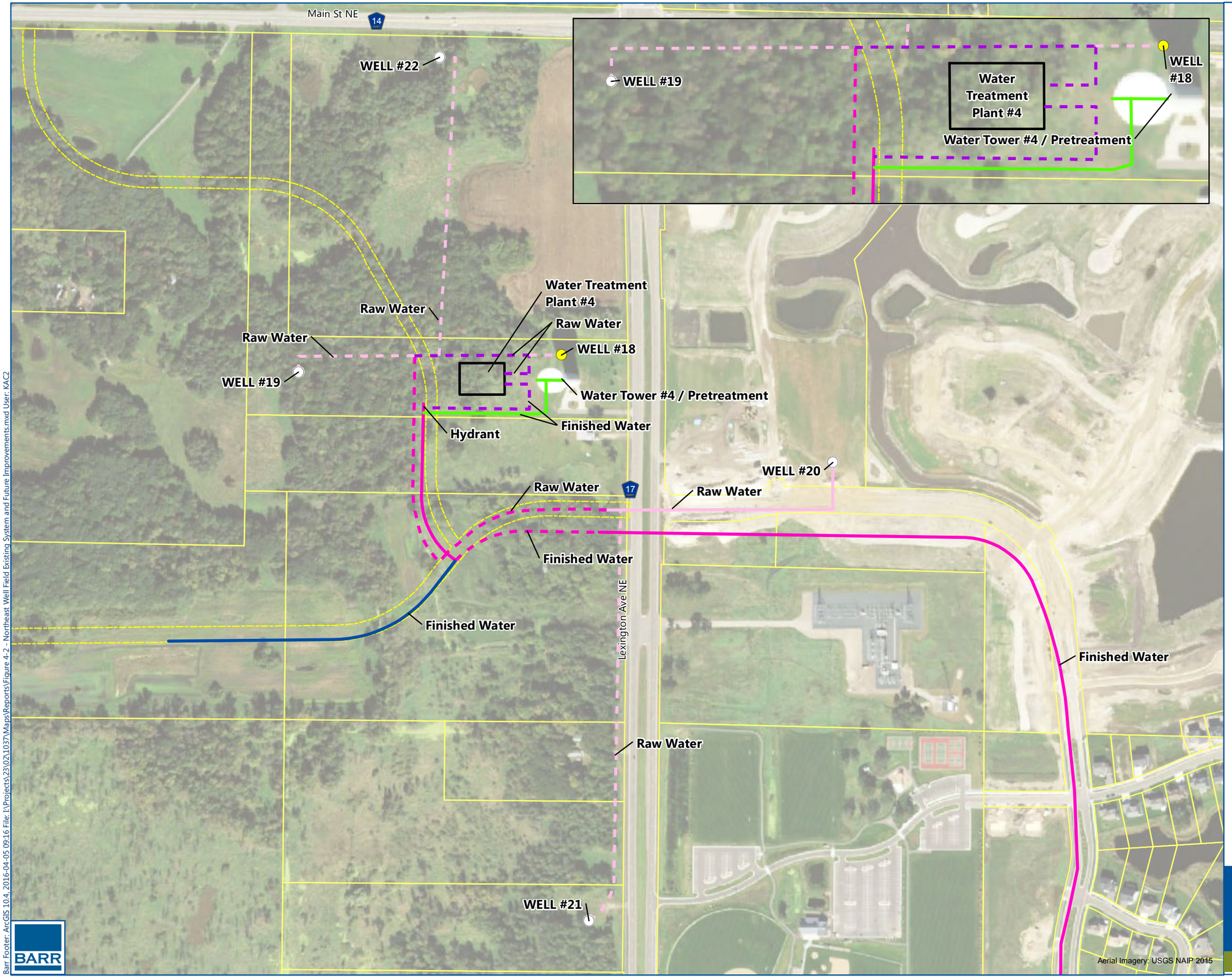
Barr Engineering

City of Blaine, Minnesota
Northeast Well Field Capital Improvements Plan (CIP)

Draft
4/6/2016

Item Name	Capital Improvement	Year	Unit	Unit Cost	Est. Cost	Total Cost
Well No. 18	*Watermain Additions:* 125-ft of 12-in added west of Lexington Ave. NE, connecting the existing Well No. 18 to future Water Treatment Plant No. 4	2016	LF	$ 159.00	$ 19,875	$ 345,000
	Pitless, pump, motor, controls		-	-	$ 325,000	
Well No. 19	*Watermain Additions:* 500-ft of 12-in connecting Well No. 19 to future Water Treatment Plant #4.	2016	LF - 12-in	$ 159.00	$ 79,500	$ 1,065,000
	Watermain Additions: 435-ft of 30-in added west of Lexington Ave. NE connecting Well No. 19 to future Water Treatment Plant #4. The 30-in pipe is where Well No. 19 connects to raw water from Well No. 20.		LF - 30-in	$ 483.00	$ 210,105	
	Submersible Well (Tunnel City-Wonewoc well)		-	-	$ 450,000	
	Pitless, pump, motor, controls		-	-	$ 325,000	
Well No. 20	*Watermain Additions:* 654-ft of 24-in added west of Lexington Ave. NE, connecting the existing Well No. 20 main to future Water Treatment Plant #4	2016	LF	$ 435.00	$ 284,490	$ 959,000
	Submersible Well (Quarternary well)		-	-	$ 350,000	
	Pitless, pump, motor, controls		-	-	$ 325,000	
Well No. 21	*Watermain Additions:* 1,600-ft of 12-in added south of the existing Well No. 20 main, parallel to Lexington Ave. NE	2016	LF	$ 159.00	$ 254,400	$ 1,029,000
	Submersible Well (Tunnel City-Wonewoc well)		-	-	$ 450,000	
	Pitless, pump, motor, controls		-	-	$ 325,000	
Well No. 22	*Watermain Additions:* 1,200-ft of 12-in added west of/parallel to Lexington Ave. NE, connecting existing Well No. 18 to future Water Treatment Plant No. 4	2016	LF	$ 159.00	$ 190,800	$ 866,000
	Submersible Well (Quarternary well)		-	-	$ 350,000	
	Pitless, pump, motor, controls		-	-	$ 325,000	
Misc. Watermain Additions	*Watermain Additions:* 580-ft of 24-in added west of Lexington Ave. NE, connecting the existing finished watermains. Electric altitude valve install.	2016	LF	$ 435.00	$ 305,700	$ 306,000
Temporary Chemical Feed System	*Watermain Additions:* Temporary building with chemical feed systems. Building size 10-ft by 15-ft.	2016	LS	$ 116,200.00	$ 116,200	$ 116,000
					Subtotal Wells and Watermain	**$ 4,686,000**
Water Treatment Plant #4	*Watermain Additions:* 755-ft of 30-in added west of Lexington Ave. NE, directly west of Water Tower No. 4, connecting the future Water Treatment Plant No. 4 influent raw water to the treatment plant and finished water to existing finished watermains	2017-2018	LF	$ 483.00	$ 364,665	$ 22,265,000
	Water Treatment Plant No. 4		-	-	$ 21,900,000	
					Subtotal WTP4	**$ 22,265,000**
					Total for Notheast Well Field CIP	**$ 26,960,000**

Notes: This feasibility-level (Class 4, 10-15% design completion per ASTM E 2516-06) cost estimate is based on feasibility-level designs, alignments, quantities and unit prices. Costs will change with further design. Contingency is an allowance for the net sum of costs that will be in the Final Total Project Cost at the time of the completion of design, but are not included at this level of project definition. The estimated accuracy range for the Total Project Cost as the project is defined is -20% to +40%. The accuracy range is based on professional judgement considering the level of design completed, the complexity of the project and the uncertainties in the project as scoped. The contingency and the accuracy range are not intended to include costs for future scope changes that are not part of the project as currently scoped or costs for risk contingency.



Existing Well
Future Well
12" (Existing)
12" (Future)
16" (Existing)
20" (Existing)
24" (Existing)
24" (Future)
30" (Future)
Future Road
Parcel Boundary

DRAFT

N

0 350 700

Feet

NORTHEAST WELL FIELD EXISTING SYSTEM AND FUTURE IMPROVEMENTS
City of Blaine, MN

FIGURE 4-2

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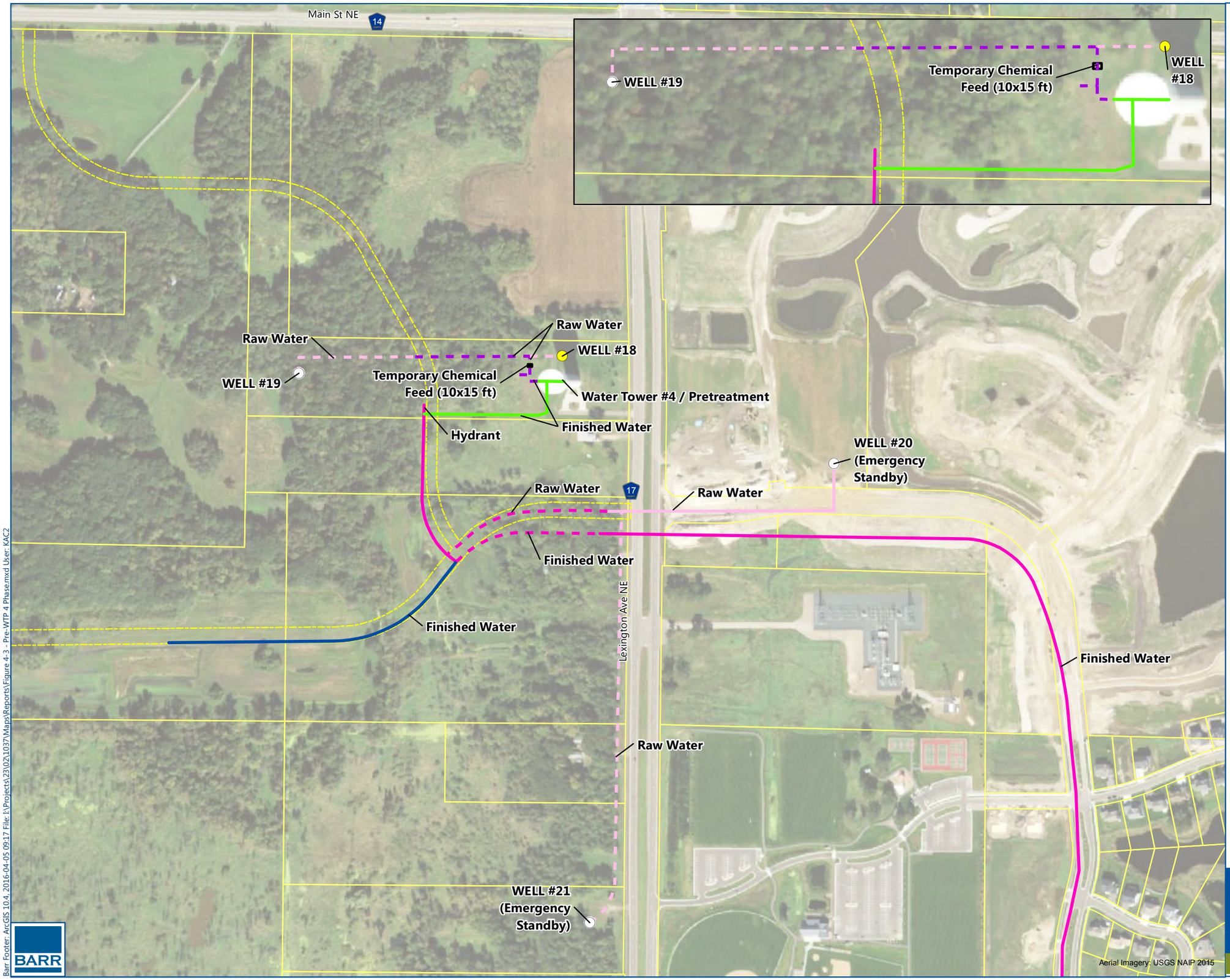
Barr Footer: ArcGIS 10.4, 2016-04-05 09:16 File: I:\Projects\23\02\1037\Maps\Reports\Figure 4-2 - Northeast Well Field Existing System and Future Improvements.mxd User: KAC2



Existing Well
Future Well
12" (Existing)
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30" (Future)
Future Road
Parcel Boundary

DRAFT

0 350 700
Feet

PRE-WTP 4 PHASE
City of Blaine, MN

FIGURE 4-3

Barr Footer: ArcGIS 10.4, 2016-04-05 09:17 File: I:\Projects\23\02\1037\Maps\Reports\Figure 4-3 - Pre-WTP 4 Phase.mxd User: KAC2