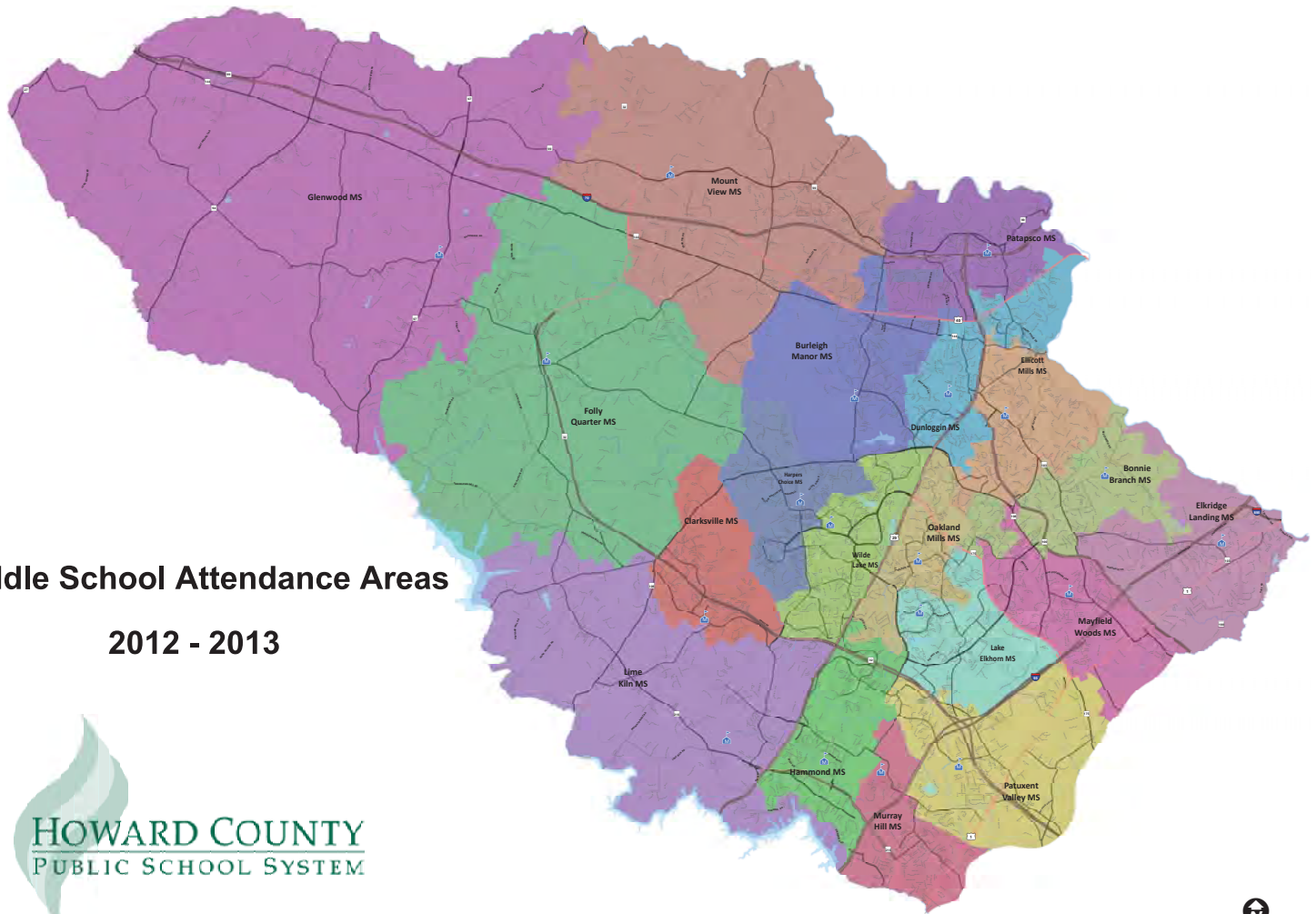


## HCPSS 2012 – 13 Middle School Capacity Update

May 22, 2013



*Presented by*



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# **Howard County Public School System**

## **2012-13 Middle School Capacity Update**

**May 22, 2013**

**As prepared by Gilbert Architects Inc.**

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**In Association with Howard County Public School System**

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## Introduction

In 2007, Gilbert Architects Inc. was hired as a part of an open end agreement with Howard County Public School System to provide facilities assessments of all nineteen of their existing middle schools. This facility assessment had two distinct components: a programmatic assessment to identify how well each building is supporting the delivery of the educational program based on the school board adopted educational specifications for middle schools which was provided by Gilbert Architects Inc. (GAI); and a facilities condition assessment to identify the condition of the physical plant, building systems, and an estimate of the deferred maintenance costs for each building which was prepared by Facilities Engineering Associates (FEA).

In anticipation of a new middle school opening and redistricting, Gilbert Architects Inc. was hired in 2013 to update the programmatic assessment specifically to determine the actual building capacities of each of the middle schools based on the current 2012-2013 room utilization. The capacity of a building will change from year to year based on the types of programs it houses. The educational programs offered in schools today require various spaces and are often dependent on space available especially when enrollments rise and providing more space is not an option.

## Data Collection Process

Using the colored floor plans generated for the 2007-2008 study as a basis for discussion, GAI reviewed the current room utilizations for each school using GotoMeeting, a web-based conferencing tool that allows attendees to meet online in remote locations rather than in person. This technology was a cost effective way to personally connect with each of the building principals, review the floor plan of their building together on-line, without the time and travel expense.

Over a 3-day period in one week, GAI was able to review 16 out of the 19 middle school plans with the associated middle school principals (or in some cases their assistants) using the plans prepared in the 2007-2008 study as a baseline for discussion. Discussions with the remaining three principals occurred the following week. The colored floor plans were updated based on those discussions and sent back to each school representative for a final review to ensure that the updated plans properly represented the current room utilization.

## Room Utilization

The principals reviewed with the architect the program that was currently being delivered in each room or what the current use was specific to each room, whether it was a toilet room, elevator, etc. Each program area in the school was assigned a color and a color key provided to graphically represent the use of each room on the floor plan.

The following spaces have been further identified on the floor plans:

- Administration, Student Services (formally known as Guidance), and the Health Suite.
- Rooms assigned to Gifted & Talented (G&T), English for Speakers of Other Languages (ESOL), ALS, Alternative Education (Alt. Ed.) and Speech.
- Stage areas that also are shared with other programs are noted on the floor plans in parentheses, but are color keyed to represent the stage use.
- Temporary classrooms outside of the existing building footprint have been identified graphically and colored to represent the program delivered in that classroom.

## Rooms Assigned Capacity

As part of the 2007-2008 facility assessment, rooms were assigned capacity and therefore, counted as a teaching station if they were adequately sized with the proper square footages as defined by the approved educational specifications. Rooms that received capacity were numbered, beginning at number 1, to determine the total number of teaching stations for that school. Based on the input from each of the middle school representatives, the following methodology was used as a basis of determining the current room utilization:

- Classrooms that had received capacity in the 2007-2008 assessment and were currently being used as general classrooms were assigned capacity.
- Classrooms that are used for the delivery of the educational program and met the square footage requirements per the Guidelines Manual for Renovations and Modernizations of Existing Schools were assigned capacity.
- Support rooms, such as special education classrooms, testing rooms, etc. were not assigned capacity.
- Building support rooms such as administration, cafeteria, kitchen and media center, were not assigned capacity.
- Special education rooms that had been reassigned to a general classroom that met the square footage requirements for a general classroom per the Guidelines Manual for Renovations and Modernizations of Existing Schools were assigned capacity.
- General classrooms assigned to rooms that did not meet the square footage requirements for a general classroom were not assigned capacity and were marked “undersized” on the attached floor plans.
- General classrooms housed in temporary modular classrooms were not assigned capacity, even though the room size may adequately meet the square footage requirements for a general classroom.
- Classrooms that are shared by two or three program areas are shown on the floor plans with two or three colors, but only get capacity for one classroom if the room size meets the square footage requirements for a general classroom.
- Gymnasiums that can be divided into two teaching stations by a curtain or folding partition were assigned as two teaching stations.

## Capacity Tabulation

### Total NET SF

- The total net program square footage is based on the educational specifications as quantified in the HCPSS 2007-08 Middle School Facility Assessment Study prepared by Gilbert Architects Inc. The total net square footage indicates either a total program square footage **deficiency** (in red) or **excess** (in green).

### Adjusted SF

- For schools that have a *marginal* square footage **deficiency** or **excess**, no adjustments to the capacity were made.
- For schools that have a sizable square footage **deficiency**, we have applied a factor to reduce the building capacity as follows:
  - For every increment of 2000 square feet of deficient *educational* classroom space, we have subtracted 1 classroom or teaching station, which equates to three (3) classrooms at the minimum of 660 square feet per classroom.
  - The current HCPSS capacity model expresses capacity based on the number of teaching stations alone, which doesn't accurately reflect deficiencies in the educational model. The inventory of HCPSS facilities represents a variety of different educational specifications over a period of several decades. The

formula described above compensates for the deficiencies of the older facilities by reducing the calculated capacity.

- The capacities for older schools that have **excess** square footage, such as Hammond Middle School, were not increased incrementally. The data collection process performed at all middle schools described herein identified all program spaces that receive capacity based on the minimum area requirements set forth by the School Board approved Guidelines Manual for Renovations and Modernizations of Existing Schools. Therefore, any additional increment in building capacity was not warranted.

#### Number of Teaching Stations

- Based on the review of the current 2012-13 room utilization, the number of teaching stations is identified on the attached floor plans for each school, with some schools showing an adjustment in the number of teaching stations based on square footage deficiencies as described above.

#### HCPSS CIP Capacity

- The HCPSS CIP capacity is referenced in the Board of Education FY2014 Capital Budget dated February 21, 2013.

#### HCPSS Capacity Based on Actual Number of Teaching Stations

- The HCPSS Capacity formula (Actual HCPSS) is based on the actual number of teaching stations x 20.5 x 95% utilization.

#### MD IAC State Rated Capacity

- The Maryland IAC State Rated Capacity formula (Actual SRC) is based on the actual number of teaching stations (not including special education) x 25 x 85% utilization.

#### Official 9/30 Enrollments

- The official September 30 (9/30) enrollment numbers for 2012-2013 school year have been provided for reference.

#### Current Utilization

- The current utilization percentage is derived by dividing the existing [September 30] enrollment (as reported in Attachment C of the February 2013 Accuracy Report) by the HCPSS actual capacity based on the actual number of teaching stations.

#### Temporary Classroom Units

- The number of temporary classroom units is provided for information. Although these classrooms house general instruction, they are not identified as a teaching station and, therefore, were not assigned capacity.

### **Executive Summary**

The actual number of teaching stations as confirmed through this process provides a picture of the current classroom deficiencies by building as compared to the other middle schools in the school system. The calculated number of teaching stations range from a low of 24 at Wilde Lake Middle School to a high of 41 at Mayfield Woods and Mount View Middle Schools.

There appears to be an inconsistency from the 2007-08 original educational specification analysis for Patapsco and Wilde Lake Middle Schools. The building designs are based on the same educational program and have the same footprint with the exception of nine (9) classrooms added to Patapsco Middle School. Since a full review of the educational specifications was beyond the scope of this exercise, the formula used to calculate the number of teaching stations for Patapsco Middle School is based on the number of teaching stations identified for Wilde Lake Middle School, plus the 9 classrooms equaling 33 teaching stations. Both schools are planned for improvements in the capital improvement plan at which time the capacities will be reevaluated.

To understand which schools are experiencing space issues, refer to the current utilization percentages by school. The following utilizations do not account for the number of temporary modular classrooms currently on-site which are needed to support the educational program.

Schools that are at or have exceeded 100% utilization are:

- Bonnie Branch, Dunloggin, Ellicott Mills, Murray Hill and Wilde Lake Middle Schools.

Schools that are between 90-99% utilization are:

- Clarksville, Glenwood, Harper's Choice, Mayfield Woods, and Mount View Middle Schools.

Schools that are between 80-89% utilization are:

- Burleigh Manor, Elkridge Landing, Folly Quarter, Hammond, Lime Kiln, Oakland Mills, Patapsco, and Patuxent Valley Middle Schools.

The school that is less than 79% utilization is Lake Elkhorn Middle School.

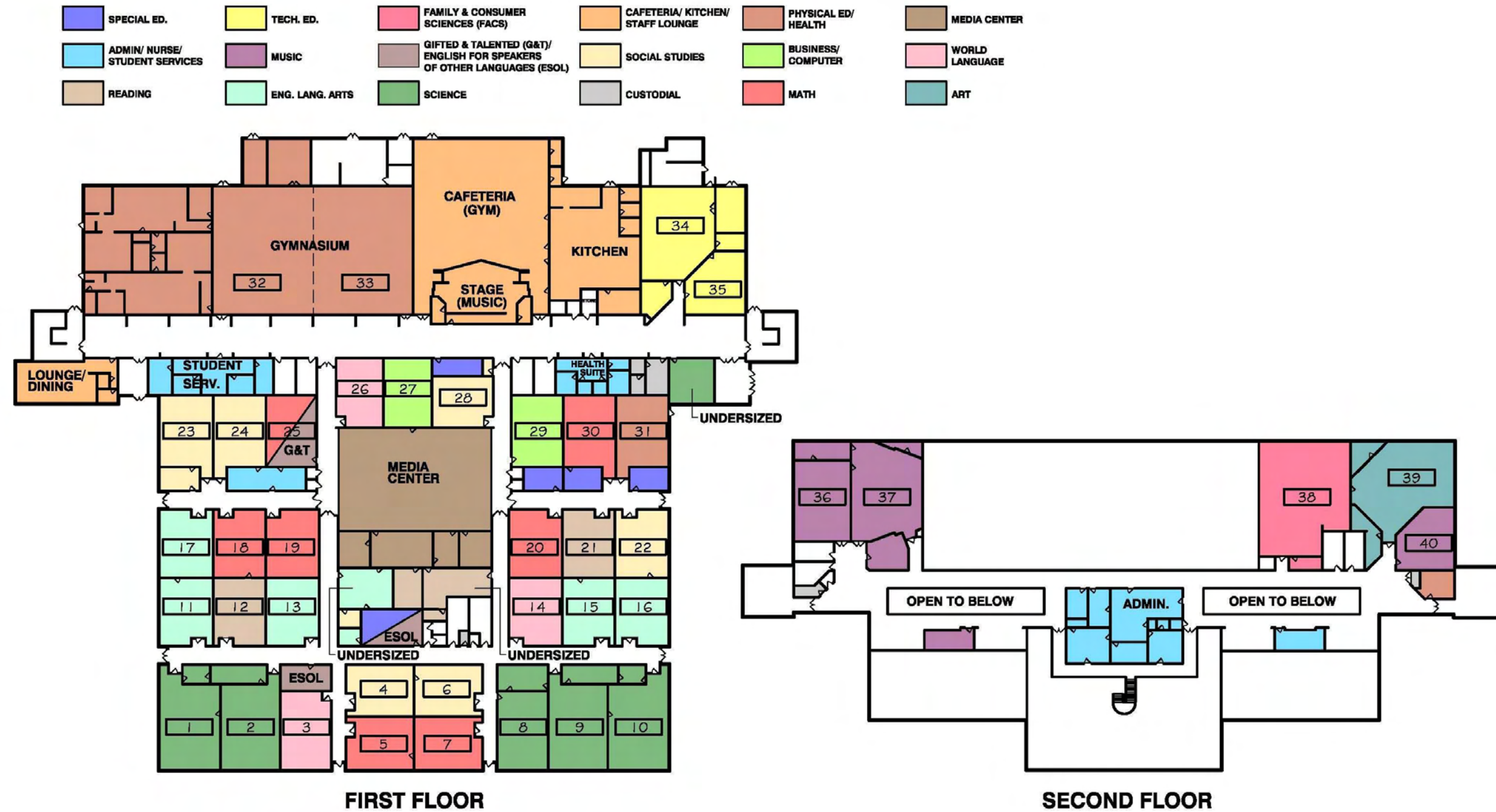


		Bonnie Branch MS	Burleigh Manor MS	Clarksville MS	Dunloggin MS	Elkridge Landing MS	Ellicott Mills MS	Folly Quarter MS	Glenwood MS	Hammond MS	Harper's Choice MS
<b>Total NET SF</b> Per the 2007-08 the Program Facility Assessment of the Middle School Educational Specifications	Total Program Deficiency/ Excess	-1026	5505	-58	-8987	5024	-147	-1789	-11312	4890	-8736
<b>Adjusted SF</b> For every increment of 2000 s.f. of deficient educational classroom space subtract 1 teaching station					-7151 s.f. of clrm. space/ 2000 = 4 teach'g stations (TS)				-8272 s.f. of clrm. space/ 2000 = 4 teach'g stations (TS)		-7613 s.f. of clrm. space/ 2000 = 4 teach'g stations (TS)
<b>Number of Teaching Stations (Manual Entry):</b>		34	40	33	33 - 4 (TS) = 29	40	34	34	32 - 4 (TS) = 28	31	30 - 4 (TS) = 26
HCPSS CIP Capacity (referenced in the FY2014 Capital Budget dated Feb. 21, 2013)		662	662	662	526	662	662	662	584	584	506
HCPSS Capacity Based on Actual Number of Teaching Stations	Actual HCPSS	34 x 20.5 x 95%	40 x 20.5 x 95%	33 x 20.5 x 95%	29 x 20.5 x 95%	40 x 20.5 x 95%	34 x 20.5 x 95%	34 x 20.5 x 95%	28 x 20.5 x 95%	31 x 20.5 x 95%	26 x 20.5 x 95%
		662	779	643	565	779	662	662	545	604	506
MD IAC State Rated Capacity Based on actual # of teaching stations (not including Sp. Ed.)	Actual SRC	34 x 25 x 85%	40 x 25 x 85%	33 x 25 x 85%	29 x 25 x 85%	40 x 25 x 85%	34 x 25 x 85%	34 x 25 x 85%	28 x 25 x 85%	31 x 25 x 85%	26 x 25 x 85%
		723	850	701	616	850	723	723	595	659	553
Official 9/30 Enrollments		706	668	637	565	683	731	559	536	499	497
Current Utilization - Existing Enrollment divided by HCPSS Actual Capacity		107%	86%	99%	100%	88%	110%	84%	98%	83%	98%
Temporary Classroom Units		3	0	5	3	2	3	0	6	3	5

		Lake Elkhorn MS	Lime Kiln MS	Mayfield Woods MS	Mount View MS	Murray Hill MS	Oakland Mills MS	Patapsco MS	Patuxent Valley MS	Wilde Lake MS
<b>Total NET SF</b> Per the 2007-08 the Program Facility Assessment of the Middle School Educational Specifications	Total Program Deficiency/ Excess	-11649	42	5179	10701	258	-11777	-2767	8366	-14981
<b>Adjusted SF</b> For every increment of 2000 s.f. of deficient educational classroom space subtract 1 teaching station		-6964 s.f. of clrm. space/ 2000 = 3 teach'g stations (TS)					-7193 s.f. of clrm. space/ 2000 = 4 teach'g stations (TS)	Refer to note in summary: Wilde Lake adjusted TS + 9 clrms.		-10341 s.f. of clrm. space/ 2000 = 5 teach'g stations (TS)
<b>Number of Teaching Stations (Manual Entry):</b>		36 - 3 (TS) = 33	36	41	41	34	30 - 4 (TS) = 26	24 + 9 (TS) = 33	39	29 - 5 (TS) = 24
HCPSS CIP Capacity (referenced in the FY2014 Capital Budget dated Feb. 21, 2013)		584	701	682	662	662	506	662	662	506
HCPSS Capacity Based on Actual Number of Teaching Stations	Actual HCPSS	33 x 20.5 x 95%	36 x 20.5 x 95%	41 x 20.5 x 95%	41 x 20.5 x 95%	34 x 20.5 x 95%	26 x 20.5 x 95%	33 x 20.5 x 95%	39 x 20.5 x 95%	24 x 20.5 x 95%
		643	701	798	798	662	506	643	760	467
MD IAC State Rated Capacity Based on actual # of teaching stations (not including Sp. Ed.)	Actual SRC	33 x 25 x 85%	36 x 25 x 85%	41 x 25 x 85%	41 x 25 x 85%	34 x 25 x 85%	26 x 25 x 85%	33 x 25 x 85%	39 x 25 x 85%	24 x 25 x 85%
		701	765	871	871	723	553	701	829	510
Official 9/30 Enrollments		470	596	717	718	725	406	568	654	548
Current Utilization - Existing Enrollment divided by HCPSS Actual Capacity		73%	85%	90%	90%	110%	80%	88%	86%	117%
Temporary Classroom Units		2		2	2	6	0	2	6	4





















**BONNIE BRANCH MIDDLE SCHOOL  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 FIRST AND LOWER FLOOR PLANS**  
 NOT TO SCALE

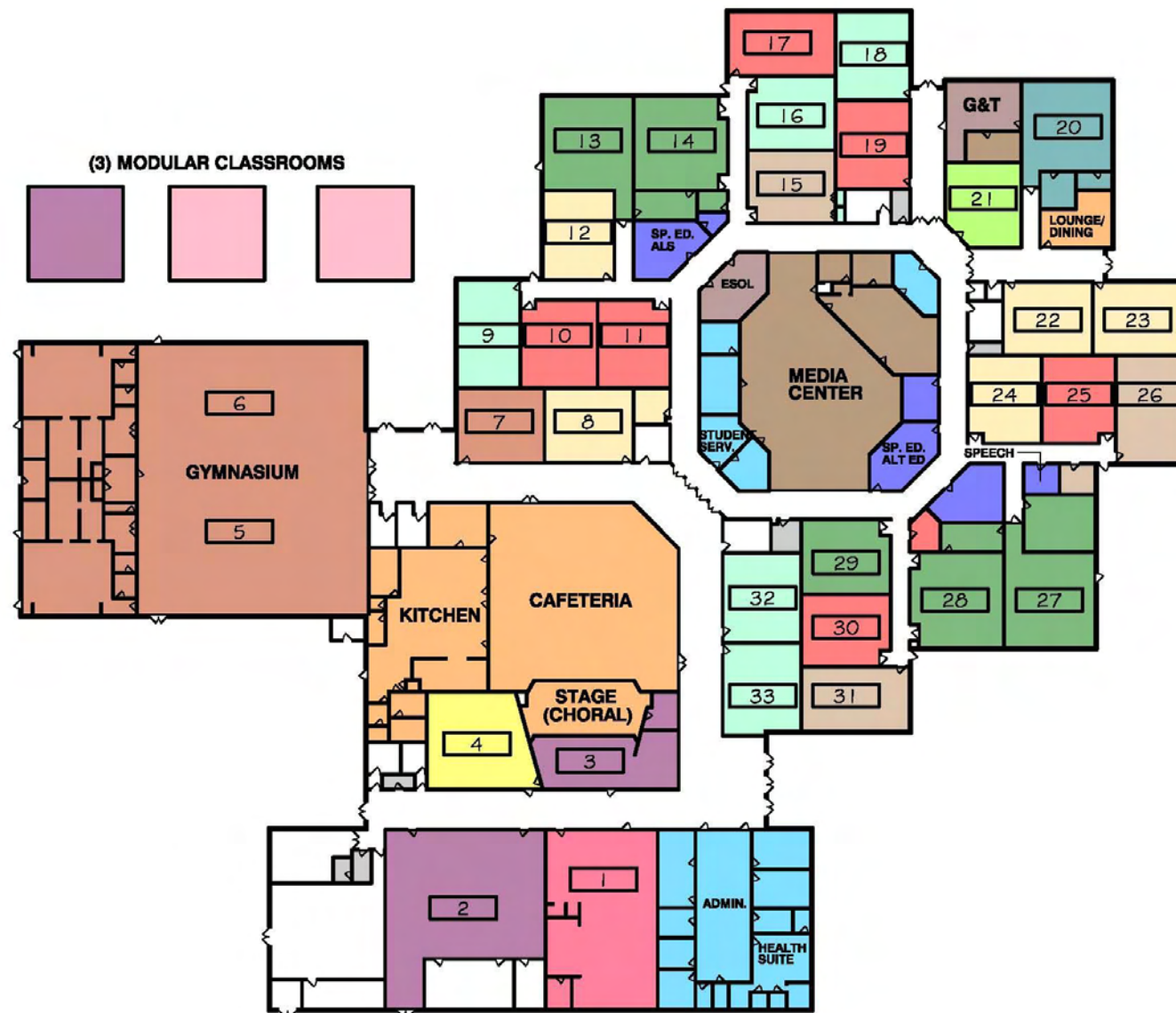


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 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
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 NOT TO SCALE



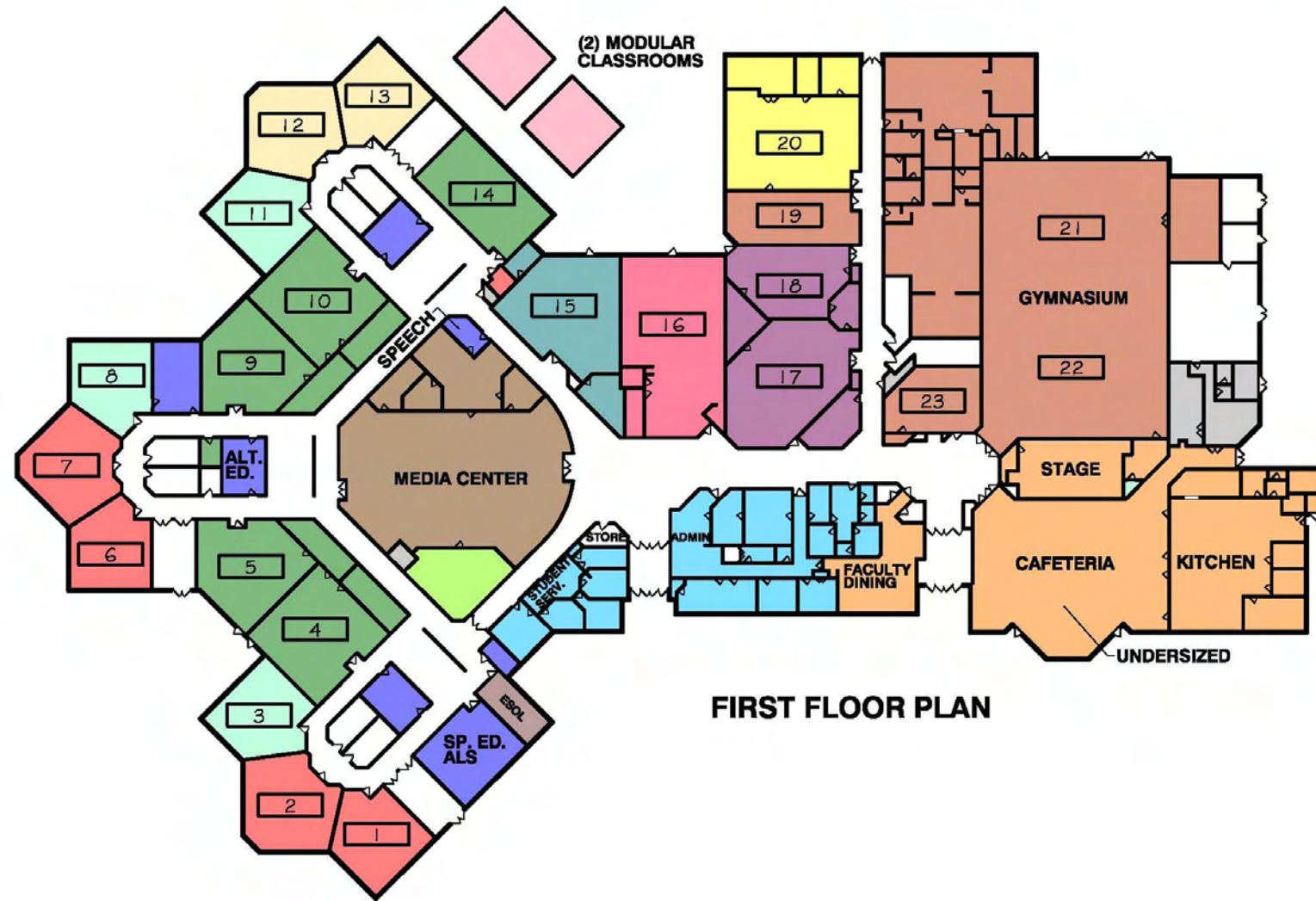
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 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 FIRST FLOOR PLAN**  
 NOT TO SCALE

 SPECIAL ED.	 TECH. ED.	 FAMILY & CONSUMER SCIENCES (FACS)	 CAFETERIA/ KITCHEN/ STAFF LOUNGE	 PHYSICAL ED/ HEALTH	 MEDIA CENTER
 ADMIN/ NURSE/ STUDENT SERVICES	 MUSIC	 GIFTED & TALENTED (G&T)/ ENGLISH FOR SPEAKERS OF OTHER LANGUAGES (ESOL)	 SOCIAL STUDIES	 BUSINESS/ COMPUTER	 WORLD LANGUAGE
 READING	 ENG. LANG. ARTS	 SCIENCE	 CUSTODIAL	 MATH	 ART

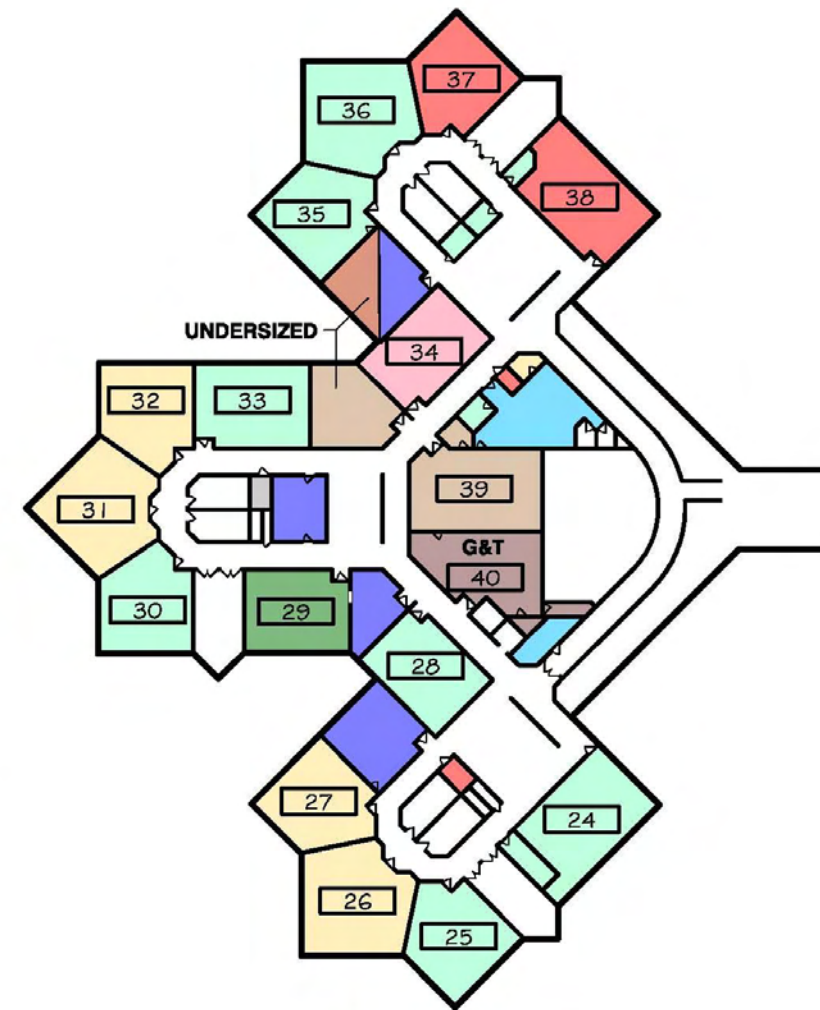


**DUNLOGGIN MIDDLE SCHOOL**  
**HOWARD COUNTY PUBLIC SCHOOL SYSTEM**  
**FIRST FLOOR PLAN**  
 NOT TO SCALE

SPECIAL ED.	TECH. ED.	FAMILY & CONSUMER SCIENCES (FACS)	CAFETERIA/ KITCHEN/ STAFF LOUNGE	PHYSICAL ED/ HEALTH	MEDIA CENTER
ADMIN/ NURSE/ STUDENT SERVICES	MUSIC	GIFTED & TALENTED (G&T)/ ENGLISH FOR SPEAKERS OF OTHER LANGUAGES (ESOL)	SOCIAL STUDIES	BUSINESS/ COMPUTER	WORLD LANGUAGE
READING	ENG. LANG. ARTS	SCIENCE	CUSTODIAL	MATH	ART

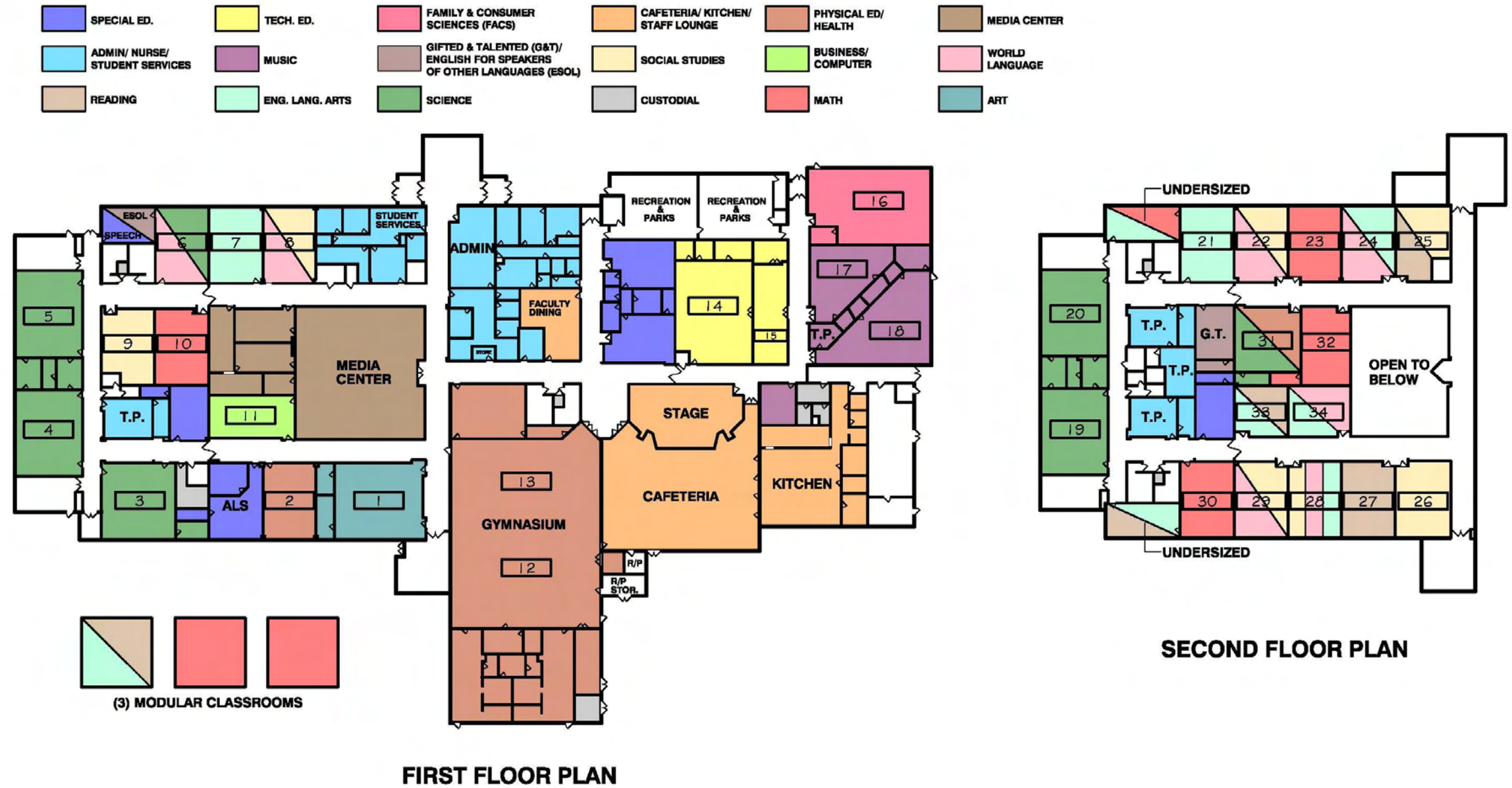


**FIRST FLOOR PLAN**



**SECOND FLOOR PLAN**

**ELKRIDGE LANDING MIDDLE SCHOOL  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 FIRST AND SECOND FLOOR PLAN**  
 NOT TO SCALE



**ELLICOTT MILLS MIDDLE SCHOOL  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 FIRST AND SECOND FLOOR PLAN**

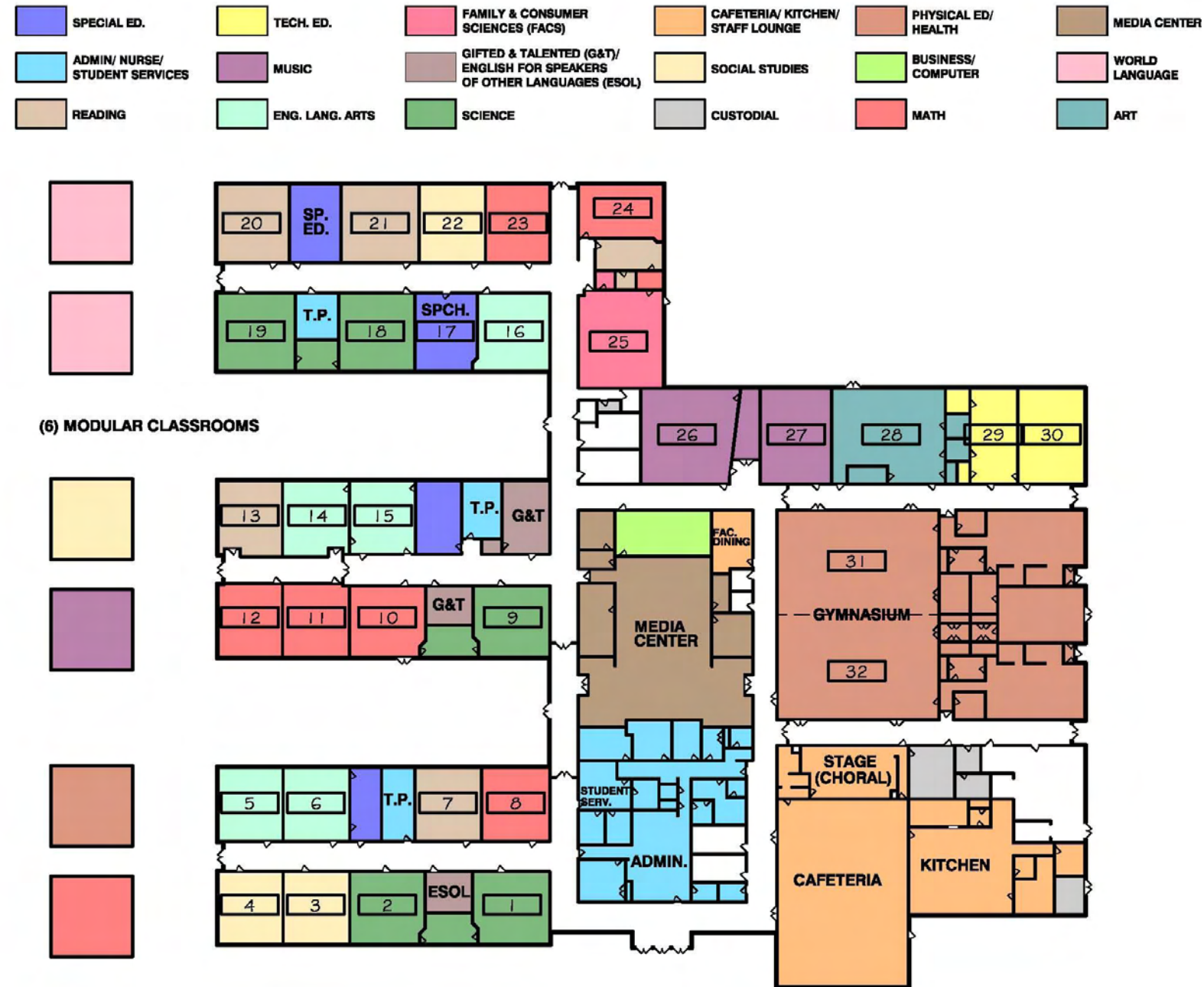
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SPECIAL ED.	TECH. ED.	FAMILY & CONSUMER SCIENCES (FACS)	CAFETERIA/ KITCHEN/ STAFF LOUNGE	PHYSICAL ED/ HEALTH	MEDIA CENTER
ADMIN/ NURSE/ STUDENT SERVICES	MUSIC	GIFTED & TALENTED (G&T)/ ENGLISH FOR SPEAKERS OF OTHER LANGUAGES (ESOL)	SOCIAL STUDIES	BUSINESS/ COMPUTER	WORLD LANGUAGE
READING	ENG. LANG. ARTS	SCIENCE	CUSTODIAL	MATH	ART

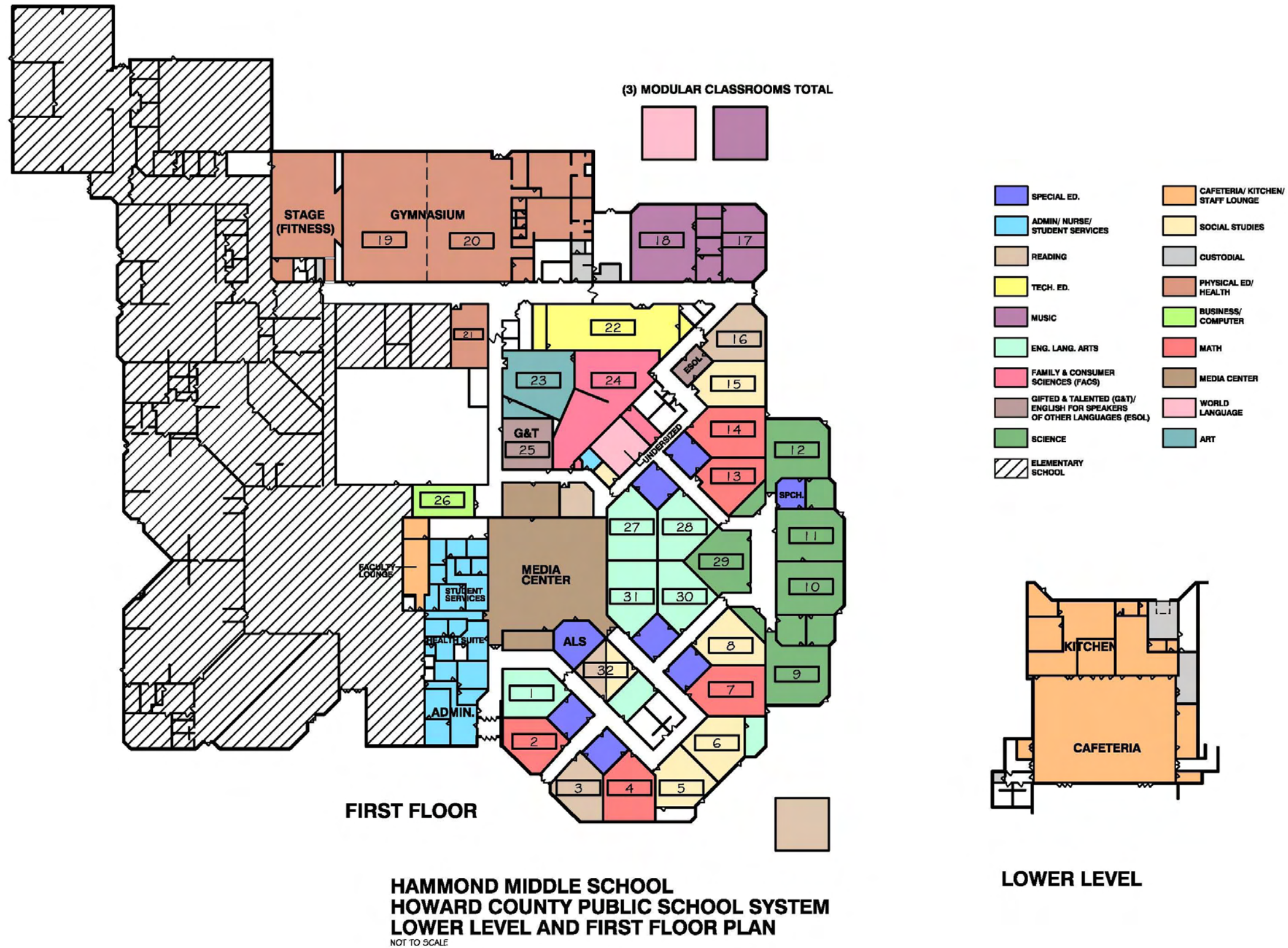


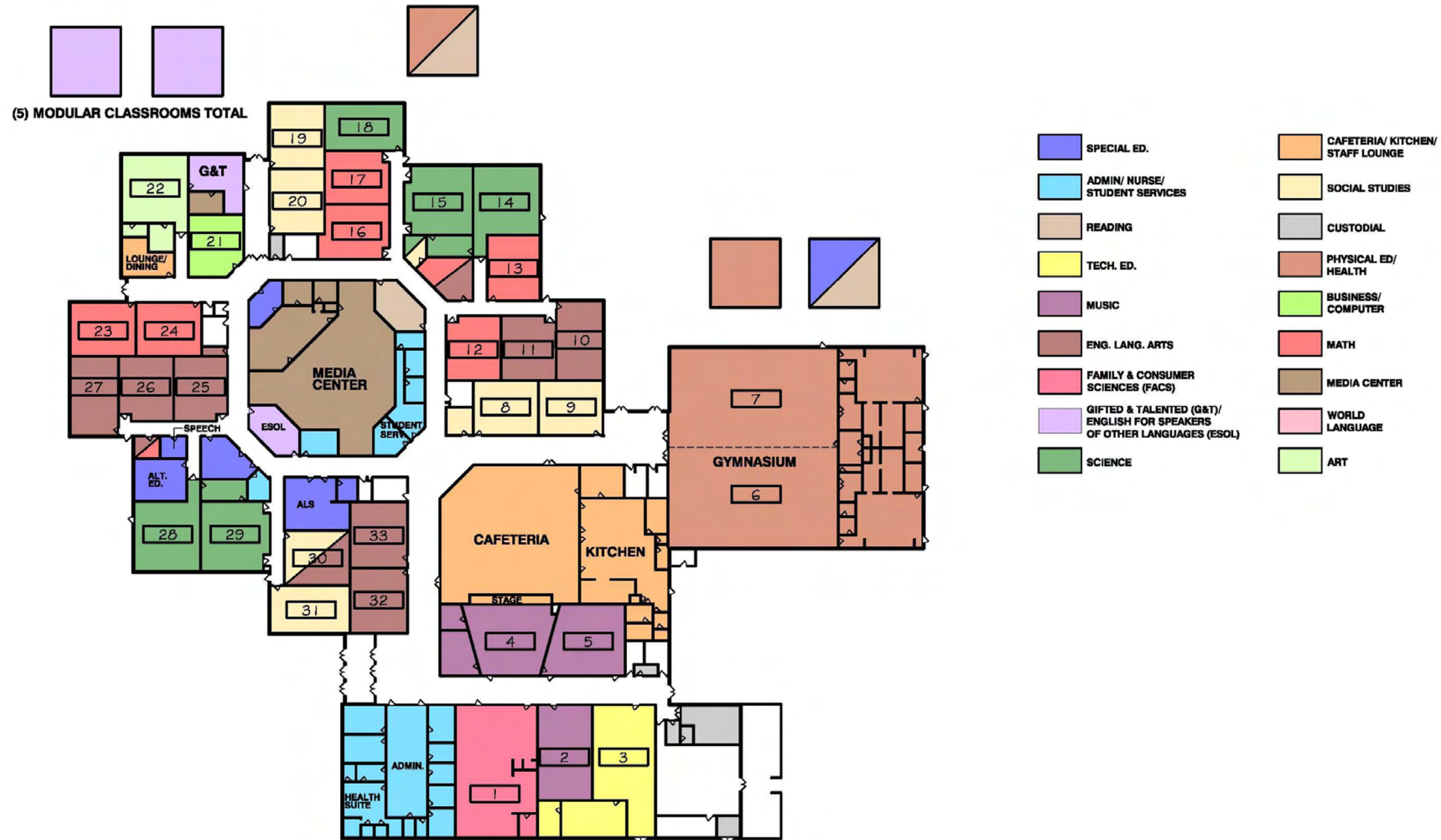
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 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 FIRST AND SECOND FLOOR PLAN**  
 NOT TO SCALE



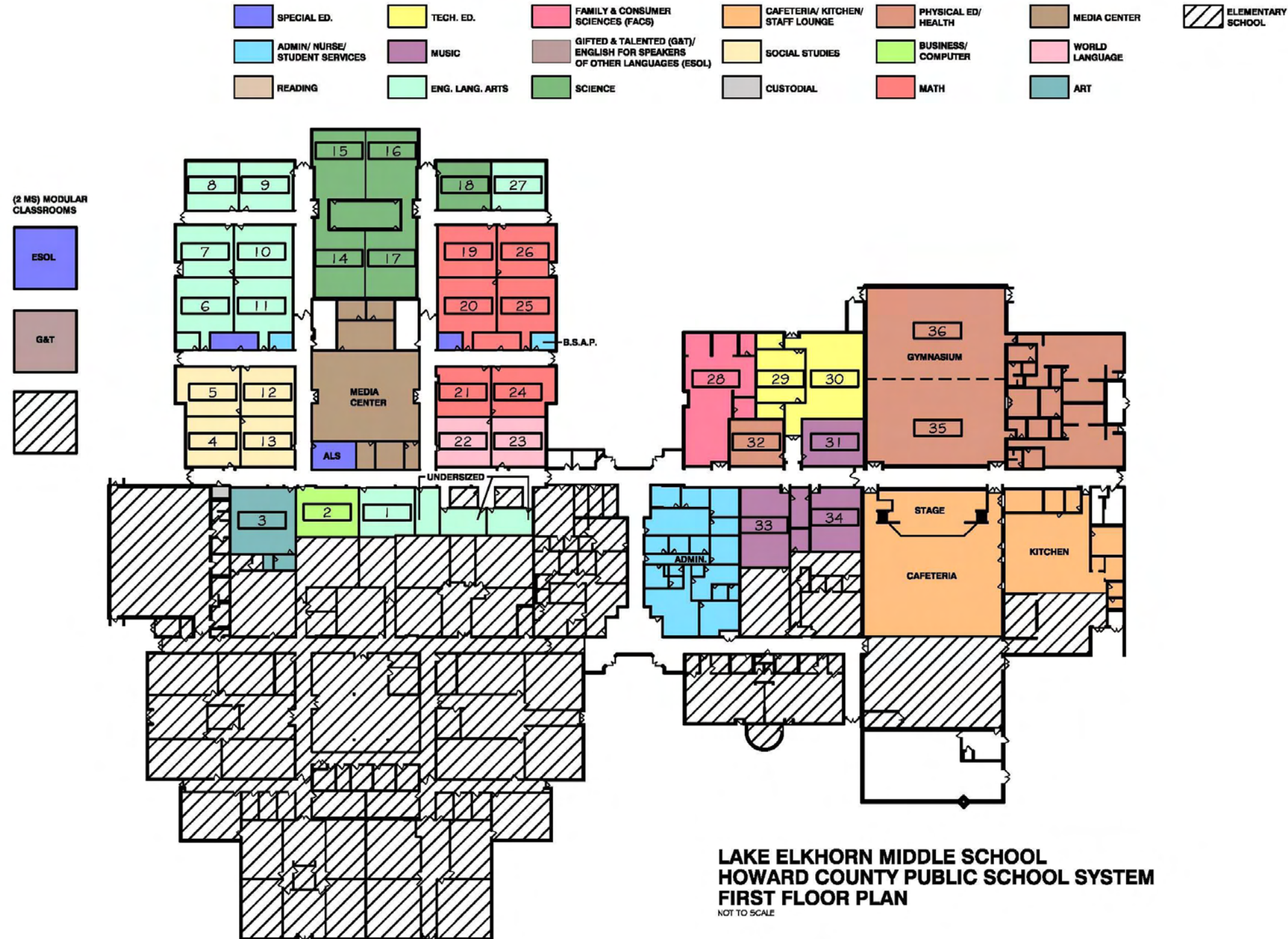


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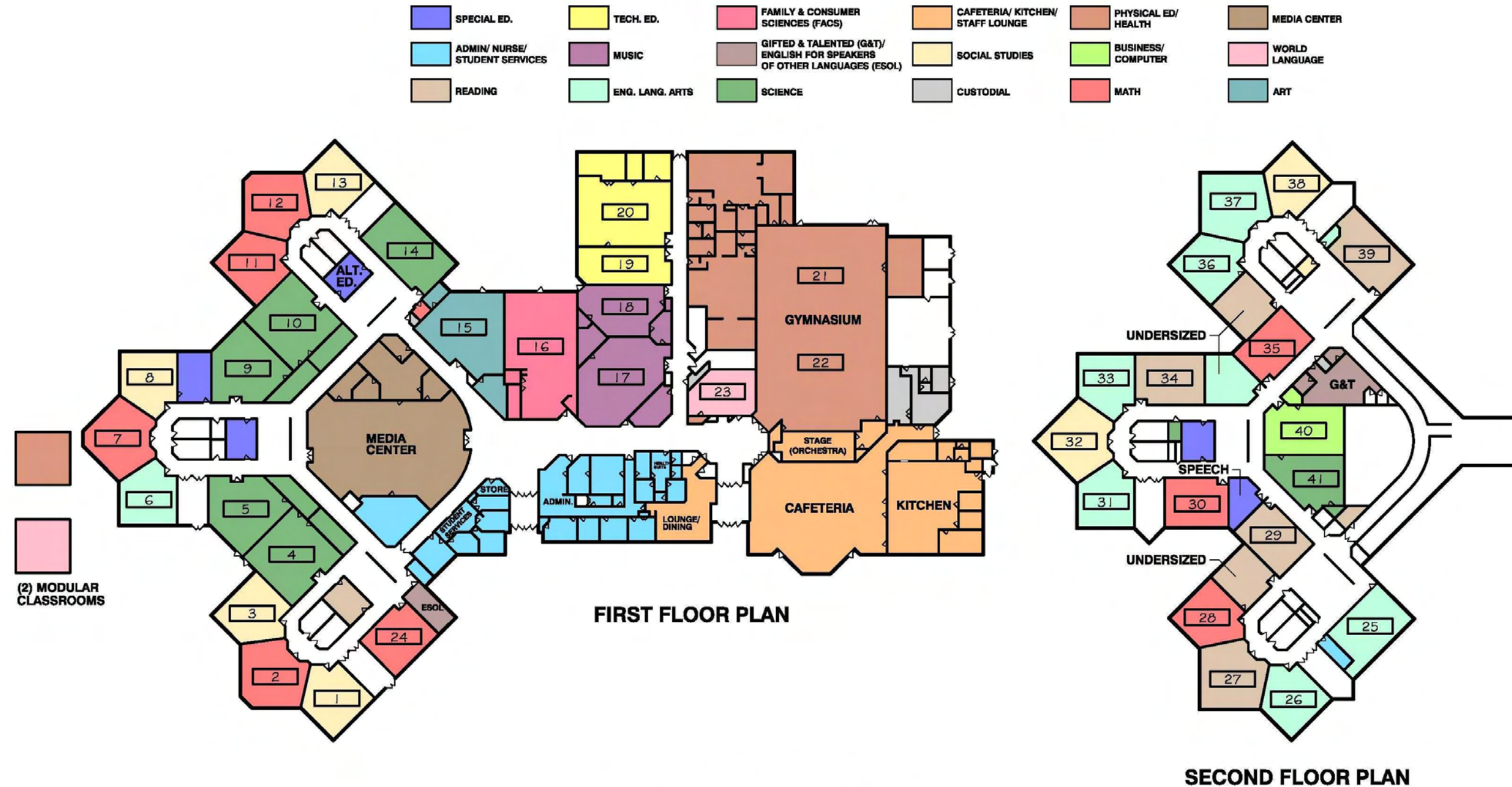


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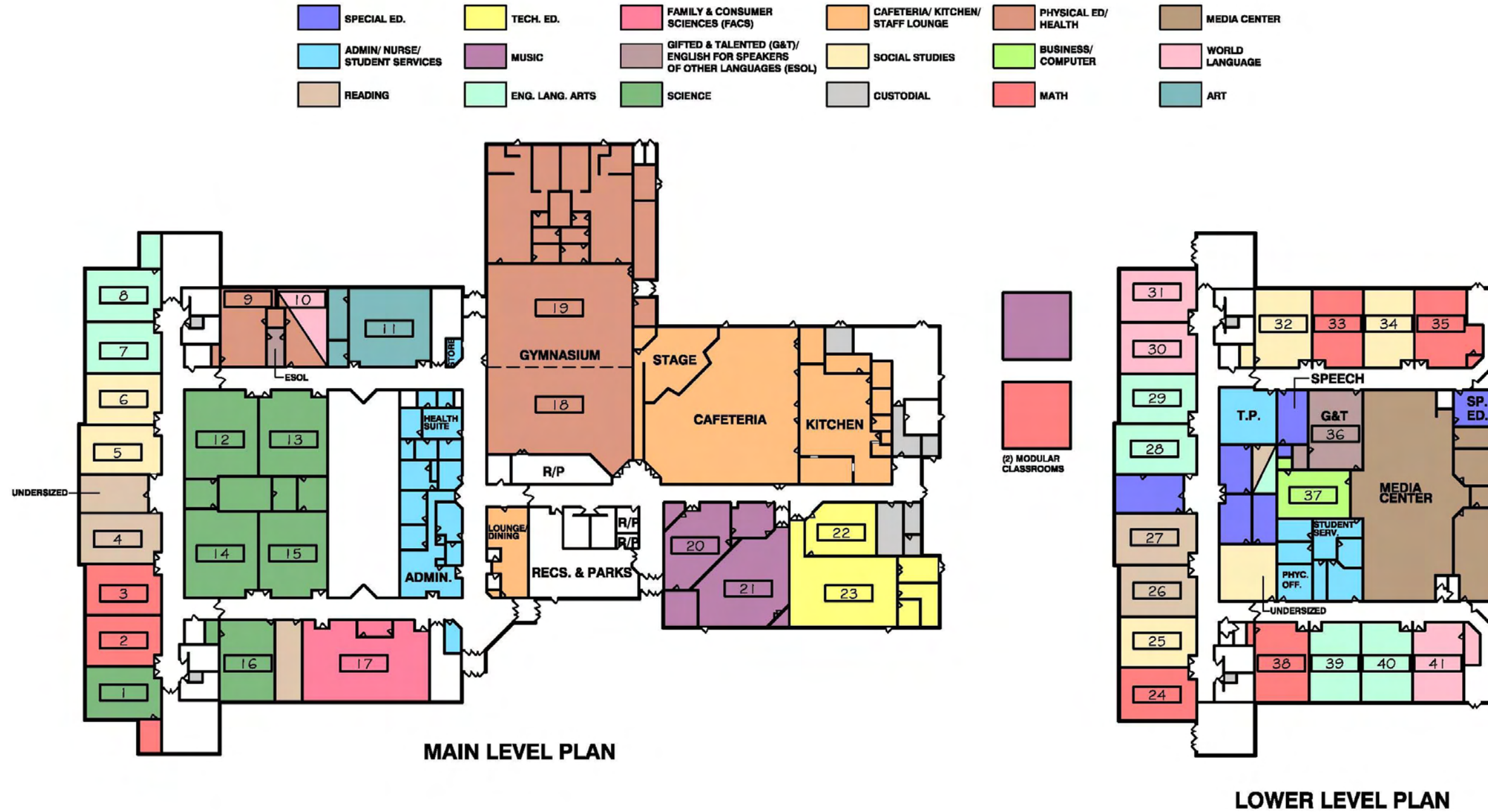




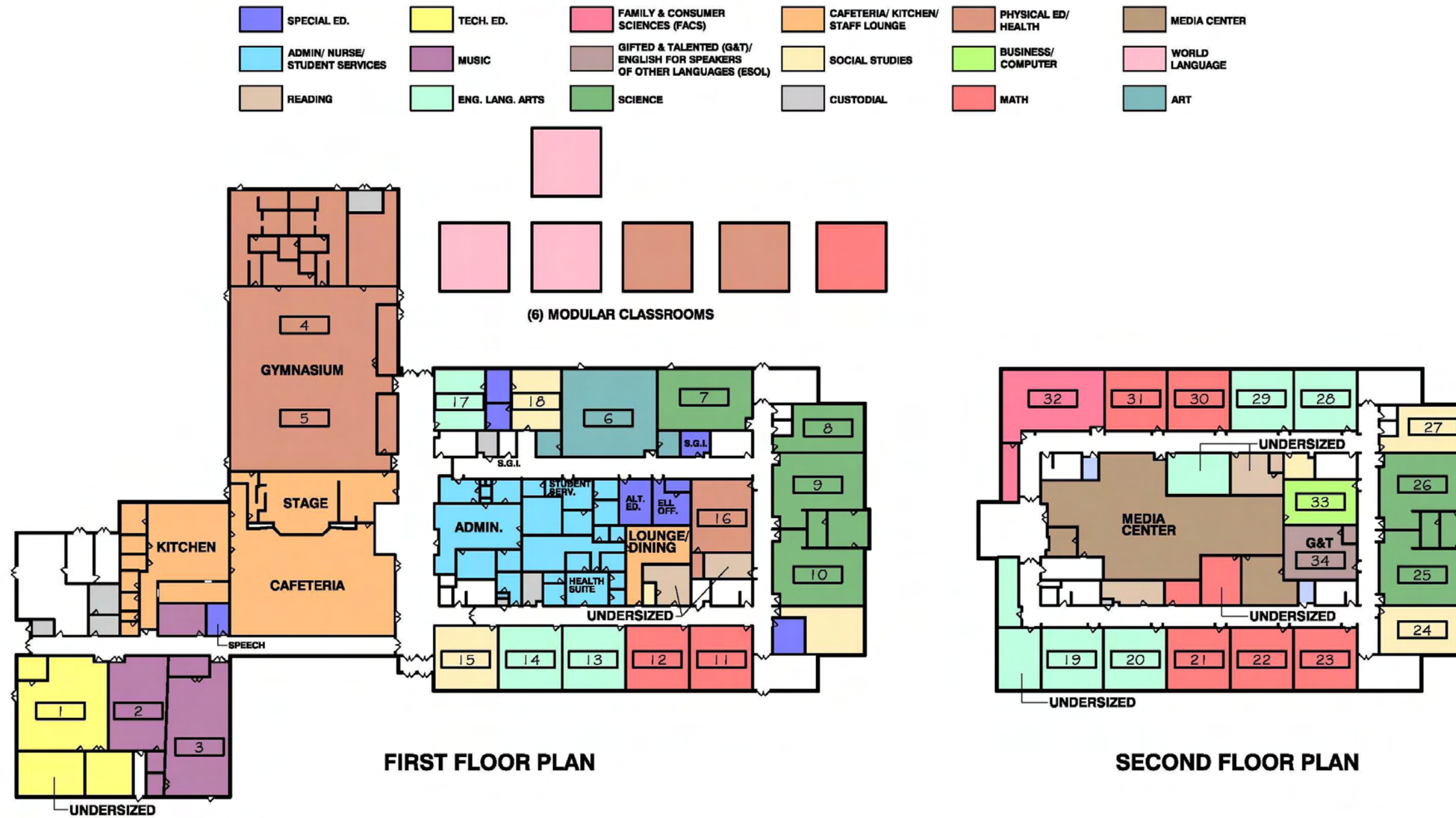
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 FIRST FLOOR PLAN**  
 NOT TO SCALE



**MAYFIELD WOODS MIDDLE SCHOOL  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 FIRST FLOOR PLAN**  
 NOT TO SCALE



**MOUNT VIEW MIDDLE SCHOOL  
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
 FIRST AND SECOND FLOOR PLAN**  
 NOT TO SCALE

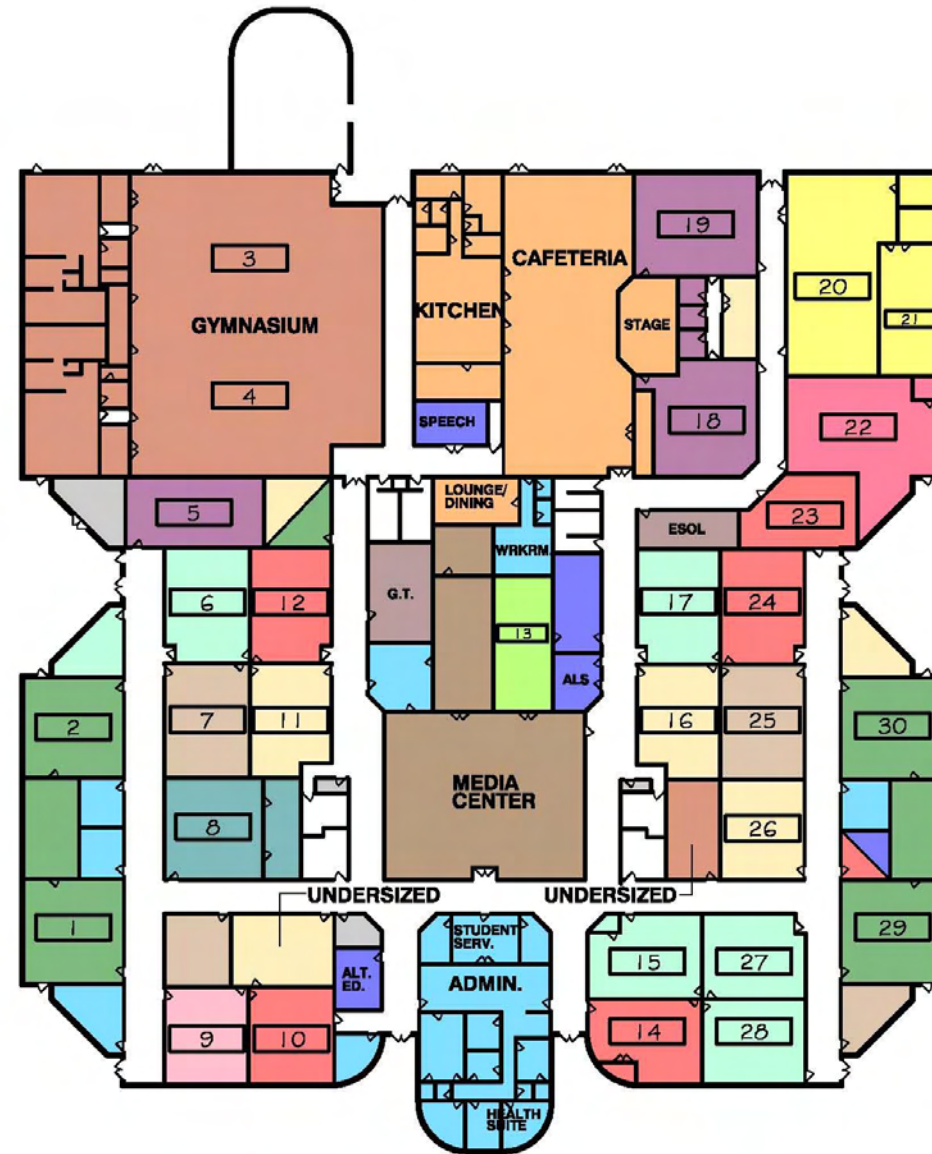
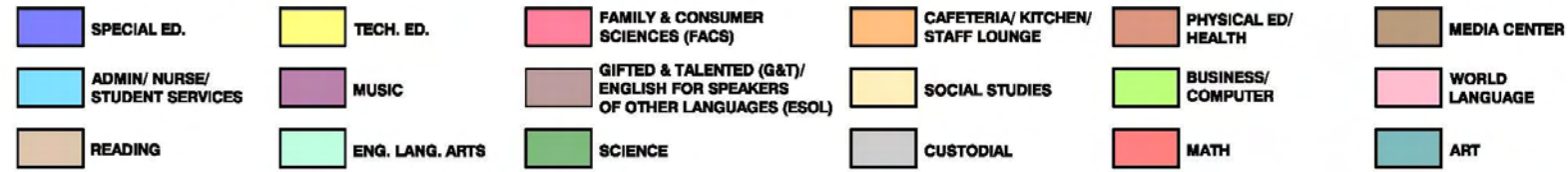


**FIRST FLOOR PLAN**

**SECOND FLOOR PLAN**

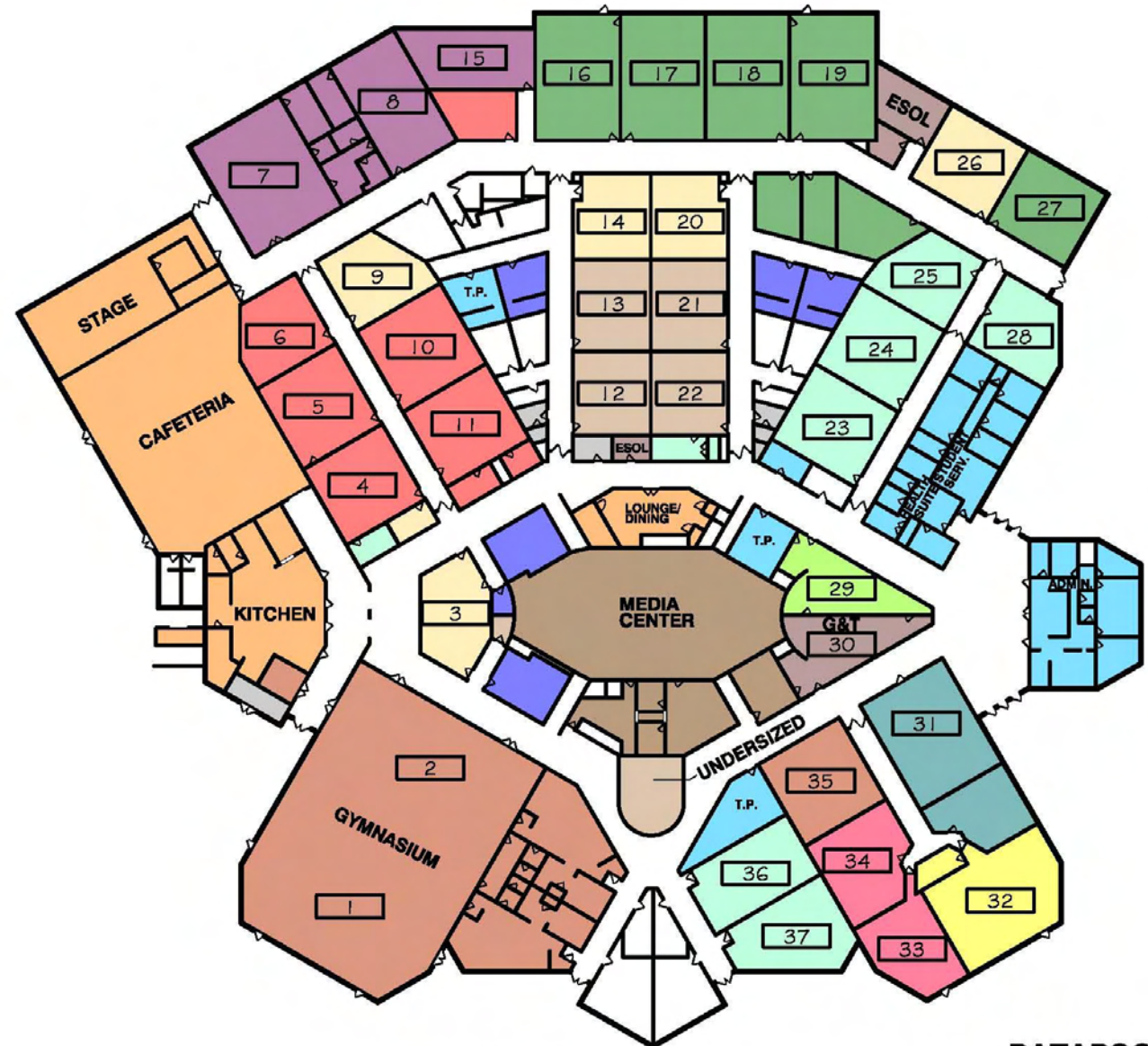
**MURRAY HILL MIDDLE SCHOOL  
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 FIRST FLOOR PLAN**  
 NOT TO SCALE





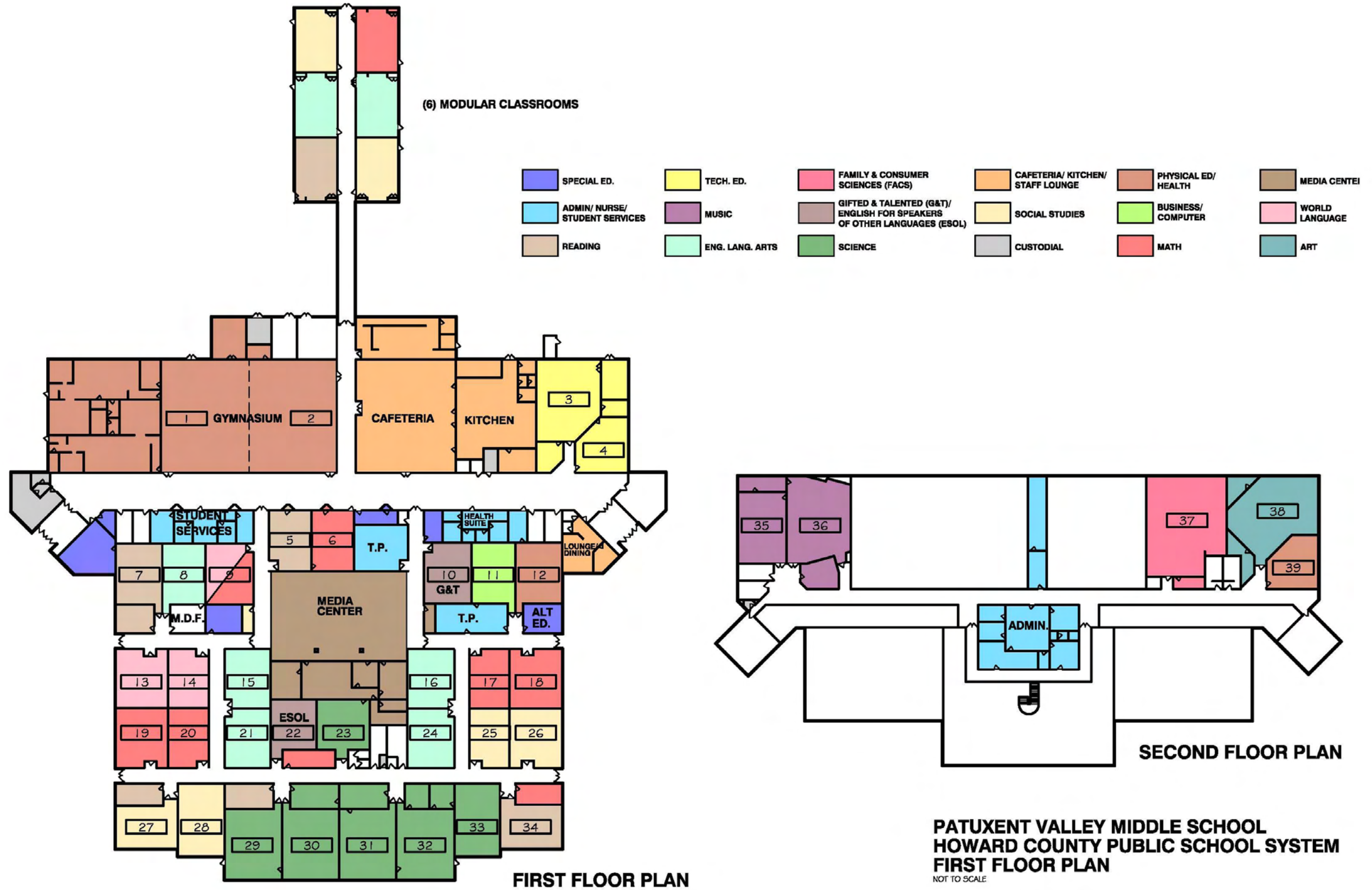
**OAKLAND MILLS MIDDLE SCHOOL  
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 NOT TO SCALE

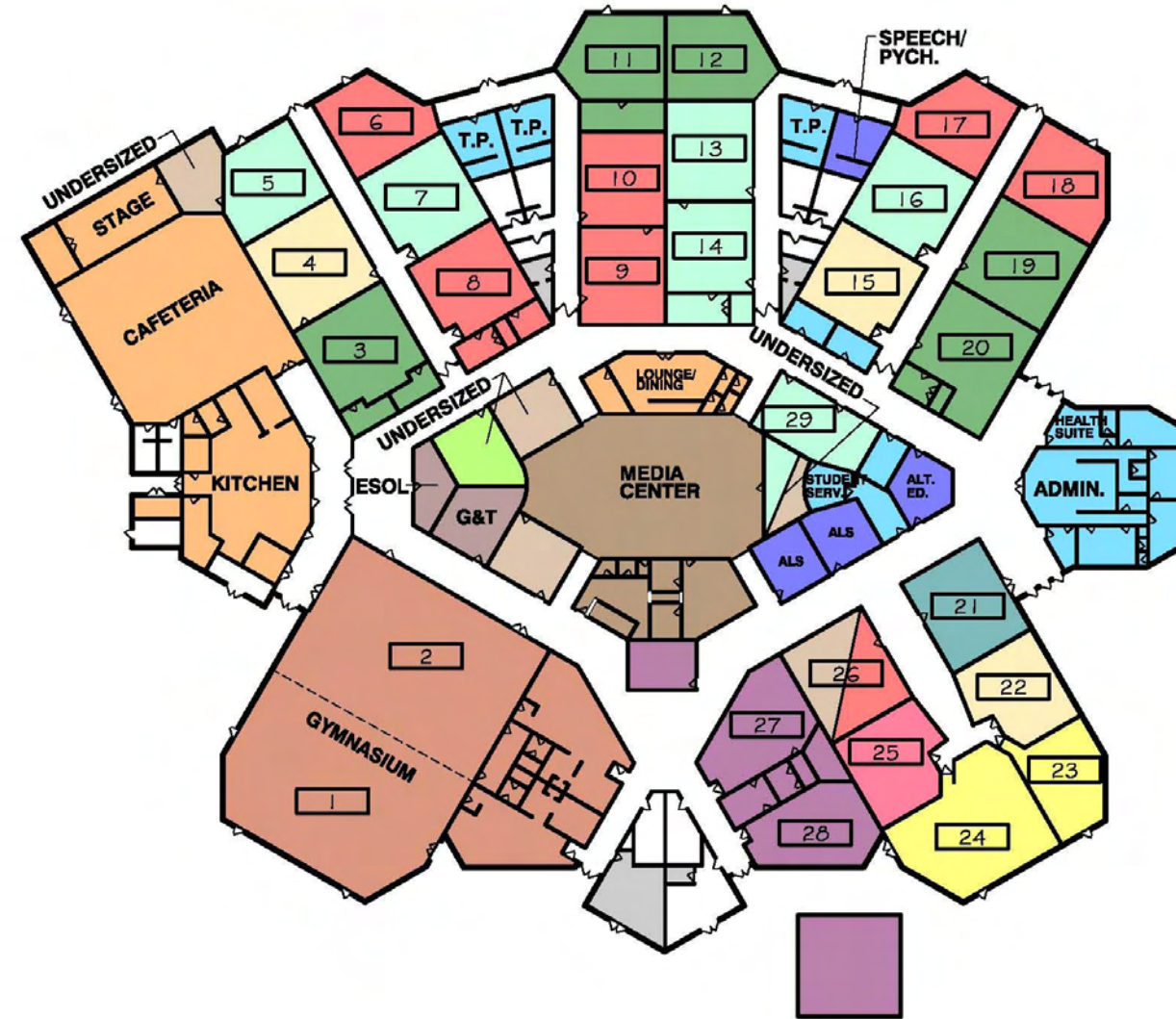
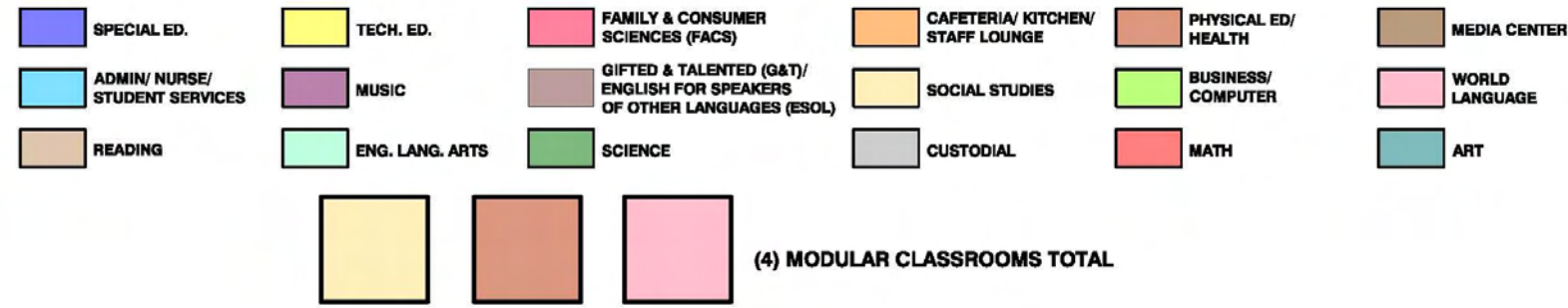
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READING	ENG. LANG. ARTS	SCIENCE	CUSTODIAL	MATH	ART



(2) MODULAR CLASSROOMS

**PATAPSCO MIDDLE SCHOOL**  
**HOWARD COUNTY PUBLIC SCHOOL SYSTEM**  
**FIRST FLOOR PLAN**  
 NOT TO SCALE





**WILDE LAKE MIDDLE SCHOOL**  
**HOWARD COUNTY PUBLIC SCHOOL SYSTEM**  
**FIRST FLOOR PLAN**  
 NOT TO SCALE