federal-aid participation can be obtained on federal-aid projects, or so that proper accounting procedures can be followed when state funds only are involved.

### *(3) Materials Sources and Waste Sites*

Materials sources provided by the contracting agency can be either mandatory or nonmandatory sites.

When mandatory materials sources or waste sites are specified, the region shall provide a memorandum of justification, in accordance with 23 CFR 635.407, showing a definite finding that it is in the public's best interest to require the use of the mandatory sites furnished or designated by the contracting agency. The use of mandatory sites can also be designated based on environmental considerations, provided the environment would be substantially enhanced without excessive cost. The memorandum of justification is to be placed in the PS&E portion of the Project File. The contractor is required to use the mandatory site.

When nonmandatory sites are specified, the contracting agency makes the site available to the contractor, but the contractor has the option to use, or not use, the site.

Bid items for work to be performed within a nonmandatory site are to be site-specific ("Wire Fence Type 1 – QS-X-XX"). This allows the contractor the opportunity to bid zero for these site-specific items if they do not intend to use the site. If the contractor decides later to use the site, the work specified by the site-specific items will be performed, and the contractor will be paid at the bid amount of $0.00.

Site-specific items are not required for work to be performed on mandatory sites.

A separate column, under the appropriate group, is to be set up for each material source or waste site provided by the contracting agency. This allows the contractor to easily identify the work to be performed within a site and also allows for easy accounting of the work by WSDOT.

The region shall prepare a haul road agreement if the haul route to or from the site is other than a state highway.

## 700.05 Other Contract Considerations

### *(1) Addenda*

Addenda are revisions to the plans and contract provisions that are made during the advertising period. Addenda are only to be issued when the revision will affect the contractor's ability to provide a responsible bid.

If there are material specification changes, new items, a substantial quantity revision (generally a 25% or greater increase or decrease) for an existing item, or a revision to a legal requirement in the contract, an addendum would be required. All of these would affect the contractor's bid.

Small adjustments to quantities, spelling, punctuation, design changes that do not affect quantity, and relocating items of work within the project will not normally require an addendum, because they will not affect the way the contractor bids the project. These items are not to be ignored, but the information, in the form of revised plan sheets, need only be passed along to the office of the construction project engineer, so they can be incorporated into the project and given to the contractor that is awarded the project.

For example:

- The advertised project has 23 catch basins to be installed, and it is discovered that an additional catch basin, not shown on the plans, will be required. This would not warrant an addendum if this were the only change being made. The small change in quantity will not impact the contractor's bid. This can be handled under construction as any other increase in quantity.
- The addition of the one catch basin causes the 18-inch-diameter pipe item to increase from 985 feet to 1250 feet. This increase in pipe length is greater than 125% of the original, which could cause this item to be renegotiated under the contract, so the addendum would be justified. Since the addendum is required for the pipe, the additional catch basin would also be included in the addendum.

For instructions and procedures on preparing Addenda, see the Appendices.

### *(2) Agreements*

A conscientious effort shall be made to ensure all agreements necessary for the project are complete and signed prior to the project going to Ad. If this cannot be accomplished, it is the responsibility of the region to determine the risk involved in going to Ad without the completed agreement, in accordance with the WSDOT *Advertisement and Award Manual.* Particular attention is to be paid to the following:

- The quantities, bid item names, units of measurement, and prices in the agreement are to be the same as those in the PS&E.
- A local agency or utility may be financially responsible for some of the work in WSDOT's contract, such as the construction of sidewalks, utility installations, signal systems, pavement markings, intersection improvements, and so on.

Some participating agreements will contain an "out clause," which allows the outside agency to withdraw the work if the bid prices are not favorable. When an "out clause" is included in the agreement, there is a GSP titled "Award Of Contract" that needs to be included in the contract provisions.

When preparing the estimate of cost for an agreement for work under the contract that is the financial responsibility of an outside agency, mobilization, engineering, and contingencies are to be included.

### *(3) Alternate Bids*

It is, at times, desirable to solicit bids using alternates for specific bid items for work to be performed under the contract. The contract Estimate, Proposal, and Summary of Quantities will be divided into sections. One section will contain the base information, and there will be a section for each of the alternates. This requires the contractor to bid the base portion of the project and to bid the alternates as required by the Special Provisions. By comparing the base bid plus the alternate bids, WSDOT is able to determine the most economical combination.

One of the conditions of setting up a project in this manner is that WSDOT has to treat each of the alternates as equal, and make the decision which is the best bid based on the lowest cost alternate plus base bid.

This is different than allowing the contractor the latitude to choose between different material options available for a contract item.

For additional information concerning alternates, refer to the EBASE User's Guide.

### (4) Asbestos Removal

When the removal of asbestos or items containing asbestos is required or suspected, the specifications shall include sufficient information and detail to inform the contractor of the nature and location of the asbestos. There are GSPs that are to be included in the contract provisions. The WSDOT *Asbestos Abatement Manual* is to be used to determine whether there are special conditions or requirements that should be included in the contract provisions. (You can access a copy of the *Asbestos Abatement Manual* through the WSDOT Library at: www.wsdot.wa.gov/library or send them an e-mail at: library@wsdot.wa.gov.)

### (5) Assign the Risk

It is important that the contractor be able to determine whether the risks on the project will be its responsibility or will be borne by WSDOT. In most cases, it is best to assign the risk to WSDOT. This keeps the contractor from having to inflate bid prices to offset the possible risks of doing the work. These inflated prices cost WSDOT extra dollars when the problem does not materialize.

For example, do not say "the contractor may encounter obstructions during the excavation." The contractor has to assume that obstructions will be encountered and that they will be the contractor's problem when they are. The unit price for the excavation will include the cost of obstruction removal, and WSDOT will pay for the removal even if there are no obstructions encountered.

It would be much better to say, "If obstructions are encountered during excavation, the Engineer will pay for the removal of the obstruction in accordance with Section 1-09.4 of the *Standard Specifications*." Now the contractor can bid the actual cost of doing the excavation work, and be confident that if something out of the ordinary is encountered, the cost of removal will be dealt with fairly, and if there are no obstructions encountered, there is no cost to WSDOT.

### (6) Combining Bid Items

In an effort to streamline projects to make them easier for WSDOT to manage, as well as easier for the contractors to bid, some thought should be given on each project to doing similar, or associated, work under a single bid item instead of having two or more items under which to work.

The lump sum item "Removal of Structure and Obstruction" has always been made up of a combination of various removal items, and this will not change. This item is not governed by an estimated cost limit for work that can be included. As long as each different removal item is precisely described as to the actual work to be performed, the locations of the work, and the estimated quantity of work, there are no limits to the removal work that can be combined in the single "Removal of Structure and Obstruction" item. (See 700.05(12) for additional discussion on lump sum items.)

Work that is measurable—estimated cost of $5000 or greater—will be a separate bid item. However, if the work is minor—estimated cost less than $5000— and there is a logical item of work with which to associate the minor work, the items may be combined and the cost of the minor work included in the cost of the associated work.

The designer must remember that if items of work are combined, additional information will be required to describe the work involved and to make it clear what items are being combined, and that the accuracy of the quantities provided for the

combined items must be greater. For example, do not combine the cost of structure excavation with the cost of the pipe without giving a reasonably accurate estimated quantity for the structure excavation required for each pipe. Giving the **total** estimated quantity for the structure excavation does not provide the contractor a clear enough picture of the work required to make a responsible bid. Accuracy is also important because it can be difficult to address overruns, underruns, or added work when only one portion of the item combination is involved in the overrun or underrun, or work is added to only one of the items of work.

Care must be taken to ensure that by combining the items of work, additional problems will not be encountered during construction because of changes in conditions or work methods.

**Items being combined shall relate to each other well and the quantities shall be dependent on each other, so if one changes in the field, the associated quantities would be affected uniformly.**

(a) **An Example of a Good Combination**

If the project had a few locations where culverts were to be installed, it would be acceptable to include the cost of structure excavation with the per-foot price for the size and type of culvert pipes. This is a good combination because the items are closely associated and the quantities are dependent on one another. The quantity for structure excavation will increase or decrease as the length of pipe actually installed increases or decreases over the estimated quantity.

- Even though this combination of items is logical, it is imperative that the quantities for the structure excavation be calculated to a higher degree of accuracy then if the two items were separate.
- This higher accuracy of the structure excavation quantity is necessary because once the quantity is calculated for the planned length of pipe, that relationship of cubic foot of structure excavation per foot of pipe never changes. If the calculated structure excavation quantity is too high, the contracting agency is overpaying for the work actually performed. If the calculated structure excavation quantity is too low, the contractor is not being fairly compensated for the work performed. In either case, there is no way to make adjustments to the structure excavation.
- If there was a separate pay item for the structure excavation, and the quantity for the item was miscalculated, the contractor will be paid for the actual work performed, so the estimated quantity is a basis for the contractor's bid only.
- The structure excavation quantity will appear on the Structure Note sheet as "informational only" for each associated structure code.

(b) **An Example of a Bad Combination**

Do not combine clearing and grubbing with embankment compaction, even though the plan is to clear and grub only where the embankments are to be constructed. The Special Provisions will have to specify the areas and approximate acres to be cleared and grubbed, so the contractor can include that cost with the cubic yard price for embankment compaction. This is a bad combination of items, because the two items are not closely associated with one another. The quantity for either of these items could be increased or decreased without impacting the quantity of the other item.

- If the items above are combined under a cubic yard pay item and during construction it is determined additional slope flattening is necessary within the original clearing and grubbing limits, it would be difficult to determine and justify and increase. The difficulty lays in the fact that clearing and grubbing is generally around $6000 per acre, whereas embankment compaction is around $2.00 per cubic yard. In this case, the contractor would be receiving a premium price for the additional embankment.
- If the items above are combined under a per acre pay item and during construction it is determined additional clearing, grubbing, and embankment compaction is necessary, again, it would be difficult to determine and justify an increase. The problem is, how is a square acre converted to a cubic measurement?

(c) **Incorporating Combined Items**

To maintain consistency in the combining of items statewide, the HQ Plans Liaison Engineer for the region is to be consulted **in advance** of incorporating combined items into projects. In addition to consistency, this will provide a single office to monitor which items are routinely being combined, which item combinations work and which do not—allowing for responsible decisions in the future.

**Note: Two items that cannot, by law, be combined with any other item of work are "Shoring or Extra Excavation Class A" and "Shoring or Extra Excavation Class B."**

## *(7) Legal Relations and Responsibilities to the Public*

Section 1-07.1 of the *Standard Specifications* requires the contractor to comply with all federal, state or local laws and regulations that affect work under the contract. These laws and regulations do not need to be identified in the contract. However, certain project-specific regulations that may come in the form of permits, agreements, MOUs, licenses, variances, or others need to be identified in the contract. Examples of such regulations with conditions that need to be part of the contract are: HPA, EIS, Noise Variance, Shoreline Permit, Department of Ecology MOU, and other documents that would effect or restrict work on the contract.

In many cases, the GSPs will trigger the need for the text of such documents to be listed in the Special Provision either as a fill-in or as an appendix. When construction activities require the need for a permit, variance, agreement, MOU, or other regulations, the designer should always discuss the need for such documents to be put in the contract with the appropriate region support personnel.

(a) **Decommissioning of Wells Procedure**

The water well abandonment procedure shall adhere to the Washington State Department of Ecology (Ecology) regulations for abandonment of water wells following the guidelines in WAC 173-160-460 and RCW 18.104.048. Notice shall be given at least seventy-two hours in advance of commencing work. The notice shall be submitted on forms provided by Ecology, with the proper fees.

## *(8) Equipment Acquisition Through Construction Contracts*

The practice of WSDOT acquiring, through a construction contract, items that would normally be acquired or purchased through the equipment fund, is to be avoided. This practice circumvents the state's procedures and purchasing rules.

Specific examples of these items are: survey equipment, vehicles, maintenance equipment, radios, workboats, and truck-mounted impact attenuators.

## *(9) Force Account Work*

Standard Item Number 7715, "Force Account ____," has been created to monitor the total amount of money spent on force account work. This standard item, with the appropriate fill-in information, is to be used for all force account bid items, except for those already having a standard item number.

The use of this standard item number does not preclude the need for a project-specific provision to describe the work to be accomplished.

The force account item is to be placed in the appropriate section on the Summary of Quantities. (A force account removal item would be placed with the other removal items; a force account structure item would be placed with the other structure items.)

## *(10) Haul Road and Detour Agreements*

When the project provides a materials source, or requires traffic to be detoured from the state highway, the region is required to acquire agreements with the owners of the roads that will be used as the haul route or the detour route. The process of generating an agreement should be started as early in the design phase as possible. The lack of a completed agreement will not necessarily cause a project Ad date to be delayed. It is the responsibility of the region to determine the risk involved in going to Ad without the completed agreement in accordance with the *Advertisement and Award Manual.*

The agreement will normally provide compensation to the owner of the haul route or detour for damage done to the road by the hauling equipment or by the extra traffic placed on the roadway. The compensation may be in the form of work to be done under the contract to bring the roads back to precontract conditions, or the owner may be paid a cash settlement and would be responsible for making the repairs.

All haul roads and detours are to be clearly shown and labeled on the Vicinity Map.

## *(11) Liquidated Damages*

### (a) HQ Construction Office Approval Required

Liquidated damages are monies assessed or withheld from the contractor's payment for failure to complete the project within a specified period of time. Liquidated damages are not to be considered a penalty, but reimbursement for the costs to the contracting agency for the contractor's failure to perform within the time frame of the project.

Liquidated damages for total project completion are calculated in accordance with the formula in Section 1-08.9 of the *Standard Specifications.* This formula actually calculates the estimated cost to WSDOT to continue engineering the project beyond the allotted contract time, but is presented in the contract as compensation for any and all damage resulting from an unexcused extended duration. The designer must avoid double-charging through both the Standard Specification and a separate Special Provision for the same extended days.

The designer must be able to identify and document the cost associated with the damage. All liquidated damages that are different from the Standard Specification require the approval of the HQ Construction Office or the delegated region official. Submit the proposed provision and the calculations supporting the damage amount to the HQ Construction Office.

(b) **HQ Transportation Data Office Approval Required**

Interim liquidated damages are monies assessed or withheld from the contractor's payment for failure to complete a part of the project within a specific period of time.

Large or complex projects often have interim completion times with liquidated damages, for such things as failure to open traffic lanes on time. These types of liquidated damages can be assessed in time increments that range from 15-minute to full-day segments. Liquidated damages assessed for failure to have a lane open to traffic at the specified time are an estimate of the actual cost to the contracting agency and the traveling public for not having the lane available. The HQ Transportation Data Office (TDO) has a computer program that calculates the cost, based on traffic counts. This is the only acceptable way of calculating these costs.

Once the designer has received these calculated costs from the TDO, the region must make the determination whether the damages represent a sufficient benefit to the state to put them in the contract.

Interim liquidated damages for two or more separate reasons can be additive for the same time period.

A copy of the data used to justify liquidated damages and a copy of the TDO information are to be placed in the PS&E portion of the Project File.

## *(12) Lump Sum Bid Items*

A lump sum bid item may include several items of work or the same item of work at different locations. The Special Provisions shall include the description of work and the approximate quantities for bidding purposes. The quantities listed should be double-checked to avoid contractor claims.

Only work that can be easily defined by quantity, amount of effort, and equipment and labor requirements are to be included in lump sum items. If any of these items are unknown/uncertain, payment at unit prices or force account would be more appropriate.

The backup data used to determine the estimated cost for lump sum bid items is to be placed in the PS&E portion of the Project File.

The designer must decide whether each lump sum bid item is to be prorated or whether individual Summary of Quantities column costs are to be assigned for each lump sum bid item.

## *(13) Items a Designer "Might" Need*

The designer is advised to avoid including items in the project they think "might" be needed. This is particularly important for items such as borrow or excavation below grade, because the contractor bids, at a high price, the small quantity shown, and then finds a way to use a considerable quantity of the item on the project.

If it is unknown whether the item is required, it is best to leave it out of the project and let the Construction Office add the item by change order if necessary. History shows that this is the easiest, most cost-effective way of handling these items.

There will be times when this sort of item may be appropriate. In these rare cases, it should be included as a force account item, so the Engineer has complete control of the work.

## *(14) Paths and Trails*

WSDOT tracks expenditures for pedestrian and bicycle facility improvements so we can report to the Legislature and the public this information, per RCW 47.30. The department will also be able to use this data to measure the performance of our transportation system.

The following are example types of work that are to be included in the calculations for pedestrian and bicycle facilities. (See the *Design Manual* for additional definitions and information.)

- **Shared-Use Path:** A facility on exclusive right of way with minimal cross flow by motor vehicles, designed and built primarily for use by bicycles but also used by pedestrians, joggers, skaters, wheelchair users (both nonmotorized and motorized), and others.
- **Structures:** An overpass or underpass, tunnel, or bridge to provide continuity of a shared-use path, bikeway, walkway, hiking trail, or sidewalk around, over, or across obstacles.
- **Sidewalk:** A walkway separated from the roadway with a curb, constructed of a durable, hard, and smooth surface such as concrete or asphalt, designated for preferential or exclusive use by pedestrians. This category is to include sidewalk or shared-use paths on structures.
- **Bike Lanes/Bikeway:** Any trail, path, or portion of a highway, street, or shoulder specifically signed and/or marked for bicycle travel.

The pavement markings associated with pedestrian and bicycle facilities include:

- **Crosswalks:** The portion of the roadway designated for marked or unmarked pedestrian crossings; unmarked crosswalks are the natural extension of the shoulder, shoulder curb line, or sidewalk. Improvements to crosswalks consist of markings to delineate the crosswalks for motorists' detection, or may consist of different surface treatment such as concrete or colored asphalt to distinguish it as the crossing area. Another type of crosswalk is a "raised" crosswalk, intended to enhance the visibility of the pedestrian to the motorist as well as encourage the motorist to slow down.
- **School Crossing:** A crossing adjacent to a school or on established school pedestrian routes, designated as a preferred crossing for school users.
- **In-Pavement Flashing Warning Devices:** A traffic-warning device used at pedestrian crosswalks.
- **Preferential Lane Symbols and Signing:** Identified signs and/or pavement markings that designate a lane for bicycle use.
- **Pedestrian Signals/Detectors:** Electronic devices used for controlling the movement of pedestrians at signalized midblocks or intersections, which may include the "walk/don't walk" messages or the symbolic walking person/hand message.
- **Pedestrian Scale Lighting:** Overhead street lighting that is typically over the sidewalk instead of the roadway and at a lower height than typical street light fixtures, and that provides illumination for pedestrians instead of motorists.
- **Bicycle Facilities Lighting:** Illumination necessary to achieve minimum levels of safety, security, and visibility.

Projects that are done specifically for pedestrian/bicycle facilities should be included in the calculations in their entirety. These may include such items as:

- **Curb Ramps:** The area of the sidewalk, usually at the intersection, that allows easy access/transition for wheelchairs, strollers, and other wheeled equipment between the sidewalk and the street.
- **Bulb Out/Curb Extension:** A curb and sidewalk bulge or extension out into the roadway used to decrease the length of a pedestrian crossing.
- **Pedestrian Refuge Island:** A raised area between traffic lanes that provides a place for pedestrians to wait to cross the street.
- **Planting or Buffer Strip:** A strip of land that physically and/or visually separates two land uses, especially if the uses are incompatible. These strips are important to separate pedestrians from motor vehicles.
- **Shoulders**: Path and trail calculations for bicycle facility improvements shall be done if an existing shoulder is widened to a minimum of 4 feet to allow bicycle or pedestrian use, and the shoulder meets the following condition:

  *The route is identified in a local, regional, or state plan as a priority bicycle connection.*

  Overlaying an existing shoulder with HMA or bituminous surface treatment (BST) does not constitute the need for path and trail calculations.

For projects meeting the above criteria, the path and trail calculations are as follows: 50% of the cost to widen the shoulder to the ultimate shoulder width.

**If further clarification is required, please call the HQ Highways and Local Programs Office, (360) 705-7372.**

## *(15) Permits*

A conscientious effort shall be made to ensure that all permits necessary for the project are completed and signed prior to the project going to Ad. However, in the event that this cannot be accomplished, it is the responsibility of the region to determine the risk involved in going to Ad without the completed permit in accordance with the *Advertisement and Award Manual*.

## *(16) Proprietary and Sole Source Items, Brand Name Specifying, and Use of the Qualified Products List (QPL)*

(a) **Approval of Proprietary/Sole Source Items**

WSDOT uses competitively acquired products to fulfill the materials requirements of a contract. This helps achieve the lowest prices, the best product quality, and the most efficient use of resources. When more than one product is judged to be acceptable to fulfill project requirements, the PS&E for the project will include, by reference, specifications for all acceptable products. This process will be followed except when the state can document, to the satisfaction of the Region Assistant State Design Engineer (ASDE) and the Federal Highway Administration (FHWA) that, even though there are other acceptable products, the specifying of one particular product is in the public interest. Regardless of the funding source(s), or whether an outside agency or developer is proposing the use of a specific product, written approval from the HQ ASDE must be granted in advance of project advertisement or incorporation.

By the FHWA Stewardship Agreement, WSDOT has adopted the Code of Federal Regulations (CFR) for approval of proprietary/sole source items on all projects. Specific guidelines regarding the use and approval of proprietary/sole source items are provided in 23 CFR Part 635.411. The CFR guidelines state that a proprietary/sole source item will not be approved for use in a project unless:

1. It is purchased or obtained through competitive bidding with equally suitable other items.
2. It is certified that the proprietary or sole source item is essential for synchronization with existing highway facilities;
   - A certain product (or manufacturer) is to be used because the product (or manufacturer) is essential to the existing highway. A product could be essential due to the fact it has been tested with other components and is documented to work with existing components or that it is a one of a kind item. A product or manufacturer could be essential because using anything else would require replacing other components of the existing highway system.
   - No other equally suitable alternative exists:
     a. The product (or manufacturer) is one of a kind.
     b. Other workable alternative products or manufacturers are not equal, in longevity, cost, delivery, durability, compatibility, warranty, and so on.
3. It is used for research or for a distinctive type of construction on relatively short sections of road. It is for experimental purposes to obtain experimental information on a product or manufacturer for the public good. When requesting this type of usage, approval documentation showing the scheduling, monitoring, results, and conclusion are required with the request. www.wsdot.wa.gov/design/projectdev/ProprietaryItems.htm
4. All proprietary/sole source use must be deemed as being in the public interest, the following criteria need to be met:
   - If a significant investment has been made in a product through training, parts, maintenance familiarity, equipment and warranties, approval may be granted in that retaining the product is in the public interest.
   - If the product (or manufacturer) is needed for coordination of systems between agencies such as police, fire, hospitals, WSDOT emergency services and others, approval may be granted in that retaining the product (or manufacturer) is in the public interest.

(b) **Definitions**

- **Proprietary Item:** A proprietary item/material is one that someone holds some sort of legal control over its use, such as a patent. Someone who wants to use the item or material normally has to pay a fee to use the item, on top of the cost of the item/material.
- **Sole Source Item:** A sole source item/material is one that can only be obtained from one supplier or manufacturer.

(c) **Using Proprietary/Sole Source Items in Contracts**

Before specifying any proprietary/sole source material, work, manufacturer, or

product in a project, written approval must be granted. All region and statewide **Blanket Approvals** must be approved by FHWA for proprietary/sole source items prior to advertisement. FHWA also must approve all proprietary/sole source item requests on the Interstate for New/Reconstruction projects. On NHS and Non-NHS projects, the Assistant State Design Engineer assigned to the region must approve proprietary/sole source item use prior to advertisement. It is the designer's responsibility to submit a memorandum of justification, which includes a statement that the proprietary/sole source item is in the public interest, to the Assistant State Design Engineer in sufficient time for it to be reviewed, acted upon (sent to FHWA if required), and adjustments made to the contract should the use be denied.

An example of the memorandum of justification and a shell document can be seen at: www.wsdot.wa.gov/design/projectdev/proprietaryitems.htm. As shown in the example, a brief description of the project, what constitutes the requirement for the proprietary/sole source item, and justification for the use of the proprietary/sole source item (see outline of 23 CFR 635.411 above for justifiable reasons) shall include why the department believes the use of the proprietary/sole source item is in the public interest.

Approval of proprietary/sole source item does not override the federal specification for foreign steel or the applicable General Special Provisions (GSP).

When a proprietary/sole source item has been approved, the designer will, in the Special Provisions, give the product manufacturer, the model, the model number, and any additional information required to ensure only the specified item will be furnished. There will usually only be one item named in the Special Provisions when listing a proprietary/sole source item. The phrase "or approved equal" will never follow the naming of a proprietary/sole source item in a Special Provision. There are no options allowed. The contractor's bid is to reflect the one item specified.

The term "approved equal" can be used only when it has been determined that there are two or more acceptable products or manufacturers and WSDOT will accept other products or manufacturers. A performance specification must be included stating exactly what will make the other products equal to the ones listed in the contract. When listed in this manner, these items are not considered proprietary/sole source items. (See Brand Name Specifying in Contracts below.)

(d) **Brand Name Specifying in Contracts**

The alternate to proprietary/sole source item specifying is brand name specifying. When brand name specifying, the designer is providing the bidder with options by naming at least two products or manufacturers that are acceptable and allowing for "approved equals" followed by a performance specification. When this is done, no approval is required for usage; it is not a proprietary/sole source item.

A good specification for brand name specifying will read as follows:

The (type of product) furnished shall be (brand name, model), (brand name, model), or an approved equal having the following features (functions):

1. (feature)
2. (feature)
3. (feature)

In order to find the two acceptable items, the designer had to be looking for certain features or functions. These features or functions are the ones that need to be included in the Special Provision.

(e) **Qualified Products List**

The Qualified Products List (QPL) is a list of products and materials that have been preapproved for use on WSDOT projects. If the contractor chooses to provide items listed in the QPL, there is no need to submit a request for approval of manufacturer (RAM). For some products or materials on the QPL list, there is no requirement to submit the items for testing prior to using the product or material on the project.

There is a definite difference between proprietary/sole source item specifying and brand name specifying, and the Qualified Products List has nothing to do with either proprietary/sole source or brand name specifying. The preapproval of items in the QPL does not mean that they are the only products or materials that will be allowed. The contractor can provide any product or material that meets the specifications whether they are listed in the QPL or not.

## *(17) Removal of Pavement, Sidewalks, and Curbs*

When pavement, sidewalk, or curb removal is required **outside the limits** of an excavation area, it can be included in the lump sum price for "Removal of Structures and Obstructions," or separate bid items may be established for the work.

If the work is included as part of the lump sum item, the Special Provisions will indicate the approximate locations and quantities. If separate bid items for removal are established, the individual items will appear on the Quantity Tabulation sheets, where the approximate locations and quantities will be indicated. In either case, the locations of the removal items will be indicated on the plans as well.

When pavement, sidewalk, or curb removal is required **within the limits** of an excavation area, nothing is required on the plans or in the Special Provisions. All costs for the removal of the pavement, sidewalk, or curb are included in the excavation work, and no additional compensation is made to the contractor.

The other possibility is that, for some reason, the designer wants the contractor to remove the pavement, sidewalk, or curb that lies within an excavation area prior to performing the excavation. In this case, the work would be handled as described above for removal outside an excavation area.

## *(18) Retaining Walls*

When a project contains standard retaining walls, as detailed in the *Standard Plans for Road, Bridge, and Municipal Construction (Standard Plans)*, the Contract Plans shall include the following:

1. A plan and profile of the wall, with original and proposed ground profiles at the front and back faces of the wall
2. All existing utilities in the vicinity of the wall
3. Wall geometry

4. Right of way limits
5. Construction sequence and stage construction sequence requirements
6. Highest permissible elevation for foundation construction
7. Location, depth, and extent of unsuitable material
8. Quantities for the wall and backfill materials
9. Details of wall appurtenances such as traffic barriers; coping; wall face treatment and limits of treatment; drain outlets; and location of signs and lighting, including conduit locations

In general, a site that will support a standard cantilever retaining wall will also support a proprietary retaining wall. If the region decides to provide preapproved proprietary retaining wall systems as an alternate, the HQ Materials Laboratory Foundation Engineer and the HQ Bridge and Structures Office Bridge Project Engineer need to be consulted on the selection of suitable wall systems for the conditions. In order to evaluate aesthetic considerations, a rough site plan shall be submitted to the HQ Bridge Project Engineer for review.

The region will be required to contact the suppliers of the selected retaining wall systems to confirm the adequacy of the systems for the given situation. The HQ Materials Laboratory Foundation Engineer is to be contacted to provide assistance in evaluating the systems for overall stability and to provide soil criteria for design.

The HQ Bridge and Structures Office will prepare the Special Provisions for preapproved proprietary retaining walls, including design criteria. The HQ Foundation Engineer will be consulted for establishing the criteria for design. The Special Provisions will require the proprietary wall manufacturer selected by the contractor to submit shop plans, design criteria, and calculations to the HQ Foundation Engineer for approval. The HQ Bridge and Structures Office will then review the design submitted by the preapproved proprietary wall manufacturer.

In addition, keep in mind that these are alternates that may be selected by the contractor and that all of these alternates are proprietary. On all federal-aid projects, two must be selected or reasons for using fewer alternates must be submitted for approval to the Assistant State Design Engineer assigned to the region. Proprietary retaining wall systems are preapproved for certain heights. Walls that exceed the preapproved height will be considered special designs and each must be submitted to the HQ Bridge and Structures Office for review and approval.

## *(19) Roadside Considerations*

For all projects requiring work outside the shoulders, it is important that the designer contact the Region Landscape Architect or HQ Landscape Architect (for regions without one) to determine whether there are ways to minimize impacts to the roadside.

The *Roadside Classification Plan* outlines requirements, based on project type, for revegetation, permanent erosion control, irrigation, and landscape planting. The Landscape Architect can assist the designer in fulfilling these requirements.

## *(20) Royalties on Materials Sites*

If the contracting agency furnishes a materials site owned by others, and the owner requires that a royalty be paid for materials removed from the site, the dollar amount

of the royalty, and who will be responsible to pay the royalty, will be specified in the Special Provisions. FHWA has authorized federal-aid participation in royalty payments.

## *(21) Shoring or Extra Excavation*

All excavation 4 feet or more in depth shall be shored, protected by cofferdams, or shall meet the open-pit requirements specified in the *Standard Specifications*.

**RCW 39.04.180 requires that a separate bid item for shoring or extra excavation be included in the estimate and proposal. In no case shall the costs for shoring or extra excavation be included in other bid items.**

## *(22) Specialing Out Right of Way Parcels*

It may be necessary to identify right of way parcels that are unavailable to the contractor for construction at the time the contract is awarded.

The Special Provisions shall be specific as to the location of the parcels and the estimated dates of availability to the contractor. The Region Real Estate Services Office can provide a reasonable availability date to go in the Special Provisions. There is no problem if the property becomes available early, but there can be major problems if the property is not available by the date promised.

Right of way parcels that are "specialed out" must also be indicated on the Right of Way or Alignment/Right of Way Plans by drawing in the appropriate property lines and by cross-hachuring the parcels. The plans shall indicate that the cross-hachured parcels are unavailable and there will be a note referencing the Special Provisions.

When right of way is being specialed out, the order of work has to be examined to ensure the project sequencing is not adversely affected because portions of the right of way are not available for immediate use.

## *(23) Standard Items*

The Standard Bid Item Table is not a complete listing of standard items. It is a list of the bid items being tracked in the Unit Bid Analysis (UBA) system. Code numbers, which are referred to as Standard Item Numbers, track them.

Standard items are those items that appear in the payment statements in the *Standard Specifications*. Many of these payment statements, like the following, are written with blanks:

- "HMA for Preleveling Cl. ____ PG ____," per ton.
- "Catch Basin Type ____," per each.
- "Manhole Additional Height ____ In. Diam. Type ____," per foot.

If the blanks are filled in with the expected information and the information in the *Standard Specifications* applies, they are standard items even though they may be a size, type, or class not shown in the Standard Bid Item Table.

Minor revisions that have little or no impact on the cost can be made to the material or construction requirements in the *Standard Specifications*, and they can remain standard items. Care must be taken, however, not to mislead the contractor by making major revisions that could affect the cost of the item substantially, and calling it the standard item. In these cases, it is best to develop a nonstandard item.

## *(24) Standard Plans*

WSDOT's *Standard Plans* are made a part of contracts by reference in the Special Provisions. Plan details are not to be drawn that duplicate details in the *Standard Plans*, and the designer is not to redesign a Standard Plan by detail in the project. It is important that standard work be done the standard way, and that standard materials be used whenever possible; in almost all cases, standard materials cost less.

## *(25) State Force Work*

**The State Force Work referenced is any and all state force labor, state-supplied materials, and/or state-supplied equipment to be paid utilizing construction dollars unless specifically excluded as mentioned below.**

The designer shall provide written justification for all state-furnished materials and all State Force Work to be performed on all projects, in accordance with RCW 47.28.030 and RCW 47.28.035.

(a) **RCW 47.28.030**

The complete RCW reads as follows:

Contracts – State forces – Monetary limits – Small businesses, minority, and women contractors – Rules.

A state highway shall be constructed, altered, repaired, or improved, and improvements located on property acquired for right of way purposes may be repaired or renovated pending the use of such right of way for highway purposes, by contract or state forces.

The work or portions thereof may be done by state forces when the estimated costs thereof is [are] less than fifty thousand dollars and effective July 1, 2005, sixty thousand dollars: PROVIDED, That when delay of performance of such work would jeopardize a state highway or constitute a danger to the traveling public, the work may be done by state forces when the estimated cost thereof is less than eighty thousand dollars and effective July 1, 2005, one hundred thousand dollars.

When the department of transportation determines to do the work by state forces, it shall enter a statement upon its records to that effect, stating the reasons therefore.

To enable a larger number of small businesses, and minority, and women contractors to effectively compete for department of transportation contracts, the department may adopt rules providing for bids and award of contracts for the performance of work, or furnishing equipment, materials, supplies, or operating services whenever any work is to be performed and the engineer's estimate indicates the cost of the work would not exceed eighty thousand dollars and effective July 1, 2005, one hundred thousand dollars.

The rules adopted under this section:

(1) Shall provide for competitive bids to the extent that competitive sources are available except when delay of performance would jeopardize life or property or inconvenience the traveling public; and

(2) Need not require the furnishing of a bid deposit nor a performance bond, but if a performance bond is not required then progress payments to the contractor may be required to be made based on submittal of paid invoices to substantiate proof that disbursements have been made to laborers, material men, mechanics, and subcontractors from the previous partial payment; and

(3) May establish prequalification standards and procedures as an alternative to those set forth in RCW 47.28.070, but the prequalification standards and procedures under RCW 47.28.070 shall always be sufficient.

The department of transportation shall comply with such goals and rules as may be adopted by the office of minority and women's business enterprises to implement RCW 39.19 with respect to contracts entered into under this chapter.

The department may adopt such rules as may be necessary to comply with the rules adopted by the office of minority and women's business enterprises under RCW 39.19.

[1999 c 15 § 1; 1984 c 194 § 1; 1983 c 120 § 15; 1977 ex.s. c 225 § 3; 1973 c 116 § 1; 1971 ex.s. c 78 § 1; 1969 ex.s. c 180 § 2; 1967 ex.s. c 145 § 40; 1961 c 233 § 1; 1961 c 13 § 47.28.030.

Prior: 1953 c 29 § 1; 1949 c 70 § 1, part; 1943 c 132 § 1, part; 1937 c 53 § 41, part; Rem. Supp. 1949 § 6400-41, part.]

(b) **RCW 47.28.035**

The complete RCW reads as follows:

Cost of project, defined.

The cost of any project for the purposes of RCW 47.28.030 shall be the aggregate of all amounts to be paid for labor, material, and equipment on one continuous or interrelated project where work is to be performed simultaneously. The department shall not permit the construction of any project by state forces by dividing a project into units of work or classes of work to give the appearance of compliance with RCW 47.28.030.

[1984 c 194 § 2.]

(c) **Justifications**

If the project is new/reconstruction on the Interstate, the justification for state-furnished materials and for State Force Work requires FHWA approval.

RCW 47.28.030 requires that WSDOT have documentation on file for all State Force Work/Supplied Materials. The justification and estimate for work to be done by state forces and state-furnished materials is to be processed per region policy, in sufficient time to allow for review and approval prior to advertising of the project. When FHWA approval is required, the justification must also include a request for federal funding participation.

The justification for both state-furnished materials and State Force Work must show that it is economically cost-effective to provide the materials or to perform the work with state forces. It does not matter how or when the state-supplied material was purchased or whether it was purchased through competitive bidding or not, the cost of the state-supplied material is to be incorporated into the State Force Work/Materials total costs, and the limitations per RCW 47.28.030 apply. Once an item is purchased and supplied to another contract, that item becomes state-supplied material. Refer to Figure 700-1 and the EBASE User's Manual for guidelines when engineering and contingencies are used (when other state agencies do the State Force Work) or when engineering and contingencies are not used (when WSDOT state forces do the work) in regard to State Force Work and for state-furnished materials.

The maximum total dollar value of work done by state forces, including labor, materials, and equipment, as of July 1, 2005, is $60,000 or up to $100,000 if it

is an emergency, as stated in RCW 47.28.030, per construction project. An increase in the dollar amounts in the RCW must go before the state Legislature; currently, there are no additional increases built into the law.

(d) **Blanket Approval Items**

There are a few items of work that have received a blanket approval to be performed by state forces and receive FHWA funding participation. They are striping, pavement marking, second-stage fertilizing, and one-way piloted traffic control. With blanket approval items, WSDOT must still have documentation on file, and the dollar limitations also apply to this work.

(e) **Exceptions**

When the state provides materials and or equipment and there is NO state labor performed by state forces within the project, the dollar limitation per RCW 47.28.030 does not apply. For example, if WSDOT provides a $90,000 sign bridge, as long as there is **no** state force labor, this dollar amount can be approved. If there is **any** state force labor (even for unrelated work such as removal of silt fence) on the project that is going to be a below-the-line item, then the aggregate total of materials and labor would exceed the $60,000 per RCW 47.28.030 and, therefore, cannot be approved.

Work performed off the state roadway right of way **may not** be subject to RCW 47.28.030 and, therefore, no limit on state-supplied materials or state force labor would apply. If work is done outside the WSDOT transportation corridor (state right of way, fence line to fence line), and state force thresholds in RCW 47.28 do not apply (wetland mitigation sites, sundry sites, and other capital facilities), then RCW 39.04 applies. This only applies to those areas outside of and unattached to existing state highway right of way.

Work that is **not** to be considered State Force Work is inspection of any type, material testing, surveying, monitoring, public relations work, or any kind of investigation or research. If state forces do any of these types of work, it is to be included in the engineering and contingencies. If the cost of this work is substantial, it can be used as justification to increase the engineering and contingency percentage to offset the costs.

Inspection is defined as work performed to ensure that material or contractor installation meets the specifications outlined in the contract **after** the contract has been awarded. Inspection **does not** include work performed to correct the deficiency or failure to meet specifications.

Surveying is part of the inspection requirements and shall be considered as construction engineering and is not subject to state force thresholds.

Material testing is defined as work performed prior to contract award or prior to the material being delivered to the contractor for ensuring that the material meets the specifications outlined in the contract. Material testing includes diagnostic testing and/or modifications to the material or equipment to ensure compatibility and interoperability with the existing infrastructure. For example, when electronic equipment is procured, material testing would include assembling the equipment into a system and modifying software or hardware components as necessary to ensure the system operates as specified and is compatible with existing electronic equipment and/or software (see Figure 700-1, State Force Work/Materials).

(f) **Questions Asked by WSDOT and Answered by the Attorney General's Office (AGO)**

1. **WSDOT:** If work is not related, but on the same project, does the RCW limit apply to each unrelated item of State Force Work or is all the unrelated State Force Work added together for the aggregate total for the project?

   **AGO:** All State Force Work activities (labor, equipment, and materials), related or not, are included in the aggregate total and are subject to state force thresholds.

2. **WSDOT:** Has the State Legislature looked at the excessive increase in costs and considered raising the dollar limitation in the RCW accordingly?

   **AGO:** In 1999 the State Legislature was approached about raising the limit for State Force Work to $250,000. Under this request, the limit was raised by $10,000 only, with a few step raises in the RCW in later years. The State Legislature would prefer work to be contracted out and the dollar limit on State Force Work kept low.

3. **WSDOT:** How does the RCW apply to contractually purchased materials used by state Maintenance labor and equipment—for example, on BST projects where the aggregate is purchased through contract and stockpiled, State Force Work is requested for the labor and equipment to place the BST, and the labor and equipment is less than the dollar limitation?

   **AGO:** If Maintenance purchases materials (such as crushed rock), regardless whether this material is purchase through a competitive bidding process or not, it is considered to be from a supplier and is not considered a WSDOT construction contract. Therefore, the material is included in the aggregate total of labor, equipment, and materials and is subject to state force cost thresholds.

4. **WSDOT:** What determines a contractor versus a supplier? If we have a competitively bid contract for rock chips for chip seal jobs that we can use whenever we need to in a one-year or two-year period, is this a contractor or a supplier?

   **AGO:** A supplier.

5. **WSDOT:** If there is no state labor, does the RCW dollar limit apply?

   **AGO:** If there is **no** state labor in the project and only state-supplied materials are being purchased, the dollar limitation per RCW 47.28.030 does not apply. If there is **any** State Force Work labor on the project, whether or not it is relevant to the material acquisition, then the RCW 47.28.030 dollar limitations apply to the **aggregate** total.

6. **WSDOT:** If there are overruns during State Force Work on labor, material, or equipment costs that are covered under the State Force Work request and that exceed the RCW dollar limitation, is this a violation of the law? Should this be documented and, if so, how?

   **AGO:** A good faith effort is required to justify and document the state force request during the project development phase. If, during construction, the actual costs exceed the estimated costs, this is considered an incremental increase. If this happens on a consistent basis, the original

estimate will not be considered a good faith effort and the law has not been followed.

7. **WSDOT:** Who has the authority to authorize State Force Work in excess of the monetary limit set in RCW 47.28?

   **AGO:** No one outside the Legislature has the authority to approve State Force Work in excess of the monetary limit set in RCW 47.28.30. Exceeding the RCW is a violation of the law. **The law would have to be changed by the Legislature to increase the monetary limit in RCW 47.28.**

8. **WSDOT:** When does State Force Work have to be documented and kept on file?

   **AGO:** Per the law, all State Force Work must have documentation on file justifying the work. RCW 47.28.030 states, "When the department of transportation determines to do the work by state forces, it shall enter a statement upon its records to that effect, stating the reasons therefore" (see Figure 700-1, State Force Work/Materials).

## (26) Strip Maps

Strip maps may be used on projects such as overlays, fog seal, BST, stockpiling, signing, safety, and similar projects when a great deal of detail is not required.

Many times a strip map can be used for a series of plans within a set of plans, such as for the signing series, if the signing is simple destination-type signing and requires no real detail. In most cases, by simply showing the construction centerline with stationing and the required signing information, it is possible to stack the information on the sheet such that twice the information can be displayed on each sheet. Remember that most of the information shown on strip maps is not really alignment-dependent; that is, a curve in the highway is not going to affect the showing of a sign at the correct station, so the centerline can appear as a straight line on the strip map.

The use of strip maps when possible is not only an option, but is also a recommended procedure to help reduce the total number of plan sheets in the project.

The use of photographic strip maps is allowed if the work can be shown adequately and if a clear copy can be assured.

## (27) Temporary Erosion and Sediment Control Plans

The *Highway Runoff Manual* provides detailed information on Temporary Erosion and Sediment Control (TESC) planning. The goal of a TESC Plan is to prevent erosion damage to projects and sediment-laden runoff that can harm the environment and waters of the state. A TESC Plan shall describe the erosion risks associated with the project and list the best management practices (BMPs) selected to reduce or eliminate the identified risks. A BMP is a design, procedural, or physical practice that prevents erosion or traps sediment.

A TESC Plan must be prepared if a construction project adds or replaces (removal of existing road surface down to base course) 2000 square feet or more of impervious surface or disturbs 7000 square feet or more of soil. Projects that disturb less than 7000 square feet of soil must address erosion control, but a stand-alone TESC Plan is optional.

In order for the TESC Plan to be effective, it must be contractually enforceable. The

tools available are Division 8-01 of the *Standard Specifications*, the *Standard Plans*, General Special Provisions (GSP), and Special Provisions. In addition to the plan sheets, the selected specifications must be included in the contract. The contractually enforceable tools contained in the plan shall address the direct details that the contractor will be responsible for, such as items of work; types of materials; duration; maintenance and removal of items; and measurement and payment of nonstandard items, as applicable to the specific contract. The plan sheets or Special Provisions shall show or list the locations of the BMPs.

WSDOT staff are required to attend the Construction Site Erosion & Sediment Control Course before they prepare a TESC Plan. Multiple resources for plan preparation exist, including the *Highway Runoff Manual*, *Design Manual*, *Roadside Manual*, *Hydraulics Manual*, *Construction Site Erosion and Sediment Control Course Manual*, the *Standard Specifications* (Section 8-01), and the *Standard Plans*.

WSDOT has a TESC Planning Tool that helps designers create thorough and contractually enforceable TESC Plans. The designer reviews requirements, selects BMPs, and identifies contractual tools to ensure enforcement of TESC Plans. The TESC Planning Tool helps ensure consistency in plan format as it automatically organizes and writes the TESC Plan narrative. It also greatly accelerates the process for TESC Plan review. A brief training is required prior to use and is available through ATMS (course code CAY).

A TESC template is available for consultant use and those who don't have access to the TESC Planning Tool. The template provides step-by-step guidance on preparing the narrative and is available online under the Guidance Materials heading at: www.wsdot.wa.gov/Environment/WaterQuality/ErosionControl.htm. Other resources include Region Water Quality/Hydraulics Office staff, Environmental Office staff, and the Statewide Erosion Control Coordinator.

Some regions require that TESC Plans prepared by the project office be routed through the Region Water Quality/Hydraulics Office or Environmental Office for review. Once complete, the TESC Plan is incorporated into the contract documents.

## *(28) Truck Weighing Stations*

The components of a truck weigh station for which federal funds can be used are:

- Additional right of way.
- The construction of access lanes and vehicle standing and storage areas.
- The illumination of access lanes and vehicle standing and storage areas.

The construction of the scale house and its service facilities, scale pit, and scale are not eligible for federal-aid participation.

For additional information on truck weigh stations, see the *Design Manual*.

## *(29) Vehicle Weight Limitations Within Project Boundaries*

The designer is to review each individual project to determine whether the vehicles employed in the construction that exceed the gross weight limitations, per RCW 46.44, can be tolerated.

When existing bridges or major drainage structures are involved, overweight clearance is obtained from the HQ Bridge and Structures Office. The clearance information provided by the HQ Bridge and Structures Office is to be included in the PS&E portion of the Project File.

The designer is to use the information in the *Standard Specifications*, or include the appropriate GSP in the contract provisions, to inform the contractor of the load limit restrictions for the project.

## *(30) Warranties and Guarantees*

WSDOT may choose to include warranty clauses in federal-aid highway construction contracts as specified in Code of Federal Regulations, Title 23, Volume 1, revised April 1, 2001, under Subpart D – General Material Requirements Sec 635.413, Guaranty and Warranty Clauses. An excerpt from the CFR text reads as follows:

The STD may include warranty provisions in National Highway System (NHS) construction contracts in accordance with the following:

(a) Warranty provisions shall be for a specific construction product or feature. Items of maintenance not eligible for Federal participation shall not be covered.

(b) All warranty requirements and subsequent revisions shall be submitted to the Division Administrator for advance approval.

(c) No warranty requirement shall be approved which, in the judgment of the Division Administrator, may place an undue obligation on the contractor for items over which the contractor has no control.

(d) An STD may follow its own procedures regarding the inclusion of warranty provisions in non-NHS Federal-aid contracts.

There may be occasions when the regions have the need to include warranty and/or guarantee clauses in state-funded contracts. The region will notify the Construction Materials Engineer at the HQ Materials Laboratory and request concurrence to the specification prior to including the Special Provision in the contract documents.

The contractor is required to pass along to WSDOT all manufacturers' normal guarantees and warranties for products and equipment installed on the project.

## *(31) Washington State Laws*

Following is a partial listing of laws that are frequently used in the administration of WSDOT contracts:

1. RCW 4.24.360: Any clause in a construction contract that disallows a contractor, subcontractor, or supplier any damages due to unreasonable delays in performance caused by WSDOT is void and unenforceable.
2. RCW 18.104.048: Prior notice of well construction, reconstruction, or decommissioning of wells is required (see 700.05(7)(a)).
3. RCW 18.27.090: Contractors are exempt from contractor registration laws provided they are prequalified by WSDOT.
4. RCW 19.122.040: This subject deals with existing utility locations. (See 400.06 for the contents of this RCW.)
5. RCW 39.12: This subject concerns wages. (See Section 1-07.9 of the *Standard Specifications*.)
6. RCW 39.19: See the GSP concerning minority and women's businesses.
7. RCW 46.44: Vehicle Weight Limitations Within Project Boundaries.
8. RCW 47.28.030: This subject deals with State Force Work and materials (see 700.05(25)).

9. RCW 47.28.035: This subject is related to RCW 47.28.030, State Force Work and materials (see 700.05(25)).
10. RCW 47.28.070: This subject concerns prequalification of contractors. (See Sections 1-02.1 of the *Standard Specifications*.)
11. RCW 47.28.100: Contractors are allowed 20 days after award to execute a contract. WSDOT may extend this time no more than an additional 20 days. (See Sections 1-03.3 and 1-03.5 of the *Standard Specifications*.)
12. RCW 47.28.120: Contractors must file their claims within 180 days after acceptance. (See Section 1-09.9 of the *Standard Specifications*.)
13. RCW 47.30: Requirements for paths and trails.
14. RCW 49.28: Wages – overtime.
15. RCW 60.28.010: WSDOT must hold 5% of the contract amount in reserve for material and worker claims. Contractors can post a bond in lieu of reserve fund. (See Section 1-09.9 of the *Standard Specifications*.)
16. RCW 78.44: A Contract Reclamation Plan is required for every WSDOT contract that contains a WSDOT-furnished materials source (see 400.06).

Some of the laws are referenced in the *Standard Specifications* or the GSPs; some are not. In either case, these laws are not to be altered. All Special Provisions that appear to be altered should be questioned.

## *(32) Washington State Patrol (WSP) Traffic Control Assistance*

The following factors are to be considered when evaluating the need to include WSP traffic control assistance in the project:

- What type of construction is being done?
- How complex is the traffic control?
- Are there possibilities of speed reductions?
- What are the traffic volumes?
- Is there nighttime work?
- Are there special geometric conditions?

Refer to Instructional Letter IL 4008.00 and to the *Traffic Manual* for recommended enhanced enforcement in the work zone.

If it is decided that WSP traffic control assistance is warranted, the Region Program Manager must be contacted to set up the work order and to verify that funds are available in the master GC 9131 agreement. The Region Program Manager will contact the HQ Traffic Office, Field Operations Support Service Center, to obtain a Task Order number, and will then prepare and execute the Task Order in the normal manner and submit it to the HQ Program Manager for action.

The designer will include the money in the project estimate as a below-the-line item.

## *(33) Working Days*

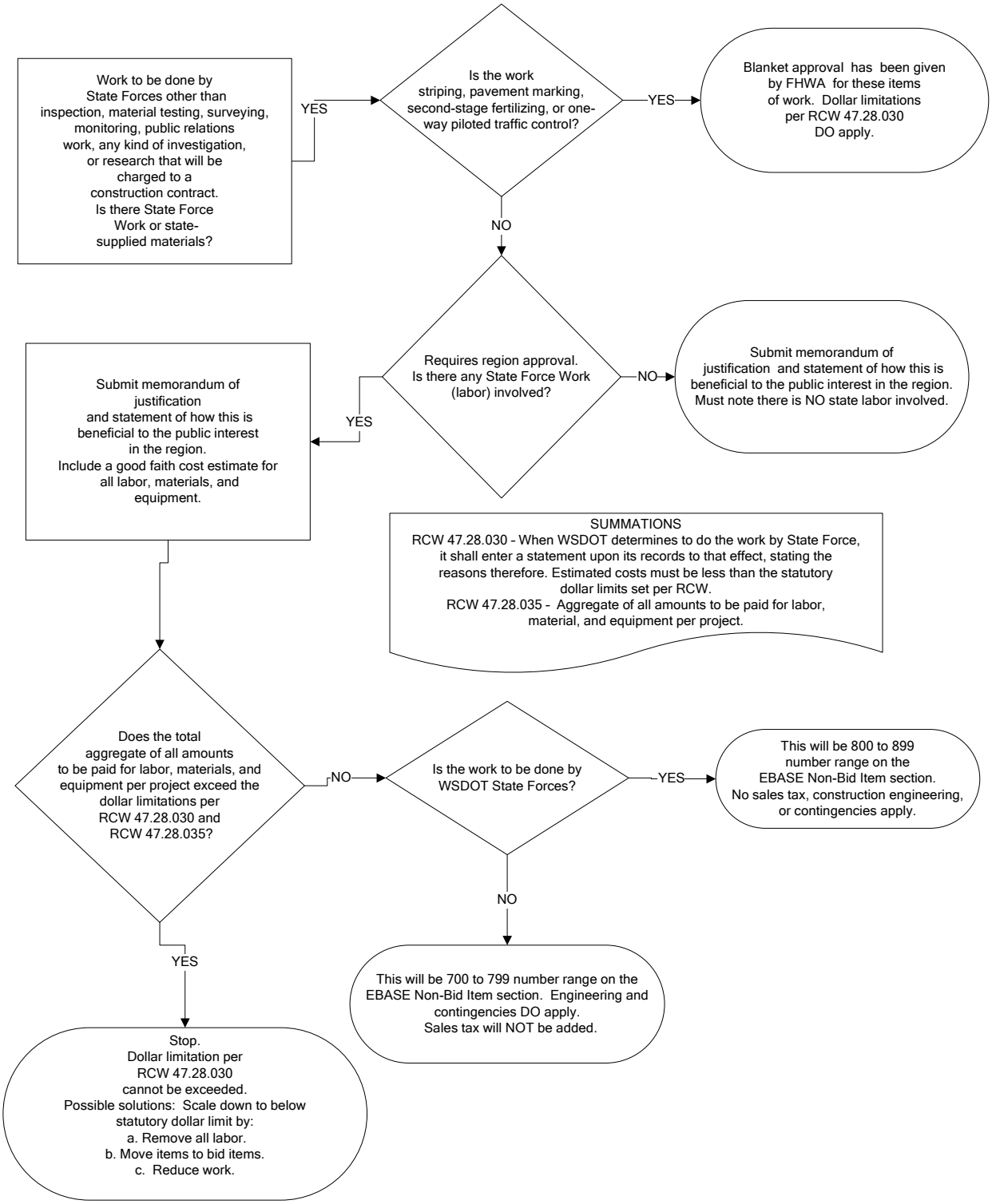
The designer needs to give careful consideration to the number of working days allowed for a project. Too many working days can cause as many problems as not enough working days.

The determination of working days for the different work items is to be based on production rates and other considerations (see the Appendices). Using the time required for the individual work items, the Critical Path Method (CPM) is then used to determine how the project work will fit together, and the total number of working days will be determined.

The working days required for bridge construction are to be coordinated with the working days required for the other construction.

The CPM will be placed in the PS&E portion of the Project File.

# STATE FORCE WORK/MATERIALS




**State Force Work/Materials**
***Figure 700-1***