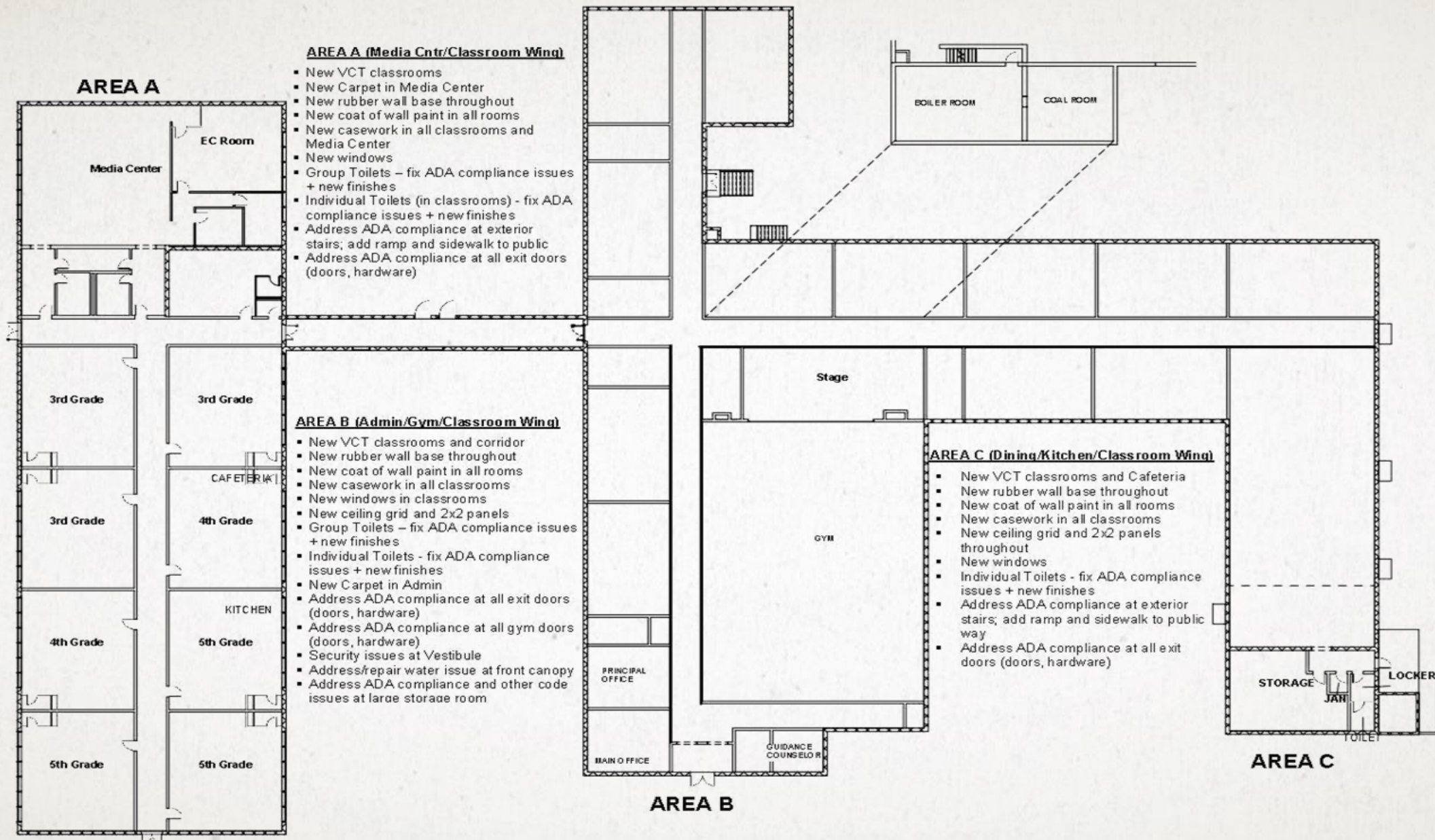


PLEASANT GROVE ELEMENTARY SCHOOL

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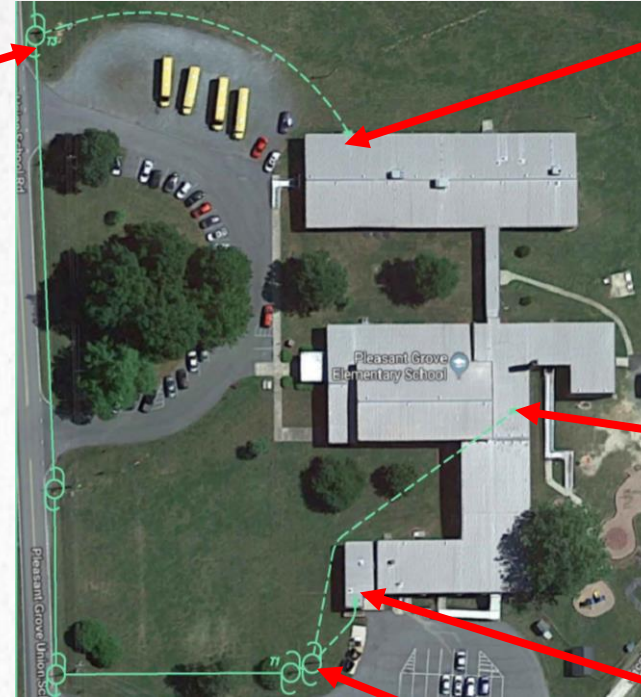
BOND PROJECT PROGRESS REVIEW

OCTOBER 26, 2020



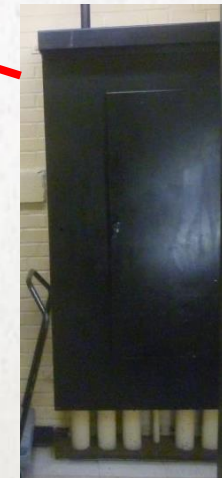
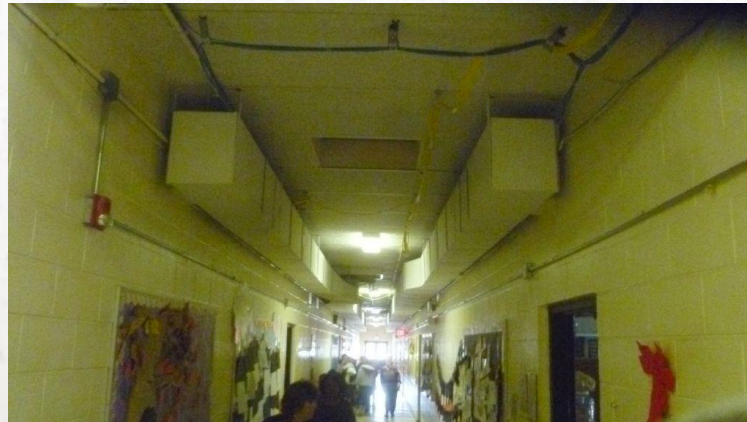
PLEASANT GROVE ELEMENTARY SCHOOL - ARCHITECTURAL UPGRADES

PLEASANT GROVE ELEMENTARY



Project Includes Significant Engineering Upgrades:

- Consolidate Multiple Electrical Services.
- Replace Outdated and Convoluted Electrical Distribution System.
- HVAC Upgrade
- Lighting Upgrade
- Fire Alarm Upgrade



ELECTRICAL SCOPE OVERVIEW

Normal Power Service

- ❖ The multitude of services will be removed
- ❖ Provide two services and distribution systems
 - A 480Y/277V service for large HVAC loads and heat strips
 - longer feeder and branch circuit runs requiring smaller conductor sizes for the larger loads
 - A separate 208Y/120V service covers receptacle and lighting loads.
 - Compared to using step-down transformers, educes space needed and transformer losses

Normal Power Distribution System

- ❖ All power distribution panels and wiring will be removed
- ❖ Complete new power distribution system will be provided including panels, feeders and branch circuit wiring to serve receptacles, lights, mechanical, plumbing and architectural loads

ELECTRICAL SCOPE OVERVIEW CONT...

Emergency Power System

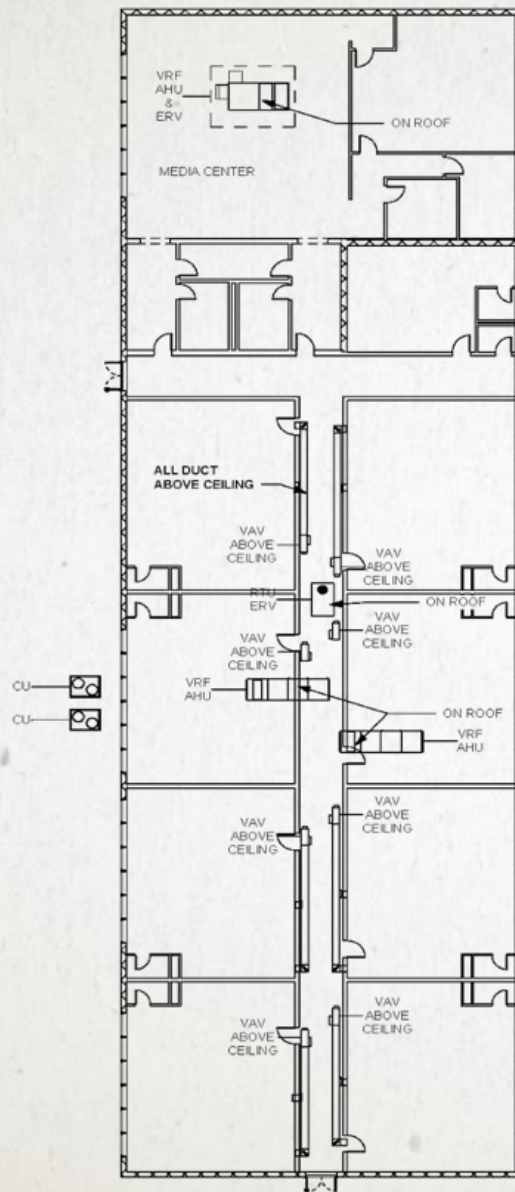
- ❖ There is no central emergency power source
- ❖ Battery unit type light fixtures will be removed
- ❖ Emergency zone inverters will be used to power emergency lighting and exit signage per wing

Normal and Emergency Lighting Systems

- ❖ All lighting will be removed through the interior of the school
- ❖ Interior light fixtures will be replaced with energy efficient LED type
- ❖ New building mounted exterior LED type emergency egress lights
- ❖ Existing pole mounted area and sports lighting currently fed from the building services will be re-fed from the new distribution system

Fire Alarm System

- ❖ The existing Notifier AFP-300 model fire alarm control panel has been discontinued.
- ❖ All equipment, devices and wiring will be removed. Where possible conduit will be re-use.
- ❖ Subject to acceptance by the AHJ the repair path of the existing building code allows an upgrade in kind with a newer model fire alarm control panel without triggering the voice command requirements for new construction

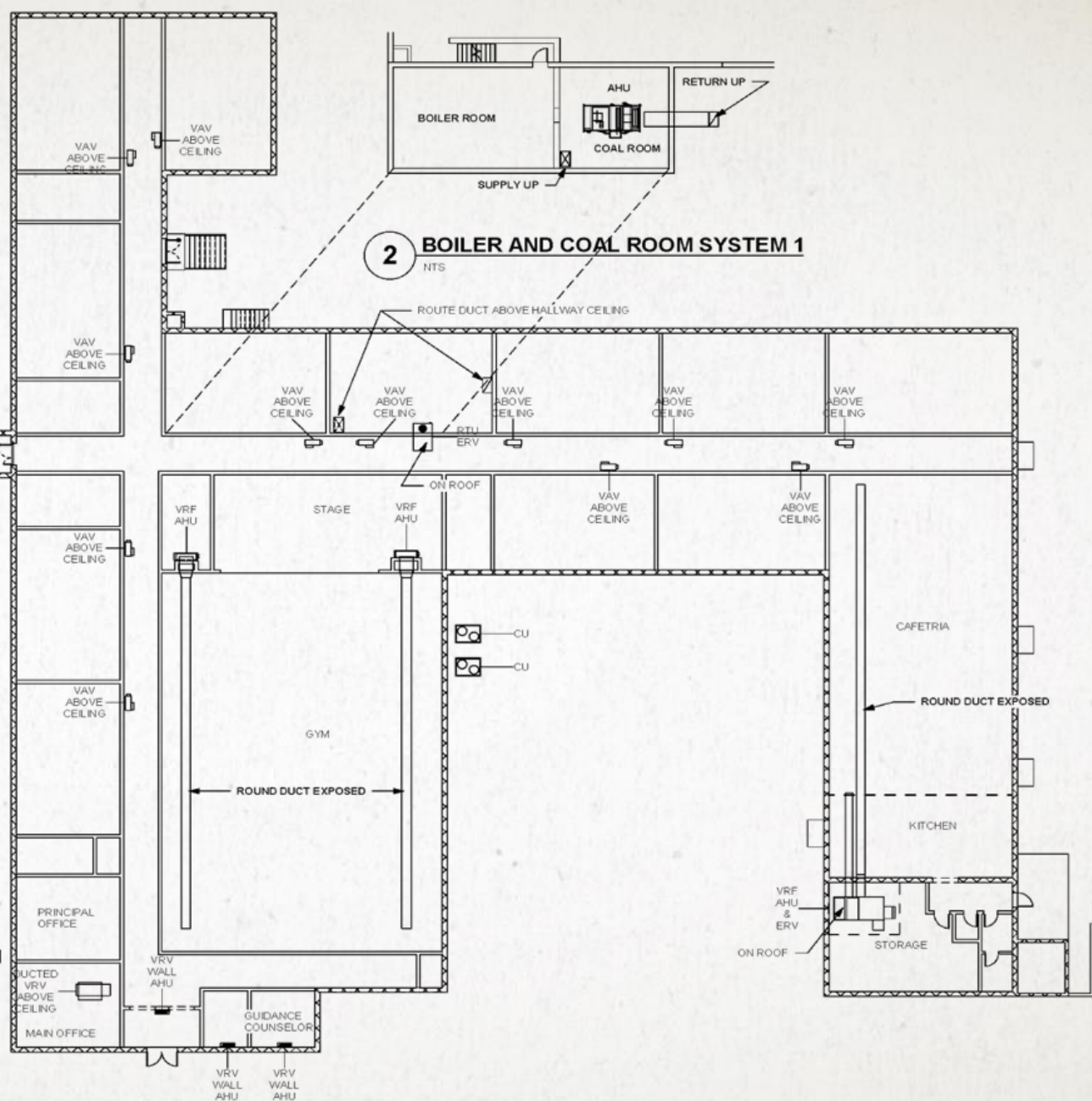


System 1. VRF Central AHU's, Each Serving Multiple Classrooms. ERVs for OA.
 20 Classrooms. Each with an electric reheat VAV box.
 VRF central AHUs. 3 to 4 tons per classroom
 Area A: Two VRF AHUs on roof.
 Area B/C: One VRF AHU in the coal rooms.
 Roof mounted ERVs. One for A wing, one for B/C

Media Center. VRF Central AHU with three or four electric reheat VAV boxes. One ERV.
 Gymnasium. Two VRF Central AHUs, Approx. 12.5 tons each with electric reheat.
 Cafeteria. One or two VRF Central AHUs, Total capacity about 14 tons. One ERV.
 Offices. "Conventional" VRF system with several ducted and wall mount FCUs on one condenser.

Conventional Control interface using a DDC control system except office will use the VRF controls.

Air from different spaces is being mixed. A slight minus for control of pathogen transmission.
 Reliability 4 Energy Use 4 Costs 4



2 BOILER AND COAL ROOM SYSTEM 1

We are currently evaluating 5 potential HVAC systems/configurations