

Tyler N. Hendrickson, P.E.

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November 16, 2025

Vonda Farthing
Office Manager
MacBee SUD

RE: Request for service for 22 residential lots on VZCR 3812

Vonda:

As you know, Michael Goldsmith with LSM Land LLC has requested service for 22 residential lots on VZCR 3812 spread over two phases as shown on the attached **Plates 1 – 4** in the Treatment Plant Pressure Plane. As you can see on **Plate 4**, there is a 4-inch line on the west side of VZCR 3812 north of the property. There is not a water line on either side of the road fronting the property. The recommended line improvement and preliminary opinion of probable cost is shown on **Tables 1-4**. A summary of the preliminary opinions of probable cost were shown on **Table 5**. A schematic of all of the recommended line improvements were shown on **Plate 5**.

The static pressure at this location is roughly 70 psi.

The requested connections added to the hydraulic model of the system and the recommended line improvements resulted in a reduction of the calculated residual pressure of roughly 9 psi at a uniform usage of 1.5 gpm per connection. The existing estimated calculated residual pressure was in the 47 psi range under the same conditions.

The equivalent facility capacities are shown on **Figure 1**. As you can see, there is adequate capacity for the requested connections.

I recommend that the developer's request for service be granted. If the Developer has not proceeded with his development in 6 months, I recommend that the approval be voided and he be requested to start the process over. This recommended approval is contingent upon completion of the non-standard service agreement and the Developer meeting all of the district and county development requirements.

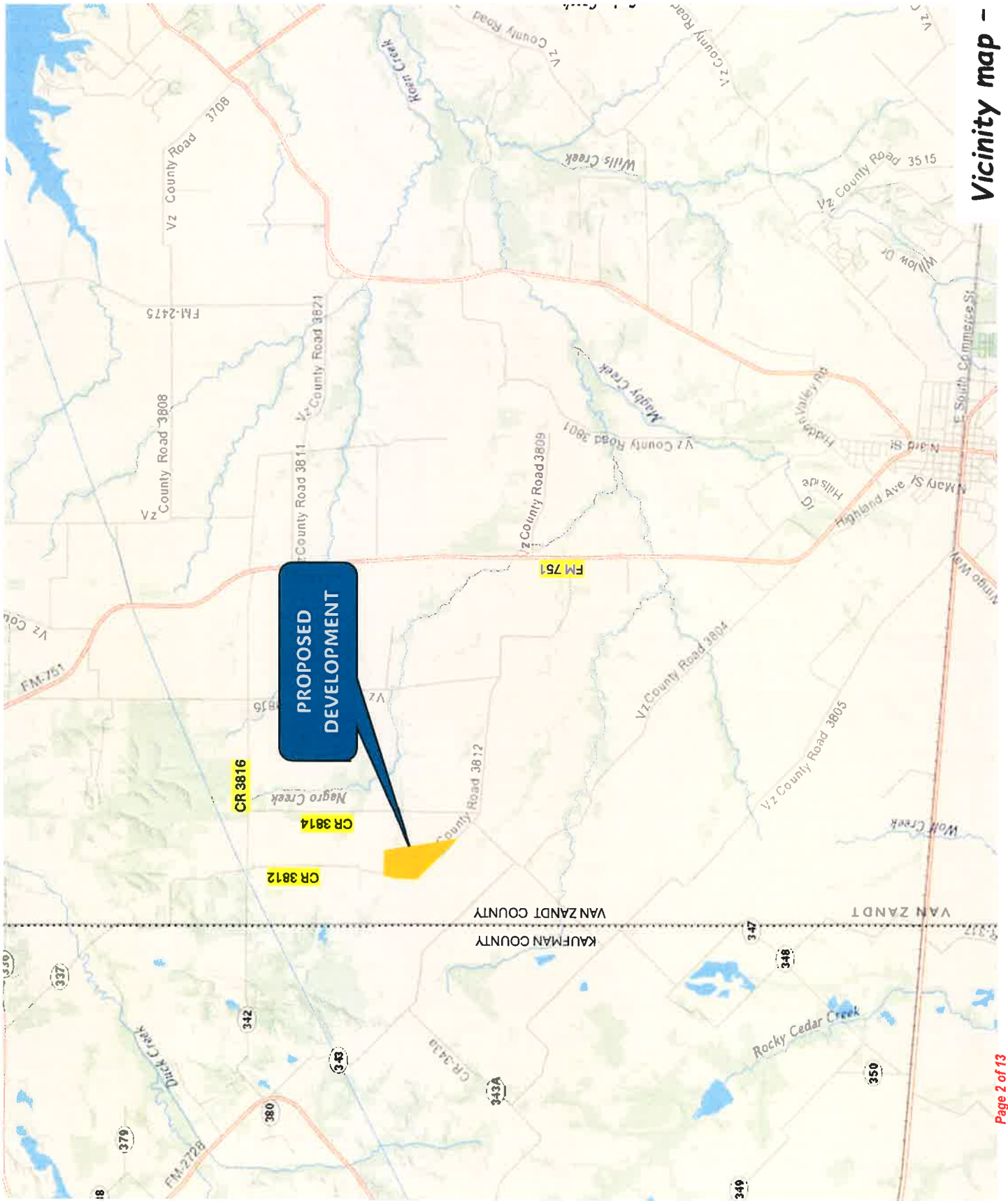
Sincerely,

VELVIN & WEEKS CONSULTING ENGINEERS, INC.

A handwritten signature in dark ink, appearing to be 'TH', followed by a horizontal line.

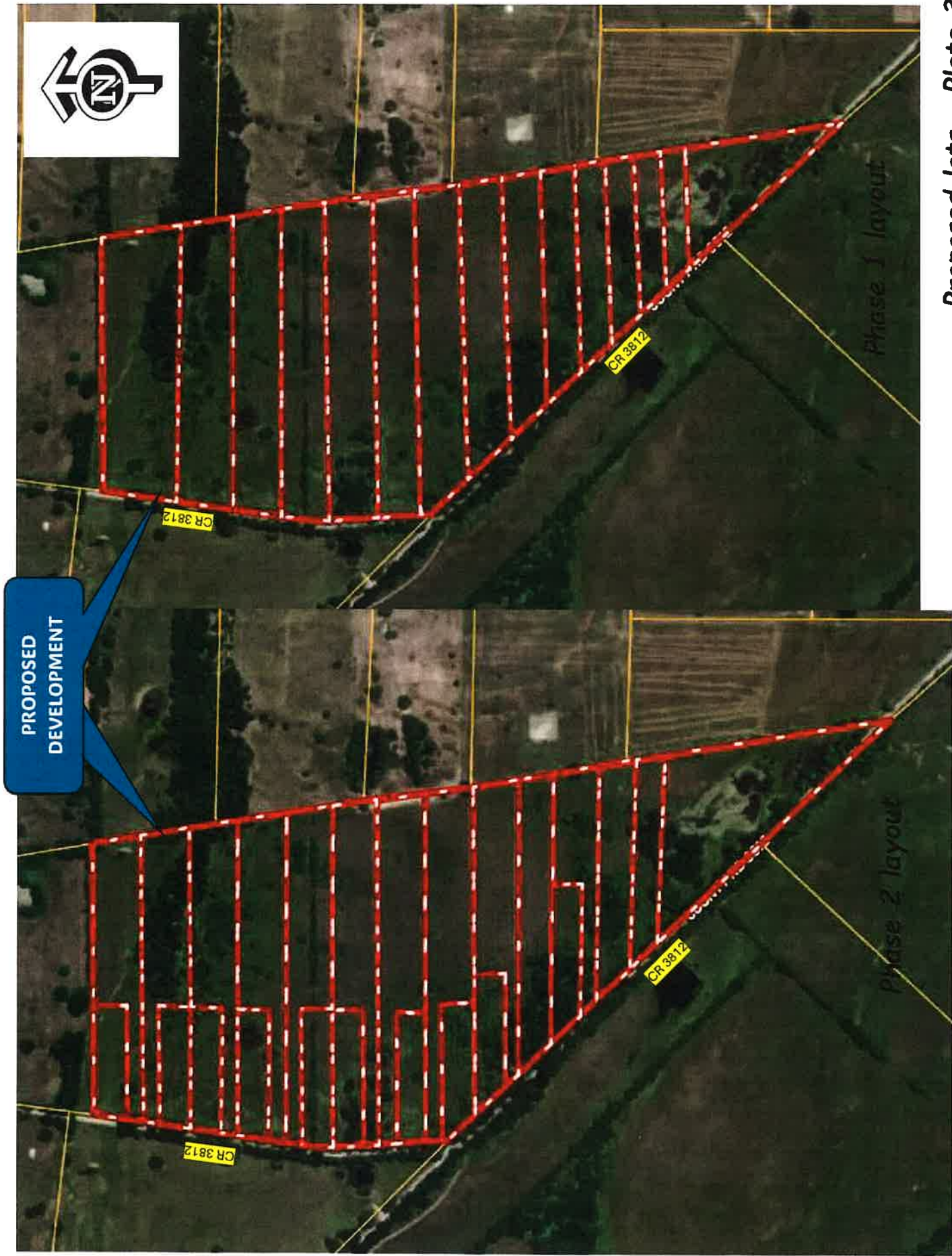
Tyler N. Hendrickson, P.E.
Attachments

Approved 11-18-25

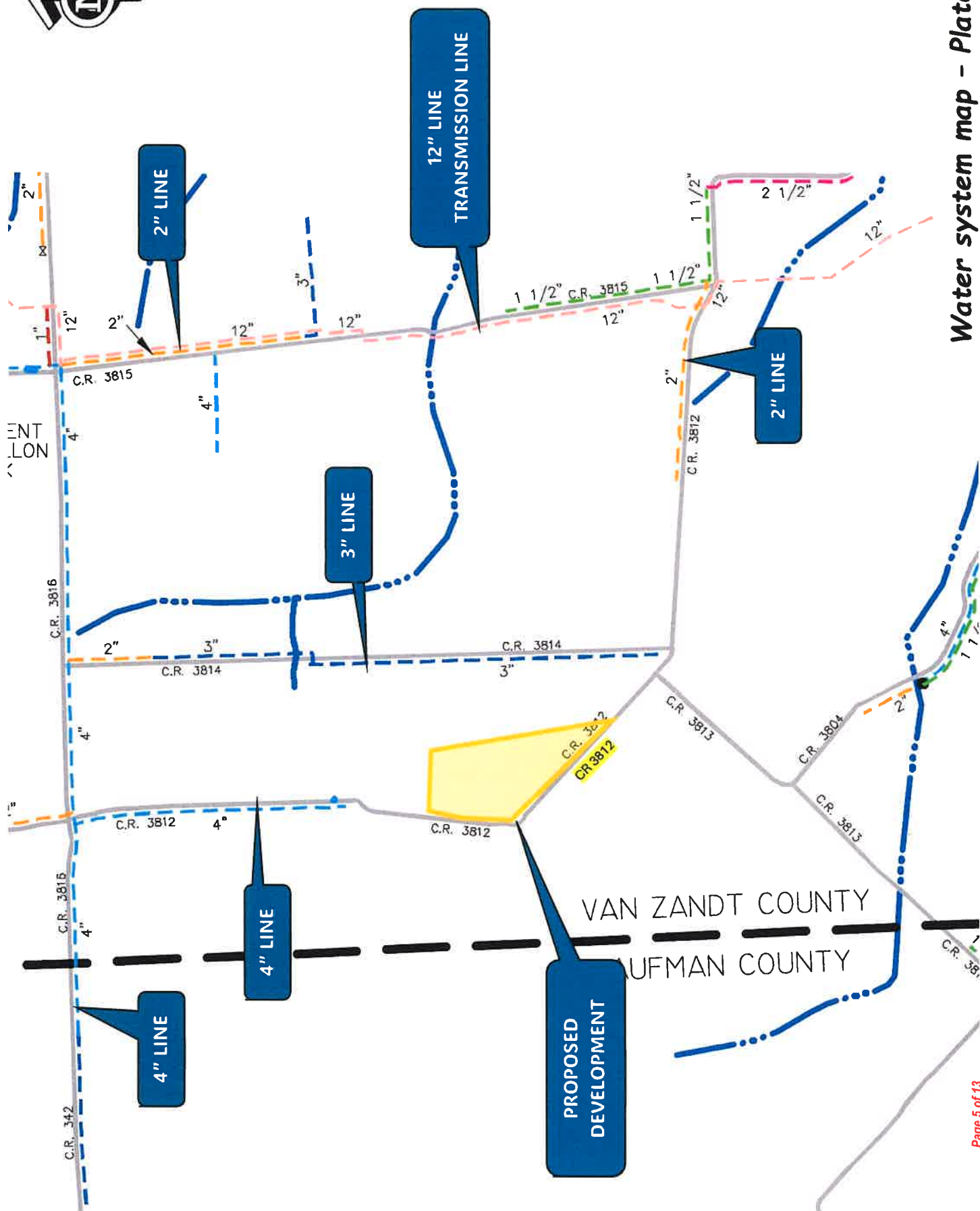


Vicinity map - Plate 1



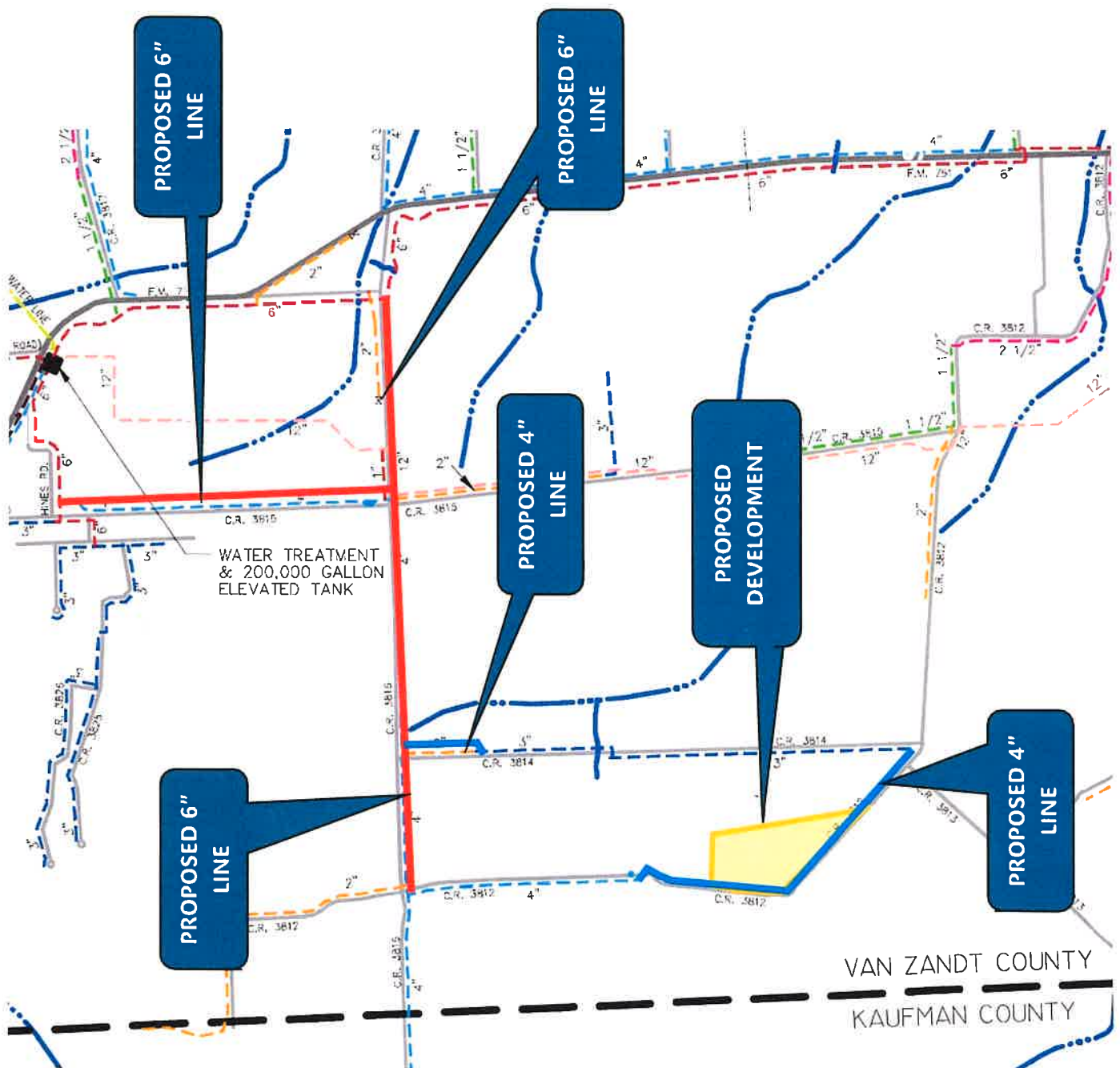


Proposed lots - Plate 3





*Schematic of
recommended
improvements map -
Plate 5*



**Table 4 – Opinion of Probable Cost
MacBee Special Utility District**

recommended 4" water distribution improvements on VZCR 3814

Item No.	Description	Estimated Quantity		Estimated Unit Cost	Total
1	4" SDR-21 class 200 PVC water line	1,545	LF	\$25	\$38,618
2	4" SDR-21 class 200 Yelomine PVC water line	150	LF	\$35	\$5,250
3	tie-in	2	EA	\$4,000	\$8,000
4	flush valve assembly	1	EA	\$3,500	\$3,500
5	driveway bore for 4" line	90	LF	\$80	\$7,200
6	bore & steel encasement for 4" line	50	LF	\$180	\$9,000
7	4" gate valves	1	EA	\$2,500	\$2,500
8	Open cut steel encasement for 4" PVC carrier pipe	100	LF	\$110	\$11,000
9	fittings & retaining glands	1	LS	\$5,000	\$5,000

Estimated Project Construction Cost	\$90,068
mobilization	\$4,503
Estimated Engineering fee	\$9,007
contingency	\$9,007
Estimated Observation	\$3,603

Total Estimated Project Cost \$116,187

* meters and services lines will be installed as service is requested from each lot



**Table 2 – Opinion of Probable Cost
MacBee Special Utility District**

recommended 4" water distribution improvements on VZCR 3812

Item No.	Description	Estimated Quantity		Estimated Unit Cost	Total
1	4" SDR-21 class 200 PVC water line	6,943	LF	\$25	\$173,585
2	4" SDR-21 class 200 Yelomine PVC water line	100	LF	\$35	\$3,500
3	tie-in	2	EA	\$4,000	\$8,000
4	flush valve assembly	3	EA	\$3,500	\$10,500
5	driveway bore for 4" line	60	LF	\$80	\$4,800
6	bore & steel encasement for 4" line	0	LF	\$180	\$0
7	4" gate valves	3	EA	\$2,500	\$7,500
8	Open cut steel encasement for 4" PVC carrier pipe	100	LF	\$110	\$11,000
9	fittings & retaining glands	1	LS	\$10,000	\$10,000

Estimated Project Construction Cost **\$228,885**

mobilization **\$11,444**

Estimated Engineering fee **\$22,889**

contingency **\$22,889**

Estimated Observation **\$9,155**

Total Estimated Project Cost **\$295,262**

* meters and services lines will be installed as service is requested from each lot



**Table 1 – Opinion of Probable Cost
MacBee Special Utility District**

recommended 4" water distribution improvements on VZCR 3816

Item No.	Description	Estimated Quantity		Estimated Unit Cost	Total
1	6" SDR-21 class 200 PVC water line	11,280	LF	\$35	\$394,793
2	6" SDR-21 class 200 Yelomine PVC water line	560	LF	\$40	\$22,400
3	tie-in	4	EA	\$5,000	\$20,000
4	flush valve assembly	5	EA	\$3,500	\$17,500
5	driveway bore for 6" line	210	LF	\$100	\$21,000
6	bore & steel encasement for 6" line	360	LF	\$200	\$72,000
7	6" gate valves	5	EA	\$3,500	\$17,500
8	Open cut steel encasement for 6" PVC carrier pipe	200	LF	\$180	\$36,000
9	fittings & retaining glands	1	LS	\$15,000	\$15,000

Estimated Project Construction Cost	\$616,193
mobilization	\$30,810
Estimated Engineering fee	\$61,619
contingency	\$61,619
Estimated Observation	\$24,648

Total Estimated Project Cost \$794,889

* meters and services lines will be installed as service is requested from each lot



**Table 3 – Opinion of Probable Cost
MacBee Special Utility District**

recommended 4" water distribution improvements on VZCR 3816

Item No.	Description	Estimated Quantity		Estimated Unit Cost	Total
1	6" SDR-21 class 200 PVC water line	6,180	LF	\$35	\$216,295
2	6" SDR-21 class 200 Yelomine PVC water line	600	LF	\$40	\$24,000
3	tie-in	2	EA	\$5,000	\$10,000
4	flush valve assembly	5	EA	\$3,500	\$17,500
5	driveway bore for 6" line	120	LF	\$100	\$12,000
6	bore & steel encasement for 6" line	500	LF	\$200	\$100,000
7	6" gate valves	5	EA	\$3,500	\$17,500
8	Open cut steel encasement for 6" PVC carrier pipe	100	LF	\$180	\$18,000
9	fittings & retaining glands	1	LS	\$15,000	\$15,000

Estimated Project Construction Cost **\$430,295**

mobilization **\$21,515**

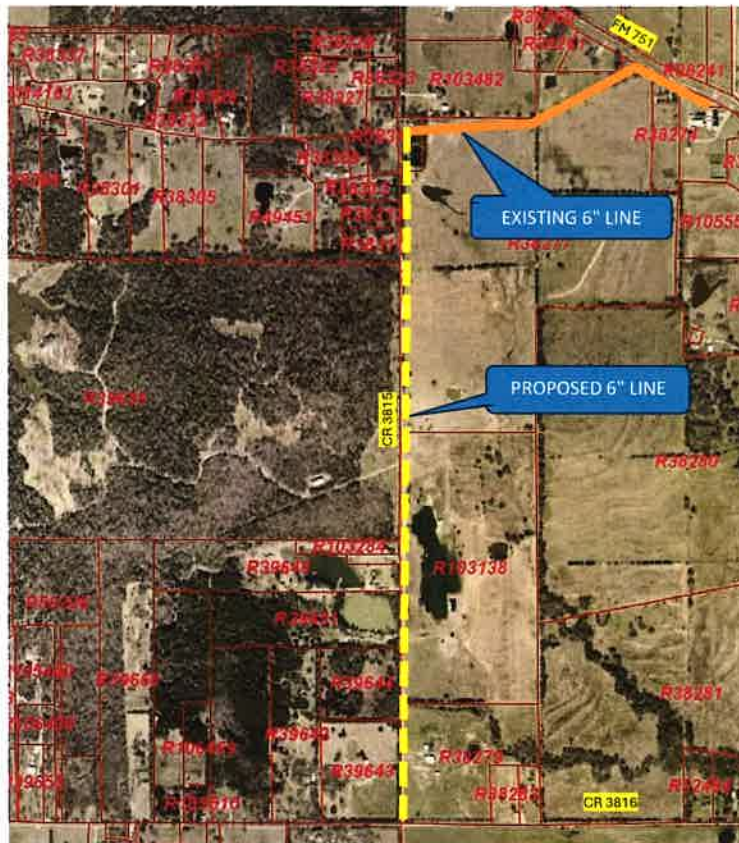
Estimated Engineering fee **\$43,029**

contingency **\$43,029**

Estimated Observation **\$17,212**

Total Estimated Project Cost \$555,080

* meters and services lines will be installed as service is requested from each lot



**Table 5 – Opinion of Probable Cost
MacBee Special Utility District**

summary of cost estimates

recommended 4" water distribution improvements on VZCR 3816	\$794,889
recommended 4" water distribution improvements on VZCR 3812	\$295,262
recommended 4" water distribution improvements on VZCR 3816	\$555,080
recommended 4" water distribution improvements on VZCR 3814	\$116,187

total opinion of probable cost - \$1,761,418

FIGURE 1 - MACBEE - equivalent system capacities, based on original TCEQ variance criteria

REQUIRED CAPACITIES

	existing number of connections	supply (gpm)	booster pumps (gpm)	total storage tank (gals)	pressure tank (gals)	elevated storage (gals)
standard TCEQ capacity criteria		0.42	varies	200	20	100
required minimum capacities						
North tower pressure plane, also includes Holiday Estates	507	213	266	101,400		50,700
Treatment plant service area (includes the Holiday Estates, treatment plant, south tower, Plant C, Edgewood & plant D pressure planes)	2,060	865	na	412,000		206,000
South tower pressure plane	530	223	na	106,000		53,000
South tower service areas (includes the South tower Edgewood, Plant C, and Plant D pressure planes)	1,553	652	815	310,600		155,300
Plant C pressure plane	380	160	200	76,000	7,600	
Edgewood pressure plane	392	165	784	78,400	7,840	
Plant D pressure plane	251	105	502	50,200	5,020	
Jackson pressure plane	206	87	412	41,200	4,120	

AVAILABLE CAPACITIES

North tower pressure plane, also includes Holiday Estates	available capacities			minimum required capacities	excess capacity / required increase of capacity	percentage of capacity used for existing connections	number of connections remaining in the system until an expansion is required
	existing capacities	maximum number of connections	planning threshold				
existing connections - 507							
booster pump capacity (note #2)	500 gpm	952	810	266 gpm	234 gpm	53%	445
elevated tank capacity (note #4)	200,000 gallons	2,000	1,700	50,700 gallons	149,300 gallons	25%	1,493

Note #2 – (2) 500 gpm booster pumps, capacity based on peak hourly demand of 0.53 (0.42 x 1.25) gpm per connection, with largest pump out of service

Note #4 – (1) 200,000 gallon elevated tank

Treatment plant service area (includes the Holiday Estates, treatment plant, south tower, Plant C, Edgewood & plant D pressure planes)	available capacities			minimum required capacities	excess capacity / required increase of capacity	percentage of capacity used for existing connections	number of connections remaining in the system until an expansion is required
	existing capacities	maximum number of connections	planning threshold				
existing connections - 2,060							
treatment capacity (note #1)	2,880 gpm	5,486	4,663	1,082 gpm	1,799 gpm	38%	2,998
ground storage tank capacity (note #3)	1,188,000 gallons	5,940	5,049	412,000 gallons	776,000 gallons	35%	3,880

Note #1 – 2 MGD treatment plant capacity

Note #3 – (1) 688,000 gallon and (1) 500,000 gallon clearwell

South tower pressure plane	available capacities			minimum required capacities	excess capacity / required increase of capacity	percentage of capacity used for existing connections	number of connections remaining in the system until an expansion is required
	existing capacities	maximum number of connections	planning threshold				
existing connections - 530							
total storage tank capacity (note #3)	250,000 gallons	1,250	1,063	106,000 gallons	144,000 gallons	42%	720
elevated tank capacity (note #4)	250,000 gallons	2,500	2,125	53,000 gallons	197,000 gallons	21%	1,970

Note #3 – (1) 250,000 elevated tank

Note #4 – (1) 250,000 elevated tank

South tower service areas (includes the South tower Edgewood, Plant C, and Plant D pressure planes)	available capacities			minimum required capacities	excess capacity / required increase of capacity	percentage of capacity used for existing connections	number of connections remaining in the system until an expansion is required
	existing capacities	maximum number of connections	planning threshold				
existing connections - 1,553							
booster pump capacity (note #2)	1,470 gpm	2,800	2,380	815 gpm	655 gpm	55%	1,247

Note #2 – (1) 1,100 gpm pump, & (2) 735 gpm pumps, capacity based on peak hourly demand of 0.53 (0.42 x 1.25) gpm per connection, with largest pump out of service

FIGURE 1 - MACBEE - equivalent system capacities, based on original TCEQ variance criteria

Plant C pressure plane	available capacities			minimum required capacities	excess capacity / required increase of capacity	percentage of capacity used for existing connections	number of connections remaining in the system until an expansion is required
	existing capacities	maximum number of connections	planning threshold				
existing connections - 380							
supply capacity (note #1)	gpm	0	0	160 gpm	-160 gpm	#DIV/0!	-380
booster pump capacity (note #2)	1,000 gpm	1,905	1,619	200 gpm	801 gpm	20%	1,525
ground storage tank capacity (note #3)	287,000 gallons	1,435	1,220	76,000 gallons	211,000 gallons	26%	1,055
pressure tank capacity (note #4)	12,000 gallons	600	510	7,600 gallons	4,400 gallons	63%	220

Note #1 –

Note #2 – (3) 500 gpm booster pumps, capacity based on peak hourly demand of 0.53 (0.42 x 1.25) gpm per connection, with largest pump out of service

Note #3 – (1) 200,000 gallon, and (1) 87,000 gallon ground storage tank

Note #4 – (1) 12,000 gallon pressure tank

Edgewood pressure plane	available capacities			minimum required capacities	excess capacity / required increase of capacity	percentage of capacity used for existing connections	number of connections remaining in the system until an expansion is required
	existing capacities	maximum number of connections	planning threshold				
existing connections - 392							
supply capacity (note #1)	gpm	0	0	165 gpm	-165 gpm	#DIV/0!	-392
booster pump capacity (note #2)	340 gpm	170	145	784 gpm	-444 gpm	231%	-222
total storage tank capacity (note #3)	100,000 gallons	500	425	78,400 gallons	21,600 gallons	78%	108
pressure tank capacity (note #4)	8,000 gallons	400	340	7,840 gallons	160 gallons	98%	8

Note #1 –

Note #2 – (1) 160 gpm and (1) 180 gpm booster pump, capacity based on total pumping capacity divided by 2 gpm per connection

Note #3 – (1) 100,000 gallon ground storage tank

Note #4 – (1) 8,000 gallon pressure tank

Plant D pressure plane	available capacities			minimum required capacities	excess capacity / required increase of capacity	percentage of capacity used for existing connections	number of connections remaining in the system until an expansion is required
	existing capacities	maximum number of connections	planning threshold				
existing connections - 251							
supply capacity (note #1)	gpm	0	0	151 gpm	-151 gpm	#DIV/0!	-251
booster pump capacity (note #2)	280 gpm	140	119	502 gpm	-222 gpm	179%	-111
ground storage tank capacity (note #3)	130,000 gallons	650	553	50,200 gallons	79,800 gallons	39%	399
pressure tank capacity (note #4)	5,000 gallons	250	213	5,020 gallons	-20 gallons	100%	-1

Note #1 –

Note #2 – (2) 140 gpm booster pumps, capacity based on total pumping capacity divided by 2 gpm per connection

Note #3 – (1) 130,000 gallon ground storage tank

Note #4 – (1) 5,000 gallon pressure tank

Jackson pressure plane	available capacities			minimum required capacities	excess capacity / required increase of capacity	percentage of capacity used for existing connections	number of connections remaining in the system until an expansion is required
	existing capacities	maximum number of connections	planning threshold				
existing connections - 206							
well capacity (note #1)	150 gpm	357	304	87 gpm	63 gpm	58%	151
booster pump capacity (note #2)	340 gpm	170	145	412 gpm	-72 gpm	121%	-36
ground storage tank capacity (note #3)	163,175 gallons	816	693	41,200 gallons	121,975 gallons	25%	610
pressure tank capacity (note #4)	6,000 gallons	300	255	4,120 gallons	1,880 gallons	69%	94

Note #1 – Well capacity is 150 gpm from two wells. The required supply capacity is based on 0.6 gpm per connection.

Note #2 – (1) 160 gpm and (1) 180 gpm booster pumps, capacity based on total pumping capacity divided by 2 gpm per connection

Note #3 – (1) 66,000 gallon and (1) 97,175 gallon ground storage tank

Note #4 – (2) 4,000 gallon pressure tanks