

GDRSD BC | Committee Meeting 15 – February 25, 2020

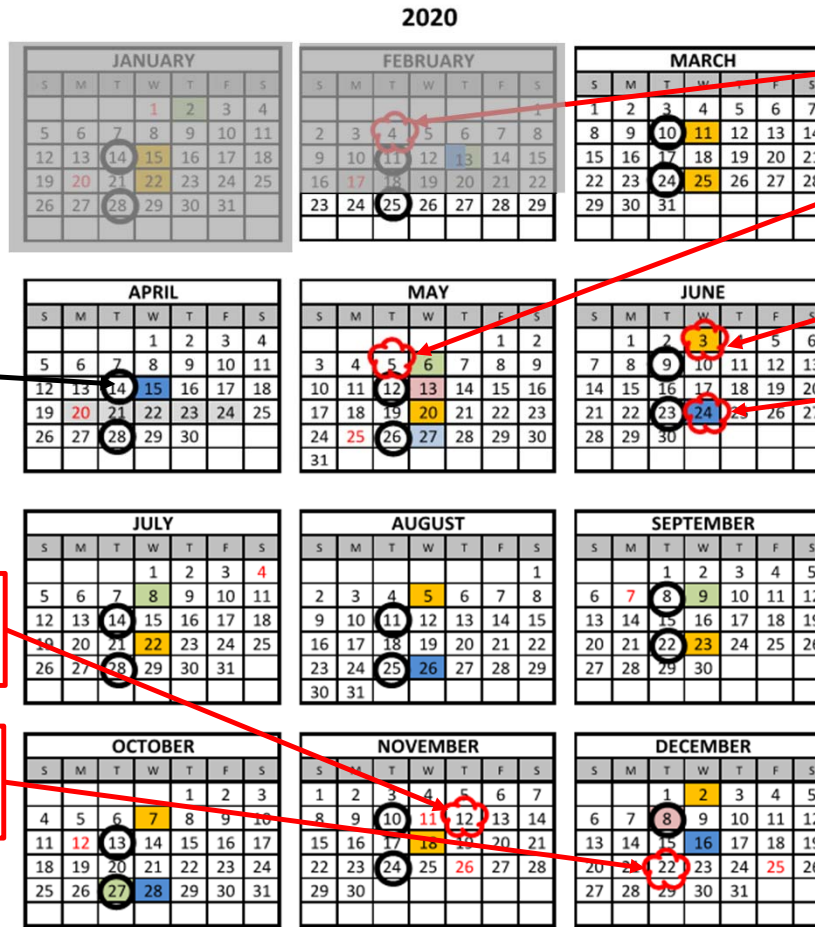
Agenda

1. Call meeting to order
2. Vote to approve meeting minutes
3. Vote to approve invoices & commitments
4. Designer / OPM Updates:
 - a. Floor plan development, site massing development, site circulation development
 - b. Program square foot parameters
5. Look-ahead project schedule/work plan for the preferred schematic report [PSR] phase
6. Communication / outreach update
7. Public comment
8. Adjourn

CM-R vs. Design-Bid-Build not on the agenda but would like to present

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Building Committee Meeting Schedule MSBA Submittal Summary



Submit PDP to MSBA

Submit PSR to MSBA

MSBA FAS Meeting

MSBA BOD Approves PSR

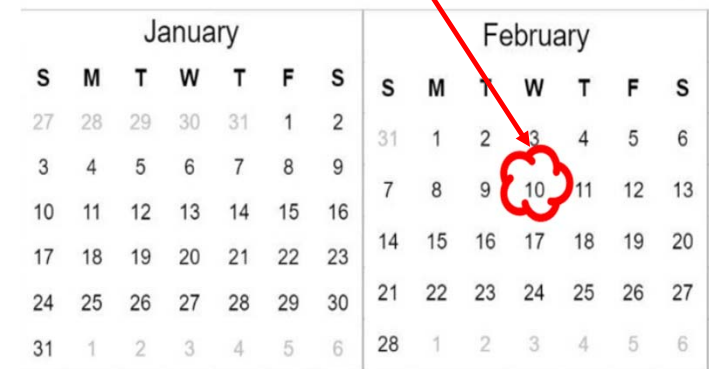
MSBA BOD Approves Project

SBC Meeting

DESE Submittal to MSBA

Submit Schematic Submittal to MSBA

2021



Florence Roche Elementary School MSBA Submission Summary

21-Nov-19

Subject To Change

Submission / MSBA Mtg / Event	Date	Notes
Submit PDP	2/4/2020	MSBA Staff Review
Submit PSR	5/5/2020	Deadline for submission is May 6th; submission for MSBA Board meeting to be held on June 24th, 2020
FAS Meeting	6/3/2020	Assume June 3, 2020
MSBA BOD Meeting	6/24/2020	Approval to proceed into Schematic Design
DESE package submission to the MSBA	11/12/2020	Early submittal to ensure DESE approval prior to MSBA BOD Meeting in February 2021
Submit Schematic Design Submission	12/22/2020	Deadline for submission TBD; submission for MSBA Board meeting to be held in February 2021
MSBA BOD Meeting	2/10/2021	Assume MSBA Board Meeting to be held on February 17, 2021
Groton Town Meeting	4/26/2021	Groton Town Meeting
Override Vote	May/June 2021	Exact date TBD

Design-Bid-Build

(M.G.L. Chapter 149)



CM at Risk

(M.G.L. Chapter 149A)

Please note that some of the statements within this presentation are factual while other statements are opinions based on our prior experience in the industry.

History of MGL Chapter 149 and 149A

Chapter 480 of the Acts and Resolves of 1939
Chapter 669 of the Acts and Resolves of 1941
Chapter 697 of the Acts and Resolves of 1956

Various regulations re:
establishing trade bids and fair bid
competition with trade and
general contractor bidding

1980 Ward Commission Report

Chapter 193 of the Acts and Resolves of 2004

Experience of Mass. Public Agencies with CM at Risk – 2009 IG
Report

Chapter 193 of the Acts and Resolves of 2004

Known as the public construction reform law, these Acts created a new statute, MGL Chapter 149A, which contained provisions authorizing and governing the use of two optional alternative delivery methods for public construction projects in Massachusetts: construction management at-risk (CM at Risk) for building projects estimated to cost \$5 million or more and design-build for public works projects estimated to cost \$5 million or more. The provisions of MGL Chapter 149A took effect on January 1, 2005.

Design-Bid-Build Explained

- “Traditional approach” for public construction
- Project designed by a team of Architects and Engineers to complete construction documents with no contractor involvement
- Once plans are completed, bids are solicited from filed trade-contractors and general contractors
- Low “responsive” bidder is awarded the project
- Contract value is based on a “lump sum” amount

CM-R Explained

- CM hired during the design process
- CM provides design phase, pre-construction and construction services
- CM becomes the builder of the project (the “contractor”)
- CM participates in trade prequalification process
- Owner participates in sub-contractor selections
- Option for early release bid packages or “fast-track” a schedule
- Contract value is based on “Guaranteed Maximum Price” (GMP)
- Open book accounting

OPM Role

- Assist Awarding Authority to decide whether to use D-B-B or CM-R
- Cultivate CM interest in project
- Draft CM Request for Qualifications and Request for Proposals and manage/organize the CM selection process
- Assist in drafting and negotiating the CM contract
- Push for real value during pre-construction phase
- Assist in negotiation of GMP
- Manage “open book” accounting

Design-Bid-Build vs. CM-R

Design-Bid Build Advantages

- Familiar delivery method
- Simpler process to manage
- Fully defined project scope for construction
- Perceived as getting “best price” by awarding to lowest responsible bidder.
- Owner/Designer can completely control design
- Simple accounting

BEST SUITED FOR: Less complicated projects that are budget-sensitive, but are not schedule sensitive and not subject to change.

CM-R Advantages

- Selection based on qualifications, experience & proposed team rather than lowest price/bid
- Design phase assistance with budgeting, site logistics and constructability results in ability to address challenges early
- Early cost estimates & feedback to help in the design process results in a more accurate cost model
- Fast track schedule/early release bids possible
- Team concept with Owner, OPM, Designer

BEST SUITED FOR: Projects that are time sensitive, challenging to define or subject to potential changes; projects requiring high construction oversight due to site logistics and phases as well as multiple stakeholders.

Design-Bid-Build vs. CM-R

Design-Bid-Build Disadvantages

- Linear process may equate to a longer schedule duration
- Hard price not known until bids are received; may require re-design and re-bid if bids exceed budget
- Minimal GC project management
- No GC input in design, planning or budgets
- The designer may have limited ability to assess scheduling and cost ramifications as the design is developed which can lead to a more costly final product
- Typically fosters adversarial relationships between all parties and increases probability of disputes
- Prone to changes and claims which may increase final project cost

CM-R Disadvantages

- Requires an OPM or Owner with an understanding of experience in the CM process and GMP mechanics
- Potential for higher up-front cost due to “filling holes” in scope and/or documents (with result of minimizing future change orders and avoiding delays)
- Potential adversarial relationship when design intent is challenged when “design-to-budget” or “price cutting” is pushed
- Owner or OPM must be versed in pricing negotiations

Filed Trade Contractor and Subcontractor selection

Definitions

Trade contractor: 18 classes of work as defined by ch 149, s 44F to be publically bid. Such as: roofing, windows, waterproofing and caulking, misc iron, lathing/plastering, acoustical tile, marble, tile, terrazzo, resilient flooring, glass/glazing, painting, plumbing, HVAC, electrical, elevators, masonry and fire protection/sprinklers.

Subcontractor: Any class of work that doesn't fall into the above "trade contractor" categories.

CM-R

- CM actively participates in the prequalification of filed trade contractors. Must take lowest trade contractor bid.
- Owner has input on all subcontractor selections. Doesn't have to take lowest bid. Based on our experience we've seen a broader pool of subcontractors bid on projects based on the selection of the CM.

Design-bid-build

- Trade contractor prequalification is done by Owner, Architect and OPM. Must take lowest responsible trade contractor bid.
- Owner has no input on subcontractor selection.

Filed Sub-Bid Categories

Masonry

Misc. Metals & Ornamental Iron.

Waterproofing, Damproofing, Caulking

Roofing and Flashing

Metal Windows

Glass & Glazing

Lath & Plastering

Tile (Ceramic, porcelain, etc.)

Terrazzo

Acoustical Tile (ceilings)

Marble

Resilient Flooring

Painting

Elevators

Fire Protection / Sprinklers

Plumbing

HVAC

Electrical

Key Differences Between Design-Bid-Build and CM-R

With **CM-R** – you are hiring a CM service firm which manages the construction of buildings.

With **Design-Bid-Build** – you are purchasing a building in accordance with plans and specifications.

General Project Risks regardless of delivery used

- Unforeseen building or site conditions
- Incomplete architectural documents
- Unqualified sub-contractors, poor performance
- Sub-contractor or Trade contractor failures
- Working on and around occupied facilities
- Restoration or re-use of buildings
- Complex site logistics
- Adversarial team environment
- Inadequate GC/CM staffing or general requirements
- Potential bid protests

How The CM-R Can Help Mitigate Project Risk

- Opportunity to pre-qualify CM's and their teams
- Pre-construction services to address project risks
- Confirm existing conditions and provide exploratory services
- Design-to-budget process with team members
- Constructability reviews to fill in gaps in project design and detailing
- More strict sub-contractor pre-qualification process
- Robust and comprehensive bid packages
- Options to “fast track” trades
- Open book accounting

Higher Risk Projects Appropriate for CM-R

- Schedule-driven, non-negotiable turnover dates
- Tight design-to-construction timeframe
- Requires early procurement to meet turnover date
- High probability of unforeseen conditions
- Complex logistical constraints
- Large projects with significant bid packages
- Occupied renovations
- Additions tied to existing buildings
- Projects targeting LEED or other sustainable goals

Other considerations and views

- Contractor pool / selection
- Pre-construction
- Schedule / early release – fast track
- Cost and Accounting
- Change Orders and RFI's
- Additional Factors

Contractor pool / selection

CM-R (CM firm)

- 2 phase selection process. First phase is qualification based, second phase and final selection is based on technical expertise and price.
- Interviews are performed via the selection process; you essentially select a team.

Design-bid-build (General Contractor)

- Pre-qualify GC firms to bid on the project. Must take the lowest responsible bid.
- No input on GC's staff.
- No guarantee who (staff) will manage your project.

Pre-construction

CM-R

- Provides services such as cost estimating, cost saving suggestions and advice on items such as logistics, scope assignment, schedule and constructability.
- The above services is paid via a pre-construction fee. It's not free. However, the fee is typically nominal compared to the overall cost of the work.

Design-Bid-Build

- No input from the GC during the design phase.
- Based on the GC that may be awarded the work, the GC may provide advice on certain items such as constructability and logistics.

Schedule / early release – fast track

CM-R

- Ability to fast track the design/construction process via early release packages. Depending on the planned start, duration and completion of construction, this ability to fast track should be considered an “option” and not a “given”.
- The advantage to fast track is that construction can commence early which can have certain benefits based on time and can hedge against potential cost inflations in the industry. The disadvantage is that the documents are subject to coordination issues and work commences without cost certainty.

Design-Bid-Build

- Construction commences after bidding period and documents are complete.
- Drawings are theoretically fully detailed and complete.
- Due to the documents being complete, costs are certain at the time of bid opening.

Cost and Accounting

CM-R

- Contractor includes contingency within the GMP to cover work reasonably non-inferable from the design documents. The CM contingency is transparent.
- The Owner and project team interacts with the CM to establish the GMP. However, please note that once the CM is selected at the pre-construction phase, there is a level of confidence between the Owner and CM that a mutually acceptable GMP can be reached.
- Profit (or fee) and general conditions are fixed. Open book accounting is performed and any unused funds in project requirements, allowances, scope holds and CM contingency is returned to the owner.
- Monthly requisition process can be cumbersome.

Design-Bid-Build

- Aside from the 18 sub-filed trades, the GC cost of the work is highly competitive and will likely yield a lower cost up front than CM-R. However, please note that GC's objective is to maximize their profit margin.
- There is no “open book” accounting. The GC's contingency is not transparent.
- Monthly requisition process is straight forward.

Change Orders and RFI's

CM-R

- There will be change orders. It has been our experience that the CO process isn't done in a "pass through" manner.
- There will be RFI's.
- GMP covers work not necessarily in the documents but reasonably inferable. Thus ability for the CM to absorb costs that would otherwise be a change order.

Design-Bid-Build

- There will be change orders.
- There will be RFI's.
- Due to the highly competitive nature of the lump sum bid process, change order work is pursued as "cost opportunities". Any mistakes in the bidding assumptions are typically issued as CO's.

Additional Factors

CM-R

- Needs to be approved by the Inspector General.
- Tends to foster a team approach.
- Currently is the preferred method for DCAMM projects over \$10mm.
- Tends to be utilized for complicated, phased or renovated projects.
- MSBA may reimburse an additional 1% of eligible costs. However, this shouldn't be the sole factor on determining this approach.

Design-bid-build

- Roles and responsibilities of the team are very clear.
- Tends to be utilized on well defined, clear projects that don't have schedule constraints, occupied buildings and/or complicated phasing.

Statistics from MSBA available data as of July 2018

159 MSBA School Projects Reviewed		
D B B	CM R	Undetermined
80	68	10
School projects between 61,000 to 101,000 GSF		
D B B	CM R	Undetermined
24	14	5

Percentage between trade bids vs non-trade

Aver. % between filed-trade vs. non-trade		
Filed trade	Non-trade	
57%	43%	

Analysis done at time of Billerica HS Selection Process – year 2015

Current Snapshot of Similar Projects in the MSBA pipeline*

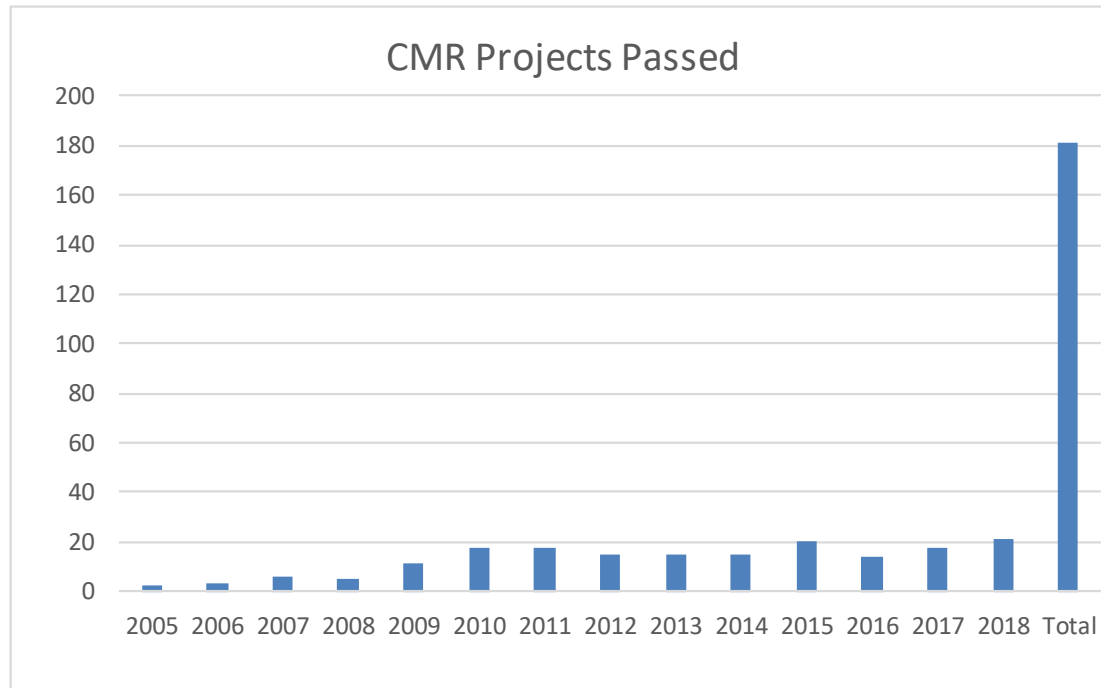
43	High School or Middle / High School Projects <ul style="list-style-type: none">• Over 150,000 square feet• New construction or addition / renovation (no green repairs)
12	of these projects are model schools
31	are traditionally designed schools
↓	
22	CM-R (70%)
9	D-B-B (30%)

* Based on review of information available on MSBA and IG websites

Massachusetts Office of the Inspector General

Construction Manager at-Risk Project List (non-exempt entities)

Year	CMR Projects Passed
2005	2
2006	3
2007	6
2008	5
2009	11
2010	18
2011	18
2012	15
2013	15
2014	15
2015	20
2016	14
2017	18
2018	21
Total	181

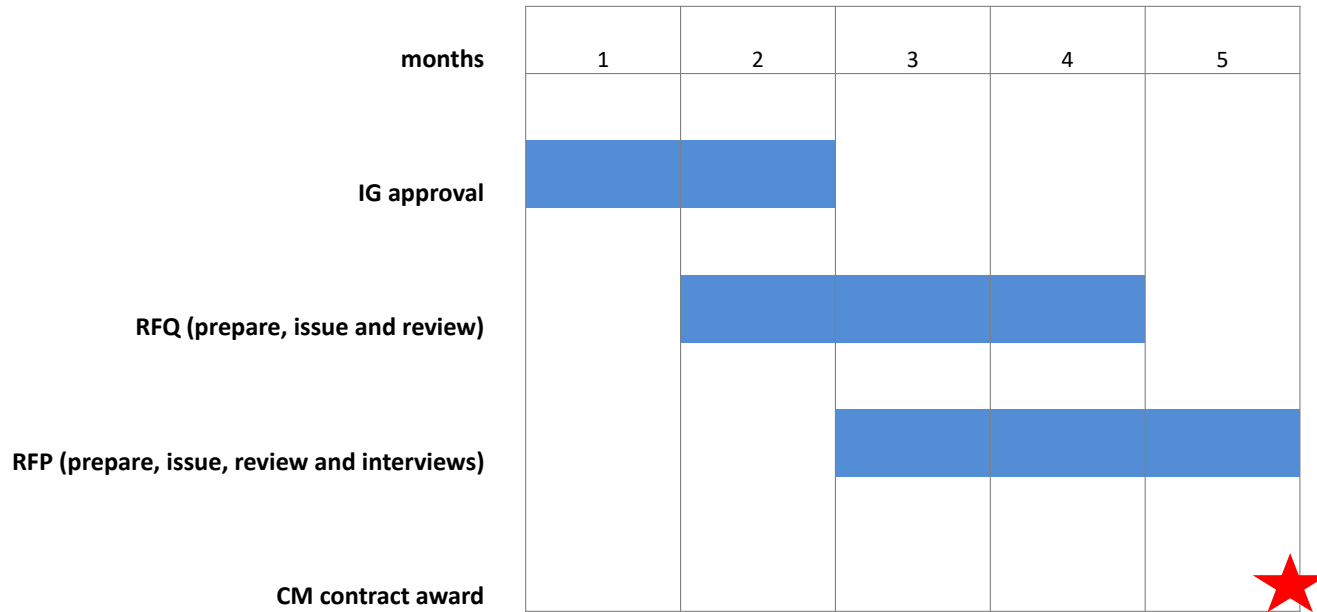


CM-R Procurement – Time line

Inspector General Application Time Line

	Event	Task
Day 1	Awarding Authority Submits Application to Proceed (by mail) to: Office of the Inspector General One Ashburton Place, Room 1311 Boston, MA 02108	<ul style="list-style-type: none"> • Date and time stamp application
Day 1 – 15	<ol style="list-style-type: none"> 1. OIG reviews application in a timely manner. 2. OIG contacts applicant acknowledging receipt of the application 	<ul style="list-style-type: none"> • Review application
Day 1-60	<ol style="list-style-type: none"> 1. OIG determines whether additional information is necessary and if so, requests awarding authority to send information 2. OIG reviews application to determine whether awarding authority meets requirements and will be issued a Notice to Proceed 3. OIG sends Notice to Proceed or Denial of Notice to Proceed 	<ul style="list-style-type: none"> • Verify information • Request more information, if necessary • Analyze credentials based on evaluation criteria; • Complete review and issue determination

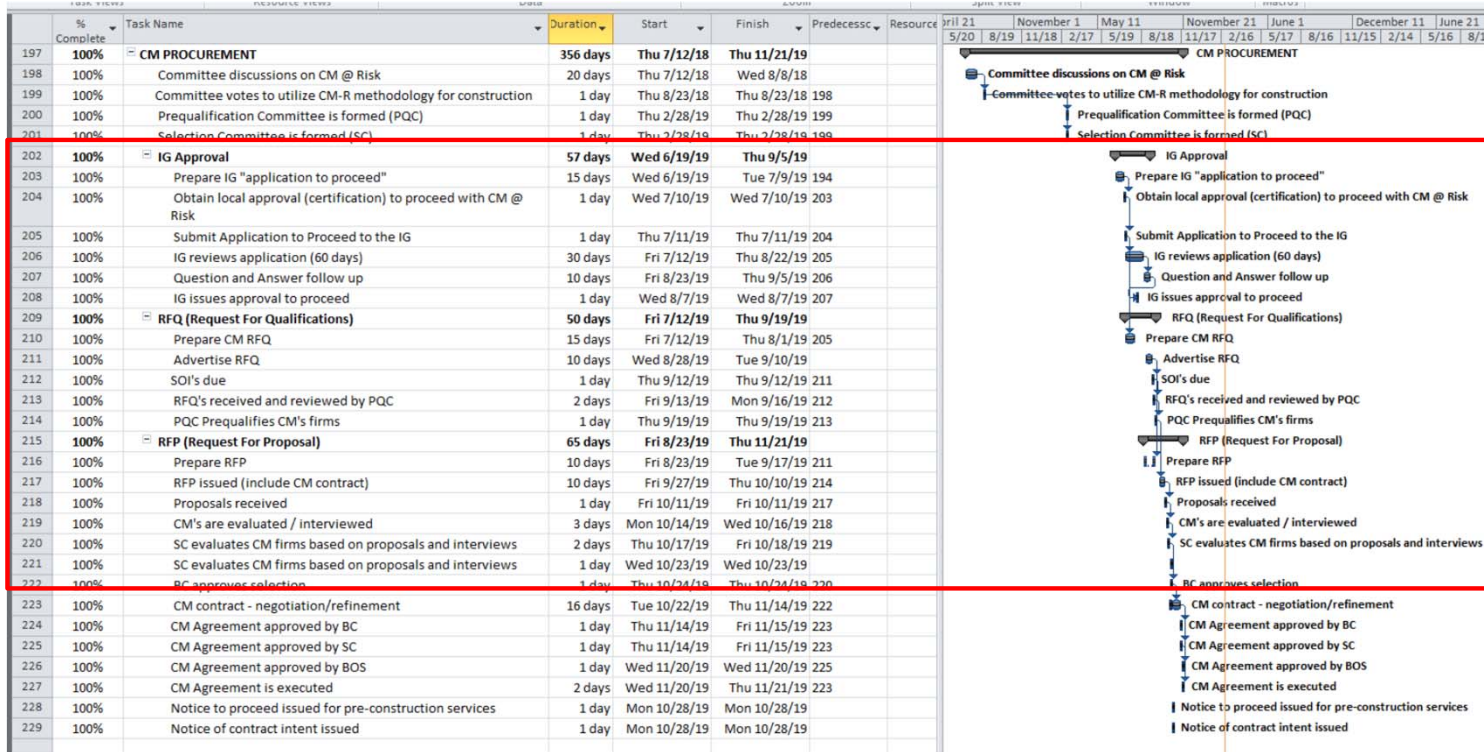
CM-R Procurement – Time line



Estimated / example timeframe.

Actual timeframe can vary based on IG review turnaround, timing of advertisements and schedule challenges of the pre-qualification committee.

Marblehead CM-R Procurement – Timeline



18 – Weeks / 4.2 months

From issuance of IG approval to CM selection = 11 weeks / 2.6 months

Actual timeframe can vary based on IG review turnaround, timing of advertisements and scheduling of the CM-R pre-qualification committee.