CHINQUAPIN SWIM CENTER

FEASIBILITY STUDY- TASK 1B REPORT

OCTOBER 21, 2014

CITY OF ALEXANDRIA VIRGINIA

concordia

BRAILSFORD & DUNLAVEY

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TASK 1B SUMMARY NARRATIVE

Introduction

In February of 2014, Hughes Group Architects, along with Brailsford and Dunlavey (B&D) and Concordia Architecture, was retained by the City of Alexandria's Department of Recreation, Parks and Cultural Activities ("RPCA") to conduct the market study, financial analysis and programmatic components of a feasibility study for an expanded Chinquapin Aquatic Center. The current Chinquapin Aquatic Center features a 25-yard indoor pool and diving well, as well as a spa, locker rooms, multipurpose spaces and a cardiovascular/weight room .B&D completed an initial feasibility analysis as a part of the study's Task 1A scope of work which indicated that, based upon national participation data and the demographic make-up of Alexandria, demand in the city is strong enough to support an aquatic expansion at the Chinquapin facility. While conducting this initial analysis, B&D also worked with RPCA to lay out the City's strategic objectives for an expanded aquatic center which include:

- Program the new facility to satisfy unmet needs in Alexandria
- Focus the design on optimizing functionality
- New facility operations must support a cost recovery model of at least 80%
- Enhance staffing efficiency to lower operational costs
- Align admission rates to match those of comparable facilities

As a part of Task 1B for this feasibility study, B&D refined its market analysis through the development of case studies, implementation of a community survey, and completion of a demand based programming model. The findings from B&D's study provide the basis of a detailed programming recommendation for an expanded Chinquapin Aquatic Center.

Process Summary

Building on information gathered and work completed during Task 1A, the consultant team began Task 1B by directly engaging Alexandria residents and regional aquatic user groups in order to understand aquatic program needs and opportunities for the Chinquapin Recreation Center site.

An initial community meeting was held on June 12, 2014 at the T.C. Williams Minnie Howard Campus. During this meeting, participants were asked to rank options for potential aquatic programs to be included in the project, and to recommend additional program opportunities and/or features that could serve unmet aquatic needs and provide additional community benefits. Participants also reviewed six pre-concept site schemes that were developed by the consultant team, each of which presented a different response to the physical constraints and opportunities on the site.

Feedback gathered during the first community meeting was then used to develop an online survey and questionnaire. While residents of the City were participating in the survey, B&D met with key aquatic user groups in the region to further understand the program needs and constraints for adding a competitive aquatic facility to the Chinquapin Recreation Center. The findings from B&D's study then formed the basis of an initial programming recommendation for an expanded Chinquapin Aquatic Center.

The preliminary program recommended a range of areas and sizes for various spaces in the proposed facility, which served as a basis for developing additional physical alternatives for how programs could be arranged on the site. In order to evaluate and refine the physical alternatives, the consultant team established initial evaluation criteria to review, discuss, and refine which scenarios should be considered for further study during Task 2.

As a final step in Task 1B, a second community meeting was held at T.C. Williams High School on September 3, 2014, during which additional site concepts were presented for review by the community. Groups of participants worked together at tables to evaluate and rank three site schemes according to several categories. Community members who were unable to attend the meeting were invited to give their input online, using the newly-launched Alex Engage website. Results from the meeting and online engagement activities are being evaluated to help the design team refine and develop a preferred alternative for detailed analysis during Task 2.

Summary of Preliminary Findings

1. Survey results conclude that sufficient demand exists in the community for new aquatic programs, including a 50m pool.
2. The market profile of Alexandria is similar to other jurisdictions currently operating two pool aquatic facilities with positive cost-recovery models.
3. Demand for lap swimming in Alexandria is very strong, ranking 3rd behind demand for weight training and cardio machines. Recreational swimming ranked #5.
4. Only 4 of 12 pre-concept site schemes met the "go/no-go" criteria.
5. Of the 4 schemes that met the criteria, the scheme that proposed placing the new building across Chinquapin Drive in the park was heavily disfavored by the participants at community meeting #2.
6. The design team will use all of the input from the community meeting, online engagement, and RPCA to shape a single scheme that will be further developed in the next task.

CIVIC ENGAGEMENT PROCESS

Principles of Civic Engagement

Alexandria's Principles of Civic Engagement were developed by those who participated from the community during the *What's Next Alexandria* process to guide the City and its residents in how Alexandrians can best participate in public dialogue for decisions that shape the city for years to come. These include respect, inclusiveness and equity, early involvement, easy participation, meaningful engagement, mutual accountability, transparency, sustained collaboration, and evaluation. Each phase of work will be evaluated to assess whether the goals are being met and Principles have been observed, and will allow for adjustments along the way.

Civic Engagement Framework

Now that the City of Alexandria has adopted its Civic Engagement Policy, the Chinquapin Swim Center is one of the first projects to be executed using the principles and practices of Civic Engagement. The project team will continue to work in concert with RP & CA Staff and the City's Civic Engagement Coordinator to monitor each phase of work to ensure we deliver a consistent approach and track our performance.

The framework on the right represents an outline of each phase of work. The current scope of work continues through Phase 3 (Recommendations). Phase 4 will be contingent upon RP & CA's final determination of feasibility. The framework will be refined based on community input as the project moves forward.

City Department:
City of Alexandria - Recreation, Parks and Cultural Affairs Dept.

Project:
Chinquapin Swim Center

Goal :
Feasibility Study for $20m addition/renovation

Overall project timeline:
Feasibility Study completed: Fall 2014

Phase 1 Information *(Gathering, Organizing, Understanding)*

task 1A

Key Principles:
- Meaningful Engagement
- Mutual Accountability
- Early Involvement
- Easy Participation
- Inclusiveness and Equity
- Respect

Engagement Activities:
- ☑ Strategic Asset Value Workshop
- ☑ Provide update to City Council

Tools:
- ☑ Existing Data and Document Review
- ☑ Strategic Asset Value (SAV) Process
- ☑ Site Concept Scenario Development
- ☑ Civic Engagement Framework

Products:
- ☑ Assessment of Basic Project Viability
- ☑ Strategic Asset Value Assessment
- ☑ Summary of Constraints
- ☑ Summary of Existing Conditions
- ☑ Functional Relationship Diagrams
- ☑ Summary of Program Needs
- ☑ Summary of Financial Assumptions
- ☑ Summary of Engagement Process

2 Options *(Discuss and Evaluate Options)*

task 1B

Key Principles:
- Sustained Collaboration
- Easy Participation
- Transparency
- Inclusiveness and Equity

Engagement Activities:
- ☑ Hold (2) Public Meetings
- ☑ Online Survey
- ☑ Tour Area Recreation Facilities
- ☑ Evaluate Site Concept Schemes

Tools:
- ☑ Survey and User Group Interviews
- ☑ Best Practices Analysis
- ☑ Demand-based Program Model
- ☑ Demographic Market Analysis
- ☑ Physical Alternatives Development
- ☑ Go/No-go Evaluation Criteria

Products:
- ☑ Preliminary Program Concepts
- ☑ Physical Alternatives Analysis
- ☑ Preliminary Financial Analysis
- ☑ Initial Determination of Feasibility
- ☑ Community Values and Concerns
- ☑ Draft Report of Preliminary Findings

3 Recommendations

task 2

Key Principles:
- Transparency
- Easy Participation
- Sustained Collaboration
- Mutual Accountability
- Meaningful Engagement

Engagement Activities:
- ☐ Hold (1) Public Meeting
- ☐ Online Engagement Platform
- ☐ Provide update to City Council

Tools:
- ☐ Program Refinement
- ☐ Financial Modeling/Business Planning
- ☐ Capital Budgeting
- ☐ Physical Alternative Refinement

Products:
- ☐ Preferred Architectural Concept
- ☐ Outline Program Statement
- ☐ Integrated Financial Model
- ☐ 10-Year Operating Pro Forma
- ☐ Financial Results
- ☐ Operating Paradigm
- ☐ Project Budget (Construction)
- ☐ Partnerships

4 Implementation and Maintenance

tasks 3-4 (under separate contract)

Key Principles:
- Transparency
- Meaningful Engagement
- Sustained Collaboration
- Mutual Accountability
- Evaluation

Engagement Activities:
- ☐ Offer visits to project sites as needed
- ☐ Evaluate how well the plan is being carried out
- ☐ Identify someone from the City who is responsible for the work and who citizens can call
- ☐ Involve the community in carrying out the plan in each phase of the process

Tools:
- ☐ Provide a schedule of project activities to carry out the plan
- ☐ Notify community about public meetings

Products:
- ☐ Use objective measurements to determine if the community engagement in the decision-making process was successful
- ☐ Provide regular progress reports
- ☐ _____
- ☐ _____
- ☐ _____

COMMUNITY DESIGN CRITERIA

Results from Community Meeting #1

At the first community meeting, held on June 12 at the T.C. Williams Minnie Howard Campus, table groups reviewed images with associated program area descriptions and discussed which aquatic program areas would be most beneficial to the community. Each table used 10 dots to cast their votes. The following ranking shows how those votes were cast.

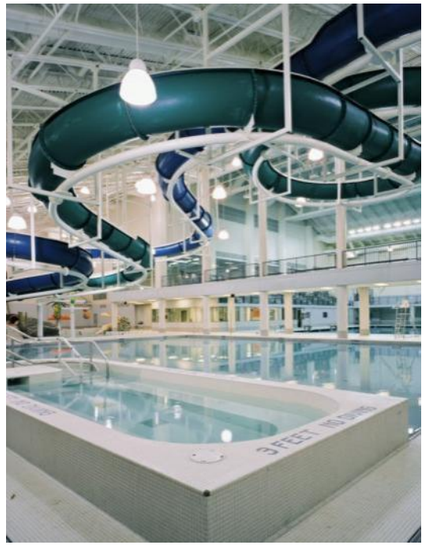
25Y/50M Lap Lanes	16
Multi-Use Water (Open Program Water)	12
Diving Boards	11
Therapy Pool	7
Zero Depth Entry/Wading Area	7
Adult Only Whirlpool	3
Water Slide	3
Lazy River/Current Channel/Vortex	2
Family Whirlpool	1
Play Structure	1

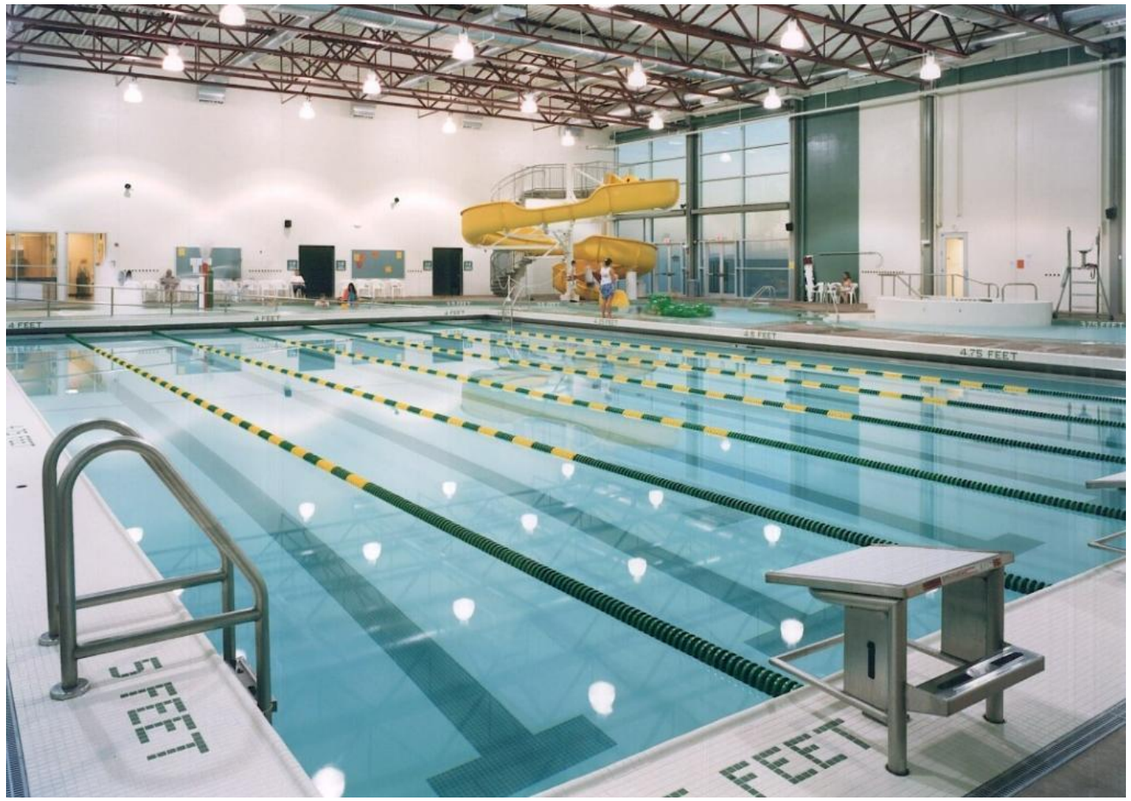
Results from Community Questionnaire

Interested citizens who were unable to attend Community Meeting #1 were given the opportunity to provide input via a questionnaire, copies of which were made available at the Chinquapin Rec Center and at City offices. The following ranking shows which program features were selected as most desirable:

25Y/50M Lap Lanes	24
Multi-Use Water (Open Program Water)	15
Zero Depth Entry/Wading Area	10
Adult Only Whirlpool	7
Diving Boards	7
Interactive Water Spray	6
Lazy River/Current Channel/Vortex	5
Family Whirlpool	5
Water Slide	4
Water Crossing Activity (Lily Pads)	3
Therapy Pool	3
Spray Pad	3
Climbing Walls	2
Play Structure	2
Underwater Social Benches/ Lounging	1

In both cases, the desire for Lap Lanes and Multi-use Water were deemed high priorities for the community.





MARKET ANALYSIS FINDINGS

Demographic Analysis

Brailsford and Dunlavey analyzed primary sources, including 2010 Census data, to gain a thorough understanding of the demographic and socioeconomic conditions of Alexandria, particularly with regards to household size, household income levels, and age distribution levels. Household size is an important predictor of youth sports activities and the average household size provides a broad understanding of the extent to which the market contains children. The average household size in Alexandria is 2.1, which is significantly less than the Washington, DC metropolitan statistical area (MSA) and the national averages, each with 2.6 people per household.

The median age for the City of Alexandria is 35.4, which is relatively close the Washington, DC MSA and national median ages of 35.7 and 36.5, respectfully. In B&D's experience, age is one of the two strongest indicators for predicting participation in aquatic activities. The highest participation levels occur in the 20 to 49 year old ranges. The City of Alexandria's largest age group consists of those between the ages of 30 to 49, which fits within the target age range for participation in fitness activities as defined by Sports and Fitness Industry Association (SFIA) data. Figure 1.1 speaks to the significant amount of the population in Alexandria who are between the ages of 30 to 49.

Household income is the most reliable indicator of aquatic participation given that with more wealth, there is more discretionary money to spend on aquatic/fitness related activities. National data from SFIA indicates that aquatic participation levels increase as the household income level rises. The current median household income level in the City of Alexandria is $86, 730. This is much higher than the national median household income level of $51,803, but is a bit lower than the Washington, DC MSA median household income level of $92,608. B&D observed that there are a significant number of households earning over $100,000 annually which is a convincing indicator that Alexandria residents will participate in fitness activities. Figure 1.2 outlines the considerable amount of households in Alexandria earning over $100,000 annually.

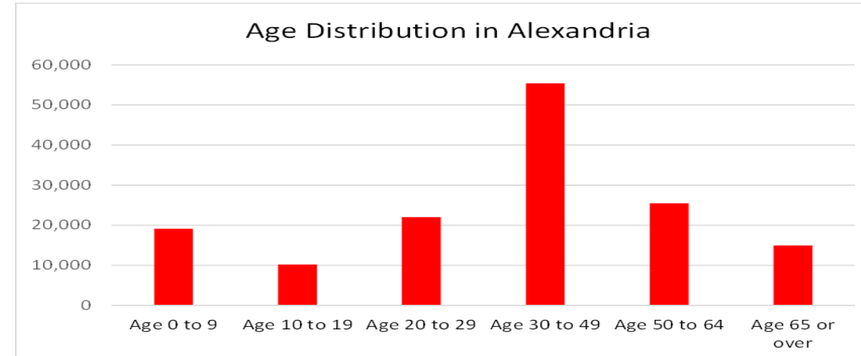


Figure 1.1: Age Distribution in Alexandria

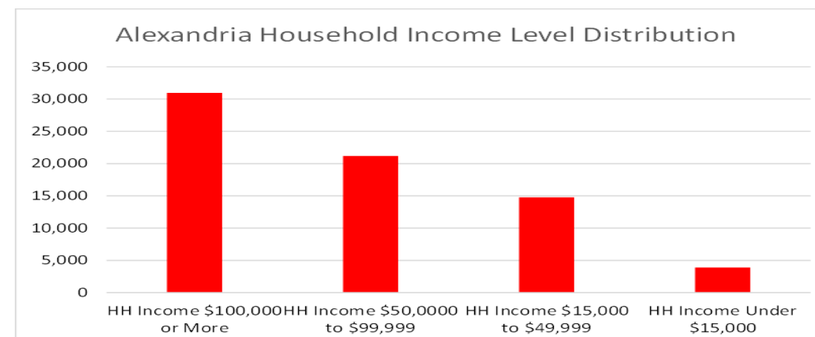


Figure 1.2: Household Income Level Distribution in Alexandria

MARKET ANALYSIS FINDINGS

This information was then compared against national participation data developed by the Sports and Fitness Industry Association (SFIA) in order to develop a predicted number of core aquatic users living in Alexandria. Core aquatic users are defined as those who swim 50 or more times per year. Figure 1.3 below indicates that, based upon the city's household income distribution levels, there are approximately 9,958 core aquatic users residing in Alexandria.

Predicted Core Aquatic Participation In Alexandria (SFIA)		
	National Participation Rate %	N (Predicted Number of Users)
Under $15,000	4.8%	386
$15,000 to $24,999	4.8%	304
$25,000 to $34,999	6.0%	471
$35,000 to $49,999	6.0%	978
$50,000 to $74,999	5.6%	1,496
$75,000 to $99,999	6.2%	1,075
$100,000 to $149,999	8.2%	2,162
$150,000 and up	8.2%	3,085
Total		9,958

Figure 1.3: Predicted Core Aquatic Users for Alexandria Based Upon National Participation Data

Brailsford and Dunlavey conducted case study analyses of several regional aquatic centers in order to assess the feasibility of achieving RPCA's operating cost recovery goals. The findings from these case studies also inform B&D's program recommendations by identifying revenue driving components, optimal staffing models, and important design considerations from each aquatic facility that was examined. B&D has conducted four case studies as a part of the market analysis, two of which are mentioned in this report. The remaining case studies will be discussed in the market analysis section of the final report at the conclusion of Task II.

MARKET ANALYSIS FINDINGS

Case Study - Germantown Aquatic Center

Amenities

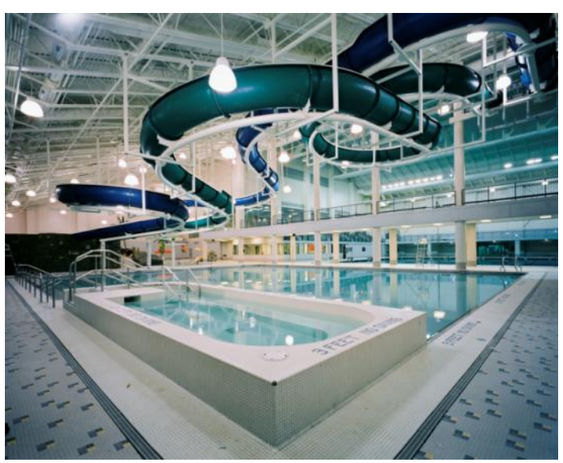
The Germantown Aquatic Center is a 60,000 GSF facility which includes a 12 lane x 25 meter competition pool, a recreation pool and leisure pool complete with water slides. It also contains a diving well within the competition pool section that includes 1 meter and 3 meter springboards along with diving platforms at 5 meters, 7.5 meters, and 10 meters.

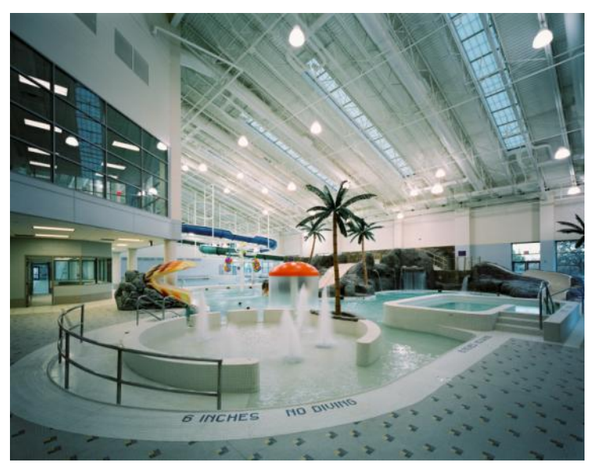
Demographics

The market area surrounding the Germantown Aquatic Center contains very similar demographics to Alexandria, particularly with regard to household income levels and age distribution. The age distribution and household income levels for Germantown are depicted in Figure 1.3 and 1.4. Average household income levels in both Germantown and Alexandria are relatively similar based upon their population dispersal. The age distribution levels in Germantown and Alexandria both experience a peak for ages 30 to 49. Germantown's average household size is currently 2.8, which is significantly higher than that in Alexandria and slightly higher than the national average household size of 2.6.

Cost Recovery

The market area surrounding the Germantown Aquatic Center contains very similar demographics to Alexandria, particularly with regard to household income levels and age distribution. The age distribution and household income levels for Germantown are depicted in Figure 1.3 and 1.4. Average household income levels in both Germantown and Alexandria are relatively similar based upon their population dispersal. The age distribution levels in Germantown and Alexandria both experience a peak for ages 30 to 49. Germantown's average household size is currently 2.8, which is significantly higher than that in Alexandria and slightly higher than the national average household size of 2.6.





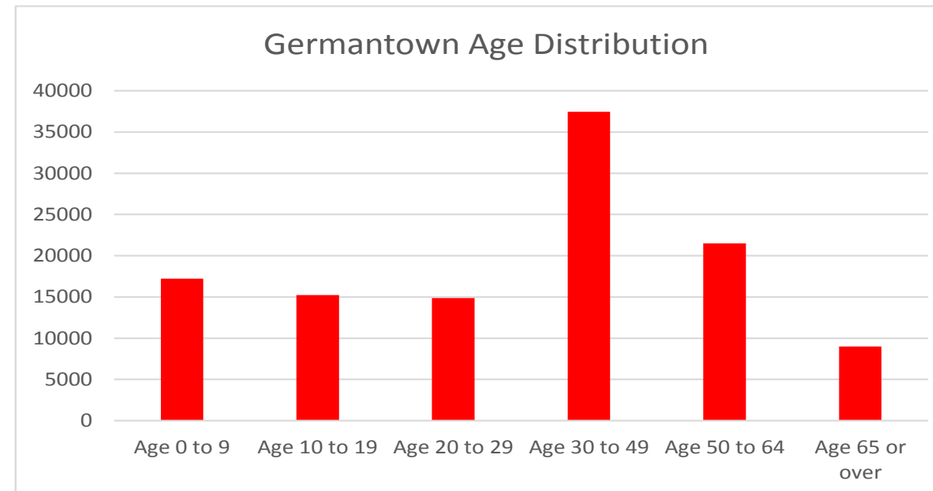


Figure 1.4: Age Distribution in Germantown

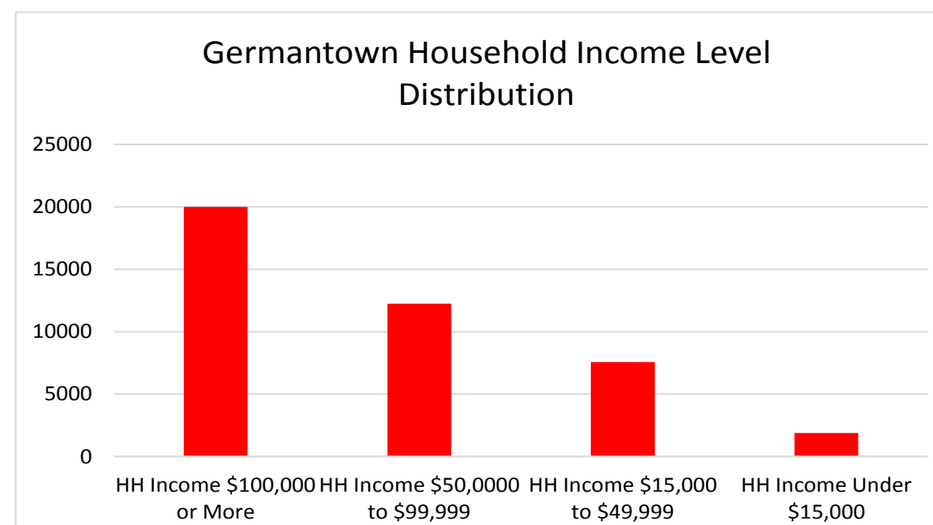


Figure 1.5: Household Income Level Distribution in Germantown

MARKET ANALYSIS FINDINGS

Case Study - Arundel Olympic Swim Center

Amenities

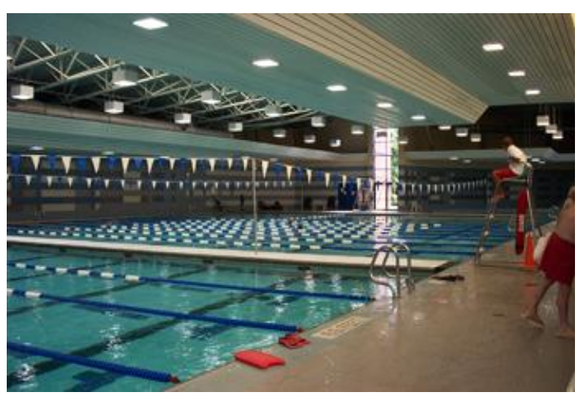
The Arundel Olympic Swim Center contains a 50 meter competition/lap pool along with a wading pool and spa. This facility also contains two 1 meter springboards. There are no land recreational components contained within this facility.

Demographics

Arundel Olympic Swim Center serves a market area with similar income level characteristics as Alexandria. The household income levels and age distributions for Arundel Olympic Swim Center's target market can be found in Figures 1.6 and 1.7 below. The household income level distribution for Alexandria and the target market for Arundel Olympic Swim Center are both relatively similar in regards to households earning over $100,000 annually. Age distributions between the target market for Arundel Olympic Swim Center and Alexandria are also very similar with regards to the 30-49 age range. Anne Arundel County's current average household size is 2.5 which is relatively close to the average household size of 2.1 which exists in Alexandria and slightly smaller than the national average household size of 2.6.

Cost Recovery

This facility currently achieves a cost recovery of 89% annually. 68% of the facility's revenues are captured through programs such as swim lessons, competitive swim team rentals and other aquatic classes. Arundel Olympic Swim Center receives a higher degree of revenue from admissions than Germantown, capturing 30% of its income through pass sales. The increased percentage of revenue derived from pass holders is likely a result of two factors: the 50 meter facility has more lanes available during peak hours and the overall demand for youth based programs such as swim lessons and competitive swimming is slightly lower than what is seen at Germantown.



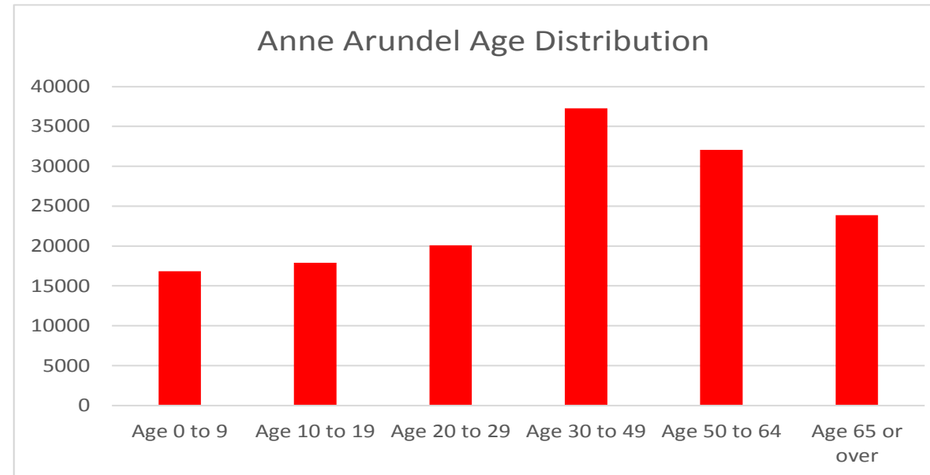


Figure 1.6: Age Distribution in Anne Arundel County

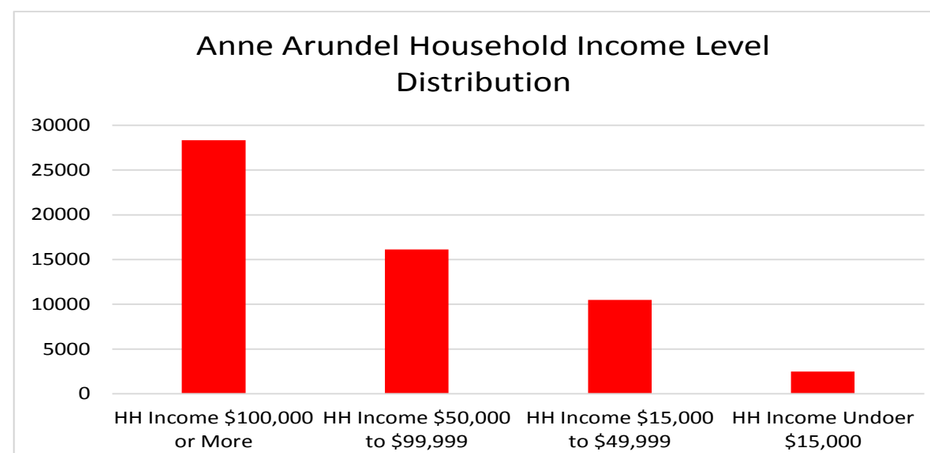


Figure 1.7: Household Income Level Distribution in Anne Arundel County

MARKET ANALYSIS FINDINGS

User Interviews

Brailsford and Dunlavey conducted interviews with swimming and diving coaches from eight organizations including private high schools, TC Williams High School and local USA Swimming-affiliated clubs, met frequently with RPCA staff, and conducted several meetings with community members to understand popularity of current programs, demand for lane rentals, and to gain an appreciation for nuances in the local aquatic market. These interviews and meetings revealed the following key items:

- A general shortage of available practice lanes in Northern Virginia for competitive swim teams
- Lack of available adequate facilities for swim meets
- TC Williams' practice time impacting lane availability for lap swimmers at Chinquapin
- Lap lanes, multi-use/recreational water and diving boards are needed for the residents of Alexandria
- Extensive waiting list for swimming lessons at the Chinquapin facility
- Soft play room driving significant revenue into the facility
- Significant interest from competitive swim teams and private high schools to rent lane space at an expanded Chinquapin Aquatic Center

Summary of Key Findings

Based upon the high percentage of households in Alexandria with annual income levels over $100,000, national participation data suggests that there is a strong group of core aquatic swimmers residing in the city. According to SFIA data, those households with higher income levels typically participate in aquatic activities more than those with lower incomes.

B&D observed that the majority of revenues for both case studies originates from programs such as swimming lessons, pool rentals and aquatic classes. The pattern that is emerging from the case study analysis is that facilities with stronger programmatic offerings achiever higher cost recovery scenarios. An expanded Chinquapin Aquatic Center will need to optimize revenues from programs in order to ensure that RPCA's cost recovery scenario is achieved.

Due to a current shortage of competitive lane space in northern Virginia, there is strong interest for lap lane rentals from private high schools and local/US competitive swim teams. This shortage of competitive lane space places the Chinquapin Aquatic Center in a prime position to increase revenues from rentals by providing an expanded facility with an adequate amount of regulation swim lanes. B&D also observed that additional space is needed to support RPCA's learn-to-swim program due to the current waiting list. Given the different requirements needed for competition/lap swimming and the learn-to-swim program, it is assumed and recommended that two pools will be needed in the expanded Chinquapin Aquatic Center.

SURVEY ANALYSIS

Objectives

B&D developed a web-based survey to quantitatively test the primary market area's demand for specific program options. Response options were structured to maximize information about demand for aquatic and land recreation programs, facility usage patterns, inform economic model assumptions, and better understand community members' desires for an expanded aquatic facility.

Methodology

B&D distributed the electronic version of the survey to community members who voluntarily enrolled in a city wide list-serve. 5,823 community members were selected to receive the survey via e-mail. A total of 497 responses were received during the July 3-17, 2014 collection period.

To ensure a reliable sample and credible data, B&D made every attempt to reduce non-response bias and minimize margin of error by developing a consistent survey methodology that encouraged participants to respond to the survey. Upon completion of the survey collection process, results and projections were sorted by various demographics characteristics to further refine the demand results.

Margin of Error

Based upon the 497 responses received from within the primary market area, the margin of error for the survey is +/- 4.7 percent based on a 95 percent confidence level.

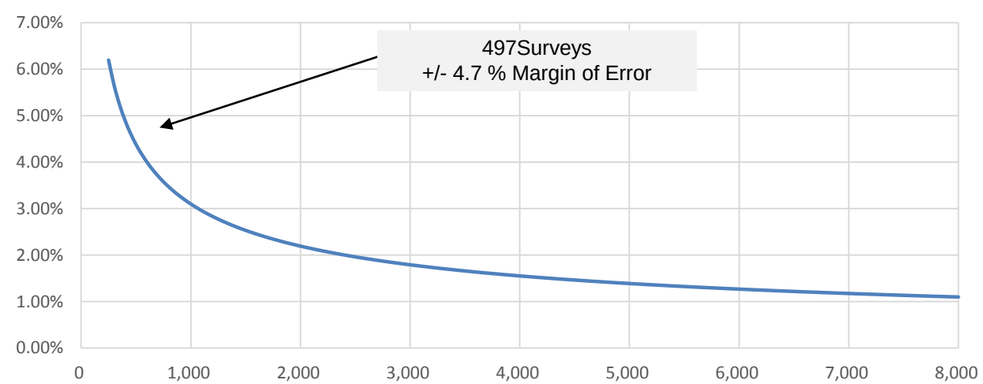


Figure 2.0: Margin of Error based on 95 percent confidence level

SURVEY ANALYSIS

Demographic Comparison

B&D compared the demographics of the survey respondents living within the primary market area to the 2013 Census information to identify any variances between the two populations. Survey response demographics were generally consistent with the Census data. However, the household income distribution of respondents is significantly overrepresented by those who earn over $100,000 annually.

As noted previously, household income is a key factor in aquatic participation levels. Utilizing this definition and the survey results, B&D calculated the predicted number of core aquatic users in Alexandria by applying participation rates against the city's demographic make-up. Figure 2.2 below indicates that the predicated number of core aquatic users in Alexandria based upon the survey results is approximately 28,913. The survey results indicate a significantly higher amount of core aquatic users in Alexandria than is predicted by the SFIA national participation data previously discussed and presented in Figure 1.3. The discrepancy is likely due in part to the over representation of high income individuals. B&D accounted for this discrepancy when developing program recommendations by relying upon the national participation data results previously depicted in Figure 1.3.

Household Income Distribution In Alexandria	Census	Survey
Under $15,000	2.63%	2.38%
$15,000 - $24,999	2.07%	0.79%
$25,000 to $34,999	2.59%	0.53%
$35,000 to $49,999	5.37%	2.91%
$50,000 to $74,999	8.73%	9.52%
$75,000 - $99,999	5.66%	14.29%
$100,000 to $149,999	8.67%	30.42%
Over $150,000	12.37%	39.15%

Figure 2.1: Survey sample characteristics compared to census data

Predicted Core Aquatic Participation In Alexandria (Survey)		
	Survey Participation Rate %	N (Predicted Number of Users)
Under $15,000	2.11%	170
$15,000 to $24,999	0.70%	45
$25,000 to $34,999	0.00%	0
$35,000 to $49,999	2.82%	463
$50,000 to $74,999	7.04%	1,882
$75,000 to $99,999	14.79%	2,564
$100,000 to $149,999	32.39%	8,595
$150,000 and up	40.14%	15,195
Total		28,913

Figure 2.2: Predicted Core Aquatic Participation based on Survey Results

SURVEY ANALYSIS

Demand Based Programming Results

B&D conducted a demand-based programming analysis (DBP) from the survey results to determine the amount of space required to satisfy peak demand for specific program activities. The analysis is used to define which activities should have adequate space for frequent, regular use by a large number of participants, and which should be provided in small quantities to allow for occasional use for unique or "variety" elements. The DBP process determines the following:

- Specific square footage recommendations and space prioritizations based on projected utilization rates,
- Total demand for space during peak hours, and
- Activities that can utilize the same type of space.

The analysis was further refined by considering the existing supply of spaces in the primary market area and input from community members to ensure that each program element reflects user preferences.

	Activity	Priority Category	Space Type	Peak Demand	Space Allocation Based on Prioritization of Demand		
1	Weight Training	first	Sq. Ft.	3,610	2,700	to	3,100
2	Cardiovascular fitness machines	first	Sq. Ft.	3,520	2,600	to	3,000
3	Lap Swimming	first	Lanes	31	23	to	26
4	Group Fitness Classes	second	Sq. Ft.	1,788	1,000	to	1,200
5	Recreational / Leisure Swimming	second	Sq. Ft.	828	455	to	538
6	Yoga, Mind/Body Classes	second	Sq. Ft.	1,364	800	to	900
7	Aquatic Play Structures	second	Sq. Ft.	400	220	to	260
8	Aquatic Therapy/Rehab	second	Sq. Ft.	150	83	to	98
9	Diving Boards	third	Sq. Ft.	360	144	to	180
10	Lazy River	third	Sq. Ft.	330	132	to	165
11	Racquetball	third	Courts	0	0	to	0
12	Water Aerobics/Fitness	fourth	Sq. Ft.	620	155	to	217
13	Water Slides	fourth	Sq. Ft.	470	118	to	165

Figure 2.3: Demand Based Programming Results

SURVEY ANALYSIS

Summary of Key Findings

The Demand Based Programming results indicate that weight training and cardiovascular fitness are the top two activities that survey respondents will participate in. These results are consistent with other surveys that B&D has conducted throughout the country and is an important programming consideration due to the revenue-generating potential of these activities. Lap swimming is the number three ranked activity in demand by survey respondents. This is significant for Alexandria given the fact that lap swimming is typically ranked much lower in the DBP model based on the results from several other similar studies B&D has conducted throughout the country.

Recreational/leisure swimming also ranked high on the DBP model, indicating that a significant amount of space needs to be allocated to support this program. The peak demand times for both lap swimming and recreational/leisure swimming are additional key items B&D observed as there appears to be significant overlap between the two programs. This overlap indicates that there will need to be separate spaces for the lap swimming/competition pool and the leisure/recreational pool in order to accommodate for peak demand usage as well as their varying programmatic requirements.

FINANCIAL ANALYSIS

Summary of Key Findings

Objectives

The objective of the financial analysis is to model the financial performance for the proposed aquatic center based upon programmatic recommendations made by B&D and the market analyses contained herein.

Methodology

The financial model developed by B&D integrates the facility program and program schedules, revenue calculations, and operating expense calculations to generate an annual net operating income. All of the underlying calculations are dependent on established assumptions so that any change in one condition automatically triggers an adjustment to all other affected financial elements. Changes to the Project can be analyzed quickly while maintaining the internal balance of the model.

Revenues from a facility of this type are typically derived from several sources that correlate to the scope and capacity of the program elements. It is assumed that the facility will see revenue made up primarily between admissions, facility rentals, and programs to include swim lessons, and aquatic classes. Based upon the information presented in this report and the Chinquapin facility's current revenue performance, the model assumes that 25% of the facility's earnings will come from programs and classes, along with 35% from rentals, 30% will originate from admissions and passes, which is a 10% increase from current reported revenue from admissions and in line with comparable facilities. 10% of the facility revenue will come from miscellaneous sources such as concessions stands.

The pro forma also takes into account operating expenses including utility expenses, general administrative costs, repairs and maintenance, contracted services and staffing and personnel costs. For this analysis, B&D utilized the existing Chinquapin facility's current operating expense data as well as information from comparable facility benchmarks to arrive at a utilities expense assumption. It is recommended that RPCA optimize their staffing model in order to minimize excess operating expenses for the expanded aquatic facility.

Brailsford and Dunlavey will continue to refine the assumptions built into the pro forma as the building scheme is advanced and will have a comprehensive financial model completed by the end of Phase II.

PROGRAMMATIC RECOMMENDATIONS

Initial Program

Based upon the high demand for lap swimming space derived from national participation data, interviews from competitive swimming groups, and the results from the community survey, B&D is recommending a 50 meter competition/lap pool for the new facility. A comprehensive recreation pool is also being recommended based upon the demand for swim lesson program needs, leisure and fitness swim activities, aquatic classes, aquatic therapy programs and additional lanes for lap swimming use during peak demand times. As a part of the aquatic program, expanded locker room spaces, wet classrooms, and spectator seating are also recommended in order to provide users with adequate support spaces that will complement the main revenue driving components of the facility. Based off of the results from the market analysis, B&D believes that it is possible for the Chinquapin Aquatic Center to achieve the city's cost recovery goals by expanding the aquatic program as outlined above.

Brailsford and Dunlavey also recommends that RPCA plan for future expansion of the cardiovascular/weight fitness spaces and soft play rooms due to the strong demand for land recreation components recorded through the community survey and user group interviews. These land elements can be provided in a separate, later phase of construction, but have strong revenue driving potential which will contribute significantly to RPCA's cost recovery goals. Several regional aquatic facilities contain extensive land recreation programs in order to maximize revenues and increase cost recovery. It also important to note that national participation data from SFIA indicates that there is a high percentage of core aquatic users who also partake in land recreation programs such as cardiovascular exercise utilizing treadmills and exercise bicycles, yoga, weight lifting and group fitness classes.

The program outlined below indicates both the aquatic and land recreation components for an expanded Chinquapin Aquatic Center.

Next Steps

Over the course of the Phase II study, B&D will complete a development budget, 10-year operating pro forma as well as an operating plan for the new aquatic center in coordination with the architecture team as a final site scheme is selected and a design is developed.

City of Alexandria
Financial Model
OUTLINE PROGRAM

Program Elements	Current NSF	New NSF
AQUATICS		
Competition Pool	5,579	21,000
Recreation/Leisure Pool*	0	5,500
Therapy Pool	0	0
Natatorium Spectator Seating	1,000	2,000
Safety Office	0	325
Wet Classroom 1	0	900
Wet Classroom 2	0	900
Aquatics/Wet Office	204	204
Natatorium Filter/Storage	345	2,845
Subtotal - Aquatics	**7,128**	**33,674**
***Recreation Pool to accommodate aquatic therapy program**		
SUPPORT SPACES		
General Administrative		
Entrance	594	1,094
Mezzanine Pool Level	1,233	1,233
Office	504	1,004
Mezzanine	1,054	1,054
Subtotal - General Administration	**3,385**	**4,385**
Support Spaces		
Men's Locker Room	1,232	2,000
Women's Locker Room	1,232	2,000
Men's Restroom	108	216
Women's Restroom	108	216
Family Change Rooms	40	540
Storage Area 1	322	322
Storage Area 2	276	276
Storage Area 3	120	120
Mechanical	600	1,200
Subtotal - Support Spaces	**4,038**	**6,890**
SPECIALIZED ACTIVITIES		
Weight & Fitness	1,103	8,233
Soft Play Room	800	800
New Soft Play Room	800	800
New Soft Play Room	800	800
Racquetball Court	800	800
Subtotal - Specialized Activities	**4,303**	**11,433**
ENTERPRISE		
Equipment Sales	50	50
Snack Bar/Vending	300	300
Subtotal - Enterprise	**350**	**350**
COMMUNITY ZONE		
Group Fitness Room 1	850	850
Group Fitness Room 2	540	540
Group Fitness Room 3	275	1,778
Subtotal - Community Zone	**1,665**	**3,168**
Subtotal NASF	**20,869**	**59,900**

Figure 3.0: Initial Program Recommendation

CITYWIDE PARKS IMPROVEMENT PLAN

In early 2014, the City of Alexandria produced a Citywide Parks Improvement Plan, analyzing the current condition of Chinquapin park as well as the opportunities for improvement. By incorporating community feedback and use statistics, certain items were selected for improvement, including the Chinquapin Pool.

This report is part of the feasibility study to determine if there is enough demand to justify the design and construction of a new 50m pool at Chinquapin.

The scope of the feasibility study is limited to the new facility construction and the re-configuration of the parking to support the larger facility and improved park space, items 1 and 2 on the Parks Improvement Plan. All other improvements to the park are being planned and implemented by RPCA under a different scope of work. The Citywide Parks Improvement Plan is included for reference only.

KEYED LEGEND

1. EXPAND AND/OR RENOVATE CHINQUAPIN POOL ACCORDING TO FEASIBILITY STUDY
2. CONSOLIDATE & EXPAND REC CENTER PARKING ACCORDING TO FEASIBILITY STUDY
3. CONSTRUCT NEW PARK SHELTER
4. RELOCATE PLAYGROUND
5. RELOCATE AND ENCLOSE DOG PARK
6. CREATE ADULT FITNESS AREA AND MULTI-USE COURTS
7. CREATE GROVE OF NATIVE PLANTS RELATING TO SITE HISTORY
8. CONSTRUCT 1/4 MILE MARKED WALKING LOOP AT PERIMETER OF FIELD
9. RE-GRADE OPEN FIELD IN CENTER OF LOOP
10. MAKE WEST HALF OF LOOP PERVIOUS MATERIAL AND ONE-WAY WITH OVERFLOW PARKING LANES
11. MAKE EAST HALF OF LOOP TWO-WAY WITH TURN-AROUND AND PARKING
12. ESTABLISH ACCESSIBLE PARKING & ENTRANCE TO AQUATICS FACILITY
13. STUDY POSSIBLE STORMWATER MANAGEMENT INFRASTRUCTURE
14. CONTINUE INVASIVE SPECIES REMOVAL
15. PLANT ADDITIONAL TREES
16. ADD TURN-AROUND AND RENOVATE ROAD AROUND GARDEN WITH PERVIOUS PAVING

GRAPHIC KEY

PERVIOUS PAVING AREAS
PARK BOUNDS
HARD TRAILS
SOFT TRAILS
MULTI-USE TRAIL
ENTRANCE PLAZAS
PASSIVE AREAS
COMMUNITY GARDEN
ATHLETIC TURF
COURTS

SCHEME DEVELOPMENT

Task 1A: Initial Feasibility Determination

During Task 1A, six schemes were developed to analyze the possibility of locating a 50m pool on the Chinquapin site. Each scheme revolved around the idea that the existing pool would be renovated to accommodate more recreational aquatics activities while an addition with a competition pool would expand Chinquapin & T.C. William's abilities to host swim meets.

Goals for the new facility include preserving the open space and character of Chinquapin Park, minimizing the impact to the existing recreation center during construction, and integrating the new competition pool with the existing pool to create a unified recreation center.

Task 1B

After the completion of Task 1A, further input from surveys, the community, and RPCA prompted the design team to produce six additional schemes for evaluation. These schemes were designed to address concerns about Resource Protection encroachment, storm drain relocation, and the ability to maintain an open pool for the public during construction.

Following the scheme development, the design team, along with a City interdepartmental team, developed a list of Go / No-Go threshold criteria that each of the 12 schemes were measured against. It was determined that any one of the "No-Go" criteria would limit the feasibility of the expansion.

Task 1A

6 Schemes

12 Schemes

Task 1B

CONSTRAINTS

Go / No-Go Criteria

Resource Protection Area (RPA):

The RPA is a required 100 foot buffer around streams to restore and protect the Chesapeake Bay's ecosystem. Since Taylor Run is considered a perennial stream, one that flows year-round during a year of normal participation, any improvements on the Chinquapin site will need to occur outside of the RPA. All exceptions to the RPA requirements must go through a public hearing process but The City of Alexandria has never granted an exception to date.

Storm Drain Impact:

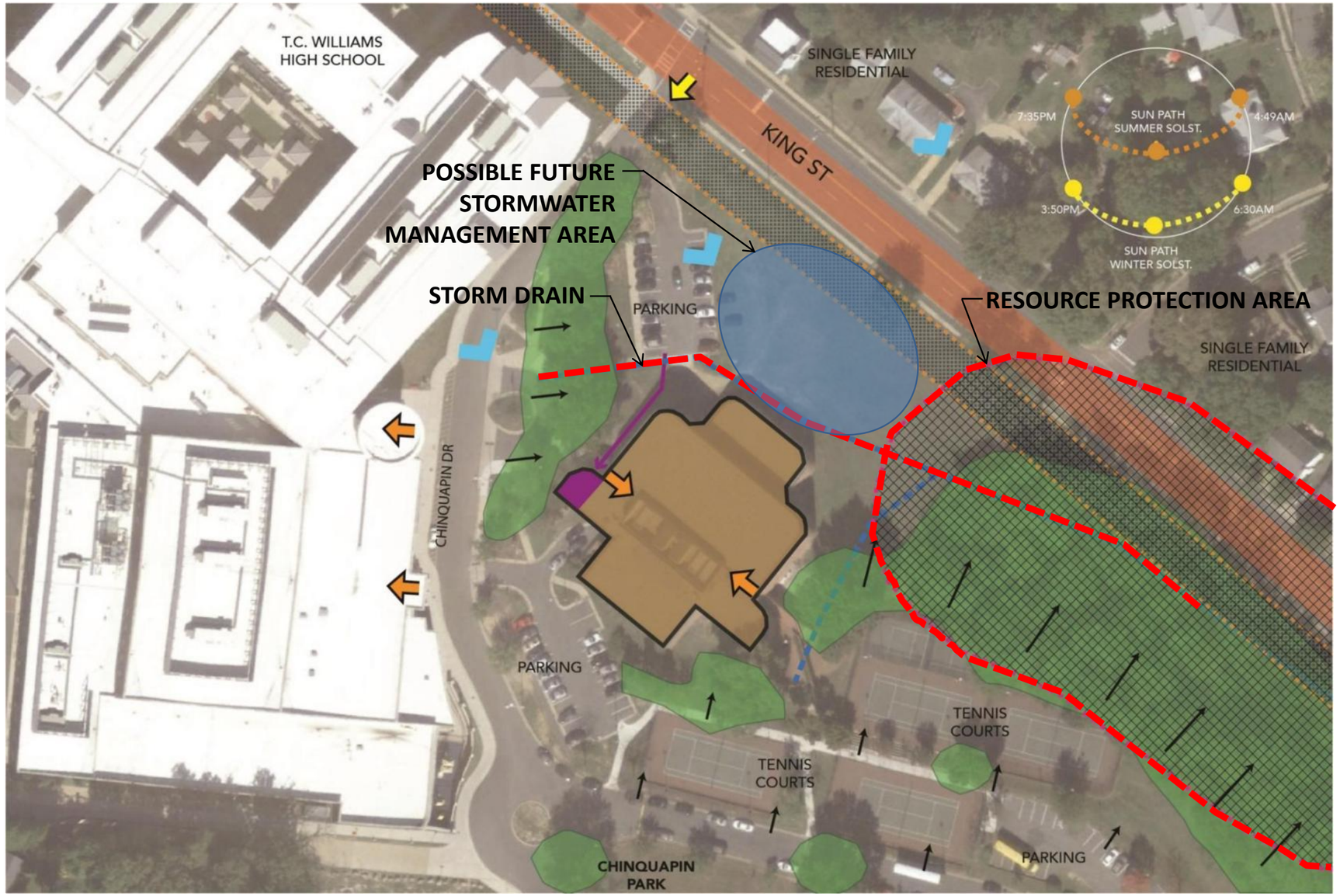
There is an underground stormwater and sanitary pipe running across the site limiting developing the site North of the current building. The budget to move the drain piping and other utilities is conceptually estimated to be $750,000.

Consistent Pool Operation:

The existing pool must remain open to the public throughout construction of an additional competition pool.

80% Cost Recovery:

All schemes will be designed to accommodate B&D's recommended program. This program will allow the facility to achieve its goal, per Alexandria's adopted Cost Recovery Policy, of at least 80% cost recovery for operations expenses. This metric will be fully evaluated once a final program and scheme is developed.



ANALYSIS OF SCHEME 1

GO / NO-GO CRITERIA

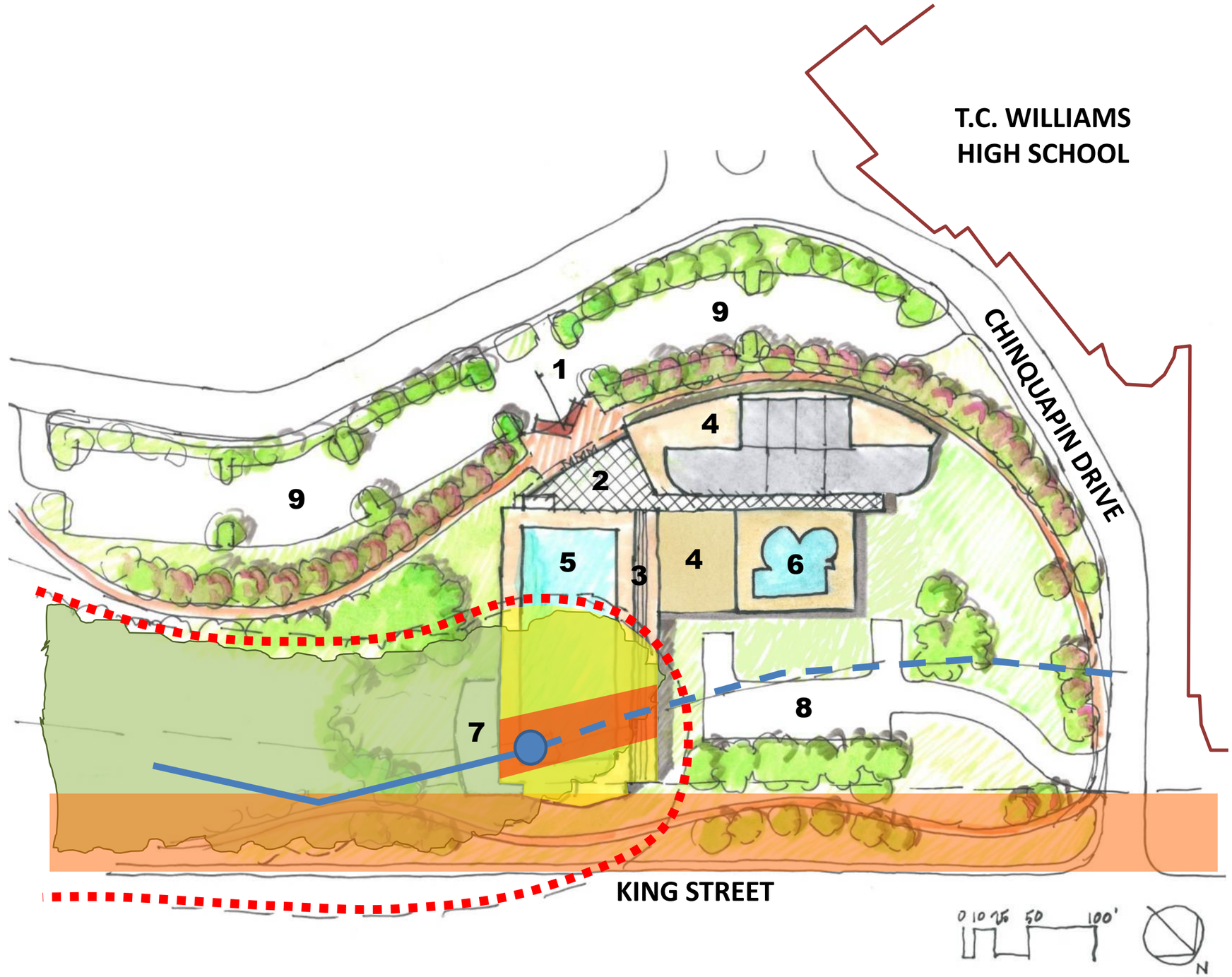
RPA Impact	Storm Drain Impact	Consistent Pool Operation
X	X	✓

LEGEND

- Resource Protection Area (RPA)
- Storm Water (Culvert & Creek)
- Existing Tree Canopy
- Building Setback

1 NEW ENTRY
2 NEW LOBBY
3 SPECTATOR SEATING
4 PROGRAM SPACE
5 50-M POOL
6 EXISTING BUILDING WITH MODIFIED RECREATION POOL
7 SUN DECK
8 STAFF/SERVICE PARKING
9 PUBLIC PARKING

NOTE: NEW LOCKERS & POOL SUPPORT BELOW 2,3 & 4



ANALYSIS OF SCHEME 2

GO / NO-GO CRITERIA

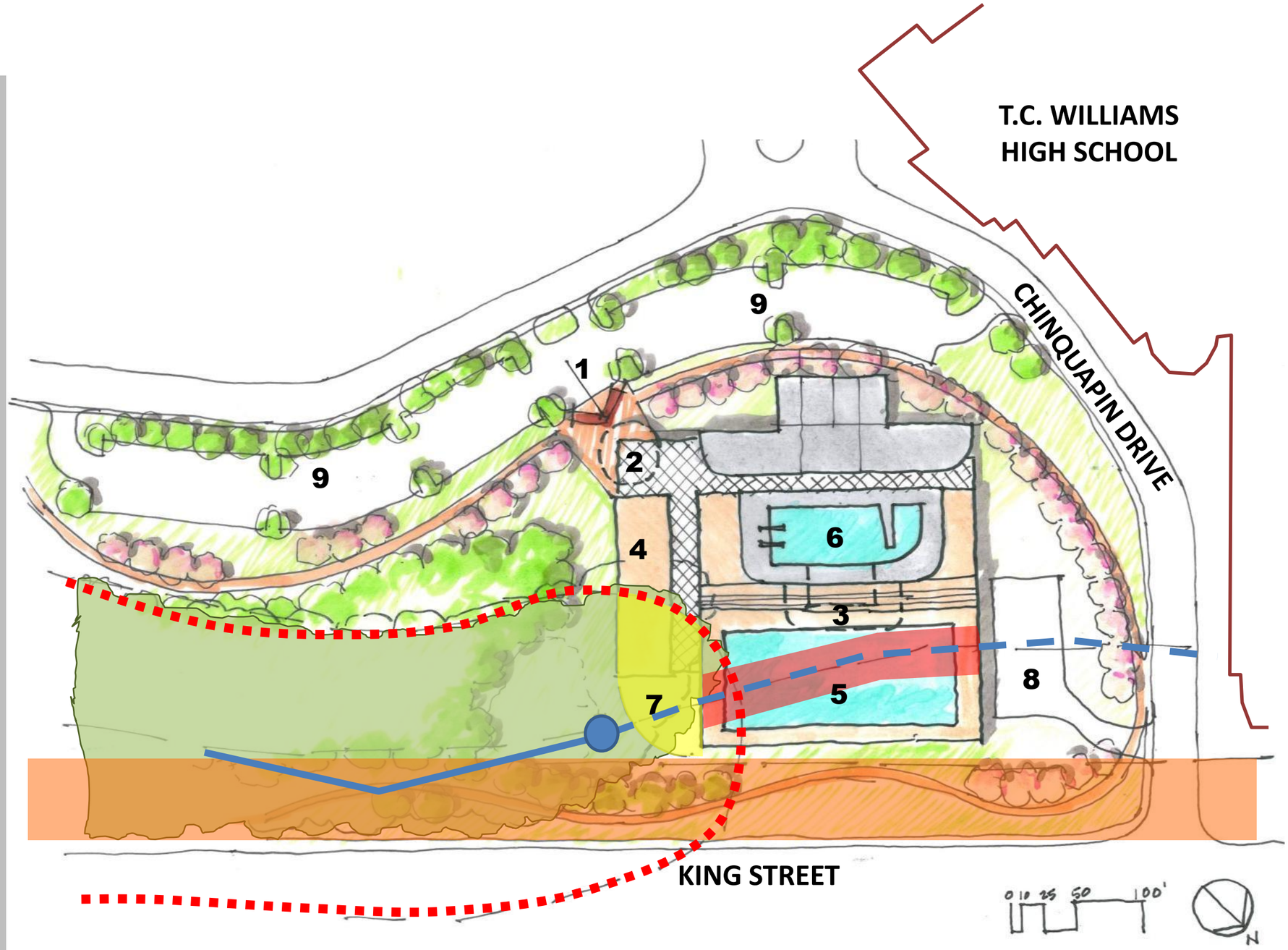
RPA Impact	Storm Drain Impact	Consistent Pool Operation
X	X	X

LEGEND

- Resource Protection Area (RPA)
- Storm Water (Culvert & Creek)
- Existing Tree Canopy
- Building Setback

1 NEW ENTRY
2 NEW LOBBY
3 SPECTATOR SEATING
4 PROGRAM SPACE
5 50-M POOL
6 EXISTING BUILDING WITH MODIFIED RECREATION POOL
7 SUN DECK
8 STAFF/SERVICE PARKING
9 PUBLIC PARKING

NOTE: NEW LOCKERS & POOL SUPPORT BELOW 2,3 & 4



ANALYSIS OF SCHEME 3

GO / NO-GO CRITERIA

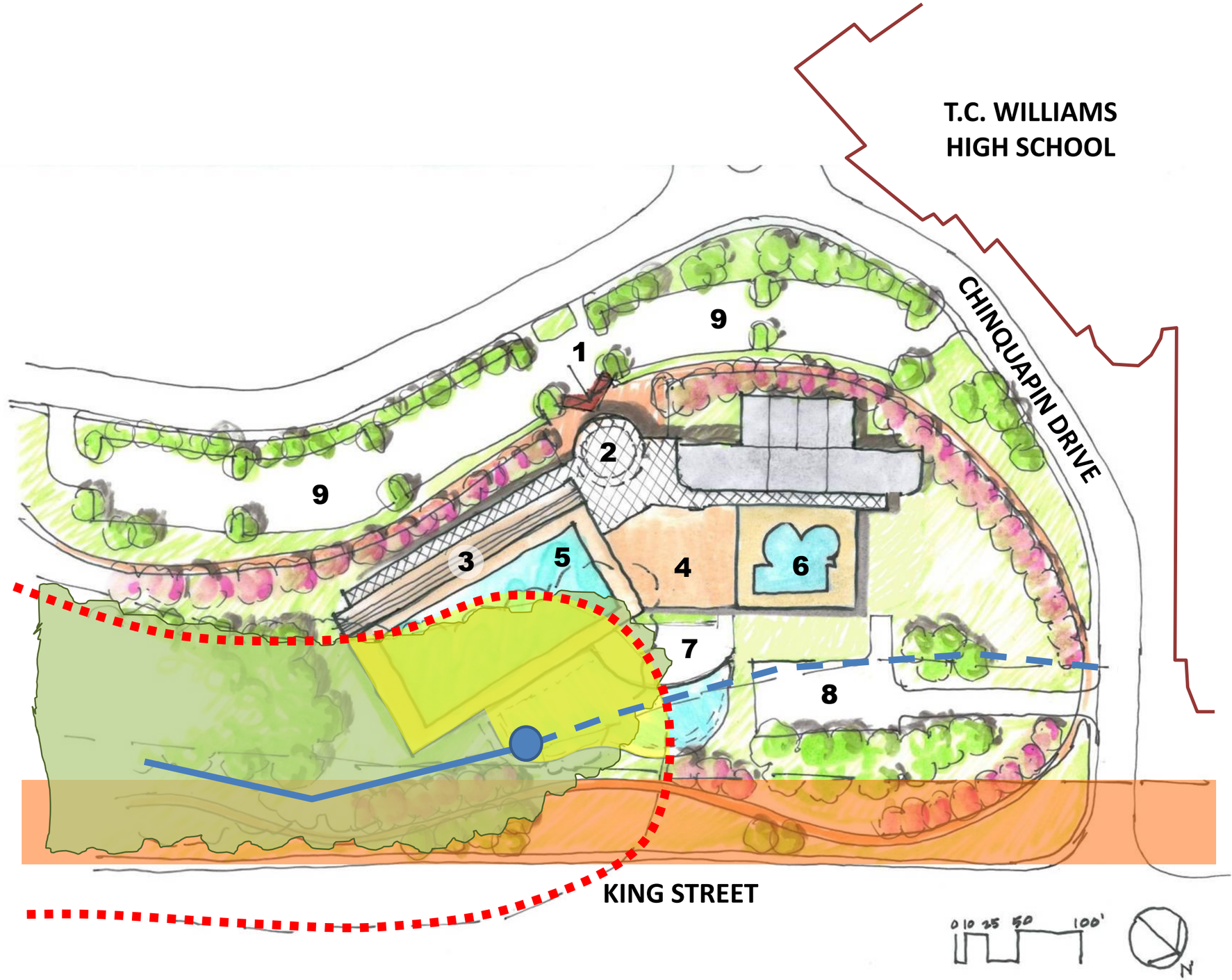
RPA Impact	Storm Drain Impact	Consistent Pool Operation
X	✓	✓

LEGEND

- Resource Protection Area (RPA)
- Storm Water (Culvert & Creek)
- Existing Tree Canopy
- Building Setback

1 NEW ENTRY
2 NEW LOBBY
3 SPECTATOR SEATING
4 PROGRAM SPACE
5 50-M POOL
6 EXISTING BUILDING WITH MODIFIED RECREATION POOL
7 SUN DECK
8 STAFF/SERVICE PARKING
9 PUBLIC PARKING

NOTE: NEW LOCKERS & POOL SUPPORT BELOW 2,3 & 4



ANALYSIS OF SCHEME 4

GO / NO-GO CRITERIA

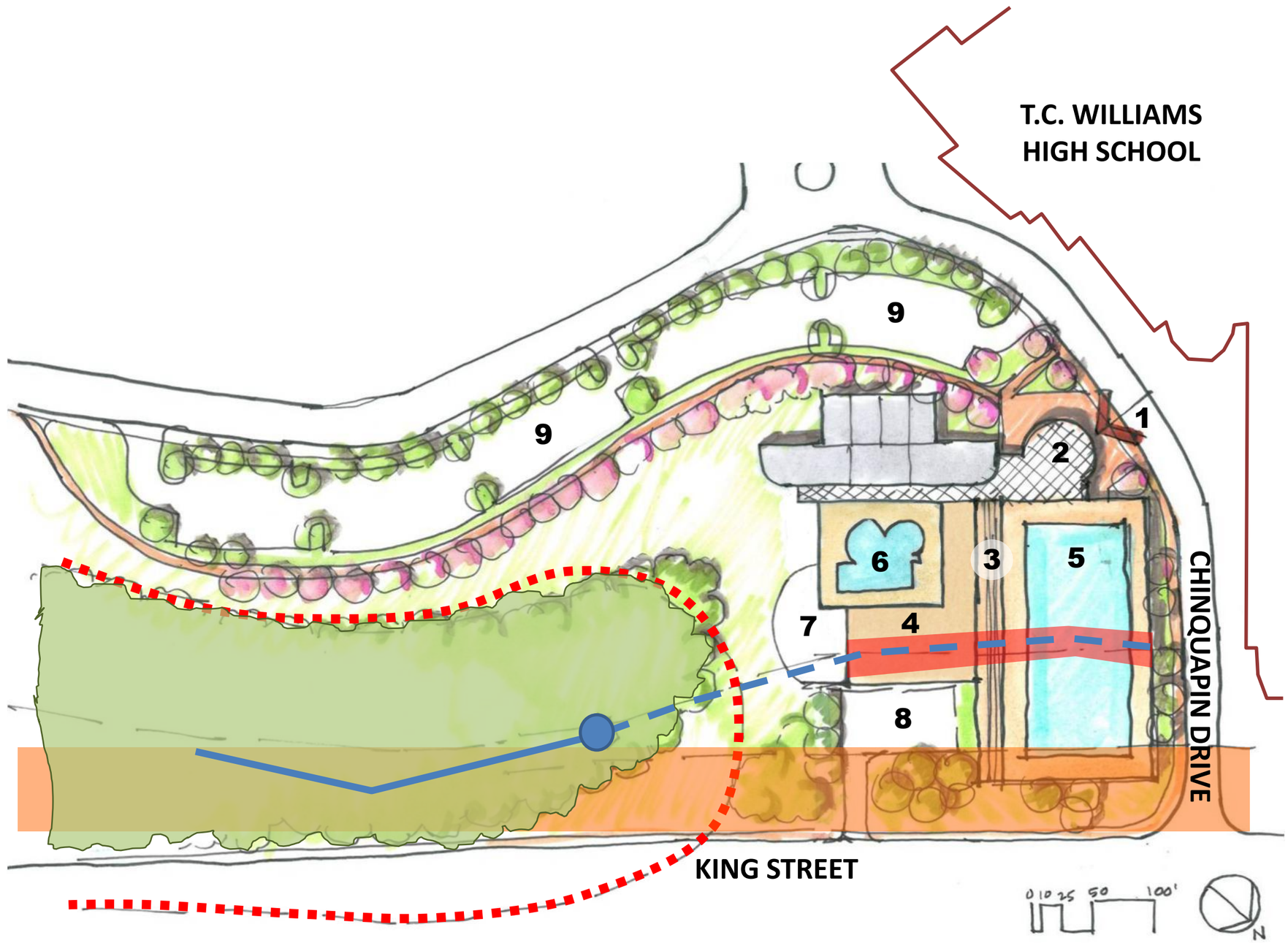
RPA Impact	Storm Drain Impact	Consistent Pool Operation
✓	X	✓

LEGEND

- Resource Protection Area (RPA)
- Storm Water (Culvert & Creek)
- Existing Tree Canopy
- Building Setback

1 NEW ENTRY
2 NEW LOBBY
3 SPECTATOR SEATING
4 PROGRAM SPACE
5 50-M POOL
6 EXISTING BUILDING WITH MODIFIED RECREATION POOL
7 SUN DECK
8 STAFF/SERVICE PARKING
9 PUBLIC PARKING

NOTE: NEW LOCKERS & POOL SUPPORT BELOW 2,3 & 4



ANALYSIS OF SCHEME 5

GO / NO-GO CRITERIA

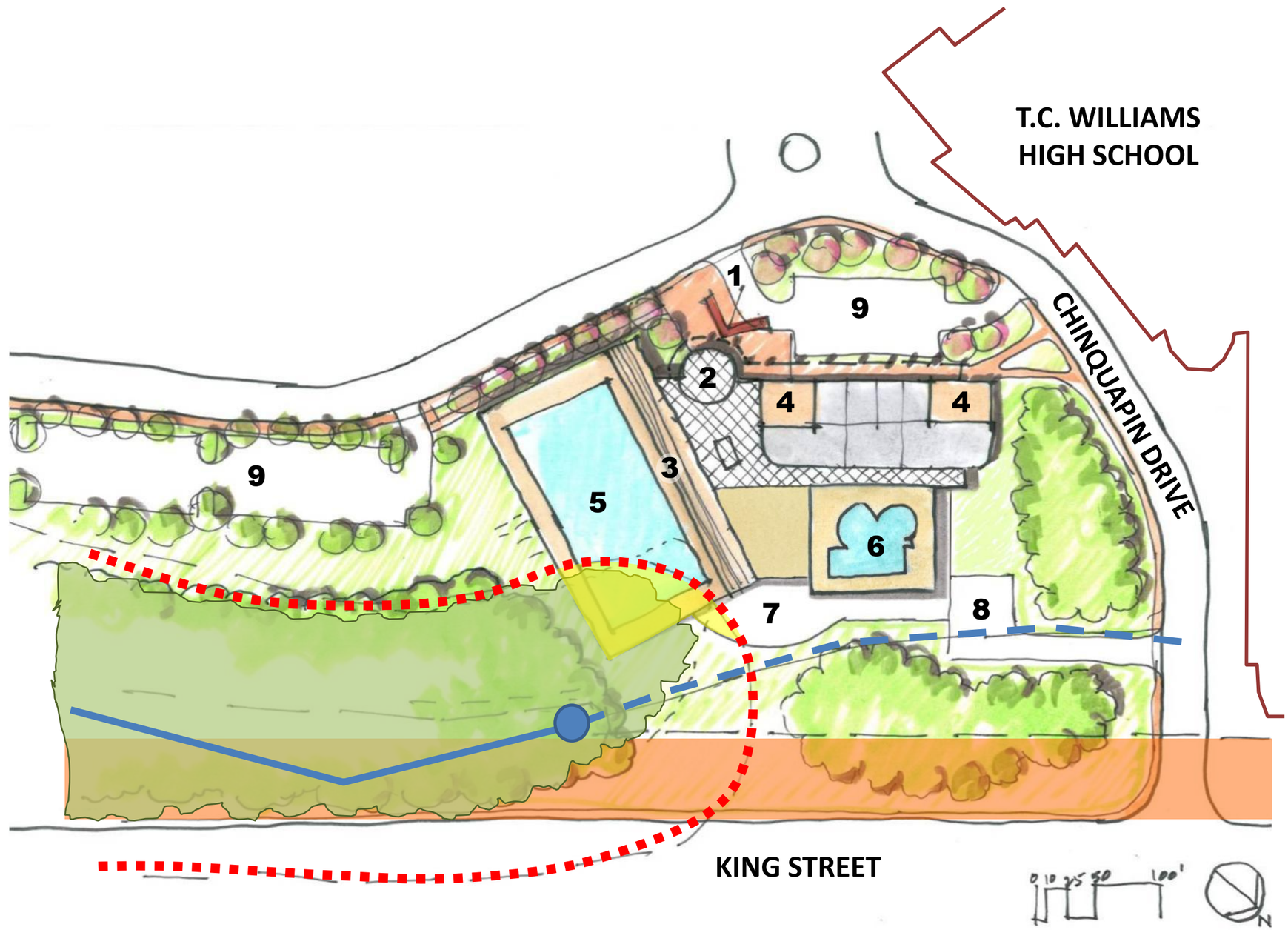
RPA Impact	Storm Drain Impact	Consistent Pool Operation
X	✓	✓

LEGEND

- Resource Protection Area (RPA)
- Storm Water (Culvert & Creek)
- Existing Tree Canopy
- Building Setback

1 NEW ENTRY
2 NEW LOBBY
3 SPECTATOR SEATING
4 PROGRAM SPACE
5 50-M POOL
6 EXISTING BUILDING WITH MODIFIED RECREATION POOL
7 SUN DECK
8 STAFF/SERVICE PARKING
9 PUBLIC PARKING

NOTE: NEW LOCKERS & POOL SUPPORT BELOW 2,3 & 4



ANALYSIS OF SCHEME 6

GO / NO-GO CRITERIA

RPA Impact	Storm Drain Impact	Consistent Pool Operation
✓	✓	✓

LEGEND

- Resource Protection Area (RPA)
- Storm Water (Culvert & Creek)
- Existing Tree Canopy
- Building Setback

1 NEW ENTRY
2 NEW LOBBY
3 SPECTATOR SEATING
4 PROGRAM SPACE
5 50-M POOL
6 EXISTING BUILDING WITH MODIFIED RECREATION POOL
7 SUN DECK
8 STAFF/SERVICE PARKING
9 PUBLIC PARKING

NOTE: NEW LOCKERS & POOL SUPPORT BELOW 2,3 & 4

ANALYSIS OF SCHEME 7

GO / NO-GO CRITERIA

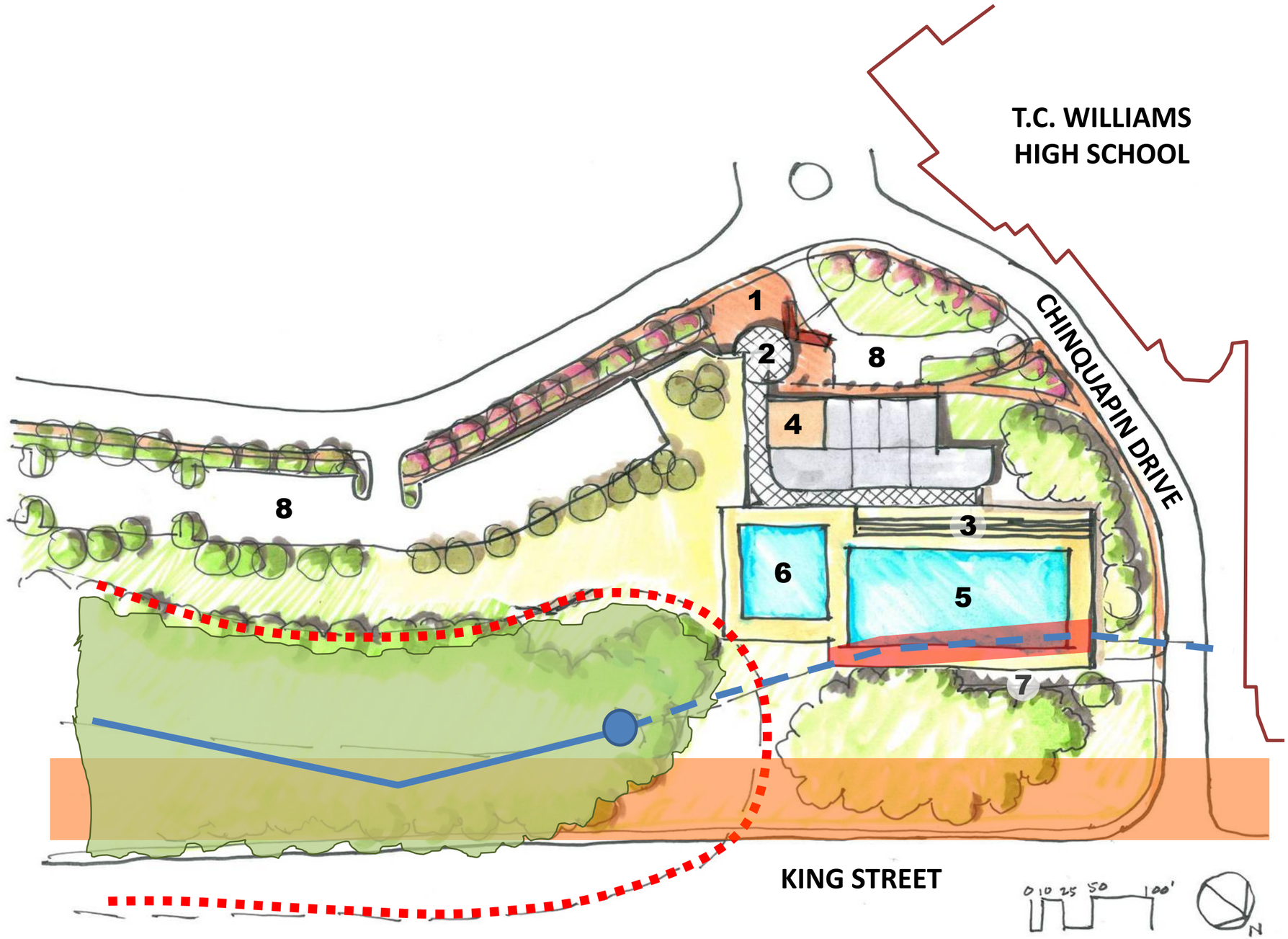
RPA Impact	Storm Drain Impact	Consistent Pool Operation
✓	X	X

LEGEND

- Resource Protection Area (RPA)
- Storm Water (Culvert & Creek)
- Existing Tree Canopy
- Building Setback

1 NEW ENTRY
2 NEW LOBBY
3 SPECTATOR SEATING
4 PROGRAM SPACE
5 50-M POOL
6 RECREATION POOL
7 STAFF/SERVICE PARKING
8 PUBLIC PARKING

NOTE: NEW LOCKERS & POOL SUPPORT BELOW 2,3 & 4



ANALYSIS OF SCHEME 8

GO / NO-GO CRITERIA

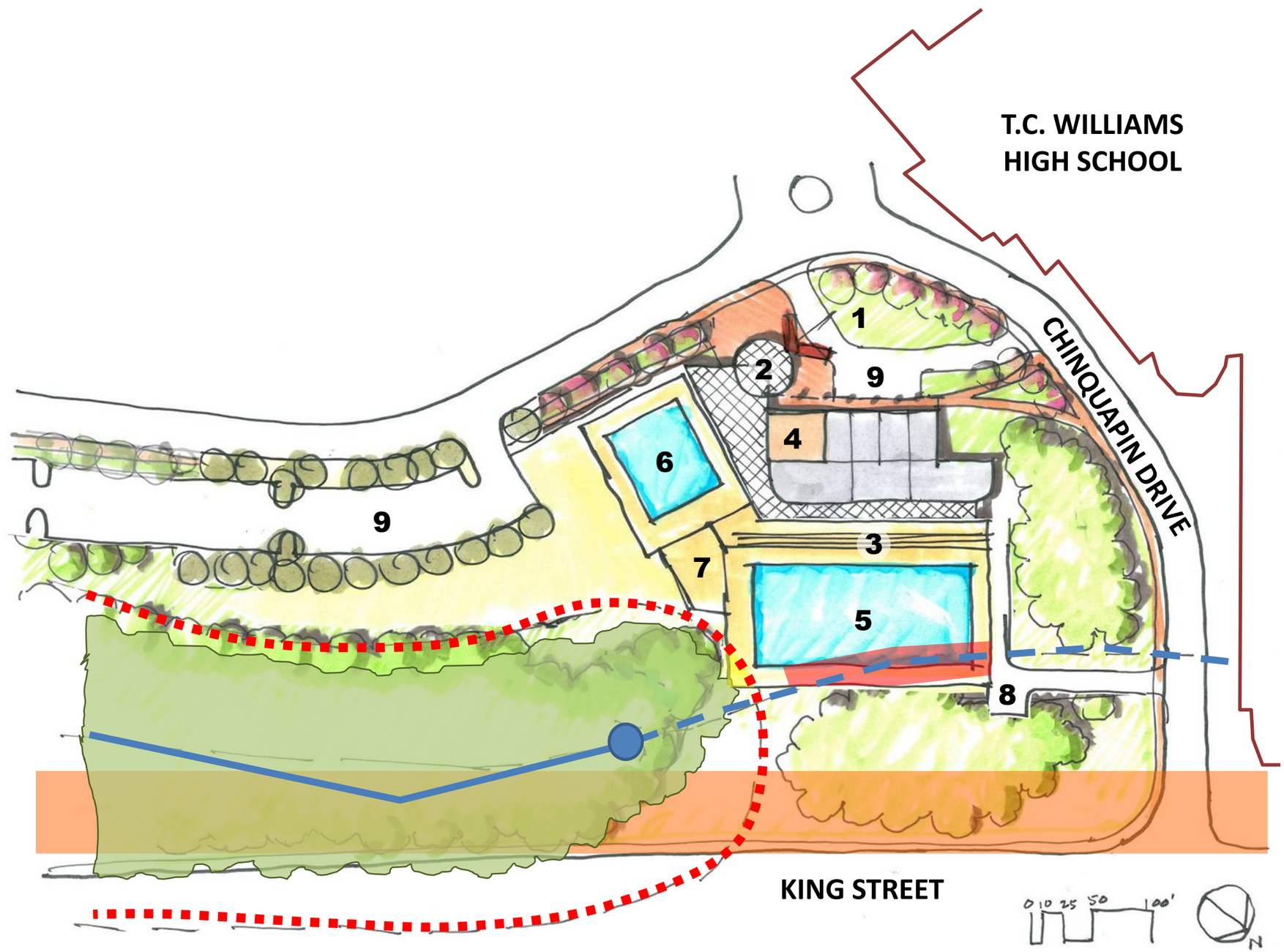
RPA Impact	Storm Drain Impact	Consistent Pool Operation
X	X	✓

LEGEND

- Resource Protection Area (RPA)
- Storm Water (Culvert & Creek)
- Existing Tree Canopy
- Building Setback

1 NEW ENTRY
2 NEW LOBBY
3 SPECTATOR SEATING
4 PROGRAM SPACE
5 50-M POOL
6 RECREATION POOL
7 SUN DECK
8 STAFF/SERVICE PARKING
9 PUBLIC PARKING

NOTE: NEW LOCKERS & POOL SUPPORT BELOW 2,3 & 4



ANALYSIS OF SCHEME 9

GO / NO-GO CRITERIA

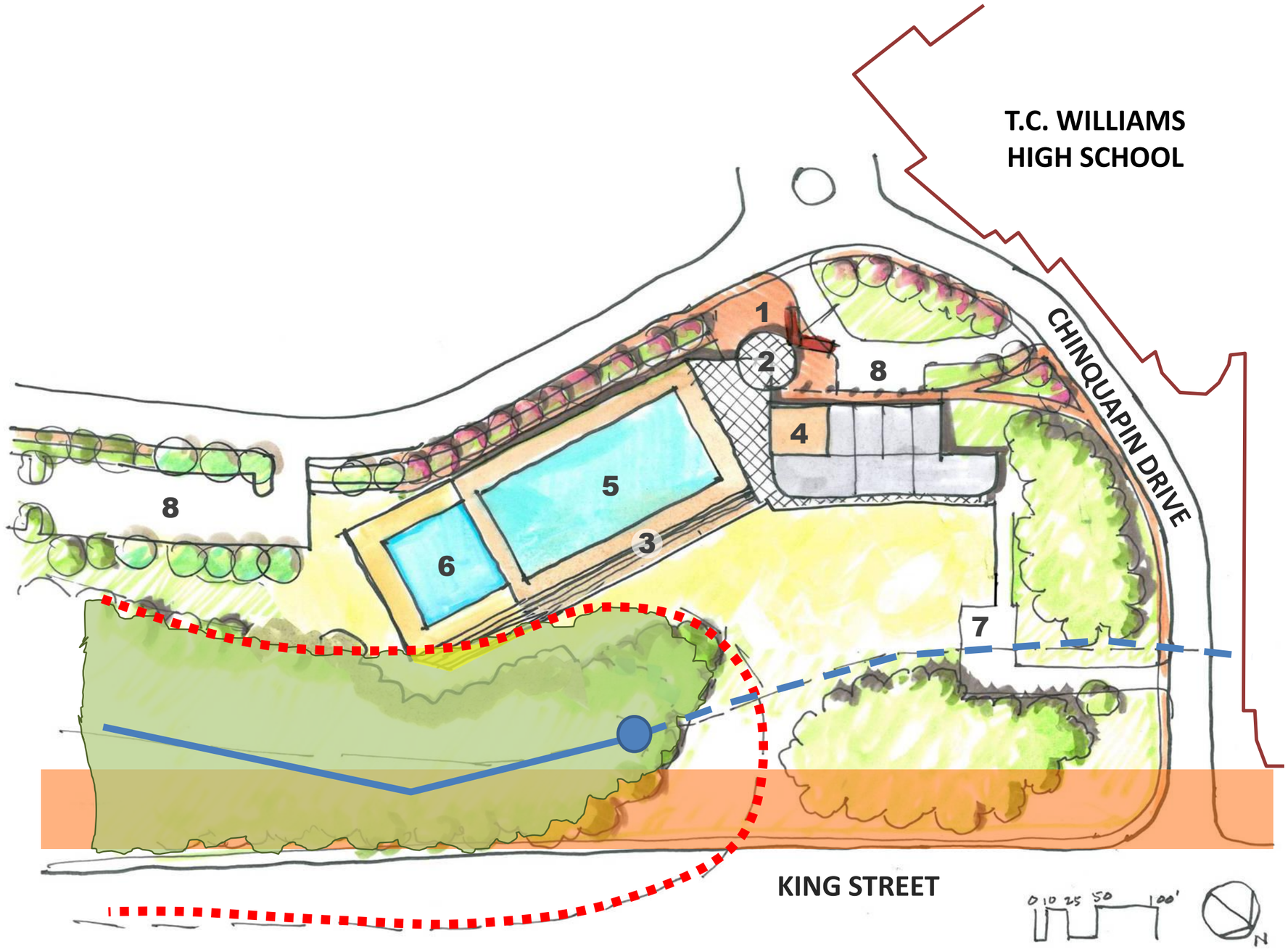
RPA Impact	Storm Drain Impact	Consistent Pool Operation
X	✓	✓

LEGEND

- Resource Protection Area (RPA)
- Storm Water (Culvert & Creek)
- Existing Tree Canopy
- Building Setback

1 NEW ENTRY
2 NEW LOBBY
3 SPECTATOR SEATING
4 PROGRAM SPACE
5 50-M POOL
6 RECREATION POOL
7 STAFF/SERVICE PARKING
8 PUBLIC PARKING

NOTE: NEW LOCKERS & POOL SUPPORT BELOW 2,3 & 4



ANALYSIS OF SCHEME 10.1

GO / NO-GO CRITERIA

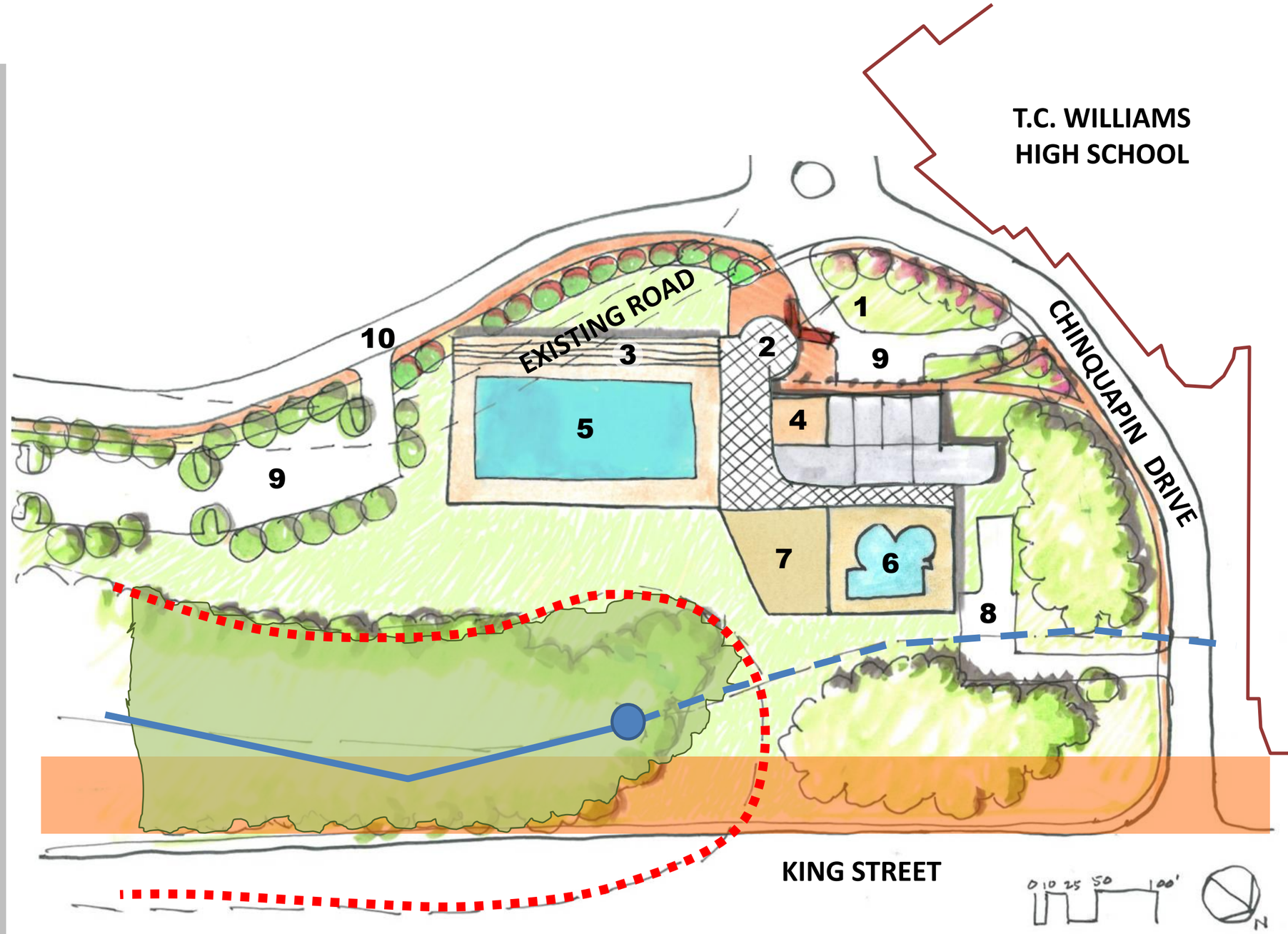
RPA Impact	Storm Drain Impact	Consistent Pool Operation
✓	✓	✓

LEGEND

- Resource Protection Area (RPA)
- Storm Water (Culvert & Creek)
- Existing Tree Canopy
- Building Setback

1 NEW ENTRY
2 NEW LOBBY
3 SPECTATOR SEATING
4 PROGRAM SPACE
5 50-M POOL
6 EXISTING BUILDING WITH MODIFIED RECREATION POOL
7 SUN DECK
8 STAFF/SERVICE PARKING
9 PUBLIC PARKING
10 RELOCATED ROAD

NOTE: NEW LOCKERS & POOL SUPPORT BELOW 2,3 & 4



ANALYSIS OF SCHEME 10.2

GO / NO-GO CRITERIA

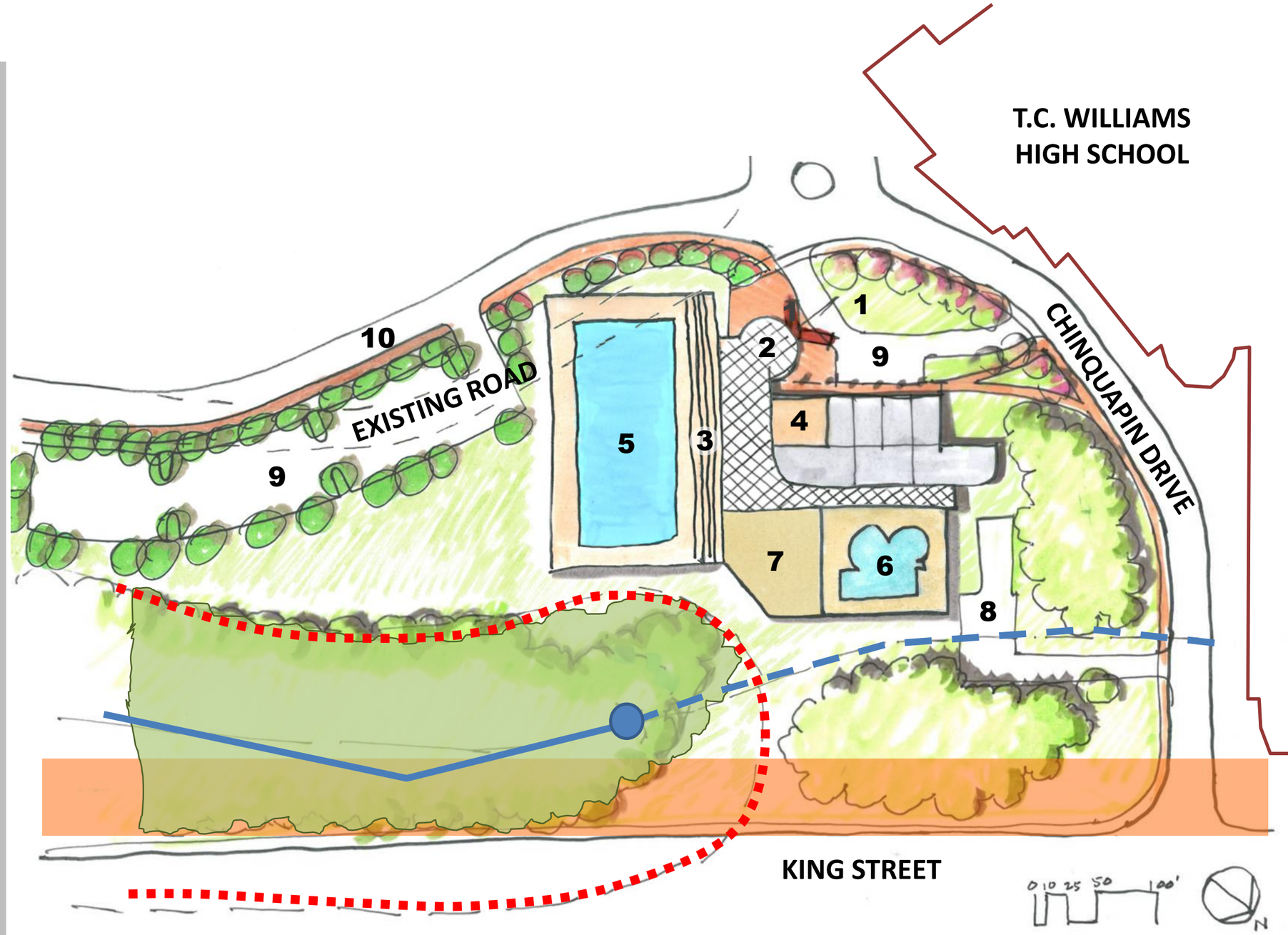
RPA Impact	Storm Drain Impact	Consistent Pool Operation
✓	✓	✓

LEGEND

- Resource Protection Area (RPA)
- Storm Water (Culvert & Creek)
- Existing Tree Canopy
- Building Setback

1 NEW ENTRY
2 NEW LOBBY
3 SPECTATOR SEATING
4 PROGRAM SPACE
5 50-M POOL
6 EXISTING BUILDING WITH MODIFIED RECREATION POOL
7 SUN DECK
8 STAFF/SERVICE PARKING
9 PUBLIC PARKING
10 RELOCATED ROAD

NOTE: NEW LOCKERS & POOL SUPPORT BELOW 2,3 & 4



ANALYSIS OF SCHEME 11

GO / NO-GO CRITERIA

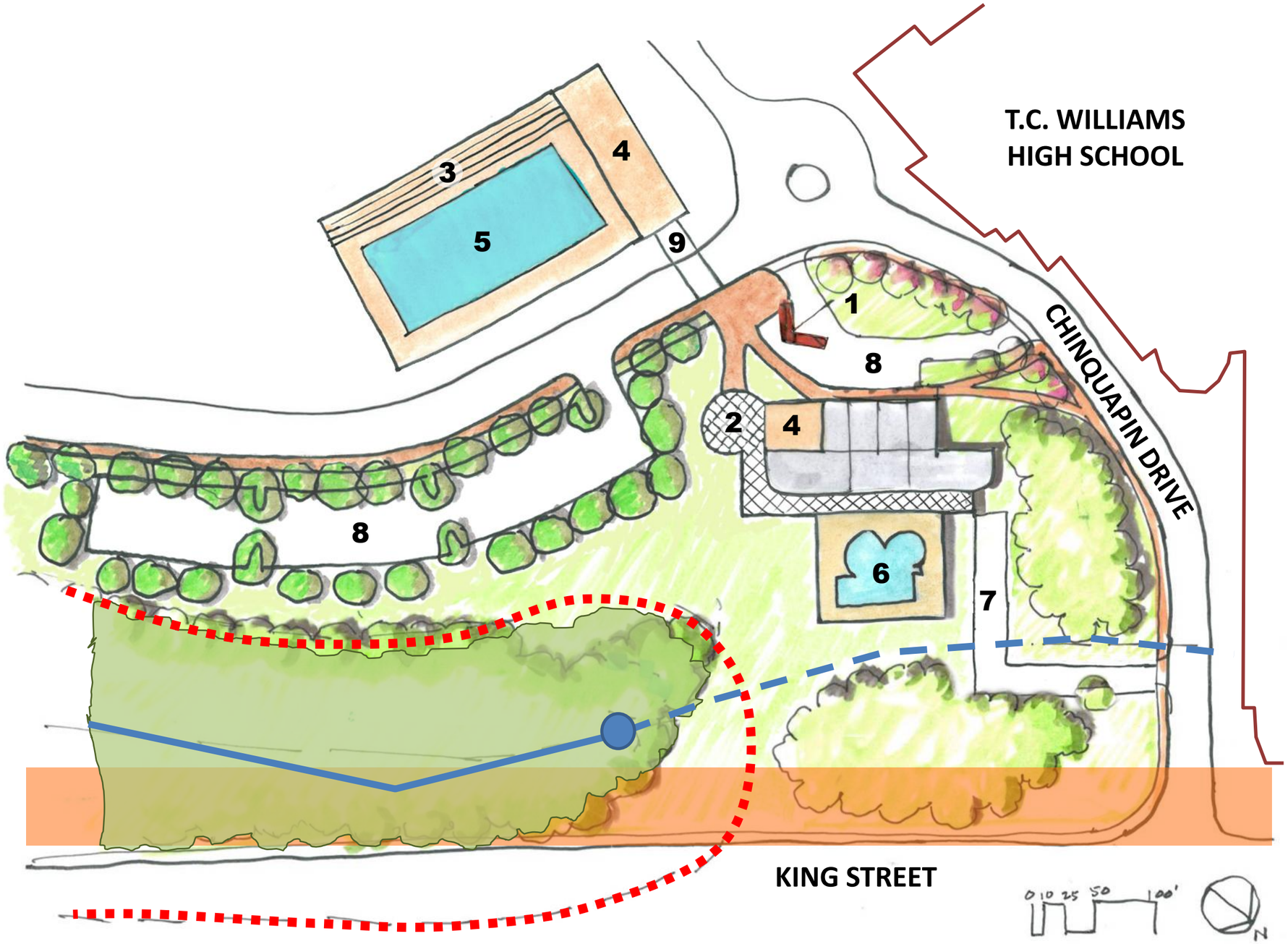
RPA Impact	Storm Drain Impact	Consistent Pool Operation
✓	✓	✓

LEGEND

- Resource Protection Area (RPA)
- Storm Water (Culvert & Creek)
- Existing Tree Canopy
- Building Setback

1 NEW ENTRY
2 NEW LOBBY
3 SPECTATOR SEATING
4 PROGRAM SPACE
5 50-M POOL
6 EXISTING BUILDING WITH MODIFIED RECREATION POOL
7 STAFF/SERVICE PARKING
8 PUBLIC PARKING
9 CROSSWALK

NOTE: NEW LOCKERS & POOL SUPPORT BELOW 2,3 & 4



ASSESSMENT OF GO / NO-GO CRITERIA

Based on the criteria laid out by the City, out of the 12 schemes, only four are not affected by the three site and operational constraints: Resource Protection Area (RPA) impact, storm drain impact, and consistent pool operation.

The table to the right summarizes the impact of the three criteria on each of the schemes. Since the City of Alexandria is unlikely to grant an encroachment into the RPA, the location of the RPA on the site precludes schemes 1, 2, 3, 5, 8, and 9 from being practical options. Maintaining pool operation throughout construction renders schemes 2 and 7 insufficient.

The four schemes that met the criteria are schemes 6, 10.1, 10.2, and 11. It was determined that since schemes 10.1 and 10.2 are variations on the same scheme, only scheme 10.2 would be further analyzed at this juncture since it allowed for the parking to be located closer to the entrance of the facility. Schemes 6, 10.2, and 11 were presented to the community on September 3, 2014 for further evaluation.

	RPA Impact	Storm Drain Impact	Consistent Pool Operation
Scheme 1	X	X	✓
Scheme 2	X	X	X
Scheme 3	X	✓	✓
Scheme 4	✓	X	✓
Scheme 5	X	✓	✓
Scheme 6	✓	✓	✓
Scheme 7	✓	X	X
Scheme 8	X	X	✓
Scheme 9	X	✓	✓
Scheme 10.1	✓	✓	✓
Scheme 10.2	✓	✓	✓
Scheme 11	✓	✓	✓

COMMUNITY DESIGN CRITERIA

Results from Activity II @ Community Meeting #2

Scheme 10.2
Average Rank (1 is best, 3 is worst)

1.2

Aspect Ratings:
(1 is best, 5 is worst)

Relation to existing building	1.3
Visibility	1.7
Impact on park and parking	1.9
Impact on King St. streetscape	1.7
Comp. & Rec. pool relationship	1.6

Scheme 6
Average Rank (1 is best, 3 is worst)

1.8

Aspect Ratings:
(1 is best, 5 is worst)

Relation to existing building	2.5
Visibility	2.3
Impact on park and parking	2.4
Impact on King St. streetscape	2.0
Comp. & Rec. pool relationship	2.4

Scheme 11
Average Rank (1 is best, 3 is worst)

3.0

Aspect Ratings:
(1 is best, 5 is worst)

Relation to existing building	4.9
Visibility	4.9
Impact on park and parking	4.7
Impact on King St. streetscape	2.3
Comp. & Rec. pool relationship	5.0

COMMUNITY DESIGN CRITERIA

Results from Activity I @ Community Meeting #2

For Activity 1, the project team asked meeting participants what additional community evaluation criteria should be considered moving forward. First, present and future considerations were presented:

Future Considerations
1. Overall Construction Costs
2. Impact on Operating Costs: Utility Costs
3. Impact on Operating Costs: Staffing Requirements
4. Future Storm Water Management

Present Considerations
1. Relation to Existing Building
2. Visibility
3. Impact on the Park & Parking
4. Impact on King St. Streetscape
5. Relationship Between Competition Pool & Recreational Pool

The community then added the following considerations to this list:

Community Considerations
- Impact on practice space in Chinquapin Park by moving road
- Excavation costs as constraint
- Operational costs of scheme 11 (separate building for new pool)
- Orientation of building relative to North/South exposure to maximize natural light for pool
- Sun impact on competitive swimming environment (in particular, starting blocks) at existing pool
- Sledding hill impact

ONLINE ENGAGEMENT ACTIVITY RESULTS

In order to broaden its engagement efforts, the City of Alexandria has established AlexEngage, an online interface for citizens to give specific feedback on projects. For those who were not able to attend the community meetings, the online activity allowed interested citizens to evaluate and give comments on three concept schemes (shown at right). A summary of the results is below:

There were a total of 20 respondents as of 9/26/14, 12 verified and 8 unverified

Overall Preferences

- Scheme 6 was, by far, the preferred scheme
- half of respondents ranked Scheme 6 as their first choice
- Schemes 10.2 and 11 were very closely ranked
- Scheme 10.2 was a second choice for many and the first choice for some respondents
- Scheme 11 had a handful of votes for being the preferred option, and was ranked second by several respondents

Impact on Chinquapin Park

A major determinant that drove citizen's preferences among the 3 options was each scheme's impact on the park. There were a few concerns expressed regarding the impact on the tennis courts, in which case it is clear that those respondents were not familiar with the approved master plan for the park which shows the tennis courts being relocated.

Additional Comments and Design Criteria

- Concern for the apparent lack of parking close to the building entry
- Green design is important
- Maintenance must be considered
- Minimize duplicate programs (especially those that are costly) if other facilities have them
- Signage will be necessary connectivity and close proximity of buildings and facilities

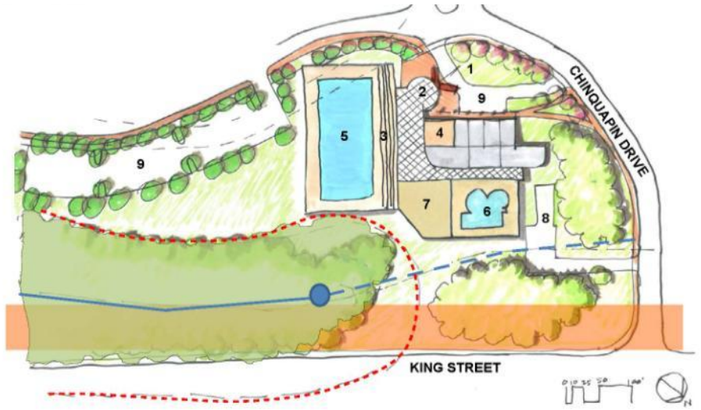
Rank (1 is best, 3 is worst)

1.5

Scheme 6: Preferred option

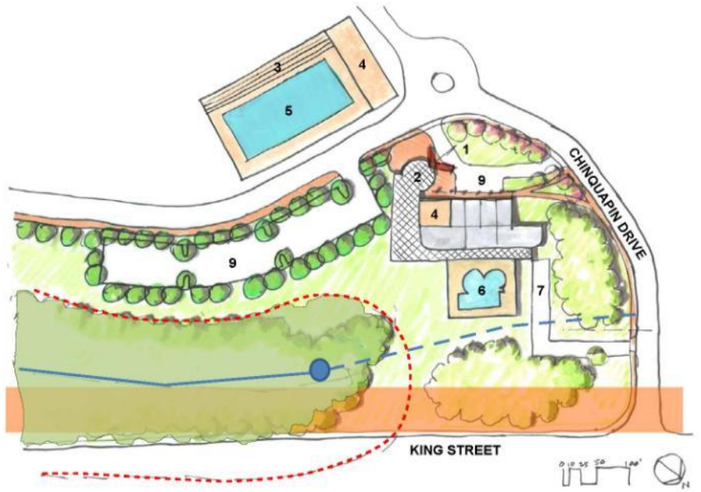
2.3

Scheme 10.2: Second choice



2.4

Scheme 11: Lowest ranking



OUTLINE OF GOALS FOR RECOMMENDED PLAN SELECTION

Based on the input from the community, the design team will consolidate the direction provided and will produce one conceptual design that addresses the goals outlined below:

Overall Goals

- Follow the recommended program for aquatics and land-based activities in order to achieve 80% operational cost recovery goals.
- Design a facility that can be constructed within the capital improvements budget.
- Adhere to the scope of the Citywide Parks Improvement Plan.

Site Goals

- Avoid Resource Protection Impact.
- Maximize parking access.
- Improve visibility from King Street.
- Minimize sledding hill impact.
- Minimize potential impact on open space at Chinquapin Park.
- Minimize re-routing underground utilities.
- Minimize re-locating stormwater culverts.
- Minimize re-locating roads.
- Minimize excavation.
- Provide area for future stormwater management.

Facility Goals

- Maintain consistent pool operation during construction.
- Maximize usage of daylighting for aquatic program spaces.
- Re-purpose and re-use existing building as much as possible.
- Design to minimize operational expenses.
- Design to minimize staffing requirements.
- Design to create a strong relationship between the existing building and the addition.
- Create a clear connection between the recreational pool to the competition pool.