SPECIFICATIONS

Details of Construction and Contract

for

A Pipe Organ

designed and furnished by

THE ESTEY ORGAN CORP.

Brattleboro, Vermont

CONTRACT

It is this day agreed by and between the Estey Organ Corp., of Brattleboro, Vermont, party of the first part, and the Stone Valley Lutheran & Reformed Church
Hickory Corners, Pa.
party of the second part, as follows:—

The party of the first part agrees to build an organ in accordance with the annexed specifications, which are made a part hereof, and erect the same in
the above church
complete and ready for use on or before the first day of October A.D. 1940 or as soon thereafter as possible.

Should said organ, upon completion, not comply with the terms and specifications of this agreement the party of the first part agrees at its own cost to remedy such defects or remove the organ.

The said party of the first part further agrees that it will, at its own cost and expense, at any time after the completion of said organ, remedy all structural defects therein, if any, natural wear, damage done by fire, water, or other cause not connected with the construction of said organ, excepted.

The said party of the second part agrees to test and examine said organ immediately upon completion of same, in presence of the representative of said party of the first part, and, if found in accordance with specifications hereto attached, will then accept and settle for same as follows:—

The said party of the second part hereby agrees to pay to the said Estey Organ Corp., the party of the first part, the sum of Three thousand five hundred (3500) dollars
Cash upon completion and acceptance of organ

The said party of the ~~second~~ first part also agrees to pay all freight and drayage charges on the organ and parts thereof, together with hoisting charges, if any, and also to transfer organ to the premises promptly on notification of its arrival.

And it is agreed by both the parties hereto that the said organ shall be and remain the property of the said Estey Organ Corp. until all the purchase price thereof, whether evidenced by note, account, or otherwise, with interest thereon, shall have been paid in full.

The said party of the second part also agrees that the building will be in proper condition for the installation of the organ 15 days previous to the date of completion; and that they will allow, free from interruption, suitable convenience and opportunity for the installation in the building and provide such a condition of quiet as is necessary for proper tone regulation and tuning, together with the necessary heat, light and power.

If water or electric motor is included in these specifications the party of the ~~second~~ first part agrees to provide foundation and enclosures when necessary; to furnish and install wind conductor between blower and organ; to do all wiring or plumbing connected therewith; to install such lights as may be needed for the erection and future care of the organ, and to do any necessary cutting of floors, partitions, or alterations to any other parts of the building. In the event that local regulations require the use of an automatic or remote control switch or motor starter, electric conduits or other special equipment, they are to be furnished by the party of the second part.

It is further agreed that if the party of the first part is subjected to any expense by reason of delay in the aforementioned preparation for organ or motor said expense shall be paid by the party of the second part.

For the mutual protection of the manufacturer and purchaser it is understood that no verbal agreement not covered by this contract will be recognized, or in any way modify this agreement; and it is further understood and agreed that this contract is submitted to the purchaser subject to the acceptance and approval of the said Estey Organ Corp., at its home office in Brattleboro, Vermont, and that only when so accepted and approved shall it become a binding contract between said parties.

Witness our signatures at Hickory Corners, Pa this 22nd day of July A.D. 1940

ESTEY ORGAN CORPORATION

By .... } Party of the First Part

Ray J. Wynn
Wm. D. Klock
Trustee } Party of the Second Part

Brattleboro, Vermont, August 9 1940

The above contract is this day accepted and approved.

ESTEY ORGAN CORPORATION

By [signature]
~~President.~~ Treasurer

ESTEY ORGAN CORPORATION

BRATTLEBORO, VERMONT

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Specification for a Two Manual Pipe Organ

designed for

STONE VALLEY LUTHERAN AND REFORMED CHURCH

HICKORY CORNER, PA.

GREAT ORGAN (Expressive)

Name of Stop	Pitch	Material	Pipes
1. Diapason	8'	Metal	85
2. Dulciana	8'	Metal	85
3. Melodia	8'	Wood	73
4. Flute from #3)	4'	Wood	61 Notes
5. Octave (from #1)	4'	Metal	73 Notes
6. Dulcet (from #2)	4'	Metal	73 Notes
7. Twelfth (from #2)	2-2/3'	Metal	61 Notes
8. Fifteenth (from #2)	2'	Metal	61 Notes
9. Chimes (Class D Deagan)			21 Notes
Tremolo			

SWELL ORGAN (expressive)

10. Bourdon	16'	W & M	97
11. Stopped Flute (from #10)	8'	W & M	73 Notes
12. Salicional	8'	Metal	85
13. Voix Celeste (T.C.)	8'	Metal	61
14. Flute d'Amour (from #10)	4'	W & M	73 Notes
15. Violina (from #12)	4'	Metal	73 Notes
16. Nasard (from #10)	2-2/3'	W & M	61 Notes
17. Flautina (from #10)	2'	W & M	61 Notes
18. Tierce (from #10)	1-3/5'	W & M	61 Notes
19. Cornopean	8'	Reeds	85
20. Oboe (Synthetic)	8'	W & M	61 Notes
21. Quintaton (Synthetic)	8'	W & M	61 Notes
22. Vox Humana	8'	Reeds	73
23. Clarion (from #19)	4'	Reeds	73 Notes
Tremolo			

PEDAL ORGAN

24. Bourdon	16'	Wood	44
25. Lieblichgedeckt (from #10)	16'	W & M	32 Notes
26. Flute (from #24)	8'	Wood	32 Notes
27. Flauto Dolce (from #10)	8'	Wood	32 Notes
28. Cello from #12)	8'	Metal	32 Notes

COUPLERS

Great to Great 16' - 4'
Swell to Great 16' - 8' - 4'
Swell to Swell 16' - 4'
Swell Unison "Off"
Great to Pedal 8' - 4'
Swell to Pedal 8' - 4'
Great Unison "Off"

COMBINATION PISTONS

4 affecting Great stops and intra-manual couplers
7 affecting Swell stops and intra-manual couplers
3 affecting Pedal stops
5 affecting All stops and couplers
1 general cancel

Coupler and Combination actions are electro-pneumatic.
The Combination action is of the Capture type.

PEDAL MOVEMENTS

Balanced Great Expression Pedal
Balanced Swell Expression Pedal
Balanced Crescendo Pedal
Great to Pedal Reversible Toe Stud
Sforzando Reversible Toe Stud

ACCESSORIES

Wind, Crescendo and Sforzando Indicators; Console and Pedal lights; Bench; Mirror; Music Rack; Console Lock; Spencer Turbine Co. 1-1/2 horsepower Blower; B/L Rectifier.

SPECIAL

All console dimensions A.G.O.; Pitch A-440; Stop Tablets over Swell manual; Location and disposition of organ, console, tremolos and chimes at the discretion of purchaser; Swell boxes shall be constructed of two thicknesses of fir sheathing 5/8" thick, between which shall lie a sheet of Celotex 5/8" thick; Swell shades shall be 2" thick and laminated to prevent warpage.

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The party of the first part agrees to tune the organ without cost to the party of the second part for a period of three years, but this tuning service is not to be understood to include repairs and adjustments of any kind.

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The party of the first part agrees to replace chest, intermediate and stop action penumatics without cost to the party of the second part, if within a period of twenty years from the date of installation, replacement of such pneumatics shall be found necessary in the opinion of a disinterested expert to be selected by the two parties to this agreement, providing however that damage by fire or water and acts of God shall not make this clause operative.

The party of the first part agrees to furnish a design and build in accordance therewith a case which will house the organ in accordance with the reasonable wishes of the party of the second part.

ANALYSIS

	Great		Swell	Pedal	Pipes
Diapason	8'-4'				85
Dulciana	8'-4'-2-2/3'-2'				85
Melodia	8'				73
Bourdon(Sw)			16'-8'-4'-2-2/3'-2'-1-3/5'	16'-8'	97
Salicional			8'-4'	8'	85
Voix Celeste		T.C.	8'		61
Cornopean			8'-4'		85
Vox Humana			8'		73
Bourdon(Pd)				16'-8'	44
				Total	688

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Oboe is combination of 8' Salicional, 2-2/3' Swell Bourdon and 2' Swell Bourdon; Quintaton is combination of 8' Salicional, 2-2/3' Swell Bourdon; Chimes is 21 notes of Deagan 1-3/4" tubes with electric action with dampers

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PIPE CONSTRUCTION

Diapason: C_2 to B_2 (12 pipes) Zinc, Haskell patent construction
C to E (5 pipes)common pipe metal, Haskell patent construction
F to C^6 (68 pipes) common pipe metal
Diameter at C_2 6.160"; metal thickness at C_2 #15 zinc gauge; metal thickness at C^1 .042"

Dulciana: C_2 to B_2 (12 pipes) zinc, Haskell patent construction
C to C^6 (73 pipes) common pipe metal
Diameter at C_2 3.500"; metal thickness at C_2 #12 zinc gauge; metal thickness at C^1 .033".

Melodia: C_2 to $A^{\#}$(11 pipes) sugar pine, Haskell patent construction;B to C^4 (50 pipes) sugar pine
$C^{\#4}$ to C^5 (12 pipes) common pipe metal
dimensions at C_2 3-3/4" x 3"; wall thickness at C_2 1/2".

Swell Bourdon: C_3 to C^3 (61 pipes) sugar pine
$C^{\#3}$ to C^6 (36 pipes) common pipe metal
Dimensions at C_3 7-1/2" x 6"; wall thickness 1".

Salicional: C_2 to B_2 (12 pipes) zinc, Haskell patent construction
C to C^{66} (73 pipes) spotted pipe metal
Diameter at C_2 2.943";metal thickness at C .050".

Voix Celeste: C to C^5 (61 pipes) spotted pipe metal
Diameter at C 1.750"; metal thickness at C .039".

Cornopean: Zinc bells; diameter at C_2 5".

Vox Humana: Common pipe metal bells; diameter at C_2 1-5/8".

Pedal Bourdon: Sugar pine; dimensions at C_3 8-3/4" x 7";
Wall thickness 1".

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Common pipe metal is approximately 75% Pb. and 25% Sn.
Spotted metal is approximately 45% Pb. and 55% Sn.
Zinc is annealed.

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All dimensions must be considered to be approximate to allow for manufacturing tolerances.

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Wind pressure for all stops 4" of water.

Details of Construction

Lumber

All lumber, no matter for what purpose it may be used, shall be free from knots and flaws. All stock shall be selected with the aim of providing the finest material for the particular purpose for which it is to be used.

Lumber shall be prepared and seasoned in the following manner: It shall be stacked and air dried in storage yards for a sufficient period, not less than two years, to properly season the material, the piles being so stacked as to permit a free circulation of air around the material. After a proper period of seasoning, the material shall be placed in kilns and shall be thoroughly saturated with wet steam. After the steam is turned off, the room shall be kept at an even temperature, thermostatically controlled, and the material dried slowly, in order to prevent case hardening, until it contains a moisture content of approximately 5%. Hourly tests of the temperature in the kilns are to be noted and the temperature is to be so regulated as to insure a perfect drying of the wood.

Following the treatment in the kilns, all lumber is to be stored in a warm dry room where it is to be kept under an even temperature until it is used in the instrument.

Frame and Sill

The frame and sill are to be of selected hard wood properly framed and so constructed as to assure absolute rigidity. The dimensions of the material are to be sufficient in width and thickness to carry more than twice the actual load. All material is to receive not less than two coats of shellac.

Wind Chests

Wind chests shall be constructed of the finest grade of lumber, selected for its quality and close grain texture. They shall receive two coats of shellac, entirely filling the surface pores of the wood, and providing adequate protection against changing atmospheric condition.

Wind chests are to be packed with cork in preference to leather, or other substitutes, preventing any leakage of air due to changes in atmospheric conditions, or hardening of the packing materials.

The grooves shall be flooded with a white lead mixture to prevent leakage or seepage of air through the pores of the wood. The mixture shall contain special ingredients to prevent any possibility of flaking.

The rack board holding the pipes in place shall receive two coats of shellac.

All pipes shall be carefully fitted to the chests. The toes are to rest on counter-sunk holes which have been seared and shall be so fitted as to prevent any noticeable escape of air around the toes of the pipes when in use.

All wind chests are to be so constructed as to be readily accessible for prompt and quick inspection, so that in an emergency all chest parts may be instantaneously examined.

Wood Conveyors

The wood conveyors are to be glue-sized on the inside and covered with two coats of shellac, to be made with flexible joints, avoiding undue strain and preventing leaks.

Provision is to be made to take care of shrinkage or expansion, due to climatic changes.

Metal Wind Conveyors are to be made of galvanized iron of suitable gauge, with joints and elbows sealed in the galvanizing process and coated with rust proof gray enamel paint.

Bellows and Regulators

Bellows and Regulators are to be double leathered inside and out, with the finest alum tanned sheepskin, selected for softness and uniformity of thickness. Pressure is to be obtained by the use of high tempered, especially constructed, steel bellows springs, in combination with adjustable weights. No more than 25% of the pressure shall be maintained by weights.

Swell Boxes

Swell Boxes, whenever provided for, are to be constructed of two thicknesses of sheathing with an air space and lining of celotex between the sheathing. The interior is to receive not less than two coats of an extra heavy high lustre varnish in order to prevent absorption of tone by the box, and to increase its resonant properties.

Swell Shades and Motor

Swell shades are to be constructed of laminated materials, of suitable thickness. They are to swing on metal pins embedded in a properly lubricated, especially designed bearing, assuring freedom of action and preventing squeaking or binding.

They are to be bevelled and felted with a high percentage woven wool felt, insuring long wear and entirely eliminating the danger of packing and hardening. The felt is to be fitted to the bevelled edge of the shutter in such a manner as to form an interlocking joint, which, when closed, provides a sound trap.

The Swell shades are to be actuated by an accordion bellows type motor, moving all shades at once and containing a sufficient number of adjustable divisions to assure the greatest flexibility in controlling the gradation of tone. It shall be so constructed as to be silent and rapid in operation.

ACTION

Pneumatics

Pneumatics shall be made only of leather, no rubber cloth or substitutes being employed in any portion of the instrument.

Leather shall be from imported skins of young lambs only, assuring freedom from porousness and pin holes. The skins shall be prepared in a vegetable tannage, which, when finished, leaves the skin free from grease and acid, eliminating any possibility of corrosion, and also preserving the delicate properties required to guarantee the quick repetition which the action demands.

Pneumatics shall be of the bellows valve type, fitted with pallets of felt and leather, the pallets of all of the large pneumatics being screwed in place. All leather used in making pallets shall be of the finest selected lambs' skins.

The interior of all pneumatics shall be packed with felt containing a high percentage of wool, especially made for our purpose, preventing noise of operation.

Electrical Equipment

All electrical equipment shall be in accordance with the recommendations and shall have passed the inspection of the National Board of Fire Underwriters.

Cables

Cables are to be constructed of tinned copper wire, each wire wrapped with a layer of silk and two layers of cotton, applied in reverse directions. Each conductor is to be color coded so that the same wire may be easily distinguished from either end. The triple insulated wires are to be formed spirally into a cable, making the cable extremely flexible. The cable is then to be thoroughly saturated with wax and covered with a heavy waxed manilla paper, rendering it impervious to moisture, and the whole is to be encased in a closely woven flame-proof braid.

The console cables are to be covered with a closely woven flame-proof tape.

Magnets

Magnets shall be of low current consumption, horseshoe type, of rugged construction, all parts being interchangeable. Bases shall be made of an alloy which will positively prevent twisting or warping.

Magnets shall be of the most efficient type known or constructed.

All packing on armatures is to be secured by the use of a copper binding, thereby eliminating any danger of silent notes, or ciphers, caused by loosened packing.

Contacts

All contacts throughout the organ shall be of phosphor bronze metal and sterling silver, thus preventing any possibility of corrosion.

Generator

The generator, whenever provided for, shall be of sufficient size to supply current for all possible demands. It shall be especially constructed and designed for organ use. It shall have adequate and accessible oiling facilities.

Blower

The electric blower, whenever provided, shall be of a standard type of construction and shall be of sufficient size to supply wind for all possible demands.

Blower, motor and generator are to be mounted on one continuous shaft whenever possible, eliminating belts and gaining in quietness.

Console

The console is to be the Estey Master Key Desk, modern in engineering and design. The utmost in accessibility of every moving part is guaranteed.

The console case is to be of native hard wood, of appropriate design and finish, sample of which is to be approved by the purchaser. A roll top cover with a heavy lock shall be provided with each console.

Keys

The keys shall be made of especially selected, straight grain sugar pine, chosen for color and texture. Keys are to be fitted into individual frames, set at a predetermined angle, affording the greatest ease and facility to the organist. The frames are securely dowelled together and provided with heavy felt pads for bedding the keys, absorbing all possible vibration, or noise of operation, and resulting in a quiet action.

The frames are so designed in their relation to the contact rails that at no time can the adjustment between key and contact alter, due to atmospheric or other conditions.

Key touch is to be of the "top resistance" variety, the variation in weight of touch being obtained by a single spring made of a special alloy, thereby assuring an even and unchanging touch throughout the life of the instrument.

The adjustments for the initial weight of touch, depth of touch, and contact depth are all to be easily and constantly accessible and adjustable for every key.

The initial resistance in depressing the key is to be two and a half ounces, gradually reducing to one and a half ounces resistance at the bed, also providing rapid recovery.

Key Contacts

Multiple contacts, of silver wire, are fastened to a contact rail, which in turn is attached to the key frame. This rail also carries the cable, each wire of which is soldered directly to the key contact wire.

An adjustable phosphor bronze plate, faced at the point of contact with a sterling silver bar, is fastened to the under side of the key. This plate is then directly connected to the main feed, with an especially made flexible braided copper conductor, eliminating any breaking contact for the feed and assuring an ample supply of current to the plate.

The contact plate is so placed on the key that when making contact with the silver wires a sliding motion is produced, insuring a self-cleaning contact.

Contact wires are sterling silver from the point of contact through the contact block to the cable.

The entire design of contacts and feeds is so worked out as to positively prevent sparking and consequent erosion of the contacts.

Pedals

The Pedal keyboard is to be of standard A. G. O.—Willis Pattern measurements.

Pedal contacts and plates are of rugged construction and thoroughly protected from dirt. They are also instantly adjustable.

Coupler and Relay Switches

The coupler action is to be electro-pneumatic, with switches operated by amply powered motors, engaging and clearing each contact by a wide margin, so that *every* note shall be either "on" or "off."

Switches are of the rocking gang switch type, consisting of a series of silver wire contacts attached to the switch-bar in such a manner as to exert, when in the "on" position, a constant pressure against the phosphor bronze contact plates.

Switches are so designed that when coming into the "on" position they produce a rubbing, self-cleaning contact. Each switch is provided with a guide, assuring perfect alignment of all contacts and the bar is so constructed as to eliminate all possibility of warping. The bearings are heavily bushed in hard wood blocks and are laterally adjustable. They are conveniently and individually demountable from the coupler or relay stack.

The electro-pneumatic motor actuating the switch is automatically self-adjusting, of ample power and silent in operation.

Each coupler stack is pivoted and rests in a ball and socket bearing, through which the wind is supplied to the power pneumatics. They may be swung outward, providing easy access, not only to either side of the switchboard, but to all other parts of the console.

Swell Shoes

Swell shoes and contacts are mounted in units in the console frame, each unit having a constant friction device. The contacts for operating the shade motors are self-aligning and of constant adjustment. A rubbing contact is also provided and so designed as to be unbreakable from usage or crystallization.

Crescendo Pedal

The Crescendo Pedal unit is mounted on the console frame and connected to the adjustable Crescendo commutator by a heavy connecting rod with bushed centers and heavy center pins. The commutator contacts are to be so constructed as to be self-cleaning and may be so adjusted as to bring on any stop at any desired point. Any stops also may be so set as to be unaffected by the Crescendo Pedal.

An indicator shall be provided for the Crescendo Pedal, electric in operation and containing no mechanical working parts.

Sforzando Pedal

The Sforzando Pedal shall be reversible and adjustable so that any stops or couplers may be disconnected therefrom. The switches are to be of the same general design as the coupler switches, employing silver contacts and making a rubbing contact on the plates.

An electric indicator light shall be provided for the Sforzando Pedal.

Combination Action

The combination action is to be made on the capture system, permiting the organist to instantly set any desired combination.

It shall be made of standard parts, interchangeable, compact in construction, readily

accessible, fast and silent in operation. It shall be placed in the console.

All working parts are made of non-corrosive metals carried in heavily bushed bearings with self-aligning guides fitted with shock absorbers.

Stop Action

Unless otherwise specified, stop action shall be of the stop key type. Stops and couplers are to be placed either above the top manual, or on 45° side jambs, as may be specified.

Stop keys are mounted on a universal center, with special non-resistant bearings and are held in the "on" or "off" position by adjustable springs.

The whole assembly is mounted on the nameboard in such a way as to secure perfect alignment and uniform tension.

The sterling silver contacts are mounted in individual units, are self-cleaning and instantly adjustable.

The lettering of stop keys shall be in black for speaking stops and red for couplers and mechanical devices, unless otherwise specified. Special markings, to designate unified stops, shall be employed, so that the fundamental sources of all borrowed stops may be readily apparent.

Clock

An eight-day Westbrook clock shall be mounted in a convenient position in the console.

Pipes and Voicing

No stopped, or mitered basses shall be used in any normally open stop.

The scales of all pipes shall be selected for the particular conditions for which the organ is designed, great care being taken not only in the individuality of the tone for each stop, but in the blending with other stops, so as to form a perfect ensemble.

Great care is to be taken also in the selection of the material of which each stop is made, in accordance with the character of tone to be produced by the pipes.

The voicing is to be done under expert supervision, by artists trained as specialists in individual tone families.

The organ is to be completely set up and tone regulated at the factory, the voicing thoroughly checked, and is also to be carefully tone regulated again when finally installed in its permanent location.

The greatest of care having been used in the design of the wind chests and regulators, so that an unvarying wind pressure may be assured under all conditions, the artistic success of the voicing is thereby made doubly sure.

Wood Pipes

All wood pipes shall be made of specially selected stock, free from knots and flaws, and thoroughly seasoned. They shall be glue-sized on the inside and covered with two coats of shellac. Hard woods shall be used for caps and mouth pieces.

Stoppers shall be made of end-grain stock, laminated and fitted with a heavy cork pad accurately adjusted to the inside of the pipe. The handles are to be wedged from the under side of the stopper, insuring firmness.

Feet on all large pipes are to be fitted with wind gates to permit accurate tone regulation. All other wood pipes are to be fitted with patented metal toes, eliminating the use of cumbersome wooden plugs.

Metal Pipes

Metal pipes shall be made of special alloys cast from basic metal in our own factory, the basic scales having been worked out after years of experience and the scaling and thickness of metals scientifically determined.

The proportion of metals in the alloys is to be according to formulas developed by our experts and designed to give the most artistic results for each individual tone color.

Case Work

Case work, whenever provided for, is to be made of native hard wood of appropriate design, the design and sample of finish to be submitted to the purchaser for approval.

This contract provides for sq. ft. of ornamental case and front pipes.

Should front pipes be included in the case work, they are to be finished in plain dull gold bronze, unless otherwise specified.

Layout

In designing the layout of the instrument, care shall be taken to provide passage boards, ladders, etc., rendering easy access to all parts of the instrument, for tuning or adjustment.

WITH A VIEW TO SECURING THE GREATEST POSSIBLE DURABILITY AND UTILITY NONE BUT THE BEST AND MOST IMPROVED MATERIALS AND METHODS OF CONSTRUCTION SHALL BE USED IN ANY PART OF THE INSTRUMENT, SO THAT THE COMPLETE INSTRUMENT SHALL BE OF THE HIGHEST ORDER OF EXCELLENCE.

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