

Concord-Carlisle Regional High School



Schematic Design
Meeting #2

July 20, 2011

omr architects

Concord-Carlisle High School Modernization

CM at Risk vs. Design-Bid-Build

CM at Risk Procurement – Time line

July 20, 2011

CM at Risk vs. Design-Bid-Build

Concord-Carlisle High School Modernization

CM at Risk vs. Design-Bid-Build

- **Contractor pool / selection**
- **Filed Trade Contractor and Subcontractor selection**
- **Pre-construction**
- **Schedule / early release – fast track**
- **Cost and Accounting**
- **Change Orders and RFI's**
- **Other**

Please note that while some of the following statements are factual, others are opinions based on prior experience in the industry.

CM at Risk vs. Design-Bid-Build

Concord-Carlisle High School Modernization

Contractor pool / selection

CM at Risk (CM firm)

- 2 phase selection process. First phase is qualification based, second phase and final selection is based on technical expertise and price.
- Due to a potential contract value of 72 M, many of the major local CM firms would be interested in this project.

Lump sum (General Contractor)

- Pre-qualify GC firms to bid on the project. Must take the lowest bid.
- No input on GC's staff.
- Due to bonding capacity, there may be a limited pool of contractors (KVA concern)

CM at Risk vs. Design-Bid-Build

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Filed Trade Contractor and Subcontractor selection

Definitions

Trade contractor: 17 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 and masonry.

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

CM at Risk

- 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 KVA's experience we've seen a broader pool of subcontractors bid on projects based on the selection of the CM.

Lump sum

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

CM at Risk vs. Design-Bid-Build

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Pre-construction

CM at Risk

- 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. Example: Wayland \$100k pre-construction fee on 56.2M of work.
- Based on specifics of the project, KVA's experience has been that the above mentioned pre-construction services results in a slightly larger (but valid) A/E fee.

Lump sum

- 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.

CM at Risk vs. Design-Bid-Build

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Schedule / early release – fast track

CM at Risk

- 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.

Lump sum

- Construction commences after bidding period and documents are 100% complete.
- Drawings are theoretically fully detailed and complete.
- Due to the documents being 100% complete, costs are certain.

CM at Risk vs. Design-Bid-Build

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Cost and Accounting

CM at Risk

- Contractor includes contingency within the GMP to cover work reasonably 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 trust 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 is cumbersome.

Lump sum

- Aside from the 17 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.

CM at Risk vs. Design-Bid-Build

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Change Orders and RFI's

CM at Risk

- There will be change orders. It has been KVA's 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. Please note that this "reasonably inferable" line, at times, can be vague.

Lump sum

- There will be change orders.
- There will be RFI's.
- Due to the highly competitive nature of the lump sum bid process, any mistakes in the bidding assumptions are typically issued as CO's.

CM at Risk vs. Design-Bid-Build

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Other

CM at Risk

- Needs to be approved by the Inspector General.
- Tends to foster a team approach.
- Currently is the preferred method for projects of this size.
- 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.
- Decision doesn't have to be finalized immediately.

Lump sum

- 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 complicated phasing.

CM at Risk vs. Design-Bid-Build

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CM at Risk Procurement – Time line

CM at Risk vs. Design-Bid-Build

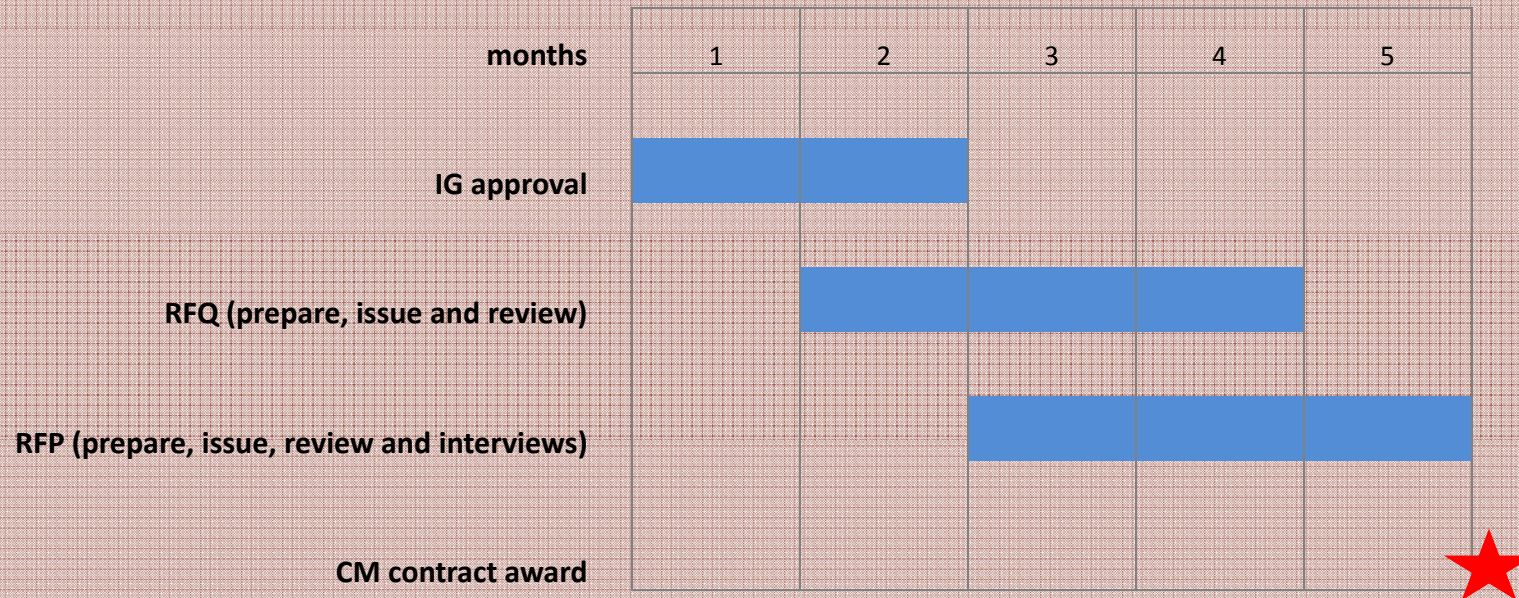
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Inspector General Application Time Line

	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	Date and time stamp application
Day 1 – 15	<ol style="list-style-type: none"> 1. OIG reviews application in a timely manner. 2. OIG sends written notice (e-mail) acknowledging receipt of the application 	Complete checklist
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 info • Request more information, if necessary • Analyze credentials based on evaluation criteria; • Complete review and issue determination

CM at Risk Procurement Time line

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Typical time frame to procure a CM – 5 months

CM at Risk Procurement Time line

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KVA and OMR will proceed in any fashion.

Questions?

CM at Risk vs. Design-Bid-Build

Agenda

Work Plan

Design Update

Next Steps


CCHS Schematic Design Work Plan

- 6/22/11**
- | | |
|---|--|
| <p>Objectives</p> <ul style="list-style-type: none"> ○ MSBA FAS meeting to review PSR | <p>Follow-up</p> <ul style="list-style-type: none"> ○ Begin Schematic Design (potential) |
|---|--|

Meeting #1 Develop Schematic Design

- 6/29/11**
- | | |
|--|--|
| <p>Objectives</p> <ul style="list-style-type: none"> ○ Debrief FAS Meeting ○ Review Schematic Design Progress ○ Authorize OMR to Proceed with SD ○ Select MA CHPS or LEED for Schools | <p>Follow-up</p> <ul style="list-style-type: none"> ○ Send SD Base Floor Plans to Consultants ○ Meeting with Civil, Landscape, Structural, MEP, and Spec Writer ○ July 11th User meeting ○ July 13th potential MSBA FAS meeting ○ Prepare MA CHPS and LEED review ○ July 14th IDT Meeting ○ Meeting with Code Consultant ○ Prepare additional geotechnical studies, site survey, ESA, and Hazmat investigation as necessary |
|--|--|

Meeting #2 Review Schematic Design Progress

-  **7/20/11**
- | | |
|--|--|
| <p>Objectives</p> <ul style="list-style-type: none"> ○ Schematic Design Update ○ IDT update - reviews sustainability goals and net zero options | <p>Follow-up</p> <ul style="list-style-type: none"> ○ Meeting with Acoustical and Daylighting Lighting Consultant ○ Meeting with Theater Consultant ○ Develop potential VE List ○ Develop Room Data Sheets ○ July 27th MSBA Board Meeting ○ Address comments from July 27th MSBA Review ○ Consultant Review and Coordination ○ August 1st Issue drawings and outline specs to cost estimators ○ Prepare final SD drawings and SD Binder |
|--|--|

Meeting #3 Approve Developed Schematic Design

- 7/27/11**
- | | |
|---|---|
| <p>Objectives</p> <ul style="list-style-type: none"> ○ Review PSR comments from MSBA ○ Schematic Design Update | <p>Follow-up</p> <ul style="list-style-type: none"> ○ Finalize Schematic Design Drawings, Specifications, and Binder ○ Reconcile (2) cost estimates ○ Review OPM's Total Project Budget |
|---|---|

Meeting #4 Approve Schematic Design Package

- 8/17/11**
- | | |
|---|--|
| <p>Objectives</p> <ul style="list-style-type: none"> ○ Review reconciled cost estimates, project budget and potential VE List ○ Approve Schematic Design | <p>Follow-up</p> <ul style="list-style-type: none"> ○ August 19, 2011 Submit Schematic Design to MSBA ○ September 14, 2011 MSBA FAS Schematic Design Meeting ○ September 28, 2011 MSBA Board Meeting |
|---|--|

Integrated Design Team Highlights – *Sustainable Systems*

- Study **possibility of natural ventilation** in gymnasium
- Keep **perimeter radiation and operable windows** on project
- Analyze **stretch code window vs. double glaze with low iron and heat mirror, film**
- Study **noise on site** – may need more efficient windows to address acoustics at south
- Analyze **stretch code envelope vs. “1 step better” insulation** at roof and wall.
- Model the **perimeter radiation and triple glazed window as a comparison**
- **No geothermal** on project
- Accept **daylighting controls and light fixtures upgrades and low flow fixtures**
- Use **displacement ventilation system**
- Run more analysis on gas fired chillers, no ice storage
- **Bundle all systems decisions** to understand payback
- Payback analysis is based on today’s energy costs and is **more effective with upgrades to MEP than to building envelope**
- **Stretch code and MACHPS provide for an excellent building; pursuing net zero any further nears the point of diminishing returns**

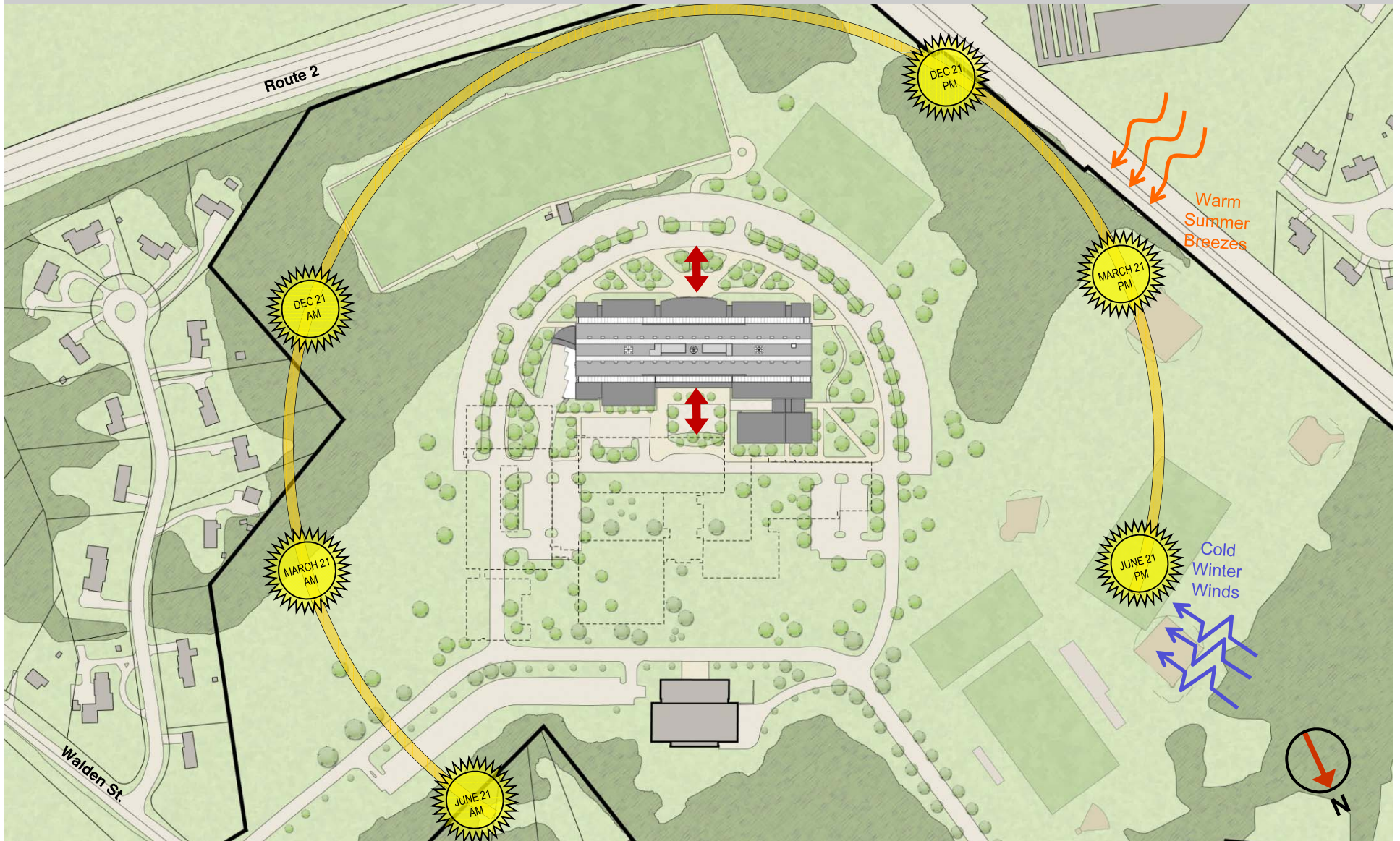
Integrated Design Team Highlights – *Site and Building*

- **CPW & EPA stormwater guidelines** are more strict now
- Analyze **needs/solutions for water reuse**; onsite wells may drain town supply
- Treatment of grey water systems is complicated and costly: **Consider rooftop storm reclamation.**
- Analyze **onsite waste water**, including chemicals, operations, maintenance and 1st costs
- **CPW needs an order of magnitude cost for waste water treatment** before town meeting.
- **Kitchen to have dishwashing** ilo recyclables
- SBC to **analyze cost of redoing existing fields**
- **Rooftop mechanical units** to be used on building
- **Exterior finishes:** Brick, ground face, metal
- **Interior finishes:** Level between Lincoln Sudbury H.S and Willard E.S.

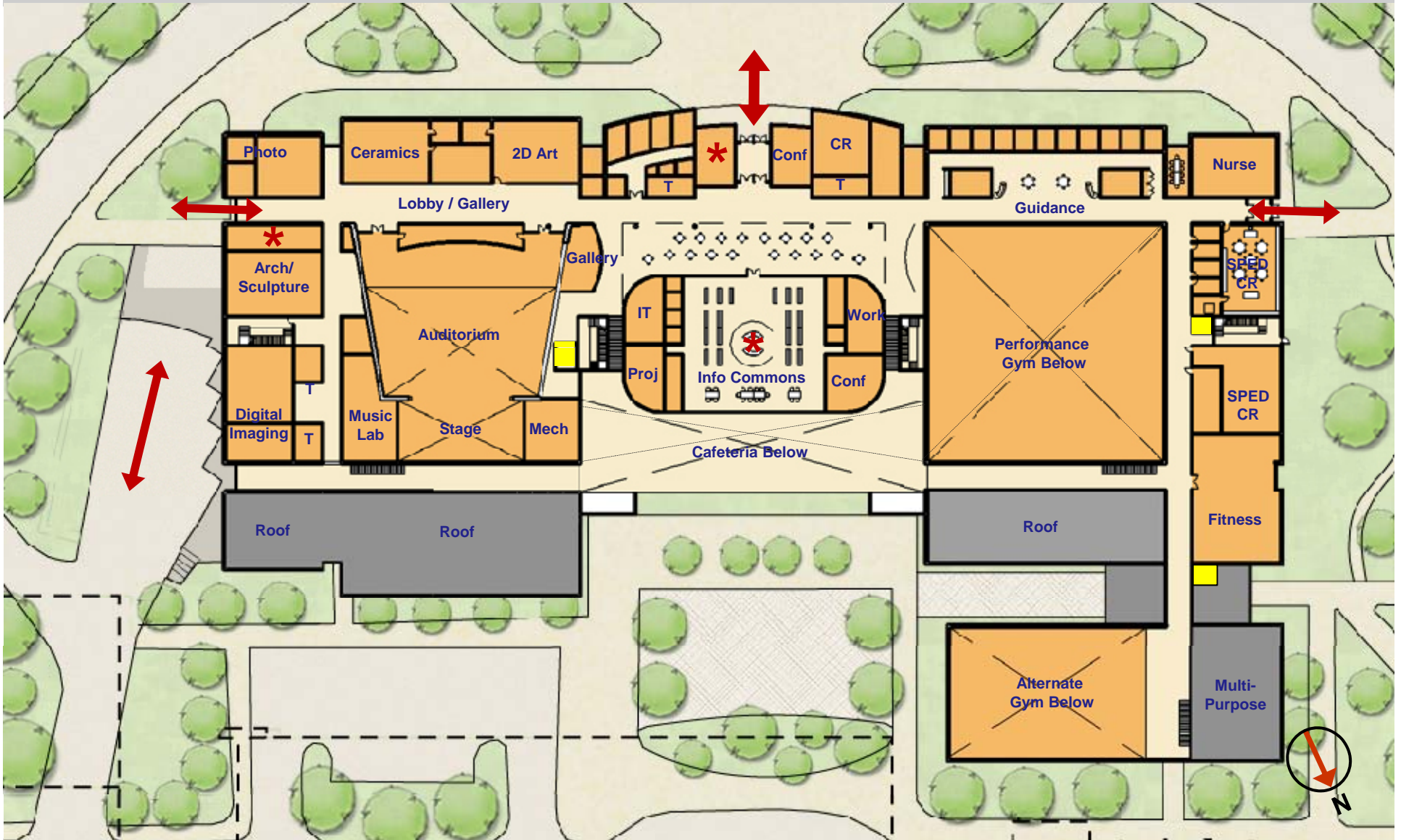
Meeting with Fire Department

- Would like High School to serve as a **community shelter for Concord and Carlisle:**
 - Use new performance gym and cafeteria as the community shelter
 - Need adjacent locker rooms for showers
 - Need kitchen for preparing and serving food
 - Emergency generator with capacity to run kitchen equipment
 - Provide a high voltage outlet on the outside of the building to plug in a portable diesel powered generator (from offsite)
- Provide a **fire command center in the school**
- Both **elevators will need fire service controls**
- **Public address system** (need to **access system from fire command station**)
- **Mass notification strobes** (assembly areas)
- Provide a **voice evacuation system**
- **Carbon dioxide detector** at receiving area

Site Plan

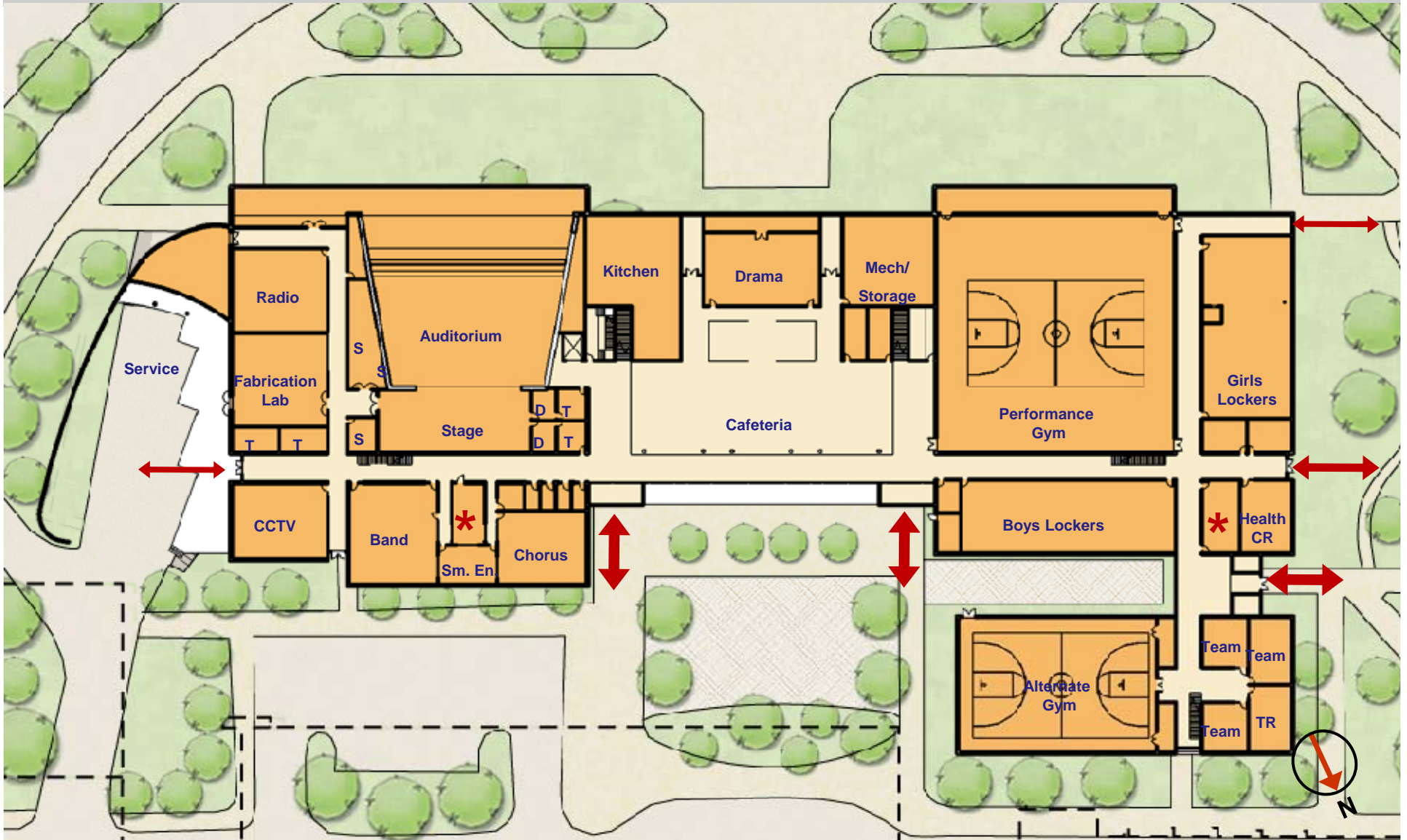


Ground Floor Plan



20 July 2011

Lower Floor Plan



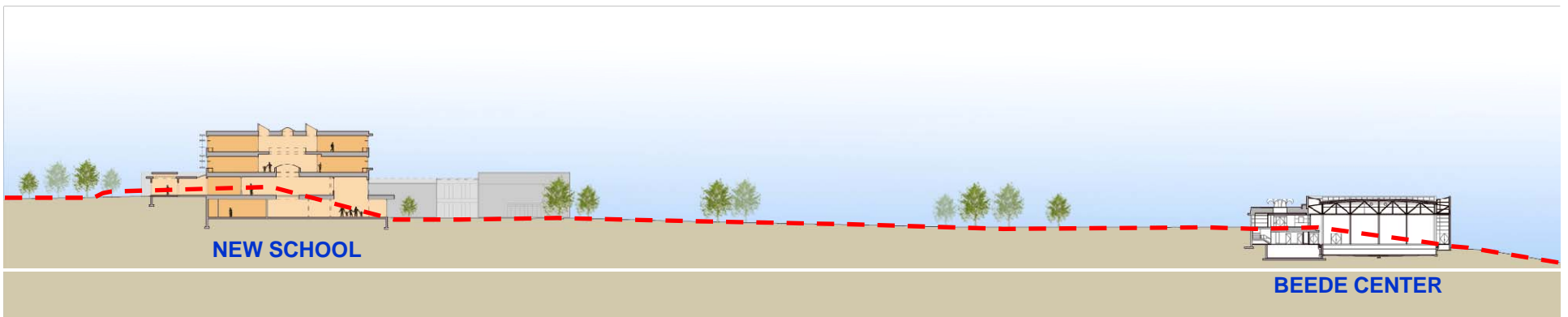
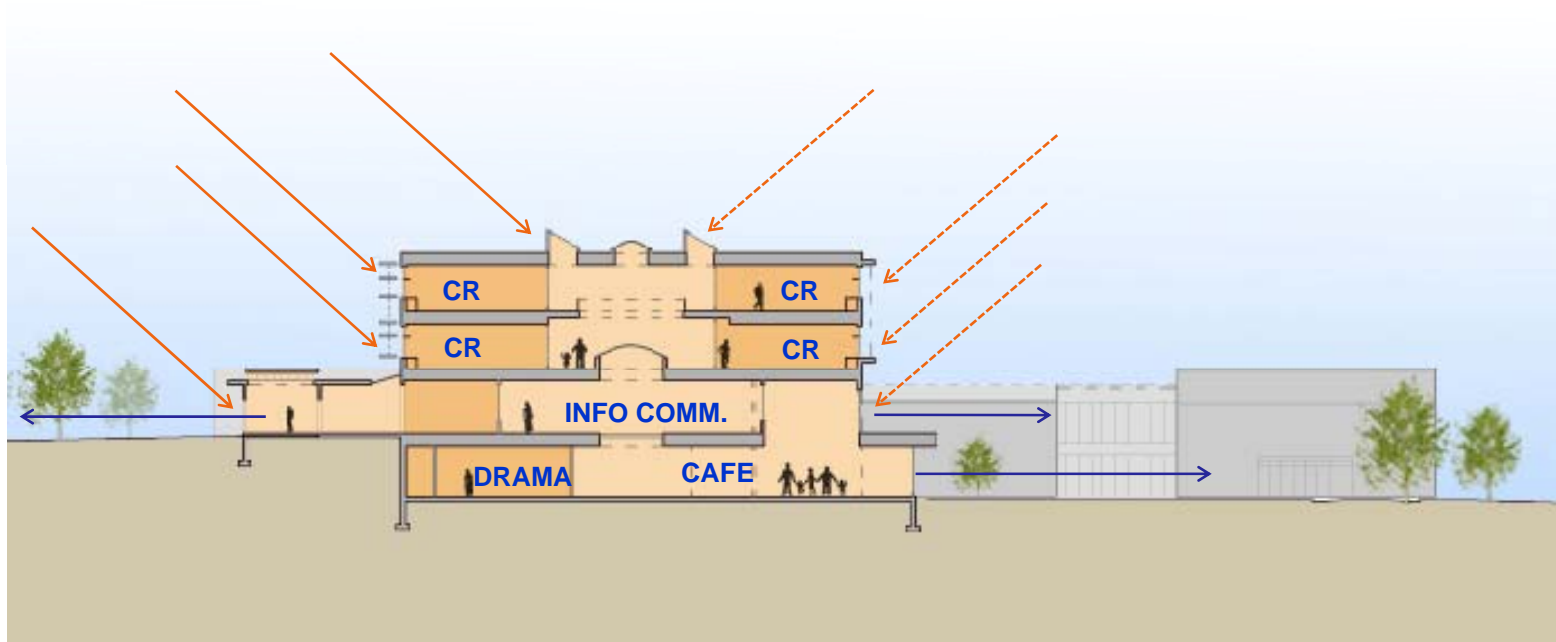
Second Floor Plan



Third Floor Plan



Site Section



Next Steps

- August 1, 2011 – Issue Cost Estimating drawings
- July 27, 2011 – SBC Meeting - Update
- August 17, 2011 – Approve SD and Project Budget



THANK YOU

omr architects