



School Security: A Work in Progress

A4LE
March 1, 2019



Agenda – Part 1

- **A Little about DVS**
- **Objectives**
- **Guiding Principles** 21st Century Education
- **Choices**
- **A Balancing Act**
- **CPTED**



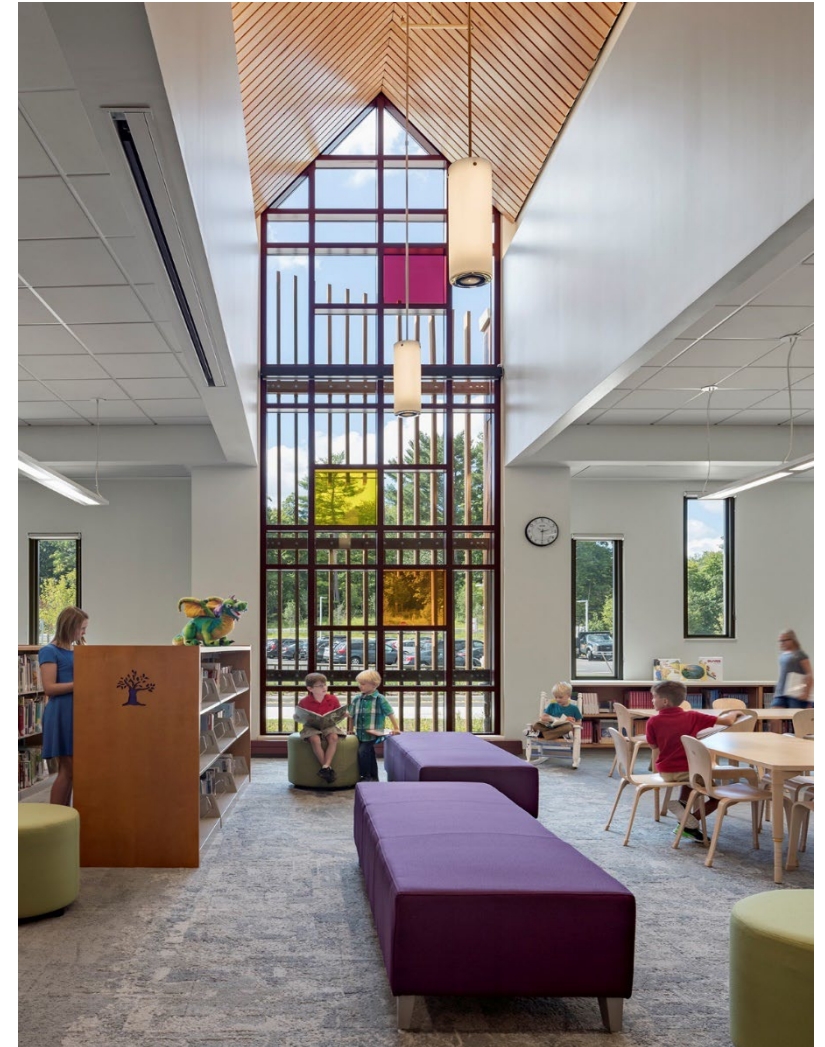
Agenda – Part 2

- **3 Legs of a Security Program**
- **Security Through Architecture**
- **Sandy Hook School**
- **Technology**
- **Security/LEO Staff**
- **Summary**



DVS, a Long History

- Since 1964
- Security Consulting AND Engineering
- More than 1,100 projects
- Consultants and engineers for the Sandy Hook School and all 5 towers at the WTC
- Over 150 Schools
- More than 300 Employees
- Small and Large Projects
- Full Security and MEPFP Services
- Product and manufacturer agnostic



Objectives

- Our purpose today
- Threats
- How did we get here?
- Defining the reality of school security
- Who is helping at the government level
- Trends and statistics
- When can I protect your child?
- What can we do?



Why are we here today?

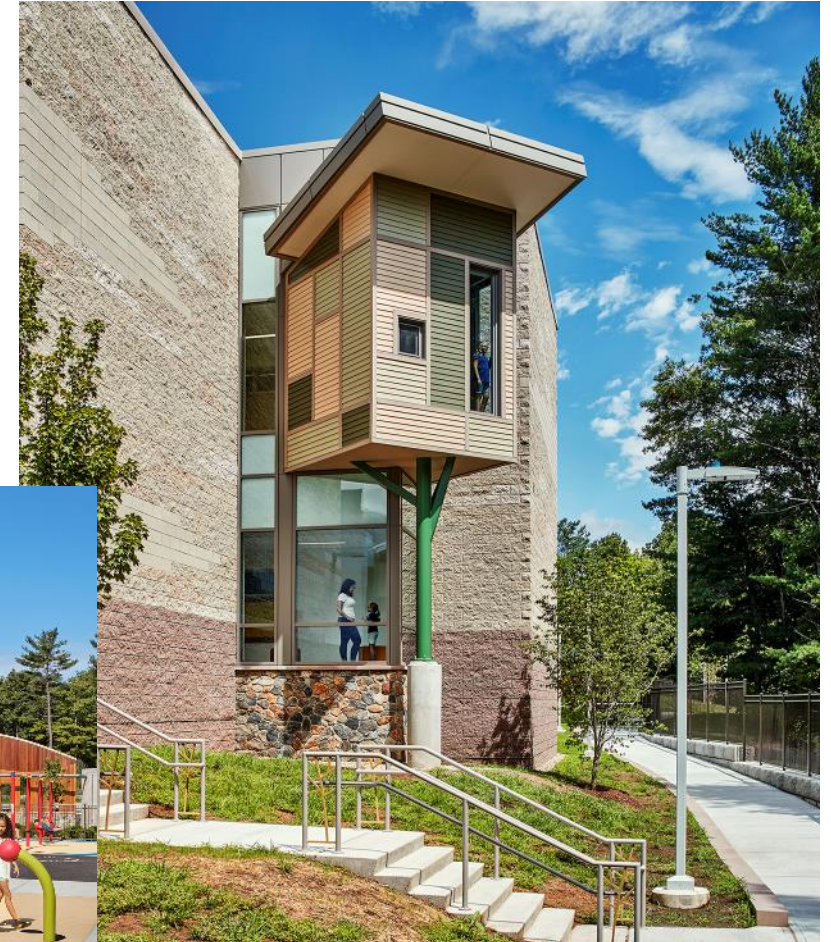
- Kids
- Staff
- Visitors
- Education
- Security is not the End State
- Safety
- Like the Living Room in your Home
- Prevention



Security vs. Safety

Threats

- Guns
- Knives
- Parents
- Custody issues
- Staff and faculty
- Conventional crimes
- Crimes of opportunity
- Contraband



Learning from the Past

- We know the threats
- How vulnerable are we?
- Community view
- Security Education
- Mitigation
- Acceptance



K-12 School Shooter Statistics

- In 691 incidents, the shooter was a current student at the school
- In 1,130 incidents, there was one shooter
- The shooter was male in 1,129 incidents and female in 57
- There were 29 incidents where the shooter was a police officer/SRO
- In 861 incidents, the shooter targeted specific victims



K-12 School Shooting Statistics

- 1,300 school shooting incidents since 1970
- 2018 had the greatest number of incidents since 1970, with 82 recorded incidents. The next highest year was 2006 with 59 incidents
- 2018 was the highest year for the number of victims killed, including the shooter, with 51 killed
- California, Texas and Florida are the top three states in the U.S. with the most incidents
- 669 incidents occurred outside on school property and 588 occurred inside the school building
- Most shooting occurred in the morning



More Statistics and Some Perspective

- In 2018 there were approximately 99,000 public schools in the US
- There were approximately 50 million student
- In one year the students represented approximately 58.5 BILLION hours in schools (based on a 6.5 hour day)
- In 2017 US airlines flew 595 million miles or 1.375 BILLION hours
- Zero fatalities
- In 2016 there were more than 40, 000 deaths on US roadways due to auto accidents
- There might be a meteor coming to hit us soon as well
- **So, what can we do and how can we achieve it?**



Guiding Principles

- 21st century learning
- District-wide programs
- Risk Mitigation
- No prison-like environments
- Know what is happening around me
- Secure AND manage my buildings
- Keep intruders out
- Communicate and call for help
- Engage layers
- Signal exterior spaces
- Time, time, and more time



It's all about time...

21st Century Education

- Uncompromising Architecture
- Welcoming Entry
- Sense of “Home”
- Coherent Circulation
- Daylight / Views / Air
- Nature / Biophilia



Choices

- Options and challenges
- The educational mission
- Cultural tolerance
- Financial support
- Community reflections
- Sustainability
- Teacher and staff buy-in
- Training and execution

A quote from Barry Svigals:

At one meeting, when the security consultant, Phil Santore, was asked, "What's the most important thing with respect to security?" he said, "The most important thing with respect to security is that the children have a wonderful, delightful place to learn."



The Balancing Act

Welcoming

Nature

Home

Community

Deter

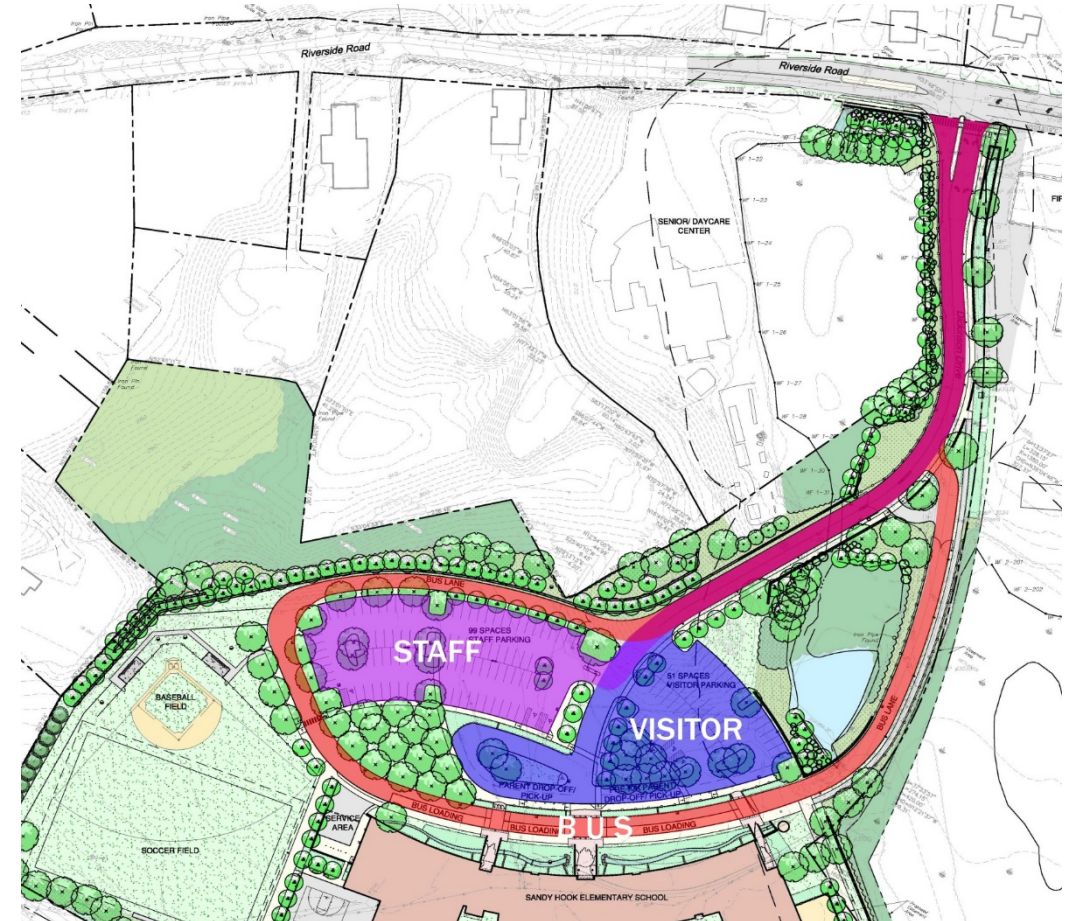
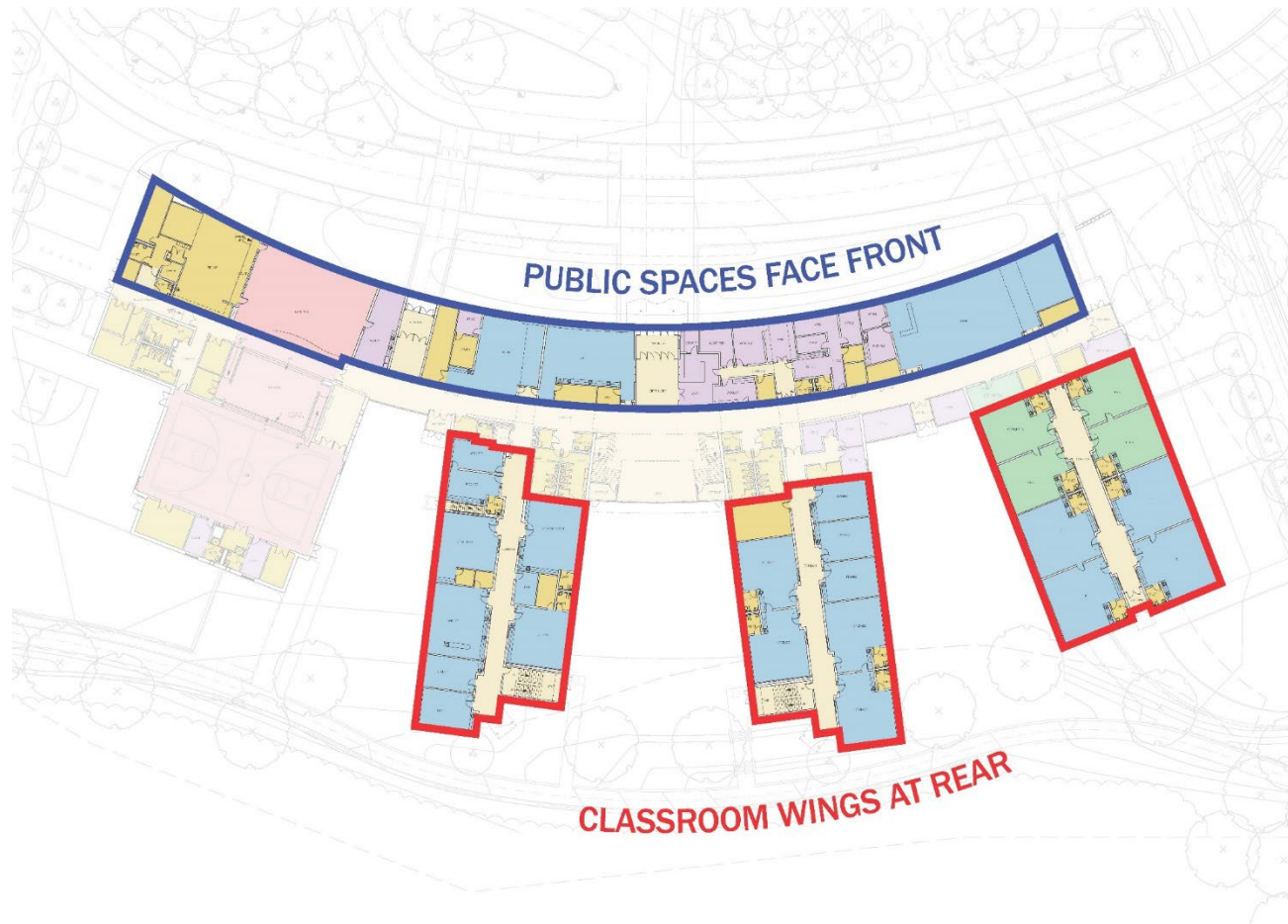
Detect

Delay

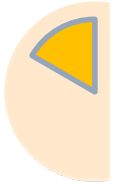
Protect



Peopl



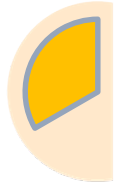
The 3 Legs of School Security



Architecture



School Layout
Traffic
Sightlines
Fencing
Portals



Technology



Surveillance
Access Control
Alarm Point
Monitoring
Communications
Visitor management



Operations

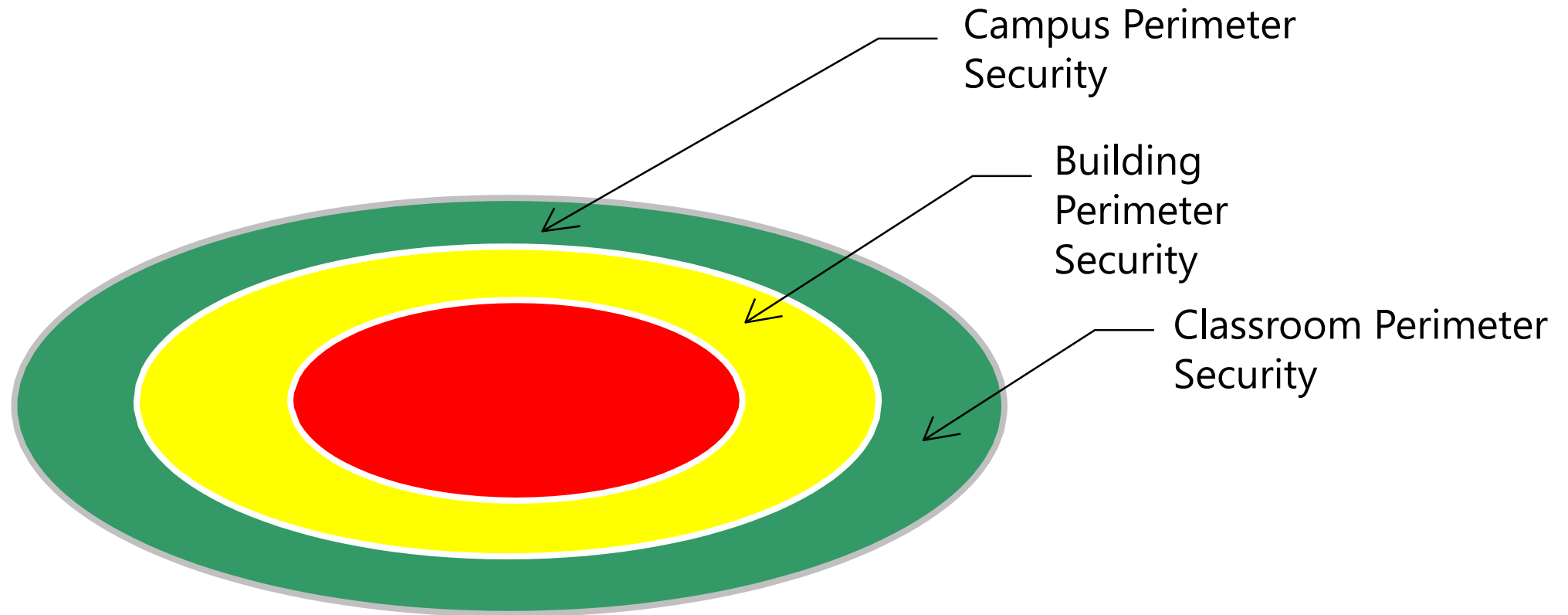


Staffing
Policies
Procedures
Training



ALL LEGS SHOULD SUPPORT A RESPONSE PROGRAM

Multiple Layers for Depth



Protect the Egg

Site Perimeter

- Person Interdiction
 - Are fences helpful or do they require too much manpower and maintenance?
 - Is it reasonable to expect to stop someone from walking onto the campus?
- Parking Management
 - Controlled lots
 - Early warning of approaching vehicles
 - Traffic plan and visitor parking
- Vehicle Interdiction
 - Streetscape, landscape, barriers



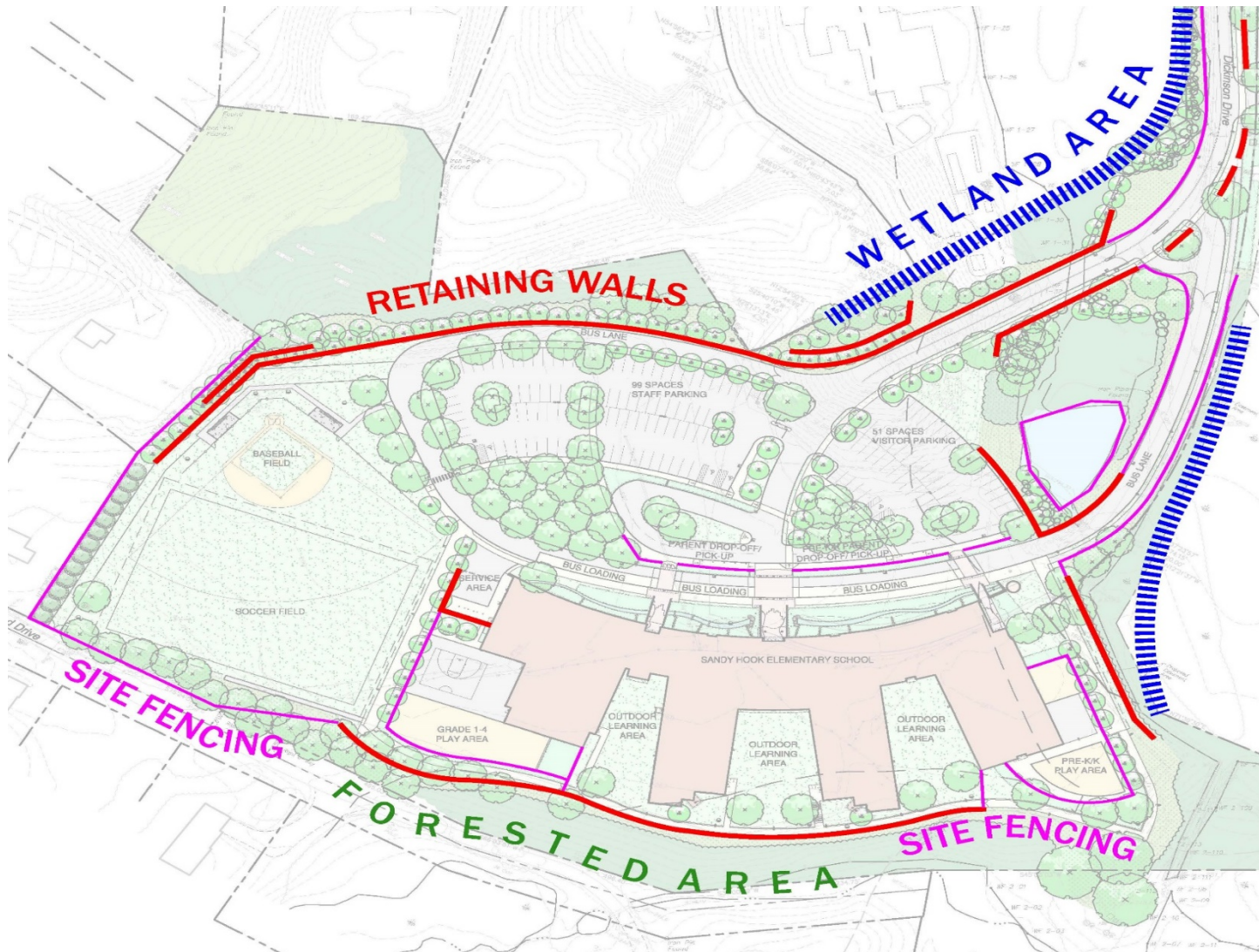
Sandy Hook - Site



Site Overview

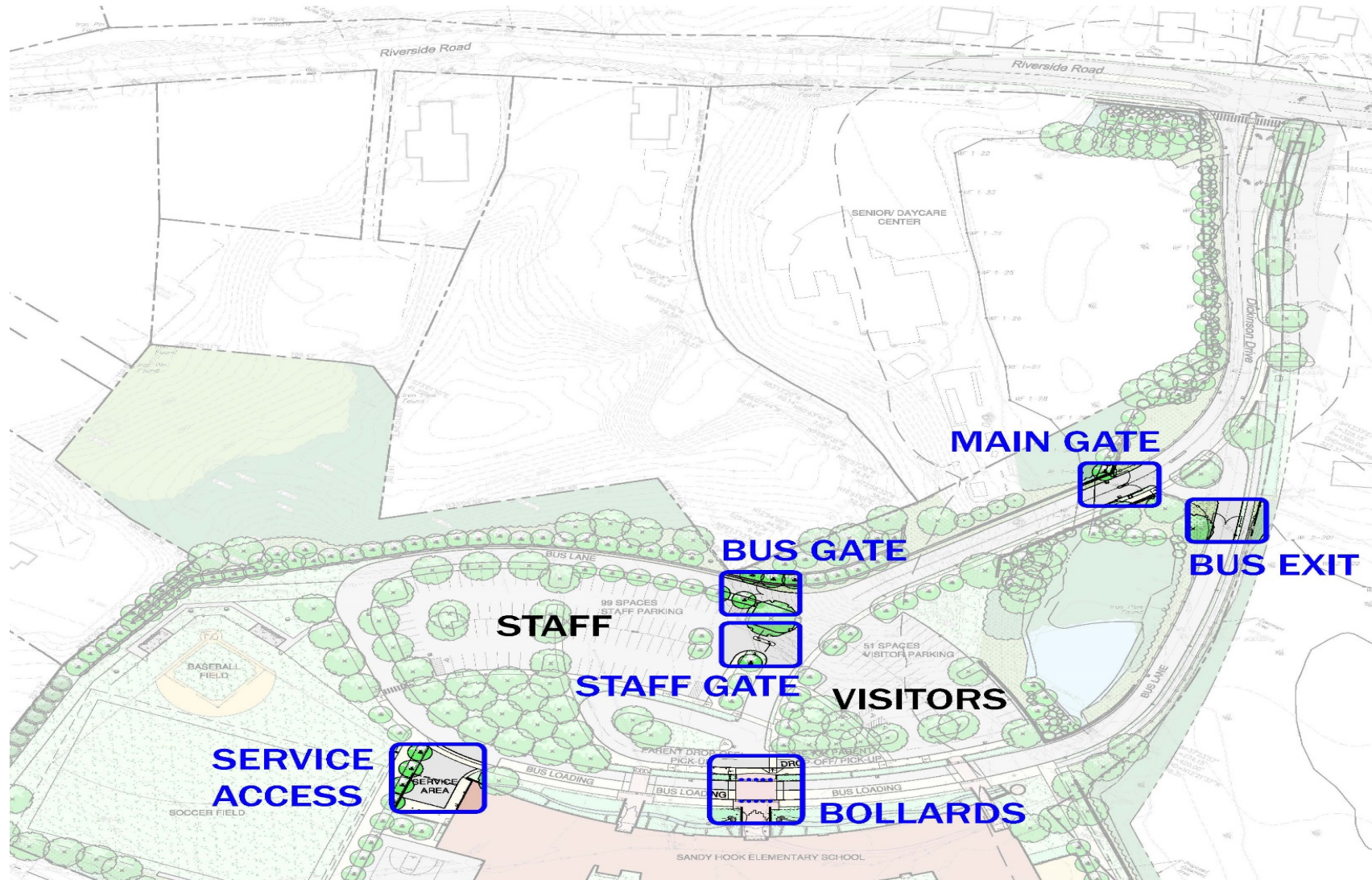


Sandy Hook - Site



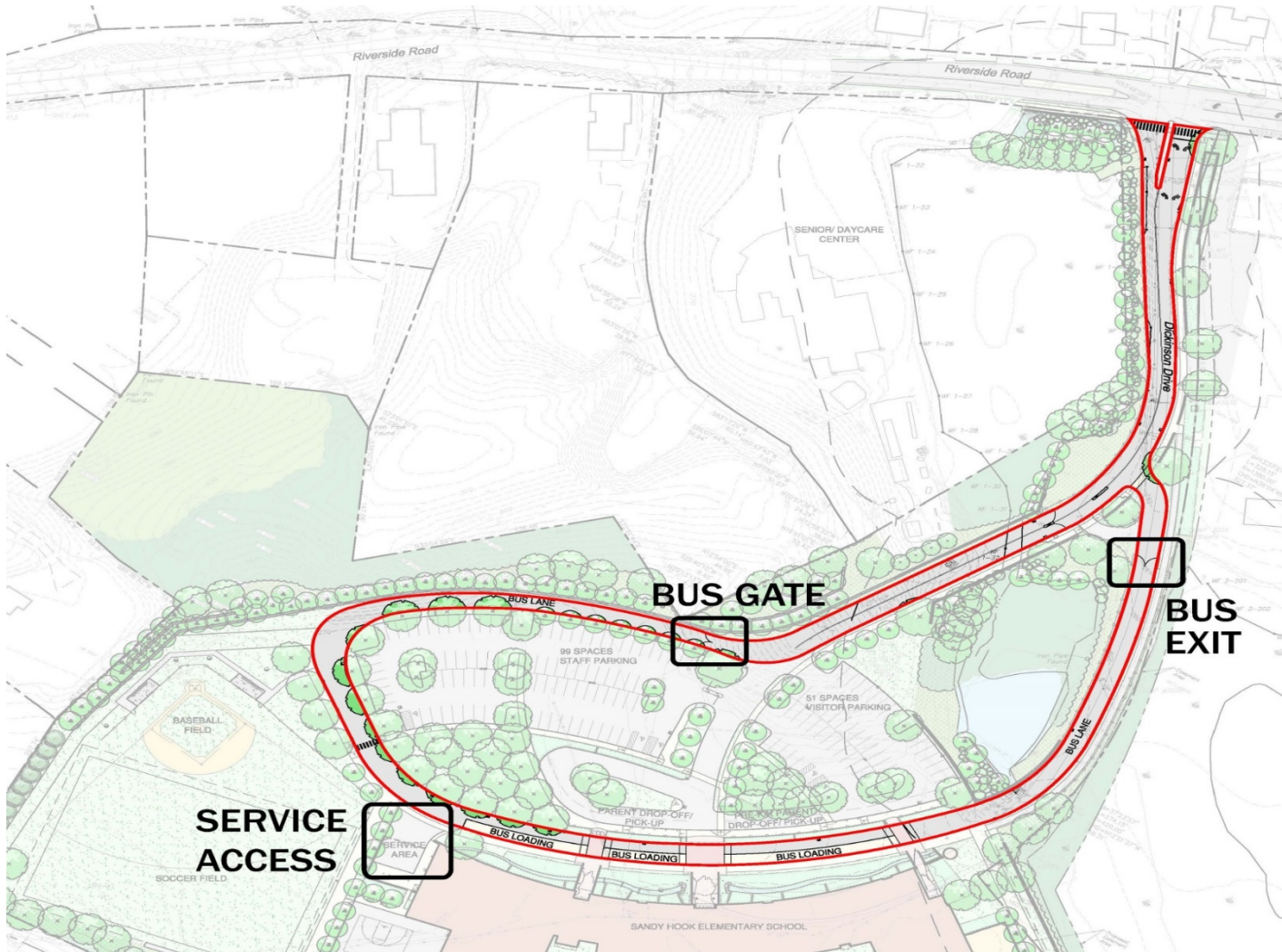
Perimeter Enhancement

Sandy Hook - Site



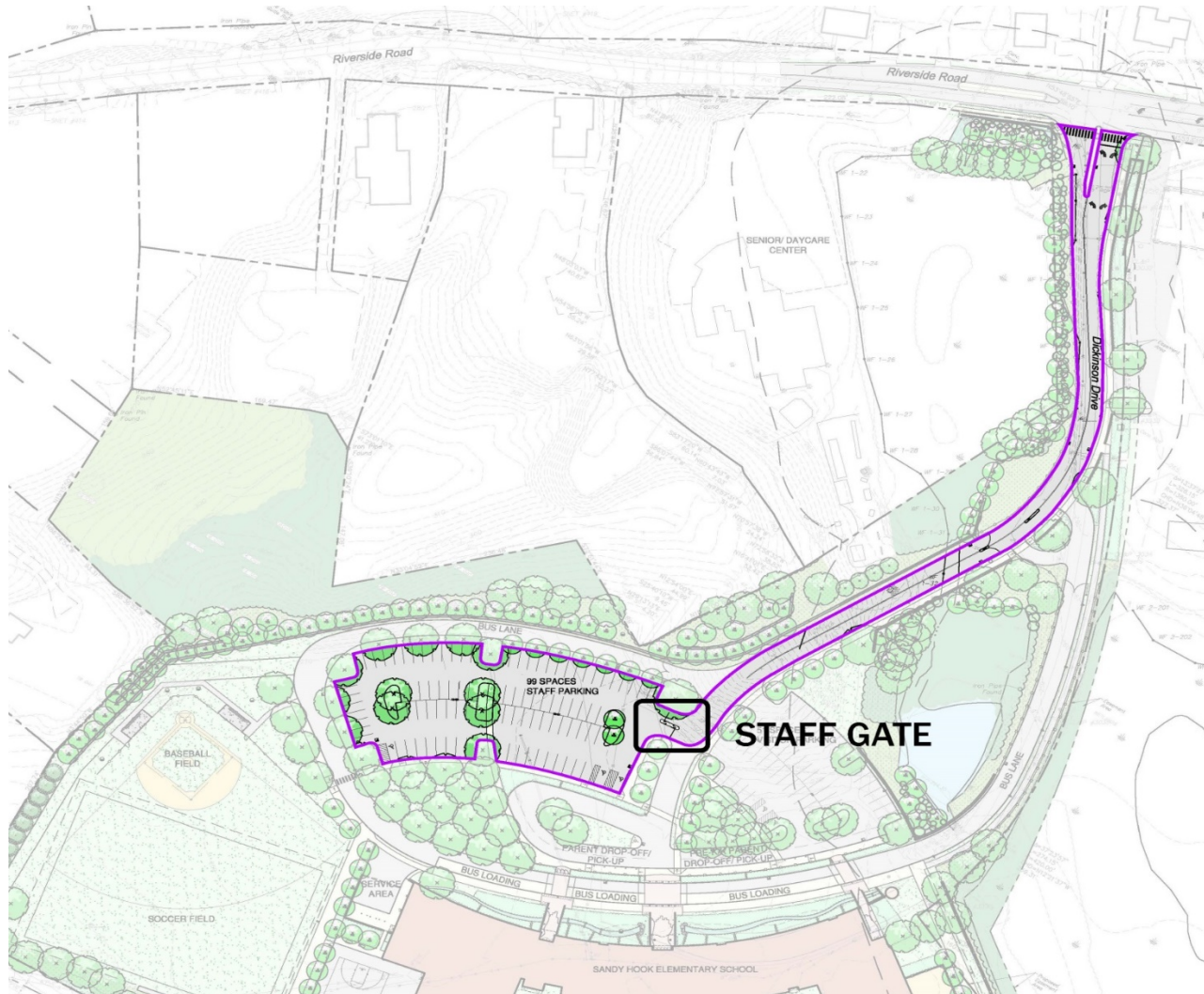
Access Controls

Sandy Hook - Site



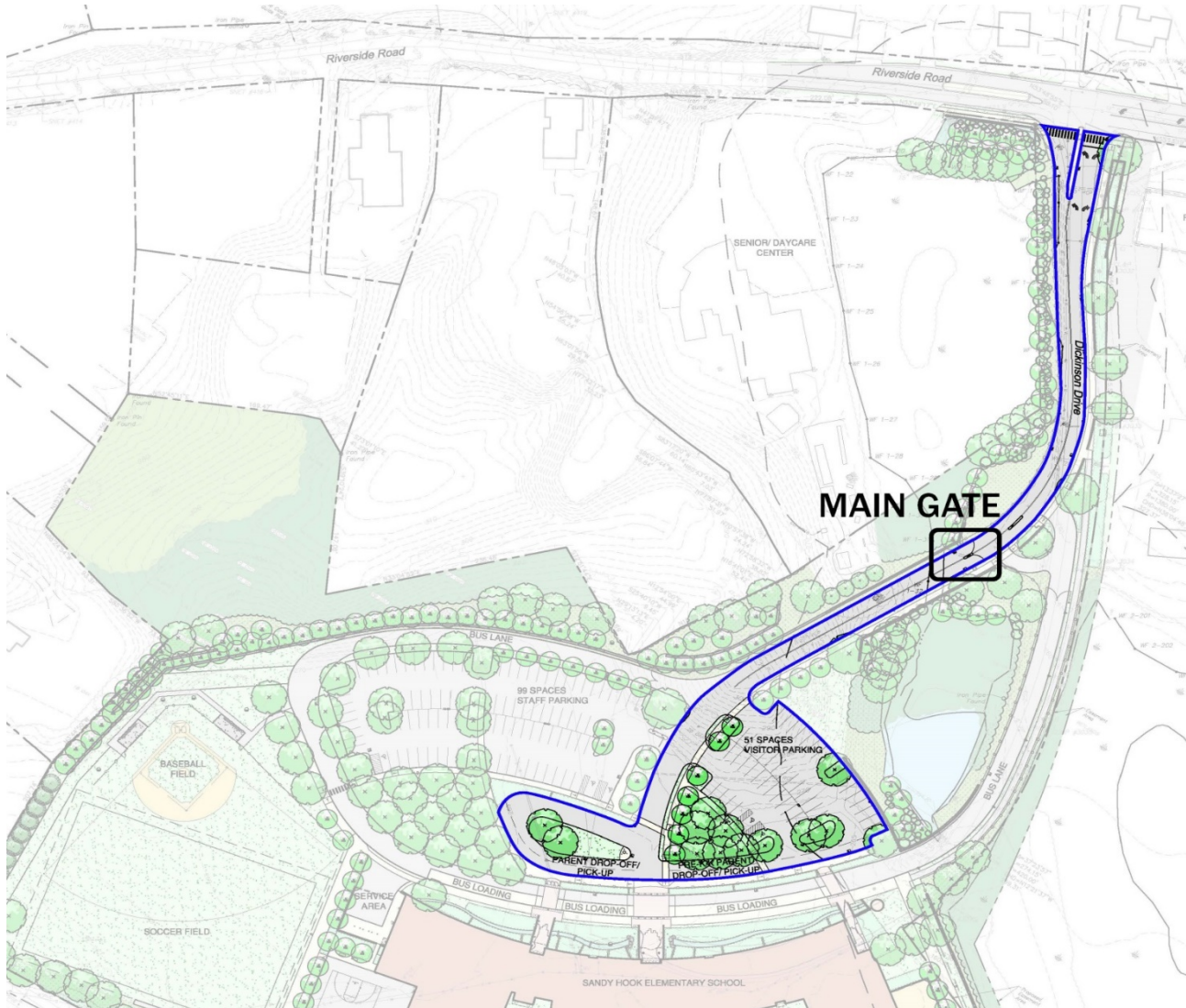
Bus & Service Circulation

Sandy Hook - Site



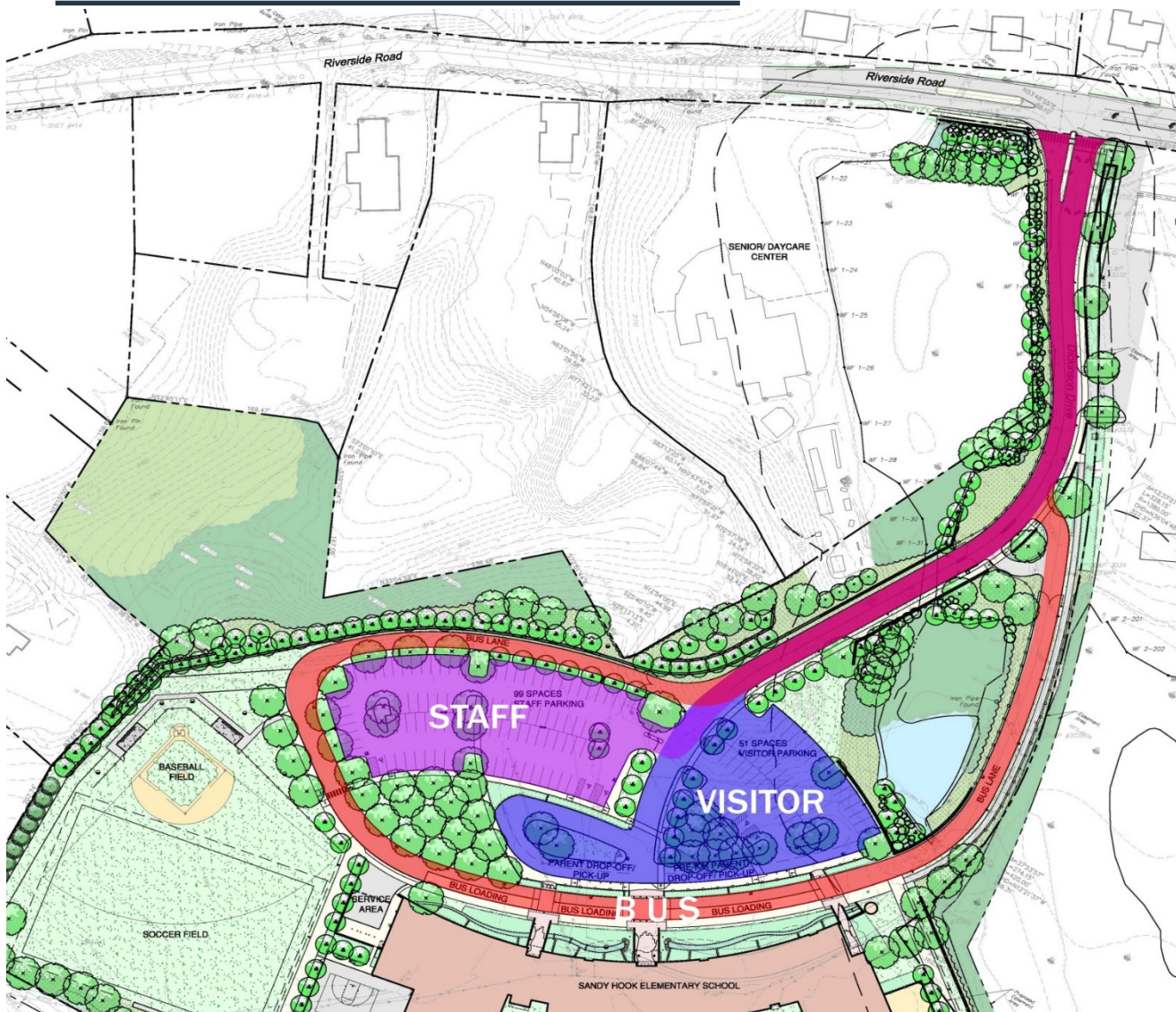
Staff Circulation

Sandy Hook - Site



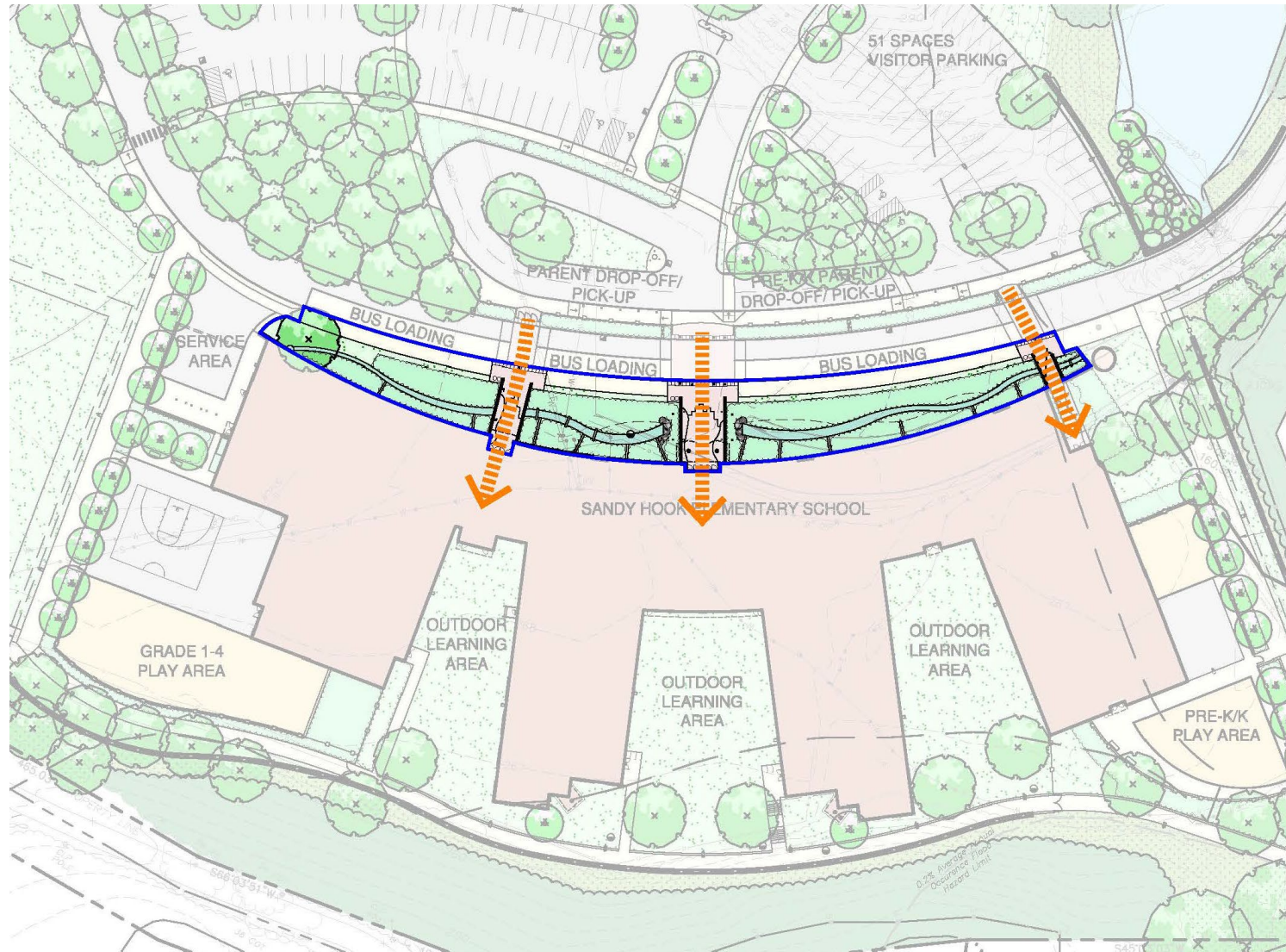
Visitor Circulation

Sandy Hook - Site



+ Composite Circulation

Sandy Hook - Site



Rain Garden/Bio-swale

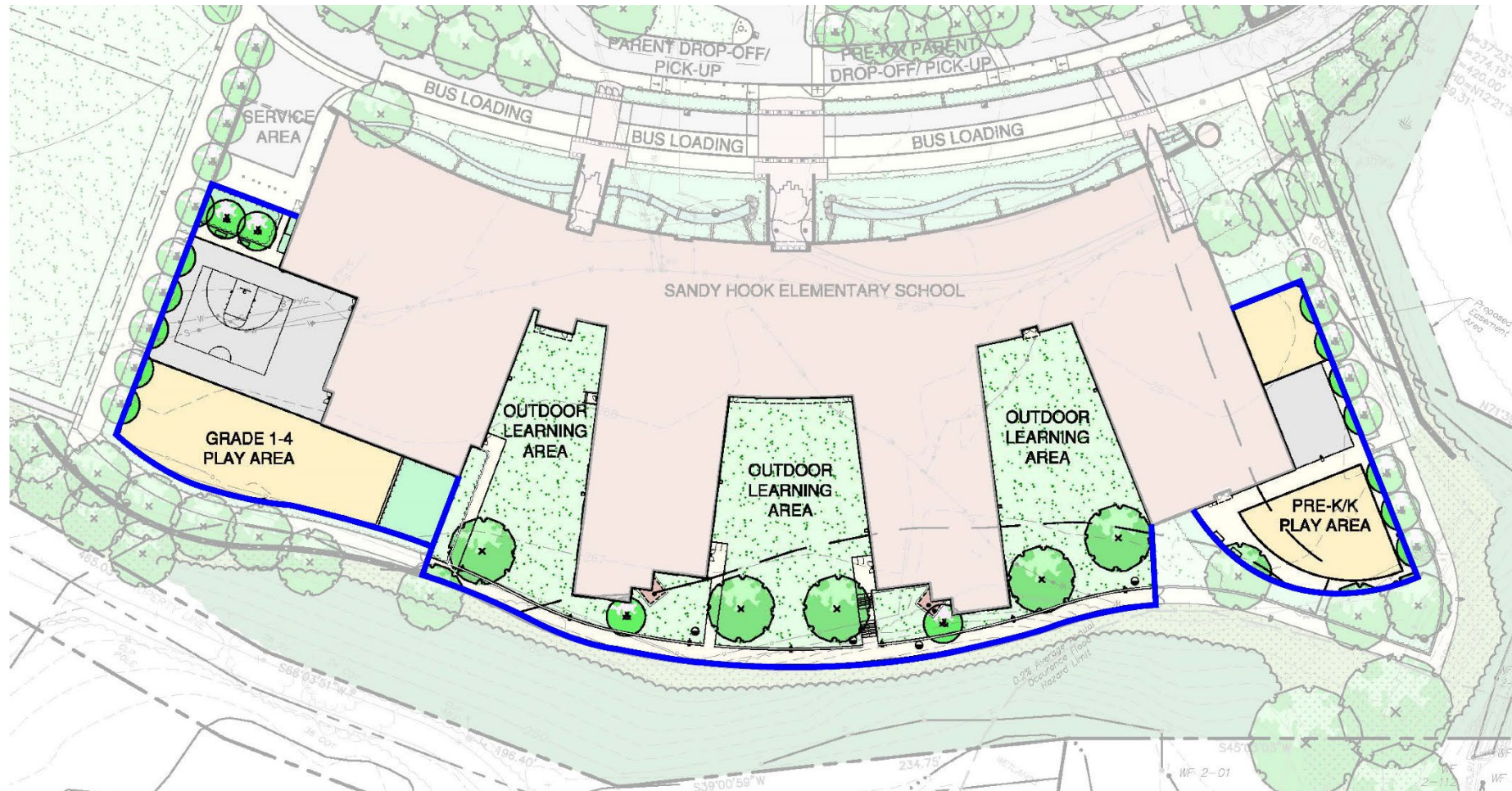
Sandy Hook - Site

Rain Garden/Bio-swale



Sandy Hook - Site

Enclosed Courtyards and Playgrounds

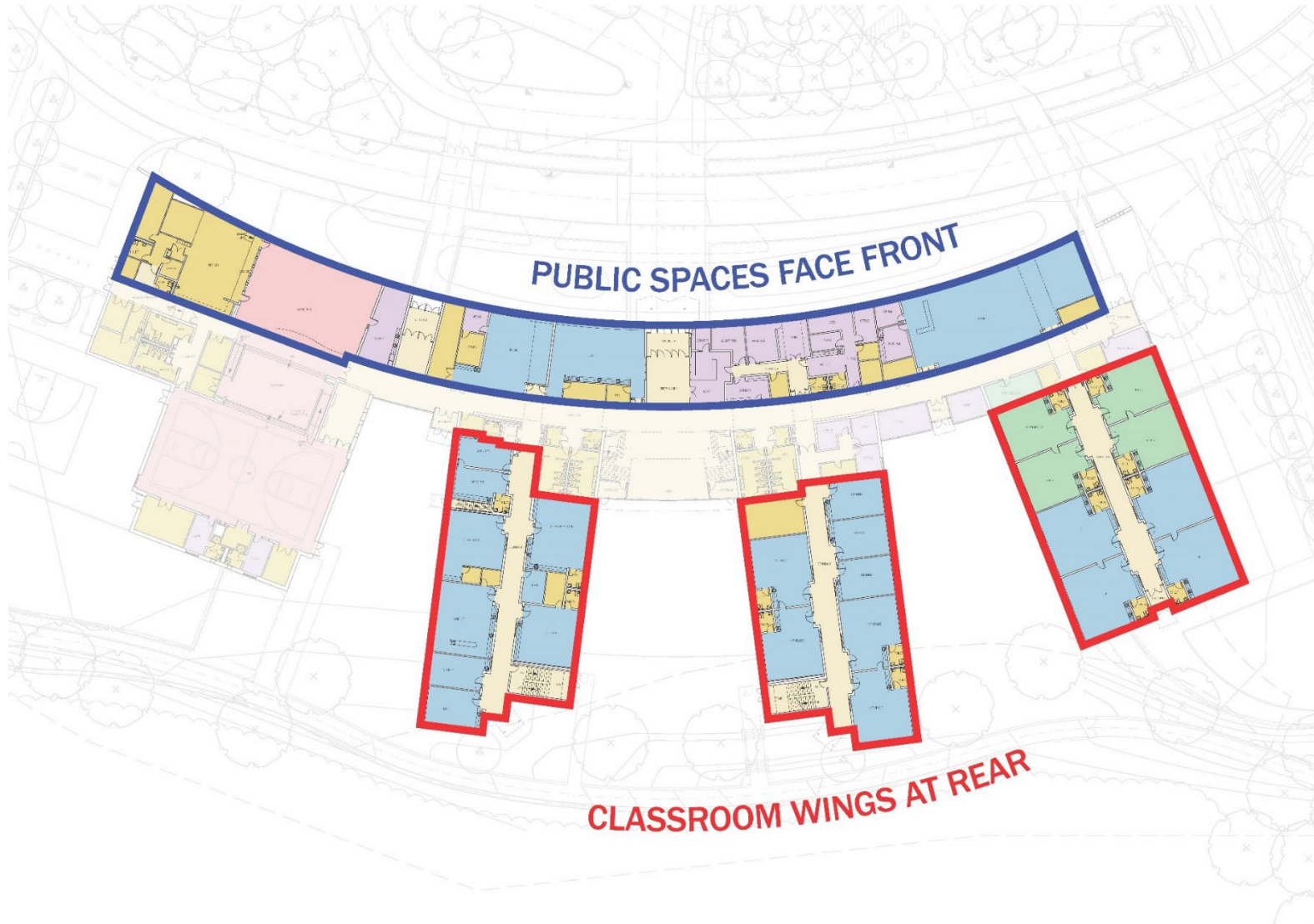


Sandy Hook - Building



Building Organization

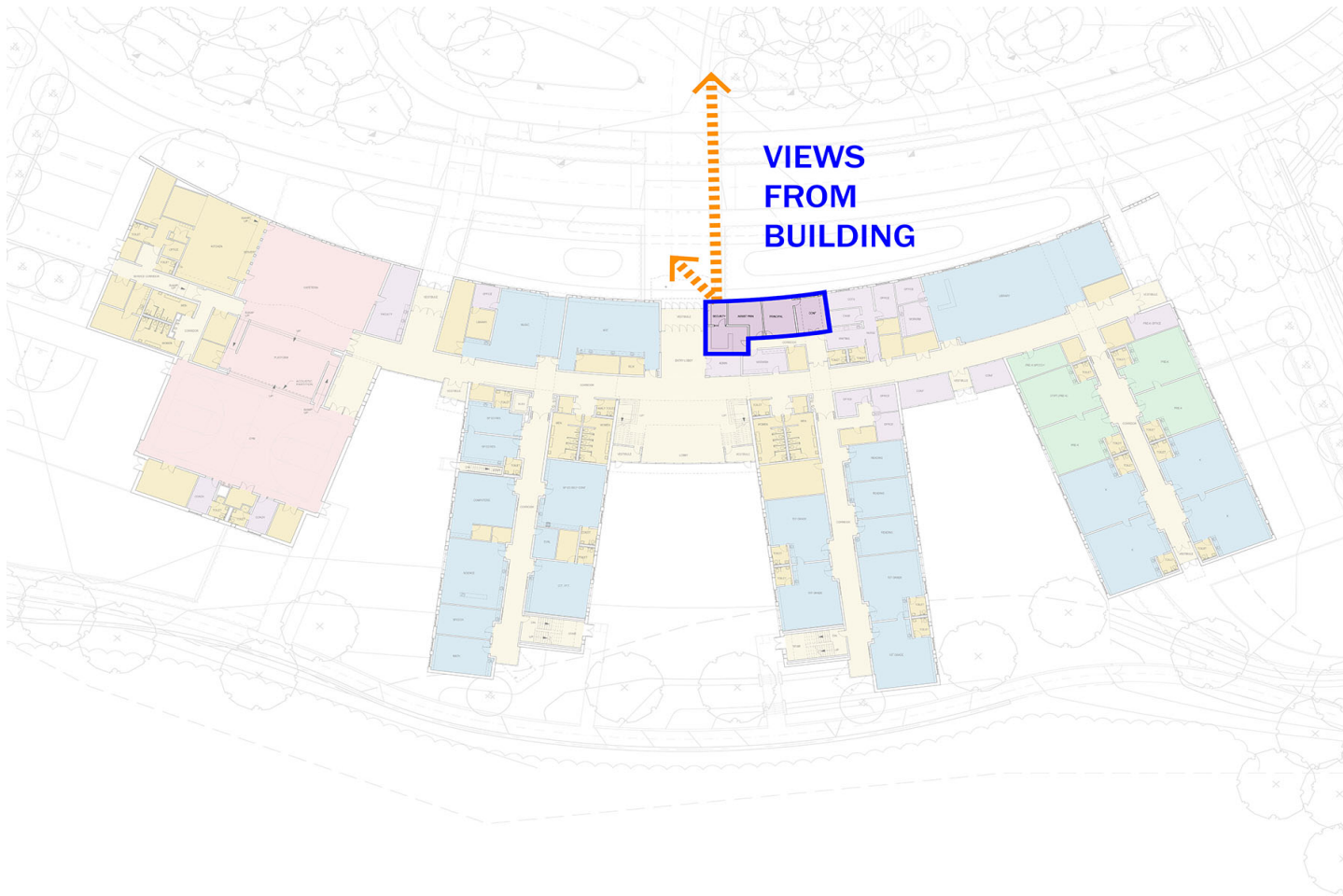
Sandy Hook - Building



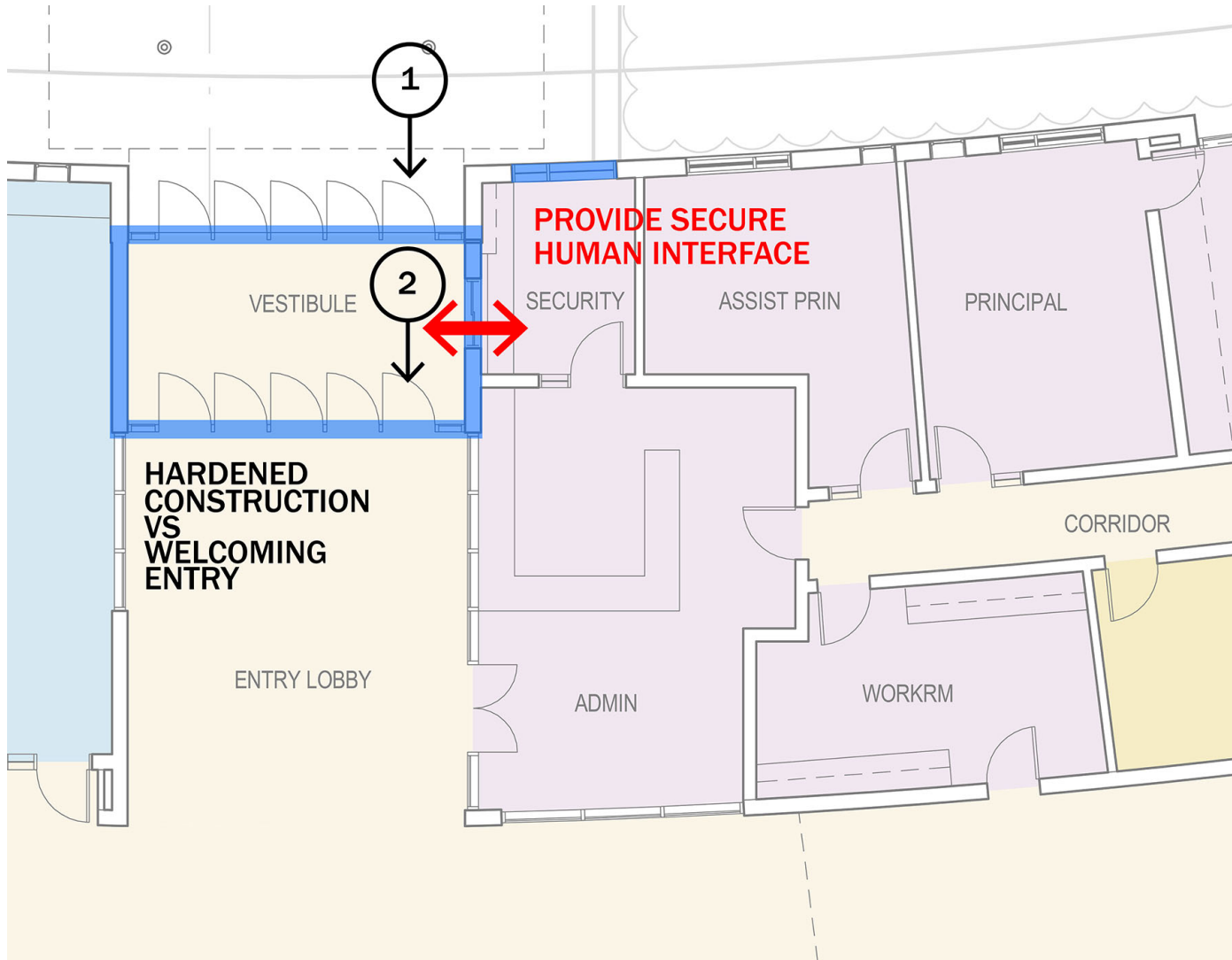
Building Organization

Sandy Hook - Building

Natural Surveillance

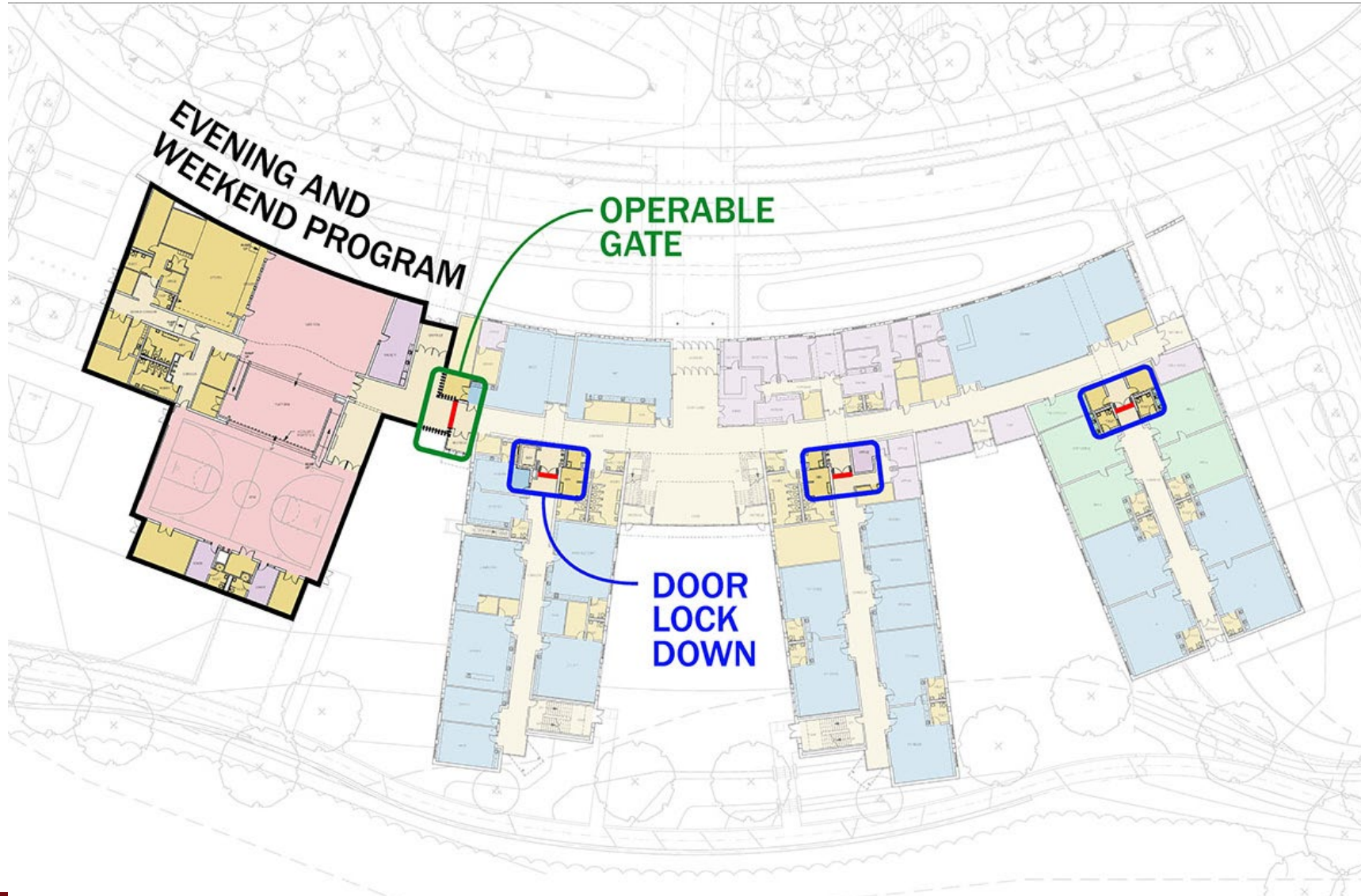


Sandy Hook - Building



**Hardened Entry /
Human Interaction**

Sandy Hook - Building



**Building Partitions/
Extra Delay Layers**

Building Perimeter

- Visitor Management
 - Visitor arrival and vetting process
 - Secure vestibule at building entrance
 - Placement and use of administrative areas/offices
- After Hours School Areas
 - Partitioning of after hours facilities from classroom areas of the building
 - Dedicated restroom and janitorial facilities
- Perimeter Windows, Doors
 - School Guard Glass
 - Exterior access points

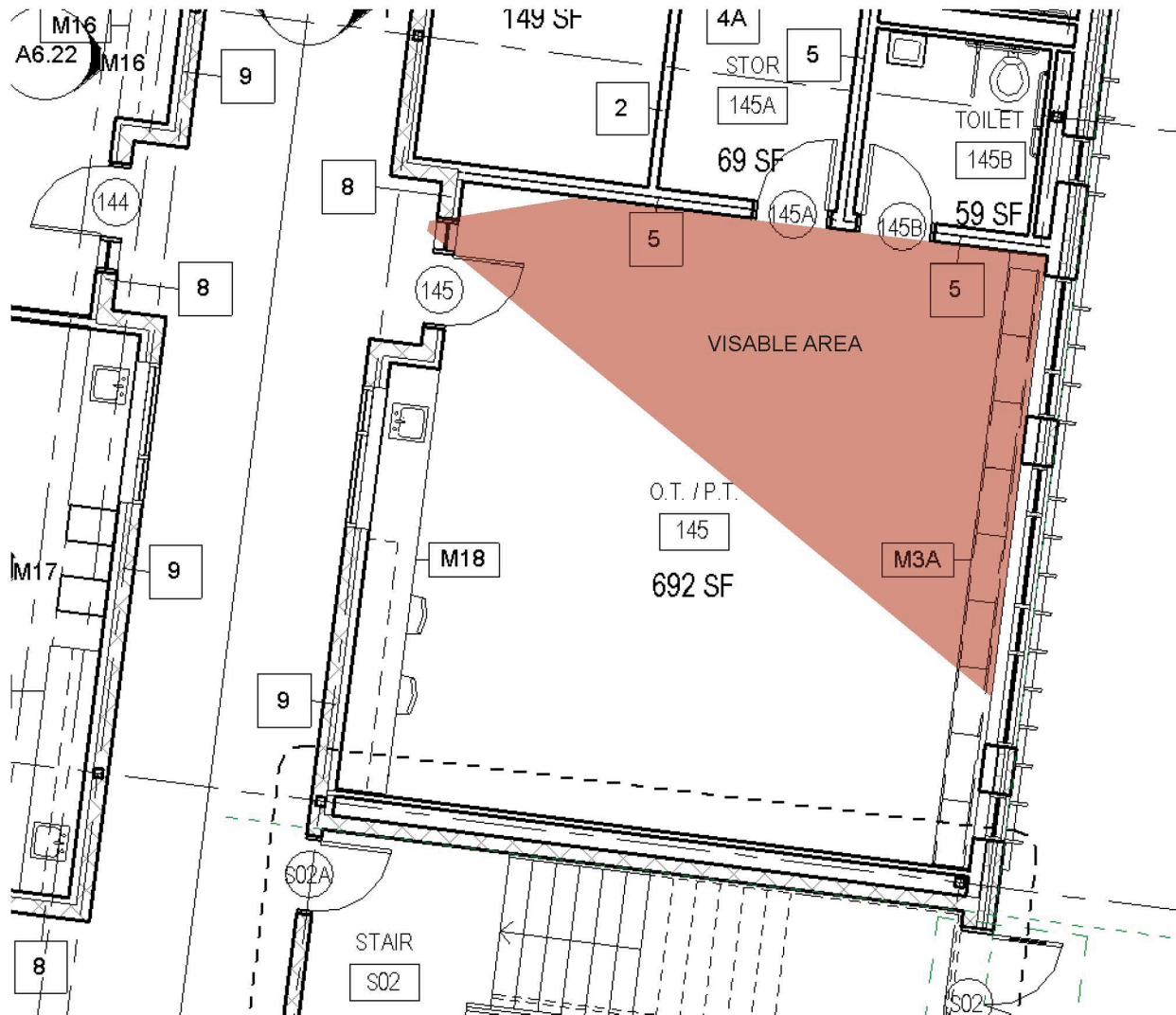


Security at the Classroom

- The Classroom as a Safe Room
 - Wall and door construction
 - Forced entry resistance
- Automatic door closure
- Locked from the exterior
- Other teaching spaces
- Operable Exterior Windows
 - Exit point or liability?



Security at the Classroom



Security through Technology

- Technology Pitfalls/Misconceptions:
 - Technology provides security, and more tools provide more security
 - Security tools and technology should form the basis of any security program
 - Security guards are incredibly efficient and effective at using security technology tools



Is this man effectively monitoring video cameras?

Security through Technology

- Technology Design – Best Practices:
 - Design the security program first, then the supportive tools to go with it
 - Use technology as a tool to help mitigate your school's risk profile
 - Understand your manpower and what they are capable of
 - Organize and implement your security technology so it can be used as a force multiplier



Security through Technology

- Technology Design – Most Common System Elements:
 - Day-time alarm monitoring of perimeter doors
 - Access control for building and city staff
 - Semi-automated dispatch and lockdown capabilities
 - Video surveillance of entryways and perimeter locations
 - Digital video recording for archival
 - Local monitoring capabilities
 - Networking of multiple schools for centralized monitoring



Security through Technology

A Few Advanced Tools for Particular Applications



Security through Operations and Staffing

- Situational awareness – what is happening around and in my school?
- C3I – Communications, Coordination, Control, and Information
- The value of the permanent post
- Training, training, training
 - Staff (after hours)
 - Teachers (after hours)
 - Other town or district stakeholders
 - How are operations affected by the type of school?



It all comes down to a live, thinking human being (no

Security Standards Development

- No standards from building code, security industry, or other recognized sanctioning body with the exception of the State of Connecticut SSIC report
- There continues to be work done at the federal and state level, but still no true “standards” have been developed or legislated
- Wide variance in school setting and demographic make standard development difficult



Security Program Development

- How can a school work to develop its own standards?
 - Assemble a multidisciplinary security working group
 - Understand vulnerabilities resulting from threats
 - Assign risk profile
 - Develop mitigation strategies using the three legs of school security
- Lots of information is available to help
 - FEMA, U.S. DoE, DHS
 - Consultants and SMEs
 - Lots of information is available to help
- Build the program
 - Short, medium, and long term goals
 - Financing the program
 - Build consensus



Summary

- Develop a district-wide security program
- Mitigate risk
- CPTED
- Layered approach
- Good doors, windows, and locks
- Visitor management
- Good communications
- Situational awareness
- Vehicular management
- Technology that multiplies security efforts
- Staffing and operations





Global & Personal

Thank you!

Saint Louis

Baltimore

Chicago

Columbia

Dallas

Denver

Hamden

Indianapolis

Miami

New York

Philadelphia

Dubai



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