

3.0 Compliance with Spacing/Acreage Requirement

The BVGCD has several well spacing and acreage requirements for non-exempt wells. Under BVGCD rules and the Water Code, the four proposed wells for the City of Bryan classify as non-exempt municipal wells. This section demonstrates compliance with BVGCD spacing rules and confirms adequate contiguous acreage is available for the annual average production rate requested.

3.1 Simsboro Wells Within One Mile of Proposed Wells

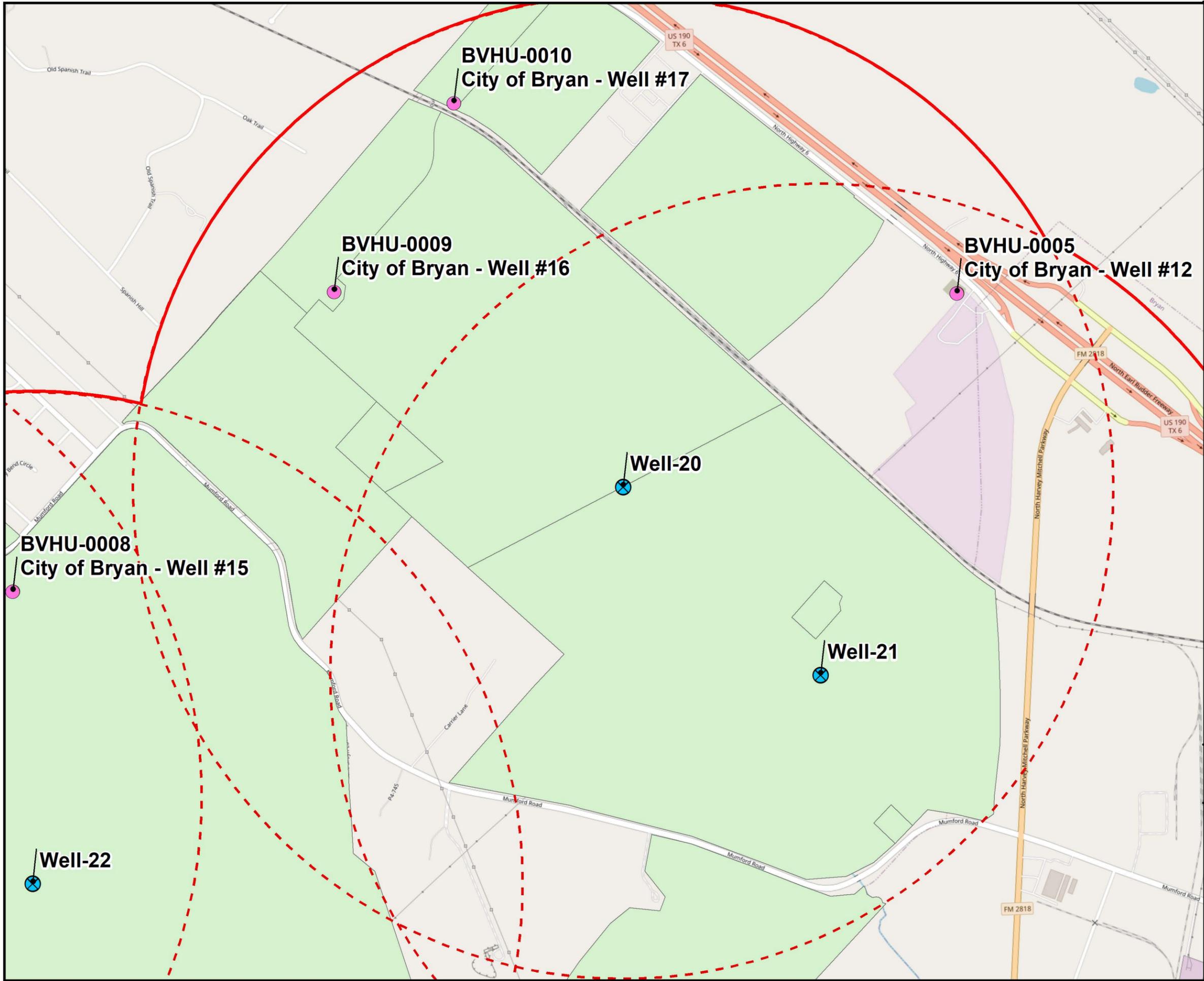
Rule 8.4(b)(7)(A)(2) requires that the applicant include a table providing data on each registered or permitted well located within one mile of the proposed well(s) and screening the same aquifer. The well table shall include the name of the well owner, well registration or permit number, casing and screen diameters and depth settings, total well depth, and aquifer screened. The same rule also requires a map showing the location(s) of the proposed wells at a scale no greater than one-inch equals 1,000 feet. INTERA requested information on all registered and/or permitted wells screened within the Simsboro within a mile of each of the proposed wells. BVGCD supplied the information provided in **Table 6** below. Screen diameters were obtained from the TWDB Water Information Integration and Dissemination database (WIID).

Table 6. Registered or Permitted Simsboro wells within one mile of the four new proposed wells.

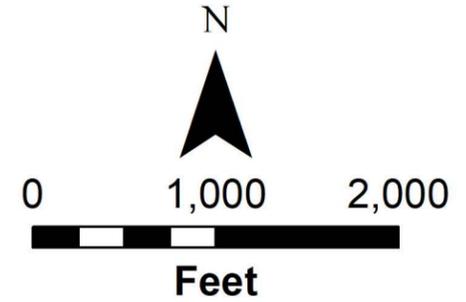
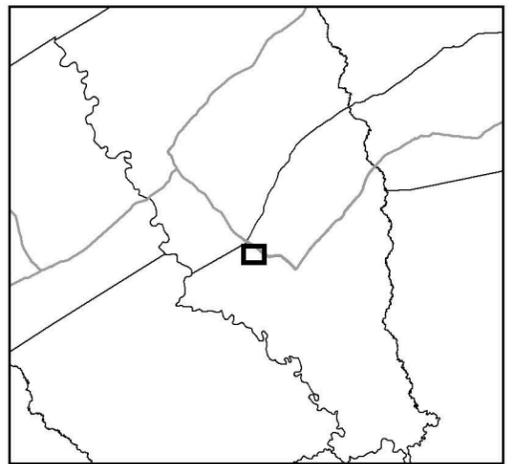
Owner	Company / Municipality	Permit #	Well Name	Aquifer	Depth (ft)	Column Size (in)	Screen Diameter (in)	Screen Depths (ft)	Casing
Barfknecht	City Of Bryan	BVHU-0004	City of Bryan - Well #11	Simsboro	2,950	13	13	2,514-2,904	20x13" T @ 600
Barfknecht	City Of Bryan	BVHU-0005	City of Bryan - Well #12	Simsboro	2,880	14	10	2,480-2,730, 2,742-2,860	20x14" T @ 460
Barfknecht	City Of Bryan	BVHU-0008	City of Bryan - Well #15	Simsboro	2,881	14	10	2,400-2,760, 2,780-2,830	20x14" T @ 698
Barfknecht	City Of Bryan	BVHU-0009	City of Bryan - Well #16	Simsboro	2,867	14	10	2,402-2,497, 2,527-2,647, 2,692-2,852	20x14" T @ 700

Owner	Company / Municipality	Permit #	Well Name	Aquifer	Depth (ft)	Column Size (in)	Screen Diameter (in)	Screen Depths (ft)	Casing
Barfknecht	City Of Bryan	BVHU-0010	City of Bryan - Well #17	Simsboro	2,950	13	10	2,359-2,494, 2,509-2,559, 2,579-2,649, 2,665-2,788, 2,799-2,844	20x13" T @ 703
Barfknecht	City Of Bryan	BVHU-0041	City of Bryan - Well #19 (CS #4)	Simsboro	2,938	16	9	2,416-2,460, 2,474-2,732, 2,744-2,772, 2,834-2,878, 2,900-2,918	16x13" T @ 700
Barfknecht	City Of Bryan	BVDO-0003	City of Bryan - Well #18	Simsboro	2,770	16	10	2,328-2,520, 2,530-2,588, 2,598-2,606, 2,612-2,647, 2,654-2,690, 2,704-2,750	20x16" T @ 800
Mechler	City Of College Station	BVHU-0038	City of College Station - Well #1	Simsboro	2,973	13	10	2,530-2,960	16x13" T @ 700
Mechler	City Of College Station	BVHU-0039	City of College Station - Well #2	Simsboro	2,975	14	10	2,520-2,910	16x14" T @ 701

There are nine wells within one mile of any of the four proposed well locations. Of the nine wells, seven are owned and permitted to the City of Bryan. The two wells not owned by the City of Bryan are owned by College Station. These two wells are City of College Station Wells #1 and #2. **Figures 6-9** plot each proposed well with all registered and or permitted wells completed in the Simsboro within one mile of the proposed well at a scale 1 inch to 1,000 feet. Because of the small scale of the maps, small portions of the one-mile boundary fall outside the figures. However, in all cases there are no registered Simsboro wells within those small areas within one mile not shown in Figures 6 through 9 which can be verified by Figure 1 (at a larger scale). **Figure 6** shows all registered or permitted Simsboro wells within one mile of Bryan Well #20. Three existing City of Bryan wells are within one mile from proposed Bryan Well #20 – Bryan Well #12 (BVHU-0005), Bryan Well #16 (BVHU-0009) and Bryan Well #17 (BVHU-0010). **Figure 7** shows all registered or permitted Simsboro wells within one mile of proposed Bryan Well #21. Two existing City of Bryan wells are within one mile of proposed Bryan Well #21 – Bryan Well #11 (BVHU-0004), and Bryan Well #12 (BVHU-0005). **Figure 8** shows all registered or permitted Simsboro wells within one mile of Bryan Well #22. One existing City of Bryan well is within one mile of Bryan Well #22 – Bryan Well #15 (BVHU-0008). Two City of College Station wells are within a mile of Well 22, College Station Well #1 (BVHU-0038) and #2 (BVHU-0039). **Figure 9** shows all registered or permitted Simsboro wells within one mile of Bryan Well #23. Three existing City of Bryan wells are within one mile of Bryan Well #23 – Bryan Well #15 (BVHU-0008), Bryan Well #18 (BVDO-0003) and Bryan Well #19 (BVHU-0041). City of College Station Well #2 (BVHU-0039) is almost exactly one mile away from proposed Well #23 and, given errors intrinsic in well location, is considered within one mile of proposed Bryan Well #23.



-  Proposed City of Bryan Simsboro Wells
-  City of Bryan Simsboro Wells
-  Other Registered Simsboro Wells
-  1-Mile Buffer
-  Contiguous Acreage
-  County Boundary



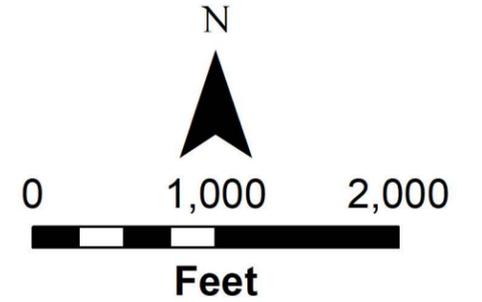
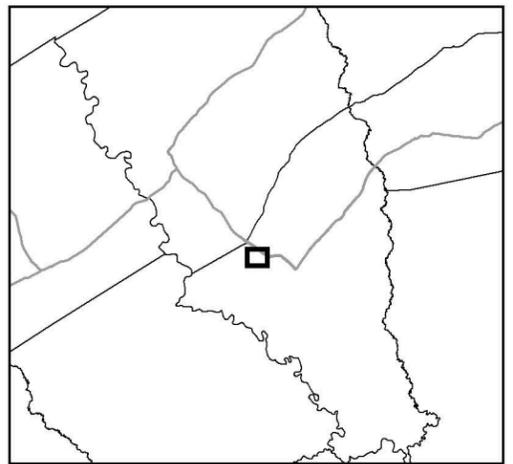
City of Bryan, TX

**Figure 6:
Wells within one mile of
Proposed Well #20**





-  Proposed City of Bryan Simsboro Wells
-  City of Bryan Simsboro Wells
-  Other Registered Simsboro Wells
-  1-Mile Buffer
-  Contiguous Acreage
-  County Boundary



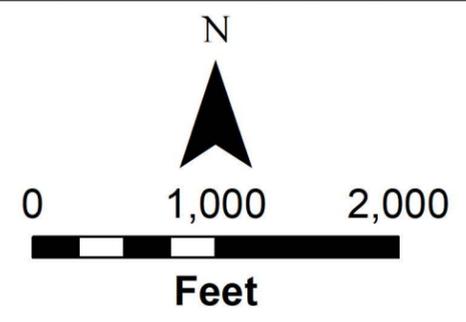
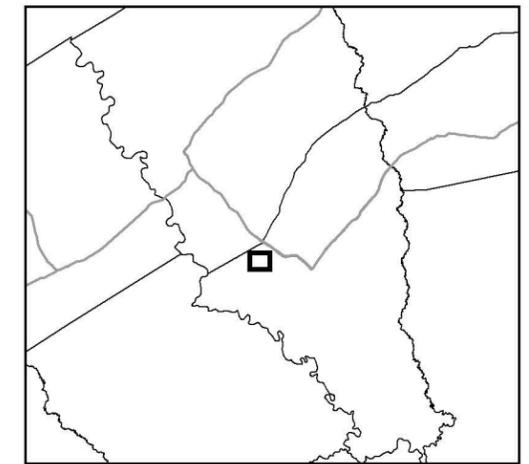
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**Figure 7:
Wells within one mile of
Proposed Well #21**





-  Proposed City of Bryan Simsboro Wells
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-  Other Registered Simsboro Wells
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-  County Boundary



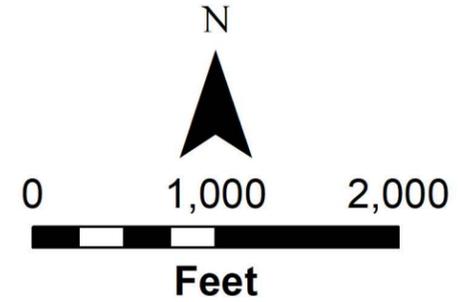
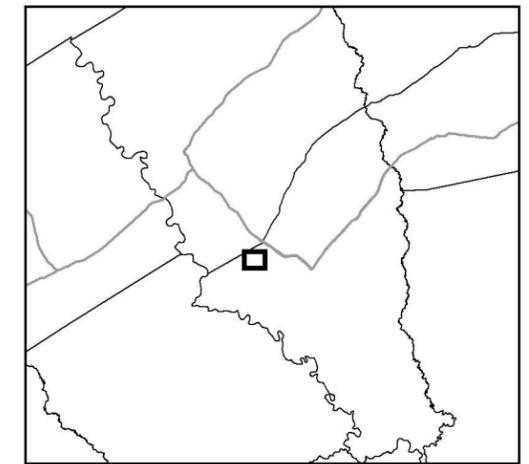
City of Bryan, TX

**Figure 8:
Wells within one mile of
Proposed Well #22**





-  Proposed City of Bryan Simsboro Wells
-  City of Bryan Simsboro Wells
-  Other Registered Simsboro Wells
-  1-Mile Buffer
-  Contiguous Acreage
-  County Boundary



City of Bryan, TX

**Figure 9:
Wells within one mile of
Proposed Well #23**



3.2 Property Boundary Requirement (Rule 6.1(b)(1))

Rule 6.1(b)(1) requires that a new non-exempt well completed in the Simsboro be ½ foot per gallon per minute (ft/gpm) of average production rate from the perimeter of the property legally assigned to that well. **Table 7** calculates the minimum distance from the perimeter of the assigned land legally owned or leased by the City of Bryan required for each proposed well. **Figure 10** plots each of the proposed wells with their associated ½ ft/gpm property boundary buffer from Table 7. All four proposed new wells are within the legally controlled boundaries of acreage owned by the City of Bryan.

Table 7. Property boundary offset rule for the proposed wells.

New Well ID	Annual Supply (AF)	Avg Annual Rate (gpm)	Spacing Rule 6.1(b)(1) - ft
20	2,863	1,775	887
21	3,035	1,882	941
22	5,000	3,100	1,550
23	3,306	2,050	1,025

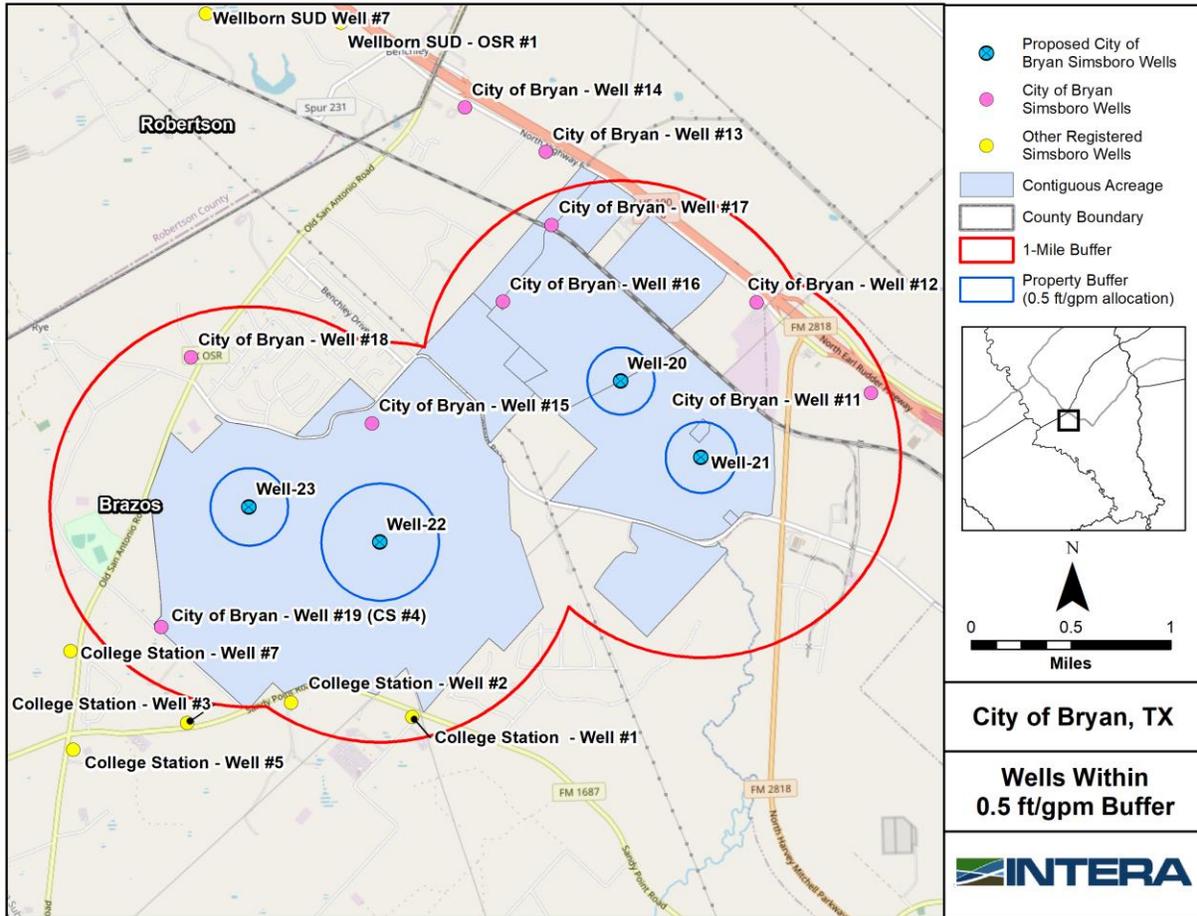


Figure 10. Compliance with the ½ ft/gpm spacing rule from the perimeter of the property legally assigned to the proposed well (Rule 6.1(b)(1)).

3.3 Distance to Nearest Registered or Permitted Well (Rule 6.1(b)(3))

Rule 6.1(b)(3) requires that a new non-exempt well completed in the Simsboro be 1 ft/gpm of average production rate or capacity from another registered or permitted well completed in the same aquifer (Simsboro, in this case). **Table 8** calculates the minimum distance from another registered or permitted well in the Simsboro required for each proposed well. The distance is equivalent to the average annual production rate associated with the proposed well. **Figure 11** plots each of the proposed wells with their associated 1 ft/gpm buffer from another registered or permitted well in the same aquifer. The closest well to a proposed well is Bryan Well #15 (BVHU-0008) which is 3,145 feet from proposed Well #22, which has a spacing criterion of 3,100 feet. All four proposed new wells comply with Rule 6.1(b)(3).

Table 8. Spacing from an existing Simsboro well for the proposed wells.

New Well ID	Annual Supply (AF)	Avg Annual Rate (gpm)	Spacing Rule 6.1(b)(3) - ft
20	2,863	1,775	1,775
21	3,035	1,882	1,882
22	5,000	3,100	3,100
23	3,306	2,050	2,050

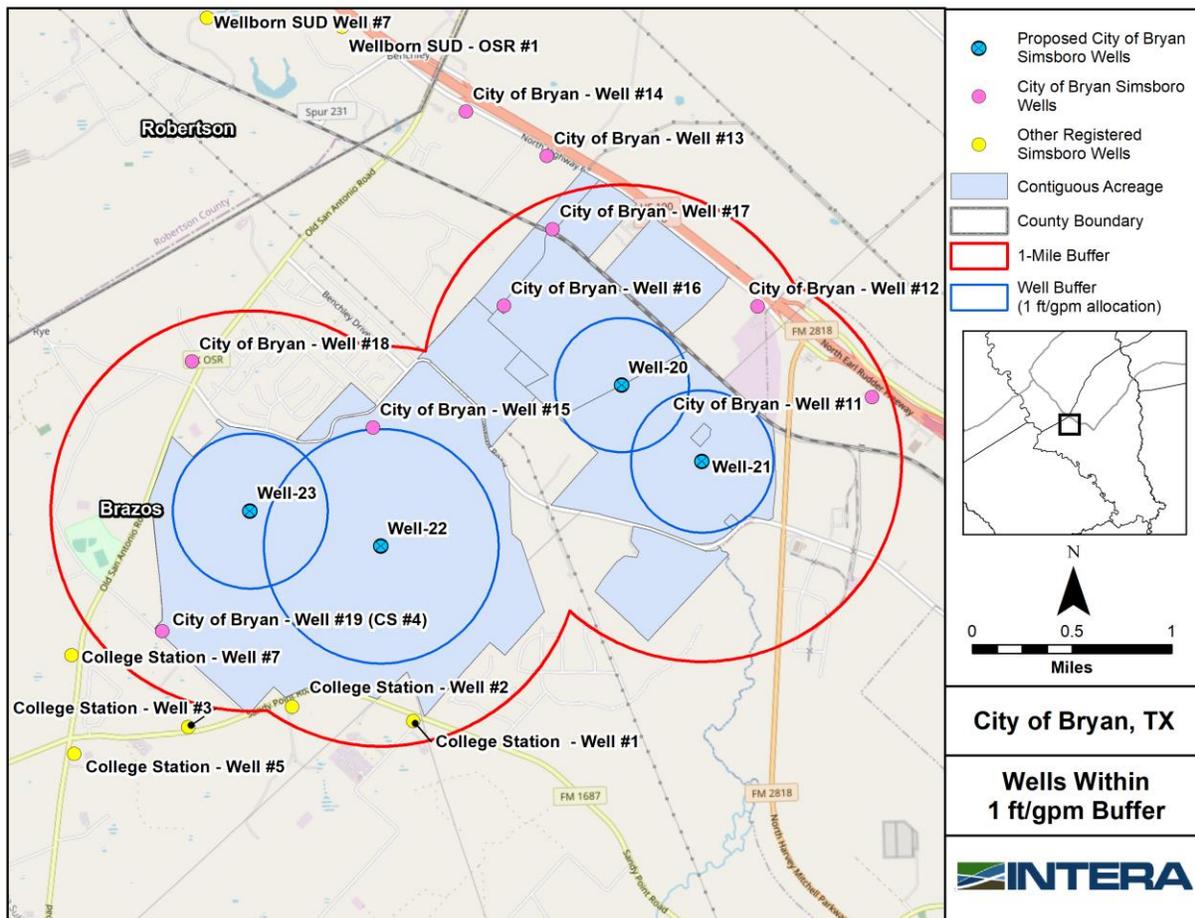


Figure 11. Compliance with the 1 ft/gpm spacing rule from another registered or permitted Simsboro well (Rule 6.1(b)(3)).

3.4 Required Acreage Associated with Each Proposed Well (Rule 7.1(c))

Rule 7.1(c) defines the production-based acreage that the District assigns to a well permit. The total number of contiguous acres required to be assigned to each proposed well is calculated using the average annual production rates (see Table 9). Table 9 shows the associated acreage for each of the

four proposed wells based upon Rule 7.1(c) and the summation of the required acres. The four proposed new wells will require a contiguous acreage of 1,513.2 acres to comply with District rules. **Figure 11** shows the contiguous acreage owned by the City of Bryan which can be associated with these permits. The City has control of 2,768.5 acres on which the four proposed wells are to be located. The City owns one permitted well that is not classified as historic use (Bryan Well #18) that is north of the acreage associated with the four proposed wells. As a result, the entire 2,768 acres are available for assignment to the proposed wells assuming the well meets all other administrative requirements. The four proposed wells have adequate available acreage to comply with Rule 7.1(c).

Table 9. Required acreage for each proposed well.

New Well ID	Annual Supply (AF)	Avg Annual Rate (gpm)	Acreage Rule 7.1(c) - Acres
20	2,863	1,775	232.6
21	3,035	1,882	261.3
22	5,000	3,100	709.3
23	3,306	2,050	310.1
		Required acres	1,513.2
		Available acres	2,768.5