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PUBLISHER

Lawrence J. Moynihan
P. O. Box 291
Concord, N. H.

IN THIS ISSUE

New Hampshire Architect presents its third annual School Issue, which has been made possible by the cooperation of the architects of New Hampshire Chapter, A.I.A., the general contractors, subcontractors, and last but not least by Paul E. Farnum of the State Board of Education.
The President's Message

For the third time the New Hampshire Chapter of the American Institute of Architects presents an issue devoted to school building construction in New Hampshire. Requests for copies of the two preceding issues have come from many parts of the country due to the widespread interest of what in recent years has become a problem common to almost every American community.

The unit costs accompanying the descriptions of the projects were determined by the method used in the "Costs and Trends System" developed by F. W. Dodge Corporation. It is not intended that the costs presented represent those that would prevail had bids been secured at the time this publication appears. While many factors other than time of bidding affect construction costs it must be emphasized that the latter have risen continuously for years, with special impetus added by last summer's steel situation and, even more, by its related effects. It is reasonable to expect that next year's costs will be even higher than those prevailing now.

New Hampshire communities are in a difficult situation. Borrowing limits of school districts are restricted by statute and are based on real estate valuations. These do not increase as rapidly as do construction costs and child population. Consequently an impasse, already effective in some school districts, is developing which, unless corrected, will make it impossible for some communities to provide adequate additional educational facilities.

Presently available state aid for retiring construction loans relieves local tax burdens but does not raise borrowing limits. This can be effected only by action of the legislature. The only other alternatives seem to be federal aid or state aid in the form of federal or state government underwriting a part of the construction cost. In New Hampshire, if the state is a participant in such a program, this probably means a broader tax base. As availability of either of these alternatives is uncertain, raising communities' borrowing limits seems the simplest and quickest assistance for next year's financing of school buildings.

As most annual school district meetings occur in March, when capital funds are appropriated, legislature action, in order to promote next year's construction, should occur early in the session of the General Court.
This is the third year that this office, operating with the New Hampshire chapter of American Institute of Architects, has helped to assemble material on school buildings for this issue of the New Hampshire Architect. It is a very worthwhile project, since today we are faced with a critical housing need in New Hampshire towns and cities, and material of this kind is really appreciated by the school boards and members of building committees all over the state. There is hardly a meeting that I attend on the planning of school building that some one of the group does not have with him a copy of the December issue.

We are all aware that little was done during the World War II years in improving school plant facilities. Consequently, on after 1945 New Hampshire school boards became active in finding solutions for these housing problems. Since so little was done during the period from 1940-45 most school districts had sufficient borrowing leeway to build the type of facility needed. This was the period when we built schools to house elementary pupils. Old buildings were abandoned and new space was provided for the present population and those we could count of school age. The following table shows the annual expenditure for new construction since 1949-50.

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949-50</td>
<td>$2,960,229.00</td>
</tr>
<tr>
<td>1950-51</td>
<td>3,480,920.00</td>
</tr>
<tr>
<td>1951-52</td>
<td>3,175,672.00</td>
</tr>
<tr>
<td>1952-53</td>
<td>2,733,306.00</td>
</tr>
<tr>
<td>1953-54</td>
<td>2,334,786.00</td>
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<tr>
<td>1954-55</td>
<td>4,885,790.00</td>
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<tr>
<td>1955-56</td>
<td>5,550,000.00*</td>
</tr>
</tbody>
</table>

New and different types of problems face us now. We are all aware of the increased cost of labor and materials resulting in a greater cost to the voter. These problems also concern the educator for the increase in the birth rate requires continuation of our building programs and will result in even lesser return for the school building dollar.

I wish again to summarize our school facility problem and then offer what I think may be some ways of meeting this issue.

1. Many school districts have reached their borrowing leeway under the provisions of the Municipal Finance Act, namely 4½% of the assessed valuation as last equalized. While there will be slight increase in the valuations to provide a little more debt leeway this will still not be sufficient without a change in the limits of the Municipal Finance Act to provide an answer for many communities. We must give careful consideration to amending this legislation giving more borrowing capacity to New Hampshire school districts.

2. The major construction problem has now shifted to providing space for secondary school pupils. This type of construction not only requires more space per pupil but the facility itself is more expensive and requires a larger appropriation and bond issue. Many of our elementary schools were completed with from 50 to 65 square feet per pupil, while a well planned secondary school plant must now provide 100 to 115 square feet per student. This is of course due to the many special facilities like the auditorium, gymnasium, library, shops and homemaking areas provided in a secondary school.

3. While there is now on our statute books a chapter known as the “Cooperative School Act” for the purpose of providing a logical plan for school districts to joinin...
School Planning and Building Handbook

Published by F. W. Dodge Corporation

School Planning and Building Handbook, by N. L. Engelhardt, N. L. Engelhardt, Jr., and Stanton Leggett, published by F. W. Dodge Corporation, New York, is the first complete, practical handbook to deal with every phase of planning and executing school buildings and school building programs. This new work should prove an invaluable aid to the many communities now facing an urgent need for new school facilities.

The authors are partners in the internationally-known educational consulting firm of Engelhardt, Engelhardt, and Leggett, of New York, which has developed and instituted hundreds of long-range school building programs throughout the United States. The knowledge and experience gained from over 35 years of successful practice eminently qualify the authors to prepare this handbook. In addition to presenting the results of their own exhaustive research and effort, they have included pertinent material obtained from over 85 other leading authorities. These incude prominent school superintendents and administrators, architects, engineers, and other building specialists.

The collective result is one authoritative work which contains every item of basic practical information needed to execute a school building program.

Organized into 40 detailed chapters, School Planning and Building Handbook analyzes and systematizes all types of elementary, intermediate, and secondary school projects. Site selection, contract preliminary planning, specifications, bidding, bonds, and costs are a few of the hundreds of topics discussed. Even requisite documents, such as various contracts, legal notices, performance bonds etc. are reproduced in their entirety, along with checklists covering each stage of operation.

Anyone concerned with planning, designing, financing, building or equipping today's school buildings will find this work of positive help. It is a particularly important tool for members of boards of education, superintendents of schools, school business managers, architects, contractors, and engineers, since it offers systematic guidance through every specialized problem entailed in school planning and building.
School Building Problem —
(Continued from Page 5)

together to create a larger administrative unit, there is still a real reluctance on the part of the voters and taxpayers toward accepting such a plan. This feeling no doubt is one that has developed over the years and cannot be overcome easily. Such a program is absolutely essential in this state if we are to provide the type of secondary school plant planned and equipped for providing an education for today’s youth. A secondary school should have from 350 to 500 pupils if it is to be large enough to offer the kinds of courses needed in the future. New Hampshire, as is true in many states, is burdened with many small high schools with operating costs from $250.00 to over $1,200.00 per pupil. The average per pupil expenditure for 1955-56 was $348.00. A small beginning has been made during the past three years and we are proud of the schools either completed or under construction in the cooperative districts found around the towns of Durham, Hillsborough and Mere-
dith. Every effort should be made to extend this program in order that larger and more efficient school districts be organized. Architects can be of great assistance in encouraging this type of organization.

4. The New Hampshire General Court in 1955 voted its first allotment of state funds for assistance to school districts in financing school construction. An appropriation of $350,000.00 was made available for the year 1955-56 to help in the payment of debt service. Twenty per cent of the principle payment may now be distributed to any district with outstanding debt in the form of serial notes or bonds. Cooperative schools are given 40% which has resulted in more interest in forming this type of district than previously. The State Board of Education in its budget for 1957-59 is asking for increased funds to continue this program and to keep pace with the new building needs.

5. Architects know better than the educator the increased cost in construction

Continued on next page

PITTSBURGH GLAZING WILL BE FOUND IN MANY NEW HAMPSHIRE SCHOOLS

including

Gossler Elementary (Manchester)
St. John’s Elementary (Laconia)
Hampton Elementary
Newport Junior High
North Conway Elementary
Rumney Elementary
Rye Elementary
and its effect on the quality and amount of space now possible for a school plant. School committees insist on large classrooms, multi-purpose rooms, well equipped kitchens and tile toilet rooms, and expect the architect to provide these essentials on a very meager budget. Let's be frank with our committees at the outset and be sure that they understand the situation as it is changing. The elementary school at $500.00 per pupil and the high school costing $1,000.00 per student can not be duplicated in 1956, and these facts need to be frankly and clearly made. Our office is equally concerned with the increasing cost of school facilities and has given considerable amount of time to this problem. We feel that the following idea for an elementary school classroom merits consideration. We call it a minimum elementary classroom as is quite obvious from its size and design.

This particular room has 832 square feet of usable space. While larger rooms are occasionally needed, this number of square feet for 25 to 30 pupils is very satisfactory. Whether the room is square or rectangular in shape is more or less something to be determined by the local school authorities and architect. A shape 26' x 32' seemed to us to be both economical to frame and of a shape suitable to good instruction. This room is sketched to be constructed as a bare classroom without any built in counters, closets, or even storage areas. A bubbler and wash sink or lavatory, together with a chalk board on the front wall and a tack board in the rear, would complete the built-in features. We would expect, however, that the heating would consist of some type of radiation under the window bank with a suitable foul air exhaust on the opposite side of the room.

The following special features would seem to be economical to provide and give at the same time a working situation for both pupils and teacher.

a. All pupil furniture, i.e., pupil chairs and desks, to be movable and of a style acceptable to the community. It should be light in color to reflect light and have working surfaces hard to mar and easy to maintain.

b. Each room to have two types of storage areas. One of the closet type, to replace the built-in storage closet, for general room supplies and the teacher's wraps, and the other of counter height cabinets of the movable type to be used as a wall storage unit or to be moved to any position in the room where counter work space is needed. These units are to be of stock design, usually 48" long and 18" wide, equipped with gliders for easy (Continued on Page 32)
EYESIGHT IS PRECIOUS . . . 
GOOD LIGHT IS CHEAP

Every architect knows that a modern, efficient lighting system in a schoolhouse is of highest importance, but is a comparatively small item in the total cost of the project.

The planning of such a system proceeds along standardized lines, but new ideas and methods are developed every day by the best minds in the profession.

We would be most happy to consult with you on any detail problem if you so desire . . . we are constantly receiving new data, and our time is at your disposal.

Call or write our office — any time!
The following members of the New Hampshire Chapter, A.I.A., have submitted photographs, plans, descriptions and costs of schools recently built or under construction at the present time:

JOHN D. BETLEY MANCHESTER
HORACE G. BRADT EXETER
DIRSA & LAMPRON MANCHESTER
ALFRED T. GRANGER ASSOCIATES HANOVER
IRVING W. HERSEY ASSOCIATES DURHAM
JOHN R. HOLBROOK KEENE
HUDSON & INGRAM HANOVER
ALEXANDER J. MAJESKI BEDFORD
EDWARD B. MILES EXETER
ARNOLD PERRETON and ASSOCIATES CONCORD
NORMAN P. RANDLETT LACONIA
ROLAND S. SIMONDS MANCHESTER
TRACY & HILDRETH NASHUA
RE: THAT STORE JOB

Dear sir,

This letter is to let you no we ain't figguring on paying none of the liqadateing damages on the job named rite after the "re" on the top of this page. I figgured somethin like this would happen wen we didnt get the thing done in the 1st place wen it was supost so i wint their myself to see y not and i dam sure did an it ainnt our fault.

In the 1st place them plans you gave us werent no good and you must of knoed it all the time because somebuddy in your office had to write a hole dam book to try to tell what schuld have been put on them plans in the 1st place. An this guy that rote the book werent any better than the guy that rote the plans in the 1st place. This book was chuck full of stuff about a lot of dam crap probable some relitive of his was sellen and there wasnt anythin in the book about the stuff we used anyway. Then in the front of this book was a bunch of stuff looked like some loyer had stuck in their cause it was in real little print and looked like it was their to screw us.

Be sides all that the man we sent up their to take care of our truck an see that the bilding got bilt said the man you sent up their slowed him down a lot and made him pore truck lode after truck lode of cement in big holes under the bilding that didnt help none and cost a hell of a lot more money than we schuld have spent.

All this stuff caused so much troble our man started to drink and carey on some and when i got their to see about it it teed me off so bad i had to go on a months drunk myself and you ought to be smart enouf to know that you cant get bldings bilt to fast when you got to be drunk all the time.

If you guys had any cents all you had to do was tell us what kind of bilden you wanted and how big and where to put it and we could have got it bilt in about a month or so then this stuff wouldnt had come up and we could all make a wad a dough.

If this aint enough to get the dam­ages stoped let us know. We could start tellen some of the nasty stuff about mis­takes in your plans which aint in ac­cord with our ethices but we dont in­tend to let that stop us if it looks like it will cost us any money.

By the contractor hisself

* * *

HARETTE—October, 1956
## Elementary School for Canterbury School District

**DESCRIPTION:**

Four class rooms, activity room, kitchen, teacher’s room, supply rooms. Structure—concrete footings, reinforced concrete foundation walls to grade; exterior walls brick veneer with 4” cinder block back-up on front and end elevations and rear elevation 8” concrete block painted; 8” and 4” cinder block partitions; ground floor—waterproof concrete on grade; first floor—steel joist, steel tex and 2½” concrete slab; roof—steel joist with wood nailer, boarding, tar and gravel roofing; galvanized flashing; acoustical fiber tile ceilings; metal doorframes and doors, metal stairs, and steel sash; interior—painted block and trim; asbestos chalkboard, asphalt tile floor; plumbing—6 water closets, 2 urinals, 6 lavatories, 4 class room sinks, 1 fountain, standard supply, septic tank and drain field; heating—oil, forced hot water, fin tube radiation, two zones; ventilation—forced exhaust at floor and fresh air intake at windows; electrical—rigid conduit, romex, and incandescent fixtures.

Building constructed by owner with sub contract service and partial contributing labor. Value of contributing labor included in cost and computed according to prevailing wage rate.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
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<td>$7.50</td>
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<td>.13</td>
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<tr>
<td>ELECTRICAL</td>
<td>2,800.00</td>
<td>3.8</td>
<td>.37</td>
<td>.03</td>
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<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$73,500.00</td>
<td>100.0</td>
<td>$9.54</td>
<td>$.74</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 99,286 cu. ft.—FLOOR AREA: 8,960 sq. ft.—FLOOR HEIGHT: 10’ 6”. Date of construction, April to November, 1956.

split Block is Making Progress as an acceptable Construction Material for homes, Motels, Commercial Buildings and Other Types of Structures.

The use of split block is increasing rapidly, with good reason. This beautiful and rugged building material offers innumerous opportunities to builders in all classifications. Not only has split block the appeal and durability of fine quarried stone, but it goes far beyond stone in its adaptability to various types of construction.

With split block, the designer has a wider range of color, texture, and proportion with which to meet new ideas or cost problems. Split block can be used as solid masonry, veneers, viny and solid walls, fireplaces, planters—for interiors as well as exteriors, for commercial structures as well as homes. In fact, there is perhaps no other building material used today which is so ideally suitable to the demands of this new era modern building.

BES-STONE—"the split block with character"—combines all the advantages of regular split block with important ones of its own. BES-STONE offers a choice of beautiful, permanent color tones, textures and patterns, in modular sizes. It offers economy and versatility in construction, freedom from costly upkeep, and a distinctive charm that lasts for years.

BES-STONE is a new and modern building stone, a product of Vibrapac Block Plants. For complete details and information, contact:

DURACRETE BLOCK CO., INC.
ITEM | Cost | % of Total Cost | Cost Per Sq. Ft. | Cost Per Cu. Ft.
--- | --- | --- | --- | ---
STRUCTURE | $441,460.00 | 73.1 | $8.26 | $.50
PLUMB., HEAT., VENT | 125,218.00 | 19.8 | 2.32 | .14
ELECTRICAL | 47,242.00 | 7.1 | .80 | .05
TOTAL COST OF BUILDING | $613,920.00 | 100.0 | $11.38 | $.69

TOTAL VOLUME: 886,000 cu. ft.—FLOOR AREA: 53,930 sq. ft.—DATE OF BIDS: October, 1956—FLOOR HEIGHTS: 11' 5" floor to floor; 23' 0" to bottom of trusses in Gymnasium.

ALFRED T. GRANGER Associates, A.I.A.
Architects and Engineers — Hanover, N. H.

SWANBURG CONSTRUCTION CORP., MANCHESTER, N. H.
GENERAL CONTRACTOR
ANOTHER
FINE SCHOOL BUILDING
BY
SWANBURG
CONSTRUCTION CORP.
Manchester, N. H.
General Contractor for Rye Elementary School

MacArthur and Sons
Penacook, N. H.
188 So. Main St. Dial PL3-4411

Painting Contractors
— for —
Gossler Park School
MANCHESTER, N. H.

Roofing Contractor
For
NEW BOSTON ELEMENTARY SCHOOL
SEABROOK ELEMENTARY SCHOOL
BEDFORD MEMORIAL SCHOOL
GOFFSTOWN SCHOOL
HOLDERNESS SCHOOL

D. G. HOULE CO., INC.
BONDED ROOFERS

Roofing - Siding - Sheet Metal
Lynchville Rd. Grasmere, N. H.
Dial NA 2-9163
Elementary School - Gossler Park - Manchester

DESCRIPTION:
This is the last of three identical schools erected in the City of Manchester, N. H. Facilities provided are: 12 classrooms, kindergarten room, multi-purpose room, administrative offices, health unit, kitchen and locker rooms. Special features are the separate toilet facilities located between classrooms and the direct exiting to play areas from each classroom. Six additional classrooms have been planned for future construction. The multi-purpose room wing will also serve as a neighborhood community center, therefore, this wing is designed to serve its dual functions with a minimum of interference with the scholastic activities of the classroom wing. The school is fire-proof throughout and will have a four hour fire rating.

Construction data: reinforced concrete foundations, grade beams and floors, brick and cinder block exterior walls, cinder block interior partitions, asphalt tile floor finish, acoustical plaster ceilings, concrete roof slab on steel joists, two year tar and gravel roof, aluminum ribbed windows and glass blocks, forced hot water heat, exhaust ventilation, fluorescent lighting in classrooms and incandescent lighting elsewhere.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
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<td>.05</td>
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NOTE: Due to poor soil conditions all foundations and floors were designed in reinforced concrete and are supported solely on concrete piles. The cost of this additional foundation and floor work is included in the above Structure Cost as it could not be accurately separated. However, the cost of the pile work is listed separately.

CONCRETE PILE WORK $22,650.00.


Dirsa & Lampron, A.I.A., Chief Architects - Manchester, N. H. 
John D. Betley, A.I.A., Associate Architect - Manchester, N. H.

BLANCHARD STEBBINS, INC., MANCHESTER, N. H.
GENERAL CONTRACTOR
Electrical Contractor
— for —
Gossler Park School
MANCHESTER, N. H.

Keystone Electric Co.
“You Phone Us — We Wire You”
36 Alsace St. Dial NA 2-9541
Manchester, N. H.

R. C. Peabody Co., Inc.
Plumbing • Heating • Sprinkler Contractors
Sales Installation Service
720 Union St. Dial 2-0824
Plumbing and Heating at
GOSSLER PARK SCHOOL
MANCHESTER, N. H.

BLANCHARD STEBBINS, INC.

Commercial and Industrial Work
330 Lincoln Street Dial NA 3-2273
MANCHESTER, N. H.

General Contractor
Gossler School • Manchester, N. H.
Hampton Elementary School, Hampton, N. H.
Alterations and Additions to Greenland Grade School Building — Greenland

CONSTRUCTION:
Exterior walls—concrete block with brick facing and concrete block exposed, waterproofed; interior walls—concrete block painted; ceilings—acoustical tile in classrooms, corridors, lobby, etc. No finish ceiling in auditorium. Roof—20 year bonded tar and gravel, rigid insulation, roof boarding on 2" x 14" rafters for classrooms, etc. Metal deck on long-span joists for auditorium. Floors—concrete slab with asphalt tile; windows—wood sash, fixed and awning type; toilet stalls—metal; doors—wood with wood frames; heating—forced hot water, fin type radiation, classrooms and auditorium separately zoned; plumbing—standard grade school size fixtures; electrical—fluorescent fixtures.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
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<td>COST OF ADDITION</td>
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<tr>
<td>TOTAL COST OF BUILDING</td>
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TOTAL VOLUME: 149,380 cu. ft.—FLOOR AREA: 8,690 sq. ft.—DATE OF BIDS: May, 1956—FLOOR HEIGHTS: 10' 10" Classrooms; 18' 0" clear in Auditorium.

Edward Benton Miles, A.I.A., Architect - Exeter, N. H.

CASHMAN BROTHERS, INC., NEWBURYPORT, MASS.
GENERAL CONTRACTORS
ROWELL & MILLER
Electrical Contractors
BOX 123
54 WEBSTER ST. HUDSON, N. H.
Tel. TUxedo 3-7053 - TU 3-7993 - TU 3-7098

Electrical Contractors
AT
GREENLAND ELEMENTARY SCHOOL
LITCHFIELD ELEMENTARY SCHOOL
CANADIEN CLUB, NASHUA, N. H.
MERRIMACK HIGH SCHOOL

PLUMBING
and
HEATING
AT
Greenland
Elementary School
GREENLAND, N. H.

Installed by
Standard Plumbing
and Heating Company
25 Hanover Street
PORTSMOUTH, N. H.

CASHMAN BROTHERS CO.
EST. 1881
75 WATER ST. NEWBURYPORT, MASS.
Tel. Homestead 2-6608

GENERAL CONTRACTOR
FOR
GREENLAND SCHOOL
Hampton Elementary School - Hampton

Cost Data

Construction Contract $314,708.00
Area 25,670 sq. ft.
Cost per sq. ft. $ 12.27

Features:
1. Corridor-less classroom wings.
2. Separate toilet rooms for each pair of classrooms.
4. Separate rooms for Assembly, for Cafeteria, for Adult Toilet Rooms.
5. School library.
6. Varying sizes of classrooms reflecting differences in age groups.

Structure & Materials

Foundations: Concrete.
Walls: Brick with concrete block backers.
Wainscots: Salt glazed tile.
Roof: Steel panels, insulation, 20-year tar and gravel roofing.
Windows: Aluminum awning.
Floors: Concrete slabs with asphalt tile.
Assembly Room: Laminated wood bents and purlins, Tectum deck.
Ceilings: Acoustical strips installed in troughs of steel panels.
Heating: Forced hot water system with un- ventilator in each classroom.
Electric: Fluorescent fixtures installed in troughs of steel panels.
Plumbing: 60 plumbing fixtures.

Tracy and Hildreth, A.I.A., Architects - Nashua, N. H.
BLANCHARD STEBBINS, INC., MANCHESTER, N. H.
GENERAL CONTRACTOR
PATERSON & GETCHELL
Painting Contractors

Industrial Brush and Spray Painting

Full Line of Sherwin-Williams Paints

Painting Contractors
for
HAMPTON ELEMENTARY SCHOOL
Hampton, N. H.

21 Daniel St. Tel. GE 6-3031
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Plumbing and Heating
FOR
Hampton
Elementary School
HAMPTON, N. H.

Done by
W. J. PARENTEAU
MANCHESTER, N. H.

Res. 88 Belmont St. Dial NA 2-9413
Shop 147 Maple St. Dial NA 2-8130

H. H. ROBERTSON
COMPANY

Long Span Roof Deck
FURNISHED AND ERECTED
by
Atlantic Roofing
&
Skylight Works
Cor. Hampden and Howard Streets
BOSTON, MASS.

Distributors and Erectors of
H. H. Robertson Company
Building Products

CEMENT FLOORS
at the
GOSSLER PARK SCHOOL
MANCHESTER, N. H.

HAMPTON ELEMENTARY SCHOOL
HAMPTON, N. H.

by
CONNIE'S
CEMENT FLOOR CO.
J. "Connie" Griffith

Suncook, N. H. Dial HU 5-9444
Monolithic • Granolithic • Metallic

Serving the Architects,
Contractors, and Engineers of
New England
DESCRIPTION:
Foundations: Reinforced concrete. Outside Walls: In general sandstruck brick with cinder block backup. Classroom spandrel walls colored pressed brick. Frame: Structural steel and bar joist frame throughout with steel centering and steel roof deck. Ground floor slab on grade. Roof: 20-year bonded built-up roof with 11/2" rigid insulation. Interior Partitions: Cinder block painted with facing tile in showers and locker rooms. Floors: Classrooms, corridors, offices, etc. asphalt tile on concrete slab. Toilets, locker rooms, etc. concrete waterproof finish. Auditorium gymnasium hard wood floor on screeds over concrete slab. Ceilings: Classrooms, corridors, offices, etc. acoustical tile on metal suspension. Locker rooms, toilets, boiler room, porches, etc. plastered. Electrical: Incandescent fixtures throughout except fluorescent in shop. Local fire alarm system, program clock system, empty conduit sound system. Plumbing: Complete sanitary and rain water drainage systems with septic tank and disposal field and dry wells. All plumbing fixtures and recirculating hot water system. Pressure tank system for water supply to be connected to driven well. Heating and Ventilating: Two cast iron boilers, low pressure steam automatic #6 oil firing. Pneumatic individual temperature controls throughout. Auditorium, cafeteria and locker rooms have unit ventilators. Unit heaters in corridors and shop. All other areas direct radiation fin pipe and convectors. All piping insulated. Mechanical ventilators throughout.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENERAL CONTRACT</td>
<td>$343,043.00</td>
<td>68.7</td>
<td>$7.23</td>
<td>$.49</td>
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<td>PLUMBING &amp; HEATING</td>
<td>115,990.00</td>
<td>23.2</td>
<td>2.45</td>
<td>.166</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>40,500.00</td>
<td>8.1</td>
<td>.85</td>
<td>.058</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$499,533.00</td>
<td>100.0</td>
<td>$10.53</td>
<td>$.714</td>
</tr>
</tbody>
</table>


The above cost includes all normal building trades, hardware, lighting fixtures, casework, septic tank and disposal field, electric service, rainwater drainage, site and highway drainage, rough grading and rough preparation of roads and parking areas.

The above cost does not include finish grading, seeding, road and parking area surfacing, driven well, gymnasium folding partition, bleachers, lockers, laboratory tables, or other moveable equipment.

Hudson & Ingram, A.I.A., Architects & Engineers - Hanover, N. H.
WINSTON P. TITUS, LAKEPORT, N. H.
GENERAL CONTRACTOR
NORTHERN
HEATING & PLUMBING CO., INC.
Plumbing and Heating Contractor
at
MEREDITH CO-OP SCHOOL
Meredith, N. H.
Serving Northern New Hampshire in Domestic,
Commercial and Industrial Installations
17-21 Water St. Laconia, N. H.
Tel. Laconia 706
STOKERS OIL BURNERS

M. J. MURPHY
& SONS, INC.
(Established 1921)
BARRETT and JOHNS MANVILLE
BONDED ROOFERS

Roofing Contractor
For
Meredith Co-op School - Meredith, N. H.
Rumney Elementary School - Rumney, N. H.
Canterbury Elem. School - Canterbury, N. H.
Addition To St. John's School - Laconia, N. H.
12 Portland Ave. DOVER Tel. 169
502 Islington St. PORTSMOUTH Tel. 3590

WINSTON P. TITUS
GENERAL CONTRACTOR
Specializing in Modern Industrial
and Commercial Construction
Tel. 897
Lakeport, N. H.
GENERAL CONTRACTOR
MEREDITH CO-OP SCHOOL
Meredith, N. H.
“Costs and Trends System”

By the following method used in the “Costs and Trends System,” developed by F. W. Dodge Corporation, volumes and area were determined for the projects included in this issue of the New Hampshire Architect.

AREA — The area of each floor (including unfinished basement but excluding partially excavated areas, crawl spaces, etc.) is taken from exterior face of wall to exterior face of wall. All covered areas such as walkways, porches, etc., are taken as 1/2 area while overhangs are taken as 1/3 area.

CUBAGE — Height is measured (on a flat roof building) from the underside of the lowest slab in contact with the ground to the top of the roof deck. On pitched-roof buildings the same method is followed except that the highest point is at midway between roof ridge and wall plate or heel of the truss. Chimneys, dormers and similar projections are ignored. Unless parapet walls exceed 4 feet in height above roof deck and foundation walls exceed 3 feet in depth below lowest floor slab they are ignored. Where they exceed these figures the actual cube of the additional wall is added to total cubage. Garages and unfinished basements are taken as full cube while all covered areas such as walkways, porches, etc., are taken as 1/2 cube.

COST — Excluded from above, and listed separately if given, are all architectural and engineering fees, cost of land, paving, walks, landscaping, caissons, piling and other special foundation costs, movable furnishings and equipment.
IN SCHOOLS, THEY CALL IT
"CHIL/PROOF" PLEXTONE
and no wonder! This new multicolored paint is stain-mar-grease-scratch-chip resistant!

PLEXTONE CAN BE HAD IN
500 COLOR COMBINATIONS

Never before a paint for school interiors like amaiinp. rugged Color-flecked PLEXTONE. It's revolutionary...two or three different colors (sprayed at ONE time from ONE gun WITHOUT SPRAY DUST) which form a multicolored, textured pattern. SCHOOL AUTHORITIES find this new multicolored decorator finish easy on the budget. It resists wear, soil and rambunctious youngsters. SCHOOL ARCHITECTS find that PLEXTONE's uniform coverage on different types of low-cost surface materials gives them new styling resources...and new design possibilities because of its high light reflectivity and durability. PAINTING CONTRACTORS say PLEXTONE goes on easier, WITHOUT SPRAY DUST, makes possible neater, cleaner jobs. And MAINTENANCE MEN find it unmatched for ease and low cost of upkeep.

SO RUGGED! Color-flecked PLEXTONE resists staining by crayon, ink, candy, grease, and other forms of soil. Its harder, thicker paint film cannot easily be scraped or scratched. It can be washed, scrubbed, scoured—even sandpapered—without marring. And touch-ups, if ever needed, defy detection!

SO PRACTICAL! Imagine! This amazing new paint gives you a color-flecked surface consisting of two or three different colors, sprayed from one gun at one time in one coat without spray dust! And PLEXTONE's textured surface has unmatched hiding power...cleans quickly and easily!

SO BEAUTIFUL! You've never seen a more unusual, more dramatic, more beautiful effect. PLEXTONE's multicolor finish matches the most skilled spatter-dash painting...in subtle tones-on-tone or a brilliant circus of colors.

CHILDREN'S HAND PRINTS ARE NO PROBLEM ON PLEXTONE SURFACES. COLOR-FLECKED PLEXTONE TENDS TO HIDE THEM. IF WASHED AWAY THE SURFACE COLOR IS NOT CHANGED.

PLEXTONE Can Be Applied On Cement, Cement Block, Wood, Steel, Cinder Block, Glass, Plaster or any other Building Material Surface Without Exception.

DISTRIBUTED BY

ROYAL
Paints

Office and Warehouse 55 Nelson St.
Manchester, N. H. Tel. NA 2-5262
NEW YORK — Dollar volume of con­struction contract awards in 1957 will set
a new record 7 percent above this year's
total, according to estimates released by
F. W. Dodge Corporation, construction
news and marketing specialists.

In its annual outlook for the construc­
tion industry, the Dodge organization said
that physical volume of construction would
not rise as rapidly as the dollar volume,
because of rising construction costs.

Contracts for total building in the 37
eastern states next year are estimated at
$20,393,000,000, the highest in history
and 6 percent above the estimate for 1956.
Physical volume, as measured by floor
area, may be up only one percent, but
again this will be the highest level in
history, according to the statement.

Contracts for total construction, which
includes heavy engineering as well as
residential and non-residential building,
are estimated at $26,783,000,000, or 7 per­
cent above the 1956 total. No comparable
floor area figure is reported, since floor
area is not a measure for such major
engineering projects as highways and
dams.

The residential outlook is for a small
increase in the number of new non-farm
dwelling units started, to about 1,125,000
units, according to the outlook statement.
This would be reflected in a six percent
increase in dollar volume, due to rising
costs, and no increase in total floor area,
because of the likelihood of a slightly
smaller average house next year.

The outlook statement, prepared by
Dodge vice chairman Thomas S. Holden
in collaboration with other Dodge staff
members, says that "In 1957 there may be
some relaxation of financial brakes, but
financial authorities will again be alert to
the possibility of runaway trends; there
will likely be further expansion progress,
with moderately increased construction
volume, but no rapid overall acceleration.
The estimates in the tables assume a
nominal increase in physical volume of
building with a somewhat larger percent­
age increase in dollar volume of building
contracts, the latter based on an expecta­
tion of rising construction costs. For
heavy engineering projects substantial
increases in physical volume also accom­
panied by rising costs are anticipated in
the indicated overall rise of 10 percent
over 1956 levels.

"In the general group under the non­
residential building heading, moderate de­
clines in physical volume of commercial
buildings and manufacturing buildings are
estimated. Both of these classes of build­
ing operations ran to very high totals in
1955 and 1956; their dollar totals may
very well increase a little in 1957.

"Hospitals and institutions are expected
to run about as in 1956, as far as physical
volume is concerned. The other non-resi­
dential building classifications (educa­
tional and science buildings, public build­
ings, religious buildings, social and recrea­
tional projects, and miscellaneous non­
residential buildings) are expected to show
moderate increases.
TABLE 1: ESTIMATED DOLLAR VOLUMES OF BUILDING AND ENGINEERING PROJECTS

(in accordance with contract records for 37 eastern states; figures in millions of dollars)

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>YEAR 1956 ESTIMATE</th>
<th>YEAR 1957 ESTIMATE</th>
<th>PERCENTAGE CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonresidential</td>
<td>9075</td>
<td>9576</td>
<td>+ 6</td>
</tr>
<tr>
<td>Residential</td>
<td>10205</td>
<td>10817</td>
<td>+ 6</td>
</tr>
<tr>
<td>Total Building</td>
<td>19280</td>
<td>20393</td>
<td>+ 6</td>
</tr>
<tr>
<td>Public Works and Utilities</td>
<td>5809</td>
<td>6390</td>
<td>+ 10</td>
</tr>
<tr>
<td>Total Construction</td>
<td>25089</td>
<td>26783</td>
<td>+ 7</td>
</tr>
</tbody>
</table>

PRIVATE OWNERSHIP

|                  | 17061              | 17945              | + 5               |

PUBLIC OWNERSHIP

|                  | 8028               | 8838               | + 10              |

TABLE 2: ESTIMATED PHYSICAL VOLUME OF BUILDING

(in accordance with contract records for 37 eastern states; figures in millions of sq ft)

<table>
<thead>
<tr>
<th>BUILDING CLASSIFICATION</th>
<th>YEAR 1956 ESTIMATE</th>
<th>YEAR 1957 ESTIMATE</th>
<th>PERCENTAGE CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>167</td>
<td>160</td>
<td>- 4</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>148</td>
<td>145</td>
<td>- 2</td>
</tr>
<tr>
<td>Educational and Science</td>
<td>157</td>
<td>165</td>
<td>+ 5</td>
</tr>
<tr>
<td>Hospitals and Institutions</td>
<td>25</td>
<td>25</td>
<td>+ 0</td>
</tr>
<tr>
<td>Public</td>
<td>19</td>
<td>20</td>
<td>+ 5</td>
</tr>
<tr>
<td>Religious</td>
<td>40</td>
<td>44</td>
<td>+ 10</td>
</tr>
<tr>
<td>Social and Recreational</td>
<td>22</td>
<td>24</td>
<td>+ 9</td>
</tr>
<tr>
<td>Miscellaneous Nonresidential</td>
<td>61</td>
<td>65</td>
<td>+ 7</td>
</tr>
<tr>
<td>Total Nonresidential</td>
<td>639</td>
<td>648</td>
<td>+ 1</td>
</tr>
<tr>
<td>Residential</td>
<td>986</td>
<td>986</td>
<td>+ 0</td>
</tr>
<tr>
<td>Total Building</td>
<td>1625</td>
<td>1634</td>
<td>+ 1</td>
</tr>
</tbody>
</table>

New Non-farm Dwelling Unit Starts (BLS Basis)

|                  | 1,100,000          | 1,125,000          | + 2               |

*Nine months actual, last three months estimated.  †Percentages rounded to nearest whole number.
New Boston Elementary School - New Boston

DESCRIPTION:
Footings and foundation walls reinforced concrete; exterior walls brick veneer with cinder block backup, load bearing walls; roof framing, open web steel joist with precast roofdeck and 20 year bonded roof; floor concrete slab, cover asphalt tile; interior partitions cinder block; ceiling, acoustical plaster; interior door frames steel; windows aluminum; lighting, classrooms fluorescent fixtures, remainder of building incandescent; heating two zone circulating hot water; ventilation, mechanical classrooms and toilet rooms.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$44,775.00</td>
<td>76.5</td>
<td>$ 7.74</td>
<td>$.605</td>
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<tr>
<td>PLUMB., HEAT., VENT.</td>
<td>10,800.00</td>
<td>18.4</td>
<td>1.86</td>
<td>.145</td>
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<tr>
<td>ELECTRICAL</td>
<td>3,000.00</td>
<td>5.1</td>
<td>.52</td>
<td>.04</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$58,575.00</td>
<td>100.0</td>
<td>$10.12</td>
<td>$.79</td>
</tr>
</tbody>
</table>


Alexander J. Majeski, A.I.A., Architect - Bedford, N. H.

SPRAGUE BROS., INC., NASHUA, N. H.
GENERAL CONTRACTORS
FRANCIS P. CONNOR & SON, INC.

Plastering Contractor

FOR

New Boston Elementary School

NEW BOSTON, N. H.

12 Euclid Ave. Dial TU 3-8106
NASHUA, N. H.

ERNEST E. NICHOLS

2 Sheridan St. Tel. TU 3-791
NASHUA, N. H.

Plumbing - Heating
Sprinkler Installation
Industrial Maintenance
Oil Burner Sales and Service

Plumbing and Heating Contractor

for

New Boston Elementary School
New Boston, N. H.

GENERAL CONTRACTOR

NEW BOSTON ELEMENTARY SCHOOL

SPRAGUE BROTHERS, Inc.

30 CHARLOTTE AVE. TUXedo 2-2602
NASHUA, N. H.
Alterations and Additions to
Newfields Grade School Building – Newfields

CONSTRUCTION:
Exterior walls—concrete block with brick facing; interior walls—concrete block painted; ceilings—acoustical tile; floors—concrete slab with asphalt tile, ceramic tile in toilet rooms; roof—20 year bonded tar and gravel roof covering, rigid insulation, roof boarding on 2" x 14" rafters; windows—wood sash, fixed and awning type; toilet stalls—metal; doors—wood with wood frames; heating—forced hot water, fin type radiation, individual room controls, new heating system for entire building; plumbing—standard grade school size fixtures; electrical—fluorescent fixtures.

Cost of constructing a boiler room around the boiler in existing building is included in this contract.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$24,641.00</td>
<td>74.1</td>
<td>$9.19</td>
<td>$.64</td>
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<tr>
<td>PLUMB., HEAT., VENT</td>
<td>5,769.00</td>
<td>17.3</td>
<td>2.14</td>
<td>.15</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>2,868.00</td>
<td>8.6</td>
<td>1.06</td>
<td>.06</td>
</tr>
<tr>
<td></td>
<td>$33,278.00</td>
<td>100.0</td>
<td>$12.39</td>
<td>$.85</td>
</tr>
<tr>
<td>COST OF HEATING FOR EXISTING BUILDING</td>
<td>$3,000.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$36,278.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 38,685 cu. ft.—FLOOR AREA: 2,690 sq. ft.—DATE OF BIDS: May, 1956—FLOOR HEIGHTS: 10’ 2”.

Edward Benton Miles, A.I.A., Architect - Exeter, N. H.
S. E. LaPERLE & SON, EXETER, N. H.
GENERAL CONTRACTORS
Plumbing and Heating
At The
New Addition To
Newfields
Elementary School
NEWFIELDS, N. H.
Installed By

C. L. Lurvey & Company
Plumbing, Heating, Ventilating and
Sprinkler Contractors
Chestnut Hill Road Tel. 1105
Rochester, N. H.

S. E. LaPERLE and SONS
General Contractors and Builders
Exeter, N. H.

General Contractor
FOR
ADDITION TO
Newfields
Elementary School

Roofing Contractor — for —
Newfields
Elementary School
Newton
Elementary School
LETOILE ROOFING CO.
38 Lancaster St. Phone 2-4031
Haverhill, Mass.

Roofing and Sheet Metal Work
of every description
School Building Problem —
(Continued from Page 8)

moving. The tops to be left in maple or covered with a more durable material. Whether they are to be equipped with doors or slides is optional with the school district.

c. The wardrobes for the elementary school are extremely controversial. This matter should be left up to the local committee and school authorities. The following methods now seem to be acceptable.

1. Steel lockers set into recesses in the corridor walls.
2. Make-shift coat racks built along corridor walls with or without a low seat for children to use in putting on rubbers and overshoes.
3. Built-in classroom wardrobes either with or without doors. These units give excellent teacher control but are usually expensive.

4. Movable wardrobes small enough to be portable but sufficiently stable so that they will not be easily tipped over. Units of this type are on the market with space for the wraps of 15 pupils. Thus, two units would be sufficient for the primary grades. A larger unit is available for the older children. Each type is provided with a tack board area or chalk board on the closed-in side. By placing these units a few feet from the wall it is possible to screen off unsightly wraps and have more working area for pupils.

d. Tables and library carts for books and magazines are needed in all the rooms. The book truck with large casters can easily be moved from room to room. This too, serves as a work counter when needed.

e. Let's not forget the teacher and her needs. A desk-high file and low book case add materially to her comfort and efficiency. A full-length mirror on one wall may be used as a teaching aid and helps pupils to take pride in their posture and appearance.

f. Other features—the lighting of corridors is always a problem. The plastic "bubble," sky lights, clerestory lighting and borrowed light all have their sup-

porters. We feel that large window areas between the classroom and corridor serve a number of purposes.

1. They are a safe and usually economical source of borrowed light.
2. Gives the building and corridor an "openness" so important in any school.
3. Serves as an excellent display area for pupils' work. The Thanksgiving story may be depicted here and removed in time for the Christmas decorations.
4. Permits visitors and the principal to see what is taking place in the classroom without disturbing the class. Both pupils and teacher get accustomed to this feature and do not mind the corridor activity.

In conclusion, I would like to indicate my appreciation of the many contributions made by New Hampshire architects toward the construction of school buildings in our state. It is only through close cooperation between school boards, teachers, and the local administrator that we can expect a plant that will be acceptable. We in the State Department feel that we also have a contribution to make. Our suggestions are primarily made during the preliminary planning stage. We realize full well the expense of doing over plans, consequently we constantly urge school boards and architects to submit their sketches early so that changes may be made during the initial stages of the planning process.
ON THE LEVEL

At B. L. MAKEPEACE you'll find the most complete stock of quality engineering instruments in New England... famous Keuffel & Esser levels, transits, tapes, drafting instruments... in fact, everything for the engineer, draftsman and artist.

SPECIALISTS IN
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INSTRUMENT REPAIR DEPARTMENT

Completely equipped and staffed with skilled craftsmen to give you prompt, efficient service in repairing and rebuilding engineering instruments of all kinds.

New England’s Largest Distributors of Drawing Materials, Art, Engineering and Architectural Supplies

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GEO. E. TRUDEL CO.
341 Elm Street
MANCHESTER, N. H.

— Wholesalers —

PLUMBING — HEATING SUPPLIES

— Distributors of —

AMERICAN-Standard

We invite you to visit our display of COLORED BATH ROOMS
Newport Junior High School - Newport

DESCRIPTION:
Foundations; Reinforced Concrete; Structural Frame; Structural Floors; Reinforcing Concrete; Floor and Roof Joists; Steel; Roof Decking; Pre-Cast Insulating Concrete Slabs and Wood; Twenty-year Bonded Roofing; Brick Exterior Wall Facing with Cinder Tile Backing; Cinder Tile Interior Partitions; Asphalt Tile Floors, Classroom Sections; Gymnasium Floors, Rock Maple; Acoustical Tile Ceilings; Steel Interior Door Frames; Aluminum Sash; Interior and Exterior Doors, Wood; Modern Paint Decorations; Complete Modern Electrical; Five (5) Zone Forced Hot Water System; Forced Ventilation. Fifty Six (56) Plumbing Fixtures.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
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<td>$6.82</td>
<td>$0.530</td>
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<td>6.5</td>
<td>.57</td>
<td>.044</td>
</tr>
<tr>
<td>HEATING &amp; VENTILATING</td>
<td>32,570.00</td>
<td>9.5</td>
<td>.84</td>
<td>.045</td>
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<tr>
<td>ELECTRICAL</td>
<td>23,390.00</td>
<td>6.9</td>
<td>.60</td>
<td>.048</td>
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<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$341,351.00</td>
<td>100.0</td>
<td>$8.83</td>
<td>$.687</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 497,275 cu. ft.—TOTAL FLOOR AREA: 38,550 sq. ft.
—CEILINGS HEIGHTS: 1st Floor 10'; 2nd Floor 10'; Gymnasium 20'.

Irving W. Hersey Associates, A.I.A., Architects - Durham, N. H.
DONALD D. SNYDER and SON, INC., GARDNER, MASS.
GENERAL CONTRACTORS

34
AL MELANSON
Company, Inc.

Roofing Contractors
for
Newport
Junior High School
NEWPORT, N. H.

Roofing
SHEET METAL - WATER PROOFING
CONTRACTORS
353 WEST ST. KEENE, N. H.
22 E. Broadway, Gardner, Mass. Tel. 651

R. L. GALLOWAY
Walpole, N. H.
Skyline 6-3783

Plumbing - Heating - Ventilating
Newport Junior High School
Heating and Ventilating
WALPOLE ELEMENTARY SCHOOL

GENERAL CONTRACTOR
NEWPORT JUNIOR HIGH SCHOOL
NEWPORT, N. H.

DONALD D. SNYDER & SON, INC.
49 Chelsea Street
GARDNER, MASSACHUSETTS
PHONE 2512
Newton Elementary School – Newton

DESCRIPTION:
Footings—concrete; foundation walls—concrete block; exterior walls—4" water struck brick, 8" cinder block back-up tile; floor—4" concrete slab on fill asphalt tile topping; interior partitions—4" cinder block; roof frame—wood trusses on 2'-0" centers; roof covering—heavy butt asphalt shingles; doors—flush type birch veneer set in steel frames; windows—steel sash; ceilings—acoustical tile; stainless steel sink in kitchen; heating—forced hot water; lighting—incandescent fixtures; plumbing fixtures—American Standard.

AREA OF BUILDING.......................... 3,460 sq. ft.
CUBE........................................... 50,750
Cost including accessories and architect's commission.......................... $45,400.00
COST PER SQ. FT.......................... $ 13.12
COST PER CU. FT.......................... $  .89
COST PER PUPIL.......................... $ 432.35

Roland S. Simonds, A.I.A., Architect - Manchester, N. H.
E. W. & P. B. CURRIER, AMESBURY, MASS.
GENERAL CONTRACTORS
ERIC ANDERSON
482 Reservoir Ave. Dial NA 5-5640
MANCHESTER, N. H.

PAINTING CONTRACTOR

NEWTON Elementary School
NEWTON, N. H.

E. W. & P. B. CURRIER
Amesbury, Mass.
TEL. 411-M

We Were

General Contractors

Newton Elementary — Newton, N. H.
Sandown Elementary — Sandown, N. H.
Kensington Elementary — Kensington, N. H.

CELOTEX ACOUSTICAL CEILINGS
B-M RADIANT HEATING and COOLING CEILINGS
INSULROCK INSULATING ACOUSTICAL ROOF DECKS
CEMESTEEL MOVABLE OFFICE PARTITIONS

BY

PITCHER and COMPANY, Inc.
67 ROGERS ST. CAMBRIDGE, MASS.
GOFFSTOWN, N. H. HYacinth 7-2376
"Interpretation of Specification"

Although we can assure our readers that none of the TSA members are going to draw up any such "specifications", we thought you would like to share with us this delightful bit of foolery. The author is Lou Aichel, toastmaster at a recent banquet of the Florida Association of Architects:

The plans and specifications are to be taken together. Anything shown on the plans and not mentioned in the specifications and not shown on the plans is to be considered as both shown and specified, and anything wanted by the architect or any of his friends or by anybody else, (except the contractor) shall be considered as shown, specified, implied and required, and shall be provided by the contractor without no expense to nobody but himself.

If the work has been done without no expense to the contractor, the work shall be taken down and done over again and again until the expense is satisfactory to the contractor.

Anything that is right on the plans is to be considered right. Anything that is wrong shall be discovered by the contractor and shall be made right without a-telling the architect or indicating it on the bills.

Anything that is forgotten or left out of the plans or the specifications but which is necessary for the convenience of the owner shall be provided without extra cost to nobody but the contractor. The architect reserves the right to change his mind about what is best.

Any evidence of satisfaction on the part of the contractor shall be considered as just cause for withholding final payment.

Texas Architect, October, 1956

---

SPAULDING BRICK CO., Inc.
NEW ENGLAND DISTRIBUTORS

All Kinds of Face and Common Brick and Facing Tile

34 Gloucester Street
BOSTON 15, MASSACHUSETTS
KENmore 6-0320
Dear Peter:

Please prepare and place an advertisement for us in the School Issue of NEW HAMPSHIRE ARCHITECT.

In this ad, be sure to express our sincere thanks and appreciation to the scores of school districts and departments for business they placed with us.

I wish space permitted to list all the fine schools throughout New Hampshire and New England where we installed fences. Here are a few you might mention:

- Lyndeboro School, Wilton
- New Ipswich School, New Ipswich
- Sherburne School, Portsmouth
- University of New Hampshire
- Keene State Teachers College
- Exeter Academy, Exeter
- Elementary Schools, Milford
- Elementary Schools, Meredith
- Supervisory Union #49, Wolfeboro
- Searles School, Windham
- Manchester School District
- Peterborough School District

As I say, we have been privileged to do the fencing for many schools in the years past. It would take too much space to list them all.

You might also mention that we are always pleased to offer free estimates, and include a notation that school officials may obtain our catalogue simply by dropping us a note.

Sincerely,

Frank J. Mafra, Jr., President
New Hampshire Fence Company

Advertising Agency Note:
The above letter tells the story.
What more need be said?
North Conway Elementary School

DESCRIPTION:
Reinforced Concrete Foundations, Reinforced Dampproof Concrete Floor Slabs, Structural Steel Frame, Precast Concrete Insulating Roof Decking, Twenty Year Bonded Roof, Lead Coated Copper Flashings, Aluminum Sash, Brick Facing with Cinder Tile Backing, Cinder Tile Interior Partitions, Acoustical Tile, Plastered and Structural Ceilings, Large Glazed Areas in Corridor, Large Display Cases in Lobby, Ceramic Tile Floors, Asphalt Tile finished Floors, Wood Stage Floor, Stainless Steel Kitchen Equipment, Steel Interior Door Frames, Modern Paint Decorations, Program Plumbing System Thirty Six (36) Fixtures, Five (5) Zone Forced Hot Water Heating System, Forced Ventilation.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
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<td>$10.86</td>
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</table>

TOTAL VOLUME: 420,350 cu. ft.—TOTAL FLOOR AREA: 21,064 sq. ft.
—FLOOR HEIGHTS: Class Room Section 10’ 0”; Activity Room 18’ 0”.

Irving W. Hersey Associates, A.I.A., Architects - Durham, N. H.
CAMILLO PROFENNO, PORTLAND, MAINE
GENERAL CONTRACTORS
ARCHITECTURAL STONE COMPANY
INCORPORATED

MANUFACTURERS OF
CAST STONE
TURNERS FALLS
MASSACHUSETTS

Tel. NA 2-3293 Established 1871

J. Hodge Company, Inc.
Sundial Avenue
Manchester, New Hampshire

MILLWORK
for

RYE ELEMENTARY SCHOOL
RUMNEY ELEMENTARY SCHOOL
NORTH CONWAY ELEMENTARY SCHOOL

CAMILLO PROFENNO COMPANY
ESTABLISHED 1905
127 MARGINAL WAY

TELEPHONE SPruce 2-1979
PORTLAND, MAINE

General Contractors
NORTH CONWAY GRADE SCHOOL

CONSOLIDATED GRADE SCHOOL
HOOD MEMORIAL JUNIOR HIGH SCHOOL
DERRY TOWN GRADE SCHOOL
ADDITION TO YORK HIGH SCHOOL
CONWAY ELEMENTARY SCHOOL

MOULTONBORO, N. H.
DERRY, N. H.
DERRY, N. H.
YORK, MAINE
CONWAY, N. H.
Elementary School for Rumney School District

DESCRIPTION:
Six class rooms, lunch room, kitchen, teachers room, library, etc.; Structure—concrete footings, concrete foundation walls to grade; concrete block exterior walls with Quickbrick facing; 8" and 4" cinder block partitions; ground floor—waterproof concrete on grade; first floor—steel bar joists, steel tex, and 2½" concrete slab; roof—steel bar joists, steel tex, and 3" vermiculite concrete slab; tar and gravel roofing; acoustical plaster ceilings; metal stairs, metal toilet partitions, metal door frames with solid birch doors; wood and glass window wall; painted block and trim interior; asbestos chalkboard; asphalt tile floor; plumbing—11 water closets, 4 urinals, 7 lavatories, 6 class room sinks, 2 drinking fountains, standard supply and septic tank with drain field; heating—oil, forced hot water, fin tube radiation, two zone system; ventilation—forced exhaust at floor and fresh intake at windows; electrical—rigid conduit concealed and exposed, flourescent fixtures.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
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<td>$89,669.00</td>
<td>100</td>
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</tbody>
</table>

TOTAL VOLUME: 112,000 cu. ft.—FLOOR AREA: 8,960 sq. ft.—FLOOR HEIGHT: 10' 6"—DATE OF BID: February 17, 1956.

HILLSBORO CONSTRUCTION COMPANY, MANCHESTER, N. H.
GENERAL CONTRACTORS
RUMNEY ELEMENTARY SCHOOL

Upon Completion....

RUMNEY ELEMENTARY SCHOOL will be Faced with

The Amazing NEW Brick Finish
Beautiful Real Brick Exteriors that Last the Life of a Building

P. H. McGRANAHAN COMPANY, INC.

Plastering Contractors for
Rumney Elementary School — Gossler Park School - Manchester
Meredith High School

555 Valley Street — Manchester, N. H. — Dial 2-9373
Rye Elementary School - Rye

CONSTRUCTION:

EXTERIOR WALLS: Concrete block faced with brick. INTERIOR WALLS: Concrete block painted. Ceramic tile dado in toilets. CEILINGS: Acoustical units, asbestos board in Boiler Room. ROOF: 20 yr. bonded tar and gravel, 1" insulation, roof boarding on 2 x 14" Douglas fir rafters, for classroom portion. 20 yr. bonded tar and gravel, 3" planking, 3" nailer supported by steel long-spans over Multi-Purpose Room. FLOORS: Reinforced concrete slab on grade with asphalt tile flooring, plastic tile in Kitchen, ceramic tile in toilets. WINDOWS: Structural wood, classroom portion. Steel sash in Multi-Purpose Room. HEATING: Two pipe forced hot water system. PLUMBING: Standard Grade School size. ELECTRICAL FIXTURES: Incandescent.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
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<td>$239,015.00</td>
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TOTAL VOLUME: 396,140 cu. ft.—FLOOR AREA: 23,196 sq. ft.—DATE OF BIDS: October, 1955—FLOOR HEIGHTS: 10' 8" to 11' 8", 19' 0" to bottom of trusses in Multi-Purpose Room.

ALFRED T. GRANGER Associates, A.I.A.  
Architects and Engineers - Hanover, N. H.

SWANBURG CONSTRUCTION CORP., MANCHESTER, N. H.  
GENERAL CONTRACTOR
FINISH HARDWARE
- For Every Building Need -

At
DENISON, INC.
80 STATE ST.
MONTPELIER, VERMONT

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- BUTTS
- CLOSERS
- LOCKSETS
- PANIC BOLTS
- AS MANUFACTURED
- BY
- RIXSON
- STANLEY
- RUSSELL & ERWIN
- AND OTHERS

Painting Contractor
at
Rye Elementary School
RYE, N. H.

INTERIOR & EXTERIOR
Painting

Paper Hanging & Decorating
Mural Work & Color Styling
Floor Sanding & Refinishing
Canvas Ceilings Installed
Industrial & Commercial Spray Painting

Herbert W. Paul
Res. Bedford GR 2-5484
173 Douglas Street
Manchester DIAL NA 3-6525

FRANCOEUR - GILL CO., INC.

Plumbing Heating
Contractors

CLAREMONT JR. HIGH SCHOOL - CLAREMONT, N. H.
RYE ELEMENTARY SCHOOL - - - - RYE, N. H.
RUMNEY ELEMENTARY SCHOOL - - RUMNEY, N. H.
ADDITION ST. JOHN'S SCHOOL - - LACONIA, N. H.
- ALSO -
SEABROOK ELEMENTARY SCHOOL - SEABROOK, N. H.
ADDITION PENACOOK HIGH SCHOOL - PENACOOK, N. H.

Some Of Our Other Installations Are As Follows:
HEATING PLANT - N. H. STATE PRISON — PLUMBING & HEATING - Y. M. C. A. BUILDING,
LACONIA — PLUMBING & HEATING - ADDITION TO KINGSBURY & DAVIS MACHINE CO.,
CONTOOCOOK — PLUMBING & HEATING - ARTHUR NIGHSWANDER RESIDENCE, GILFORD —
PLUMBING & HEATING AT LACONIA STATE SCHOOL ON THE MCLANE, FLOYD, KEYES,
AND BAKER BUILDINGS.

241 UNION AVE.
TELEPHONE 1090
Sidewalk Superintendents Help in Construction of St. John’s School at Laconia

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GEORGE C. BENJAMIN

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DIAL 2-2273
MANCHESTER, N. H.
The Color Coordinator System

The Color Coordinator System is a positive system of color selection, specification and duplication in Paints. It consists of 497 colors, selected to provide maximum coverage of all color possibilities. This vast array of colors is arranged in handy chart form for quick matching, selection and creation of color harmonies. It is also available in actually painted 3" x 5" removable samples. Martin-Senour maintains a library of these color samples. Orders for individual color samples are promptly handled.

MARTIN-SENOUR Nu-Hue Colors

To tint the colors in the Coordinator System requires a minimum of elements—only 16 basic tinting colors are needed. Never more than three colors are used, and they are always combined in equal parts! The name of each color is its mixing formula too—easy to specify—easy for the contractor to achieve. Famous Nu-Hue Liquid Tinting Colors combined with Nu-Hue whites deliver the desired color in finest quality paint!

Distributed by:

SEAMANS SUPPLY CO. Manchester, N. H.
DESCRIPTION:
Because of site conditions a two story structure including a gymnasium with classrooms above was selected. Work in the existing building included a new oil fired boiler, an incinerator, remodeling the former coal storage to provide locker and shower rooms; and furnishing individual heating controls in each existing classroom.
Concrete foundations; steel frame; ground floor concrete; first floor concrete poured on lightweight acoustical and sound deadening precast slab which forms ceiling of gymnasium; roof precast insulating slab; tar and gravel roofing; extruded aluminum coping; steel stairs; exterior walls face brick and painted cinder concrete block; interior partitions painted cinder concrete block; flooring asphalt tile except ceramic tile in locker rooms, shower rooms, toilets, and wood on stage; tile dado in showers; safety cushion dado on walls of gymnasium; in gymnasium one long court and two cross courts; floor sleeves for net supports; steel sash; metal doors and frames; acoustical tile ceilings in corridor and classrooms; drinking fountain and lavatory with hot and cold water in each classroom; cloth window shades; metal toilet partitions; chair and table storage under stage; stage to be used for special classes; activity bench with shelves under and two movable wardrobe units in each classroom; heating by steam; unit ventilators, finned type radiation, and mechanical exhaust for gymnasium and classrooms; incandescent lighting in gymnasium and fluorescent lighting in classrooms; new electric entrance for convent, school, church and rectory.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft</th>
<th>Cost Per Cu. Ft</th>
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Costs include work in existing building.

TOTAL VOLUME: 220,448 cu. ft.—FLOOR AREA: 12,914 sq. ft.—Volume and area do not include any in existing building—DATE OF BIDS: November 22, 1955.

Norman P. Randlett, A.I.A., Architect — Laconia, N. H.

ARMAND ROUX, INC., LACONIA, N. H.
GENERAL CONTRACTOR

48
MILLWORK
for
Addition To
St. John’s School
LACONIA, N. H.
by
BOULIA-GORRELL
LUMBER CO.
176 Fair St.
Lacconia, N. H.
Phone: Lacconia 827

Lumber & Hardware
for
HOME and INDUSTRIAL USE

SERVING CENTRAL
NEW HAMPSHIRE
with
REDI-MIX CONCRETE
- Structural Concrete
- Light Weight Structural Concrete
- Insulating Concrete
- High Quality
- Dependable Service

Laconia, N. H. Phone: 2270

Armand Roux Construction Co.
INCORPORATED
LACONIA, N. H.

GENERAL CONTRACTOR
ADDITION TO
ST. JOHN’S ELEMENTARY SCHOOL
LACONIA, NEW HAMPSHIRE
DESCRIPTION:
Concrete footings, concrete block walls below grade, cinder concrete blocks and roman brick veneer exterior walls; cinder concrete blocks painted interior walls; roof, wood joists sheathing and insulation with built up roofing; windows, glass block and wood sash; asphalt tile floors; tile wainscot in corridors and toilets and tile floors; acoustical tile ceilings; fluorescent lighting; two oil fired steam boilers with Herman-Nelson “Draft-Stop” unit ventilators for heating.

ITEM

<table>
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<tr>
<th></th>
<th>Cost</th>
<th>% of Total Cost</th>
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</table>


John R. Holbrook, A.I.A., Architect - Keene, N. H.

J. J. VIETTE and SONS, KEENE, N. H.
GENERAL CONTRACTOR
THE
LOYAL APPLIANCE CO.
Alpine 4-9511
BRATTLEBORO, VT.

Electrical Contractors
FOR
Swanzey
Elementary School
SWANZEY, N. H.

Plumbing and Heating
— for —
SWANZEY ELEMENTARY SCHOOL
Swanzey, N. H.
SYMONDS ELEMENTARY SCHOOL
Keene, N. H.

RIVERS and HENRY
O. A. Rivers R. H. Henry
KEENE N. H.
Rear 97 Main St. Tel. 2044

SWANZEY ELEMENTARY SCHOOL
Swanzey, N. H.

BY
JAMES J. VIETTE and SONS
GENERAL CONTRACTOR
Keene, New Hampshire
28 Washington Street
KNOWLTON and STONE COMPANY
"SINCE 1866"

HARDWARE — MILL SUPPLIES
Building Materials — Paints

Keene, New Hampshire

Suppliers of the Finished Hardware on the
SWANZEY SCHOOL
Swanzey, New Hampshire

and on the
SYMONDS SCHOOL ADDITION
Keene, New Hampshire

COUTURE BROS., INC.

Painting
Dampproofing
Waterproofing
Caulking Contractors

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Turners Falls, MASS.
Telephone UNderhill 3-4346

FERGUSON COMPANY

25 HUNTINGTON AVENUE
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Distributors of All Types of Face Brick and
Glazed and Unglazed Structural Facing Tile
CHAS. W. BROWN & SONS, Inc.
Office: 10 Oak St.   Mill: Elm St.
SPRINGVALE, MAINE

We Supplied
The Millwork
For Addition To
Greenland Elementary School
GREENLAND, N. H.

Doors, Windows, Cabinet Work
and Building Supplies

CAPITOL PLUMBING & HEATING SUPPLY CO.

WHOLESALE DISTRIBUTORS FOR:
YOUNGSTOWN STEEL KITCHENS
ELJER PLUMBING FIXTURES
NATIONAL - U. S. HEATING
KOVEN BOILERS & WATER HEATERS
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BARNES & JONES TRAPS
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ELKAY STAINLESS STEEL SINKS
GOULD WATER SYSTEMS
All Other Nationally Advertised Brands

DIAL CA 4-1901 or 4-1902
Ward Ave.   Concord, New Hampshire

CAPITOL THEATRE SUPPLY CO.
28 - 30 Piedmont St.
BOSTON 16, MASS.

STAGE CURTAINS, RIGGING
AND LIGHTING

16 MM and 35 MM Projection Equipment

AUDITORIUM SEATING
DESCRIPTION:
A six classroom addition was required to relieve a crowded condition in the first three grades. The design of a corridorless addition with separate entrances for each two classrooms, each having their own toilet facilities, was considered to be the most economical use of the space required. A lobby with a teacher's room, principal office, nurse's room and janitor's storage area was made the connecting link between the new addition and the old school. The new boiler was installed in the existing boiler room.

Construction details: concrete footings, concrete block walls below grade, cinder concrete blocks and brick veneer on exterior walls; windows, glass block with wood sash and fixed wood sash with ventilating sash below; roof, wood joists insulated and built-up roofing; floors, vinyl asbestos; ceilings, acoustical tile; chalkboards, steel with aluminum trim; lighting, incandescent "Holophane Paradome" fixtures; heating, Herman-Nelson "Draft-Stop" unit ventilators, hot water, package unit, boiler.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
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<th>Cost Per Cu. Ft.</th>
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John R. Holbrook, A.I.A., Architect - Keene, N. H.

R. E. BEAN CONSTRUCTION CO., INC., KEENE, N. H.
GENERAL CONTRACTOR
ROOFING AT —
Symonds School, Keene, N. H.
Franklin St. School, Franklin, N. H.
Hinsdale School, Hinsdale, N. H.

Brattleboro Roofing and
Sheet Metal Co., Inc.

40 Years Experience
154 Elliot St., Brattleboro, Vt.

BARRETT ROOFING IS OUR SPECIALTY

Electrical Contractor
— for —
New Addition
SYMONDS ELEMENTARY SCHOOL
Keene, N. H.

PHILIP D. MORAN
Keene, N. H.
103 Winchester St.
Tel. 1224

R. E. BEAN CONSTRUCTION CO., INC.
29 Island St.
Keene, N. H.

GENERAL CONTRACTOR
SYMONDS SCHOOL ADDITION
KEENE, N. H.

INDUSTRIAL — COMMERCIAL — RESIDENTIAL BUILDING
York Elementary School - York Village, Maine

TOTAL CONSTRUCTION COST: $99,450.
AREA: 7136 sq. ft.
COST: $13.92 @ sq. ft.

These figures include:

(1) A new heating plant in the existing school with underground piping to the new building. Plant heats both schools.

(2) A new and enlarged sewage disposal system handling both the old and new buildings.

This is a six-room school; asphalt tile on concrete slab; tar & gravel roof over wood frame; interior roof drains; cinder block walls with brick veneer; aluminum sash; fluorescent fixtures; polished wire glass in entrance door, sidelights and transom.

I feel that the success of a job depends on the combined effort, understanding, and cooperation of the Building Committee, the Architect, and the Contractors. This we had in large measure. Rather than trying to put a contemporary addition onto the 70 year old building, we felt that the new rooms should be in a separate structure with better orientation, and with existing utilities extended to it.

To minimize cubage a “butterfly” roof was used. The classrooms are only 800 sq. ft., intentionally limiting the number of pupils per room to 25. The walls between classrooms were used for roof bearings, eliminating window and door lintels.

Deciding that a minimum of maintenance was worth a more than minimum original cost, the following features were incorporated:
- Ceramic tile on toilet room floors, and on window stools. Glazed tile dados in the corridor and toilet rooms.
- Cinder blocks were stacked to minimize shrinkage cracks. Acoustic tile ceilings are finished with a plastic coating.
- All utilities are sized for the addition of an a purpose room.

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