Cost Estimating Guide

Welcome

The Cost Estimating Guide improves the consistency and quality of SPU infrastructure project cost estimates by providing step-by-step directions to people who develop and review cost estimates, including specifiers, project managers, engineers, and consultants.

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Questions?

Email SPU_CEG@seattle.gov for assistance.

1. Overview

Follow this guide when preparing cost estimates for all infrastructure projects. It is applicable to all infrastructure projects, including habitat and other "green" infrastructure projects, pipeline, storage, and other "gray" infrastructure projects.

Cost estimates prepared using this guide are used for the following purposes:

- helps with portfolio management and project prioritization
- developing proposed rates
- develop SPU's 6-year Capital Improvement Program (CIP)
- developing the CIP budget submittal
- evaluating options and making stage gate, value engineering, and other business decisions
- use in contract advertisements
- manage costs and ensure projects are completed within approved funding levels
- communicate project costs to internal and external stakeholders.

This guide provides templates and directions for preparing project cost estimates. You may need to supplement the guide with professional construction cost estimating expertise to develop high quality project estimates, especially on large or complex projects. If you can't find the answers to your cost estimating questions in this guide, please contact the Cost Estimating Guide support team at SPU_CEG@seattle.gov.

For small projects, the "Small Project Management Plan" included in the "Small Project Guidance" section of the Project Management Methodology may be used instead of the templates in the Cost Estimating Guide. The fundamental concepts of the guide are still valid for small projects.

1.1. Frequency of Cost Estimate Updates

Cost estimates typically are prepared and/or updated at the following times:

- During Initiation, to obtain Stage Gate 1 approval;
- During Options Analysis, as part of the Stage Gate 2 business case;
- Immediately following Stage Gate 2 approval, as part of developing the Project Management Plan (PMP);
- At 30% Design;
- At 60% Design;
- At 90% Design, to obtain Stage Gate 3 approval;
- At Final Design;
- Following bid opening, to obtain Stage Gate 4 approval; and
- At regular intervals during Construction, including Closeout.

Unlike the initial estimate and other updates, the update prepared for the Stage Gate 2 business case includes estimates for each option. The economic analysis in the business case at Stage Gate 2 compares the present value of Triple Bottom Line life cycle costs for all options.

In addition to the updates listed above, cost estimates are updated as part of SPU's change management process and are reviewed monthly in the Enterprise Project Management System (EPMS) and annually as part of SPU's budget and spending plan development processes.

1.2. Cost Estimate Guide Diagrams

Figure 1-1 shows the step-by-step process used to develop and update cost estimates. The remainder of this guide follows the order of these steps and provides directions for each step. Each time you update a project cost estimate, you need to update the Basis of Estimate and each Basis of Estimate update needs to describe what's changed.

Figure 1-2 shows the estimate components and how these components are aggregated.

Figure 1-3 shows cost estimate attributes and uses by project phase, including who is responsible for preparing estimates and updates, the expected approach and level of detail, the level of uncertainty at various times in the project delivery cycle, and the decision-making processes where cost estimates are used, including stage gates, rates and budgeting, and value engineering.

Figure 1-4 shows the methods used in each phase to estimate the main cost estimate components. The figure also shows how, as a project progresses through its phases, uncertainty decreases with successive updates of the cost estimate. As design details are developed, unknowns become known, the allowance for indeterminates decreases, identified risk events are passed, more rigorous estimating methods are used, actual project costs are incurred, the uncertainty in the estimated remaining project costs decreases, and the project reserves decrease.

1.3. Roles and Responsibilities

Roles and responsibilities for developing, compiling and reviewing cost estimates and basis of estimate documents vary depending on the stage of the project and whether the project is designed by in-house staff or consultants.

Figure 1-5A identifies tasks to be accomplished, who completes the task, and who reviews the work product by project stage for projects that are designed by in-house resources.

Figure 1-5B identifies tasks to be accomplished, who completes the task, and who reviews the work product by project stage for projects that are designed by consultants.

Figure 1-1:
Cost Estimating Process

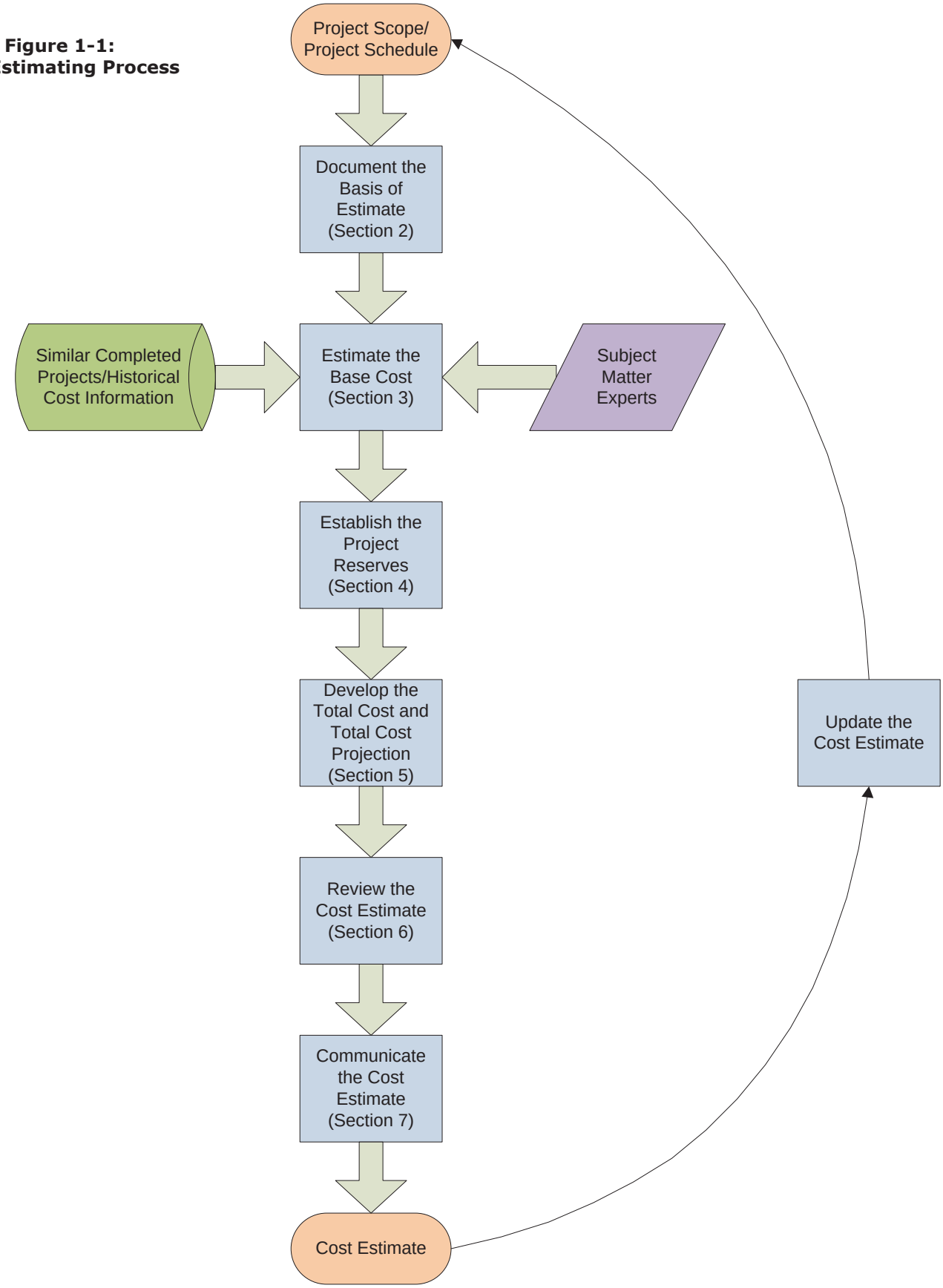


Figure 1-2 Cost Estimating Components

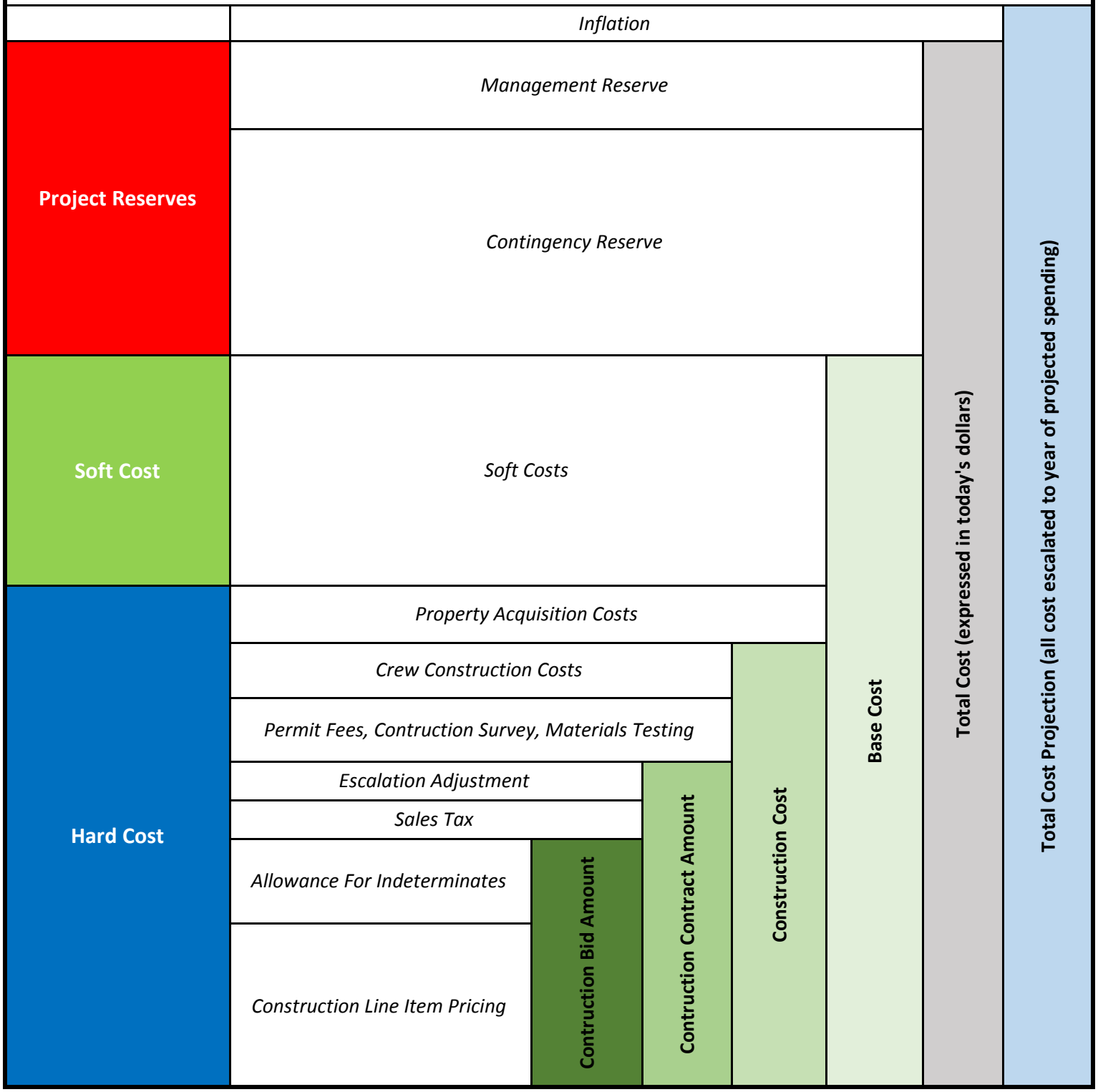
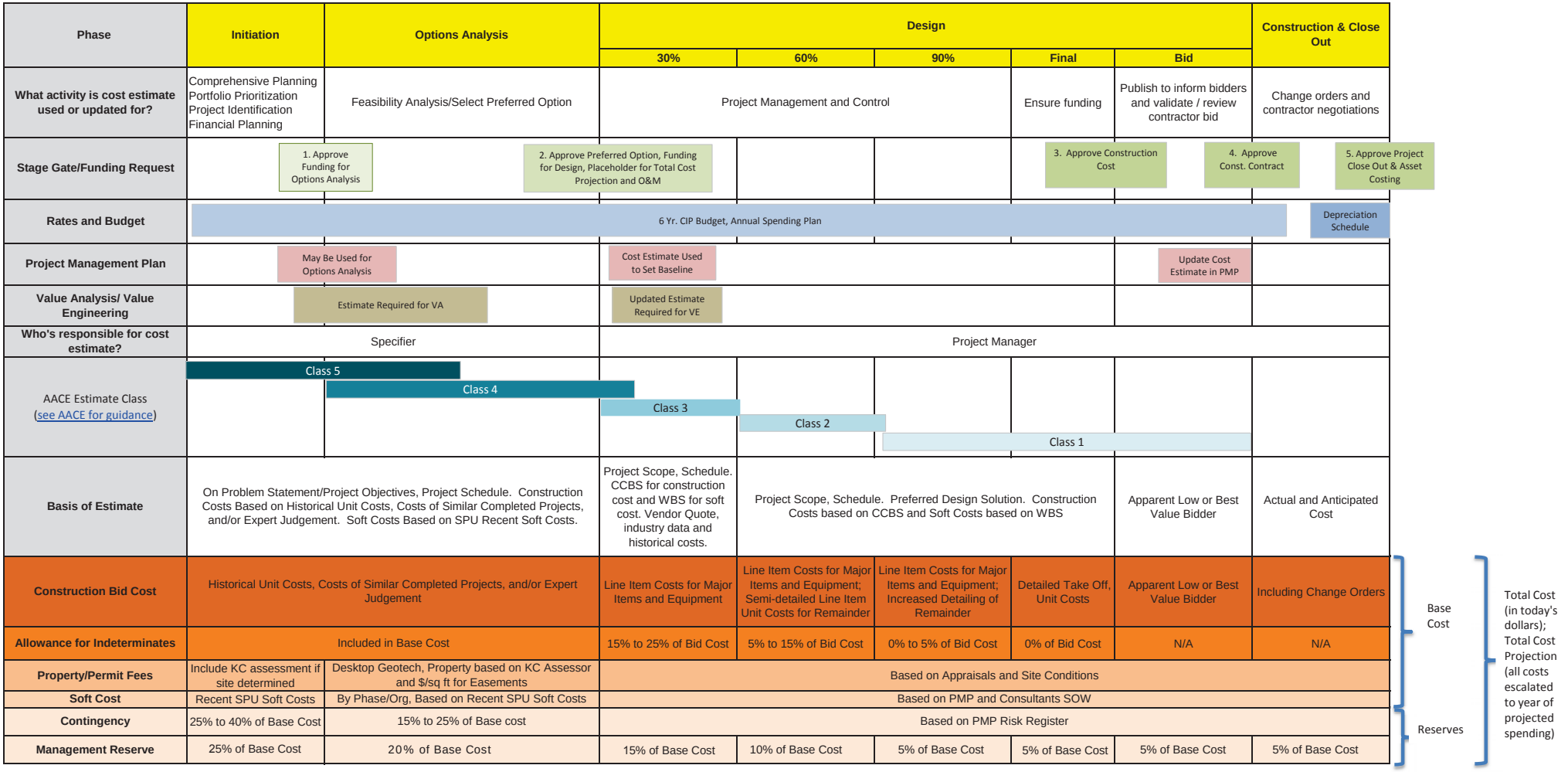
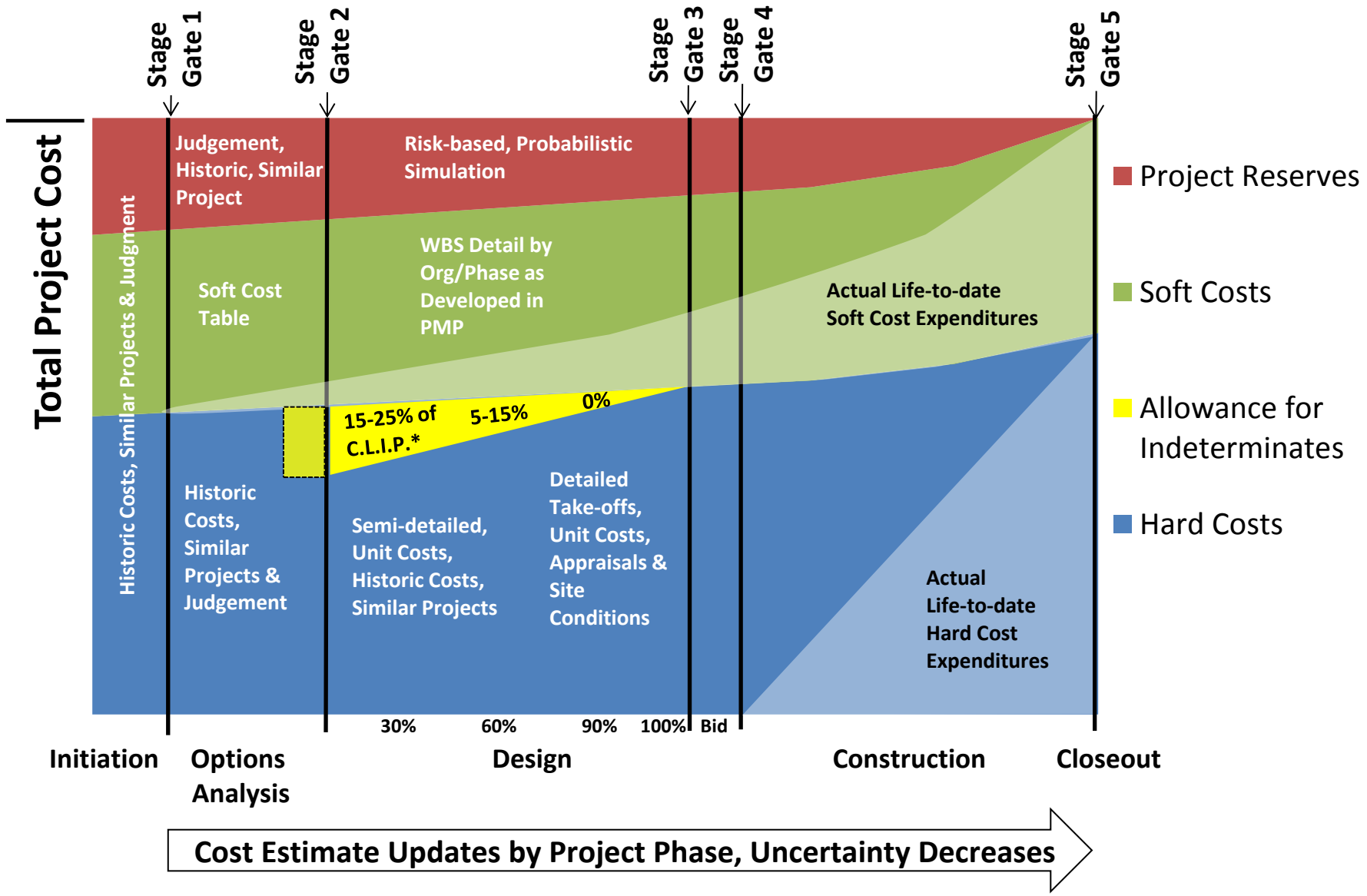


Figure 1-3: Cost Estimate Attributes and Uses by Project Phase



CIP - Capital Improvement Project, SOW - Scope of Work, CCBS - Construction Cost Breakdown Structure, WBS - Work Breakdown Structure, KC - King County, PMP - Project Management Plan,



*C.L.I.P. is Construction Line Item Pricing

Table 1-5A

Cost Estimating Roles and Responsibilities for In-House Design

Project Stage	Task	Preparer	Review
Project Initiation			
SG1	Total Project Cost for a Range of Options	• LOB Representative	• LOB Rep Supervisor
PMP1 (if applicable)	Cost Projection for Options Analysis Phase work(a)	• Project Manager input from PMP team (follow PM Methodology)	• PM Supervisor
Option Analysis			
Options analysis on all options	Create Basis of Estimate	• Project Engineer with input from Design Engineers	• CIP Design Section Supervisor
	Construction Contract Amount Estimate (CCAE)	• Design Engineer from each discipline compiled by Project Engineer	• Project Engineer • Cost Engineer
	Soft Cost Estimate , Property Acquisition, Reserves	• Project Manager	• PM Supervisor
SG2	Update Total Cost Projection for each option	• Project Engineer • Project Manager	• CIP Design Section Supervisor • PM Supervisor • Cost Engineer • Economist
Design			
PMP2	Soft Cost Estimate, Property Acquisition, and Reserves (b)	• Project Manager with input from PMP team	• PM Supervisor
30% and 60%	Update Basis of Estimate	• Project Engineer compiles input from Design Engineers	• CIP Design Section Supervisor
	Update CCAE	• Project Engineer compiles input from Design Engineers	• Project Engineer • Cost Engineer
	Update all other non- CCAE cost estimates (if necessary)	• Project Manager	• PM Supervisor
	Update Total Cost Projection	• Project Engineer • Project Manager	• CIP Design Section Supervisor • PM Supervisor • Cost Engineer
90% and Final Design	Update Basis of Estimate	• Public Works Contracts staff	• Public Works Contracts Supervisor • Cost Engineer
	CCAE (Engineer's estimate)	• Public Works Contracts staff	• Public Works Contracts Supervisor and Cost Engineer

Note: The PM is ultimately responsible to ensure that all elements of the cost estimating guide have been completed prior to finalizing for each milestone.

(a) A PMP1 is completed prior to SG1 and estimates the work only for Options Analysis phase.

(b) PMP2 for DWW LOB Projects is completed prior to SG2. In this case the soft cost generated during PMP 2 is used in the SG2 process for the recommended alternative.

Table 1-5B

Cost Estimating Roles and Responsibilities for Consultant Design

Project Stage	Task	Preparer	Review
Project Initiation			
SG1	Total Project Cost for a Range of Options	• LOB Representative	• LOB Rep Supervisor
PMP1 (if applicable)	Cost Projection for Options Analysis phase work(a)	• Project Manager input from PMP team (follow PM Methodology)	• PM Supervisor
Option Analysis			
Options analysis on all options	Create Basis of Estimate	• Consultant	• Consultant QC
	Construction Contract Amount Estimate (CCAE)	• Consultant	• Consultant QC
	Soft Cost Estimate , Property Acquisition, Reserves	• Project Manager • Consultant	• PM Supervisor
SG2	Update Total Cost Projection for each option	• Consultant • Project Manager	• Project Engineer • PM Supervisor • Cost Engineer • Economist
Design			
PMP2	Soft Cost Estimate, Property Acquisition, and Reserves (b)	• Project Manager input from PMP team and Consultant	• PM Supervisor
30% and 60%	Update Basis of Estimate	• Consultant	• Consultant QC
	Update CCAE	• Consultant	• Consultant QC
	Update all other non- CCAE cost estimates (if necessary)	• Project Manager	• PM Supervisor
	Update Total Cost Projection	• Consultant • Project Manager	• Project Engineer • PM Supervisor • Cost Engineer
90% and Final Design	Update Basis of Estimate	• Consultant	• Public Works Contracts Staff • Cost Engineer
	CCAE (Engineer's estimate)	• Consultant	• Public Works Contracts Staff • Cost Engineer

Note: The PM is ultimately responsible to ensure that all elements of the cost estimating guide have been completed prior to finalizing for each milestone.

(a) A PMP1 is completed prior to SG1 and estimates the work only for Options Analysis phase.

(b) PMP2 for DWW LOB Projects is completed prior to SG2. In this case the soft cost generated during PMP 2 is used in the SG2 process for the recommended alternative.

2. Document the Basis of Estimate

The **Basis of Estimate** summarizes the information, assumptions, and methodology used to develop a project cost estimate. A well-prepared Basis of Estimate helps people develop, understand, use, and update a cost estimate, and helps avoid estimating errors and omissions. Each time you update an estimate, update the Basis of Estimate and show what has changed. During the Options Analysis phase, complete one Basis of Estimate template, noting any differences between the alternatives that are being considered. If the options are substantially different, complete a separate Basis of Estimate for each alternative.

The topics you'll need to cover in a Basis of Estimate are listed below. Some may find it easier to go directly to the template, which includes instructions:

Tools and Templates

- Basis of Estimate Template Before Stage Gate 2
- Basis of Estimate Template Post Stage Gate 2

2.1. Determine the Appropriate Level of Detail

Use your best judgment to determine the appropriate level of detail in the Basis of Estimate. Consider the project size and complexity, the type of project, the degree of project definition (well-defined versus vague), and the number and type of estimate assumptions. The Basis of Estimate should include enough detail to communicate key assumptions, to enable an independent review of the estimate, and to provide a basis for change management.

2.2. Complete the Basis of Estimate Template

You'll need to provide basic template information, including the project name, activity number(s), line of business, estimate date, names, and roles of the estimators, and current project phase. A complete Basis of Estimate also includes the following information:

- Project Objectives
- Project Scope
- Project Location, including constraints and site issues
- Project Schedule
- Project Labor Resourcing Strategy
- Construction Contracting Strategy
- Cost Estimating Methodology and Sources of Information
- Allowances
- Other Assumptions
- Exceptions
- Risks
- Estimate Reviews
- How and Why the Estimate Has Changed (with each update)
- Benchmarking
- Reference Documents

Before Stage Gate 2 you may not have some of this information, but after Stage Gate 2 all of these sections should be completed. You may find it helpful to keep an estimate variance log to track how and why your estimate has changed. Benchmarking is especially helpful on projects with high cost uncertainty and/or significant changes in the overall estimate.

2.3. Where to Get Additional Information

Additional information on preparing a Basis of Estimate is available from the Association for the Advancement of Cost Engineering (AACE), Recommended Practice No. 34R-05, Cost Estimating and Budgeting—Basis of Estimate.

3. Inflation & Escalation Adjustment

Accounting for **Inflation, Escalation Adjustment & Contingency** is an inherently complicated issue. Understanding these concepts thoroughly will allow an estimator to avoid errors when applying them to their estimates. The following information provides a solid groundwork to understanding the implications of inflation, escalation adjustment and contingency.

Tools and References

- Seattle Public Utilities – Inflation and Escalation Adjustment
- Cost Estimate Template

The following material includes:

- Definitions
- Pre-Determined Values
- Additional Information

3.1. Inflation

A persistent increase in the level of consumer prices, or a persistent decline in the purchasing power of money, caused by an increase in available currency and credit beyond the proportion of available goods and services (AACE 2011). Inflation is the rate at which the general level of prices for goods and services is rising and, consequently, the purchasing power of a unit of money is falling.

Finance is currently instructing Project Managers to use an annual inflation rate of 2.3% for all cost projections. Enter the inflated cost projections into EPMS.

3.2. Escalation Adjustment

Escalation Adjustment can be defined as the change in price levels due to underlying economic conditions. Escalation Adjustment is affected by changes in price-drivers such as technology and productivity. Changes in the market conditions such as high demand, profit margins, and labor shortages also impacts escalation adjustment. As an estimator, escalation adjustment is another specific *risk* cost that must be accounted for. Accurately representing escalation adjustment is a complicated issue because the value varies between office and field labor, equipment, and bulk materials. Escalation adjustment can also vary between regions and procurement strategies.

Project Managers are instructed to use an escalation adjustment rate of 1.0% for construction cost projections for futures years. This rate will be compounding cost projections each year similar to the way general inflation is calculated. If you have any questions, please contact SPU_CEG@seattle.gov

3.3. Additional Information

Many terms are defined by the Association for the Advancement of Cost Engineering (AACE) can be found at the following location:

AACE Terminology Resource

Inflation is defined within this document.

When Completing the Cost Estimating Template "Cash Flow for Early Estimates" Tab, fill out only the items (cells) highlighted in yellow.

4. Estimate the Base Cost

The **Base Cost** is the sum of life-to- date and remaining project costs except Project Reserves, expressed in today's dollars. The Base Cost includes all Hard Costs, Soft Costs and Property Acquisition.

Hard Costs include contractor construction costs, an Allowance for Indeterminates (prior to 100% Design), sales tax (see Appendix B—Sales Tax Guide), permit fees, construction phase survey, construction materials testing, and crew construction costs. **Soft Costs** are non-construction labor costs. See Appendix A—Hard & Soft Costs Guide and Appendix D—Labor Overhead, Miscellaneous Fees for additional details. Property Acquisition costs are the actual cost associated with purchasing property rights for the project, not including labor.

The **Allowance for Indeterminates (AFI)** provides an estimated cost to address known construction scope that cannot yet be accurately quantified during the design phases[1]; this allowance is highest at 30% Design and decreases as design details are finalized.

What follows are the steps for preparing the Base Cost, listed in the order they should be followed. Some may find it easier to jump directly to the Cost Estimate Template.

Tools and Templates

- Cost Estimate Template

4.1. Estimate the Construction Bid Amount[2]

4.1.1 Before Stage Gate 2 Approval

A. Estimate the construction bid amount using: historical unit costs expressed in cost/linear foot, cost/square foot, cost/gallon, etc. (also known as **parametric estimating**), the construction costs of similar completed projects (also known as **analogous estimating**), or professional cost estimating judgment.

Summary Cost items used to calculate an estimate at this phase should only be for the major items of work. Each Summary Cost Item should include all work required to construct that major item of work. There may only be one cost item on some projects (combined sewer pipe), or several (stormwater pipe, storm water tank, storm water above ground storage), but usually not more than 5 major summary cost items on a project. It is important to document the assumptions behind the Summary Cost Items in your Basis of Estimate.

[1] Typically AFIs are first used at the 30% Design phase but could be used earlier if the scope is well defined (e.g. multiple drawing sheets to take quantities off of) allowing the estimate to be based on construction bid items and not parametric or analogous cost estimates.

[2] The estimated Construction Bid Amount is also called the **Engineer's Estimate**.

B. Adjust your parametric or analogous estimate to today's dollars. The SPU Cost Engineer determines when it is appropriate for cost estimates to include Escalation Adjustment and what that adjustment should be.

4.1.2. After Stage Gate 2 Approval

Include the Stage Gate 2 construction cost estimate, modified if necessary to reflect the approved scope of work, in the Project Management Plan (PMP) that is prepared immediately following Stage Gate 2. For projects that have reached 30% Design (and projects not yet at 30% Design if there is enough information to prepare a Class 3 estimate), follow the steps in this section, which parallel this equation:

Construction Bid Amount = Construction Line Item Pricing (in today's dollars) + AFI

A. Choose American Public Works Association (APWA) formatting for pipeline projects and other horizontal construction or Construction Specifications Institute (CSI) formatting for storage facilities, pump stations, and other vertical construction.

B. In the Cost Estimate Template, populate the Construction Contract Amount Worksheet with bid items and quantity estimates from the APWA and CSI Bid Item lists.

Item	Bid Item	Bid Item Description	Quantity	Unit	Unit Price	
1	107005	SAFETY AND HEALTH PROGRAM		LS	$ 2,000.00	$
2	107010	PERSONAL PROTECTIVE EQUIPMENT, LEVEL B		PDAY	$ 500.00	$
3	109005	MOBILIZATION		LS	$ -	$
4						$

Be sure to include the contractor's costs for any environmental remediation or demolition work, and always include the contractor's costs for commissioning and startup, including the cost of spare parts.

C. Add estimated bid item costs and unit costs, and include contractor overhead, mark-ups, and profit within the unit costs.

D. The worksheet automatically multiplies the quantities and unit costs to obtain a unit price extension and sums the results to obtain the Construction Line Item Pricing.

E. Add an appropriate Allowance for Indeterminates (AFI) based on the specifics of the design.

On smaller projects with limited uncertainties, it would be appropriate to assume a single AFI equal to a percent of the Construction Line Item Pricing as shown in Table 4-1 below.

Table 4-1: Allowance for Indeterminate Ranges

Project Phase	Amount to Include for AFI, Expressed as Percent of the Construction Line Item Pricing
Initiation	Already included in parametric and analogous estimates
Options Analysis[3]	Already included in parametric and analogous estimates
30% Design	15—25%
60% Design	5—15%
90% Design	0—5%
100% Design	0%

On larger, more complex projects, and projects that have more uncertainty regarding site conditions or other project elements, it may be appropriate for the construction cost estimator to estimate and identify the components of the AFI individually (e.g., sitework AFI, drainage AFI, piping AFI, electrical AFI, instrumentation & control AFI, HVAC AFI, etc.).

Before the AFI(s) is calculated, make sure the Basis of Estimate describes how the AFI(s) will be estimated and why you've chosen this approach. Label the new total the Construction Bid Amount.

4.2. Estimate Sales Tax and Construction Contract Amount

Multiply the Construction Bid Amount by the applicable sales tax rate to obtain the estimated sales tax. Add the resulting sales tax to the Construction Bid Amount and label it Construction Contract Amount:

Construction Contract Amount = Construction Bid Amount + Sales Tax

If your Construction Bid Amount is based on historical data or the costs of similar completed projects, make sure sales tax isn't already included in the historical data.

4.3. Estimate the Construction Cost

4.3.1. Estimate Miscellaneous Hard Costs

Estimate the cost of permit fees (not including the costs to prepare permit applications, which are included in the project Soft Costs). Also estimate the costs to conduct construction phase site survey work and construction phase materials testing by adding the SPU-provided labor, overhead, and materials costs. Enter each of these costs as line items in the cost estimate. If your estimate is based on historical data or the costs of similar completed projects, make sure these costs aren't already included in the historical data. See Appendix A—Hard and Soft Costs Guide for additional details on miscellaneous hard costs.

[3] Applying an AFI on an Options Analysis estimate would be appropriate if the scope is well defined (e.g. multiple drawing sheets to take quantities off of) allowing the estimate to be based on construction bid items and not parametric or analogous cost estimates.

4.3.2. Estimate Crew Construction Costs

Estimate the crew construction costs by adding the SPU-provided labor, overhead, equipment, and material costs. If your estimate is based on historical data or the costs of similar completed projects, make sure these costs aren't already included in the historical data.

4.3.3. Total the Construction Cost/Hard Cost

Construction Contract Amount
Miscellaneous Hard Costs
\+ Crew Construction
Construction Cost

Construction Cost = Hard Costs

4.4. Estimate Soft Costs

4.4.1. Before Stage Gate 2 Approval

If the project is in Initiation or Options Analysis, use actual soft cost percentages by project phase from recently completed SPU infrastructure projects as a guide (see Table 4-2). If you adjust the percentages based on professional judgment, document the reasons in your Basis of Estimate.

Table 4-2: Soft Costs by Phase (Expressed as % of Hard Costs)[4]

Project Phase	Soft Costs as a Percent of Hard Costs			
	Large Projects[5]		Small to Mid-Sized Projects	
	Water	Drainage and Wastewater	Water	Drainage and Wastewater
Initiation	0.8%	1%	1%	1.2%
Options Analysis	2.3%	3%	3%	3.7%
Design	19.5%	24.5%	25%	30%
Construction	15.7%	19.6%	20%	23.9%
Closeout	0.8%	1%	1%	1.2%
Total	**39%**	**49%**	**50%**	**60%**

[4] Table 4-2, Table 4-3, and Table 4-4 are based on 130 projects completed between 1998-2010 [5] For Table 4-2 and Table 4-3, large projects have a Total Cost Projection > $5M

Table 4-3: Soft Costs Expressed as a Percent of Hard Costs and as a Percent of Total Cost

Type of Project	Soft Costs as a Percent of Hard Costs	Soft Costs as a Percent of Total Cost
Large water projects (TCP>$5M)	39%	28%
Large drainage or wastewater projects (TCP>$5M)	49%	33%
Small to mid-size water projects	50%	33%
Small to mid-size drainage or wastewater projects	60%	38%

4.4.2. After Stage Gate 2 Approval

After Stage Gate 2 approval, project teams use the Project Management Methodology to estimate soft costs through the development of a Project Management Plan (PMP). Be sure to include life-to-date labor and externally driven Soft Costs such as the public works contracting fees charged by the Department of Finance and Administration (FAS) and SPU non-construction vehicle O&M costs. Once you have finished estimating the Soft Costs in the PMP, use Table 4-3 as a reality check.

Table 4-4: Soft Costs by Low Org

SPU Branch	Low Org	Division or Section	Soft Costs as % of Hard Costs	Soft Costs as % of Total Cost
Project Delivery	WS480	Project Management & Engineering Division	23.5%	15.3%
	WS434	Technical Resources	1.4%	0.9%
	WS433	Land Survey	1.1%	0.7%
	WS424	Contracts & Standards	2.0%	1.3%
	WS421	Construction Engineering	7.4%	4.8%
	WS422	Contract Administration	1.4%	0.9%
	WS423	Materials Lab	1.6%	1.0%
	Other	various	0.7%	0.5%
	Total Project Delivery		39.0%	25.4%
Utility Systems Management			5.3%	3.4%
Field Operations & Maintenance			3.8%	2.5%
F&A, Director's Office			1.4%	0.9%
Customer Service			1.1%	0.7%
Other			3.2%	2.1%
Total Soft Cost			**53.9%**	**35.0%**

4.5. Estimate Property Acquisition Costs

Estimate the property acquisition costs. Include only the cost of the property and/or easements; **do not include the labor or other costs of negotiating sales price or property agreements**.

4.6. Compile the Base Cost

Hard Costs + Soft Costs + Property Acquisition Costs = Base Cost

5. Establish Project Reserves

Project Reserves are the combination of Contingency Reserve and Management Reserve. **Contingency Reserve** is an amount added to the Base Cost to cover identified risk events that occur on the project, excluding changes in project scope; once a project has passed Stage Gate 2, these risks and contingency response plans are identified in the Risk Management Plan. **Management Reserve** is an amount added to the Base Cost to cover unidentified risk events that occur on the project, including minor changes in project scope. Examples of Contingency Reserve and Management Reserve are provided in Appendix C.

Figure 1-4, from Chapter 1 shows how Project Reserves are drawn down as a project is delivered. What follows are the steps for establishing the Project Reserves, which are entered on the Cost Estimate Template.

Tools and Templates

- Cost Estimate Template

5.1. Determine the Contingency Reserve

5.1.1. All Projects Before Stage Gate 2 Approval

Before Stage Gate 2 approval, establish the Contingency Reserve by adding an appropriate percentage of the Base Cost (see Table 4-1). The lower end of each range assumes that the known risks have lower probability and/or consequences. The higher end of each range assumes that the known risks have higher probability and/or consequences. Unusually complex or simple projects may use higher or lower contingencies, respectively.

Summarize known project risks and their probability and consequences in your Basis of Estimate, and use the information to determine the appropriate Contingency Reserve using the ranges provided in Table 4-1. If your estimate is based on unit costs (e.g., cost/linear foot, cost/square foot, cost/gallon), make sure Contingency Reserve isn't already included in the unit costs.

Table 5-1: Contingency Reserve Guidelines Through Stage Gate 2

Project Phase	AACE Estimate Class[1]	Contingency Reserve as % of Base Cost
Initiation	Class 5	25—40%
Options Analysis	Class 4	15—25%

[1] See the AACE Cost Estimate Classification System for details

5.1.2. Most Projects Following Stage Gate 2

After projects pass Stage Gate 2, project teams follow SPU's Project Management Methodology to develop a Risk Plan through the Risk Register template. Determine the phase the risk is likely to occur, identify the minimum cost impact, the maximum cost impact, the probability rating, manageability rating and a response strategy. If the risks require contingent responses, it will calculate the contingency reserve.

One of the outcomes of developing a Risk Plan is a Contingency Reserve amount which is based on the probability and impact of risks chosen to be covered by a contingency response plan. The range of risks evaluated includes but is not limited to the following:

- Clarity and degree of project definition
- Size and complexity of project
- Inclusion of new technology on the project
- Quality of reference cost data
- Maturity of organizational and management system and control processes
- Experience of project team

The summation of the Contingent Reserves should be equal to or less than the Contingency Reserves amount estimated for Stage Gate 2 Approval. If the Contingent Reserve amount is greater, then management reserves may need to be used with the approval of the Deputy Director of the Project Delivery and Engineering Branch for Risks that were previously unidentified.

5.1.3. Some Large Projects Following Stage Gate 2

SPU is interested in using Probabilistic Simulation to establish Contingency Reserve on large projects (greater than $5M Total Cost Projection). This Guide will be revised to include directions after the approach is piloted on a few projects.

Probabilistic Simulation is a mathematical method used to quantitatively assess project risk. The first step involves identifying bid items (from the Construction Cost Estimate) and risk items (from the Risk Register) that have high cost variability or high schedule variability, either of which can have a significant impact on project cost. Then, a computer program is used to perform repetitive calculations where the estimated cost of each of these variable items is selected randomly from within the most probable range. The result is a range of possible cost outcomes and the probabilities they will occur. The Contingency Reserve is set based on the difference between the Base Cost and the estimated likely-to-not-exceed cost corresponding to a selected % confidence level.

If your project is in the pilot group, during development of the Risk Management Plan you will need to work with a specialist who has working knowledge of a Probabilistic Simulation computer software program (for example, Crystal Ball, @RISK), in order to run the simulation, analyze the results, and set a Contingency Reserve.

5.2 Determine the Management Reserve

Establish the Management Reserve by adding a percentage of the Base Cost, as shown in Table 5-2. The lower end of each range assumes there is a high degree of confidence the project will not have a lot of unanticipated costs. The higher end of each range assumes there are a lot of unknowns on the project so it is anticipated there will be a higher level of unanticipated costs. Unusually, complex or simple projects may use higher or lower Management Reserve, respectively. Be sure to summarize project unknowns in your Basis of Estimate, and use this information to determine the appropriate Management Reserve target from the range provided in Table 5-2.

Table 5-2: Management Reserve Guidelines

Project Phase	AACE Estimate Class[2]	Management Reserve as % of Base Cost
Initiation	Class 5	25%
Options Analysis	Class 4	20%
30% Design	Class 3	15%
60% Design	Class 2	10%
90%/Final Design	Class 1	5%

SPU Original Table

5.3 Compile the Project Reserves

Add the Contingency and Management Reserves to obtain the Project Reserves.

[2] See the AACE Cost Estimate Classification System for details

6. Develop the Total Cost and the Total Cost Projection

The **Total Cost** is the sum of the Base Cost and the Project Reserves, expressed in today's dollars. The **Total Cost Projection** is the Total Cost inflated and adjustment for escalation to the expected year of spending. **Inflated and Escalated estimates** are calculated by adding expected inflation and escalation adjustment to estimates that have been calculated in today's dollars.

The economic analysis in Stage Gate 2 uses Total Cost, expressed in today's dollars[2] to ensure an apples-to-apples comparison of all the options. Total Cost Projection, expressed in inflated and escalation adjusted dollars, is used in the Funding and Schedule Request section of Stage Gate 2, and is the estimated project cost for all internal and external communications.

What follows are the steps for preparing the Total Cost and the Total Cost Projection. Some may find it easier to jump directly to the template.

Tools and Templates

- Cost Estimate Template

6.1. Compile the Total Cost

Base Cost + Project Reserves = Total Cost.

6.2. Forecast the Cash Flow

Spread the Total Cost in a cash flow forecast, showing life-to-date actual costs and projected expenditures by year, expressed in today's dollars and based on the project schedule. The cash flow should take into consideration the 2-month lag that typically occurs between completion of consultant and construction contractor work, invoicing, and payment. If the project schedule changes, you will need to adjust and re-inflate the cash flow.

6.3. Inflate the Cash Flow to the Projected Year of Spending

Multiply the annual cash flow by the approved annual rate of inflation and escalation adjustment. Use the resulting cash flow in EPMS and anywhere project cash flow is reported.

6.4. Obtain the Total Cost Projection

Total the life-to-date actual costs, the inflated and the adjusted annual spending forecasts. The result is the Total Cost Projection. Use the Total Cost Projection whenever you need to provide an estimate of what the project will cost, including when you request AMC funding authorization, when you report total cost projections in EPMS, and when you tell SPU management, elected officials, stakeholders, or the community what the project will cost.

[1] Today's dollars are also called "constant" or "real" dollars.

6.5. Express Total Cost Projection in a Range

Once the Total Cost Projection is developed, you'll need to present it as a "most likely" estimate as well as in a range that communicates the relative uncertainty of the estimate. Use the AACE Cost Estimate Classification System as a guide. Typical ranges are summarized in Table 5-1. Apply the ranges to the Total Cost Projection to obtain the estimated cost range. Note that cost ranges are used only to communicate the level of cost uncertainty; they are not part of the authorized project spending nor are the ranges tracked in SUMMIT or EPMS.

Table 6-1: Typical Range of Estimate Uncertainty by AACE Class Estimate

Project Phase	AACE Estimate Class	Stage Gate	Typical Uncertainty as a Range, %
Initiation	Class 5	SG1	-30% to +50%
Options Analysis	Class 4	SG2	-20% to +30%
30% Design	Class 3	SG2	-15% to +20%
60% Design	Class 2	SG2	-10% to +15%
90%/Final Design	Class 1	SG3	-5% to +10%

7. Review the Cost Estimate

Estimates are checked for quality and accuracy and to ensure that they are organized correctly and include all required information.

What follows are the steps for conducting an estimate review. Some may find it easier to jump directly to the checklist, which includes instructions.

Tools and Templates

- Estimate Review Checklist

7.1 Determine the Appropriate Types of Review

All estimate reviews start with a checker's review. The next required step for all projects that have reached 30% design is a detailed review, which is scaled in scope and magnitude to be commensurate with the size and complexity of the project. Cost estimates for large and/or complex projects may also be reviewed by other internal groups, external reviewers, and management. Independent estimates may also be prepared as needed. Project size and complexity are the most important drivers in determining whether these additional types of review are appropriate.

Refer to Table 1-5A and 1-5B—Cost Estimating Roles and Responsibilities for both In-House and Consultant Estimate Reviews.

Before you have the reviewers begin the estimate review process, you may want to prepare a second version of the construction cost estimate that lists the construction cost items in order of magnitude (i.e., highest cost line items at the top, lowest at the bottom). That way, reviewers can focus on the cost items that contribute to about 80% of the cost (usually on a single page), and check to see if they are reasonable. This expedites review and avoids having the reviewer focus on cost items that do not contribute significantly to the overall cost.

7.2. Complete the First Level Review

The assigned project checker conducts this review, but the role may be assigned to a designated person with cost estimating experience.

A. Check the Basis of Estimate to ensure it is correct and complete. Make sure the scope, assumptions, and estimating approach and methodologies are described clearly. Verify that the estimating methodologies are appropriate to the state or class of the project. Confirm that any significant changes from previous estimates are identified and explained.

B. Check the math – quantities, prices and arithmetic. Spot-check spreadsheet formulas and totals.

C. Confirm that the overall cost and schedule are reasonable for the project scope, size, location and complexity.

D. Verify that allowances and multipliers are appropriate to the stage or class of the estimate.

E. Ensure that detailed and summary information is presented in the proper format.

F. Ensure that backup information is organized, and that it's easy to see how the backup information supports information in the estimate summary.

G. Document your findings and return the estimate to the cost estimator, who is responsible for reconciling and revising the estimate as needed to respond to review comments.

7.3. Complete the Detailed Review

Detailed reviews are performed for all projects that have reached at least 30% design. This review is also conducted by the assigned project checker. Ideally, they are performed by people with cost estimating experience who are familiar with the type of work in the project and who have not been involved in developing the cost estimate. On large projects, you may want to have another City department, SPU Branch, PDEB project team, or consultant (if skilled City cost estimators are not available) conduct the review to ensure objectivity.

Detailed reviews start with the steps A-F, listed in the section 6.2. In addition:

A. Spot-check in detail any cost items that would have significant cost impacts if estimated incorrectly. You may need to consult with design engineers, construction managers, or other estimators on specialty equipment and work. On large cost items of larger projects, your spot check may need to include a quick takeoff from the pertinent plans or a separate estimate using a different estimating methodology.

B. Whenever possible, validate the estimate by comparing the cost and schedule to similar past projects, verifying that hard and Soft Costs are reasonable, Project Reserves are appropriate, etc.

C. Document your findings and return the estimate to the cost estimator, who is responsible for reconciling and revising the estimate as needed to respond to review comments.

7.4. Prepare an Independent Construction Estimate

For projects that have an estimated Total Cost Projection of at least $5M, an independent construction cost estimate must be prepared as part of a Value Engineering process. For large, complex projects, if there is no clear best choice between the top alternatives it may also be appropriate to prepare an independent construction cost estimate during Options Analysis.

An independent estimate is a stand-alone second estimate, rather than a review of the first estimate or an estimate that takes the place of the regular estimate. An estimate reconciliation meeting is held to review and discuss any significant differences between the two estimates. All differences between the estimates must be documented. All conclusions must be summarized in writing, shared with the project team, and saved in the project files.

8. Communicate the Cost Estimate

Cost estimates are used for many purposes, some of which have additional content or formatting requirements. Links are provided below to some of the key presentation and communication requirements:

8.1. Project Team

Cost estimates should be saved in a place where the project team and other SPU employees as appropriate can view and use them. Save the completed Basis of Estimate and Cost Estimate Template (including the Total Cost, cash flow, and Total Cost Projection) to the project files, following the project filing standards in SPUFORMS. Be sure to save the original estimate and all updates.

8.2. Enterprise Project Management System (EPMS)

Estimates are tracked and monitored in EPMS, and budget submittals are based on the estimates in EPMS. Project managers enter Cost Projections (i.e., inflated cash flow) in EPMS each month.

8.3. Asset Management/Stage Gates

Stage Gate forms and specific requirements are available on the Stage Gates Site. Stage Gate 2 requires a Total Cost for each option included in the business case and a Total Cost Projection for the recommended option. Stage Gates 3 and 4 require updated Total Cost Projections for the recommended option.

During options analysis for Stage Gate 2, the present value of life-cycle cost of each option is developed in order to help select the preferred option. Your economist will help in developing the life-cycle costs. In order to calculate a present value of life-cycle costs you will need the project cost, an annual schedule of construction, future project costs, and project life. Project life can vary from 7 years for IT projects to 100 -years for long-lived assets such as pipes. Life-cycle costs include all future costs. For example: operation and maintenance, replacement of equipment, and plant establishment for GSI. The project designer and field operations liaison can assist in collecting these future costs. Occasionally, the selection of an option is also based on risk costs. Again, your economist can help the team to identify and quantify risk costs.

8.4. Value Engineering

All projects with a Total Cost Projection of at least $5M must complete a value engineering process. Ideally, value engineering is scheduled at about 30% design. The most recent detailed project cost estimate, including the Basis of Estimate, is an important input to the value engineering exercise. Roles and expectations are described in SPU's Value Engineering Guide.

8.5. Change Management

Estimate updates prepared during design are used to track and manage project costs. Any significant change in project scope, schedule, or cost requires approval through SPU's Change Management Process. Update the estimated Total Cost Projection and document what costs will change and why. Variance and Change Management processes are documented in the Project Management Methodology.

8.6. Internal and External Communications

Project costs are communicated to a variety of internal and external audiences during project planning and delivery. With the exception of the options analysis performed as part of the Stage Gate 2 business case, always communicate the most current Total Cost Projection (i.e., inflated cash flow and inflated total).

Appendix A—Hard and Soft Cost Guide

Hard costs are expenditures made to construct, manufacture and/or install tangible, depreciable facilities contained in a capital improvement plan, and they can be allocated to specific CIP projects.

Soft costs are the labor and administrative expenditures associated with the planning, design, delivery and support of CIP projects.

Property, rights-of-way, and easements are neither hard nor soft costs.

Hard Costs include:

- Construction contractor payments for construction of capital projects
- Utility work force used directly in the construction of capital projects
- Utility equipment (depreciable portion) directly associated with capital project construction
- Installed equipment, owner supplied or contractor supplied
- Construction materials
- Computer equipment purchased specifically for a capital project
- Acquisition and installation of monitoring equipment to support a planning or engineering process for a specific CIP project
- Building and environmental permit fees
- Mitigation and restoration
- Operating expenses incurred to “make-way”, or ”work-around” construction activities
- Construction notification and public information
- Testing equipment for a specific project
- Plant establishment for one year (Additional years would be paid from O&M)

Soft Costs include:

- Planner, scientist and economist labor
- Monitoring and modeling
- Alternatives analysis
- Project management
- Project scheduling and cost estimating
- Engineering and other labor leading to final design and bid package for contracted construction, including modeling, flow monitoring and data collection, and public involvement/community outreach,
- SEPA and environmental review process
- Building and environmental permit research and application development
- Real property services labor, including ROW and acquisition research and negotiation
- Procurement document preparation
- Bid package preparation
- Bidding services for CIP projects
- Construction inspections
- Engineering services during construction
- Construction management, construction scheduling
- Engineering leading to design documents for force account construction

- Customer services
- Materials testing equipment
- Testing and Commissioning work done by SPU staff and consultants
- As-built and record drawings

Note: Some additional soft costs, such as executive management, corporate labor (e.g., human resources, finance, grants and contracts administration, legal support), and office space and equipment costs, are captured in SPU's G&A overhead rate rather than being budgeted on a project-specific basis.

Appendix B—Sales Tax Guide

Visit the State Department of Revenue web site to find the latest sales tax rate.

Taxation on Public Works projects is discussed in WAC 458-20-171. This section is intended to present the rules in layman's terms.

Determining Non-Taxable Status

Requirements:

In order to be exempt from sales tax, work must meet the following requirements:

1. It must be located in a municipally owned Right of Way (separate rules apply to property owned by WA State).

2. The overall purpose of the work is to build, repair or improve facilities used primarily for foot or vehicular traffic.

3. If utilities need to be adjusted, removed, relocated, or reconstructed in order to complete the roadway improvement, the utility work is considered to be part of the roadway improvement and is tax-exempt. This may include drainage and combined sewer system work under certain conditions. NOTE: If the utilities are upgraded or improved rather than replaced in kind, the utility work is considered an improvement and is taxable.

What does "tax-exempt" mean?

The WAC explains that the retail sales tax exemption applies to the Contractor's costs for labor & owned equipment needed to do the work. Materials and rental equipment are always taxed regardless of what type of work they will be used on.

Basically, what this means is that the Contractor does not get the tax exemptions—they are reserved for municipalities. The Contractor always has to pay sales tax when he purchases materials or rents equipment. This is part of his cost, and will be covered by his bid prices.

For TAXABLE bid items, when the City pays the Contractor, they also pay sales tax to the State Dept. of Revenue on the entire bid item price. Effectively, the sales tax is paid twice on the materials & rental equipment, because they have been sold twice (once when the contractor originally purchased them, and once when the City purchased them from the Contractor).

For NON-TAXABLE items, the City does NOT pay any additional sales tax to the Dept. of Revenue on the total bid item price.

For estimating purposes, material and rental costs always need to have sales tax applied, regardless of the tax status of the work as a whole (reflecting the fact that the Contractor will need to pay tax on those items when he buys them). For taxable items, the sales tax

must also be applied to the total cost for that item of work, reflecting the tax the City will pay to DOR.

Note for SPU-furnished materials: It has been a past practice to list SPU-furnished items on the bid sheet when a construction contract is advertised, usually with a bid amount already entered. This should not be done because it results in the materials being taxed twice: once when SPU purchases the materials, and a second time when the construction contractor installs the materials. Bid items for **installation** of SPU-furnished materials are appropriate.

Examples

For tax exempt work, the answers to all of these questions should be "yes". If the answer to any is "No", then the work is taxable.

- Is the work within the street Right of Way owned by the City?
- Is the purpose of the project to improve vehicular or pedestrian traffic (roadways or sidewalks)?
- Is the work necessary in order to accomplish the roadway improvement?
- Is the traveling public the ultimate beneficiary of the work?

Example 1:

A. In a roadway improvement project, a catch basin is replaced. The catch basin bid item is NON-TAXABLE, because the purpose of the work is to improve the roadway by providing drainage.

B. Now let's assume the purpose of the project is to replace a water main, and the catch basin needs to be removed and relocated because it is adjacent to the water main. In this case, the catch basin work is TAXABLE, because the purpose of the work was not to improve transportation facilities.

Example 2

A broken sewer needs to be repaired. The pavement restoration after the repair is completed is TAXABLE, because the purpose of the work was not to improve transportation facilities.

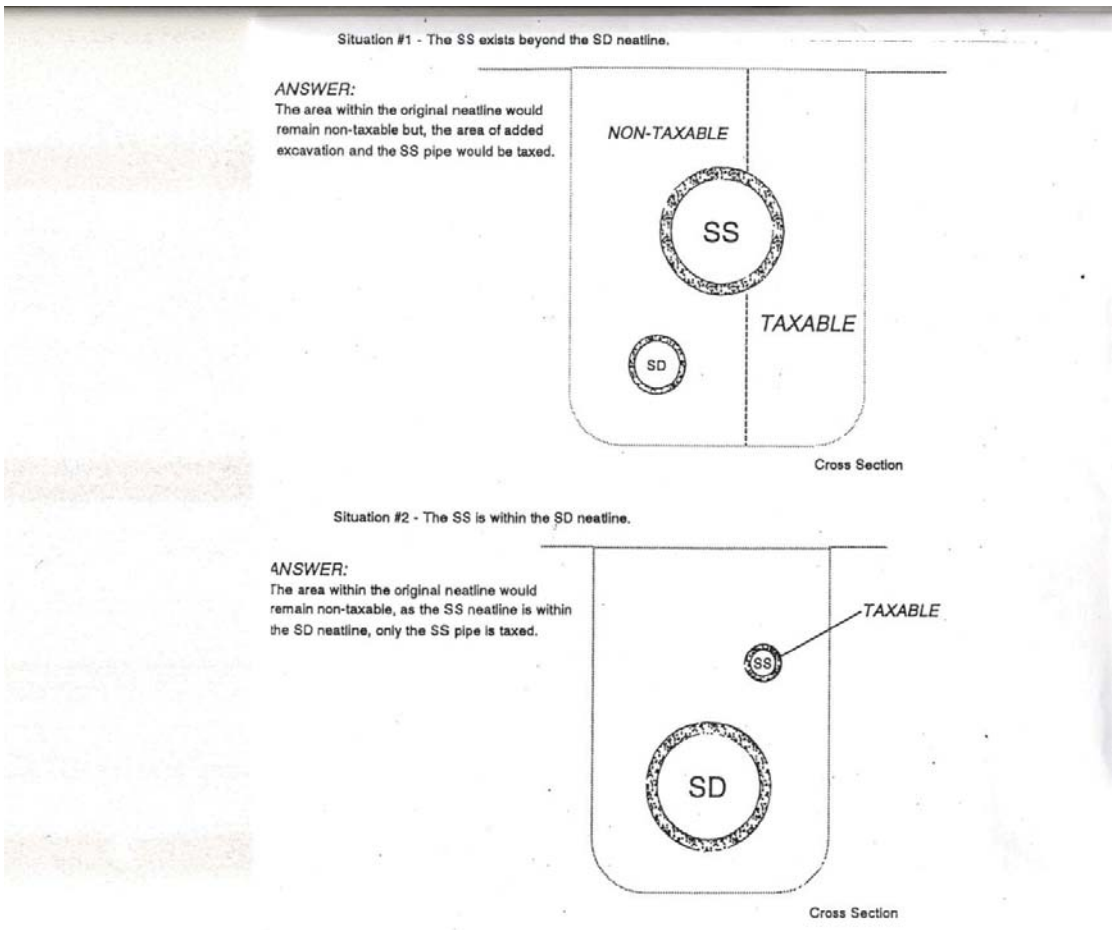
Example 3

A. The purpose of a project is to replace concrete panels in Street A. During removal of the existing panels, an 8-inch diameter water main is found which conflicts with the panel replacement. The water main will need to be relocated. The water main work is NON-TAXABLE, as it is required in order to complete the transportation work.

B. The water utility decides to replace the 8-inch diameter water main with a 10-inch diameter water main. The water main work is TAXABLE, because the nature of the work has changed from replacement to improvement, and the beneficiary is now the water utility not the traveling public.

Example 4

A storm drain is being replaced as necessary to complete a roadway improvement project (i.e., non-taxable work). In the course of the work, a sanitary sewer is encountered, and it is decided that the sanitary sewer also should be replaced. Replacement is discretionary, and not required to complete the original work. The storm drain and the sanitary sewer are at different depths in the same right of way, and a single trench will be excavated to facilitate the replacements. What portion of the work is taxable, and what is tax exempt? See the following diagram for the answer.



There are some instances in which the tax exempt status of drainage and combined sewer systems may not be obvious. In these cases, SPU may want to contact the Washington Department of Revenue for a project-specific ruling prior to Stage Gate 3 to ensure that adequate funding is available.

Appendix C—Contingency and Management Reserve Examples

Contingency Reserve

Contingency Reserve is an amount added to the Base Cost to cover identified risk events that occur on the project, excluding changes in project scope.

Includes:

- Design and other changes within scope,
- Unforecasted variations in market and environmental conditions,
- Risks identified in the Risk Management Plan (once a PMP has been prepared).

Does not include:

- Scope changes,
- Extraordinary, unanticipated events such as major strikes, natural disasters, and events that would be typically defined as force majeure, and
- Forecasted inflation (which is already included in the Total Project Cost Projection).

Contingency Reserve is sometimes described as covering the known unknowns. That is, known or identified cost risks, with an unknown outcome.

Management Reserve

Management Reserve is an amount added to the Base Cost to cover unidentified risk events that occur on the project, including minor changes in project scope.

Includes:

- Planning and estimating errors
- Minor scope changes, and
- Other cost risks that were not explicitly identified and included in the Contingency Reserve.

Does not include:

- Major scope changes (i.e., scope changes that exceed the reserve amount and require funding approval through a Change Management Process).

Management Reserve is sometimes described as covering the unknown unknowns—that is, unknown, unanticipated, or unidentified cost risks, with an unknown outcome.

Table 1: Examples of Contingency and Management Reserve.

Example Items		Cost Risks	Base Cost	Contingency Reserve	Management Reserve	Change Management
Working Downtown (identified, known outcome)		• Less working space • Restricted construction times • Expensive traffic management	X			
Utility Conflicts (identified, known outcome)		• Relocate other utilities • Complex design	X			
Community Relations	(identified, known outcome)	• Controversial project • Requires community participation	X			
	(identified, unknown outcome)			X		
Property acquisition fails	(not identified, unknown outcome)	• Re-design • Requires minor scope change			X	
	(not identified, unknown outcome)	• Re-design • Requires major scope change (i.e. new project location)				X
Artifact found on site	(identified, unknown outcome)	• Project is delayed. • No scope change.		X		
	(not identified, unknown outcome)	• Project is delayed. • Requires minor scope change			X	
	(not identified, unknown outcome)	• Project is delayed. • Requires major scope change (i.e. new project location)				X
Concrete Strike (not identified, unknown outcome)		• Project is delayed • No scope change.			X	
Poor condition of assets (not identified, unknown outcome)		• Need to replace asset (e.g. valves) • Minor scope change			X	

Some of the examples illustrate that it is not the event that determines the category of reserve, but rather whether or not the cost impact was anticipated and its magnitude that determines whether it is considered to be part of Base Cost, Contingency Reserve, Management Reserve, or additional scope requiring Change Management approval.

Appendix D—Labor Overhead, Miscellaneous Fees

Labor Overhead Rates

When estimating SPU labor costs, be sure to include SPU's current labor overhead costs. For CIP work and work done for other departments, you'll need to include two overhead costs: one for employee labor benefits and one for SPU's general and administrative (G&A) costs. (For SPU O&M work, only the labor benefits overhead is applied.)

The current multipliers are maintained on SPUFORMS.

Example:
A CIP project manager's hourly salary rate is $45. For each hour that the project manager will work on the project, the project cost is calculated as follows:

Project Cost/Hour	=	hourly salary rate x 125% (for G&A Cost) + hourly salary rate x 121.96% (fringe benefit) + $7.02/hour (fringe benefit fixed)
	=	$45/hour x 1.25 + $45/hour x 1.2196 + $7.02/hour
	=	$56.25/hour + $54.88/hour + $7.02/hour
	=	$118.15/hour

SPU Non-Construction Vehicles

Project Soft Cost estimates should include an amount for SPU non-construction vehicles. The actual amount typically is between 0.3% and 0.4% of the Base Cost.

SPU 1% for Art Program Funding

SPU's 1% for Art Program is centrally funded. Do not include this item in your project cost estimate.

Seattle Design Commission Fees

Design Commission fees are centrally funded. Do not include this item in your project cost estimate.

Contracting and Purchasing Services Division (CPCS) Fees

Finance and Administrative Services' (FAS's) Contracting and Purchasing Services Division is responsible for public works contracting in the City of Seattle. CPCS charges for their services, and the charges are allocated to each project. Project-specific charges are based on the total number of City construction contracts and the value of each contract. Typically, CPCS fees are between 0.75% and 1% of the estimated construction contract amount. For small projects assume 1%, and for large projects use 0.75%.

Construction Contract Amount Spreadsheet

Project Name: <<Enter project name from EPMS>>
Project ID: <<Enter project ID from EPMS>>
Project Phase: <<Enter Project Phase>>
Cost Estimator(s): <<Enter names of cost estimators>>
Est. Reviewer(s) <<Enter names of cost estimator reviewers>>
Date: <<Enter date estimate was prepared>>

Item	Bid Item	Bid Item Description	Quantity	Unit	Unit Price	Unit Price Extension
1						$ -
2						$ -
3						$ -
4						$ -
5						$ -
6						$ -
7						$ -
8						$ -
9						$ -
10						$ -
11						$ -
12						$ -
13						$ -
14						$ -
15						$ -
16						$ -
17						$ -
18						$ -
19						$ -
20						$ -
21						$ -
22						$ -
23						$ -
24						$ -
25						$ -
26						$ -
27						$ -
28						$ -
29						$ -
					Construction Line Item Pricing	**$ -**
					Allowance for Indeterminates	0.00%
					Construction Bid Amount	**$ -**
					Sales Tax %	0.00%
					Construction Contract Amount	**$ -**

Total Cost Projection Estimates - Projects in Initiation or Options Analysis

Project Name: <<Enter project name from EPMS>>
Project ID: <<Enter project ID from EPMS>>
Project Phase: <<Enter project phase>>
Cost Estimator(s): <<Enter names of cost estimators>>
Estimate Reviewer(s) <<Enter names of cost estimator reviewers>>
Date: <<Enter date estimate was prepared>>

Assumptions for all options and each major item are documented in the Basis of Estimate document

				Option 1	Option 2	Option 3	Option 4	Option 1	Option 2	Option 3	Option 4
#	Summary Cost Item Description	Unit	Unit Price	Quantity	Quantity	Quantity	Quantity	Estimated Cost	Estimated Cost	Estimated Cost	Estimated Cost
1	Enter Summary Item Description	Unit	$ 100,000	1	2	3	4	$ 100,000	$ 200,000	$ 300,000	$ 400,000
2	Enter Summary Item Description	Unit	$ 100,000	1	2	3	4	$ 100,000	$ 200,000	$ 300,000	$ 400,000
3	Enter Summary Item Description	Unit	$ 100,000	1	2	3	4	$ 100,000	$ 200,000	$ 300,000	$ 400,000
4	Enter Summary Item Description	Unit	$ 100,000	1	2	3	4	$ 100,000	$ 200,000	$ 300,000	$ 400,000
5	Enter Summary Item Description	Unit	$ 100,000	1	2	3	4	$ 100,000	$ 200,000	$ 300,000	$ 400,000
							Construction Bid Amount	**$ 500,000**	**$ 1,000,000**	**$ 1,500,000**	**$ 2,000,000**
							Sales Tax %	9.50%	9.50%	9.50%	9.50%
							Construction Contract Amount	**$ 547,500**	**$ 1,095,000**	**$ 1,642,500**	**$ 2,190,000**
							Crew Construction Costs	$ 100	$ 100	$ 100	$ 100
							Miscellaneous Hard Costs	$ 100	$ 100	$ 100	$ 100
							Construction Cost Total	**$ 547,700**	**$ 1,095,200**	**$ 1,642,700**	**$ 2,190,200**
							Soft Cost %	30%	30%	30%	30%
							Soft Cost	$ 164,310	$ 328,560	$ 492,810	$ 657,060
							Property Acquisition Costs	$ 1,000	$ 1,000	$ 1,000	$ 1,000
							Base Cost Total	**$ 713,010**	**$ 1,424,760**	**$ 2,136,510**	**$ 2,848,260**
							Contingency Reserve %	10%	10%	10%	10%
							Contingency Reserve	$ 71,301	$ 142,476	$ 213,651	$ 284,826
							Management Reserve %	10%	10%	10%	10%
							Management Reserve	$ 71,301	$ 142,476	$ 213,651	$ 284,826
							Project Reserves	**$ 142,602**	**$ 284,952**	**$ 427,302**	**$ 569,652**
							Total Cost	**$ 855,612**	**$ 1,709,712**	**$ 2,563,812**	**$ 3,417,912**
							Inflation Cost Projection	**$ 13,727**	**$ 27,591**	**$ 41,456**	**$ 55,320**

Escalated Cash Flow Distribution

Current Year	2016	Enter Current Year
Inflation Assumption	2.3%	See Guidance on Inflation and Escalation Adjustment Rates
Escalation Adjustment Assumption	1.0%	See Guidance on Inflation and Escalation Adjustment Rates
Actual Costs to Date	$10,000	Enter Actual Costs to Date
Total Cost - Option 1	$ 855,612	from Total Cost on previous tab
Construction Contract Amount	$ 547,500	from Construction Contract Amount on previous tab
Total Cost - Option 2	$ 1,709,712	from Total Cost on previous tab
Construction Contract Amount	$ 1,095,000	from Construction Contract Amount on previous tab
Total Cost - Option 3	$ 2,563,812	from Total Cost on previous tab
Construction Contract Amount	$ 1,642,500	from Construction Contract Amount on previous tab
Total Cost - Option 4	$ 3,417,912	from Total Cost on previous tab
Construction Contract Amount	$ 2,190,000	from Construction Contract Amount on previous tab

	Life to Date Actuals	Remaining in 2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Option 1												**Totals**
% costs to be spent by year	NA	50.0%	35.0%	10.0%	5.0%							100%
Percent of Total Cost	$ 10,000	$ 422,806	$ 295,964	$ 84,561	$ 42,281	$ -	$ -	$ -	$ -	$ -	$ -	
Construction Contract Amount		$ 273,750	$ 191,625	$ 54,750	$ 27,375	$ -	$ -	$ -	$ -	$ -	$ -	
Cost of Inflation	$ -	$ -	$ 6,807.18	$ 3,934.55	$ 2,984.98	$ -	$ -	$ -	$ -	$ -	$ -	**$ 13,727**
Cost of Escalation Adjustment	$ -	$ -	$ 1,916.25	$ 1,100.48	$ 829.49	$ -	$ -	$ -	$ -	$ -	$ -	**$ 3,846**
Cost Projection	$ 10,000	$ 422,806	$ 304,687.63	$ 89,596.22	$ 46,095.07	$ -	$ -	$ -	$ -	$ -	$ -	***$ 873,185***
Option 2												
% costs to be spent by year	NA	50.0%	35.0%	10.0%	5.0%							100%
Percent of Total Cost	$ 10,000	$ 849,856	$ 594,899	$ 169,971	$ 84,986	$ -	$ -	$ -	$ -	$ -	$ -	
Construction Contract Amount		$ 547,500	$ 383,250	$ 109,500	$ 54,750	$ -	$ -	$ -	$ -	$ -	$ -	
Cost of Inflation	$ -	$ -	$ 13,682.68	$ 7,908.59	$ 5,999.91	$ -	$ -	$ -	$ -	$ -	$ -	**$ 27,591**
Cost of Escalation Adjustment	$ -	$ -	$ 3,832.50	$ 2,200.95	$ 1,658.98	$ -	$ -	$ -	$ -	$ -	$ -	**$ 7,692**
Cost Projection	$ 10,000	$ 849,856	$ 612,414.38	$ 180,080.74	$ 92,644.49	$ -	$ -	$ -	$ -	$ -	$ -	***$ 1,744,996***
Option 3												
% costs to be spent by year	NA	50.0%	35.0%	10.0%	5.0%							100%
Percent of Total Cost	$ 10,000	$ 1,276,906	$ 893,834	$ 255,381	$ 127,691	$ -	$ -	$ -	$ -	$ -	$ -	
Construction Contract Amount		$ 821,250	$ 574,875	$ 164,250	$ 82,125	$ -	$ -	$ -	$ -	$ -	$ -	
Cost of Inflation	$ -	$ -	$ 20,558.19	$ 11,882.63	$ 9,014.85	$ -	$ -	$ -	$ -	$ -	$ -	**$ 41,456**
Cost of Escalation Adjustment	$ -	$ -	$ 5,748.75	$ 3,301.42	$ 2,488.47	$ -	$ -	$ -	$ -	$ -	$ -	**$ 11,539**
Cost Projection	$ 10,000	$ 1,276,906	$ 920,141.14	$ 270,565.26	$ 139,193.92	$ -	$ -	$ -	$ -	$ -	$ -	***$ 2,616,806***
Option 4												
% costs to be spent by year	NA	50.0%	35.0%	10.0%	5.0%							100%
Percent of Total Cost	$ 10,000	$ 1,703,956	$ 1,192,769	$ 340,791	$ 170,396	$ -	$ -	$ -	$ -	$ -	$ -	
Construction Contract Amount		$ 1,095,000	$ 766,500	$ 219,000	$ 109,500	$ -	$ -	$ -	$ -	$ -	$ -	

APWA 2016

Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
Sect 1-07	**Legal Relations & Responsibilities**			
107005	SAFETY AND HEALTH PROGRAM-CSI(REF)		LS	$0
Sect 1-09	**Measurement & Payment**			
109005	MOBILIZATION-CSI(REF)		LS	$0
Sect 1-10	**Temporary Traffic Control**			
110005	MAINTENANCE & PROTECTION OF TRAFFIC CONTROL INCLUDING FLAGGING-CSI(REF)		LS	$0
110020	TRAFFIC CONTROL PEACE OFFICERS		HR	$95.00
Sec 2-01	**Clearing, Grubbing, and Roadside Cleanup**			
201005	CLEARING & GRUBBING {QTY<=5,000 }		SF	$3.00
201005	CLEARING & GRUBBING {QTY 5,000-7,500 }		SF	$2.85
201005	CLEARING & GRUBBING { QTY 7,500-10,000}		SF	$1.25
201010	CLEARING & GRUBBING { QTY10,000-20,000 SF}		SF	$1.00
201010	CLEARING & GRUBBING { QTY 20,000-25,000 SF}		SF	$0.95
201010	CLEARING & GRUBBING { QTY 25,000-50,000SF}		SF	$0.85
201020	CLEARING{ QTY<=3,000 SF}		SF	$0.50
201020	CLEARING{ QTY 3,000-5,000 SF}		SF	$0.40
201020	CLEARING{ QTY >5,000 SF}		SF	$0.35
201025	CLEARING		LS	$0
201030	GRUBBING {QTY<= 3,000 SF}		SF	$0.50
201030	GRUBBING {QTY> 3,000 SF}		SF	$0.35
201035	GRUBBING {QTY> 15,000 SF-35,000 SF}		LS	$11,000
201035	GRUBBING {QTY> 35,000 SF}		LS	$8,500
Sec 2-02	**Remove, Abandon, Or Relocate Structures and Obstructions**			
202015	REMOVE ROCK FACING{ QTY <= 10 SF}		SF	$13.00
202015	REMOVE ROCK FACING {QTY >10 SF}		SF	$10.00
202025	REMOVE ASPHALT OVERLAY		SY	$13.00
202030	REMOVE ASPHALT PAVEMENT { QTY <= 50 SY}		SY	$25.00
202030	REMOVE ASPHALT PAVEMENT { QTY >50 SY}		SY	$20.00
202035	REMOVE CEMT. CONCR. SIDEWALK {QTY <=50}		SY	$19.00
202035	REMOVE CEMT. CONCR. SIDEWALK {QTY 50-100}		SY	$18.00
202035	REMOVE CEMT. CONCR. SIDEWALK {QTY 100-400}		SY	$18.00
202035	REMOVE CEMT. CONCR. SIDEWALK {QTY >400}		SY	$12.00
202045	REMOVE PAVEMENT {QTY <=100}		SY	$40.00
202045	REMOVE PAVEMENT {QTY 100-400}		SY	$25.00
202045	REMOVE PAVEMENT {QTY>400}		SY	$20.00
202062	REMOVE PAVEMENT, 14" IN DEPTH(INCLUDING RAILS &TIES)-{QTY<=100 SY}		SY	$120.00
202062	REMOVE PAVEMENT, 14" IN DEPTH(INCLUDING RAILS &TIES)-{QTY>100 SY}		SY	$100.00
202064	REMOVE PAVEMENT, OVER 14" IN DEPTH(INCLUDING RAILS &TIES)-{QTY<=100 SY}		SY	$150.00
202064	REMOVE PAVEMENT, OVER 14" IN DEPTH(INCLUDING RAILS &TIES)-{QTY>100 SY}		SY	$125.00
202066	REMOVE PAVEMENT, OVER 14" IN DEPTH {QTY<=50 SY}		SY	$40.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
202066	REMOVE PAVEMENT, OVER 14" IN DEPTH {QTY>50 SY}		SY	$36.00
202125	REMOVE BEAM GUARD RAIL (WITH END SECTION) {QTY<=20 LF}		LF	$25.00
202125	REMOVE BEAM GUARD RAIL (WITH END SECTION) {QTY>20 LF}		LF	$20.00
202130	REMOVE CONCRETE TRAFFIC BARRIER		LF	$15.00
202135	Remove CONDUIT RISER-STEEL PIPE		LF	$10.00
202140	REMOVE CULVERT		LF	$15.00
202145	REMOVE CONCRETE CURB {QTY< = 50}		LF	$11.00
202145	REMOVE CONCRETE CURB {QTY>50}		LF	$10.00
202155	REMOVE CURB & GUTTER { QTY< =100}		LF	$17.00
202155	REMOVE CURB & GUTTER { QTY 100-200}		LF	$15.00
202155	REMOVE CURB & GUTTER { QTY>200}		LF	$14.00
202165	REMOVE FENCE, WOOD		LF	$10.00
202170	REMOVE FENCE, CHAIN LINK		LF	$10.00
202180	REMOVE PAVEMENT MARKING		LF	$1.00
202190	REMOVE PIPE(6"-12") In TRENCH-Depth 4-5 FEET		LF	$25.00
202190	REMOVE PIPE(15'-24") In TRENCH-Depth 6-8 FEET		LF	$35.00
202190	REMOVE PIPE(30"-42") In TRENCH-Depth 8-10 FEET		LF	$50.00
202190	REMOVE PIPE(45"-52") In TRENCH-Depth 10-15 FEET		LF	$75.00
202190	REMOVE PIPE(55"-72") In TRENCH-Depth 15-25 FEET		LF	$90.00
202200	REMOVE PAVEMENT MARKING, THERMOPLASTIC		LF	$2.00
202250	REMOVE BOLLARD		EA	$120.00
202255	REMOVE BRAKET ARM		EA	$155.00
202270	REMOVE CATCH BASIN OR SAND BOX { QTY<=3 EA}		EA	$750.00
202270	REMOVE CATCH BASIN OR SAND BOX { QTY>3 EA}		EA	$500.00
202275	REMOVE Conduit Riser-Steel Pipe		EA	$150.00
202280	REMOVE Down Guy Assembly		EA	$350.00
202290	REMOVE Electrical Vault (4'-6"x3'-2"x2')		EA	$800.00
202290	REMOVE Electrical Vault (1'x2'x1'-9")		EA	$500.00
202290	REMOVE Electrical Vault (4'x4'x4')		EA	$1,200.00
202290	REMOVE Electrical Vault (4'x4'x6')		EA	$1,650.00
202295	REMOVE Foundation, Pedestal		EA	$500.00
202296	REMOVE Foundation, Pedestrian Push Button Post		EA	$700.00
202305	REMOVE Foundation, Metal Pole		EA	$1,000.00
202310	REMOVE Foundation, Street Light Pole{QTY <=10}		EA	$900.00
202310	REMOVE Foundation, Street Light Pole{QTY >10}		EA	$600.00
202315	REMOVE Foundation Traffic Signal Controller		EA	$800.00
202325	REMOVE Gate Valve { QTY < =10}		EA	$400.00
202325	REMOVE Gate Valve { QTY >10}		EA	$300.00
202330	REMOVE Handhole		EA	$200.00
202335	REMOVE Hydrant		EA	$900.00
202340	REMOVE Inlet {QTY >5}		EA	$350.00
202340	REMOVE Inlet {QTY <=5}		EA	$400.00
202345	REMOVE Luminaire {QTY> 10}		EA	$150.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
202345	REMOVE Luminaire {QTY< = 10}		EA	$250.00
202350	REMOVE Luminaire and Bracket Arm		EA	$200.00
202355	REMOVE Maintenance Hole { QTY >3}		EA	$900.00
202355	REMOVE Maintenance Hole { QTY <=3}		EA	$1,250.00
202365	REMOVE Pavement Marking Legend/Symbol		EA	$50.00
202370	REMOVE Pedestal {QTY>5}		EA	$300.00
202370	REMOVE Pedestal {QTY<=5}		EA	$550.00
202380	REMOVE Wood Pile { 12' Dia up to 40' Long}		EA	$300.00
202380	REMOVE Wood Pile { 14" Dia up to 50' Long}		EA	$400.00
202382	REMOVE Pole, Concrete or Fiberglass		EA	$600.00
202385	REMOVE Pole Metal { QTY <=20}		EA	$600.00
202385	REMOVE Pole, Metal { QTY>20}		EA	$400.00
202390	REMOVE Pole, Street Light {QTY<=20}		EA	$600.00
202390	REMOVE Pole, Street Light {QTY >20}		EA	$400.00
202395	REMOVE Pole, Wood {QTY< =20}		EA	$500.40
202395	REMOVE Pole, Wood {QTY >20}		EA	$350.00
202400	REMOVE Post, Bus Zone		EA	$120.00
202405	REMOVE Post, Parking Meter		EA	$120.00
202410	REMOVE Post, Pedestrian Pushbutton {QTY <=5}		EA	$120.00
202410	REMOVE Post, Pedestrian Pushbutton {QTY >5}		EA	$90.00
202415	REMOVE Post, Street Name {QTY <=10}		EA	$120.00
202415	REMOVE Post, Street Name {QTY >10}		EA	$90.00
202420	REMOVE Post, Traffic Sign {QTY <=20}		EA	$120.00
202420	REMOVE Post, Traffic Sign {QTY >20}		EA	$90.00
202420	REMOVE Post, Traffic Sign {QTY< 5}(Special requirement-Historical)		EA	$550.00
202425	REMOVE Shrub { QTY<= 10}		EA	$100.00
202425	REMOVE Shrub { QTY> 10}		EA	$80.00
202430	REMOVE Sign {QTY<=10}		EA	$100.00
202430	REMOVE Sign {QTY 10-20}		EA	$80.00
202430	REMOVE Sign {QTA> 20}		EA	$65.00
202435	REMOVE Sign Bus Zone		EA	$120.00
202445	REMOVE Sign Overhead {QTY < =5}		EA	$300.00
202445	REMOVE Sign Overhead {QTY > 10}		EA	$200.00
202450	REMOVE Sign, Traffic { QTY <=5}		EA	$104.16
202450	REMOVE Sign, Traffic { QTY 6-10}		EA	$83.34
202450	REMOVE Sign, Traffic { QTY> 10}		EA	$50.00
202455	REMOVE Pavement Marking Legend/Symbol, Thermopls.		EA	$50.00
202465	REMOVE Traffic Button		EA	$15.00
202475	REMOVE Traffic Signal Controller Cabinet{QTY<=5}		EA	$800.00
202475	REMOVE Traffic Signal Controller Cabinet{QTY>5}		EA	$600.00
202480	REMOVE Tree-Up to 6" diameter		EA	$375.00
202480	REMOVE Tree-8" to 12" diameter		EA	$580.00
202480	REMOVE Tree- 14" to 24" diameter		EA	$725.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
202480	REMOVE Tree-26" to 36" diameter		EA	$755.00
202500	REMOVE Valve Box { QTY<=5}		EA	$170.00
202500	REMOVE Valve Box { QTY >5}		EA	$150.00
202505	REMOVE Valve Chamber { QTY <=3}		EA	$800.00
202505	REMOVE Valve Chamber { QTY from 4 to 6}		EA	$700.00
202505	REMOVE Valve Chamber { QTY >6}		EA	$600.00
202650	REMOVE Vehicle Signal Head{ QTY <=50}		EA	$300.00
202650	REMOVE Vehicle Signal Head{ QTY >50}		EA	$170.00
202655	REMOVE Pedestrian Signal Head {QTY<=10}		EA	$140.00
202655	REMOVE Pedestrian Signal Head {QTY >10}		EA	$120.00
206660	REMOVE Pedestrian Push Button Assembly {QTY<=20}		EA	$200.00
206660	REMOVE Pedestrian Push Button Assembly{QTY>20}		EA	$150.00
202685	REMOVE Wiring, Street Lighting{QTY<=100 LF}		LF	$7.15
202685	REMOVE Wiring, Street Lighting{QTY 100-500 LF}		LF	$5.20
202685	REMOVE Wiring Street Lighting {QTY>500 LF}		LF	$3.75
202750	SAWCUT Asphalt Concrete, Full Depth{QTY<=100LF}		LF	$7.50
202750	SAWCUT Asphalt Concrete, Full Depth{QTY> 100LF}		LF	$5.00
202767	SAWCUT Cement Concrete Sidewalk, Full Depth{QTY<=50LF}		LF	$8.00
202767	SAWCUT Cement Concrete Sidewalk, Full Depth{QTY>50LF}		LF	$6.00
202770	SAWCUT Rigid Pavement, Full Depth {QTY<=100 LF}		LF	$12.00
202770	SAWCUT Rigid Pavement, Full Depth {QTY 100-500 LF}		LF	$9.00
202770	SAWCUT Rigid Pavement, Full Depth {QTY >500 LF}		LF	$8.00
202805	ABANDON Catch Basin {Qty <=5 }		EA	$500.00
202805	ABANDON Catch Basin {Qty >5 }		EA	$300.00
202810	ABANDON Electrical Vault {QTY<=5}		EA	$1,500.00
202810	ABANDON Electrical Vault {QTY > 5}		EA	$800.00
202812	ABANDON Existing Water Service		EA	$500.00
202815	ABANDON Inlet{ QTY <=5}		EA	$250.00
202815	ABANDON Inlet{ QTY>5}		EA	$200.00
202820	ABANDON Maintenance Hole {QTY <=5}		EA	$1,250.00
202820	ABANDON Maintenance Hole {QTY >5}		EA	$700.00
202825	ABANDON Valve Chamber {QTY <=5}		EA	$1,200.00
202825	ABANDON Valve Chamber {QTY >5}		EA	$800.00
202850	ABANDON AND FILL PIPE {QTY<=100}		LF	$40.00
202850	ABANDON AND FILL PIPE {QTY >100}		LF	$35.00
Sec 2-03	**Structural Demolition**			
203010	DEMOLITION(STRUCTURE NAME)-CSI(REF)		LS	
Sec 2-04	**Excavations**			
204005	COMMON Excavation {QTY<= 50}		CY	$120.00
204005	COMMON Excavation {QTY 50- 200}		CY	$70.00
204005	COMMON Excavation {QTY 200-500}		CY	$60.00
204005	COMMON Excavation {QTY >500}		CY	$50.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
204010	SOLID Rock Excavation {QTY<= 50}		CY	$90.00
204010	SOLID Rock Excavation {QTY> 50}		CY	$85.00
204020	STRUCTURE Excavation { QTY<=100}		CY	$70.00
204020	STRUCTURE Excavation { QTY>100}		CY	$50.00
204025	EXTRA Excavation{ QTY <= 50 CY}		CY	$80.00
204025	EXTRA Excavation{ QTY > 50 CY}		CY	$60.00
204030	STEPPED Slope construction		CY	$10.00
204130	UNSUITABLE Foundation Excavation{ QTY <= 10 CY}		CY	$100.00
204130	UNSUITABLE Foundation Excavation{ QTY > 10 CY}		CY	$50.00
Sec 2-05	**Ditch and Channel Construction**			
205010	DITCH Excavation { QTY <= 50}		CY	$45.00
205010	DITCH Excavation { QTY 50-100}		CY	$40.00
205010	DITCH Excavation { QTY> 100}		CY	$35.00
205020	CHANNEL Excavation { Deep 5-7 FT}		CY	$35.00
205020	CHANNEL Excavation { Deep 7-10 FT}		CY	$40.00
205020	CHANNEL Excavation { Deep 10-15FT}		CY	$50.00
Sec 2-07	**Protective System**			
207010	SAFETY SYSTEM IN TRENCH EXCAVATION{ 4-6 Feet Deep}		SF	$1.33
207010	SAFETY SYSTEM IN TRENCH EXCAVATION{ 7-10 Feet Deep}		SF	$1.50
207010	SAFETY SYSTEM IN TRENCH EXCAVATION {10-15 Feet Deep}		SF	$1.80
207010	SAFETY SYSTEM IN TRENCH EXCAVATION {16-22 Feet Deep}		SF	$2.05
207020	SUPPORT TIGHT SAFETY SYSTEM {8-20Feet deep} - CSI(REF)		LS	$0.00
207030	SAFETY SYSTEM IN STRUCTURAL EXACAVTION CSI(REF)		LS	$0.00
Sec 2-08	**Dewatering**			
208010	COFFERDAM-CSI(REF)		LS	$0.00
Sec 2-10	**Backfilling**			
210005	SELECT MATERIALS { QTY <=50 CY}		CY	$50.00
210005	SELECT MATERIALS { QTY 50-100 CY}		CY	$45.00
210005	SELECT MATERIALS {QTY > 100 CY}		CY	$35.00
210010	CONTROLLED DENTISY FILL { QTY <=50 CY}		CY	$200.00
210010	CONTROLLED DENTISY FILL { QTY >50 CY}		CY	$130.00
210015	UNCLASSIFIELD BORROW { QTY<= 50TN}		TN	$22.00
210015	UNCLASSIFIELD BORROW { QTY >50 TN}		TN	$20.00
210052	BORROW MINERAL AGGREGATE TYPE 2 {QTY<=50TN}		TN	$35.00
210052	BORROW MINERAL AGGREGATE TYPE 2 {QTY>50TN}		TN	$30.00
210067	BORROW MINERAL AGGREGATE TYPE 17 { QTY<=50 TN}		TN	$30.00
210067	BORROW MINERAL AGGREGATE TYPE 17 { QTY >50 TN}		TN	$25.00
Sec 2-13	**Rock Facing**			
213005	ROCK FACING (Large Rock size 42"x48")		SF	$33.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
213005	ROCK FACING (Mid-Large Rock size 30"x42")		SF	$30.00
213005	ROCK FACING (Small-Mid Rock size 18"x24")		SF	$25.00
213010	REBUILD ROCK FACING { QTY <= 50 SF}		SF	$20.00
213010A	REBUILD ROCK FACING { QTY > 50 SF}		SF	$15.00
213015	RELOCATE ROCK FACING		SF	$20.00
Sec 2-15	**Construction Geotextile**			
215010	CONSTRUCTION GEOTEXTILE FOR UNDERGROUND DRAINAGE		SY	$3.00
215020	CONSTRUCTION GEOTEXTILE FOR SEPARATION { QTA<=50SY}		SY	$5.00
215020	CONSTRUCTION GEOTEXTILE FOR SEPARATION { QTA >50SY}		SY	$3.00
215030	CONSTRUCTION GEOTEXTILE FOR SOIL STABILIZATION { QTA <=50SY}		SY	$7.00
215030	CONSTRUCTION GEOTEXTILE FOR SOIL STABILIZATION { QTA >50SY}		SY	$4.00
215040	CONSTRUCTION GEOTEXTILE FOR PERMANENT EROSION CONTROL { QTA <=250SY}		SY	$3.00
215040	CONSTRUCTION GEOTEXTILE FOR PERMANENT EROSION CONTROL { QTA >250SY}		SY	$2.00
215050	CONSTRUCTION GEOTEXTILE FOR DITCH LINING		SY	$3.00
Sec 2-16	**Directional Drilling**			
216010	PREPARATION REQUIRED BEFORE DIRECTIONAL DRILLING-CSI(REF)		LS	$0.00
Sec 3-10	**Geotechnical Instrumentation & Monitoring**			
310900	VIBRATION MONITORING(400 LF Pipe/Weekly)		WEEK	$2,015.00
310910	VIBRATION MONITORING(1625 LF Pipe/Monthly)		MO	$7,220.00
Sec 4-01	**Mineral Aggregates**			
401001	MINERAL AGGREGATE TYPE 1 {QTY< =200 T}		TN	$47.00
401001	MINERAL AGGREGATE TYPE 1 {QTY >200 T}		TN	$42.00
401002	MINERAL AGGREGATE TYPE 2 {QTY< =200 T}		TN	$60.00
401002	MINERAL AGGREGATE TYPE 2 {QTY >200 T}		TN	$48.00
401004	MINERAL AGGREGATE TYPE 4 {QTY< =200 T}		TN	$37.00
401004	MINERAL AGGREGATE TYPE 4 {QTY>200 T}		TN	$34.00
401010	MINERAL AGGREGATE TYPE 10 {QTY< =200 T}		TN	$48.00
401010	MINERAL AGGREGATE TYPE 10 {QTY>200 T}		TN	$44.00
401011	MINERAL AGGREGATE TYPE 11 {QTY< =200 T}		TN	$37.00
401011	MINERAL AGGREGATE TYPE 11 {QTY>200 T}		TN	$34.00
401013	MINERAL AGGREGATE TYPE 13 {QTY< =200 T}		TN	$50.00
401013	MINERAL AGGREGATE TYPE 13 {QTY>200 T}		TN	$38.00
401014	MINERAL AGGREGATE TYPE 14 {QTY< =200 T}		TN	$34.00
401014	MINERAL AGGREGATE TYPE 14 {QTY>200 T}		TN	$30.00
401017	MINERAL AGGREGATE TYPE 17 {QTY <=200 T}		TN	$42.00
401017	MINERAL AGGREGATE TYPE 17 {QTY >200 T}		TN	$32.00
401022	MINERAL AGGREGATE TYPE 22 {QTY <=200 T}		TN	$50.00
401022	MINERAL AGGREGATE TYPE 22 {QTY >200 T}		TN	$44.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
401026	MINERAL AGGREGATE TYPE 26		TN	$45.00
401201	MINERAL AGGREGATE TYPE 1		CY	$60.00
401202	MINERAL AGGREGATE TYPE 2		CY	$55.00
401206	MINERAL AGGREGATE TYPE 6		CY	$45.00
401207	MINERAL AGGREGATE TYPE 7		CY	$45.00
401209	MINERAL AGGREGATE TYPE 9		CY	$48.00
401210	MINERAL AGGREGATE TYPE 10		CY	$72.00
401213	MINERAL AGGREGATE TYPE 13		CY	$66.00
401214	MINERAL AGGREGATE TYPE 14		CY	$40.00
401217	MINERAL AGGREGATE TYPE 17 {QTY 50-100 CY}		CY	$75.00
401217	MINERAL AGGREGATE TYPE 17 {QTY200-500 CY}		CY	$65.00
401217	MINERAL AGGREGATE TYPE 17 {QTY>500CY}		CY	$55.00
401221	MINERAL AGGREGATE TYPE 21		CY	$50.00
Sec 5-04	**Hot Mix Asphalt (HMA) Warm Mix Asphalt(WMA) Pavement**			
504020	SURFACE PREPARATION PRELEVEL {QTY <= 50T}		TN	$135.00
504020	SURFACE PREPARATION PRELEVEL {QTY > 50T}		TN	$125.00
504025	SURFACE PREPARATION PLANE BITUMINOUS PAVEMENT {QTY<=50SY}		SY	$16.00
504025	SURFACE PREPARATION PLANE BITUMINOUS PAVEMENT {QTY-50-200SY}		SY	$12.00
504025	SURFACE PREPARATION PRELEVEL PLANE BITUMINOUS PAVEMENT {QTY>200SY}		SY	$10.00
504040	PAVEMENT, HMA (CL 3/8 IN) {QTY<=50 TN}		TN	$290.00
504040	PAVEMENT, HMA (CL 3/8 IN) {QTY>50 TN}		TN	$190.00
504045	PAVEMENT, HMA (CL 1/2 IN) {QTY<=50 TN}		TN	$290.00
504045	PAVEMENT, HMA (CL 1/2 IN) {QTY>50 TN}		TN	$160.00
504050	PAVEMENT, HMA (CL 3/4 IN) {QTY<=50 TN}		TN	$290.00
504050	PAVEMENT, HMA (CL 3/4 IN) {QTY>50 TN}		TN	$160.00
504055	PAVEMENT, HMA (CL 1 IN) {QTY<=50 TN}		TN	$290.00
504055	PAVEMENT, HMA (CL 1 IN) {QTY>50 TN}		TN	$160.00
504140	PAVEMENT, WMA (CL 3/8 IN) {QTY<=50 TN}		TN	$300.00
504140	PAVEMENT, WMA (CL 3/8 IN) {QTY>50 TN}		TN	$175.00
504145	PAVEMENT, WMA (CL 1/2 IN) {QTY<=50 TN}		TN	$312.50
504145	PAVEMENT, WMA (CL 1/2 IN) {QTY>50 TN}		TN	$175.00
504150	PAVEMENT, WMA (CL 3/4IN) {QTY<=50 TN}		TN	$312.50
504150	PAVEMENT, WMA (CL 3/4 IN) {QTY>50 TN}		TN	$175.00
504155	PAVEMENT, WMA (CL 1IN) {QTY<=50 TN}		TN	$312.50
504155	PAVEMENT, WMA (CL 1 IN) {QTY>50 TN}		TN	$175.00
504260	PAVEMENT PATCH, TEMPORARY {QTY<=50TN}		TN	$220.00
504260	PAVEMENT PATCH, TEMPORARY {QTY>50TN}		TN	$180.00
Sec 5-05	**Cement Concrete for Roadway and Related Work**			
505090	ROADWAY CEM. CONC. VARIABLE MIXES, 6IN {QTY<=100SY}		SY	$125.00
505090	ROADWAY CEM. CONC. VARIABLE MIXES, 6IN {QTY>100SY}		SY	$100.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
505092	ROADWAY CEM. CONC. VARIABLE MIXES, 8IN {QTY<=100SY}		SY	$138.00
505092	ROADWAY CEM. CONC. VARIABLE MIXES, 8IN {QTY>100SY}		SY	$110.00
505093	ROADWAY CEM. CONC. VARIABLE MIXES, 9IN {QTY<=100SY}		SY	$140.00
505093	ROADWAY CEM. CONC. VARIABLE MIXES, 9IN {QTY>100SY}		SY	$115.00
505094	ROADWAY CEM. CONC. VARIABLE MIXES, 10IN {QTY<=100SY}		SY	$145.00
505094	ROADWAY CEM. CONC. VARIABLE MIXES,10IN {QTY>100SY}		SY	$125.00
505095	ROADWAY CEM. CONC. VARIABLE MIXES, 11IN {QTY<=100SY}		SY	$150.00
505095	ROADWAY CEM. CONC. VARIABLE MIXES,11IN {QTY>100SY}		SY	$130.00
505096	ROADWAY CEM. CONC. VARIABLE MIXES, 12IN {QTY<=100SY}		SY	$160.00
505096	ROADWAY CEM. CONC. VARIABLE MIXES,12IN {QTY>100SY}		SY	$135.00
505120	ROADWAY CEM. CONCRETE, 6 IN {QTY<=200SY}		SY	$115.00
505120	ROADWAY CEM. CONCRETE, 6 IN {QTY>200SY}		SY	$105.00
505122	ROADWAY CEM. CONCRETE, 8 IN {QTY<=200SY}		SY	$115.00
505122	ROADWAY CEM. CONCRETE, 8 IN {QTY>200SY}		SY	$95.00
505123	ROADWAY CEM. CONCRETE, 9 IN {QTY<=200SY}		SY	$125.00
505123	ROADWAY CEM. CONCRETE, 9 IN {QTY>200SY}		SY	$100.00
505124	ROADWAY CEM. CONCRETE, 10IN {QTY<=200SY}		SY	$130.00
505124	ROADWAY CEM. CONCRETE, 10 IN {QTY>200SY}		SY	$105.00
505125	ROADWAY CEM. CONCRETE, 11IN {QTY<=200SY}		SY	$140.00
505125	ROADWAY CEM. CONCRETE, 11 IN {QTY>200SY}		SY	$110.00
505126	ROADWAY CEM. CONCRETE, 12IN {QTY<=200SY}		SY	$145.00
505126	ROADWAY CEM. CONCRETE, 12 IN {QTY>200SY}		SY	$120.00
505130	ROADWAY CEM. CONCRETE, HES (24Hr), 6 IN{QTY<=200SY}		SY	$130.00
505130	ROADWAY CEM. CONCRETE, HES (24Hr), 6 IN{QTY >200SY}		SY	$120.00
505132	ROADWAY Cem Concrete, HES (24Hr), 8 IN{QTY<=200SY}		SY	$140.00
505132	ROADWAY Cem Concrete, HES (24Hr), 8 IN{QTY >200SY}		SY	$125.00
505133	ROADWAY Cem Concrete, HES (24Hr),9 IN{QTY<=200SY}		SY	$145.00
505133	ROADWAY Cem Concrete, HES (24Hr), 9 IN{QTY >200SY}		SY	$130.00
505134	ROADWAY Cem Concrete, HES (24Hr),10 IN{QTY<=200SY}		SY	$150.00
505134	ROADWAY Cem Concrete, HES (24Hr), 10 IN{QTY >200SY}		SY	$135.00
505135	ROADWAY Cem Concrete, HES (24Hr),11 IN{QTY<=200SY}		SY	$155.00
505135	ROADWAY Cem Concrete, HES (24Hr), 11 IN{QTY >200SY}		SY	$140.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
505136	ROADWAY Cem Concrete, HES (24Hr),12 IN{QTY<=200SY}		SY	$205.00
505136	ROADWAY Cem Concrete, HES (24Hr), 12 IN{QTY >200SY}		SY	$190.00
505140	ROADWAY Cem Conc., HES (72HR), 6IN{QTY<=50SY}		SY	$125.00
505140	ROADWAY Cem Conc., HES (72HR), 6IN{QTY>50SY}		SY	$115.00
505142	ROADWAY Cem Conc., HES (72HR), 8IN{QTY<=50SY}		SY	$115.00
505142	ROADWAY Cem Conc., HES (72HR), 8IN{QTY>50SY}		SY	$105.00
505143	ROADWAY Cem Conc., HES (72HR), 9IN{QTY<=50SY}		SY	$120.00
505143	ROADWAY Cem Conc., HES (72HR), 9IN{QTY>50SY}		SY	$110.00
505144	ROADWAY Cem Conc., HES (72HR), 10IN{QTY<=50SY}		SY	$125.00
505144	ROADWAY Cem Conc., HES (72HR),10IN{QTY>50SY}		SY	$115.00
505145	ROADWAY Cem Conc., HES (72HR), 11IN{QTY<=50SY}		SY	$135.00
505145	ROADWAY Cem Conc., HES (72HR),11IN{QTY>50SY}		SY	$120.00
505146	ROADWAY Cem Conc., HES (72HR), 12IN{QTY<=50SY}		SY	$140.00
505146	ROADWAY Cem Conc., HES (72HR),12IN{QTY>50SY}		SY	$125.00
505220	ROADWAY Cem Conc Base,6 IN {QTY<=100SY}		SY	$100.00
505220	ROADWAY Cem Conc Base,6 IN {QTY>100SY}		SY	$80.00
505222	ROADWAY Cem Conc Base,8 IN {QTY<=100SY}		SY	$110.00
505222	ROADWAY Cem Conc Base,8IN {QTY>100SY}		SY	$90.00
505223	ROADWAY Cem Conc Base,9 IN {QTY<=100SY}		SY	$115.00
505223	ROADWAY Cem Conc Base,9IN {QTY>100SY}		SY	$95.00
505224	ROADWAY Cem Conc Base,10 IN {QTY<=100SY}		SY	$120.00
505224	ROADWAY Cem Conc Base,10IN {QTY>100SY}		SY	$100.00
505225	ROADWAY Cem Conc Base,11 IN {QTY<=100SY}		SY	$125.00
505225	ROADWAY Cem Conc Base,11IN {QTY>100SY}		SY	$105.00
505226	ROADWAY Cem Conc Base,12 IN {QTY<=100SY}		SY	$140.00
505226	ROADWAY Cem Conc Base,12IN {QTY>100SY}		SY	$110.00
505280	ROADWAY Cem Conc Base, HES(24HR), 6IN {QTY<=100SY}		SY	$115.00
505280	ROADWAY Cem Conc Base, HES(24HR), 6IN {QTY>100SY}		SY	$110.00
505282	Roadway Cem Conc Base, HES(24HR), 8IN {QTY<=100SY}		SY	$130.00
505282	ROADWAY Cem Conc Base, HES(24HR), 8IN {QTY>100SY}		SY	$119.99
505283	ROADWAY Cem Conc Base, HES(24HR), 9IN {QTY<=100SY}		SY	$135.00
505283	ROADWAY Cem Conc Base, HES(24HR),9IN {QTY>100SY}		SY	$125.00
505285	ROADWAY Cem Conc Base, HES(24HR),10IN {QTY<=100SY}		SY	$135.00
505285	ROADWAY Cem Conc Base, HES(24HR),10IN {QTY>100SY}		SY	$130.00
505287	ROADWAY Cem Conc Base, HES(24HR),11IN {QTY<=100SY}		SY	$140.00
505287	ROADWAY Cem Conc Base, HES(24HR),11IN {QTY>100SY}		SY	$135.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
505289	ROADWAY Cem Conc Base, HES(24HR),12IN {QTY<=100SY}		SY	$150.00
505289	ROADWAY Cem Conc Base, HES(24HR),12IN {QTY>100SY}		SY	$140.00
505290	ROADWAY Cem Conc Base, HES(72HR),6IN {QTY<=50SY}		SY	$105.00
508290	ROADWAY Cem Conc Base, HES(72HR),6IN {QTY >50SY}		SY	$90.00
505292	ROADWAY Cem Conc Base, HES(72HR),8IN {QTY<=50SY}		SY	$110.00
505292	ROADWAY Cem Conc Base, HES(72HR),8IN {QTY >50SY}		SY	$100.00
505293	ROADWAY Cem Conc Base, HES(72HR),9IN {QTY<=50SY}		SY	$115.00
505293	ROADWAY Cem Conc Base, HES(72HR),9IN {QTY >50SY}		SY	$105.00
505295	ROADWAY Cem Conc Base, HES(72HR),10IN {QTY<=50SY}		SY	$120.00
505295	ROADWAY Cem Conc Base, HES(72HR),10IN {QTY >50SY}		SY	$110.00
505297	ROADWAY Cem Conc Base, HES(72HR),11IN {QTY<=50SY}		SY	$125.00
505297	Roadway Cem Conc Base, HES(72HR),11IN {QTY >50SY}		SY	$115.00
505299	ROADWAY Cem Conc Base, HES(72HR),12IN {QTY<=50SY}		SY	$130.00
505299	ROADWAY Cem Conc Base, HES(72HR),12IN {QTY >50SY}		SY	$120.00
505310	DOWEL Bar { QTY <= 25EA}		EA	$10.00
505310	DOWEL Bar { QTY > 25EA}		EA	$5.00
505315	TIE Bar With Drill Hole { QTY <= 25EA}		EA	$5.00
505315	TIE Bar With Drill Hole { QTY >25EA}		EA	$3.00
505330	PATTERNED Cem Conc Treatment, Roadway Patterned{QTY <=500SY}		SY	$30.00
505330	PATTERNED Cem Conc Treatment, Roadway Patterned{QTY >500SY}		SY	$20.00
505335	PATTERNED Cem Conc Treatment, Roadway Running Bond Used Brick {QTY <=500SY}		SY	$45.00
505335	PATTERNED Cem Conc Treatment, Roadway Running Bond Used Brick {QTY >500SY}		SY	$25.00
Sec 5-06	**Pervious Concrete Sidewalk**			
506005	PERVIOUS Concrete Sidewalk {QTY<=250 SY}		SY	$200.00
560005	PERVIOUS Concrete Sidewalk {QTY >250 SY}		SY	$150.00
Sec 6-02	**Cement Concrete Structures and Cement Concrete for Miscell Work**			
602100	CONCRETE CL 4000 {QTY<=5CY}		CY	$900.00
602100	CONCRETE CL 4000{ QTY 5-10CY}		CY	$750.00
602100	CONCRETE CL 4000{ QTY > 10CY}		CY	$500.00
602260	COMMERCIAL Concrete {QTY<=5CY}		CY	$900.00
602260	COMMERCIAL Concrete {QTY 5-10CY}		CY	$750.00
602260	COMMERCIAL Concrete {QTY >10CY}		CY	$500.00
602265	LEAN Concrete {QTY 5-10CY}		CY	$550.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
602265	LEAN Concrete {QTY > 10CY}		CY	$400.00
602350	STEEL Reinforcing Bar {QTY <= 2000lbs}		LB	$3.00
602350	STEEL Reinforcing Bar {QTY > 2000lbs}		LB	$2.00
602355	EPOXY Coated Steel Reinforcing Bar {QTY <= 2000lbs}		LB	$4.00
602355	EPOXY Coated Steel Reinforcing Bar {QTY > 2000lbs}		LB	$2.25
Sec 6-05	**Piles**			
605040	DRIVING Steel Pile{ Up to 20' Deep}		EA	$500.00
605040	DRIVING Steel Pile{ Up to 40' Deep}		EA	$600.00
605040	DRIVING Steel Pile{ Up to 60' Deep}		EA	$750.00
605070	Furnishing Steel Pile		LF	$20.00
605080	PRECAST Concrete Pile Buildup {QTY <=10EA}		EA	$750.00
605080	PRECAST Concrete Pile Buildup {QTY >10EA}		EA	$750.00
Sec 6-11	**Reinforced Concrete Walls**			
611130	CONCRETE CL 4000 For Retaining Wall(2-3% Reinforcing)		CY	$1,200.00
61130	CONCRETE CL 4000 For Retaining Wall(3-5% Reinforcing)		CY	$1,500.00
Sec 7-01	**Drains**			
701104	PIPE, Subsurface Drain, PVC, 4 IN { QTY<=100LF}		LF	$40.00
701104	PIPE, Subsurface Drain, PVC, 4IN { QTY>100LF}		LF	$33.00
701106	PIPE, Subsurface Drain, PVC, 6 IN { QTY<=100LF}		LF	$42.00
701106	PIPE, Subsurface Drain, PVC, 6 IN { QTY>100LF}		LF	$36.00
701108	PIPE, Subsurface Drain, PVC, 8 IN { QTY<=100LF}		LF	$45.00
701108	PIPE, Subsurface Drain, PVC, 8 IN { QTY>100LF}		LF	$38.00
701110	PIPE, Subsurface Drain, PVC, 10 IN { QTY<=100LF}		LF	$47.00
701110	PIPE, Subsurface Drain, PVC, 10 IN { QTY>100LF}		LF	$40.00
701450	FILTER Material, Mineral Aggregate Type 26{ QTY<= 100CY}		CY	$55.00
701450	FILTER Material, Mineral Aggregate Type 26{ QTY> 100CY}		CY	$50.00
Sec 7-05	**Maintenance Hole, Catch Basins and Inlets**			
705008	MAINTENANCE HOLE, TYPE 204A{QTY<=5 EA}		EA	$5,200.00
705008	MAINTENANCE HOLE, TYPE 204A{QTY>5 EA}		EA	$3,900.00
705009	MAINTENANCE HOLE, Type 204.5A{QTY<=5 EA}		EA	$5,250.00
705009	MAINTENANCE HOLE, Type 204.5A{QTY>5 EA}		EA	$4,500.00
705010	MAINTENANCE HOLE, Type 205A{QTY<=5 EA}		EA	$10,000.00
705010	MAINTENANCE HOLE, Type 205A{QTY>5 EA}		EA	$7,250.00
705012	MAINTENANCE HOLE, Type 206A{QTY<=5 EA}		EA	$11,000.00
705012	MAINTENANCE HOLE, Type 206A{QTY>5 EA}		EA	$8,000.00
705014	MAINTENANCE HOLE, Type 207A{QTY<=5 EA}		EA	$13,000.00
705014	MAINTENANCE HOLE, Type 207A{QTY>5 EA}		EA	$11,000.00
705016	MAINTENANCE HOLE, Type 208A{QTY<=5 EA}		EA	$15,000.00
705016	MAINTENANCE HOLE, Type 208A{QTY>5 EA}		EA	$14,000.00
705018	MAINTENANCE HOLE, Type 209A{QTY<=5 EA}		EA	$18,000.00
705018	MAINTENANCE HOLE, Type 209A{QTY>5 EA}		EA	$16,000.00
705020	MAINTENANCE HOLE , Type 210A{QTY<=5 EA}		EA	$20,000.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
705020	MAINTENANCE HOLE , Type 210A{QTY>5 EA}		EA	$17,000.00
705022	MAINTENANCE HOLE, Type 211A{QTY<=5 EA}		EA	$24,000.00
705022	MAINTENANCE HOLE, Type 211A{QTY>5 EA}		EA	$20,000.00
705024	MAINTENANCE HOLE, Type 212A{QTY<=5 EA}		EA	$30,000.00
705024	MAINTENANCE HOLE, Type 212A{QTY>5 EA}		EA	$25,000.00
705058	MAINTENANCE HOLE, Type 204B{QTY<=5 EA}		EA	$5,000.00
705058	MAINTENANCE HOLE, Type 204B{QTY>5 EA}		EA	$4,000.00
705059	MAINTENANCE HOLE, Type 204.5B{QTY<=5 EA}		EA	$6,000.00
705059	MAINTENANCE HOLE, Type 204.5B{QTY>5 EA}		EA	$4,200.00
705060	MAINTENANCE HOLE, Type 205B{QTY<=5 EA}		EA	$7,000.00
705060	MAINTENANCE HOLE, Type 205B{QTY>5 EA}		EA	$5,000.00
705062	MAINTENANCE HOLE, Type 206B{QTY<=5 EA}		EA	$8,250.00
705062	MAINTENANCE HOLE, Type 206B{QTY>5 EA}		EA	$7,500.00
705064	MAINTENANCE HOLE, Type 207B{QTY<=5 EA}		EA	$12,000.00
705064	MAINTENANCE HOLE, Type 207B{QTY>5 EA}		EA	$9,000.00
705066	MAINTENANCE HOLE, Type 208B{QTY<=5 EA}		EA	$14,000.00
705066	MAINTENANCE HOLE, Type 208B{QTY>5 EA}		EA	$11,000.00
705068	MAINTENANCE HOLE, Type 209B{QTY<=5 EA}		EA	$18,000.00
705068	MAINTENANCE HOLE, Type 209B{QTY>5 EA}		EA	$14,000.00
705070	MAINTENANCE HOLE, Type 210B{QTY<=5 EA}		EA	$20,000.00
705070	MAINTENANCE HOLE, Type 210B{QTY>5 EA}		EA	$16,000.00
705072	MAINTENANCE HOLE, Type 211B{QTY<=5 EA}		EA	$24,000.00
705072	MAINTENANCE HOLE, Type 211B{QTY>5 EA}		EA	$20,000.00
705074	MAINTENANCE HOLE, Type 212B{QTY<=5 EA}		EA	$35,000.00
705074	MAINTENANCE HOLE, Type 212B{QTY>5 EA}		EA	$30,000.00
705108	EXTRA Depth, Type 204A Maintenance Hole		VF	$250.00
705109	EXTRA Depth, Type 204.5A Maintenance Hole		VF	$275.00
705110	EXTRA Depth, Type 205A Maintenance Hole		VF	$290.00
705112	EXTRA Depth, Type 206A Maintenance Hole		VF	$300.00
705114	EXTRA Depth, Type 207A Maintenance Hole		VF	$450.00
705116	EXTRA Depth, Type 208A Maintenance Hole		VF	$600.00
705118	EXTRA Depth, Type 209A Maintenance Hole		VF	$700.00
705120	EXTRA Depth, Type 210A Maintenance Hole		VF	$900.00
705122	EXTRA Depth, Type 211A Maintenance Hole		VF	$1,000.00
705124	EXTRA Depth, Type 212A Maintenance Hole		VF	$1,100.00
705158	EXTRA Depth, Type 204B Maintenance Hole		VF	$350.00
705159	EXTRA Depth, Type 204.5B Maintenance Hole		VF	$400.00
705160	EXTRA Depth, Type 205B Maintenance Hole		VF	$450.00
705162	EXTRA Depth, Type 206B Maintenance Hole		VF	$500.00
705164	EXTRA Depth, Type 207B Maintenance Hole		VF	$550.00
705166	EXTRA Depth, Type 208B Maintenance Hole		VF	$900.00
705168	EXTRA Depth, Type 209B Maintenance Hole		VF	$950.00
705170	EXTRA Depth, Type 210B Maintenance Hole		VF	$975.00
705172	EXTRA Depth, Type 211B Maintenance Hole		VF	$1,000.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
705174	EXTRA Depth, Type 212B Maintenance Hole		VF	$1,100.00
705300	RECHANNEL Maintenance Hole		EA	$1,200.00
705305	REBUILD Brick Maintenance HOLE {DEPTH <=6 FT}		EA	$1,600.00
705305	REBUILD Brick Maintenance HOLE {DEPTH 6-9 FT}		EA	$1,750.00
705305	REBUILD Brick Maintenance HOLE {DEPTH 9 -15FT}		EA	$1,900.00
705352	CATCH Basin, Type 240A {QTY <=3 EA}		EA	$3,900.00
705352	CATCH Basin, Type 240A {QTY >3 EA}		EA	$2,850.00
705353	CATCH Basin, Type 240B {QTY <=3 EA}		EA	$3,100.00
705353	CATCH Basin, Type 240B {QTY >3 EA}		EA	$2,850.00
705354	CATCH Basin, Type 241 {QTY <=3 EA}		EA	$2,250.00
705354	CATCH Basin, Type 241 {QTY >3 EA}		EA	$2,000.00
705355	CATCH Basin, Type 242A {QTY <=3 EA}		EA	$3,600.00
705355	CATCH Basin, Type 242A {QTY >3 EA}		EA	$2,600.00
705356	CATCH Basin, Type 242B {QTY <=3 EA}		EA	$3,250.00
705356	CATCH Basin, Type 242B {QTY >3 EA}		EA	$2,700.00
705357	CATCH Basin, Type 240C {QTY <=3 EA}		EA	$3,250.00
705357	CATCH Basin, Type 240C {QTY >3 EA}		EA	$2,700.00
705358	CATCH Basin, Type 240D {QTY <=3 EA}		EA	$4,300.00
705358	CATCH Basin, Type 240D {QTY >3 EA}		EA	$2,700.00
705450	INLET Type 250A { QTY<=3 EA}		EA	$2,100.00
705450	INLET Type 250A { QTY> 3 EA}		EA	$1,300.00
705451	INLET Type 250B { QTY<=3 EA}		EA	$1,600.00
705451	INLET Type 250B { QTY> 3 EA}		EA	$1,800.00
705452	INLET Type 252 { QTY<=3 EA}		EA	$1,500.00
705452	INLET Type 252 { QTY> 3 EA}		EA	$1,300.00
705510	REBUILD Catch Basin {QTY <= 5EA}		EA	$1,100.00
705510	REBUILD Catch Basin {QTY > 5EA}		EA	$850.00
705600	JUNCTION Box {QTY <= 5EA}		EA	$2,400.00
705600	JUNCTION Box {QTY > 5EA}		EA	$2,100.00
Sec 7-08	**Miscellaneous Pipe Connections**			
708006	PIPE, CB Conn, Conc C14, CL 3, 6 In {Depth >10Feet}		LF	$65.00
708006	PIPE, CB Conn, Conc C14, CL 3, 6 In {Depth <= 10Feet}		LF	$45.00
708008	PIPE, CB Conn, Conc C14, CL 3, 8 In {Depth >10Feet}		LF	$75.00
708008	PIPE, CB Conn, Conc C14, CL 3, 8 In {Depth <= 10Feet}		LF	$55.00
708056	PIPE, CB Conn, DI,CL 50, 6 In {Depth >10Feet}		LF	$95.00
708056	PIPE, CB Conn, DI, CL 50, 6 In {Depth <= 10Feet}		LF	$85.00
708058	PIPE, CB Conn, DI,CL 50, 8 In {Depth >10Feet}		LF	$120.00
708058	PIPE, CB Conn, DI, CL 50, 8 In {Depth <= 10Feet}		LF	$100.00
708062	PIPE, CB Conn, DI,CL 50, 12In {Depth >10Feet}		LF	$135.00
708062	PIPE, CB Conn, DI, CL 50,12 In {Depth <= 10Feet}		LF	$125.00
708106	PIPE, CB Conn, PVC, 6In {Depth >10Feet}		LF	$55.00
708106	PIPE, CB Conn,PVC,6 In {Depth <= 10Feet}		LF	$40.00
708108	PIPE, CB Conn, PVC, 8In {Depth >10Feet}		LF	$65.00
708108	PIPE, CB Conn,PVC,8In {Depth <= 10Feet}		LF	$50.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
708206	PIPE, Inlet Conn, Conc C14, CL3, 6IN		LF	$45.00
708208	PIPE, Inlet Conn, Conc C14, CL3, 8IN		LF	$55.00
708256	PIPE, Inlet Conn, DI., CL50, 6IN		LF	$85.00
708258	PIPE, Inlet Conn, DI., CL50, 8IN		LF	$110.00
708406	DROP Connection, Inside, 6 IN		VF	$300.00
708408	DROP Connection, Inside, 8 IN		VF	$325.00
708412	DROP Connection, Inside, 12 IN		VF	$375.00
708506	PIPE Detention Pipe Outlet Connection, D.I.,CL 50,6IN		LF	$85.00
708508	PIPE Detention Pipe Outlet Connection, D.I.,CL 50,8IN		LF	$100.00
Sec 7-11	**Pipe Installation For Water Mains**			
711004	PIPE, WM, D.I, CL 52, 4 IN, INCL Fitt { QTY<=50 LF}		LF	$85.00
711004	PIPE, WM, D.I, CL 52, 4 IN, INCL Fitt { QTY>50 LF}		LF	$80.00
711006	PIPE, WM, D.I, CL 52,6 IN, INCL Fitt { QTY<=50 LF}		LF	$100.00
711006	PIPE, WM, D.I, CL 52, 6IN, INCL Fitt{ QTY>50 LF}		LF	$95.00
711007	FURNISH SERVICE CONNECT PIPE & FITTINGS, 4 IN D.I. CL 52		LF	$50.00
711008	PIPE, WM, D.I, CL 52, 8IN, INCL Fitt { QTY<=50 LF}		LF	$135.00
711008	PIPE, WM, D.I, CL 52,8 IN, INCL Fitt { QTY>50 LF}		LF	$125.00
711010	PIPE, WM, D.I, CL 52,10 IN, INCL Fitt { QTY<=50 LF}		LF	$147.00
711010	PIPE, WM, D.I, CL 52, 10 IN, INCL Fitt { QTY>50 LF}		LF	$140.00
711012	PIPE, WM, D.I, CL 52,12 IN, INCL Fitt { QTY<=50 LF}		LF	$170.00
711012	PIPE, WM, D.I, CL 52, 12IN, INCL Fitt { QTY>50 LF}		LF	$165.00
711106	PIPE, WM, D.I, CL 52,6 IN, RJ,INCL Fitt { QTY<=50 LF}		LF	$120.00
711106	PIPE, WM, D.I, CL 52, 6IN,RJ, INCL Fitt { QTY>50 LF}		LF	$115.00
711108	PIPE, WM, D.I, CL 52,8 IN, RJ,INCL Fitt { QTY<=50 LF}		LF	$140.00
711108	PIPE, WM, D.I, CL 52, 8IN,RJ, INCL Fitt { QTY>50 LF}		LF	$135.00
711112	PIPE, WM, D.I, CL 52,12 IN, RJ,INCL Fitt { QTY<=50 LF}		LF	$185.00
711112	PIPE, WM, D.I, CL 52, 12 IN,RJ, INCL Fitt { QTY>50 LF}		LF	$180.00
711116	PIPE, WM, D.I, CL 52,16 IN, RJ,INCL Fitt { QTY<=50 LF}		LF	$300.00
711116	PIPE, WM, D.I, CL 52, 16 IN,RJ, INCL Fitt{ QTY>50 LF}		LF	$270.00
711130	PIPE, WM, D.I, CL 52,30 IN, RJ,INCL Fitt { QTY<=50 LF}		LF	$1,100.00
711130	PIPE, WM, D.I, CL 52, 30 IN,RJ, INCL Fitt { QTY>50 LF}		LF	$950.00
711206	BEDDING, Water Main, CL B,6 IN Pipe		LF	$11.00
711208	BEDDING, Water Main, CL B,8 IN Pipe		LF	$13.00
711210	BEDDING, Water Main, CL B,10 IN Pipe		LF	$14.00
711212	BEDDING, Water Main, CL B,12 IN Pipe		LF	$15.00
711230	BEDDING, Water Main, CL B,30 IN Pipe		LF	$45.00
711400	BLOCKING Cement Concrete { QTY<=25CY}		CY	$500.00
711400	BLOCKING Cement Concrete { QTY >25CY}		CY	$400.00
711401	BLOCKING Ecology Block {Width =6FT}		EA	$400.00
711401	BLOCKING Ecology Block {Width =3FT}		EA	$200.00
711402	BLOWOFF Assembly, 2 IN { QTY <=2 EA}		EA	$4,000.00
711402	BLOWOFF Assembly, 2 IN { QTY >2 EA}		EA	$2,800.00
711500	STATION Electrolysis Test { QTY <=2 EA}		EA	$5,000.00
711500	STATION Electrolysis Test { QTY >2 EA}		EA	$2,500.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
Sec 7-12	**Valves For Water Mains**			
712004	VALVE, GATE DOUBLE DISK 4 In {QTY <= 5EA}		EA	$1,100.00
712004	VALVE, GATE DOUBLE DISK 4 In {QTY > 5EA}		EA	$950.00
712006	VALVE, GATE 6 In {QTY <= 3EA}		EA	$1,250.00
712006	VALVE, GATE 6 In {QTY > 3EA}		EA	$1,100.00
712008	VALVE, GATE 8 In {QTY <= 3EA}		EA	$2,000.00
712008	VALVE, GATE 8 In {QTY > 3EA}		EA	$1,800.00
712010	VALVE, GATE 10 In {QTY <= 3EA}		EA	$2,200.00
712010	VALVE, GATE 10 In {QTY > 3EA}		EA	$2,000.00
712012	VALVE, GATE 12 In {QTY <= 3EA}		EA	$2,750.00
712012	VALVE, GATE 12In {QTY > 3EA}		EA	$2,400.00
712106	VALVE, BUTTERFLY 6 IN { QTY<=3 EA}		EA	$1,500.00
712106	VALVE, BUTTERFLY, 6 IN { QTY >3 EA}		EA	$1,350.00
712108	VALVE, BUTTERFLY,8 IN { QTY<=3 EA}		EA	$1,800.00
712108	VALVE, BUTTERFLY, 8 IN { QTY >3 EA}		EA	$1,350.00
712110	VALVE, BUTTERFLY,10 IN { QTY<=3 EA}		EA	$3,000.00
712110	VALVE, BUTTERFLY, 10 IN { QTY >3 EA}		EA	$2,500.00
712112	VALVE, BUTTERFLY,12 IN { QTY<=3 EA}		EA	$4,000.00
712112	VALVE, BUTTERFLY, 12 IN { QTY >3 EA}		EA	$3,000.00
712116	VALVE, BUTTERFLY,16 IN { QTY<=3 EA}		EA	$5,000.00
712116	VALVE, BUTTERFLY, 16 IN { QTY >3 EA}		EA	$4,000.00
712120	VALVE, BUTTERFLY,20 IN { QTY<=3 EA}		EA	$9,000.00
712120	VALVE, BUTTERFLY, 20 IN { QTY >3 EA}		EA	$8,000.00
712124	VALVE, BUTTERFLY,24 IN { QTY<=3 EA}		EA	$11,000.00
712124	VALVE, BUTTERFLY, 24 IN { QTY >3 EA}		EA	$10,000.00
712130	VALVE, BUTTERFLY,30 IN { QTY<=3 EA}		EA	$17,500.00
712130	VALVE, BUTTERFLY, 30 IN { QTY >3 EA}		EA	$15,000.00
712500	VALVE BOX, Cast Iron {QTY <=3 EA}		EA	$400.00
712500	VALVE BOX, Cast Iron {QTY > 3 EA}		EA	$350.00
Sec 7-14	**Hydrants**			
714006	HYDRANT, 6 IN Conn, Install Only		EA	$3,500.00
Sec 7-16	**Flow Control Systems**			
716010	FLOW CONTROL, DEVICE Assembly { QTY<=2 EA}		EA	$4,800.00
716010	FLOW CONTROL, DEVICE Assembly { QTY >2 EA}		EA	$2,500.00
716124	PIPE Detention, Conc, 24 IN { Depth <= 10 FT}		LF	$130.00
716124	PIPE Detention, Conc, 24 IN { Depth > 10 FT}		LF	$175.00
716130	PIPE Detention, Conc, 30 IN { Depth <= 10 FT}		LF	$140.00
716130	PIPE Detention, Conc, 30 IN { Depth > 10 FT}		LF	$195.00
716136	PIPE Detention, Conc, 36 IN { Depth <= 15 FT}		LF	$150.00
716136	PIPE Detention, Conc, 36 IN { Depth > 15 FT}		LF	$300.00
716154	PIPE Detention, Conc, 54 IN { Depth <= 15 FT}		LF	$360.00
716154	PIPE Detention, Conc, 54 IN { Depth > 15 FT}		LF	$650.00
716160	PIPE Detention, Conc, 60 IN { Depth <= 20 FT}		LF	$480.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
716160	PIPE Detention, Conc, 60 IN { Depth > 20 FT}		LF	$725.00
716172	PIPE Detention, Conc, 72 IN { Depth <= 20 FT}		LF	$540.00
716172	PIPE Detention, Conc, 72 IN { Depth > 20 FT}		LF	$800.00
716224	PIPE Detention, D.I, 24 In { Depth <= 10FT}		LF	$150.00
716224	PIPE Detention, D.I, 24 In { Depth > 10FT}		LF	$350.00
716230	PIPE Detention, D.I, 30 In { Depth <= 10FT}		LF	$300.00
716230	PIPE Detention, D.I, 30 In { Depth > 10FT}		LF	$550.00
716236	PIPE Detention, D.I, 36 In { Depth <= 15FT}		LF	$310.00
716236	PIPE Detention, D.I, 36 In { Depth > 15FT}		LF	$575.00
716254	PIPE Detention, D.I, 54 In { Depth <= 15FT}		LF	$500.00
716254	PIPE Detention, D.I, 54 In { Depth > 15FT}		LF	$750.00
716260	PIPE Detention, D.I, 60 In { Depth <= 20FT}		LF	$600.00
716260	PIPE Detention, D.I, 60 In { Depth > 20FT}		LF	$950.00
716324	PIPE Detention, Polypropylene 24 In { Depth <= 10FT}		LF	$125.00
716324	PIPE Detention, Polypropylene , 24 In { Depth > 10FT}		LF	$135.00
716330	PIPE Detention, Polypropylene 30 In { Depth <= 10FT}		LF	$175.00
716330	PIPE Detention, Polypropylene , 30 In { Depth > 10FT}		LF	$200.00
716336	PIPE Detention, Polypropylene 36 In { Depth <= 10FT}		LF	$225.00
716336	PIPE Detention, Polypropylene , 36 In { Depth > 10FT}		LF	$250.00
716354	PIPE Detention, Polypropylene 54 In { Depth <= 15FT}		LF	$350.00
716354	PIPE Detention, Polypropylene , 54 In { Depth > 15FT}		LF	$400.00
716360	PIPE Detention, Polypropylene 60 In { Depth <= 20FT}		LF	$450.00
716360	PIPE Detention, Polypropylene , 60 In { Depth > 20FT}		LF	$500.00
Sec 7-17	**Storm Drains and sanitary Sewers**			
717006	BEDDING, CL B, 6 IN Pipe { QTY <=50LF}		LF	$13.00
717006	BEDDING,, CL B, 6 IN Pipe { QTY >50LF}		LF	$11.00
717008	BEDDING,, CL B, 8 IN Pipe { QTY <=50LF}		LF	$17.00
717008	BEDDING,, CL B, 8 IN Pipe { QTY >50LF}		LF	$14.00
717010	BEDDING,, CL B, 10 IN Pipe { QTY <=50LF}		LF	$20.00
717010	BEDDING, CL B, 10 IN Pipe { QTY >50LF}		LF	$15.00
717012	BEDDING,, CL B, 12 IN Pipe { QTY <=50LF}		LF	$22.00
717012	BEDDING,, CL B, 12 IN Pipe { QTY >50LF}		LF	$17.00
717015	BEDDING,, CL B, 15 IN Pipe { QTY <=50LF}		LF	$24.00
717015	BEDDING,CL B, 15 IN Pipe { QTY >50LF}		LF	$18.00
717018	BEDDING,, CL B, 18 IN Pipe { QTY <=50LF}		LF	$25.00
717018	BEDDING,CL B, 18 IN Pipe { QTY >50LF}		LF	$19.00
717024	BEDDING,, CL B, 24 IN Pipe { QTY <=50LF}		LF	$27.00
717024	BEDDING,, CL B, 24 IN Pipe { QTY >50LF}		LF	$21.00
717030	BEDDING,, CL B, 30 IN Pipe { QTY <=50LF}		LF	$30.00
717030	BEDDING, CL B, 30 IN Pipe { QTY >50LF}		LF	$27.00
717036	BEDDING,, CL B, 36 IN Pipe { QTY <=50LF}		LF	$35.00
717036	BEDDING, CL B, 36 IN Pipe { QTY >50LF}		LF	$32.00
717042	BEDDING,, CL B, 42 IN Pipe { QTY <=50LF}		LF	$47.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
717042	BEDDING, CL B, 42 IN Pipe { QTY >50LF}		LF	$40.00
717048	BEDDING,, CL B, 48 IN Pipe { QTY <=50LF}		LF	$50.00
717048	BEDDING,, CL B, 48 IN Pipe { QTY >50LF}		LF	$46.00
717054	BEDDING,, CL B, 54 IN Pipe { QTY <=50LF}		LF	$53.00
717054	BEDDING, CL B, 54 IN Pipe { QTY >50LF}		LF	$50.00
717060	BEDDING,, CL B, 60 IN Pipe { QTY <=50LF}		LF	$65.00
717060	BEDDING,,CL B, 60 IN Pipe { QTY >50LF}		LF	$60.00
717072	BEDDING, CL B,72 IN Pipe { QTY <=50LF}		LF	$75.00
717072	BEDDING, CL B, 72 IN Pipe { QTY >50LF}		LF	$70.00
717106	BEDDING,, CL C,6 IN Pipe { QTY <=50LF}		LF	$10.00
717106	BEDDING,, CL C, 6 IN Pipe { QTY >50LF}		LF	$7.00
717108	BEDDING,, CL C,8 IN Pipe { QTY <=50LF}		LF	$12.00
717108	BEDDING,, CL C, 8 IN Pipe { QTY >50LF}		LF	$9.00
717110	BEDDING,, CL C,10 IN Pipe { QTY <=50LF}		LF	$15.00
717110	BEDDING,, CL C, 10 IN Pipe { QTY >50LF}		LF	$10.00
717112	BEDDING,, CL C,12 IN Pipe { QTY <=50LF}		LF	$22.00
717112	BEDDING,, CL C, 12 IN Pipe { QTY >50LF}		LF	$11.00
717115	BEDDING,, CL C,15 IN Pipe { QTY <=50LF}		LF	$25.00
717115	BEDDING,, CL C, 15 IN Pipe { QTY >50LF}		LF	$12.00
717118	BEDDING,, CL C,18 IN Pipe { QTY <=50LF}		LF	$27.00
717118	BEDDING,, CL C, 18 IN Pipe { QTY >50LF}		LF	$13.00
717124	BEDDING,, CL C,24 IN Pipe { QTY <=50LF}		LF	$29.00
717124	BEDDING,, CL C, 24 IN Pipe { QTY >50LF}		LF	$14.00
717130	BEDDING,, CL C,30 IN Pipe { QTY <=50LF}		LF	$30.00
717130	BEDDING,, CL C, 30 IN Pipe { QTY >50LF}		LF	$18.00
717136	BEDDING,, CL C,36 IN Pipe { QTY <=50LF}		LF	$32.00
717136	BEDDING,, CL C, 36 IN Pipe { QTY >50LF}		LF	$21.00
717142	BEDDING,, CL C,42 IN Pipe { QTY <=50LF}		LF	$35.00
717142	BEDDING,, CL C, 42 IN Pipe { QTY >50LF}		LF	$27.00
717148	BEDDING, CL C,48 IN Pipe { QTY <=50LF}		LF	$37.00
717148	BEDDING, CL C, 48 IN Pipe { QTY >50LF}		LF	$31.00
717154	BEDDING, CL C,54 IN Pipe { QTY <=50LF}		LF	$39.00
717154	BEDDING, CL C, 54 IN Pipe { QTY >50LF}		LF	$34.00
717160	BEDDING,, CL C,60 IN Pipe { QTY <=50LF}		LF	$42.00
717160	BEDDING,, CL C, 60 IN Pipe { QTY >50LF}		LF	$40.00
717172	BEDDING,, CL C,72 IN Pipe { QTY <=50LF}		LF	$45.00
717172	BEDDING,, CL C, 72 IN Pipe { QTY >50LF}		LF	$47.00
717208	PIPE, PS, Conc C14 CL3, 8 IN { QTY<=20FT}		LF	$90.00
717208	PIPE, PS, Conc C14 CL3, 8 IN { QTY>20FT}		LF	$65.00
717210	PIPE, PS, Conc C14 CL3, 10 IN { QTY<=20FT}		LF	$100.00
717210	PIPE, PS, Conc C14 CL3, 10 IN { QTY>20FT}		LF	$70.00
717213	PIPE, PS, Conc C76 CLIV, 12 IN { QTY<=20FT}		LF	$110.00
717213	PIPE, PS, Conc C76 CLIV, 12 IN { QTY>20FT}		LF	$75.00
717216	PIPE, PS, Conc C76 CLIV, 15 IN { QTY<=20FT}		LF	$115.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
717216	PIPE, PS, Conc C76 CLIV, 15 IN { QTY>20FT}		LF	$80.00
717218	PIPE, PS, Conc C76 CLIII, 18 IN { QTY<=20FT}		LF	$120.00
717218	PIPE, PS, Conc C76 CLIII, 18 IN { QTY>20FT}		LF	$90.00
717221	PIPE, PS, Conc C76 CLIII, 21 IN { QTY<=20FT}		LF	$135.00
717221	PIPE, PS, Conc C76 CLIII, 21 IN { QTY>20FT}		LF	$110.00
717224	PIPE, PS, Conc C76 CLIII, 24 IN { QTY<=20FT}		LF	$145.00
717224	PIPE, PS, Conc C76 CLIII, 24 IN { QTY>20FT}		LF	$130.00
717230	PIPE, PS, Conc C76 CLIII, 30 IN { QTY<=20FT}		LF	$160.00
717230	PIPE, PS, Conc C76 CLIII, 30 IN { QTY>20FT}		LF	$140.00
717236	PIPE, PS, Conc C76 CLIII, 36 IN { QTY<=20FT}		LF	$175.00
717236	PIPE, PS, Conc C76 CLIII, 36 IN { QTY>20FT}		LF	$150.00
717254	PIPE, PS, Conc C76 CLIII, 54 IN { QTY<=20FT}		LF	$420.00
717254	PIPE, PS, Conc C76 CLIII, 54 IN { QTY>20FT}		LF	$360.00
717304	PIPE, PS, DI., CL50,4 IN { QTY<=50FT}		LF	$95.00
717304	PIPE, PS, PS, DI., CL50,4 IN { QTY>50FT}		LF	$80.00
717306	PIPE, PS, DI., CL50,6 IN { QTY<=50FT}		LF	$110.00
717306	PIPE, PS, PS, DI., CL50,6 IN { QTY>50FT}		LF	$90.00
717308	PIPE, PS, DI., CL50,8 IN { QTY<=50FT}		LF	$140.00
717308	PIPE, PS, PS, DI., CL50,8 IN { QTY>50FT}		LF	$100.00
717310	PIPE, PS, DI., CL50,10 IN { QTY<=50FT}		LF	$150.00
717310	PIPE, PS, DI., CL50,10 IN { QTY>50FT}		LF	$110.00
717312	PIPE, PS, DI., CL50,12 IN { QTY<=50FT}		LF	$160.00
717312	PIPE, PS, DI., CL50,12 IN { QTY>50FT}		LF	$115.00
717314	PIPE, PS, DI., CL50,14IN { QTY<=50FT}		LF	$170.00
717314	PIPE, PS, DI., CL50,14 IN { QTY>50FT}		LF	$125.00
717316	PIPE, PS, DI., CL50,16 IN { QTY<=50FT}		LF	$190.00
717316	PIPE, PS, PS, DI., CL50,16 IN { QTY>50FT}		LF	$135.00
717318	PIPE, PS, DI., CL50,18 IN { QTY<=50FT}		LF	$200.00
717318	PIPE, PS, DI., CL50,18 IN { QTY>50FT}		LF	$150.00
717320	PIPE, PS, DI., CL50,20 IN { QTY<=50FT}		LF	$225.00
717320	PIPE, PS, DI., CL50,20 IN { QTY>50FT}		LF	$190.00
717324	PIPE, PS, DI., CL50,24 IN { QTY<=50FT}		LF	$240.00
717324	PIPE, PS, DI., CL50,24 IN { QTY>50FT}		LF	$210.00
717358	PIPE, PS, DI., CL52,8IN { QTY<=50FT}		LF	$145.00
717358	PIPE, PS, , DI., CL52,8IN { QTY>50FT}		LF	$105.00
717360	PIPE, PS, DI., CL52,10 IN { QTY<=50FT}		LF	$155.00
717360	PIPE, PS, PS, DI., CL52,10 IN { QTY>50FT}		LF	$115.00
717362	PIPE, PS, DI., CL52,12 IN { QTY<=50FT}		LF	$165.00
717362	PIPE, PS, DI., CL52,12 IN { QTY>50FT}		LF	$120.00
717368	PIPE, PS, VCP, Extra Strength 8 IN { QTY<=50FT}		LF	$90.00
717368	PIPE, PS, VCP, Extra Strength 8 IN { QTY>50FT}		LF	$80.00
717370	PIPE, PS, VCP, Extra Strength 10 IN { QTY<=50FT}		LF	$95.00
717370	PIPE, PS, VCP, Extra Strength 10 IN { QTY>50FT}		LF	$85.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
717372	PIPE, PS, VCP, Extra Strength 12 IN { QTY<=50FT}		LF	$100.00
717372	PIPE, PS, VCP, Extra Strength 12 IN { QTY>50FT}		LF	$90.00
717374	PIPE, PS, VCP, Extra Strength 14 IN { QTY<=50FT}		LF	$110.00
717374	PIPE, PS, VCP, Extra Strength 14 IN { QTY>50FT}		LF	$100.00
717376	PIPE, PS, VCP, Extra Strength 16 IN { QTY<=50FT}		LF	$130.00
717376	PIPE, PS, VCP, Extra Strength 16 IN { QTY>50FT}		LF	$120.00
717378	PIPE, PS, VCP, Extra Strength 18 IN { QTY<=50FT}		LF	$140.00
717378	PIPE, PS, VCP, Extra Strength 18 IN { QTY>50FT}		LF	$135.00
717384	PIPE, PS, VCP, Extra Strength 24 IN { QTY<=50FT}		LF	$235.00
717384	PIPE, PS, VCP, Extra Strength 24 IN { QTY>50FT}		LF	$200.00
717413	PIPE PSD, Conc Reinf C76 CL IV, 12IN{QTY<=50 FT}		LF	$95.00
717413	PIPE PSD, Conc Reinf C76 CL IV, 12IN{QTY >50 FT}		LF	$75.00
717416	PIPE PSD, Conc Reinf C76 CL IV, 15IN{QTY<=50 FT}		LF	$110.00
717416	PIPE PSD, Conc Reinf C76 CL IV, 15IN{QTY >50 FT}		LF	$80.00
717418	PIPE PSD, Conc Reinf C76 CL IV, 18IN{QTY<=50 FT}		LF	$120.00
717418	PIPE PSD, Conc Reinf C76 CL IV, 18IN{QTY >50 FT}		LF	$90.00
717421	PIPE PSD, Conc Reinf C76 CL IV, 21IN{QTY<=50 FT}		LF	$130.00
717421	PIPE PSD, Conc Reinf C76 CL IV, 21IN{QTY >50 FT}		LF	$110.00
717424	PIPE PSD, Conc Reinf C76 CL IV, 24IN{QTY<=50 FT}		LF	$145.00
717424	PIPE PSD, Conc Reinf C76 CL IV, 24IN{QTY >50 FT}		LF	$130.00
717430	PIPE PSD, Conc Reinf C76 CL IV, 30IN{QTY<=50 FT}		LF	$155.00
717430	PIPE PSD, Conc Reinf C76 CL IV, 30IN{QTY >50 FT}		LF	$140.00
717436	PIPE PSD, Conc Reinf C76 CL IV, 36IN{QTY<=50 FT}		LF	$165.00
717436	PIPE PSD, Conc Reinf C76 CL IV, 36IN{QTY >50 FT}		LF	$150.00
717442	PIPE PSD, Conc Reinf C76 CL IV, 42IN{QTY<=50 FT}		LF	$220.00
717442	PIPE PSD, Conc Reinf C76 CL IV, 42IN{QTY >50 FT}		LF	$200.00
717448	PIPE PSD, Conc Reinf C76 CL IV, 48IN{QTY<=50 FT}		LF	$290.00
717448	PIPE PSD, Conc Reinf C76 CL IV, 48IN{QTY >50 FT}		LF	$260.00
717460	PIPE PSD, Conc Reinf C76 CL IV, 60IN{QTY<=50 FT}		LF	$510.00
717460	PIPE PSD, Conc Reinf C76 CL IV, 60IN{QTY >50 FT}		LF	$480.00
717606	PIPE PSD, DI CL 50, 6IN {QTY <=50 FT}		LF	$110.00
717606	Pipe PSD, DI CL 50, 6 IN {QTY >50 FT}		LF	$90.00
717608	PIPE PSD, DI CL 50, 8 IN {QTY <=50 FT}		LF	$140.00
717608	PIPE PSD, DI CL 50, 8 IN {QTY >50 FT}		LF	$100.00
717610	PIPE PSD, DI CL 50, 10 IN {QTY <=50 FT}		LF	$150.00
717610	PIPE PSD, DI CL 50, 10 IN {QTY >50 FT}		LF	$110.00
717612	PIPE PSD, DI CL 50, 12 IN {QTY <=50 FT}		LF	$160.00
717612	PIPE PSD, DI CL 50, 12 IN {QTY >50 FT}		LF	$115.00
717614	PIPE PSD, DI CL 50, 14 IN {QTY <=50 FT}		LF	$170.00
717614	PIPE PSD, DI CL 50, 14 IN {QTY >50 FT}		LF	$125.00
717616	PIPE PSD, DI CL 50, 16 IN {QTY <=50 FT}		LF	$190.00
717616	PIPE PSD, DI CL 50, 16 IN {QTY >50 FT}		LF	$135.00
717618	PIPE PSD, DI CL 50, 18 IN {QTY <=50 FT}		LF	$200.00
717618	PIPE PSD, DI CL 50, 18 IN {QTY >50 FT}		LF	$150.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
717620	PIPE PSD, DI CL 50, 20 IN {QTY <=50 FT}		LF	$225.00
717620	PIPE PSD, DI CL 50, 20 IN {QTY >50 FT}		LF	$190.00
717624	PIPE PSD, DI CL 50, 24 IN {QTY <=50 FT}		LF	$240.00
717624	PIPE PSD, DI CL 50, 24 IN {QTY >50 FT}		LF	$210.00
717630	PIPE PSD, DI CL 50, 30 IN {QTY <=50 FT}		LF	$450.00
717630	PIPE PSD, DI CL 50, 30 IN {QTY >50 FT}		LF	$300.00
717636	PIPE PSD, DI CL 50, 36 IN {QTY <=50 FT}		LF	$475.00
717636	PIPE PSD, DI CL 50, 36 IN {QTY >50 FT}		LF	$310.00
717642	PIPE PSD, DI CL 50, 42 IN {QTY <=50 FT}		LF	$500.00
717642	PIPE PSD, DI CL 50, 42 IN {QTY >50 FT}		LF	$350.00
717648	PIPE PSD, DI CL 50, 48 IN {QTY <=50 FT}		LF	$525.00
717648	PIPE PSD, DI CL 50, 48 IN {QTY >50 FT}		LF	$400.00
717660	PIPE PSD, DI CL 50, 60 IN {QTY <=50 FT}		LF	$650.00
717660	PIPE PSD, DI CL 50, 60 IN {QTY >50 FT}		LF	$600.00
717654	PIPE PSD, DI CL 52, 4 IN {QTY <=50 FT}		LF	$105.00
717654	PIPE PSD, DI CL 52, 4 IN {QTY >50 FT}		LF	$90.00
717656	PIPE PSD, DI CL 52, 6 IN {QTY <=50 FT}		LF	$120.00
717656	PIPE PSD, DI CL 52, 6 IN {QTY >50 FT}		LF	$100.00
717658	PIPE PSD, DI CL 52, 8 IN {QTY <=50 FT}		LF	$150.00
717658	PIPE PSD, DI CL 52, 8 IN {QTY >50 FT}		LF	$110.00
717662	PIPE PSD, DI CL 52, 12 IN {QTY <=50 FT}		LF	$160.00
717662	PIPE PSD, DI CL 52, 12 IN {QTY >50 FT}		LF	$120.00
717668	PIPE(STEAM) Carbon Steel ASTMA196 , 8 IN {QTY <=50 FT}		LF	$1,100.00
717668	PIPE(STEAM) Carbon Steel ASTMA196 , 8 IN {QTY >50 FT}		LF	$1,050.00
717670	PIPE(STEAM) Carbon Steel ASTMA196 , 10 IN {QTY <=50 FT}		LF	$1,250.00
717670	PIPE(STEAM) Carbon Steel ASTMA196 , 10 IN {QTY >50 FT}		LF	$1,150.00
717708	PIPE, PSS, Conc C14 CL3, 8 IN { QTY <= 50 FT}		LF	$65.00
717708	PIPE, PSS, Conc C14 CL3, 8 IN { QTY > 50FT}		LF	$55.00
717710	PIPE, PSS, Conc C14 CL3, 10 IN { QTY <= 50 FT}		LF	$70.00
717710	PIPE, PSS, Conc C14 CL3, 10 IN { QTY > 50FT}		LF	$60.00
717712	PIPE, PSS, Conc Reinf C76 CLIV, 12 IN { QTY <= 50 FT}		LF	$85.00
717712	PIPE, PSS, Conc Reinf C76 CLIV, 12 IN { QTY > 50 FT}		LF	$70.00
717716	PIPE, PSS, Conc Reinf C76 CLIV, 15 IN { QTY <= 50 FT}		LF	$95.00
717716	PIPE, PSS, Conc Reinf C76 CLIV, 15 IN { QTY > 50 FT}		LF	$80.00
717716	PIPE, PSS, Conc Reinf C76 CLIV, 18 IN { QTY <= 50 FT}		LF	$130.00
717716	PIPE, PSS, Conc Reinf C76 CLIV, 18 IN { QTY > 50 FT}		LF	$100.00
717716	PIPE, PSS, Conc Reinf C76 CLIV, 21 IN { QTY <= 50 FT}		LF	$165.00
717716	PIPE, PSS, Conc Reinf C76 CLIV, 21 IN { QTY > 50 FT}		LF	$125.00
717716	PIPE, PSS, Conc Reinf C76 CLIV, 24 IN { QTY <= 50 FT}		LF	$190.00
717716	PIPE, PSS, Conc Reinf C76 CLIV, 24 IN { QTY > 50 FT}		LF	$135.00
717728	PIPE, PSS, VCP , Extra Strength, 8 IN { QTY <= 20 FT}		LF	$90.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
717728	PIPE, PSS, VCP , Extra Strength, 8 IN { QTY <= 20 FT}		LF	$80.00
717730	PIPE, PSS, VCP , Extra Strength, 10 IN { QTY <= 20 FT}		LF	$95.00
717730	PIPE, PSS, VCP , Extra Strength, 10 IN { QTY <= 20 FT}		LF	$85.00
717732	PIPE, PSS, VCP , Extra Strength, 12 IN { QTY <= 20 FT}		LF	$100.00
717732	PIPE, PSS, VCP , Extra Strength, 12 IN { QTY <= 20 FT}		LF	$90.00
717735	PIPE, PSS, VCP , Extra Strength, 15 IN { QTY <= 20 FT}		LF	$125.00
717735	PIPE, PSS, VCP , Extra Strength, 15 IN { QTY <= 20 FT}		LF	$110.00
717738	PIPE, PSS, VCP , Extra Strength, 18 IN { QTY <= 20 FT}		LF	$140.00
717738	PIPE, PSS, VCP , Extra Strength, 18 IN { QTY <= 20 FT}		LF	$125.00
717744	PIPE, PSS, VCP , Extra Strength, 24 IN { QTY <= 20 FT}		LF	$165.00
717744	PIPE, PSS, VCP , Extra Strength, 24 IN { QTY <= 20 FT}		LF	$150.00
717748	PIPE, PSS, DI, CL 50 8 IN { QTY <= 50 FT}		LF	$140.00
717748	PIPE, PSS, DI, CL 50 8 IN IN { QTY > 50 FT}		LF	$100.00
717750	PIPE, PSS, DI, CL 50 10 IN { QTY > 50 FT}		LF	$150.00
717750	PIPE, PSS, DI, CL 50 10 IN IN { QTY <= 50 FT}		LF	$110.00
717752	PIPE, PSS, DI, CL 50 12 IN { QTY > 50 FT}		LF	$160.00
717752	PIPE, PSS, DI, CL 50 12 IN IN { QTY > 50 FT}		LF	$115.00
717754	PIPE, PSS, DI, CL 50 14 IN { QTY <=100 FT}		LF	$170.00
717754	PIPE, PSS, DI, CL 50 14 IN IN { QTY > 100 FT}		LF	$125.00
717756	PIPE, PSS, DI, CL 50 16 IN { QTY <= 100 FT}		LF	$190.00
717756	PIPE, PSS, DI, CL 50 16 IN IN { QTY >100 FT}		LF	$135.00
717778	PIPE, PSS, DI, CL 52 8 IN { QTY <= 100 FT}		LF	$150.00
717778	PIPE, PSS, DI, CL 52 8 IN IN { QTY > 100 FT}		LF	$110.00
717780	PIPE, PSS, DI, CL 52 10 IN { QTY <=100 FT}		LF	$160.00
717780	PIPE, PSS, DI, CL 52 10 IN { QTY >100 FT}		LF	$120.00
717782	PIPE, PSS, DI, CL 52 12 IN { QTY <=100 FT}		LF	$170.00
717782	PIPE, PSS, DI, CL 52 12 IN { QTY >100 FT}		LF	$125.00
717784	PIPE, PSS, DI, CL 52 14 IN { QTY <=200 FT}		LF	$180.00
717784	PIPE, PSS, DI, CL 52 14 IN { QTY >200 FT}		LF	$135.00
717786	PIPE, PSS, DI, CL 52 16 IN { QTY <=200 FT}		LF	$200.00
717786	PIPE, PSS, DI, CL 52 16 IN { QTY >200 FT}		LF	$145.00
717788	PIPE, PSS, DI, CL 52 18 IN { QTY <=200 FT}		LF	$210.00
717788	PIPE, PSS, DI, CL 52 18 IN { QTY >200 FT}		LF	$160.00
717790	PIPE, PS or PSS, PVC, D3034 SDR 35,8 IN { QTY <=50 FT}		LF	$110.00
717790	PIPE, PS or PSS, PVC, D3034 SDR 35 8 IN { QTY >50 FT}		LF	$55.00
717792	PIPE, PS or PSS, PVC, D3034 SDR 35,12 IN { QTY <=50 FT}		LF	$120.00
717792	PIPE, PS or PSS, PVC, D3034 SDR 35 12 IN { QTY >50 FT}		LF	$65.00
717795	PIPE, PS or PSS, PVC, D3034 SDR 35,15 IN { QTY <=50 FT}		LF	$130.00
717795	PIPE, PS or PSS, PVC, D3034 SDR 35 15 IN { QTY >50 FT}		LF	$75.00
717806	PIPE, HDPE Corrugated, Type SDR 17 WT Gaskets,6 IN { QTY <=50 FT}		LF	$65.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
717806	PIPE, HDPE Corrugated, Type SDR 17 WT Gaskets,6 IN { QTY >50 FT}		LF	$50.00
717808	PIPE, HDPE Corrugated, Type SDR 17 WT Gaskets,8 IN { QTY <=50 FT}		LF	$80.00
717808	PIPE, HDPE Corrugated, Type SDR 17 WT Gaskets,8 IN { QTY >50 FT}		LF	$70.00
717810	PIPE, HDPE Corrugated, Type SDR 17 WT Gaskets,10 IN { QTY <=50 FT}		LF	$110.00
717810	PIPE, HDPE Corrugated, Type SDR 17 WT Gaskets,10 IN { QTY >50 FT}		LF	$100.00
717812	PIPE, HDPE Corrugated, Type SDR 17 WT Gaskets,12 IN { QTY <=50 FT}		LF	$130.00
717812	PIPE, HDPE Corrugated, Type SDR 17 WT Gaskets,12IN { QTY >50 FT}		LF	$120.00
717815	PIPE, HDPE Corrugated, Type SDR 17 WT Gaskets,15IN { QTY <=50 FT}		LF	$150.00
717815	PIPE, HDPE Corrugated, Type SDR 17 WT Gaskets,15IN { QTY >50 FT}		LF	$140.00
717818	PIPE, HDPE Corrugated, Type SDR 17 WT Gaskets,18IN { QTY <=50 FT}		LF	$175.00
717818	PIPE, HDPE Corrugated, Type SDR 17 WT Gaskets,18IN { QTY >50 FT}		LF	$160.00
717826	TEE, VCP, 6 IN { QTY <= 3 EA}		EA	$650.00
717826	TEE, VCP, 6 IN { QTY >3 EA}		EA	$500.00
717828	TEE, VCP, 8 IN { QTY <= 3 EA}		EA	$800.00
717828	TEE, VCP, 8 IN { QTY >3 EA}		EA	$700.00
717830	TEE, VCP, 10 IN { QTY <= 3 EA}		EA	$1,100.00
717830	TEE, VCP, 10 IN { QTY >3 EA}		EA	$900.00
717846	TEE, DI, 6 IN { QTY <= 3 EA}		EA	$1,200.00
717846	TEE, DI, 6 IN { QTY >3 EA}		EA	$850.00
717848	TEE, DI, 8 IN { QTY <= 3 EA}		EA	$1,300.00
717848	TEE, DI, 8 IN { QTY >3 EA}		EA	$1,150.00
717850	TEE, DI, 10 IN { QTY <= 5 EA}		EA	$1,450.00
717850	TEE, DI, 10 IN { QTY >5 EA}		EA	$1,300.00
717852	TEE, DI, 12 IN { QTY <= 5 EA}		EA	$1,650.00
717852	TEE, DI, 12 IN { QTY >5 EA}		EA	$1,500.00
717858	TEE, DI, 30 IN { QTY <= 5 EA}		EA	$2,550.00
717858	TEE, DI, 30 IN { QTY >5 EA}		EA	$2,250.00
717866	TEE, PVC, 6 IN { QTY <=5 EA}		EA	$300.00
717866	TEE, PVC, 6 IN { QTY >5 EA}		EA	$150.00
717868	TEE, PVC, 8 IN { QTY <=5 EA}		EA	$600.00
717868	TEE, PVC, 8 IN { QTY >5 EA}		EA	$175.00
717870	TEE, PVC, 10 IN { QTY <=5 EA}		EA	$750.00
717870	TEE, PVC, 10 IN { QTY >5 EA}		EA	$200.00
717888	TEE, 8 IN, Cut-In-Existing Conc Pipe { QTY <= 3 EA}		EA	$1,200.00
717888	TEE, 8 IN, Cut-In-Existing Conc Pipe { QTY > 3 EA}		EA	$1,000.00
717892	TEE, 12 IN, Cut-In-Existing Conc Pipe { QTY <=3EA}		EA	$1,400.00
717892	TEE, 12 IN, Cut-In-Existing Conc Pipe { QTY >3EA}		EA	$1,300.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
717896	TEE, 16 IN, Cut-In-Existing Conc Pipe { QTY <=3EA}		EA	$1,650.00
717896	TEE, 16 IN, Cut-In-Existing Conc Pipe { QTY >3EA}		EA	$1,500.00
717898	TEE, 18 IN, Cut-In-Existing Conc Pipe { QTY <=3EA}		EA	$2,750.00
717898	TEE, 18 IN, Cut-In-Existing Conc Pipe { QTY >3EA}		EA	$2,500.00
717899	TEE, 24 IN, Cut-In-Existing Conc Pipe { QTY <=3EA}		EA	$3,250.00
717899	TEE, 24 IN, Cut-In-Existing Conc Pipe { QTY >3EA}		EA	$4,000.00
717900	TEE, 30 IN, Cut-In-Existing Conc Pipe { QTY <=3EA}		EA	$3,250.00
717900	TEE, 30 IN, Cut-In-Existing Conc Pipe { QTY >3EA}		EA	$3,500.00
717985	TEMPORARY SEWER BYPASS { Length-250-500 FT}		LS	$30,000.00
717985	TEMPORARY SEWER BYPASS { Length-500-1000 FT}		LS	$60,000.00
717990	TELEVISION INSPECTION { QTY <=200FT 1 MOB}		LF	$4.00
717990	TELEVISION INSPECTION { QTY >200FT 1 MOB}		LF	$4.25
Sec 7-18	**Side Sewers**			
718006	PIPE, SS or SSS, Conc C14, CL 3, 6 IN { QTY <= 50 LF}		LF	$80.00
718006	PIPE, SS or SSS, Conc C14, CL 3, 6 IN { QTY > 50 LF}		LF	$55.00
718008	PIPE, SS or SSS, Conc C14, CL 3, 8 IN { QTY <= 50 LF}		LF	$90.00
718008	PIPE, SS or SSS, Conc C14, CL 3, 8 IN { QTY > 50 LF}		LF	$60.00
718010	PIPE, SS or SSS, Conc C14, CL 3, 10 IN { QTY <= 50 LF}		LF	$100.00
718010	PIPE, SS or SSS, Conc C14, CL 3,10IN { QTY > 50 LF}		LF	$70.00
718012	PIPE, SS or SSS, Conc C14, CL 3, 12 IN { QTY <= 50 LF}		LF	$110.00
718012	PIPE, SS or SSS, Conc C14, CL 3,12 IN { QTY > 50 LF}		LF	$80.00
718036	PIPE, SS or SSS, DI CL 50, 6 IN { QTY <= 20 LF}		LF	$95.00
718036	PIPE, SS or SSS, DI CL 50, 6 IN { QTY > 20 LF}		LF	$75.00
718038	PIPE, SS or SSS, DI CL 50,8 IN { QTY <= 20 LF}		LF	$105.00
718038	PIPE, SS or SSS, DI CL 50, 8 IN { QTY > 20 LF}		LF	$80.00
718206	PIPE, SD Conc, C14, CL3 6 IN { QTY <= 20 LF}		LF	$90.00
718206	PIPE, SD Conc, C14, CL3 6 IN { QTY > 20 LF}		LF	$55.00
718208	PIPE, SD Conc, C14, CL3 8 IN { QTY <= 20 LF}		LF	$100.00
718208	PIPE, SD Conc, C14, CL3 8 IN { QTY > 20 LF}		LF	$60.00
718210	PIPE, SD Conc, C14, CL3 10 IN { QTY <= 20 LF}		LF	$110.00
718208	PIPE, SD Conc, C14, CL3 10 IN { QTY > 20 LF}		LF	$65.00
718236	PIPE, SD, D.I., CL 50 6 IN {QTY<=20 LF}		LF	$125.00
718236	PIPE, SD, D.I., CL 50 6 IN {QTY>20 LF}		LF	$75.00
718238	PIPE, SD, D.I., CL 50 8 IN {QTY<=20 LF}		LF	$135.00
718238	PIPE, SD, D.I., CL 50 8 IN {QTY>20 LF}		LF	$80.00
718240	PIPE, SD, D.I., CL 50 10 IN {QTY<=20 LF}		LF	$150.00
718240	PIPE, SD, D.I., CL 50 10 IN {QTY>20 LF}		LF	$85.00
718242	PIPE, SD, D.I., CL 50 12 IN {QTY<=20 LF}		LF	$175.00
718242	PIPE, SD, D.I., CL 50 12 IN {QTY>20 LF}		LF	$100.00
718406	TEE Test, Conc, 6 IN {QTY <=2}		EA	$1,200.00
718406	TEE Test, Conc, 6 IN {QTY 3-5 Tests}		EA	$500.00
718408	TEE Test, Conc, 8 IN {QTY <=2}		EA	$1,400.00
718408	TEE Test, Conc, 8 IN {QTY 3-5 Tests}		EA	$600.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
718436	TEE, Test, D.I, 6 IN {QTY <=5 EA}		EA	$1,350.00
718436	TEE, Test, D.I, 6 IN {QTY >5 EA}		EA	$750.00
718466	TEE, Test, PVC, 6 IN {QTY <=5 EA}		EA	$650.00
718466	TEE, Test, PVC, 6 IN {QTY >5 EA}		EA	$400.00
718468	TEE, Test, PVC, 8 IN {QTY <=5 EA}		EA	$700.00
718468	TEE, Test, PVC, 8 IN {QTY >5 EA}		EA	$500.00
Sec 7-19	**Sewer Clean Out**			
719004	SEWER Cleanout, 4 IN { QTY <= 5EA}		EA	$900.00
719004	SEWER Cleanout, 4 IN { QTY > 5EA}		EA	$700.00
719006	SEWER Cleanout, 6 IN { QTY <= 5EA}		EA	$950.00
719006	SEWER Cleanout, 6 IN { QTY > 5EA}		EA	$750.00
719008	SEWER Cleanout, 8 IN { QTY <= 5EA}		EA	$1,000.00
719008	SEWER Cleanout, 8 IN { QTY > 5EA}		EA	$800.00
Sec 7-20	**Adjustment of New and Existing Utility Structures to Finish Grade**			
720005	ADJUST Existing MH, CB, or VC { QTY <= 5EA}		EA	$600.00
720005	ADJUST Existing MH, CB, or VC { QTY > 5EA}		EA	$550.00
720010	ADJUST Existing Inlet { QTY <= 5EA}		EA	$600.00
720010	ADJUST Existing Inlet { QTY >5EA}		EA	$550.00
720015	ADJUST Existing Mon Frame & Cover { QTY <= 5EA}		EA	$600.00
720015	ADJUST Existing Mon Frame & Cover { QTY >5EA}		EA	$550.00
720020	ADJUST Existing Valve Box{ QTY <= 5EA}		EA	$500.00
720020	ADJUST Existing Valve Box { QTY >5EA}		EA	$475.00
720045	ADJUST Existing Handhole { QTY <= 5EA}		EA	$500.00
720045	ADJUST Existing Handhole { QTY >5EA}		EA	$400.00
720230	UTILITY Casting, Type 230 { QTY <=10 EA}		EA	$700.00
720230	UTILITY Casting, Type 230 { QTY >10 EA}		EA	$500.00
720235	UTILITY Casting, Type 230L { QTY <=10 EA}		EA	$800.00
720235	UTILITY CASTING, Type 230L { QTY >10 EA}		EA	$600.00
720265	UTILITY CASTING, Type 265 Vaned Grate { QTY <=10 EA}		EA	$700.00
720265	UTILITY CASTING, Type 265 Vaned Grate { QTY >10 EA}		EA	$550.00
720300	UTILITY CASTING, Type 361 { QTY <=10 EA}		EA	$800.00
720300	UTILITY CASTING, Type 361 { QTY >10 EA}		EA	$650.00
720310	UTILITY CASTING Furnished		EA	$400.00
720320	INSTALL Grate/Cover, Owner Furnished { QTY <=5EA}		EA	$350.00
720320	INSTALL Grate/Cover, Owner Furnished { QTY >5EA}		EA	$250.00
Sec 7-21	**Bioretention**			
721000	STORM Filter WQ Unit CSI(REF)		LS	$0.00
721002	BIORETENTION Soil { QTY <= 20CY}		CY	$90.00
721002	BIORETENTION Soil { QTY >20CY}		CY	$80.00
721004	BIORETENTION Soil { QTY <= 5TN }		TN	$50.00
721004	BIORETENTION Soil { QTY >5TN}		TN	$45.00
Sec 8-01	**Bioretention**			

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
801001	CONSTRUCTION Storm Water & Erosion Control Plan-CSECP{Project Value Up to $1M} CSI(REF)		LS	$0.00
801001	CONSTRUCTION Storm Water & Erosion Control Plan-CSECP{Project Value $1-$3M} CSI(REF)		LS	$0.00
801001	CONSTRUCTION Storm Water & Erosion Control Plan-CSECP{Project Value $3-$5M} CSI(REF)		LS	$0.00
801002	TREE Vegetation & Soil Protection Plan-TCSPP{Project Value Up to $1M} CSI(REF)		LS	$0.00
801002	TREE Vegetation & Soil Protection Plan-TCSPP Plan-CSECP{Project Value $1-$3M}CSI(REF)		LS	$0.00
801002	TREE Vegetation & Soil Protection Plan-TCSPP Plan-CSECP{Project Value $3-$5M}CSI(REF)		LS	$0.00
801003	SPILL Plan SP {Project Value Up to $1M } CSI(REF)		LS	$0.00
801003	SPILL Plan SP {Project Value $1-$3M} CSI(REF)		LS	$0.00
801003	SPILL Plan SP {Project Value $3-$5M} CSI(REF)		LS	$0.00
801004	TEMPORARY Discharge Plan TDP {Project Value Up to $1M} CSI(REF)		LS	$0.00
801004	TEMPORARY Discharge Plan TDP {Project Value $1-$3M} CSI(REF)		LS	$0.00
801004	TEMPORARY Discharge Plan TDP {Project Value $3-$5M} CSI(REF)		LS	$0.00
Sec 8-02	**Landscape Construction**			
802006	TREE, Broadleaf Evergreen, 5 FT to 6 FT		EA	$110.00
802008	TREE, Broadleaf Evergreen, 6 FT to 8 FT		EA	$220.00
802026	TREE, Coniferous Evergreen, 5 Ft to 6 FT		EA	$150.00
802028	TREE, Coniferous Evergreen, 6 Ft to 8 FT		EA	$200.00
802030	TREE, Coniferous Evergreen, 8 Ft to 10 FT		EA	$250.00
802045	TREE, Deciduous, 4 Ft to 5 FT		EA	$100.00
802046	TREE, Deciduous, 5 Ft to 6 FT		EA	$250.00
802048	TREE, Deciduous, 6 Ft to 8 FT		EA	$500.00
802060	TREE, Deciduous, 1-1/2 IN to 1-3/4 In Gal		EA	$350.00
802065	TREE, Deciduous, 1-3/4 IN to 2 In Gal		EA	$275.00
802070	TREE, Deciduous, 2 IN to 2- 1/2 In Gal		EA	$375.00
802075	TREE, Deciduous, 2- 1/2 In to 3 IN Gal		EA	$425.00
802080	TREE, Deciduous, 3 IN to 4 In Gal		EA	$500.00
802101	SHRUB, Broadleaf Evergreen, 1 Gal {QTY <=5 EA}		EA	$30.00
802101	SHRUB, Broadleaf Evergreen, 1 Gal {QTY >5 EA}		EA	$16.00
802102	SHRUB, Broadleaf Evergreen, 2 Gal {QTY <=5 EA}		EA	$50.00
802102	SHRUB, Broadleaf Evergreen, 2 Gal {QTY >5 EA}		EA	$33.00
802103	SHRUB, Broadleaf Evergreen, 3 Gal {QTY <=5 EA}		EA	$60.00
802103	SHRUB, Broadleaf Evergreen, 3 Gal {QTY >5 EA}		EA	$40.00
802105	SHRUB, Broadleaf Evergreen, 5 Gal {QTY <=5 EA}		EA	$70.00
802105	SHRUB, Broadleaf Evergreen, 5 Gal {QTY >5 EA}		EA	$54.00
802111	SHRUB, Coniferous Evergreen, 1 Gal {QTY <=5 EA}		EA	$20.00
802111	SHRUB, Coniferous Evergreen, 1 Gal {QTY >5 EA}		EA	$18.00
802112	SHRUB, Coniferous Evergreen, 2 Gal {QTY <=5 EA}		EA	$40.00
802112	SHRUB, Coniferous Evergreen, 2 Gal {QTY >5 EA}		EA	$34.00
802115	SHRUB, Coniferous Evergreen, 5 Gal {QTY <=5 EA}		EA	$65.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
802115	SHRUB, Coniferous Evergreen, 5 Gal {QTY >5 EA}		EA	$54.00
802121	SHRUB, Deciduous, 1 Gal {QTY <=5 EA}		EA	$25.00
802121	SHRUB, Deciduous, 1 Gal {QTY >5 EA}		EA	$20.00
802122	SHRUB, Deciduous, 2 Gal {QTY <=5 EA}		EA	$50.00
802122	SHRUB, Deciduous, 2 Gal {QTY >5 EA}		EA	$40.00
802123	SHRUB, Deciduous, 3 Gal {QTY <=5 EA}		EA	$70.00
802123	SHRUB, Deciduous, 3 Gal {QTY >5 EA}		EA	$60.00
802125	SHRUB, Deciduous, 5 Gal {QTY <=5 EA}		EA	$85.00
802125	SHRUB, Deciduous, 5 Gal {QTY >5 EA}		EA	$75.00
802154	GROUND Cover, 4 IN Pot { QTY <= 10EA}		EA	$25.00
802154	GROUND Cover, 4 IN Pot { QTY > 10EA}		EA	$7.00
802156	GROUND Cover, 6 IN Pot { QTY <= 10EA}		EA	$35.00
802156	GROUND Cover, 6 IN Pot { QTY > 10EA}		EA	$10.00
802160	TOPSOIL, Type A		CY	$50.00
802160	TOPSOIL, Type B		CY	$60.00
802161	GROUND Cover, 1 Gal		EA	$15.00
802162	GROUND Cover, 2 Gal		EA	$20.00
802214	PLANTING Soil { QTY >= 10 CY}		CY	$110.00
802214	PLANTING Soil { QTY > 10 CY}		CY	$82.00
802218	TURF Area Soil { QTY <=20 CY}		CY	$60.00
802218	TURF Area Soil { QTY >20 CY}		CY	$40.00
802220	MULCH Bark		CY	$50.00
802230	MULCH, Arborist Wood Chip { QTY <=20 CY}		CY	$75.00
802230	MULCH, Arborist Wood Chip { QTY >20 CY}		CY	$50.00
802235	COMPOST		CY	$65.00
802240	GRID Block		SF	$2.00
802310	BOLLARD Fixed { QTY<=5 EA}		EA	$750.00
802310	BOLLARD Fixed { QTY>5 EA}		EA	$500.00
802315	BOLLARD Removable { QTY<=5 EA}		EA	$1,000.00
802315	BOLLARD Removable { QTY>5 EA}		EA	$800.00
802320	BENCH		EA	$500.00
802325	TREE Grate		EA	$500.00
802360	TREE Root Barrier { QTY <=20 LF}		LF	$15.00
802360	TREE Root Barrier { QTY >20 LF}		LF	$11.00
802370	ROCK Mulch		CY	$50.00
802400	RELOCATE Tree { QTY <=10 EA-Large}		EA	$2,500.00
802400	RELOCATE Tree { QTY <=10 EA-Medium}		EA	$1,750.00
802400	RELOCATE Tree { QTY <=10 EA-Small}		EA	$750.00
802400	RELOCATE Tree { QTY >10 EA-Large}		EA	$1,250.00
802400	RELOCATE Tree { QTY >10 EA-Medium}		EA	$900.00
802400	RELOCATE Tree { QTY >10 EA-Small}		EA	$600.00
802460	RELOCATE Bollard Fixed { QTY<=5 EA}		EA	$650.00
802460	RELOCATE Bollard Fixed { QTY>5 EA}		EA	$400.00
802465	RELOCATE Bollard Removable { QTY<=5 EA}		EA	$500.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
802465	RELOCATE Bollard Removable { QTY>5 EA}		EA	$350.00
802470	RELOCATE Mailbox		EA	$500.00
802475	RELOCATE Shrub		EA	$150.00
802480	RELOCATE Ground Cover {Qty <=10EA}		EA	$45.00
802480	RELOCATE Ground Cover {Qty >10EA}		EA	$25.00
802600	SODDING		SF	$3.00
802610	SEEDED Lawn Installation { QTY <= 10,000 SF}		SF	$1.50
802610	SEEDED Lawn Installation { QTY> 10,000 SF}		SF	$0.75
802700	LANDSCAPE Establishment { QTY 5,000-10,000SF} CSI(REF)		LS	$0.00
802700	LANDSCAPE Establishment { QTY > 10,000SF} CSI(REF)		LS	$0.00
802710	LAWN Establishment { QTY 1000-5000SF} CSI(REF)		LS	$0.00
802710	LAWN Establishment { QTY 5000- 10,000SF} CSI(REF)		LS	$0.00
802710	LAWN Establishment { QTY 10,000-20,000 SF} CSI(REF)		LS	$0.00
Sec 8-03	**Irrigation System**			
803005	IRRIGATION System Automatic { QTY 5,000-10,000 SF}		SF	$2.50
803005	IRRIGATION System Automatic { QTY >10,000 SF}		SF	$2.10
803010	IRRIGATION System Manual {QTY 1,000-5,000 SF}		SF	$4.00
803010	IRRIGATION System Manual {QTY >5,000 SF}		SF	$3.00
803023	SLEEVE, PVC, SCH 40, 3 IN { QTY <=100 LF}		LF	$17.00
803023	SLEEVE, PVC, SCH 40, 3 IN { QTY >100 LF}		LF	$15.00
803024	SLEEVE, PVC, SCH 40, 4 IN { QTY <=100 LF}		LF	$19.00
803024	SLEEVE, PVC, SCH 40, 4 IN { QTY >100 LF}		LF	$16.00
803026	SLEEVE, PVC, SCH 40, 6 IN { QTY <=100 LF}		LF	$21.00
803026	SLEEVE, PVC, SCH 40, 6 IN { QTY >100 LF}		LF	$18.00
803044	SLEEVE, PVC, SCH 80, 4 IN { QTY <=100 LF}		LF	$20.00
803044	SLEEVE, PVC, SCH 80, 4 IN { QTY >100 LF}		LF	$17.00
803046	SLEEVE, PVC, SCH 80, 6 IN { QTY <=100 LF}		LF	$22.00
803046	SLEEVE, PVC, SCH 80, 6 IN { QTY >100 LF}		LF	$19.00
803100	HOSE Bib Assembly { QTY <=3 EA}		LF	$500.00
803100	HOSE Bib Assembly { QTY <=3 EA}		LF	$300.00
803110	VALVE Box, Plastic		EA	$300.00
803112	VALVE Box, Cast Iron		EA	$400.00
Sec 8-04	**Cement Concrete Curb, Curb and Gutter**			
804005	CURB, CEM CONC { QTY =<200}		LF	$69.00
804005	CURB, CEM CONC { QTY 200-500}		LF	$45.00
804005	CURB, CEM CONC { QTY >500}		LF	$35.00
804010	CURB, Cem Conc, Mountable { QTY >=500}		LF	$25.00
804010	CURB, Cem Conc, Mountable { QTY<500}		LF	$60.00
804015	CURB and Gutter, Cem Con { QTY >=500}		LF	$40.00
804015	CURB and Gutter, Cem Con { QTY<500}		LF	$53.00
Sec 8-06	**Extruded Curb**			
806002	EXTRUDED Curb, HMA (CL1/2 IN) { QTY <=50 LF}		LF	$19.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
806002	EXTRUDED Curb, HMA (CL1/2 IN) { QTY >50 LF}		LF	$14.00
806004	EXTRUDED Curb, HMA (CL 1 IN) { QTY <=50 LF}		LF	$19.00
806004	EXTRUDED Curb, HMA (CL 1 IN) { QTY >50 LF}		LF	$14.00
806010	EXTRUDED Curb, Cem Conc { QTY <=50 LF}		LF	$14.00
806010	EXTRUDED Curb, Cem Conc { QTY >50 LF}		LF	$12.00
806020	EXTRUDED Curb, Cem Conc HES(24HR) { QTY <=50 LF}		LF	$20.00
806020	EXTRUDED Curb, Cem Conc HES (24HR) { QTY >50 LF}		LF	$16.00
Sec 8-07	**Precast Traffic Curb and Block Traffic Curb**			
807005	CURB Traffic, Precast { QTY <= 100 LF}		LF	$45.00
807005	CURB Traffic, Precast { QTY > 100 LF}		LF	$35.00
807010	CURB Traffic, Block { QTY <= 50 LF}		LF	$25.00
807010	CURB Traffic, Block { QTY >50 LF}		LF	$15.00
Sec 8-08	**Plastic Lane Markers and Traffic Buttons**			
808001	LANE Marker Type 1 {QTY <=20 EA}		EA	$9.00
808001	LANE Marker Type 1 {QTY >20 EA}		EA	$7.00
808002	LANE Marker Type 2 {QTY <=20 EA}		EA	$15.00
808002	LANE Marker Type 2{QTY >20 EA}		EA	$10.00
808005	PLASTIC Traffic Button {QTY <=10 EA}		EA	$8.00
808005	PLASTIC Traffic Button {QTY >10EA}		EA	$5.00
Sec 8-11	**Guard Rail**			
811005	BEAM Guardrail, Type 1 { QTY <=20LF}		LF	$60.00
811005	BEAM Guardrail, Type 1 { QTY >20LF}		LF	$45.00
811025	BEAM Guardrail, Type 5 { QTY <=20LF}		LF	$50.00
811025	BEAM Guardrail, Type 5 { QTY >20LF}		LF	$42.00
811070	REMOVING and Resetting Beam Guardrail		LF	$50.00
811100	ACCESS Control Gate { QTY <= 10EA }		EA	$1,750.00
811100	ACCESS Control Gate { QTY >10EA }		EA	$1,500.00
811120	RAISING Existing Beam Guardrail		LF	$10.00
Sec 8-12	**Chain Link Fence and Wire Fence**			
812001	CHAIN LINK Fence, Type 1 { QTY <=200 LF}		LF	$45.00
812001	CHAIN LINK Fence, Type 1 { QTY > 200 LF}		LF	$30.00
812003	CHAIN LINK Fence, Type 3 { QTY <=200 LF}		LF	$47.00
812003	CHAIN LINK Fence, Type 3 { QTY > 200 LF}		LF	$30.00
812004	CHAIN LINK Fence, Type 4 { QTY <=200 LF}		LF	$50.00
812004	CHAIN LINK Fence, Type 4 { QTY > 200 LF}		LF	$30.00
812006	CHAIN LINK Fence, Type 6 { QTY <=200 LF}		LF	$55.00
812006	CHAIN LINK Fence, Type 6 { QTY > 200 LF}		LF	$30.00
812014	CHAIN LINK Gate, Double 14Ft Wide {QTY <=5 EA}		EA	$1,600.00
812014	CHAIN LINK Gate, Double 14Ft Wide {QTY >5 EA}		EA	$1,400.00
812020	CHAIN LINK Gate, Double 20 Ft Wide {QTY <=5 EA}		EA	$2,000.00
812020	CHAIN LINK Gate, Double 20 Ft Wide {QTY >5 EA}		EA	$1,800.00
812026	CHAIN LINK Gate, Single 6 Ft Wide {QTY <=5 EA}		EA	$650.00
812026	CHAIN LINK Gate, Single 6 Ft Wide {QTY >5 EA}		EA	$500.00
812034	WIRE GATE, Single, 14 Ft Wide { QTY <=5 EA}		EA	$850.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
812034	WIRE GATE, Single, 14 Ft Wide { QTY >5 EA}		EA	$700.00
812040	WIRE GATE, Double, 20 Ft Wide { QTY <=5 EA}		LF	$1,100.00
812040	WIRE GATE, Double, 20 Ft Wide { QTY >5 EA}		LF	$900.00
Sec 8-13	**Monument Cases**			
813020	MONUMENT Frame and Cover { QTY <=3 EA}		EA	$1,100.00
813020	MONUMENT Frame and Cover { QTY >3 EA}		EA	$500.00
813030	RELOCATE or Reset Monument and Monument Frame and Cover		EA	$500.00
813120	RESET Monument Frame and Cover		EA	$1,225.00
813125	RELOCATE Monument Frame and Cover		EA	$500.00
Sec 8-14	**Cement Concrete Sidewalk**			
814005	SIDEWALK, CEM CONC 5 " Thick { QTY >=500 SY}		SY	$70.00
814005	SIDEWALK, CEM CONC 5" Thick { QTY <500 SY}		SY	$100.00
814006	SIDEWALK, CEM CONC 6 " Thick { QTY >=500 SY}		SY	$70.00
814006	SIDEWALK, CEM CONC 6" Thick { QTY <500 SY}		SY	$85.00
814010	SIDEWALK, Thickened Edge { QTY <=100 LF}		LF	$15.00
814010	SIDEWALK, Thickened Edge { QTY <=100 LF}		LF	$12.00
814020	CURB RAMP (422A) { QTY <=20 EA}		EA	$2,600.00
814020	CURB RAMP (422A) { QTY >20 EA}		EA	$2,100.00
814022	CURB RAMP (422B) { QTY <=20 EA}		EA	$2,500.00
814022	CURB RAMP (422B) { QTY >20 EA}		EA	$1,900.00
814023	CURB RAMP (422C) { QTY <=20 EA}		EA	$1,800.00
814023	CURB RAMP (422C) { QTY >20 EA}		EA	$1,600.00
814020	CURB RAMP Non-Standard { QTY <=5 SY}		SY	$350.00
814020	CURB RAMP Non-Standard { QTY >5SY}		SY	$250.00
814025	DETECTABLE Warning Plate Retrofit		SF	$100.00
814030	DETECTABLE Warning Plate { QTY <= 20SY}		SY	$80.00
814030	DETECTABLE Warning Plate { QTY > 20SY}		SY	$70.00
814120	BUS SHELTER Footing { QTY =< 15 EA}		EA	$750.00
814020	BUS SHELTER Footing { QTY >15 EA}		EA	$500.00
814234	EXPOSED Aggregate Cem Conc treatment, Sidewalk { QTY <=10SY}		SY	$75.00
814234	EXPOSED Aggregate Cem Conc treatment, Sidewalk { QTY <=10SY}		SY	$60.00
814240	SIX INCH Sidewalk, Cem Conc with Wire Mesh { QTY <=50 SY}		SY	$80.00
814240	SIX INCH Sidewalk, Cem Conc with Wire Mesh { QTY 100-500 SY}		SY	$70.00
814240	SIX INCH Sidewalk, Cem Conc with Wire Mesh { QTY >500 SY}		SY	$60.00
814250	PATTERNED Cem Con Treatment, Sidewalk,(Pattered) {QTY <= 50SY}		SY	$140.00
814250	PATTERNED Cem Con Treatment, Sidewalk,(Pattered) {QTY > 50SY}		SY	$120.00
814251	PATTERNED Cem Con Treatment, Sidewalk,(Running Bond Used Brick) {QTY <= 20SY}		SY	$150.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
814251	PATTERNED Cem Con Treatment, Sidewalk,(Running Bond Used Brick) {QTY > 20SY}		SY	$120.00
Sec 8-15	**RIPRAP**			
815020	LIGHT LOOSE Riprap { QTY >=200 TN}		TN	$60.00
815020	LIGHT LOOSE Riprap { QTY >200 TN}		TN	$40.00
815030	HEAVY LOOSE Riprap { QTY >=200 TN}		TN	$70.00
815030	HEAVY LOOSE Riprap { QTY >200 TN}		TN	$50.00
815040	HAND-PLACED Riprap { QTY <=20CY}		CY	$140.00
815040	HAND-PLACED Riprap { QTY >20CY}		CY	$125.00
815050	SACK Riprap { QTY <=20CY}		CY	$125.00
815050	SACK Riprap { QTY >20CY}		CY	$115.00
815060	CONCRETE SLAB Riprap { QTY <=20CY}		CY	$120.00
815060	CONCRETE SLAB Riprap { QTY >20CY}		CY	$110.00
815200	QUARRY SPALLS { QTY <= 20 TN}		TN	$60.00
815200	QUARRY SPALLS { QTY >20 TN}		TN	$50.00
Sec 8-16	**Concrete Slope Protection**			
816100	CONCRETE SLOPE Protection { 5" thick }		SY	$10.00
816100	CONCRETE SLOPE Protection { 6" thick }		SY	$20.00
816100	CONCRETE SLOPE Protection { 7" thick }		SY	$30.00
Sec 8-17	**Curb Wall and Support Wall**			
817001	WALL,CEMENT, CONCRETE Support, Type 800 {QTY <=20CY}		CY	$1,200.00
817001	WALL,CEMENT, CONCRETE Support, Type 800 {QTY >20CY}		CY	$1,000.00
817010	WALL,CEMENT, CONCRETE Curb, Type 801 {QTY <=20CY}		CY	$1,350.00
817010	WALL,CEMENT, CONCRETE, Curb, Type 801 {QTY >20CY}		CY	$1,000.00
Sec 8-18	**Cement Concrete Stairways, Landings and Steps**			
818020	STAIRWAY, CEM CONC, Special { QTY < =50SF}		SF	$100.00
818020	STAIRWAY, CEM CONC, Special { QTY >50SF}		LF	$80.00
818030	GUTTER,CEM. CONC. Type 440 { QTY 20-50LF}		LF	$210.00
818030	GUTTER,CEM. CONC Type 440 { QTY 50-100LF}		LF	$200.00
818030	GUTTER,CEM. CONC Type 440 { QTY 500-1000LF}		LF	$175.00
818040	STAIRWAY, CEM CONC, Type 440 { QTY 20-50LF}		LF	$200.00
818040	STAIRWAY, CEM CONC, Type 440 { QTY 50-100LF}		LF	$180.00
818040	STAIRWAY, CEM CONC, Type 440 { QTY 250-500LF}		LF	$170.00
818140	HANDRAIL, Type 440 { QTY <=20 LF}		LF	$200.00
818140	HANDRAIL, Type 440 { QTY 20-50 LF}		LF	$170.00
818140	HANDRAIL, Type 440 { QTY 50-100 LF}		LF	$100.00
818142	HANDRAIL, Type 442 { QTY <=20 LF}		LF	$210.00
818142	HANDRAIL, Type 442 { QTY 20-50 LF}		LF	$180.00
818142	HANDRAIL, Type 442 { QTY 50-100 LF}		LF	$100.00
818143	HANDRAIL, Type 443 { QTY <=20 LF}		LF	$220.00
818143	HANDRAIL, Type 443 { QTY 20-50 LF}		LF	$190.00
818143	HANDRAIL, Type 443 { QTY 50-100 LF}		LF	$110.00
818241	STEPS, CEM CONC { QTY <= 50SF}		SF	$110.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
818241	STEPS, CEM CONC { QTY 50-100 SF}		SF	$100.00
818241	STEPS, CEM CONC { QTY100-500 SF}		SF	$80.00
Sec 8-19	**Cement Concrete Driveway**			
819006	DRIVEWAY, CEM CONC, 6 IN { QTY <=30 SY}		SY	$110.00
819006	DRIVEWAY, CEM CONC, 6 IN { QTY 30-50 SY}		SY	$100.00
819006	DRIVEWAY, CEM CONC, 6 IN { QTY 50-100 SY}		SY	$85.00
819008	DRIVEWAY, CEM CONC, 8 IN { QTY <=30 SY}		SY	$120.00
819008	DRIVEWAY, CEM CONC, 8 IN { QTY 30-50 SY}		SY	$110.00
819008	DRIVEWAY, CEM CONC, 8 IN { QTY 50-100 SY}		SY	$95.00
819018	DRIVEWAY, CEM CONC, HES (24 HR), 8 IN { QTY 30-50 SY}		SY	$125.00
819018	DRIVEWAY, CEM CONC HES (24 HR), 8 IN { QTY 50-100SY}		SY	$105.00
819020	DRIVEWAY, CEM CONC, HES (72 HR), 8 IN { QTY 30-50 SY}		SY	$115.00
819020	DRIVEWAY, CEM CONC, HES (72 HR), 8 IN { QTY 50-100SY}		SY	$100.00
Sec 8-21	**Permanent Signing and Posts**			
821006	INSTALL SIGN, Traffic, Owner Furnished { QTY 1-3 EA}		EA	$450.00
821006	INSTALL SIGN, Traffic, Owner Furnished { QTY 3-5 EA}		EA	$300.00
821006	INSTALL SIGN, Traffic, Owner Furnished { QTY >6 EA}		EA	$250.00
821011	INSTALL SIGN, Street Designation, Owner Furnished { QTY<=5EA}		EA	$400.00
821011	INSTALL SIGN, Street Designation, Owner Furnished { QTY >5EA}		EA	$350.00
821015	INSTALL SIGN, Street Name, Owner Furnished Post MT{ QTY<=5EA}		EA	$200.00
821015	INSTALL SIGN, Street Name, Owner Furnished Post MT{ QTY >5EA}		EA	$150.00
821025	SIGN, Bus Zone, Owner Furnished { QTY<= 5EA}		EA	$200.00
821025	SIGN, Bus Zone, Owner Furnished { QTY>5EA}		EA	$150.00
821030	POST Traffic Sign { QTY<= 5EA}		EA	$300.00
821030	POST Traffic Sign { QTY >5EA}		EA	$200.00
821035	POST Parking Meter { QTY<= 5EA}		EA	$200.00
821035	POST Parking Meter { QTY >5EA}		EA	$150.00
821040	POST Street Name { QTY<= 5EA}		EA	$200.00
821040	POST Street Name { QTY >5EA}		EA	$150.00
821045	POST, Bus Zone { QTY<= 3EA}		EA	$175.00
821045	POST, Bus Zone { QTY> 3EA}		EA	$140.00
821050	RELOCATE Sign, Traffic { QTY <= 5EA}		EA	$350.00
821050	RELOCATE Sign, Traffic { QTY >5EA}		EA	$200.00
821055	RELOCATE Sign, Street Name { QTY <= 5EA}		EA	$300.00
821055	RELOCATE Sign, Street Name { QTY >5EA}		EA	$200.00
821060	RELOCATE Sign, Bus Zone { QTY <= 5EA}		EA	$350.00
821060	RELOCATE Sign, Bus Zone { QTY5-10EA}		EA	$250.00
821060	RELOCATE Sign, Bus Zone { QTY >10EA}		EA	$200.00
Sec 8-22	**Pavement Marking**			
822004	PAVEMENT MARKING, Paint, 4 IN Stripe { QTY<=200 LF}		LF	$7.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
822004	PAVEMENT MARKING, Paint, 4 IN Stripe { QTY >200 LF}		LF	$3.00
822006	PAVEMENT MARKING, Paint, 6 IN Stripe { QTY<=200 LF}		LF	$8.00
822006	PAVEMENT MARKING, Paint, 6 IN Stripe { QTY >200 LF}		LF	$3.50
822008	PAVEMENT MARKING, Paint, 8 IN Stripe { QTY<=200 LF}		LF	$9.00
822008	PAVEMENT MARKING, Paint, 8 IN Stripe { QTY >200 LF}		LF	$4.00
822010	PAVEMENT MARKING, Paint, Legend/Symbol { QTY<=5 EA}		EA	$250.00
822010	PAVEMENT MARKING, Paint, Legend/Symbol { QTY>5 EA}		EA	$150.00
822018	PAVEMENT MARKING, Thermo, 8 IN Stripe { QTY<=200 LF}		LF	$20.00
822018	PAVEMENT MARKING, Thermo, 8 IN Stripe { QTY >200 LF}		LF	$6.00
822020	PAVEMENT MARKING, Thermo, Legend/Symbol { QTY<=5 EA}		EA	$375.00
822020	PAVEMENT MARKING, Thermo, Legend/Symbol { QTY>5 EA}		EA	$200.00
822025	PAVEMENT MARKING, Pressure Sensitive Tape { QTY 100-300 LF}		LF	$1.10
822025	PAVEMENT MARKING, Pressure Sensitive Tape { QTY 300-500 LF}		LF	$0.85
822025	PAVEMENT MARKING, Pressure Sensitive Tape { QTY 500-1000 LF}		LF	$0.50
822028	SHARROW, INSTALL Owner Furnished { QTY <= 5EA}		EA	$50.00
822028	SHARROW, INSTALL Owner Furnished { QTY > 5EA}		EA	$30.00
Sec 8-27	**Project Identification Sign**			
827010	SIGN, PROJECT Identification { Size-Medium-4'x6'}		EA	$600.00
827010	SIGN, PROJECT Identification { Size-Large-6'x8'}		EA	$800.00
827020	SIGN, INSTALL PROJECT IDENTIFICATION, POST MOUNTED { Size-Medium-6'x8'}		EA	$1,250.00
827020	SIGN, INSTALL PROJECT IDENTIFICATION, POST MOUNTED { Size-Large-8'x10'}		EA	$1,350.00
827040	SIGN, PROJECT Identification, Owner Furnished		EA	$300.00
827050	POSTS, Project Sign		EA	$200.00
827060	RELOCATE Project Sign		EA	$200.00
Sec 8-30	**Illumination and Electrical Systems**			
830025	LUMINAIRE, HIGH Pressure Sodium, 250W, Roadway { QTY <= 5EA}		EA	$700.00
830025	LUMINAIRE, HIGH Pressure Sodium, 250W, Roadway { QTY > 5EA}		EA	$500.00
830040	LUMINAIRE, HIGH Pressure Sodium, 40W, Roadway { QTY 1-3EA}		EA	$2,500.00
830040	LUMINAIRE, HIGH Pressure Sodium, 40W, Roadway { QTY 3- 5EA}		EA	$2,100.00
830040	LUMINAIRE, HIGH Pressure Sodium, 40W, Roadway { QTY 5- 10EA}		EA	$1,500.00
830040	LUMINAIRE, HIGH Pressure Sodium, 40W, Roadway { QTY >10EA}		EA	$550.00
830050	LUMINAIRE, LIGHT EMITTING DIODE (LED) {1-3EA}		EA	$3,000.00
830050	LUMINAIRE, LIGHT EMITTING DIODE (LED) {3-5EA}		EA	$2,750.00
830050	LUMINAIRE, LIGHT EMITTING DIODE (LED) {> 10EA}		EA	$2,000.00
830540	RELOCATE LUMINAIRE { QTY <= 5EA}		EA	$650.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
830540	RELOCATE LUMINAIRE { QTY > 5EA}		EA	$400.00
830550	RELOCATE BRACKET Arm { QTY 1-3 EA}		EA	$600.00
830550	RELOCATE BRACKET Arm { QTY 4-7 EA}		EA	$450.00
830550	RELOCATE BRACKET Arm { QTY>8 EA}		EA	$275.00
830560	RELOCATE BRACKET and Bracket Arm { QTY 1-3 EA}		EA	$2,100.00
830560	RELOCATE BRACKET and Bracket Arm { QTY 4-7 EA}		EA	$1,900.00
830560	RELOCATE BRACKET and Bracket Arm { QTY > 8 EA}		EA	$1,600.00
830560	Wiring, Street Lighting { QTY 200-500 LFT}-CSI(REF)		LS	$0.00
830560	Wiring, Street Lighting { QTY 500-1000 LFT}-CSI(REF)		LS	$0.00
830560	Wiring, Street Lighting { QTY>1000 LFT}-CSI(REF)		LS	$0.00
830610	BOND EXISTING Handhole { QTY <= 5 EA}		EA	$500.00
830610	BOND EXISTING Handhole { QTY > 5 EA}		EA	$200.00
830615	BOND EXISTING Pole { QTY <= 5 EA}		EA	$750.00
830615	BOND EXISTING Pole { QTY 5-10EA}		EA	$450.00
830615	BOND EXISTING Pole { QTY > 10 EA}		EA	$200.00
830620	INSTALL GROUND Rod { QTY <= 5 EA}		EA	$350.00
830620	INSTALL GROUND Rod { QTY > 5 EA}		EA	$250.00
830630	INSPECT GOUNDING and Bonding { QTY <= 5 EA}		EA	$300.00
830630	INSPECT GOUNDING and Bonding { QTY > 5 EA}		EA	$250.00
Sec 8-31	**Traffic Signal System**			
831306	DETECTOR LOOP, 6 FT DIA { QTY 1-2 EA}		LF	$1,800.00
831306	DETECTOR LOOP, 6 FT DIA { QTY 3-5 EA}		EA	$1,650.00
831306	DETECTOR LOOP, 6 FT DIA { QTY > 5 EA}		EA	$900.00
Sec 8-32	**Poles, Pedestals and Foundations**			
832285	POLE ALUMINUM, Lighting, 25 FT to 35 FT { QTY 1-3 EA}		EA	$3,200.00
832285	POLE ALUMINUM, Lighting, 25 FT to 35 FT { QTY 3- 5 EA}		EA	$2,750.00
832285	POLE ALUMINUM, Lighting, 25 FT to 35 FT { QTY > 5 EA}		EA	$2,000.00
832290	POLE, STEEL, Lighting, 25 to 35 FT { QTY 1-3 EA}		EA	$4,000.00
832290	POLE, STEEL Lighting, 25 to 35 FT { QTY 3-5 EA}		EA	$3,800.00
832290	POLE, STEEL, Lighting, 25 to 35 FT { QTY >5 EA}		EA	$3,500.00
832335	POLE, WOOD 25 FT to 35 FT { QTY <=5 EA}		EA	$1,400.00
832335	POLE, WOOD 25 FT to 35 FT { QTY >5 EA}		EA	$1,200.00
832336	POLE, WOOD Over 35 FT (35-55 FT)		EA	$1,500.00
832336	Pole, Wood Over 35 FT (60-75 FT)		EA	$2,900.00
832350	BACK GUY Assembly { QTY <= 5EA}		EA	$950.00
832350	BACK GUY Assembly { QTY > 5EA}		EA	$800.00
832545	FOUNDATION, STREET Light Pole { QTY <= 5EA}		EA	$2,400.00
832545	FOUNDATION, STREET Light Pole { QTY > 5EA}		EA	$2,000.00
832550	FOUNDATION, PEDESTAL { QTY 1- 5EA}		EA	$4,000.00
832550	FOUNDATION, PEDESTAL { QTY 5-10EA}		EA	$3,000.00
832550	FOUNDATION, PEDESTAL { QTY >10EA}		EA	$1,000.00
832806	BRACKET ARM, 6 FT with Baseplate and Endplate {Qty 1-3 EA}		EA	$800.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
832806	BRACKET ARM, 6 FT with Baseplate and Endplate {Qty > 3 EA}		EA	$750.00
832807	BRACKET ARM, 7 FT with Baseplate and Endplate {Qty 1-3 EA}		EA	$850.00
832807	BRACKET ARM, 7 FT with Baseplate and Endplate {Qty > 3 EA}		EA	$800.00
832808	BRACKET ARM, 8 FT with Baseplate and Endplate {Qty 1-3 EA}		EA	$925.00
832808	BRACKET ARM, 8 FT with Baseplate and Endplate {Qty > 3 EA}		EA	$850.00
832809	BRACKET ARM, 9 FT with Baseplate and Endplate {Qty 1-3 EA}		EA	$975.00
832809	BRACKET ARM, 9 FT with Baseplate and Endplate {Qty > 3 EA}		EA	$950.00
832810	BRACKET ARM, 10 FT with Baseplate and Endplate {Qty 1-3 EA}		EA	$1,000.00
832810	BRACKET ARM, 10 FT with Baseplate and Endplate {Qty > 3 EA}		EA	$950.00
832811	BRACKET ARM, 11 FT with Baseplate and Endplate {Qty 1-3 EA}		EA	$1,200.00
832811	BRACKET ARM, 11 FT with Baseplate and Endplate {Qty > 3 EA}		EA	$1,000.00
Sec 8-33	**Conduit and Trenching**			
833010	Conduit, PVC, 1 IN { QTY <=500 LF}		LF	$5.50
833010	Conduit, PVC, 1 IN { QTY >500 LF}		LF	$3.00
833015	Conduit, PVC, 1-1/2 IN { QTY <=500 LF}		LF	$8.00
833015	Conduit, PVC, 1-1/2 IN { QTY >500 LF}		LF	$6.50
833020	Conduit, PVC, 2 IN { QTY <=500 LF}		LF	$10.00
833020	Conduit, PVC, 2 IN { QTY >500 LF}		LF	$8.00
833025	Conduit, PVC, 2-1/2 IN { QTY <=500 LF}		LF	$9.00
833025	Conduit, PVC, 2-1/2 IN { QTY >500 LF}		LF	$8.00
833030	Conduit, PVC, 3 IN { QTY <=500 LF}		LF	$10.00
833030	Conduit, PVC, 3 IN { QTY >500 LF}		LF	$9.00
833035	Conduit, PVC, 3-1/2 IN { QTY <=500 LF}		LF	$11.00
833035	Conduit, PVC, 3-1/2 IN { QTY >500 LF}		LF	$10.00
833040	Conduit, PVC, 4 IN { QTY <=500 LF}		LF	$25.00
833040	Conduit, PVC, 4 IN { QTY >500 LF}		LF	$19.00
833052	Conduit, RGS, 1/2 IN { QTY <= 500 LF}		LF	$10.00
833052	Conduit, RGS, 1/2 IN { QTY > 500 LF}		LF	$9.00
833057	Conduit, RGS, 3/4 IN { QTY <= 500 LF}		LF	$13.00
833057	Conduit, RGS, 3/4 IN { QTY > 500 LF}		LF	$12.00
833060	Conduit, RGS, 1 IN { QTY <= 500 LF}		LF	$18.00
833060	Conduit, RGS, 1 IN { QTY > 500 LF}		LF	$16.00
833062	Conduit, RGS, 1-1/4 IN { QTY <= 500 LF}		LF	$19.00
833062	Conduit, RGS, 1-1/4 IN { QTY > 500 LF}		LF	$17.00
833065	Conduit, RGS, 1-1/2 IN { QTY <= 500 LF}		LF	$20.00
833065	Conduit, RGS, 1-1/2 IN { QTY > 500 LF}		LF	$18.00
833070	Conduit, RGS, 2 IN { QTY <= 500 LF}		LF	$25.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit
833070	Conduit, RGS, 2 IN { QTY > 500 LF}		LF	$20.00
833075	Conduit, RGS, 2-1/2 IN { QTY <= 500 LF}		LF	$28.00
833075	Conduit, RGS, 2-1/2 IN { QTY >500 LF}		LF	$25.00
833080	Conduit, RGS, 3 IN { QTY <= 500 LF}		LF	$35.00
833080	Conduit, RGS, 3 IN { QTY > 500 LF}		LF	$30.00
833107	Conduit, RGS,PVC Coated, 3/4 IN { QTY <= 500 LF}		LF	$26.00
833107	Conduit, RGS,PVC Coated, 3/4 IN { QTY > 500 LF}		LF	$25.00
833110	Conduit, RGS,PVC Coated, 1 IN { QTY <= 500 LF}		LF	$32.00
833110	Conduit, RGS,PVC Coated, 1 IN { QTY > 500 LF}		LF	$30.00
833112	Conduit, RGS,PVC Coated, 1-1/4 IN { QTY <= 500 LF}		LF	$35.00
833112	Conduit, RGS,PVC Coated, 1-1/4 IN { QTY > 500 LF}		LF	$32.00
833115	Conduit, RGS,PVC Coated, 1-1/2 IN { QTY <= 500 LF}		LF	$36.00
833115	Conduit, RGS,PVC Coated, 1-1/2 IN { QTY > 500 LF}		LF	$32.00
833120	Conduit, RGS,PVC Coated, 2 IN { QTY <= 500 LF}		LF	$42.00
833120	Conduit, RGS,PVC Coated, 2 IN { QTY > 500 LF}		LF	$40.00
833200	Trenching Conduit, { QTY <=100 LF}		LF	$55.00
833200	Trenching Conduit, { QTY 200-500 LF}		LF	$45.00
833200	Trenching Conduit, { QTY >500 LF}		LF	$35.00
833210	Conduit Riser, 1 IN { QTY <= 5EA}		EA	$600.00
833210	Conduit Riser,1 IN { QTY > 5EA}		EA	$500.00
833215	Conduit Riser, 1-1/2 IN { QTY <= 5EA}		EA	$700.00
833215	Conduit Riser,1-1/2 IN { QTY > 5EA}		EA	$600.00
833220	Conduit Riser, 2 IN { QTY <= 5EA}		EA	$1,000.00
833220	Conduit Riser,2 IN { QTY > 5EA}		EA	$850.00
833225	Conduit Riser, 2-1/2 IN { QTY <= 5EA}		EA	$1,100.00
833225	Conduit Riser,2-1/2 IN { QTY > 5EA}		EA	$950.00
833230	Conduit Riser, 3 IN { QTY <= 5EA}		EA	$1,400.00
833230	Conduit Riser,3 IN { QTY > 5EA}		EA	$1,000.00
833235	Conduit Riser, 4 IN { QTY <= 5EA}		EA	$1,700.00
833235	Conduit Riser,4 IN { QTY > 5EA}		EA	$1,600.00
833301	Handhole Type 1 { QTY <= 5EA}		EA	$1,000.00
833301	Handhole Type 1 { QTY > 5EA}		EA	$700.00
833302	Handhole Type 2 { QTY <= 5EA}		EA	$900.00
833302	Handhole Type 2 { QTY > 5EA}		EA	$700.00
833303	Handhole Type 3 { QTY <= 5EA}		EA	$1,800.00
833303	Handhole Type 3 { QTY > 5EA}		EA	$1,400.00
833304	Handhole Type 4 { QTY <= 5EA}		EA	$1,700.00
833304	Handhole Type 4 { QTY > 5EA}		EA	$1,500.00
833305	Handhole Type 5 { QTY <= 5EA}		EA	$3,000.00
833305	Handhole Type 5 { QTY > 5EA}		EA	$2,800.00
833306	Handhole Type 6 { QTY <=5EA}		EA	$4,000.00
833306	Handhole Type 6 {QTY > 5 EA}		EA	$2,600.00
833400	Relocate Handhole { QTY<=5EA}		EA	$500.00
833400	Relocate Handhole { QTY>5EA}		EA	$450.00

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
Sect 010000	**General Requirements**				
Sect 1-07	**Legal Relations & Responsibilities**				
107005	Safety and Health Program		MO	$2,000	***$0***
109005	Mobilization Small Project {Value $0.5K-$1M}-10% Sub Total Const Cost		LS	$65,000	***$0***
109006	Mobilization Small Project {Value$1.5M- $2M}-8% Sub Total Const Cost		LS	$130,000	***$0***
109007	Mobilization Small to Mids Project {Value$2.5M-$5.0M}-6% Sub Total Const Cost		LS	$210,000	***$0***
109008	Mobilization Mid to Large Project {Value$6M-$10M}-3.5% Sub Total Const Cost		LS	$280,000	***$0***
109009	Mobilization Mids. to Large Project {Value$10M-$15M} 2.5 % Sub Total Const. Cost		LS	$312,500	***$0***
109010	Mobilization Mids. to Large Project {Value$15M-$20M} 1.5 % Sub Total Const. Cost		LS	$550,000	***$0***
110005	Maintenance & Protection of Traffic Control Including Flagging		Day	$870	***$0***
110020	Traffic Control Peace Officers		HR	$95.00	***$0***
Sec 020000	**Existing Conditions**				
Sec 2-00	**Construction Survey/Layout**				
200100	CONSTRUCTION SURVEY(2 MAN CREW)		DAY	$1,750.00	***$0***
200101	CONSTRUCTION SURVEY(3 MAN CREW)		DAY	$2,400.00	***$0***
200102	CONSTRUCTION SURVEY(4 MAN CREW)		DAY	$3,250.00	***$0***
Sec 2-05	**Ditch and Channel Construction**				
205030	Safety System in Ditch and Channel Excavation{QTY<=150SF} CSI(REF)		SF	$1.50	***$0***
205030	Safety System in Ditch and Channel Excavation{QTY>150SF} CSI(REF)		SF	$1.33	***$0***
205040	IN Stream Bypass CSI(REF)		SF	$1.30	***$0***
205050	FISH Bypass CSI(REF)		LS	$1.50	***$0***
Sec 2-30	**Boring & Directional Drilling**				
230100	CASED BORING-2-1/2 " DIA(WITH SAMPLES)		LF	$65.00	***$0***
230101	CASED BORING-3 " DIA(WITH SAMPLES)		LF	$85.00	***$0***
230102	CASED BORING-4 " DIA(WITH SAMPLES)		LF	$110.00	***$0***
230202	DIRECTIONAL BORING-2 " DIA(FOR HORIZ. PIPE)-UNDERGR		LF	$25.00	***$0***
230203	DIRECTIONAL BORING-3 " DIA(FOR HORIZ. PIPE)-UNDERGR		LF	$42.00	***$0***
230204	DIRECTIONAL BORING-4 " DIA(FOR HORIZ. PIPE)-UNDERGR		LF	$50.00	***$0***
230205	DIRECTIONAL BORING-5 " DIA(FOR HORIZ. PIPE)-UNDERGR		LF	$60.00	***$0***
230206	DIRECTIONAL BORING-6" DIA(FOR HORIZ. PIPE)-UNDERGR		LF	$70.00	***$0***
230208	DIRECTIONAL BORING-8" DIA(FOR HORIZ. PIPE)-UNDERGR		LF	$85.00	***$0***
230210	DIRECTIONAL BORING-10" DIA(FOR HORIZ. PIPE)-UNDERGR		LF	$92.00	***$0***
230212	DIRECTIONAL BORING-12" DIA(FOR HORIZ. PIPE)-UNDERGR		LF	$100.00	***$0***
230218	DIRECTIONAL BORING-18" DIA(FOR HORIZ. PIPE)-UNDERGR		LF	$115.00	***$0***
230224	DIRECTIONAL BORING-24" DIA(FOR HORIZ. PIPE)-UNDERGR		LF	$150.00	***$0***
230230	DIRECTIONAL BORING-30" DIA(FOR HORIZ. PIPE)-UNDERGR		LF	$165.00	***$0***
230230	DIRECTIONAL BORING-36" DIA(FOR HORIZ. PIPE)-UNDERGR		LF	$180.00	***$0***
Sec 2-03	**Structural Demolition**				
203010	Remove Handhole and Meter Pits		EA	$1,225.00	***$0***
203011	Remove Pre-Cast MH-Over 8' Deep		VLF	$250.00	***$0***

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
203012	Remove Cast-in Place MH 4'-8' deep		EA	$2,500.00	$0
203013	Remove Cast-in Place MH over 8' deep		EA	$3,200.00	$0
203014	Remove Existing Masonry CB or MH 4'-8' deep		EA	$575.00	$0
203015	Remove Existing Masonry CB or MH over 8' deep		EA	$650.00	$0
203016	Pipe Removal(Water/sewer)-12" Diameter		LF	$15.00	$0
203017	Pipe Removal(Water/sewer)-15"-18" Diameter		LF	$30.00	$0
203018	Pipe Removal(Water/sewer)-21"-24" Diameter		LF	$47.00	$0
203019	Pipe Removal(Water/sewer)-27"-36" Diameter		LF	$63.00	$0
203020	Concrete(RCP) Pipe Removal-4"-10" diameter		LF	$9.00	$0
203021	Concrete(RCP) Pipe Removal-42"-48" diameter		LF	$63.00	$0
203022	Concrete(RCP) Pipe Removal-60"-84" diameter		LF	$72.00	$0
203023	Concrete(RCP) Pipe Removal-96" diameter		LF	$81.00	$0
203024	Concrete(RCP) Pipe Removal-108"-144" diameter		LF	$105.00	$0
203025	Remove Concrete fitting-Pipe-12" diameter		EA	$125.00	$0
203026	Remove Concrete End pieces Pipe-12" diameter		LF	$11.00	$0
203027	Remove Concrete End pieces Pipe-15"-18" diameter		LF	$15.00	$0
203028	Remove Concrete End pieces Pipe-24"-36" diameter		LF	$23.00	$0
203029	Remove Concrete fitting-Pipe-24"-36" diameter		EA	$195.00	$0
203030	Remove Concrete fitting-Pipe-48"-84" diameter		EA	$480.00	$0
203031	Remove Concrete fitting-Pipe-96" diameter		EA	$660.00	$0
203032	Remove Concrete fitting-Pipe-108"-144" diameter		EA	$1,500.00	$0
203033	Remove DIP pipe 4" diameter with Fittings		LF	$24.00	$0
203034	Remove DIP pipe 6" -12 "diameter with Fittings		LF	$27.00	$0
203035	Remove DIP pipe 14" -24 "diameter with Fittings		LF	$39.00	$0
203036	Remove DIP pipe 24" -30 "diameter with Fittings		LF	$45.00	$0
203037	Remove Plastic pipe 3/4"-4" diameter with Fitting		LF	$5.50	$0
203038	Remove Plastic pipe 6"-8" diameter with Fitting		LF	$8.00	$0
203039	Remove Plastic pipe 10"-18" diameter with Fitting		LF	$12.00	$0
203040	Remove Plastic pipe 20"-36" diameter with Fitting		LF	$18.00	$0
203041	Remove Plastic pipe 42"-48" diameter with Fitting		LF	$20.00	$0
203042	Remove Plastic pipe 54"-60" diameter with Fitting		LF	$23.00	$0
Sec 2-07	**Protective System**				
207020	TIGHT SAFETY SYSTEM TRENCH EXCAVATION-(SIZE 12'x12'x8'){8 Foot Deep-4 HR to install & 2 HR to Remove}		SF	$97.00	$0
207021	TIGHT SAFETY SYSTEM TRENCH EXCAVATION-(SIZE 12'x16'x8'){8 Foot Deep-5 HR to install & 2.5 HR to Remove}		SF	$91.00	$0
207022	TIGHT SAFETY SYSTEM TRENCH EXCAVATION-(SIZE 12'x20'x8'){8 Foot Deep-6 HR to install & 3 HR to Remove}		SF	$82.00	$0
207023	TIGHT SAFETY SYSTEM TRENCH EXCAVATION-(SIZE 12'x12'x12'){12 Foot Deep-4 HR to install & 2 HR to Remove}		SF	$129.00	$0
207024	TIGHT SAFETY SYSTEM TRENCH EXCAVATION-(SIZE 12'x16'x12'){8 Foot Deep-5 HR to install & 2.5 HR to Remove}		SF	$118.00	$0
207025	TIGHT SAFETY SYSTEM TRENCH EXCAVATION-(SIZE 12'x20'x12'){8 Foot Deep-6 HR to install & 3 HR to Remove}		SF	$112.00	$0
207026	TIGHT SAFETY SYSTEM TRENCH EXCAVATION-(SIZE 12'x12'x16'){16 Foot Deep-8 HR to install & 6 HR to Remove}		SF	$208.00	$0
207027	TIGHT SAFETY SYSTEM TRENCH EXCAVATION-(SIZE 12'x16'x16'){16 Foot Deep-9 HR to install & 6 HR to Remove}		SF	$177.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
207028	TIGHT SAFETY SYSTEM TRENCH EXCAVATION-(SIZE 12'x20'x16'){16 Foot Deep-10 HR to install & 6 HR to Remove}		SF	$160.00	$0
207029	TIGHT SAFETY SYSTEM TRENCH EXCAVATION-(SIZE 12'x12'x16'){16 Foot Deep-8 HR to install & 6 HR to Remove}		SF	$251.00	$0
207030	TIGHT SAFETY SYSTEM TRENCH EXCAVATION-(SIZE 12'x16'x16'){16 Foot Deep-9 HR to install & 6 HR to Remove}		SF	$212.00	$0
207032	TIGHT SAFETY SYSTEM TRENCH EXCAVATION-(SIZE 12'x20'x16'){16 Foot Deep-10 HR to install & 6 HR to Remove}		SF	$271.00	$0
Sec 2-08	**Dewatering**				
208010	Dewatering- Pumping Water(2" Pump) to Baker Tank-Small Water Flow Capacity		Day	$1,118.00	$0
208011	Dewatering- Pumping Water(3" Pump) to Baker Tank-Small to Mid-range Water Flow Capacity		Day	$1,450.00	$0
208012	Dewatering- Pumping Water(4" Pump) to Baker Tank Mid to Large Water Flow Capacity		Day	$1,805.00	$0
208013	Dewatering- Pumping Water(6" Pump) to Baker Tank Large Water Flow Capacity		Day	$2,025.00	$0
208020	Dewatering-Cofferdam-Soldiers Beam with wood Sheeting		SF	$66.00	$0
208021	Dewatering-Cofferdam-Soldiers Beam with Temp Sheeting		SF	$52.00	$0
208022	Dewatering-Cofferdam-Soldiers Beam open Sheeting		SF	$35.00	$0
Sec 03-00	**CONCRETE**				
03-111365	C.I.P Concrete Forms,SOG, Curb, Wood 6" to 12" high, 2 uses, included erecting, bracing, striping and cleaning		SFCA	$10.90	$0
03-111366	C.I.P Concrete Forms, Beams, Bottom Only, 2 uses, included erecting, bracing, striping and cleaning		SFCA	$16.30	$0
03-111370	C.I.P Concrete Forms,SOG, EdgeWood 7" to 12" high, 4 uses, included erecting, bracing, striping and cleaning		SFCA	$6.30	$0
03-111371	C.I.P Concrete Forms, Beams, Side Only, vertical plywood,2 uses, included shoring, bracing, shipping and cleaning		SFCA	$12.05	$0
03-111385	C.I.P Concrete Forms, Wall Box out for opening, to 16' thick, over 10SF (perimeter) , included erecting, bracing, shipping and cleaning		LF	$15.45	$0
03-111386	C.I.P Concrete Forms, Wall wood bulkhead, with 2 piece keyway, 1 use , included erecting, bracing, stripping and cleaning		LF	$15.95	$0
03-111386	C.I.P Concrete Forms, Wall steel framed plywood, over 16' Height, with bracing lumber, included erecting, bracing, stripping and cleaning		SFCA	$9.90	$0
03-111388	C.I.P Concrete Forms, Baffle Wall steel framed plywood, over 16' High, with bracing lumber, included erecting, bracing, stripping and cleaning		SFCA	$8.90	$0
03-111390	C.I.P Concrete Forms, Elevated Slabs, flat plate, plywood to 15 I high, 4 use included shoring, erecting, bracing, stripping and cleaning		SF	$7.85	$0
03-111332	C.I.P Concrete Forms, Elevated Slabs, Box-out for shallow slab, opening over 10 S.F(use perimeter) included shoring, erecting, bracing, stripping and cleaning		LF	$7.80	$0
03-111333	C.I.P Concrete Forms, Elevated Slabs, Curb Forms, wood 6" to 12" High, 2 use included shoring, erecting, bracing, stripping and cleaning		SFCA	$12.55	$0
03-111334	C.I.P Concrete Forms, Elevated Slabs, Edge Forms to 6" high, 4 use included shoring, erecting, bracing, stripping and cleaning		LF	$4.95	$0
03-111335	C.I.P Concrete Forms, Elevated Slabs, perimeter deck and rail, straight included shoring, erecting, bracing, stripping and cleaning		LF	$39.70	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
03-151350	Waterstop, PVC, ribbed type, split, 3/8" thick x6" wide		LF	$9.45	$0
03-151355	Waterstop, fittings, rubber, flat, dumbbelt or center bulb, field Union, 3/8" thick x9" wide		EA	$63.70	$0
03-051550	Waterstop, Rubber, center bulb, split, 3/8" thick x 6" wide		LF	$20.25	$0
03-051550	Waterstop, rubber field union, 3/8" x 6" wide, Walls		EA	$50.70	$0
03-150512	Chamfer Strip, polyvinyl chloride, 3/4" wide with Leg		LF	$1.90	$0
03-150570	Shores, vertical members, to 16' High, erect and strip by hand		EA	$21.20	$0
03-150572	Shores, reshores at Elevated Slab vertical members, to 16' High, erect and strip by hand		SF	$1.50	$0
03-150595	Form oil, up to 800 S.F, per Gallon, coverage		GAL	$32.75	$0
03-211060	Reinforcing Steel, in place, SOG, #3 to #7, A615, grade 60(Labor for accessories)		TON	$2,325.50	$0
03-211062	Reinforcing in Place, A615 Gr 60, SOG, #3 to #7		LBS	$1.15	$0
03-211065	Reinforcing in Place, Unloading & Sorting, for Rebar		TON	$56.60	$0
03-211067	Reinforcing in Place, Crane Cost for Moving & Handling Rebar		TON	$61.50	$0
03-310534	Concrete Ready Mix, regular weight, slabs/mats 3000 PSI		CY	$137.00	$0
03-310535	Concrete Ready Mix, regular weight, slabs/mats 3500 PSI		CY	$140.00	$0
03-310536	Concrete Ready Mix, regular weight, slabs/mats 4000PSI		CY	$143.30	$0
03-310537	Concrete Ready Mix, regular weight, slabs/mats 5000PSI		CY	$148.00	$0
03-310570	Structural Concrete Placing SOG, Pumped over 6" thick, incl. vibrating		CY	$29.70	$0
03-310575	Structural Concrete Placing Walls, Pumped 15"" thick, incl. vibrating		CY	$45.55	$0
03-310575	Structural Concrete Placing Elevated Slab, Pumped 6" thick, incl. vibrating		CY	$39.05	$0
03-252930	Concrete finishing , Floor, monolithic, Screed and bull float(darby) finish		SF	$0.50	$0
03-252935	Concrete finishing , Floor, hardener, non-metallic, medium service, 0.75 psf		SF	$1.17	$0
03-352960	Finishing: Break ties & patch Voids(Walls, columns or Beams)		SF	$1.20	$0
03-352965	Finishing Wall: Sandblast, light penetration		SF	$1.20	$0
03-391350	Curing Sprayed membrane, curing compound		SF	$2.95	$0
SUB SEC	**PRE-CAST CONCRETE ELEMENTS**				
03-400001	DEMOLITION of Precast Concrete Wheel Stop			$19.75	$0
03-400520	4' x 4' x 6' Precast Concrete Underground Utility Vault with 6" thick walls and 8" thick top.		EA	$3,878.50	$0
03-400522	4' x 4' x 7' Precast Concrete Underground Utility Vault with 6" thick walls and 8" thick top.		EA	$4,265.00	$0
03-400523	4' x 4' x 8' Precast Concrete Underground Utility Vault with 6" thick walls and 8" thick top.		EA	$4,630.50	$0
03-400524	5' x 10' x 6' Precast Concrete Underground Utility Vault with 6" thick walls and 8" thick top.		EA	$6,615.00	$0
03-400525	5' x 12' x 6' Precast Concrete Underground Utility Vault with 6" thick walls and 8" thick top.		EA	$7,635.50	$0
03-400530	6' x 6' x 6' Precast Concrete Underground Utility Vault with 6" thick walls and 8" thick top.		EA	$5,125.50	$0
03-400531	6' x 8' x 7' Precast Concrete Underground Utility Vault with 6" thick walls and 8" thick top.		EA	$6,775.50	$0
03-400532	8' x 8' x 7' Precast Concrete Underground Utility Vault with 6" thick walls and 8" thick top.		EA	$8,150.00	$0
03-400533	8' x 8' x 8' Precast Concrete Underground Utility Vault with 6" thick walls and 8" thick top.		EA	$8,765.50	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
03-400535	8' x 12' x 8' Precast Concrete Underground Utility Vault with 8" thick wall & top.		EA	$14,675.00	$0
03-400536	8' x 14' x 6' Precast Concrete Underground Utility Vault with 8" thick wall & top.		EA	$14,195.50	$0
03-451020	Pre-Cast Oil/Water Separator VAULT 5102-2-CPS-592SQFT/140 Flow Rate/754 Max Process Flow		EA	$23,350.00	$0
03-451024	Pre-Cast Oil/Water Separator VAULT612-2-CPS-1776SQFT/420 Flow Rate/1130 Max Process Flow		EA	$29,360.00	$0
03-451028	Pre-Cast Oil/Water Separator VAULT 816-1-CPS-1184SQFT/280 Flow Rate/1508 Max Process Flow		EA	$26,850.00	$0
03-451030	Pre-Cast Oil/Water Separator VAULT 816-2-CPS-2368SQFT/560 Flow Rate/1508 Max Process Flow		EA	$35,400.00	$0
03-451032	Pre-Cast Oil/Water Separator VAULT 816-3-CPS-3552SQFT/840 Flow Rate/1508 Max Process Flow		EA	$44,650.00	$0
03-400620	6" x 6" x 6' Precast Concrete Wheel Stop		EA	$65.75	$0
03-400622	6" x 8" x 4' Precast Concrete Wheel Stop		EA	$56.50	$0
SUB SEC	**SITE CONCRETE**				
814024	Curb Ramp-Non Standard (442A) { QTY <=20 EA}		EA	$1,250.00	$0
814025	Curb Ramp-Non Standard (442A) { QTY >20 EA}		EA	$1,300.00	$0
814005	SIDEWALK, CEM CONC 5 " Thick { QTY >=500 SY}		SY	$70.00	$0
814005	SIDEWALK, CEM CONC 5" Thick { QTY <500 SY}		SY	$85.00	$0
03-500510	DAILEY BLOCK 5' x4'(WEIGHT-2500 LBS)		EA	$1,650	$0
03-500520	DAILEY BLOCK 5' x5'(WEIGHT-3000 LBS)		EA	$1,750	$0
03-500530	DAILEY BLOCK 5' x8'(WEIGHT-5000 LBS)		EA	$2,100	$0
Sec 04-00	**MASONRY**				
04-051630	GROUT, DOOR FRAMES, 3' x7' Opening, 2.5 C.F per Opening		OPNG	$54.10	$0
04-051631	GROUT, DOOR FRAMES, 6' x7' Opening, 3.5 C.F per Opening		OPNG	$73.30	$0
04-051631	GROUT, For Bond Beams, Lintels & CMU Cores, C476		CF	$11.90	$0
04-051905	ANCHOR Bolt Hooked Type, 5/8" DIA x8" Long with Template in CMU Wall		EA	$11.00	$0
04-051925	REINFORCING STEEL Bars A615, Placed Horizontal,#4 Bar		LBS	$1.90	$0
04-051926	MASONRY Reinforcing Bar, #3 and #4 Placed Vertically, ASTM615		LBS	$2.40	$0
04-051927	MASONRY Shoring & Bracing		SF	$1.20	$0
04-051928	CMU-Concrete Block, Hollow, 3500 PSI 8"x8" x16"		SF	$12.90	$0
05-122340	CHANNEL Framing, Structural Steel, Field Fabricated C6x8.2(Incl cutting & welding)		LF	$53.80	$0
06-111024	WOOD Framing Miscell., Rough Bucks Treated for Doors & Windows(2" x8")		LF	$33.70	$0
07-191910	SILICONE Water Repellants, Sprayed on CMU, 2 Coat		SF	$1.00	$0
07-712610	REGLET , Zink and Cooper Alloy, 20 ounce		LF	$6.00	$0
07-712611	REGLET, Counter Flashing for Zink and Cooper, Alloy, 20 ounce, 12" Wide		LF	$10.70	$0
Sec 05-00	**METALS**				
05-051010	DEMOLITION of W6 x 9/W10x45 A36 Structural Column		LF	$18.25	$0
05-051011	DEMOLITION of S3 x 5.7 A36 /S5x10 Structural Column		LF	$18.50	$0
05-051012	DEMOLITION of M6 x 20/M5x13 A36 Structural Column		LF	$19.10	$0
05-052010	DEMOLITION of W6 x 9 A36 Structural Beam Or Girder		LF	$8.50	$0
05-052011	DEMOLITION of W8 x 10 A36 Structural Beam Or Girder		LF	$12.00	$0
05-052012	DEMOLITION of W8 x 18 A36 Structural Beam Or Girder		LF	$17.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
05-052013	DEMOLITION of W8 x 21 A36 Structural Beam Or Girder		LF	$18.25	$0
05-052014	DEMOLITION of W8 x 24 A36 Structural Beam Or Girder		LF	$19.40	$0
05-052015	DEMOLITION of W8 x 35 A36 Structural Beam Or Girder		LF	$22.30	$0
05-052016	DEMOLITION of W10 x 12 A36 Structural Beam Or Girder		LF	$21.00	$0
05-052017	DEMOLITION of W10 x 15 A36 Structural Beam Or Girder		LF	$21.50	$0
05-052018	DEMOLITION of W10 x 22 A36 Structural Beam Or Girder		LF	$22.00	$0
05-052019	DEMOLITION of W10 x 30 A36 Structural Beam Or Girder		LF	$22.50	$0
05-053010	DEMOLITION of 8" - 18 Gauge Steel Joists		LF	$3.00	$0
05-053010	DEMOLITION of 8" - 20 Gauge Steel Joists		LF	$2.50	$0
05-053510	DEMOLITION of Steel Checkered Plate Cover For 10-1/4" x 17-1/4" Utility Box		EA	$6.40	$0
05-053512	DEMOLITION of Steel Checkered Plate Cover For 13-1/4" x 24" Utility Box		EA	$16.00	$0
05-053512	DEMOLITION of Steel Checkered Plate Cover For 17-1/4" x 30" Utility Box		EA	$22.05	$0
05-054010	DEMOLITION of 1" ,3"Deep, 18/22 Gauge Open Ribbed Galvanized Steel Deck		SF	$4.50	$0
05-054010	DEMOLITION of Steel Grating Landing With Framing And 2 Pipe Handrail		SF	$6.00	$0
05-054012	DEMOLITION of 3'-6" Wide Open Steel Grating Tread Metal Stair		RSR	$47.80	$0
05-054015	DEMOLITION of 4'-0" Wide Open Steel Grating Tread Metal Stair		RSR	$55.00	$0
05-054017	DEMOLITION of 5'-0" Wide Open Steel Grating Tread Metal Stair		RSR	$64.50	$0
05-054020	DEMOLITION of 1" x 1/8" &3/4" x 1/8" Steel, Welded Grating		SF	$1.35	$0
05-054022	DEMOLITION of 2" x 3/16" Steel, Swaged Grating		SF	$1.65	$0
05-102050	W6x9 A36 STRUCTURAL COLUMN, High Strength Low Allow A572 Steel		LF	$51.80	$0
05-102051	W6x9 A36 STRUCTURAL COLUMN, High Strength Low Allow A588 Steel		LF	$57.00	$0
05-102052	W10 x 45 A36 STRUCTURAL COLUMN , High Strength Low Alloy A588 Grade B Steel,		LF	$126.00	$0
05-102053	W10 x 54 A36 STRUCTURAL COLUMN , High Strength Low Alloy A588 Grade B Steel,		LF	$148.00	$0
05-102252	M5 x 13 A36 STRUCTURAL COLUMN , High Strength Low Alloy A572-50 Steel,		LF	$61.00	$0
05-102253	M5 x 13 A36 STRUCTURAL COLUMN , High Strength Low Alloy A588 Grade B Steel,		LF	$67.25	$0
05-102054	M6 x 20 A36 STRUCTURAL COLUMN , High Strength Low Alloy A572-50 Steel,		LF	$76.00	$0
05-102550	S5 x 10 A36 STRUCTURAL COLUMN , High Strength Low Alloy A572-50 Steel,		LF	$53.25	$0
05-102551	S3 x 5.7 A36 STRUCTURAL COLUMN , High Strength Low Alloy A572-50 Steel,		LF	$44.75	$0
05-102552	S3 x 7.5 A36 STRUCTURAL COLUMN , High Strength Low Alloy A572-50 Steel,		LF	$48.50	$0
05-102553	S4 x 9.5 A36 STRUCTURAL COLUMN , High Strength Low Alloy A588 Grade B Steel,		LF	$57.50	$0
05-122370	W6 x 9 A36 STRUCTURAL BEAM Or GIRDER, High Strength Low Alloy A572-50 Steel,		LF	$33.25	$0
05-122371	W8 x 10 A36 STRUCTURAL BEAM Or GIRDER, Eachitional Top Copes > 2,		LF	$33.50	$0
05-122372	W8 x 18 A36 STRUCTURAL BEAM Or GIRDER, Eachitional Top Copes > 2,		LF	$56.50	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
05-122373	W8 x 21 A36 STRUCTURAL BEAM Or GIRDER, Eachitional Top Copes > 2,		LF	$64.00	$0
05-122374	W8 x 24 A36 STRUCTURAL BEAM Or GIRDER, Eachitional Top Copes > 2,		LF	$69.00	$0
05-122375	W8 x 35 A36 STRUCTURAL BEAM Or GIRDER, Eachitional Top Copes > 2,		LF	$87.00	$0
05-122376	W10 x 12 A36 STRUCTURAL BEAM Or GIRDER, Eachitional Top Copes > 2,		LF	$54.00	$0
05-122377	W10 x 15 A36 STRUCTURAL BEAM Or GIRDER, Eachitional Top Copes > 2,		LF	$57.50	$0
05-122378	W10 x 22 A36 STRUCTURAL BEAM Or GIRDER, Eachitional Top Copes > 2,		LF	$68.25	$0
05-122378	W10 x 30 A36 STRUCTURAL BEAM Or GIRDER, Eachitional Top Copes > 2,		LF	$80.00	$0
05-142320	8" - 18 Gauge Steel Joists		LF	$12.75	$0
05-142321	8" - 20 Gauge Steel Joists		LF	$11.25	$0
05-152320	STEEL CHECKERED PLATE Cover For 10-1/4" x 17-1/4" Utility Box		EA	$153.25	$0
05-152322	STEEL CHECKERED PLATE Cover For 13-1/4" x 24" Utility Box		EA	$263.00	$0
05-152324	STEEL CHECKERED PLATE Cover For 17-1/4" x 30" Utility Box		EA	$333.00	$0
05-352310	1" DEEP, STEEL DECK18 Gauge Open Ribbed Galvanized , Up To 100 SF		SF	$6.90	$0
05-352311	1" DEEP, STEEL DECK18 Gauge Open Ribbed Galvanized , > 100 To 500		SF	$5.80	$0
05-352312	1" DEEP, STEEL DECK18 Gauge Open Ribbed Galvanized , > 500 To 1500		SF	$5.20	$0
05-352320	1" STEEL DECK Deep, 18/18 Gauge Cellular Galvanized , Up To 100		SF	$14.80	$0
05-352321	1" STEEL DECK Deep, 18/18 Gauge Cellular Galvanized , > 100 To 500		SF	$12.79	$0
05-352322	1" STEEL DECK Deep, 18/18 Gauge Cellular Galvanized , > 500 To 1500		SF	$11.60	$0
05-352330	1" STEEL DECK Deep, 22/18 Gauge Cellular Galvanized , Up To 100 ,		SF	$12.75	$0
05-352331	1" STEEL DECK Deep, 22/18 Gauge Cellular Galvanized , > 100 To 500		SF	$11.25	$0
05-352332	1" STEEL DECK Deep, 22/18 Gauge Cellular Galvanized , > 500 To 1500		SF	$10.10	$0
05-352340	3" STEEL DECK Deep, 16 Gauge Open Ribbed Galvanized , Up To 100		SF	$11.50	$0
05-352342	3" STEEL DECK Deep, 16 Gauge Open Ribbed Galvanized , > 100 To 500		SF	$9.75	$0
05-352343	3" STEEL DECK Deep, 16 Gauge Open Ribbed Galvanized , > 500 To 1500		SF	$8.80	$0
05-352344	3" STEEL DECK Deep, 18/18 Gauge Cellular Galvanized , Up To 100		SF	$20.50	$0
05-352345	3" STEEL DECK Deep, 18/18 Gauge Cellular Galvanized , > 100 To 500		SF	$18.30	$0
05-352345	3" STEEL DECK Deep, 18/18 Gauge Cellular Galvanized , > 500 To 1500		SF	$16.60	$0
05-2440100	Access Hatch-Galvanized Steel (2'-6"x3'-0")		EA	$1,265.00	$0
05-244011	Access Hatch-Galvanized Steel (2'-6"x4'-6")		EA	$1,250.00	$0
05-244012	Access Hatch-Galvanized Steel (2'-6"x8'-0")-Bilco L-20		EA	$3,025.00	$0
4013023	Access Hatch-Galvanized Steel (3'-0"x 3'-0")-Bilco E-20		EA	$1,850.00	$0
05-244014	Access Hatch-Galvanized Steel (3'-0"x 8'-0")		EA	$3,400.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
05-244015	Access Hatch-Galvanized Steel (4'-0"x 4'-0")		EA	$2,075.00	$0
05-244016	Access Hatch-Fiberglass (14" x14")		EA	$180.00	$0
05-244016	Access Hatch-Vinyl Covered (14" x14")		EA	$210.00	$0
05-244017	Access Hatch-26 Gauge Steel (14" x14")		EA	$220.00	$0
05-451025	LADDER STEEL, 20" Wide Bolted to Concrete with Cage		VLF	$110.75	$0
05-451027	LADDER PLATFORM, Steel (3' x4')		EA	$698.00	$0
05-451029	LADDER PLATFORM, Steel (4' x5')		EA	$775.00	$0
05-521350	RAILING, PIPE, Aluminum, clear anodized,2 rails, 3'-6" high, post @ 5' O.C, 1-1/4" DIA, Shop Fabricated		LF	$63.95	$0
05-521355	RAILING, PIPE, Steel, ASTM clear anodized,2 rails, 3'-6" high, post @ 5' O.C, 1-1/4" DIA, Shop Fabricated		LF	$134.00	$0
05-523316	STAIR, Industrial Ship Ladder, Aluminum Grating Treads, 24" wide, incl 2 line pipe rail per riser		RSR	$376.50	$0
05-602010	STEEL GRATING Landing With Framing And 2 Pipe Handrail		SF	$76.50	$0
05-603010	STEEL GRATING 3'-6" Wide Open Tread Metal Stair		RSR	$403.20	$0
05-603012	STEEL GRATING 3'-6" Wide Open Tread Metal Stair, Closed Riser		RSR	$450.00	$0
05-603014	STEEL GRATING 3'-6" Wide Open Tread Metal Stair, Galvanized Steel		RSR	$480.00	$0
05-603016	STEEL GRATING 4'-0" Wide Open Tread Metal Stair		RSR	$432.50	$0
05-603016	STEEL GRATING 4'-0" Wide Open Tread Metal Stair, Closed Riser		RSR	$482.50	$0
05-603018	STEEL GRATING 4'-0" Wide Open Tread Metal Stair, Galvanized Steel		RSR	$513.15	$0
05-603020	STEEL GRATING 5'-0" Wide Open Tread Metal Stair,		RSR	$481.00	$0
05-603020	STEEL GRATING 5'-0" Wide Open Tread Metal Stair, Closed Riser		RSR	$536.40	$0
05-603020	STEEL GRATING 5'-0" Wide Open Tread Metal Stair, Galvanized Steel		RSR	$568.75	$0
05-702030	GRATING 3/4" x 1/8" Steel, Welded , Set In Place Without Bolting Or Tack Welding		SF	$9.25	$0
05-702031	GRATING 3/4" x 1/8" Steel, Welded ,		SF	$11.25	$0
05-702032	GRATING 3/4" x 1/8" Steel, Welded , Crossbars At 2" O.C		SF	$12.15	$0
05-702033	GRATING 3/4" x 1/8" Steel, Welded , Bearing Bars At 15/16" O.C		SF	$13.70	$0
05-702034	GRATING 3/4" x 1/8" Steel, Welded ,304 Stainless Steel		SF	$30.75	$0
05-712030	GRATING 1" x 1/8" Steel, Welded , Set In Place Without Bolting Or Tack Welding		SF	$11.40	$0
05-712031	GRATING 1" x 1/8" Steel, Welded ,		SF	$13.50	$0
05-712032	GRATING 1" x 1/8" Steel, Welded , Serrated Wear Surface		SF	$13.75	$0
05-712033	GRATING 1" x 1/8" Steel, Welded , Galvanized Steel		SF	$15.25	$0
05-712033	GRATING 1" x 1/8" Steel, Welded , Bearing Bars At 15/16" O.C.,		SF	$16.70	$0
05-712033	GRATING 1" x 1/8" Steel, Welded , 304 Stainless Steel		SF	$48.30	$0
05-752310	BOLT, HEX Head, Plain steel 1" Dia x3" L A307, incl nut & Washer		EA	$9.75	$0
05-752375	WF (or HP/S) Floor/Roof Beams, A36, Avg Cost/Ton Moment/Non-Moment		Ton	$1,750.00	$0
05-752392	Beam Framing, Add for Shear Tabs, Plates, Stiffeners, etc.		LBS	$2.15	$0
05-122385	Shop or Field Priming, Structural Steel, Red Oxide, 2 Coats		SF	$0.85	$0
Sec 06-00	**WOOD, PLASTIC and COMPOSITE**				
06-051020	DEMOLITION of 2" x 4" Wood Blocking To Steel		LF	$2.75	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
06-052025	DEMOLITION of 2" x 6" Wood Blocking To Concrete		LF	$2.95	$0
06-052030	DEMOLITION of 2" x 8" Wood Blocking To Steel		LF	$3.30	$0
06-203010	2" x 4" Wood Blocking To Steel		LF	$5.90	$0
06-203020	2" x 6" Wood Blocking To Concrete		LF	$6.85	$0
06-203025	2" x 8" Wood Blocking To Steel		LF	$7.60	$0
06-203025	2" x 8" Wood Blocking To Concrete		LF	$7.70	$0
06-203510	2" x 6" Pressure Treated Wood Blocking To Concrete		LF	$7.30	$0
06-203525	2" x 8" Pressure Treated Wood Blocking To Concrete		LF	$8.35	$0
Sec 07-00	**THERMAL & MOISTURE PROTECTION**				
07-211620	Blanket Insulation for Walls or Ceiling, Kraft Faced, fiberglass 9" Thick, R30, 23" wide		SF	$1.20	$0
07-211625	3/4" PORTLAND Cement Plaster Scratch Coat for Walls, > 1000		SF	$11.25	$0
07-211627	3/4" PORTLAND Cement Plaster Scratch Coat for Walls, > 50 To 250,		SF	$14.20	$0
07-211629	3/4" PORTLAND Cement Plaster Scratch Coat for Walls, Up To 50,		SF	$23.10	$0
07-261010	BUILDING Paper Vapor Barrier, Asphalt felt Sheathing paper, 15#		SF	$22.40	$0
07-411320	STEEL Roofing Panels on Steel Frame, flat profile, standard finish, 1"x3/8" batten,12" wide, 22 gauge		SF	$8.05	$0
07-711930	FASCIA,Steel,Galvanized & Enameled, stock, long Paneled, excl. furring		SF	$9.80	$0
07-712330	Aluminum Gutters, stock units, enameled, 5" box, 0.32" Thick		LF	$9.35	$0
07-212910	FOAM BOARD Wall Insulation, polyurethane foam, 2#/CF, density, 4" thick, R20		SF	$3.85	$0
07-752050	Standing Seam Concealed Fastener Metal Roofing, 0.040" Aluminum Standing Seam with Perimeter Flashing		SF	$16.50	$0
07-782420	Grid Skylight, With 4' x 10' Module, Aluminum Frame		SF	$54.40	$0
Sec 08-00	**OPENING**				
08-011010	DEMOLITION of 2'-6" x 6'-9" x 1-3/4" 18 Gauge Steel Door (Unrated) With Semicircular Head		EA	$158.00	$0
08-011020	DEMOLITION of 2'-2" Or 2'-4" x 6'-9" x 1-3/4" 18 Gauge Steel Door (Unrated) With Semicircular Head		EA	$124.00	$0
08-011030	DEMOLITION of 2'-8" x 7' x 1-3/4" 18 Gauge Metal Door (Unrated)		EA	$57.00	$0
08-011040	DEMOLITION of 3'-6" x 6'-8" x 1-3/4" 18 Gauge Metal Door (Unrated)		EA	$61.00	$0
08-011050	DEMOLITION of 2'-10" x 6'-8" x 1-3/4" 18 Gauge Metal Door (Unrated)		EA	$58.00	$0
08-011060	DEMOLITION of 4' x 6'-8" x 1-3/4" 18 Gauge Metal Door (Unrated)		EA	$66.00	$0
08-011110	DEMOLITION of Pair 2'-8" x 8' x 1-3/4" 18 & 2'-8" x 7'-2" x 1-3/4" Gauge Metal Door (Unrated)		PR	$107.00	$0
08-011120	DEMOLITION of Pair 3'-6" x 6'-8" x 1-3/4" 18 Gauge Metal Door (Unrated)		PR	$117.00	$0
08-011130	DEMOLITION of Pair 2'-10" x 6'-8" x 1-3/4" 18 Gauge Metal Door (Unrated)		PR	$96.00	$0
08-011140	DEMOLITION of 16 Gauge & 20 Gauge Perforated Metal, 63% Openings, Operable, Steel Security Window Screen		SF	$7.00	$0
08-131313	DOORS , Commercial, Steel, Insulated, Full Panel, 18 GA, 3'-0"x6'-8"x1-3/4" thick		EA	$664.00	$0
08-131320	DOORS, Garage Overhead, Sectional, Metal, Deluxe, 9'-0"x7'-0" Incl Hardware, excl Frame		EA	$1,074.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
08-131321	9'-2"x7'-1-3/4" x4-3/4" Deep Metal Garage Door Frame 7 Gauge Frame for 9'x7' Garage Door		EA	$635.00	$0
08-131330	DOOR Steel,2'-6" x 6'-9" x 1-3/4" 18 Gauge (Unrated) With Semicircular Head, 16 Gauge Door		EA	$665.00	$0
08-131335	DOOR Steel,2'-2" Or 2'-4" x 6'-9" x 1-3/4" 18 Gauge (Unrated) With Semicircular Head, 16 Gauge Door		EA	$653.00	$0
08-131337	DOOR/Frame Hollow Metal 2'-8" x 6'-8" x 1-3/4" 18 Gauge (Unrated), 2" Thick Door		EA	$705.00	$0
08-131339	DOOR Metal 2'-8" x 8' x 1-3/4" 18 Gauge (Unrated), 20 Minutes To 30 Minutes Rated Door And FM Label		EA	$745.00	$0
08-131342	DOOR Metal 3'-6" x 6'-8" x 1-3/4" 18 Gauge (Unrated), 2 Hour To 2-1/2 Hour Rated Door And FM Label		EA	$797.00	$0
08-131345	DOOR Metal 2'-10" x 6'-8" x 1-3/4" 18 Gauge (Unrated), Type 304 Stainless Steel Door		EA	$757.00	$0
08-131347	DOOR Metal 4' x 6'-8" x 1-3/4" 18 Gauge (Unrated), Type 316 Stainless Steel Door		EA	$849.00	$0
08-131350	DOOR METAL, Pair 2'-8" x 8' x 1-3/4" 18 Gauge (Unrated), Embossed Panel		PR	$803.00	$0
08-131352	DOOR METAL, Pair 2'-8" x 7'-2" x 1-3/4" 18 Gauge (Unrated), Galvanized Steel		PR	$780.00	$0
08-131355	DOOR METAL, Pair 3'-6" x 6'-8" x 1-3/4" 18 Gauge (Unrated), Galvanized Steel		PR	$989.00	$0
08-131357	DOOR METAL, Pair 2'-10" x 6'-8" x 1-3/4" 18 Gauge (Unrated), Type 304 Stainless Steel Door		PR	$872.00	$0
08-131362	DOOR METAL, 14' x 12', 24 Gauge Galvanized Steel Overhead Coiling Door, Chain Lift, Insulated(Auto Operated),		EA	$9,050.00	$0
08-131364	DOOR METAL, 16' x 12', 24 Gauge Galvanized Steel Overhead Coiling Door, Chain Lift, Insulated(auto Operated),		EA	$10,530.00	$0
08-201010	STEEL SECURITY WINDOW16 Gauge Perforated Metal, 63% Openings, Operable, Screen		SF	$43.00	$0
08-201012	STEEL SECURITY WINDOW16 Gauge Perforated Metal, 63% Openings, Operable, Screen, Painted Steel,		SF	$45.00	$0
08-201014	STEEL SECURITY WINDOW 16 Gauge Perforated Metal, 63% Openings, Operable, Screen, Galvanized Steel,		SF	$48.00	$0
08-201016	STEEL SECURITY WINDOW 16 Gauge Perforated Metal, 63% Openings, Operable, Screen, Aluminum,		SF	$53.00	$0
08-201018	STEEL SECURITY WINDOW 16 Gauge Perforated Metal, 63% Openings, Operable, Screen, Stainless Steel,		SF	$75.00	$0
08-201020	STEEL SECURITY WINDOW 20 Gauge Perforated Metal, 63% Openings, Operable, Screen		SF	$34.00	$0
08-201022	STEEL SECURITY WINDOW 20 Gauge Perforated Metal, 63% Openings, Operable, Screen, Painted Steel,		SF	$35.50	$0
08-201024	STEEL SECURITY WINDOW 20 Gauge Perforated Metal, 63% Openings, Operable, Screen, Aluminum,		SF	$41.50	$0
08-201026	STEEL SECURITY WINDOW 20 Gauge Perforated Metal, 63% Openings, Operable, Screen, Stainless Steel,		SF	$58.00	$0
08-311330	DOORS, Specialty Access, floor Commercial, Aluminum tile, Steel Frame, Double Leaf, 4'-0" x4'-0" Opening		OP	$2,452.00	$0
Sec 09-00	**FINISHES**				
09-221613	2-1/2" Metal Studs, Galvanized,, 20 GA, 24" O.C, non load bmg.>10FT		SF	$1.50	$0
09-221613	Horiz/Diagonal Bracing Metal Strap, 18 Ga x2" Wide, Studs 24" O.C		CLF	$153.40	$0
09-221620	1/2" Gypsum Board, Adhesive Applied Sheets Instead Of Fasteners (Includes Bracing Until Adhesive Is Bonded),		SF	$1.60	$0
09-221625	1/2" Gypsum Board, Walls > 10' High		SF	$1.55	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
09-221627	1/2" Gypsum Board, Curved Surfaces With A 2'-0" Maximum Radius,		SF	$1.70	$0
09-221632	1/2" Gypsum Board, Two Layers, Horizontal Installation Up To 10' High		SF	$3.25	$0
09-221720	3/8" Gypsum Board, Adhesive Applied Sheets Instead Of Fasteners (Includes Bracing Until Adhesive Is Bonded),		SF	$1.45	$0
09-221722	3/8" Gypsum Board, Horizontal Installation > 10' High,		SF	$1.75	$0
09-221724	3/8" Gypsum Board, Curved Surfaces With A 2'-0" Maximum Radius,		SF	$1.50	$0
09-291510	ACCESSORIES, Gypsum Board, Furring Channel, Galvanized Steel, resilient, 5/8" wide		CLF	$237.50	$0
09-291030	STOCK and Strap- Gypsum Board , Walls		MH	$64.95	$0
09-102005	Hard Floor, Light Clean, Heavy Clean,		SF	$1.15	$0
09-102010	Epoxy Flooring Trowel Applied Mortar Compound, 1/4" Heavy Duty (6000 - 7500 PSI)		SF	$13.50	$0
09-102012	Epoxy Flooring Trowel Applied Mortar Compound, 1/4" Heavy Duty (6000 - 7500 PSI), > 1000 To 2000,		SF	$14.30	$0
09-102014	Epoxy Flooring Trowel Applied Mortar Compound, 1/4" Heavy Duty (6000 - 7500 PSI), Skid Resistant, Orange Peel Texture, Non-Abrasive Topping,		SF	$18.50	$0
09-102016	Epoxy Flooring Trowel Applied Mortar Compound, 1/4" Heavy Duty (6000 - 7500 PSI), Up To 500,		SF	$16.10	$0
09-103010	Paint Floors, One Coat Paint, Brush/Roller Work		SF	$0.60	$0
09-203010	Patch Floors, 1/8" To 1/4", Cementitious Patching Mortar		SF	$6.40	$0
09-204010	Patch Floors, White Aluminum Oxide Grit (Non-Slip Aggregate)		SF	$0.55	$0
09-353010	Vinyl Floor Tile Feature Strip, Brown Or Black, Up To 20,		SF	$2.05	$0
09-353012	Vinyl Floor Tile Feature Strip, Brown Or Black, > 20 To 40,		SF	$1.75	$0
09-353014	Vinyl Floor Tile Feature Strip, Brown Or Black, > 40 To 100,		SF	$1.55	$0
09-554012	Wall Finishes, 1/16" Float Finish, Up To 50 SF,		SF	$12.90	$0
09-554013	Wall Finishes, 1/16" Float Finish, > 50 To 250 SF		SF	$5.25	$0
09-554014	Wall Finishes, 1/16" Float Finish, > 2500 To 7500 SF,		SF	$2.45	$0
09-554015	Wall Finishes, 1/16" Float Finish, > 7500 To 10000 SF,		SF	$2.20	$0
09-555510	Wall Finishes, Light Sand Blast, Up To 50 SF		SF	$11.90	$0
09-555512	Wall Finishes, Light Sand Blast, > 50 To 250 SF,		SF	$4.85	$0
09-555513	Wall Finishes, Light Sand Blast, > 2500 To 7500 SF,		SF	$2.25	$0
Sec 11-00	**EQUIPMENT**				
11-051005	Demolition of 20HP Vortex Type Sludge Pump, 8" Intake And 6" Discharge Flange Connections, Wemco Model E		EA	$1,860.00	$0
11-051010	Demolition of 1 HP Submersible Sewage Pump, 115V Or 230V 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller		EA	$150.50	$0
11-051015	Demolition of 3 HP Submersible Well Pump, 4" Diameter Stainless Steel		EA	$835.00	$0
11-000100	Tipping Buckets		EA	$23,500.00	$0
11-000115	PUMP, SUBMERSIBLE, 20 HP Complete with Rail and Base ell		EA	$20,550.00	$0
11-001025	PUMP 20HP Vortex Type Sludge , 8" Intake And 6" Discharge Flange Connections, Wemco Model E		EA	$25,320.00	$0
11-001035	PUMP 20HP Vortex Type Sludge , 8" Intake And 6" Discharge Flange Connections, Wemco Model E, Explosion Proof Motor,		EA	$26,100.00	$0
11-341950	1 HP Submersible Sewage Pump, 115V Or 230V 1 Phase, 2" To 3" Flanged Discharge, Epoxy-Coated Cast Steel Housing And Impeller		EA	$1,165.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
11-341965	3 HP Submersible Well Pump, 4" Diameter Stainless Steel		EA	$3,845.00	$0
11-341950	ODOR Control Tower, complete w/media		EA	$87,080.00	$0
Sec 13-00	**SPECIAL CONSTRUCTION**				
13-055010	DEMOLITION of Pre-Engineered 4' x4' Steel Building Accessory Items Entrance Canopy		SF	$9.40	$0
13-055010	DEMOLITION of Pre-Engineered 4' x8' Steel Building Accessory Items Entrance Canopy		SF	$10.75	$0
13-341950	PRE-ENGINEERED Steel Building Accessory Item, Entrance canopy, 4' x4', Including Frame		EA	$750.00	$0
13-341955	PRE-ENGINEERED Steel Building Accessory Item, Entrance canopy, 4' x8', Including Frame		EA	$925.00	$0
13-341950	PRE-ENGINEERED Steel Building, Clear Span Rigid Frame, 30 PSF Roff & 20 PSF Wind Load, with Accessories		SF	$125.00	$0
Sec 21-00	**FIRE SUPPRESSION**				
210001	Scaffold (F&I} With Accessories-Area 3'x7'{QTY Up to 25 EA}(CCF/Month)		CCF	$150.00	$0
210002	Scaffold (F&I} With Accessories-Area 3'x7'{QTY >25-50 EA}(CCF/Month)		CCF	$140.00	$0
210003	Scaffold (F&I} With Accessories-Area 3'x7'{QTY > 50-150 EA}(CCF/Month)		CCF	$125.00	$0
210004	Scaffold (F&I} With Accessories-Area 5'x7'{QTY Up to 25 EA}(CCF/Month)		CCF	$120.00	$0
210005	Scaffold (F&I} With Accessories-Area 5'x7'{QTY >25-50 EA}(CCF/Month)		CCF	$110.00	$0
210006	Scaffold (F&I} With Accessories-Area5'x7'{QTY > 50-150 EA}(CCF/Month)		CCF	$90.00	$0
210103	DEMO -3" HDPE Fire Suppression Pipe		LF	$6.25	$0
210104	DEMO -4" HDPE Fire Suppression Pipe		LF	$6.50	$0
210106	DEMO -6" HDPE Fire Suppression Pipe		LF	$7.25	$0
210108	DEMO -8" HDPE Fire Suppression Pipe		LF	$7.75	$0
210112	DEMO -2" SWAY Bracing		EA	$16.00	$0
210113	DEMO -3" SWAY Bracing		EA	$0.00	$0
210114	DEMO -4" SWAY Bracing		EA	$0.00	$0
210116	DEMO -6" SWAY Bracing		EA	$0.00	$0
210118	DEMO -8" SWAY Bracing		LF	$0.00	$0
210119	DEMO -10" SWAY Bracing		LF	$0.00	$0
210223	3" HDPE Dry Stand Pipe INCL Fitting {QTY <=1000 LF}		LF	$28.80	$0
210224	3" HDPE Dry Stand Pipe INCL Fitting {QTY>1000 LF}		LF	$28.30	$0
210225	4" HDPE Dry Stand Pipe INCL Fitting {QTY <=1000 LF}		LF	$32.50	$0
210226	4" HDPE Dry Stand Pipe INCL Fitting {QTY >1000 LF}		LF	$31.50	$0
210227	6" HDPE Dry Stand Pipe INCL Fitting {QTY <=1000 LF}		LF	$35.50	$0
210228	6" HDPE Dry Stand Pipe INCL Fitting {QTY >1000 LF}		LF	$34.75	$0
210229	8" HDPE Dry Stand Pipe INCL Fitting {QTY <=1000 LF}		LF	$37.85	$0
210230	8" HDPE Dry Stand Pipe INCL Fitting {QTY >1000 LF}		LF	$37.10	$0
210242	2" SWAY Bracing		EA	$128.00	$0
210243	3" SWAY Bracing		EA	$131.00	$0
210244	4" SWAY Bracing		EA	$150.00	$0
210246	6" SWAY Bracing		EA	$225.00	$0
210248	8" SWAY Bracing		EA	$250.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
210250	10" SWAY Bracing		EA	$290.00	$0
210301	DEMO 3/4" SCH 40 CPVC Fire Sprinkler Pipe		LF	$1.75	$0
210302	DEMO 1" SCH 40 CPVC Fire Sprinkler Pipe		LF	$1.90	$0
210303	DEMO 2" SCH 40 CPVC Fire Sprinkler Pipe		LF	$2.50	$0
210304	DEMO 3" SS SCH10 Type 304 Fire Sprinkler Pipe		LF	$1.10	$0
210305	DEMO 3" Cast Iron (Black Steel) Sprinkler Pipe		LF	$10.90	$0
210306	DEMO 3" SS SCH 10 Type 304 Sprinkler Pipe		LF	$17.00	$0
210307	DEMO 3" Hanger Assembly- Sprinkler Pipe		EA	$22.75	$0
210401	3/4" SCH 40 CPVC Fire Sprinkler Pipe INCL FITTING {QTY <=100 LF}		LF	$5.45	$0
210402	3/4" SCH 40 CPVC Fire Sprinkler Pipe INCL FITTING {QTY >100 LF}		LF	$4.75	$0
210403	1" SCH 40 CPVC Fire Sprinkler Pipe INCL FITTING {QTY <=100 LF}		LF	$6.35	$0
210404	1" SCH 40 CPVC Fire Sprinkler Pipe INCL FITTING {QTY >100 LF}		LF	$6.10	$0
210405	2" SCH 40 CPVC Fire Sprinkler Pipe INCL FITTING {QTY <=100 LF}		LF	$11.80	$0
210406	2" SCH 40 CPVC Fire Sprinkler Pipe INCL FITTING {QTY >100 LF}		LF	$11.10	$0
210407	3" Cast Iron Fire Sprinkler Pipe INCL FITTING {QTY <=100 LF}		LF	$37.90	$0
210408	3" Cast Iron Fire Sprinkler Pipe INCL FITTING {QTY >100 LF}		LF	$37.10	$0
210409	3" SS SCH 10, Type 304- Fire Sprinkler Pipe INCL FITTING {QTY <=100 LF}		LF	$81.80	$0
210410	3" SS SCH 10, Type 304Fire Sprinkler Pipe INCL FITTING {QTY >100 LF}		LF	$80.95	$0
210420	3" Hanger Assembly-Fire Sprinkler Pipe		EA	$82.90	$0
210501	DEMO- Pipe Size 1" MAX PSI 150, Double Seat Float Valve		EA	$34.50	$0
210502	DEMO- Pipe Size 2" MAX PSI 150, Double Seat Float Valve		EA	$43.50	$0
210503	DEMO- Pipe Size 3" MAX PSI 150, Double Seat Float Valve		EA	$47.50	$0
210504	DEMO- 4" or 6" Pop-Up Height, Spray Sprinkler Head With Check Valve		EA	$14.50	$0
210505	DEMO 3/4" Ball Valve, Brass Body, Threaded or Sweated, 125#, Regular Port		EA	$14.25	$0
210506	DEMO 1" Ball Valve, Brass Body, Threaded or Sweated, 125#, Regular Port		EA	$16.00	$0
210507	DEMO 2-1/2" Ball Valve, Brass Body, Threaded or Sweated, 125#, Regular Port		EA	$19.50	$0
210510	3/4" Ball Valve, Brass Body, Threaded or Sweated, 125#, Regular Port		EA	$72.50	$0
210511	1" Ball Valve, Brass Body, Threaded or Sweated, 125#, Regular Port		EA	$90.00	$0
210512	2-1/2" Ball Valve, Brass Body, Threaded or Sweated, 125#, Regular Port		EA	$155.00	$0
210520	3/4" Manual Sprinkler Control Valves, with Union		EA	$95.00	$0
210521	1" Manual Sprinkler Control Valves, with Union		EA	$117.00	$0
210522	2" Manual Sprinkler Control Valves, with Union		EA	$258.00	$0
210523	1-1/4" Manual Sprinkler Control Valves, with Union		EA	$185.00	$0
210524	1-1/2" Manual Sprinkler Control Valves, with Union		EA	$213.00	$0
210530	Double Seat Float valve-Pipe size 1", MAX PSI 150		EA	$683.00	$0
210531	Double Seat Float valve-Pipe size 2", MAX PSI 150		EA	$1,111.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
210532	Double Seat Float valve-Pipe size 3", MAX PSI 150		EA	$1,485.00	$0
210540	4" Pop-Up Height, Spray Sprinkler Head With Check Valve, Rotary Nozzle.		EA	$50.00	$0
210541	6" Pop-Up Height, Spray Sprinkler Head With Check Valve, Rotary Nozzle.		EA	$72.50	$0
Sec 22-00	**PLUMBING**				
22-000110	DEMOLITION of 3/4" & 1-1/4" Pipe Clip/Strap, Plain Type 26		EA	$7.50	$0
22-000220	DEMOLITION of 4" Pipe, Stainless Steel Schedule 40 Type 304 For Butt Weld Fitting		LF	$19.90	$0
22-000230	DEMOLITION of 6" Pipe, Stainless Steel Schedule 40 Type 304 For Butt Weld Fitting		LF	$26.50	$0
22-000235	DEMOLITION of 8" Pipe, Stainless Steel Schedule 40 Type 304 For Butt Weld Fitting		LF	$44.00	$0
22-000310	DEMOLITION of 4" Main Line Flow Meter, 20" Long, 150#, Flanged		EA	$240.50	$0
22-000320	DEMOLITION of 2" Main Line Flow Meter, 20" Long, 300#, Flanged		EA	$215.50	$0
22-000320	DEMOLITION of 6" Main Line Flow Meter, 22" Long, 150#, Flanged		EA	$245.50	$0
22-000330	DEMOLITION of 8" Main Line Flow Meter, 24" Long, 150#, Flanged		EA	$283.00	$0
22-000410	DEMOLITION of 4" Knife Gate Valve, Cast Iron Body With Stainless Steel Interior, Hand wheel And Metal Seat		EA	$330.50	$0
22-000420	DEMOLITION of 6 " Knife Gate Valve, Cast Iron Body With Stainless Steel Interior, Hand wheel And Metal Seat		EA	$422.50	$0
22-000420	DEMOLITION of 8" Knife Gate Valve, Cast Iron Body With Stainless Steel Interior, Hand wheel And Metal Seat		EA	$485.00	$0
22-00510	DEMOLITION of 2" Plug Valve, Stainless Steel Type 304		EA	$63.50	$0
22-00514	DEMOLITION of 4" Flanged Plug Valve, TFE Lined		EA	$185.75	$0
22-00526	DEMOLITION of 6" Flanged Plug Valve, TFE Lined		EA	$215.00	$0
22-00534	DEMOLITION of 4" Gate Valve, Bronze, Threaded, 125#, Brazed Or Soldered		EA	$40.50	$0
22-00536	DEMOLITION of 6" Gate Valve, Iron Body, Flanged, 125# Bronze Trim, With Non-Rising Stem		EA	$420.00	$0
22-201510	3/4" Pipe Clip/Strap, Plain Type 26, Work In Restricted Working Space		EA	$21.75	$0
22-201515	1-1/4" Pipe Clip/Strap, Plain Type 26, Work In Restricted Working Space		EA	$24.75	$0
22-202510	4" Stainless Steel Schedule 40 Type 304 For Butt Weld Fitting with Fitting		LF	$145.50	$0
22-202515	4" Steel Pipe Plug		EA	$90.25	$0
22-202516	4" Steel Pipe Clamp Type 4		EA	$37.25	$0
22-202516	6" Pipe, Stainless Steel Schedule 40 Type 304 For Butt Weld Fitting, Work In Restricted Working Space, with Fitting		LF	$275.50	$0
22-202517	6" Steel Pipe Plug		EA	$95.50	$0
22-202518	6" Steel Pipe Clamp Type 4		EA	$42.50	$0
22-202516	8" Pipe, Stainless Steel Schedule 40 Type 304 For Butt Weld Fitting, Work In Restricted Working Space, with Fitting		LF	$378.50	$0
22-202517	8" Steel Pipe Plug		EA	$105.50	$0
22-202518	8" Steel Pipe Clamp Type 4		EA	$48.50	$0
22-452010	4" Main Line Flow Meter, 20" Long, 150#, Flanged, Electronic Flow Meter For Extended Flow Rate (X-Flow),		EA	$2,635.00	$0
22-452020	2" Main Line Flow Meter, 20" Long, 300#, Flanged, Electronic Flow Meter For Extended Flow Rate (X-Flow),		EA	$2,510.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
22-452030	6" Main Line Flow Meter, 22" Long, 150#, Flanged, Electronic Flow Meter For Extended Flow Rate (X-Flow),		EA	$2,950.00	$0
22-452050	8" Main Line Flow Meter, 24" Long, 150#, Flanged, Electronic Flow Meter For Extended Flow Rate (X-Flow),		EA	$3,450.00	$0
22-453510	4" Knife Gate Valve, Cast Iron Body With Stainless Steel Interior, Hand wheel And Metal Seat		EA	$755.00	$0
22-453516	6" Knife Gate Valve, Cast Iron Body With Stainless Steel Interior, Hand wheel And Metal Seat		EA	$1,135.00	$0
22-453516	8" Knife Gate Valve, Cast Iron Body With Stainless Steel Interior, Hand wheel And Metal Seat		EA	$1,495.00	$0
22-454812	2" Plug Valve, Stainless Steel Type 304, Work In Restricted Working Space		EA	$1,195.00	$0
22-454814	4" Flanged Plug Valve, TFE Lined		EA	$3,710.00	$0
22-454816	6" Flanged Plug Valve, TFE Lined		EA	$5,845.00	$0
22-455424	4" Gate Valve, Bronze, Threaded, 125#, Brazed Or Soldered, 150 LB Rating,		EA	$855.00	$0
22-455426	6" Gate Valve, Iron Body, Flanged, 125# Bronze Trim, With Non-Rising Stem		EA	$1,335.00	$0
Sec 23-00	**HEATING, VENTILATING, and AIR CONDITIONING (HVAC)**				
23-100510	DEMOLITION of Multi-Blade Dampers, Parallel Blade 8" x 8"		EA	$46.80	$0
23-100515	DEMOLITION of 2100 CFM Belt Drive Fans Supply		EA	$855.00	$0
23-100520	DEMOLITION of 1 Ton Single Package Heat Pump, Air To Air Type With Electric Heat		EA	$195.00	$0
23-100540	DEMOLITION of Sheet Metal Ductwork, High Pressure, Field Fabricated, Galvanized, Field Assemble And Install		LB	$4.10	$0
23-311319	DUCT Accessories, Multi Blade Dampers, Parallel Blade		EA	$115.00	$0
23-240010	FANS, Supply, 2100 CFM		EA	$3,315.00	$0
23-314310	HEAT Pump, Air to Air single package, 1 ton cooling, supplementary heat.		EA	$3,365.00	$0
23-311316	DUCTWORK, Sheet Metal , Spiral Performed Field Fabricated, Galvanized, straight length max, 10" SPWG, 14" DIA, 26 Ga Up to 100		LF	$22.35	$0
23-311317	DUCTWORK, Sheet Metal , Spiral Performed Field Fabricated, Galvanized, straight length max, 10" SPWG, 14" DIA, 26 Ga > 200 To 500		LF	$21.30	$0
23-311318	DUCTWORK, Sheet Metal , Spiral Performed Field Fabricated, Galvanized, straight length max, 10" SPWG, 14" DIA, 26 Ga > 500 To 1000		LF	$20.85	$0
23-311319	DUCTWORK, Sheet Metal , Spiral Performed Field Fabricated, Galvanized, straight length max, 10" SPWG, 14" DIA, 24 Ga Up to 100		EA	$29.75	$0
23-311320	DUCTWORK, Sheet Metal , Spiral Performed Field Fabricated, Galvanized, straight length max, 10" SPWG, 14" DIA, 24 Ga > 200 To 500		EA	$26.75	$0
23-311321	DUCTWORK, Sheet Metal , Spiral Performed Field Fabricated, Galvanized, straight length max, 10" SPWG, 14" DIA, 24 Ga > 500 To 1000		EA	$25.95	$0
Sec 26-00	**ELECTRICAL**				
SUB SEC	**Demo Electrical Items**				
26-005010	ELECTRICAL TESTING {Value $0.15M-$0.25M}		EA	$5,500.00	$0
26-005015	ELECTRICAL TESTING {Value $0.30M-$0.45M}		EA	$7,500.00	$0
26-005015	ELECTRICAL TESTING {Value $0.5M-$0.65M}		EA	$10,500.00	$0
26-001001	Demo Existing Wall Mount Electrical Conduit & Wiring		LF	$4.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
26-001005	Demo Existing Wall Mount Electrical Panels/Enclosures		EA	$100.00	$0
26-001010	Demo Existing Free Standing Electrical Cabinets/Panels		EA	$75.00	$0
26-001015	Demo Existing Free Standing Electrical Instrumentations/Devices		EA	$43.00	$0
26-002520	Demo Existing Backup Power Generator 35 KW-Diesel Set, 3 Phase		EA	$904.00	$0
26-002522	Demo Existing Backup Power Generator 40 KW-Diesel Set, 3 Phase		EA	$971.00	$0
26-005020	DEMOLITION of System Console-Controls NOVA Matrix Systems, AurorA 2000 / AurorACorD multiplexers and recorders and time-lapse VCRs. Vicon model V1400X-DVC-3.		EA	$19.75	$0
26--005025	DEMOLITION of 1 , 2 or 3 Circuit Track Lighting Track		LF	$6.85	$0
26--005005	DEMOLITION of Compact Fluorescent Track Lighting Fixture		EA	$17.50	$0
26--005015	DEMOLITION of Demolition of Dryer Receptacle, 230 V, 30 Amp		EA	$20.75	$0
26--005020	DEMOLITION of 25 A, Duplex Receptacle, 120/277 V		EA	$15.50	$0
26--005025	DEMOLITION of Floor Ground Receptacle For Aluminum Lightning Protection System		EA	$52.00	$0
26-002524	Demo Existing Backup Power Generator 50 KW-Diesel Set, 3 Phase		EA	$1,070	$0
26-002526	Demo Existing Backup Power Generator 80 KW-Diesel set, 3 Phase		EA	$1,370	$0
26--062200	CONTROL PANEL Submersible Pump, Local FLYGT-Model-NP 3301 HT33-466 GMP 1259(75HP Pumps)		EA	$101,050	$0
26-002528	Demo Existing Backup Power Generator 100 KW-Diesel set, 3 Phase		EA	$1,530	$0
26-002530	Demo Existing Backup Power Generator 250 KW-Diesel set, 3 Phase		EA	$2,710	$0
26-002532	Demo Existing Backup Power Generator 350 KW-Diesel set, 3 Phase		EA	$3,304	$0
26-002534	Demo Existing Backup Power Generator 500 KW-Diesel set, 3 Phase		EA	$4,180	$0
26-002534	Demo Existing Backup Power Generator 1000 KW-Diesel set, 3 Phase		EA	$5,820	$0
26-003002	Demo Existing Electrical Generator Protection Single Phase NEMA Device 87		EA	$119	$0
26-004210	Demo Existing Electrical Motor Control Center HPK-B1308E(240 V 3 Phase)		EA	$280	$0
26-004220	Demo Existing Electrical Motor Control Center HPK-B1613C (480 V 3 Phase)		EA	$350	$0
26-004510	Demo Existing UPS Back-Up Power for Gate Actuator (10KVA,Sigle Power System)		EA	$550	$0
26-004515	Demo Existing UPS Back-Up Power for Gate Actuator (10KVA,3 Power System)		EA	$550	$0
26-004520	Demo Existing UPS Back-Up Power for Gate Actuator (15KVA,Sigle Power System)		EA	$570	$0
26-004525	Demo Existing UPS Back-Up Power for Gate Actuator (15KVA,3 Power System)		EA	$570	$0
26-004530	Demo Existing UPS Back-Up Power for Gate Actuator (20KVA,Sigle Power System)		EA	$610	$0
26-004535	Demo Existing UPS Back-Up Power for Gate Actuator (20KVA,3 Power System)		EA	$610	$0
SUB SEC	**Electrical Cable & Accessories**				
833060	Conduit, RGS, 1 IN { QTY <= 500 LF}		LF	$18	$0
833060	Conduit, RGS, 1 IN { QTY > 500 LF}		LF	$16	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
833070	Conduit, RGS, 2 IN { QTY <= 500 LF}		LF	$19	$0
26-052680	Grounding Wire Splice, Copper To Aluminum, #8 - 1 AWG		EA	$140.50	$0
26-052685	Grounding For Gates (Per Opening)		OPEN	$470.00	$0
26-052687	Grounding Wire Splice, Copper To Aluminum, 350 MCM And Up		EA	$225.00	$0
26-102530	SYSTEM Console -Controls NOVA Matrix Systems, AurorA 2000 / AurorACorD multiplexers and recorders and time-lapse VCRs. Vicon model V1400X-DVC-3.		EA	$2,210.00	$0
26-104510	1 Circuit Track Lighting Track		LF	$31.90	$0
26-104512	2 Circuit Track Lighting Track		LF	$42.75	$0
26-104513	3 Circuit Track Lighting Track		LF	$51.95	$0
26-104514	4 Circuit Track Lighting Track		LF	$61.15	$0
833070	Conduit, RGS, 2 IN { QTY > 500 LF}		LF	$17	$0
833080	Conduit, RGS, 3 IN { QTY <= 500 LF}		LF	$20	$0
833080	Conduit, RGS, 3 IN { QTY > 500 LF}		LF	$18	$0
833082	Conduit, RGS, 4 IN { QTY <= 500 LF}		LF	$25	$0
833082	Conduit, RGS, 4 IN { QTY > 500 LF}		LF	$22	$0
833085	Conduit, RGS, 5 IN { QTY <= 500 LF}		LF	$30	$0
833085	Conduit, RGS, 5 IN { QTY > 500 LF}		LF	$27	$0
833086	Conduit, RGS, 5 IN { QTY <= 500 LF}		LF	$36	$0
833086	Conduit, RGS, 5 IN { QTY > 500 LF}		LF	$33	$0
833010	Conduit, PVC, 1 IN, SCH-40-{ QTY <=500 LF}		LF	$6	$0
833010	Conduit, PVC, 1 IN,SCH-40 { QTY >500 LF}		LF	$4	$0
833020	Conduit, PVC, 2 IN,SCH-40 { QTY <=500 LF}		LF	$10	$0
833020	Conduit, PVC, 2 IN,SCH-40 { QTY >500 LF}		LF	$8	$0
833030	Conduit, PVC, 3 IN,SCH-40 { QTY <=500 LF}		LF	$10	$0
833030	Conduit, PVC, 3 IN,SCH-40 { QTY >500 LF}		LF	$9	$0
833040	Conduit, PVC, 4 IN,SCH-40 { QTY <=500 LF}		LF	$25	$0
833040	Conduit, PVC, 4 IN,SCH-40 { QTY >500 LF}		LF	$20	$0
833050	Conduit, PVC, 5 IN,SCH-40 { QTY <=500 LF}		LF	$32	$0
833050	Conduit, PVC, 5 IN,SCH-40 { QTY >500 LF}		LF	$30	$0
833060	Conduit, PVC, 6 IN,SCH-40 { QTY <=500 LF}		LF	$37	$0
833060	Conduit, PVC, 6 IN,SCH-40 { QTY >500 LF}		LF	$34	$0
833110	Conduit, RGS,PVC Coated, 1 IN { QTY <= 500 LF}		LF	$32	$0
833110	Conduit, RGS,PVC Coated, 1 IN { QTY > 500 LF}		LF	$30	$0
833120	Conduit, RGS,PVC Coated, 2 IN { QTY <= 500 LF}		LF	$42	$0
833120	Conduit, RGS,PVC Coated, 2 IN { QTY > 500 LF}		LF	$40	$0
833130	Conduit, RGS,PVC Coated, 3 IN { QTY 100-250 LF}		LF	$54	$0
833130	Conduit, RGS,PVC Coated, 3 IN { QTY 250- 500 LF}		LF	$52	$0
833130	Conduit, RGS,PVC Coated, 3 IN { QTY 500-1000 LF}		LF	$50	$0
833130	Conduit, RGS,PVC Coated, 3 IN { QTY > 1000 LF}		LF	$47	$0
833140	Conduit, RGS,PVC Coated, 4 IN { QTY 100-250 LF}		LF	$60	$0
833140	Conduit, RGS,PVC Coated, 4 IN { QTY 250- 500 LF}		LF	$58	$0
833140	Conduit, RGS,PVC Coated, 4 IN { QTY 500-1000 LF}		LF	$56	$0
833140	Conduit, RGS,PVC Coated, 4 IN { QTY > 1000 LF}		LF	$53	$0
833220	Electrical Rigid Galvanized Conduit Riser, 2 IN { QTY <= 5EA}		EA	$1,100	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
833220	Electrical Rigid Galvanized Conduit Riser,2 IN { QTY > 5EA}		EA	$850	$0
833230	Electrical Rigid Galvanized Conduit Riser, 3 IN { QTY <= 5EA}		EA	$1,400	$0
833230	Electrical Rigid Galvanized Conduit Riser,3 IN { QTY > 5EA}		EA	$1,100	$0
833235	Electrical Rigid Galvanized Conduit Riser, 4 IN { QTY <= 5EA}		EA	$1,700	$0
833235	Electrical Rigid Galvanized Conduit Riser,4 IN { QTY > 5EA}		EA	$1,600	$0
26-051010	Electrical PVC OCAL Rigid Conduit 1-IN CTD(1 COUPLING per 10FT)		LF	$105	$0
26-051020	Electrical PVC OCAL Rigid Conduit 2-IN CTD(1 COUPLING per 10FT)		LF	$185	$0
26-051030	Electrical PVC OCAL Rigid Conduit 3-IN CTD(1 COUPLING per 10FT)		LF	$370	$0
26-051040	Electrical PVC OCAL Rigid Conduit 4-IN CTD(1 COUPLING per 10FT)		LF	$500	$0
26-073810	Electrical Galvanized Conduit Coupling- 5 IN		EA	$70	$0
26-073812	Electrical Galvanized Conduit 45 DEG- ELBOW- 5 IN		EA	$290	$0
26-073814	Electrical Galvanized Conduit 90 DEG- ELBOW- 5 IN		EA	$290	$0
26-073910	Electrical Galvanized Conduit Coupling- 6 IN		EA	$95	$0
26-073912	Electrical Galvanized Conduit 45 DEG- ELBOW- 6 IN		EA	$405	$0
26-073914	Electrical Galvanized Conduit 90 DEG- ELBOW- 6 IN		EA	$405	$0
26-093110	Electrical PVC Conduit Coupling-1IN		EA	$3.50	$0
26-093112	Electrical PVC Conduit TERM ADPT-1IN		EA	$4.00	$0
26-093114	Electrical PVC Conduit FEMAE ADPT-1IN		EA	$4.00	$0
26-093116	Electrical PVC Conduit 45 DEG SCH-40-ELBOW-1 IN		EA	$4.45	$0
26-093118	Electrical PVC Conduit 90 DEG SCH-40-ELBOW-1 IN		EA	$4.75	$0
26-093312	Electrical PVC Conduit Coupling-2 IN		EA	$3.75	$0
26-093312	Electrical PVC Conduit TERM ADPT-2 IN		EA	$4.40	$0
26-093314	Electrical PVC Conduit FEMAE ADPT-2 IN		EA	$4.35	$0
26-172510	Electrical Ground Rod ERC 615800 5/8X10FT CU		EA	$140	$0
26-073010	Electrical Galvanized Conduit Coupling- 1IN		EA	$10	$0
26-073012	Electrical Galvanized Conduit 45 DEG- ELBOW- 1IN		EA	$15	$0
26-073014	Electrical Galvanized Conduit 90 DEG- ELBOW- 1IN		EA	$20	$0
26-073310	Electrical Galvanized Conduit Coupling- 2IN		EA	$15	$0
26-073312	Electrical Galvanized Conduit 45 DEG- ELBOW- 2 IN		EA	$30	$0
26-073314	Electrical Galvanized Conduit 90 DEG- ELBOW- 2 IN		EA	$35	$0
26-073510	Electrical Galvanized Conduit Coupling- 3 IN		EA	$30	$0
26-073512	Electrical Galvanized Conduit 45 DEG- ELBOW- 3 IN		EA	$70	$0
26-073514	Electrical Galvanized Conduit 90 DEG- ELBOW- 3 IN		EA	$70	$0
26-073710	Electrical Galvanized Conduit Coupling- 4 IN		EA	$45	$0
26-073712	Electrical Galvanized Conduit 45 DEG- ELBOW- 4 IN		EA	$125	$0
26-073714	Electrical Galvanized Conduit 90 DEG- ELBOW- 4IN		EA	$125	$0
26-093316	Electrical PVC Conduit 45 DEG SCH-40-ELBOW-2 IN		EA	$5.80	$0
26-093318	Electrical PVC Conduit 90 DEG SCH-40-ELBOW-2 IN		EA	$6.70	$0
26-093512	Electrical PVC Conduit Coupling-3 IN		EA	$5.80	$0
26-093512	Electrical PVC Conduit TERM ADPT-3 IN		EA	$6.50	$0
26-093514	Electrical PVC Conduit FEMAE ADPT-3 IN		EA	$6.70	$0
26-093516	Electrical PVC Conduit 45 DEG SCH-40-ELBOW-3 IN BELLED		EA	$17.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
26-093518	Electrical PVC Conduit 90 DEG SCH-40-ELBOW-3 IN BELLED		EA	$18.20	$0
26-093712	Electrical PVC Conduit Coupling-4 IN		EA	$7.00	$0
26-093712	Electrical PVC Conduit TERM ADPT-4 IN		EA	$8.15	$0
26-093714	Electrical PVC Conduit FEMALE ADPT-4 IN		EA	$8.60	$0
26-093716	Electrical PVC Conduit 45 DEG SCH-40-ELBOW-4 IN BELLED		EA	$29.80	$0
26-093718	Electrical PVC Conduit 90 DEG SCH-40-ELBOW-4 IN BELLED		EA	$32.15	$0
26-093812	Electrical PVC Conduit Coupling-5 IN		EA	$12.30	$0
26-093812	Electrical PVC Conduit TERM ADPT-5 IN		EA	$13.60	$0
26-093814	Electrical PVC Conduit Female ADPT-5 IN		EA	$14.50	$0
26-093816	Electrical PVC Conduit 45 DEG SCH-40-ELBOW-5IN BELLED		EA	$46.60	$0
26-093818	Electrical PVC Conduit 90 DEG SCH-40-ELBOW-5 IN BELLED		EA	$52.35	$0
26-093912	Electrical PVC Conduit Coupling-6 IN		EA	$15.21	$0
26-093912	Electrical PVC Conduit TERM ADPT-6 IN		EA	$15.09	$0
26-093914	Electrical PVC Conduit Female ADPT-6 IN		EA	$18.00	$0
26-093916	Electrical PVC Conduit 45 DEG SCH-40-ELBOW-6 IN BELLED		EA	$65.90	$0
26-093918	Electrical PVC Conduit 90 DEG SCH-40-ELBOW-6 IN BELLED		EA	$95.00	$0
26-083012	Electrical PVC CTD RIG OCAL Conduit Coupling-1 IN		EA	$14.00	$0
26-083014	Electrical PVC RIG OCAL Conduit 45 DEG CTD G-ELBOW-1 IN		EA	$54.70	$0
26-083016	Electrical PVC RIG OCAL Conduit CTD -G-ELBOW-1 IN		EA	$42.25	$0
26-083212	Electrical PVC CTD RIG OCAL Conduit Coupling-2 IN		EA	$29.96	$0
26-083214	Electrical PVC RIG OCAL Conduit 45 DEG CTD G-ELBOW-2 IN		EA	$76.80	$0
26-083216	Electrical PVC RIG OCAL Conduit CTD -G-ELBOW-2 IN		EA	$75.50	$0
26-083414	Electrical PVC RIG OCAL Conduit 45 DEG CTD G-ELBOW-3 IN		EA	$219.35	$0
26-083416	Electrical PVC RIG OCAL Conduit CTD -G-ELBOW-3 IN		EA	$215.45	$0
26-083612	Electrical PVC CTD RIG OCAL Conduit Coupling-4 IN		EA	$90.81	$0
26-083614	Electrical PVC RIG OCAL Conduit 45 DEG CTD G-ELBOW-4 IN		EA	$322.35	$0
26-083616	Electrical PVC RIG OCAL Conduit CTD -G-ELBOW-4 IN		EA	$316.80	$0
26-083412	Electrical PVC CTD RIG OCAL Conduit Coupling-3 IN		EA	$71.93	$0
26-222010	Electrical UNSTRUT B-Line B22SH-120 GLV Slot, 12 GA STL HALFSLOT GALV Channel 1-5/8"x1-5/8"		LF	$37.00	$0
26-222020	Electrical UNSTRUT B-Line B54SH-120 HDC Slot, 14 GA STL HALFSLOT GALV Channel 1-5/8"x1-3/16"		LF	$43.25	$0
26-242010	Electrical Cabinets Enclosure, NEMA 1 Metallic B-Line 888SCNK SCR CVR		EA	$91.65	$0
26-242012	Electrical Cabinets Enclosure,NEMA 1 Metallic B-Line 866-SC-NK		EA	$83.85	$0
26-242014	Electrical Cabinets Enclosure,NEMA 1 Metallic B-Line12106SC SCR CVR		EA	$101.00	$0
26-242424	Electrical Cabinets Enclosure,48366-SC-NK TYPE 1 SC		EA	$1,222.00	$0
26-321040	Electrical Junction Box 6" x8" x4", NEMA 1, Hinged, Screw Clamp-Steel Gray-by HOFFMAN		EA	$48.50	$0
26-321042	Electrical Junction Box 8" x8" x4", NEMA 12, Hinged, Screw Clamp Steel Gray by HOFFMAN		EA	$132.89	$0
26-321040	Electrical Junction Box 6" x8" x4", NEMA 1, Hinged, Screw Clamp-Steel Gray-by HOFFMAN		EA	$48.50	$0
26-321042	Electrical Junction Box 8" x8" x4", NEMA 12, Hinged, Screw Clamp Steel Gray by HOFFMAN		EA	$132.89	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
26-311240	Electrical Junction Box 10" x10" x6", NEMA 12, Hinged, Screw Clamp Steel Gray by HOFFMAN		EA	$150.80	$0
26-311242	Electrical Junction Box 10" x12" x6", NEMA 12, Hinged, Screw Clamp Steel Gray by HOFFMAN		EA	$124.80	$0
26-311440	Electrical Junction Box 12" x12" x6", NEMA 13, Hinged, 1/4 Turn Latch, Concept by HOFFMAN		EA	$237.50	$0
26-311440	Electrical Junction Box 14" x12" x6", NEMA 12, Hinged, Hinged Cover, Steel Gray by HOFFMAN		EA	$249.30	$0
26-311442	Electrical Junction Box 16" x12" x6", NEMA 12, Hinged, Hinged Cover, Steel Gray by HOFFMAN		EA	$382.00	$0
26-311443	Electrical Junction Box 16" x14" x6", NEMA 12, Hinged, Hinged Cover, Steel Gray by HOFFMAN		EA	$327.00	$0
26-311444	Electrical Junction Box 16" x16" x8", NEMA 12, Hinged, Hinged Cover, Steel Gray by HOFFMAN		EA	$405.50	$0
26-311445	Electrical Junction Box 20" x16" x8", NEMA 12, Hinged, Hinged Cover, Steel Gray by HOFFMAN		EA	$487.50	$0
26-311446	Electrical Junction Box 20" x20" x8", NEMA 12, Hinged, Hinged Cover, Steel Gray by HOFFMAN		EA	$515.00	$0
26-311447	Electrical Junction Box 24" x16" x8", NEMA 12, Hinged, Hinged Cover, Steel Gray by HOFFMAN		EA	$694.50	$0
26-311448	Electrical Junction Box 24" x24" x8", NEMA 12, Hinged, Hinged Cover, Steel Gray by HOFFMAN		EA	$699.50	$0
26-311449	Electrical Junction Box 30" x30" x8", NEMA 12, Hinged, Hinged Cover, Steel Gray by HOFFMAN		EA	$918.00	$0
26-152010	550 A-2'-8" x 3'-8" x3'-0" Precast Concrete Underground Electrical Utility Vault with 6" thick walls and 8" thick top.		EA	$3,140	$0
26-152012	550 B-4'-0" x 4'-0" x3'-6" Precast Concrete Underground Electrical Utility Vault with 6" thick walls and 8" thick top.		EA	$3,390	$0
26-152014	550 C-2'-8" x 3'-8' x3'-0" Precast Concrete Underground Electrical Utility Vault with 6" thick walls and 8" thick top.		EA	$3,530	$0
26-254010	Enclosure for Lighting Panels- SIEM B38 20W Type 1, Box W/O Ground BUS, 38H x 20W		EA	$70	$0
26-254110	Enclosure for Lighting Panels- SIEM B44 20W Type 1, Box W/O Ground BUS, 44H 20W		EA	$70	$0
26-254011	Enclosure for Lighting Panels- SIEM B38 FAS-LATCH TRIP ASSY 38H, Surface Mount		EA	$130	$0
26-254111	Enclosure for Lighting Panels- SIEM S44B FAS-LATCH Trim ASSY 44H, Surface Mount		EA	$130	$0
26-254012	Enclosure for Lighting Panels- SIEM MLKA3A KIT 250A Main LUG KIT 3 PH		EA	$125	$0
26-254210	Enclosure for Lighting Panels- SIEM P1X42MC25 0AT P1 REV. UPB 250A 208/120V 42CIR AL		EA	$510	$0
26-321321	50KW Diesel Generator Set, 3 Phase with Aluminum Enclosure, level 2 sound, 24HR Fuel Tank, ATS by Cummins with Concrete Pad		EA	$46,404	$0
26-321322	80KW Diesel Generator Set, 3 Phase with Aluminum Enclosure, level 2 sound, 24HR Fuel Tank, ATS by Cummins with Concrete Pad		EA	$51,820	$0
26-321323	100KW Diesel Generator Set, 3 Phase with Aluminum Enclosure, level 2 sound, 24HR Fuel Tank, ATS by Cummins with Concrete Pad		EA	$56,830	$0
26-321328	250KW Diesel Generator Set, 3 Phase with Aluminum Enclosure, level 2 sound, 24HR Fuel Tank, ATS by Cummins with Concrete Pad		EA	$91,250	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
26-321332	350KW Diesel Generator Set, 3 Phase with Aluminum Enclosure, level 2 sound, 24HR Fuel Tank, ATS by Cummins with Concrete Pad		EA	$126,250	$0
26-321334	500KW Diesel Generator Set, 3 Phase with Aluminum Enclosure, level 2 sound, 24HR Fuel Tank, ATS by Cummins with Concrete Pad		EA	$148,580	$0
26-321338	1000KW Diesel Generator Set, 3 Phase with Aluminum Enclosure, level 2 sound, 24HR Fuel Tank, ATS by Cummins with Concrete Pad		EA	$314,850	$0
26-416010	Electrical Panel Automatic Starters A-B 512-AACD-24R NEMA Combination S		EA	$1,800	$0
26-416012	Electrical Panel Automatic Starters A-B 512-BACD-24R NEMA Combination S		EA	$1,845	$0
26-416014	Electrical Panel Automatic Starters A-B 512-CACD-24R NEMA Combination S		EA	$2,650	$0
26-416016	Electrical Panel Automatic Starters A-B 512-CACD-24R NEMA Combination S		EA	$2,632	$0
26-503510	Electrical Lighting /Load Panel SIEM UPB 225 A, 208/120V 30 CIR AL		EA	$320	$0
26-503512	Electrical Lighting /Load Panel SIEM UPB 250A, 208/120V 30 CIR AL		EA	$350	$0
26-552210	Electrical Lighting System CRS-H EVLEDC7 01 LED Luminaire		EA	$2,200	$0
26-602410	Facility Unit Heater-KING KBP2006-3MP PIC-A-500WATT		EA	$590	$0
26-602420	Facility Unit Heater-KING KBP2010-3MP PIC-A-1.8KW		EA	$900	$0
26-651510	Service Drop-LOT SERVICE DROP 100A(With Meter & Base)		EA	$830	$0
26-651515	Service Drop-LOT SERVICE DROP 200A(With Meter & Base)		EA	$1,090	$0
26-651520	Service Drop-LOT SERVICE DROP 400A(With Meter & Base)		EA	$1,680	$0
26-702510	Electrical Panel Enclosure A72H6012SSLpQt SS TWO Door by HOFFMAN		EA	$12,649	$0
26-208010	Compact Fluorescent Track Lighting Fixture		EA	$74.30	$0
26-208015	5 Watt LED MicroFlood® Series Kim Lighting Flood Light		EA	$415.50	$0
26-208020	12 Watt, 20 Volt, Heavyweight Polycarbonate Housing, Halogen Light Fixture, Emergency Light Remote Head (Lithonia ELA IND H2012		EA	$157.50	$0
26-208025	2 T8 Lamps, 1 Lamp Wide Cross Section, 8' Length, Pendant Mounted, Fluorescent Downlight Fixture (Finelite Series 10), Dual Circuit,		EA	$667.50	$0
26-208030	1 T5HO Lamp, 1 Lamp Wide Cross Section, 4' Length, Pendant Mounted, Fluorescent Downlight Fixture (Finelite Series 10)		EA	$475.50	$0
26-208510	Dryer Receptacle, 230 V, 30 Amp		EA	$58.50	$0
26-208515	25 A, Duplex Receptacle, 120/277 V		EA	$51.75	$0
26-208535	Floor Ground Receptacle For Aluminum Lightning Protection System		EA	$3,305.00	$0
26-058525	GENERATOR RECEPTACLE 480V,4P4W,400A		EA	$3,305.00	$0
26-228513	TRANSFORMER , Dry-Type , Ventilated , 3 Phases, 480 V primary 1210/208V, secondary ,45 KVA		EA	$1,350.00	$0
26-248530	PANELBOARD , 3 Phases, 4 Wire, main lugs, 120/208V , 150 AMP,42 circuits, NQOD, incl. 20A 1 pole plu in breakers		EA	$3,650.00	$0
26-248520	MOTOR CONTROL Center, Model 6 LVMCC, 480Y/277V 3 PH 4W 60 Hz;Control Power-120Vac; Main-65KA Interrupting Rating;Manin Breaker Top Entry 200A Dimentions-80.00"WX20"Dx94.5"H; Weight 3125.00 lbs/1417.50kgs		EA	$65,250	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
26-248530	MOTOR CONTROL Center, 480V, 3 P4W, 800 AMP, SPD, PMM active HF 100A, 1-size, 1-70A, 1-30A, 4-150A,4-75HP VFD		EA	$126,500	$0
26-248540	MOTOR STARTER , magnetic, FVR control circuit transformer, size 1, NEMA 4X		EA	$2,370	$0
26-255510	ELECTRIC UNIT HEATER by KING KBP1230, 120 V, 3 position switch, 950 Watts, 270 CFM, 35F Temp Rise		EA	$555	$0
26-255512	ELECTRIC UNIT HEATER by KING KBP2406-3MP, 240 V, 2850 Watts, 270 CFM,70F Temp Rise		EA	$610	$0
26-255514	ELECTRIC UNIT HEATER by KING KBP4804-3MP, 480 V, 4160 Watts, 270 CFM,70F Temp Rise		EA	$750	$0
26-255514	ELECTRIC UNIT HEATER by KING KBP4806-3MP, 480 V, 6000 Watts, 270 CFM,71F Temp Rise		EA	$770	$0
26-268010	ELECTRIC Ultima® X XP Series Gas Monitors with X3® Technology		EA	$3,820	$0
26-269010	ELECTRIC BROAN EXHAUST FAN L500		EA	$540	$0
26-269020	ELECTRIC BROAN EXHAUST FAN L900		EA	$720	$0
26-278510	METER Trans- 13 Terminal, 3 CT mounts, 800 A, NEMA 3R Cabinet Socket		EA	$5,768	$0
26-278520	PUMP PLUG and RECEPTACLE, 150 A, SP, including cabinet for 2 Pumps/ea., NEMA 4X		EA	$25,550	$0
26-288520	SAFETY SWITCHES, 3 Pole, nonfusable, 600 Volt, 30 AMP, NEMA 4		EA	$1,045.00	$0
26-268510	AUTOMATIC Transfer Switches, Enclosed, 3 Pole, 480 Volt, 800 AMP		EA	$13,255.00	$0
26-2740-02	Electrical Panel Enclosure, Product Hoffman Stainless Steel Model A806NFSS		EA	$435.00	$0
26-2740-04	Electrical Panel Enclosure, Product Hoffman Stainless Steel Model A1008CHNFSS		EA	$520.00	$0
26-2740-06	Electrical Panel Enclosure, Product Hoffman Stainless Steel Model A1212CHNFSS		EA	$790.00	$0
26-2740-08	Electrical Panel Enclosure, Product Hoffman Stainless Steel Model A1614CHNFSS		EA	$1,035.00	$0
26-2740-10	Electrical Panel Enclosure, Product Hoffman Stainless Steel Model A20H1606SSLP		EA	$1,405.00	$0
26-2740-12	Electrical Panel Enclosure, Product Hoffman Stainless Steel Model A24H2408SSLP3PT		EA	$2,005.00	$0
26-2740-14	Electrical Panel Enclosure, Product Hoffman Stainless Steel Model A30H2408SS6LP3PT		EA	$2,500.00	$0
26-2740-16	Electrical Panel Enclosure, Product Hoffman Stainless Steel Model A36H3008SSLP		EA	$2,645.00	$0
26-2740-18	Electrical Panel Enclosure, Product Hoffman Stainless Steel Model A1008CHNFSS		EA	$4,640.00	$0
26-2988-10	Electrical Light Fixture EVLEDW201, Product Group-782, Lighting		EA	$1,252.00	$0
26-2988-12	Electrical Light Fixture EVLEDA2W201, Product Group-782, Lighting		EA	$1,510.00	$0
26-2988-14	Electrical Light Fixture EVLEDA3W201, Product Group-782, Lighting		EA	$1,511.00	$0
26-2988-16	Electrical Light Fixture EVLEDCX2W201, Product Group-782, Lighting		EA	$1,343.00	$0
26-2988-18	Electrical Light Fixture EVLEDCX3W201, Product Group-782, Lighting		EA	$1,757.00	$0
26-2988-20	Electrical Light Fixture EVLEDBX2W201, Product Group-782, Lighting		EA	$1,780.00	$0
26-2988-22	Electrical Light Fixture EVLEDBX3W201, Product Group-782, Lighting		EA	$1,786.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
26-2988-24	Electrical Light Fixture EVLEDBH2W201, Product Group-782, Lighting		EA	$2,662.00	$0
26-2988-26	Electrical Light Fixture EVLEDW701, Product Group-782, Lighting		EA	$1,468.00	$0
26-2988-28	Electrical Light Fixture EVLEDA2W701, Product Group-782, Lighting		EA	$1,622.00	$0
26-2988-30	Electrical Light Fixture EVLEDA3W701, Product Group-782, Lighting		EA	$1,623.00	$0
26-2988-32	Electrical Light Fixture EVLEDCX2W701, Product Group-782, Lighting		EA	$1,698.00	$0
26-2988-34	Electrical Light Fixture EVLEDCX2W701, Product Group-782, Lighting		EA	$1,698.00	$0
26-2988-36	Electrical Light Fixture EVLEDCX3W701, Product Group-782, Lighting		EA	$1,705.00	$0
26-2988-38	Electrical Light Fixture EVLEDBX2W701, Product Group-782, Lighting		EA	$1,834.00	$0
26-2988-40	Electrical Light Fixture EVLEDBX3W701, Product Group-782, Lighting		EA	$1,845.00	$0
26-2988-42	Electrical Light Fixture EVLEDBH2W701, Product Group-782, Lighting		EA	$1,735.00	$0
26-2990-10	Electrical Light Fixture EVLEDC 201 Product 782, UPS- 66227627327		EA	$1,216.00	$0
26-2990-11	Electrical Light Fixture EVLEDA 2C201 Product 782, UPS-66227627355		EA	$1,370.00	$0
26-2990-12	Electrical Light Fixture EVLEDA 3C201 Product 782, UPS-66227627296		EA	$1,376.00	$0
26-2990-13	Electrical Light Fixture EVLEDCX 2C201 Product 782, UPS-66227626277		EA	$1,502.00	$0
26-2990-14	Electrical Light Fixture EVLEDCX 3C201 Product 782, UPS-66227628306		EA	$1,509.00	$0
26-2990-15	Electrical Light Fixture EVLEDBX 2C201 Product 782, UPS-66227627356		EA	$1,650.00	$0
26-2990-16	Electrical Light Fixture EVLEDBX 3C201 Product 782, UPS-66227628145		EA	$1,657.00	$0
26-2990-17	Electrical Light Fixture EVLEDBH 2C201 Product 782, UPS-66227627524		EA	$1,530.00	$0
26-2990-18	Electrical Light Fixture EVLEDC701 Product 782, UPS- 66227627556		EA	$1,348.00	$0
26-2990-19	Electrical Light Fixture EVLEDC701 Product 782, UPS- 66227627556		EA	$1,500.00	$0
26-2990-20	Electrical Light Fixture EVLEDA3C701 Product 782, UPS-66227630098		EA	$1,501.00	$0
26-2992-10	Electrical Light Fixture EVLEDCX2C701 Product 782, UPS-66227628045		EA	$1,620.00	$0
26-2992-12	Electrical Light Fixture EVLEDCX3C701 Product 782, UPS-6622765532		EA	$1,627.00	$0
26-2992-14	Electrical Light Fixture EVLEDBX2C701 Product 782, UPS-6622768936		EA	$1,762.00	$0
26-2992-16	Electrical Light Fixture EVLEDBH2C701 Product 782, UPS-66227636204		EA	$1,655.00	$0
26-2994-02	Electrical Light Fixture EV22, Product Group 704, EV Incandescent, EVI, UPS-78227458614		EA	$362.00	$0
26-2994-03	Electrical Light Fixture EV33, Product Group 704, EV Incandescent, EVI, UPS-78227458597		EA	$368.00	$0
26-2994-04	Electrical Light Fixture EVMP2, Product Group 704, EV Incandescent, EVI, UPS-78227412207		EA	$237.00	$0
26-2994-05	Electrical Light Fixture EVMP3, Product Group 704, EV Incandescent, EVI, UPS-78227450770		EA	$238.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
26-2994-06	Electrical Light Fixture EV22, Product Group 704, EV Incandescent, EVI, UPS-78227458614		EA	$362.00	$0
26-2994-07	Electrical Light Fixture EV87, Product Group 704, EV Incandescent, EVI, UPS-78227479030		EA	$217.00	$0
26-2994-08	Electrical Light Fixture EV33, Product Group 704, EV Incandescent, EVI, UPS-78227458597		EA	$369.00	$0
26-2995-02	Electrical Light Fixture EVIJ2, Product Group 704, EV Incandescent, EVI, UPS-78227424501		EA	$393.00	$0
Sec 27-00	**COMMUNICATION**				
27-005010	DEMOLITION of Wired Network Communications Module (Notifier NCM-W)		EA	$26.50	$0
27-005020	DEMOLITION of Digital Alarm Communication Transmitter (Siemens FS-DACT)		EA	$26.00	$0
27-005020	DEMOLITION of 15 Meter RS 232 Communication Cable (SMA)		EA	$7.80	$0
27-010020	DEMOLITION of Emergency Voice Alarm Communication System, 3.5 Amp Power Supply And Battery Charger, 50W Amplifier, Battery Cables, Main Control Board With One Speaker Circuit		EA	$520.50	$0
27-203010	Wired Network Communications Module (Notifier NCM-W)		EA	$1,110.00	$0
27-204010	Digital Alarm Communication Transmitter (Siemens FS-DACT)		EA	$452.75	$0
27-205520	Emergency Voice Alarm Communication System, 3.5 Amp Power Supply And Battery Charger, 50W Amplifier, Battery Cables, Main Control Board With One Speaker Circuit, Paging Microphone And Enclosure With Deadfront And Space For Five Modules (Siemens VOICECOM) 6-Fiber, Indoor Fan Out Kit For Fiber Optic Cable $163.77		EA	$4,649.00	$0
27-208025			EA	$245.75	$0
27-208035	2-Fiber, Singlemode, Single Jacket Loose Tube, Outdoor Fiber Optic Cable, Buried In Trench, Armored Cable,		LF	$18.55	$0
27-208045	4-Fiber, Singlemode, Double Jacket Loose Tube, Outdoor Fiber Optic Cable, Buried In Trench, Armored Cable,		LF	$21.65	$0
27-208055	6-Fiber, Singlemode, Double Jacket Loose Tube, Outdoor Fiber Optic Cable, Buried In Trench, Armored Cable,		LF	$22.35	$0
Sec 33-00	**UTILITIES**				
SUB-Sec	**Adjustment of New and Existing Structures**				
33-013071	PIPEBURSTING-Rehabilitation-Sewer Utility, (Replace with HDPE Pipe-4" DIA)		LF	$40.00	$0
33-013072	PIPEBURSTING-Rehabilitation-Sewer Utility, (Replace with HDPE Pipe-6" DIA)		LF	$45.00	$0
33-013073	PIPEBURSTING-Rehabilitation-Sewer Utility, (Replace with HDPE Pipe-8" DIA)		LF	$55.00	$0
33-013074	PIPEBURSTING-Rehabilitation-Sewer Utility, (Replace with HDPE Pipe-10" DIA)		LF	$58.00	$0
33-72301	CIPP REPAIR-8" VC Pipe-Depth(4-8 FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$52.50	$0
33-72302	CIPP REPAIR-8" VC Pipe-Depth(10-15 FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$55.40	$0
33-723030	CIPP REPAIR-8" VC Pipe-Depth(17-23 FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$58.50	$0
33-723040	CIPP REPAIR-8" VC Pipe-Depth(25-30 FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$75.00	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
33-723050	CIPP REPAIR-6"CON Pipe-Depth(4-8 FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$40.50	$0
33-723060	CIPP REPAIR-6"CON Pipe-Depth(10-14 FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$45.50	$0
33-723065	CIPP REPAIR-8"CON Pipe-Depth(4-8 FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$46.50	$0
33-723070	CIPP REPAIR-8"CON Pipe-Depth(10-15FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$48.99	$0
33-723075	CIPP REPAIR-8"CON Pipe-Depth(17-23FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$52.75	$0
33-723180	CIPP REPAIR-8"CON Pipe-Depth(25-30FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$97.50	$0
33-723185	CIPP REPAIR-8"CON Pipe-Depth(33-38FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$242.00	$0
33-723190	CIPP REPAIR-12"VC Pipe-Depth(10-16FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$90.50	$0
33-723195	CIPP REPAIR-12"VC Pipe-Depth(17-23FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$98.25	$0
33-723197	CIPP REPAIR-15"VC Pipe-Depth(6-10FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$119.00	$0
33-723198	CIPP REPAIR-15"VC Pipe-Depth(12-15FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$123.25	$0
33-723199	CIPP REPAIR-15"VC Pipe-Depth(19-24FEET)(INCL TV Inspection, Steam Cure & Liner)		LF	$127.50	$0
33-724030	SEWER GROUT & TUCKPOINTING-30-36" DIA DEPTH-(12-18FEET)(INCL TV Inspection, Cleaning)		LF	$225.00	$0
33-724032	SEWER GROUT & TUCKPOINTING-42-48" DIA DEPTH-(15-24FEET)(INCL TV Inspection, Cleaning)		LF	$350.00	$0
SUB-Sec	**Pipe Installation For Water Mains**				
33-724110	SERVICE CONNECTION TRANSFER		EA	$3,500.00	$0
33-724120	FURNISH SERVICE CONNECT PIPE & FITTINGS, 4 IN D.I. CL 52		LF	$50.00	$0
33-724130	FURNISH SERVICE CONNECT PIPE & FITTINGS, 6 IN D.I. CL 52		LF	$75.00	$0
33-724140	FURNISH SERVICE CONNECT PIPE & FITTINGS, 8 IN D.I. CL 52		LF	$95.00	$0
33-724155	FURNISH SERVICE CONNECT PIPE & FITTINGS, 10 IN D.I. CL 52		LF	$115.00	$0
33-724160	FURNISH SERVICE CONNECT PIPE & FITTINGS, 12 IN D.I. CL 52		LF	$135.00	$0
33-724020	PIPE Clamps, 30 IN D.I. 110 PSI, 30" Length		EA	$6,000.00	$0
33-724025	PIPE Clamps, 36 IN D.I. 110 PSI, 36" Length		EA	$9,450.00	$0
33-724030	PIPE Clamps, 42 IN D.I. 110 PSI, 42" Length		EA	$11,150.00	$0
33-724035	PIPE Clamps, 48 IN D.I. 110 PSI, 48" Length		EA	$14,650.00	$0
SUB-Sec	**Directional Drilling**				
216010	Preparation Required Before Directional Drilling-Mob/Demo(up to 25 ml)		EA	$16,000.00	$0
216011	Directional Drilling-(Rock) < =20'		VLF	$175.00	$0
216012	Directional Drilling-(Loose Sand & Gravel)<= 20'		VLF	$150.00	$0
216013	Directional Drilling-(Dense Sand & Gravel) <=20'		VLF	$125.00	$0
Sec 46-00	**Water & Waste Water Equipment and Accessories**				
SUB SEC	**Check Valves**				
46-523210	Silent Check Valve, Class 125# Series 1400A-4"		EA	$1,000	$0
46-523211	Silent Check Valve, Class 125# Series 1800A-6"		EA	$1,900	$0
46-523212	Silent Check Valve, Class 125# Series 1400A-8"		EA	$2,000	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
46-523410	Dual Disk Check Valve, Class 125# Series 8800A-4"		EA	$1,000	$0
46-523412	Dual Disk Check Valve, Class 125# Series 8800A-8"		EA	$1,600	$0
46-523414	Dual Disk Check Valve, Class 125# Series 8800A-10"		EA	$2,050	$0
46-523510	Swing-Flex Check Valve, Class150# Series 500ABFMI-4"		EA	$1,900	$0
46-523511	Swing-Flex Check Valve, Class150# Series 500ABFMI-6"		EA	$2,750	$0
46-523512	Swing-Flex Check Valve, Class150# Series 500ABFMI-8"		EA	$4,000	$0
46-523514	Swing-Flex Check Valve, Class150# Series 500ABFMI-10"		EA	$5,900	$0
46-523515	Swing-Flex Check Valve, Class150# Series 500ABFMI-12"		EA	$7,750	$0
46-523516	Swing-Flex Check Valve, Class150# Series 500ABFMI-14"		EA	$10,900	$0
46-523517	Swing-Flex Check Valve, Class150# Series 500ABFMI-16"		EA	$13,700	$0
46-523518	Swing-Flex Check Valve, Class150# Series 500ABFMI-18"		EA	$15,150	$0
46-523810	Swing-Flex Check Valve, Class150# Series 500AMIB(Oil Cushion)-6"		EA	$13,150	$0
46-523812	Swing-Flex Check Valve, Class150# Series 500AMIB(Oil Cushion)-8"		EA	$14,050	$0
46-523814	Swing-Flex Check Valve, Class150# Series 500AMIB(Oil Cushion)-10"		EA	$14,850	$0
46-523816	Swing-Flex Check Valve, Class150# Series 500AMIB(Oil Cushion)-12"		EA	$17,550	$0
46-523818	Swing-Flex Check Valve, Class150# Series 500AMIB(Oil Cushion)-14"		EA	$19,200	$0
46-523819	Swing-Flex Check Valve, Class150# Series 500AMIB(Oil Cushion)-16"		EA	$21,050	$0
46-523820	Swing-Flex Check Valve, Class150# Series 500AMIB(Oil Cushion)-18"		EA	$24,600	$0
46-524010	Swing Check Valve, Class 150# Series 7804AC With Air Cushion(epoxy Lined and Coated)-4"		EA	$3,490	$0
46-524011	Swing Check Valve, Class 150# Series 7804LW With Air Cushion(epoxy Lined and Coated)-4"		EA	$2,250	$0
46-524012	Swing Check Valve, Class 150# Series 7806LS/LW With Air Cushion(epoxy Lined and Coated)-6"		EA	$2,700	$0
46-524014	Swing Check Valve, Class 150# Series 7808ACWith Air Cushion(epoxy Lined and Coated)-8"		EA	$5,500	$0
46-524015	Swing Check Valve, Class 150# Series 7808LW With Air Cushion(epoxy Lined and Coated)-8"		EA	$4,000	$0
46-524017	Swing Check Valve, Class 150# Series 7810LS/LW With Air Cushion(epoxy Lined and Coated)-10"		EA	$6,100	$0
46-524018	Swing Check Valve, Class 150# Series 7812LS/LW With Air Cushion(epoxy Lined and Coated)-12"		EA	$8,050	$0
46-524019	Swing Check Valve, Class 150# Series 7814AC With Air Cushion(epoxy Lined and Coated)-14"		EA	$15,500	$0
46-524020	Swing Check Valve, Class 150# Series 7814LW With Air Cushion(epoxy Lined and Coated)-14"		EA	$12,800	$0
46-524021	Swing Check Valve, Class 150# Series 7816AC With Air Cushion(epoxy Lined and Coated)-16"		EA	$18,350	$0
46-524022	Swing Check Valve, Class 150# Series 7816LW With Air Cushion(epoxy Lined and Coated)-16"		EA	$16,150	$0
46-524023	Swing Check Valve, Class 150# Series 7818ACWith Air Cushion(epoxy Lined and Coated)-18"		EA	$24,850	$0
46-524024	Swing Check Valve, Class 150# Series 7818LW/LS With Air Cushion(epoxy Lined and Coated)-18"		EA	$23,330	$0
SUB SEC	**Slide Gate**				
46-602010	Slide Gate(Aluminum)-Flap-AF-41, F - Type 707708510-11-8"		EA	$1,950	$0

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Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
46-602020	Slide Gate-SSF-41 FB 316 SS-Type 20006-8"		EA	$2,050	$0
46-602012	Slide Gate-Flap-(Aluminum)AF-41, F - Type 707710510-11-10"		EA	$2,050	$0
46-602021	Slide Gate-SSF-41 FB 316 SS-Type 20006-10"		EA	$2,700	$0
46-602014	Slide Gate-Flap-(Aluminum)AF-41, F - Type 707712510-11-12"		EA	$2,200	$0
46-602022	Slide Gate-SSF-41 FB 316 SS-Type 20006-12"		EA	$3,000	$0
46-602015	Slide Gate-Flap-(Aluminum)AF-41, F - Type 707714510-11-14"		EA	$2,500	$0
46-602023	Slide Gate-SSF-41 FB 316 SS-Type 20006-14"		EA	$3,350	$0
46-602016	Slide Gate-Flap-(Aluminum)AF-41, F - Type 707715510-11-15"		EA	$2,550	$0
46-602024	Slide Gate-SSF-41 FB 316 SS-Type 20006-15"		EA	$3,450	$0
46-602017	Slide Gate-Flap-(Aluminum)AF-41, F - Type 707718510-11-18"		EA	$2,650	$0
46-602025	Slide Gate-SSF-41 FB 316 SS-Type 20006-18"		EA	$3,600	$0
46-602018	Slide Gate-Flap-(Aluminum)AF-41, F - Type 707724510-11-24"		EA	$3,050	$0
46-602026	Slide Gate-SSF-41 FB 316 SS-Type 20006-24"		EA	$4,426	$0
SUB SEC	**Magnetic Flow Meter**				
46-854014	Magnetic Flowmeter-Drinking Water-8750WDEW1A1FPSA040CA1M4DWG1R05-4"		EA	$4,000	$0
46-854024	Magnetic Flowmeter-Waste Water-8750WDEW1A1FPSB040CA1Z5M4G5R05-4"		EA	$4,100	$0
46-854016	Magnetic Flowmeter-Drinking Water-8750WDEW1A1FPSA060CA1M4DWG1R05-6"		EA	$4,400	$0
46-854026	Magnetic Flowmeter-Waste Water-8750WDEW1A1FPSB060CA1Z5M4G5R05-6"		EA	$4,450	$0
46-854018	Magnetic Flowmeter-Drinking Water-8750WDEW1A1FPSA080CA1M4DWG1R05-8"		EA	$4,700	$0
46-854028	Magnetic Flowmeter-Waste Water-8750WDEW1A1FPSB080CA1Z5M4G5R05-8"		EA	$4,750	$0
46-854010	Magnetic Flowmeter-Drinking Water-8750WDEW1A1FPSA100CA1M4DWG1R05-10"		EA	$5,100	$0
46-854020	Magnetic Flowmeter-Waste Water-8750WDEW1A1FPSB100CA1Z5M4G5R05-10"		EA	$5,150	$0
46-854012	Magnetic Flowmeter-Drinking Water-8750WDEW1A1FPSA120CA1M4DWG1R05-12"		EA	$6,850	$0
SUB SEC	**Gate Valve**				
46-542003	Valve, Gate, DD, CL125, FLG, 3 IN, W 2 IN OP, NUT, Clow Brand By Mueller		EA	$1,350	$0
46-542012	Valve, Gate, Iron Body, 2 IN FIPT Screw, DD		EA	$1,150	$0
46-542004	Valve, Gate, DD, CL125, FLG, 4 IN , W/O Wheel, W/ 2 IN Oper Nut, Clow Brand by Clow		EA	$1,450	$0
46-542014	Valve, Gate, DD, CL125, FLG X MJ, 4 IN , W/2 IN Square Operating Nut, Square T Bolts, Follower & Gasket, W/O Wheel, or Resilient Seat Brand by Clow		EA	$1,450	$0
46-542024	Valve, Gate, DD, MJ, 4 IN , W/2 IN Square Operating Nut, 2 Anti Rotation Bolts W/O Wheel, Follower or Gasket Brand by Clow		EA	$1,500	$0
46-542034	Valve, Gate, Tapping, DD, MJ 4 IN, With 2 IN Square Oper Nut, W/2 Anti-Rotation Bolts, No follower and gasket, On Flange Side Brand by Clow		EA	$2,100	$0
46-854022	Magnetic Flowmeter-Waste Water-8750WDEW1A1FPSB120CA1Z5M4G5R05-12"		EA	$6,750	$0
46-542006	Valve, Gate, DD, CL125, FLG, 6 IN ,FLG X FLG,W/O Wheel Brand by Clow		EA	$2,150	$0
46-542016	Valve, Gate, DD, CL125, FLG X MJ, 6 IN With 2 IN Square Rotation Bolts, W/O Wheel, Follower and Gaskets		EA	$2,200	$0

2016 CSI

Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
46-542026	Valve, Gate, DD, MJ, 6 IN With 2 IN Square Operating Nut, 2 anti-Rotation Bolts, W/O Follower and Gasket Brand By Clow		EA	$4,350	$0
46-542036	Valve, Gate, Tapping, DD, MJ, 6 IN With 2 IN Square Operating Nut, 2 Anti-Rotation Bolts, W/O Wheel, Follower, and Gasket, Flange Side Brand By Clow		EA	$2,200	$0
46-542008	Valve, Gate, DD, CL125, FLG, 8 IN ,W/2 IN Operating Nut Brand by Clow or Mueller		EA	$2,750	$0
46-542018	Valve, Gate, DD, CL125, FLG X MJ 8 IN , W/2 IN Operational Nut, 2 Anti-Rotation Bolts, Without Wheel, Follower and Gasket Brand by Clow		EA	$2,800	$0
46-542028	Valve, Gate, DD, MJ 8 IN , 2 Anti-Rotation Bolts, Without Follower and Gasket Brand by Clow		EA	$2,850	$0
46-542038	Valve, Gate, Tapping DD, MJ 8 IN , With 2 IN Square operating Unit, 2 Anti-Rotation Bolts, Without Wheel, Follower and Gasket Flange Side Brand by Clow		EA	$2,850	$0
46-542010	Valve, Gate, DD, CL125, FLG, 10 IN Brand by Clow		EA	$4,100	$0
46-542110	Valve, VEM Gate, DD, CL125, FLG X MJ, 10 IN With 2 IN Square Operating Nut Brand by Clow .		EA	$4,150	$0
46-542012	Valve, Gate, DD, CL125, FLG, 12IN, With 2 IN Square Operating Nut Brand by Clow		EA	$4,700	$0
46-542112	Valve, Gate, DD, CL125, FLG X MJ 12 IN , 2 Anti-Rotation Bolts, Without Wheel Follower and Bolts Brand by Clow		EA	$4,750	$0
46-542122	Valve, Gate, DD, MJ 12 IN , W/2 IN Square Operating Nut, 2 Anti-Rotation Bolts, Without Follower and Gasket Brand by Clow		EA	$4,900	$0
46-542132	Valve, Gate, DD, CL250, FLG 12 IN Brand by Clow or Mueller		EA	$9,100	$0
46-542142	Valve, Gate, Tapping DD, MJ 12 IN Without Wheel Brand by Clow		EA	$4,900	$0
SUB SEC	**Flanged Pipe & Fitting**				
46-321004	Flange, Blind, DI, CL125, 8-Hole, 9 IN Over Diam, for 4 IN Pipe By Star Pipe Brand		EA	$200	$0
46-321006	Flange, Blind, DI, CL125, 8-Hole, 11 IN Over Diam, for 6 IN Pipe By Star Pipe Brand		EA	$210	$0
46-321008	Flange, Blind, DI, CL125,12-Hole, 15 IN Over Diam, for 8 IN Pipe By Star Pipe Brand		EA	$220	$0
46-321010	Flange, Blind, DI, CL125,12-Hole, 19 IN Over Diam, for 10 IN Pipe By Star Pipe Brand		EA	$250	$0
46-321012	Flange, Blind, DI, CL125,16-Hole, 23 IN Over Diam, for 12 IN Pipe By Star Pipe Brand		EA	$640	$0
46-322004	Flange, DI, CL125, 90 Deg Bend for 4" Pipe		EA	$300	$0
46-322014	Flange, DI, CL125, 90 Deg Bend for 4" Pipe With Base		EA	$360	$0
46-322024	Flange, DI, CL125, 45 Deg Bend for 4" Pipe		EA	$290	$0
46-322034	Flange, DI, CL125, TEE for 4" Pipe		EA	$430	$0
46-322044	Flange, DI, CL125, TEE 4"x4"x3" Pipe-4"		EA	$420	$0
46-322544	Flange, DI, CL 125, TEE 4"x4"x2" Pipe-4"		EA	$390	$0
46-322514	Flange, DI, CL 125, TEE With Base Pipe-4"		EA	$460	$0
46-322524	Flange, DI, CL 125, Lateral Wye Pipe-4"		EA	$420	$0
46-322534	Flange, DI, CL 125, Cross Pipe-4"		EA	$450	$0
46-322204	Flange, Blind, DI, CL125, , for 4 IN Pipe		EA	$180	$0
46-323004	Flange, DI, CL 125, 4"x3" Reducer Pipe-4"		EA	$220	$0
46-322006	Flange, DI, CL125, 90 Deg Bend for 6" Pipe		EA	$360	$0
46-322016	Flange, DI, CL125, 90 Deg Bend for 6" Pipe With Base		EA	$420	$0
46-322026	Flange, DI, CL125, 45 Deg Bend for 6" Pipe		EA	$340	$0

2016 CSI					
Bid item	**Item/Description**	**Take-Off QTY**	**Unit**	**Total Cost Unit**	**Estimate Total**
46-322036	Flange, DI, CL125, TEE for 6" Pipe		EA	$480	$0
46-322046	Flange, DI, CL125, TEE 6"x6"x4" Pipe-6"		EA	$500	$0
46-322546	Flange, DI, CL 125, TEE 6"x6"x3" Pipe-6"		EA	$490	$0
46-322516	Flange, DI, CL 125, TEE With Base Pipe-6"		EA	$560	$0
46-322526	Flange, DI, CL 125, Lateral Wye Pipe-6"		EA	$530	$0
46-322536	Flange, DI, CL 125, Cross Pipe-6"		EA	$570	$0
46-322206	Flange, Blind, DI, CL125, , for 6 IN Pipe		EA	$210	$0
46-323006	Flange, DI, CL 125, 6"x4" Reducer Pipe-6"		EA	$270	$0
46-323016	Flange, DI, CL 125, 6"x3" Reducer Pipe-6"		EA	$250	$0
46-322008	Flange, DI, CL125, 90 Deg Bend for 8" Pipe		EA	$490	$0
46-322018	Flange, DI, CL125, 90 Deg Bend for 8" Pipe With Base		EA	$650	$0
46-322028	Flange, DI, CL125, 45 Deg Bend for 8" Pipe		EA	$440	$0
46-322038	Flange, DI, CL125, TEE for 8" Pipe		EA	$670	$0
46-322048	Flange, DI, CL125, TEE 8"x8"x6" Pipe-8"		EA	$610	$0
46-322549	Flange, DI, CL 125, TEE 8"x8"x4" Pipe-8"		EA	$630	$0
46-322518	Flange, DI, CL 125, TEE With Base Pipe-8"		EA	$830	$0
46-322528	Flange, DI, CL 125, Lateral Wye Pipe-8"		EA	$760	$0
46-322538	Flange, DI, CL 125, Cross Pipe-8"		EA	$780	$0
46-322208	Flange, Blind, DI, CL125, , for 8 IN Pipe		EA	$340	$0
46-323008	Flange, DI, CL 125, 8"x6" Reducer Pipe-8"		EA	$430	$0
46-323018	Flange, DI, CL 125, 8"x4" Reducer Pipe-8"		EA	$410	$0
46-322010	Flange, DI, CL125, 90 Deg Bend for 10" Pipe		EA	$830	$0
46-322020	Flange, DI, CL125, 90 Deg Bend for 10" Pipe With Base		EA	$1,000	$0
46-322030	Flange, DI, CL125, 45 Deg Bend for 10" Pipe		EA	$760	$0
46-322040	Flange, DI, CL125, TEE for 10" Pipe		EA	$1,010	$0
46-322050	Flange, DI, CL125, TEE 10"x10"x8" Pipe-10"		EA	$930	$0
46-322551	Flange, DI, CL 125, TEE 10"x10"x6" Pipe-10"		EA	$900	$0
46-322520	Flange, DI, CL 125, TEE With Base Pipe-10"		EA	$1,280	$0
46-322530	Flange, DI, CL 125, Lateral Wye Pipe-10"		EA	$1,170	$0
46-322540	Flange, DI, CL 125, Cross Pipe-10"		EA	$1,350	$0
46-322210	Flange, Blind, DI, CL125, for 10 IN Pipe		EA	$450	$0
46-323010	Flange, DI, CL 125, 10"x8" Reducer Pipe-10"		EA	$590	$0
46-322012	Flange, DI, CL125, 90 Deg Bend for 12" Pipe		EA	$1,000	$0
46-322022	Flange, DI, CL125, 90 Deg Bend for 12" Pipe With Base		EA	$1,300	$0
46-322032	Flange, DI, CL125, 45 Deg Bend for 12" Pipe		EA	$910	$0
46-322042	Flange, DI, CL125, TEE for 12" Pipe		EA	$1,320	$0
46-322052	Flange, DI, CL125, TEE 12"x12"x8" Pipe-12"		EA	$1,170	$0
46-322553	Flange, DI, CL 125, TEE 12"x12"x6" Pipe-12"		EA	$1,200	$0
46-322522	Flange, DI, CL 125, TEE With Base Pipe-12"		EA	$1,850	$0
46-322532	Flange, DI, CL 125, Lateral Wye Pipe-12"		EA	$1,770	$0
46-322542	Flange, DI, CL 125, Cross Pipe-12"		EA	$1,710	$0
46-322212	Flange, Blind, DI, CL125, for 10 IN Pipe		EA	$520	$0
46-323012	Flange, DI, CL 125, 12"x10" Reducer Pipe-12"		EA	$750	$0
SUB SEC	**Wall Casting DIP Pipe**				

2016 CSI

Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
46-402004	Wall Casting DI, 4x90 MJ X FL , C110 for 4 IN Pipe		EA	$280	$0
46-402504	Wall Casting DI, MJ X MJ, C153 Short Sleeves for 4 IN Pipe		EA	$110	$0
46-402506	Wall Casting DI, MJ X MJ, C153 Short Sleeves for 6 IN Pipe		EA	$140	$0
46-402508	Wall Casting DI, MJ X MJ, C153 Short Sleeves for 8 IN Pipe		EA	$160	$0
46-402510	Wall Casting DI, MJ X MJ, C153 Short Sleeves for 10 IN Pipe		EA	$280	$0
46-402512	Wall Casting DI, MJ X MJ, C153 Short Sleeves for 12 IN Pipe		EA	$300	$0
46-402514	Wall Casting DI, MJ X MJ, C153 Long Sleeves for 4 IN Pipe		EA	$130	$0
46-402516	Wall Casting DI, MJ X MJ, C153 Long Sleeves for 6 IN Pipe		EA	$160	$0
46-402518	Wall Casting DI, MJ X MJ, C153 Long Sleeves for 8 IN Pipe		EA	$270	$0
46-402520	Wall Casting DI, MJ X MJ, C153 Long Sleeves for 10 IN Pipe		EA	$290	$0
46-402522	Wall Casting DI, MJ X MJ, C153 Long Sleeves for 12 IN Pipe		EA	$350	$0
46-403004	Wall Casting DI, MJ X FL, C153 Adapter for 4 IN Pipe		EA	$130	$0
46-403006	Wall Casting DI, MJ X FL, C153 Adapter for 6 IN Pipe		EA	$150	$0
46-403008	Wall Casting DI, MJ X MJ, C153 Adapter for 8 IN Pipe		EA	$250	$0
46-403010	Wall Casting, MJ X MJ, C153 Adapter for 10 IN Pipe		EA	$340	$0
46-322020	Wall Casting,MJ X MJ, C153 Adapter for 12 IN Pipe		EA	$390	$0
46-403504	Wall Casting DI, FL X PE, C153 Adapter for 4 IN Pipe		EA	$250	$0
46-403506	Wall Casting DI, FL X PE, C153 Adapter for 6 IN Pipe		EA	$310	$0
46-403508	Wall Casting DI, FL X PE, C153 Adapter for 8 IN Pipe		EA	$330	$0
46-402714	Wall Casting DI, MJ X MJ, C110 Short Sleeves for 4 IN Pipe		EA	$200	$0
46-402718	Wall Casting DI, MJ X MJ, C110 Short Sleeves for 8 IN Pipe		EA	$290	$0
46-402720	Wall Casting DI, MJ X MJ, C110 Short Sleeves for 10 IN Pipe		EA	$390	$0
46-402722	Wall Casting DI, MJ X MJ, C110 Short Sleeves for 12 IN Pipe		EA	$460	$0
46-403214	Wall Casting DI, MJ X MJ, C110 Long Sleeves for 4 IN Pipe		EA	$240	$0
46-403216	Wall Casting DI, MJ X MJ, C110 Long Sleeves for 6 IN Pipe		EA	$290	$0
46-403218	Wall Casting DI, MJ X MJ, C110 Long Sleeves for 8 IN Pipe		EA	$350	$0
46-403220	Wall Casting DI, MJ X MJ, C110 Long Sleeves for 10 IN Pipe		EA	$500	$0
46-403222	Wall Casting DI, MJ X MJ, C110 Long Sleeves for 12 IN Pipe		EA	$540	$0
46-422004	Wall Casting DI, MJ X MJ, C110 Bends 4X90 for 4 IN Pipe		EA	$280	$0
46-422006	Wall Casting DI, MJ X MJ, C110 Bends 6X90 for 6 IN Pipe		EA	$350	$0
46-422008	Wall Casting DI, MJ X MJ, C110 Bends 8X90 for 8 IN Pipe		EA	$510	$0
46-422008	Wall Casting DI, MJ X MJ, C110 Bends 10X90 for 10 IN Pipe		EA	$820	$0
46-422008	Wall Casting DI, MJ X MJ, C110 Bends 12X90 for 12 IN Pipe		EA	$870	$0
46-422204	Wall Casting DI, MJ X MJ, C110 Bends 4X45 for 4 IN Pipe		EA	$270	$0
46-422206	Wall Casting DI, MJ X MJ, C110 Bends 6X45 for 6 IN Pipe		EA	$330	$0
46-422208	Wall Casting DI, MJ X MJ, C110 Bends 8X45 for 8 IN Pipe		EA	$450	$0
46-422210	Wall Casting DI, MJ X MJ, C110 Bends 10X45 for 10 IN Pipe		EA	$670	$0
46-422212	Wall Casting DI, MJ X MJ, C110 Bends 12X45 for 12 IN Pipe		EA	$780	$0
46-422404	Wall Casting DI, MJ X MJ, C110 Bends 4X22 for 4 IN Pipe		EA	$300	$0
46-422406	Wall Casting DI, MJ X MJ, C110 Bends 6X22 for 6 IN Pipe		EA	$340	$0
46-422408	Wall Casting DI, MJ X MJ, C110 Bends 8X22 for 8 IN Pipe		EA	$560	$0
46-422410	Wall Casting DI, MJ X MJ, C110 Bends 10X22 for 10 IN Pipe		EA	$720	$0
46-422412	Wall Casting DI, MJ X MJ, C110 Bends 12X22 for 12 IN Pipe		EA	$820	$0
46-422804	Wall Casting DI, MJ X MJ, C110 Bends 4X11 for 4 IN Pipe		EA	$300	$0
46-422806	Wall Casting DI, MJ X MJ, C110 Bends 6X11 for 6 IN Pipe		EA	$360	$0

2016 CSI

Bid item	Item/Description	Take-Off QTY	Unit	Total Cost Unit	Estimate Total
46-422808	Wall Casting DI, MJ X MJ, C110 Bends 8X11 for 8 IN Pipe		EA	$460	$0
46-422810	Wall Casting DI, MJ X MJ, C110 Bends 10X11 for 10 IN Pipe		EA	$720	$0
46-422812	Wall Casting DI, MJ X MJ, C110 Bends 12X11 for 12 IN Pipe		EA	$890	$0
46-432004	Wall Casting DI, MJ X PE, C153 Bends 4X90 for 4 IN Pipe		EA	$170	$0
46-432006	Wall Casting DI, MJ X PE, C153 Bends 6X90 for 6 IN Pipe		EA	$220	$0
46-432008	Wall Casting DI, MJ X PE, C153 Bends 8X90 for 8 IN Pipe		EA	$310	$0
46-432012	Wall Casting DI, MJ X PE, C153 Bends 12X90 for 12 IN Pipe		EA	$600	$0
46-432014	Wall Casting DI, MJ X PE, C153 Bends 4X45 for 4 IN Pipe		EA	$160	$0
46-432016	Wall Casting DI, MJ X PE, C153 Bends 6X45 for 6 IN Pipe		EA	$190	$0
46-432018	Wall Casting DI, MJ X PE, C153 Bends 8X45 for 8 IN Pipe		EA	$280	$0
46-432020	Wall Casting DI, MJ X PE, C153 Bends 10X45 for 10 IN Pipe		EA	$400	$0
46-432022	Wall Casting DI, MJ X PE, C153 Bends 12X45 for 12 IN Pipe		EA	$550	$0
46-423404	Wall Casting DI, MJ X PE, C153 Bends 4X22 for 4 IN Pipe		EA	$160	$0
46-423406	Wall Casting DI, MJ X PE, C153 Bends 6X22 for 6 IN Pipe		EA	$190	$0
46-423408	Wall Casting DI, MJ X PE, C153 Bends 8X22 for 8 IN Pipe		EA	$280	$0
46-423410	Wall Casting DI, MJ X PE, C153 Bends 10X22 for 10 IN Pipe		EA	$330	$0
46-423412	Wall Casting DI, MJ X PE, C153 Bends 12X22 for 12 IN Pipe		EA	$510	$0
46-422804	Wall Casting DI, MJ X PE, C153 Bends 4X11 for 4 IN Pipe		EA	$160	$0
46-422812	Wall Casting DI, MJ X PE, C153 Bends 12X11 for 12 IN Pipe		EA	$310	$0
46-443104	Wall Casting DI, MJ X FL, C153 Bends 4X90 for 4 IN Pipe		EA	$170	$0
46-443106	Wall Casting DI, MJ X FL, C153 Bends 6X90 for 6 IN Pipe		EA	$220	$0
46-423404	Wall Casting DI, MJ X PE, C153 Bends 4X22 for 4 IN Pipe		EA	$160	$0
46-423406	Wall Casting DI, MJ X PE, C153 Bends 6X22 for 6 IN Pipe		EA	$190	$0
46-423408	Wall Casting DI, MJ X PE, C153 Bends 8X22 for 8 IN Pipe		EA	$280	$0
46-423410	Wall Casting DI, MJ X PE, C153 Bends 10X22 for 10 IN Pipe		EA	$330	$0
46-423412	Wall Casting DI, MJ X PE, C153 Bends 12X22 for 12 IN Pipe		EA	$510	$0
46-422804	Wall Casting DI, MJ X PE, C153 Bends 4X11 for 4 IN Pipe		EA	$160	$0
46-422812	Wall Casting DI, MJ X PE, C153 Bends 12X11 for 12 IN Pipe		EA	$310	$0
46-443104	Wall Casting DI, MJ X FL, C153 Bends 4X90 for 4 IN Pipe		EA	$170	$0
46-443106	Wall Casting DI, MJ X FL, C153 Bends 6X90 for 6 IN Pipe		EA	$220	$0
46-443108	Wall Casting DI, MJ X FL, C153 Bends 8X90 for 8 IN Pipe		EA	$340	$0
46-443110	Wall Casting DI, MJ X FL, C153 Bends 10X90 for 10 IN Pipe		EA	$610	$0
46-443112	Wall Casting DI, MJ X FL, C153 Bends 12X90 for 12 IN Pipe		EA	$740	$0
46-443114	Wall Casting DI, MJ X FL, C153 Bends 4X45 for 4 IN Pipe		EA	$180	$0
46-443116	Wall Casting DI, MJ X FL, C153 Bends 6X45 for 6 IN Pipe		EA	$210	$0
46-443118	Wall Casting DI, MJ X FL, C153 Bends 8X45 for 8 IN Pipe		EA	$350	$0
46-443120	Wall Casting DI, MJ X FL, C153 Bends 10X45 for 10 IN Pipe		EA	$580	$0
46-443122	Wall Casting DI, MJ X FL, C153 Bends 12X45 for 12 IN Pipe		EA	$710	$0
46-443124	Wall Casting DI, MJ X FL, C153 Bends 4X22 for 4 IN Pipe		EA	$200	$0
46-443126	Wall Casting DI, MJ X FL, C153 Bends 6X22 for 6 IN Pipe		EA	$250	$0
46-443128	Wall Casting DI, MJ X FL, C153 Bends 8X22 for 8 IN Pipe		EA	$350	$0
46-443130	Wall Casting DI, MJ X FL, C153 Bends 10X22 for 10 IN Pipe		EA	$550	$0
46-443132	Wall Casting DI, MJ X FL, C153 Bends 12X22 for 12 IN Pipe		EA	$660	$0
46-462804	Wall Casting DI, MJ X MJ, C110 Bends 4X90 for 4 IN Pipe		EA	$160	$0
46-462806	Wall Casting DI, MJ X MJ, C110 Bends 6X90 for 6 IN Pipe		EA	$200	$0

2016 CSI					
Bid item	**Item/Description**	**Take-Off QTY**	**Unit**	**Total Cost Unit**	**Estimate Total**
46-462808	Wall Casting DI, MJ X MJ, C110 Bends 8X90 for 8 IN Pipe		EA	$270	***$0***
46-462810	Wall Casting DI, MJ X MJ, C110 Bends 10X90 for 10 IN Pipe		EA	$390	***$0***
46-462812	Wall Casting DI, MJ X MJ, C110 Bends 12X90 for 12 IN Pipe		EA	$570	***$0***
46-462814	Wall Casting DI, MJ X MJ, C110 Bends 4X45 for 4 IN Pipe		EA	$150	***$0***
46-462816	Wall Casting DI, MJ X MJ, C110 Bends 6X45 for 6 IN Pipe		EA	$180	***$0***
46-462818	Wall Casting DI, MJ X MJ, C110 Bends 8X45 for 8 IN Pipe		EA	$220	***$0***
46-462820	Wall Casting DI, MJ X MJ, C110 Bends 10X45 for 10 IN Pipe		EA	$290	***$0***
46-462822	Wall Casting DI, MJ X MJ, C110 Bends 12X45 for 12 IN Pipe		EA	$410	***$0***
46-462904	Wall Casting DI, MJ X MJ, C110 Bends 4X22 for 4 IN Pipe		EA	$148	***$0***
46-462906	Wall Casting DI, MJ X MJ, C110 Bends 6X22 for 6 IN Pipe		EA	$180	***$0***
46-462908	Wall Casting DI, MJ X MJ, C110 Bends 8X22 for 8 IN Pipe		EA	$210	***$0***
46-462910	Wall Casting DI, MJ X MJ, C110 Bends 10X22 for 10 IN Pipe		EA	$290	***$0***
46-462912	Wall Casting DI, MJ X MJ, C110 Bends 12X22 for 12 IN Pipe		EA	$380	***$0***
46-463804	Wall Casting DI, MJ X MJ, C110 Bends 4X11 for 4 IN Pipe		EA	$150	***$0***
46-463806	Wall Casting DI, MJ X MJ, C110 Bends 6X11 for 6 IN Pipe		EA	$180	***$0***
46-463808	Wall Casting DI, MJ X MJ, C110 Bends 8X11 for 8 IN Pipe		EA	$200	***$0***
46-463810	Wall Casting DI, MJ X MJ, C110 Bends 10X11 for 10 IN Pipe		EA	$290	***$0***
46-463812	Wall Casting DI, MJ X MJ, C110 Bends 12X11 for 12 IN Pipe		EA	$360	***$0***

Basis of Estimate
Post Stage Gate 2
****Note this BOE is for estimating the Construction Contract Amount**

Title	**<Project Name, Phase, Rev # and Date, AACE Class>**	
1. Project Information: Seattle Public Utilities	* Activity Name/Number	<Name/Number>
	* LOB Representative	<Name>
	* Cost estimator	<Name/Names>
	* Estimate Reviewer(s)	<Name/Names>
2. Project Objectives	<Provide a concise description of the project purpose and objectives. This information should match the "Problem/Opportunity, Key Drivers, and Objectives" section of the Stage Gate 2..>	
3. Project Scope	<Provide a brief description of the project scope of work, including the type of project (e.g., sewer rehab, water reservoir, etc.) and each major item of work. Note whether there are any new or modified structures or structures that must be demolished and whether the work will require any shut-downs or connections. Note that, for projects that have passed Stage Gate 2, the project scope statement can be taken from the Project Management Plan.>	
4. Location	< Identify the project location; any site constraints that may affect access, mobilization, or construction; and any significant site issues that must be addressed (e.g., wetlands, hazardous materials, and/or archaeological impacts). Be sure to consider how the site has been used historically, and identify any site contamination or other problems that may exist as a result. >	
5. Schedule	<This information should match the schedule in the Project Management Plan for Design to Close-out phase work.. Summarize the anticipated project schedule, or attach the project schedule if there is a current version that includes anticipated stage gates, key milestones and deadlines, and any construction windows or other schedule constraints. >	
6. Contracting Strategy	<Note the planned contracting approach (e.g., design-bid-build, General Contractor/ Construction Manager, design-build, job order contract). Summarize any construction assumptions, work hour constraints and seasonal supply or construction constraints. Note if SPU is providing materials or other scope items to the contractor. >	
7. Drawings & Specifications:	* Design assumptions/Sketch	< # of Drawing > for < Project Name >
	* Conceptual drawing/plans	< XXXX % design >
	* Specifications	< XXX % Specification >
	* Equipment List (i.e., pumps, other mech equip))	< XXX % Completion >
8. Basis of Quantity:	* Take-off by Engineering	☐
	* Take-off by Public Works Contracts	☐
	* Take-off by SPU Consultant	☐
		*Please explain if more than 2 boxes checked

Basis of Estimate

Title	**<Project Description, Phase, Rev #, AACE Class>**		
9. Basis of Labor, Materials & Equipment Pricing	* Similar completed project	< Use total amount as a lump sum >	
	* Engineering Judgment	< Use total amount as a lump sum >	
	* Semi-detailed unit costs	< Identifiy the source of the cost data (APWA - 2016 database/Unit Cost Report), CSI - 2016 database, SAGE. >	
	* Detailed unit costs	< Use grand total amount as lump sum cost >	
10.Other Factors	* Sales Tax	☐	< % >
	* Other	☐	< Explanation & $ amount>
11. Escalation	YES	☐ Const. Start:<MM,YYYY>	
	NO	☐ Const. Finish:< MM,YYYY>	
12. Inflation	<Finance is currently instructing Project Managers to use an annual inflation rate of 2.3% for all cost projections. Enter the inflated cost projections into EPMS.>		
	YES	☐	
	NO	☐	
13. Allowance For Indeterminates:	< If utilized with historical unit costs, identify how the Allowance for Indeterminates (AFI) was determined >		
14. Other Assumptions:	< Identify any additional assumptions that may affect the cost estimate, including any assumptions about work that will NOT need to be performed>		
15. Exceptions:	< Identify any variances to SPU's cost estimating practices and any significant deviations from the deliverables normally required for the current phase>		
16. Risks	< Provide a copy of the project Risk Register from the PMP Process if one has been prepared. In particular, identify the cost and schedule elements that have high or critical risk values>		
17. Basis of Estimate Reviews and Bechmarking	* How/Why Estimate Has Changed	< Enter text here>	
	* Benchmarking	< Enter text here>	
	* Attachments	< Enter any link or supporting text here >	

Cost Estimate Review Checklist

1. Conduct first level (supervisory) review

- ☐ Make sure the right Basis of Estimate template was used.
- ☐ Verify that the Basis of Estimate is complete, clear, and understandable, and that any significant changes from previous estimates are described clearly.
- ☐ Make sure the right cost estimate template was used.
- ☐ Make sure that the estimate is complete, clear, and understandable, and that all major work items are included.
- ☐ Confirm that the AFI, Soft Costs, Contingency Reserve, Management Reserve, and Total Cost Projection are reasonable for the project scope, size, location, and complexity.
- ☐ Check the math - quantities, prices, calculations. Spot-check formulas and totals.

2. Conduct detailed review (30% design and beyond)

In addition to the steps included in the first level review:

- ☐ Check all components of the estimate that would cause significant under- or over-estimating if calculated incorrectly.
- ☐ If possible, compare the cost and schedule to similar past projects as a reality check.

3. Ensure construction estimates prepared by others are reviewed

For construction estimates prepared by consultants, SPU's Project Manager shall:

- ☐ Provide electronic copies of SPU's Basis of Estimate and cost estimate template, so that the estimate will be prepared using the correct templates.
- ☐ Find out in advance who will be preparing the estimate and who will be reviewing it.
- ☐ Verify that the consultant conducted the appropriate reviews.
- ☐ Check to make sure the correct templates were used and that the estimate is complete, clear, and understandable.
  Confirm that the AFI is reasonable for the phase of design.
  Spot-check the math.
  Use the construction estimate to prepare the Total Cost Projection.
- ☐ Have a supervisor or another designated reviewer complete the first level project estimate review and a more detailed review for projects that are at 30% design and beyond.