

June 25, 2015

New Hampshire Avenue Recreation Center Study

7315 New Hampshire Avenue, Takoma Park, MD 20912

PART THREE OUTLINE SPACE PROGRAM

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Prepared by: Waldon Studio Architects

Contents

Overview	
Part One	
Part Two	
Part Three	
General Description	
Building Codes	5
Construction	6
Use Group and Construction Type	6
Automatic Sprinklers	6
Water Supply & Access to Site for Fire Department Resp	onse.6
Fire Alarms & Automatic Smoke Detection	6
Outline Program	7
Occupant Loads	8
Costs	9
Blocking Plan Options	10
Option #1	11
Option #2	12
Option #3	13



OVERVIEW

Waldon Studio Architects [**WSA**] has been contracted by the City of Takoma Park [**City**]to create a Program of Requirements [**POR**] aimed at understanding the potential for renovation efforts for the recreation center located at 7315 New Hampshire Avenue, Takoma Park, MD. That information will be used by the City to create a *Master Plan*, under separate contract, for a recreation center that will consider various sites including the existing facility located at 7315 New Hampshire Avenue in Takoma Park, Maryland.

The current recreation center is owned by the Maryland-National Capital Park and Planning Commission [MNCPPC], leased to Montgomery County Department of Recreation who, in turn, leases it to the City of Takoma Park and gives them a stipend to operate it. MNCPPC would like to give the 7315 New Hampshire Avenue facility to the City of Takoma Park in exchange for land elsewhere in the city. Therefore, the City is seeking to understand the costs involved to renovate and staff such a facility. Additionally, the City would like to have a basic understanding of the cost for a new facility at a yet to be determined site.

Waldon Studio Architects has divided the project into three distinct efforts.

Part One (This effort has been completed.)

WSA collected initial goals to understand the facts and needs within the Department of Recreation for this facility. This report fulfilled Part One and included basic demographic data. The demographic data came from United States Census Bureau data found readily online. WSA presented the data to understand population size, ethnicity, and ages. Additional information for services being used by Takoma Park residents will need to be determined. WSA solicited this information in a survey created for Part Two of the work.

Part Two (This effort has been completed.)

WSA prepared a user survey in collaboration with the Department of Recreation to get direct feedback from the residents' of Takoma Park. This survey was hosted online by Survey Monkey [®] and announced on the City operated website. The goal was to understand the residents' desires for uses and needs for a new recreation center. During this part of the project WSA conducted two town hall style meetings to provide an overview of survey results, gather feedback from residents, and engage an open dialog about the recreation center.

Part Three The end product of this study will be a building program, not a building design, with recommendations. Facility size(s) and the kinds of activities supported by such a building are required for the program. Some "blocking plans" will be generated to illustrate needs for three options requested by the City. Blocking plans are generic plans that illustrate areas intended to fulfill potential programmatic needs. The "blocks" give one a sense of size and scale. At this time the three options are being studied:

- 1. Use as much of the existing facility as possible and reorder spaces within to meet needs with little to no building addition.
- 2. Demolish a portion of the existing facility to make better efficiencies and uses upon the site with minor additions.



3. Demolish the entire facility and build a new facility to meet the ideal program of requirements.

Cost estimates are required for each of the options within the study but only at the programming level. They will be based on current knowledge of square footage costs rather than a true building design.

This report fulfills the requirements for Part Three.

GENERAL DESCRIPTION

The existing recreation center located at 7315 New Hampshire Avenue, Takoma Park, MD is approximately forty years old. It is a single story, slab on grade building. The building appears to be meet current construction Type II standards. It has interior and exterior masonry walls and steel roof joists. The building is not sprinklered.

The recreation center contains a small gymnasium lined for basketball with limited out-ofbounds areas and no space for spectator seating. We believe the existing weight training area and fitness room were added onto the building at some point in time. There are two private offices, however, one must pass through one office to get into the second office. The main corridor serves as the reception area and lobby. It is very narrow and a systems furniture workstation is being used to house the receptionist and their duties. Two toilet rooms and a janitor's closet exist, however, the toilet rooms do not conform to current accessibility code requirements. Two multipurpose rooms exist and they are fitted with mirrors and wall mounted ballet bars. From the lobby one must pass through one room to access the other that contains a small storage room. There is an old kitchenette that does not have any cooking capability other than a microwave oven. Cabinets are old and in need of replacement. And, although we have not seen it, based on our experience with this same design, WSA believes there is a mechanical room that opens directly to the exterior and is located behind the toilet rooms. There is a freestanding wood framed storage shed outside the gym space that is detached from the building. Finally, parking is limited and we were told that 42 parking stalls exist.



BUILDING CODES

The table below outlines the building codes currently being enforced by Montgomery County, Maryland.

CODE	CODE/EDITION	EXECUTIVE REGULATIONS	EFFECTIVE DATE	
Accessibility	<u>COMAR 05.02.02,</u> <u>ADAAG</u> & FFHAG	State Adoption	01-01-2012	
Commercial Building	ICC International Building Code/2012	<u>ER 8-12</u>	07-15-2012	
	<u>MBRC</u> Maryland Building Rehabilitation Code	State Adoption	04-01-2013	
Commercial Fuel Gas	ICC International Fuel Gas Code/2012	<u>ER 8-12</u>	07-15-2012	
Commercial Mechanical	<u>ICC</u> International Mechanical Code/2012	<u>ER 8-12</u>	07-15-2012	
Electrical	<u>NFPA</u> National Electrical Code/2008	<u>ER15-09</u>	03-15-2010	
Energy Conservation	ICC International Energy Conservation Code/2012	<u>ER 8-12</u>	07-15-2012	
	<u>NFPA</u> 72/2010	ER 19-13	04-08-2014	
Fire Alarm	COMAR <u>NFPA</u> 72/2010	State Adoption Fire Prevention Code	01-01-2013	
	<u>NFPA</u> 1 & 101/2012	ER 20-13	04-08-2014	
Life-Safety	COMAR <u>NFPA</u> 101/2012	State Adoption Fire Prevention Code	01-01-2013	
Plumbing & Gas	WSSC Plumbing Code	NA	02-01-2011	
Desidential Duilding 9	ICC International Residential Code/2012	<u>ER 8-12</u>	07-15-2012	
Residential Building & Mechanical	<u>MBRC</u> Maryland Building Rehabilitation Code	State Adoption	04-01-2013	
	<u>NFPA</u> 13D/2010	<u>ER 19-13</u>	04-08-2014	
Residential Sprinkler	COMAR <u>NFPA</u> 13D/2010	State Adoption Fire Prevention Code	01-01-2013	
	<u>NFPA</u> 13R/2010 <u>NFPA</u> 13/2010	<u>ER 19-13</u>	04-08-2014	
Commercial Sprinkler	COMAR <u>NFPA</u> 13R/2010 COMAR <u>NFPA</u> 13/2010	State Adoption Fire Prevention Code	01-01-2013	



CONSTRUCTION

Use Group and Construction Type

The International Building Code (IBC or Code) classifies buildings and areas based on *Use*. In this case the center would be classified as an *Assembly Use*. From the Code this includes A-3 Assemblies which are defined as gymnasium and community hall uses to name a few.

Building height and area limitations listed in Table 503 of the Code for A-3 and Type IIB construction allows buildings to be 2 stories, 55 feet high, and 9,500 square feet (SF) per floor. We have not measured the existing building, however, at this time we believe the existing area and resulting occupant loads of the building would mandate monitored fire alarm with voice capability and a sprinkler system.

Automatic Sprinklers

The building will need to be protected with automatic fire sprinklers. Final building design should provide for complete automatic sprinkler protection complying with NFPA 13, *Installation of Sprinkler Systems*. Quick response sprinklers must be used in light hazard areas. The Code allows for height and area increases when sprinkler systems are installed.

Water Supply & Access to Site for Fire Department Response

The sprinkler system will require a water supply. Domestic sources need to be verified. A fire hydrant(s) will be required for fire department connection in the immediate area of the building.

Fire department access will need to be evaluated in accordance with NFPA 1. Access is to be provided on two sides of the building with effective ladder truck access also provided on two sides.

Fire Alarms & Automatic Smoke Detection

The facility shall be provided with a fire alarm system. The specific features of the fire alarm system include:

- Monitoring of sprinkler functions such as flow and tamper;
- Voice & visual fire alarm signaling;
- Air handling unit duct smoke detection and shutdown as well as elevator recall smoke detection;
- Monitoring by an approved central station;



OUTLINE PROGRAM

We have created space listings that outline areas for the recreation center specific to the current site and in three ways.

Option #1 - Use as much of the existing facility as possible and reorder spaces within to meet needs with little to no building addition.

Option #2 - Demolish a portion of the existing facility to make better efficiencies and uses upon the site with minor additions.

Option #3 - Demolish the entire facility and build a new facility to meet the ideal program of requirements.

All scenarios are similar in that we have broken them down with the following zones:

- Gymnasium
 - This is an area for court sports such as basketball, volleyball, floor hockey.
- Fitness / Weight Rooms
 - o This area is for treadmills, exercise bikes, free weights and weight machines.
- Admin Areas
 - These are general office areas along with their needed support spaces.
- Classroom / Activity Areas
 - These areas can be multi-functional spaces that could be used for any of a number of uses including things like education/training, arts and crafts, meetings, dance, etc.
- Lobby / Circulation
 - These are lobby and reception type areas that may include a lounge type sitting area.
- Support Spaces
 - o Toilet rooms are generally accessible from common areas.
 - \circ $\;$ There could be a kitchenette for staff use or small warming kitchen.
 - Storage rooms for general storage necessary to hold equipment of support programs offered at the center.
- Aquatics
 - No aquatics program has been considered in this report.
 - While survey responses supported an aquatics venue the majority of feedback did not support a new facility at 7315 New Hampshire Avenue. Instead, residents believe that improvements to the existing pool at Piney Branch Elementary School would offer better value. The conditions of that venue were not evaluated for this report.

Part Three - Outline Space Program June 25, 2015 Page **7** of **14**



OCCUPANT LOADS

We have listed occupant loads in each of the charts to give you an idea of how many people may use a space or area. Building codes require buildings and spaces within a building be designed to provide adequate egress in the event of an emergency. The International Building Code (IBC or Code) has standard *Area Allowance Per Occupant* (occupant load) factors based on the use of a particular space. This occupant load factor is used to determine how many people will be in a space for egress width calculation purposes. For example, an exercise room has an occupant load factor of one person per 50 SF, an office has a factor of one person per 100 SF, and a conference room is one person per 15 SF, and so on. Form these examples one would figure the following occupant loads for a 100 SF area or space:

- Exercise Room 100 / 20 = 5 people
- Office Space 100 / 100 = 1 person
- Conference Room 100 / 15 = 7 people

In some cases a room or space could be used for different activities and therefore have a different occupant load. For example, a classroom would generally be figured for one person per 20 square feet if the building was being used as only a school. However, in this case that same room could be used for a meeting that uses only chairs. Therefore, as an assembly space the area would be able to accommodate one person per 7 square feet.

For the purposes of this study we are illustrating two occupant load calculations. The first is worst case scenario to ascertain how much egress width would be necessary and how many means of egress are required from a room, space or floor. A second occupant load figure is for pluming fixture counts determination.

Worst case scenarios typically do not reflect the actual number of people that can comfortably fit within a space. Nevertheless, the Code Officials may use these numbers for Life Safety evaluation purposes. The totals found in the occupant load columns are for a *fully occupied facility*.

We also have a column for *Plumbing Occupant Loads*. We use this figure to estimate the amount of plumbing fixtures (toilets & urinals, sinks, drinking fountains, & mop sinks) in habitable areas and at use levels and densities that are most common to the facility. Citing the previous classroom example, for plumbing purposes, we would figure one person per 20 SF not one person per 7 SF.



In our Outlines we have created columns for the following:

- Room Name describes the use of the room
- Dimensions basic length and width of the area in feet
- Total SF The area of the room in square feet
- Area Allowance Per Occupant this is the Code's occupant load factor (worst case scenario for multi-use areas)
- Egress Occupant Load- this is the quotient of the Area divided by Area Allowance Per Occupant
- Plumbing Count Load This is what WSA believes will be a more reasonable based on actual use for plumbing fixture count determination.

Costs

Since we are only in the programming level / blocking stage one needs to know *the projected total area* to have an opinion on construction costs and set budgets. Budgets are typically based on the cost of construction per square foot of area. In our experience, facilities like this range between \$275 and \$375 per square foot minimum. Before true design begins a construction budget must to be established. We use an *efficiency factor to project total square feet*.

- Efficiency Factor
 - We have outlined spaces as a Net Area. An *Efficiency Factor* is a percentage that is multiplied against the Net Total. That product is added to the Net Area and yields a sum know as Gross Area.
 - On larger projects this limited area is intended to capture toilets, janitor closets, mechanical rooms, electrical rooms, corridors, and other circulation, etc. We are using small efficiency factors since we have listed areas for some of these kinds of spaces in the area tables for each option.
- Projected Total Square Feet
 - This number equals the Net Area Total plus the Efficiency Factor Total as a way to "project" total building area.
 - Please note in some case we did not illustrate blocks for all support spaces. This typically occurs in schematic design.

For each of the three options we have provided *opinion of cost ranges* for construction based our understanding of building type and recent experience. Figures of \$275, \$325, and \$375 per square foot are being used and should cover a range of options for design. It is important to note that even though Options #1 and #2 may be smaller in area, they may land in the higher in costs per square foot brackets due to the extent of structural, mechanical, electrical, and plumbing system modifications necessary.



For options #1 and #2 there is a separate line item to compute potential cost for *Renovation Area* and it does not include the Gym area.

BLOCKING PLAN OPTIONS

In general, we have attempted to stay within the footprint of the existing building in as much as is practicable to meet the needs expressed by those who responded to surveys in Part II of the work. In our descriptions below we refer to the building in two general ways: the *Program Wing* and the *Gym*. The program wing generally houses administrative and activity spaces, toilet rooms, lobbies, etc. The gym is the large volume court space.

Both Options #1 & #2 expand the building footprint and reduce some parking at the rear of the building. Final design work will have to determine how much area can actually be acquired there. Staff members report that portion of the parking lot is rarely used and speculate that is because of its remote location from the front of the building.

No attempt has been made to determine the impact of any of the blocking plan solutions upon the site related to zoning requirements such as setbacks and parking. WSA understands that zoning has changed in the area and such issues will be a matter for those preforming master planning activities under a separate contract. Nevertheless, we have attempted to create concepts that have little impact and offer greater return on building value.

As this effort is aimed at basic program listings, the blocking plans do not attempt to illustrate all the *support spaces*.





Option #1

Use as much of the existing facility as possible and reorder spaces within to meet needs with little to no building addition.

In this option the gym remains and the existing fitness and weight room areas are converted to storage. In the program wing we have added some area to the entrance of the building to enhance the lobby; relocated toilet rooms and offices to gain efficiency; removed the kitchenette; and renovated the classrooms to offer better access and storage. New mechanical systems work would be required for the program wing to gain some space. This can be achieved by using roof top mounted HVAC units. The electrical service locations will have to be reviewed in detail and may impact final fitness room use, size and/or layout.

Takoma	Park Reci Option		tion Cei	nter			
GYMNASIUM	Din	nens	sions	TOTAL SF	Area Allowance Per Occupant IBC Table 1004.1.2	Egress Occupant Load	Plumbing Count Load
Court	52	x	100	5,200	7	743	30
Bleachers	10	х	75	750	Actual	168	168
	Su	ıbto	tal	5,950		911	198
FITNESS / WEIGHT ROOMS	Din	nens	sions	TOTAL SF			
Fitness Room	36	x	57	2,052	50	41	41
	Su	ıbto	tal	2,052		41	41
	Din	nens	sions	TOTAL SF			
Office	12	x	16	192	100	2	2
Office	12	x	16	192	100	2	
	Su	ibto	tal	384		4	4
							•
CLASSROOMS / ACTIVITY ROOMS	Din	nens	sions	TOTAL SF			
Classroom	20	x	20	400	7	57	27
Classroom	20	x	20	400	7	57	27
	Su	ıbto	tal	800		114	53
							•
SUPPORT SPACES			QTY	TOTAL SF			
Restrooms	2	@4	100	800	n/a	0	n/a
Family Restroom/Emergency Shower				100	n/a	0	n/a
Mechanical Room				0	100	0	n/a
Janitor Closet				50	100	1	n/a
Electrical Room				200	100	2	n/a
IT Closet				80	100	1	n/a
Storage Rooms	16	х	52	832	500	2	n/a
Storage Shed	18	х	18	324	500	1	n/a
	Su	ıbto	tal	2,386		6	0
PROJECTED BUILDING SF							296
Total Program SF				11,572	SF		
LOBBY / CIRCULATION (Efficiency Factor) PROJECTED GROSS AREA TOTAL	20%			2,314 13,886	SF		
RENOVATED AREA						8,362	SE
Cost Per Square Foot		\$275.00 \$2,299,660.00					
Cost Per Square Foot							2,717,780.00
Cost Per Square Foot				375.00			3,135,900.00



Option #2

Demolish a portion of the existing facility to make better efficiencies and uses upon the site with minor additions.

The gym remains and the existing fitness and weight room areas are converted to storage in this option. We would propose demolishing the current program wing and building a new, two story, program wing. This would offer a new façade and create more multipurpose spaces for varied uses including a larger fitness and weight room than Option #1.

Takoma	Park Recr	ea	tion Cer	nter			
	Option	#2					
GYMNASIUM	Dim	nens	sions	TOTAL SF	Area Allowance Per Occupant IBC Table 1004.1.2	Egress Occupant Load	Plumbing Count Load
Court	52	х	100	5,200	7	743	30
Bleachers	10	х	75	750	Actual	168	168
	Su	bto	tal	5,950		911	198
FITNESS / WEIGHT ROOMS	Dim	nens	sions	TOTAL SF			
Fitness Room		Lum	ıp	2,280	50	46	46
	Su	bto	tal	2,280		46	46
ADMINISTRATIVE AREAS	Dim	ene	sions	TOTAL SF			
Office	12	x	14	168	100	2	2
Office	12	x	14	168	100	2	2
		bto	tal	336		3	3
CLASSROOMS / ACTIVITY ROOMS		1	sions	TOTAL SF	7	110	
Classroom Classroom	37	x x	22 28	814 700	7	116 100	54
Classroom	25	x	28	700	7	100	47
Classroom	25	x	28	700	7	100	47
Open Acitivity Area	19	x	22	418		60	28
		bto		3,332	_	476	222
SUPPORT SPACES			QTY	TOTAL SF			
Restrooms	2	@4		800	n/a	0	n/a
Family Restroom/Emergency Shower		Ĩ		100	n/a	0	n/a
Mechanical Room				0	100	0	n/a
Janitor Closet				50	100	1	n/a
Electrical Room				200	100	2	n/a
IT Closet				80	100	1	n/a
Storage Rooms	16	х	52	832	500	2	n/a
Storage Shed	18	х	18	324	500	1	n/a
	Su	bto	otal	2,386		6	0
PROJECTED BUILDING SF							469
Total Program SF				14,284	SF		
LOBBY / CIRCULATION (Efficiency Factor)	25% 3,571 SF						
PROJECTED GROSS AREA TOTAL				17,855	SF		
RENOVATED AREA						12,331	SF
Cost Per Square Foot						3,391,025.00	
Cost Per Square Foot	\$325.00 \$4,007,575.00						
Cost Per Square Foot	\$375.00 \$4,624,125.0						



Option #3

Demolish the entire facility and build a new facility to meet the ideal program of requirements.

This facility will offer wide array of spaces to meet multiple recreation and community center needs. It will have enhanced fitness and weight room areas on two floors with separate toilet rooms for men and women. An elevated running track connects directly to two fitness areas; one with aerobic equipment and one for personal training. At least, a high school sized basketball court will be possible offering full and half size court options for adult and youth play. A platform flanked by storage rooms can be used for community activities including dance and music recitals.

The program wing offers enhanced administrative support and large multipurpose rooms on the first floor. The second floor can be used for many applications that include classroom and training environments for multiple users or one-on-one work in quiet rooms.

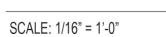
The building could be bathed in natural light by employing a central sky lit atrium and natural daylighting in the gym.

A variance may be required because we believe this approach will encroach into building setbacks mandated by zoning ordinances. Nevertheless, this approach could offer direct access from the apartment towers that are at the rear of the building via a second level entrance that would bridge the elevation changes at the retaining wall along the rear property line.



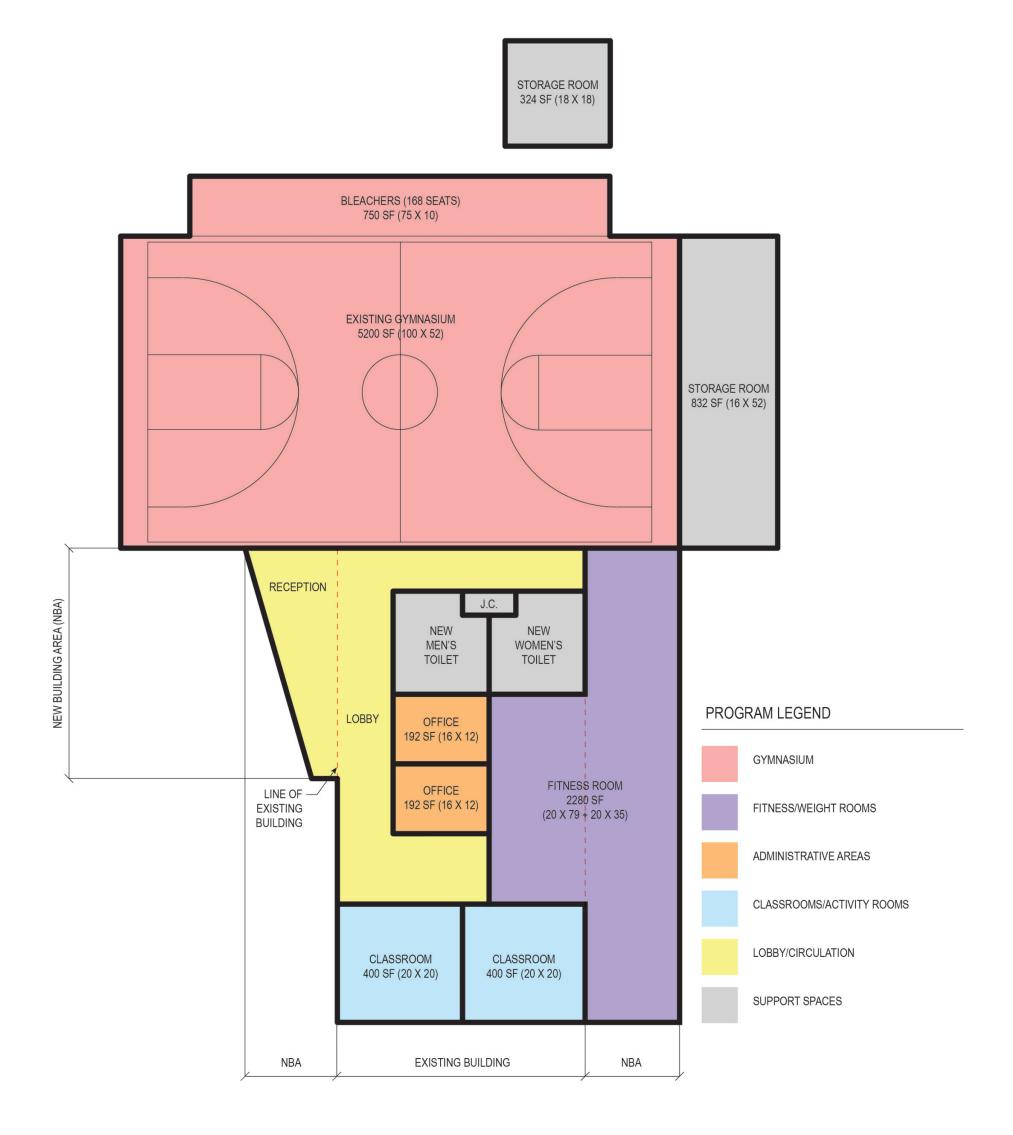
Takoma	Park Reci Option			nter			
					Area Allowance Per Occupant IBC Table	Egress	Plumbing Count
GYMNASIUM		1	sions	TOTAL SF	1004.1.2	Occupant Load	Load
Court	70	х	98	6,860	7	980	30
Platform/Storage	15	х	30	450	15	30	0
Bleachers	10	x	75	750	Actual	168	168
	Su	bto	otal	8,060		1178	198
	· · ·			-			
FITNESS / WEIGHT ROOMS		-	sions	TOTAL SF			
Fitness / Weight Room	32	х	48	1,536	50	31	31
Fitness / Cardio Room	32	х	48	1,536	50	31	31
Agility / Stretching	15	х	70	1,050	50	21	21
	Su	bto	otal	4,122		82	82
ADMINISTRATIVE AREAS	Dim	ien	sions	TOTAL SF			
Office	12	x	12	144	100	1	1
Office	10	x	12	120	100	1	1
Office	10	x	12	120	100	1	1
Office	10	x	10	100	100	1	1
Office	18	x	10	216	100	2	2
Conference Room	18	x	20	360	100	24	24
Office	18	x	16	288	100	24	3
Office	-	bto		1,348	100	34	34
	50	blu	ldi	1,348		34	54
CLASSROOMS / ACTIVITY ROOMS	Dim	nen	sions	TOTAL SF			
Multi-Purpose Room	40	х	37	1,480	7	211	99
Multi-Purpose Room	40	x	37	1,480	7	211	99
Activity Room	40	х	45	1,800	7	257	120
Classroom	26	х	29	754	7	108	50
Classroom	26	х	29	754	7	108	50
Classroom	26	х	29	754	7	108	50
Quiet Room	15	х	9	135	15	9	9
Quiet Room	15	х	9	135	15	9	9
Quiet Room	15	х	9	135	15	9	9
	Su	bto	otal	7,427		1030	495
	_						
SUPPORT SPACES	-		QTY	TOTAL SF			
Restrooms	2	@4	400	800	n/a	0	n/a
Family Restroom/Emergency Shower				100	n/a	0	n/a
Warming Kitchen	19	х	12	228	100	2	2
Mechanical Room	_			200	100	2	n/a
Janitor Closet				50	100	1	n/a
Electrical Room				200	100	2	
IT Closet				80	100	1	n/a
Storage Rooms			210	420	500	1	n/a
Storage Rooms		-	300	600		1	n/a
	Su	bto	otal	2,678		10	0
PROJECTED BUILDING SF							809
Total Program SF				23,635	SF		
LOBBY / CIRCULATION (Efficiency Factor)	25%			5,909			
PROJECTED GROSS AREA TOTAL				29,544	-		
Cost Per Square Foot			Ś	275.00		Ś	3,124,531.25
Cost Per Square Foot					9,601,718.75		
Cost Per Square Foot	\$375.00 \$11,078,906.				· · ·		
	-			-			

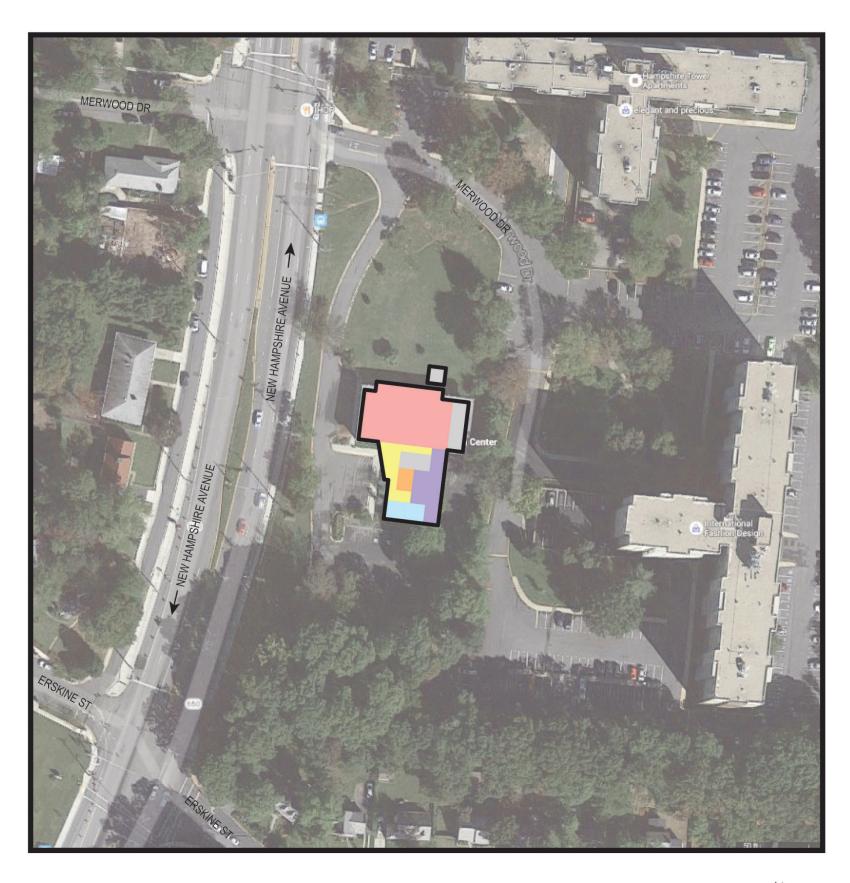




MAIN LEVEL FLOOR DIAGRAM

(ONE STORY BUILDING)

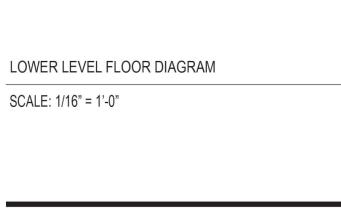




SITE PLAN SCALE: 1" = 100'-0"



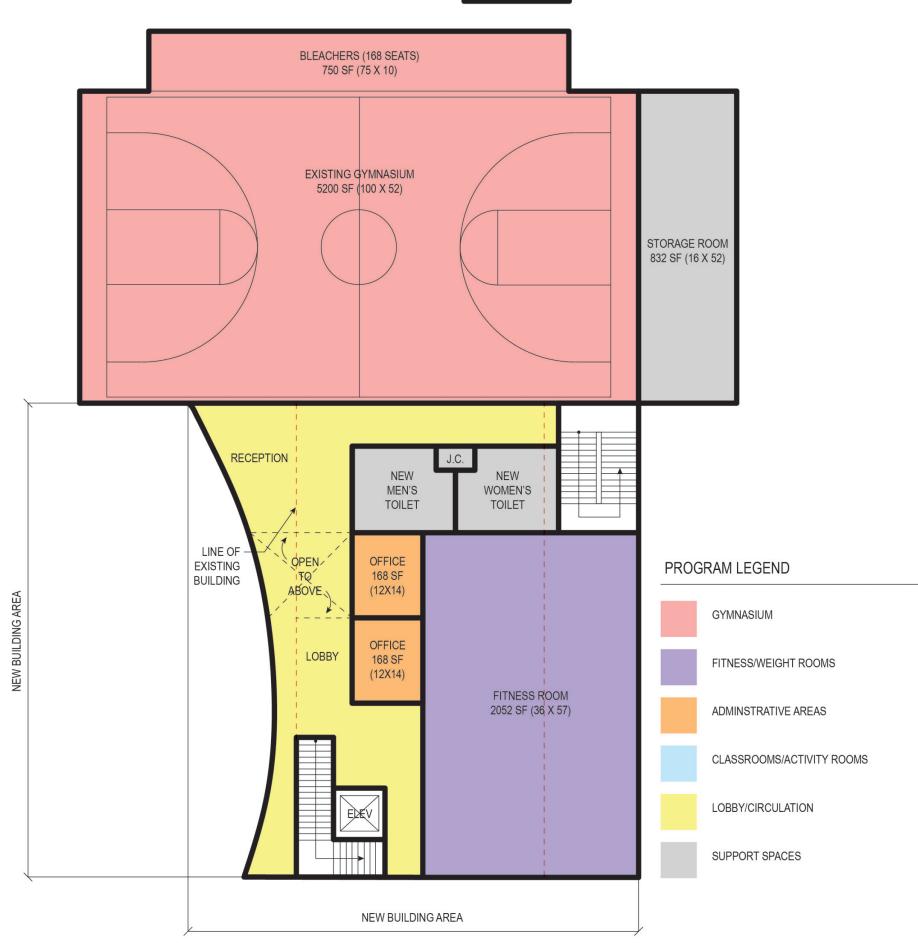






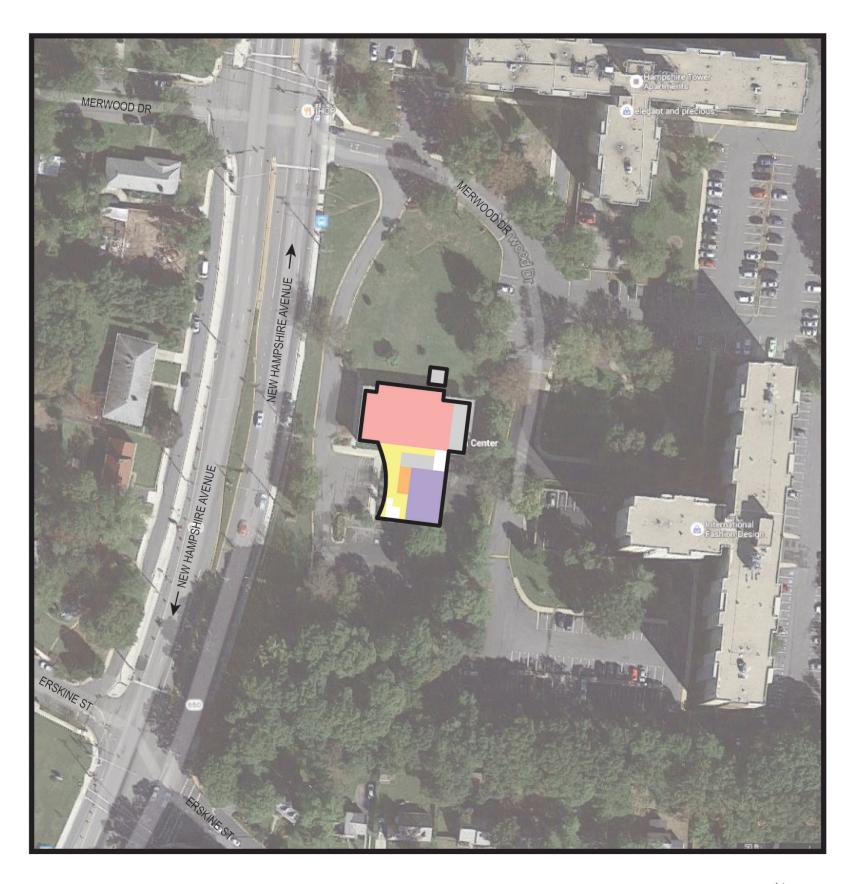
(TWO STORY BUILDING)

SCALE: 1/16" = 1'-0"



STORAGE ROOM 324 SF (18 X 18)

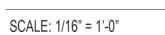
TAKOMA PARK RECREATION CENTER BLOCKING DIAGRAM - OPTION 2



SITE PLAN SCALE: 1" = 100'-0"

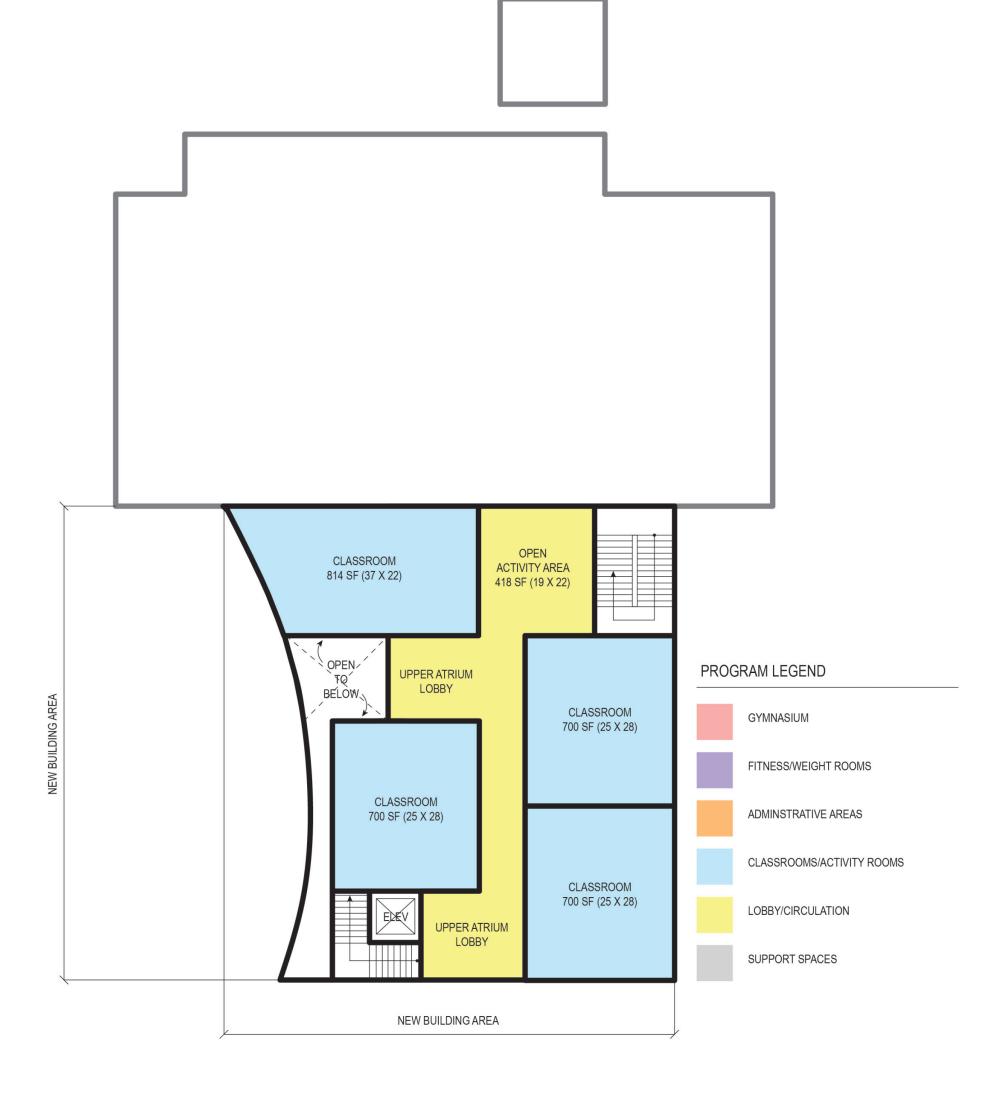






UPPER LEVEL FLOOR DIAGRAM

(TWO STORY BUILDING)





SITE PLAN SCALE: 1" = 100'-0"





