

# Concord-Carlisle Regional High School

## Design Development Progress

Meeting #12

School Building Committee

August 14, 2012

omr architects

# July 2012 OPM Report

## MSBA OPM Monthly Status Reports

- July 2012 Report #19

1. Executive Summary

- Reported DD was 95% complete, target Aug 15 for final DD drawings w/ VE incorporated
- Gave full detailed recap of estimates, reconciliation and VE of June 29, 2012 Revised DD drawings
- MA-CHPS maintaining goals
- ZBA process was being re-started
- Referenced letters that have been provided to the District re: opposition to the project

# July 2012 OPM Report

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### 2. Schedule

- Current construction estimate values were presented at August 1, 2012 HSBC meeting
- ZBA submission and review process was being re-started
- Goal was to approve project scope and budget at August 14, 2012 HSBC/SC meeting in anticipation of MSBA submission
- Target for MSBA submission was on or before August 24, 2012
- Early package dates, construction mobilization still being analyzed but end dates still being maintained

# July 2012 OPM Report

## MSBA OPM Monthly Status Reports

- July 2012 Report #19

### 3. Financial

- Project is estimated within PFA budget by Turner, DG Jones within one tenth of one percent

### 4. Construction Activities

- N/A

# Construction Budget Summary

## Concord-Carlisle High School

Design Development Summary - Construction Cost (June 26, 2012 Documents)  
8/1/2012

	<u>TURNER</u>	<u>DG JONES</u>
DD Final Reconciled Construction Value	\$ 78,166,458	\$ 78,085,064
Estimated Accepted VE4 Value	\$ (3,176,543)	\$ (2,887,795)
<b>Current Estimate Value as of 7/31/12</b>	<b>\$ 74,989,915</b>	<b>\$ 75,197,269</b>
PFA Construction Value	\$ 74,991,629	\$ 74,991,629
VE Left to Find	\$ (1,714)	\$ 205,640

# Project Contingencies

	DGJ	TCC
<b>Current Construction Estimate:</b>	<b>\$75,197,269</b>	<b>\$74,989,915</b>
Design Contingency:	\$1,835,786 (2.5%)	\$ 916,245 (1.5%)
CM Contingency:	\$1,505,344 (2%)	\$1,832,489 (3%)
Escalation Contingency:	\$2,152,620 (3.02%)	\$1,832,489 (3%)
10% VE 4 Safety Factor:	\$ 218,141	\$ 352,226
<b>Total within \$75m Construction Budget</b>	<b>\$5,711,891 (7.6%)</b>	<b>\$4,933,449 (6.6%)</b>

<b>Total Project Budget:</b>	<b>\$92,578,525</b>	<b>\$92,578,525</b>
<i>Construction Contingencies (from above)</i>	<i>\$5,711,891</i>	<i>\$4,933,449</i>
Owner's Construction Contingency (Change Orders)	\$3,700,000	\$3,700,000
Owner's Soft Cost Contingency	\$ 525,000	\$ 525,000
<b>Total within \$92.5 Total Project Budget</b>	<b>\$9,936,891 (10.7%)</b>	<b>\$9,158,449 (9.9%)</b>

# CDW Landfill Plan

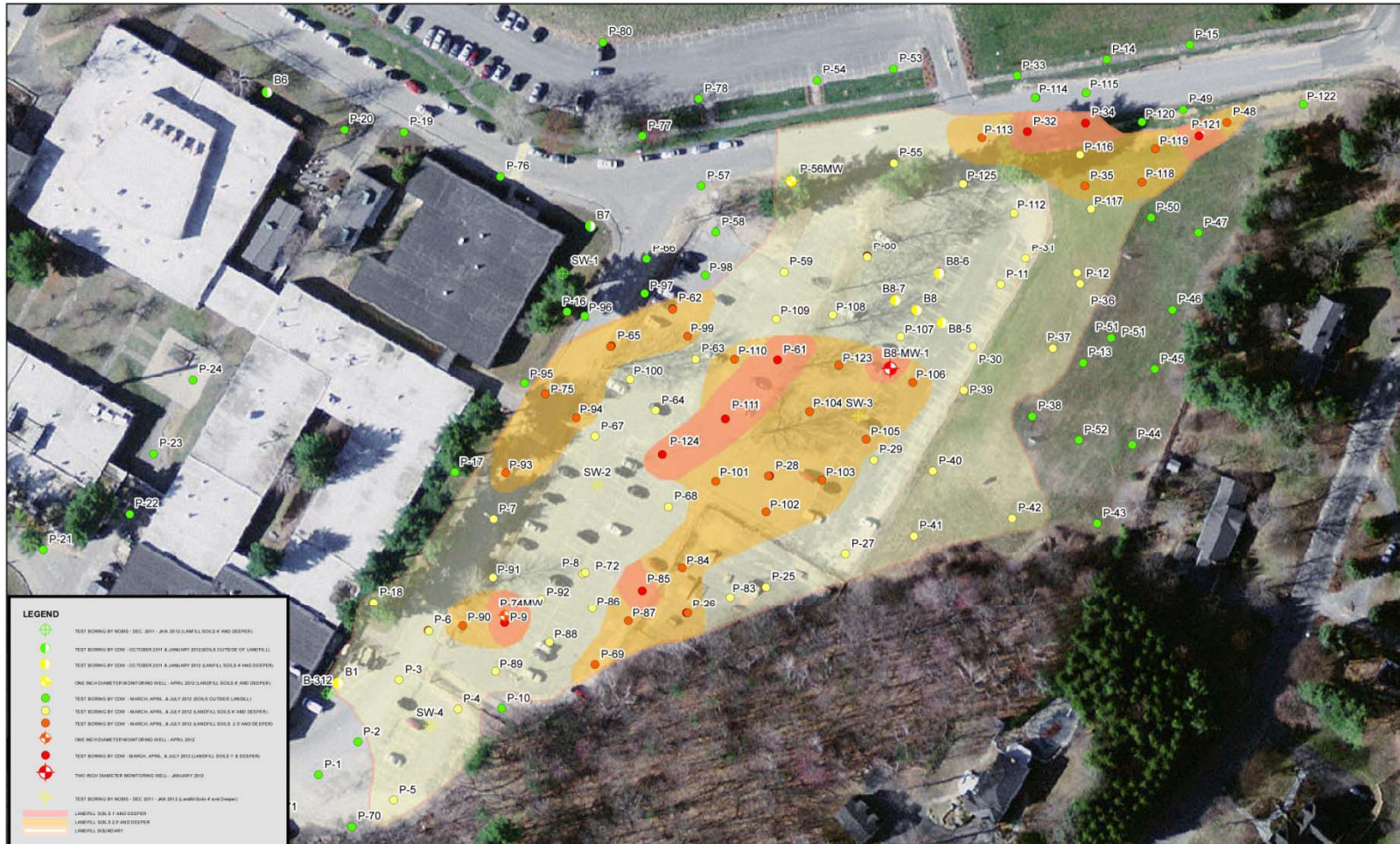
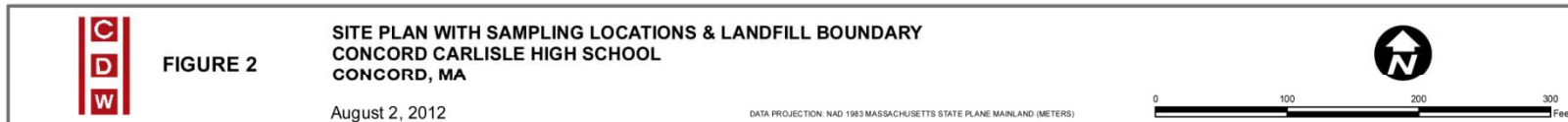


IMAGE SOURCE: MAGIS 2008 ORTHOPHOTO





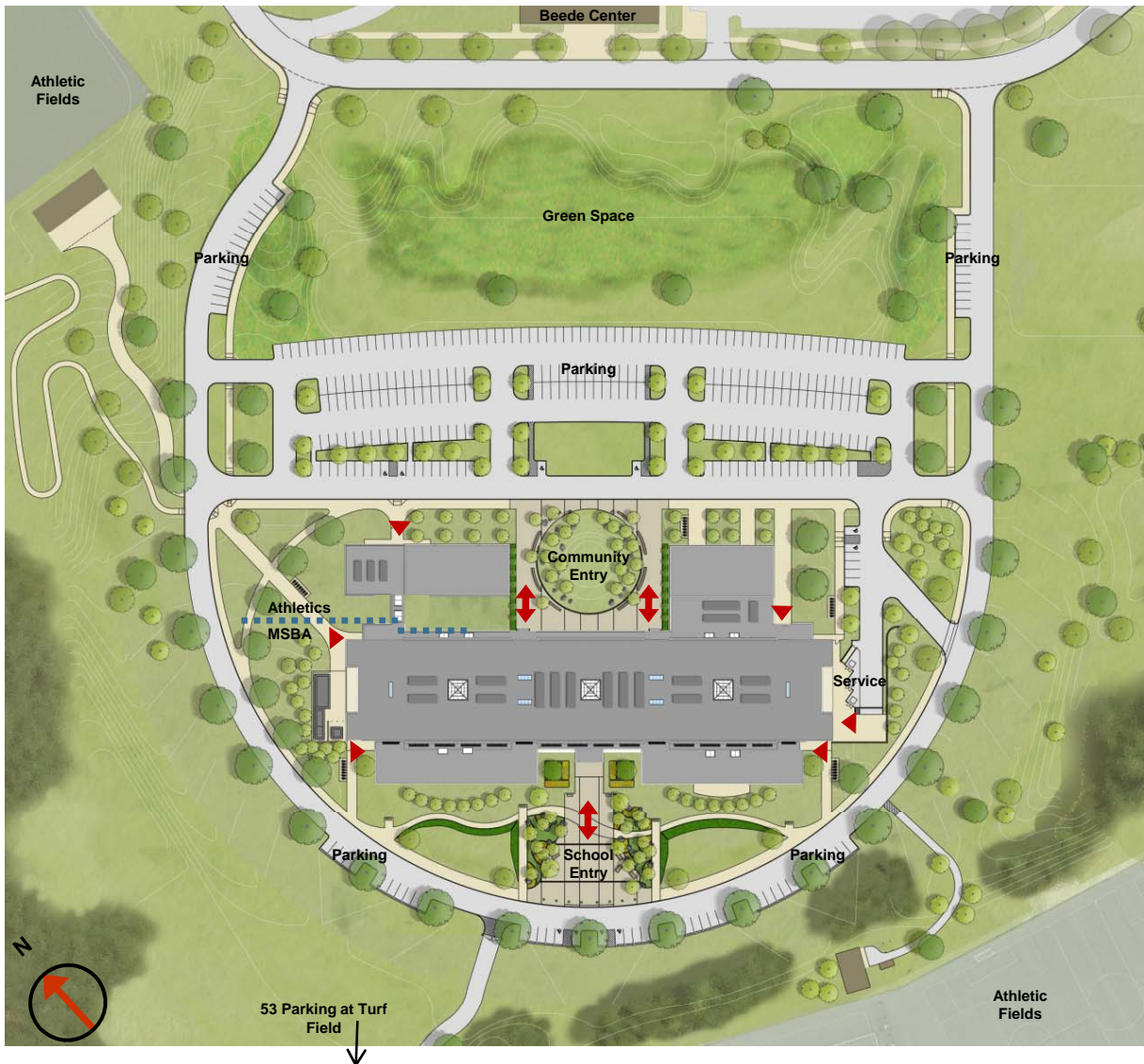
# Space Summary

Description	Existing Conditions	SD Space Summary* 1225 Enrollment	Current DD Set 1225 Enrollment	Delta %: DD to SD	Delta SF: Current DD to SD
<b>CORE ACADEMIC SPACES</b>	58,346	64,483	65,400	1.014	917
SPED	7,145	5,630	5,665	1.006	35
ART & MUSIC (Visual and Performing Arts)	11,734	12,781	12,706	0.994	(75)
VOCATIONS & TECHNOLOGY	8,035	8,390	8,273	0.986	(117)
HEALTH AND PHYSICAL EDUCATION	31,075	21,696	21,056	0.971	(640)
MEDIA-LIBRARY (Learning Commons)	13,480	8,929	8,936	1.001	7
AUDITORIUM / DRAMA	9,667	10,142	9,951	0.981	(191)
DINING & FOOD SERVICE	13,068	10,063	10,174	1.011	111
MEDICAL / NURSE	690	1,153	1,189	1.031	36
ADM. & GUIDANCE (Student Support)	8,462	6,008	5,823	0.969	(185)
CUSTODIAL & MAINTENANCE	2,779	2,785	2,746	0.986	(39)
<b>SUB-TOTAL</b> Net Area	164,481	152,060	151,919	0.999	(141)
OTHER	3,824	3,633	3,529	0.971	(104)
ATHLETIC BUILDING	2,910	10,250	8,070	0.787	(2,180)
<b>Net Area (Base Building)</b>	168,305	155,693	155,448	0.998	(245)
Net: Gross Ratio (Net Area / Gross Area)	1.37	1.45	1.45		
<b>Gross Area (Base Building)</b>	229,813	225,826	225,826	1.000	0
<b>Net Area (Athletic Building)</b>	2,910	10,250	8,070	0.787	(2,180)
Net: Gross Ratio (Net Area / Gross Area)	1.37	1.22	1.32		
<b>Gross Area (Athletic Building)</b>	3,987	12,500	10,669	0.854	(1,831)
<b>GRAND TOTAL (GFA)</b>	233,800	238,326	236,495	0.992	(1,831)

- **Base Building:** All program spaces are included. Departments are +/- 0 to 4% Variance from DD to SD. Net to Gross ratio and Gross SF is on target.
- **Athletic Building SF** reduced to meet construction costs.



# Site Plan



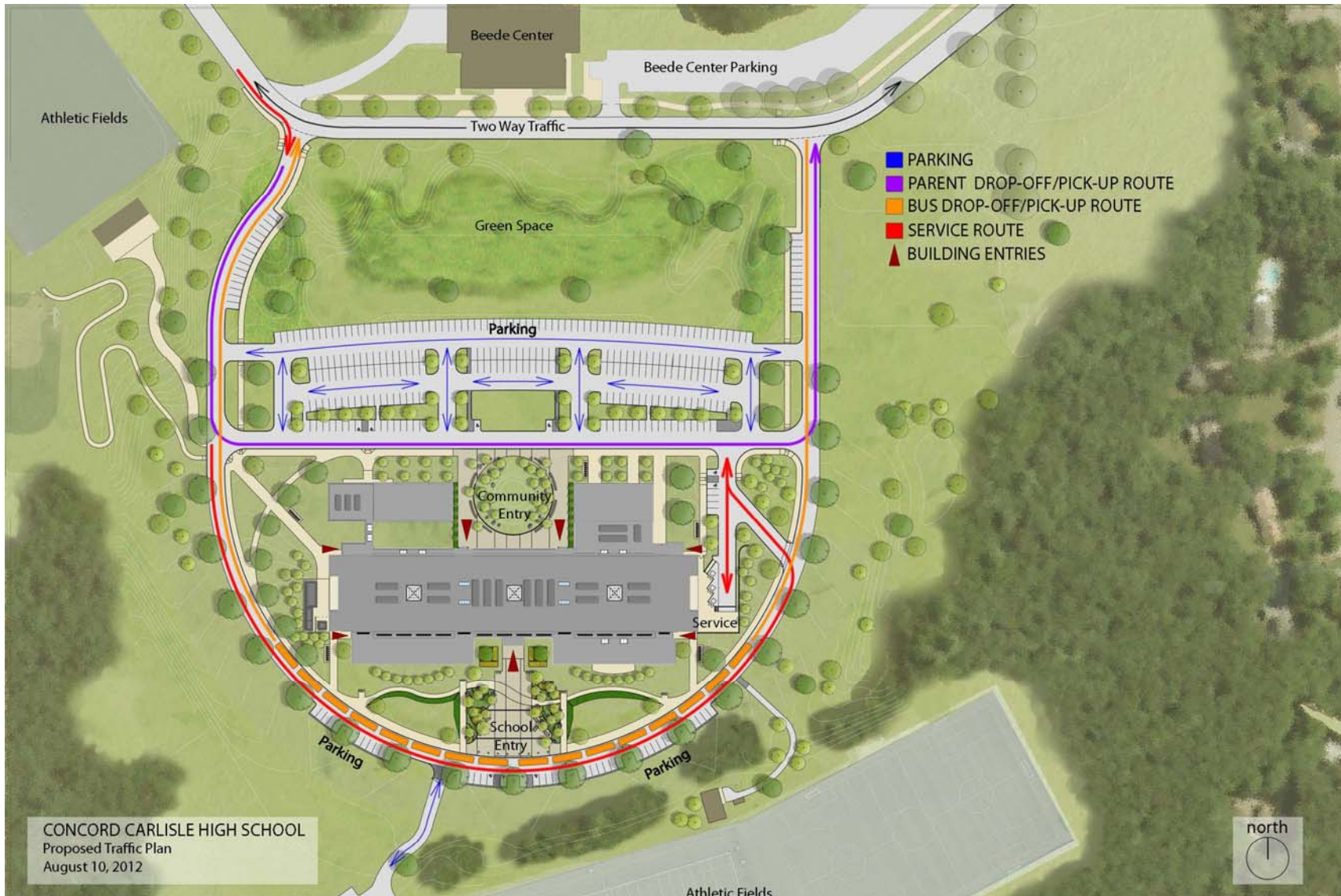
## FEATURES:

- 9 Building Entries/ Separate Parent and Bus Drop-off/ Visitors Entry at South.
- 376 new parking spaces and re-use 53 existing spaces at Turf field for 429 Total.
- Deleted Outdoor Amphitheater/ Retained infrastructure for future use

## Achieved VE Savings from SD Targeted List:

- Reduced site hardscape, light bollards, and pavement
- Reduced planting size and quantity
- Deleted irrigation system and added sleeves
- Reduced and Optimized cut/ fill and grading
- Using Bio-retention areas i.l.o. water storage collection structures

# Proposed Traffic Plan





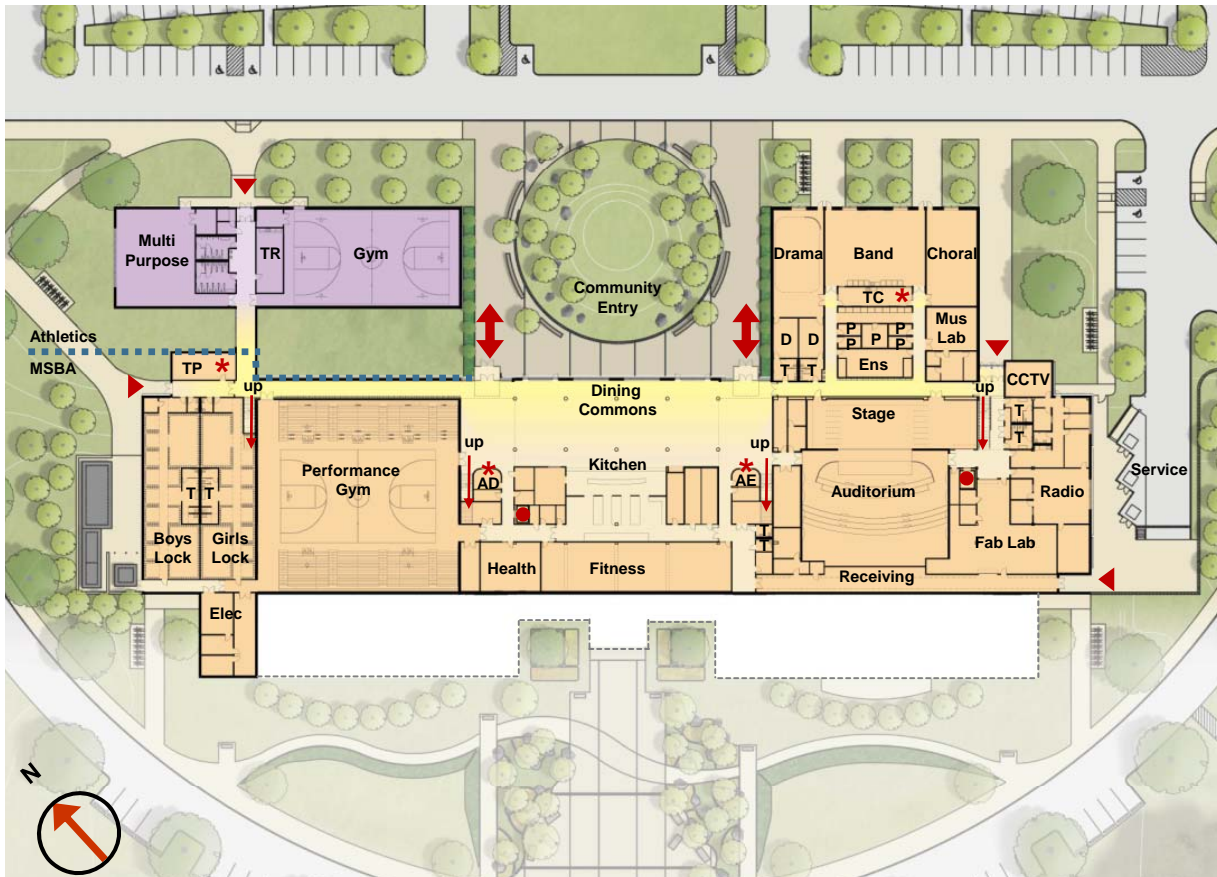
# 2<sup>nd</sup> Floor Program: SPED, Admin, Guid, Learning Commons, Visual Arts



## FEATURES:

- Better Adjacencies and Function: Ceramics, Architecture, Photography, Digital Imaging
- Administration shifted to minimize building footprint, foundation jogs and perimeter wall costs. Visual control of Lobby and front doors remain.
- To make building more efficient, Learning Commons / Admin infill the center portion only of the 2 story Cafeteria. Daylighting improved at LC.
- Minor reconfiguration within Departments in order to improve layout relative to acoustical/ structural/ MEP considerations.
- SPED Lighthouse, Pathways and OT/PT flipped on west side of building to better meet tighter building footprint.
- Auditorium/ Stage/ Wings adjusted shape and layout of seating/ aisles to maximize sight lines, stage access, rigging, HCP access, acoustics.
- Four sets of stairways and two elevators connect the four floors of the school.

# 1<sup>st</sup> Floor Program: PE, Dining, Performing Arts, Radio, TV, Custodial



## FEATURES:

- Better Ceiling Heights, Daylight and Adjacencies: Drama, Ensemble, Music Lab, Practice Rooms, Dimming Room, Health Classroom.
- Fitness Room, Health, Lockers, CCTV and Radio shifted to minimize building footprint, foundation jogs, grading and perimeter wall costs.
- CCTV spaces organized with complete and separate facilities to avoid need for CORI checking every visitor.
- Electrical and Emergency room relocated to shorten utility runs and reduce cost.
- Minor reconfiguration within Departments in order to improve layout relative to acoustical/ structural/ MEP considerations.
- Additional restrooms needed per Assembly Use Code for evening use in PE area.
- Detached Alternate Gym Building similar to SD except the additional restrooms were located here and took the place of team rooms.
- The team room functions will occur in the Locker Rooms.

# 3<sup>rd</sup> Floor Program: SPED & Humanities (Social Science, English, Language)



## FEATURES:

- To make building more efficient, the classrooms on the ends were turned 90 degrees, thereby shortening corridors and tightening SF.
- Light shafts removed as they were: Adding gross square footage that was needed for restrooms, MEP, and structure; Not optimizing the energy model; Less cost effective way of lighting classrooms. We are now using glazing along the corridors from the light wells.
- Restrooms and MEP rearranged and stacked for efficiency of construction and system runs.
- Minor reconfiguration within Departments in order to improve layout relative to acoustical/ structural/ MEP considerations.
- Classrooms remain as programmed.



# 4<sup>th</sup> Floor Program: SPED & STEM (Science, Technology, Engineering, Math)



## FEATURES:

- To make building more efficient, the labs and prep rooms on ends were turned 90 degrees, thereby shortening corridors and tightening SF.
- Classroom/ Labs slightly larger due to structural module of floor below.
- Restrooms and MEP rearranged and stacked for efficiency of construction and system runs.
- Minor reconfiguration within Departments in order to improve layout relative to acoustical/ structural/ MEP considerations.
- Light wells will bring light down from skylights to classrooms below.



# Interior Materials

## Flooring:

- **Linoleum** @ Café and Lobby, Corridors, Labs, Music
- **Epoxy Flooring** in toilet rooms and Kitchen
- **Carpet Tile** in classrooms
- **Sealed concrete** in Art and all back of house spaces

## Walls:

- **Abuse resistant board**
- **Ceramic tile for toilet rooms** on plumbing walls and **in Servery**
- Selectively used **interior glazing**
- Selectively used **acoustical paneling**

## Ceilings:

- **2x2 and 2x4 ACT ceilings**
- **Tectum acoustical treatment** at Gym Ceiling

## Specialties:

- HDPE toilet partitions
- Electric hand dryers: 1 per each gang toilet room
- **Metal Lockers**
- Marker boards: 2 per classroom
- 8 new fume hoods plus 1 existing hood
- Selectively used existing Kitchen equipment to optimize Kitchen budget
- **Plastic Laminate casework**

# Building Systems

## Mechanical:

- **All classrooms, Main Gym and Auditorium with Displacement Air**
- **Arts, SPED, Fitness, Media & Cafe supplied by overhead distribution system**
- DX system
- Deleted VAV controls for operable windows
- No energy metering
- Reduced ductless cooling units
- **Roof top penthouse for boiler plant only**
- Reheat deleted from classrooms
- DDC/ATC detection system
- **Roof top mounted air handling units**

## Plumbing/ Fire Protection:

- Back to back and stacked plumbing walls
- 2 domestic hot water heaters
- Semi-recessed sprinkler heads

## Electrical / Technology:

- Full lightning preventer system
- 9 card readers
- Data wiring to Communication boxes via ring & string ilo conduit
- **29 security cameras**
- No submetering
- Selectively used Dimming ballasts
- Controllable circuit breaker system i.l.o. addressable lighting control system
- **LED exterior lights/ Selectively reduced interior LED lights**
- Reduced to 2 transformer switches for “shelter in place”
- Electrical room moved to west side of building to be more cost effective
- **Each Classroom has 4 data drops for students, 2 data drops for teachers, 1 data drop for projector (active board), and 1 data drop for wall telephone**
- Stacked electrical and IDF rooms
- Selectively reduced security motion detectors

## Superstructure:

- 1810 tons
- **Emergency Shelter to be classified as “Shelter in Place” w/ seismic category 3**

# MA CHPS Target

**6- 8** Targeted Points in Integration & Innovation

**9** Targeted Points in Indoor Environmental Quality

**16- 17** Targeted Points in Energy

**7** Targeted Points in Water

**9** Targeted Points in Site

**5** Targeted Points in Materials & Waste Management

**7** Targeted Points in Operations and Maintenance

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**Total Points Targeted: 59 - 62**

MA CHPS points remain consistent & our building energy model reflects efficiency gains since SD.

# North & South Elevation



NORTH ELEVATION



SOUTH ELEVATION

- High performance building envelope. Energy model has improved overall.
- Optimized ratio of materials: Composite metal panels, Pressed metal panels, Ground face block, Brick coursing details.
- Curtainwall w/ high performance Low E glass. Selectively reduced clerestory glazing.
- 1 row of horizontal sunshades on 3rd & 4th floors, Interior light shelves at south only and Interior manual shades to control glare.
- PVC roofing: Gray and White used as appropriate
- Building reduced in height and length due to lowering grade and tightening the building footprint
- 3 skylights at light wells, 6 skylights at stairs, 12 skylights at 1<sup>st</sup>/2<sup>nd</sup> floors, and daylighting from corridor to classrooms.

# East & West Elevation

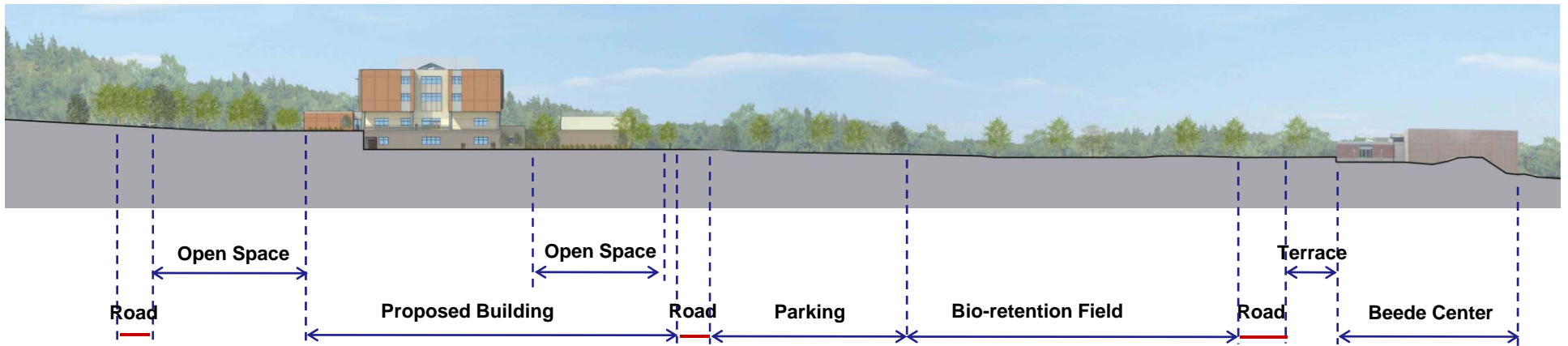


EAST ELEVATION



WEST ELEVATION

# Site Section





# View Looking Southwest



# Close up of Materials



## View Looking Northeast





# View of Main Entry



## Design Development: Next Steps

- August 15: **Issue final ZBA application** and drawings for September Hearing
- Mid August: **Issue Design Development Submission to the MSBA**
- Mid August: **Begin Construction Document Phase**
- September 11: **Planning Board Meeting**
- September 12: **Public Works Committee Meeting**
- **September 12: SBC Committee Meeting – Monthly Progress**
- September 13: **Zoning Board of Appeals Hearing**
- Late September: **Issue Early Site Package for Bidding**

**THANK YOU**