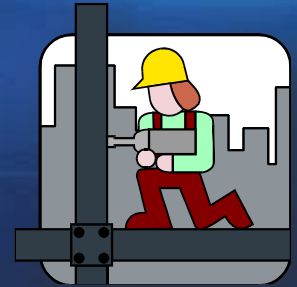




MacArthur High School Schematic Design Presentation 2011 Bond Program



Garrett J. Sullivan, Executive Director
Construction Management and Engineering Department

February 11, 2013

Schematic Design Presentation Agenda



- **Project Design Team**
- **General Site Analysis**
- **Program Review**
- **Concept Design Plans**
- **Program Analysis and Budget Review**
- **CBAC Review**
- **Project Schedule Review**
- **District Staff Recommendation**



MacArthur High School Project Design Team

- Architect: Garza/Bomberger & Associates
- MEP Engineer: Silber Consulting Engineers, Inc.
- Structural Engineer: Reynolds, Slattner, Chetter & Roll, Inc.
- Civil Engineer: Moy Tarin Ramirez Engineers, LLC
- Fire Protection Engineer: Protection Development, Inc.
- Landscape Architect: Cooper-Lochte Landscape Architects
- Roofing Engineer: Wiss Janney Elstner & Associates
- Technology Consultant: Combs Consulting Group
- Geotechnical & Material Testing: Terracon Consultants, Inc.
- Test, Balance & Commissioning: Energy Testing & Balance, Inc.
- Code Consultant: Protection Development, Inc.
- Acoustical Engineer: Bonner & Associates, LLC

MacArthur High School Existing Site Aerial



MacArthur High School Existing Portable Inventory

- 7 Portable Classroom Buildings contain the following Instructional Programs
 - Portable 1 – 2 Classrooms
 - Portable 2 – 2 Classrooms
 - Portable 3 – 2 Classrooms
 - Portable 4 – 2 Classrooms
 - Portable 5 – 2 Classrooms
 - Portable 6 – 2 Classrooms
 - Portable 7 – 2 Classrooms

MacArthur High School Design Program Summary

- **New Science and Classroom Addition**
- **New JROTC Facility and Marching Quadrangle**
- **New Athletic Facility Addition**
- **New Athletic Outdoor Concessions and Restrooms Facility**
- **Central Energy Plant Facility Upgrades**

MacArthur HS Detailed Program Summary

1. **New Science and Classroom Addition (Program @ 50,500 sq. ft.)**
 - a. 8 Science Lecture-Labs and 4 Science Prep Rooms
 - b. 14 Classrooms
 - c. 1 Teacher Resource Center
 - d. Connect New Science Addition to Existing Campus Area with Covered Breezeway
2. **New JROTC Facility (Program @ 12,700 sq. ft.):**
 - a. Administrative Offices and Workroom for SAI, AI, and Student Cadre
 - b. 2 Classrooms, 8-Lane Rifle Range with Observation Area
 - c. Arms Room, Supply Room, and Laundry Room
 - d. Student Locker Rooms and MEP Support Areas
 - e. Marching Quadrangle (110 ft x 110 ft)
3. **New Athletic Facility Addition (Program @ 16,500 sq. ft.)**
 - a. Football Program Athletic Locker Room Area and Equipment Storage Area
 - b. Training Room with Office & Storage Area and Laundry Room
 - c. Athletic Director's Office and Men Coaches' Office Areas
 - d. MEP Support Areas
 - e. Athletic Facility Parking Area Expansion
4. **New Athletic Outdoor Concessions and Restroom Facility (Program @ 1,175 sq. ft.)**
5. **Central Energy Plant Facility Upgrades (Replace 2 Existing Air-Cooled Chillers and Chiller Pumps)**

MacArthur High School Program Review



I. MACARTHUR HIGH SCHOOL 2011 BOND PROGRAM SUMMARY

1.	New Science and Classroom Addition		50,500
2.	New JROTC Facility		12,700
3.	Athletic Facility Addition		16,500
4.	New Athletic Facility Outdoor Concessions and Restrooms		1,175
TOTAL FACILITY ADDITION PROGRAM AREA (sq.ft.) =			80,875

II. CENTRAL PLANT UPGRADES

	Number	Sq. Ft.	Total Sq.Ft.
1.	Replace Existing Air-Cooled Chillers (2 Machines @ 400 Tons Each) with New High-Efficiency Chillers	Per Design	
2.	Assess and Replace Central Plant Pumps and Supporting Equipment (As Required)	Per Design	

TOTAL CENTRAL PLANT UPGRADES PROGRAM

III. SCIENCE AND GENERAL PURPOSE CLASSROOM FACILITY ADDITION

A.	General Purpose Classrooms and Computer Lab (1st Floor)	Number	Sq. Ft.	Total Sq.Ft.
1.	General Purpose Classrooms (32 ft x 25 ft each)	14	800	11,200
2.	Computer Lab (33 ft x 30 ft = 990 sf) with Adjacent Storage Area (90 sf)	1	1,080	1,080
3.	Mens and Womens Restrooms (20 ft x 14 ft for each Restroom Area)	2	280	560
4.	Conference Room (20 ft x 20 ft)	1	400	400
5.	Teacher Resource Area with Faculty Restrooms (2 @ 48 sf each) and Storage Area (14 sf x 9 sf)	1	2,500	2,500
6.	Computer Cart Storage and Charging Room (12 ft x 9 ft)	1	108	108
General Purpose Classrooms and Computer Lab Program Subtotal (sq.ft.) =				15,848
B.	Science Classrooms (2nd Floor)	Number	Sq. Ft.	Total Sq.Ft.
1.	Science Classroom (Lecture and Lab Area - 56 ft x 30 ft) - Lecture Area (26.5 ft x 30 ft) & Lab Area (29.5 ft x 30 ft) with 7 Lab Stations	8	1,680	13,440
2.	Standard Science Prep Room Area (56 ft x 9 ft) - Locate between 2 adjoining Science Classrooms	3	550	1,650
3.	Main Science Prep Room and Chemical Storage Area (56 ft x 20 ft) - Locate between 2 adjoining Science Classrooms	1	600	600
4.	Mens and Womens Restrooms (20 ft x 14 ft for each Restroom Area)	2	280	560
Science Classrooms Program Subtotal (sq.ft.) =				16,250
C.	MEP and Technology Support Areas	Number	Sq. Ft.	Total Sq.Ft.
1.	Mechanical Rooms (50 ft x 30 ft)	2	1,500	3,000
2.	Electrical Rooms (16 ft x 16 ft)	2	264	528
3.	IDF Room (10 ft x 10 ft)	1	100	100
4.	Elevator and Machine Room (~ 7.5 ft x 7 ft each)	1	104	104
5.	Fire Riser Room (10 ft x 5ft)	1	50	50
6.	Custodial Wet Closets (1 Per Floor)	2	50	100
MEP and Technology Support Areas Program Subtotal (sq.ft.) =				3,882
D.	Facility Net to Gross	Number	Sq. Ft.	Total Sq.Ft.
1.	Net to Gross Area (Includes Corridors, Circulation Space, and Wall Thicknesses)	1	14,520	14,520
Facility Net to Gross Program Subtotal (sq.ft.) =				14,520
TOTAL SCIENCE AND CLASSROOM FACILITY ADDITION PROGRAM		8 Labs and 14 CLRMs		50,500

MacArthur High School Program Review



IV. JROTC FACILITY				
A. General Classroom Instructional Program		Number	Sq. Ft.	Total Sq.Ft.
	1. JROTC Classrooms	2	800	1,600
	General Classroom Instructional Program Subtotal (sq.ft.) =		2 Classrooms	1,600
B. JROTC Rifle Range		Number	Sq. Ft.	Total Sq.Ft.
	1. Rifle Range (8 Lane)	1	1,800	1,800
	2. Rifle Range Observation Area	1	900	900
	JROTC Rifle Range Program Subtotal (sq.ft.) =		8 Lane Rifle Range	2,700
C. JROTC Support Areas		Number	Sq. Ft.	Total Sq.Ft.
	1. Arms Room Storage Area (Weapons)	1	125	125
	2. Arms Room Storage Area (Drill and Ceremony)	1	200	200
	3. Supply Room - Equipment	1	810	810
	4. Supply Room - Paper Products	1	40	40
	5. Laundry Room (2 Washers and 2 Dryers) 16 ft x 13 ft	1	208	208
	6. Ice Machine Room (10 ft x 11 ft)	1	110	110
	JROTC Support Areas Program Subtotal (sq.ft.) =		Support Areas	1,493
D. JROTC Cadre Office Areas		Number	Sq. Ft.	Total Sq.Ft.
	1. SAI Office	1	225	225
	2. AAI Office	1	215	215
	3. Cadet Staff Office and Conference Area	1	825	825
	4. Cadet Staff Work Room	1	400	400
	5. Staff Restroom	1	130	130
JROTC Cadre Office Areas Program Subtotal (sq.ft.) =		Cadre Office Areas	1,795	
E. JROTC Locker Room and Dressing Support Areas		Number	Sq. Ft.	Total Sq.Ft.
	1. Boys Locker Room, Dressing, Shower, and Restroom Area	1	700	700
	2. Girls Locker Room, Dressing, Shower, and Restroom Area	1	700	700
	JROTC Locker Room and Dressing Support Areas Program Subtotal (sq.ft.) =		Locker Room Areas	1,400
F. MEP and Technology Support Areas		Number	Sq. Ft.	Total Sq.Ft.
	1. Mechanical / Electrical Room	1	520	520
	2. Custodial Wet Closet	1	40	40
	3. Sprinkler Riser Room	1	60	60
	4. IDF Room	1	50	50
MEP and Technology Support Areas Program Subtotal (sq.ft.) =		MEP & Tech Support Areas	670	
G. Facility Net to Gross		Number	Sq. Ft.	Total Sq.Ft.
	1. Net to Gross Area (Includes Cooridors, Circulation Space, and Wall Thicknesses)	1	3,042	3,042
	Facility Net to Gross Program Subtotal (sq.ft.) =		Net to Gross Area	3,042
H. JROTC Marching Quadrangle		Number	Sq. Ft.	Total Sq.Ft.
	1. Construct JROTC Marching Quadrangle (110 ft x 110 ft)	1	12,100	12,100
	JROTC Marching Quadrangle Program Subtotal (sq.ft.) =			
TOTAL JROTC FACILITY PROGRAM		2 CLRMs & Rifle Range		12,700

MacArthur High School Program Review



V. ATHLETIC / PHYSICAL EDUCATION FACILITY ADDITION				
A. Athletic / Physical Education Support Facilities		Number	Sq. Ft.	Total Sq.Ft.
1.	Training Room (62 ft x 24 ft) - 4 Tables & Millwork Taping Stations, 2 Ice Machines & Wet Area (16 ft x 14 ft) with 3 Whirlpools	1	1,488	1,488
2.	Trainer Office (14 ft x 13 ft)	1	182	182
3.	Training Storage (22 ft x 9 ft)	1	198	198
4.	Laundry Room (22 ft x 17 ft) includes hook-ups for 4 Commercial Washers and 4 Commercial Dryers	1	374	374
5.	Athletic Directors Office and Conference Room (24 ft x 19 ft) and Storage Closet (9 ft x 5 ft)	1	500	500
6.	Boys' Coaches Offices (35 ft x 34 ft) - 18 Coaches each with a 5 ft Work Counter plus Millwork	1	1,180	1,180
7.	Boys' Coaches Dressing (30 x 13 ft) - 3 Showers and 3 Fixtures	1	400	400
Athletic / Physical Education Support Facilities Program Subtotal (sq.ft.) =				4,322
B. Football Program		Number	Sq. Ft.	Total Sq.Ft.
1.	Varsity Football Locker Cage Area (47 ft x 24 ft) with 80 Varsity Football Lockers	1	1,128	1,128
2.	Junior Varsity Football Locker Cage Area (32 ft x 30 ft) with 91 JV Lockers @ 24"W x 16"D x 72"H	1	960	960
3.	Freshman Football Locker Cage Area with (32 ft x 30 ft) with 126 Freshman Lockers @ 24"W x 16"D x 36"H	1	960	960
4.	Football Dressing and Shower Area (33 ft x 21 ft) includes 18 Wall-Mounted Fixtures and 2 Shower Towers (4 Fixtures Each)	1	693	693
5.	Football Restroom Area with (20 ft x 17 ft) includes 3 Water Closets, 3 Urinals, and 2 Lavatories with 6 Hand Washing Stations	1	340	340
6.	Football Storage Area (57 ft x 24 ft) with Ice Machines and Modular Storage System	1	1,368	1,368
Football Program Subtotal (sq.ft.) =				5,449
B. MEP Support Areas		Number	Sq. Ft.	Total Sq.Ft.
1.	Mechanical Room	1	1,659	1,659
2.	Electrical Rooms	2	60	120
3.	IDF Room	1	100	100
4.	Custodial Wet Closets	1	50	50
MEP and Technology Support Areas Program Subtotal (sq.ft.) =				1,929
C. Facility Net to Gross		Number	Sq. Ft.	Total Sq.Ft.
1.	Net to Gross Area (Includes Corridors, Circulation Space, and Wall Thicknesses)	1	4,800	4,800
Facility Net to Gross Program Subtotal (sq.ft.) =			Net to Gross Area	4,800
TOTAL ATHLETIC AND PHYSICAL EDUCATION FACILITY ADDITION				16,500
E. Outdoor Concession and Restroom Building		Number	Sq. Ft.	Total Sq.Ft.
1.	Concession Stand	1	235	235
2.	Concession Storage	1	100	100
3.	Mens Restroom	1	260	260
4.	Womens Restroom	1	260	260
5.	Net to Gross Area (Includes Wall Thicknesses)	1	320	320
Outdoor Concession and Restroom Building Subtotal (sq.ft.) =				1,175
TOTAL OUTDOOR CONCESSION AND RESTROOM BUILDING				1,175

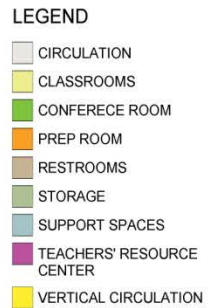
MacArthur HS 2011 Bond Master Development Plan



MacArthur HS New Science & Classroom Addition Site Plan



*MacArthur High School
North East ISD*



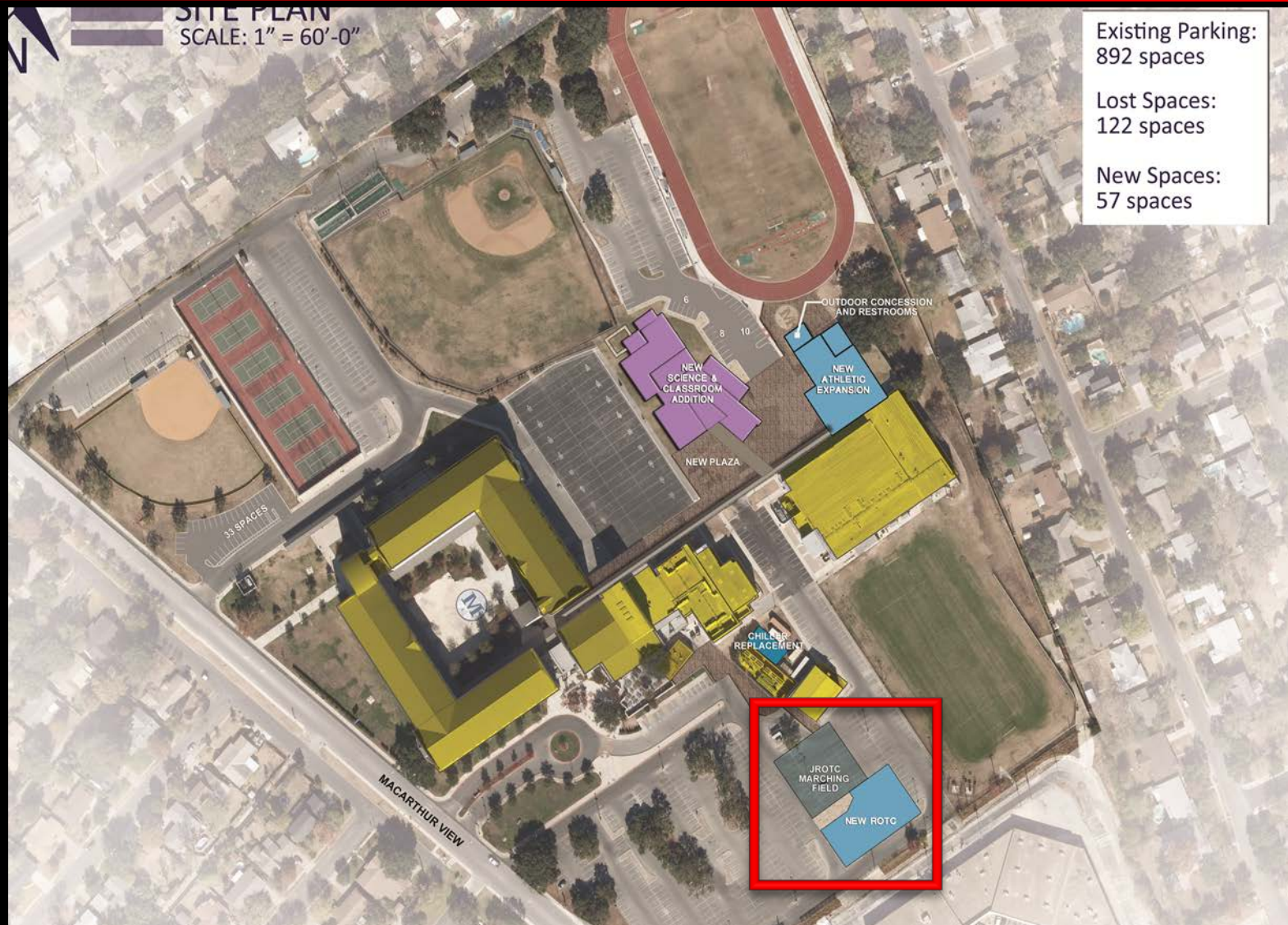
New Science and Classroom Addition – 2nd Floor Plan



Science and Classroom Addition Perspective



MacArthur HS New JROTC Facility Site Plan



JROTC MARCHING QUADRANGEL



MacArthur HS New JROTC Facility



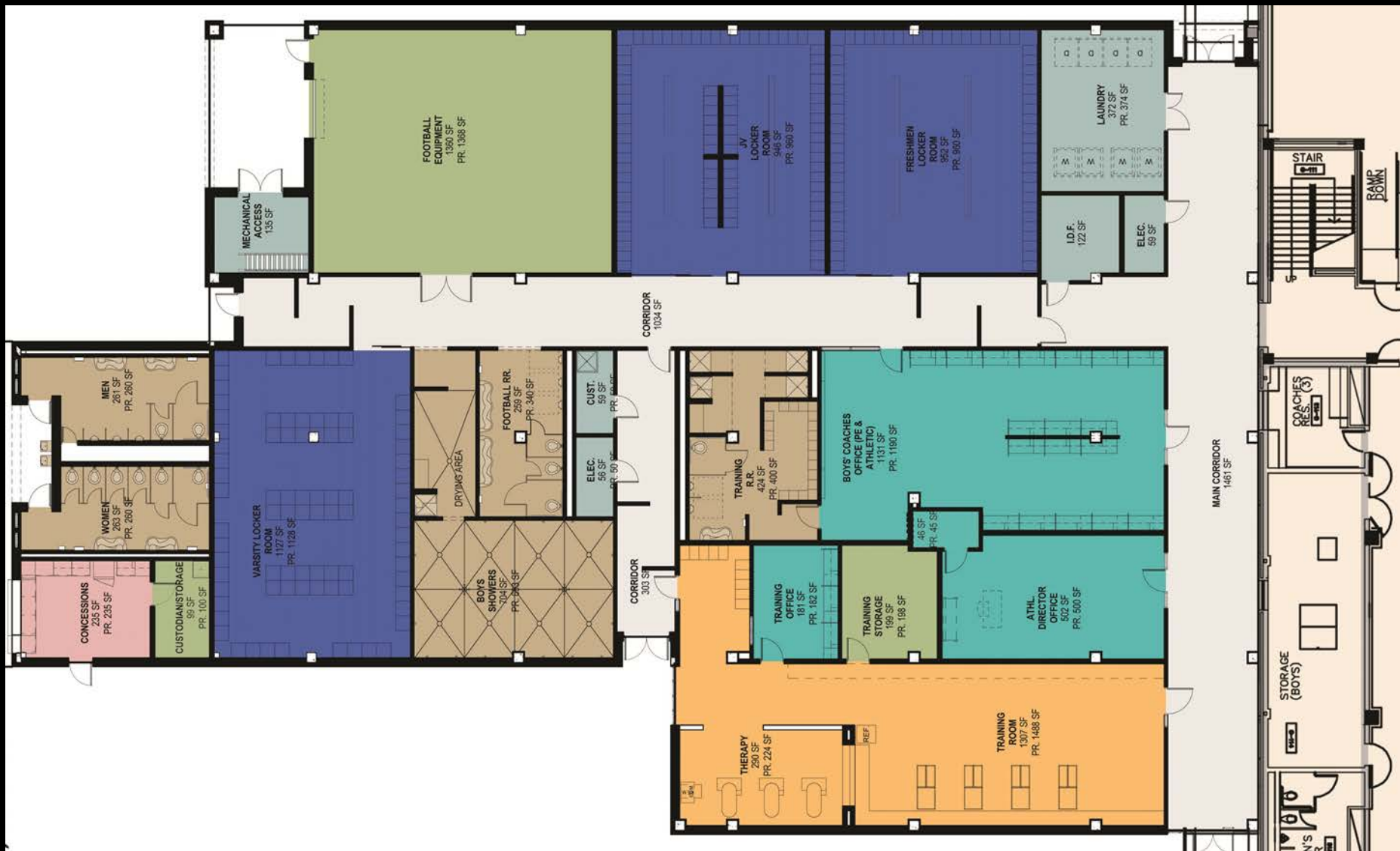
MacArthur HS New Athletic Addition Site Plan



Athletic Outdoor Concessions and Restroom Facility



MacArthur HS New Athletic Facility Addition



JROTC and Athletic Facility Addition Perspectives

New Athletic Facility Addition



MacArthur HS Schematic Design Plan Budget Analysis

Concept Plan	Construction Cost Estimate	Under/Over Budget
Board-Approved Budget	\$ 21,750,000	-
Schematic Design Concept Plan	\$ 21,500,000	- \$ 250,000

District Staff Recommendation is to Approve the MacArthur HS Schematic Design Concept Plan

MacArthur High School Program Analysis

Program Element	MacArthur Program	MacArthur Design
New Science and Classroom Addition		
8 Science Labs, 4 Science Prep Rooms, 14 Classrooms, and 1 Computer Lab	27,970	28,048
Teacher Resource Area and Conference Room	2,900	2,967
MEP Support Areas, Restrooms, Corridors, Stair Towers, and Walls (Net to Gross)	19,630	18,205
New Science and Classroom Addition Program Areas Subtotal (sq ft) =	50,500	49,220
New JROTC Facility		
2 Classrooms, 8-Lane Rifle Range, Arms Room, Supply Room, Laundry Room, Men's and Women's Locker Rooms, & AI/SAI and Student Cadet Cadre Offices	8,988	9,016
MEP Support Areas, Corridors, Stair Towers, and Walls (Net to Gross)	3,712	3,776
New JROTC Facility Program Areas Subtotal (sq ft) =	12,700	12,792
New Athletic Facility Addition and Outdoor Concessions and Restrooms Facility		
Training Room, Laundry Room, Football Program Athletic Locker Room, Football Equipment Storage Area, Athletic Director's Office, and Men's Coaches Offices	9,771	9,805
MEP Support Areas, Corridors, Stair Towers, and Walls (Net to Gross)	6,729	6,526
Athletic Facility Outdoor Concessions and Restrooms	1,175	1,204
New JROTC Facility Program Areas Subtotal (sq ft) =	17,675	17,535
Central Energy Plant Upgrades (Replace 2 Air-Cooled Chillers & Chiller Pumps)	Per Design	Per Design
TOTAL PROGRAM	80,875	79,547

MacArthur High School Budget Review

- Design Account: \$ 2,500,000
- Construction Account: \$ 21,750,000
- Technology Account: \$ 250,000
- Furniture, Fixtures, and Equipment Account: \$ 375,000
- Program Contingency: \$ 500,000
- TOTAL PROGRAM = \$ 25,375,000

MacArthur High School CBAC Review

2011 Bond Planning Estimate

Board-Approved Budget = \$21,750,000

Project Scope

- New Science and Classroom Addition with 8 Science Labs , 4 Science Prep Rooms, 14 Classrooms, & 1 Teacher Resource Area
- New JROTC Facility
- New Athletic Facility Addition with Training Room, Laundry Room, Football Program Athletic Locker Room, Athletic Director's Office, and Men Coaches' Office
- New Athletic Outdoor Concessions and Restrooms Facility
- Central Energy Plant Upgrades
- Total New Construction @ 80,875 sq.ft.

Timeline

- All Facilities Completed by Oct 2016

2011 Bond Planning Estimate

✓ Construction Cost Estimate = \$21,500,000

✓ Project Scope

- New Science and Classroom Addition with 8 Science Labs, 4 Science Prep Rooms, 14 Classrooms, & 1 Teacher Resource Area
- New JROTC Facility
- New Athletic Facility Addition with Training Room, Laundry Room, Football Program Athletic Locker Room, Athletic Director's Office and Men Coaches' Office
- New Athletic Outdoor Concessions and Restrooms Facility
- Central Energy Plant Upgrades
- Total New Construction @ 79,547 sq.ft.

✓ Timeline

- All Facilities Completed by Oct 2016

MacArthur HS Design & Construction Timeline

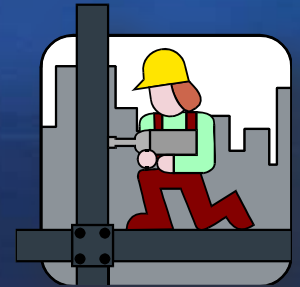


MacArthur High School Project District Staff Recommendation

- Recommend Approval of MacArthur High School Schematic Design Plan
 - Constructs Bond-Approved Plan which includes:
 - New Science and Classroom Addition
 - New JROTC Facility
 - New Athletic Facility Addition
 - New Athletic Outdoor Concessions and Restrooms Facility
 - Central Energy Plant Upgrades



MacArthur High School Schematic Design Presentation 2011 Bond Program



Questions?