

## ENGINEER'S OPINION OF PLANNING COST (EOPC)



**PROJECT:** Parcel BR Well and Waterline Project **DRAFT FOR REVIEW AND COMMENT**  
**DETAIL:** Option A (W2 & Pond 1): Install waterlines and appurtenances to provide water to proposed homesite  
**SGM NO.:** 074.07.01  
**DATE:** 28-Oct-19  
**EOPC LEVEL:** Feasibility Study  
**PREPARED BY:** Jason Reimer, P.E.  
**REVIEWED BY:** Eric Bikis

Description of Work	Unit	Quantity	Unit Cost	Total Cost
Drill and Complete Production Well (8-inch at 200 feet, including 48-hour pumping test)	LS	1	\$ 30,000.00	\$ 30,000
Water Quality Testing	LS	1	\$ 2,500.00	\$ 2,500
Submersible Pump and Appurtenances	EA	1	\$ 30,000.00	\$ 30,000
Construct Home Pond (Assume Cut/Fill Balance On-Site) (1/2 acre surface area)	LS	1	\$ 50,000.00	\$ 50,000
Construct Augmentation Pond (Assume Cut/Fill Balance On-Site) (1 acre surface area and 6 acre-foot volume)	CY	9,700	\$ 10.00	\$ 97,000
Construct Augmentation Pond Diversion Structure from PVD	LS	1	\$ 5,000.00	\$ 5,000
Furnish and install 3-inch PVC Augmentation Pipeline (5-foot bury depth)	LF	1,500	\$ 15.00	\$ 22,500
Furnish and install 4-inch IPS SDR9 HDPE (PE4710) from well to home (7-foot bury depth)	LF	3,700	\$ 21.00	\$ 77,700
Furnish and install 4-inch IPS SDR9 HDPE (PE4710) from tee to pond (4-foot bury depth)	LF	1,800	\$ 18.00	\$ 32,400
Furnish and install fittings and valves	LS	1	\$ 10,000.00	\$ 10,000
Furnish and install pre-cast concrete manhole with frost free ring and covers	EA	4	\$ 5,780.00	\$ 23,120
Furnish and install meter (4-inch)	EA	1	\$ 5,940.00	\$ 5,940
Install SCADA System	EA	1	\$ 8,000.00	\$ 8,000
Erosion control	LS	1	\$ 5,000.00	\$ 5,000
Trench restoration	LF	5,200	\$ 1.00	\$ 5,200
SUBTOTAL OF CONSTRUCTION ITEMS:				\$ 404,360
CONSTRUCTION CONTINGENCY (20%):				\$ 80,872
<b>ENGINEER'S OPINION OF TOTAL CONSTRUCTION COSTS:</b>				<b>\$ 485,232</b>

ADDITIONAL PROJECT COSTS	UNIT	QUANTITY	UNIT COST	ESTIMATED COST
Surveying	LS	1	\$ 8,000.00	\$ 8,000
Design Engineering	LS	1	\$ 52,570.00	\$ 52,570
Construction Engineering	LS	1	\$ 32,350.00	\$ 32,350
Electrical Power (San Miguel Power Association)	LS	1	TBD	TBD
Water Rights	LS	1	\$ 60,000	\$ 60,000
SUBTOTAL OF OTHER CONSTRUCTION COSTS:				\$ 152,920

<b>PROJECT GRAND TOTAL</b>	<b>\$ 638,152</b>
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**NOTES:**

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- Unit prices and total costs were based on Present Value dollars and escalated 5% per year, assuming project will occur in 2021. Adjustments should be made for years beyond the 2019 calendar year if actual construction occurs in a later year.
- This EOPC was prepared on the basis of SGM's experience and qualifications and represents SGM's judgment as a professional generally familiar with the industry. However, since SGM has no control over the cost of labor, materials, equipment, or services furnished by others, over contractor's methods of determining prices, or over competitive bidding or market conditions, SGM cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from SGM's EOPC.
- This well and pump concept assumes a below ground cistern or hydropneumatic tank at the homesite with a small pump that will pressurize the home.
- Cost does not include provisions for electrical power to the well site or homesite.

## ENGINEER'S OPINION OF PLANNING COST (EOPC)



**PROJECT:** Parcel BR Well and Waterline Project **DRAFT FOR REVIEW AND COMMENT**  
**DETAIL:** Option B (W1 and Pond 2): Install waterlines and appurtenances to provide water to proposed homesite  
**SGM NO.:** 074.07.01  
**DATE:** 28-Oct-19  
**EOPC LEVEL:** Feasibility Study  
**PREPARED BY:** Jason Reimer, P.E.  
**REVIEWED BY:** Eric Bikis

Description of Work	Unit	Quantity	Unit Cost	Total Cost
48-hour pumping test of Existing Well	LS	1	\$ 10,000.00	\$ 10,000
Water Quality Testing	LS	1	\$ 2,500.00	\$ 2,500
Submersible Pump and Appurtenances	EA	1	\$ 20,000.00	\$ 20,000
Construct Home Pond (Assume Cut/Fill Balance On-Site) (1/2 acre surface area)	LS	1	\$ 50,000.00	\$ 50,000
Construct Augmentation Pond (Assume Cut/Fill Balance On-Site) (1 acre surface and 6 acre-foot Volume)	CY	9,700	\$ 10.00	\$ 97,000
Construct Augmentation Pond Diversion Structure from PVD	LS	1	\$ 5,000.00	\$ 5,000
Furnish and install 3-inch PVC Augmentation Pipeline (5-foot bury depth)	LF	1,500	\$ 15.00	\$ 22,500
Furnish and install 3-inch IPS SDR9 HDPE (PE4710) from well to pond to home (7-foot bury depth)	LF	3,400	\$ 17.00	\$ 57,800
Furnish and install fittings and valves	LS	1	\$ 10,000.00	\$ 10,000
Furnish and install pre-cast concrete manhole with frost free ring and covers	EA	1	\$ 5,780.00	\$ 5,780
Furnish and install meter (3-inch)	EA	1	\$ 5,940.00	\$ 5,940
Install SCADA System	EA	1	\$ 8,000.00	\$ 8,000
Erosion control	LS	1	\$ 5,000.00	\$ 5,000
Trench restoration	LF	4,900	\$ 1.00	\$ 4,900
SUBTOTAL OF CONSTRUCTION ITEMS:				\$ 304,420
CONSTRUCTION CONTINGENCY (20%):				\$ 60,884
<b>ENGINEER'S OPINION OF TOTAL CONSTRUCTION COSTS:</b>				<b>\$ 365,304</b>

ADDITIONAL PROJECT COSTS	UNIT	QUANTITY	UNIT COST	ESTIMATED COST
Surveying	LS	1	\$ 8,000.00	\$ 8,000
Design Engineering	LS	1	\$ 39,580.00	\$ 39,580
Construction Engineering	LS	1	\$ 24,360.00	\$ 24,360
Electrical Power (San Miguel Power Association)	LS	TBD	TBD	\$ -
Water Rights	LS	1	\$ 40,000	\$ 40,000
SUBTOTAL OF OTHER CONSTRUCTION COSTS:				<b>\$ 111,940</b>

<b>PROJECT GRAND TOTAL</b>				<b>\$ 477,244</b>
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- This well and pump concept assumes a below ground cistern or hydropneumatic tank at the homesite with a small pump that will pressurize the home.
- Cost does not include provisions for electrical power to the well site or homesite.

<b>PROJECT:</b>	<b>Parcel BR Well and Waterline Project</b>	<b>DRAFT FOR REVIEW AND COMMENT</b>
<b>DETAIL:</b>	Option C.1 (W5 and Pond 3): Install waterlines and appurtenances to provide water to proposed homesite	
<b>SGM NO.:</b>	074.07.01	
<b>DATE:</b>	28-Oct-19	
<b>EOPC LEVEL:</b>	Feasibility Study	
<b>PREPARED BY:</b>	Jason Reimer, P.E.	
<b>REVIEWED BY:</b>	Eric Bikis	

Description of Work	Unit	Quantity	Unit Cost	Total Cost
Drill and Complete Production Well (7-inch at 450 feet, including 48-hour pumping test)	LS	1	\$ 40,000.00	\$ 40,000
Water Quality Testing	LS	1	\$ 2,500.00	\$ 2,500
Submersible Pump and Appurtenances	EA	1	\$ 20,000.00	\$ 20,000
Construct Home Pond (Assume Cut/Fill Balance On-Site) (1/2 acre surface area)	EA	1	\$ 50,000.00	\$ 50,000
Furnish and install 3-inch IPS SDR9 HDPE (PE4710) from well to home (7-foot bury depth)	LF	3,810	\$ 17.00	\$ 64,770
Furnish and install 3-inch IPS SDR9 HDPE (PE4710) from well to pond (4-foot bury depth)	LF	130	\$ 14.00	\$ 1,820
Furnish and install fittings and valves	LS	1	\$ 10,000.00	\$ 10,000
Furnish and install pre-cast concrete manhole with frost free ring and covers	EA	1	\$ 5,780.00	\$ 5,780
Furnish and install meter (3-inch)	EA	1	\$ 5,940.00	\$ 5,940
Install SCADA System	EA	1	\$ 8,000.00	\$ 8,000
Erosion control	LS	1	\$ 5,000.00	\$ 5,000
Trench restoration	LF	3,810	\$ 1.00	\$ 3,810
SUBTOTAL OF CONSTRUCTION ITEMS:				\$ 217,620
CONSTRUCTION CONTINGENCY (20%):				\$ 43,524
<b>ENGINEER'S OPINION OF TOTAL CONSTRUCTION COSTS:</b>				<b>\$ 261,144</b>

ADDITIONAL PROJECT COSTS	UNIT	QUANTITY	UNIT COST	ESTIMATED COST
Surveying	LS	1	\$ 8,000.00	\$ 8,000
Design Engineering	LS	1	\$ 28,300.00	\$ 28,300
Construction Engineering	LS	1	\$ 17,410.00	\$ 17,410
Electrical Power (San Miguel Power Association)	LS	TBD	TBD	\$ -
Water Rights (Trout Lake Augmentation)	LS	1	\$ 25,000	\$ 25,000
<b>SUBTOTAL OF OTHER CONSTRUCTION COSTS:</b>				<b>\$ 78,710</b>

<b>PROJECT GRAND TOTAL</b>	<b>\$ 339,854</b>
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- This well and pump concept assumes a below ground cistern at the homesite with a small pump that will pressurize the home.
- Cost does not include provisions for electrical power to the well site or homesite.

## ENGINEER'S OPINION OF PLANNING COST (EOPC)



**PROJECT:** Parcel BR Well and Waterline Project **DRAFT FOR REVIEW AND COMMENT**  
**DETAIL:** Option C.2 (W5 and Pond 2): Install waterlines and appurtenances to provide water to proposed homesite  
**SGM NO.:** 074.07.01  
**DATE:** 28-Oct-19  
**EOPC LEVEL:** Feasibility Study  
**PREPARED BY:** Jason Reimer, P.E.  
**REVIEWED BY:** Eric Bikis

Description of Work	Unit	Quantity	Unit Cost	Total Cost
Drill and Complete Production Well (7-inch at 450 feet, including 48-hour pumping test)	LS	1	\$ 40,000.00	\$ 40,000
Water Quality Testing	LS	1	\$ 2,500.00	\$ 2,500
Submersible Pump and Appurtenances	EA	1	\$ 20,000.00	\$ 20,000
Construct Home Pond (Assume Cut/Fill Balance On-Site) (1/2 acre surface area)	EA	1	\$ 50,000.00	\$ 50,000
Furnish and install 3-inch IPS SDR9 HDPE (PE4710) from well to home (7-foot bury depth)	LF	3,810	\$ 17.00	\$ 64,770
Furnish and install 3-inch IPS SDR9 HDPE (PE4710) from tee to pond (4-foot bury depth)	LF	740	\$ 14.00	\$ 10,360
Furnish and install fittings and valves	LS	1	\$ 10,000.00	\$ 10,000
Furnish and install pre-cast concrete manhole with frost free ring and covers	EA	1	\$ 5,780.00	\$ 5,780
Furnish and install meter (3-inch)	EA	1	\$ 5,940.00	\$ 5,940
Install SCADA System	EA	1	\$ 8,000.00	\$ 8,000
Erosion control	LS	1	\$ 5,000.00	\$ 5,000
Trench restoration	LF	3,810	\$ 1.00	\$ 3,810
SUBTOTAL OF CONSTRUCTION ITEMS:				\$ 226,160
CONSTRUCTION CONTINGENCY (20%):				\$ 45,232
<b>ENGINEER'S OPINION OF TOTAL CONSTRUCTION COSTS:</b>				<b>\$ 271,392</b>

ADDITIONAL PROJECT COSTS	UNIT	QUANTITY	UNIT COST	ESTIMATED COST
Surveying	LS	1	\$ 8,000.00	\$ 8,000
Design Engineering	LS	1	\$ 29,410.00	\$ 29,410
Construction Engineering	LS	1	\$ 18,100.00	\$ 18,100
Electrical Power (San Miguel Power Association)	LS	TBD	TBD	\$ -
Water Rights (Trout Lake Augmentation)	LS	1	\$ 25,000	\$ 25,000
<b>SUBTOTAL OF OTHER CONSTRUCTION COSTS:</b>				<b>\$ 80,510</b>

<b>PROJECT GRAND TOTAL</b>	<b>\$ 351,902</b>
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- This well and pump concept assumes a below ground cistern at the homesite with a small pump that will pressurize the home.
- Cost does not include provisions for electrical power to the well site or homesite.

## ENGINEER'S OPINION OF PLANNING COST (EOPC)



**PROJECT:** Parcel BR Well and Waterline Project **DRAFT FOR REVIEW AND COMMENT**  
**DETAIL:** Option C.3 (W5 and Pond 1): Install waterlines and appurtenances to provide water to proposed homesite  
**SGM NO.:** 074.07.01  
**DATE:** 28-Oct-19  
**EOPC LEVEL:** Feasibility Study  
**PREPARED BY:** Jason Reimer, P.E.  
**REVIEWED BY:** Eric Bikis

Description of Work	Unit	Quantity	Unit Cost	Total Cost
Drill and Complete Production Well (7-inch at 450 feet, including 48-hour pumping test)	LS	1	\$ 40,000.00	\$ 40,000
Water Quality Testing	LS	1	\$ 2,500.00	\$ 2,500
Submersible Pump and Appurtenances	EA	1	\$ 20,000.00	\$ 20,000
Construct Home Pond (Assume Cut/Fill Balance On-Site) (1/2 acre surface area)	EA	1	\$ 50,000.00	\$ 50,000
Furnish and install 3-inch IPS SDR9 HDPE (PE4710) from well to home (7-foot bury depth)	LF	3,810	\$ 17.00	\$ 64,770
Furnish and install 3-inch IPS SDR9 HDPE (PE4710) from home to pond (4-foot bury depth)	LF	1,675	\$ 14.00	\$ 23,450
Furnish and install fittings and valves	LS	1	\$ 10,000.00	\$ 10,000
Furnish and install pre-cast concrete manhole with frost free ring and covers	EA	1	\$ 5,780.00	\$ 5,780
Furnish and install meter (3-inch)	EA	1	\$ 5,940.00	\$ 5,940
Install SCADA System	EA	1	\$ 8,000.00	\$ 8,000
Erosion control	LS	1	\$ 5,000.00	\$ 5,000
Trench restoration	LF	3,810	\$ 1.00	\$ 3,810
SUBTOTAL OF CONSTRUCTION ITEMS:				\$ 239,250
CONSTRUCTION CONTINGENCY (20%):				\$ 47,850
<b>ENGINEER'S OPINION OF TOTAL CONSTRUCTION COSTS:</b>				<b>\$ 287,100</b>

ADDITIONAL PROJECT COSTS	UNIT	QUANTITY	UNIT COST	ESTIMATED COST
Surveying	LS	1	\$ 8,000.00	\$ 8,000
Design Engineering	LS	1	\$ 31,110.00	\$ 31,110
Construction Engineering	LS	1	\$ 19,140.00	\$ 19,140
Electrical Power (San Miguel Power Association)	LS	TBD	TBD	\$ -
Water Rights (Trout Lake Augmentation)	LS	1	\$ 25,000	\$ 25,000
<b>SUBTOTAL OF OTHER CONSTRUCTION COSTS:</b>				<b>\$ 83,250</b>

<b>PROJECT GRAND TOTAL</b>	<b>\$ 370,350</b>
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- This well and pump concept assumes a below ground cistern at the homesite with a small pump that will pressurize the home.
- Cost does not include provisions for electrical power to the well site or homesite.

## ENGINEER'S OPINION OF PLANNING COST (EOPC)



**PROJECT:** Parcel BR Well and Waterline Project **DRAFT FOR REVIEW AND COMMENT**  
**DETAIL:** Option D (W3 & W4): Install waterlines and appurtenances to provide water to proposed homesite  
**SGM NO.:** 074.07.01  
**DATE:** 28-Oct-19  
**EOPC LEVEL:** Feasibility Study  
**PREPARED BY:** Jason Reimer, P.E.  
**REVIEWED BY:** Eric Bikis

Description of Work	Unit	Quantity	Unit Cost	Total Cost
Drill and Complete Production Well (6-inch at 450 feet, including 48-hour pumping test)	EA	2	\$ 35,000.00	\$ 70,000
Water Quality Testing	EA	2	\$ 2,500.00	\$ 5,000
Submersible Pump and Appurtenances	EA	2	\$ 20,000.00	\$ 40,000
Furnish and install meter (1-inch)	EA	2	\$ 1,500.00	\$ 3,000
SUBTOTAL OF CONSTRUCTION ITEMS:				\$ 118,000
CONSTRUCTION CONTINGENCY (20%):				\$ 23,600
<b>ENGINEER'S OPINION OF TOTAL CONSTRUCTION COSTS:</b>				<b>\$ 141,600</b>

ADDITIONAL PROJECT COSTS	UNIT	QUANTITY	UNIT COST	ESTIMATED COST
Surveying	LS	1	NA	\$ -
Design Engineering	LS	1	\$ 15,340.00	\$ 15,340
Construction Engineering	LS	1	\$ 9,440.00	\$ 9,440
Electrical Power (San Miguel Power Association)	LS	TBD	TBD	\$ -
Water Feature	LS	TBD	TBD	\$ -
SUBTOTAL OF OTHER CONSTRUCTION COSTS:				<b>\$ 24,780</b>

<b>PROJECT GRAND TOTAL</b>				<b>\$ 166,380</b>
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