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Meeting The Demands For Safer School Buildings

As a district, are you protecting your assets?

The Presenters



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Environmental



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Introduction

Collaborative Solutions that H2M Developed with School Leaders to Ensure a Safe Learning Environment for Students, Educators, and Staff

The buildings and classrooms that your students and staff occupy every day has a direct impact on how students learn. As educators, you review, evaluate, and revise the instruction for your students often, are you as a district doing the same thing for your facilities? Are your facilities ready now and for the future? When developing a plan, who is on your team to protect and prepare your facilities?

Presentation Overview: Architectural, Environmental, and MEP



Client Questions
and Needs



Challenges Over
the Past Year



Solutions Developed
Collaboratively



Challenges/Solutions
for the Future



Architectural:

Joseph E. Flynn, Ed.D., RA
Senior Architect

Client Questions and Needs

- Additional custodial/maintenance needs in preparation for changes to cleaning protocols
- Utilizing space differently
- Transformation of the Nurse's Health Suite to satisfy additional needs for patient/student separation
- Holistic approach to student needs
 - Gender Identification
 - Social - Emotional needs

Challenges Over the Past Year

- Space/equipment/products to meet the cleaning protocols
- Space to meet best practices associated with new challenges
 - Additional custodial/maintenance space needs
 - Dedicated space to for students and staff to deliver instruction

Solutions Developed Collaboratively

- Reconfigure under utilized space
 - Create additional custodial/maintenance spaces to meet needs
 - Create dedicated virtual classroom space
 - Create hallway portable and permanent sanitation stations
 - Recreate/redesign the public bathroom concept, with a more private approach

Challenges/Solutions for the Future

- There will be a new normal, as a district, you need to be prepared
- Students, Staff, and Community need to feel a part of the challenges moving forward
- Opportunity for change – Focusing on Best Practices for your District



Environmental:

Sonya Y. Ward, LSRP, CPG, CGWP, CHMM
Department Manager, Environmental

Client Questions and Needs

- Lead in Water
- Legionella in Water
- Remediation of Water through Infrastructure Improvement
- Indoor Air Issues (Mold, Carbon Monoxide)
- Asbestos-containing Materials (ACM)
- Petroleum Storage

Challenges Over the Past Year

- Issues Arising at Unoccupied Buildings

Solutions Developed Collaboratively

- Inventory of Fixtures (Bottle Fillers, Spigots)
- Scheduling for Compliance and Management

Challenges/Solutions for the Future

- Siting New Schools
- Best Practices for Environmental Compliance
- Standard Operating Procedures for Management
- Pending Environmental Justice Law



Mechanical-Electrical-Plumbing:

Michael Lantier, P.E., LEED AP
Assistant Vice President, Senior Discipline Engineer

Client questions and needs

- **Mechanical** - Are we meeting ventilation needs. What is the condition of existing equipment. If we upgrade ventilation, can we add air conditioning?
- **Electrical** - Can we support additional AC loads and do we have distribution for additional equipment?
- **Plumbing** - What can we do to reduce the spread of bacteria and viruses?
- **Security** - How do we keep the students safe with the new recommendations?

Challenges over the past year

- Determining how HVAC systems were designed to operate. Deficient record keeping and as-builts.
- Ability to get antiquated equipment repaired or replaced.
- Turn around time for solutions to be implemented. Limited engineers, AHJ review time, continuously changing recommendations.
- Funding...
- Keeping security a priority during a pandemic.

Solutions developed collaboratively

- We are a team and discuss/review all solutions

Challenges/Solutions for the future

- Trying to prepare for the unknown future.
- Determine the best practice for your specific school and your existing conditions.



MEP – Recommendations:

General Recommendations

- Organize and digitize as-built and existing drawings
- Plan early and enlist the assistance of professionals. The planning, design, and approval process can take a long time.

Mechanical Recommendations

- Have a mechanical engineer (familiar with school construction) conduct an extensive full building evaluation.
- They should provide a written report documenting existing conditions and have them provide prioritized recommendations for improvement.

Electrical Recommendations

- Engage the electrical engineer as soon as possible to determine electrical service and distribution capacity.
- The costs to upgrade electrical services can be substantial and can delay or cancel projects. The sooner these costs can be determined, the better.

Plumbing Recommendations

- All faucets, water closets, urinals, and paper towel dispensers shall be touchless.
- Provide additional locations for hand washing stations. An architect can recommend locations based on existing conditions and uses.

Security Recommendations

- Keep security a priority. It has been easy to lose focus over the past year.
- Engage the services of a security consultant. They can work with the District and provide a full security risk assessment that includes vulnerabilities and recommendations for improvement.
- Get the community involved through committees. Community members typically support security improvements and want to be involved.



Security & Technology:

It's what you don't see...

What you see

- Main Building Entrance and Bus Loop with gate controls

What you don't see

- Fully integrated technologies for access control, surveillance, and lock downs.
- Lockdown protocols in place and trained staff.
- Intercom stations to keep visitors outside until confirmed.
- Security vestibules to keep visitors contained until confirmed.
- Fully integrated IP telephone systems.
- Districtwide access control on all corridor doors.
- Video analytics to assist with multiple scenarios and issues.
- Window security film on all ground level windows and classroom doors.
- Fully integrated lockdown systems with PA announcements, visible alerts, text messages, emails, auto-call for first responders.
- Lockdown buttons in key locations. Multiple options for lockdowns.
- Integrated hallway lighting to turn on all lights upon intruder.



What Have We Learned?

Over the last 1 ½ years, it has been like no other!

- Challenges are unprecedented
- We don't know what we don't know

We have been dealing with unoccupied buildings for a period of time

Providing a clear plan for both the delivery of instruction, and maintaining our physical plant is extremely important.

We need to ensure we are delivering instruction, while keeping our students, staff and community safe.

- The things we see and the things we can't see

There are things we have never even thought of that we need to be conscious of moving forward.



Planning for the Future!

Collaborative Effort – Create a team with many different views and expertise to guide the district as it relates to your physical plant needs

- Administrators, Board Members, Professional Services, Governing Officials, Community Members, Students, Etc.

Develop Best Practices – Understand the things that are working, not only in your district but in other districts and communities throughout the State

- NJSBA, NJDOE, NJSBGA, NJSPA, NJASBO, NJASA, NJSP, NPTA and NPTO, Local Police, Etc.

Develop a Plan – Understand the plan for your district not only for the students, staff and community associated with the delivering instruction, but how will your physical plan be able to support their needs.

- Long Range Facilities Plan – This will be the plan book to plan moving forward
- Look at low hanging fruit
- Your district goals should reflect the achievement of students, staff and community, there should be district goal associated with the physical plant



Thank You, Any Questions?

H 2
M architects + engineers