

This document has been updated by LPA|A with comments for the purpose of preparing a coordinated response from the District, OPM and LPA|A. Coordinated responses to specific MSBA comments are in red with 12-point Gothic A1 font.

ATTACHMENT B
MODULE 3 – PREFERRED SCHEMATIC SPACE SUMMARY REVIEW

District: City of Worcester

School: Doherty Memorial High School

Owner’s Project Manager: AECOM Tishman

Designer Firm: Lamoureux Pagano Associates Architects

Submittal Due Date: January 2, 2020

Submittal Received Date: December 31, 2019

Review Date: December 31, 2019 – January 24, 2020

Reviewed by: A. Alves, C. Forde, J. Jumpe

The Massachusetts School Building Authority (the “MSBA”) has completed its review of the proposed space summary of the preferred alternative as produced by Lamoureux Pagano Associates Architects and its consultants. This review involved evaluating the extent to which the Doherty Memorial High School School’s proposed space summary conforms to the MSBA guidelines and regulations.

The MSBA considers it critical that the Districts and their Designers aggressively pursue design strategies to achieve compliance with the MSBA guidelines for all proposed projects in the new program and strive to meet the gross square footage allowed per student and the core classroom space standards, as outlined in the guidelines. The MSBA also considers its stance on core classroom space critical to its mission of supporting the construction of successful school projects throughout the Commonwealth that meet current and future educational demands. The MSBA does not want to see this critical component of education suffer at the expense of larger or grander spaces that are not directly involved in the education of students.

The following review is based on the submitted new construction project option with an agreed upon design enrollment of 1,670 students in grades 9-12.

The MSBA review comments are as follows:

- **Core Academic** – The District is proposing a total of 101,640 net square feet (nsf) which exceeds the MSBA guidelines by 21,640 nsf. The proposed area in this category has decreased by 1,800 nsf since the Preliminary Design Program (“PDP”) submittal. The MSBA notes that the following spaces are proposed:
 - (57) 900 nsf General Classroom totaling 51,300 which is 3,700 nsf in excess of the MSBA guidelines. The overage is primarily due to the inclusion of (1) additional classroom and the District’s desire to provide

900 nsf classrooms. Based on the information provided, the proposed number of classrooms supports the delivery of the District's educational program. The MSBA accepts this variation to the guidelines. No further action required.

- (12) 400 nsf Teacher Planning areas totaling 4,800 nsf which is 800 nsf below the MSBA guidelines. As part of the District's updated Preferred Schematic Report, please confirm the proposed teacher planning areas are adequate to meet the District's educational program.

District Response: The number of proposed planning areas are adequate for Doherty's educational program. The net square foot area allocations will be confirmed in Schematic Design.

- (9) 900 nsf Small Group Seminar (Common Rooms) areas totaling 8,100 nsf which is 6,100 nsf in excess of the MSBA guidelines. Based on the information provided and the proposed size of the general classrooms compared to the square foot range allowed in the MSBA guidelines, the MSBA will participate in a portion of the overall proposed square footage associated with the Common Room areas. The MSBA calculates ineligible square footage to be approximately 3,250 nsf.

District Response: Acknowledged

- (15) 1,440 nsf Science Classroom/Lab areas totaling 21,600 nsf. This aligns with MSBA's guidelines. No further action required.
- (1) 1,440 nsf Biotechnology Lab in excess of the MSBA guidelines. Based on the information provided in the District's educational program the MSBA accepts this variation to the guidelines. No further action required.
- (1) 900 nsf AVID Classroom in excess of the MSBA guidelines. Based on the information provided in the District's educational program the MSBA accepts this variation to the guidelines. No further action required.
- (16) 200 nsf Prep Room areas totaling 3,200 nsf which is 20 nsf in excess of the MSBA guidelines, due to the inclusion of (1) additional Prep Room. Based on the information provided the MSBA accepts this variation to the guidelines. No further action required.
- (4) 900 nsf Small Group Rooms (EL) totaling 3,600 nsf in excess of the MSBA guidelines. Based on the information provided in the District's educational program the MSBA accepts this variation to the guidelines. No further action required.
- (2) 900 nsf Language Labs totaling 1,800 nsf in excess of the MSBA guidelines. Based on the information provided in the District's educational program the MSBA accepts this variation to the guidelines. No further action required.
- (1) 2,000 nsf Large Group Seminar Room in excess of the MSBA guidelines. The MSBA does not object to including these areas, however,

this square footage will be considered ineligible for MSBA reimbursement. No further action required.

District Response: Acknowledged

- o (3) 900 nsf Computer Science Classrooms totaling 2,700 nsf in excess of the MSBA guidelines. As part of the District's updated Preferred Schematic Report, please provide additional information that describes how the proposed Computer Science Classrooms would be staffed and why the related classrooms/ computer labs could not be scheduled to meet this need.

District Response: Although the school and district have purchased Chromebooks for general education classroom usage, this technology is inadequate for use within numerous computer-based courses. Doherty needs these computer science classroom spaces, designed with the equipment and infrastructure necessary, in order to utilize the software needed for students to engage with the computer science curriculum.

Consistent with the goals of the Worcester Public Schools Strategic plan, Doherty plans to continue to offer varied electives for students, and integrate technology to ensure students are ready for the college and career environments. We anticipate course(s) in computer science/literacy to become a local and/or state graduation requirement. Doherty offers numerous courses within this curricular area taught by licensed educators and we anticipate a need for these courses to continue and/or be expanded. The spaces dedicated to the Chapter 74 programs, including Programming and Web Development, will not be available for non-vocational students as these vocational spaces will be used throughout the school day for program students to meet the required hours.

- **Special Education** – The District is proposing a total of 32,950 nsf which exceeds the MSBA guidelines by 15,830 nsf. The proposed area in this category has increased by 50 nsf since the PDP submittal. Please note that the Special Education program is subject to approval by the Department of Elementary and

Secondary Education (DESE). The District should provide this information for this submittal with the Schematic Design submittal. Formal approval of the District's proposed Special Education program by the DESE is a prerequisite for executing a Project Funding Agreement with the MSBA.

District Response: Acknowledged

- **Art and Music** – The District is proposing a total of 12,200 nsf which exceeds the MSBA guidelines by 3,850 nsf. The proposed area in this category has not changed since the PDP submittal. The MSBA continues to encourage the District and its consultants to continue to seek opportunities to increase efficiencies to align with MSBA guidelines. Please note area beyond that included in the guidelines will be deemed ineligible for reimbursement.

District Response: Acknowledged

- **Vocations and Technology** – The District is proposing a total of 28,800 nsf which exceeds the MSBA guidelines by 11,520 nsf. The proposed area in this category has increased by 650 nsf since the PDP submittal. The District is proposing four Chapter 74 Programs, which includes one existing program and three new programs:
 - Engineering and Technology (existing program);
 - Programming and Web Development;
 - Marketing Management and Finance; and
 - Construction Crafter Laborer.

Based on the information provided in the District's educational program and DESE's letter dated October 7, 2019 that confirms general agreement with the District's Chapter 74 proposed program offerings to proceed in the next phase of the project. In order to determine eligibility in this area, the MSBA will require additional information. Please refer to comments in Section 3.3.4, Item 1a of 'Attachment A'.

District Response: Refer to response in Attachment A.

- **Health and Physical Education** – The District is proposing a total of 37,852 nsf which exceeds the MSBA guidelines by 12,300 nsf. The proposed area in this category has not changed since the PDP submittal. As previously stated in MSBA's PDP Review Comments, the MSBA accepts two additional 3,000 nsf physical education stations, totaling 6,000 nsf for an adjusted total area of 31,552 nsf allowed in this category. Please note area beyond that included in the adjusted guidelines will be deemed ineligible for reimbursement.

Additionally, the District is proposing a gymnasium designed with two adjacent PE spaces separated from the main gymnasium by modular partitions. The combined square footage of the two adjacent spaces and the main gymnasium exceed the MSBA's policy regarding maximum gymnasium size by 6,000 nsf (see attached memorandum). The MSBA noted as part of its PDP Review Comments that, "In no event will the MSBA participate in a new construction project that includes contiguous gymnasium space exceeding 18,000 nsf." Additionally, the MSBA notes that the gymnasium design remains unchanged in the PSR submission. If the space remains as currently designed the MSBA will not participate in the proposed project. As part of the District's updated Preferred Schematic Report, please revise the design of the gymnasium and adjacent spaces. Please acknowledge.

District Response: Acknowledged

- **Media Center** – The District is proposing a total of 11,200 nsf which exceeds the MSBA guidelines by 863 nsf. The proposed area in this category has not changed since the PDP submittal. The MSBA continues to encourage the District and its consultants to continue to seek opportunities to increase efficiencies to align with MSBA guidelines. Please note area beyond that included in the guidelines will be deemed ineligible for reimbursement.

District Response: Acknowledged

- **Auditorium and Drama** – The District is proposing a total of 17,500 nsf which exceeds the MSBA guidelines by 7,100 nsf. The proposed area in this category has not changed since the PDP submittal. The MSBA does not object to these spaces being included in the proposed project, however, these spaces will be deemed ineligible for reimbursement.

District Response: Acknowledged

- **Dining and Food Service** – The District is proposing a total of 15,936 nsf which exceeds the MSBA guidelines by 2,781 nsf. The proposed area in this category has not changed since the PDP submittal. The MSBA continues to encourage the District and its consultants to continue to seek opportunities to increase efficiencies to align with MSBA guidelines. Please note area beyond that included in the guidelines will be deemed ineligible for reimbursement.

District Response: Acknowledged

- **Medical** – The District is proposing a total of 3,055 nsf which exceeds the MSBA guidelines by 1,645 nsf. The proposed area in this category has not changed since

the PDP submittal. The MSBA continues to encourage the District and its consultants to continue to seek opportunities to increase efficiencies to align with MSBA guidelines. Please note area beyond that included in the guidelines will be deemed ineligible for reimbursement.

District Response: Acknowledged

- **Administration and Guidance** – The District is proposing a total of 10,059 nsf which exceeds the MSBA guidelines by 4,018 nsf. The proposed area in this category has increased by 400 nsf since the PDP submittal. The MSBA accepts (1) 150 nsf School Resource Officer area and (1) 150 nsf Security Office, totaling 300 nsf for an adjusted area of 6,341 nsf allowed in this category. Please note area beyond that included in the adjusted guidelines will be deemed ineligible for reimbursement.

District Response: Acknowledged

- **Custodial and Maintenance** – The District is proposing a total of 3,593 nsf which exceeds the MSBA guidelines by 716 nsf. The proposed area in this category has not changed since the PDP submittal. The MSBA continues to encourage the District and its consultants to continue to seek opportunities to increase efficiencies to align with MSBA guidelines. Please note area beyond that included in the guidelines will be deemed ineligible for reimbursement.

District Response: Acknowledged

- **Other** – The District is proposing a total of 4,500 nsf for Technical Services/IT, which exceeds the MSBA guidelines. The proposed area in this category has not changed since the PDP submittal. The MSBA does not object to including these areas, however, this square footage will be considered ineligible for MSBA reimbursement. No further action required.

District Response: Acknowledged

- **Total Building Net Floor Area** – The District is proposing a total of 297,285 nsf which exceeds the MSBA guidelines by 86,761 nsf. The proposed area has decreased by 700 nsf since the PDP submittal. Please address the comments provided in the categories above as part of the District's response to these comments in order for the MSBA to establish an allowable net square footage.
- **Total Building Gross Floor Area** – The District is proposing a total of 420,000 gsf which exceeds the MSBA guidelines by 131,214 gsf using a grossing factor of 1.50. The proposed area has increased by 23 gsf since the PDP submittal. Please

address the comments provided in the categories above as part of the District's response to these comments and resubmit in order for the MSBA to establish an allowable gross square footage.

Please note that upon moving forward into subsequent phases of the proposed project, the Designer will be required to provide, with each submission, a signed, updated space summary that reflects the design and demonstrates that the design remains, except as agreed to in writing by the MSBA, in accordance with the guidelines, rules, regulations and policies of the MSBA. Should the updated space summary demonstrate changes to the previous space summary include a narrative description of the change(s) and the reason for the proposed changes to the project.

District Response: Acknowledged

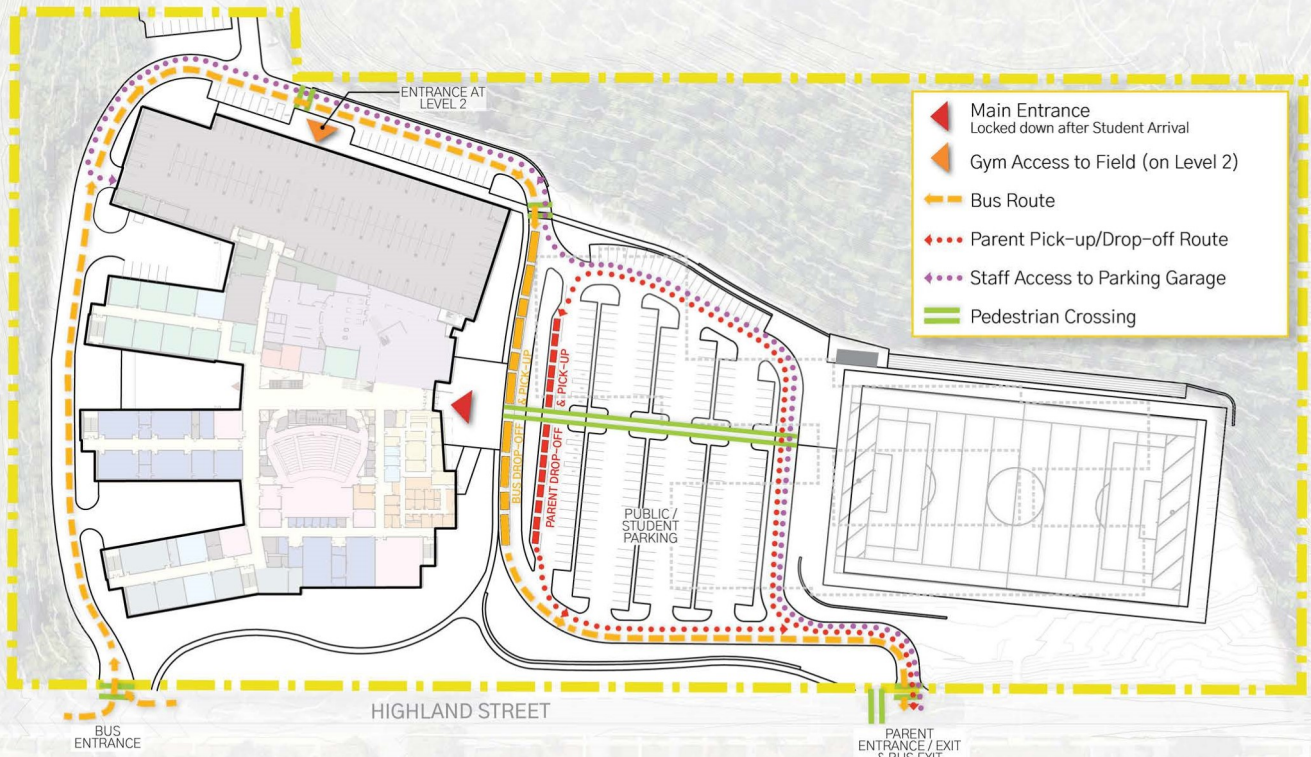
SCHEMATIC DESIGN

VEHICULAR CIRCULATION DIAGRAM

ELM
PARK

NEWTON
HILL

PARK AVENUE



Doherty Memorial High School
299 Highland Street, Worcester MA



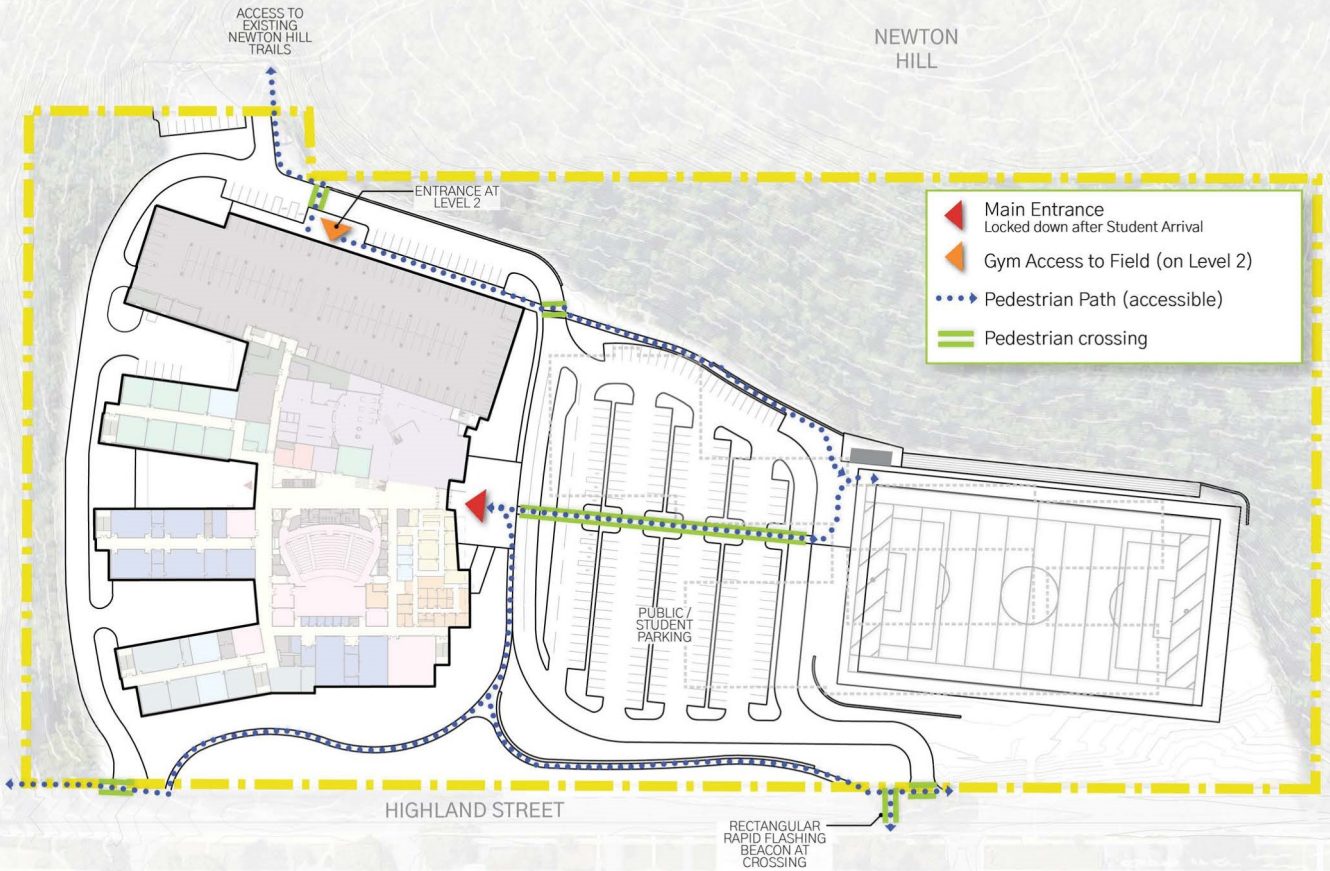
SCHEMATIC DESIGN

PEDESTRIAN FLOW DIAGRAM

ELM
PARK

NEWTON
HILL

PARK AVENUE



Doherty Memorial High School
299 Highland Street, Worcester MA



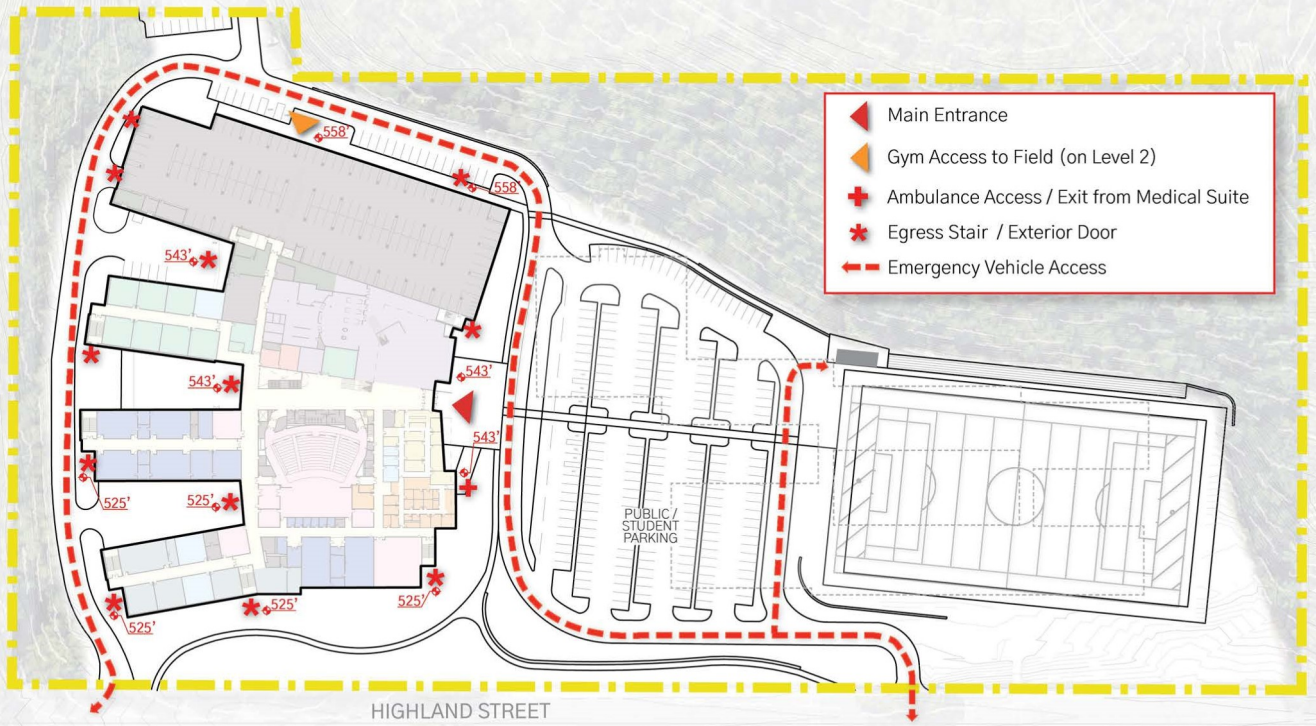
SCHEMATIC DESIGN

EMERGENCY VEHICLE ACCESS DIAGRAM

ELM
PARK

NEWTON
HILL

PARK AVENUE



HIGHLAND STREET



Doherty Memorial High School
299 Highland Street, Worcester MA



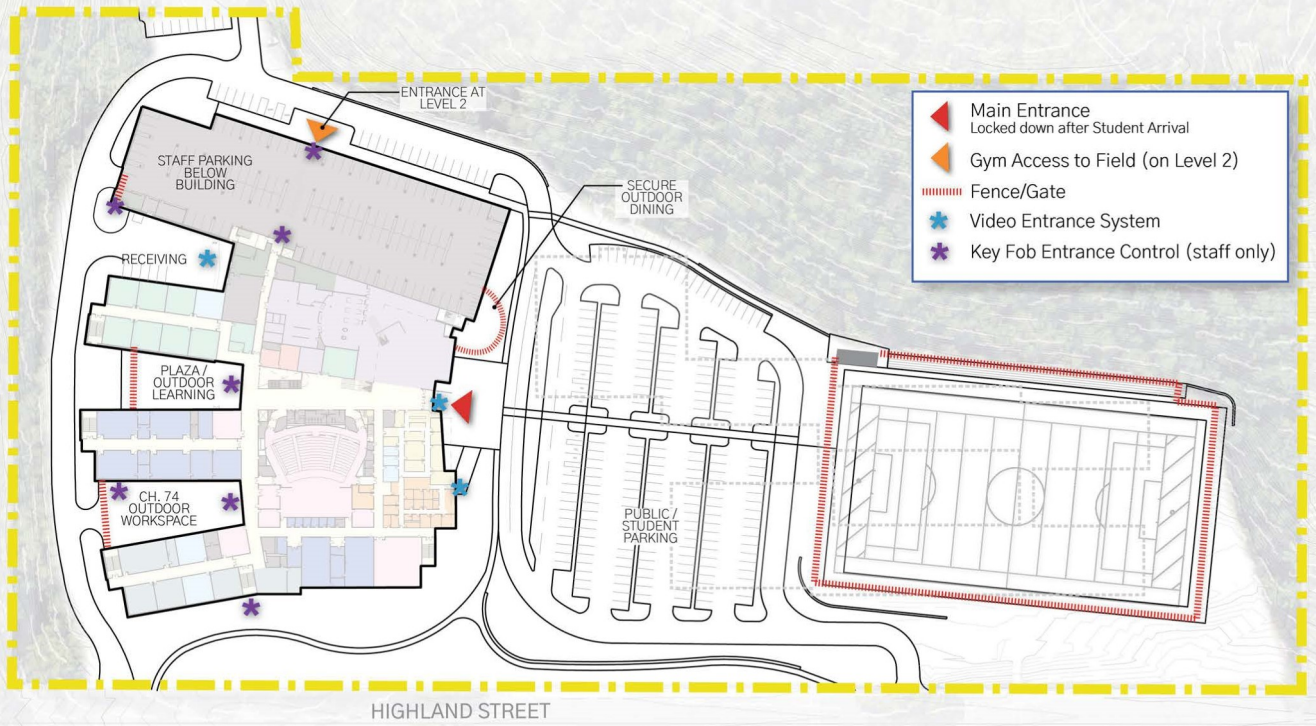
SCHEMATIC DESIGN

SECURITY & ACCESS CONTROL DIAGRAM

ELM
PARK

NEWTON
HILL





PARK AVENUE

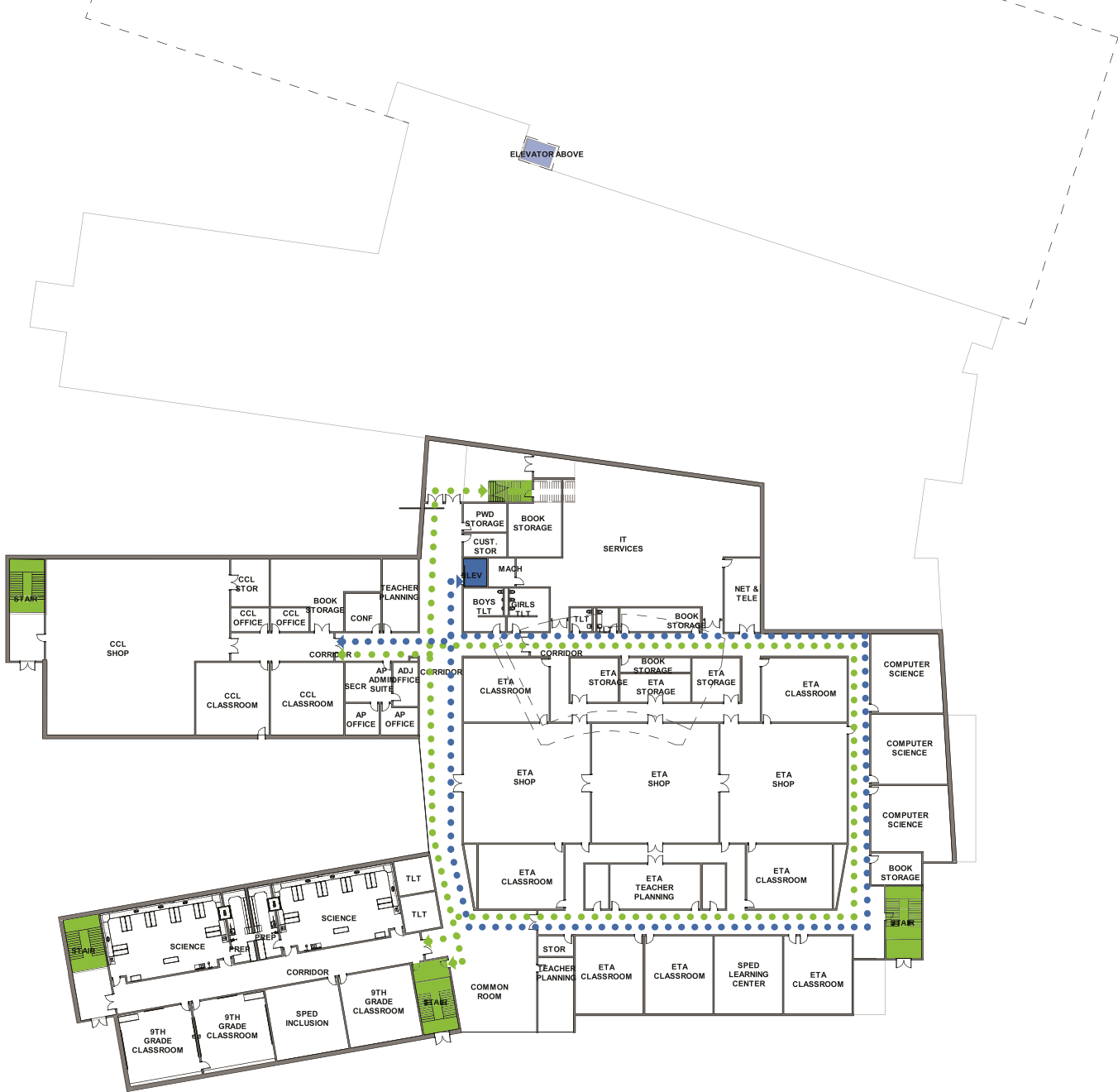


Doherty Memorial High School
299 Highland Street, Worcester MA



LEGEND

- PRIMARY ENTRY A  LARGE BUS DROP-OFF/PICK-UP
PARENT DROP OFF/PICK UP
ACCESSIBLE PATH FROM PARKING
& HIGHLAND STREET
- ENTRY B  PE ACCESS TO FIELDS
-  GENERAL POPULATION
STUDENT ARRIVAL/DISMISSAL
-  PHYSICALLY CHALLENGED
STUDENT ARRIVAL/DISMISSAL



Doherty Memorial High School
299 Highland Street, Worcester, MA 01602





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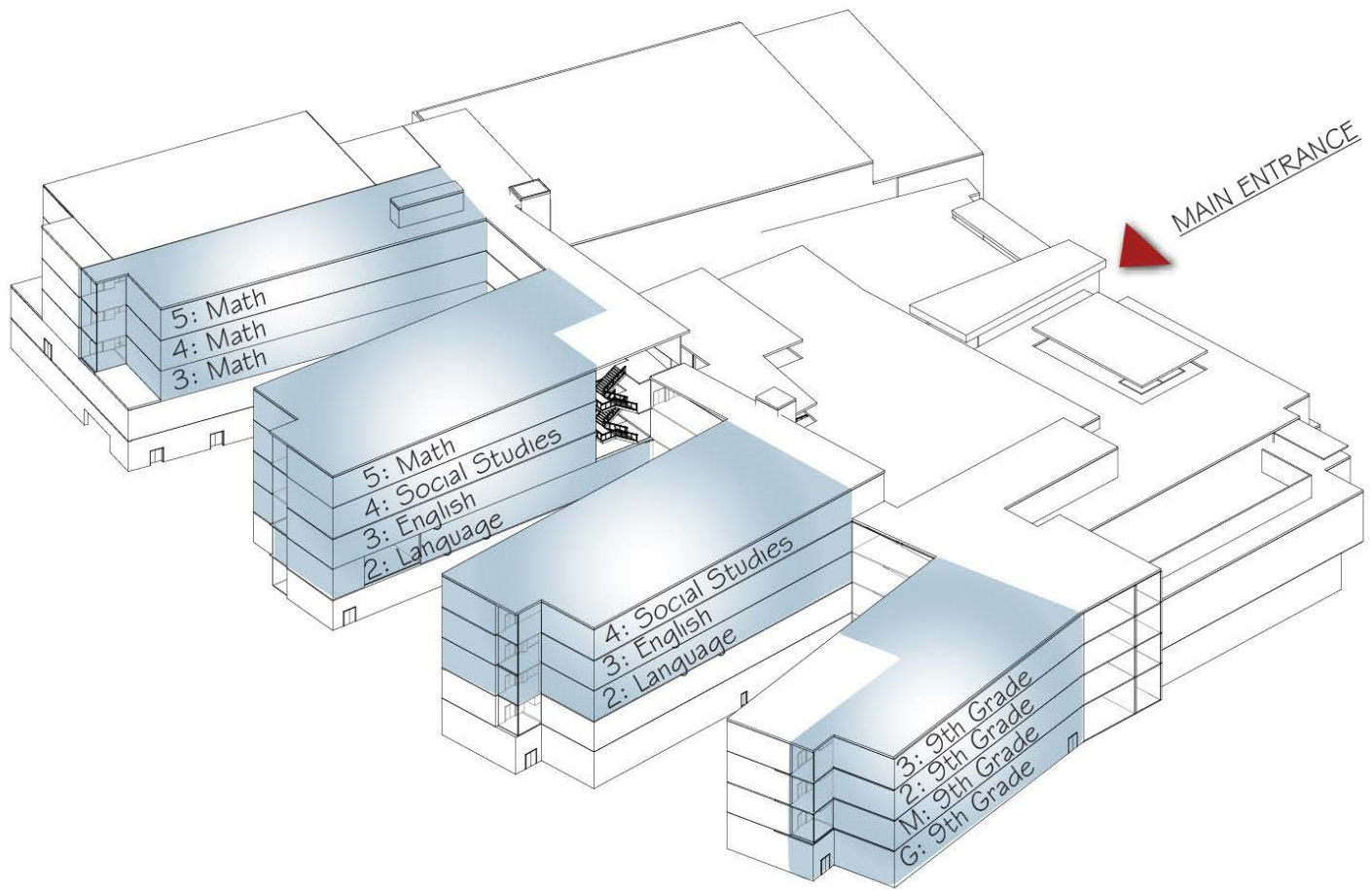




Doherty Memorial High School
 299 Highland Street, Worcester, MA 01602



Academic Organization
By Department Horizontally
(as submitted in the PSR)



Flexible Room Assignments:

- Language
- English
- Math
- Social Studies
- 9th Grade rooms (excluding Science Labs)

Legend:

Level: Description/Department

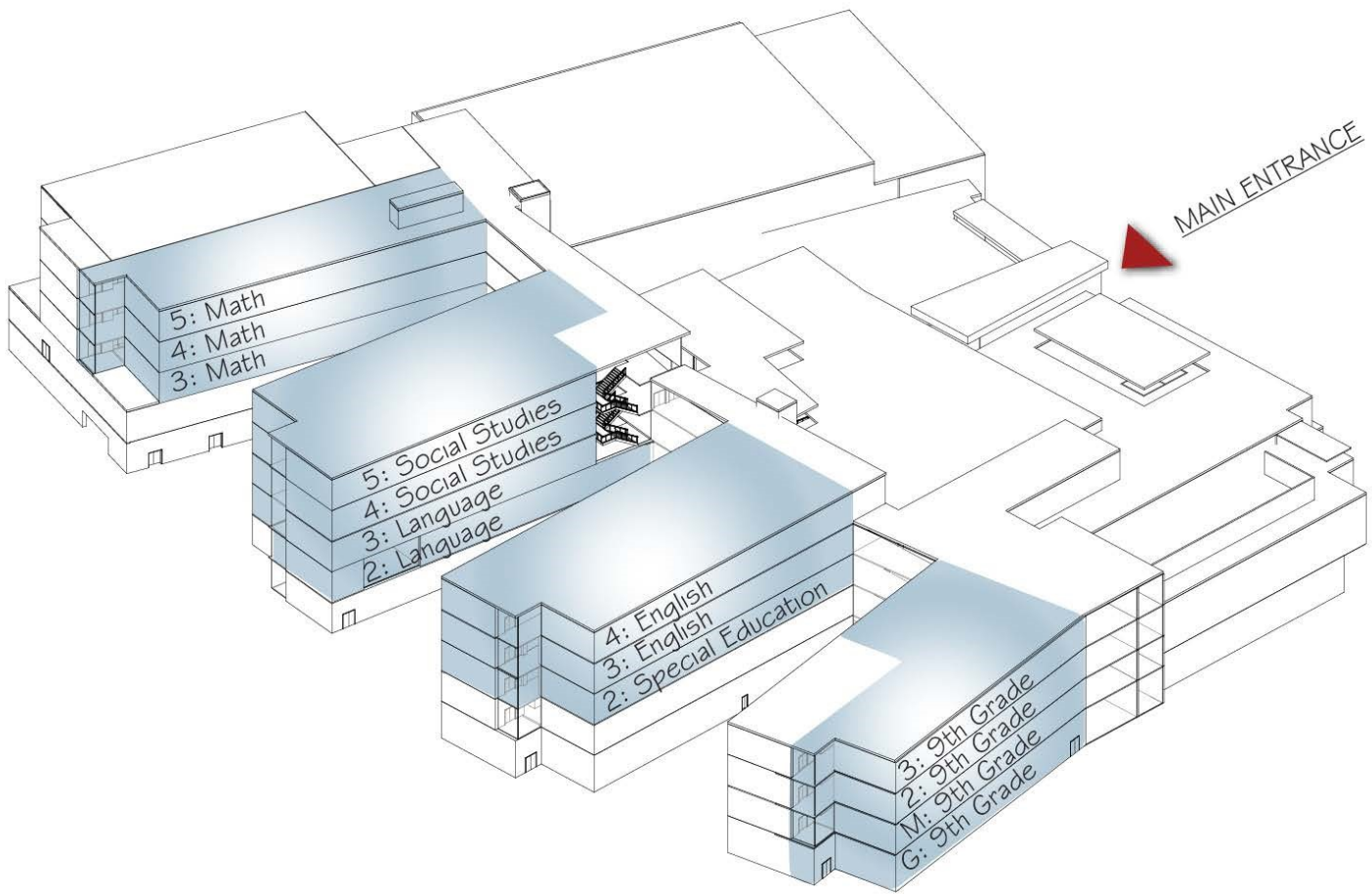
 Flexible Classroom



Doherty Memorial High School
299 Highland Street, Worcester, MA 01602



Academic Organization
By Department Vertically



Flexible Room Assignments:

- Language
- English
- Math
- Social Studies
- 9th Grade rooms (excluding Science Labs)

Legend:

Level: Description/Department

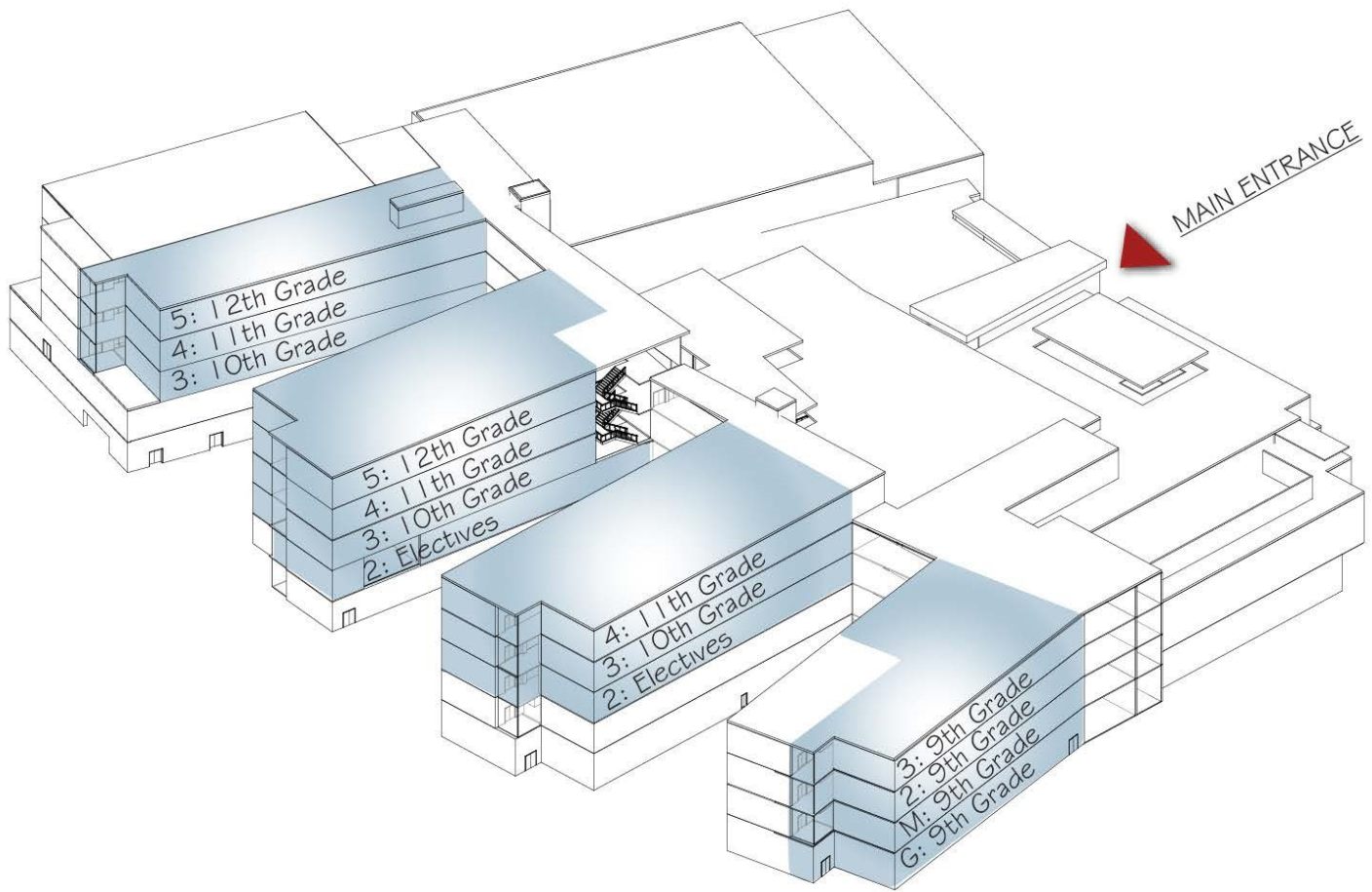
 Flexible Classroom



Doherty Memorial High School
299 Highland Street, Worcester, MA 01602



Academic Organization By Grade



Flexible Room Assignments:

- Language
- English
- Math
- Social Studies
- 9th Grade rooms (excluding Science Labs)

Legend:

Level: Description/Department

 Flexible Classroom



Doherty Memorial High School

299 Highland Street, Worcester, MA 01602



The following review comments have been marked up with the responsible party in red font after each review comment. Items highlighted in yellow must be addressed in the response to the PDP review comments, which is due by November 14th.

This document has been updated by LPA with comments for the purpose of preparing a coordinated response from the District, OPM and LPA. District/LPA responses to specific MSBA comments are in red with 12-point Gothic A1 font.

**ATTACHMENT A
MODULE 3 – PRELIMINARY DESIGN PROGRAM REVIEW
COMMENTS**

District: City of Worcester
School: Doherty Memorial High School
Owner’s Project Manager: Tishman Construction Corporation of MA
Designer Firm: Lamoureux Pagano & Associates, Inc.
Submittal Due Date: September 11, 2019
Submittal Received Date: September 10, 2019
Review Date: September 10 - October 25, 2019
Reviewed by: R.Whidden, C.Alles, J.Jumpe

MSBA REVIEW COMMENTS

The following comments¹ on the Preliminary Design Program (PDP) submittal are issued pursuant to a review of the project submittal document for the proposed project presented as a part of the Feasibility Study submission in accordance with the MSBA Module 3 Guidelines.

3.1 PRELIMINARY DESIGN PROGRAM

Overview of the Preliminary Design Program Submittal	Complete	Provided; <i>Refer to comments following each section</i>	Not Provided; <i>Refer to comments following each section</i>	Receipt of District’s Response; <i>To be filled out by MSBA Staff</i>
OPM Certification of Completeness and Conformity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Table of Contents	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.1 Introduction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.2 Educational Program	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.3 Initial Space Summary	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.4 Evaluation of Existing Conditions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.5 Site Development Requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.1.6 Preliminary Evaluation of Alternatives	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>