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PROPOSITIONS

OF THE

SAN JOAQUIN AND SAN FRANCISCO

WATER WORKS COMPANY.

(1877)

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**PROPOSITION No. 1.**

TO THE HONORABLE

THE BOARD OF WATER COMMISSIONERS

For the City and County of San Francisco.

**The San Joaquin and San Francisco Water-works  
Company,**

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A corporation duly organized, incorporated, and now existing under and by virtue of the laws of the State of California, begs leave to submit to your Hon. Board the following proposition, relative to the construction and sale to the city and county of San Francisco of water-works, having an available capacity for the delivery of fifty-five millions of gallons, daily, and forming the basis and very considerable portion of finished work of a system in which this delivery may be made one hundred millions of gallons, daily, at a minimum additional cost. The proposition embraces structures whereby the great volume of the San Joaquin river, after it shall have been fed by the waters of the Stanislaus, the Tuolumne, the Merced and the Upper San Joaquin, may be tapped and brought in such quantity as required, directly to the point of greatest demand and use, namely: the most densely inhabited portion of the city of San Francisco. This water is derived directly, and, except during the immediate prevalence of the rainy season, solely from the snow-fields, of one of the most elevated portions of the high Sierras. Upon the merging of the above named rivers into and with the channel and body of the main San Joaquin, it is carried on to the junction with the Sacramento and the waters of Suisun bay. Before reaching the salt waters of said points of junction, by some sixty miles, the river spreads into an ex-



tensive basin, with three main channels or arms, which, re-joining at a point at least twenty miles above where the water begins to be brackish, combines such length, breadth and depth, as to provide not only great capacity as a settling reservoir, if needful, but also a top tidal prism of between 3,000 and 4,000 million gallons of unexceptionally good, pure, potable water, available for use and constantly fed by the inflowing river. The statement of the sources precludes the necessity for discussion as to the quality of the proposed supply. Pursuing, however, the course adopted with all of the others of this group of mountain waters proposed as a city water supply, the accompanying report and analysis by Prof. Price, of samples of the water taken by himself at the place of appropriation on the west side of the basin herein mentioned, is submitted.

This analysis, with comparisons made and shown with the waters of other cities, as also with the waters of Spring Valley and Clear Lake, contains its own argument.

Under the authority of the laws of the State of California and of the United States, the company has taken all needful steps in securing control of water rights and the right of diversion of this San Joaquin water, at what is the most suitable locality at which this portion of the river can be tapped by the works of appropriation.

For this appropriation and final use, the company now propose to provide a double set of pumping works, connected by proper conduits, in which there shall be: *First*, a *Low Service* receiving and pumping station in the vicinity of Marsh's Landing, in Contra Costa county, connected with the point of appropriation on the one side by a closed conduit of one hundred million gallons, daily capacity, and on the other side with the city of San Francisco, by an iron conduit about fifty-seven miles long, through which the water to be consumed shall be, by proper machinery, forced directly into the city of San Francisco, and delivered there, into a low-level receiving reservoir; and, *Second*, a *San Francisco Service* of pumping works, which shall take the water thus received, and, lifting it to such levels as shall meet the wants of the city, produce thereby such heads over all portions of the city's very irregular surface as shall secure as near as may be uniform and inexpensive distribution. The specific structures of this system of works which the Company will construct for the consideration to be named hereafter, may be briefly enumerated as follows:

### 1st. Of the Low Service Permanent Works.

(a.) *Head-Works* at the place of appropriation of water, designed and constructed to pass and to control a volume of one hundred millions of gallons of water, daily, into the conduit connected therewith; a *conduit* of ten and one-half feet internal diameter, so constructed that no water, except through the head-works, shall flow into or through it, and of a daily capacity of one hundred millions of gallons, and of a length of twelve miles, more or less, connecting said head-works with a pair of *Receiving Wells*, located in vicinity of Marsh's Landing, and built in the best manner, of hard brick laid in hydraulic cement, and comprising all needful connections, gates, coverings and appliances requisite to make them effective in sustaining a constant water supply to the pumps, to the ultimate daily extent of one hundred millions of gallons.

(b.) In the vicinity of Marsh's Landing sufficient *grounds acquired* and fenced to meet all demands for buildings and structures which, under the plan here proposed, will be requisite for an ultimate supply of one hundred millions of gallons daily; *Engine and Boiler Houses* of brick, designed to accommodate sufficient of the "Worthington Duplex" pumping machinery to produce a flow, when required, of fifty-five millions of gallons, daily, into the city of San Francisco; *Pumping Machinery*, and boilers and appliances, all in place ready for action, and of capacity sufficient for the demand, at time of completion of works, of, say twenty millions of gallons, daily.

*Pump Wells* connected by first-class brick channels or culverts, with the receiving wells, noted hereinbefore.

*Ships Wharf*, connected by iron track, with *coal sheds* and coal yard in immediate proximity to boiler rooms; *Wooden Tenement Buildings* of capacity and design suitable for engineers, firemen and helpers, required to operate the machinery adopted in this plan of works, up to a delivery of fifty-five millions of gallons daily.

(c.) From this Low Service Pumping Station an *Iron Conduit* fifty-seven miles in length, more or less, of six and one-half feet internal diameter, constructed in such manner and of such metal, as to carry fifty-five millions of gallons of water, daily, without being strained under its maximum work beyond 12,500 pounds per square inch of metal section; together with

all *stop-gates, air-valves, sediment chambers and cocks*, and other necessary appliances, to its effective working from end to end. Also, with a *right of way* sufficient to accommodate another conduit when required, and *fenced through* all private lands, or wherever it may be proper to provide such protection of the grounds.

The line of this conduit to be from the low service pump station; thence back of Antioch, New York and Pittsburg, to the low lands bordering Suisun Bay, and thence to and in front of the town of Martinez, around the bluff line of Carquinez Straits and San Pablo Bay, usually inside of the railroad line, and through tunnels or galleries to be provided, to San Pablo; thence through Oakland, to the mouth of and through the tunnel under the Bay of San Francisco to the receiving station within that city.

(d.) A *Wrought-iron tunnel tube*, of about five miles in length, of ten and one-half feet internal diameter, and laid beneath the bottom of the bay of San Francisco, from shore to shore, and at such depth, that the top of the tube shall nowhere have less than ten feet of material over it. This tunnel, with its contained water pipe, will safely provide a passage across the bay for one hundred millions of gallons of water, daily, when required, and delivered to the Oakland end of the tunnel conduit. *All appliances* that belong to said tunnel and water-pipe within, including an *endless wire rope*, properly hung on pulleys, and with which, by means of engines and drums on the San Francisco side, communication through the tunnel, from end to end, is established and maintained, and with which, also, by means of an *iron railway* laid on top of the water-pipe, and *trucks or cars* to run thereon, gangs of workmen may be passed to and fro, in necessary works of inspection and maintenance; together with the brick *tunnel ends or shafts* upon the main shores, and through which communication is effected from the ground surface with the tunnel interior.

#### 2d. Of the San Francisco Station and Works.

(a.) *Receiving Reservoir*, built in the best requisite manner, of concrete bottom, and sides of pressed brick, laid in hydraulic cement. Within this receiving reservoir the height of the inlet delivery to be about eight feet above mean low tide.

(b.) *Engine and Boiler Houses* and appliances, fire-proof, of hard brick, and of such dimensions and design as shall best accommodate "Worthington Duplex" pumping machinery to the extent required for a distribution of fifty-five millions of gallons of water, daily; together with sufficient "Worthington Duplex" pumping machinery, with boilers, and all connections ready for use, for the delivery of twenty millions of gallons of water, daily, being the amount presumed to safely cover the city's demand at the time of the completion of these works; also with *pump wells*, and culverts and channels connecting same with the aforementioned receiving reservoir.

(c.) The entire series of buildings and reservoir to be surrounded by a brick wall of proper height, containing necessary iron gates.

(d.) From the coal and boiler houses a *wire rope railway* to connect with the wharf where coal is to be landed, together with sufficient *cars* to meet the immediate demand in handling fuel from ship's side to the boilers.

*This wharf* to be provided by the city, and during the period of construction of said works to be devoted to the use of the Company in the furtherance of said construction.

(e.) A *Telegraph Line* from San Francisco station, through the tunnel to Oakland and thence to Low Service pump station, and thence to head works on the San Joaquin river, together with all necessary instruments and batteries for the immediate operation of said line.

No attempt is made in *this* document to set forth the details of the works thus enumerated; but for the more perfect elucidation of our proposition and method and manner of its execution, we refer you to the accompanying papers, marked A and B, prepared by Col. Wm. B. Hyde, civil engineer, which also embrace a vast amount of information upon "water supply."

This Company will construct the works therein described as hereinbefore enumerated, and will turn them over to the city, together with water rights, lands and construction plant necessary for estimated future extensions, for the sum of

of the bonds of the city and county of San Francisco.

As prescribed in the law under which these proceedings for the acquisition of water-works are conducted, said bonds shall be of denomination of \$1,000 each, and payable in 30 years from

date of issue, with coupons, for interest at the rate of six per cent. per annum, payable semi-annually, both principal and interest payable in U. S. gold coin at the office of the Treasurer of said city and county; subject to the restrictions, limitations and conditions which are imposed by said law, the mode, manner and rate of payment of said bonds to be based upon the following terms:

After the agreement upon and adoption of the specifications to govern the construction of the works as herein proposed, and confirmation by the election of the qualified voters of the city and county of San Francisco as provided by law, the engineer of the Board of Commissioners, together with this Company's engineer, shall mutually agree upon the number and limiting features of certain sub-divisions into which the works as proposed to be built by this Company shall be divided. Together with such others as said engineers shall agree upon, these sub-divisions shall include as such:

1. The head works, conduit, and all appliances therewith.
2. The works, buildings, machinery, receiving wells, and all connections and appliances, of the Low Service pumping station.
3. The main iron conduit and appliances, from Low Service pump station, to the Oakland end of tunnel, under the bay.
4. The tunnel under the bay from and between and including its terminal brick shafts and ground connections, together with its interior structures as specified.
5. The entire series of constructions belonging to the San Francisco station.
6. Right of way and all necessary real estate for the works.

Then the said engineers shall decide upon and adopt the proportion in value which each of said sub-divisions decided upon, shall bear to the total amount to be paid this Company by the city and county aforesaid for all of the works hereinbefore enumerated. Such sub-divisions, with their relative value as thus ascertained, to form the basis upon which progressive payments shall be made.

As the work advances, and from month to month, the city's engineer, together with the company's engineer as aforesaid, shall agree and decide what proportion the amount of labor and material furnished by the company in such progress bears to the value found and fixed for such sub-division, or any or all of

them in which work has been done and progress made and material furnished; and thereupon the engineer for the city shall issue to the company a certificate or certificates, if the work done and material furnished and to be paid for has been advanced in more than one sub-division simultaneously, bearing date the first of the month following that in which work was done and material furnished, and for which the certificate is issued, said certificates stating the facts found as aforesaid. Upon the presentation of the said certificate or certificates by the company or its assigns, to the auditor of the city and county, said auditor shall audit the same. Thereupon the Mayor of the city and county, subject in all respects to the restrictions, limitations and conditions of the law, shall deliver to the holder of said certificate or certificates, the city bonds, by said law to be provided for such purpose, to the extent of eighty per cent. as near as may be done with \$1,000 bonds, of the amount certified to. Upon the completion of the entire works, and upon certificate of the city's engineer thereto, and upon the execution and delivery to the city of such deeds of conveyance as shall be needful as complete evidence of the city's acquired ownership of said works, then in like manner the Mayor shall deliver to said Company or assigns the full number of the bonds withheld and necessary to complete the price and total amount agreed upon between said city and Company.

Immediately upon the delivery of bonds by the Mayor upon certificates as hereinbefore provided, to the extent of said eighty per cent., the said city and county shall have for the amounts of said bonds thus delivered a first lien upon the property which is in process of construction, as a security for the fulfillment of the contract by the Company, but not to interfere in any manner with the use of the same by the Company during their work of fulfillment of the contract with the city.

The Company will complete said works, as agreed upon and deliver the water from the head works on the San Joaquin river into the receiving basin in San Francisco, within thirty months from and after the date of the official declaration that the vote of the people has endorsed and authorized the contract; *provided* the said city and county shall have performed the matters and things in the contract on its part to have been done and performed.

The attention of your Honorable Board is asked to the fact

that all of the permanent works hereinbefore proposed, with the exception of portions of machinery necessary to complete this supply, are to have an immediate capacity for the delivery of 55,000,000 of gallons daily; such additions of machinery being the sole subsequent expense to produce that delivery; and further, that the works will require hereafter but the addition of a single line of conduit from the Low Service pump station to the Oakland end of the tunnel, together with requisite machinery, to be capable of a delivery of 100,000,000 of gallons of water, daily, into San Francisco.

This proposition includes no estimate or proffer for works and mains of distribution within the city. It will be evident to your Honorable Board that this department of water-works, being common to all propositions, is not of necessity a factor in arriving at the relative cost of various projects; and again, unless the city adopt and announce some standard to govern the plan and construction of such works, it will be difficult to secure perfectly just comparative results in the *final annual cost* of different schemes of water supply, it being obvious that the cost of distribution works, if based upon the character and capacity of the pipage and connections now laid within the city, will be much less than if the corresponding works of Boston, Chicago or St. Louis, should be taken as models.

When the city adopts its standard and plans, this Company will, if permitted, make a bid thereon, or, at the request of your Honorable Board, this Company will prepare and submit plans and estimates for such works as would be specially adaptable to the system of water supply herein proposed. In the meantime, and to secure a knowledge of the probable cost of this branch of works, the attention of your Honorable Board may be directed to the estimates made by the city's former engineer, Mr. T. R. Scowden, in which, for the distribution works of the proposed "Calaveras" supply, the estimate submitted was \$2,617,239. (Vide p. 38, appendix Municipal Reps.)

The Act authorizing your Commission, and under which you are acting, requires your examination of the water supply that you may adopt; we therefore, invite your Honorable Body to an examination of the water supply which we propose to furnish, and shall take pleasure in providing the means of

conveyance, on being advised of your wishes in relation thereto. Our proposition will be changed or modified to meet your views, if not involving the essential features of it.

San Francisco, Feb. 21, 1877.

For the San Joaquin and San Francisco Water Works Company.

*President.*

*Secretary.*

PROPOSITION No. 2.

TO THE HONORABLE

THE BOARD OF WATER COMMISSIONERS

For the City and County of San Francisco.

**The San Joaquin and San Francisco Water-Works Company,**

A corporation duly organized, incorporated and now existing, under and by virtue of the laws of the State of California, begs leave to submit to your Honorable Board the following supplemental proposition, relative to the construction and sale to the city and county of San Francisco of water-works, having an available capacity for the delivery of 40,000,000 of gallons daily, and forming the basis and very considerable portion of finished work of a system in which this delivery may be made 80,000,000 or 120,000,000 of gallons daily, at a minimum additional cost.

This proposition, in common with the first proposition of this Company, embraces structures whereby the great volume of the San Joaquin River may be tapped and brought in such quantity as required, to the city and county of San Francisco. Referring to said first proposition for such descriptive memoranda, relating to said water supply, as may be important, including a careful analysis of the waters by Prof. Thos. Price, this Company now states that, under the authority of the laws of the State of California, and of the United States, the Company has taken all needful steps in securing control of water rights, and the right of diversion, of this San Joaquin water, at what is the most suitable locality at which the river can be tapped by the works of appropriation.

For this appropriation and final use, the Company now propose to provide a double set of pumping works, connected by proper conduits, and in which there shall be : *First*—A low-service-receiving and pumping station in the vicinity of Marsh's Landing, in Contra Costa County, connected with the point of appropriation on the one side by a closed conduit, of 100,000,000 gallons daily, capacity, and on the other side with the city of San Francisco, by an iron conduit, one hundred and twenty-two miles long, more or less, through which the water to be consumed shall be, by proper pumping machinery, forced or pushed directly into the receiving reservoir at the San Francisco end of such conduit; and, *Second*—A San Francisco service of pumping works, which shall take the water thus received, and, lifting it to such levels as shall meet the wants of the city, produce thereby such heads over all portions of the city's very irregular surface as shall secure, as near as may be, uniform and inexpensive distribution.

The specific structures of this system of works, which the Company will construct for the consideration to be named hereafter, may be briefly enumerated as follows :

**1st. Of the Low-Service Permanent Works.**

(a.) *Head-Works* at the place of appropriation of water, designed and constructed to pass and control a volume of 100,000,000 of gallons of water daily into the conduit connected therewith. A *Conduit* of ten and a-half feet, internal diameter, so constructed that no water, except through the head-works, shall flow into or through it, and of a daily capacity of 100,000,000 of gallons, and of a length of twelve miles, more or less, and connecting said *Head-Works* with a pair of *Receiving Wells*, located in the vicinity of Marsh's Landing, and built in the best manner, of hard brick, laid in hydraulic cement, and comprising all needful connections, gates, coverings and appliances requisite to make them effective in sustaining a constant water supply to the pumps, to the ultimate daily extent of 100,000,000 of gallons.

(b.) In the vicinity of Marsh's Landing, sufficient *grounds acquired* and fenced to meet all demands for buildings and structures which, under the plan here proposed, will be requisite for an ultimate supply of 100,000,000 gallons, daily. *Engine and Boiler-Houses*, of brick, designed to accommodate sufficient of

the "Worthington Duplex" pumping machinery to produce a flow, when required, of 40,000,000 of gallons, daily, into the city of San Francisco. *Pumping Machinery*, boilers and appliances, all in place, ready for action, and of capacity sufficient for a supply of 20,000,000 of gallons, daily. *Pump Wells*, connected by first-class brick channels or culverts, with the receiving-wells noted hereinbefore. *Ship's-Wharf*, connected by iron track with *Coal-sheds* and *Coal-yard*, in immediate proximity to boiler-rooms. *Wooden tenement buildings*, of capacity and design suitable for engineers, firemen and helpers, required to operate the machinery adopted in this plan of works, up to a delivery of 40,000,000 gallons, daily.

(c.) From this low-service pumping station, an *Iron Conduit*, one hundred and twenty-two miles in length, more or less, of six and one half feet, internal diameter, constructed in such manner, and of such metal, as to carry 40,000,000 of gallons of water daily, without being strained, under its maximum work, beyond 12,500 lbs. per square inch of metal section. Together with all *Stop-gates*, *Air-valves*, *Sediment chambers*, and *Blow-off cocks* or *gates*, and other necessary appliances to its effective working, from end to end. Also, with a *right of way* sufficient to accommodate another conduit when required, and *fenced* at all points where it may be proper and necessary to provide such protection.

The line of this conduit to be from the low-service pump station, thence back of Antioch, New York and Pittsburgh, to the borders of Suisun bay, thence to and in front of the town of Martinez, around the bluff line of Carquinez straits and San Pablo bay, usually inside of the railroad line, and through tunnels or galleries, to be provided, to San Pablo valley; thence through Oakland and Alameda, or around back of those cities, following the line of hard ground along the swamp land bordering the bay to Alviso; thence along the shore-line of the opposite side of the bay, past the towns of Ravenswood, Menlo Park and others, to a point on the south side of Sierra point, and into the receiving reservoir, there to be located. For the six miles requisite to carry the line through or past the cities of Oakland and Alameda, the line to be laid from the first with two pipes, of iron heavy enough to make a safe structure beneath whatever streets or road-ways it may be necessary to pass; and providing, so far as the passage of said

cities is concerned, water-way for a flowage of 80,000,000 gallons, daily, without any additional expense to the city and county of San Francisco.

## 2d. Of the San Francisco Station and Works.

(a.) *Receiving Reservoir*, of sufficient size to maintain a steady supply to the San Francisco main pumps, and built in the most substantial manner. Within this receiving reservoir the height of the inlet delivery to be about twenty-eight feet above mean low tide.

(b.) *Engine and Boiler-houses*, and appliances, fire-proof, of hard brick, and of such dimensions and design as shall best accommodate "Worthington Duplex" pumping machinery, to the extent required for a distribution of 40,000,000 of gallons of water, daily; together with sufficient "Worthington Duplex" pumping machinery, with boilers, and all connections ready for use, for the delivery of 20,000,000 of gallons of water, daily, being the amount presumed to safely cover the city demand at the time of the completion of these works; also, with *Pump Wells*, conduits and channels, connecting the same with the afore-mentioned receiving reservoir.

(c.) *Coal Wharf*, extending to such depth of water that barges can unload with facility at all stages of the tide; and from the coal and boiler-rooms a railway, to be operated by traveling wire rope, or other economical mechanical appliance, to extend out upon said wharf for the purpose of handling fuel from ship to furnace, with minimum cost to the city.

(d.) *Telegraph Line*, from San Francisco station as directly as possible to the low-service pump station, and thence to the head-works on the San Joaquin river, together with all necessary instruments and batteries for the immediate operation of said line.

Such details as it is possible to determine at this stage of negotiations, where not discussed and shown in the papers already submitted with Proposition No. 1, will be found in the memoranda accompanying this proposition.

This Company will construct the works as herein enumerated, and as more fully set forth in papers and memoranda herein mentioned, and will turn them over to the city, together with water-rights, lands and construction plant necessary for future extensions, for the sum of

in the bonds of the city and county of San Francisco.

As prescribed in the law under which these proceedings for the acquisition of water-works are conducted, said Bonds shall be of denominations of \$1,000 each, and payable in thirty years from date of issue, with coupons for interest at the rate of six per cent. per annum, payable semi-annually, both principal and interest payable in U. S. gold coin, at the office of the Treasurer of said city and county.

Subject to the restrictions, limitations and conditions which are imposed by said law, the mode, manner and rate of payment of said bonds to be based upon the following terms: After the agreement upon and adoption of the specifications to govern the construction of the works, as herein proposed, and confirmation by the election of the qualified voters of the city and county of San Francisco, as provided by law, the engineer of the Board of Commissioners, together with this Company's engineer, shall mutually agree upon the number and limiting features of certain sub-divisions into which the works, as proposed to be built by this Company, shall be divided.

Together with such others as said engineers shall agree upon, these subdivisions shall include as such:

- 1st. The head-works, conduit, and all appliances therewith.
- 2d. The works, buildings, machinery, receiving wells, and all connections and appliances of the low-service pumping station.
- 3d. The main iron conduit and appliances from the low-service pump station at Marsh's Landing or vicinity, to San Pablo valley.
- 4th. Ditto from San Pablo valley through Oakland and Alameda to Alviso.
- 5th. Ditto from Alviso to the receiving reservoir.
- 6th. The entire series of constructions belonging to the main San Francisco stations.
- 7th. Right of way, and all necessary real estate for the entire works as proposed.

Then the said engineers shall decide upon and adopt the proportion in value which each of said sub-divisions decided upon shall bear to the total amount to be paid this Company by the city and county aforesaid, for all of the works hereinbefore enumerated. Such sub-division, with their relative value as thus ascertained, to form the basis upon which progressive payments shall be made. As the work advances and from month

to month, the city's engineer, together with the Company's engineer, as aforesaid, shall agree and decide what proportion the amount of labor and material furnished by the Company in such progress bears to the value found and fixed for such sub-division or any or all of them in which work has been done, progress made and material furnished; and thereupon the engineer for the city shall issue to the Company a certificate, or certificates, if the work done and material furnished and to be paid for has been advanced in more than one sub-division simultaneously, bearing date the first of the month following that in which the work was done and material furnished, and for which the certificate is issued, said certificate or certificates stating the facts found as aforesaid. Upon the presentation of the said certificate or certificates by the Company or its assigns to the Auditor of the city and county, said Auditor shall audit the same. Thereupon the Mayor of the city and county, subject in all respects to the restrictions, limitations and conditions of the law, shall deliver to the holder of said certificates or certificate, the city bonds by said law to be provided for such purpose, to the extent of 80 per cent., as near as may be done with \$1,000 bonds, of the amount certified to. Upon the completion of the entire works and upon certificate of the city's engineer thereto, and upon the execution and delivery to the city of such deeds of conveyance as shall be needful as complete evidence of the city's acquired ownership of said works, then in like manner the Mayor shall deliver to said Company or assigns the full number of the said bonds withheld, and necessary to complete the price and total amount agreed upon between said city and county and this Company.

Immediately upon the delivery of bonds by the Mayor upon certificates as hereinbefore provided to the extent of said 80 per cent., the said city and county shall have for the amounts of said bonds thus delivered, a first lien upon the property which is in process of construction, as a security for the fulfillment of the contract by the said Company, but not to interfere in any manner with the use of the same by the Company during their work of fulfillment of the contract with the city.

The Company will complete said works as agreed upon and deliver the water from the Head-works on the San Joaquin river into the receiving basin at the San Francisco works, within three and a half years from and after the date of the

official declaration that the vote of the people has endorsed and authorized the contract: *Provided* the said city and county shall have performed the matters and things in the contract on its part to have been done and performed.

The attention of your Honorable Board is asked to the fact that all of the permanent works herein proposed, with the exception of portions of machinery, are to have an immediate capacity for the delivery or carriage of 40,000,000 of gallons, daily; additions of machinery being the sole subsequent expense to produce that delivery; and further, that the works will require, hereafter, but the addition of a single line of pipe from the Low Service pump Station to the San Francisco Station, minus the six miles of said double line already laid through Oakland and Alameda, together with the requisite machinery, to be capable of a delivery of 80,000,000 of gallons of water, daily, into San Francisco.

For reasons stated in proposition No. 1, this proposition also includes no estimate or proffer for works, mains and reservoirs of distribution, although, as before, based upon the estimate heretofore made upon that subject by the city's former engineer, Mr. T. R. Scowden, an approximate estimate for distribution has been shown and carried forward in the papers accompanying these two propositions, in order to arrive at the final showing of the cost per 1,000 gallons with fully completed works.

Should the Board deem it expedient and necessary that said works shall be completed within three years from date of affirmative vote, this Company, for \$ more than the price of \$ heretofore given, will contract to so complete said works within said three years.

San Francisco, May 2, 1877.

For the San Joaquin and San Francisco Water Works Company.

*President.*

*Secretary.*