

MEMORANDUM

TO: Board of Trustees

THROUGH: Indra Winquest
District General Manager

FROM: Nathan Chorey, P.E.
Engineering Manager

SUBJECT: Review, discuss, and provide feedback on a project delivery method [Design/Bid/Build (DBB), Construction Manager as Agent (CMA), and Construction Manager-at-Risk (CMAR)] for the Burnt Cedar Swimming Pool Improvement Project – Fund: Beaches; Project 3970BD2601

STRATEGIC PLAN: Long Range Principle #5 – Assets and Infrastructure

DATE: September 23, 2020

I. RECOMMENDATION

The Board of Trustees provide feedback on a project delivery method for the Burnt Cedar Swimming Pool Improvement Project. Staff recommends delivering this project with the CMAR delivery method.

II. DISTRICT STRATEGIC PLAN

Long Range Principle #5 – Assets and Infrastructure – The District will practice perpetual asset renewal, replacement, and improvement to provide safe and superior long term utility services and recreation activities.

- The District will maintain, renew, expand, and enhance District infrastructure to meet the capacity needs and desires of the community for future generations.
- The District will maintain, procure, and construct District assets to ensure safe and accessible operations for the public and the District's workforce.

III. BACKGROUND

The Burnt Cedar swimming pool is one of the most popular facilities operated by IVGID. From May to September, Incline Village residents and guests frequent Burnt Cedar beach property specifically to utilize the pool.

At the August 12, 2020 Board Meeting, the Trustees unanimously selected a conceptual design, with the intent of full pool replacement in the summer of 2021.

At the August 26, 2020 Board Meeting, project deliver method for the Burnt Cedar Swimming Pool Improvement Project was discussed and selection of a project delivery method was continued to a future date.

At the September 9, 2020 Board Meeting, the Trustees unanimously authorized schematic design services contract for the Burnt Cedar Swimming Pool Improvement Project.

There are three (3) major project delivery methods allowed per NRS 338 for this Project for a project of this size. Note; Design-Build is no longer being considered.

1. Design – Bid – Build (DBB)
 - a. The traditional project delivery method utilized by IVGID.
 - b. Utilized for ~99% of IVGID’s Capital Improvement Projects.
2. Construction Manager as Agent (CMA), *NRS 338.1718*
 - a. Last utilized by IVGID in 2002 for construction of the Chateau
3. Construction Manager at Risk (CMAR), *NRS 338.169*
 - a. Last utilized by IVGID in 2018 to construct the Diamond Peak - Incline Creek Culvert Rehabilitation Project

IV. DESIGN – BID – BUILD (NRS 338.1385 Advertising for Bids)

The DBB project delivery method is the traditional method of moving a project from conception to completion. It is a sequential sequence of activities generally occurring in the following order: Project conception, design (including schematic and design development), construction documents, competitive bidding, and then construction.¹

This is the project delivery method IVGID utilizes for the vast majority of our capital projects.

¹ *The Project Resource Manual*, Fifth Edition, The Construction Specifications Institute, 2005

V. CONSTRUCTION MANAGER AS AGENT (CMA), NRS 338.1718

The Construction Manager-at-Agent project delivery method is when a construction manager serves as agent or advisor to the owner and the owner maintains direct contractual relationships with the A/E as well as the Contractors.¹ In other words, the owner (IVGID) holds the contracts for all the Contractors performing work on the project. Management of the individual contracts can be challenging and time consuming. IVGID utilized this project delivery method for construction of the Chateau.

Below is an excerpt from NRS 338.1718 with regard to the CMA method:

1. *A construction manager as agent:*
 - (a) *May enter into a contract with a public body to assist in the planning, scheduling and management of the construction of a public work without assuming any responsibility for the cost, quality or timely completion of the construction of the public work. A construction manager as agent who enters into a contract with a public body pursuant to this section may not:*
 - (1) *Take part in the design or construction of the public work; or*
 - (2) *Act as an agent of the public body to select a subcontractor if the work to be performed by the subcontractor is part of a larger public work.*

VI. CONSTRUCTION MANAGER AT RISK (CMAR), NRS 338.169

The Construction Manager-At-Risk project delivery method is the process of professional management applied to a construction project from conception to completion, with the goal of controlling project time, cost, and extent. IVGID would negotiate a contract with a CMAR who consults with the Design Team and IVGID, prepares a preliminary project schedule, makes recommendations for sequencing construction, prepares cost estimates, and, when this pre-construction phase is complete, proposes a Guaranteed Maximum Price (GMP) and executes the construction as Contractor.¹

Below is an excerpt from NRS 338.1685 with regard to the CMAR method:

The Legislature hereby declares that the provisions of NRS 338.1685 to 338.16995, inclusive, relating to contracts involving construction managers at risk:

1. *Are intended:*
 - a. *To promote public confidence and trust in the contracting and bidding procedures for public works established therein;*
 - b. *For the benefit of the public, to promote the philosophy of obtaining the best possible value as compared to low-bid contracting; and*
 - c. *To better equip public bodies to address public works that present unique and complex construction challenges.*
2. *Are not intended to be used by the State or a political subdivision of this State to:*
 - a. *Limit competition;*
 - b. *Discourage competitive bidding; or*
 - c. *Engage in or allow bid-shopping.*

VII. COMMENTS

Staff prepared a PowerPoint presentation to review the defining characteristics, how each method works, provide examples of when IVGID utilized each method, and identify advantages/disadvantages of the three (3) project delivery methods identified above. Staff will provide this presentation during the Board meeting. For reference the slides have been included.

A comparison summary table of the advantages and disadvantages of each project delivery method is included in the PowerPoint presentation and shown below.

	DBB	CM Agent	CMAR
Process	Sequential (-)	Sequential (-)	Fast Track (+)
# of Contracts	2 (+)	Many (-)	2 (+)
Speed of Delivery	Slowest (-)	Slowest (-)	Fastest (+)
Public Protection/Safety	Some Risk (-)	Some Risk (-)	Least Risk (+)
Financial Risk	On Owner (-)	On Owner (-)	On CMAR (+)
Pre-Con Services	No (-)	Yes (+)	Yes (+)
Sub Selection Process	Low Bid (-)	Low Bid (-)	QBS or BV (+)
Evaluation	Easy (+)	Easy (+)	Harder (-)
Pricing	Fixed Price + (-)	Fixed Price + (-)	GMP (+)
Accounting	Closed Book (-)	Open Book (+)	Open Book (+)

The above features are identified as an advantage or disadvantage compared to the other project delivery methods. (+) and green cell indicates an advantage; (-) and red cell indicates a disadvantage.

Staff believes the advantages identified above warrant using the CMAR project delivery method for the Burnt Cedar Swimming Pool Improvement Project. Specifically, the ability to; value engineer and review constructability with the Contractor during design, develop a firm construction schedule, and reduce the project timeline needed in advance of construction make CMAR the recommended project delivery method. Further, the collaborative environment between the Owner, A/E, and Contractor reduces the time required by the Owner to manage and coordinate the project.

As noted in the August 26, 2020 IVGID Board of Trustee's General Business - *Project Delivery Method for BC Swimming Pool Imp Project*, TSK Architects (Architect of Record on the Burnt Cedar Swimming Pool Improvement Project) believe this project would be an excellent candidate for CMAR delivery.

VIII. FINANCIAL IMPACT AND BUDGET

The financial impact between project delivery methods is difficult to assess. The traditional DBB may potentially have the lowest construction bid price. However, not all lowest price bids result in the lowest total project construction cost and may not also result in the best value. This is very difficult to ascertain at the beginning of the project. IVGID has had projects performed with low change orders and high value that were awarded to the low bidder. IVGID has also had projects enter protracted legal action which resulted in higher costs and in some cases performed to a lower value with delayed completion dates.

The CMAR intent is to build a project team that is committed to working together to construct the best value project with budget and schedule constraints. Changes to project scope occur during the design development phase that modify total project cost. The expected total project cost is also known early in the design development phase to inform future decisions. If the cost is escalating, actions can be taken early to modify the project to control costs. Alternatively, cost savings can be otherwise utilized to provide additional features that were going to be bid as alternatives.

IX. ALTERNATIVES

1. That the Board of Trustees recommends Staff to deliver the Burnt Cedar Swimming Pool Improvement Project via the Design – Bid – Build delivery method.
2. That the Board of Trustees recommends Staff to deliver the Burnt Cedar Swimming Pool Improvement Project via the Construction Manager as Agent delivery method.

X. BUSINESS IMPACT

This item is not a "rule" within the meaning of Nevada Revised Statutes, Chapter 237, and does not require a Business Impact Statement.

Public Works Projects Project Delivery Method NRS 338

Nathan Chorey
Engineering Manager



Major Project Delivery Methods for Public Work Projects

- Design/Bid/Build (DBB)
- Construction Manager as Agent (CMA)
- Construction Manager at Risk (CMAR)

Overview

- Identify major project delivery methods for Public Work Projects (*NRS 338*).
 - Defining characteristics
 - How it works
 - IVGID Examples
 - Advantages
 - Disadvantages

What's a Project Delivery Method?

- The process used to execute planning, design, and construction of a project.
 - These processes are covered in NRS 338.

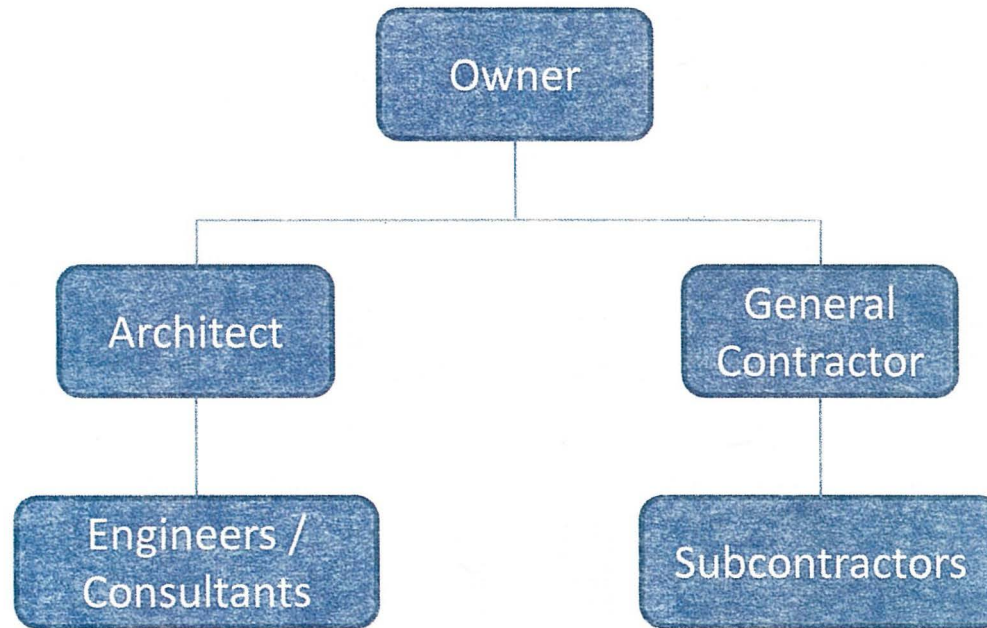
Definitions

- Public Work - New construction, repair or reconstruction of a project financed in whole or in part from public money. *NRS 338.010*
 - Architect/Engineer (A/E) and Contractor must be licensed.
 - Prevailing wage is required. *NRS 338.020*
 - Exceptions exist for project <\$100,000.

Design/Bid/Build (DBB) Defining Characteristics

- Two separate contracts (A/E and Contractor)
- A/E provides complete set of plans and specifications
- Contractor provides fixed price contract (lump sum or unit price)
- Low bid selection based on NRS 338
- Sequential process

Design/Bid/Build (DBB) How It Works



Design/Bid/Build (DBB) How It Works

Sequential
Process



A/E



Contractor

Design/Bid/Build (DBB)

IVGID Examples

- Mtn. Golf Clubhouse Renovation
- Championship Golf Maintenance Drainage and Wash Pad Improvements
- Martis Peak Drive Water Main Replacement
- Tennis Center Remodel
- WRRF Aeration Improvements
- Reservoir Safety and Security Improvements – Phase I and II

Design/Bid/Build (DBB)

Advantages

- Proven Track Record
- A/E and Contractor checks and balances
- Owner control of design
- Program (basis of design) can be less developed at design start
- A/E remains Owner's agent throughout construction
- Easy to evaluate (low bid wins)
- Contractor wants to execute efficiently and maximize profits.

Design/Bid/Build (DBB)

Disadvantages

- Owner liable for design errors and omissions
- Owner is negotiator/arbiter in design vs. construction disputes
- Requires complete plans and specifications
- Cannot begin construction until design finished
- Typically, No Contractor input during design.
- Potential for cost surprise at bid opening or potential to receive no bids.
- Low bid may not be the “best” bid

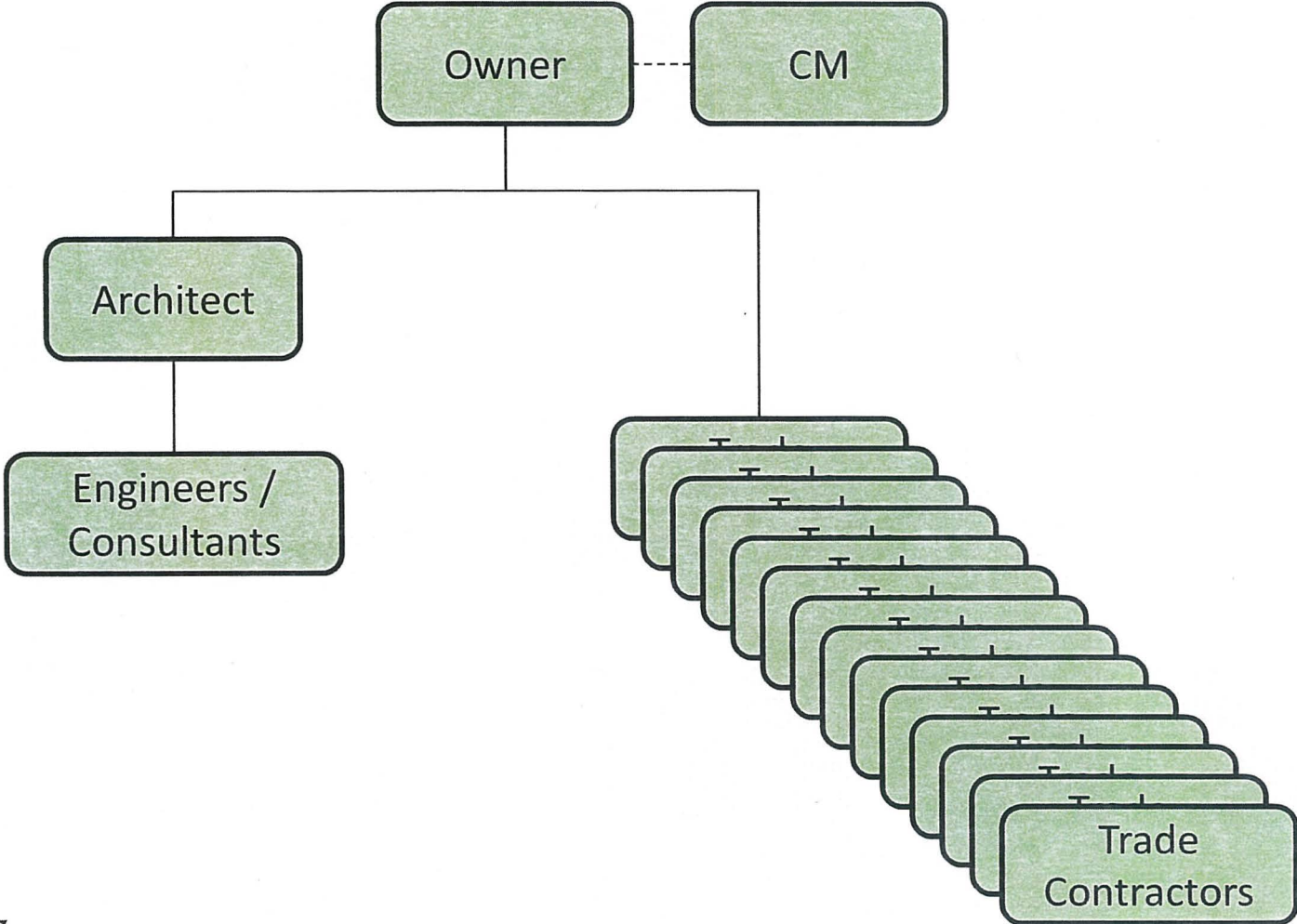
CM Agent (CMA)

Defining Characteristics

- Owner hires CM as an Agent to represent their interests and oversee trade contractors.
- Owner hires Architect for design
- Owner carries all individual contracts with trade contractors.
- Low Bid Selection based on NRS 338
- Sequential Process

Construction Manager as Agent (CMA)

How It Works



Construction Manager as Agent (CMA) How It Works

Sequential
Process



A/E

CM | Trade Contractors

Construction Manager as Agent (CMA)

IVGID Examples

- Chateau ~2002
- Public Works Building ~2003

Construction Manager as Agent (CMA)

Advantages

- A/E and Contractor checks and balances
- Owner control of design
- CM augment's Owner staff for project oversight
- A/E remains Owner's agent throughout construction
- Easy to evaluate (low bid wins)
- Can analyze subcontractor cost for project anomalies and for redesign

Construction Manager as Agent (CMA)

Disadvantages

- Owner liable for design errors and omissions
- Owner responsible for carrying all trade contracts, issuing change orders, issuing monthly payments, etc.
- Owner carries all project insurance (OCIP)
- CM is not at risk. Owner carries all risk.
- Requires complete plans and specifications
- Cannot begin construction until design finished
- No Builder input during design
- Potential for cost surprise at bid opening or potential to receive no bids.
- Low bid may not be the “best” bid
- Owner is responsible for schedule. CMA coordinate work activities/schedules trades

Construction Manager at Risk (CMAR)

Defining Characteristics

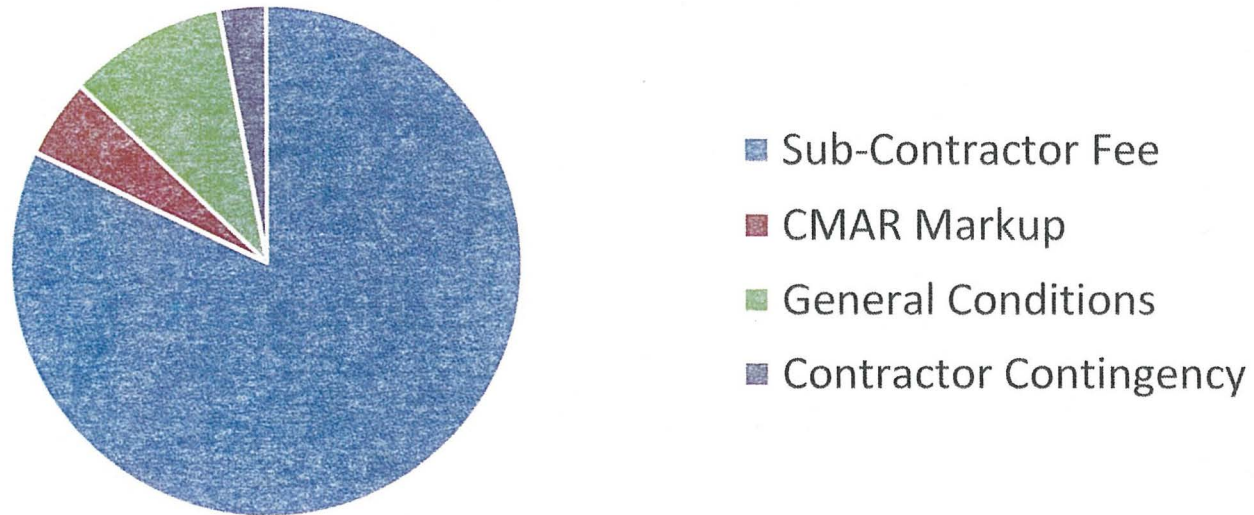
- Two separate contracts (A/E and Contractor)
- Fast-track or simultaneous process
- Preconstruction services of Contractor
- Qualifications Based Selection (QBS) or Best Value (BV) selection process
- Guaranteed Maximum Price (GMP)
- Contingency is owner controlled
- Savings shared between Owner and CMAR

Qualifications Based Selection (QBS) or Best Value (BV) selection process

- Sub-Contractors who submit the BEST proposal are selected. Selection factors may include:
 - Safety Record
 - Understanding of project requirements
 - Past performance record
 - Availability
 - Fee
- Per NRS 338.16995(11)
 - *A subcontractor selected pursuant to subsection 9 need not be selected by the CMAR solely on the basis of lowest price.*

Guaranteed Maximum Price (GMP)

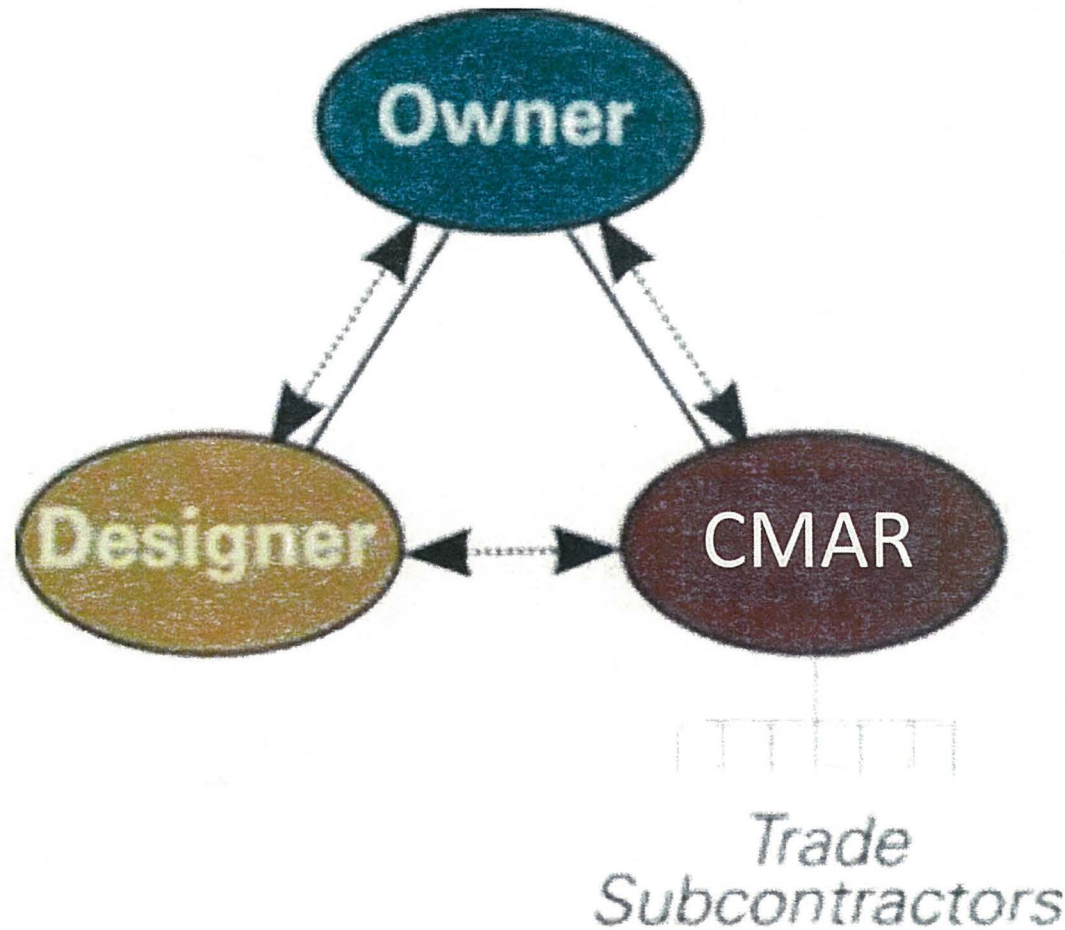
Fee Composition



- CMAR Mark-up is negotiated during the selection process. Industry standard for vertical construction is 2.5% - 7.5%.
- General Conditions is a fixed fee. This fee includes; insurance, bonds, and project specific requirements. Typically 10% - 12% of total construction costs depending on the duration and complexity of project.
- Contractor Contingency is typically 2% - 3% of total construction costs. The unused dollars may be returned to the owner depending on what is negotiated during selection of CMAR.

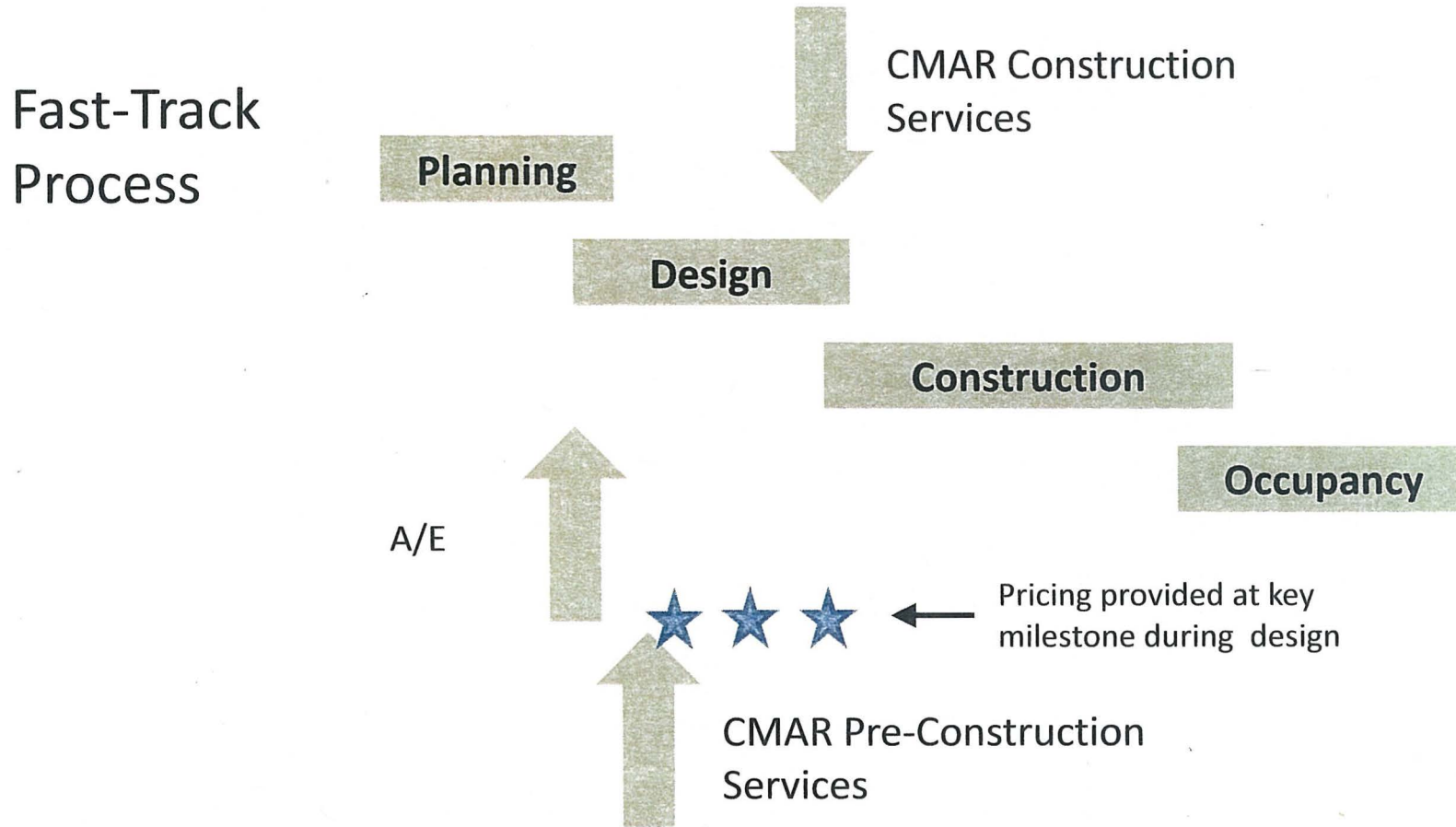
Construction Manager at Risk (CMAR)

How It Works



Construction Manager at Risk (CMAR)

How It Works



Construction Manager at Risk (CMAR)

IVGID Examples

- Incline Creek Culvert Restoration

Construction Manager at Risk (CMAR)

Advantages

- A/E and Contractor checks and balances
- Requires stamped construction drawings
- Owner control of/input on design
- Collaborative nature of this delivery method reduces time commitment required by Owner.
- Program (basis of design) can be less developed
- Architect remains Owner's agent throughout
- Speed of delivery, Fast Track process.
- Contractor input during design
- Guaranteed Maximum Price (GMP) known before start of construction. All trades are publically bid.
- "Open book" construction accounting

Construction Manager at Risk (CMAR)

Disadvantages

- Harder to evaluate bids (multiple criteria)
- Owner may be financially liable for the exclusions and inconsistencies in the contract documents.

Comparison Summary

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