Construction Management for a New Multi-Story Building

Submitted by AVIM Construction represented by Audye Voltaire and Imani Milima
Presentation Outline

* Project Background
* AVIM Construction Background and Approach
* Section I: Bid Process
* Section II: Managing Time and Cost
* Section III: Managing Construction and Quality
* Section IV: Construction Team
* Summary
AVIM Construction understands that the erection of this new 8-story, multi-use building is an important project for Mr Carmo. The property has been purchased and you are ready to begin. For each of its uses and the building’s requirements, we will outline some key issues. Our approach to first understand the broad intent and then to work through the details with the client, so the client is fully engaged.

* Land use readiness
* Concrete foundation, steel framed, 8-story
* Classrooms, office building
* Ground floor public space / large meeting room
* Metal panel and glass curtain wall veneer
* Interior furnishings
* LEED certification – impacting the design, purchase and installation of:
  * Energy efficient lighting
  * HVAC systems
  * Fire protection systems
AVIM Construction will be your advocate on the project. We will be the central point of communication both to the Mr Carmo, the owner; and to the GC. We ensure that communication is timely, orderly and accurate. We will oversee all issues of quality control, cost and schedule. We will ensure the design intent and operational intent are achieved. Our experience includes:

- 10 years of relevant experience
- multi-story, new buildings
  - steel framed, metal panel & glass façade, multi-use, courtyard
- size of building: 350,000 SF; construction cost $121M
- mega-city, commercial areas
- DOB, DOT and MTA requirements, codes, time-lines
- LEED certification
AVIM Construction
Background

AVIM in Seattle

AVIM in Phoenix
Key issues to be managed and the LEED requirements.

Surveys:
- Topographical
- Utilities
- Site Safety Plan
- Logistics Plan
- Mobilization Plan

LEED: Site sustainability, water efficient landscaping plans

Land Purchase & Prep
Key issues to be managed and the LEED requirements.

Survey results:
- Rock removal
- Chemical contamination
- Foundation pours & shoring

LEED: Waste management, construction management plan

Excavation. Concrete Foundation

Land Purchase & Prep
Key issues to be managed and the LEED requirements.

- Crane lifts
- Scaffolding
- GC/Subcontractor coordination
- Design conformance (space & materials)
- Inspection timing & results

LEED: Building energy systems, water use reduction, recycled materials & content, acoustic comfort
Key issues to be managed and the LEED requirements.

- Specialist contractors
- Fabrication & storage time line
- Grade prep & maintenance
- LEED: thermal comfort, low-emitting materials, daylight views, optimize energy performance
Establish operational zones and perimeter fencing (red line).
Section II

Bid Process
To ensure a quality bidding process:

- Detailed review of the construction documents with the design consultants and our estimators before publishing the request for bids.
  - Construction, general conditions, project management, insurance, mobilization, logistics and schedule costs

- Timely and accurate bidding from general contractors with relevant experience:
  - by dollar value of previous contracts
  - new construction of office buildings with multiple use
  - excavation and specialist experience in rock removal, MTA and utility access

- Accurate tabulation and leveling of bid submissions

- Reporting the bid cost impact to the total project cost

- Review of contract terms (price, payment, disagreements and schedule) by legal and risk management professionals
Section III

Managing Time and Cost
Projects are successful by the management of time and cost:

- Establish a flow of communication.
  - for good and bad news

- Create a habit of continuous planning.
  - even slight adjustments can affect the project time frame and cost

- Always ask questions and observe.
  - sometimes you have to see an issue in person in order to resolve it

- Monitor budget changes and track all costs.
  - ensure all costs are recorded properly, anticipated costs are forecasted monthly and cash flow reporting is timely
### Managing Time and Cost

#### Time Management

<table>
<thead>
<tr>
<th>Schedule Initiated</th>
<th>Schedule to be Used</th>
<th>Frequency</th>
<th>Responsible</th>
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</thead>
<tbody>
<tr>
<td>At launch</td>
<td><strong>Milestone Schedule</strong></td>
<td>Bi-Annual</td>
<td>Construction Manager</td>
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<tr>
<td>Within a month of bid awards</td>
<td><strong>Gantt Chart Schedule / CPM</strong></td>
<td>Quarterly</td>
<td>General Contractor</td>
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<tr>
<td>At start of construction</td>
<td><strong>Look Ahead</strong></td>
<td>2-Week</td>
<td>CM Field Manager with GC General Superintendent</td>
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# Managing Time and Cost

## Cost Management

<table>
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<tr>
<td>At launch</td>
<td><strong>Schedule of Value</strong> (per subcontractor)</td>
<td>Once</td>
<td>General Contractor (Summary Report)</td>
</tr>
<tr>
<td>At launch</td>
<td><strong>Cash Flow &amp; Anticipated Cost Report</strong></td>
<td>Monthly</td>
<td>CM Financial Officer</td>
</tr>
<tr>
<td>At month-end</td>
<td><strong>Payment Requisition / Continuation Sheet including Change Orders</strong> (per subcontractor)</td>
<td>Monthly</td>
<td>General Contractor (Summary Report)</td>
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</table>
| Close-Out in 2-Steps   | • At review of punch list, As-Built drawings, etc.  
• At acceptance of close-out documentation | Monthly - last 6 months of the project | CM Financial Officer General Contractor |
| 1) Retainage release   |                                                        |                   |                                                 |
| 2) When all costs have been paid | **Final Financial Statement**                      | Once              | CM Financial Officer General Contractor         |
Section IV

Managing Construction and Quality
Managing Construction and Quality

Projects are successful by the management of the construction execution and quality:

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<th>Logistics &amp; Mobilization</th>
<th>Technical</th>
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<tr>
<td><strong>1) Onsite</strong>&lt;br&gt;Set-up temporary fencing, security &amp; security cameras, gates for access &amp; egress, parking, temporary trailers, temporary toilets, signage, verify utility disconnects and isolations by others, install temporary power for site trailers and interior lights</td>
<td><strong>1) Shop drawings and product data</strong>&lt;br&gt;according to design drawings and specifications&lt;br&gt; - submitted by Subcontractors&lt;br&gt; - reviewed by GC&lt;br&gt; - approved by design team</td>
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<tr>
<td><strong>2) Surrounding site</strong>&lt;br&gt;DOB permits, exterior signage; DOT permits and street closing / crossing, temporary walkways; MTA right of way and temporary walkways, utility requirements; tree protection</td>
<td><strong>3) Execution to plan</strong> by daily informal observations and weekly meetings&lt;br&gt; - by CM field manager, CM project manager and GC general superintendent&lt;br&gt; <strong>4) Field reports, monthly</strong>&lt;br&gt; - by architect &amp; engineers</td>
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<td><strong>3) Site plan</strong>&lt;br&gt;Publish and review with GC. Ensure it is shared in the subcontractor kick-off meetings,</td>
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<td><strong>5) Tests</strong> of concrete, bolts, sealants, equipment, plumbing lines, electrical lines&lt;br&gt; - by 3rd party&lt;br&gt; <strong>6) Inspections</strong>&lt;br&gt; - by 3rd party&lt;br&gt; <strong>7) Commissioning</strong>&lt;br&gt; - by GC with 3rd party sign-off</td>
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## Managing Construction and Quality

Projects are successful by the management of the construction execution and quality:

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<tr>
<td><strong>1)</strong> Informal &amp; daily observations</td>
<td>2) Planned vs actual execution timeline, weekly &amp; monthly</td>
<td>4) Testing &amp; commissioning schedule review and update</td>
<td></td>
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<tr>
<td>- by CM field manager, CM project manager and GC general superintendent</td>
<td>3) Schedule correction</td>
<td>- by CM field manager, CM project manager and GC general superintendent</td>
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<td><strong>Safety</strong></td>
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<tr>
<td><strong>1)</strong> Establish site logistics and site safety plan</td>
<td>3) Training certification review &amp; tool box review (OSHA &amp; specialist licenses)</td>
<td>4) Regular inspections</td>
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<tr>
<td>- in cooperation with the GC.</td>
<td>- by Site Safety coordinator at Kick-Off Meetings</td>
<td>- by Site Safety coordinator</td>
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<td><strong>2)</strong> Weekly observations</td>
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<tr>
<td>- by Site Safety coordinator</td>
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<tr>
<td><strong>Monetary</strong></td>
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<tr>
<td><strong>1)</strong> Payment for work done</td>
<td>2) Cost of corrective work (NCR, NCW)</td>
<td>3) Change order management</td>
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<tr>
<td>- monthly by CM project manager &amp; financial officer</td>
<td>- assign by GC, review by CM project manager financial officer</td>
<td>- by GC, review by CM project manager financial officer</td>
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</tbody>
</table>
AVIM Construction Team

Your project will be led by Audye and Imani
• with a team of 4 full-time direct reports.
• Utilize as consultants: design team, expeditor, site safety coordinator, inspection company and LEED consultant.
• AVIM Construction estimator part-time, as required.

The key responsibilities are outlined below.
# AVIM Construction Team & Role

<table>
<thead>
<tr>
<th>Consultants:</th>
<th>Project Manager</th>
<th>Field Manager / General Superintendent</th>
<th>Finance Officer</th>
<th>Project Administrator</th>
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<tbody>
<tr>
<td>Design: Arch, MEPS, Structure, Landscaping Expeditor, Inspection, Site Safety, LEED, Estimator</td>
<td>• Bid evaluation</td>
<td>• Vets bid pricing • Gathers and documents bid references</td>
<td>• Bid pricing impact vis-à-vis the project budget</td>
<td>• Publishes bid • Collects, logs tabulates bids</td>
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## I. BID PROCESS
- • Bid evaluation
- • Vets bid pricing
- • Gathers and documents bid references
- • Bid pricing impact vis-à-vis the project budget
- • Publishes bid
- • Collects, logs tabulates bids

## II. MANAGE TIME & COSTS
### Budgets & Schedules
- • Oversee design changes
- • Review contractor shop drawings
- • Review monthly payment requests for work completion
- • Review monthly payment requests for work completion and its pricing
- • Meets regularly with GC regarding construction schedule
- • Attends weekly contractor meetings
- • Gives input to look ahead and construction schedules
- • Financial reporting to Owner
- • Collects and reviews monthly requisitions, verifying financial impact to the project budget
- • Ensures accuracy of project accounting
- • Schedules meetings
- • Schedule inspections
- • Collect meeting minutes
- • Document management
### AVIM Construction Team & Role

<table>
<thead>
<tr>
<th>Consultants: Design: Arch, MEPS, Structure, Landscaping Expeditor, Inspection, Site Safety, LEED, Estimator</th>
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<tr>
<td>Project Management</td>
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<tr>
<td>III. MANAGING CONSTRUCTION &amp; QUALITY</td>
<td>• Subcontractor adherence to Construction Drawings, and • Design changes</td>
<td>• Leads project coordination with GC</td>
<td>• Daily field oversight</td>
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<tr>
<td>Mobilization &amp; Logistics</td>
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<td>• Security oversight</td>
<td>• Safety requirements</td>
<td>• Cost impact</td>
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<tr>
<td>Construction Schedule</td>
<td>• Monthly update of construction schedule</td>
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<tr>
<td>Quality Control</td>
<td>• Review contractor shop drawings • Oversee design changes • Review survey reports and impact</td>
<td>• Third party inspection oversight • Adherence to schedule • DOB compliance • DOB inspections</td>
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<tr>
<td>Changes &amp; Disputes</td>
<td>• Final authority for design changes</td>
<td>• Mediate changes &amp; disputes</td>
<td>• Gather information</td>
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Summary

Execution, Review and Reporting

- **Daily**: CM Field Manager, GC General Superintendent

- **Weekly**: CM Field Manager, GC General Superintendent, Site Safety Coordinator

- **Monthly**: CM Project Leads & Manager, CM Field Manager, GC General Superintendent, GC Project Manager, Site Safety Coordinator, CM Financial Officer

- **Monthly & Quarterly**: Owner, CM Project Leads, GC Lead, CM Financial Officer
Summary

Communication Hot List

- Field emergencies: CM Field Manager, CM Project Manager
- Government Agency reports (DOB, DOT, FDNY): CM Project Leads, CM Project Manager
- Monthly and Inspection reports: CM Project Leads
- Financial reporting: CM Project Leads, CM Financial Officer
# Preliminary Milestone Schedule

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<tr>
<th>Milestone</th>
<th>M1</th>
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<th>M16</th>
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<td>Bid Prep – Review design dwgs with A/E</td>
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<td>Bid Ad, receipt, review, level, tabulate</td>
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<td>Award of GC Contract – NTP issued</td>
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<td>Mobilization, Logistics &amp; Permits</td>
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<td>GC – Subcontractor Bid Process &amp; Awards</td>
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<td>Excavation &amp; Foundation</td>
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<td>Scaffold, Framing</td>
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## Summary

### What is required & AVIM experience

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<th>Mr Carmo requires:</th>
<th>AVIM provides:</th>
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