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## GENERAL CONSIDERATIONS

Schemes proposed for both schools are based on School Board staff requests for visual continuity and utilization flexibility within the entire building, new and existing, to better provide for maximum interchange of ideas among teachers and students and to house a program adaptable to the needs of each student.

In developing the spatial arrangement to serve these needs, it became evident that both program and economy could best be served by restricting building coverage of the site to a minimum. Both sites are extremely small in relation to projected enrollment and building area, and further acquisition would likely be unfeasible because of high land costs and topographical limitations.

The existing classroom areas in both schools are framed, for the most part, with steel columns and beams supporting the roof. Masonry walls in these areas are non-bearing and can be removed with relative ease, except where plumbing exists. Drawings accompanying this report indicate the degree of openness that can be achieved by removing these non-bearing walls, although further evaluation of the program and costs may dictate the retention of some or all of these.

Continued operation of the existing facilities during construction is a vital concern. At this time, the best procedure appears to be construction and occupancy of new spaces followed by demolition and renovation in existing spaces.

New instructional spaces proposed appear less expensive to erect than the traditional double loaded corridor with separate classrooms. However, it should be noted openness of the proposed schemes will require carpeting to provide sound absorption and varying ceiling heights to reduce visual monotony, thereby reducing any cost differential. New teaching spaces in both schools will be immediately adjacent to the library area. Each group of teaching spaces will surround a service area containing sinks, work counters and material storage. These areas also provide connection points for television, music reproduction equipment and other audio visual aids.

69-30098

ARLINGTON COUNTY PUBLIC LIBRARY

Visual separation as needed would be obtained through use of pole mounted display boards and relocatable storage units. Folding partitions or relocatable walls are not recommended as they are expensive for what they do and would require considerable time to move and thereby the temptation would be to use them less, contributing to the creation of a fixed classroom size, defeating the purpose of the open plan, i.e. maximum possible number of groupings of students and teachers, easily attainable within as short a time period as possible.

### SPECIFIC CONSIDERATIONS

Existing conditions at each school helped determine the schemes proposed. The topography of the Oakridge site will readily permit a two story addition at the rear with a minimum of excavation, retaining as much as possible of existing playground areas. The existing cafeteria is of sufficient size to serve as a physical education room. The existing library has neither the size nor location to serve the program and is proposed for use as the administrative area.

The Abingdon site is quite narrow in relation to length and the presence of a steep embankment at the north side prevents economical expansion in this direction. Not only the flatness of the buildable site area, but low soil bearing capacity generally throughout indicated a one story solution. The western portion of the site is to remain undeveloped and continued in use as a playground. Connection through from the site to South 29th Street would improve vehicular circulation, since there is presently only one means of access to the site.

The recently constructed cafeteria can serve the increased enrollment only by removing the fixed stage. A second serving line will be necessary in the existing kitchen to expedite feeding of each group of students. The existing library at Abingdon, as at Oakridge, is inadequate in size and location to serve the program. Its location and size, is however, ideal for music and central book storage.

More specific details will be developed in cooperation with the Elementary Plant Planning Committee and the School Board Administration after a decision is made to proceed with these projects.

## MECHANICAL GENERAL CONSIDERATIONS

The concept of open space areas with individual teaching stations for the above projects requires somewhat of a different approach from the conventional school mechanical and electrical systems. It is imperative that the environmental control for these areas have as much flexibility as is possible in order to provide for the varied space occupancies which may be encountered.

Based on this concept of instructional teaching spaces, it would be our recommendation to provide two heating and air conditioning systems for the "open spaces;" one which would simply provide for the heat transmission through the exterior "skin" surface and the other to condition the "habitable areas," must, from a practical standpoint, be an all-air system, wherein conditioned air would be delivered from ceiling outlets to maintain space conditions. Since this "habitable area" would consist of an essentially open space with various teaching spaces as well as special activity areas located throughout, the possibility exists that a single controlled heating and air conditioning system would provide a satisfactory job for the entire area. This system, of course, would be the least expensive method of providing heating and air conditioning. Some temperature variations would be experienced using this system due to the varied occupancy in different areas at different times. Also, should any of the "open spaces" be enclosed at some time in the future, it would not be possible to maintain adequate temperature control.

In order to maintain more satisfactory space conditions at the various teaching spaces, the heating and air conditioning system should be of the (1) multi-zone, (2) variable volume, (3) single or dual duct constant volume, or (4) terminal reheat type. Each of these systems would provide adequate control of space conditions; however, it would be our preliminary recommendation to utilize a dual duct constant volume system. While this recommendation takes into consideration the initial cost, operating cost, maintenance, performance and so forth, the foremost consideration was in providing maximum flexibility which we feel to be imperative in the initial installations designed for this concept of instructional teaching spaces. It is possible with this system to provide initially, a minimum amount of control, (thus minimizing initial cost), while providing the ability to add individual heating and air conditioning control to any space area, should the need arise at some point in the future.

Work sinks to serve instructional space will be grouped to serve multiple teaching spaces.

From an electrical standpoint, recessed type fixtures will be utilized with different intensities of light used in conjunction with different ceiling heights to provide demarcation between spaces. A complete sound system with provisions for two-story communication will be provided. Provisions will be incorporated to provide for both closed circuit and general reception television, as well as audio and visual aid equipment, at each instructional area. A new, non-coded, electrically supervised fire alarm system in accordance with the latest code requirements will be provided. A new clock and program system shall be provided with matching clocks as required for the instructional area.

### EXISTING CONSIDERATIONS

The original Oakridge facility is heated by means of a single steam boiler with a steam-to-water convertor producing hot water. This hot water is circulated through a five zone radiant heating system in the floor slab which serves all areas except the multi-purpose room. This original installation was completed in 1950. In the classroom and office area, ventilation is accomplished by means of four heating and ventilating units which introduce approximately 500 CFM of tempered outside air to each room. The multi-purpose room is heated and ventilated using two heating and ventilating units. A four classroom addition, constructed in 1958, is heated with fintube radiation at perimeter walls with outdoor air intakes designed to introduce fresh air across the heating surfaces. Forced ventilation is accomplished by ductwork from a roof mounted exhaust fan to registers in each classroom. The original steam-to-water convertor was replaced at the time of this addition in order to provide the required additional capacity.

The original Abingdon facility is totally heated by a radiant panel heating system installed in the floor slab. Hot water is produced by a single oil fired boiler. An addition, which was completed in 1965, utilized unit ventilators to heat the classrooms with a heating and ventilating unit which served the general purpose room. An additional oil fired hot water boiler was added at that time to provide the additional required capacity for this addition.

### SPECIFIC RECOMMENDATIONS

It would be our recommendation to install an additional gas fired hot water boiler in conjunction with an electrical centrifugal chiller to provide additional heating capacity and new conditioning capacity for these projects. The existing radiant panel heating system would be utilized to offset winter heat loss through exterior walls. Large classroom areas would be conditioned as outlined above in General Considerations. Cafeteria areas will be heated and air conditioned by means of low velocity air

handling units. Gymnasium and locker room areas will be heated only by means of heating and ventilating units. The existing plumbing system serving the classroom areas of the existing facility will remain where possible. New electrical service will be provided for each facility including the installation of new panelboards, feeders, etc., as will be required to provide for the increase in illumination levels. Existing electrical systems will be modified only where required for current standards or where required due to architectural modifications.

EXISTING CONSIDERATIONS

The existing facility is heated by means of a hot water system circulated through a live steam boiler. This original installation is comprised of four heating and ventilating units. The boiler room is heated to maintain a minimum temperature of 60 degrees Fahrenheit. The boiler is heated with fuel oil. The original boiler is a 1938 model and is located in the basement. The original boiler is a 1938 model and is located in the basement. The original boiler is a 1938 model and is located in the basement.

SPECIFIC RECOMMENDATIONS

The original facility is totally heated by a live steam boiler. An additional heating and ventilating unit will be installed to provide the additional capacity. The original facility is totally heated by a live steam boiler. An additional heating and ventilating unit will be installed to provide the additional capacity. The original facility is totally heated by a live steam boiler. An additional heating and ventilating unit will be installed to provide the additional capacity.

**PROJECTED COST REPORT  
ABINGDON ELEMENTARY SCHOOL**

**THE EQUIVALENT OF  
15 TEACHING STATIONS ADDED**

1.	Existing Building Area	36,200 sq. ft.
2.	Proposed Building Area	32,500 sq. ft.
3.	Total	<u>68,700 sq. ft.</u>
4.	Existing Site Area	8.9 acres
5.	Proposed Parking	53 spaces
6.	Demolition & Renovation in Existing Building as Shown on plans	\$ 289,600
7.	Construction of Proposed Additions	\$ 585,000
8.	Total Construction Cost	<u>\$ 874,600</u>
9.	Fees and Surveys	\$ 66,200
10.	Total Project Cost	<u>\$ 940,800</u>
11.	Estimated Annual Cost Increase	\$ 44,000
12.	Existing Capacity at 25 per T. S.	350 pupils
13.	Added Capacity at 25 per T. S.	375 pupils
14.	Total Capacity	725 pupils

ALLEN J. DICKEY ARCHITECT

April 26, 1968

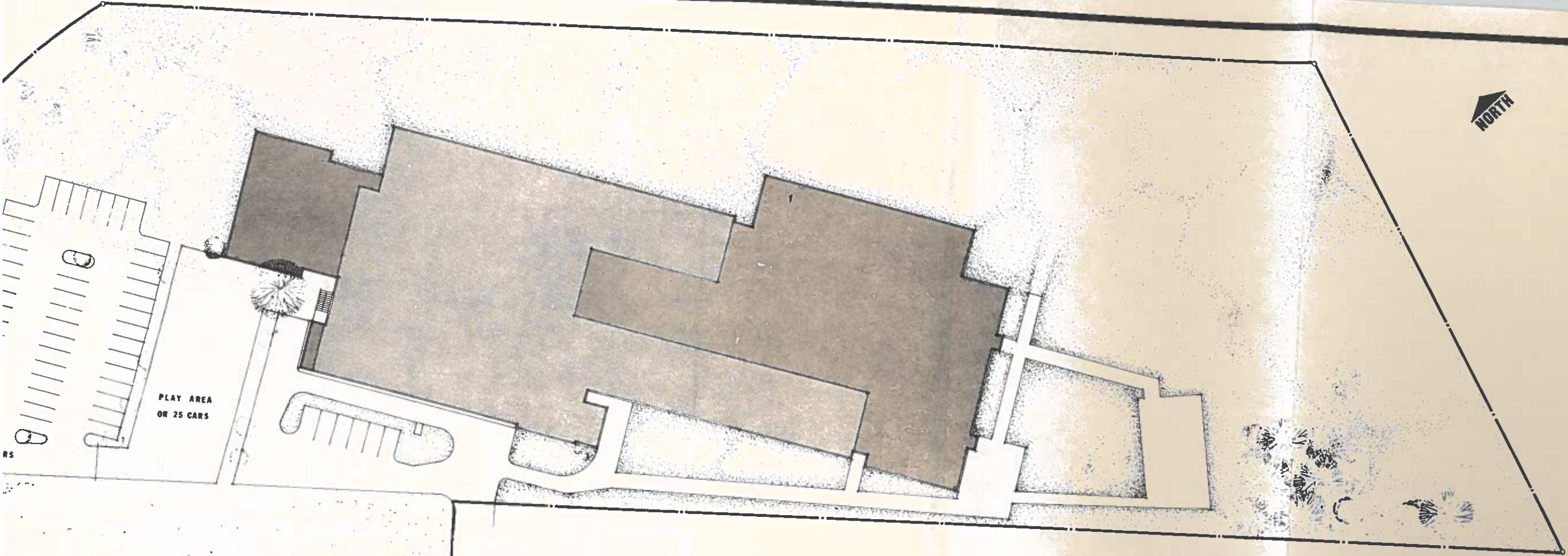
**PROJECTED COST REPORT  
ABINGDON ELEMENTARY SCHOOL**

**THE EQUIVALENT OF  
15 TEACHING STATIONS ADDED**

1.	Existing Building Area	36,200 sq. ft.
2.	Proposed Building Area	32,500 sq. ft.
3.	Total	<u>68,700 sq. ft.</u>
4.	EXISTING SITE AREA	8.9 acres
5.	Proposed Parking	53 spaces
6.	Demolition and Renovation in Existing Building with Minimum Partition Removal	\$ 164,200
7.	Construction of Proposed Additions	\$ 585,000
8.	Total Construction Cost	<u>\$ 749,200</u>
9.	Fees and Surveys	\$ 55,000
10.	Total Project Cost	<u>\$ 804,200</u>
11.	Estimated Annual Cost Increase	\$ 42,000
12.	Existing Capacity at 25 per T. S.	350 pupils
13.	Added Capacity at 25 per T. S.	375 pupils
14.	Total Capacity	725 pupils

ALLEN J. DICKEY ARCHITECT

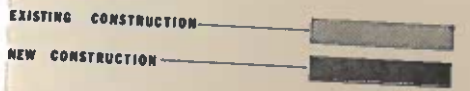
April 26, 1968



PLAY AREA  
OR 25 CARS

PLAYGROUND

EXISTING ACCESS DRIVE

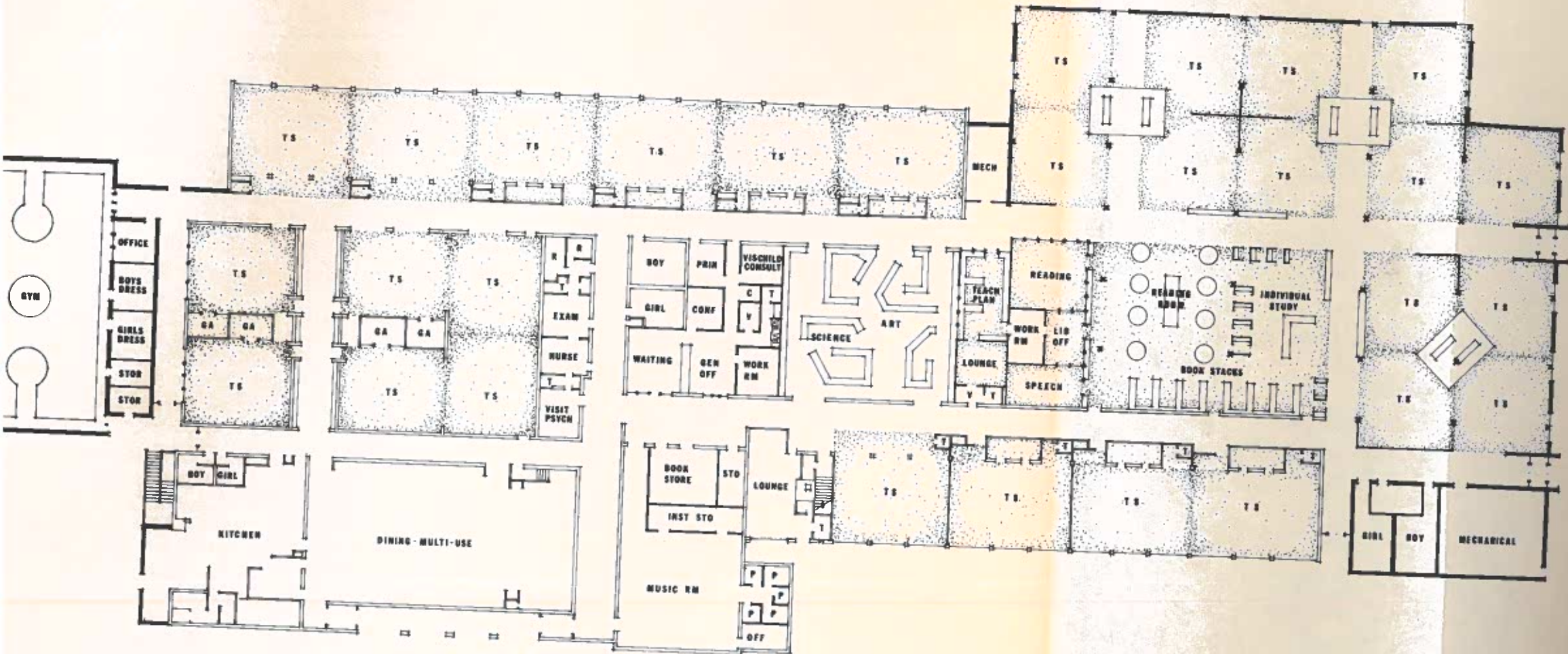


# ABINGDON ELEMENTARY SCHOOL PROPOSED SITE PLAN



ABINGDON ELEMENTARY SCHOOL  
FLOOR PLAN





ION ELEMENTARY SCHOOL  
LOOR PLAN

