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**REPORT TO PORT RENFREW UTILITY SERVICES COMMITTEE
MEETING OF TUESDAY, AUGUST 4, 2015**

SUBJECT PROPOSAL FOR WATER SYSTEM IMPROVEMENTS

ISSUE

At the meeting of June 22, 2015, the Port Renfrew Utility Service Committee (PRUSC) directed the Capital Regional District (CRD) staff to work with the developers to prepare a proposal to address water storage and capacity issues related to the Port Renfrew water system for the PRUSC consideration.

BACKGROUND

At the previous meeting of June 22, 2015, the PRUSC directed the CRD staff to work with the developers through their engineering consultant MSR Solutions (MSR) with the objective of identifying a solution to address the PRUSC concern regarding increased water storage and capacity required to support potential development.

As a result, the CRD staff and MSR met on June 29, 2015, and identified options to provide water storage and other system improvements with the expectation that MSR would prepare a proposal that meets the needs of the developers, PRUSC and is realistic of the technical considerations, costs, timelines, approvals etc. in order to achieve both the short and long-term water servicing and system improvement goals.

MSR submitted a proposal to CRD on July 10, 2015. In summary, the proposal identified water system improvements in phases, with cost estimates for the proposed works and with funding primarily being provided by the developers except for a future pipe project with expected cost sharing with the CRD/PRUSC. Further, in the proposal both the single family equivalent (SFE) amounts were revised and increased, including the timing in which they were proposed to be from the June 22 staff reports and included other development partners.

MSR's Proposal

The following information summarizes the proposed improvements, estimated costs, developer contributions and expected SFE's (refer to the attached copy of MSR's July 10, 2015 letter) (For consistency, the proposed work descriptions and partner names are as shown by MSR):

1. Well pump and booster pump at a cost of \$180,000 for 20 SFE's (presumably November 2015)
 - Port Renfrew RV Resort - \$140,000 for 15 SFE's
 - Port Renfrew Management - \$40,000 for 5 SFE's

2. 100,000 gallon bolted steel reservoir at a cost of \$320,000 for 40 SFE's (May 2016)
 - Port Renfrew RV Resort - \$160,000 for 20 SFE's
 - Port Renfrew Management - \$120,000 for 15 SFE's
 - 6649 Godman Road - \$40,000 for 5 SFE's

3. Booster station and main upgrades at a cost of \$430,000 for 35 SFE's (May 2017)
 - Port Renfrew Management - \$350,000 for 30 SFE's
 - Pacific Gateway Marina - \$80,000 for 5 SFE's
4. Supply line replacement from WTP at a cost of \$800,000 for 192 SFE's (May 2020)
 - Port Renfrew RV Resort - \$60,000 for 10 SFE's
 - Port Renfrew Management - \$180,000 for 36 SFE's
 - Pacific Gateway Marina - \$160,000 for 25 SFE's
 - CRD/PRUSC - \$400,000 for 121 SFE's

MSR estimates the total costs of the proposal at \$1,730,000 for a total increase of 287 SFE's. MSR's latest proposal does not include sewer servicing, which would have to be pursued separately. The developer contribution amounts have been negotiated by MSR and have not been verified by CRD. It should be noted that Pacific Gateway Marina and the developer of the 6649 Godman Road property have been included as partners in the proposal.

A \$30,000 amount is also included in the total cost of the proposal and is identified as CRD Engineering and Administration costs for the removal of covenants and Memorandum of Understanding (MOU) from the Port Renfrew Management land titles and administrative effort to revise the existing bylaws to include future development in the water service area. The CRD expects that its effort related to administration and implementation of the improvements including technical and administrative oversight, operator involvement for construction logistics and commissioning is included.

The CRD staff conducted a preliminary review of the MSR proposal and feel that there are a number of challenges associated with the timing, approvals (in service area versus out of service area), and information necessary to thoroughly assess it, including the need to develop a new MOU. Further, there is new information such as the SFE amount for the Port Renfrew RV Park that was previously identified as totaling 15 SFE's and now totals 45 SFE's. Furthermore, the overall MSR proposed SFE's of 287 is not achievable based on the short-term upgrades as conceptualized with the limiting factor being the capacity of the hydrogen sulfide scrubber (approximately 185 SFE's). Major improvements such as those noted in the old MOU would need to be completed to achieve a greater increase of SFE's. However, of the MSR proposal (items #1 and #2) the need to increase pump capacity and provide a storage tank are consistent with PRUSC's direction. The latter items #3 and #4 are not of sufficient detail to determine all of the implications. MSR's proposal also requested "immediate" connections to the water system before any of the improvements are undertaken but this is not recommended so as to not impact the level-of-service for the existing customers. Further, the MSR information did not address the other issues (statement of conditions) as noted in the staff reports of June 22, 2015.

CRD's Modified Proposals

In light of the above assessment, the CRD identified two modified proposals to the MSR proposal so as to better coincide with the development proposals considering phasing, eligibility for water service, increase to system capacity and storage.

Further, the CRD and owner of the Port Renfrew Management lands are in the process of having the covenants removed. Once the MOU/covenants and all other approvals are achieved the PRUSC should reconsider inclusion of the first 5 SFE's of the Port Renfrew Management development.

Modified Proposal #1 (Recommended)

As a result it is proposed that the 6649 Godman Road development proceed first versus Port Renfrew Management as it is within the water service area, is of the equivalent amount (\$40,000), and does not require a series of approvals in order to proceed. The Port Renfrew Management development (5 SFE) is not in the water service area and requires several approvals and actions before proceeding with the development, therefore this should be included in item 2 (phase 2).

Therefore the CRD's modified proposal #1 is as follows and would see the following work phases and partners:

Phase 1 - Well pump and booster pump for a cost of \$180,000 for 20 SFE's (summer/fall 2015)

- Port Renfrew RV Resort - \$140,000 for 15 SFE's
- **Revised:** 6649 Godman Road \$40,000 for 5 SFE's

Phase 2 - 100,000 gallon bolted steel reservoir for a cost of \$320,000 for 40 SFE's (May 2016)

- Port Renfrew RV Resort - \$160,000 for 20 SFE's
- **Revised:** Port Renfrew Management - \$160,000 for 20 SFE's

Regarding the future Phases (3 and 4 as identified by MSR), further details and approvals are needed before any further consideration is given to these proposed improvements.

In summary, this modified proposal would result in increased well and booster pump capacity (phase 1), and increased permanent storage (phase 2) of 100,000 USg all totaling \$500,000.

Any proposed work would only proceed under a formal agreement between the CRD and the partners. Proposed work should conform to all relevant bylaws, specifications, bonding, insurance and engineering standards.

No connections to the existing water system, until the improvements described above are completed.

Modified Proposal #2

Another proposal, whereby storage could be implemented in the initial work is to consider the MSR proposal of April 24, 2015 related to the installation of additional storage as an immediate work item. All options for additional storage using a steel tank including a reduced amount of storage (smaller second tank) upfront were seen as cost prohibitive by the developers.

However, MSR's April proposal stated "*Installation of additional tankage at the existing reservoir site consisting of two-55,000 litre (15,000 US Gallon) poly tanks (NSF 61), including associated piping, interconnections at an estimate cost of \$120,000 including engineering and taxes. This work would be completed no later than June 2016.*" This improvement would see an increase of 30,000 US gallons of storage at the existing tank site.

It should be noted that additional storage alone would have limited benefit if the water supply to the tanks is not increased (i.e. well pump and treatment plant booster pump capacity) as the tanks would eventually empty if the demand for water is greater than the availability of the system to supply the water.

Phase 1 - Well pump (only) and poly storage tankage at an estimated cost of \$180,000 for 20 SFE's (summer/fall 2015)

- Port Renfrew RV Resort - \$140,000 for 15 SFE's
- 6649 Godman Road developer \$40,000 for 5 SFE's

Phase 2 – The balance of the pump improvements at an estimated cost of \$120,000 and gift contribution of \$200,000 for 40 SFE's (May 2016)

- Port Renfrew RV Resort - \$160,000 for 20 SFE's
- Port Renfrew Management - \$160,000 for 20 SFE's

Regarding the future Phases (3 and 4 as identified by MSR), further details and approvals are needed before any further consideration is given to these proposed improvements.

In summary, this modified proposal #2 would result in increased well pump capacity and increased storage (30,000 USg poly tankage) (phase 1), increased treatment plant booster pump capacity (phase 2) and a contribution of \$200,000 for a future permanent storage tank all totaling \$500,000.

Any proposed work would only proceed under a formal agreement between the CRD and the partners. Proposed work should conform to all relevant bylaws, specifications, bonding, insurance and engineering standards.

No connections to the existing water system, until the improvements described above are completed.

ALTERNATIVES

Alternative 1

That the Port Renfrew Utility Services Committee approve in "principle":

The CRD's modified proposal #1 whereby:

1)

- a) Phase 1 - Port Renfrew RV Resort gift the component improvements at an estimated value of \$140,000 (Well pump and booster pump) for 15 SFE's and that the Port Renfrew RV Resort also comply with the statement of conditions outlined in the staff report of June 22, 2015 entitled "*Water Service Application for 6504 Parkinson Road.*"

and;

- b) Phase 1 – The 6649 Godman Road developer gift the component improvements at an estimated value of \$40,000 (Well pump and booster pump) for 5 SFE's and that the developer of 6649 Godman Road also comply with the statement of conditions outlined in the staff report of June 22, 2015 entitled "*Proposed subdivision – 6649 Godman Road, Port Renfrew*"

- 2)
- a) Phase 2 - Port Renfrew RV Resort gift the component improvements at an estimated value \$160,000 (steel tank) for 20 SFE's and
 - i) That Port Renfrew RV Resort provide further details for the CRD to assess the impacts and implications of the next stage of their development.
- and;
- b) Phase 2 - Port Renfrew Management gift the component improvements at an estimated value of \$160,000 (steel tank) for 20 SFE's and
 - i) That Port Renfrew Management also comply with the statement of conditions outlined in the staff report of June 22, 2015 entitled "*Water and Sewer Inclusion Request – Parkinson Road*" and
 - ii) That Port Renfrew Management provide further details for the CRD to assess the impacts and implications of their development, and
 - iii) Not proceed until a staff report is prepared for item 2. a) i) and 2.b)ii)

Alternative 2

That the Port Renfrew Utility Services Committee approve in principle:

The CRD's modified proposal #2 whereby:

- 1)
- a) Phase 1 - Port Renfrew RV Resort gift the component improvements at an estimated value of \$140,000 (Well pump and poly tanks) for 15 SFE's and that the Port Renfrew RV Resort also comply with the statement of conditions outlined in the staff report of June 22, 2015 entitled "*Water Service Application for 6504 Parkinson Road.*"
- and;
- b) Phase 1 – The 6649 Godman Road developer gift the component improvements at an estimated value of \$40,000 (Well pump and poly tanks) for 5 SFE's and that the developer of 6649 Godman Road also comply with the statement of conditions outlined in the staff report of June 22, 2015 entitled "*Proposed subdivision – 6649 Godman Road, Port Renfrew*"
- 2)
- a) Phase 2 - Port Renfrew RV Resort gift the component improvements at an estimated value \$160,000 (booster pump and cash contribution for future storage) for 20 SFE's and
 - i) That Port Renfrew RV Resort provide further details for the CRD to assess the impacts and implications of the next stage of their development.
- and;
- b) Phase 2 - Port Renfrew Management gift the component improvements at an estimated value of \$160,000 (booster pump and cash contribution for future storage) for 20 SFE's and
 - i) That Port Renfrew Management also comply with the statement of conditions outlined in the staff report of June 22, 2015 entitled "*Water and Sewer*"

Inclusion Request – Parkinson Road” and

- ii) That Port Renfrew Management provide further details for the CRD to assess the impacts and implications of their development, and
- iii) Not proceed until a staff report is prepared for item 2. a) i) and 2.b)ii)

Alternative 3

That the Port Renfrew Utility Services Committee request that CRD staff provide additional information.

IMPLICATIONS

Alternative 1 – In Port Renfrew Utility Services Committee approving the CRD’s modified proposal #1 in principle, the offered component improvements will increase the capacity and future storage and allow development to proceed at no upfront cost to the PRUSC. The CRD’s modified proposal better coincides with the development proposals considering phasing and eligibility for water service.

Alternative 2 – In Port Renfrew Utility Services Committee approving the CRD’s modified proposal #2 in principle, that offers additional storage by way of poly tanks and component improvements with contribution towards a future permanent storage tank will increase the storage and future capacity and allow development to proceed at no upfront cost to the PRUSC.

However, this alternative may not provide all the storage requirements for the future phases until a permanent tank is commissioned. Poly tanks may also have less durability and a reduced life span as opposed to a bolted steel tank. In addition, additional storage alone would have limited benefit if the water supply to the tanks is not increased from **both** the well pump and treatment plant booster pump as the tanks would eventually empty if the demand for water is greater than the availability of the system to supply the water.

Alternative 3 – If the Port Renfrew Utility Services Committee requests the CRD staff provide additional information, CRD staff will provide information at a future meeting.

CONCLUSION

On direction from the PRUSC, the CRD staff and MSR have worked to identify proposed options to increase the storage and capacity of the Port Renfrew water system to facilitate future development. MSR presented the CRD with a proposal identifying upgrades and phasing of the development, however the CRD identified proposals to better coincide with phasing and eligibility for water service. Based on the modified proposals the developers would undertake component improvements to increase capacity and be able to connect an agreed upon amount of SFE’s to the Port Renfrew Water system provided they still meet the statement of conditions as previously outlined by the CRD. Connections should only be made once improvements are completed to increase capacity.

RECOMMENDATION

That the Port Renfrew Utility Services Committee approve in “principle”:

The CRD’s modified proposal #1 whereby:

1)

- a) Phase 1 - Port Renfrew RV Resort gift the component improvements at an estimated value of \$140,000 (Well pump and booster pump) for 15 SFE’s and that the Port Renfrew RV Resort also comply with the statement of conditions outlined in the staff report of June 22, 2015 entitled “*Water Service Application for 6504 Parkinson Road.*”

and;

- b) Phase 1 – The 6649 Godman Road developer gift the component improvements at an estimated value of \$40,000 (Well pump and booster pump) for 5 SFE’s and that the developer of 6649 Godman Road also comply with the statement of conditions outlined in the staff report of June 22, 2015 entitled “*Proposed subdivision – 6649 Godman Road, Port Renfrew*”

2)

- a) Phase 2 - Port Renfrew RV Resort gift the component improvements at an estimated value \$160,000 (steel tank) for 20 SFE’s and
 - i) That Port Renfrew RV Resort provide further details for the CRD to assess the impacts and implications of the next stage of their development.

and;

- b) Phase 2 - Port Renfrew Management gift the component improvements at an estimated value of \$160,000 (steel tank) for 20 SFE’s and
 - i) That Port Renfrew Management also comply with the statement of conditions outlined in the staff report of June 22, 2015 entitled “*Water and Sewer Inclusion Request – Parkinson Road*” and
 - ii) That Port Renfrew Management provide further details for the CRD to assess the impacts and implications of their development, and
 - iii) Not proceed until a staff report is prepared for item 2. a) i) and 2.b)ii)

Joseph Marr, P.Eng.
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Scott Mason, B.Sc., P.Eng.
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Peter Sparanese, P.Eng.
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Ted Robbins, B.Sc., C.Tech.
General Manager, Integrated Water Services
Concurrence

JM:ls
Attachments: MSR letter of July 10, 2015

MSR SOLUTIONS INC.

July 10, 2015

File: 14-190

Capital Regional District
Integrated Water Services
479 Island Highway
Victoria, BC, V9B 1H7

By email: sparanese@crd.bc.ca

Attention: Peter Sparanese, P.Eng., Senior Manager

Reference: Port Renfrew Utility Services Committee – Request for Water Services

INTRODUCTION

Further to our various meetings with the Capital Regional District, Integrated Water Services, and the Juan de Fuca Local Area Director, Mr. Mike Hicks, and our presentation to the Port Renfrew Utility Services Committee on June 23, 2015, we understand a clear and precise proposal is to be submitted for consideration, which addresses concerns raised by the PRUSC.

The desire is to have works staged, such that development may proceed without significant upfront loaded costs, and without impact to future capacity of the system. In other words, development does not proceed unless monies are contributed to the works, and the works are completed, except where noted.

The following works and cost sharing are proposed

Works Proposed	Estimated Cost	Completion Date	Partners	Contribution	SFE Provided
Well Pump and Booster Pump	\$ 180,000	November 2016	Port Renfrew RV Resort	\$ 140,000	15
			Port Renfrew Management	\$ 40,000	5
100,000 Gallon Bolted Steel Reservoir	\$ 320,000	May 2016	Port Renfrew RV Resort	\$ 160,000	20
			Port Renfrew Management	\$ 120,000	15
			6649 Godman Road	\$ 40,000	5
Booster Station and Main Upgrades	\$ 430,000	May 2017	Port Renfrew RV Resort		0
			Port Renfrew Management	\$ 350,000	30
			Pacific Gateway Marina	\$ 80,000	5
Supply Line Replacement from WTP	\$ 800,000	May 2020	Port Renfrew RV Resort	\$ 60,000	10
			Port Renfrew Management	\$ 180,000	36
			Pacific Gateway Marina	\$ 160,000	25
			CRD/PRUSC Cost Share	\$ 400,000	121
	\$ 1,730,000			\$ 1,730,000	287

The well and booster pump improvements would be undertaken by Port Renfrew RV Resort and Port Renfrew Management Ltd., and contributed to the PRUSC in allowing the properties to connect immediately to the water system, while covenants and the previous MoU are removed from titles, and the Water Service Areas are adjusted.

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MSR Solutions Inc.

The 100,000 gallon bolted steel tank would be installed on the site of the old wood stove tank and be commissioned by May 2016 to allow for approvals and a spring construction period. The combined works will exceed the design capacity and fire flow capacity, as required by the CRD, and desired by the PRUSC. In exchange for this contribution, the RV Resort, PR Management and the property at 6649 Godman Road will be provided with additional capacity to be developed over the ensuing years.

When development proceeds beyond the 20 lower lots at PR Management property, a booster pump will be required, and similarly for the upper portion of PR RV Resort. If these properties do not develop, the benefits of the booster pump are not required. The benefit of the booster station will also support the Snuggery Cove Service Area which currently suffers from low pressure under high water demands.

The upgrade to the supply line from the existing treatment works and the reservoirs is a critical issue for the PRUSC, as it is near end of life. Without the support of development, PRUSC will have to obtain grant monies, or pass the costs onto existing residents. The developers have proposed contribution in successive years subject to development growth, which would offset contributions by PRUSC.

The above works can be undertaken on the basis of simple agreements of service connections by contribution to system improvements undertaken by the parties. It is only the future upgrade of the supply line which has an identifiable Development Cost Charge basis or around \$6,000 per new connection, based on CRD/grant contributions.

Overall contributions are noted in the above table, and subject to acceptance by PRUSC and the CRD, the developers will agree to proceed with the works in return for the noted single family equivalent connections, in the timelines noted. Failure of the developments to comply, will not impact PRUSC and residents by any means, other than unimproved infrastructure as it currently operates.

If you have any questions, or require additional information, please contact the undersigned.

Sincerely,
MSR SOLUTIONS INC.



Mike Seymour, ASCT, Eng. L.
Manager, Water & Wastewater Systems

Enclosure: Cost Estimates and Contribution

cc Port Renfrew RV Resort, Mr. Jack Julseth, and Mr. David Flaig
Port Renfrew Management Ltd., Mr. Karl Ablack, and Mr. Jason Brown
Pacific Gateway Marina, Mr. Paul McFadden and Mr. Duane Shaw

6649 Godman Road, Mr. James Lum
Juan de Fuca Local Area Director, Mr. Mike Hicks
Port Renfrew Utility Services Committee, Mr. Rob Wilson

Port Renfrew Water System Proposed Works and Cost Share

Description	Item	Unit	Rate	SubTotal	Totals
Main Reservoir					\$ 234,000
Reservoir Pad Preparation		1 LS	\$ 10,000	\$ 10,000	
STT Bolted Steel Reservoir (100,000 g)		1 LS	\$ 189,000	\$ 189,000	
Interconnecting Piping		1 LS	\$ 35,000	\$ 35,000	
Well Pump					\$ 19,000
Pump RE and RE		1 LS	\$ 16,000	\$ 16,000	
Electrical Field Wiring		1 LS	\$ 3,000	\$ 3,000	
Booster Pump at WTP					\$ 52,125
Equipment Supply		1 LS	\$ 18,625	\$ 18,625	
Valves and Piping		1 LS	\$ 8,500	\$ 8,500	
Electrical and Mechanical Install		1 LS	\$ 25,000	\$ 25,000	
CRD Engineering and Admin Costs					\$ 30,000
Removal of Covenants and MoU		1 LS	\$ 10,000	\$ 10,000	
Administration		1 LS	\$ 20,000	\$ 20,000	
Engineering and Construction Services					\$ 62,500
Project Planning and Discussions		1 LS	\$ 10,000	\$ 10,000	
Electrical Design		1 LS	\$ 5,000	\$ 5,000	
Design of Improvements		1 LS	\$ 15,000	\$ 15,000	
Approvals from VIHA and CRD		1 LS	\$ 5,000	\$ 5,000	
Tendering of Works		1 LS	\$ 2,500	\$ 2,500	
Services During Construction		1 LS	\$ 20,000	\$ 20,000	
Commissioning and Record Dwg		1 LS	\$ 5,000	\$ 5,000	
Subtotal					\$ 397,625
Contingency (15%)					\$ 59,644
PST on Equipment					\$ 16,249
GST (5%)					\$ 22,863
Total Estimated Costs					\$ 500,000

Additional Options to Provide Further Improvements and Benefits to Snuggery Cove and PRML

Booster Station					\$	122,000
Building for Booster 12'x12'	144 sq.ft.	\$	150	\$	22,000	
Booster Station	1 LS	\$	75,000	\$	75,000	
Electrical and Mechanical Install	1 LS	\$	25,000	\$	25,000	
Supply Piping to Parkinson Road					\$	171,000
200 mm PVC Watermain	220 lm	\$	300	\$	66,000	
75 mm Poly Supply Line in PRML lands	500 lm	\$	100	\$	50,000	
Valves	4 Ea	\$	1,300	\$	5,200	
AC Pipe Interconnect	1 LS	\$	20,000	\$	20,000	
Rock Excavation	50 m3	\$	200	\$	10,000	
Asphalt Reinstatement	220 m2	\$	90	\$	19,800	
Engineering and Construction Services					\$	62,000
Project Planning and Discussions	1 LS	\$	2,000	\$	2,000	
Structural Design	1 LS	\$	5,000	\$	5,000	
Electrical Design	1 LS	\$	10,000	\$	10,000	
Design of Improvements	1 LS	\$	15,000	\$	15,000	
Approvals from VIHA and CRD	1 LS	\$	5,000	\$	5,000	
Tendering of Works	1 LS	\$	5,000	\$	5,000	
Services During Construction	1 LS	\$	15,000	\$	15,000	
Commissioning and Record Dwg	1 LS	\$	5,000	\$	5,000	
Subtotal					\$	355,000
Contingency (15%)					\$	53,250
PST on Equipment					\$	5,250
GST (5%)					\$	20,413
Total Estimated Costs					\$	430,000

Additional Options to Provide Further Improvements and Benefits (PGM+Extra Capacity only)

Water Supply Line Upgrade					\$	447,000
75 mm from Well site to Deering Road	1600 lm	\$	150	\$	240,000	
Rock Excavation Allowance	150 m3	\$	200	\$	30,000	
Flagging Crew	21 days	\$	2,000	\$	42,000	
Paving Reinstatement	1500 m2	\$	90	\$	135,000	
Engineering and Construction Services					\$	117,000
Project Planning and Discussions	1 LS	\$	2,000	\$	2,000	
Design of Improvements	1 LS	\$	40,000	\$	40,000	
Approvals from VIHA and CRD	1 LS	\$	5,000	\$	5,000	
Tendering of Works	1 LS	\$	5,000	\$	5,000	
Services During Construction	1 LS	\$	60,000	\$	60,000	
Commissioning and Record Dwg	1 LS	\$	5,000	\$	5,000	
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Subtotal					\$	564,000
Contingency (35%)					\$	197,400
GST (5%)					\$	38,070
Total Estimated Costs					\$	800,000