

SPECIFICATIONS  
for  
GENERAL CONSTRUCTION  
ELECTRIC WIRING.  
PLUMBING

TOWN HALL  
VILLAGE OF BIRCHWOOD  
WHITE BEAR LAKE, MINN.

MAGNUS J. JENSEN, ARCHITECT  
649 ENDICOTT BUILDING, ST. PAUL, MINN.

(1) INSTRUCTIONS TO BIDDERS

This specification and the accompanying plans, contemplate the furnishing of all labor and materials necessary to complete all the general work shown on plans or specified herein.

This Contractor shall visit the premises, take his own measurements, and make his own estimates in regard to the facilities and difficulties in connection with all contemplated work. Should any condition be found not taken care of or in case any items in the specifications or accompanying plans not be clearly understood, the bidder shall apply to the Architect in writing for the required information before submitting bid.

Contractor shall be entirely responsible for the safety and good condition of all work and material connected with this contract until final acceptance by the Owner. This Contractor shall use proper precaution to protect his own work and that of others from injury and shall make good, without expense to the Owner, any damages caused by himself or his employees to person or property.

The General conditions of the American Institute of Architects shall become a part of this contract.

The Owner reserves the right to accept or reject any or all bids.

This Contractor is to obtain and pay for all permits.

(2) BOND

Bond will be required for the full amount of the contract. Bond shall be of the short form and Surety Company approved by Architect.

(3) CERTIFIED CHECK

A certified check for 5% of the contract price must accompany the bid, for the General Work, Electric Wiring, Plumbing and Drainage Work.

(4) RECEIVING OF BIDS

Bids shall be received up to 8:00 P.M. of the night of June 23, 1931, at the office of the town clerk of Birchwood. A 5% certified check must accompany the proposal.

## GENERAL

### (5) PAYMENTS

Payments will be made by the 10th of each month for all labor and materials up to the first of that month. 15% will be withheld until substantial completion of the contract. 5% of the contract will be held for a period of 30 days after the completion of the contract.

### (6) LIABILITY INSURANCE

The Contractor shall maintain such insurance as will protect him from claims under workmen's compensation acts and from any other claims for damages for personal injury, including death, which may arise from operations under this contract.

### (7) EXTRAS

The Architect reserves the right to make any changes from these specifications or accompanying plans as are deemed advisable.

No work will be counted as an extra unless the authority therefor is given by the Architect in writing at the time the extra work is ordered, with the price stated thereon.

### (8) MATERIALS

All material and workmanship entering into this installation shall be of the best of the kind specified and shall be subject to the approval of the Architect who reserves the right to reject any materials or workmanship not in accordance with this specification, either before or after installation.

### (9) PROCEDURE & COMPLETION

This Contractor must begin actual work as soon as contracts have been signed and carry work to completion as rapidly as possible.

All work in the contract must be completed before Saturday August 15, 1932 and no extras will be allowed for overtime.

## PREPARATION OF SITE

### (10) LAYING OUT OF WORK

This Contractor shall locate the building upon the site where staked out and by consulting Architect.

### (11) PROTECTION OF PROPERTY

This Contractor shall carefully box and protect all trees and shrubs, guard all fences, sidewalks and the adjacent property from damage of operations directly or indirectly connected with the work under this contract and will be held responsible for any damage.

### (12) CUTTING & PATCHING

This Contractor shall do all necessary cutting and patching as may be required by the various trades.

## EXCAVATION

### (13) SIZE

After staking out of the Town Hall, this Contractor shall excavate to depth of footing shown on drawings, allowing ample space for working around same. The bottom of all trenches are to be smooth and level to receive the footings.

### (14) REFILLING

In refilling around walls and footings, a class of material shall be used that will prevent undue settlement. All refilling is to be sprayed and tamped. No refilling shall be done until after the walls have been examined by the Architect. Dirt from excavation is to be used for refilling as far as it will go. All further grading shall be done by Owner.

## CONCRETE CONSTRUCTION

### (15) GENERAL

All footings, area walls, and exterior walls are to be of the sizes as indicated on plans. Footings and area walls to be of concrete. Exterior and interior walls to be concrete blocks. Exterior walls to be 12" thick and interior partition 8".

All footings are to be placed on solid, level ground. If excavation has been carried to a greater depth than shown on drawings, the footings shall be carried to this additional depth.

Provide slabs as shown at entrances. Outside stairway to be concrete.

### (16)

#### MATERIALS

All materials entering the concrete work must come up to the requirements of the American Society for Testing materials.

Cement shall be a brand of Portland cement approved by Architect. Sand to be clear and coarse, and aggregate to be clean broken stone or gravel.

All cement shall be thoroughly machine mixed, and no concrete shall be used that has been mixed over thirty minutes.

### (17) FOOTINGS

Provide footings under walls and posts, of dimensions indicated on the plans, of 1-3-5 concrete. The sand shall be clean and coarse. Clean gravel or broken stone shall be used not over 1-1/2" in diameter. Footings shall be straight and true and, if necessary, deposit in substantial forms.

Footings shall be deposited on a firm bearing and shall extend deeper than shown if necessary to accomplish this. No loose earth, sticks, leaves or other rubbish shall be left in the trench, but shall be removed before laying concrete.

(18) WALLS

Walls shall be constructed of the best quality of machine made concrete blocks of thickness shown. Block shall come from an approved plant and be laid in perfectly level course with all bed and end joints filled solidly with 1 to 3 Portland cement mortar with 10% lime paste added thereto. Wall to be flush pointed neatly on both faces and laid to lines

(19) WATERPROOFING

After foundation walls are dry the outside surface of those walls around excavated portions, from footing to grade, shall have two thorough coats of Truscan Foundation Waterproofing.

(20) BASEMENT SILLS

Window sills on basement windows shall be composed of 1 of cement and 2 of sand. They shall be of the thickness and pitch as shown, troweled perfectly smooth, straight and even. The cement shall extend under the wood sill. In no case must the cement project higher than the bottom of the wood sill that will allow moisture to accumulate.

Provide wash on inside of window, of same mixture troweled smooth.

(21) BEAM FILLING

After the joists are laid, fill solid between same full thickness of wall and to top of joist with lean concrete, or spralls and mortar.

(22) CAULKING

Fill around basement windows solid with mortar.

(23) AREAS

Construct areas as shown with 1-2 coping 2" thick, 2" above grade. Provide two (2) 3/4" rods on each side of area extending back into main wall. Area walls shall be poured concrete.

(24) BASEMENT FLOORS

After the building is under roof, the cellar bottom shall be carefully leveled to the depth indicated. Spread over the basement on the natural undisturbed earth a 4" layer of 1-3-5 concrete and trowel directly on the body slab, while soft, without the addition of a richer finish. Trowel the surface to a smooth hard finish satisfactory to the Architect. Pitch floor from highest point to floor drain without intervening high points. Sand shall be clean and coarse. Broken stone or gravel shall not be over 3/4".

BRICKWORK

(25) FACEBRICK

All facebrick shall be full range Arcadians, same to be bonded with common brick backing. Provide tile flue lining of size shown.

(26) COMMON BRICK

The backing for all facebrick and chimney proper is to be Hard-burned Chaska brick. All common brick shall be laid up neatly and bonded with headers. Construct cesspool 4'0" in dia. by 12'0" deep. Provide 12" of crushed rock in bottom.

(27) AREAS

Lay sound and unbroken Chaska brick in bottom of areas with close fitting dry joints laid on a 1" bed of sand.

(28) MORTAR

Mortar for all brick work shall be 1/2 of Portland cement, 1/2 of lime paste and 3 of sand. Mortar for face brick work to be colored as directed.

MISCELLANEOUS STEEL & IRON

(29) CLEANOUTS

Provide an 8" x 10 cleanout in boiler flue at base of chimney.

(30) COAL CHUTES & COVERS

Provide 1 Majestic coal chute #M 10 A as shown. Provide 1-20" iron ring and cover for cesspool similar to St. P. Foundry #47 J.

(31) HANDRAIL

Provide a 1" gas pipe handrail and brackets as shown for outside stairway.

(32) THIMBLES

Install a 10" thimble of #12 gauge iron to receive breaching from boiler and a 6" thimble for hot water heater. Provide 1 additional thimble as shown.

(33) COLUMNS AND BEAMS

Provide Carnegie 4" H columns where indicated equipped with flanged caps and bearing plates.

Provide standard steel beams over first floor ceiling of size and weight indicated on drawings, provided with V anchors to masonry and std. connections over columns.

CARPENTRY

(34) FRAMING

All framing lumber shall be #1 fir. All lumber shall be yard seasoned, true to size, free from shakes, twists, large or loose knots or other defects that may impair its strength or durability.

(35) JOISTS AND GIRDERS

See drawings for sizes. Joists must be sizes where necessary to make the work true.

They shall be doubled or trebled under partitions and for headers or trimmers. Bridging shall be not over 5 ft. apart and shall be 7/8" x 3". Joist fourteen feet or more between bearing shall be crowned 1/4"

(36) STUDS

Studs shall be of size shown 16" o.c. unless otherwise indicated, sized where necessary, doubled at openings and trebled at corners. Over openings not more than 3 ft. wide use double plates, for larger openings use girder of proper size or trussed trimmer.

Provide single plate at bottom of studs and double plate at top where supporting joist. Provide 2" x 4" blocking between studding for nailing of vertical log siding and also nailing for end joists of Insulite ceiling in Assembly Room.



(37) CEILING JOISTS

Ceiling joist to be 2" x 4" and roof joist 2" x 10" as shown.

(38) RELATION TO OTHER WORK

Consult plumbing, heating and electrical requirements on plans and arrange work so that no important timber will be cut.

(39) SHEATHING

Use #2 shiplap S.I.S. for sheathing of inside walls of parapets and roofs.

(40) SUB FLOORING

Provide sub flooring on 1st floor of #3 pine shiplap laid diagonally and securely nailed to each joist.

(41) FINISHED FLOORING

All finished flooring must be kiln dried, free from imperfections and best of its grade. It must come with ends matched, tightly driven up and blind nailed 18" apart. Short lengths shall be worked into closets and less important rooms. Finished floor shall not contain more than 20% of short lengths.

Finished floor throughout the 1st floor shall be #2 select white oak plain sawed 1 3/16" x 1-1/2" nailed 18" o.c. with a #8d light flooring nail.

All wood floors shall be sanded to a smooth and uniform surface with a machine sander. The Contractor shall remove all dust caused by the operation of his machine from all parts of the building and leave perfectly clean.

Protect floors until they have received last coat of finish.

(42) PAPER

On all outside walls over sheathing lay 1 layer of Rhinorope lapped on all sides and securely nailed.

Between rough and finished flooring in all portions lay 1 layer of Sterling Deadening Felt well lapped. Felt to weigh at least 1 1/4# to the square yard.

(43) ERECTION OF MILLWORK

All interior finish shall be erected in a neat, substantial and workmanlike manner. All necessary blocking and anchors are to be built in to securely fasten woodwork in place.

Locks, knobs and escutchions on doors and locks and fasteners on windows are to be put on after painter has completed his work.

(44) PANELLING

Exterior panelling over windows shall be 3/8" matched and dressed ceiling with a V joint.

(45) INSULATION

Provide 1/2" of Insulite sheathing on the under side of ceiling joist in Entry & Assembly Room. Provide 1/2" of Balsam Wool on all exterior walls and ceiling of Kitchen.

(46) LOG SIDING

Lay Shelvin log siding vertically on all exterior surfaces nailed 3' o.c. with cement coated nails and putty as directed.

(47) SHEET ROCK

Provide U.S.G. sheet rock on all walls and ceiling of Kitchen on the 1st floor applied according to the manufacturer's specifications.

MILLWORK

(48) GENERAL

This Contractor shall at all times consider the effect of swelling and shrinkage and so fasten and join all work so that the parts will not open up at mitres or split from shrinkage. All finish that is applied to flat surfaces must be hollowed out 3/16" to within 1/2" of each edge. Saw curb the back of all pieces where necessary to prevent warping. All joints to be made absolutely tight.

(49) EXTERIOR WOODWORK

All exterior trim shall be genuine Idaho or Minnesota white pine as detailed.

Screens, storms, frames and all exterior wood finish shall be given one good priming coat at the mill by the mill Contractor.

Provide blinds for all openings where shown on elevations. Provide  $3/4"$  x  $1\frac{1}{2}"$  strips as shown for trellis work.

(50) INTERIOR WOODWORK

All millwork shall be clear Minnesota white pine.

Provide counterweight slide-up between Kitchen and Assembly Hall.

(51) DOORS AND WINDOWS

All doors shall be of sizes indicated on door schedule. All interior doors to be of solid pine as shown. Stock doors may be used where arrangement of panels conforms to design shown.

All exterior doors shall be clear white pine.

Outside door frames shall be  $1\frac{3}{4}"$  rebated.

Inside door frames shall be  $7/8"$  thick, rebate formed by stop planted on.

All windows to be  $1\frac{3}{8}"$  thick as detailed.

(52) STAIRS

Treads on main stairs to be  $1\frac{3}{4}"$  thick and no risers to be  $2/8"$  thick, ~~knocked into~~ ~~carriage~~ ~~and fixed.~~

Support all stairs on three rough carriges. Newels shall be as detailed and shall be firmly secured to framing.

(53) KITCHEN CUPBOARDS

Construct cupboards as detailed. Doors shall be  $1\frac{1}{8}"$  thick glazed where shown. There shall be no backs for cupboards unless shown. Shelves shall be  $7/8"$  thick adjustable in upper cupboards and fixed in lower cupboards. Counter shelves shall be  $1\frac{1}{8}"$  thick

(54) BOOKCASES

Provide book cases in Assembly Room as detailed with 7/8" fixed book shelves and matched and V joint backs.

(55) SCREENS & STORMS

Provide 1 1/8" full size screens with #16 mesh bronze wire cloth for all exterior windows throughout

Screens for double hung windows are to be 2 light.

Provide and set storm sash for all exterior windows. In case of single casements, the storm sash shall be of 1 light, the double casements are to have 2 lights divided vertically in the center. For double hung windows, divide storm sash in half horizontally. All storm sash are to be 1 1/8" thick of white pine and hung at the top and be interchangeable with the screens.

HARDWARE

(56) ALL ROUGH HARDWARE

of every kind, including nails, screws, spikes sash weights, cord and pulleys and all other rough hardware, except as otherwise specified, shall be furnished by the General Contractor and shall not be included in the amount specified. Sash cord to be Sampson Spot Sash Cord and Pulleys to be Anderson Lumber Cos. noiseless pulleys.

(57) FINISH HARDWARE

The finished hardware shall be included in the contract for the sum of \$225.00, to be expended under the direction of the Architects, and a credit shall be given the Owner or Contractor as actual cost may determine. This shall include all locks, butts, top and bottom bolts, sash lifts, window locks, all hardware for casement windows, storm sash and screens and reference numbers for same, cupboard hardware, stop screws, clothes hooks and base knobs.

The carpenter Contractor shall employ skilled workmen to fit and put on all hardware, and all locks shall be in perfect working order upon completion.

Hardware must come properly boxed and labeled, and the carpenter Contractor shall receipt for same and be responsible for its safe keeping until his work has been accepted.

ROOFING

(58) ROOF INSULATION

Provide  $\frac{1}{2}$ " of Thermo lath mopped and nailed to roof boards.

(59) ROOFING

Provide of J.M. or Barrett specification type A - laid in accordance with the Barrett specification for use over board sheathing. The roofing Contractor shall furnish a 10 year ~~surety bond~~ ~~Guaranty~~ guarantee signed by both the roofer and the the General Contractor.

(60) FLASHING

All sheet metal in this contract shall be 26 ga. Toncan metal galv. iron and Scott's I.C. extra coated tin.

Provide corrugated 26 ga. galv. iron downspouts of size and location shown on the drawings. ~~XXXXXXXXXXXX~~

Provide flashing at all locations where low roofs join walls, and at all other places to make the work thoroughly watertight.

Flash over all openings.

Provide cap flashing for all roofs. Provide metal coping as detailed.

PAINTING

(61) SCOPE

Work comprised under this heading shall include painting and finishing of all wood finish all exterior log siding, sash etc., and all metal work.

(62) MATERIALS

All material shall be the best of their several kinds in quality as herein specified. When special makes or grades of prepared paint, varnish or wood finish are called for, such material must be delivered to the building in the original cans with the seals unbroken and labels attached, and such cans are not to be opened until inspected and approved by the Architects. All varnishes and enamels must be used as they come from the manufacturer without reducing or adulteration.

Use Pratt & Lambert, Lowe Bros., Standard Varnish Company, or Pitcairn Varnish Co., varnishes and enamels, Carter's white lead and pure linseed oil, Johnson's wax, pure shellac cut in alcohol and best grade of stains and fillers.

(63) INTERIOR WOODWORK

All interior woodwork shall be primed and painted 2 coats of lead and oil and paint.

Kitchen work table shall be given 2 coats of P. & L. Spar Varnish.

Treads on stairs shall be stained 2 coats of color selected.

(63A) BLINDS

Use Jackson Sport Slack Cord of approved weight for all R.M. windows.

All casings are to be equipped with Jackson Lumber Co. moksbeek pulleys by two mill.

(64) EXTERIOR WOODWORK

Paint all exterior woodwork and log siding with 2 coats of Samuel Cabots Double White.

Paint all blinds and exterior doors and windows 2 coats of Cabots Collopakes of color selected.

Screens and storms to receive 2 coats of Collopakes.

(65) FLOORS

Floors throughout, shall be stained and filled then given a coat of P. & L. #61 floor varnish, sandpapered, then given one coat of wax and polished with a weighted brush.

(66) METAL WORK

Paint all exposed iron work two coats of lead and oil. Back of all sheet metal flashing and roofing shall be painted with one coat of metallic paint before laying. Top to have one coat metallic paint and two coats of lead and oil.

GLASS & GLAZING

(67) GLASS & GLAZING

All glass for cupboards etc., is to be Libbey Owens single strength Grade Glass.

All glass for storm sash shall be glazed with L.O. DS Grade "A" glass. Labels are to remain on glass until the removal is authorized by Architect. All glass is to be back puttied. All rebates are to be oiled by mill before any glazing is done.

All glass shall be thoroughly cleaned and polished on both sides by professional window cleaners.

## ELECTRIC WIRING

### (1) GENERAL

Bids are asked for furnishing all materials, apparatus and labor necessary for the entire completion of the work as hereinafter specified or as indicated on the accompanying plans. Any material necessary to make a complete job throughout, though not specifically mentioned herein, is within the intent of this specification, and shall be installed by this Contractor without extra expense to the Owner.

The general conditions of the American Institute of Architects shall become a part of the contract.

The Owner reserves the right to accept or reject any or all bids.

The Contractor must employ careful, experienced electrical workers in the charge of a competent foreman and all work must be executed in the most complete and thorough manner. All work shall be subject to the approval, direction and final acceptance of the Architect. All work shall in every way fully comply with the requirements of the National Board of Fire Underwriters and also of the local power company.

### (2) LIABILITY INSURANCE

This Contractor shall furnish the Owner with a certificate from a liability company satisfactory to the Owner carrying the Workmen's compensation policy to the effect that the Owner is protected under said policy as far as this contract applies.

### (3) EXTRAS

The Owner reserves the right to make any changes from these specifications or accompanying plans as are deemed advisable.

No work will be counted as an extra unless the authority therefor is given by the Architect in writing at the time the extra work is ordered, with the price stated thereon.



(4) MATERIALS

All material and workmanship entering into this installation shall be of the best of the kind specified and shall be subject to the approval of the Architect who reserves the right to reject any materials or workmanship not in accordance with this specification either before or after installation.

(5) GUARANTEE & TESTS

This Contractor shall guarantee all work for one year, and must at once replace within that time any work or materials which are defective or may become defective, or which is continually out of order or gives trouble with ordinary usage, such work or material to be replaced without expense to the Owner.

This Contractor must make a complete test with a magneto in the presence of the Architect to see that there are no grounds.

(6) SCOPE OF WORK

The house shall be wired complete as shown by plans or as herein specified. Wiring to be done with A.B.C. BX Cable. The work shall consist of wiring to all outlets, baseboard receptacles, switches, buzzers, etc. The outlets controlled by switches are lettered and those marked "P" are pull switches. No lamps or lighting fixtures are to be furnished.

BX Cable must be installed without using short bends. In no instance shall the armour of the cable be separated or ruptured.

(7) SYSTEM OF DISTRIBUTION

The current for lighting will be 3 wire 110-220 volt alternating current system entering building where directed by Architect, terminating at a 3 pole switch at cabinet. Not more than 660 watts shall be placed on a circuit and not more than 12 outlets are to be on one circuit. Branch circuits are to be 3 wire. All outlets to be polarized.

(8) DRAWINGS, LOCATIONS

These specifications and accompanying plan, showing the outlets, switches, cabinet boxes, etc., of the basement and first floor. The outlets are shown approximately in the correct position, but the Architect reserves the right to change the locations slightly. The Contractor must therefore secure the information as to the exact position of outlets before installing same, and he shall never proceed in doubt. Outlets obviously or otherwise intended to be in the center of any ceiling panel or special work shall be accurately centered.

All switches are to be located 4 feet from floor and in all cases except if otherwise directed shall be the same distance from the casing. All base plugs are to be placed horizontally in base-board unless otherwise shown or directed.

(9) SERVICE & DISTRIBUTION CABINET

A service and distribution cabinet shall be of #14 gauge steel. Install in cabinet a 60 Amp 3 pole NEC fused entrance lockmeter switch #16336 Trumbell. Cabinet to be flush type with trim.

Place over the cabinet box one plain wood meter board, subject to the approval of the electric light company, sufficient for light and power.

Provide and connect all necessary wires for the meter installation and sufficient number of three to two wire double branch plug outlets for all branch circuits providing one extra double branch circuit for future use. Make a complete directory of fuse circuits of a permanent character to be approved by Architect. Provide one 2 pole NEC fuse block for motor and one 3 pole 60 Amp fuse block for electric range.

PLUMBING & DRAINAGE

(1) GENERAL

This specification and the accompanying plans contemplate a complete system of plumbing and drainage complete with fixtures and any material necessary to make it complete throughout.

The General conditions of the American Institute of Architects shall become a part of this specification.

The Owner reserves the right to accept or reject any or all bids.

(2) LIABILITY INSURANCE

This contractor shall carry such insurance as will protect him and the Owner from any claims under the workmen's compensation acts and from any other claims for damages that might arise under this contract.

(3) EXTRAS

The Architect reserves the right to make any changes from these specifications or accompanying plans as are deemed advisable.

No work shall be counted as an extra unless the authority therefor is given by the Architect in writing at the time the extra work is ordered with the price stated thereon.

(4) MATERIALS

All material and workmanship entering into this installation shall be of the best of the kind specified and shall be subject to the approval of the Architect who reserves the right to reject any materials or workmanship not in accordance with this specification either before or after installation.

(5) SCOPE OF WORK

This specification contemplates a complete installation of a drainage and water supply system connecting same to all fixtures as shown or specified. It is the intent of this specification that the work specified herein will be a complete installation in every respect and the contractor shall include in his bid any work properly belonging to his trade.

All material and work covered by this specification shall be in accordance with all laws, ordinances, rules and regulations governing same in the state of Minn. which are hereby made a part of this specification.

There will be no hot water service to the fixtures.

(6) EXCAVATION

This contractor shall do all excavating necessary for the installation of all work covered by this contract and refill all trenches, removing all surplus earth from the property. Care must be taken in excavating that the walls and footings are not disturbed or injured in any way. Where pipes pass through walls, a proper opening must be provided as directed by the Architect.

(7) SOIL & WASTE

Provide and install a system of drainage for each and every fixture in the building.

All the soil and waste pipes are to be as follows:

Waterclosets	4"
Floor drains	2"
Lavatories	1½"
Sink	1½"

(8) HOUSE DRAIN

Heavy CI soil pipe shall be run as shown on plans connecting same to house sewer outside of basement. House drain and branches shall be of sizes shown and shall have a fall of at least  $\frac{1}{4}$ " to the foot.

(9) HOUSE SEWER

Provide a 4" vitrified tile pipe from 2'0" outside of basement wall pitching gradually to cesspool approximately 25'0" from building. (Cesspool to be built by others.) Tile shall be sound and unbroken, laid with even pitch of at least  $\frac{1}{4}$ " to the foot. Every portion to be on solid bearing. Joints to be filled with Portland Cement.

(10) BACK FILLING.

Refill all trenches after pipes are laid and the work has been inspected by and approved by the Architect. This shall be done by puddling and tamping earth once in every foot of height so as to prevent settlement.

(11) CLEANOUTS & BOXES

Where any changes in direction occur in soil, waste and drainage pipes, such changes in direction shall be made by the use of "Y" fittings with a cleanout on the end of the run.

All cleanouts in basement floor shall be fitted with an 8"x8" flush steel cover set in an angle iron frame.

(12) WATER SERVICE

Run a 1" galvanized pipe from main in street to Building.  
Cold water supplies to be as follows:

Water closets  
Lavatories  
Sink

Provide main cutoff and waste to drain the entire system when necessary. Provide  $\frac{3}{4}$ " hose bibbs where shown and provide with stop and waste.

Extend a  $\frac{3}{4}$ " supply to boiler room where directed and provide a hose bibb for same.

(13) PIPE

All pipe shall be of new stock, standard weight galvanized wrought iron. All pipe shall be round, straight, true to size and of uniform thickness. Threads shall be full, clean cut and true to gauge. All pipes shall be reamed after cutting.

(14) FITTINGS

All fittings on water piping shall be galvanized malleable. All changes in direction and connection of branches to be y's and Not J's.

All iron pipe to be caulked with lead and picked oakum. All connections between lead pipes and lead to brass pipes to be with wiped solder joint. Lead and iron to be thru brass ferrules or soldering nipples.

(15) RUNNING OF PIPES

All pipes shall be run so as in no way to be distorted or strained by expansion or contraction. Soil and waste pipes shall have a pitch of  $\frac{1}{4}$ " to the foot.

All screwed joints are to be made without the use of red or white lead or other hardening compounds. A thin coat of graphite and oil may be applied to threads.

All piping shall run neatly and concealed if possible.

(16) FIXTURES

The following numbers refer to Kohler CO's catalog. Fixtures of other manufacturers of equal quality and corresponding to the numbers here given will be accepted.

Set up complete and leave in perfect working condition. Remove all labels and leave fixtures perfectly clean.

BASEMENT

Floor Drain-

1 - 2" open Trap floor drain in Boiler Room.

Sill Cock-

Where shown - 2 -  $\frac{3}{4}$ " compression sill cocks with compression stop and wastes complete.

Lavatories

2 - K 580 P - Bretton 18" x 21" white enamel, one piece lavatories with patent overflow complete with  $1\frac{1}{2}$ " NP S Non syphon trap - Cock hole covers. NP compression Basin cock on cold supply only.

Rough in for hot water and plug under fixture.

Closets

2 - K 6042 Kohlers Dorking closet combination with 6 gallon china tank, Birch mahogany open front seat and cover. NP cast brass hinges. NP flush elbow and  $\frac{1}{2}$ " NP supply - floor flange and gaskets and bolts with nuts and china bolt caps complete.

FIRST FLOOR

Kitchen Sink

1 - K 1820 DA Kohler's flat rim white enamel sink with  $1\frac{1}{2}$ " strainer and tail piece.  $1\frac{1}{2}$ " NP S Non syphon trap. 1 -  $\frac{1}{2}$ " Faucet on cold water only.

Rough in for hot water and plug below floor line.

INDEX

Instructions to Bidders . . . . .	Page 1
General . . . . .	" 2
Preparation of Site . . . . .	" 3
Excavation . . . . .	" 3
Concrete Work . . . . .	" 4
Brick Work . . . . .	" 6
Steel & Iron Work . . . . .	" 6
Carpentry . . . . .	" 7
Millwork . . . . .	" 9
Hardware . . . . .	" 11
Roofing . . . . .	" 12
Painting . . . . .	" 12
Glass & Glazing . . . . .	" 14
Electric Wiring . . . . .	" 15
Plumbing & Drainage . . . . .	" 19
Plumbing Fixtures . . . . .	" 21

BIDS DUE JUNE 22 rd.