

MWPAAC E&P Committee Briefing

WTD CAPITAL PROJECT COST ESTIMATING & PROJECT CONTROL PROCESS IMPROVEMENT EFFORT

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MWPAAC E&P BRIEFING

- Process Improvement Approach
- Workshops
- Proof of Concepts & Pilots
- Next Steps

WORKPLAN AND TASK PROGRESS

- Analysis and Issues Identification (Oct-Dec 2015)
- Trend Analysis Fundamentals (January)
- Basis of Estimate (January & February)
- Contingency (March)
- Risk Management (April)
- Work Breakdown Structure, Coding and Estimate Format (May)
- Estimate Format / Estimate Deliverables Checklist / Estimate Reconciliation & Validation (July)

- Historical Data (TBD)

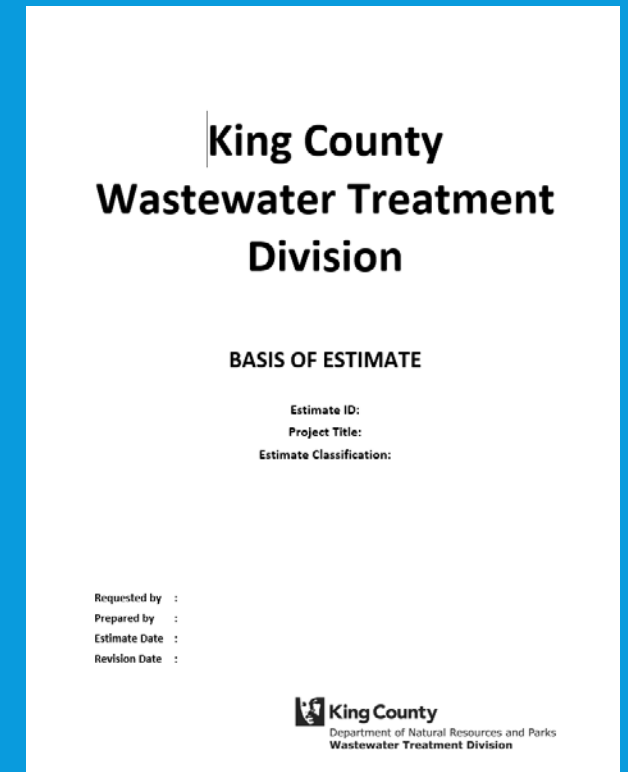
- TWG to make **Final Recommendations** to the Council and Executive *December 7, 2016*

BASIS OF ESTIMATE

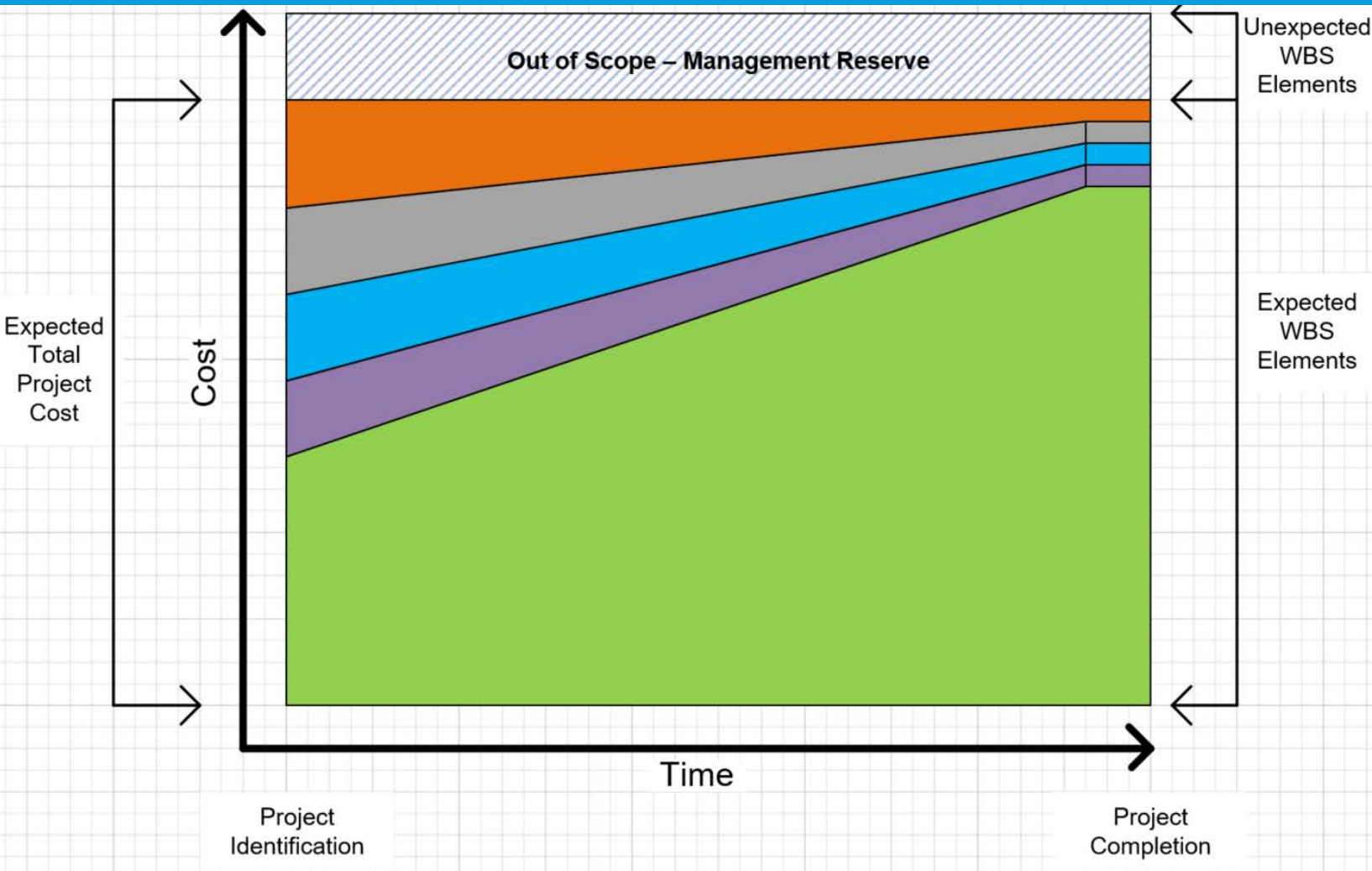
- Basis of Estimate Concept Overview
- Development of Template and Guidance
- Initial Staff Training Completed (February)

- CSI Program Pilot
- CSO Program Pilot

- Basis of Estimate Draft Template Available for use by staff

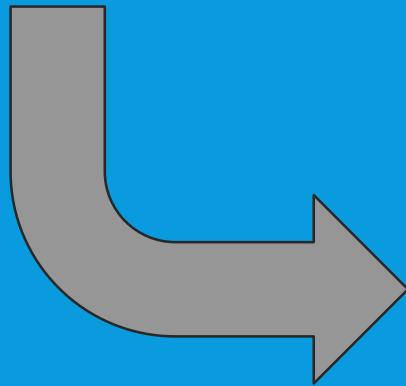


PROJECT COST BUILD-UP



CONTINGENCY

WTD Construction Contingency			Project Cont.
Construction Pricing Uncertainty Factor	Construction Definition Uncertainty Factor	Construction Change Order Contingency	Project Contingency



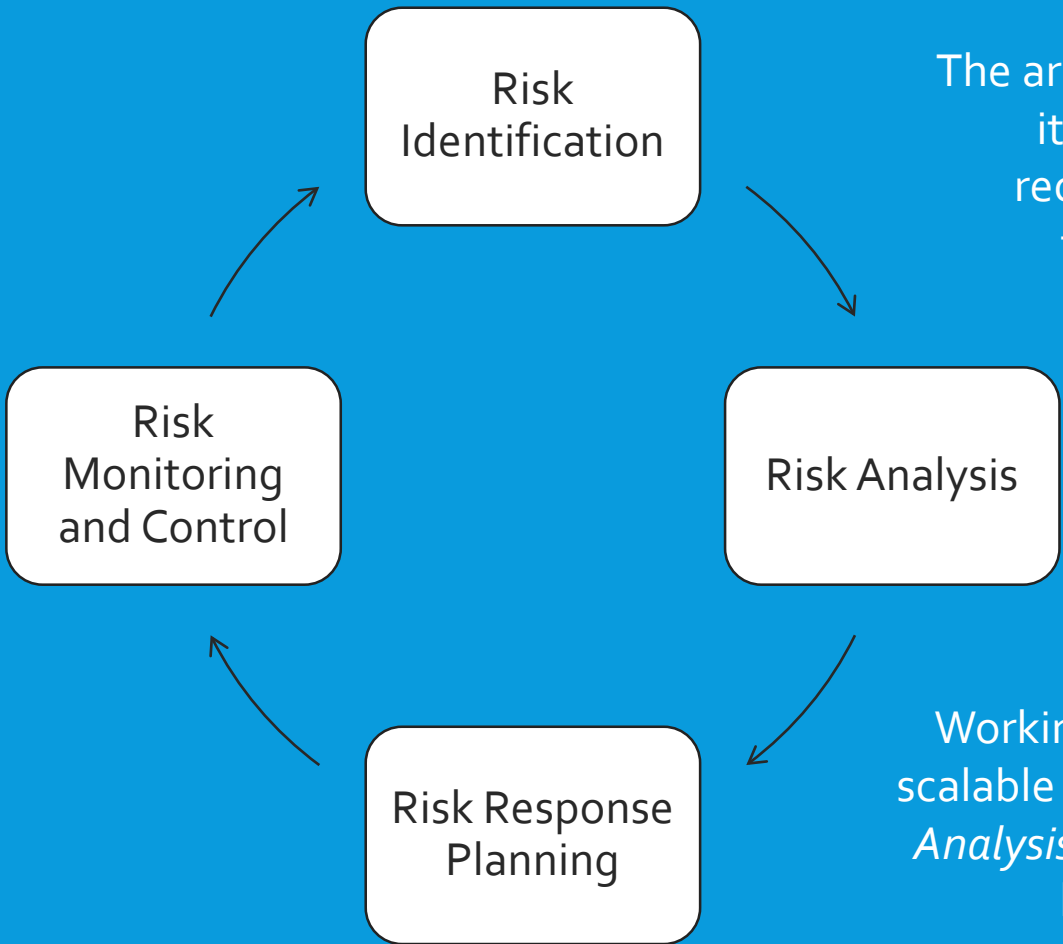
WTD Construction Allowances			Project Cont.	Project Reserves
Estimate Uncertainty Allowance	Design Uncertainty Allowance (AFIs)	Construction Change Order Allowance	Quantified Project Contingency (Using Confidence Intervals)	Management Reserve

CONTINGENCY

WTD Construction Contingency			Project Cont.
Construction Pricing Uncertainty Factor	Construction Definition Uncertainty Factor	Construction Change Order Contingency	Project Contingency
Up to 5%	25%	10%	30%
Up to 3%	20%	10%	25%
Up to 2%	15%	10%	15%
Up to 1%	10%	10%	10%
0%	0%	10%	5%

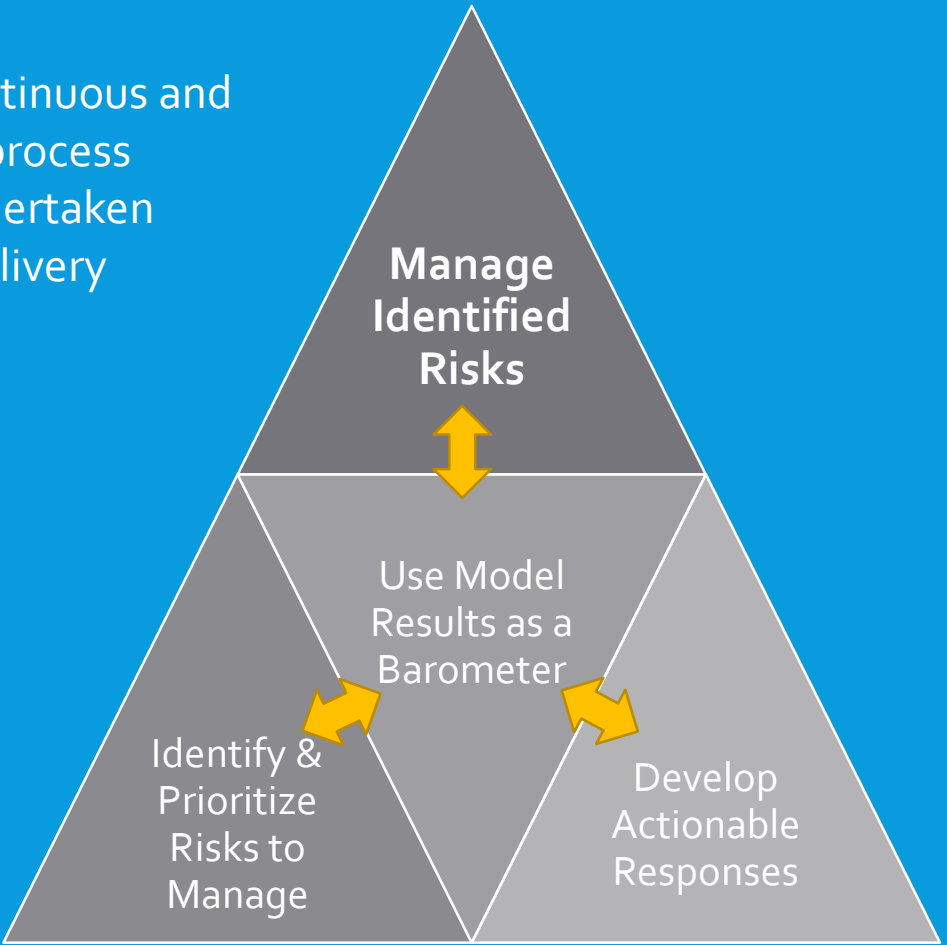
WTD Estimating & Construction Allowances			Project Contingency	Project Reserves
Construction Pricing Uncertainty Allowance	Allowance for Indeterminates (AFIs)	Construction Contract Change Order Allowance	Quantified Project Contingency	Management Reserve
Up to 5%	25%	10%	30% (P-90)	Calculated
Up to 3%	20%	10%	25% (P-80)	Calculated
Up to 2%	15%	10%	15% (P-70)	Calculated
Up to 1%	10%	10%	10% (P-60)	Calculated
0%	0%	10%	5% (P-50)	Calculated

RISK MANAGEMENT

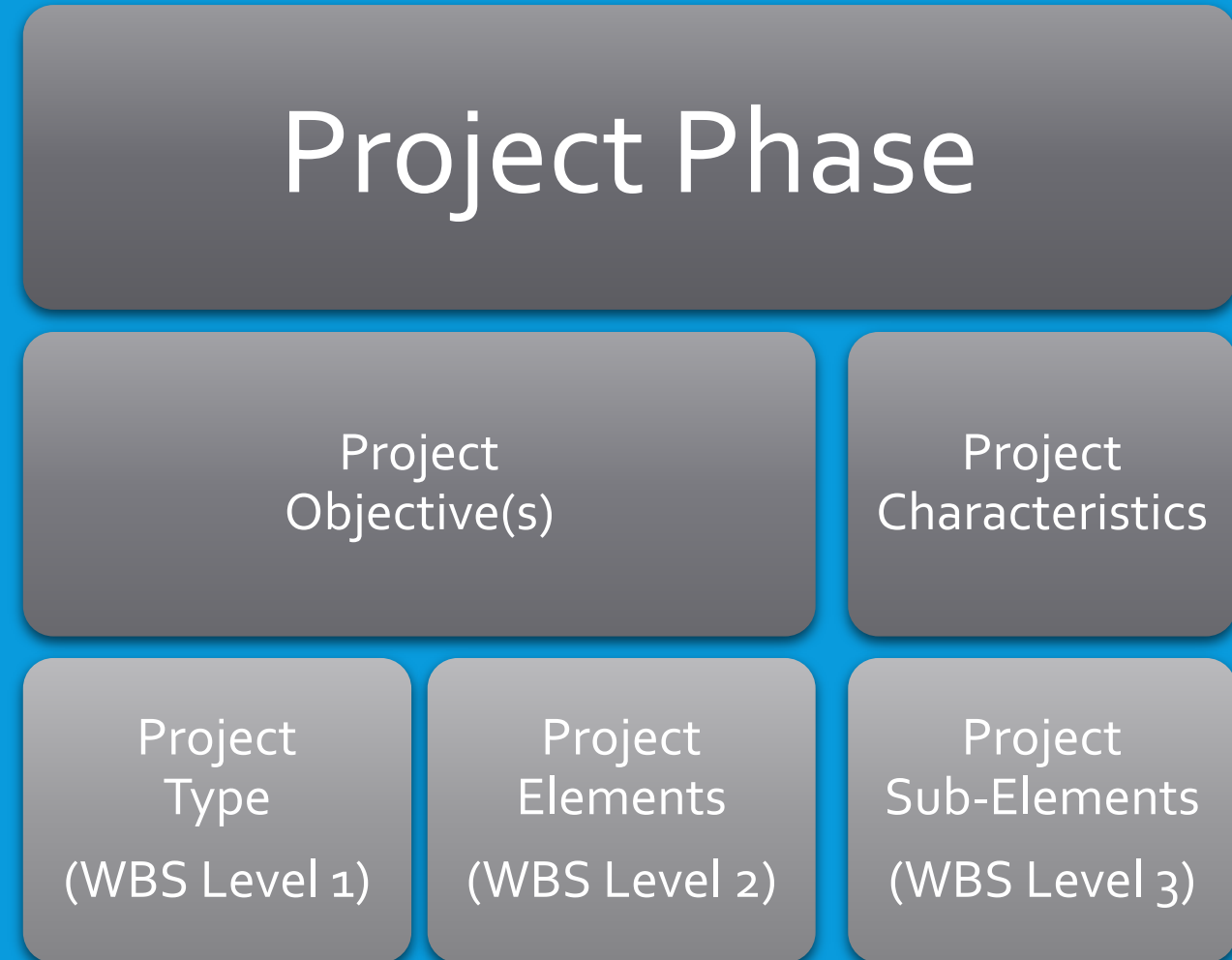
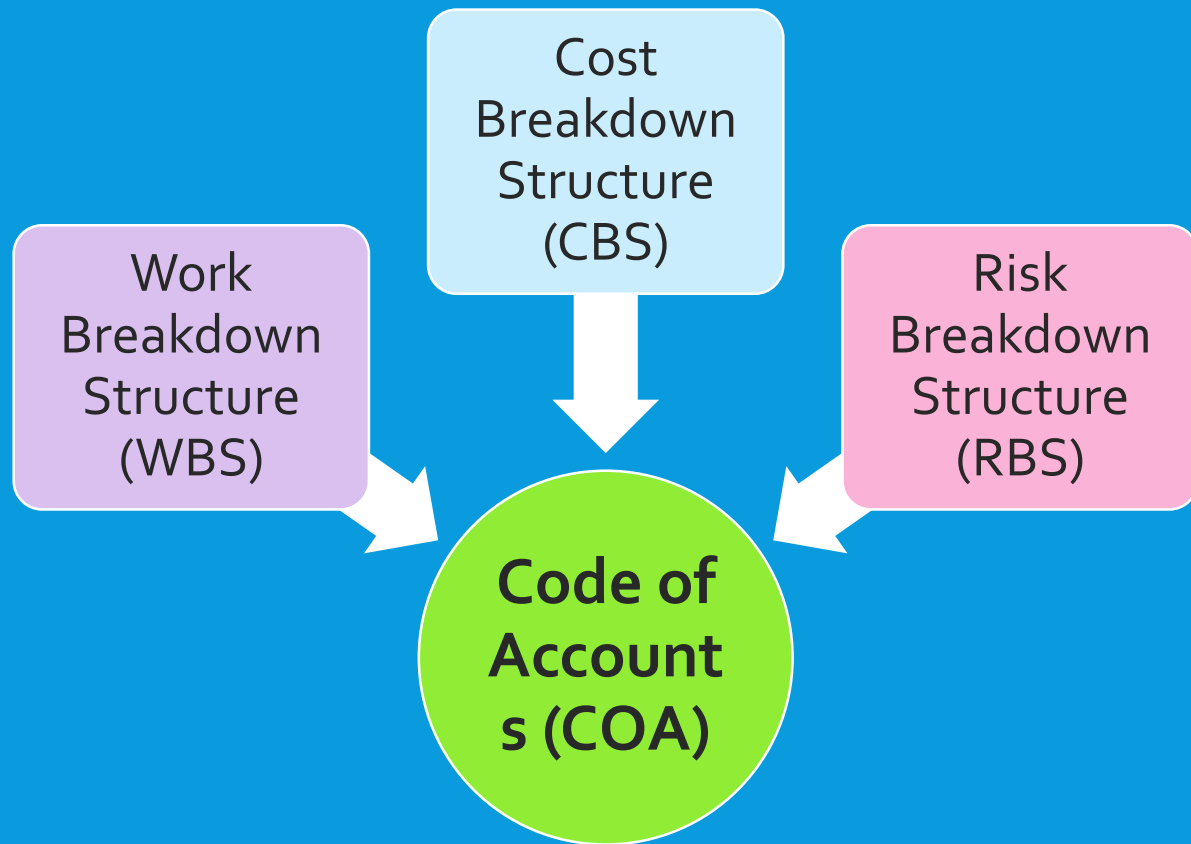


The arrows illustrate the continuous and iterative nature of the process recommended to be undertaken throughout project delivery

Working to develop a scalable approach to *Risk Analysis* that fits WTD's business



WBS & CODING



PROOF-OF-CONCEPT AND PILOT PROJECTS

WTD Pilot Projects (to-date)

Lake Hills and NW Lake Sammamish Interceptor Upgrade

North Mercer Island & Enatai Interceptors Upgrade

Coal Creek Siphon & Trunk Parallel

CSO Control & Improvements – Magnolia

West Point Treatment Plant OGADS Replacement (Oxygen Generation and Dissolution System)

Georgetown Wet Weather Treatment Station

40+ CSO – Combined Sewer Overflow new project estimates

40+ CSI – Conveyance System Improvements new project estimates

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QUESTIONS