Set No._____ _____

SPECIFICATION

FOR THE

ALTERATIONS TO THE FREDERICK DOUGLASS SCHOOL

SEAFORD, DELAWARE

PORTION OF WORK

GENERAL CONSTRUCTION
PLUMBING & DRAINAGE
HEATING & VENTILATING
ELECTRICAL

OFFICE OF
E. WILLIAM MARTIN
ARCHITECTS
830 WEST STREET
WILMINGTON, DELAWARE

SPECIFICATIONS FOR

ALTERATIONS TO THE FREDERICK DOUGLAS SCHOOL

SEAFORD, DELAWARE

Commission No. 577

E. William Martin, F.A.I.A.
Architect
830 West Street
Wilmington, Delaware

Comm. 577

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INSTRUCTIONS TO BIDDERS

NOTE: These instructions apply to all contractors, sub-contractors and others submitting proposals to perform work or furnish materials or do both for this project. The INSTRUCTIONS include an outline of the work included, list of estimating drawings, wage scales and other items of importance to all bidders. All bidders are cautioned to carefully read all paragraphs.

SCOPE: The work to be performed consists of the furnishing of all materials and labor necessary to complete all of the General Construction, Plumbing and Drainage, Heating and Ventilating and Electrical work to remodel, renovate and repair certain portions of the Frederick Douglass School Building in accordance with the drawings and these specifications: Clearing, filling and levelling and paving work on the site are also included.

The drawings and specifications divide the work into three sections:

1. General Construction
2. Plumbing, Drainage, Heating & Ventilating
3. Electrical Work

Bidders on any section of the work must carefully examine the drawings and specifications for all sections of the work and include in the bid the cost of all work of their kind required to produce a complete installation regardless of where such work is shown or indicated.

It is the intention that all work be awarded under a single contract.

PROPOSALS: Submit proposals in quadruplicate on the letter-head of the firm or individual submitting the proposal in the exact form as given in Section A PROPOSAL FORM of these specifications. For endorsement of proposals and time and place of delivery see ADVERTISEMENT FOR BIDS. State all amounts in both writing and figures. Write all signatures in longhand.

Fill in amount for each and every Alternative Estimate, as the Owner reserves the right to let a Contract based on the inclusion of any one or more such Alternative Estimates. Include in the amount of each Alternative Estimate the cost of any and all modifications made necessary by the use of such Alternative Estimate.

Include in the Proposal a sufficient amount to cover the cost of any and all work called for in the Bulletins or other instructions issued during the bidding period. Such work shall automatically become a part of the Contract.

At the time and place given in the ADVERTISEMENT FOR BIDS proposals will be publicly opened and read aloud. No responsibility may be attached to any person or persons for the premature opening of any proposal not properly endorsed.

NAMES OF SUBCONTRACTORS: As required by 3647, Section 57, Chapter 90 of the Revised Code of Delaware, fill out in complete detail where called for in the Proposal Form the names and addresses of all Subcontractors who are to perform work and labor, or furnish materials or both. NAME ONLY ONE SUBCONTRACTOR FOR EACH ITEM.

No bid will be considered unless the names and addresses of the Subcontractors are included. The performance of the work and furnishing of materials must be let to the Subcontractors named unless the successful bidder can establish to the satisfaction of the Owner, in good faith, that the Subcontractor in question whose name is listed in the Proposal Form has defaulted in the performance of the part or parts of the work covered by his (its or their) Subcontract, or is no longer engaged in such business. No such substitution may be made unless authorized by the Owner in writing.

The Bidder's name must not be used for any Subcontract unless such bidder has customarily performed such specialty work by artisans regularly employed by such bidder in his (its or their) organization, and is recognized in the trade as a bona fide Subcontractor in such specialty work.

Each Contract will contain the list of Subcontractors named in the Proposal and a provision for withholding from, or requiring the payment by the Contractor of the penalty stated below for failure to utilize any or all Subcontractors set forth in the bidder's proposal. Any sums so withheld from or paid by the Contractor may be remitted or refunded in whole or in part, by the Owner but only if it is established to the satisfaction of the Owner, in good faith, that the Subcontractor in question has defaulted or is no longer engaged in such business.

The provisions of this section do not prohibit the Owner from making changes in the work or in materials and/or equipment to be used which may involve changes in subcontractors or in material and/or equipment suppliers. Any such changes must be made at the direction of and with the written approval of the Owner.

PENALTY FOR FAILURE TO USE SUBCONTRACTORS NAMED IN PROPOSALS:
An amount determined by the Owner, up to, but not in excess of, twenty-five per cent (25%) of the said Subcontract price for each violation.

PREFERENCE FOR DELAWARE LABOR: As required by 3644, Sec. 54, Chapter 90 of the Revised Code of Delaware, in the construction of all Public Works for a city, county, or the State, preference in employment of laborers, workmen, or mechanics shall be given to bona fide legal citizens of the State of Delaware. Persons other than such citizens may be employed only when citizens of the State of Delaware are not available.

Each Contract shall contain a stipulation that any person, company, or corporation who violates the provisions of Sec. 54 shall pay a penalty to the State Treasurer equal to the amount of compensation paid to any person in violation of that article.

Lists of names and residences of employees shall be furnished on demand as required by 3645, Sec. 55.

STATUS OF PROPOSALS: The Proposals submitted by the Bidders shall be binding for a period of thirty (30) days from the opening of the bids.

NOTE: The Owner reserves the right to reject any or all proposals and to waive informalities such as typographical errors and similar minor technical irregularities at his discretion.

Failure by a bidder to fulfill any substantial requirement that would affect the amount of a bid or give any bidder a substantial advantage not enjoyed by the other bidders, such as naming alternative subcontractors or a subcontractor who does not conform to the requirements quoted above from the State Law or basing the proposal on a material which does not equal the material specified, or failure to give a Unit Price or a price for an Alternative, may be cause for rejecting a proposal.

SUBSTITUTIONS: These specifications establish the quality of products to be furnished as follows:

1. Naming of one or more manufacturers whose products are acceptable.

2. Reference to the standard specifications of the Federal Government, A.I.S.C., A.S.T.M., or certain manufacturers' associations covering the specific product required. Materials used in bidding must be certified by the applicable bureau prior to the date of bid.

Bids must be based strictly on products meeting one of the above qualifications.

The Architect will pass on the acceptability of additional products if request for approval is received in writing not less than six working days prior to the date for receipt of bids. Approvals by the Architect will be issued as addenda to the specifications. The Architect will attempt to act promptly on such requests to enable the Owner to take full advantage of economies possible through substitutions.

In quoting on the basis of an approved substitute product, be sure that the proposal includes any modifications in the work of other trades made necessary by the substitution. After signing the Contract no extras will be allowed on the grounds that such modifications were not foreseen.

Only products approved prior to the receipt of bids, and as furnished by subcontractors and material suppliers listed in the proposal submitted by the successful bidder, may be used in prosecution of the work except where changes are authorized by written approval of the Owner.

LOW BIDDER: That Bidder whose BaseBid combined with the Alternatives the Owner decides to accept produces the lowest Net Bid.

BID GUARANTEE: No bid will be considered unless accompanied by a certified check upon a solvent bank or Trust Company in the amount of ten per cent (10%) of the Base Bid plus the total amount of all additive alternative estimates, or a bid bond in like amount, drawn to the order of the Owner. All certified checks, except those of the three low bidders will be returned to the persons submitting them within ten days after the opening of the bids. After the award of the Contract the remaining checks of unsuccessful bidders will be returned within three days. Unless specifically requested by the Bidder, bid bonds will not be returned.

Should a successful bidder, on being notified in writing by the Owner, fail to execute a Contract and furnish a satisfactory bond within ten (10) days from such date, the award of the Contract may be rescinded and the certified check or bid bond become liable up to the full amount, or to cover the difference in the proposal, awarded as aforesaid, and the amount of the Contract which the Owner may be obliged to award to another because of the omission or refusal of the successful bidder to execute the Contract as aforesaid awarded; but if the successful bidder shall execute the Contract and bond as aforesaid, the certified check will be returned to him.

Should no Contract be awarded to any bidder, all checks will be returned to the person or persons depositing them within ten (10) days from the said decision by the Owner.

CONTRACT BOND: Simultaneously with delivery of the executed contracts, the successful bidder must deliver to the Owner executed Performance Bonds in the amount of one hundred per cent (100%) of the accepted bid as security for the faithful performance of the contract, and executed Labor and Materialmen's Bond in the amount of one hundred per cent (100%) of the accepted bid as security for the payment of all persons performing labor and furnishing materials in connection therewith, prepared in the form of Performance Bond and Labor and Materialmen's Bond, having as surety thereon such Surety Company or Companies as are acceptable on Bonds given to the United States Government, and approved by the Owner, and as are authorized to transact business in the State of Delaware.

These bonds shall be conditioned that the Contractor shall well and truly pay to all and every person furnishing material or performing labor or both in and about said contracts all and every sum of money due them for all such labor and materials. The bonds shall also be conditioned that the Contractor shall well and faithfully pay all daily labor employed by them for these Contracts in full once each week and all federal, state and local taxes and assessments resulting from performance of these Contracts.

CONTRACT DOCUMENTS: The complete drawings and specifications listed in the INSTRUCTIONS, together with all addenda, bulletins, etc., issued before the receipt of bids, shall be accepted by parties submitting proposals and must be signed by the parties to the Contract and Bond for the execution of the work herein contemplated and required. The Contract documents shall be identified by the Architect's seal.

The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all.

For convenience, the specifications have been separated under divisions for different trades; but such arrangement does not relieve the Contractor for General Construction or the Subcontractors for the Mechanical Work from providing all labor and materials necessary to complete the work, irrespective of the division under which such material or labor is specified.

CONSULTING PLANS AND SPECIFICATIONS: For the convenience and use of intending Bidders one set of plans and specifications will be loaned by the Architect to Contractors bidding directly to the Owner upon receipt of a deposit of $35;00 which will be refunded upon return of the plans and specifications in good condition. Contractors who take plans and specifications but do not submit estimates will be refunded the deposit less the cost of reproduction.

Subcontractors and Material Suppliers may obtain sets of plans and specifications, and Prime Contractors may obtain additional sets, upon payment of deposit which, upon return of such sets in good condition, will be refunded to them less the cost of reproduction.

Because all trades must be coordinated, no sets of drawings only, specifications only, or partial sets of drawings will be loaned.

The Owner reserves the right to recall plans and specifications at any time before or after the bids are received, in which case all plans and specifications must be immediately returned to the Architect.

INTERPRETATION OF DRAWINGS AND SPECIFICATIONS: Should any bidder be in doubt as to the intention and meaning of drawings or specifications he may make inquiry to the Architect. The answer will be communicated to all bidders in a Bulletin. Questions received less than 4 working days before the day bids are due will not be considered. Verbal answers will not be given.

EXAMINATION OF SITE, DRAWINGS, ETC.: Before submitting proposals, Bidders shall fully inform themselves of the nature of the work by personal examination of the site, the drawings and specifications, and by such other means as they may prefer or consider necessary, as to matters, conditions and considerations bearing on or in any way affecting the preparation of their proposal and the Contract. They shall not at any time after submission of the proposal dispute or complain of such drawings or the specifications and the General Conditions, nor assert that there is any misunderstanding in regard to the location, extent or nature of the work to be performed.

Each Contractor and Subcontractor will be required to furnish all labor and material of his own kind, shown, indicated or reasonably implied by any drawings or the specifications, unless specifically noted otherwise. For his interests, each Subcontractor should carefully examine all drawings and all parts of the specifications as well as those which refer primarily to his own branch or branches of the work.

DEFINITION OF TERMS: Wherever used in these drawings or specifications, the terms are defined as follows:

Owner: Seaford Special School District, Seaford, Delaware.

Architect: Office of E. William Martin, Architects, Inc.
830 West Street
Wilmington, Delaware

Inspector: The Inspector employed by the Owner or the Delaware School Auxiliary Association to act as a Clerk-of-the-Works in the Owner's interest.

Contractor: The individual, partnership, or corporation engaged by the Owner to perform the work specified herein.

Subcontractor: An individual, partnership, or corporation that has a direct contract with Contractor and that furnishes material worked to a special design according to the plans and specifications of this work, but not one that merely furnishes material not so worked.

Note: The Owner, Architect, Contractor, and Subcontractors are treated throughout the Contract Documents as if each were of the singular number and masculine gender.

LIST OF DRAWINGS: Drawings issued with these specifications for estimating purposes are:

WORK OF CONTRACTOR FOR GENERAL CONSTRUCTION: The Contractor for General Construction must assume general charge of the site and the building until completion and acceptance of the entire work. He shall assume "Surveying and Laying Out", "Dimensions, Levels, Etc.", "Protection of Work and Property" and "Items of Temporary Utility", except those portions of WATER FOR CONSTRUCTION and ELECTRICITY FOR CONSTRUCTION as are specifically designated in "Items of Temporary Utility" as work of the Subcontractor for Plumbing or the Subcontractor for Electrical Work.

The Contractor for General Construction shall also be responsible for providing all necessary chases in the required locations and securing all the information he needs from contractors requiring such chases.

INSURANCE: The Fire, Windstorm, and Extended Coverage Insurance specified under the General Conditions is to be carried by the Contractor for General Construction in the names of the Owner and the Contractor for General Construction.

MINIMUM WAGES: The following are minimum rates of wages for laborers and mechanics employed on the work under these contracts and such laborers and mechanics shall be paid not less than such minimum ware or wages:

SCHEDULE OF MINIMUM WAGES:

Asbestos Workers	$3.25
Foreman	3.50
Boilermakers	3.00
Foreman	3.50
Asst. Foreman	3.25
Boilermakers-Helpers	2.75
Bricklayers	3.37½
Foreman	3.62½
Common Labor	1.37½
Plaster Tenders	1.62½
Scaffold Builders	1.62½
Mason Tenders	1.62½
Sewer Pipe Layers and Caulkers	1.62½
Pneumatic Tools	1.62½
Motor Buggy Operators	1.62½
Carpenters	2.50
Foreman	2.85
Wharf Builders and Pile Drivers	3.10
Foreman	3.47½
Leaders Rate	3.25

Cement Masons	$2.82½
Foreman	3.07½
Electrical Workers	3.15
General Foreman	3.65
Sub-Foreman	3.40
Engineers	
Steel and Stone Erection	3.62½
Dock Builders and Pile Drivers	3.50
Back Hoes	3.50
Draglines	3.50
Keystones	3.50
Shovels	3.50
Trench Shovels	3.50
Trench Machines	3.50
Cranes, pavers 21E and over	3.50
Derricks	3.50
Cableways	3.50
Building Hoists (single and double drum)	3.25
Scrapers	3.12½
Tournapulls	3.12½
Caterpillar type tractors w/front and overhead loaders	3.10
Bulldozer & Tractors, incl. rubber tire type w/front, etc.	2.87½
Tugger Machines	3.10
Conveyors	3.10
Concrete Breaking Machines	3.10
Spreaders	3.10
High or low pressure boilers	3.10
All other equipment not mentioned	3.10
Concrete Pumps	3.10
Rollers	2.97½
Fireman	2.52½
Welding Machines	2.90
Well Point Pumps	2.77½
Compressors	2.77½
Pumps	2.77½
Maintenance Engineers	2.77½
Oilers and Apprentice Engineers	2.10
Glaziers	2.77
Iron Workers	
General Foreman	3.93
Foreman	3.68
Journeyman	3.33
Machinery Movers and Riggers - General Foreman	3.55
Foreman	3.30
Journeyman	2.94
Lathers, Wood and Metal	3.12½
Foreman	3.37½
Marble, Tile & Terrazzo Workers	2.87½
Foreman	3.12½
Helpers	1.77½
Painters - Journeyman's Rate	2.60
Structural Steel	2.77½
Plasterers - Journeyman's Rate	3.12½

Foremen are to receive $2.00 more per day than Journeyman

Plumbers - Journeyman's Rate	$3.00
Foreman	3.25
Roofers - Composition	2.82½
Foreman	3.07½
Roofers - Slate and Tile	3.24½
Foreman	3.34½
Roofers - Helpers	2.13
Sheet Metal Workers - Journeyman's Rate	3.02½
Foreman	3.27½
Steamfitters - Journeyman's Rate	3.00
Foreman	3.25
Stone Masons	2.87½
Foreman	3.12½
Teamsters	1.75

PENALTY FOR FAILURE TO PAY MINIMUM WAGE: If the Contractor fails to pay wages at least equal to those in the foregoing list he shall be penalized an amount equal to three times the difference between the minimum wage stated in the foregoing list and the wage actually paid to each laborer or mechanic for each day during which he had been employed at a wage less than that prescribed in the above list.

TIME OF COMPLETION: Refer to this heading in the GENERAL CONDITIONS. Work shall progress so as to insure completion

SCHEDULE OF LIQUIDATED DAMAGES: The Contractor shall pay to the Owner by way of liquidated and ascertained damages, and not as penalty, the sum of Sixty Dollars ($60.00) per day for each and every day, Sundays and holidays excepted, on which there is a delay beyond the date named for completion, to compensate the Owner for loss sustained by reason of inability to complete the contract; and such sums shall be deducted from any moneys which may be due or become due thereon.

GENERAL CONDITIONS

a. STANDARD FORM A-2:
These General Conditions consist of the Standard Form A-2 of the American Institute of Architects for Construction of Buildings with certain modifications and additions as follow herewith. Form A-2 is bound in this specifications at the end of this section.

b. SPECIAL NOTE: Mention anywhere in these specifications or indication on the drawings of articles, materials, operations or methods requires that the Contractor provide each item mentioned or indicated, of quality or subject to qualifications noted; perform each operation prescribed, according to conditions stated; and provide therefor all necessary labor, equipment and incidentals.

c. Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

d. The INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS of the Contract, and the SPECIAL NOTE shall apply to the Prime Contract and to each subcontract and to all persons supplying any materials or labor entering into this project directly or indirectly.

EXECUTION, CORRELATION, AND INTENT OF DOCUMENTS: The Contractors and Subcontractors shall abide by and comply with the true intent of the drawings and specifications and not take advantage of any unintentional error or omission, but shall fully complete every part as to the true intent and meaning of the drawings and specifications, as decided by the Architect, and as described hereinafter. In all cases of doubt as to the true meaning the decisions of the Architect shall be final and binding.

Should contradictions be found the Architect shall determine whether to follow the drawings or the specifications.

Explanatory notes shall take precedence over conflicting drawnout indications. Large-scale drawings shall take precedence over small-scale drawings. Figured dimensions shall take precedence over scale measurements.

In all cases the details and drawings shall be checked with existing conditions and with work in place, and variations, if any, shall be referred to the Architect for adjustment, as the Contractor will be held responsible for the fit of work in place.

When a profile, section or other finished condition is shown, furring or other method of obtaining such finished condition shall be provided.

DUPLICATION OF DETAIL: The drawings may show work fully drawn out or only a portion thereof, the remainder being in outline. The drawn-out portion must be understood as applying to other, like or similar places.

COPIES FURNISHED: The Architect will furnish to the Contractor, free of charge, necessary copies of working drawings and specifications, and three copies of all detail drawings. Additional copies required will be billed to the Contractor at the cost of reproduction.

ARCHAEOLOGICAL EVIDENCE: If any archaeological evidence is encountered, the Contractor shall suspend work at once in the immediate area and notify the authorities of the State Museum, allowing them a reasonable time to examine the area and insure the proper removal of the archaeological evidence.

MEASUREMENTS: Before ordering any material or doing any work the Contractor or his Subcontractors shall verify all measurements on the drawings and at the building, and shall be responsible for their correctness. No extra charge or compensation will be allowed because of differences between actual dimensions and measurements indicated on the drawings. Any differences which may be found shall be submitted to the Architect for decision before proceeding with the work.

PERMITS AND REGULATIONS: The General Contractor shall procure the Building Permit as issued by the Building Inspector, and all other permits, licenses and easements for temporary and permanent structures or permanent changes in existing facilities (except temporary permits and inspection certificates for Plumbing, Heating & Ventilating, and Electrical Work) required for the use of the streets, sidewalks, hoisting apparatus and any other permits necessary for the construction work, and pay any charges required for them.

The Building Permit shall include the Plumbing & Drainage, Heating & Ventilating, and Electrical Work as well as the General Construction.

PAYMENTS TO THE CONTRACTOR - BUDGET: Immediately after the Contract is signed the Contractor shall furnish the Architect a budget covering all the estimated costs of the work upon which his proposal was based.

CONTRACTOR'S MONTHLY STATEMENT: This shall be made out in quintuplicate and forwarded to the Architect not later than the seventh day of each month. It must be itemized by trades, and indicate clearly the proportion of completion of each Subcontract. Accompany statement with bills from all Subcontractors, Material Men, etc., for previous month showing that the material and labor represented were furnished for this particular job. Bills will be returned when payment is made.

RECEIPTED BILLS of Contractor, Subcontractors and Material Men for the previous payment must accompany each set of monthly

bills. No payment will be made until these receipted bills have been received by the Architect.

CERTIFICATES OF PAYMENT: When the Contractor has made application as specified above the Architect shall, not later than seven days after receipt of the Contractor's requisition, issue a certificate for such amount as he decides to be properly due, or state in writing his reasons for withholding a certificate. The certificate shall in no case exceed 90% of the estimated value of labor and materials incorporated into the building or suitably stored at the site as represented by the Contractor's Monthly Statement. The 10% retainage on each Monthly Statement shall accumulate until the completion of the work and FINAL PAYMENT.

The certificate shall be forwarded promptly through the proper channels to the State Treasurer who shall pay the Contractor not later than fourteen days after the Architect has issued the certificate.

The intent of this Article is to assure payments to Contractors within twenty-one days of receipt of the Contractor's requisition by the Architect, unless the amount of the requisition is questioned, and within fourteen days after the amount of the requisition has been agreed upon.

FINAL PAYMENT, including the 10% retainage, shall be made within thirty days after substantial completion of the work, provided the work is then fully completed and the Contract fully performed and provided that the Contractor has submitted evidence satisfactory to the Architect that all payrolls, material bills, and other indebtedness connected with the work have been paid and has furnished the Owner with the RELEASE OF LIENS and AFFIDAVIT called for below or the Bond in lieu thereof, and all Guarantees and Certificates of Inspection called for.

The Owner reserves the right to retain payments or parts thereof for his protection until all the foregoing conditions have been complied with, defective work corrected and all unsatisfactory conditions remedied.

If after the work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and the Architect so certifies, the Owner shall upon certificate of the Architect, and without terminating the Contract make payment of the balance due for that portion of the work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

PUBLIC LIABILITY AND AUTOMOTIVE PUBLIC LIABILITY INSURANCE: Each Prime Contractor shall, at his expense, carry insurance of minimum limits as follows: (a) Public Liability Bodily Injury $100,000/$200,000 (b) Public Liability Property Damage $10,000/$25,000, (c) Automotive Public Liability Bodily Injury

$100,000/$200,000, and Automotive Public Liability Property Damage $10,000.

CONTINGENT LIABILITY: The above policies for Public Liability and Property Damage must be so written as to include Protective Public Liability, Bodily Injury and Property Damage Insurance to protect the Contractor against claims arising from the operations of Subcontractors.

OWNER'S LIABILITY INSURANCE: The Contractor shall maintain in the Owner's name and pay for such insurance for damages as will protect the Owner from his contingent liability to others for damages because of bodily injury, including death, which may arise from operations under this Contract, and any other liability for damages which the Contractor is required to insure under any provision of this Contract. This insurance shall be for the same amounts as specified above for Public Liability Insurance.

INSURANCE, FIRE AND WINDSTORM: Article 29, Form A2, is hereby superseded. The present insurance on the building shall be endorsed to protect the interest of the contractors during the period of construction as well as the interests of the Owner. The cost of this endorsement shall be paid by the Contractor. The Contractor shall also carry in the name of the Owner such additional Builder's Risk Automatic Coverage Fire and Windstorm Insurance as may be necessary to bring the total amount of insurance up to the sum of the present amount for which the building is insured and the amount ofthe contract price for the alterations and additions, and shall include the value of all materials delivered on the premises and the labor performed in repair and rebuilding, excluding the value of underground distribution systems and foundations or footings in place below ground or lowest floor. It should be clearly arranged and understood by all parties that the endorsed present insurance and additional Builder's Automatic Risk Coverage, by protecting the Owner, protects also his own contract interest and furthermore his liability for the property of others; for example, subcontractors while on the premises accessory to work on the building. The Contractor shall furnish a binder agreement from the approved insurance company, which agreement shall automatically protect the assured against direct loss or damage assumed above as the value of the risk increases, pending the issuance of policy or endorsement thereto, for the entire life of the contract. The Contractor having ordered insurance shall pay the premiums promptly. At the completion of the contract all matters relating to insurance shall pass into the hands of the Owner and shall be subject to Owner's approval.

GUARANTEE: The Contractor shall guarantee all materials and workmanship against original defects, or against injury from proper and usual wear when used for the purpose intended for one year after the completion of the work and its acceptance by the Owner.

Defects appearing during the period of guarantee shall be made good by the Contractor at his expense upon the demand of the Owner, it being required that all work shall be in perfect condition when the period of guarantee shall have elapsed.

In addition to the general building guarantee there are other guarantees required for certain items for different periods of time than one year as above, which periods are particularly stated in those parts of the specifications referring to the guarantees. The said guarantees shall commence and take effect on the date of the Architect's final certificate. All guarantees must be submitted in duplicate.

DELAWARE LAWS: All Delaware State Laws in reference to building construction shall be as binding as though quoted in full herein and their applicable provisions shall be fully adhered to by all parties affected hereby.

SHOP DRAWINGS: The Contractor to submit with such promptness as to cause no delay in his own work or in that of any other Contractor, all shop or setting drawings and schedules required for the work of the various trades, and the Architect shall pass upon them with reasonable promptness, making necessary corrections. The Contractor shall make corrections required by the Architect, file with him the corrected copies and furnish as many other copies as may be needed. The number of copies required for approval and the number of copies of finally approved shop drawings are specified under the various trades.

Shop drawings prepared by Subcontractors shall be checked for accuracy and contract requirements by the General Contractor before being forwarded to the Architect. Shop drawings not so checked and NOTED will be returned to the General Contractor without being examined by the Architect.

The Architect's approval of shop drawings or schedules shall not relieve the Contractor from responsibility for deviations from drawings and specifications, unless he has in writing called the Architect's attention to such deviations at the time of submission, nor shall it relieve him from responsibility for errors of any sort in shop drawings or schedules.

Each Subcontractor shall obtain copies of the approved shop drawings of the various other Subcontractors whose work is connected with his and shall cooperate with them, providing all necessary pipe chases, the correct setting of anchors, inserts, sleeves, hangers, etc., and giving and obtaining information for the correct location and accurate fit of all parts.

ONLY DRAWINGS BEARING THE APPROVAL STAMP OF THE ARCHITECT OR HIS CONSULTING ENGINEERS SHALL BE USED FOR ORDERING MATERIALS OR FOR CONSTRUCTION.

ORDERING MATERIALS: Orders for all materials and/or equipment, specified herein or shown on the drawings, or in any way affecting the work, shall be placed within ten days of the signing of the Contract. The Architect shall be notified immediately if any materials or equipment are prohibited or restricted at that time by Government regulations, or are unobtainable, or promised delivery dates are such as to seriously impede the work. Substitute materials, if required, shall be subject to approval by the Architect.

SURVEYS, SURVEYING AND LAYING OUT: The Owner shall furnish all surveys unless otherwise specified. The Contractor shall employ a competent surveyor to lay out the work and establish all points, grades and levels that may be necessary to locate the work. He shall agree to assume all responsibility for any errors that may be caused by the surveyor, including all incorrect bench marks, their loss or disturbance. The surveyor shall furnish all bench marks inside the building when and where directed by the Architect.

DIMENSIONS, LEVELS, ETC.: The Contractor shall be solely responsible for all locations, dimensions, and levels; and no plea as to instructions or orders received from any source other than the information contained in the deeds, plot plan, drawings and specifications, or in written orders of the Architect, shall justify departure from the dimensions and levels shown on the drawings.

TEST OF MATERIALS, if required, will be done by an Engineer selected and paid by the Owner. The Contractor shall, without extra charge to the Owner, furnish promptly all reasonable facilities, labor and materials necessary to provide safe, convenient testing conditions.

EXAMINATION OF SURFACES: IT IS THE RESPONSIBILITY OF ANY CONTRACTOR BEFORE APPLYING HIS MATERIAL TO A SURFACE PRODUCED BY OTHERS TO EXAMINE CAREFULLY SUCH A SURFACE BEFORE PROCEEDING WITH HIS WORK. IF HE CONSIDERS THE SURFACE UNSATISFACTORY AS A BASE FOR HIS MATERIAL, HE SHALL SO NOTIFY THE ARCHITECT. UNLESS HE DOES SO, NO SUBSEQUENT CLAIM ON HIS PART AS TO THE UNSATISFACTORINESS OF THE SURFACE UPON WHICH HE IS APPLYING OR HAS APPLIED HIS MATERIAL WILL BE CONSIDERED BY THE ARCHITECT AS HAVING ANY VALIDITY.

ITEMS OF TEMPORARY UTILITY

NOTE ESPECIALLY the second, third and fourth paragraphs of Page 2-1, which apply specifically to this division.

Also note under "Work of General Contractor" contained in INSTRUCTIONS TO BIDDERS all items of work contained in this section, ITEMS OF TEMPORARY UTILITY, are the responsibility of the General Contractor except where specific reference is made herein to work to be performed by Subcontractors.

SCOPE: All items of temporary utility required by all Contractors and Subcontractors, the Architect, the Inspector, and all other persons associated with the construction of the project, and other work or items of special note hereinafter specified.

USE OF PREMISES: Confine equipment, apparatus and operations of workmen to limits of the property, and as directed by the Architect or Inspector. Do not unreasonably encumber the premises. Refer any disputes to the Architect for settlement.

Do not permit any part of the structure to be loaded with a weight that will endanger its safety.

The Contractor to enforce the Architect's instructions regarding signs, advertisements, fire and smoking. (A.I.A.)

Storage of Materials: Stack in neat piles where indicated by the Architect, and not scattered over the premises. Adequately protect from the weather and theft by storing in the Storage Shed specified below or by covering with well-anchored tarpaulins. Any material that disappears after it has been paid for must be replaced by the Contractor at his own expense.

Store all materials so as to facilitiate easy sampling, counting and identification by agents of the Owner. Keep packaged materials in original packages until their use. Remove promptly any materials condemned as not complying with the specifications.

OFFICE: Build and maintain a temporary waterproof office located, constructed, equipped and heated to the Architect's satisfaction, with a separate room at least 70 sq. ft. in area equipped with suitable accommodations for the Architect's representative and the Inspector. Provide racks for drawings, a reference table and a first-class outdoor thermometer.

Change location of office or remove entirely when so directed by the Architect or Inspector.

DRAWINGS AND SPECIFICATIONS ON THE JOB: Keep complete and up-to-date copies of the specifications and all scale, detail and shop drawings in good condition on file in the office,

accessible to the Architect and his representatives and to all Contractors or persons doing work on the Building.

TELEPHONE: Install at beginning and maintain to completion of the work. Equip with gongs or bells that can be heard at any point on the site. Permit free use for local business calls to all persons having interest in the erection of the building. Charge toll calls at the Telephone Company's scheduled rates for subscribers.

STORAGE SHED: Build and maintain, adjacent to the temporary office a storage shed or sheds with floor 12" above the earth, of sufficient capacity to store all material requiring protection from the weather. Change the location of this storage shed or remove it entirely when so ordered by the Architect or Inspector.

SIGNS: No advertising will be permitted upon any part of the building or site except that the General Contractor will be allowed one business sign of size, character, and location acceptable to the Architect.

WATCHMEN: The Contractor for General Construction is solely responsible for the safety of the building and his own tools and equipment and those of his Subcontractors, whether inside or outside of the premises. Provide watchmen service whenever necessary to protect the property until the Owner has taken over the building. The Contractor may keep everything under lock and key in lieu of providing a watchman.

TOILET ACCOMODATIONS: Toilet accomodations within the portion of the building to be remodeled may be used for construction workmen. The Contractor for General Construction to keep these clean and sanitary.

WATER FOR CONSTRUCTION: Water for construction is available at the present building. The Contractor for General Construction to obtain and pay for the necessary permit from the City of Seaford. General Contractor to furnish hose or other means of conveying water from tap to point of use and assume responsibility for draining pipes when they are likely to freeze.

Keep hose, piping, and fitting tight. Maintain watertight barrels or boxes under all taps, with overflow pipes to lead water away from the building.

TEMPORARY POWER AND LIGHT: The Contractor for Electrical Work will run an electrical line to the Contractor's office and into the building to provide temporary light and power for small motors not greater than 1/2 H.P. See Electrical specifications for extent of Temporary Service. Electricity from the school service is not to be used for construction purposes. Each Contractor to provide his own extension cords, sockets, lamps, etc. Gasoline torches are not permitted.

Contractor for General Construction to pay for all current consumed.

TEMPORARY ENCLOSURES: Provide barricades, with doors, to close off portion of building being remodelled from rest of school. Where necessary to protect building, provide temporary enclosures over window openings, etc. Cooperate fully with school authorities in providing safe access to portions of the building required for school purposes.

TEMPORARY HEAT: When directed by the Architect provide temporary heat for all parts of the building for all trades as required.

The Contractor for General Construction to furnish temporary heat as needed during the progress of the job until revision of the permanent heating system is completed. Use adequately vented oil-burning salamanders and pay for all fuel and attendance. Take effective precautions to prevent any damage from smoke to building or contents.

Permanent heat from the boiler room will be furnished by the Owner.

Protection of Heating System: After it is once started all precautions must be taken to prevent freezing or any other damage to any part of the heating system. The Contractor for General Construction shall be responsible for keeping the building adequately enclosed and all doors and other openings kept closed. Damage caused by failure to keep building properly enclosed shall be made good by the Contractor for General Construction without expense to the Owner.

PUMPING AND BAILING: Do all pumping and bailing necessary to keep the excavations, pits, etc., and all enclosed parts of the building, free from water from any source and in a safe condition until completion of the Contract. Furnish, maintain, and operate hand or power pumps or other appliances necessary for the protection of the construction.

USE OF BUILDING DURING CONSTRUCTION: When any rooms are used as shops, store room, etc., the Contractor making such use of these spaces will be held responsible for any repairs, patching or cleaning made necessary by such use, and shall leave them in perfect condition to the satisfaction of the Architect.

Paint Room: The General Contractor to set aside certain space in the building to be used as a paint shop which is large enough for the storage of millwork as well as paint. Keep properly enclosed, and heated whenever, in the opinion of the Architect, the weather conditions necessitate. Confine paint stock to the paint room, except material in immediate use.

SCAFFOLDING, GUARDS, ETC.,: The Contractor to be responsible for the safe construction and the maintenance of all scaffold-

ing, ladders, etc., and see that his Subcontractors provide all board and wire mesh guards and enclosures as required by laws and ordinances.

Keep public ways unobstructed. Where construction operations introduce barriers or hazards to the public, provide adequate fences and barricades and maintain sufficient lights or guards to prevent danger at any time of day or night, and provide enclosures as required to prevent unauthorized entry of public on premises.

PROTECTIVE BOARDING, ETC.: Protect work incorporated in the building by adequate boxing, boarding, paper, sawdust, burlap, or other approved method when and wherever such work risks breakage, soiling or other damage by reason of construction operations or weather.

REMOVAL OF RUBBISH - CLEANING UP: Remove promptly from floors, roofs, yards, and sidewalks all rubbish resulting from any work by the Contractor and his Subcontractors, and all snow and ice that will damage materials or work in place or interfere with the construction. Should the Contractor neglect or refuse to remove rubbish promptly the Owner may have it removed and charge the cost to the several contractors as the Architect shall determine to be just.

At the completion of the work remove all rubbish, all tools, scaffolding and surplus materials and leave the entire building and premises "broom clean" unless more exactly specified under specific trades.

GLASS BREAKAGE AND CLEANING: The Contractor shall replace without expense to the Owner all glass broken during the construction of the building. At completion of the work clean all glass in remodelled portion of the building.

EXCAVATION & GRADING

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: All excavation, grading, etc. required to complete the building remodelling as shown on the drawings and specified herein. Note that "Clearing of the Site" and "Grading, Filling and Asphaltic Paving" are to be accomplished as alternative estimates. Storm sewer work required on the premises will be accomplished by the State Highway Department. Also see Section 5, "DEMOLITION".

EXAMINATION OF SITE: Refer to this heading in "INSTRUCTIONS TO BIDDERS". No claims will be allowed for extra labor, materials, or equipment required, or for difficulties encountered, which could have been foreseen by a thorough examination of the site.

EXCAVATIONS: Where new footings, foundation walls, paved areas, etc. are required, excavate to sizes and elevations as indicated. Dig footing bottoms by hand just prior to placing of concrete. For fill made necessary by careless excavation for footings, etc. use 1500# concrete provided by the Contractor at no cost to the Owner.

ARCHAEOLOGICAL EVIDENCE: Refer to this heading in the GENERAL CONDITIONS.

CARE OF PIPES AND CONDUIT: Support, shore up and protect any water, sewer, gas, and other piping, or electrical, telephone and telegraph wires and conduits encountered in this work. Immediately notify the proper officials, persons or corporations owning them to take such additional measures as they deem necessary. Remove any that are in the way of new construction.

BACKFILLING: After inspection of foundation walls, backfill all space around foundation walls using only clean material free from rock, dust, and rubbish, particularly wood scraps. In the interest of termite prevention this requirement must be strictly observed. Place backfill in 6" layers well rammed by mechanical tampers and wetted. If clay is used, tamp dry and do not wet.

CLEANING OF CRAWL SPACES: After existing floors are removed completely clean out all crawl spaces, removing unnecessary piers, walls, supports, etc. and levelling the entire area. Remove earth as necessary to a uniform minimum clear headroom under beams or joist of 3'-0". At completion of the work, crawl space to be well levelled and free of all debris, building materials, etc. Remove all debris from the site. Place all excess fill where directed on the site.

GRADING: Around new exterior walls grade to meet existing levels. Place all excess fill where directed on the site.

DEMOLITION

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: This section is inserted for the purpose of clarifying the nature of certain portions of the work to be performed. The information given herein does not constitute a complete summary of all such work to be performed, nor is it intended to establish "DEMOLITION" as a separate sub-division of the work. All trades and divisions of the work are referred to this section for information affecting their portion of the work.

GENERAL DESCRIPTION: In describing work to be done these specifications make use of the term "Original Building". This refers to that portion of the present building which was constructed prior to 1950. In addition to the "Original Building" there are recent additions:

1. Gymnasium wing and first classroom addition to the south.

2. Second classroom addition to the south.

EXTERIOR WALLS: All exterior brick walls of the Original Building are to be completely repaired, reconditioned, and repointed. Some changes to the exterior walls are required in connection with the window change.

WINDOWS: A complete change of windows in the Original Building is to be made. Completely remove all existing wood sash, frames, trim, blocking, etc. to prepare for new glass block panels and aluminum vent sash. All salvagable items including glass, weights, etc. become the property of the Contractor and salvage value of this material is to be incorporated in the Contract sum.

WOOD CORNICE AND PARAPET: The wood cornice and parapet of the Original Building is to be removed completely as shown on the details in preparation for the new facia treatment. All resulting wood and other materials become the property of the Contractor. Salvaged wood is not to be reused in the new work except that sound boards may be used for grounds if approved by the Architect.

ROOF: The roof structure and sheathing is to be rearranged as necessary to eliminate high points and slopes which will not conform to the new eave conditions. Remove roofing and sheathing only where necessary.

FLOORS: In preparation for the new concrete joists and concrete slab construction, remove all existing flooring and floor construction in the "Original Building" except the new concrete slab in the Home Economics Room and adjacent corridor, the boiler room floor and a portion of the shop floor supported on concrete joists.

Finished wood floors are to be taken up with reasonable care, cleaned of nails and stacked where directed as the property of the School Building Commission. Reuse sheathing and flooring in relaying shop floor. All other materials resulting from removal of the floors and supports become the property of the Contractor. Salvage value of such material to be incorporated in the contract sum.

INTERIOR WALLS: In general all existing plaster work on walls of the Original Building is to be removed in preparation for new interior finishes of glazed tile and plaster. Where revisions of interior wall locations are shown, existing work is to be taken out as necessary to make proper provisions for the new arrangement. Interior doors, frames, trim, woodwork, framing and other items resulting from these removals become the property of the Contractor. Salvage value of such material to be incorporated in the contract sum.

CEILINGS: Removal of existing plaster ceilings is to be limited to the requirements for making proper preparations for new partitions, etc., and to areas of ceilings where the plaster is loose from its backing. In general the existing ceilings are to remain and be covered by a metal suspension system and acoustical tile.

MASONRY MATERIALS

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

GENERAL: All materials shall be of the type best suited for their particular use and shall conform to the latest A.S.T.M. Specifications and the following conditions:

WATER: Water for concrete, mortar and grout shall be clean and free from organic materials, strong acids or alkalis, oils, or salt.

CEMENT - Portland: Use only one brand thoughout the job. High early strength cement is acceptable upon approval of the Architect. See "Central Mix Concrete " in CONCRETE AND CEMENT WORK.

Cement for Mortar for Cut Stone: White, nonstaining waterproof portland cement or stainless slag cement.

Mason's Cement: Equal to Medusa "Stoneset" for cut stone and cast stone; "Brikset" for all other masonry.

Packing and Storing: Deliver all cement packed in strong unbroken sacks plainly marked with the brand, the name of the manufacturer and the place of manufacture. Contractor must store cement in a waterproof shed with wood floor raised off the ground.

LIME: Mason's Hydrated Lime equal to Warner's Limoid or Red Top Quicklime. Ordinary hydrated lime will not be accepted.

SAND: Clean, coarse, hard, natural sand, free from salt, loam, clay, and other foreign materials; washed, if necessary, to obtain this condition. Grading shall conform to the latest A.S.T.M. Standard Specifications for the use intended.

Sand for Face brickwork must produce a mortar color acceptable to the Architect. Do not order the main bulk of this sand until the mortar samples specified uner MASONRY have been approved.

COARSE AGGREGATE: Washed, graded gravel or crushed stone having clean, hard, strong, durable, uncoated particles. Deleterious materials shall not exceed quantities specified by the latest A.S.T.M. Standard Designation. Coarse aggregate shall range in size from fine to coarse as follows:

Passing 2" screen	100%	Passing 1½" screen	100%
Passing 1½" screen	50-80%	Passing 3/4" screen	45-75%
Passing 3/4" screen	14-45%	Passing 1/2" screen	14-45%
Passing 1/4" screen	0-2%	Passing 1/4" screen	0-2%

For concrete in foundations, footings and walls 12" or more in thickness and slabs 6" or more and mass concrete, use commercial 1½". Slabs under 6" to be graded 3/4" commercial.

STORAGE OF AGGREGATE: Each kind separately, off the ground, in such a manner as to prevent the intrusion of foreign matter.

REINFORCING STEEL: To conform to the current Standard Specifications of the A.S.T.M. for new billet, intermediate grade reinforcing steel. In addition, it shall be produced by the open hearth process and be capable of being bent 180° and rebent to its original shape without fracture. All bars 3/8" in diameter and over shall be deformed.

Marking: All reinforcing steel to be bundled and tagged with suitable identification marks to facilitate sorting and placing at the site.

Reinforcing Mesh: For concrete slabs supported on concrete joists reinforcing mesh to be Steel tex as manufactured by Pittsburgh Steel Products, Company of 12 ga. galv. wire spaced 3" x 4" complete with waterproof backing.

BONDING TIES to be 24 oz. corrugated copper, 9" long. To be used for securing veneer work to backing.

COMMON BRICK: First quality hard-burned, well-shaped, square edge common red brick, of good even color, free from swollen, salmon or refuse brick. Not more than 5% of bats from ordinary handling.

EXTERIOR FACE BRICK: Match brick used in present building where patching of brickwork is required. Brick of new entrance to match brick of recent addition.

CONCRETE BLOCK: Conform to the latest Standard Specifications of the A.S.T.M. for load-bearing units. Submit evidence that the block furnished meet these specifications. Blocks cracked or broken on the outside shell will not be accepted.

Curing and Protection: Cure at least 28 days before using. At site store off ground and keep covered with tarpaulins until used.

Blocks to be 4 x 8 x 16, 8 x 8 x 16, or 8 x 12 x 16. Use special blocks for corners, piers, jambs, etc. Blocks in finished walls shall be true to size and shape, without cracks, chips, spalls, splits or other defects. Exposed external corners to be rounded. Where used over glazed tile wainscot, rounded corners of concrete block to be of same radius as tile.

PRECAST CONCRETE LINTELS for openings in concrete block partitions where lintels of other types are not indicated on the drawings to be of width and thickness to match concrete blocks. Reinforce top and bottom with one 3/8" round rod for each 4" of thickness. Lintels to be free of honeycombs or burrs, with surface texture to match concrete blocks.

CONCRETE JOISTS to be LITH-I-Bar reinforced concrete joists as manufactured by Formigli Corporation, Philadelphia, or equal. Joists to be adapted for use with concrete slabs poured on combination reinforcing mesh and waterproof paper forms. Top of joists to have steel studs spaced at 12" for anchoring of slab. Reinforcing of joists to be as indicated on the drawings.

GLAZED STRUCTURAL TILE to conform to the standard specifications of the Facing Tile Institute with lustrous glaze finish. Color of glazed tile to be as selected by the Architect. Nominal size 5" x 12" and of thickness shown. Provide rounded external corners at all door openings, window reveals, and corridor angles. Chipped, crazed, blistered or off-color tile will not be accepted. Furnish smooth back tile where back face is exposed. Built-in tile to have scored backs.

Glass Block Accessories: Provide reinforcing, caulking compound, oakum, expansion strips, etc., in accordance with the manufacturer's standard details for the installation intended.

LIMESTONE for copings, belt course and where otherwise required to be of color and finish to match stone on existing building. All stone to be cut in accordance with detail on the drawings and be free of imperfections, chips, cracks or spalls.

ANCHORS FOR CUT STONE: Dowels to be 1/2" ϕ bronze 8" long, minimum of two for each coping stone. Bent anchors to be 16 ga. galv., 1-1/2" wide, 8" long. Minimum of two for each piece of stone trim.

GRANITE SILLS for doorways to be good quality, gray granite, cut to shape as detailed on the drawings, with end lugs. Front of sill to be honed surface, walking surface to be tooled.

SAMPLES REQUIRED: Samples of the following masonry materials shall be submitted to the Architect for selection and approval:

Concrete Blocks
Exterior Face Brick
Interior Glazed Tile
Sample Panels of brick work laid up on the site as directed by the Architect
Limestone

ROOF DECKS: All roof decks supported on steel joists to be U.S. Gypsum formboard and pyrofill gypsum concrete roof deck or equal applied in strict accordance with manufacturer's instructions.

Sub-purlins: These shall be special section Bulb Tees #178 as manufactured by Inland Steel Company, or equal, spaced 2'85/8" o.c. Purlins to have one good shop coat of oil base paint. Cut all purlin lengths to bear on structural support.

Forms to be 1" thick U.S.G. insulating formboard or Fiberglas Formboard as manufactured by Owmens-Corning Fiberglas Corp., or equal, tongued and grooved at cross joints.

Reinforcing: This shall be electro-welded galvanized mesh #12 ga. wires at 4" o.c. and #14 ga. cross wires at 8" o.c.

Gypsum concrete shall be U. S. G. mill-mixed pyrofill or approved equal.

VENTILATORS: These shall be aluminum adjustable foundation vents 8" x 12" type #112 as manufactured by Hohmann and Barnard, New York City, or equal complete with adjustable rear grate and aluminum insect screen.

SLEEPER ANCHORS: In Shop and Shop Storage which are to have finished wood floors, place in concrete slab galvanized sheet metal sleeper clips as furnished by Hohmann & Barnard, Inc., Conver Steel and Wire Company, or equal, spaced for sleepers 12" o.c. Clips to be at 24" centers along sleepers.

DAMAGED CUT STONE: Only stones satisfactory to the Architect shall be set in the walls. Remove damaged stones from the work and replace with perfect stones.

INCIDENTAL CUTTING, DRILLING, ETC.: The drilling and cutting of cut stones for thresholds, etc. shall be accurately executed by the Contractor, the cost thereof to be paid by the Contractors installing them.

CLEANING AND POINTING: Upon completion of setting, thoroughly clean the face of the stone. After cleaning, drench the exposed surfaces with clean water. No acid or wire brushes may be used for cleaning stone. Brush out all joints to a depth of 3/4" and point with specified pointing mortar.

CONDITION AT COMPLETION OF JOB: All stonework must be free from stains, defects, splashes of mortar or cement, or other blemishes which will spoil the finished appearance of the work.

BRICK PLATFORM AND STEPS at exterior doors where shown to be of brick pavers laid flat in basket pattern on concrete slab as shown on the drawings. At edges lay border of bricks in rowlock pattern.

SHOP DRAWINGS: Show in detail sizes and dimension of stone and other necessary details. No cutting of stone shall be done until the shop drawings have been approved by the Architect.

LAYING GLAZED STRUCTURAL TILE: All work to be plumb, level, and true, built accurately to dimensions shown with all joints in straight lines and even in width. Lay tile in running bond. Tool joints to slightly concave surface. Use special shapes where required, all external corners to be rounded. Provide bull nose cap at top of wainscot. Cutting to be by carborundum saw. Carefully examine existing conditions at the building and conditions for installation of glazed structural tile as detailed on the drawings. Where Glazed structural tile, 2" thick are to be laid as a wainscot backed by metal lath on wood studs, nail corrugated, galavanized metal anchors to each wood stud for inserting in every third mortar joint horizontally. Use galvanized nails 2" long to secure anchors. Over metal lath apply a heavy scratch coat of mortar and allow to set before laying tile. Carefully examine the drawings to establish the extent of glazed structural tile wainscots and walls to be installed in corridors, classrooms, library, shop, etc.

MASONRY

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: This section includes the furnishing of all labor, material and appliances necessary to complete all new brick work, concrete blockwork, structural tile work, cut stone work, glass block work, and all other new mason's work as shown on the drawings or specified herein; also to complete repair, rebuilding and repointing of the masonry work of the Original Building. See also Section 5 - "DEMOLITION".

COOPERATION: Do all bedding and build in all nailing blocks and strips, anchors, bolts, sleeves, etc., for all trades whose work comes in connection with masonry.

Provide all chases shown or called for on mechanical and other plans. Consult with General Contractor and mechanical Subcontractors to verify all requirements.

Fill in solidly all pockets and openings around steel, but not until it has received the number of coats of paint specified.

Thoroughly tie all anchors.

Set all loose angle lintels as furnished by Contractor for Structural Steel.

Contractor for Structural Steel will set built-up lintles.

CUTTING AND PATCHING: Refer to this heading in the GENERAL CONDITIONS.

FINAL REPAIRING: Carefully patch and repair all masonry work damaged in the course of the construction, leaving all whole and in perfect condition at the completion of the work.

MATERIALS: Refer to MASONRY MATERIALS.

MORTAR - For Masonry below Grade:

1 cu. ft. cement
3 cu. ft. sand
Lime: 15% by volume of cement

FOR SETTING CUT STONE AND FOR ALL MASONRY BACKING UP CUT STONE:

1 cu. ft. stainless portland cement
1 cu. ft. lime putty
4 cu. ft. sand
Metallic stearate type waterproofer in proportion recommended by the manufacturer.

FOR POINTING CUT STONE:

FOR POINTING CUT STONE:

1 cu. ft. stainless white portland cement
2 cu. ft. sand
Lime: Only sufficient to make as stiff a mixture as can be worked.

FOR ALL OTHER MASONRY:

1 cu. ft. cement
1 cu. ft. lime
4 cu. ft. sand

Prepared masonry mortars of high strength and low volume change, mixed to manufacturer's directions may be substituted on approval of Architect.

MORTAR SAMPLES: Lay up for Architect's approval samples of exterior brick and interior tile to select color and tooling of mortar joints. Continue making samples until Architect's approval is secured. Also make samples for pointing mortar for cut stone work.

Do not order main bulk of sand until mortar samples have been approved.

SIZE OF BRICK WORK SAMPLES: Approximately 3' x 3'.

MORTAR MIXING: Mix all mortar on the premises by actual definite measurement and use promptly. No tempering of partially set mortar nor use of mortar that has become hard, set or frozen.

Measure materials in box measure. No shovel count permitted.

Thoroughly mix the sand, cement and lime dry for at least three minutes, then add clean water from a hose with sprinkler nozzle to form a plastic workable mortar. Keep all mortar well tempered on the boards so that it will at all times contain as much water as it is able to carry.

MIXING POINTING MORTAR FOR CUT STONE AND CAST STONE: Prepare the mixture 1 to 2 hours before using, cover to retain the moisture. Do not retemper with addition of water.

LAYING - GENERAL: Build walls plumb, level, and true to line, corners square and plumb. Rest all masonry partitions on concrete slab.

Carry all walls up together and keep even all around as far as possible and brace securely during construction. Whenever necessary or where not carried up and bonded with the connecting walls, walls must be racked back, anchored and bonded together.

Construct openings for doors, windows, etc. neatly and accurately. Grout and point after windows are set.

Butter steel beams, angles, etc., with 1/2" coat of cement mortar. Build in flashing and counterflashing in cooperation with Contractor for Sheet Metal Work.

At completion of each day's work, and whenever the work is stopped on any wall, cover all tops with building or tar paper secured in place with planks.

Under ends of beams, etc., provide solid masonry bearing. Where bearing material will show in finished wall use care to use material that will match rest of wall.

BED FOR SPANDREL WATERPROOFING: On horizontal surfaces to receive spandrel waterproofing place a bed of mortar trowelled smooth to a feather edge as a drainage slope for the waterproofing.

MASONRY IN COLD WEATHER: No masonry work to be done without the Architect's permission when the temperature is below 36° Fahrenheit. Laying may be started at 36° on a rising temperature only, and must stop at 40° on a lowering temperature.

CONCRETE BLOCK WORK: All cutting with a carborundum saw. Tool exposed joints. Protect face from mortar, and clean off excess mortar before it has hardened. Use rounded edge block for external corners wherever they occur. In every third course of all concrete block walls, including concrete block backing of brickwork, place reinforcement as specified in MASONRY MATERIALS.

Clean concrete block with wire brushes, dry. All places where mortar joint has lapped over on block or where there are mortar drippings to be thoroughly rubbed down and cleaned off before painting is done.

LINTELS: Provide lintels for all openings in masonry walls. Lintels to be precast reinforced concrete or structural steel members as indicated and scheduled provided on the drawings. Where no lintel is scheduled provide one 5" x 3-1/2" x 5/16" angle per 4" of wall thickness or type as directed by the Architect.

PARGE foundation walls of concrete block on outside with 1-1/2" coat of laying mortar. At bottom carry parging in cove to edge of footing.

BRICKWORK: Except in freezing weather thoroughly wet all brick and do not allow them to dry out before they are laid. The suction of the brick to be so reduced by wetting that specimens of brick, taken from the scaffold, shall not gain more than 20 grams or 7/10 of an ounce in weight when placed in 1/8" to 1/4" of water for one minute.

Bed all brick well in a thick bed of mortar with a shallow furrow under the entire surface and lay with a "shoved" end

joint. Butter cross joints through and thoroughly fill each course full of mortar so that it will ooze out at the top of the joint.

FACE BRICKWORK: Lay from outside scaffolds, not overhand from inside. Lay face brick first then back-up. Do not carry face more than 6 courses high before backing it up. Parge on back of brick with 1/2" of laying mortar trowelled smooth to provide even surface.

Lay all face brickwork to a "Course Rod" properly spaced to the joints specified with courses indicated by a single line. Do not mark courses on window and door frames, jambs, etc. Each Mason shall use a rod laid out from the "Master Rod".

Suspended brick over main entrance to be drilled and dowelled to provide positive tie between bricks and reinforcing steel. Construct staging on which to support these brick while laying but remove after mortar is set but still workable to permit satisfactory tooling of joints.

Course brickwork as dimensioned on the drawings. New brickwork to be laid in running bond matching the work on the recent additions to the building. Tie face brick work to backing using corrugated copper anchors spaced in every sixth brick course vertically at not over 32" horizontally.

Where angles in brickwork are other than 90 degrees use special shaped brick to provide a fully bonded corner with finish face units.

Joints of exterior brickwork to be tooled with round tool.

Thoroughly clean all new face brickwork with muriatic acid and water taking extreme care to prevent staining of adjoining materials.

Any masonry stained while brickwork is being cleaned must be replaced by the Masonry Contractor without cost to the Owner.

While the brickwork is being cleaned, point walls, sills, etc.

WALL VENTILATORS: These shall be installed where shown on the drawings to ventilate crawl space.

SETTING OF CUT STONE: Before setting, clean stone on all sides by washing. Use care in setting stones to prevent bearing on edges to cause undue stress. Bed sills, etc. at the ends only. All coping stones, etc. to be secured with anchors and dowels as specified under MASONRY MATERIAL and as shown on the details.

STONE JOINTS: A uniform thickness of 3/16".

CONCRETE AND CEMENT WORK

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE OF WORK: This division includes the furnishing of all labor, materials and appliances necessary for the execution of all concrete and cement work enumerated herein or indicated on the contract drawings. Note also the "STRUCTURAL NOTES" on the drawings which apply to this work. See also Section 5 "DEMOLITION".

WORKMANSHIP: All concrete work to be done in accordance with the latest specifications of the American Concrete Institute, unless otherwise specified or shown on the drawings.

MATERIALS: As specified under MASONRY MATERIALS.

PLACING REINFORCEMENT: Metal reinforcement, before being placed must be free from rust, scale, or other coatings that will destroy or reduce the bond.

INSERTS AND ATTACHMENTS: Build into the concrete floor slab all collars, sleeves, or thimbles required for piping and wiring, anchors, sockets, or other inserts. Accurately set anchor bolts for work that is to be done with steel.

FORMS: Construct of a suitable quality of lumber to a line plumb and level, free from deflection, and sufficiently tight to prevent leakage of mortar. Forms to be soundly constructed. Remove all wood shavings, debris, etc. from bottom of forms before placing concrete.

REMOVAL OF FORMS: This shall be carried out in such a manner as to insure the complete safety of the structure. In no case remove supporting forms until the concrete has acquired sufficient strength to support safely its weight and loading.

CONCRETE DESIGN STRENGTH AND PROPORTIONS: Compressive strength of at least 2500# per sq. in. at the end of 28 days, consisting of one part portland cement, two and one-quarter parts sand, three and one-quarter parts gravel or broken stone, mixed with not more than 6-3/4 gallons of water.

UNIT MEASURE is the cubic foot; 94 lbs. of cement (one bag) being considered as one cubic foot. Method of measuring the proportions including the proportion of water to cement to be such as to give accurate control and allow easy checking at any time by the Architect. No "shovel count".

MIXING: Mix in a mechanical batch mixer until there is a uniform distribution of the materials and the mass is uniform in color and homogeneous.

CENTRAL MIX CONCRETE: The Contractor may, at his discretion, use concrete from a central mixing plant. The concrete delivered to meet all requirements of the drawings and specifications.

WEATHER CONDITIONS: No concrete pouring during rain, and any concrete which has just been poured must be protected from rain by means of canvas or other covering until the concrete has set. Under no circumstances deposit concrete that has an initial set. No concrete pouring in freezing weather without the consent of the Architect.

CURING: In hot weather thoroughly wet at least twice daily during the first week.

FOOTINGS: These may be laid without curbs or forms if the excavations are sufficiently firm to permit this. If not, curbs of plank must be used and left in place until the permanent set is not less than 48 hours old. Do not build upon footings until they have thoroughly set.

SLABS: Place concrete slab and beam construction in single pour with slabs and beams integral. Wood forms to be true, straight and tight. All reinforcing to be accurately placed as indicated on the drawings with straight, bent and hooked bars as required. Slabs to be of thickness and reinforcing as shown on the drawings.

Concrete slabs on precast concrete joists to be of thickness and reinforcing as shown on the drawings. Joists, bridging, combination reinforcing and form and all accessories to be carefully installed before concrete is placed. Concrete to be dry mixed. Bulk concrete must not be dumped between joists. Construct forms for solid concrete bridging and pour bridging with slab.

Construction joints to be located at centers of spans as directed by the Architect. At construction joint provide 1/2" rods 18" long, spaced 12" o.c. Clean laitance and all loose particles from edge of slabs before new pour is made.

CEMENT FLOORS: Top finish to be monolithic with slab. Bring top of slab to proper level established by accurately placed screeds and straight edge. Float and darby surface to bring up and remove all excess water, bubbles and laitance, making surfaces fully compact and free of irregularities. Pitch and shape floors having drains; finish neatly at walls, pipes, and columns. When the Concrete has sufficiently set finish to a smooth surface with steel trowelling; avoid excessive trowelling. Keep finished surfaces moist for minimum of one week by frequent sprinkling. After floors have hardened sufficiently cover them with strong, durable building paper and take all precautions to protect the floor from damage. Floors damaged during construction must be replaced or repaired as directed by the Architect.

CONCRETE FLOORS TO RECEIVE RESILIENT FLOORING: Deliver to Contractor for flooring broom clean and free of grease or oil and with all rough spots removed and low spots filled to the satisfaction of the flooring contractor. Top of slab to be at 1/4" below given finished floor level.

SLEEPER ANCHORS: Place in concrete slab of shop and shop storage area. Space clips for sleepers at 12" centers. Locate clips at 24" centers along sleepers.

ROOF DECKS of new lobby section to be installed complete under this section. Weld subpurlins to steel joists with 3/4" fillet welds placed on alternate sides of subpurlins. Ends of all subpurlins to be on bearing. Spacing of subpurlins 2' 8-5/8". Frame all openings 30" or less in size with subpurlins. Frame larger openings with angles and channels as approved.

Place formboards on flanges of subpurlins with all end joints bearing on supports and snugly fit. Cut formboards neatly at walls, etc.

Place reinforcing mesh over formboards with #12 ga. wires at right angles to subpurlins. Lap ends at least 6". Carry reinforcing into all areas to receive pyrofill.

Mix pyrofill in accordance with manufacturer's instructions and pour over forms to thickness of 2". Screed to an even surface to receive roofing. Installation to be complete with all cants, curbs, and grades as indicated on the drawings or required to provide a complete roof deck.

CONCRETE CURBS for drives, parking lot, etc. to be arranged as shown on the drawings and details. Construct suitable wood forms, truly aligned and well braced. Wherever possible trenches for curbs are to be dug by hand to the exact size and depth for the curb and the concrete placed directly in the trench. All trench bottoms to be evenly cut and well tamped. Reinforce curbs with two #2 rods.

CONCRETE SIDEWALKS to be located where shown on the drawings. Concrete slabs to be 4" thick, of width as indicated on the drawings. Surfaces to receive sidewalks to be stripped to good bearing and filled to a level 4" below finished grade using selected fill and thoroughly compacting. Forms to be soundly constructed and truly aligned. Work concrete well to eliminate all voids and to produce a surface free of aggregate. Screed off level and finish off walking surface with a burlap or wood trowelled finish having a good tooth. Divide off walk into four foot long sections and pour alternate sections at least 24 hours apart. Place 1/2" thick premoulded expansion joints every 20 feet and wherever sidewalks adjoin steps or building walls.

Where sidewalks adjoin paved drives, etc. make combination sidewalk and curb by thickening concrete to 8" for a width of 8" adjacent to the drive.

REPAIRING AND PATCHING: This Contractor shall repair or replace any damaged or defective work leaving the whole in a perfectly satisfactory condition upon completion. Work injured by other contractors shall be repaired by this Contractor at the expense of the Contractor causing the damage.

WATERPROOFING AND CAULKING

NOTE ESPECIALLY Paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: This division includes the furnishing of all labor, materials, and appliances necessary for the application of water-proofing and caulking as called for on the drawings or enumerated herein. Caulking for glass block work is specified elsewhere. See also Section 5 - "DEMOLITION".

MATERIALS - Oakum or Jute Fiber: Hand picked and free from moisture.

Elastic Caulking Compound: Caulking and pointing compound as manufactured by Tremco, Pecora Paint Co., and Dicks-Pontius Co., or an equal as approved by the Architect, matching mortar joints in color, nonstaining, noncorroding, and not affected by extremes of temperature, to form tough skin surface but remain plastic underneath. Gun consistency. At aluminum sash use caulking compound colored to match aluminum.

Spandrel Waterproofing: Equal to 3 oz. Rubberseal Copper, 3 oz. "Wasco" fabric flashing, or Superseal Fabric as manufactured by Minwax.

DOOR AND WINDOW FRAMES: Solidly caulk all joints between door and window frames and masonry, steel or other abutting construction. Prepare joints for caulking by cleaning out all free mortar. Where joints at head or jamb, after cleaning, are wider than 1/4", fill joint to 1/2" of surface with solidly tapped fibre and fill remaining space with caulking compound. Large spaces behind frames shall be filled with portland cement mortar prior to caulking.

AIR INTAKE AND EXHAUST GRILLES: Thoroughly caulk between grille and masonry as described above.

SPANDREL WATERPROOFING AT WINDOW SILLS: At stone window sills and where otherwise shown on the drawings place flashing in walls as detailed with mortar below and on top of flashing so that a mechanical bond is obtained.

GUARANTEE: The Contractor for Waterproofing and Caulking shall furnish a written guarantee warranting all work performed under this contract against leakage and all elastic compound against hardening, cracking or crumbling away, for a period of two years from date of Certificate of Final Payment, and binding the Contractor for this work to repair or replace, without additional cost to the Owner, any or all caulking or waterproofing which leaks or becomes otherwise defective within that period.

STRUCTURAL STEEL

NOTE ESPECIALLY Paragraphs b, c and d, Page 2-1, which apply specifically to this division.

SCOPE: The supplying of all materials, labor, and appliances necessary for the furnishing and erection of all structural steel work shown on drawings or called for herein complete with all pieces, connections, etc., to produce a finished installation.

Note especially the STRUCTURAL NOTES on the Contract Drawings, which are hereby made a part of this specification. See also Section 5 - "DEMOLITION".

SHOP DRAWINGS: See INSTRUCTIONS TO BIDDERS for number required. The Architect's approval of shop drawings will cover location of steel members in relation to walls, partitions and openings, and the general design only of details. This Contractor alone is responsible for the correctness of fit of different members.

SUBSTITUTIONS: If shapes shown cannot be furnished in time to prevent delay, substitute other shapes of equivalent strength and weight without extra cost to Owner, subject to the requirements and approval of the Architect.

MATERIALS: Structural Steel and Rivet Steel shall conform to the current requirements of the Standard Specification of the A. S. T. M.

WORKMANSHIP: Design, fabricate and erect all steel in conformance with the current requirements of the Specification for the design, fabrication and erection of structural steel for buildings and the current requirements of the Code of Standard Practice of the A.I.S.C., unless specifically noted otherwise.

CONNECTIONS: Shop connections shall be riveted. Field connections shall be bolted or riveted as indicated on the drawings. Draw up bolted connections tight and burr threads so nuts cannot come loose. Allow sufficient plain shank on bolts to avoid bearing on threads, using washers under the nuts.

BEARING PLATES AND WALL ANCHORS: Steel beams resting on walls shall be provided with bearing plates of proper size and thickness to distribute loads. Wall bearing beams shall be provided with government anchors.

HOLES FOR ANCHORS, DUCTS, AND PIPES: Anchors required in connection with work of other trades will be furnished under other divisions. This Contractor, however, will be required, as a part of his contract, to provide holes in structural steel work necessary for their installation and also for pipes and ducts where shown on contract drawings, provided correct information regarding the location of such holes is furnished not later than the date upon which framing diagrams are finally approved. All beams supporting wood framing shall be punched for ½" bolts 3' o.c. where required for bolting wood nailers.

HANDLING AND STORAGE OF MATERIALS: Handle, store, support and erect with such care that no piece will be bent, twisted or otherwise damaged.

STEEL LINTELS: This Contractor shall furnish all steel lintels, both single and built-up, for masonry openings where shown on the contract drawings or listed in schedules accompanying contract drawings. This Contractor shall set all built-up lintels. The Contractor for masonry will set loose angle lintels.

STEEL FRAMING AT WINDOWS: This shall be arranged as shown on the drawings with full provisions for joining and connecting all members. All members to be tightly fitted together to produce finished appearance for exposed steel work. Welding to be carefully done and ground perfectly smooth and flush with steel members.

STEEL JOISTS: These shall be Bethlehem, Macomber, or Ceco Open-Web Steel Joists or equal. No welds in joists to be subject to tension stresses. Steel to conform to A.S.T.M. designation A7.

Location and spacing for steel joists are indicated on the drawings.

Bearing of joists on masonry shall be not less than 4". Bearing on steel shall be as detailed. All supports shall be finished to a true level at the proper elevation.

Anchors for joists bearing on masonry shall be 3/8" round wall anchors built into wall for every third joist end. Joists bearing on steel shall be welded in place.

Bridging shall be 3/4" channels, 16 ga. run in continuous rows at approximately 6'-0" intervals or as shown on the drawings. Securely attach bridging to both top and bottom chords.

Painting shall be one good shop coat of manufacturerer's standard protective paint sprayed or dipped.

PAINTING: Thoroughly clean off all rust, loose scale, oil and dirt and give all structural steel one good shop coat of Protective Metal Primer as manufactured by Du Pont, L. Sonneborn, or Toch Bros. After erection, bare spots, rivets, bolts, etc., shall be spot primed with Metal Protective Primer and then entire installation given an overall field coat of the same primer of a different color from the shop coat. Paint shall be thoroughly worked into joints and open spaces. Parts not in contact but inaccessible after assembling shall be properly protected by paint applied before assembly. Any further painting of structural steel will be done by the Contractor for Painting.

COOPERATION WITH OTHER TRADES: This Contractor shall cooperate with other Contractors regarding all parts of his work which are in any manner related to the work of others. He will be held responsible for all damage to work of other contractors caused by installation of his work.

GYMNASIUM CEILING FRAMING: Provide and install all necessary ceiling framing for support of the new acoustical tile ceiling as shown on the drawings and details. Carefully check existing conditions and do all necessary relocating of members, drilling, etc. required to fully complete the installation. All members to be given one good shop coat of rust resisting paint. After installation is complete touch up all bare spots, bolt heads, nuts, etc. Then give ceiling and roof steel, including trusses, one complete coat of metal protective paint.

INTERIOR SLATE AND TILE

NOTE ESPECIALLY Paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: The furnishing of all materials, labor and appliances for the installation of all interior slate and tile work as shown on the drawings or specified herein. Also see section 5 "DEMOLITION".

SLATE WINDOW STOOLS: 1" thick with slightly rounded edges and returns on the underside. Thoroughly dampen each piece before setting and bed thoroughly in slater's cement. Point all joints. Stools shall project 3/4" and be set with a slope of 1/8" toward inside. All windows of the "Original Building" and new lobby to be fitted with slate stools. Carefully check conditions at the building before fabrication is started.

GLAZED CERAMIC WALL TILE: For wainscot in Toilet Rooms, etc., furnish standard grade, glazed interior, nonvitreous tile in color selected, 4¼ x 4¼" size, cushion face. Furnish rounded external corners, cove base, cap moulding and other special shapes as required.

Installation of Tile: Tile setting mortar shall be applied directly to rough masonry, or metal lath on wood studs. Notify the Architect of any defects in such surfaces and the starting of work by this Contractor shall imply his acceptance of surfaces to receive tile. Masonry surfaces shall be cleaned and moistened directly before applying scratch coat. Apply the scratch or plumb coat at least 1/4" thick to make an even and true surface at the proper distance from the face of the tiles. Before applying the mortar setting bed, moisten the scratch or plumb coat. The exact proportions of the float coat mortar to be governed by the type of the materials and conditions of the installation. Apply only in such quantity as can be covered with tile before the initial set of the mortar. Vertical units and joints, together with caps, to be maintained plumb, level, and even. All tiles to be soaked in water before setting and surfaces brought to true level planes. When set thoroughly scrub tile with clean water. Grout joints with neat cement, removing all excess grout before setting. Before final acceptance of the work, give tile an additional thorough cleaning.

CERAMIC MOSAIC FLOOR TILE: This shall be porcelain type as manufactured by American Olean Tile Co., or an approved equal, size and colors to be selected by the Architect.

Installation of Floor Tile: This shall be done over structural slab, the top surface of which is depressed 1¼" below the level of the finished floor. Lay scratch coat of mortar to level approximately 3/4" below level of finished floor. Float coat shall be adjusted to suit conditions of laying and tile manufacturer's recommendations. After setting, grout joints with white neat cement, making sure all joints are completely full. Clean off all excess grout. When set, thoroughly scrub with clean water.

GLASS BLOCK

NOTE ESPECIALLY Paragraphs b, c and d, Page 2-1, which apply specifically to this division.

SCOPE OF WORK: This division shall include the furnishing of all labor, material and appliances necessary for the execution of all glass block work enumerated herein or indicated on the contract drawings. Also see Section 5 "DEMOLITION".

GLASS BLOCK to be the standard product of Pittsburgh-Corning Co., or equal, with fibrous glass diffusing screen inserted midway in the block. Mortar bearing surfaces to be precoated with an alkali and moisture-resistant grit-bearing material, white in color. Blocks to be 7-3/4" x 7-3/4" x 3-7/8" Prism B for classroom windows.

MORTAR MIX to be composed of 1 part portland cement, 1 part lime and 4 parts sand, measured by volume. Mix to a consistency as stiff and dry as possible and still retain good working characteristics. Prepared masonry mortars of high strength and low volume change, mixed to manufacturer's directions, may be substituted on approval of Architect. Setting accelerators or anti-freeze compounds are not to be used.

REINFORCING WALL TIES to consist of two No. 9 wires spaced 2" apart to which are welded No. 14 gauage cross wires. Ties are to be 8 ft. long and not more than .20" thick at the weld. They shall be galvanized or treated with some other approved corrosion-resisting coating. Ties are to run continuously with ends lapped 6" and are to be installed in horizontal mortar joints every third course.

ASPHALT EMULSION: This shall be manufacturer's standard emulsion of a clay type suspended in water. Use without diluting.

OAKUM: This shall be a non-staining type.

CAULKING to be Tremco Caulking Compound or approved equal, non-hardening and non-staining mastic of gun grade consistency. Ram oakum between the sides of the block and the sides of the chases after the mortar has set. Ram the oakum back at least 3/8" from the finished surface. Fill the recesses thus formed at jambs and head of panels with mastic caulking compound, both inside and out, to provide tightly sealed panels.

EXPANSION STRIPS to be manufacturer's standard expansion strips made of fibrous glass or other approved materials, bonded together in strips 4-1/8" x 3/8" x 25".

LAYING GLASS BLOCK: Panels are to be of size and shape shown on the drawings. Openings for panels shall be formed as detailed and are to be built so that panels will be properly

supported against wind pressure. Before laying glass block, sills are to be coated with a heavy layer of asphalt emulsion (at least 1/32" thick) the coat being allowed to dry before laying the first mortar bed.

Install expension strips at panel jambs and heads. These strips are to run continuously and are to be so installed that the edges of the glass block panel (except at sills) do not come in direct contact with the building structure. Expansion stips may be held in place by gobs of asphalt emulsion.

Blocks shall be laid plumb, true and level with all mortar joints filled completely with mortar. Do not furrow or "feather" joints. Exposed thickness of mortar joints shall be 1/4". Do not allow mortar to lodge in expansion joints.

Wall tiles are to be installed in joints as heretofore specified, imbedding them completely in mortar.

Tool the exposed surfaces of the mortar joint to a slightly concave, smooth, non-porous surface after mortar reaches its initial set.

CLEANING: Clean all loose mortar from the panel as the mortar joints are tooled. Final cleaning shall not be done until the mortar has reached its final set.

CARPENTRY AND MILLWORK

NOTE ESPECIALLY paragraphs b, c and d, page 2-1, which apply specifically to this division.

SCOPE: This division includes the furnishing of labor and materials necessary for the execution of all rough and finished carpentry and millwork, including temporary enclosures, rough hardware and the application of finished hardware. Also see Section 5 - "DEMOLITION".

MATERIALS - Rough Lumber: All rough framing lumber to be finished four sides, grade #1 Common Douglas Fir with a fibre stress of 1200# per sq. in., well seasoned according to use. See Section 5 on use of salvage lumber for furring and grounds.

EXTERIOR FINISH LUMBER: Material for exterior finish carpentry and all exterior woodwork, except where otherwise specified, to be B and Better, vertical grain, Western Fir, thoroughly kiln dried and pressure treated with "Woodlife" wood preservative.

INTERIOR FINISH LUMBER: For Painted finish, D Select and Better Oregon Ponderosa Pine or firsts and seconds soft Yellow Poplar.

PLYWOOD: To be of thicknesses indicated on the drawings of Birch or Fir veneer as specified for use, good two sides or one side as appropriate for location, equal to specifications of Douglas Fir Plywood Ass'n. Sand edges smooth and fill rough places with plastic wood.

HANDLING AND PROTECTION OF WOODWORK: All finished woodwork to be protected from the weather while in transit from point of production or fabrication to the building. When delivered at the site place it under cover immediately and protect it from the weather. Do not store or erect finish woodwork in wet or damp portions of the building.

SIZES AND THICKNESSES OF WOOD: Sizes and thicknesses shown on contract drawings or specified in this division conform to terms of American Standard Assoc. Lumber and Moulding Rules except where contract drawings show sizes of members and profiles of mouldings at large scale or full size. In such cases contract drawings must be followed notwithstanding any trade standard rules or customs to the contrary.

ROUGH HARDWARE: Under this section, furnish and apply all rough hardware such as nails, screws, spikes, bolts, anchors, or hooks required for the proper execution of rough and finished carpentry.

FINISHED HARDWARE: Under this section, this Contractor is to apply all finishing hardware, receipt for its delivery at the building and assume full responsibility for hardware so received until application and acceptance of the work.

CARPENTRY WORKMANSHIP: In general, as far as practicable, finished carpentry is to be finished and assembled at the mill and delivered at the building ready to set in place. Coat built-in portions and concealed edges of millwork with a heavy coat of damp-resisting paint and allow to dry before putting together. Work material in best manner known to the trade; mortised, tenoned, dowelled, blocked and glued together so as to avoid use of nails as much as possible. Mouldings to be clearly cut and sharply defined; miters accurately made. Plain butt joints without an approved device for preventing separation at joint are not acceptable. Where nails and screws are necessary they are to be concealed. Unless otherwise specified all surfaces are to have a smooth machine finish. Use hand planing and sandpaper to remove any blemishes or to smooth unsatisfactory surfaces. Sand joints smooth.

Interior trim is to be in single lengths and in solid pieces. Backs of all flat finish to be hollowed out to within 1/2" of edge. Locate nails in the fillet of mouldings wherever possible. Set nails, fill over heads with plastic wood and sand smooth. Corner joints to be coped, part mitered or mitered as is best suited to reduce and conceal joint. Running joints to be bevelled. Accurately cut all joints. Sand finished surfaces to perfect alignment.

PROTECTION OF STONEWORK: Provide and install all boxing and other boarding necessary to protect stonework of sills and other projecting stonework while building is under construction.

WOOD GROUNDS: Provide wherever required to afford proper nailing of finished carpentry, etc. Grounds to be dressed to sizes required on details, bevelled so as not to come loose due to shrinkage, and secured in position in a manner absolutely rigid, straight, level, even, and plumb.

MAIN ENTRANCE to be arranged as shown on the drawings and details. Vertical and horizontal frame members to be milled from B and Better Clear Idaho White Pine in exact accordance with details and membered together in accordance with best practice. Doors to be 2-1/4" think Idaho White Pine with panels and mouldings as detailed. Protect tops of doors with a strip of aluminum bent down 1/4" along the edges and secured with aluminum nails every 2".

INTERIOR DOORS to be solid core, flush veneer doors in select birch veneer as manufactured by the Roddis Co., Mengel Co. or

Hardwood Products Co. Doors to bear the standard door guarantee of the National Door Mfgr's. Ass'n. for Grade 1 hardwood veneer doors. Sizes and designs of doors to be as indicated on the drawings. Provide glazed panels where indicated. Doors up to and including 2' - 4" width to be 1-3/8" thick; wider doors to be 1-3/4" thick.

LOUVERS FOR DOORS where required to be stationary Panelouvers, Type S-1 as manufactured by the Ventilouver Co., Inc. or an approved equal. Sizes to be as indicated. This Contractor to furnish and install complete with wood moulding.

WOOD CABINETS, CUPBOARDS, SHELVING, ETC. to be furnished under this section for all locations as shown on the drawings and detailed thereon. Finish hardware for this work is listed in the HARDWARE SCHEDULE. This Contractor to check the material listed in the HARDWARE SCHEDULE and include in this section any additional hardware items which will be required to fully complete the installation.

Construction to be as detailed on the drawings all members neatly and securely joined together and glued in accordance with best practice. All exposed surfaces and surfaces subject to hard wear to be birch or similar hardwood in solids or plywood veneers as detailed. Fir plywood of solid basswood may be used for interior members and unexposed backs. No edges of plywood to be visible. Doors to be birch veneer lumber core. In general doors under 30" long and under 5 sq. ft. to be 3/4" thick; doors over 30" long but under 10 sq. ft. to be 1-1/8" thick. All doors over 10 sq. ft. to be 1-3/8" thick as specified for INTERIOR DOORS. Leading edges of shelves of plywood to be edge stripped. All free standing cabinet units or wall hung to have sloping tops. Fronts and sides of drawers to be dovetailed together; bottoms housed into front and sides. Drawers to be supported on metal suspension slides.

Counter edge strips to be chrome plated with plastic insert sink rims to be "Hudee" Ideal Sink Rim as manufactured by Walter E. Selch & Co., Chicago, Illinois, or equal. Counter tops to be Formica in color selected. All shelves to be adjustable, supported on metal pilasters and clips. Recess pilasters into sides of cabinets or shelving uprights.

In small closets, where interior arrangement is not otherwise shown on the drawings, provide one hat shelf, metal hanging bar and six 2-prong cast coat hooks.

In the Library and Science Room certain items of equipment are designated on the plans and details with manufacturer's Catalog numbers. All items not so designated are to be millwork items.

SCIENCE ROOM EQUIPMENT where designated on the drawings by manufacturer's Catalog numbers of the Kewaunee Mfg. Co. are

to be completely prefabricated and prefinished items. Cabinets to be birch or maple in natural stain and varnish finish. Tops to be Shelstone, or equal, artificial stone. Demonstration table and work counter to be complete with all accessories and fittings for hot and cold water and electricity. Waste outlets and fittings to be lead. Provide apparatus support on demonstration table. Work of this section to include furnishing and assembling of the units and final hooking up of plumbing and electrical work. Similar products of Hamilton Mfg. Company or Wood Metal Industries are approved. Provide fillers where required to scribe cabinets tightly to walls. Wall hung units to have sloping tops.

LIBRARY EQUIPMENT where designated on the drawings by manufacturers catalog numbers of Remington Rand Library Bureau are to be completely prefabricated and prefinished units in hardwoods with natural finish. Similar products of Sjostrom Company or Myrtle Desk Company. Shelving units to have finished ends, closed base, top members, fillers and all other items required for a finished installation. Where present library furniture items are to be reused do all rearranging, refitting, repairing, etc. required to provide a complete installation, furnishing new parts if necessary. Provide metal clip label holders for face of each shelf in each section, also large size holder for each exposed end of range. All sections to be adequately braced.

BENCH in office to be as detailed on the drawings made of 5/4" birch or maple in narrow width boards tongue and grooved and glued together.

WOOD FLOOR in Shop and Shop Storage to be relaid using undamaged boards as salvaged from the work under Section 5, "DEMOLITION". Sleepers to be 2" wide and of proper height to bring finished floor to proper level. Sleepers to be #1 fir, pressure treated with "Woodlife" preservative. Secure sleepers in place by means of sleeper anchors set in concrete slab. Over sleepers install sub-floor salvaged from sub-flooring material removed under Section 5, "DEMOLITION". All boards used to be selected for soundness and uniform thickness. Lay sub-flooring in diagonal direction, cutting ends of all boards on the diagonal for bearing on sleepers.

Lay finish flooring at right angles to the sleepers, doing all nailing into the sleepers, except that all flooring boards are to be nailed not over 4" from the end. Use hand driven 7D cut nails or power driven cut nails. After laying sand floor smooth. Install wood baseboard and shoe mould.

MUSIC ROOM PLATFORM to be constructed as shown on the drawings. All materials to be new. Flooring to be 25/32 x 2¼" select maple. Nosings to be maple of size and profile as detailed. Risers to be maple. Base and show mould to be maple. After laying sand all surfaces smooth, ready for finishing.

DISPLAY CASES to be constructed as shown on the drawings. All exposed wood to be birch in solids or plywood as suitable. No exposed edges of plywood to be visible. Cover back of case with 1/4" cork in green color. Provide track for sliding glass doors and felt cushion at sides. Doors to be 1/4" unframed glass with lock. 3/8" glass shelves to have ground bevelled edges supported on metal pilasters and clips recessed into sides of case.

ACOUSTICAL TILE ceilings where required by the drawings and this specification to be not less than 3/4" thick, 12" x 12" or 12" x 24" with center score, bevelled, fissured mineral tile as manufactured by Armstrong Cork Company, U. S. Gypsum Company, National Gypsum Company, Celotex Cormpany, Simpson Company, or approved equal incombustible tile. Tile to be installed by a factory approved applicator. The drawings show the extent and nature of the required installations. Note that an acoustical tile ceiling is to be installed in the gymnasium as well as other locations.

In spaces having existing plaster ceilings, install metal suspension system immediately under the existing ceiling. Metal suspension system to be Standard System as manufactured by W. S. Haertel Company, Chicago, Illinois, Loxit System as manufactured by Loxit Company, or Z and T Spline System for concealed suspension system as manufactured by U. S. Gypsum Company. Kerf edges of tiles for use of metal suspension. Shim suspension as necessary to produce a level ceiling. Furnish all necessary parts for a complete installation. At edge of ceiling install finish channel or snap on moulding.

Where indicated by the drawings support the metal suspension system on steel joists or on runner channels, tying off securely with wire ties. Furr around all ceiling breaks as necessary, using metal corners where horizontal and vertical surfaces meet.

CHALKBOARDS of fixed type to be furnished in all rooms where indicated on the drawings. Writing surface to be Armorply, as manufactured by U. S. Plywood Corporation, or equal, attached to the walls in accordance with the manufacturer's recommendations. Chalkboards to be surrounded with 2" wide, extruded aluminum frame and extruded aluminum chalktrays as furnished by Austral Sales Corporation, or equal. Provide all necessary finishing ends, clips, etc. required for a complete installation. Top frame to have a cork tack strip and be fitted with sliding map-hooks at 2'-0" centers.

CORK BOARDS to be provided where indicated on the drawings to consist of Crest Corkboard, or equal, of color selected in 1/4" thickness mounted on 1/4" plywood backing. Secure to wall as per manufacturer's recommendations. Frames for cork boards to be 2" wide extruded aluminum as furnished by Austral Sales Corporation or equal.

DISPLAY RAILS in corridors to be type 303 as manufactured by New York Standard Book Slate Company with cork insert strip and sliding hooks, one for each two feet or less of rail. Securely attach display rail to corridor walls. Display rails are required for all corridor walls of the entire school building as indicated and noted on the drawings.

EAVES & OVERHANG to be constructed as shown on the details, framing to existing roof construction after removal of the present cornice. Carefully check all existing conditions and do all work required for a fully finished installation. Soffit of overhang to be 3/4" thick exterior grade fir plywood. Make all joints on bearing. Provide 6"x8" screened vent openings in soffit at 8'-0" centers. Screen to be 18-14 mesh aluminum.

INSULATION: Over all ceilings of the Original Building install 4" thick spun rock wool in batts with vapor barrier. Install insulation on vertical surfaces of corridor partitions as necessary to seal off the above ceiling area.

LATHING AND PLASTERING

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: This division includes the furnishing of all material, labor, and appliances necessary for the executing of all lathing and plastering herein specified or indicated on the contract drawings. Aee also Section 5, "DEMOLITION".

Temporary heat will be supplied by others. Wood grounds, furring and temporary enclosures shall be supplied by the Carpenter.

RELATIONS OF PLASTERER WITH OTHER TRADES: This Contractor shall examine the work installed by others insofar as they apply to his work and shall promptly notify the Architect in writing if any surfaces are not square, plumb, and level and if any other conditions exist that will prevent satisfactory results in furring, lathing, or plastering.

WATER FOR PLASTERING: This may be obtained at the building, but this Contractor shall provide means of conveying water to the point required.

DAMAGE TO OTHER WORK: This Contractor shall exercise special care to prevent damage to the work of any other trade by water or plaster. He shall be responsible for and shall be required to replace at his own expense, to the satisfaction of the Architect any such work damaged by him in the execution of his contract.

SCAFFOLDING FOR PLASTERING: This Contractor shall provide all necessary scaffolding, staging and similar items as required for the proper execution of his work.

MATERIALS: In general, the materials specified under this division are taken from the U. S. Gypsum Company's catalog; however, the products of other manufacturers of equal quality will be acceptable subject to the Architect's approval.

All the materials shall be delivered to the job in their original packages and must be properly stored and protected from damage. The printed instructions of the manufacturer must be carefully followed.

Metal Lath: Metal lath for plaster ceilings shall be black 3/8" rib lath weighing 3.4# per sq. yd.

Corner Beads: All external plaster angles, vertical and horizontal, to have corner beads equal to Red Top No. 4-A.

Plaster: Plaster in general shall be equal to U. S. Gypsum Company's "Red Top" plaster, neat and sanded at the job. The last or finish white coat shall be Gypsum Lime Putty Trowel finish composed of not less than one part of White Dry gauging plaster to three parts of dry hydrated finishing lime

by weight. The gauging plaster shall be U. S. Gypsum Company's or equal as approved by the Architect. The finishing hydrated lime shall be "Tiger" brand or equal as approved by the Architect.

Sand for base coats, sharp, clean, free from saline, alkaline, organic or other impurities, shall meet Standard Specifications of the A.S.T.M. and pass a six-mesh screen.

Cement Plaster to be Keene's Cement, mixed in exact accordance with manufacturer's instructions.

METAL LATH for new plaster ceilings to be installed as shown on the drawings. Metal lath for cement plaster soffit at Main Entrance to be installed to grid of 1-1/2" runner channels spaced at 4'-0" on centers and 3/4" cross-furring channels spaced at 1'-0" on centers. Suspend 1-1/2 channels from steel joists using 1" x 3/16" flats not over 4'-0" o.c. hooked over bottom member of joists and bolted to 1-1/2" channel with 3/8" bolt. Wire 3/4" channels to 1-1/2" channels using two strands of #16 galvanized wire.

Secure metal lath to 3/4" channels using two strands of #16 galvanized wire at 6" centers. Where metal lath is under plate lintel secure metal lath to lintel through holes drilled in the lintel or weld lath to lintel.

Metal lath as backing for Glazed Ceramic Wall tile and Glazed Structural facing tile is to be securely nailed to wood studs, wood furring, etc. as required.

SUSPENSION FOR ACOUSTICAL TILE in new Lobby to be by means of 1-1/2" runner channels installed by this Contractor at 4'-0" centers and hung from steel joists as specified for suspended plaster ceilings.

GYPSUM LATH: In general all new lathing for plastering of walls to be 3/8" thick rock lath as manufactured by U. S. Gypsum Company, or equal, securely nailed to wood studs or wood furring in accordance with the manufacturer's instructions. Except where the drawings state otherwise, all plaster and lath are to be removed from the walls of the Original Building and new lath installed.

METAL INTERIOR DOOR FRAMES

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: This division includes the furnishing of metal frames for interior doors where indicated on the drawings. See also Section 5, "DEMOLITION".

DOOR FRAMES: These shall be 14 gauge, formed as indicated on the drawings, and equal to the product of the Atlantic Metal Products Co., Inc., The Richmond Fireproof Door Co., or an equally approved manufacturer. Provide frames with adjustable anchors not over 2'-0" o.c. at each jamb and sill clips for anchoring to the floor. Frames to be properly mortised, reinforced, drilled and tapped for hardware from templates furnished by the hardware manufacturer. Provide cover boxes behind all hardware cut-outs. Frames to be erected plumb and true by skilled mechanics, thoroughly cleaned of rust, scale and oil, and given a shop coat of rust inhibitive paint, sprayed and baked on. It is the intent that all interior door frames be metal unless specifically indicated otherwise. Punch holes in frames for rubber silencers as specified under hardware.

HARDWARE: Under this section furnish and set all rough hardware in connection with this work and apply all finished hardware. Hinges to be rabbeted into door and frame. Finish hardware will be provided under another division and will be delivered to the Contractor at the factory. This Contractor to receipt for it and be entirely responsible for all such hardware until final acceptance of his work.

SHOP DRAWINGS: Submit shop drawings of frames for approval.

ROOFING AND SHEET METAL

NOTE ESPECIALLY Paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: This division includes the furnishing of all labor, materials and appliances necessary for the execution of all roofing and sheet metal work specified herein or indicated on the contract drawings. See also section 5 "DEMOLITION".

This contractor to do all flashing and counter flashing in connection with roofs, including metal lining and flashing of roof scuppers.

The contractor for waterproofing to do all spandrel flashing. Where vents or other piping pass through the roof they shall be flashed and counterflashed by the Plumber.

WORKMANSHIP To be in accordance with the best trade practice, by experienced workmen.

The roofing and sheet metal contractor shall arrange his work so as to cooperate at all times with the other trades and prevent delay or damage to other work.

Sheet Metal: Install copper flashing and all sheet metal work in accordance with manufacturer's recommendations as to bending, lapping, etc., to produce best results.

Be sure all surfaces to receive flashings are smooth and even, and all nail heads set.

During construction take care to prevent damage to flashings or other copper work in place by walking or placing heavy materials on them.

As soon as sheet metal work is completed and soldering done, clean the work of all injurious substances.

Toward completion, repair all work, remove all stains and debris, and leave all sheet metal work in perfect condition.

MATERIALS - Composition Roofing To be Barrett Specifications Roofs, Type "AA" or [illegible], laid in accordance with the manufacturer's specifications for use over wood decks or over pyrofill decks by a roofing contractor approved by the roofing manufacturer. The roofing contractor shall furnish a surety bond guaranty for twenty (20) years from date of completion.

Copper To be in accordance with the latest standard A.S.T.M specifications, hard or soft as best suited to the purpose intended, weighing 16 oz. per sq. ft. unless otherwise specified.

METAL EAVES: At edges of roofs where shown set V angle edge strip of 16 oz copper nailed every 3". Install 16 oz. copper gravel stop nailed every 3", turned up at least 3/4" and extended down and back under edge strip to form eave drip. At joints of eave strip provide 8" long copper cover plates formed to match eave and sealed in place.

Composition roof shall be securely flashed to metal strips strictly in accordance with the manufacturer's directions.

COMPOSITION FLASHING: Intersections of composition roof with vertical surfaces shall be flashed with 20 year bonded plastic flashing system made and bonded by the same manufacturer as the composition roofing and installed strictly in accordance with the manufacturer's directions.

COUNTER FLASHINGS: At intersections of roofs with vertical surfaces and where shown elsewhere on the drawings, install 16 oz. copper counter flashing in accordance with details shown. Counter flashing on vertical walls shall lap composition flashing not less than 6" and extend through brick veneer and up face of backing at least 2 inches. At stone copings form counter flashing to detail on drawings and set in reglet cut in stone. Secure with lead wedges 18" o. c. and fill reglet with nonstaining mastic. Flash composition roof to counter flashing in accordance with manufacturer's directions.

GUTTERS: These shall be of size called for, located where shown on drawings. They shall be half round of 16 oz. hard (cornice temper) copper supported on suitable bronze hangers. Water-tight connections shall be made at leader outlets and openings shall be covered with heavy galvanized strainers set loose in all hanging gutters. In general the existing rain water drains remain in use.

RAIN WATER CONDUCTORS: These shall be of sizes called for located where shown on drawings. They shall be round of 16 oz. hard (cornice temper) copper held in position clear of wall by suitable solid cast bronze Pipe Fasteners or approved equal. Conductors shall have elbows at bottom for deflecting water into copper splash pans set on low roofs. In general the existing rain water conductor system continues in use.

CURBS: This Contractor shall thoroughly flash all ventilator curbs with copper and cover them with three layers of felt to receive the galvanized iron fasteners installed by the Heating and Ventilating Contractor.

Nails, Rivets and Similar Fastenings to be best grade hard copper or brass, no ferrous metals being permitted.

Soldering Materials to be one-half pig lead and one-half block tin, using resin as flux. No acid flux permitted.

COMPOSITION ROOFS to be installed over area of new entrance lobby and portions of the roof of the Original Building which must be removed to permit altering the roof slopes to conform to the new eaves lines. Carefully examine the existing conditions and do all necessary work to produce a fully completed and watertight condition. Use number of plies of felt or roofing and number of moppings of pitch following the method of application as specified by the manufacturer for the 20 year bond required.

Before applying composition roofing, this Contractor shall examine the roof surfaces and advise the Contractor responsible for them of any places which need to be changed to make a surface suitable to receive the roofing materials. When once this Contractor has started his work it shall be understood that he has approved the roof deck as being satisfactory for receiving his material. Where necessary provide additional layers to assure absolutely watertight installation.

MISCELLANEOUS METAL

NOTE ESPECIALLY Paragraphs b, c, and d of Page 2-1, which apply specifically to this division.

SCOPE OF WORK: This division includes the furnishing of all labor, materials, and appliances necessary for the provision and installation of all miscellaneous metal and iron work shown on the drawings or specified herein. Also see Section 5 - "DEMOLITION".

All frames, supports, anchors, bolts, etc., that may be required to fasten all miscellaneous iron and metal work amply and securely in place shall be included in this contract. Under this section do all drilling, fitting, tapping, and cutting of his work to accommodate other work coming in connection with it, and furnish all taps, bolts and other fittings in connection therewith.

SHOP DRAWINGS to be furnished for all items of miscellaneous metal. For number of copies required refer to INSTRUCTIONS TO BIDDERS.

MATERIALS - Cast Iron: New, tough, gray metal, free from all foreign substances. All castings whole, sound, of uniform thickness, full dimensions, straight, true, free from blow holes, cold shuts and other defects.

Steel Work: Conform to the requirements specified under "STRUCTURAL STEEL".

DETAILS OF ERECTION OF MISCELLANEOUS METAL: Make connections between work included in this section and work of the other trades in a neat and workmanlike manner. Prepare well in advance and properly erect as the building is ready to receive it.

PAINTING OF FERROUS METALS: Thoroughly clean off all scale, rust, oil, etc., and give one shop coat of a first-class metal primer as manufactured by Du Pont, L. Sonneborn, or Toch Bros. In addition, apply a heavy prime coat of rust-resisting paint, approved by the Architect. Touch up abrasions in paint work after work has been set in place. Further painting will be done under the section for PAINTING. Bronze work and other nonferrous metals will not be painted.

FIRE EXTINGUISHER CABINETS to be equal to Fig. 285 Alenco Pressed Steel Fire Extinguisher Cabinet, Elkhart Type C-950, Standard Firehose Co. #101, or equal, set 2'-6" above floor. Extinguisher to be furnished under section for PLUMBING. Glass in doors to be wired glass.

STAINLESS STEEL SHELVES IN TOILET ROOMS where indicated on room finish schedule to be formed of #18 ga. 18-8 chrome nickel steel with rounded front lip and ends and back formed down. Support stainless steel at ends with suitable brackets.

LOUVERS shown and not indicated to be furnished under the section for HEATING AND VENTILATING to be of 16 ga. galvanized iron formed into frame and louvers as detailed on the drawings and secured in masonry walls by means of angles and anchors as detailed. Corners shall be welded and unit joined into watertight assembly. Cover back of louver with aluminum insect screen.

ACCESS PANELS: Include under this section six Milcor, Knapp Bros., Hohmann & Bernard, or equal, access panels size 24" x 30" for locating where directed by the Architect to provide access to closed spaces. Panels shall be obtained only as needed and credit allowed to the Owner for any panels not required.

BENCH BRACKETS for bench in office to be made of steel plates and angles as detailed, securely welded together. Attach brackets to wall by use of toggle bolts or expansion bolts as approved at the job site.

OFFICE COUNTER to consist of standard units of General Fireproofing Corp., Remington Rand Co., or Art Metal Construction Co. Bolt units together into assembly as shown on the drawings. Provide two sections of metal counter top covered with 1/8" thick linoleum in color selected and with finished metal edging. Furnish panelled metal gate with wall hanging strip and double acting pivot hardware and catch. At wall provide steel filler strips scribed neatly to the wall. Counter assembly to consist of:

1 - 36" wide storage cabinet, height and depth same as for 3 drawer file unit, with lock.

1 - standard letter width, 3 drawer filing cabinet with locks.

2 - standard letter width, 2 drawer filing cabinets with locks.

1 - gate

2 - sections counter top

Scribe strips

All items to be equal in quality to General Fireproofing Company's No. 5000 Series; finish to be baked on enamel.

PIPE RAILING for window guards in Music Room to be 1" I. D. standard iron pipe secured at the ends with suitable fittings.

STEEL TOILET COMPARTMENTS

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE OF THE WORK: This division includes the furnishing of all labor, material, and appliances necessary for the installation of new steel toilet partitions where shown on the drawings. Also see Section 5, "DEMOLITION".

STEEL TOILET COMPARTMENTS: These shall be Academy Flush Type as manufactured by the Sanymetal Products Company, Hi-Style as manufactured by Henry Weis Mfg. Company, or Pilaster Type as manufactured by Fiat Co., or equal. Partitions shall be the sizes and arrangements shown on the drawings, complete with doors, hardware, etc. Toilet Rooms #3 and #11 are to be equipped with all new toilet compartments.

ASSEMBLY OF COMPARTMENTS: All parts shall be accurately and substantially assembled with all joints and seams completely filled. Work shall be laid out and assembled to conform to the layout and details shown on the plans.

COMPARTMENT HARDWARE: All hardware shall be chrome-plated brass gravity hinges with concealed ball bearing rollers. Hinges are to be adjustable for inswinging doors to stand open when not latched. This Contractor shall furnish chrome-plated brass door stops and chrome-plated die cast pulls, slide bar latch, combination coat hook and bumper. Each compartment to be equipped with holder for folding paper.

FINISH OF COMPARTMENTS: Finish shall be baked enamel selected from standard colors of manufacturer.

ACCESSORIES: Provide for Toilet Rooms, Janitor's Closet, and Library Work Room four holders for folded paper towels and two towel disposal units complete with hinged flap openings and removable inner container. Accessories to be white enamel, baked on, equal to #1001 Lawson Torpedo receptacles.

INSTALLATION: Work shall be set in place in accordance with the manufacturer's directions and approved shop drawings. Materials included in this specification shall be left in an acceptable condition and complete to the satisfaction of the Architect.

ALUMINUM SASH

NOTE ESPECIALLY Paragraphs b, c, and d of Page 2-1, which apply specifically to this division.

SCOPE OF WORK: This division includes the furnishing and erecting, complete with all rough and finished hardware, of the aluminum windows as shown on the contract drawings. See also Section 5 "DEMOLITION". It is intended that new aluminum sash be provided for all window openings of the "Original Building".

WINDOWS: These shall be Projected Casements with ventilators as manufactured by J.S. Thorn Co., or Lupton Master Aluminum Windows as manufactured by Michael Flynn Mfg. Co., both of Philadelphia, Pa. Any other aluminum windows of which the manufacturing standards do not equal those of the above manufacturers as regards thickness of metal, method of assembling, etc., will positively not be acceptable under these specifications. Bidders shall therefore obtain the Architect's approval before submitting an estimate based on windows of other manufacturer. Sash operator devices which project into the room shall not be used.

Hardware for ventilator control shall be of die cast aluminum or white bronze. All aluminum surfaces that come in contact with masonry shall be coated with asphalt, bituminous or zinc chromate paint. These windows shall be designed for outside glazing, furnished with standard glazing strips. The entire perimeter of each sash shall be caulked withnonstaining caulking compound.

Projected casements out of reach shall have bronze, chrome-plated spring catches for pole operation.

INSTALLATION OF ALUMINUM SASH: Details on the drawings indicate installation of aluminum sash in openings of metal and masonry. This Contractor shall furnish sash properly constructed for the type of installation indicated and complete with all necessary clips, anchors and other appurtenances for proper installation.

FINISH: The exposed surface of all aluminum frames and sash shall be cleaned to make them reasonably uniform in color and free from scratches or other serious blemishes. Aluminum shall be given a colorless protective coating to prevent pitting and discoloration.

ADDITIONAL ITEMS: These shall be aluminum sheet alloy 38½ hard, .081 thick finish same as sash, of shape shown on the drawings. Where aluminum fastens to, or comes in contact with, dissimilar metal, the aluminum shall be kept from direct contact by a heavy coat of an alkali resistant, bituminous paint or zinc chromate primer made with synthetic resin. At the Contractor's option, caulking compound may be substituted for paint specified, compound to be placed to effectively break any direct contact. All necessary cover plates and trim to

be furnished to provide a complete installation. Use aluminum, Phillips Head Screws for securing cover plates etc. in place. All elements to be neatly fitted and membered together in perfect alignment.

SCREENS: Removable screens shall be furnished for all ventilating units. Screens shall be mounted to permit free operation of sash. They shall be made of cold rolled or extruded aluminum alloy frames with continous sections, notched and turned at corners. Screen cloth shall be 14-18 mesh aluminum held in place with aluminum spline. Screens shall be adapted to permit operation of projected-out ventilating sections.

RESILIENT FLOORING AND BASE

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: This division includes the furnishing of all labor, materials, and appliances necessary for the installation of asphalt tile and rubber base. See also Section 5, "DEMOLITION". The finish schedule designates the spaces to receive this material.

ASPHALT TILE - Materials: Asphalt tile and grease-proof asphalt tile to be factory waxed and conform to the requirements of Federal Specifications SS-T-306A. The tile to be 9" x 9" and 3/16" thick, selected from Color Group C, laid in approved designs with borders carried into closets and other recesses. Greaseproof tile to be provided where indicated on the room finish schedule.

LAYING: Cement sub-floors to be finished in accordance with the asphalt tile manufacturer's specifications. Tile to be laid in cement by competent mechanics, level and even, with tight joints. Uneven portions of cement sub-floors to be levelled by use of mastic underlayment, carefully applied.

The surface to receive the asphalt tile to be free from scale, rust, grease, paint, or other foreign substances.

After laying, the tile to be thoroughly cleaned and then given one coat of wax recommended by the manufacturer and applied in accordance with his directions.

RUBBER BASE: Rubber base to be 4" high, black, top set type cove base, complete with all necessary corner and end fittings. Base to be securely attached to wall by adhesive. Coat entire back of rubber base and entire section of wall to which base is to be applied.

GUARANTEES: This Contractor shall guarantee in writing that all work executed under this section of the specifications will be free from defect in material and workmanship, provided any such defect is brought to the attention of the Contractor in writing within one year after completion of the work. Upon such notice, the Contractor shall, at his own expense, make the necessary repairs or replacement of the defective work in question. The Owner shall, however, be responsible for the removal and replacement of all fixtures and equipment attached to the surface on which the work will be done.

PAINTING

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1 which apply specifically to this division.

SCOPE: This division includes the furnishing of all material, labor, and appliance necessary to complete the painting as required by the drawings and this specification. It is the intention that all of that portion identified as the "Original Building" (See Section 5, "DEMOLITION") and the new entrance lobby be completely painted or repainted, exterior and interior. Materials having a prefinished surface such as brick, glazed tile, aluminum, baked-on enamel finishes, acoustical tile, etc. are not to be painted; all other surfaces to be painted under this section.

PAINT MATERIALS: Paint materials called for in these specifications are given, for purposes of identification and to furnish a standard, the trade names of the products manufactured by E. I. du Pont de Nemours & Company, Inc., but the products of other manufacturers, approved by the Architect as being equal in quality, will be satisfactory. Linseed oil and turpentine to be pure and of the best quality.

PAINT ROOM: All painting materials, except those in immediate use, shall be kept in the Paint Room.

PAINTING WORKMANSHIP: Painting and finishing work to be done according to the best trade practice. Door and window hardware to be removed before any painting work is begun and carefully replaced when the painting is completed. Oil or grease spots to be removed before painting is begun by washing with turpentine or benzine, and any knot or sap streaks in lumber to be given a coat of resin-free shellac about 2 lb. cut. No coat of paint, varnish, or enamel to be applied until the preceding coat is thoroughly dry and hard. Exterior and interior paint work, enamels, and varnishes to be allowed to dry at least 48 hours between coats. No thinning will be allowed except as called for in the specifications.

No exterior painting to be done in rainy, damp, or frosty weather or until surface is thoroughly dry. No interior painting to be done until surfaces are thoroughly dry; no varnishing at temperature of less than 60 degrees.

RESPONSIBILITY: Examine surfaces carefully and report to the Architect any defects that would prevent a satisfactory paint job. The starting of work on any surface by this Contractor to be construed as an acceptance by him of the surface as satisfactory, and no claim for unsatisfactory results due to defects in the original surface will be allowed after work has been started on said surface.

Touch up and finish any parts of this work requiring it after other trades have finished and repair any damage to this work. The Painting Contractor shall be reimbursed for this repair work by the Contractor who caused the damage.

Any work not conforming to these specifications to be cleaned off and repainted at the expense of the Painting Contractor.

PRIMING: Immediately upon its arrival at the job prime all millwork, except exposed faces to be stained, with one coat of lead and oil.

PAINT COLORS: Paint colors will be selected by the Architect from samples prepared on the job by this Contractor. Wall color samples to be painted directly on wall surfaces. Trim color samples to be painted on pine boards 12" x 6".

FINISHES - General: All painting specified below is in addition to priming coat applied by this Contractor or any shop coat applied by others. All woodwork for Painting to receive prime coat of lead and oil prior to finish painting specified below.

EXTERIOR WOODWORK: New

First Finish Coat: Prepared paint to each gallon of which has been added one pint of turpentine

Second Finish Coat: Prepared paint as furnished in package consistency, except where conditions warrant the addition of turpentine only, not to exceed one pint to the gallon

Any existing exterior woodwork which remains in place to be brushed clean with wire brushes and given first and second finish coats as above.

INTERIOR WOODWORK: New - Interior woodwork indicated on the drawings to receive painted finish to be painted as follows:

First Finish Coat: Du Pont Ovalite Enamel Undercoat reduced with equal parts raw linseed oil and turpentine up to one pint per gallon tinted by adding finish color

Second Finish Coat: "Dulux" Color Conditioning Semi-Gloss, applied without reduction

Any existing interior woodwork which remains in place to be thoroughly cleaned and repaired as necessary, then given second finish coat as above. Any bare spots to be first touched up with undercoater before overall coat is applied.

PLASTER - General: This is to be given a coat of zinc sulphate wash consisting of a solution of 1 lb. of zinc sulphate crystals to each gallon of water. After applying solution, allow coat to dry, and then brush off any loose crystals that may remain. Plaster to then be given:

First Coat: Primer-Sealer reduced with one quart of turpentine to the gallon

Second Coat: Flow kote, rubber base paint, applied as per manufacturer's instructions.

Third Coat: Flow kote, rubber base paint, applied as per manufacturer's instructions.

Any existing plaster surfaces which remain to be thoroughly cleaned, repaired as necessary and given second and third coats as above. Any new plaster patches, etc. to first receive sulphate wash and primer-sealer coat.

NATURAL FINISH: All interior doors, cabinets, cupboards, etc. are to receive natural finish consisting of two coats of clear penetrating finish applied strictly in accordance with manufacturer's instructions. Wood floors and music room platform to receive similar finish.

Plaster for Toilet Room Ceilings, etc., to receive zinc sulphate wash as specified above and the following:

First Coat: Primer-Sealer reduced with 1 qt. of turpentine to the gallon

Second Coat: Ovalite Enamel Undercoater to each gallon of which has been added 1 qt. Dulux Superwhite Gloss

Third Coat: Dulux Superwhite Gloss

METAL: Unless otherwise specified all exposed metal shall receive:

First Coat: Dulux Metal Protective Finish, to each gallon of which has been added one pint of pure turpentine

Second Coat: Dulux Metal Protective Finish, as contained in original package. Exterior iron work around glass block panels and ventilators to be painted with aluminum paint.

Galvanized Iron Surfaces: These shall be primed with Dulux Galvanized Primer and given second coat as specified above. Roof ventilators, louvers, and all such items shall be painted.

Structural Steel: Wherever exposed in finished portions of the building, structural steel shall be painted the same color as the adjacent materials.

Gutters and Rain Water Conductors: These shall be given First Coat as specified above for metal, then painted as specified for exterior woodwork.

PAINTING OF MECHANICAL WORK: The Contractor for Painting shall do all painting required in connection with the work of the

Contractors for Plumbing, Heating and Ventilating, and Electrical Work except such painting as is specifically designated to these sections. The Contractor for Painting shall examine the drawings and specifications for the mechanical work to determine the extent of such painting required. All convector fronts, exposed pipe, sheet metal ducts, grilles, fittings, supports, etc., shall be primed with "Dulux" Metal Protective Primer and given additional coats as specified for adjacent work.

All miscellaneous metal work, pipe hangers, structural supports, etc., shall be well cleaned of scale and rust, and receive primer coat and one finish coat of metal protective paint. Unit ventilators and metal wall cabinet groups in classrooms are factory finished and require no on-job painting.

All exposed nonconducting covering in unfinished areas of roof spaces, in.tile conduit, trenches, crawl spaces, etc., shall receive two heavy coats of emulsified asphaltum paint.

Canvas Pipe Covering: Where exposed, this shall be given a priming coat of composition board sealer. Second and third coats shall be Flat Wall Paint, applied as in original containers. At least 24 hours shall elapse between the application of each coat.

Electrical Work: Exposed electric conduit and outlet boxes shall be given two coats of lead and oil and one coat of enamel by the Contractor for painting.

Doors and trims of panel boxes shall be painted by this Contractor with:

First Coat: Antoxide to each gallon of which has been added one pint of pure turpentine.

Second Coat: Antoxide as contained in the original packages.

LETTERING: Provide letter, number, or title plates for all doors along corridors. Plates shall be black Bakelite with etched numerals and letters, painted white. Letters shall be 1½" high on 2½" wide Bakelite strips. Stock name plates may be used where applicable.

GLAZING

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: This division includes the furnishing of all labor, materials and appliances necessary for the execution of all glazing required throughout the building, unless otherwise specified. See also Section 5, "DEMOLITION".

For "Glass Breakage" and "Final Cleaning of Glass", see ITEMS OF TEMPORARY UTILITY.

GLAZING MATERIALS: Glass used generally for windows, transoms and sash of all kinds, unless otherwise noted, shall be Double-Strength "A" quality labeled "Pennvernon" or "Libby-Owens" flatdrawn window glass. All labels shall remain on glass until approved by the Architect. Glass for all doors shall be 7/32" thick glass except corridor separation doors and doors to vestibules, which shall be 1/4" polished wire glass.

GLAZING: Sizes for glass shall be taken from actual frames of doors and sash. Sizes marked on drawings are approximate and shall be used for estimating only. Glass shall be fitted, bedded, tacked, puttied and back-puttied in a thorough and workmanlike manner. Where mouldings are used to hold the glass, the glass shall be thoroughly embedded in putty so that no rattling will occur and the mouldings or stops shall be put against the glass in a tight manner.

Obscure glass equal to 1/8" fire-glazed "Syenite" glass as manufactured by Mississippi Glass Company shall be installed at all windows marked O. G. on the elevations. All toilet room glass to be obscure.

Wire glass shall be 1/4" thick "Misco" as manufactured by Mississippi Glass Company, or equal.

NOTE: Before glazing, the Contractor shall consult with the Architect to verify the exact locations for clear and obscure glass.

GLAZING PUTTY: This shall be composed of best grade white lead putty, zinc oxide and whiting mixed. Glazing compound for aluminum sash shall be colored to match aluminum.

MIRRORS: In toilet rooms where indicated in Room Finish Schedule mirrors shall be copper-backed plate glass, 2'-6" high x 1'-6" wide, set in shrome plated wood core frame and mounted on the walls. Frame to have corners mitred and welded from the back to produce hair line joint. In general one mirror is to be furnished over each wash bowl in the toilet rooms.

LOCKERS

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: This section covers the furnishing and installing of lockers in the classrooms as shown on the drawings.

LOCKERS to be of steel, of standard manufacture of Berger Mfg. Division, Lyons Metal Products Company, or equal, single tier, single row type size 15" x 15" x 60", with sloping tops and without legs for installing on concrete base. Lockers to have hat shelf, four double prong coat hooks, vertical interior divider, number plate, and three point locking device with handle fitted for use of padlock.

SCRIBE STRIPS to be provided at ends and along top of locker groups to neatly close all space between lockers and wall. Scribe strips to be 18 ga. steel finished same as lockers.

FINISH to be baked on enamel in color selected from standard finishes of the manufacturer.

ALTERNATIVE ESTIMATE NO. 1

FERTILIZING AND SEEDING

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: This Alternative Estimate includes all labor and materials for fertilizing and seeding the areas of the school site as designated on the plot plan. Under this section also restore any areas of the school yards whatsoever damaged during the progress of this construction.

SEEDING: The area indicated on the drawings for seeding shall be plowed to a depth of not less than 4" not more than 6". Then 30 to 40 lbs. of hydrated lime, according to the needs of the soil, and 85 lbs. of sheep manure shall be spread over every 1,000 sq. ft. of area and then the entire surface shall be harrowed thoroughly to break up all the lumps, rolled and reharrowed. After harrowing the soil shall be raked level and all litter, stone, etc., of any nature shall be removed ready for sowing. The area shall then be left standing for a period of not less than eight days before seeding. It shall then be thoroughly raked to remove all weeds that have sprouted and then rolled.

The grass seed shall consist of the following mixture:

Kentucky 31 Fescue	40%
Creeping Red Fescue	35%
Red Top	15%
Domestic Ryegrass	10%

This Contractor must furnish evidence satisfactory to the Architect that the seed used is in accordance with this mixture and free of weeds. The soil shall be sowed and cross-sowed on a calm day with 8 lbs. of grass seed for every 1,000 sq. ft. of surface so that the seed is evenly distributed, after which the lawn shall be raked again, then rolled lightly to firm the seed into the soil. On slopes of terraces 1/2 bushel of rye for every 1,000 sq. ft. shall be added to the grass seed to keep the grass from washing out the first season.

After grass is up three weeks, and before it is cut, 20 lbs. of fertilizer composed of 5 parts nitrogen, 5 parts phosphoric acid and 10 parts potash shall be spread over every 1,000 sq. ft. of lawn, and then wet down.

The Contractor shall guarantee the Owner a lawn. He will be required to do all the weeding and to do the first cutting of the grass so that at completion a first-class lawn reasonably free from weeds will result as approved by the Architect.

ALTERNATIVE ESTIMATE NO. 2

CLEARING OF THE SITE

NOTE ESPECIALLY paragraphs b, c, and d, Page 2-1, which apply specifically to this division.

SCOPE: The work of this Alternative Estimate includes the furnishing of all labor, materials and equipment to clear portions of the site as indicated on the drawings and described in this specification. Also see Section 5, "DEMOLITION".

REMOVAL OF BUILDINGS: The portion being added to the school site at the south west corner is occupied by a number of small buildings. All of these are to be completely dismantled, including foundations, and all debris removed from the site. Fill all holes. Any holes of an unsanitary nature to be properly treated in accordance with the requirements of the Board of Health before being filled. Remove all fences and debris, leaving the area in a generally clean condition ready for grading.

REMOVAL OF TREES, BRUSH AND DEBRIS: Areas of the east and south sections of the site are to be cleared of brush, trees and debris. Where certain trees are to remain these are designated on the drawings or will be selected by the Architect. Completely remove root structure of trees. Haul all brush, debris, etc. away from the site and leave in a generally clean condition ready for grading. Roots and stumps of trees in the existing gully which will be covered by a minimum of four feet of fill may remain.