

AASHTOWare Project Estimation



Quick Reference and Best Practices

General Guidance on Creating Cost Estimates

Steps for Pricing Best Practices

Once all the pay items and quantities are tabulated, the following steps are recommended for creating estimated prices. These steps represent a high-level workflow. Designers should use experience and good engineering judgement throughout the process.

1. Use **Reference Price Tasks** to price all the lump sum items that are a percent on top of the contract (Percent on Top).

Below are typical pay items and recommended percentages which will be used as Reference Prices (IDM 20-2.03). Pay Item #	Pay Item Desc.	Percent on Top
105-06845	Construction Engineering	1%
110-01001	Mobilization & Demobilization	5%
201-52370	Clearing Right of Way	2%

2. Price remaining lump sum items as **Ad Hoc** Prices. The **Find Bid Data** menu can be a helpful tool for finding similar contracts where a specific item has been used.
3. Run the narrowest **Bid History Profile** (likely the 6-month, district-specific profile) to obtain a reasonable (regression or average) price for all the items. In most cases, the narrowest profile will not result in a price for every item.
4. Continue to widen the selected **Bid History Profile** (6-month all, then 1-year district specific and so on) running the profile only on items without prices, until all reasonable profiles have been used.
5. For items where even the widest **Bid History Profile** will not return a reasonable unit price, **Item Groups** or **Similar Items** (see Select a Similar Items with More Data in *AWPe Training 107*) can be utilized for items with limited recent bid histories.
6. Once you have an initial set of prices, on the **Item Worksheet**, filter the **Extended Amount** column from highest to lowest. The items at the top with the highest total cost are where efforts should be focused when refining the estimate. This aligns with the 80:20 rule that states approximately 20% of the items contribute 80% of the cost.

7. Refining an estimate can involve:
 - a. Reviewing the item specific price data through the **Price vs. Quantity Analysis** (see Viewing and Modifying a Regression Curve in *AWPe Training 107*.)
 - b. Cycling through different **Bid History Profiles** and **Filters** to understand how time and location impact the bid history. Using the **Include/Exclude** feature to select and exclude outlier data points found in the Price vs. Quantity Analysis
 - c. The **Find Bid Data** menu can be used to search for recent similar projects and review those bids. A cost based on a similar project will need to be added as an **Ad Hoc Price**.

A full catalog of training resources can be found the [AASHTOWare Project Training Hub](#).

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Available Bid History Profiles

The following Bid History Profiles are available in the software. The list has been arranged from narrowest to widest. The widest Bid History Profiles should be used with caution since the software does not inflate prices to the current year's dollars. Whenever possible the narrowest Bid History Profile that returns a regression price should be used.

Bid History Profiles initially established by the Department:

- a. 6 month (District Specific)
- b. 6 month – ALL
- c. 1 year (District Specific)
- d. 1 year (R Contracts or B Contract Specific)
- e. 1 year – ALL
- f. 6 month – with Groups
- g. 1 year – with Groups
- h. 2 year – ALL
- i. 3 year – All?
- j. 5 year – ALL

Bid History Profile Definitions:

“District Specific” includes bids from projects only in the specific district specified

“ALL” includes bids from all projects across the state

“R/B Contracts” includes bids from any contract with an “R” or “B” respectively in the contract same. Historically “R” contracts included road work and “B” contracts included bridge work. Since the Department began bundling multiple projects in one contract this is a less dependable signifier of the work included in the contract.

Available Item Groups and included Pay Items

Item Groups are a set of similar items where it makes sense to group the bid data and use that data for less common items. These are especially useful for pay items where the specific size is included in the pay item name.

For example, the pay item Pile, STEEL H has at least 10 different sizes available. Here are the quantities used in 2025.

701-51195	PILE, STEEL H, HP 12 X 53	LFT	12,529.00
701-93575	PILE, STEEL H, HP, 14 X 73	LFT	1,404.00
701-93658	PILE, STEEL H, HP, 12 X 63	LFT	802.00
701-95780	PILE, STEEL H, HP 12 X 74	LFT	5,206.00
701-95782	PILE, STEEL H, HP, 12 X 84	LFT	2,153.00

Items with lower quantities may not have enough recent data to compute a regression or average price. To expand the data the Pile Steel H item group may be helpful. The group pulls bid data from following items:

Item Group Summary

▼ Item Group: PILE STEEL H - PILE STEEL H

General

Detail Items

Item ▼

Q 701-95782

PILE, STEEL H, HP, 12 X 84

Q 701-02936

PILE, STEEL H, HP 14 IN. X 89 IN.

Q 701-51195

PILE, STEEL H, HP 12 X 53

Q 701-93575

PILE, STEEL H, HP, 14 X 73

Q 701-93658

PILE, STEEL H, HP, 12 X 63

Q 701-95780

PILE, STEEL H, HP 12 X 74

Q 701-03921

PILE, STEEL H, HP 14 IN. X 102 IN.

Q 701-11361

PILE, STEEL H, EPOXY COATED, HP 12 X 74

Q 701-11858

PILE, STEEL H, EPOXY COATED, HP 12 X 53

Q 701-11898

PILE, STEEL H, HP 14 X 117

See AWPc Training 207 – Using Item Groups for guidance on how to use **Item Groups**.

Naming Convention

A **Project** will automatically be generated in AWP_e for each DES number. Designers do not have permissions in the program to make a **Project**, but will be able to make multiple cost estimates for an existing **Project**. Because the program required every estimate to have a unique name, designers need to familiarized themselves with the recommended naming conventions in *AWP_e Training 102 -Creating a New Cost Estimate*.

Additional Resources

The Contracts Administration Division publishes an [annual list of the pay items](#), total quantity used and average prices. Using these averages is not recommended, but the list can be a valuable tool for finding similar items that are more commonly used. That similar, more commonly used item can then be used in the **Price vs. Quantity Analysis** to estimate a unit price by substituting the data of a pay-item with an insufficient number of bids. See AWP_e Training 107 – Regression Unit Prices for guidance on how to use alternate items through a regression analysis.