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700.01 General Requirements

700.01(1) DBE or MWBE Goals

Disadvantaged Business Enterprise (DBE) goals for federally funded projects are **condition of award goals**. In order for the bid to be considered responsive, the low bidder must either meet the established goal or demonstrate Good Faith Efforts in meeting the goal. The HQ External Civil Rights Branch establishes these goals and monitors DBE participation. Minority and Women's Business Enterprise (M/WBE) goals for state-funded projects are voluntary; however, the outreach efforts to provide M/WBEs maximum practicable opportunities are not. On state-funded projects, prime contractors shall submit an M/WBE Participation Plan as part of their responsibility, before work begins.

700.01(2) Alternate/Cumulative Bids

700.01(2)(a) 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 regarding 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 Users Guide](#).

700.01(2)(b) Cumulative Alternative Bids

Use in contracts when the award process is modified to include Cumulative Alternates. The region shall determine and notify the Ad and Award Office of the Funds Available. The bid items shall be segregated into a Base Bid and Alternates, as appropriate. Fill-ins consist of a brief description of the portion of the project or of the work that is included in the noted Alternates. The specification language may be adjusted to suit the number of Alternates.

For further information on how this is to be used in a project, see Division 1-02.6, General Special Provisions.

700.01(3) **Addenda**

Addenda are revisions to the plans and contract provisions that are made **during** the advertising period. Addenda are to be issued only when the revision will affect the contractor's ability to provide a responsible bid. Consult with the Region Plans Office to coordinate preparation and notification to plan holders.

Items to be considered for preparing addenda, which would affect the scope of work and the contractor's ability to accurately bid the project, might include:

- Material specification changes.
- New bid item(s).
- A substantial quantity revision (generally, a 25% or greater increase or decrease) for an item in the bid documents.
- A revision to a legal requirement in the contract.
- A new supplement or a revision to the Special Provisions.

Small adjustments to quantities, spelling, and punctuation, and design changes that do not affect quantity and relocation of 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:

- **Not required for addenda:** 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.
- **Addenda Required:** The addition of the one catch basin causes the 18-inch-diameter pipe item to increase from 985 feet to 1,250 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](#).

700.01(4) **Standard Plans**

WSDOT's *Standard Plans* are made a part of contracts by reference in the Special Provisions. Plan details that duplicate details in the *Standard Plans* are not to be drawn, 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.

700.01(5) Competitive Bidding, Proprietary Items, and Use of the Qualified Products List (QPL)

700.01(5)(a) Competitive Bidding

WSDOT uses competitively acquired products to fulfill the requirements of a contract whenever feasible. This helps achieve the lowest prices, the best product quality, and the most efficient use of resources.

There are several ways to specify bid items or materials in a contract that create a competitive bidding environment. Following are three different methods, listed in order of preference:

1. Specifying by Standard or Nonstandard Bid Items

This method doesn't use brand names. The contractor is allowed to choose the product, as long as it meets the requirements of the *Standard Specifications* and contract provisions. This method fosters a competitive bidding environment and does not require approval for proprietary items.

2. Specifying Brand Names and Allowing for Approved Equals

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 considered a proprietary 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):

- a. (feature)
- b. (feature)
- c. (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 clearly identified in the Special Provision.

3. Specifying at Least Three Brand Names

Listing a reasonable number (three or more) of brand names/models that are acceptable is a competitive bidding environment also and doesn't require approval. A performance specification is not required.

700.01(5)(b) Specifying Proprietary Items

There are instances in which competitive bidding may not or cannot be provided and a specific proprietary product is allowed. This applies to temporary items/ materials as well as permanent items/materials incorporated into the project.

By the Federal Highway Administration (FHWA) Stewardship Agreement, WSDOT has adopted the Code of Federal Regulations (CFR) for use of proprietary items on all projects. Specific guidelines regarding the use and certification of proprietary items are provided in [23 CFR Part 635.411](#). The CFR guidelines state that federal funds shall not participate, directly or indirectly, in payment for any proprietary product unless one of the following applies:

1. It is purchased or obtained through competitive bidding with equally suitable other items (the three methods found above).
2. It is certified that:
 - a. The proprietary item is essential for synchronization with existing highway facilities. Synchronization may be based on:
 - Function (the proprietary product is necessary for the satisfactory operation of the existing facility. A product could be essential due to the fact that 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,
 - Aesthetics (the proprietary product is necessary to match the visual appearance of existing facilities),
 - Logistics (the proprietary product is interchangeable with products in an agency's maintenance inventory), or
 - Any combination thereof.
 - Or
 - b. No other equally suitable alternative exists:
 - The product (or manufacturer) is one of a kind.
 - 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](http://www.wsdot.wa.gov/design/projectdev/proprietaryitems.htm)).
4. A proprietary product may be used when other equally suitable alternatives exist, if approved by the FHWA Division Administrator (for federal-aid projects) or by the Assistant State Design Engineer (for state-funded projects) because it is in the public's interest.

These guidelines are valid for state-funded projects also.

700.01(5)(c) Using Proprietary Items in Contracts

Prior to advertisement, the designer needs to request and receive written certification for any proprietary material, work, manufacturer, or product included in a project. It is the designer's responsibility to submit a memorandum of justification to the Assistant State Design Engineer in sufficient time for it to be reviewed and acted upon (sent to FHWA if required), and for adjustments to be made to the contract should the use be denied.

There are two basic types of requests that can be submitted for approval:

- Use of the proposed proprietary item will be allowed for regionwide or statewide use, referred to as a "blanket certification" (this is usually valid for a biennium). A copy of the original certification shall be placed in the Design File. Copies can be found on the "Current Blanket Proprietary Certifications" web page at:
[Ⓜ http://www.wsdot.wa.gov/design/projectdev/blanketapprovals.htm](http://www.wsdot.wa.gov/design/projectdev/blanketapprovals.htm)

- Use of the proposed proprietary item will be allowed for a specific project only (just for the duration of the project). The original signed certification shall be placed in the Design File.

An example of the memorandum of justification and a shell document can be seen at:

🔗 www.wsdot.wa.gov/design/projectdev/proprietaryitems.htm

Approval of a proprietary item does not override the federal specification for foreign steel (Buy America) or the applicable General Special Provisions (GSP, Division 1).

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

700.01(5)(d) Using the Qualified Products List

There is a definite difference between proprietary item specifying and brand name specifying, and the Qualified Products List (QPL) has nothing to do with either proprietary or brand name specifying.

The 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 on the QPL, there is no need to submit a Request for Approval of Manufacturer. For some products or materials on the QPL, there is no requirement to submit the items for testing prior to using the product or material on the project.

The preapproval of items in the QPL does not mean 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.

700.01(6) Buy America

Check with the Construction Office to verify whether or not this item is required for the project. Use this link to review the Buy America memorandums from FHWA and the HQ Construction Office: 🔗 www.wsdot.wa.gov/design/support.htm#america. Due to the conditions set forth by Buy America, both new and salvaged materials fall under the same requirements when applied to Buy America.

Buy America requirements do not apply to steel items that are considered to be temporary, such as form work or false work.

700.01(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, such as 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 affect 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.

700.01(7)(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, along with the proper fees.

700.01(8) 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 18.27.090](#): Contractors are exempt from contractor registration laws provided they are prequalified by WSDOT.
3. [RCW 18.104.048](#): Prior notice of well construction, reconstruction, or decommissioning of wells is required (see [700.01\(2\)\(a\)](#)).
4. [RCW 19.122.040](#): Existing utility locations (see [400.06](#) for the contents of this RCW).
5. [RCW 39.12](#): 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](#): State Force Work and materials (see [700.09\(11\)](#)).
9. [RCW 47.28.035](#): Related to [RCW 47.28.030](#), State Force Work and materials (see [700.09\(11\)](#)).
10. [RCW 47.28.070](#): Prequalification of contractors (see Section 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 60.28.011](#): WSDOT must hold 5% of the contract amount in reserve for material and worker claims. Contractors can post a bond in lieu of the 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.

700.01(9) Asbestos Removal

When the removal of asbestos or items containing asbestos is required, or when asbestos is 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.)

700.01(10) Permits

A conscientious effort shall be made to ensure all permits necessary for the project are completed and signed prior to the project going to Ad. However, in the event 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*.

700.01(11) Training Goals

The bid item for “Training” is to be provided on most federal-aid projects. For projects with federal-aid dollars, [23 CFR Part 230.111](#) requires all state highway agencies to review projects to determine their ability to support the inclusion of “Training Special Provisions” hours. The training goals, in terms of the total number of training hours required, are established by the HQ External Civil Rights Office. The number of training hours, if assigned to a project, is based on the following:

- Total estimated project labor hours
- Availability of minorities, women, and other disadvantaged individuals
- Potential for effective training
- Duration of the contract
- Dollar value of the contract
- Anticipated workforce size
- Project location
- Scopes of work

The region may submit a training recommendation for consideration by the HQ External Civil Rights Office. If the region is submitting a training recommendation, it needs to provide an estimation of total projected project labor hours.

Note: If you have any questions regarding either of the two programs referred to above, please contact the WSDOT Office of Equal Opportunity at 360-705-7090.

700.01(12) Assigning the Risk

It is important that the contractor be able to determine whether the risks on the project will be the contractor’s 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.

700.01(13) Agreements

All agreements necessary for the project should be 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 *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 should be the same as those in the PS&E.
- Another party 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.
- Though not common, 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, the GSP titled “Award of Contract” needs to be included in the contract provisions.

For agreements with an out clause, each bid item needs to be set up with a separate bid item name and placed in a separate group in the Summary of Quantities. A Special Provision needs to address each bid item.

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.

Additionally, agreements that include work that WSDOT’s contractor will perform, or work performed by others that WSDOT will reimburse a third party for, should be clearly stated in the project Special Provisions.

For more information on agreements, see the *Agreements Manual* or contact the HQ Utilities, Railroad, and Agreements Section.

700.01(14) Haul Road and Detour Agreements

When the project provides a materials source, or requires traffic to be detoured from the state highway, the region may be required to acquire agreements with the owners of the roads that will be used as the haul road or the detour route. (See the Haul Road/Detour Agreements chapter in the *Agreements Manual* for guidance.) The process of generating an agreement should be started as early in the design phase as possible. Discuss with region personnel responsible for processing agreements. The lack of a completed agreement may 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 road or detour for damage done to the road by the hauling equipment or by the extra traffic 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.

700.01(15) 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.

700.01(16) 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) (see [Appendix 6](#)) 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.

700.01(17) Liquidated Damages

700.01(17)(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.

There are two types of liquidated damages to be considered for a project:

1. Contract Time-Related Liquidated Damages

Liquidated damages for Physical 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. This situation may arise when an interim completion milestone is violated after all contract time has expired. Only the contract time-related liquidated damages may be assessed.

The designer must be able to identify and document the cost(s) 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.

2. Interim Completion of Phases (Staging)

Interim liquidated damages are monies assessed or withheld from the contractor's payment for failure to complete a part (phase or stage) of the project within a specific period of time identified in the Special Provisions.

Large or complex projects often have interim completion times, with liquidated damages for such things as failure to open a closed lane(s), ramp(s), or detour(s) to all traffic by a specified time, or for completion of all work identified for a specific stage or phase of a project as defined in the Special Provisions. 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, ramp, or roadway open to traffic, or to have an Intelligent Transportation System (ITS) operational at the specified time, are an estimate of the actual cost to the contracting agency and the traveling public for not having that portion of the road or ITS available. The Statewide Travel and Collision Data Office (STCDO) (formerly the HQ Transportation Data Office (TDO)) has standardized methodology for calculating the cost, based on traffic counts. This is the only acceptable way of calculating these costs (see http://wwwi.wsdot.wa.gov/planning/collisionandtraveldata/liquidated_intro.htm).

Once the designer has received these calculated costs from the STCDO, the region must make the determination whether or not 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 STCDO information is to be placed in the PS&E portion of the Project File.

700.01(18) Fuel Cost Adjustments

Check with the Construction Office to verify whether or not this item is required for the project.

700.01(19) Steel Cost Adjustment

Check with the Construction Office to verify whether or not this item is required for the project.

700.01(20) 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 that already have a standard item number.

If work can be measured and clearly identified, the design should use existing standard bid items. If the work is not quantifiable or cannot be easily measureable, the use of this item may be appropriate.

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.)

700.01(21) 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 must cover the complete item of work, including the description of work, materials, construction requirements (which includes the approximate quantities for bidding purposes), and payment statements. 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 is to be included in lump sum items. If any of these items are unknown/uncertain, payment at unit prices or by 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.

700.02 Earthwork

700.02(1) 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. (See [Division 6](#) for more information on developing a Special Provision.)

700.02(2) 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. Coordinate with the Region Landscape and Environmental offices on the proposed limits, and show these limits on the proper plan sheets.

If clearing requires the cutting of merchantable timber amounting to at least one log truck load (approximately 5,000 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.

700.02(3) Removal of Pavement, Sidewalks, or Curbs

When looking at work requiring removal of pavement, sidewalk, or curb, the method of measuring and paying for the work is determined on where work is occurring: within or outside the limits of an excavation area.

700.02(3)(a) Outside

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.

700.02(3)(b) Within

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.

700.02(4) 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. Consult with the Region Plans Office on how this information is to be presented.

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 and cost-effective means and operations of using the on-site material and the borrow to construct the embankments. In this situation, the borrow material quantities will appear only on the Summary of Quantities, and they will not be shown as a quantity on the roadway profile sheets. The designer needs to note in the Contract Plans or the Specials that the quantity of borrow shown in the Summary of Quantities is to be used to supplement the quantity of roadway excavation at his discretion for constructing embankments. Otherwise, the contractor will not know it is WSDOT's intent to have the two items used together.

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 roadway profile by showing the quantity arrow, indicating the station-to-station limits and quantity of borrow material needed for the embankment construction. 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 in 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. Therefore, show the common borrow quantity only in 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.

700.02(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.

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 use of this item requires a Special Provision and approval by the HQ Construction Office. Include the following information when requesting to use this item:

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

700.02(6) 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 Plans, Specifications, and Estimates (PS&E) portion of the Project File.

700.02(7) Shoring or Extra Excavation

All excavations of 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.

700.03 Production From Quarry and Pit Sites and Stockpiling

700.03(1) Materials Sources and Waste Sites

Materials sources provided by the contracting agency can be either mandatory or nonmandatory sites. For mandatory sites, verify with the region ASDE on the appropriate documentation needed, and refer to *Design Manual* Chapter 300 for approval authority of mandatory sites.

When mandatory materials sources or waste sites are specified, the region shall provide a memorandum of justification. For mandatory materials sources, justification shall be made 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 Project File.

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.

For any mandatory source or waste site to be used, coordinate with the Region Plans, Materials, and Environmental offices.

Bid items for work to be performed within a nonmandatory site are to be site-specific; for example, "Wire Fence Type 1 – QS-X-XX." (See the GSP for State Furnished Material Sources for more information.) 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.

700.03(2) Stockpiling Aggregates

Under the construction contract, the regions are authorized to spend M5 funds for acquisition of aggregates, 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

700.03(3) 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 only state funds are involved.

700.03(4) 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.

700.04 Bases**Vacant****700.05 Surface Treatments and Pavements****700.05(1) Asphalt for Fog Seal**

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

700.05(2) Soil Residual Herbicide

The item "Soil Residual Herbicide" should be used in conjunction with HMA, asphalt concrete sidewalks and paths, or parking lots only when very aggressive weeds that are capable of breaking through pavement are in the vicinity. Those weeds include equisetum and knotweeds. The designer is to check with the Maintenance Supervisor responsible for the area for a recommendation on whether soil residual herbicide is required.

700.05(3) Commercial HMA

Any quantity (tons) of Commercial HMA may be used for the following applications:

- Prelevel
- Sidewalks
- Ditches
- Paths
- Gores
- Digouts
- Road Approaches
- Slopes
- Trails
- Other nonstructural applications approved by the Project Engineer.

700.05(4) 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.

The roadway sections should show in the typical sections where and what type of prelevel is to be completed (wheel rutting or on a lane to correct a super rate issue) so that the contractor knows how to bid and what equipment is expected to be used.

700.05(5) 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.

Road 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. Place HMA quantities for each approach either in a table or in the Quantity Tabulation sheets.

700.05(6) 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.

700.05(7) HMA Price Adjustment

An HMA Price Adjustment is required for all projects containing Hot Mix Asphalt. Verify the correct HMA Price Adjustment with the Construction Office.

700.05(8) Other Price Adjustments

Check with the Construction Office to verify whether or not any other price adjustments are required for the project.

700.05(9) HMA Quality Assurance

As an incentive for contractors to provide superior quality HMA, the Washington State Department of Transportation (WSDOT) will pay a bonus of up to 5% of the unit bid price of the HMA. The bonus is comprised of 3% for the mixture and 2% for compaction. When a project calls for paving with HMA, the item “Job Mix Compliance Price Adjustment” (JMCPA) will be required. For HMA accepted by nonstatistical or commercial evaluation, this item is only used when there is nonconforming mix resulting in a credit. For HMA accepted by nonstatistical or commercial evaluation, the JMCPA will be -\$1 for the estimate. For HMA accepted by statistical evaluation, the JMCPA will be calculated using the following formula:

$$\text{JMCPA} = (0.03) (\text{TEC})$$

Where:

TEC = Summation of the Total Estimated Cost of HMA accepted by statistical evaluation.

Example:

Description Quantity Unit Price Est. Cost

HMA Cl. ½ IN. PG_ (2,600 tons) (\$70.00) = \$182,000

HMA for Preleveling Cl. ½ IN. PG_ (1,500 tons) (\$135.00) = N/A
(commercial evaluation)

HMA Cl. ¾ IN. PG_ (1,100tons) (\$82.00) = N/A (nonstatistical evaluation)

Summation of Total Est. Costs (TEC) = \$182,000

JMCPA = (0.03)(\$182,000)

JMCPA = \$5,460

Use \$5,500 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:

$$\text{CPA} = (0.02) (\text{TWTEC})$$

Where:

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

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 currently being constructed full depth 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 ½ 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

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

$$(27\text{ft}^3/\text{cy})$$

$$\text{TWTEC} = \$7,288.89$$

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

$$\text{TWTEC} = (300')(24')(0.15')(2.05\text{t/cy})(\$42/\text{ton})$$

$$(27\text{ft}^3/\text{cy})$$

$$\text{TWTEC} = \$3,444.00$$

Travel Way Total Est. Cost

$$(\text{TWTEC}) = \$10,732.89$$

$$\text{CPA} = (0.02)(\$10,732.89) = \$214.66$$

Use \$220 for “Compaction Price Adjustment”

700.06 Structures

700.06(1) 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:

- A plan and profile of the wall, with original and proposed ground profiles at the front and back faces of the wall.
- All existing utilities in the vicinity of the wall.
- Wall geometry.
- Right of way limits.
- Construction sequence and stage construction sequence requirements.
- Highest permissible elevation for foundation construction.
- Location, depth, and extent of unsuitable material.
- Quantities for the wall and backfill materials.
- 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 retaining wall alternates may be selected by the contractor and that all of these alternates are proprietary. On all federal-aid projects, two alternates 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.

700.07 Drainage Structures, Storm Sewers, Sanitary Sewers, Water Mains, and Conduits

Vacant

700.08 Miscellaneous Construction

700.08(1) Temporary Erosion and Sediment Control Plans

Chapter 6 of the *Highway Runoff Manual* provides detailed information on Temporary Erosion and Sediment Control (TESC) planning. The goal of TESC planning is to prevent erosion damage to projects and sediment-laden runoff that can harm the environment and waters of the state. WSDOT uses TESC Plans to meet the stormwater pollution prevention planning (SWPPP) requirements of the NPDES Construction Stormwater General Permit (CSWGP) issued in Washington by the Department of Ecology. A TESC Plan (which includes a narrative section and plan sheets) shall describe the site-specific erosion risks associated with the project and list the best management practices (BMPs) selected to reduce or eliminate the identified risks. A temporary erosion or sediment control BMP can be a design or procedural practice or a structural device that minimizes erosion or traps sediment prior to a discharge from the construction site.

A TESC Plan must be prepared if a construction project is covered by the CSWGP or if the project adds or replaces (removal of existing road surface down to base course) 2,000 square feet or more of impervious surface or disturbs 7,000 square feet or more of soil. Projects that don't meet these thresholds must manage erosion-related risks to prevent impacts to surface waters, but a complete TESC Plan (narrative section and plan sheets) is optional.

To be effective, the TESC Plan must contain contractually enforceable elements. The TESC Plan narrative must include site-specific project information about erosion-related risks that are not written as contract language. However, the narrative should make reference to relevant sections of the *Standard Specifications*, *Standard Plans*, General Special Provisions (GSP), and Special Provisions. Refer to Chapter 6 of the *Highway Runoff Manual* when designing a TESC Plan narrative.

TESC designers should keep in mind that TESC Plans (either the narrative or the plan sheets) are required to be adapted as needed throughout construction based on site conditions or discharge quality. TESC plan sheets should be designed to show site features that will impact erosion-related risk and a baseline plan for BMP installations. Listed below are the features that must be shown on the TESC plan sheets. Some of these features may not be known at the time the TESC plan sheets are designed. For example, the last two bulleted features will need to be written in once construction begins.

- Direction of north, property lines, existing structures, roads, and impervious surfaces.
- Cut and fill slopes indicating the top and bottom catch lines.
- Approximate contours and direction of stormwater flow before and after major grading.
- Clearing limits and actively worked areas.
- Stormwater treatment areas and BMPs.
- Locations of offsite material, stockpiles, waste storage, borrow areas, and storage yards covered by the CSWGP.
- Locations of all surface water bodies and receiving waters, including wetlands.
- Permitted temporary outfalls into receiving waters and discharge sample locations.
- Areas where final stabilization has been accomplished.

The contractually enforceable tools contained in the TESC Plan shall address the direct details 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 responsible for designing TESC Plans should attend the Construction Site Erosion & Sediment Control Course every three years. Multiple resources for TESC Plan preparation exist, including the *Highway Runoff Manual*, *Design Manual*, *Roadside Manual*, *Hydraulics Manual*, *Construction Site Erosion and Sediment Control Course Manual*, *Standard Specifications* (Section 8-01), and *Standard Plans*.

The WSDOT Environmental Services Office (ESO) Erosion Control Program maintains a SharePoint site, that has TESC planning guidance materials and a TESC Plan template. The TESC Plan designer reviews requirements, analyzes risk, selects BMPs, and identifies contractual tools to ensure enforcement of TESC Plans. The template provides step-by-step guidance on preparing the TESC narrative section. Other resources include Region Water Quality/Hydraulics Office staff, ESO staff, and the Statewide Erosion Control Lead.

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

700.08(2) Roadside Restoration and Considerations

The roadside blends the highway facility into the natural and built environment and provides operational, visual, and environmental functions. For all projects requiring work outside the shoulders, it is important that the designer consider the various functions and how the elements that meet these functions relate to each other. Contact the Region Landscape Architect or HQ Landscape Architect (for regions without one) to assist in meeting the functions and to determine ways to minimize and mitigate impacts to the roadside.

Earthwork can spread noxious and invasive species of weeds if these exist in the project vicinity. Long-term weed control issues within the roadside should be discussed with the area maintenance staff. If there are areas of noxious weed stands within the project limits, the designer should arrange to have WSDOT maintenance forces treat them prior to earth-moving activities, or the project should include weed control prior to this work. For projects that last through multiple seasons, weed control during the duration of the project should be specified for all areas within the right of way. If the project needs weed control (outside of planting areas), the separate weed control standard pay item must be included.

It is important to preserve existing desirable vegetation and to minimize disturbance and compaction of existing soils as much as possible. This will minimize water runoff, reduce erosion during the project, and reduce impacts that require restoration and mitigation.

The Roadside Policy Manual outlines requirements for vegetation preservation and revegetation. The Landscape Architect can assist the designer in fulfilling these requirements. The Roadside Restoration Worksheet should be referenced to determine the impacts and restoration needs that were determined for the project during the scoping process.

Consider the various elements of the project that are viewed by the highway user and from adjacent areas. Elements such as lighting standards, sign bridge types, traffic barriers, rockfall protection, bridge and wall design, textures and colors, contour grading, stormwater treatment and storage facilities, and vegetation blend the project into the context of the environment and provide a unified visual experience through the corridor.

Permanent vegetation provides erosion control, slope stabilization, weed minimization, and stormwater treatment and storage. Consider Context Sensitive design solutions (see [Design Manual Section 305.7](#)). The Landscape Architect can provide expertise to identify and blend visual elements.

Pedestrian facilities must be designed to be accessible by incorporating Americans with Disabilities Act of 1990 (ADA) standards.

700.08(3) Earthwork for Guardrail Terminals

It is important that the designer include the earthwork quantities required to construct widening needed for proper installation of 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 designer needs to add the quantity to account for these spot widenings.

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 or in some other logical breakout.

700.09 Other Contract Considerations

700.09(1) 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 [700.09\(4\)](#) for additional discussion on lump sum items.)

Work that is measurable—estimated cost of \$5,000 or greater—will be a separate bid item. However, if the work is minor—estimated cost of less than \$5,000—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. A nonstandard bid item is created to capture all of the work involved when combining bid items.

The designer must remember that if items of work are combined, additional information will be required to describe the work involved, to clearly identify what items are being combined, and that the quantities provided for the combined items need be more accurately calculated.

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 of estimating quantities 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.

700.09(1)(a) 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 is dependent on the amount of pipe installed and will increase or decrease as the length of pipe actually installed increases or decreases.

- 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 than 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.

700.09(1)(b) 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 each other. 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 that additional slope flattening is necessary within the original clearing and grubbing limits, it would be difficult to determine and justify an increase. The difficulty lies in the fact that clearing and grubbing is generally around \$6,000 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 that 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?

700.09(1)(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 and 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.”

700.09(2) 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 **or IT contracts, is not allowed without written approval from CPDM through the Assistant State Design Engineer.** This practice circumvents the state’s procedures and purchasing rules, **so Headquarters approval is required.**

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

700.09(3) Geotechnical Project Documentation

- (a) The Region Project Development Office or Terminal Engineering Department for WSF is responsible for notifying the HQ Geotechnical 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 PS&E document is near completion, all of the geotechnical design memoranda 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 has been 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; however, it 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 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 WSF projects, the WSF 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. It 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 Division.

700.09(4) 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 or not 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 may be times when it will be appropriate to include an item that might be needed. In these rare cases, it should be included as a force account item, so the Engineer has complete control of the work.

700.09(5) Managed Access Highways and Construction Rights

For work on managed access highways outside of incorporated areas, refer to [Design Manual 1340.03\(2\)](#), WSDOT Projects, for additional guidance.

700.09(6) Paths and Trails

WSDOT tracks expenditures for pedestrian and bicycle facility improvements so this information can be reported to the Legislature and the public, per [RCW 47.30](#). The information is also used to measure the performance of WSDOT's transportation system.

Paths and Trails Calculations

$$\left(\frac{X}{Y}\right) \times 100 = P\&T\%$$

Where: X = The summation of paths and trails-related items* (including mobilization, sales tax, engineering, and contingencies).

Y = The grand total of the project cost.

*Includes (but is not limited to) the items listed below. This paths and trails percentage needs to be included in your 100% PS&E turn-in cover memo when submitted to the Region Plans Office.

Features that are specifically for pedestrian and/or bicycle facilities need to be included in the paths and trails calculations. Overlaying an existing shoulder with HMA or bituminous surface treatment (BST) does not constitute the need for paths and trails calculations. Widening of a shoulder(s) that is part of a larger roadway-widening project is not to be included in the paths and trails calculations.

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

- Shared-use path
- Structures (specifically for nonmotorized use)
- Sidewalk
- Bike lane
- New curb ramp
- Curb extension
- Pedestrian refuge island
- Buffer strip (only a planter strip that is a minimum of 3 feet wide between the sidewalk and curb can be included)

Following MUTCD guidelines, signing and pavement markings associated with pedestrian and bicycle facilities may include:

- Crosswalks
- School crossings
- In-pavement flashing warning devices
- Preferential lane symbols and signing
- Pedestrian signals/detectors
- Bicycle-specific signals/detectors
- Pedestrian-scale lighting
- Bicycle facilities lighting

For these types of features, the paths and trails calculations shall include the entire cost to complete the work of each feature.

Constructing a dedicated bicycle or pedestrian facility is always preferable to widening shoulders, especially in urban or urbanizing areas. However, paths and trails calculations for bicycle and pedestrian facility improvements shall be calculated for roadway shoulders when all of the following conditions are met:

- The route is identified in a local, regional, or state plan as a priority bicycle connection.
- The widening of a shoulder is a stand-alone project to benefit bicycling and walking and is not part of a larger roadway-widening project or done to achieve other goals.
- The existing shoulder is widened to at least the minimum widths outlined in the *Design Manual* for accommodating bicyclists and pedestrians.
- The paths and trails calculations for this shoulder-widening work shall be 50% of all the costs included to complete the shoulder widening.

700.09(7) Salvaged Materials

Salvaged materials are items that do not become the contractor's property when removed as part of the contract. This material is to be used in future projects. For federal-aid projects, salvaged credits are governed by state procedures; however, they are subject to the requirements set forth by Buy America (see [Section 700.01\(6\)](#)). In accordance with FHWA Contract Administration Core Curriculum guidance, WSDOT has established the following procedure on salvaged material.

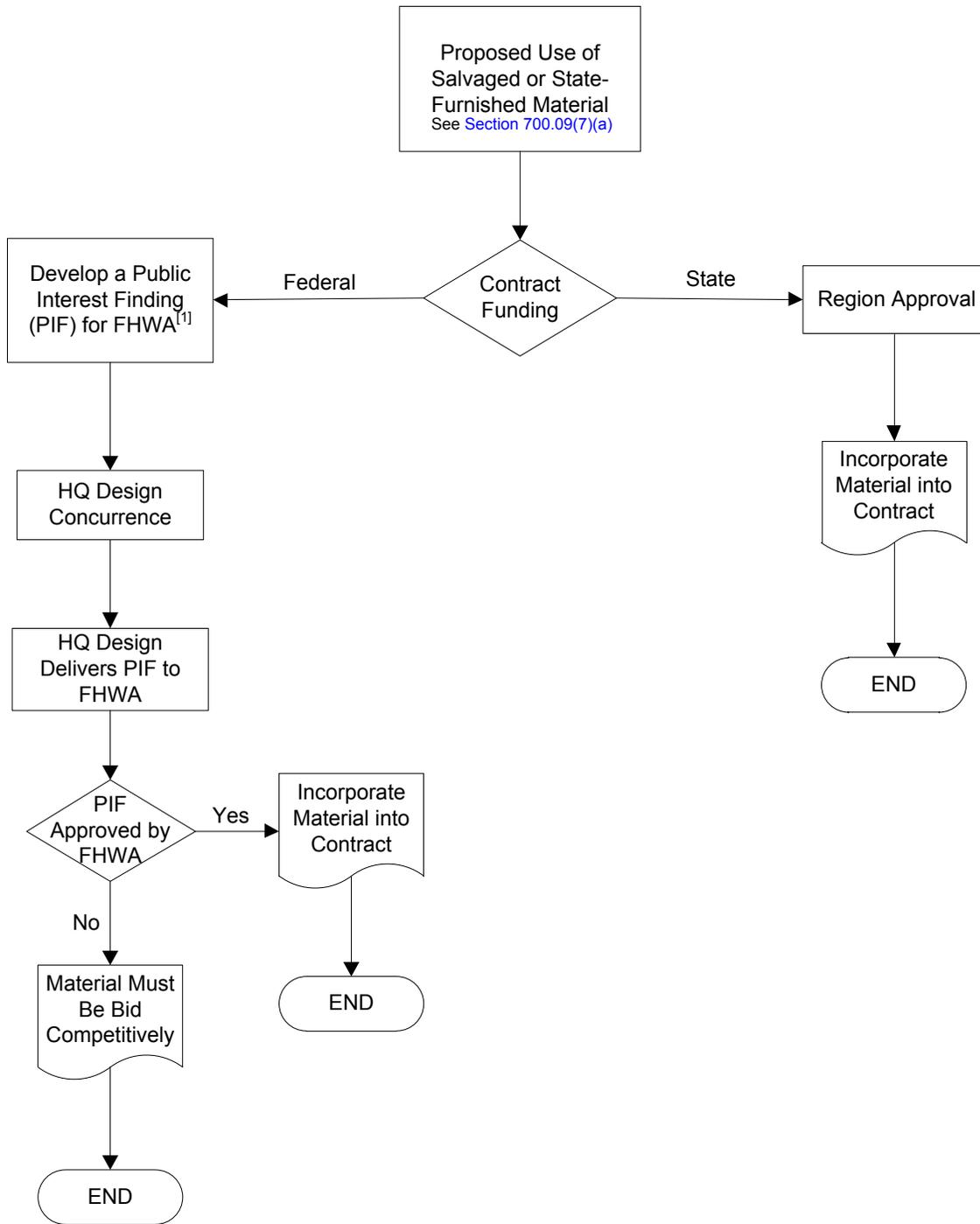
WSDOT procedure does not require a salvage credit on state-funded projects. Therefore, a salvage credit on a federal-aid-funded project is also not required.

700.09(7)(a) Use of Salvaged or State-Furnished Material

The Use of Salvaged or State-Furnished Material flow chart ([Figure 700-1](#)) details the procedures to follow when these types of materials are proposed to be incorporated in a contract.

The use of material acquired in other than competitive bidding may be waived under specific conditions if it is found to be in the public's interest. On federally funded projects, a Public Interest Finding (PIF) is required to be approved by the FHWA. The PIF will consist of a written document outlining the basis for the request and supporting documentation such as cost/benefit analysis, discussion of compatibility, logistical concerns, etc. For details on what is required for a PIF, refer to [23 USC 112](#) and [23 CFR 635](#).

For state-funded projects, the use of salvaged or state-furnished materials must be approved by the Region Administrator or to the delegated regional authority.



Notes:

[1] Refer to:

- [23 CFR 635.407](#), Use of Materials Made Available by Public Agency
- [Design Manual](#), Exhibit 300-4

Use of Salvaged or State-Furnished Material

Figure 700-1

700.09(8) Specializing 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 regarding the location of these parcels and the estimated dates of availability to the contractor. Region Real Estate Services 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 “specialized 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 specialized 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.

700.09(9) Standard Items

When a standard item exists, it should be used. 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 substantially affect the cost of the item and calling it the standard item. In these cases, it is best to develop a nonstandard item.

700.09(10) State Force Work or State-Furnished Materials

The State Force Work referenced is any and all state force labor, state-furnished materials, and/or state-furnished equipment to be paid utilizing construction dollars, unless specifically excluded as mentioned below (see [Figure 700-2](#)).

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](#).

700.09(10)(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.]

700.09(10)(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.]

700.09(10)(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/Furnished 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. Also, it must be reported to the Headquarters Office of Capital Program Development and Management when State Force Work is performed on federal-aid projects.

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-furnished material was purchased or whether it was purchased through competitive bidding or not, the cost of the state-furnished material is to be incorporated into the State Force Work/Furnished Materials total costs, and the limitations per [RCW 47.28.030](#) apply. Once an item is purchased and furnished to another contract, that item becomes state-furnished material. Refer to [Figure 700-2](#) and the [EBASE Users Guide](#) 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.

As of July 1, 2005, the maximum total dollar value of work done by state forces per construction project, including labor, materials, and equipment, is \$60,000 or up to \$100,000 if it is an emergency, as stated in [RCW 47.28.030](#). An increase in the dollar amounts in the RCW must go before the Legislature; currently, there are no additional increases built into the law.

700.09(10)(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.

700.09(10)(e) Exceptions

When the state provides materials and/or equipment and there is NO state labor performed by state forces on 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](#); therefore, no limit on state-furnished 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 (as with wetland mitigation sites, sundry sites, and other capital facilities), then [RCW 39.04](#) applies. This applies only to those areas outside of and unattached to existing state highway right of way.

Work that is **not** to be considered State Force Work includes: inspection of any type; materials testing; surveying; monitoring; public relations work; or any kind of investigation or research. If state forces do these types of work, they are 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 material or contractor installations meet 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. It 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, to ensure 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, materials 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 700-2](#), State Force Work/Materials).

700.09(10)(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 Legislature looked at the excessive increase in costs and considered raising the dollar limitation in the RCW accordingly?

AGO: In 1999 the 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 of 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-furnished 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 materials 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?

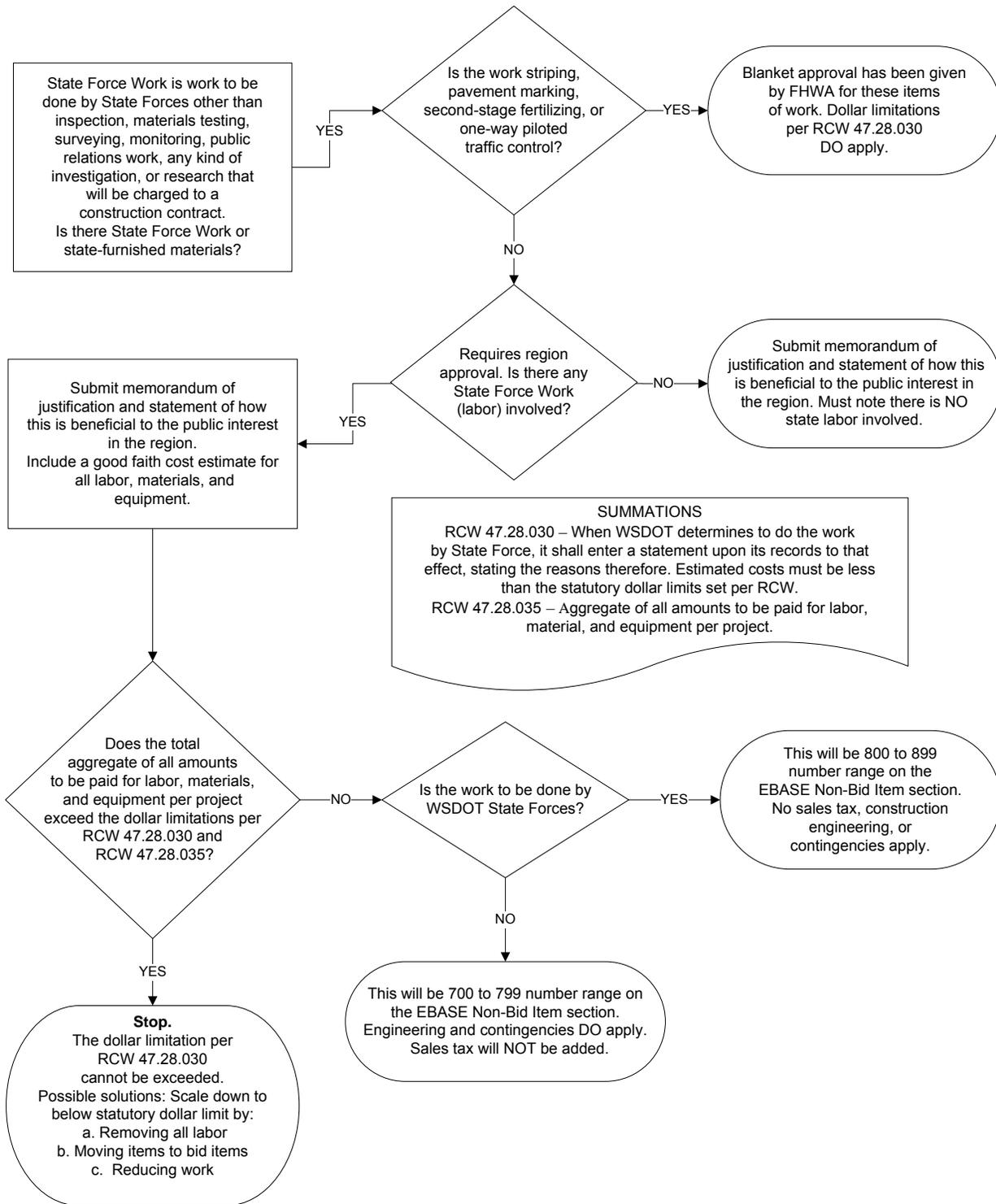
AGO: A good faith effort is required to justify and document the state force request during the project development phase. If, during construction, the actual costs exceed the estimated costs, this is considered an incremental increase. If this happens on a consistent basis, the original estimate will 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 47.28.030](#). 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 700-2](#), State Force Work/Materials).



State Force Work/Materials
 Figure 700-2

700.09(11) 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. Keep in mind 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 feasible 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 ensured.

700.09(12) Truck Measurement of Earthwork Quantities

Truck measurement can be utilized on projects with 5,000 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.

700.09(13) Truck Weigh 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](#).

700.09(14) Warranties and Guarantees

WSDOT may choose to include warranty clauses in federal-aid highway construction contracts as specified in Code of Federal Regulations (CFR), Title 23, Volume 1 (revised April 1, 2001), Part 635, under Subpart D – General Material Requirements Section 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) A 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 with 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.

700.09(15) Washington State Patrol Work Zone Enforcement and Assistance

If Washington State Patrol (WSP) use is warranted on a project, an estimated dollar amount shall be included in the project estimate as a below-the-line item. WSP enforcement duties will not be identified in the contract. If WSP assistance is to be used as a required element of the traffic control plans, it should be identified on the plans and provided as a resource to the contractor with a General Special Provision.

Refer to the [Traffic Manual](#), Appendix 5.A, for more information on when and how to include WSP in a project.

