

Cost Estimating Presentation

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Governments

April 7, 2026

Capital Planning & Policy Bureau – IPDD

Training 5



New Mexico
**Department of Finance
and Administration**

**Infrastructure Planning
and Development Division**

Infrastructure Capital Improvement Plan

Reminders & Deadlines

Infrastructure Capital Improvement Plan

**A planning tool for
your entity's
infrastructure needs**

**A roadmap to fund
and phase your
projects**



**Covers a 5-year
fiscal period
(July 1, 2027-June 30-2032)**

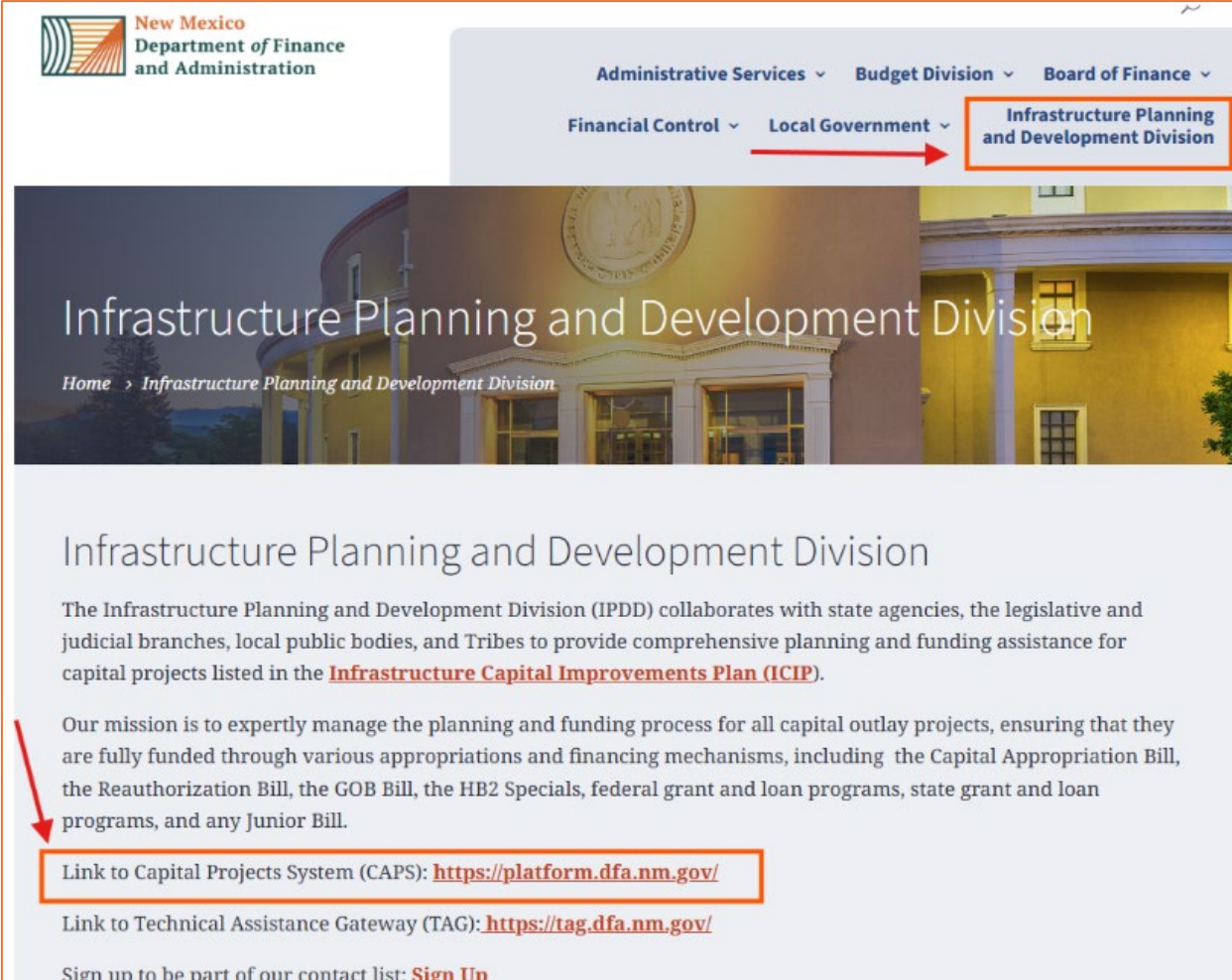
**Developed,
updated, and
submitted annually
to DFA**

Capital Projects System (CAPS)

Your capital improvement plan must be entered and prioritized on CAPS

<https://platform.dfa.nm.gov/>

<https://www.nmdfa.state.nm.us/>



The screenshot shows the website for the Infrastructure Planning and Development Division (IPDD) within the New Mexico Department of Finance and Administration. The navigation menu includes Administrative Services, Budget Division, Board of Finance, Financial Control, and Local Government. The IPDD is highlighted in the Local Government dropdown. The main content area features a header image of a building and the text: "Infrastructure Planning and Development Division". Below this, a paragraph describes the IPDD's mission: "The Infrastructure Planning and Development Division (IPDD) collaborates with state agencies, the legislative and judicial branches, local public bodies, and Tribes to provide comprehensive planning and funding assistance for capital projects listed in the **Infrastructure Capital Improvements Plan (ICIP)**." A red arrow points to the mission statement. At the bottom, there are two links: "Link to Capital Projects System (CAPS): <https://platform.dfa.nm.gov/>" and "Link to Technical Assistance Gateway (TAG): <https://tag.dfa.nm.gov/>". A "Sign Up" link is also present for a contact list.

Resolution Upload - Update

ICIP Prioritization Tab on CAPS

<https://platform.dfa.nm.gov/>

Current Priorities Previous Submissions

Drag and drop projects to set their priority order. Changes are saved automatically.

The ICIP projects cover a span of up to 5 years. Within each of those years, the projects must be prioritized/rank based on what the entity feels is most important/urgent in that particular year. If a project is not funded in a specific year, it may be reprioritized and added to a future year for funding consideration. It can be expected that projects may change from year to year as well as the priorities within years.

There are often competing priorities within a year when an entity is forced to choose between prioritized projects. For example, an entity may need to fix water lines in a localized area of town but may also need a new fire truck because one was totaled in an accident. Additionally, the senior center may have been condemned, and seniors may be temporarily housed at great expense to the municipality. Entities are excited about the prospect of prioritizing projects in buckets or project types, so that the examples above are not necessarily competing against one another.

These priorities are complete and ready to submit to DFA.

Upload Resolution Document

Choose File No file chosen

Technical Assistance Providers

- **NM Land Grant Council**

- Anissa Baca, Community Outreach Specialist, nissa17@unm.edu

- **NM Acequia Association**

- Vidal Gonzales, Director of Policy & Planning, vidal@lasacequias.org, (505) 614-4495

- **Rural Community Assistant Corp (RCAC)**

- Ramón Lucero, Regional Field Manager, ramon.lucero@rcac.org, (505)819-7342

- **NM Council of Governments**

- District 1: Northwest NM Council of Governments (San Juan, McKinley, Cibola) Brandon Howe, (505) 722-4327; bhowe@nwnmcog.org
- District 2: North Central NM Economic Development District (Rio Arriba, Santa Fe, Taos, Los Alamos, Colfax, Mora, San Miguel) Santiago Chavez, (505) 699-7283; santiagoc@ncnmedd.com
- District 3: Mid-Region Council of Governments (Sandoval, Bernalillo, Valencia, Tarrant) Bianca Borg, (505) 724-3608; Bborg@mrcog-nm.gov
- District 4: Eastern Plains Council of Governments (Union, Harding, Quay, Curry, Roosevelt, Guadalupe, De Baca) Sandy Chancey, (575) 762-7714; schancey@epcog.org
- District 5: Southwest NM Council of Governments (Catron, Hidalgo, Luna, Grant) Priscilla Lucero, (575) 388-1509; priscillalucero@swnmcog.org
- District 6: Southeastern NM Economic Development District (Lincoln, Otero, Chaves, Eddy, Lea) Dora Batista, (575) 624-6131; dbatista@snmedd.com
- District 7: South Central Council of Governments (Socorro, Sierra, Doña Ana) Jay Armijo, (575) 744-4857; jarmijo@sccog-nm.com

Deadlines & Requirements

- ✓ **All Local Government ICIPs are due by **Wednesday, July 1st, 2026, at 11:59 pm****
 - Senior Center Facilities
 - Special Districts
 - Nations, Pueblos and Tribes
 - Counties
 - Municipalities
- Projects must be in "Submitted" status and Prioritized by Year and Ranked in CAPS
- *Note: After 07/01/2026 - ICIPs will be locked.*
- ✓ **Resolution from your Governing Body adopting your ICIP for FY 2028-2032**
 - Nations, Pueblos, Tribes may submit a letter from the Governor, President, Chapter President, etc. in lieu of a Resolution

ICIP Extensions

in effect January 2026

- Extension Requests for ICIP project submission **will no longer be allowed.**
- Extensions will **only** be granted for Resolution (or letter for Nations, Pueblos, Tribes) submission until **Friday, July 31st, 2026**, at 11:59 pm.
- Resolution Extension requests and Amendment requests must be done by email to Lgd.icip@dfa.nm.gov

ICIP Amendments

in effect January 2026

- Entities who met the July 1st deadline may amend **current** projects on their ICIP up until **Sunday, November 1st, 2026****, with approval. New projects will not be allowed.
- May only update the Legislative Language, SOW, and Budget Table.
- New projects will not be allowed.
- Re-prioritization of projects may occur.

****** *Date dependent on Legislative Council Services & 2027 Capital Outlay deadlines*

ICIP-related Legislation from 2026 Session

- HB 247 - CAPITAL OUTLAY CHANGES
- Includes changes to capital outlay requirements, reauthorizations, and reversions
 - Reauthorization limitations
 - **ICIP requirement for projects \$100,000 or more**
 - Destination fund of reversions
 - Severance tax bond reversions
 - General fund reversions

AN ACT
RELATING TO CAPITAL EXPENDITURES; PROVIDING LIMITATIONS AND
REQUIREMENTS FOR CERTAIN CAPITAL OUTLAY PROJECTS,
REAUTHORIZATIONS AND APPROPRIATIONS; AMENDING SECTIONS OF LAWS
2022 THROUGH 2025 TO REQUIRE CERTAIN UNEXPENDED GENERAL FUND
CAPITAL OUTLAY APPROPRIATIONS TO REVERT TO THE CAPITAL
DEVELOPMENT AND RESERVE FUND OR THE TRIBAL INFRASTRUCTURE
PROJECT FUND.

ICIP Resources

- CAPS Data Entry Guide
- FY2028-2032 ICIP Guidelines

<https://www.nmdfa.state.nm.us/infrastructure-planning-and-development-division/icip/>



- ICIP Virtual Training Recordings & PowerPoints
- Data Entry Video Tutorial

<https://www.nmdfa.state.nm.us/infrastructure-planning-and-development-division/icip-virtual-training/>

Steps to Submit you Plan

- Enter your capital improvement plan projects on CAPS – must be in Submitted status
- Prioritize your projects
- Submit your adopted resolution (or letter)
- Check off "These priorities are complete and ready to submit to DFA"

Trainings and Office Hours

- CAPS/PARS Office Hours – Every Tuesday 1:00-2:00 pm
 - Troubleshooting issues and questions about PARS/CAPS with RTS
- ICIP Office Hours – Thursdays from March 26-June 25, 2:30-3:30 pm
- Questionnaire Training – April 9th & April 14th
- HB 247 Training/Information Session, 1:00-2:00 PM
 - Weds, April 15th for Municipalities/Counties)
 - Thurs, April 16th (State Agencies)
 - Weds, April 22nd (Special Districts)
 - Thurs, April 23rd (K-12 Schools)
 - Thursday, April 30th (Nations, Pueblos, Tribes)

CAPS Contacts

- CAPS Support Email: support@rtsolutions.com
- Jesse Guillen, Capital Planning and Policy Bureau Chief, jesse.guillen@dfa.nm.gov - 505-538-5114
- Ryan Serrano, State Agency/Higher Ed ICIP Coordinator, ryans.serrano@dfa.nm.gov - 505-819-1568
- Mary Ann Maestas, Local Government ICIP Coordinator, maryann.maestas@dfa.nm.gov - 505-487-3523

2026 ICIP Cost Estimating Training

PRESENTED BY PATRICIA BOLLIGER, P.E.

Agenda

1. Background Information
2. Cost Estimating – Drinking Water Infrastructure
3. Cost Estimating – Wastewater Infrastructure
4. Cost Estimating – Roadways
5. Cost Estimating – Buildings
6. Questions

Background Information

Purpose of Training



Provide simplified methods to estimate costs for projects in an ICIP.



Provide magnitude of costs. Should not be used for funding applications.



Convey that estimating is time-sensitive.

Additional Sources for Cost Estimates

Planning

- Preliminary Engineering Report
- Infrastructure Master Plan
- Asset Management Plan
- Comprehensive Plan
- Project Scoping Report
- Rate Study

Design

- Develop plans and specifications
- Estimate quantities
- Prepare bid items
- Develop a construction cost estimate

Construction

- Review plans and specifications
- Determine the required labor, equipment, material, overhead, risk, and profit

General Factors Influencing Construction Bids



APPLICABLE STANDARDS



MARKET CONDITIONS



COST AND AVAILABILITY OF LABOR, EQUIPMENT, AND MATERIALS



TIME OF YEAR BIDS ARE SOLICITED



TIME ALLOCATED FOR CONSTRUCTION



SIZE OF PROJECT

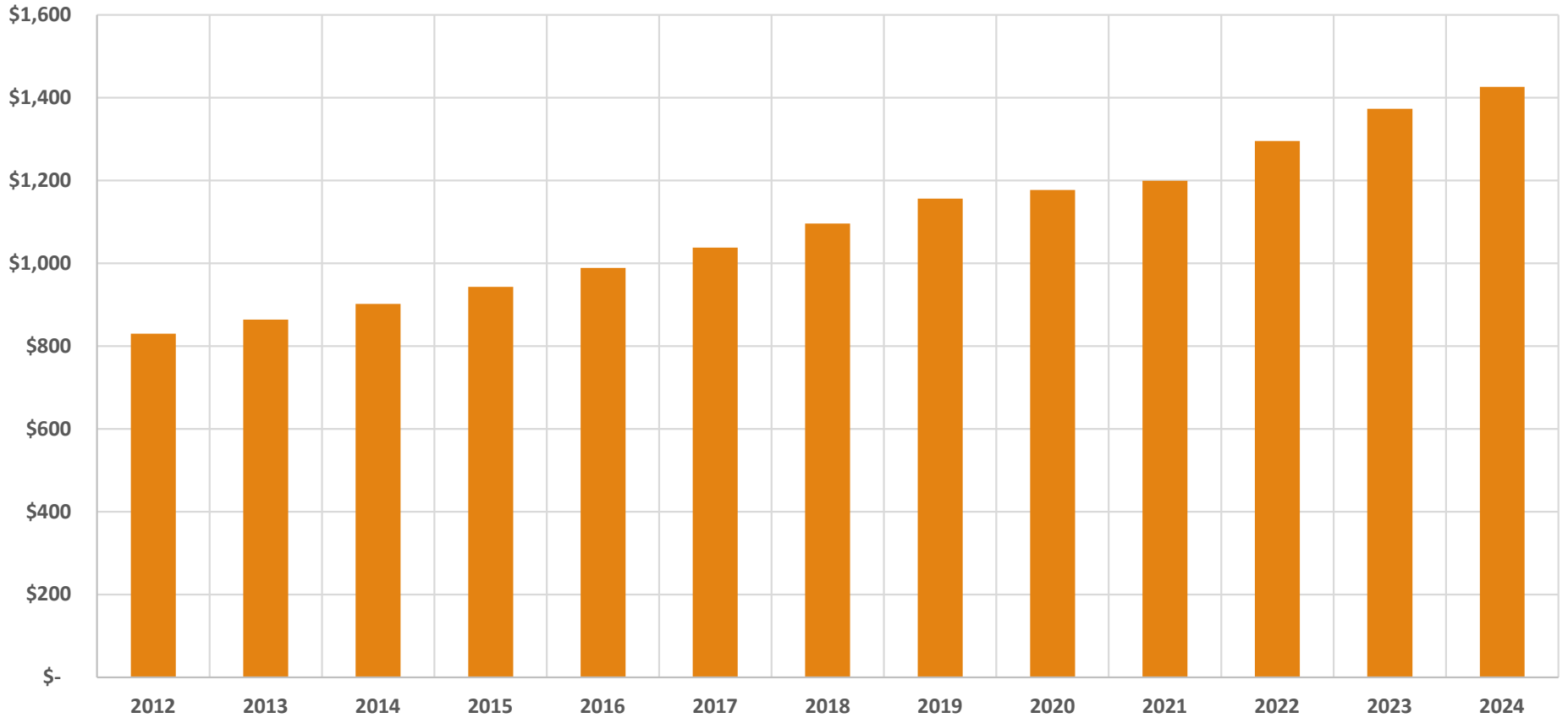


LOCATION OF PROJECT



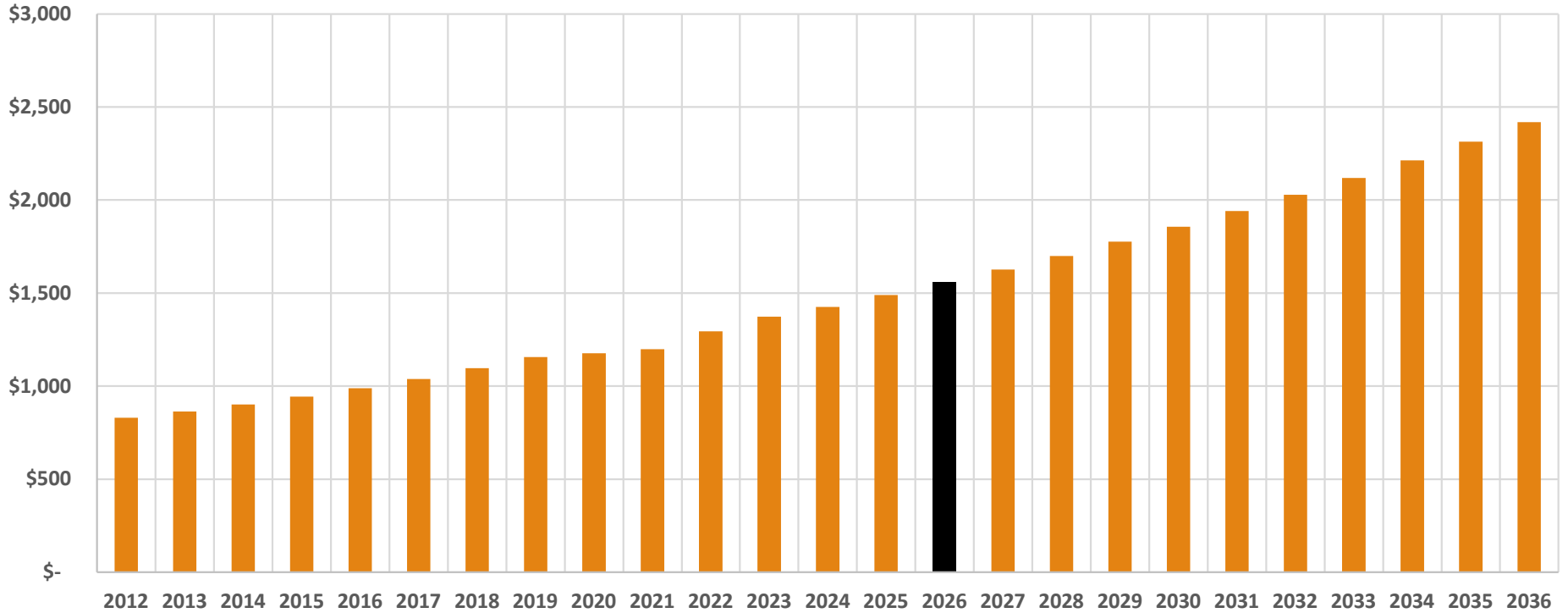
RISKS ASSOCIATED WITH PROJECT

Turner Building Cost Index



Construction Costs from 2012-2024

Compound Annual Growth Rate of 4.5%



Anticipated Construction Costs
through 2036

Equipment & Material Supply

- Equipment, material, and delivery truck driver shortages – expect longer lead times
- Quotes are difficult to obtain and expire quickly
- Build America Buy America Act (BABAA)
- Fuel surcharges affect material delivery costs
- Limited number of suppliers
- Shortages of parts for used equipment

Ways to Manage Costs

- Ramp-up Time: Allows for ordering of equipment and material.
- Schedule: Allow for longer construction durations to account for smaller construction crews, fewer crews, and no weekend work.
- Share Risk: Agree on some level of price escalation to share risk with the contractor (works both ways) and budget for the escalation.
- Expedite Submittal Review: Begin submittal review immediately after award.
- Stockpile Materials: Not an option in many small communities and can be risky for funding agencies.
- Allow the contractor to propose a Cost Savings Proposal and split the savings with the Owner.
- Consider alternative delivery options.

Volatile Construction Cost Market

- Update estimate before bid phase
- Bid alternates
- Regulatory priority
- Wants vs. Needs (may need to pay upfront for extra analysis)
- Add at least 10% contingency
- Add at least 10% market escalation
- Take what you learn here and **ADD 35% – 50%**

Cost Estimating

DRINKING WATER INFRASTRUCTURE



Main Components of a Drinking Water System

Source

- Identify source water
- Remove water from the source

Treatment

- Test source water
- Treat the water to appropriate standards

Storage

- Store water for peak usage times, fire flow, and emergency

Distribution

- Distribute water through underground pipe system

Drinking Water System Basis of Cost Estimation



Water Source

Groundwater = well, pump, and disinfection process

Surface water = treatment plant



Basis of Cost Estimation

Groundwater system serving ≤ 300 households

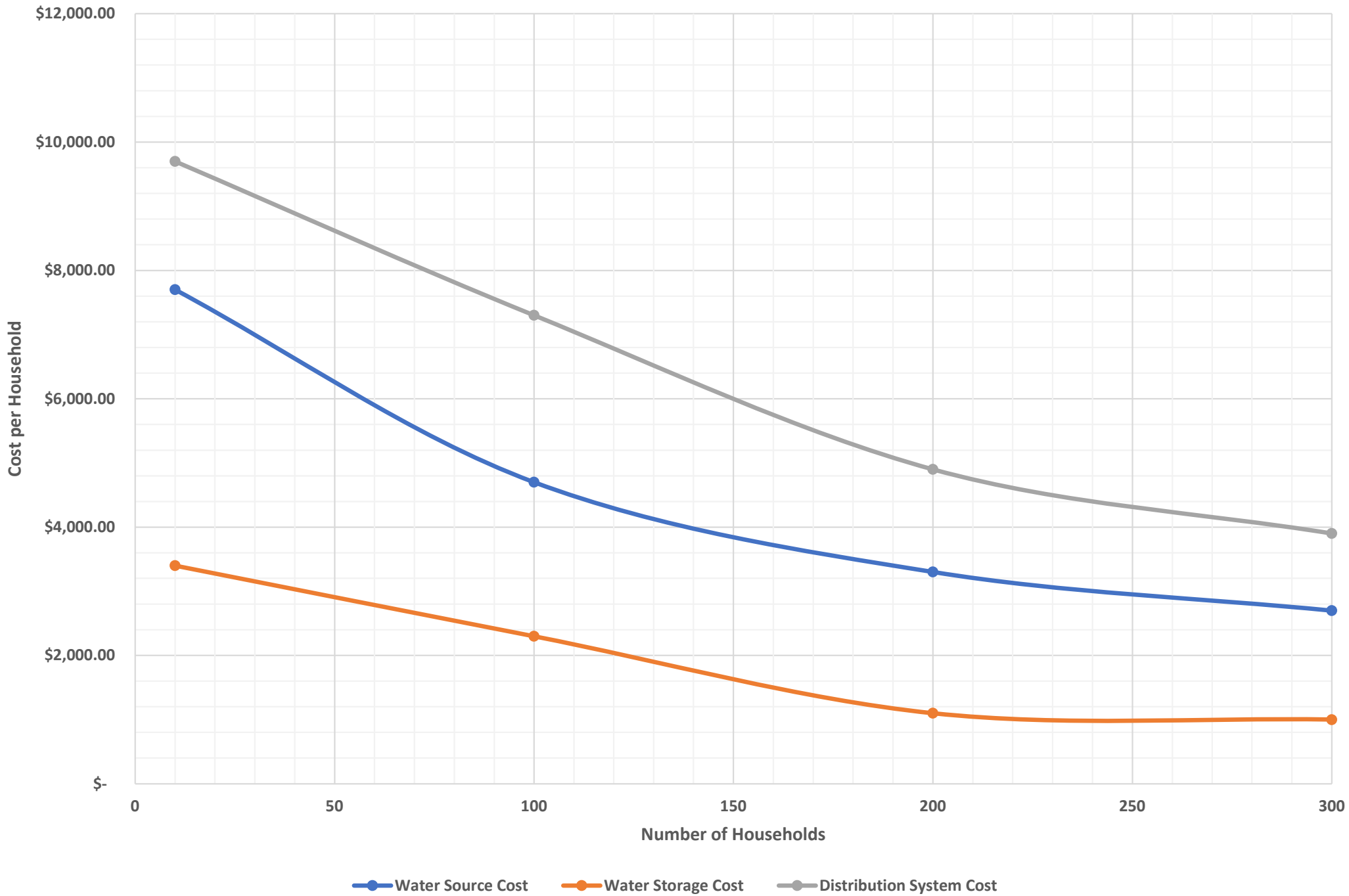
Groundwater system serving > 300 households

Surface water treatment system

Groundwater Systems \leq 300 Households

- Based on the number of households (not population)
- Estimate Cost for:
 - Source (well, pump, and disinfection)
 - Storage tank
 - Distribution system
- Cost Estimating Procedure
 1. Use the graph on the following slide to estimate the cost per household. Multiply the cost per household by the number of households served.

Estimating Average Cost of Construction of Small Water Systems



Groundwater Systems ≤ 300 Households

**Cost per
Household**

x

**No. of
Households**

=

**Water Source
Cost**

**Cost per
Household**

x

**No. of
Households**

=

**Water Storage
Cost**

**Cost per
Household**

x

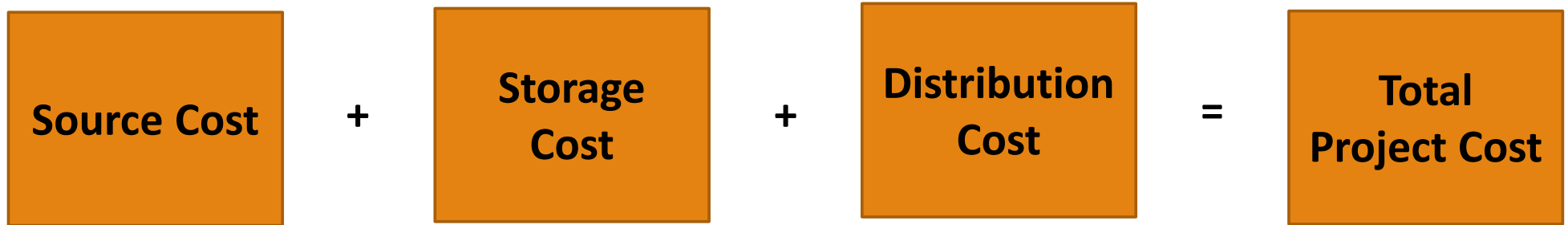
**No. of
Households**

=

**Water
Distribution
Cost**

Groundwater Systems \leq 300 Households

2. Add Source, Storage, and Distribution costs to get the Total Project Cost.



Cost Estimate Assumptions:

- Distribution Cost includes pipe and installation of meters.
- Cost includes engineering, inspection, and construction.
- Cost does not include well drilling, pump and controls, well house, and chlorination equipment.
- Does not include construction contingency or market escalation.
- Does not include operations and maintenance costs.

Groundwater System Serving > 300 Households

- Based on linear feet of pipe needed and depth of well to be drilled.
- Estimate Cost for:
 - Source (well, pump, and disinfection)
 - Storage tank
 - Distribution system
- Cost Estimating Procedure
 1. Well Cost. Estimate the depth of well and corresponding diameter and cost per foot. Costs include drilling, casing, screen, pump test, and well development.

| Diameter of Well (in) | Well < 500 ft (cost per ft) | Well = 500 ft (cost per ft) | Well > 500 ft (cost per ft) |
|----------------------------------|---|--|---|
| 6 | \$220 | \$200 | N/A |
| 8 | N/A | \$240 | \$220 |

Groundwater System Serving > 300 Households

2. Multiply Depth of Well by Cost per Foot.

$$\begin{array}{|c|} \hline \text{Depth of Well (ft)} \\ \hline \end{array} \times \begin{array}{|c|} \hline \text{Cost per Foot} \\ \hline \text{(\$ / ft)} \\ \hline \end{array} = \begin{array}{|c|} \hline \text{Well Cost} \\ \hline \end{array}$$

3. Pump Cost. Estimate the cost of the pump using the below table.

| Diameter of Well (in) | Cost for Well < 500 ft | Cost for Well = 500 ft | Cost for Well > 500 ft |
|-----------------------|------------------------|------------------------|------------------------|
| 6 | \$5,400 | \$10,700 | N/A |
| 8 | N/A | \$10,700 | \$21,500 - \$53,100 |

Groundwater System Serving > 300 Households

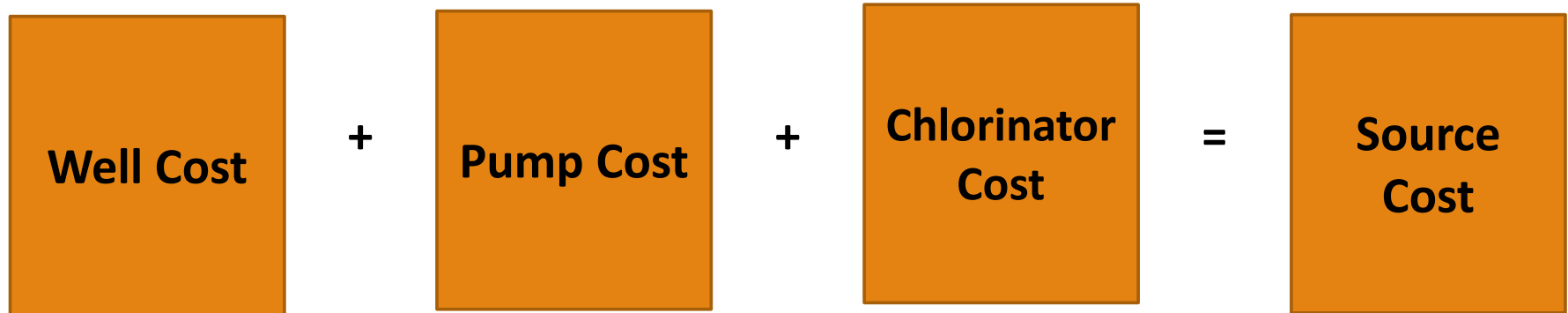
4. Chlorinator Cost. Estimate the Cost of Chlorinator using the following table.

| Chlorinator | Cost |
|---|-------------------|
| Small Well (300-500 households or 110-180 gpm) | \$800 - \$1,100 |
| Medium Well (500-700 households or 180-225 gpm) | \$1,100 - \$1,800 |
| Large Well (700-900 households or 255-330 gpm) | \$1,800 - \$2,700 |

- Consider multiple pumps and wells. It is a good idea to have redundant wells and pumps within a system to plan for problems with pumps, wells, or supply quantity. The same procedure may be followed for multiple wells.

Groundwater System Serving > 300 Households

5. Subtotal Cost for Water Source. Sum of Well Cost(s), Pump Cost(s), and Chlorinator Cost(s).



Groundwater System Serving > 300 Households

Storage Cost Estimating Procedure:

1. Consider factors affecting tank cost. Size, type of tank, construction conditions.
2. Determine storage needed.
 - a. If replacing tank with sufficient size, estimate same size tank.
 - b. If adding storage, the new tank size = total storage capacity – existing tank size.
 - c. Approx. recommended total storage capacity = two-day use + fire flow storage (based on number of households served and assuming an average of 2.5 persons per household).

| No. of Households | Min. Recommended Storage Volume (gallons) |
|-------------------|--|
| 300 | 260,000 |
| 400 | 330,000 |
| 500 | 400,000 |

Groundwater System Serving > 300 Households

4. Determine cost per gallon based on size of tank.

| Size of Tank (gallons) | Cost Range (\$/gallon) |
|------------------------|------------------------|
| Less than 50,000 | \$0.60 – \$0.80 |
| 50,000 - 75,000 | \$0.80 - \$0.90 |
| 75,000 - 300,000 | \$0.90 - \$1.00 |
| 300,000 - 500,000 | \$1.00 - \$1.70 |
| 500,000 – 1,000,000 | \$1.70 - \$2.20 |

5. Multiply Storage Volume by Cost per Gallon to determine Total Tank Cost.

$$\begin{array}{|c|} \hline \text{Storage Volume} \\ \text{(gallons)} \\ \hline \end{array} \quad \times \quad \begin{array}{|c|} \hline \text{Cost per Gallon} \\ \hline \end{array} \quad = \quad \begin{array}{|c|} \hline \text{Total Tank Cost} \\ \hline \end{array}$$

Groundwater System Serving > 300 Households

- Use 6- to 8-inch pipe for a general estimate.
- Cost includes the cost of standard construction, pipe materials, and labor.
- Rocky conditions = significantly higher cost
- Estimate the length of distribution pipe needed (Google Earth, GPS unity, or car odometer).
- Water Distribution Cost estimating procedure:
 1. Estimate cost per linear foot using the following table.

| Pipe Diameter | Cost per Linear Foot | Notes |
|----------------------|-----------------------------|------------------------------|
| 4-inch | \$57 | Maximum flow of 225 gpm |
| 6-inch | \$61 | Minimum needed for fire flow |
| 8-inch | \$68 | Maximum flow of 1,000 gpm |
| 10-inch | \$77 | Maximum flow of 1,500 gpm |

Groundwater System Serving > 300 Households

2. Multiply the Linear Feet of Distribution Pipe by the Cost per Linear Foot to obtain the Distribution Cost.

$$\begin{array}{ccccc} \text{Linear Feet of} & & & & \\ \text{Distribution Pipe} & \times & \text{Cost per Linear} & = & \text{Distribution Cost} \\ & & \text{Foot} & & \end{array}$$

- Estimate Total Project Cost by adding the Water Source Cost, Water Storage Cost, and Water Distribution Cost.

$$\begin{array}{ccccccc} & & & & & & \\ \text{Source Cost} & + & \text{Storage Cost} & + & \text{Distribution} & = & \text{Total Project} \\ & & & & \text{Cost} & & \text{Cost} \end{array}$$

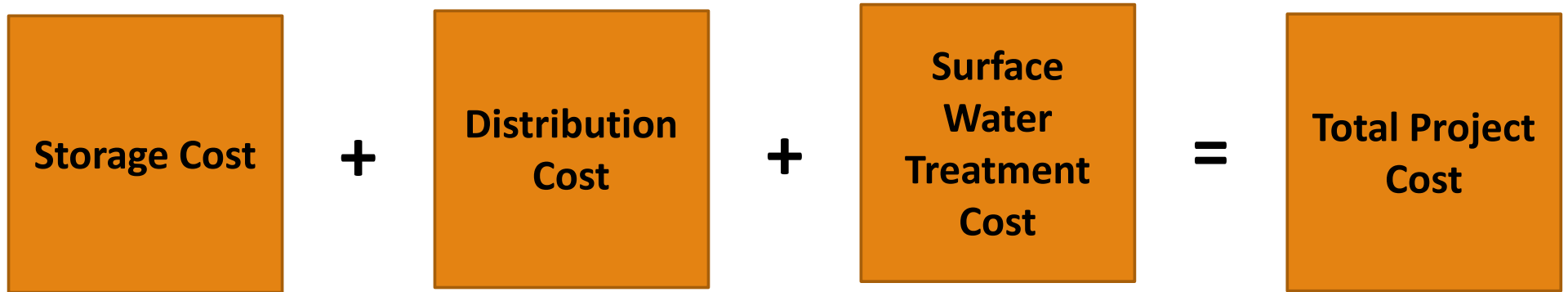
Surface Water Treatment System

- Costs for storage and distribution systems can be estimated using the previous groundwater system methods (depending on number of households).
- This method estimates construction costs for a new water treatment facility and does not include operations and maintenance costs.
- Rule of thumb = 2.5 persons per household and 100 gallons per capita per day.
- Estimate cost of surface water treatment system using the following table:

| No. of Households | Size of Surface Water Treatment Facility | Cost per Gallon of Water |
|--------------------------|---|---------------------------------|
| Greater than 3,000 | 1,000,000 gallons or more per day | \$2.80 |
| 2,000 - 3,000 | 750,000 gallons or more per day | \$3.40 |
| 1,500 - 2,000 | 500,000 gallons or more per day | \$4.30 |
| Less than 1,500 | Less than 500,000 gallons per day | \$5.50 - \$6.50 |

Surface Water Treatment System

- Estimate Total Project Cost by adding Storage Cost, Distribution Cost, and Surface Water Treatment System Cost.



Cost Estimating

WASTEWATER INFRASTRUCTURE





Collection

Collects wastewater generated and conveys it to the treatment system/facility



Treatment

Treats the wastewater generated to meet permit requirements



Effluent Disposal

Disposes of treated effluent per permit requirements

Main Components of a Wastewater System

Considerations for Choosing Treatment System/Facility

- Quality/quantity of flow
- Characteristics of raw influent wastewater
- Quality/quantity of effluent desired
- Type of discharge (surface water, groundwater, irrigation, etc.)
- Permit conditions
- Acceptable degree of O&M
- Quality/quantity of land available
- Physical characteristics of the area (soil, groundwater, bedrock, topography, etc.)

Considerations for Choosing Effluent Disposal Method

- Discharge to nearby surface water - need EPA NPDES permit.
- Discharge to groundwater (irrigation, infiltration, injection, etc.) - need NMED Groundwater Discharge permit.
- Discharge by evaporation - very land intensive.

Wastewater System Basis of Cost Estimation

- For collection and treatment only, not for discharge (too variable)
- Does not include ROW, land acquisition, or O&M
- New construction, not upgrade or expansion
- Flowrate of 100 gallons per capita per day (gpcd) and 2.5 persons per household are assumed.
- Does not include extreme conditions, such as dewatering, bedrock, etc.

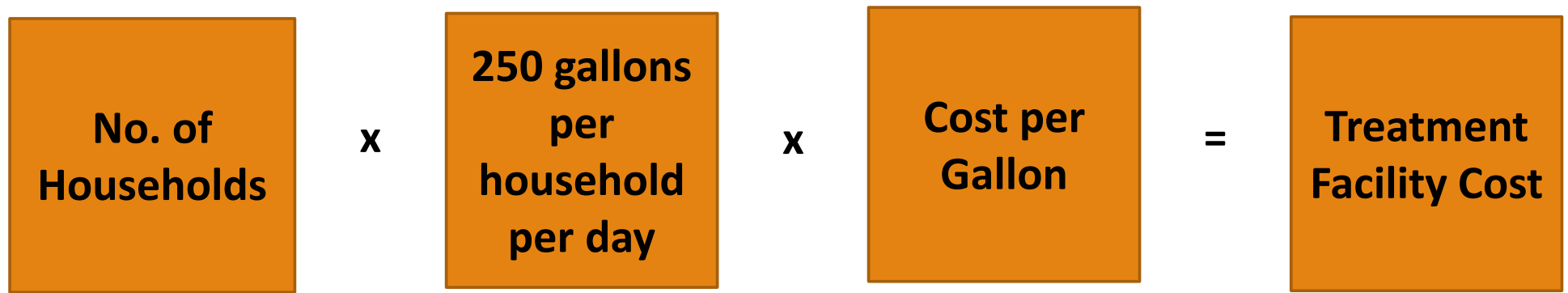
| Collection System Alternatives | | | |
|---|-------------------|--------------------|----------|
| Gravity Collection System | | | |
| Classification | No. of Households | Cost per Household | Subtotal |
| Rural (3 - 5 acres per household) | | \$43,800 | |
| Semi-Rural (1 - 3 acres per household) | | \$31,500 | |
| Semi-Urban (0.5 - 1.0 acre per household) | | \$20,900 | |
| Urban (Less than 0.5 acre per household) | | \$11,300 | |
| Vacuum Collection System | | | |
| Classification | No. of Households | Cost per Household | Subtotal |
| Rural (3 - 5 acres per household) | | \$26,200 | |
| Semi-Rural (1 - 3 acres per household) | | \$20,400 | |
| Semi-Urban (0.5 - 1.0 acre per household) | | \$15,100 | |
| Urban (Less than 0.5 acre per household) | | \$10,900 | |
| Small Diameter Gravity Collection System | | | |
| Classification | No. of Households | Cost per Household | Subtotal |
| Rural (3 - 5 acres per household) | | \$25,300 | |
| Semi-Rural (1 - 3 acres per household) | | \$31,500 | |
| Semi-Urban (0.5 - 1.0 acre per household) | | \$20,900 | |
| Urban (Less than 0.5 acre per household) | | \$11,300 | |
| Grinder Pump Collection System | | | |
| Classification | No. of Households | Cost per Household | Subtotal |
| Rural (3 - 5 acres per household) | | \$31,300 | |
| Semi-Rural (1 - 3 acres per household) | | \$31,300 | |
| Semi-Urban (0.5 - 1.0 acre per household) | | \$20,900 | |
| Urban (Less than 0.5 acre per household) | | \$17,000 | |
| Septic Tank Effluent Pump Collection System | | | |
| Classification | No. of Households | Cost per Household | Subtotal |
| Rural (3 - 5 acres per household) | | \$33,200 | |
| Semi-Rural (1 - 3 acres per household) | | \$27,800 | |
| Semi-Urban (0.5 - 1.0 acre per household) | | \$22,800 | |
| Urban (Less than 0.5 acre per household) | | \$19,000 | |

Pump Station Estimated Cost

| Classification | No. of Households | Cost per Household | Subtotal |
|---------------------------|--------------------------|---------------------------|-----------------|
| Fewer than 100 households | | \$3,200 | |
| 100 to 500 households | 100 | \$1,500 | \$150,000 |
| More than 500 households | | \$600 | |

Treatment Facility Estimated Cost

| No. of Households | Size of Wastewater Treatment Facility | Range of Cost per Gallon of Wastewater Treated |
|-------------------|---------------------------------------|--|
| ≤ 3,000 | ≤ 1,000,000 gallons per day | \$11 - \$18 |
| > 3,000 | > 1,000,000 gallons per day | \$18 - \$22 |



Cost Estimating

ROADWAYS INFRASTRUCTURE



Primary Roadway Construction Cost Components

- Earthwork – Cutting, Filling, Shaping
- Surfacing – Subgrade Prep, Base, Surface
- Drainage – Roadway, Cross Drainage
- Structures – Bridges, Retaining Walls
- Traffic – Signing, Striping, Signals, MOT
- Utilities – Adjustment of Existing Utilities
- Landscaping / Aesthetic Enhancements
- Other – Mobilization, Testing, Staking, etc.

Factors Affecting Roadway Construction Cost

- Terrain and Geographic Features
- Project Type - Rehabilitation, Reconstruction or New Construction
- Traffic Load / Roadway Function – Local, Collector, Arterial
- Urbanization – Curb & Gutter, Sidewalks
- Drainage Features
- Utilities Affecting Project
- Enhancements / Constraints – Safety, Environmental, Aesthetic, etc.

Average Earthwork Cost per Mile

| Roadway Type | Driving Lanes | Road Top Width | Significant Cuts and Fills along Mainline | Major Widening in Mountain to Hilly Terrain | Widening in Flat to Moderate Terrain | Blading and Shaping Only |
|---------------|---------------|----------------|---|---|--------------------------------------|--------------------------|
| Local Streets | 2 DL | 24-28 ft | \$447,000 | \$224,000 | \$128,000 | \$52,000 |
| Collector | 2 DL | 36-40 ft | \$733,000 | \$364,000 | \$204,000 | \$65,000 |
| Collector | 2 DL & CTL | 52-56 ft | \$956,000 | \$479,000 | \$256,000 | \$84,000 |
| Collector | 4 DL & CTL | 72-76 ft | \$1,273,000 | \$637,000 | \$319,000 | \$122,000 |

Average Roadway Surfacing Cost per Mile

- Urban sections – include curb and gutter

| Roadway Type | Driving Lanes | Roadway Top Width | New Surfacing Constr. Hot Mix Asphalt (HMA) | Process Existing Surfacing and Overlay w/ Hot Mix Asphalt | Mill and Process Existing Surfacing & Overlay w/ Hot Mix Asphalt | New Surfacing Constr. Double Penetr. |
|---------------|---------------|-------------------|---|---|--|--------------------------------------|
| Local Streets | 2 DL | 24-28 ft | \$809,000 | \$542,000 | \$765,000 | \$447,000 |
| Collector | 2 DL | 36-40 ft | \$1,082,000 | \$975,000 | \$937,000 | \$0 |
| Collector | 2 DL & CTL | 52-56 ft | \$1,465,000 | \$1,299,000 | \$1,210,000 | \$0 |
| Collector | 4 DL & CTL | 72-76 ft | \$2,190,000 | \$1,833,000 | \$1,782,000 | \$0 |

Average Cost for Roadway Urbanization Enhancements per Mile

| Item | Type | Cost/Mile |
|---|--|-----------|
| Curb and Gutter w/ Drive-pads and ADA Compliant Corners | New Construction – Both Sides of Roadway | \$460,000 |
| Sidewalk | New Construction – Both Sides of Roadway | \$490,000 |
| Raised Median Incl Curb & Gutter and Median Pavement | New Construction | \$700,000 |
| Raised Median Incl Curb & Gutter, No Median Pavement | New Construction | \$260,000 |
| ADA Compliant Corners and Drive-Pads | Street Rehabilitation | \$170,000 |

Average Cost for Drainage Improvements

| Structure | Unit | Unit Costs |
|-----------------------------|-------------------------|-------------------|
| Bridge/CBC (Large Drainage) | Surface Area | \$400/SF |
| Storm Drain System | Per Center Line Mi | \$3,100,550/Mi |
| Cross Drainage | 24" CMP & End Treatment | \$170/LF |
| | 36" CMP & End Treatment | \$270/LF |
| | 48" CMP & End Treatment | \$300/LF |
| | 60" CMP & End Treatment | \$340/LF |

Other Construction Costs

**Add % to Total Cost for
Earthwork, Surfacing,
Urbanization and
Drainage**

| Items | Type | |
|-----------------|---|------------------|
| Mobilization | | 10% |
| Traffic Control | Signing, Striping, Management of Traffic | 7.5% |
| Other | Quality Assurance, Utility Adjustments, Construction Staking, Demolition | 7.5% |
| Signalization | | \$400,000/Signal |

Example of Cost Estimate for 0.5 Mi of Local Street, Urbanized with 1- 60” CMP

| Description | Unit | Unit Cost | Amount |
|--|------|-----------------|--------------------|
| Earthwork – Widening (flat to moderate) ½ Mi | Mi | \$140,000 | \$70,000 |
| Surfacing – New Surfacing ½ Mi | Mi | \$820,000 | \$410,000 |
| Urbanization – New Constr. w/ Curb & Gutter, ADA Compliant Drive-pads and Corners – ½ Mi | Mi | \$460,000 | \$230,000 |
| Drainage – 80 LF of 60” CMP & End Treatments | LF | \$340 | \$27,200 |
| Subtotal | | | \$737,200 |
| Mobilization, Traffic and Other Costs | % | 25% of Subtotal | \$184,300 |
| Subtotal | | | \$921,500 |
| Gross Receipts Tax and Contingencies | % | 28% of Above | \$258,020 |
| Construction Cost | | | \$1,179,520 |
| Engineering and other Professional Costs | % | 22% of Constr. | \$259,494 |
| Total Project Costs | | | \$1,440,000 |

Cost Estimating

BUILDINGS



Primary Building Construction Components

- Civil- Site, Parking Lot
- Structural – Foundation, Str Framework Mechanical – Plumbing, HVAC
- Electrical – Wiring, Lighting
- Fire Suppression – Sprinkler, Alarms
- Architectural – Thermal/Moisture Interior/Exterior Finishes
- Landscaping

Factors Affecting Building Specific Costs

- Site Terrain and Availability of Utilities
- Soil Conditions
- Structural Complexity
- Exterior and Interior Finish Levels
- General Building Construction Type
- Heating, Venting, Cooling System Level

Administration Buildings

| Population to be Served | Range of Typical Building Size | Typical Cost Per Square Foot (SF) |
|--------------------------------|---------------------------------------|--|
| Under 5,000 | 2,000 to 5,000 SF | \$270 |
| 5,000 to 10,000 | 5,000 to 6,500 SF | \$260 |
| Over 10,000 | 6,500 to 8,000 SF | \$240 |

Community Centers

| Population to be Served | Range of Typical Building Size | Typical Costs per Square Foot (SF) |
|--------------------------------|---------------------------------------|---|
| Under 8,000 | 10,000 to 20,000 SF | \$220 |
| Over 8,000 | 20,000 to 30,000 SF | \$200 |

Fire Stations

| Population to be Served | Typical Building Size | Typical Cost per Square Feet (SF) |
|--------------------------------|------------------------------|--|
| Under 2,000 | 2,000 SF | \$320 |
| 2,000 to 5,000 | 4,000 SF | \$270 |
| 5,000 to 10,000 | 6,000 SF | \$230 |
| Over 10,000 | 8,000 SF | \$220 |

Libraries

| Population to be Served | Typical Building Size | Typical Cost per Square Feet (SF) |
|--------------------------------|------------------------------|--|
| Under 2,000 | 2,000 to 2,500 SF | \$350 |
| 2,000 to 5,000 | 2,500 to 3,500 SF | \$350 |
| 5,000 to 10,000 | 3,500 to 7,000 SF | \$350 |
| Over 10,000 | 7,000 SF to 10,000 SF | \$330 |

Maintenance Buildings

| Population to be Served | Typical Building Size | Typical Cost per Square Feet (SF) |
|--------------------------------|------------------------------|--|
| Under 5,000 | 10,000 SF | \$200 |
| 5,000 to 10,000 | 20,000 SF | \$160 |
| Over 10,000 | 30,000 SF | \$150 |

Site Work

- Dependent on number of parking spaces required. Use 1 parking space for every 300 SF of building space.
- Cost includes grading and shaping, subgrade prep, base course, hot mix asphalt, curb, and front sidewalk.
- For construction cost, use **\$3,220 per Parking Space**.

Example of
Cost Estimate
for New
Library—
6,000 SF

| Description | Unit | Unit Costs | Amount |
|----------------------------------|-------------------|---------------------------|--------------------------------------|
| Building | 6000 SF | \$350/SF | \$2,100,000 |
| Site Work | 20 Parking Spaces | \$3,220/ Parking Space | \$64,400 |
| Sub-Total | | | \$2,164,400 |
| GRT | | 8% of above | \$173,152 |
| Sub-Total | | | \$2,337,552 |
| Architectural / Engineering | | 15% of above | \$350,633 |
| Total | | | \$2,690,000 |
| Add 35-50% for Market Escalation | | | \$941,500 - \$1,345,000 |
| Total Project Cost | | | \$3,631,500 - \$4,035,000 |

Key Takeaways

- CIP estimates support decision-making, not procurement.
- Estimate confidence varies by project phase.
- Construction is only part of the total project cost.
- Transparent assumptions are as important as the numbers and should be documented and revisited regularly.
- Contingency reflects uncertainty, not inefficiency.
- Timing affects cost as much as scope.
- CIP estimates are not meant to be perfect—they are meant to be prudent, transparent, and adaptable as projects move forward.

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Questions?