City Council Work Session
Monday, June 1, 2026 at 5:30 PM
Council Chambers - 331 First Street East
Agenda

Rules of Procedure
Workshops are not Public Hearings. No member of the public or interested party has the right to make a presentation or address the Council on an item under consideration in a workshop or a study session. During the City Council Work Session, the Council will primarily discuss and debate items intended to be formally considered at a future City Council Meeting. However, the Council may at any noticed meeting, including a City Council Work Session meeting, take action on any item shown on the posted agenda as a potential action item. The City Council Work Session meeting is a regular meeting of the Independence City Council.

Meeting Opening

Department Updates

1. Department Report - Airport
2. Department Report - Building & Code Enforcement
3. Department Report - Streets
4. Department Report - Utilities

New Business

5. Water System Study Report
6. Fire Department Expansion Update
7. Ballot Language for the Fire Department Expansion
8. Mechanic IA Services Contract Discussion
9. Iowans Create Community Mural - Buchanan County Tourism
10. RAGBRAI update
11. An Ordinance Amending the Code of Ordinances of the City of Independence, Iowa, by Amending Provisions to Chapter 70 Traffic Code Enforcement Procedures
12. Parking Next to City Hall

Other Business

13. Council Topics
14. Mayor Topics
15. City Manager Topics

Adjournment

This agenda is subject to change.

City Council

Department Report

To:	City Council Members
From:	Brett Soukup, Airport Director
Date of Meeting:	June 1, 2026
Item Title:	Department Report - Airport

Department Updates:
Fuel Sales

- 100LL: 428.50 gallons
- Jet A: 1,453.50 gallons

Equipment
We completed several repairs on the large bifold mower this month to keep it operational and ready for continued field maintenance. In addition, the mower blades show noticeable wear, and we will need to begin planning to purchase replacement blades in the near future to ensure safe and efficient operation.

Miscellaneous
We experienced intermittent issues with the AWOS phone line this month, resulting in reports of users being unable to connect. I contacted the state about the problem, and a service ticket has been opened with CenturyLink to investigate and resolve it.

Mowing operations continued regularly throughout the month as part of ongoing airfield and grounds maintenance.

This month also involved extensive research into commercial building policy procedures and associated operational requirements.I have also remained in continued contact with Spearman Aviation regarding ongoing discussions related to the contract.

Community Engagement
We participated in the Independence Community Schools career fair again this year. This remains a valuable opportunity to engage with students, discuss aviation careers, and strengthen community relationships. The event was well-received, and we appreciate the opportunity to continue participating in this annual program.

Attachments:
None

City Council

Department Report

To:	City Council Members
From:	Matt Chesmore, Building Official
Date of Meeting:	June 1, 2026
Item Title:	Department Report - Building & Code Enforcement

Department Updates:

Citizen concerns:

We fielded 7 citizen complaints/concerns within the last few months. 4 turned into violations, 2 were already reports with a municipal infraction pending, and one was unsubstantiated.

Violations:

26 violations were investigated in April and May, with many high-grass violations being resolved. Most junk violations are still being worked through, with many on the verge of being turned over to the City Attorney for their thought on how to move forward with either City abatement or municipal infractions being filed.

Permits:

We processed 89 permits throughout April and May. In your review, you may notice that a new construction home at 710 Bluebird Ct is listed. This permit was created for inspection purposes only.

Flood Plain Administration:

No activity

Training:

Iowa League of Cities – Annual Nuisance Abatement Conference.

Other Activity:

I have been reviewing ICC 2024 code books, getting ready for the adoption of the 2024 ICC code cycle. There are many amendments to the IRC and IBC that the City Manager and I will discuss in the coming weeks.

Attachments:

1. All Permits issued April May 2026
2. Complaints previous April May
3. All Violations April May

All Permits issued previous 2 months - Set Date Range

File Date	Location	Permit Type	Permit Use	Fee Amount	Permit Date	Project Value
April 16, 2026	413 8TH AVE NW, INDEPENDENCE 50644	Residential	Building	$154.00	April 20, 2026	$20,696
April 13, 2026	901 12TH ST NE, INDEPENDENCE 50644	Commercial	Building	$575.00	April 13, 2026	$140,000
April 16, 2026	307 16TH AVE NE, INDEPENDENCE 50644	Residential	Building	$136.00	April 20, 2026	$17,126
			Subtotal For Building (3 Records)	$865.00		$177,822
March 20, 2026	1600 1ST ST E, INDEPENDENCE 50644	Commercial	Curb Cut	$25.00	April 30, 2026	$0
May 14, 2026	702 5TH AVE NE, INDEPENDENCE 50644	Residential	Curb Cut	$45.00	May 19, 2026	$500
May 12, 2026	1011 7TH ST NE, INDEPENDENCE 50644	Residential	Curb Cut	$83.00	May 18, 2026	$4,400
			Subtotal For Curb Cut (3 Records)	$153.00		$4,900
May 22, 2026	712 1ST ST E, INDEPENDENCE 50644	Residential	Decking	$64.00	May 22, 2026	$5,009
April 13, 2026	1101 6TH ST NE, INDEPENDENCE 50644	Residential	Decking	$70.00	April 13, 2026	$6,600
April 16, 2026	235 TERRACE DR, INDEPENDENCE 50644	Residential	Decking	$118.00	April 17, 2026	$15,000
			Subtotal For Decking (3 Records)	$252.00		$26,609
April 2, 2026	705 8TH ST SW, INDEPENDENCE 50644	Residential	Demolition	$175.00	April 2, 2026	$30,000
			Subtotal For Demolition (1 Records)	$175.00		$30,000
May 18, 2026	902 3RD ST SW, INDEPENDENCE 50644	Residential	Excavation	$0.00	May 22, 2026	$0
May 6, 2026	401 9TH AVE SE, INDEPENDENCE 50644	Residential	Excavation	$0.00	May 6, 2026	$0
April 6, 2026	400 7TH ST NE, INDEPENDENCE 50644	Residential	Excavation	$0.00	April 6, 2026	$0

File Date	Location	Permit Type	Permit Use	Fee Amount	Permit Date	Project Value
			Subtotal For Excavation (3 Records)	$0.00		$0
January 9, 2026	513 5TH AVE NW, INDEPENDENCE 50644	Residential	Fence	$46.00	April 14, 2026	$3,000
May 19, 2026	315 11TH AVE NE, INDEPENDENCE 50644	Residential	Fence	$106.00	May 22, 2026	$12,300
May 4, 2026	304 MATTHEW ST, INDEPENDENCE 50644	Residential	Fence	$90.00	May 4, 2026	$9,100
May 6, 2026	612 4TH AVE NE, INDEPENDENCE 50644	Residential	Fence	$58.00	May 13, 2026	$4,400
May 20, 2026	1001 3RD ST NE, INDEPENDENCE 50644	Residential	Fence	$52.00	May 26, 2026	$4,000
May 22, 2026	516 6TH ST NE, INDEPENDENCE 50644	Residential	Fence	$52.00	May 26, 2026	$3,500
May 29, 2026	411 11TH AVE NW, INDEPENDENCE 50644	Residential	Fence	$30.00	May 29, 2026	$1,468
March 23, 2026	713 2ND ST SE, INDEPENDENCE 50644	Residential	Fence	$46.00	April 7, 2026	$2,500
April 7, 2026	713 9TH AVE NW, INDEPENDENCE 50644	Residential	Fence	$112.00	April 7, 2026	$13,720
			Subtotal For Fence (9 Records)	$592.00		$53,988
April 27, 2026	107 2ND AVE NE, INDEPENDENCE 50644	Residential	Mechanical (HVAC)	$136.00	May 8, 2026	$17,100
April 23, 2026	801 2ND AVE NE, INDEPENDENCE 50644	Residential	Mechanical (HVAC)	$52.00	May 8, 2026	$3,823
April 17, 2026	400 1ST ST E, INDEPENDENCE 50644	Commercial	Mechanical (HVAC)	$94.00	April 20, 2026	$11,000
April 17, 2026	103 9TH AVE SW, INDEPENDENCE 50644	Commercial	Mechanical (HVAC)	$90.00	April 17, 2026	$10,000
May 14, 2026	1116 5TH AVE NE, INDEPENDENCE 50644	Residential	Mechanical (HVAC)	$76.00	May 19, 2026	$8,000
May 18, 2026	413 8TH AVE NW, INDEPENDENCE 50644	Residential	Mechanical (HVAC)	$24.00	May 19, 2026	$1,200

File Date	Location	Permit Type	Permit Use	Fee Amount	Permit Date	Project Value
April 23, 2026	1705 1ST ST W, INDEPENDENCE 50644	Commercial	Mechanical (HVAC)	$94.00	May 8, 2026	$10,938
April 13, 2026	514 7TH AVE SE, INDEPENDENCE 50644	Residential	Mechanical (HVAC)	$58.00	April 17, 2026	$4,500
April 14, 2026	205 2ND ST NE, INDEPENDENCE 50644	Commercial	Mechanical (HVAC)	$90.00	April 14, 2026	$10,000
May 4, 2026	511 6TH AVE SW, INDEPENDENCE 50644	Residential	Mechanical (HVAC)	$90.00	May 5, 2026	$10,000
			Subtotal For Mechanical (HVAC) (10 Records)	$804.00		$86,561
May 7, 2026	318 7TH AVE SE, INDEPENDENCE 50644	Residential	New Construction	$614.00	May 15, 2026	$155,325
May 20, 2026	1606 KELLIE AVE, INDEPENDENCE 50644	Residential	New Construction	$1,072.00	May 26, 2026	$332,000
May 28, 2026	710 Bluebird Ct SW (Bldg #25914-0011)	Residential	New Construction	$0.00	May 28, 2026	$0
			Subtotal For New Construction (3 Records)	$1,686.00		$487,325
February 10, 2026	1502 N RIDGE CT, INDEPENDENCE 50644	Residential	Plumbing	$34.00	April 14, 2026	$1,685
May 7, 2026	603 5TH AVE NE, INDEPENDENCE 50644	Residential	Plumbing	$64.00	May 19, 2026	$6,000
March 12, 2026	405 2ND AVE NE, INDEPENDENCE 50644	Residential	Plumbing	$46.00	April 14, 2026	$2,615
March 10, 2026	802 9TH AVE SE, INDEPENDENCE 50644	Residential	Plumbing	$22.00	April 14, 2026	$1,075
March 19, 2026	609 5TH ST NE, INDEPENDENCE 50644	Residential	Plumbing	$28.00	April 14, 2026	$1,385
March 17, 2026	509 7TH ST SW, INDEPENDENCE 50644	Residential	Plumbing	$32.00	April 14, 2026	$1,575
March 31, 2026	407 10TH ST SW, INDEPENDENCE 50644	Residential	Plumbing	$46.00	May 8, 2026	$2,665
April 7, 2026	912 8TH ST SW, INDEPENDENCE 50644	Residential	Plumbing	$28.00	April 14, 2026	$1,400

File Date	Location	Permit Type	Permit Use	Fee Amount	Permit Date	Project Value
May 12, 2026	1616 1ST ST E, INDEPENDENCE 50644	Commercial	Plumbing	$106.00	May 19, 2026	$13,000
March 10, 2026	115-2 5TH AVE NE, INDEPENDENCE 50644	Residential	Plumbing	$26.00	April 14, 2026	$1,275
February 20, 2026	409 3RD ST SE, INDEPENDENCE 50644	Residential	Plumbing	$30.00	April 14, 2026	$1,455
			Subtotal For Plumbing (11 Records)	$462.00		$34,130
March 31, 2026	1117 3RD ST NE, INDEPENDENCE 50644	Residential	Remodel/Addition	$46.00	April 2, 2026	$2,500
April 16, 2026	219 1ST ST W, INDEPENDENCE 50644	Commercial	Remodel/Addition	$82.00	April 23, 2026	$9,000
April 22, 2026	117 8TH AVE NE, INDEPENDENCE 50644	Residential	Remodel/Addition	$20.00	April 22, 2026	$1,000
May 4, 2026	808 1ST ST W, INDEPENDENCE 50644	Residential	Remodel/Addition	$228.00	May 4, 2026	$35,000
March 30, 2026	1103 9TH AVE SW, INDEPENDENCE 50644	Residential	Remodel/Addition	$700.00	April 14, 2026	$190,000
April 13, 2026	330-A MAIN ST W, INDEPENDENCE 50644 (Bldg #24270-0001 Suite #24270-0003)	Commercial	Remodel/Addition	$40.00	April 13, 2026	$2,000
April 28, 2026	515 7TH AVE NE, INDEPENDENCE 50644	Residential	Remodel/Addition	$82.00	April 30, 2026	$8,114
April 28, 2026	610 5TH ST NE, INDEPENDENCE 50644	Residential	Remodel/Addition	$52.00	April 30, 2026	$3,500
May 26, 2026	401 6TH AVE SW, INDEPENDENCE 50644	Residential	Remodel/Addition	$94.00	May 26, 2026	$11,000
April 27, 2026	718 1ST AVE NE, INDEPENDENCE 50644	Residential	Remodel/Addition	$52.00	April 27, 2026	$4,000
April 9, 2026	401 6TH AVE SW, INDEPENDENCE 50644	Residential	Remodel/Addition	$58.00	April 9, 2026	$4,000
			Subtotal For Remodel/Addition (11 Records)	$1,454.00		$270,114

File Date	Location	Permit Type	Permit Use	Fee Amount	Permit Date	Project Value
May 8, 2026	208 5TH AVE SE, INDEPENDENCE 50644	Residential	Right-of-Way (Approach/Sidewalk)	$0.00	May 12, 2026	$400
May 20, 2026	314 16TH AVE NE, INDEPENDENCE 50644	Residential	Right-of-Way (Approach/Sidewalk)	$52.00	May 20, 2026	$4,000
April 29, 2026	307 11TH AVE NE, INDEPENDENCE 50644	Residential	Right-of-Way (Approach/Sidewalk)	$46.00	April 30, 2026	$2,200
			Subtotal For Right-of-Way (Approach/Sidewalk) (3 Records)	$98.00		$6,600
May 8, 2026	235 TERRACE DR, INDEPENDENCE 50644	Residential	Right-of-Way (Encroachment/Mailbox)	$0.00	May 8, 2026	$0
May 8, 2026	714 7TH ST NW, INDEPENDENCE 50644	Residential	Right-of-Way (Encroachment/Mailbox)	$0.00	May 8, 2026	$0
May 26, 2026	601 16TH AVE NE, INDEPENDENCE 50644	Residential	Right-of-Way (Encroachment/Mailbox)	$0.00	May 26, 2026	$0
February 23, 2026	300 4TH ST SW, INDEPENDENCE 50644	Residential	Right-of-Way (Encroachment/Mailbox)	$0.00	April 6, 2026	$0
May 18, 2026	415 4TH ST SW, INDEPENDENCE 50644	Residential	Right-of-Way (Encroachment/Mailbox)	$0.00	May 18, 2026	$0
May 26, 2026	1011 7TH ST NE, INDEPENDENCE 50644	Residential	Right-of-Way (Encroachment/Mailbox)	$0.00	May 26, 2026	$0
April 16, 2026	1207 OBRIEN CT, INDEPENDENCE 50644	Residential	Right-of-Way (Encroachment/Mailbox)	$0.00	April 16, 2026	$0
April 6, 2026	302 13TH AVE NE, INDEPENDENCE 50644	Residential	Right-of-Way (Encroachment/Mailbox)	$0.00	April 6, 2026	$0
February 10, 2026	401 2ND AVE SW, INDEPENDENCE 50644	Residential	Right-of-Way (Encroachment/Mailbox)	$0.00	April 6, 2026	$0
May 26, 2026	125 14TH AVE SE, INDEPENDENCE 50644	Residential	Right-of-Way (Encroachment/Mailbox)	$0.00	May 26, 2026	$0
			Subtotal For Right-of-Way (Encroachment/Mailbox) (10 Records)	$0.00		$0
April 20, 2026	1511 1ST ST E, INDEPENDENCE 50644	Commercial	Right-of-Way (approach/sidewalk)	$0.00	April 20, 2026	$0
			Subtotal For Right-of-Way (approach/sidewalk) (1 Records)	$0.00		$0

File Date	Location	Permit Type	Permit Use	Fee Amount	Permit Date	Project Value
April 22, 2026	214 1ST ST E, INDEPENDENCE 50644	Commercial	Roofing	$185.00	April 23, 2026	$26,000
May 14, 2026	1001 9TH AVE SW, INDEPENDENCE 50644	Residential	Roofing	$112.00	May 20, 2026	$13,417
April 16, 2026	303 TERRACE DR, INDEPENDENCE 50644	Residential	Roofing	$166.00	April 20, 2026	$22,391
April 10, 2026	1009 9TH AVE SW, INDEPENDENCE 50644	Residential	Roofing	$94.00	April 10, 2026	$10,200
April 13, 2026	203 10TH ST NE, INDEPENDENCE 50644	Residential	Roofing	$76.00	April 13, 2026	$8,000
March 31, 2026	501 9TH ST SW, INDEPENDENCE 50644	Residential	Roofing	$76.00	April 2, 2026	$7,170
April 16, 2026	602 JUNIPER DR, INDEPENDENCE 50644	Residential	Roofing	$248.00	April 20, 2026	$15,678
April 16, 2026	806 8TH ST SW, INDEPENDENCE 50644	Residential	Roofing	$94.00	April 20, 2026	$10,380
April 22, 2026	207 1ST ST E, INDEPENDENCE 50644 (Bldg #24160-0001)	Commercial	Roofing	$248.00	April 23, 2026	$39,000
May 6, 2026	404 RIDGEVIEW DR SE, INDEPENDENCE 50644	Residential	Roofing	$94.00	May 6, 2026	$10,400
April 23, 2026	1100 1ST ST E, INDEPENDENCE 50644	Commercial	Roofing	$0.00	April 24, 2026	$43,000
March 28, 2026	809 3RD ST SW, INDEPENDENCE 50644	Residential	Roofing	$36.00	April 14, 2026	$1,750
May 6, 2026	612 6TH AVE NE, INDEPENDENCE 50644	Residential	Roofing	$64.00	May 22, 2026	$5,100
May 6, 2026	815 5TH ST SW, INDEPENDENCE 50644	Residential	Roofing	$100.00	May 6, 2026	$11,800
			Subtotal For Roofing (14 Records)	$1,593.00		$224,286
April 24, 2026	111 1ST EAST, INDEPENDENCE, IOWA 50644	Commercial	Sign	$50.00	April 27, 2026	$0

File Date	Location	Permit Type	Permit Use	Fee Amount	Permit Date	Project Value
			Subtotal For Sign (1 Records)	$50.00		$0
May 4, 2026	511 6TH AVE SW, INDEPENDENCE 50644	Residential	Water Heater	$20.00	May 8, 2026	$500
			Subtotal For Water Heater (1 Records)	$20.00		$500
March 30, 2026	512 14TH AVE NE, INDEPENDENCE 50644	Residential	Window/Door Replacement	$70.00	April 2, 2026	$6,600
May 5, 2026	136 14TH AVE SE, INDEPENDENCE 50644	Residential	Window/Door Replacement	$100.00	May 13, 2026	$11,800
			Subtotal For Window/Door Replacement (2 Records)	$170.00		$18,400
			T O T A L - 89 Records	$8,374.00		$1,421,235

Complaints previous two months (set date range)

Entry Date	Complaint Location	Complaint Description	Complaint Status
April 14, 2026	209 2ND ST SE, INDEPENDENCE 50644	Dilapidate garage, junk in rear yard	Violation Issued
April 14, 2026	109 12TH ST NE, INDEPENDENCE 50644	Rear Yard	Violation Issued
April 14, 2026	1109 2ND AVE NE, INDEPENDENCE 50644	Rear yard junk	Violation Issued
April 21, 2026	1000 9TH AVE SW, INDEPENDENCE 50644	There is a blue truck parked behind the “fence” with a broken back window which cats are now making a home in.	Closed
April 21, 2026	1000 9TH AVE SW, INDEPENDENCE 50644	There is junk within the northeast pine tree, looks like electrical equipment.	Closed
May 18, 2026	313 3RD AVE SE, INDEPENDENCE 50644	Trash pile up, overflowing bin. Blowing into neighboring yards	Unsubstantiated
May 18, 2026	802 3RD AVE NE, INDEPENDENCE 50644	Uncut grass	Violation Issued

7 Complaints

All Violations last two months - Set Date Range

Violation Date	Violation Location	Violation Subtype	Violation Status	Violation Notes
April 1, 2026	712 1ST ST E, INDEPENDENCE 50644	Property Maintenance	Violation Notice Sent	Back deck is severely damaged
April 1, 2026	716 6TH ST NE, INDEPENDENCE 50644	Property Maintenance	Violation Notice Sent	Junk in the rear yard. Rear yard not maintained
April 14, 2026	109 12TH ST NE, INDEPENDENCE 50644	Trash, Junk & Debris	Closed/Resolved	Rear Yard
April 16, 2026	209 2ND ST SE, INDEPENDENCE 50644	Trash, Junk & Debris	Violation Notice Sent	Dilapidate garage, junk in rear yard
April 17, 2026	201 1ST ST E, INDEPENDENCE 50644	Property Maintenance	Closed/Resolved	Window panes have broken glass in them.
April 24, 2026	1942 LOVERS LANE BLVD, INDEPENDENCE 50644	Trash, Junk & Debris	Violation Notice Sent	Trash, debris and other liter in yard. Possibly feed of feral cats. severe overgrowth of brush.
April 24, 2026	1109 2ND AVE NE, INDEPENDENCE 50644	Trash, Junk & Debris	Closed/Resolved	Rear yard junk
April 30, 2026	315 6TH ST SE, INDEPENDENCE 50644	Parking on an Unimproved Surface	Closed/Resolved	Boat parked on ROW
April 30, 2026	710 7TH AVE SE, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	Closed/Resolved	Grass over 8" in height
April 30, 2026	310 1ST ST W, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	Closed/Resolved	Grass over 8" in height
April 30, 2026	415 3RD AVE SE, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	Order sent to mow	Grass over 8" in height
April 30, 2026	310 5TH ST SE, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	Closed/Resolved	Grass over 8" in height
April 30, 2026	311 5TH ST SE, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	Closed/Resolved	Grass over 8" in height
May 4, 2026	309 8TH ST NE, INDEPENDENCE 50644	Multi-Violation	Closed/Resolved	Grass over 8” in height Trash and debris
May 4, 2026	313 3RD AVE SE, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	Closed/Resolved	Grass over 8" in height
May 5, 2026	403 9TH AVE SW, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	Closed/Resolved	Grass over 8". Spoke to owner and he will get it mowed in the next couple days.
May 5, 2026	819 1ST ST E, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	Closed/Resolved	Grass over 8" - Curt Martin said he was already on it and would have it mowed in a day to two
May 6, 2026	408 3RD ST NE, INDEPENDENCE 50644	Multi-Violation	Violation Notice Sent	Grass and weeds over 8" in height. Discarded furniture and other debris at rear of property
May 7, 2026	900 2ND AVE NE, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	Closed/Resolved	Grass over 8” in height
May 8, 2026	210 8TH AVE NW, INDEPENDENCE 50644	Multi-Violation	Violation Notice Sent	junk piled up by garage
May 11, 2026	412 1ST ST E, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	Closed/Resolved	grass over 8" in height
May 11, 2026	111 5TH AVE NE, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	1st Warning	Grass over 8" in height, Owner recently passed. Spoke to attorney from Oelwein on-site and he will have it mowed.

Violation Date	Violation Location	Violation Subtype	Violation Status	Violation Notes
May 11, 2026	202 5TH AVE SE, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	Closed/Resolved	Grass over 8” in height
May 11, 2026	501 2ND ST SE, INDEPENDENCE IOWA 50644	High Grass, Weeds & Vegetation	Closed/Resolved	Grass over 8in in height
May 18, 2026	802 3RD AVE NE, INDEPENDENCE 50644	High Grass, Weeds & Vegetation	Closed/Resolved	Grass over 8"
May 27, 2026	800 2nd St SE, Independence Iowa 50644	Property Maintenance	Violation Notice Sent	Retaining wall collapsing.

26 Violations

City Council

Department Report

To:	City Council Members
From:	Brad Esch, Streets Director
Date of Meeting:	June 1, 2026
Item Title:	Department Report - Streets

Department Updates:

Compost / Tree Dump Maintenance
The Street Department performed regular maintenance at the compost and tree dump sites. This included routine cleanup, pushing up debris piles, organizing materials, and ensuring the areas remained accessible and orderly for public use.

Tree-Related Work with Light & Power
We worked with the Light & Power Department to address tree issues affecting visibility, safety, and utility clearance.

Assistance with Utility Main Breaks
Street Department crews assisted the Utility Department with water main break repairs as needed. Most concrete and black-top restorations have been completed, with a few areas remaining.

Pothole Repairs
Crews continued filling and patching potholes throughout the city as needed.

Spring Street Sweeping
Crews are performing spring sweeping across the city, with work ongoing.

Police Station
Poured a section of concrete sidewalk at the police station, along with addressing stormwater issues and completing related landscaping.

Storm Water
Cleaned several storm intakes and performed rehabilitation work as needed.

Parks & Recreation
Took down the old scoreboards and installed new ones, along with assisting on other projects.

Seal Coat
Worked with Prairie Road Builders to establish this year’s seal coat locations, with work beginning soon.

Alley Maintenance

Added blacktop millings, graded, and maintained several alleys.

Day-to-Day Operations
Handled routine daily tasks, maintenance, and service requests.

Attachments:
None

City Council

Department Report

To:	City Council Members
From:	Travis Foley, Utilities Director
Date of Meeting:	June 1, 2026
Item Title:	Department Report - Utilities

Department Updates:
Water

- Spring hydrant flushing has been completed.
- Wrapped up a few misc. projects (replaced a fire hydrant, removed a couple of lead service lines, and fixed a few curb stops).
- We have started this year's water main projects. We will be working on these for most of the summer.

Sewer

- Visu-Sewer has been working on this year's slip lining projects.
- We replaced a sewer main on 17th St SE.
- All pumps at the lift stations have been serviced as a part of a yearly maintenance program.

Wastewater

- Working on regular maintenance.
- Hosting quite a few site visits and answering questions for contractors in preparation for our June 2nd bid date.

Our new combination truck was delivered on May 29th. We will receive training on the truck on June 1st and 2nd.

Attachments:
None

City Council

Work Session Memorandum

To:	City Council Members
From:	Matthew R. Schmitz, MPA, City Manager
Date of Meeting:	June 1, 2026
Item Title:	Water System Study Report

Discussion:
Staff from MSA will be present to discuss this item with the Council.

Over the past year, our team has worked closely with MSA Professional Services to complete a comprehensive Water System Study. This initiative was launched to proactively address recurring maintenance needs, frequent water main breaks, and low-pressure concerns, particularly near the Mental Health Institute (MHI). The finalized Preliminary Engineering Report (PER) provides a detailed assessment of our current infrastructure and outlines a strategic roadmap to ensure the continued delivery of safe and reliable water.

System Health and Key Findings
Our water supply system remains fundamentally strong. The study confirms that our raw water quality is high, and our current well pumping capacity of 2,790 gallons per minute is fully capable of meeting peak demands through our 2045 design year. Additionally, our three elevated storage tanks provide a combined capacity of 1.05 million gallons, sufficient for our community's future needs.

However, the report identifies specific vulnerabilities requiring our attention. Between January 2023 and August 2025, our system experienced an average water loss of 19.7 percent, which borders on the threshold for high water loss. Furthermore, static pressure in the MHI area often drops to approximately 40 psi, underscoring the need for improved system hydraulics.

Prioritized Infrastructure Improvements
To correct these deficiencies, the PER categorizes proposed improvements into high, medium, and low priorities.

- **Pumping and Controls (High Priority):** We are already moving forward with installing Variable Frequency Drives (VFDs) on our well pumps. Currently, our pumps activate simultaneously at full power, creating a hydraulic jolt that can contribute to main breaks. We are also pursuing crucial SCADA system upgrades in conjunction with our wastewater project to enhance system monitoring.

- **Elevated Storage Enhancements (High Priority):** The study recommends installing continuous electric mixers, level reading sensors, and ambient lighting at the Courthouse, MHI, and Shop towers. These upgrades will prevent winter freezing, reduce water age, and finally provide our operators with real-time tower level data. The total estimated cost for these specific tower upgrades is $795,450.

- **Distribution System and Pressure (Medium Priority):** To resolve the chronic low pressure at the MHI tower, the report suggests constructing Pressure Reducing Valve (PRV) stations at the river crossings to hydraulically isolate the system and allow the tower to fill completely. The report also outlines a phased approach to replacing our undersized 4-inch water mains and looping dead-end lines to improve water quality and system reliability.

Our objective for this Work Session is to review these findings together and gather the Council's feedback on the prioritization schedule. By discussing these operational needs and financial realities now, we can build a consensus on the most responsible path forward for our community.

Recommendation:

Staff recommends discussion of this topic. No action is needed at this meeting, as any decision items needed would be brought forward to a City Council meeting for approval.

Attachments:

1. Independence Project Update
2. Independence Water Supply Preliminary Engineering Report

City of Independence, IA

CONTACT INFORMATION:

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DATE:
September 3, 2025

WATER SYSTEM PRELIMINARY ENGINEERING REPORT

PROJECT DESCRIPTION: This project includes writing a drinking water system preliminary engineering report (PER), developing a system model, and putting together a uni-directional flushing plan. The PER will summarize current conditions, identify deficiencies, and develop alternatives for improvements to the water system. The system model will be an accurate representation of the City's system and will also be used to analyze improvement alternatives. The uni-directional flushing plan will be a great aid for water distribution system maintenance and when followed it will improve water quality.

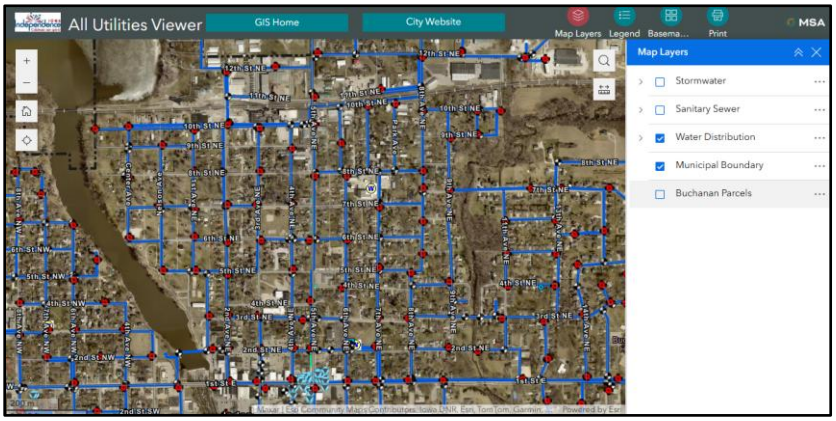
STATUS:

- MSA has finalized the preliminary engineering report for the drinking water system.
- **MSA will present report findings to council at the June 1st meeting, including the priority list of improvement projects MSA developed in coordination with City Staff.**
- **Council feedback on the project priority list is encouraged!**
- MSA has also finalized the uni-directional flushing plan – anticipated to be implemented by City Staff for the Fall 2026 flushing event.

Water System Preliminary Engineering Report
Summary of Estimated Cost and Prioritization Schedule for Potential Improvements

Improvement	Prioritization Schedule	Estimated Cost
Well Pump VFDs	High Priority	*City already pursuing this alternative.
Wellhouse SCADA Panel Replacement	High Priority	*City already pursuing this alternative in conjunction with wastewater project.
New SCADA Computer with Software and New Graphics	High Priority	*City already pursuing this alternative in conjunction with wastewater project.
Courthouse Tower Mixing, Level Reading, and Ambient Lighting	High Priority	$233,250
MHI Tower Mixing, Level Reading, and Ambient Lighting	High Priority	$287,800
Shop Tower Mixing, Level Reading, and Ambient Lighting	High Priority	$274,400
Well #7 Improvements	Medium Priority	$45,800
River Crossing PRV Stations	Medium Priority	$2,011,480
Northwest Area Water Main Replacement/ Looping	Medium Priority	$2,555,690
Central Southeast Area Water Main Looping	Medium Priority	$844,435
WWTF Water Main Looping	Medium Priority	$1,974,115
Southwest Area Water Main Looping	Medium Priority	$865,505
MHI Area Water Main Looping	Medium Priority	$766,235
Undersized Water Main Replacements	Low Priority	$21,634,568
New Silurian Aquifer Well	Low Priority	$2,238,576
Well #6 Back-up Power	Low Priority	$215,000
Wellhouse Fluoride Separation	Low Priority	$293,500/ well
MHI Area Pressure Zone	Low Priority	$3,248,000
Total Cost of High Priority Improvements*		**$795,450**
Total Cost of Medium Priority Improvements		**$9,063,260**
Total Cost of Low Priority Improvements		**$28,216,644**
Total Cost of all Improvements		**$38,075,354**

City of Independence, IA



GIS SERVICES

PROJECT DESCRIPTION: MSA provides on-call GIS Technical Support Services when requested by the City. Support can include ArcGIS Online modification, configuration, training, or map updates. Other services include data creation, PDF map creation and printing, or field work.

STATUS: Services provided when requested.

City of Independence
Water Supply Preliminary Engineering Report

City of Independence, IA
May 2026

City of Independence
Buchanan County, IA
08883028

Prepared by:

MSA Professional Services
400 Ice Harbor Drive
Suite 110
Dubuque, IA 52001
Phone: (563) 582-3973
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Project No. 08883028

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City of Independence
Water Supply Preliminary Engineering Report

City of Independence
Buchanan County, IA
May 2026

Prepared by:

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LICENSED PROFESSIONAL ENGINEER DANIEL JOHN MOLINI P28999 IOWA SEAL	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa. Daniel Molini 05/09/2026 Daniel Molini Date License Number 28999 My license renewal date is December 31, 2027 Pages or sheets covered by this seal: Entire Report

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EXECUTIVE SUMMARY

The City of Independence has commissioned this Preliminary Engineering Report (PER) to support an application to the Iowa State Revolving Loan Fund for proposed modifications to their existing water system. The report outlines data and recommendations to meet Iowa Department of Natural Resources (IDNR) and U.S. Environmental Protection Agency (EPA) Safe Drinking Water Act (SDWA) design criteria for water supply, treatment, and storage. This analysis aims to ensure continued compliance with regulatory standards while addressing the community's current and future water treatment needs.

The Independence water system is comprised of four (4) active wells with wellhouse, three (3) elevated storage tanks, and a distribution system. The wellhouses provide for flow measurement and chemical addition of fluoride and gas chlorine.

This PER evaluates the system’s infrastructure and recommends improvements to enhance operational efficiency, ensure regulatory compliance, and provide a robust system capable of exceeding the 20-year design life of this analysis. Each recommendation has been carefully assessed based on cost, funding availability, and projected population growth.

The drinking water system does not have any immediate needs, but for a community that is looking to be proactive, there are improvement projects that could greatly benefit system health and reliability. These improvements are summarized in **Table 1** below.

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Table 1: Recommended Improvements and Estimated Costs

Improvement	Prioritization Schedule	Estimated Cost
Well Pump VFDs	High Priority	City already pursuing this alternative.
Wellhouse SCADA Panel Replacement	High Priority	City already pursuing this alternative with wastewater project.
New SCADA Computer with Software and New Graphics	High Priority	City already pursuing this alternative with wastewater project.
Courthouse Tower Mixing, Level Reading, and Ambient Lighting	High Priority	$233,250
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Total Cost of High Priority Improvements*		**$795,450**
Total Cost of Medium Priority Improvements		**$9,063,260**
Total Cost of Low Priority Improvements		**$28,216,644**
Total Cost of all Improvements		**$38,075,354**

*Improvements the City is currently pursuing are not included.

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CHAPTER 1 – GENERAL INFORMATION

1.1 BACKGROUND

The City of Independence, Iowa, is located 39 miles north of Cedar Rapids, along Highway 150, and 26 miles east of Waterloo, along Highway 20 in Buchanan County (see **Appendix A**). The City owns and operates a drinking water system that serves both residential and commercial customers. The City's water system consists of four wells (each with a wellhouse that include chlorination and fluoridation), three elevated storage tanks, and distribution piping.

According to the U.S. Census Bureau, Independence's population in 2020 was 6,064. Since 1950, the City has experienced an average annual growth rate of 0.34%. Anticipated residential development within the City is expected to increase the population growth rate during the 20-year planning period of this evaluation. The City elected to project the 2045 design year population using an average annual growth rate of 1.00% - resulting in a population of 7,777 by 2045.

This Preliminary Engineering Report (PER) evaluates deficiencies in the existing water supply, treatment (as required), and distribution systems and proposes enhancements to improve the City's water service infrastructure.

1.2 PURPOSE

The purpose of this analysis is to identify and recommend cost-effective improvements to Independence's water system, ensuring the continued health and safety of its residents. By commissioning this analysis, the City seeks to:

1. Assess the immediate and long-term needs of the city to maintain high-functioning operations for the supply, treatment, and distribution of drinking water while promoting public health, safety, and environmental compliance.

2. Evaluate the economic impacts on residents and provide the necessary documentation to support state and federal funding applications to construct and operate required facilities.

1.3 SCOPE

The scope of this report is as follows:

1) To describe the City of Independence and the surrounding area, considering location, water resources, and economic background.

2) To evaluate the existing water system infrastructure and corresponding level of service.

3) To identify and document deficiencies within the existing water infrastructure.

4) To project future conditions for the City.

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5) To identify alternatives in providing new and improved facilities required to correct deficiencies within the water system infrastructure.

6) To evaluate the alternatives with respect to their cost-effectiveness.

7) To present cost-effective and environmentally sound recommendations for the water supply, treatment, storage, and distribution system.

8) To recommend a timetable for implementation of the recommended plan.

The information presented in this analysis is based on field investigations, reference documentation obtained from City employees, and previous work performed by the city.

1.4 DRINKING WATER REGULATIONS

In 1974, the United States Congress passed the Safe Drinking Water Act (SDWA), which established a cooperative program between local, state, and federal agencies to ensure safe drinking water. Under the SDWA, the federal government's primary role is to develop national drinking water regulations to protect public health and welfare. States were assigned the responsibility of implementing the regulations and monitoring the performance of the public water systems.

The SDWA developed primary and secondary drinking water regulations to protect public health and welfare. The SDWA identified primary and secondary contaminants of interest and the corresponding maximum contaminant levels (MCLs). Primary Standards safeguard public health by limiting the level of contaminants in drinking water. Secondary standards are guidelines regulating contaminants that may cause cosmetic (e.g., skin or tooth discoloration) or aesthetic effects (such as taste, color, or odor). **Table 2**. provides a synopsis of relevant primary contaminants, as well as the corresponding MCL, while **Table 3** provides a synopsis of relevant secondary contaminants.

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Table 2: SDWA Primary Contaminant MCL

Contaminant	Maximum Contaminant Level (mg/L)
Total Coliforms	Maximum 5.0% of samples positive
Total Trihalomethanes	0.08
Haloacetic Acids	0.06
Chloramines	4.0
Chlorine	4.0
Antimony	0.006
Arsenic	0.01
Asbestos	7 million fibers/ liter
Barium	2.0
Beryllium	0.004
Cadmium	0.005
Chromium (Total)	0.1
Copper	1.3
Fluoride	4.0
Lead	0.015
Mercury	0.002
Nitrate	10
Nitrite	1
Selenium	0.05
Thallium	0.002
Alpha Particles	15 Pico curies / liter
Beta Particles	4 millirems / year
Combined Radium	5 Pico curies / liter
Uranium	30 micrograms / liter

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Table 3: SDWA Secondary Contaminant MCL

Contaminant	Maximum Contaminant Level (mg/L)
Aluminum	0.05 to 0.2
Chloride	250
Color	15 (color units)
Copper	1.0
Corrosivity	Noncorrosive
Fluoride	2.0
Foaming Agents	0.5
Iron	0.3
Manganese	0.05
PH	6.5 – 8.5
Silver	0.1
Sulfate	250
Total Dissolved Solids	500
Zinc	5

1.5 TREATED WATER QUALITY

This report reviewed monthly operating reports (MORs) between January 2023 and September 2025 to evaluate the treated water quality from the groundwater sources (see **Appendix B**). The analysis focuses on key parameters such as daily pumpage, chlorine usage rates, chlorine residual concentrations, fluoride concentrations, and fluoride usage rates.

Overall, the water supply and chemical addition (chlorine and fluoride) does a great job producing high quality water for the users. Additional water quality testing results are included in **Appendix C**. This additional water quality testing data also includes an April 2023 letter from the Iowa DNR stating there was no detection of PFAS compounds in the City's raw or finished drinking water samples.

The Iowa DNR Drinking Water Portal indicated the City has not had a water quality violation since July of 2015.

1.6 NON-COMPLIANCE ISSUES

The Iowa Department of Natural Resources (IDNR) conducted an inspection/ sanitary survey of Independence's water supply system on June 19, 2024 (see **Appendix D**). No deficiencies were identified, only recommendations were made by the IDNR.

The recommendations were to:

1. Develop and implement a leak detection program to prevent main breaks and plan for replacement of water mains experiencing frequent breaks.
2. Add a splash plate or additional gravel to the overflow outlet of the elevated MHI storage tower. The overflow can also discharge over a drainage inlet with an appropriate air gap. [Recommended Standard for Water Works 7.0.7]
3. Develop a Source Water Protection Plan.

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It should be noted the City did develop a wellhead protection plan in September 2003 (see **Appendix E**).

1.7 AREA SERVED

Independence, Iowa, is located 39 miles north of Cedar Rapids, along Highway 150, and 26 miles east of Waterloo, along Highway 20 in Buchanan County. The City provides continuous water service throughout its corporate limits, with the current service area encompassing all developed portions of the city (see **Appendix F** for a water system map). The only area served outside the City limits is the Mental Health Institute (MHI) area on the southwest side of the City (outside of City limits on State of Iowa owned land).

Independence East Elementary School, West Elementary School, and Junior/Senior High are part of the Independence Community School District, situated on the west side of the City. As of the 2023-2024 school year, Independence East Elementary School, serving grades K-2, had an enrollment of 298 students. Additionally, Independence West Elementary School, serving grades 3-6, had an enrollment of 381 students, and Independence Junior/Senior High, serving grades 7-12, had an enrollment of 701 students.

1.8 FLOODPLAIN AREA

Portions of Independence, Iowa are located within floodplain zones, as shown in the FEMA-designated floodplain maps in **Appendix G**. The Wapsipinicon River runs through the city and has historically posed flood risks to nearby neighborhoods and the downtown area. Some of these areas lie within the 100-year floodplain. Several small creeks all surround the city, most notably Malone Creek, which flows north to south through the eastern side of the city before discharging into the Wapsipinicon River.

1.9 DEMOGRAPHIC BACKGROUND

Independence's demographics align with broader rural state-wide trends. The racial composition of the city is predominantly White (95.4%), with smaller populations identifying as Hispanic (3.0%), Black (1.6%), or two or more races (2.3%). The median household income is $72,250, just shy of the Iowa state median of $73,147. The City has a median resident age of 41.2, and females slightly outnumber males, making up 51.9% of the population.

1.10 EMPLOYMENT WITHIN AND OUTSIDE THE SERVICE AREA

The average commute time for Independence residents is 21.8 minutes, indicating that many residents may be employed in other cities such as Waterloo, approximately 26 miles to the west. However, some residents are employed locally as Independence has several commercial establishments along 1st Street East and Main Street, including shops, restaurants, offices, a dental clinic, and several gas stations. Independence East and West Elementary Schools as well as Junior/Senior High also provide employment within the service area.

The City has some small/medium sized facilities but there are no large-scale industries within its corporate limits, nor are any anticipated for the design life of the proposed improvements.

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1.11 TRANSPORTATION SYSTEMS

The City is serviced by Highway 150, which connects Independence to Cedar Rapids. Highway 150 intersects with Highway 20 which allows the community to travel in all directions efficiently.

The nearest airport to Independence is the Waterloo Regional Airport located approximately 30 miles west in Waterloo, IA. The Waterloo Regional Airport offers a limited scope of domestic commercial flights. Residents looking for more frequent flight options to a wider scope of destinations can travel via the Eastern Iowa Airport in Cedar Rapids, IA, approximately 50 miles southeast of Independence.

1.12 POPULATION PROJECTIONS

According to the U.S. Census Bureau, Independence's population in 2020 was 6,064. Since 1950, the City has experienced an average annual growth rate of 0.34%. Anticipated residential development within the City is expected to increase the population growth rate during the 20-year planning period of this evaluation. The City elected to project the 2045 design year population using an average annual growth rate of 1.00% - resulting in a population of 7,777 by 2045.

The current population is estimated to be 6,167. A detailed breakdown of historic and future population projections is provided in **Table 4**.

Table 4: Historic and Future Population Projections - Independence, IA

Year	Population
1950	4,865
1960	5,498
1970	5,910
1980	6,392
1990	5,972
2000	6,014
2010	5,966
2020	6,064
2025 (estimated current population)	**6,167**
2030 (projected)	6,698
2040 (projected)	7,399
2045 (design year)	**7,777**

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CHAPTER 2 – DESCRIPTION OF EXISTING FACILITIES

The City's water system consists of four active wells (each with a wellhouse that includes chlorination and fluoridation), three elevated storage tanks, and distribution piping. A map of the existing water system is shown in **Appendix F**.

2.1 WATER SUPPLY

2.1.1 GROUNDWATER WELLS

According to an Iowa DNR June 2019 Source Water Assessment Report for Independence, the City has nine inactive wells. Six of these inactive wells have a status of "Not Used" while the remaining 3 inactive wells have a status of "Plugged".

The City has four active wells, described below. Well logs for the active wells can be found in **Appendix H.** The City periodically has the well pumps serviced, well pump reports and well pump curve information can be found in **Appendix I**. Photos of the active wellhouses can be found in **Appendix J**. All the wellhouses were rehabbed from 2017-2018, these upgrades were made to: roofing, exterior façade, doors and windows, HVAC, chemical feed, plumbing, electrical, valving, flow measurement, and piping (not all wellhouses included every component listed) – see **Appendix K** for the rehab plans.

The City meets the Ten States Standards minimum source requirements by have two or greater active wells. 3 of the 4 active wells have sufficient back-up power that meets the Ten States Standards. Well #6 does not have back-up power to meet the Ten States Standards.

It should be noted all wells were constructed prior to 1983. The useful life of a drilled well is typically 40 to 60 years. The useful life can be increased with routine maintenance and rehabilitation, which the City has performed. Wells can last much longer – Well #3 for instance is greater than 80 years old.

The well pumps are typically all called to start at once and do not have Variable Frequency Drives (VFDs) – this is believed to be part of the cause of the City's frequent water main breaks (discussed in other sections of this report).

2.1.2 WELL #3 (COURTHOUSE)

According to Iowa DNR well records, Well #3 (WNumber 1856) was drilled in 1943 and is located directly east of the Buchanan County Courthouse. The wellhouse is located within a park just east of the intersection of 6th Ave. NE and 2nd St. NE. The ground elevation of the well is identified as approximately 943 feet above mean sea level (MSL). The well depth was identified as 307 feet. Water is drawn from the Silurian aquifer. The well pump is a 50 horsepower vertical turbine type with soft start controls – no VFD. According to a November 2017 pump report, the static water level of the well was 41 feet and the well pump is capable of delivering 510 gallons per minute (gpm) of flow at 235 feet total dynamic head (TDH).

The wellhouse for Well #3 has backup power provided via a 150 kW CAT diesel generator. Per operations staff, the generator is weekly.

Operations staff would like a more effective way to sample treated water from Well #3 – currently sampled on the well pump header soon after injection of treatment chemicals.

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Additionally, the pressure reading for the Well #3 location is taken on the well pump header, this setup causes the pressure reading to bounce around significantly when the well pump is active.

2.1.3 WELL #4 (SUBSTATION)

According to Iowa DNR well records, Well #4 (WNumber 3714) was drilled in 1948 and is located just north of the intersection of 7th Ave. NE and 7th St. NE. The wellhouse is located inside the East Substation for the City's electrical utility. The ground elevation of the well is identified as approximately 947.2 feet above mean sea level (MSL). The well depth was identified as 293 feet. Water is drawn from the Silurian aquifer. The well pump is a 60 horsepower vertical turbine type with soft start controls – no VFD. According to a May 2019 pump report, the static water level of the well was 40 feet and the well pump is capable of delivering 800 gpm of flow at 200 feet TDH. The pump report also indicated the well is now just 262 feet deep with 31 feet of fill in the bottom since it was drilled.

As mentioned, this wellhouse consists of two rooms attached to the East Substation for the City's electrical utility. The East Substation has backup power generators that power the entire building, including wellhouse, in the event of a power failure.

2.1.4 WELL #6 (3RD WARD PARK)

According to Iowa DNR well records, Well #6 (WNumber 16147) was drilled in 1964 and is located just east of the intersection of 4th Ave. SW and 7th St. SW. The wellhouse is located within 3rd Ward Park. The ground elevation of the well is identified as approximately 906.2 feet above mean sea level (MSL). The well depth was identified as 265 feet. Water is drawn from the Silurian aquifer. The well pump is a 60 horsepower vertical turbine type with soft start controls – no VFD. According to an October 2021 pump report, the static water level of the well was 20 feet and the well pump is capable of delivering 700 gpm of flow at 250 feet TDH.

The wellhouse for Well #6 does not have backup power.

2.1.5 WELL #7 (5TH WARD PARK)

According to Iowa DNR well records, Well #7 (WNumber 28344) was drilled in 1983 and is located at the intersection of 7th Ave. NW and 3rd St. NW. The wellhouse is located within 5th Ward Park. The ground elevation of the well is identified as approximately 912.0 feet above mean sea level (MSL). The well depth was identified as 265 feet. Water is drawn from the Silurian aquifer. The well pump is a 60 horsepower vertical turbine type with soft start controls – no VFD. According to a March 2024 pump report, the static water level of the well was 22 feet and the well pump is capable of delivering 780 gpm of flow at 225 feet TDH.

The wellhouse for Well #7 has backup power provided via a 125 kW CAT diesel generator. Per operations staff, the generator is exercised weekly.

Operations staff would like a more effective way to sample treated water from Well #7 – currently sampled on the well pump header soon after injection of treatment chemicals. Additionally, the pressure reading for the Well #7 location is taken on the well pump header, this setup causes the pressure reading to bounce around significantly when the well pump is active.

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2.2 WATER TREATMENT

Each wellhouse includes a main room and chlorine injection room. Each main room includes electrical/ controls, HVAC equipment, safety shower, well pump, hydrofluosilicic acid injection equipment, and pump discharge header piping (including electromagnetic flowmeter, valves, and appurtenances). The City adds Hydrofluosilicic Acid (HSA) to increase fluoride levels in the water with the goal of improving dental health. The wellhouses have evidence of degradation (despite what appears to be proper venting of the bulk storage and day tanks) related to using HSA including a white coating on surfaces including piping, electrical equipment, concrete, and more. HSA is known to corrode a variety of materials including metals, concrete, and glass – there are also health concerns if tanks are not properly vented (lung damage). It should be noted, from 2008-2009 the City stopped injecting fluoride into the drinking water, but it was brought back after requests from users.

According to the Iowa DNR's 2024 Iowa Water Fluoridation Census, 552 of the 1,070 public drinking water systems either had fluoride naturally at or above 0.6 mg/L or added fluoride to the system. The United States Department of Health and Human Services recommends fluoride in drinking water be around 0.7 mg/L.

The chlorine room houses the equipment for injecting gaseous chlorine into the water. Chlorine plays a vital role in disinfecting the water, ensuring it is safe for human consumption by eliminating harmful pathogens.

Operations staff has noted the need for a more effective way to sample finished water from Well #3 and Well #7 – currently sampled on the well pump header soon after injection of treatment chemicals.

2.3 ELECTRICAL AND CONTROLS

Electrical and control systems manage the operation of pumps, valves, and monitoring equipment. Automated controls help regulate flow rates, chlorine dosage, fluoride dosage, ensuring the water system is efficient and compliant with safety standards. These systems also provide real-time data and alarms for operators to detect issues and adjust as needed. The existing SCADA system includes flow monitoring of all well pumps, well pump hand off auto (HOA) control, chlorine feed pump HOA control, pump runtime, chlorine and fluoride scale readings, alarms, and well header pressures (only for Well #3 and #7) which are used by all the pumps to turn on or off. There is no tower level monitoring – besides the Well #3 pressure sensor that is near the Courthouse Tower (no SCADA screen to visualize the tower level). The current electrical and controls system is operable, but there is a big opportunity for enhanced functionality through additional controls and monitoring.

A photo of the SCADA screen for the drinking water system is shown within **Appendix J**.

2.4 STORAGE

The City's water storage consists of three (3) elevated storage tanks (also referred to as water towers) that maintain pressure throughout the system. See **Appendix L** for some limited drawings of the City's elevated storage tanks. Water storage serves three purposes in the City's water system. The first is to provide storage should the pump facilities be out of service. The second is to provide an extra source of water for a short duration, high flow

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event, such as firefighting. The third is to provide uniform pressure throughout the water distribution system. These storage tanks are described in more detail below.

The existing storage facilities have a combined capacity of 1,050,000 gallons, which is approximately equal to 1.64 days of the current average daily demand.

According to Ten State Standards, the minimum storage capacity shall equal one day of storage for the average daily consumption plus two hours of fire flow. The Insurance Services Office (ISO) specifies that the minimum available storage capacity in the event of a fire should be 500 gpm for 2 hours. This equates to 60,000 gallons of readily available fire flow. These 60,000 gallons, plus the average daily consumption, equals the total amount of storage that must be available. Independence, has an average daily flow of 639,012 gallons. This flow, plus the 60,000 gallons of fire flow, equates to 699,012 gallons. Given the combined capacity of the storage tanks is 1,050,000 gallons, under existing conditions the storage tanks have sufficient capacity, with an excess capacity of approximately 350,988 gallons.

According to operations staff, the elevated storage tanks are inspected annually. Additionally, all tanks were blasted and recoated (inside and out) within the last 5 years. The City does not allow cellular antennas on their towers. Operations staff noted minor freezing issues in the water towers. Additionally, the City currently has no mechanism to determine water tower levels. The City has expressed a desire to install ambient lighting for all towers.

2.4.1 SHOP TOWER

The Shop Tower is located at the City's public works shop facility. The shop facility is located on the north side of 12th St. NE approximately 500 feet east of the intersection of 8th Ave. The Shop Tower was constructed in 1974 with a capacity of 500,000 gallons.

The Shop Tower is a fluted column type with a height of 126 feet and a diameter of 49.5 feet.

2.4.2 MHI TOWER

The MHI Tower is located on the west side of town at the State owned Mental Health Institute (MHI). The MHI tower is located approximately 800 feet west of the intersection of Indiana Ave. and 232nd Street. The MHI Tower is believed to have been constructed in or around 1974 with a capacity of 250,000 gallons.

The MHI Tower is a multi-column type with a height of 97 feet and a diameter of 42 feet. Operations staff has noted the MHI Tower does not fill up as quickly as the other towers given the proximity away from water supply sources. This typically results in the tower never reaching the preferred fill level (City has used thermal imaging to check this) – resulting in lower that preferred pressures in the area.

2.4.3 COURTHOUSE TOWER

The Courthouse Tower is located near the center of Independence within 1st Ward park and directly east of the Buchanan County Courthouse. The Courthouse tower is located near the intersection of 6th Ave. NE and 2nd St. NE. The Courthouse Tower is believed to have been constructed in or around 1974 with a capacity of 300,000 gallons.

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The Courthouse Tower is a multi-column type with a height of 136 feet and a diameter of 32 feet.

2.5 DISTRIBUTION SYSTEM

Independence owns and operates a water distribution system with varying sizes, as shown in the table below. The purpose of the water distribution system is to deliver finished water to the individual consumer with adequate pressure and flow for each consumer's demand. The water distribution system water main materials include PVC, cast iron, ductile iron, and PVC. The City has completed numerous distribution system improvements throughout the life of the system. A map of the existing water system is displayed in **Appendix F**. A breakdown of pipe sizes for the City's distribution system is shown in **Table 5**.

Table 5: Water Distribution System Piping Inventory.

Diameter (in.)	Length (ft.)
Unknown	11,859
2	796
3	908
4	24,147
6	162,500
8	59,474
10	4,099
12	60,310
16	4,627
TOTAL	**328,720**

Part of this analysis included developing a distribution system water model, using Bentley WaterCAD software, to analyze the existing static pressures. The City has a single pressure zone for the entire distribution system. **Figure 1** shows the static pressure throughout the existing distribution system when no pumps are on, average daily demand is occurring, and the water tower levels are at the halfway point of their set operating range. On average, the static pressures in the existing distribution system are around 65 psi with the maximum being 80 psi and the minimum being 39 psi. Ten States Standards for Water Works recommends a minimum system design pressure under domestic flows is 35 psi and Independence's water system meets this recommendation. However, the City would like to have greater than 50 psi static pressures everywhere.

Areas of the City with static pressures below 50 psi include the Mental Health Institute (MHI) Area (southwest side of the City, west of Iowa Avenue), the far north side of the City (near the intersection of Kentucky Avenue and 206th Street), and the far east side of the City (just north of the Buchanan County Health Center). Pressures on the far north side are approximately 40 psi, but that low pressure is only experienced by a few users served near the intersection of Kentucky Avenue and 206th Street. The most concerning area would be the MHI Area where pressures are often around 40 psi and in some cases in the high 30s.

Fire protection flows in the existing distribution system are discussed in **Chapter 4**.

The water distribution system has historically experienced moderate to high levels of water loss. From January 2023 to August 2025, the City experienced an average of 19.7% water loss. Subsequent chapters of the report discuss this further.

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The City's distribution system experiences frequent water main breaks. Operations staff attributes a majority of the frequent main breaks to old cast iron mains and all the well pumps coming on at once with no slow ramp up that variable frequency drives would provide. According to operational staff, the City completes hydrant flushing twice a year.

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Figure 1 - EXISTING WATER SYSTEM STATIC PRESSURES

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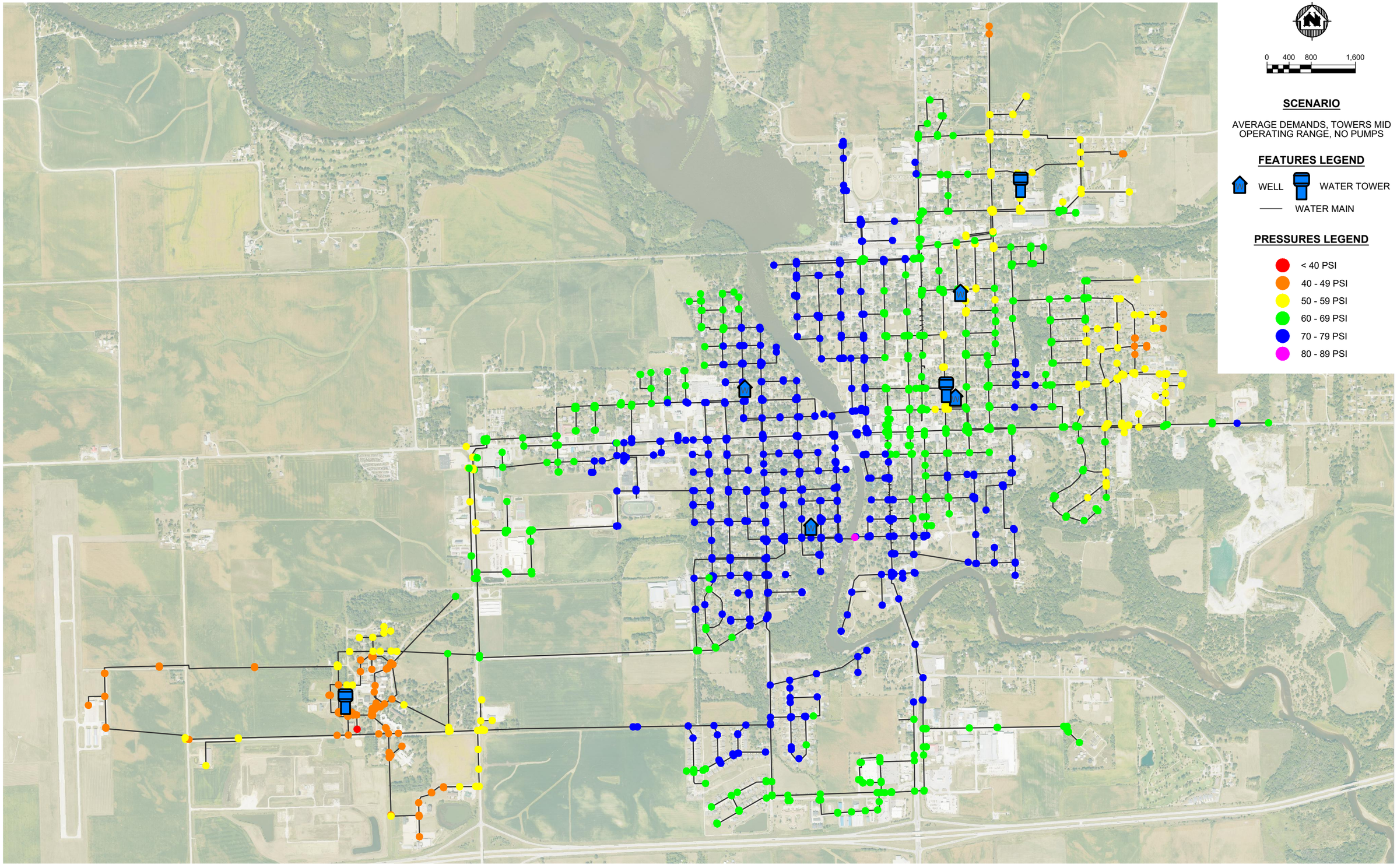

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CITY OF INDEPENDENCE
BUCHANAN COUNTY, IOWA

EXISTING WATER SYSTEM STATIC PRESSURES

PROJECT NO. 08618011
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CHAPTER 3 – EXISTING WATER USE DATA

This chapter focuses on existing conditions, capacity thresholds, and the performance of existing infrastructure. Evaluating current and historical usage is critical in determining whether the current infrastructure can accommodate the City's expected development. By leveraging historical population trends and projected growth data, this evaluation provides insights into the future condition and capacity of Independence's water system.

3.1 WATER USAGE RECORDS

The Iowa Department of Natural Resources (IDNR) requires all public water supply systems to submit monthly operating reports (MORs). **Table 6** shows the City's water treatment records from January 2023 through September 2025, which were used to evaluate existing water usage volumes.

Table 6: Summary of Daily Water Usage from January 2023 to September 2025

Water Usage	Volume Pumped to System (gallons/day)	GPCD
Average	**639,012**	**103.7**
Maximum	**1,569,000**	**254.4**
Minimum	**157,000**	**25.5**

For the time period evaluated, the average water usage was 639,012 gallons per day. Assuming a current population of 6,167, this equates to an average usage of 103.6 gallons per capita day (gpcd). The maximum day water usage during this time was 1,569,000 gallons on August 3, 2023, which equates to 254.4 gpcd. These values are used to evaluate future flow projections.

3.2 TREATED WATER QUALITY

The Independence raw water quality is high. Raw water at each wellhouse is only treated via chlorine gas disinfection and fluoride (hydrofluosilicic acid) injection, which are implemented for pathogen reduction and dental health respectively.

The City of Independence succeeds in treating all water to meet all primary and any secondary drinking water limits that have been tested for in the last ten years. The most recent hardness testing for the City's wells was performed in 2026 with Wells #3, #4, #6, and #7 having hardness results of 335, 361, 284, and 345 mg/L respectively. Water hardness above 180 mg/L is considered very hard, therefore residential water softeners are still being utilized by customers. Water hardness affects the soap consuming properties of water and promotes scaling in piping and plumbing fixtures.

The following table summarizes water use and quality averages from January 2023 through September 2025.

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Table 7: Water Quality and Water Use Averages, 2023-2025.

Parameter	Value	Unit
Daily Pumpage	639,012	gallons/day
Daily Chlorine Use	14.24	lbs/day
Free Chlorine Concentration (At Plant)	1.47	mg/L
Free Chlorine Concentration (In System)	1.11	mg/L
Total Chlorine Concentration (At Plant)	1.71	mg/L
Total Chlorine Concentration (In System)	1.28	mg/L
Daily Fluoride Use	13.32	lbs/day
Fluoride Concentration (raw water)	0.25	mg/L
Fluoride Concentration (finished water)	0.58	mg/L

3.3 WATER LOSS EVALUATION

The City provided monthly billing data from January 2023 to August 2025, compared to the total volume of water pumped to the system. This comparison highlights water loss within the distribution system. **Table 8** below summarizes the differences.

Table 8: Average Monthly Treatment Compared to Average Monthly Usage

	Water Pumped to System (gallons)	Water Billed (gallons)	Water Loss (%)
2023	247,187,000	209,723,723	15.2%
2024	214,397,000	165,333,168	22.9%
2025 (Jan. – Aug.)	160,810,300	124,568,191	22.5%
TOTALS	622,394,300	499,625,082	19.7%

From January 2023 thru August 2025 the City had 19.7% water loss. According to Ten States Standards, a community is considered to have a high percentage of water loss if greater than 20% of water produced is unaccounted for/ lost. As a result, the City's current system is on the demarcation line between having a high percentage of water loss and not. Potential sources of these water losses include leaks and breaks in water mains, hydrant flushing, unmetered buildings (some City buildings are not metered), and issues such as incorrect meter calibration or defective water meters. This water loss evaluation is justification for the City to continue replacing old water mains and locate leaks.

According to billing records, the average per capita water usage is approximately 83.3 gallons per day, significantly lower than the 103.7 gallons per day calculated based on pumpage to system records. This discrepancy underscores the importance of using pumping records rather than billing data, to evaluate projected water demands. While future efforts to minimize distribution system losses are critical, current water losses must be considered in planning and demand forecasting.

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CHAPTER 4 – FUTURE FLOW REQUIREMENTS

4.1 POPULATION TRENDS AND PROJECTED DEVELOPMENT

Independence is expected to experience steady population growth over the next 20 years due to anticipated residential developments. This increased population growth will result in a higher water demand. The projected population growth is based on historical trends, the City's proximity to the Waterloo metropolitan area, and expected development.

The projected population for the design year 2045 is 7,777. Much of this growth will occur in the southwest section of the City (some of the land will need to be annexed if/ when developed). There are five parcels along Bland Blvd. between Iowa Ave. and 6th Ave. SW that are expected to be developed into residential homes. There is one additional parcel near the intersection of Enterprise Dr. and 6th Ave. SW that is also expected to be developed into residential homes. A map showing the location of these expected developments is included in **Figure 2**.

Additionally, in the MHI Area, between Henley Avenue and Indiana Avenue, there is some expected industrial growth (not currently in City limits, but likely to be served by the City).

4.2 DESIGN CONDITIONS

The Independence water supply system design conditions are based on the projected population growth and corresponding water demand. These conditions represent the projections for future demand that the Independence water system must meet to provide adequate water service. All recommendations for improvements to the water system will be based on these projected demands. The following table describes the design conditions for the year 2045:

Table 9: Design Conditions for Independence Water Supply

Parameter	Design Value
Design Year	2045
Design Population	7,777
Average Daily Water Use (gpd)	806,475
Average Daily Water Use (gpm)	561
Maximum Daily Water Use (gpd)	1,979,247
Maximum Daily Water Use (gpm)	1,375
Minimum Static Pressure (psi)	50
Minimum Available Fire Flow (gpm)	500

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Figure 2 - ANTICIPATED DEVELOPMENT AREAS

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Print Date: 12/16/2025

WATER SYSTEM MAP WITH FUTURE DEVELOPMENT AREAS DEC 2025

City of Independence
Buchanan County, IA

ANTICIPATED INDUSTRIAL DEVELOPMENT AREA SHOWN IN LIGHT BLUE, TYP.

ANTICIPATED RESIDENTIAL DEVELOPMENT AREAS SHOWN IN YELLOW, TYP.

- Water Tower
- Wells

Water Mains

- Unknown
- 2"
- 3"
- 4"
- 6"
- 8"
- 10"
- 12"
- 16"

Municipal Boundary

Data Sources:
Municipal Boundary, Aerial - Buchanan County
Water Assets - Independence ,IA

MSA

0 500 1,000 Feet

N

Printed By: cwong, File: M:\AC\City\Independence\5_PRO_PROJECTS\Independence_Pro_Project\HWY150_Updates.aprx, Water System Map 22x34

4.3 FIRE PROTECTION FLOWS

Fire flow analysis was completed to determine the available flow at each hydrant without system pressure dropping below 20 psi anywhere in the system. The water distribution system was modeled using Bentley WaterCAD to evaluate the existing and design year 2045 fire flow conditions. **Figure 3** shows the fire protection flows under the existing conditions with no pumps on, existing average daily demand, and water tower levels at the halfway point of their set operating range

Evaluation of the design year 2045 fire flow conditions This evaluation included several assumptions about the future location and size of water mains within the new development areas. **Figure 4** identifies the fire protection flows under future conditions.

Fire protection flows are critical for ensuring the safety of the community. The Insurance Services Office (ISO) specifies a required fire flow of 500 gpm, with a preferred fire flow of 1,000 gpm. For the existing system, only a few 4” dead end service lines fall below the 500 gpm threshold.

The proposed developments were analyzed using WaterCAD to estimate potential fire flow outcomes based on 1-story buildings. The projected fire flows in the proposed service areas range from 1,829 gpm to 3,228 gpm, well above the required 500 gpm and within the ideal range. Therefore, fire flow is not a concern for the development areas. However, it is recommended that fire flow in the existing water system be enhanced by gradually upsizing mains less than 6” in diameter within the distribution system.

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Figure 3 - EXISTING WATER SYSTEM FIRE FLOWS

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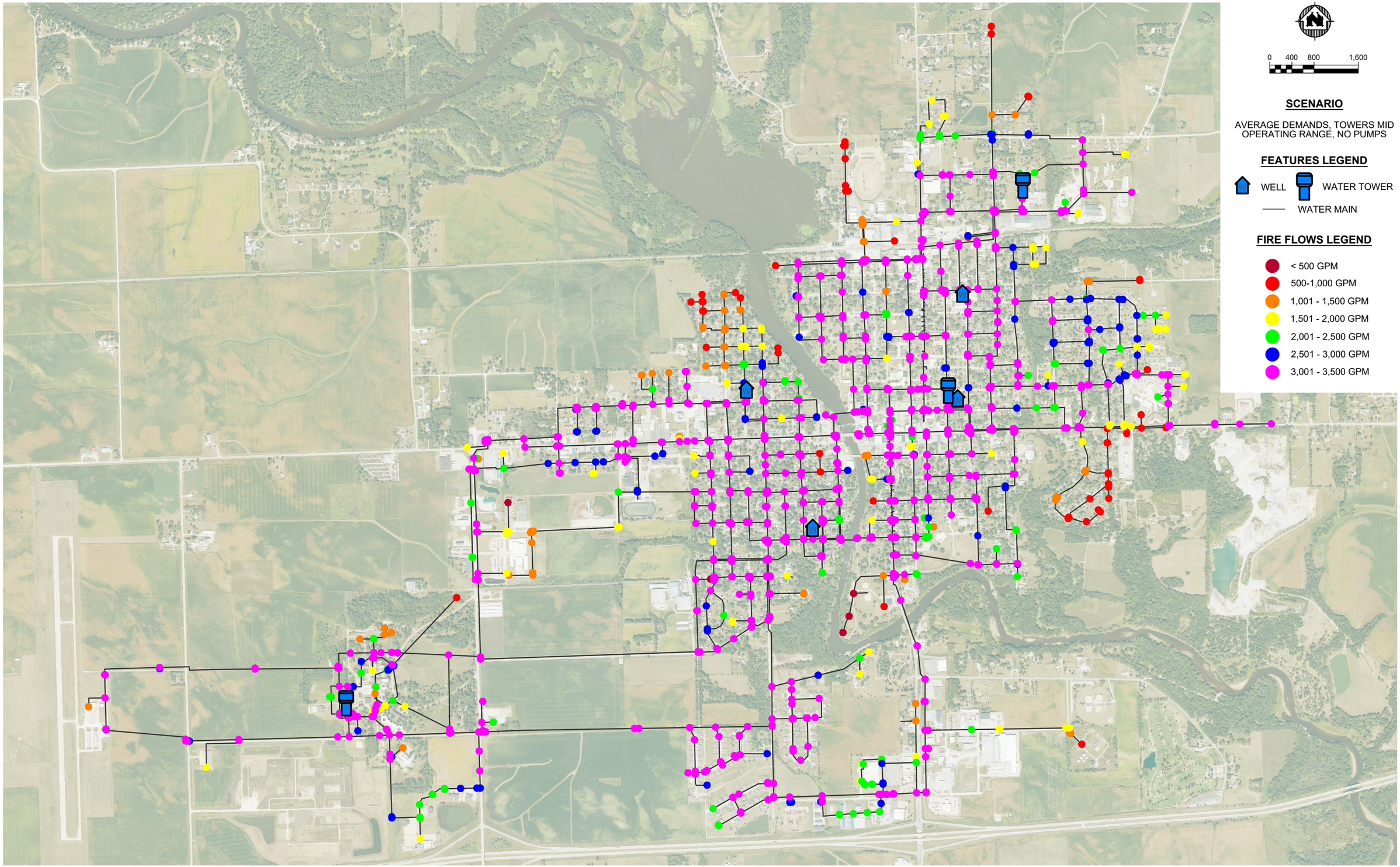

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BUCHANAN COUNTY, IOWA

EXISTING WATER SYSTEM FIRE FLOWS

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EXHIBIT ----

Figure 4 - 2045 WATER SYSTEM FIRE FLOWS

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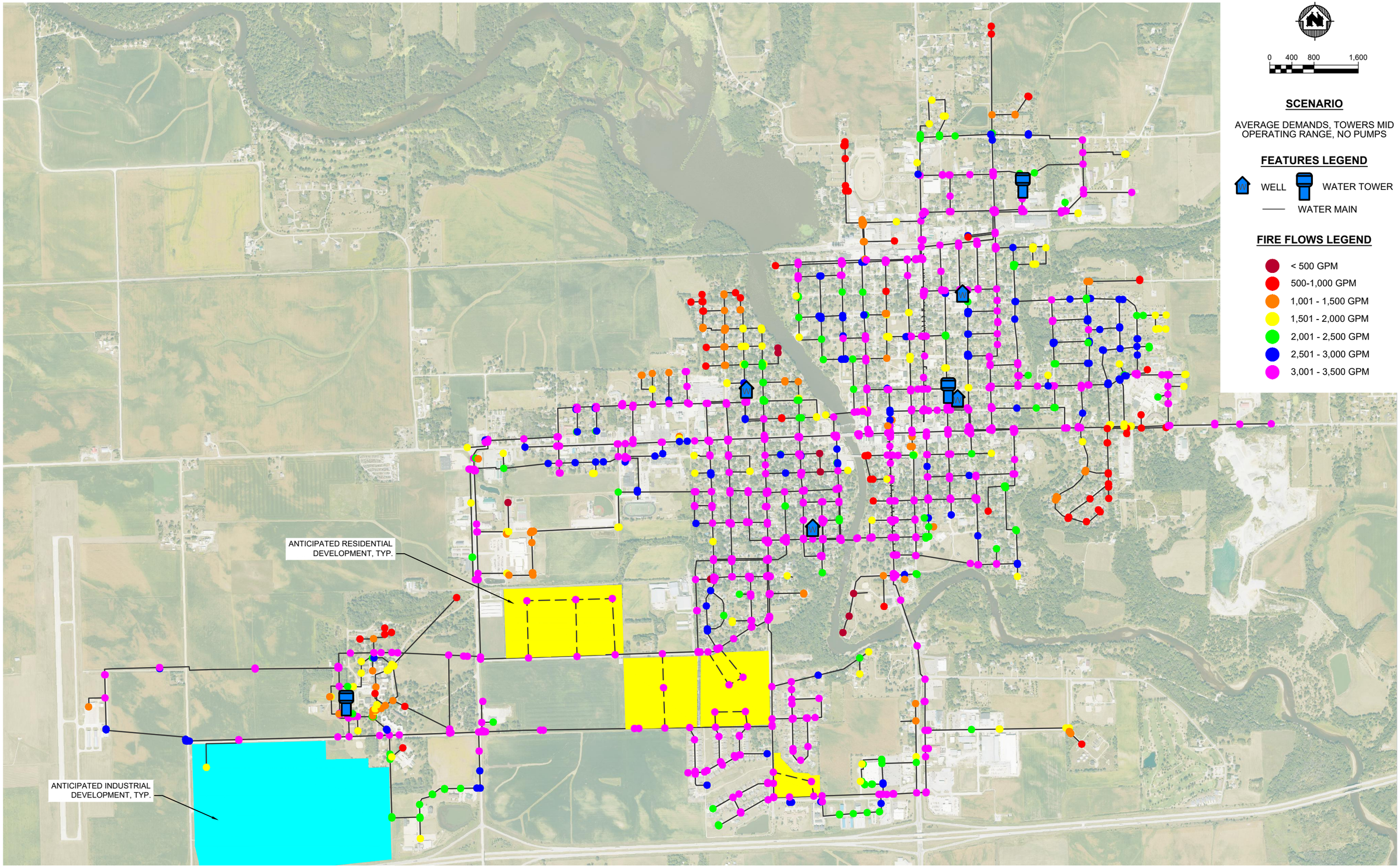

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2045 WATER SYSTEM FIRE FLOWS - NO IMPROVEMENTS

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4.4 WATER SUPPLY SOURCES

The capacity and yield of the water supply system are essential for meeting the projected water demands. As discussed previously, Independence's water supply is obtained from four wells – Well #3, #4, #6, and #7. To determine the capacity of a water supply system, the single largest well pump is excluded. The capacity is then determined as the summation of the remaining pump capacities. Yield of a specific well is the theoretical maximum amount of water obtainable from a specific well. Yield is typically reported on the drillers well log, however all wells were drilled in 1983 or earlier and thus no current yield data is available (see well logs in **Appendix H**). The most recent pump reports (see **Appendix I**) detail the current pumping capacity at each well as shown in the table below.

Table 10: Summary of Active Wells

Well #	Date Drilled	Depth (ft)	Pumping Capacity (gpm)
3	1943	307	510
4	1948	293	800
6	1964	265	700
7	1983	265	780

The combined total pumping capacity for Well #3, #4, #6, and #7 is 2,790 gpm. Excluding the Well #4 maximum pumping capacity of 800 gpm, the remaining FIRM capacity for the system is 1,990 gpm. This equates to a maximum supply of 2,865,000 gpd. The existing peak day demand is 1,569,000 gpd. The design year 2045 peak day demand is 1,979,247 gpd. The capacity of the well pumping system meets the current and design year 2045 peak day demand.

This evaluation of the water supply concludes that the existing wells are appropriately sized for the projected development and associated population growth. The existing wells have adequate pumping capacity to meet future demands, and the existing water towers have adequate storage volume. The static pressures as discussed previously, are above the Ten States Standards for Water Works minimum pressure of 35 psi in the distribution system when water tower levels are at the halfway point of their current operating range. However, the City would like to have greater than 50 psi static pressures everywhere.

Areas of the City with static pressures below 50 psi include the Mental Health Institute (MHI) Area (southwest side of the City, west of Iowa Avenue), the far north side of the City (near the intersection of Kentucky Avenue and 206th Street), and the far east side of the City (just north of the Buchanan County Health Center). Pressures on the far north side are approximately 40 psi, but that low pressure is only experienced by a few users served near the intersection of Kentucky Avenue and 206th Street. The most concerning area would be the MHI Area where pressures are often around 40 psi and in some cases in the high 30s.

4.5 WATER STORAGE

The City's water storage consists of three elevated storage tanks (also referred to as water towers) that maintain pressure throughout the system. Water storage serves three purposes in the City's water system. The first is to provide storage should the pump facilities be out of service. The second is to provide an extra source of water for a short duration, high flow

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event, such as firefighting. The third is to provide uniform pressure throughout the water distribution system.

The existing storage facilities have a combined capacity of 1,050,000 gallons, which is approximately equal to 1.21 days of the design year 2045 average daily demand.

Additionally, **Figure 5** shows 2045 static pressures for the distribution system including the anticipated development areas.

According to Ten State Standards, the minimum storage capacity shall equal one day of storage for the average daily consumption plus two hours of fire flow. The Insurance Services Office (ISO) specifies that the minimum available storage capacity in the event of a fire should be 500 gpm for 2 hours. This equates to 60,000 gallons of readily available fire flow. These 60,000 gallons, plus the average daily consumption, equals the total amount of storage that must be available. Independence, has a design year 2045 average daily flow of 806,475 gallons. This flow, plus the 60,000 gallons of fire flow, equates to 866,475 gallons. Given the combined capacity of the storage tanks is 1,050,000 gallons, under design year 2045 conditions the storage tanks have sufficient capacity, with an excess capacity of approximately 183,525 gallons.

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Figure 5 - 2045 WATER SYSTEM STATIC PRESSURES

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0 400 800 1,600

SCENARIO

AVERAGE DEMANDS, TOWERS MID OPERATING RANGE, NO PUMPS

FEATURES LEGEND

WELL

WATER TOWER

WATER MAIN

PRESSURES LEGEND

- < 40 PSI
- 40 - 49 PSI
- 50 - 59 PSI
- 60 - 69 PSI
- 70 - 79 PSI
- 80 - 89 PSI

ANTICIPATED RESIDENTIAL DEVELOPMENT, TYP.

ANTICIPATED INDUSTRIAL DEVELOPMENT, TYP.

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BUCHANAN COUNTY, IOWA

2045 WATER SYSTEM STATIC PRESSURES - NO IMPROVEMENTS

PROJECT NO. 08618011

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CHAPTER 5 –EVALUATION OF SYSTEM IMPROVEMENTS

This chapter outlines the deficiencies and recommended upgrades for the City of Independence drinking water system. The recommended improvements address various facility components, which can be implemented in phases to manage costs and minimize disruptions to operations. Priority should be given to upgrades that address safety and non-compliance concerns, while subsequent phases can focus on enhancing operational efficiency and capacity. This phased approach ensures that critical issues are resolved promptly while planning for long-term improvements.

Note the cost estimates for each alternative include engineering, construction administration, construction, and some level of administration/ legal costs. Itemized cost estimates for all alternatives are provided in **Appendix M**.

5.1 WELL PUMP VARIABLE FREQUENCY DRIVES (VFDS)

Note, operations staff has already pursued this alternative and VFDs are going to be installed in the near future.

As mentioned previously, the City has had significant issues with water main breaks. The City's current controls call for all well pumps to run at once and to come on at full power. This alternative calls for VFDs to be installed for all well pumps to reduce the "jolt" to the distribution system when well pumps start and stop.

5.2 WELLHOUSE SCADA PANEL REPLACEMENT

Note, upgrades to the City's existing SCADA system are anticipated to occur along with the wastewater project.

This alternative would involve replacing/ upgrading the wellhouse SCADA panels. The Micrologix 1400 programmable logic controllers (PLCs) are anticipated to be marked as "end of life" within 3-5 years. The estimated costs for this alternative are shown below. No engineering costs are included in the estimate – the City would likely want to work directly with their systems integrator or coordinate this upgrade with the wastewater project that includes SCADA upgrades.

Cost Estimate: $80,000 / wellhouse

5.3 NEW SCADA COMPUTER WITH SOFTWARE AND NEW GRAPHICS

Note, upgrades to the City's existing SCADA system are anticipated to occur along with the wastewater project.

This alternative would increase the functionality and security of the City's SCADA monitoring and controls.

Cost Estimate: $55,000

5.4 COURTHOUSE TOWER MIXING, LEVEL READING, AND AMBIENT LIGHTING

As mentioned previously, none of the water towers in the City have mixing or level reading capabilities. Operations staff has noted freezing issues with towers in the past. An

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ancillary benefit of the level reading component of this alternative is it will allow for installation of a new Well #3 sample location within the wellhouse.

Addition of a continuous operation electric mixer in the tower would provide thorough mixing to reduce water age, stagnation, stratification, short circuiting, and ice build-up. Another benefit of reducing water age through mixing is enhanced ability to maintain chlorine residuals in the distribution system. Installation of the mixer would also involve providing power to the tower (from Wellhouse #3) and connecting the mixer's operation to the City's existing SCADA system (within Wellhouse #3).

The level reading component of this alternative would involve installing a water service sized sample line to connect to the existing water main within 1st Ward Park prior to treated water from Well #3 entering the distribution system (piping and valving location will need to be considered to allow for isolation of Well #3 without the pressure sensor, discussed next, being taken offline as well). This sample line would be brought back into Wellhouse #3 and a new treated water sample location and pressure reading location would be provided within the wellhouse. The pressure sensor would be connected to the existing SCADA system to give operations staff real time readings of pressures at Well #3 that would also provide the level for the Courthouse Tower.

In addition to the mixing and level reading improvements, this alternative also includes the option to install ambient lighting to shine on the tower/ City logo.

The estimated cost of these improvements is shown below. A detailed breakdown of this estimate is shown within **Appendix M** along with estimated additional operations and maintenance costs.

Cost Estimate: $233,250

5.5 MHI Tower Mixing, Level Reading, and Ambient Lighting

As mentioned previously, none of the water towers in the City have mixing or level reading capabilities. Operations staff has noted freezing issues with towers in the past.

Addition of a continuous operation electric mixer in the tower would provide thorough mixing to reduce water age, stagnation, stratification, short circuiting, and ice build-up. Another benefit of reducing water age through mixing is enhanced ability to maintain chlorine residuals in the distribution system. Installation of the mixer would also involve providing power to the tower (from Wellhouse #8) and connecting the mixer's operation to the City's existing SCADA system (within Wellhouse #8).

The level reading component of this alternative would involve installing a water service sized line to connect to the existing water main near the MHI Tower. This water line would be brought into Wellhouse #8 and a sample location and pressure reading location (pressure sensor) would be provided within the wellhouse. The pressure sensor would be connected to the existing SCADA system to give operations staff real time readings of the MHI Tower levels.

In addition to the mixing and level reading improvements, this alternative also includes the option to install ambient lighting to shine on the tower/ City logo.

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Note, if the City plans to pursue the MHI Tower Raising alternative (unlikely, see discussion within MHI Tower Raising alternative) this mixing, level reading, and ambient lighting alternative should be paired with it. The estimated cost of these improvements is shown below. A detailed breakdown of this estimate is shown within **Appendix M** along with estimated additional operations and maintenance costs.

Cost Estimate: $287,800

5.6 Shop Tower Mixing, Level Reading, and Ambient Lighting

As mentioned previously, none of the water towers in the City have mixing or level reading capabilities. Operations staff has noted freezing issues with towers in the past.

Addition of a continuous operation electric mixer in the tower would provide thorough mixing to reduce water age, stagnation, stratification, short circuiting, and ice build-up. Another benefit of reducing water age through mixing is enhanced ability to maintain chlorine residuals in the distribution system. Installation of the mixer would also involve providing power to the tower from the nearby City Shop or utilizing the existing power in the tower. The mixer's operation would be connected to the City's existing SCADA system (new SCADA panel assumed to be installed in the nearby City Shop or within the Shop Tower column.

The level reading component of this alternative would involve installing a pressure sensor onto the vertical tower outlet pipe within the column of the Shop Tower. The pressure sensor would be connected to the existing SCADA system to give operations staff real time readings of the Shop Tower levels. An ancillary benefit of the level reading component of this alternative is it will allow for installation of a sample tap at the Shop Tower.

In addition to the mixing and level reading improvements, this alternative also includes the option to install ambient lighting to shine on the tower/ City logo.

The estimated cost of these improvements is shown below. A detailed breakdown of this estimate is shown within **Appendix M** along with estimated additional operations and maintenance costs.

Cost Estimate: $274,400

5.7 Well #7 Improvements

As mentioned previously, operations staff would like a more effective way to sample treated water from Well #7 – currently sampled on the well pump header soon after injection of treatment chemicals.

To address these issues, a water service sized sample line would be connected to the water main within the street and near the Well #7 treated water entry point into the distribution system. This sample line would be brought back into the wellhouse and a new treated water sample location would be provided within the wellhouse.

These improvements are critical to provide representative water samples (meeting the requirements of Part 2.12 of the Ten States Standards). The estimated cost of these improvements is shown below. A detailed breakdown of this estimate is shown within

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Appendix M. No additional operations and maintenance costs are anticipated with these improvements.

Cost Estimate: $45,800

5.8 River Crossing PRV Stations

Note, prior to moving forward with this alternative the City should modernize controls and monitoring for the drinking water system (specifically tower level and well pump controls/ monitoring). Additionally, once the control/ monitoring improvements are implemented, operations staff should determine the effectiveness of isolating MHI Tower with Well #6 and #7 by closing the manual valves at the river crossings.

As mentioned previously, operations staff has noted the MHI Tower does not fill up as quickly as the other towers given the greater distance from water supply sources (wells). This typically results in the MHI Tower never reaching the preferred fill level (City has used thermal imaging to check this) – resulting in lower than preferred pressures in the MHI area. This alternative would maximize the ability to fill the MHI Tower.

The City is bisected by the Wapsipinicon River. The City's water distribution system is also bisected by the Wapsipinicon River with only three (3) below river water main crossings connecting the east and west side of the City's distribution system. Well #3 and #4 are on the east side of the river along with the Shop and Courthouse towers. Well #6 and #7 are on the west side of the river along with the MHI Tower. This alternative involves installing Pressure Reducing Valve stations at each river crossing to essentially isolate the two sides of the distribution system and allow Well #6 and #7 to only pump to the MHI Tower when turned on – allowing the tower to be filled to the maximum operating level and maximizing pressures on the west side of the distribution system.

This alternative would consist of constructing pressure reducing valve (PRV) stations at each river crossing. The PRV stations effectively isolate/ hydraulically disconnect the west and east side of the water distribution system. Note, this could be accomplished by simply closing the existing manual valves at each river crossing. However, using the manual valves would totally disconnect the two sides of the distribution system. PRV stations are designed to allow water to flow from either side during high demand/ emergency situations (fire flow needs).

The proposed PRV stations are located near the river crossings, but out of the floodway. Without significant water main lengths and pavement rehabilitation, it is likely not possible to locate the PRV stations outside of the 100-year floodplain. Installing PRV stations within the 100-year floodplain is not ideal and will require thoughtful design and likely additional permitting.

Each PRV station will be an above grade prefabricated structure mounted to a concrete slab. Each structure will house a bi-directional water meter, PRV valve, electrical controls, and associated piping and valving. An electric heater and thermostat will be used to heat the structure. The PRV station will be connected to the distribution system via two 8-inch water main pipes. Proposed site improvements will be necessary for access, grading, stormwater, an electric service, fiber connection, and site restoration.

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The proposed PRV will be a variable process control valve. The valve will be tied to the SCADA system and can be operated under local pressure control or flow control. The proposed PRV valve will provide the following functions:

- High Volume Transfer; the primary function of the valve is to allow high-volume transfer from the MHI Area high pressure zone to the primary zone in the event of a fire.
- Pressure Sustaining; this function allows water to flow from the primary zone to the MHI Area high pressure zone in the event of pressure reversal (ex: main break). This function is essentially a check valve that opens in the event of a pressure drop in the MHI Area high pressure zone.
- Re-circulation; the current water demand is unlikely to turnover the raised MHI Tower in the proposed MHI Area high pressure zone, therefore recirculation will be required in order to maintain water quality. The operator will be able select when the recirculation occurs and at what flow rate.
- High Pressure Relief; this function allows water to transfer to the primary zone from the MHI area high pressure zone if there is a high pressure event (ex: accidental valve closure and booster pump running)
- Flow Monitoring via bi-directional water meter.

No wetlands are present within the project areas.

The estimated cost of these improvements is shown below. A detailed breakdown of this estimate is shown within **Appendix M** along with estimated additional operations and maintenance costs.

Cost Estimate: $2,011,480

5.9 DISTRIBUTION SYSTEM IMPROVEMENTS

The distribution system alternatives described below include targeted replacement and upsizing of undersized/ deteriorated water mains along with system looping. Upsizing of undersized mains from 4” to 8” minimum will help the City meet DNR/ Ten States Standards for minimum water main sizing and improve the hydraulic performance of the system. Benefits of these replacements include eliminating down the road emergency repairs, increasing system reliability, and improving fire flows.

The water main looping portion of these distribution system improvements will connect dead end branch lines in the current distribution system. Looping of water mains is considered best practice because it significantly improves water quality while also enhancing hydraulic performance and system reliability. By allowing water to circulate continuously through multiple flow paths, looped systems reduce stagnation and lower water age, which helps maintain disinfectant residuals and minimizes the potential for sediment buildup, taste and odor issues, and microbial growth. In addition to these water quality benefits, looping provides operational flexibility by allowing sections of the system to be isolated for maintenance or repair without widespread service disruptions, and it supports more consistent pressures during peak demand and fire flow events.

The water main looping alternatives were grouped by areas of the City to create five (5) areas/ projects. **Appendix N** includes a map that shows a high level overview of the water main looping alternatives. These alternatives are described in more detail below.

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Replacement of the undersized mains in the City was grouped into one alternative that is described in more detail below.

5.9.1 UNDERSIZED WATER MAIN REPLACEMENTS

The City has almost 26,000 feet of water main that is 4" or smaller in diameter (see map in **Appendix F**). Some of these undersized mains would be replaced by the Northwest Replacement/ Looping alternative and are not included with this alternative. Replacement of the remaining 4" or smaller mains was grouped into one large project to show the magnitude of costs to replace all the undersized main in the City. **It is most likely the City will group these undersized main replacements into smaller projects as funding becomes available or paired with roadway overlay projects.**

The estimated costs for this alternative are shown below. A detailed breakdown of this estimate is shown within **Appendix M**. This cost estimate is high level and includes assumptions to simplify the estimating process.

Cost Estimate: $21,634,568

5.9.2 NORTHWEST AREA WATER MAIN REPLACEMENT/ LOOPING

This alternative is shown on the map in **Appendix N**. This alternative includes replacement of undersized main and looping with new 8" water mains. This alternative could be broken down into smaller projects as funding becomes available or paired with roadway overlay projects.

The estimated costs for this alternative are shown below. A detailed breakdown of this estimate is shown within **Appendix M**.

Cost Estimate: $2,555,690

5.9.3 CENTRAL SOUTHEAST AREA WATER MAIN LOOPING

This alternative is shown on the map in **Appendix N**. This alternative includes looping dead ends with new 8" water mains. This alternative could be broken down into smaller projects as funding becomes available or paired with roadway overlay projects.

The estimated costs for this alternative are shown below. A detailed breakdown of this estimate is shown within **Appendix M**.

Cost Estimate: $844,435

5.9.4 WWTF WATER MAIN LOOPING

This alternative is shown on the map in **Appendix N**. This alternative includes looping the dead end water main that currently ends at the City's wastewater treatment facility (WWTF) with a new 8" water main. Water main would be added along 3 Elms Park Road from Jamestown Avenue (State Highway 150) to Wastewater Treatment Road, then along Wastewater Treatment Road from 3 Elms Park Road to 17th Street SE. This alternative assumes the City annexes the land along 3 Elms Park Road and the non-serviced

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residents are connected to City water. The City could also consider installing this loop to the WWTF starting along Enterprise Drive.

The estimated costs for this alternative are shown below. A detailed breakdown of this estimate is shown within **Appendix M**. If the water main were to be installed offset to the roadways, the cost of this project could be reduced significantly.

Cost Estimate: $1,974,115

5.9.5 SOUTHWEST AREA WATER MAIN LOOPING

This alternative is shown on the map in **Appendix N**. This alternative includes looping dead ends with new 8" water mains. This alternative could be broken down into smaller projects as funding becomes available or paired with roadway overlay projects.

The estimated costs for this alternative are shown below. A detailed breakdown of this estimate is shown within **Appendix M**.

Cost Estimate: $865,505

5.9.6 MHI AREA WATER MAIN LOOPING

This alternative is shown on the map in **Appendix N**. This alternative includes looping dead ends with new 8" and 12" water mains. This alternative could be broken down into smaller projects as funding becomes available or paired with roadway overlay projects.

The estimated costs for this alternative are shown below. A detailed breakdown of this estimate is shown within **Appendix M**.

Cost Estimate: $766,235

5.10 NEW SILURIAN AQUIFER WELL

The City requested an alternative be included in this report for a new well. The exact location of a potential new well is not yet known, but it would likely be on the west side for the City towards the MHI area. The well is assumed to be similar in size and depth to the City's existing wells.

The estimated cost of these improvements is shown below. A detailed breakdown of this estimate is shown within **Appendix M**.

Cost Estimate: $2,238,576

5.11 WELL #6 BACK-UP POWER IMPROVEMENTS

As mentioned previously, Well #6 does not have backup power. This is the only well of four (4) that is lacking a backup power source to ensure continuous service if/ when primary power is interrupted. Backup power can be provided through a dedicated portable or in-place auxiliary generator with sufficient capacity and connectivity.

This improvement alternative would include installation of a permanent generator to provide backup power. The new generator would be fully integrated into the City's existing

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SCADA system. The estimated cost of these improvements is shown below. A detailed breakdown of this estimate is shown within **Appendix M** along with estimated additional operations and maintenance costs.

Cost Estimate: $215,000

5.12 WELLHOUSE FLUORIDE SEPARATION

As noted previously, the City adds Hydrofluosilicic Acid (HSA) to increase fluoride levels in the water with the goal of improving dental health. Even with being upgraded in 2018, the wellhouses have evidence of degradation (despite what appears to be proper venting of the bulk storage and day tanks) related to using HSA including a white coating on surfaces including piping, electrical equipment, concrete, and more. HSA is known to corrode a variety of materials including metals, concrete, and glass – there are also health concerns if tanks are not properly vented (lung damage).

The City could consider removing the fluoride chemical feed equipment from Wellhouse #3, #6, and #7 and installing new or existing equipment into a separate fluoride building. Wellhouse #4 is within the electrical substation and adding onto the building or providing a separate building could be considered, but was not evaluated as part of this alternative.

This alternative involves constructing a separate building (assumed to be a prefabricated fiberglass reinforced plastic building due to affordability and resistance to corrosion) near the existing wellhouses to house HSA (fluoride) chemical storage tanks and feed equipment. A chemical carrier conduit with chemical feed tubing would route HSA from the separate fluoride building back to the existing wellhouse to allow for injection into the existing well pump header. This alternative would stop the degradation of the electrical and controls within the existing wellhouses along with other wellhouse components.

The estimated cost of these improvements is shown below. A detailed breakdown of this estimate is shown within **Appendix M** along with estimated additional operations and maintenance costs.

Cost Estimate: $293,500 / well

5.13 MHI AREA PRESSURE ZONE

Note, this alternative is not moving forward due to the high cost and small amount of services that would benefit.

This alternative would consist of constructing a booster station, a pressure reducing valve (PRV) station, and raising the MHI Tower to create a new high-pressure zone in the southwest portion of the City. This alternative would address current static pressure issues in the area. The MHI tower would be raised so the hydraulic grade line could serve all areas in the MHI High-Pressure Zone currently within the City limits or on State owned land. The proposed booster station would be equipped with booster pumps designed to transfer water from the primary zone to the new high-pressure zone. A PRV station would be designed to allow water to flow from the high-pressure zone to the primary zone during times of high demand (fire flow demand). This alternative could also attract future industrial and commercial users to the proposed MHI High-Pressure Zone.

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The MHI Area Pressure Zone alternative was broken up into two sub-alternatives – the first being the booster pump station and PRV station and the second being the MHI Tower Raising. Having these sub-alternatives allows for a clear delineation of two project to be bid separately.

The proposed project will include integration of all three sites into the Utilities existing SCADA system.

5.13.1 MHI TOWER RAISING

Note, this alternative is not moving forward due to the high cost and small amount of services that would benefit.

This alternative considers raising the existing MHI Tower. The existing MHI Tower is a multi-column type with a height of 97 feet and a diameter of 42 feet. The existing system static pressures in the MHI area when the MHI Tower is filled to halfway of the systems typical operating range are on average 44 psi with a maximum of 59 psi, and a minimum of 38 psi. Increasing the height of the tower would allow the City to increase the operating range from what is currently about 5' to a larger range (for this alternative the new operating range is assumed to be 10').

There are contractors that specialize in elevated tank construction that have extensive experience in making modifications to existing tanks. Raising the tower would be accomplished by cutting the stem, welding a stem extension in place, modifying the exterior supports, and reinstalling/ welding the upper section of the existing tower. Adding a 70-ft section of column to the existing tank and modifying the existing supports would increase the MHI area static pressures with the tower level at halfway of the new 10' operating range to an average of 74 psi, maximum of 89 psi, and a minimum of 68 psi.

Prior to raising any tower, a feasibility study and detailed evaluation conducted by the specialty contractor, is necessary to evaluate the existing tank and foundation condition to ensure that modifications can be made to add the extra height. The cost of this effort will be lessened if the previously conducted geotechnical report and construction drawings of the tank and foundation can be provided for use in the analysis. If no drawings are available, the tank contractor will need to make a site visit to take measurements including excavation to expose the foundation. The cost of this feasibility study is included in the project cost estimate for this alternative.

The proposed improvements are located outside of the 100-year floodplain and no wetlands are present within the project area. No adverse impacts to the surrounding environment are anticipated. There appears to be ample space at the tank site for staging, but some modifications may need to be made.

This alternative may not be feasible if the findings of the feasibility study and geotechnical report reveal that the existing foundation is unable to support the proposed tower modifications. Additional costs will be incurred for foundation modifications. The City also does not currently own the MHI Tower site (owned by the State of Iowa) – this may complicate the permitting, design, and construction process.

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Lastly, the MHI Tower is located just under a mile from the Independence Municipal Airport. As a result, prior to any design the Federal Aviation Administration (FAA) would need to be consulted and form FAA 7460-1 – Notice of Proposed Construction or Alteration would need to be filled out for the FAA to review the proposed project and deem if it is acceptable. It is likely the FAA will deem the project a potential hazard and need to complete an Obstruction Evaluation / Airport Airspace Analysis (OE/AAA) study prior to permitting the tower to be built. It is fortunate the runway runs north to south and as a result any approaches or departures from the airport are potentially less affected by the MHI Tower. Another important piece of context is the existing MHI Tower likely did or would have triggered this same FAA review.

The estimated cost of these improvements is shown below. A detailed breakdown of this estimate is shown within **Appendix M** along with estimated additional operations and maintenance costs.

Cost Estimate: $1,331,800

5.13.2 BOOSTER PUMP STATION AND PRESSURE REDUCING VALVE

Note, this alternative is not moving forward due to the high cost and small amount of services that would benefit.

This alternative would consist of constructing a booster station and pressure reducing valve (PRV) station. The proposed booster station would be equipped with booster pumps designed to transfer water from the primary zone to the new MHI Area high-pressure zone (while doing so the MHI Tower would be filled). A PRV station would be designed to allow water to flow from the MHI Area high-pressure zone to the primary zone during times of high demand (fire flow demand).

To make this alternative cost-effective, a custom package prefabricated water booster pump station that is enclosed in a prefabricated modular building was considered. The proposed unit would be mounted to a poured concrete slab and frost wall foundation The booster pump station would include the required pumps, process piping, valving, metering, and potentially chemical feed equipment. The approximate size of the proposed booster pump station would be 12'x30' and would include (2) normal duty pumps and space for a third if necessary in the future. The booster station will be equipped with a pressure reducing valve plumbed between the inlet and discharge piping headers. The PRV valve will open/close based on the primary zone pressure; the valve will allow water to flow from the MHI Area high-pressure zone back to the primary zone if a high demand event occurs (ex: fire flow event). A flow switch on the intake (MHI Area high pressure) side of the valve will be utilized as an interlock with the booster pumps; if the PRV is flowing water (flow switch active), the booster pumps cannot be called run. This will safeguard the system from locally recirculating water at the booster station (booster pump drawing water as the PRV is moving water from the MHI Area high-pressure zone to primary zone).

The booster pump station ideal location would be approximately 1,100 ft east of the intersection of Iowa Avenue and 232nd Street. This location would require an access easement and/ or land acquisition of the privately owned land. Alternative sites near the intersection of Iowa Avenue and 232nd Street could be considered, but this would result in additional modifications to the distribution system and land acquisition would still be required.

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The proposed PRV station is assumed to be located on the MHI State of Iowa property just west of the intersection of Iowa Ave and Bland Boulevard in the northeast corner of the proposed MHI Area high pressure zone. The City would need to negotiate land acquisition and access with the State of Iowa. Having a PRV at the booster station and an additional separate PRV station increases availability of fire flows to send back to the main pressure zone.

The PRV station will be an above grade prefabricated structure mounted to a concrete slab. The structure will house the bi-directional water meter, the PRV valve, electrical controls, and associated piping and valving. An electric heater and thermostat will be used to heat the structure. The PRV station will be connected to the distribution system via two 8-inch water main pipes. Proposed site improvements will be necessary for access, grading, stormwater, an electric service, fiber connection, and site restoration.

The proposed PRV will be a variable process control valve. The valve will be tied to the SCADA system and can be operated under local pressure control or flow control. The proposed PRV valve will provide the following functions:

- High Volume Transfer; the primary function of the valve is to allow high-volume transfer from the MHI Area high pressure zone to the primary zone in the event of a fire.
- Pressure Sustaining; this function allows water to flow from the primary zone to the MHI Area high pressure zone in the event of pressure reversal (ex: main break). This function is essentially a check valve that opens in the event of a pressure drop in the MHI Area high pressure zone.
- Re-circulation; the current water demand is unlikely to turnover the raised MHI Tower in the proposed MHI Area high pressure zone, therefore recirculation will be required in order to maintain water quality. The operator will be able select when the recirculation occurs and at what flow rate.
- High Pressure Relief; this function allows water to transfer to the primary zone from the MHI area high pressure zone if there is a high pressure event (ex: accidental valve closure and booster pump running)
- Flow Monitoring via bi-directional water meter.

The proposed booster station and PRV station improvements are located outside of the 100-year floodplain and no wetlands are present within the project area. No adverse impacts to the surrounding environment are anticipated.

As noted above, the City would need to negotiate land acquisition and access to the proposed sites – this may complicate the permitting, design, and construction process.

The estimated cost of these improvements is shown below. A detailed breakdown of this estimate is shown within **Appendix M** along with estimated additional operations and maintenance costs.

Cost Estimate: $1,916,200

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5.14 SUMMARY OF RECOMMENDED IMPROVEMENTS

Table 11: Summary of Estimated Cost and Prioritization Schedule for Recommended Improvements

Improvement	Prioritization Schedule	Estimated Cost
Well Pump VFDs	High Priority	*City already pursuing this alternative.
Wellhouse SCADA Panel Replacement	High Priority	*City already pursuing this alternative with wastewater project.
New SCADA Computer with Software and New Graphics	High Priority	*City already pursuing this alternative with wastewater project.
Courthouse Tower Mixing, Level Reading, and Ambient Lighting	High Priority	$233,250
MHI Tower Mixing, Level Reading, and Ambient Lighting	High Priority	$287,800
Shop Tower Mixing, Level Reading, and Ambient Lighting	High Priority	$274,400
Well #7 Improvements	Medium Priority	$45,800
River Crossing PRV Stations	Medium Priority	$2,011,480
Northwest Area Water Main Replacement/ Looping	Medium Priority	$2,555,690
Central Southeast Area Water Main Looping	Medium Priority	$844,435
WWTF Water Main Looping	Medium Priority	$1,974,115
Southwest Area Water Main Looping	Medium Priority	$865,505
MHI Area Water Main Looping	Medium Priority	$766,235
Undersized Water Main Replacements	Low Priority	$21,634,568
New Silurian Aquifer Well	Low Priority	$2,238,576
Well #6 Back-up Power	Low Priority	$215,000
Wellhouse Fluoride Separation	Low Priority	$293,500/ well
MHI Area Pressure Zone	Low Priority	$3,248,000
Total Cost of High Priority Improvements*		**$795,450**
Total Cost of Medium Priority Improvements		**$9,063,260**
Total Cost of Low Priority Improvements		**$28,216,644**
Total Cost of all Improvements		**$38,075,354**

*Improvements the City is currently pursuing are not included.

Itemized cost estimates for each recommended improvement can be found in **Appendix M.**

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CHAPTER 6 –FINANCING

6.1 APPLICABLE FINANCING METHODS

There are several methods by which capital improvement projects may be financed. Each method has its advantages and disadvantages. The selected method of financing for a given capital improvement project must be consistent with current municipal fiscal policies, as well as with the current financing capability of the municipality.

GENERAL OBLIGATION BONDS

General Obligation Bonds are payable from all general municipal revenues and are considered an obligation on the total assessed valuation of the municipality. The issuance of such bonds must be authorized by the elected governing body of the municipality concerned, and the amount of outstanding bonded indebtedness is limited by Iowa state statute. General Obligation Bonds are generally issued for street improvements, sanitary sewerage, stormwater drainage system improvements, public buildings, and related facility improvements. An advantage of the General Obligation Bond is that the improvements may be constructed and used when they are being paid for. The principal disadvantage of the General Obligation Bond is the interest cost added to the amount to be paid back to the bond purchasers.

REVENUE BONDS

Revenue Bonds are generally issued for the financing of self-supported public services, such as water supply, sewage treatment and disposal, and off-street parking facilities. Funds for principal and interest payments on Revenue Bonds are derived from the income produced by the utility or facility concerned. The use of Revenue Bonds offers at least two advantages. These bonds are not subject to the limitation on general bonded indebtedness imposed upon municipalities by state statute. Also, the monies used to retire the bonds are derived from the fees charged to individuals who use the improvement. There are, however, disadvantages associated with revenue bond financing. The issuing municipality on Revenue Bonds must pay a higher interest rate than on General Obligation Bonds. Also, it may be difficult to accurately forecast long-term income from a proposed utility or facility.

TAX INCREMENT FINANCING

Iowa's Tax Incremental Financing law provides a funding arrangement whereby cities share redevelopment costs with overlying tax jurisdictions. A "tax incremental base" is set when a Tax Incremental District is created. Any subsequent growth in the Tax Incremental District base is then "captured" so that as property value increases, levies on this growth represent positive dollar increments used for financing redevelopment.

The tax increment financing law has been formulated to encourage development by allowing the municipality to recover capital project costs before overlaying general and special purpose governments, which benefit from the additional value created. When the project costs are paid off, the added value is then utilized in the apportionment process so that all units and levels of government share in the increment. The effect of the tax incremental law

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is to put off reflecting the general government's increase in values due to the Tax Incremental District unit the costs of generating the development are paid for.

BANK LOANS

Bank loans may be made directly to a municipality by a local bank. The major advantage of this financing method is that a municipality may receive a more favorable interest rate from a local banker. The only limit to this type of borrowing is the municipality's ability to pay the interest and repay the principal.

GENERAL/CURRENT REVENUES

Municipal utility and facility improvements may be paid for with current revenues. Typically, this "pay-as-you-go" method of financing consists of levying sufficient taxes to pay for public utility and facility improvements, as well as to operate and maintain community facilities and municipal services. The principal difficulty inherent in this method of financing is that it is sometimes impractical for a municipality to raise enough money through property taxes, fees, and other revenues or to establish annual operating revenue surpluses sufficient to pay for the needed capital improvement projects. Also, using current revenues to finance capital improvements usually requires a long period of "saving up" before a capital improvement can be constructed. During this time, there is always a possibility that surplus funds may be prematurely diverted to provide for other needs rather than for previously scheduled projects.

The principal advantage inherent in using current revenues to pay for capital improvements is that an improvement paid for at the time of construction is less expensive than if financed by a bond issue. Also, when current revenues are used for capital improvements, future years' revenues are not obligated to pay for the debt service on bond issues. Accordingly, revenues that would have been used to pay debt service costs can be used to meet operating funds or other investment capital investment needs.

RESERVE FUNDS

Municipal utilities and facilities may be paid for with reserve funds. Under this variation of the "pay-as-you-go" approach, payments are made into a reserve fund by the municipality on a regular basis until enough money is available in the fund to pay for the improvement. The same advantages and disadvantages of using current revenues to pay for capital improvements would apply to reserve funds. This method of financing offers, however, an additional advantage in that the interest earned on monies held in the fund provides additional money for capital improvements.

SPECIAL LEVIES

Special levies are also a "pay-as-you-go" method of financing capital improvements. Special levies are typically used to secure monies for seldom-made capital improvement expenditures. Special levies tend to be used to finance the purchase of major pieces of public works department equipment and firefighting equipment.

SPECIAL ASSESSMENTS

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Special assessments provide another method by which public improvements may be financed. The special assessment method of financing can be particularly appropriate in instances where public improvements will benefit a limited community area. When improvements are financed by the special assessment method, the benefited property owner pays the "private benefit" portion attendant to the improvement. The municipality pays the "public benefit" portion attendant to the improvement.

FEDERAL AND STATE AIDS

Federal and state governments make substantial expenditures for urban public improvements. Federal aid may be used for preliminary engineering studies, design, right-of-way acquisition, and construction, but it may not be used for maintenance or administration.

Community Development Block Grants (CDBG) are available from the federal government to finance capital improvements. However, Independence would only be eligible for the competitive CDBG program administered by the Iowa Department of Economic Development (IDED). Under this program, communities in the State compete annually for available funds based on a formula that measures the needs of a community in relation to the needs of other Iowa communities. The communities with the greatest need, project readiness, and complimentary local financial resources tend to receive the available funds.

A source of grant money for water and wastewater treatment projects is the Wastewater and Drinking Water Treatment Financial Assistance Program (WTFAP), administered through the Iowa Finance Authority. These grants are awarded up to $500,000 based on the following priorities:

- Projects that will significantly improve water quality in their watershed
- Projects that use alternative wastewater treatment technologies
- Communities with high sewer and/or water rates
- Projects that use technology to address nutrient reduction
- Projects that will improve source waters for drinking water utilities

GIFTS AND GRANTS

Although gifts and grants are a relatively rare source of funds for capital improvement projects, an outright gift provided through bequests can be used to finance projects.

STATE AND FEDERAL LOAN PROGRAMS

The Iowa Department of Natural Resources has a state-revolving loan program available to communities for wastewater projects. These loans are low interest (currently 3.15% - rate included servicing fee) and are amortized over 20 years.

SRF loan principal forgiveness is currently being offered through the Bipartisan Infrastructure Law. Forgiveness is based on three indicator ratings: priority project, household burden, and socioeconomic status.

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The United States Department of Agriculture's Rural Development Department also has a low-interest loan program for wastewater projects.

6.2 SOURCES OF FUNDING AND STATUS OF THESE FUNDS

Potential sources of funding for the proposed improvements include grants, loans, and local funds. Grants are often awarded based on economic need, project readiness, and the availability of complementary local financial resources. According to the Census Bureau, Independence's 2024 Median Household Income (MHI) was $73,806, while Iowa's MHI was $75,059

To receive Community Development Block Grant (CDBG) funding, a community must have more than 51 percent low-to-moderate income (LMI) residents. According to the 2020 American Community Survey, The City's LMI is 41.5 percent. Thus, the City is unlikely to qualify for a Coxmmunity Development Block Grant (CDBG). However, they City could survey specific areas on the community for a water main project that directly serves a specific area of the City.

The most probable source of financing is a combination of local reserve funding and State Revolving Loan Funds. For the purposes of this report, it is assumed that all financing will be obtained through local funding and State Revolving loan funds.

6.3 REPLACEMENTS

The cost of needed improvements to be financed through the SRF program will result in additional debt service, which will need to be repaid through water department revenues. A rate increase may be required to cover the costs of the proposed improvements. This rate increase will result in a change to the existing water use ordinance.

The SRF loan program requires that the City submit a water user charge with the loan application. The user charge ordinance should include proportional user fees for operation, maintenance, and replacement costs. The debt service portion of the user charge system does not need to be proportional.

Each SRF loan must be secured by a bond to assure parity with other local debt. This bond can either be a revenue or a general obligation bond. For revenue secured loans, the coverage requirement is 110 percent of the amount needed for debt service.

6.4 SUMMARY OF PROBABLE FINANCING

The City is expected to apply for an SRF loan to finance the project. It may also apply for grants such as the WTFAP, USDA Rural Development, or Community Development Block Grant programs. However, these are typically competitive awards based on the community's income, making it difficult for Independence to submit a competitive application. The City is unlikely to meet eligibility requirements in the future. An SRF loan may require the City to increase its existing water and sewer rates to cover the loan amount.

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Less any grant funds received, the remainder of the project is expected to be financed via an SRF loan. This loan program administered by the IDNR would be for a 20-year term with an interest rate of approximately 3.25%.

SRF Loan Forgiveness is highly unlikely, as loan forgiveness is only awarded to communities who qualify via their DAC (Disadvantaged Community) score. The DAC system is a point-based qualifier that considers socioeconomic status, mean household income, unemployment percentage, and other socioeconomic factors. Independence scores an 8 on the DAC scale, making it highly unlikely that it will qualify for SRF loan forgiveness now or in the future. A minimum of 11 is required to qualify.

6.5 USER CHARGE ANALYSIS

For the probable method of financing the proposed improvements, an SRF loan will be utilized over a 20-year term. The SRF loan's base interest rates are recalculated quarterly, and as of April 2026, the base interest rate for a 20-year tax-exempt term is 3.25 percent. The loan is expected to be repaid through water user charges, with the annual portion prorated among the community's users. Per the City's December 2025 billing data the City has 3,052 services.

This preliminary analysis assumes the expected cost increases will be distributed equally among all services, regardless of type of user or water usage amount. According to water billing data from 2023-2025, the average monthly water usage per service is approximately 5,116 gallons per month. The current water service rates as of October 1, 2025 are listed below:

Water Service Rate:

Base Rate: $11.69 + Meter Tap Size Charge ($4.00 for 1-inch)
Usage Rate: $4.03/ 1,000 gallons used per month

Based on these rates, the average service has a current monthly bill for drinking water of $36.31

Assuming the pursuit of High and Medium-Priority recommendations, the total project cost is estimated to be $9,858,710.

Assuming a 20-year SRF loan is used exclusively to finance these improvements, the approximate annual loan payment is $684,872. Assuming these costs are covered exclusively by increasing water use rates, rates would have to be increased by approximately $20.82 per month or ~57.4%. This rate increase is assumed to be in effect for the duration of the 20-year loan. This scenario assumes no additional funding sources, such as SRF loan forgiveness, Water Treatment Facility Assistance Program (WTFAP) funding, or payments from reserve funds.

The User Rate Charge Analysis presented here is high-level and intended for preliminary planning purposes. Rate cost increases can be refined to reflect exact improvement costs, funding availability, and user growth projections. It is also recommended that Independence consult a financial advisor to explore options for adjusting base rates and

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usage rates equitably and sustainably. Paying for improvements with reserve funds or paying a higher principal on the loan will reduce the amount that rates need to be increased.

Table 12: User Charge Analysis

Total Estimated Project Costs	**$9,858,710**
1% Loan Origination Fee	$98,590
TOTAL LOAN AMOUNT	**$9,957,590**
Loan Term (Years)	20
Rate (current as of April 2026)	3.25%
Annual Principal and Interest	$684,872
10% Loan Coverage	$68,488
Additional Annual O&M Costs	$9,200
TOTAL ANNUAL COSTS	$762,560
TOTAL MONTHLY COSTS	$63,547
MONTHLY COST INCREASE PER USER	**$20.82**

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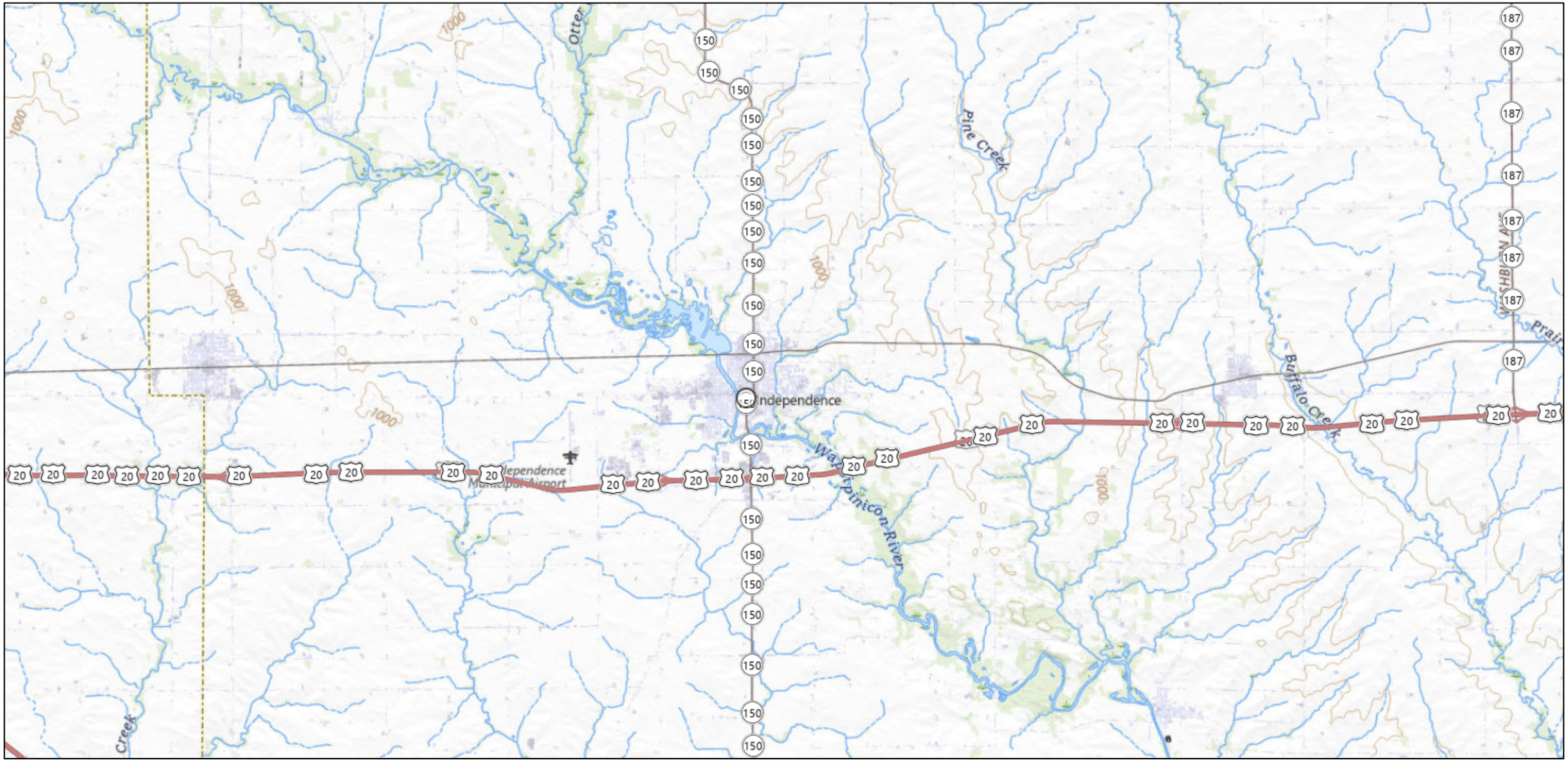
APPENDIX A

LOCATION MAP

City of Independence Location Map



2/16/2026

Airports

Airport

Controlled-access Highways

Ramps

USGSTopo

Red: Band_1

Green: Band_2

Blue: Band_3

USGS The National Map: National Transportation Dataset; U.S. Census Bureau – TIGER/Line; U.S. Forest Service. Data Refreshed January, 2026., USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover

APPENDIX B

2023-01 THRU 2025-09 MOR DATA

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: January Year: 2023

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	641.0	12.0	1	0.91	1	0.69	1	1.21	1	0.92	11.00		0.36			1
2	454.0	11.0	1	1.40	1	0.92	1	1.62	1	1.06	15.00		0.50			2
3	630.0	11.0	1	1.00	1	1.10	1	1.24	1	1.24	13.00		0.69			3
4	642.0	10.0	1	0.78	1	0.86	1	1.02	1	1.06	15.00		0.47			4
5	628.0	8.0	1	1.35	1	1.05	1	1.64	1	1.21	13.00		0.49			5
6	791.0	13.0	1	1.93	1	1.18	1	2.14	1	1.35	15.00		0.87			6
7	623.0	12.0	1	1.46	1	0.33	1	1.85	1	0.41	15.00		0.42			7
8	643.0	12.0	1	1.43	1	1.12	1	1.55	1	1.40	13.00		0.35			8
9	631.0	11.0	1	1.03	1	1.09	1	1.11	1	1.19	14.00		0.38			9
10	625.0	12.0	1	0.50	1	0.66	1	0.61	1	0.84	16.00		0.78			10
11	653.0	11.0	1	0.81	1	1.23	1	0.85	1	1.25	14.00		0.76			11
12	626.0	10.0	1	1.01	1	1.03	1	1.23	1	1.11	11.00		0.74			12
13	448.0	10.0	1	1.39	1	0.88	1	1.61	1	1.00	16.00		0.61			13
14	612.0	16.0	1	0.84	1	0.42	1	1.21	1	0.52	16.00		0.51			14
15	622.0	14.0	1	0.92	1	1.26	1	1.42	1	1.35	17.00		0.39			15
16	594.0	11.0	1	1.58	1	0.99	1	1.63	1	1.25	12.00		0.46			16
17	671.0	10.0	1	0.59	1	0.87	1	1.18	1	1.02	14.00		0.53			17
18	622.0	13.0	1	1.14	1	1.41	1	1.21	1	1.45	19.00		0.63			18
19	548.0	9.0	1	1.16	1	0.59	1	1.52	1	0.75	9.00		0.50			19
20	513.0	7.0	1	0.85	1	1.04	1	1.52	1	1.26	7.00		0.69			20
21	687.0	12.0	1	0.88	1	0.88	1	1.16	1	0.93	12.00		0.63			21
22	529.0	8.0	1	1.53	1	1.03	1	1.57	1	1.24	11.00		0.77			22
23	459.0	8.0	1	0.88	1	0.91	1	0.98	1	1.19	11.00		0.29			23
24	602.0	13.0	1	1.10	1	1.04	1	1.18	1	1.10	15.00		0.28			24
25	628.0	10.0	1	1.27	1	1.49	1	1.44	1	1.62	13.00	0.33	0.84			25
26	611.0	12.0	1	0.82	1	0.75	1	0.87	1	0.87	16.00		0.53			26
27	632.0	9.0	1	1.08	1	0.95	1	1.19	1	1.07	12.00		0.63			27
28	615.0	11.0	1	1.29	1	0.71	1	1.48	1	1.08	14.00		0.46			28
29	589.0	10.0	1	0.97	1	0.99	1	1.56	1	1.31	13.00		0.21			29
30	678.0	12.0	1	1.41	1	0.89	1	1.47	1	1.05	14.00		0.86			30
31	767.0	15.0	1	0.97	1	1.01	1	1.68	1	1.08	16.00		0.53			31
Total	19014.0	343.0									747.00			0.00	0.00	Total
Avg.	613.3548387	11.1		1.11		0.95		**1.35**		1.10	13.61	0.33	0.55	0.00	0.00	Avg.
Max.	791	16.0		1.93		1.49		2.14		1.62	19.00	0.33	0.87	0.00	0.00	Max.
Min.	448	7.0		0.50		0.33		0.61		0.41	7.00	0.33	0.21	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10277 Grade: 2 Date: 2/7/23

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: January Year: 2023

Day							
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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Feb-22	7	1.13	
Mar-22	7	1.01	
Apr-22	7	1.09	
May-22	7	1.09	
Jun-22	7	0.98	
Jul-22	7	1.09	
Aug-22	7	0.96	
Sep-22	7	0.97	
Oct-22	7	1.05	
Nov-22	7	1.09	
Dec-22	7	1.02	
Jan-23	7	1.14	
			1.05

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 1/25/2023

Well #	Static	Pumping
3	56.00	68.00
4	58.00	62.00
6	110.00	115.00
7	34.00	54.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: February Year: 2023

Day	Pumpage	Chlorine									Fluoride			Other		Day
		Quantity Used lbs.	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs.					
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons	or gals. (circle one)	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	839.0	15.0	1	0.89	1	1.36	1	0.99	1	1.42	22.00		0.49			1
2	828.0	13.0	1	1.35	1	0.85	1	1.41	1	0.96	17.00		0.76			2
3	636.0	13.0	1	1.14	1	1.07	1	1.27	1	1.49	17.00		0.73			3
4	789.0	16.0	1	1.42	1	0.79	1	1.54	1	0.96	21.00		0.64			4
5	574.0	11.0	1	1.00	1	1.20	1	1.46	1	1.35	15.00		0.60			5
6	866.0	17.0	1	1.04	1	1.14	1	1.15	1	1.27	19.00		0.51			6
7	649.0	10.0	1	0.89	1	0.72	1	1.26	1	0.96	16.00		0.79			7
8	696.0	16.0	1	1.45	1	1.19	1	1.52	1	1.32	19.00		0.79			8
9	731.0	10.0	1	1.07	1	0.73	1	1.21	1	0.89	16.00		0.63			9
10	755.0	14.0	1	0.70	1	1.03	1	0.81	1	1.09	12.00		0.62			10
11	484.0	10.0	1	1.51	1	0.75	1	1.57	1	0.76	11.00		0.78			11
12	630.0	12.0	1	0.94	1	1.39	1	1.20	1	1.53	13.00		0.64			12
13	800.0	16.0	1	1.42	1	0.89	1	1.44	1	1.16	16.00		0.52			13
14	714.0	13.0	1	0.75	1	0.96	1	1.16	1	1.05	13.00		0.66			14
15	756.0	11.0	1	1.18	1	1.03	1	1.55	1	1.20	13.00		0.71			15
16	739.0	13.0	1	1.39	1	0.66	1	1.42	1	1.02	12.00		0.66			16
17	727.0	13.0	1	0.76	1	1.07	1	1.01	1	1.13	13.00		0.82			17
18	710.0	18.0	1	1.28	1	0.60	1	1.45	1	0.84	16.00		0.89			18
19	639.0	12.0	1	1.47	1	1.08	1	1.52	1	1.28	13.00		0.40			19
20	828.0	14.0	1	0.77	1	1.13	1	0.90	1	1.31	12.00		0.40			20
21	650.0	14.0	1	1.10	1	0.85	1	1.44	1	0.98	12.00		0.65			21
22	614.0	11.0	1	1.16	1	1.43	1	1.46	1	1.48	10.00	0.42	0.56			22
23	687.0	10.0	1	0.74	1	0.50	1	1.12	1	0.65	12.00		0.73			23
24	713.0	16.0	1	1.20	1	1.24	1	1.45	1	1.46	13.00		0.81			24
25	609.0	15.0	1	1.41	1	0.75	1	1.56	1	0.94	13.00		0.62			25
26	621.0	20.0	1	0.92	1	1.16	1	1.02	1	1.33	14.00		0.72			26
27	792.0	15.0	1	0.93	1	1.01	1	1.15	1	1.12	13.00		0.29			27
28	737.0	15.0	1	1.42	1	0.95	1	1.48	1	1.08	14.00		0.57			28
29																29
30																30
31																31
Total	19813.0	383.0									747.00			0.00	0.00	Total
Avg.	707.6071429	13.7		1.12		0.98		**1.30**		1.14	14.54	0.42	0.64	0.00	0.00	Avg.
Max.	866	20.0		1.51		1.43		1.57		1.53	22.00	0.42	0.89	0.00	0.00	Max.
Min.	484	10.0		0.70		0.50		0.81		0.65	10.00	0.42	0.29	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 3/3/23

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: February Year: 2023

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Mar-22	7	1.01	
Apr-22	7	1.09	
May-22	7	1.09	
Jun-22	7	0.98	
Jul-22	7	1.09	
Aug-22	7	0.96	
Sep-22	7	0.97	
Oct-22	7	1.05	
Nov-22	7	1.09	
Dec-22	7	1.02	
Jan-23	7	1.14	
Feb-23	7	1.15	
			1.05

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 2/21/2023

Well #	Static	Pumping
3	65.00	83.00
4	61.00	73.00
6	106.00	120.00
7	47.00	59.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: March Year: 2023

Day	Pumpage	Chlorine									Fluoride			Other		Day
			Free Chlorine (mg/L)				Total Chlorine (mg/L)									
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	715.0	11.0	1	0.87	1	0.79	1	1.46	1	0.88	13.00		0.66			1
2	804.0	16.0	1	0.99	1	1.02	1	1.09	1	1.10	15.00		0.41			2
3	642.0	11.0	1	1.40	1	0.90	1	1.51	1	0.97	11.00		0.46			3
4	619.0	9.0	1	1.03	1	0.42	1	1.10	1	0.92	8.00		0.48			4
5	637.0	12.0	1	1.33	1	1.02	1	1.43	1	1.27	13.00		0.51			5
6	613.0	12.0	1	0.82	1	0.46	1	0.93	1	0.91	10.00		0.59			6
7	757.0	14.0	1	0.94	1	0.83	2	1.02	1	0.99	15.00		0.32			7
8	650.0	12.0	1	1.42	1	1.45	1	1.52	1	1.51	13.00		0.65			8
9	756.0	14.0	1	0.88	1	0.68	1	1.05	1	0.72	14.00		0.55			9
10	670.0	14.0	1	1.01	1	0.88	1	1.25	1	1.02	13.00		0.55			10
11	604.0	12.0	1	1.34	1	1.10	1	1.36	1	1.17	12.00		0.89			11
12	616.0	9.0	1	1.31	1	1.01	1	1.40	1	1.08	12.00		0.44			12
13	610.0	9.0	1	0.96	1	1.20	1	1.20	1	1.29	9.00		0.41			13
14	804.0	18.0	1	1.28	1	0.84	1	1.38	1	1.05	16.00		0.68			14
15	627.0	13.0	1	1.01	1	0.61	1	1.06	1	0.81	13.00		0.51			15
16	803.0	11.0	1	0.88	1	1.27	1	1.01	1	1.33	15.00		0.41			16
17	607.0	11.0	1	1.33	1	1.14	1	1.49	1	1.25	10.00		0.50			17
18	632.0	14.0	1	0.93	1	1.18	1	1.01	1	1.35	13.00		0.55			18
19	627.0	12.0	1	1.44	1	0.81	1	1.50	1	0.93	12.00		0.53			19
20	635.0	13.0	1	1.04	1	1.01	1	1.19	1	1.12	12.00		0.72			20
21	808.0	13.0	1	0.79	1	0.85	1	0.95	1	0.96	16.00		0.80			21
22	646.0	11.0	1	1.30	1	1.55	1	1.39	1	1.60	11.00		0.25			22
23	760.0	15.0	1	1.00	1	0.92	1	1.05	1	0.96	17.00		0.51			23
24	608.0	10.0	1	0.49	1	0.87	1	0.55	1	1.11	11.00		0.30			24
25	617.0	9.0	1	1.19	1	1.15	1	1.36	1	1.37	9.00	0.41	0.38			25
26	798.0	14.0	1	0.95	1	0.84	1	1.10	1	0.89	15.00		0.44			26
27	638.0	11.0	1	0.81	1	1.12	1	1.21	1	1.16	13.00		0.41			27
28	810.0	15.0	1	1.31	1	0.51	1	1.43	1	0.55	16.00		0.42			28
29	739.0	12.0	1	1.01	1	0.51	1	1.23	1	0.55	15.00		0.82			29
30	804.0	15.0	1	0.94	1	0.91	1	1.49	1	1.33	12.00		0.52			30
31	688.0	11.0	1	1.39	1	0.89	1	1.43	1	0.98	14.00		0.57			31
Total	**21344.0**	383.0									747.00			0.00	0.00	Total
Avg.	688.516129	12.4		1.08		0.93		**1.23**		1.07	12.84	0.41	0.52	0.00	0.00	Avg.
Max.	810	18.0		1.44		1.55		1.52		1.60	17.00	0.41	0.89	0.00	0.00	Max.
Min.	604	9.0		0.49		0.42		0.55		0.55	8.00	0.41	0.25	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 4/6/23

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: March Year: 2023

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Apr-22	7	1.09	
May-22	7	1.09	
Jun-22	7	0.98	
Jul-22	7	1.09	
Aug-22	7	0.96	
Sep-22	7	0.97	
Oct-22	7	1.05	
Nov-22	7	1.09	
Dec-22	7	1.02	
Jan-23	7	1.14	
Feb-23	7	1.15	
Mar-23	7	1.15	
			1.07

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 3/23/2023

Well #	Static	Pumping
3	57.00	80.00
4	60.00	71.00
6	101.00	118.00
7	49.00	58.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: April Year: 2023

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	724.0	11.0	1	1.16	1	0.78	1	1.40	1	0.98	13.00		0.71			1
2	739.0	14.0	1	0.44	1	1.30	1	0.77	1	1.49	15.00		0.41			2
3	724.0	14.0	1	1.57	1	0.69	1	1.61	1	0.93	14.00		0.81			3
4	780.0	14.0	1	1.08	1	0.63	1	1.52	1	0.69	13.00		0.64			4
5	839.0	11.0	1	1.01	1	0.73	1	1.34	1	0.89	15.00		0.71			5
6	760.0	12.0	1	0.90	1	0.49	1	1.30	1	0.59	16.00		0.91			6
7	738.0	11.0	1	1.28	1	1.11	1	1.33	1	1.17	17.00		0.66			7
8	599.0	14.0	1	1.06	1	1.06	1	1.58	1	1.07	10.00		0.93			8
9	626.0	11.0	1	0.96	1	0.49	1	1.14	1	0.69	13.00		0.44			9
10	709.0	12.0	1	1.28	1	1.23	1	1.43	1	1.34	15.00		0.35			10
11	734.0	14.0	1	1.37	1	1.00	1	1.54	1	1.05	14.00		0.57			11
12	807.0	13.0	1	0.90	1	0.65	1	1.05	1	0.83	16.00		0.84			12
13	657.0	12.0	1	1.30	1	1.17	1	1.39	1	1.54	12.00		0.28			13
14	672.0	12.0	1	0.42	1	0.82	1	0.53	1	0.89	13.00		0.92			14
15	667.0	10.0	1	0.91	1	1.19	1	1.51	1	1.28	13.00		0.67			15
16	457.0	6.0	1	1.30	1	1.07	1	1.44	1	1.23	7.00	0.20	0.42			16
17	670.0	9.0	1	0.85	1	0.90	1	1.03	1	1.11	9.00		0.92			17
18	802.0	14.0	1	1.07	1	0.86	1	1.15	1	0.95	11.00		0.22			18
19	706.0	11.0	1	1.25	1	0.95	1	1.32	1	1.17	10.00		0.54			19
20	705.0	10.0	1	1.31	1	0.42	1	1.41	1	0.54	19.00		0.83			20
21	684.0	11.0	1	0.59	1	1.10	1	0.70	1	1.15	19.00		0.94			21
22	598.0	7.0	1	0.90	1	0.39	1	0.97	1	0.55	14.00		0.58			22
23	633.0	10.0	1	1.27	1	1.12	1	1.34	1	1.19	15.00		0.39			23
24	637.0	11.0	1	0.77	1	0.63	1	0.93	1	0.73	17.00		0.57			24
25	809.0	14.0	1	1.27	1	1.43	1	1.65	1	1.47	19.00		0.76			25
26	691.0	12.0	1	1.21	1	0.59	1	1.31	1	0.69	18.00		0.92			26
27	752.0	13.0	1	0.88	1	0.36	1	1.39	1	0.45	18.00		0.83			27
28	692.0	12.0	1	1.19	1	1.18	1	1.59	1	1.31	18.00		0.61			28
29	481.0	8.0	1	1.28	1	0.58	1	1.44	1	0.76	14.00		0.76			29
30	449.0	7.0	1	0.72	1	0.96	1	0.84	1	1.29	10.00		0.83			30
31			1		1		1		1							31
Total	20541.0	340.0									747.00			0.00	0.00	Total
Avg.	684.7	11.3		1.05		0.86		1.27		1.00	14.23	0.20	0.67	0.00	0.00	Avg.
Max.	839	14.0		1.57		1.43		1.65		1.54	19.00	0.20	0.94	0.00	0.00	Max.
Min.	449	6.0		0.42		0.36		0.53		0.45	7.00	0.20	0.22	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: T Zab

Certificate #: 10227 Grade: 2 Date: 5/9/23

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: April Year: 2023

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
May-22	7	1.09	
Jun-22	7	0.98	
Jul-22	7	1.09	
Aug-22	7	0.96	
Sep-22	7	0.97	
Oct-22	7	1.05	
Nov-22	7	1.09	
Dec-22	7	1.02	
Jan-23	7	1.14	
Feb-23	7	1.15	
Mar-23	7	1.15	
Apr-23	7	0.99	
			1.06

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 4/12/2023

Well #	Static	Pumping
3	53.00	80.00
4	57.00	69.00
6	99.00	112.00
7	50.00	57.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: May Year: 2023

Day	Pumpage	Chlorine									Fluoride			Other		Day
		Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons		# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	796.0	13.0	1	1.47	1	1.01	1	1.73	1	1.11	20.00		0.87			1
2	887.0	14.0	1	1.12	1	0.35	1	1.26	1	0.41	22.00		0.69			2
3	876.0	15.0	1	0.84	1	1.17	1	0.97	1	1.36	20.00		0.41			3
4	754.0	15.0	1	1.09	1	1.02	1	1.30	1	1.15	20.00		0.56			4
5	542.0	9.0	1	1.31	1	0.84	1	1.35	1	0.98	12.00		0.64			5
6	601.0	10.0	1	0.44	1	0.77	1	0.85	1	0.99	14.00		0.65			6
7	648.0	11.0	1	0.73	1	0.92	1	0.90	1	1.06	15.00		0.90			7
8	850.0	13.0	1	1.25	1	1.08	1	1.37	1	1.14	18.00		0.63			8
9	735.0	14.0	1	0.89	1	0.60	1	1.28	1	1.11	20.00		0.77			9
10	988.0	15.0	1	0.85	1	1.20	1	1.34	1	1.22	23.00		0.86			10
11	812.0	15.0	1	1.36	1	1.11	1	1.44	1	1.17	20.00		0.73			11
12	614.0	10.0	1	0.91	1	0.91	1	1.06	1	0.65	14.00		0.72			12
13	600.0	8.0	1	0.91	1	0.71	1	1.07	1	0.93	14.00		0.51			13
14	601.0	9.0	1	1.24	1	1.07	1	1.30	1	1.11	11.00		0.45			14
15	823.0	15.0	1	0.86	1	0.75	1	0.94	1	0.94	20.00		0.69			15
16	931.0	17.0	1	1.76	1	1.09	1	1.82	1	1.22	25.00		0.77			16
17	776.0	12.0	1	1.17	1	1.14	1	1.47	1	1.22	19.00		0.28			17
18	826.0	16.0	1	1.07	1	1.00	1	1.28	1	1.07	18.00		0.51			18
19	618.0	11.0	1	0.84	1	0.83	1	0.96	1	1.28	16.00		0.71			19
20	801.0	11.0	1	1.17	1	0.63	1	1.35	1	0.74	18.00		0.76			20
21	638.0	12.0	1	1.07	1	0.93	1	1.23	1	1.04	17.00		0.93			21
22	809.0	12.0	1	0.74	1	0.81	1	0.87	1	0.87	22.00		0.57			22
23	861.0	13.0	1	1.19	1	0.55	1	1.37	1	0.59	20.00		0.88			23
24	828.0	14.0	1	1.06	1	1.04	1	1.33	1	1.37	22.00		0.83			24
25	823.0	12.0	1	0.63	1	0.85	1	0.79	1	0.92	18.00	0.30	0.53			25
26	828.0	14.0	1	1.07	1	1.43	1	1.11	1	1.51	19.00		0.38			26
27	692.0	14.0	1	1.37	1	0.61	1	1.74	1	0.97	19.00		0.52			27
28	797.0	15.0	1	0.57	1	0.68	1	1.27	1	0.85	19.00		0.51			28
29	856.0	15.0	1	1.39	1	0.84	1	1.46	1	0.94	19.00		0.35			29
30	886.0	17.0	1	1.40	1	0.64	1	1.42	1	0.72	22.00		0.58			30
31	854.0	15.0	1	0.90	1	1.17	1	0.97	1	1.23	20.00		0.23			31
Total	23951.0	406.0									747.00			0.00	0.00	Total
Avg.	772.6129032	13.1		1.05		0.90		**1.25**		1.03	18.58	0.30	0.63	0.00	0.00	Avg.
Max.	988	17.0		1.76		1.43		1.82		1.51	25.00	0.30	0.93	0.00	0.00	Max.
Min.	542	8.0		0.44		0.35		0.79		0.41	11.00	0.30	0.23	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 6/8/23

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: May Year: 2023

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Jun-22	7	0.98	
Jul-22	7	1.09	
Aug-22	7	0.96	
Sep-22	7	0.97	
Oct-22	7	1.05	
Nov-22	7	1.09	
Dec-22	7	1.02	
Jan-23	7	1.14	
Feb-23	7	1.15	
Mar-23	7	1.15	
Apr-23	7	0.99	
May-23	7	0.84	
			1.04

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 5/25/2023

Well #	Static	Pumping
3	94.00	98.00
4	56.00	66.00
6	80.00	106.00
7	24.00	58.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: June Year: 2023

Day	Pumpage	Chlorine									Fluoride			Other		Day
			Free Chlorine (mg/L)				Total Chlorine (mg/L)									
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	666.0	12.0	1	1.77	1	0.90	1	2.13	1	0.97	15.00		0.46			1
2	782.0	13.0	1	0.97	1	0.96	1	1.57	1	1.09	18.00		0.50			2
3	797.0	12.0	1	1.20	1	0.52	1	1.53	1	0.60	20.00		0.60			3
4	684.0	14.0	1	0.91	1	0.99	1	1.08	1	1.09	17.00		0.30			4
5	901.0	13.0	1	1.41	1	0.84	1	1.49	1	0.95	19.00		0.43			5
6	796.0	14.0	1	0.83	1	0.58	1	1.06	1	0.70	17.00		0.48			6
7	711.0	12.0	1	1.30	1	1.09	1	1.41	1	1.13	19.00		0.55			7
8	885.0	14.0	1	1.01	1	0.69	1	1.73	1	0.74	20.00		0.53			8
9	773.0	14.0	1	0.65	1	0.45	1	1.02	1	0.61	20.00		0.74			9
10	787.0	14.0	1	1.41	1	0.63	1	1.44	1	0.81	19.00		0.55			10
11	640.0	8.0	1	1.42	1	1.01	1	1.47	1	1.09	17.00		0.43			11
12	821.0	15.0	1	0.77	1	0.53	1	0.87	1	0.61	18.00		0.57			12
13	847.0	16.0	1	1.27	1	0.93	1	1.39	1	1.07	20.00		0.62			13
14	891.0	17.0	1	1.60	1	1.09	1	1.96	1	1.42	28.00		0.71			14
15	857.0	13.0	1	0.79	1	0.44	1	0.81	1	0.49	22.00		0.39			15
16	855.0	14.0	1	0.81	1	0.79	1	1.21	1	0.89	17.00		0.45			16
17	825.0	16.0	1	1.35	1	0.88	1	1.45	1	0.93	21.00		0.57			17
18	604.0	9.0	1	1.05	1	0.48	1	1.16	1	0.68	10.00	0.30	0.31			18
19	783.0	14.0	1	1.33	1	0.88	1	1.39	1	1.03	19.00		0.54			19
20	783.0	12.0	1	1.15	1	0.33	1	1.95	1	0.41	19.00		0.66			20
21	942.0	14.0	1	0.39	1	0.50	1	0.58	1	0.70	21.00		0.51			21
22	925.0	15.0	1	1.17	1	0.52	1	2.18	1	0.71	24.00		0.61			22
23	773.0	12.0	1	1.45	1	0.64	1	1.58	1	0.84	19.00		0.55			23
24	632.0	8.0	1	0.78	1	0.77	1	0.90	1	0.80	14.00		0.32			24
25	555.0	7.0	1	0.30	1	0.54	1	0.38	1	0.61	12.00		0.44			25
26	765.0	9.0	1	1.38	1	0.33	1	1.41	1	0.56	16.00		0.00			26
27	794.0	12.0	1	0.33	1	0.84	1	1.00	1	1.21	19.00		0.00			27
28	681.0	12.0	1	1.00	1	0.40	1	1.34	1	0.45	16.00		0.40			28
29	983.0	18.0	1	0.87	1	0.43	1	1.31	1	0.45	22.00		0.43			29
30	732.0	16.0	1	1.79	1	0.69	1	2.20	1	0.76	15.00		0.34			30
31			1		1		1		1							31
Total	23470.0	389.0									747.00			0.00	0.00	Total
Avg.	782.3333333	13.0		1.08		0.69		1.37		0.81	18.43	0.30	0.47	0.00	0.00	Avg.
Max.	983	18.0		1.79		1.09		2.20		1.42	28.00	0.30	0.74	0.00	0.00	Max.
Min.	555	7.0		0.30		0.33		0.38		0.41	10.00	0.30	0.00	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 7/6/23

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: June Year: 2023

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Jul-22	7	1.09	
Aug-22	7	0.96	
Sep-22	7	0.97	
Oct-22	7	1.05	
Nov-22	7	1.09	
Dec-22	7	1.02	
Jan-23	7	1.14	
Feb-23	7	1.15	
Mar-23	7	1.15	
Apr-23	7	0.99	
May-23	7	0.84	
Jun-23	7	0.89	
			1.03

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 6/20/2023

Well #	Static	Pumping
3	89.00	93.00
4	50.00	62.00
6	75.00	103.00
7	32.00	60.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: July Year: 2023

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L) At Plant # of Tests	Free Chlorine (mg/L) At Plant Avg.	Free Chlorine (mg/L) In System # of Tests	Free Chlorine (mg/L) In System Avg.	Total Chlorine (mg/L) At Plant # of Tests	Total Chlorine (mg/L) At Plant Avg.	Total Chlorine (mg/L) In System # of Tests	Total Chlorine (mg/L) In System Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	656.0	13.0	1	1.12	1	1.12	1	1.32	1	1.23	16.00		0.34			1
2	619.0	14.0	1	2.13	1	0.69	1	2.20	1	0.76	15.00		0.83			2
3	635.0	14.0	1	1.79	1	1.63	1	2.20	1	1.84	15.00		0.87			3
4	732.0	17.0	1	1.20	1	1.32	1	1.24	1	1.41	16.00		0.53			4
5	701.0	12.0	1	2.03	1	1.64	1	2.20	1	1.73	15.00		0.66			5
6	736.0	14.0	1	1.86	1	2.05	1	2.20	1	2.20	17.00		0.81			6
7	527.0	17.0	1	0.93	1	0.98	1	1.62	1	1.00	13.00		0.91			7
8	750.0	12.0	1	1.28	1	1.57	1	1.49	1	1.97	15.00		0.59			8
9	560.0	14.0	1	1.88	1	1.19	1	2.20	1	1.39	16.00		0.65			9
10	810.0	19.0	1	0.94	1	1.77	1	1.58	1	1.84	17.00		0.77			10
11	811.0	16.0	1	1.40	1	0.94	1	1.47	1	0.96	22.00		0.52			11
12	657.0	12.0	1	1.59	1	1.66	1	1.69	1	1.93	14.00		0.62			12
13	686.0	13.0	1	1.26	1	1.13	1	1.24	1	1.24	17.00		0.95			13
14	645.0	13.0	1	1.14	1	1.30	1	1.32	1	1.35	17.00		0.65			14
15	616.0	12.0	1	1.53	1	1.17	1	1.73	1	1.31	16.00		0.77			15
16	643.0	10.0	1	1.40	1	1.22	1	1.47	1	1.32	18.00		0.77			16
17	1112.0	19.0	1	1.96	1	0.66	1	2.13	1	0.84	24.00		0.57			17
18	761.0	13.0	1	0.76	1	1.03	1	0.89	1	1.23	14.00		0.66			18
19	751.0	12.0	1	1.33	1	0.74	1	1.44	1	0.89	16.00		0.83			19
20	721.0	11.0	1	2.03	1	0.94	1	2.20	1	0.98	20.00		0.58			20
21	917.0	15.0	1	0.69	1	0.59	1	0.83	1	0.71	20.00		0.78			21
22	545.0	10.0	1	1.29	1	0.58	1	1.43	1	0.68	12.00		0.73			22
23	702.0	12.0	1	0.93	1	1.05	1	1.60	1	1.13	15.00		0.51			23
24	945.0	15.0	1	1.40	1	0.69	1	1.67	1	0.83	18.00		0.55			24
25	769.0	16.0	1	1.38	1	0.31	1	1.43	1	0.39	17.00		0.77			25
26	1016.0	16.0	1	0.52	1	0.99	1	0.66	1	1.06	20.00		0.52			26
27	1024.0	18.0	1	1.99	1	0.70	1	2.17	1	0.84	20.00	0.25	0.63			27
28	926.0	10.0	1	1.35	1	0.59	1	1.63	1	0.72	17.00		0.73			28
29	732.0	14.0	1	0.50	1	0.55	1	0.58	1	0.66	20.00		0.72			29
30	888.0	15.0	1	1.60	1	0.75	1	2.20	1	0.88	19.00		0.56			30
31	767.0	16.0	1	1.31	1	0.59	1	1.62	1	0.63	20.00		0.72			31
Total	23360.0	434.0									747.00			0.00	0.00	Total
Avg.	753.5483871	14.0		1.37		1.04		1.60		1.16	17.13	0.25	0.68	0.00	0.00	Avg.
Max.	1112	19.0		2.13		2.05		2.20		2.20	24.00	0.25	0.95	0.00	0.00	Max.
Min.	527	10.0		0.50		0.31		0.58		0.39	12.00	0.25	0.34	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: T Fox

Certificate #: 10277 Grade: 2 Date: 8/9/23

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: July Year: 2023

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Aug-22	7	0.96	
Sep-22	7	0.97	
Oct-22	7	1.05	
Nov-22	7	1.09	
Dec-22	7	1.02	
Jan-23	7	1.14	
Feb-23	7	1.15	
Mar-23	7	1.15	
Apr-23	7	0.99	
May-23	7	0.84	
Jun-23	7	0.89	
	7	1.04	
			1.02

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 7/27/2023

Well #	Static	Pumping
3	76.00	84.00
4	70.00	86.00
6	110.00	128.00
7	50.00	56.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: August Year: 2023

Day	Pumpage	Chlorine									Fluoride			Other		Day
		Quantity Used lbs.	Free Chlorine (mg/L)				Total Chlorine (mg/L)									
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons	or gals. (circle one)	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	881.0	17.0	1	0.77	1	1.09	1	0.82	1	1.17	22.00		0.47			1
2	815.0	13.0	1	1.26	1	1.02	1	1.55	1	1.12	21.00		0.62			2
3	1569.0	25.0	1	1.29	1	1.01	1	1.38	1	1.09	24.00		0.45			3
4	783.0	12.0	1	0.52	1	1.24	1	0.84	1	1.40	17.00		0.82			4
5	875.0	12.0	1	1.39	1	0.62	1	1.43	1	0.67	16.00		0.59			5
6	527.0	8.0	1	0.56	1	0.48	1	0.63	1	0.50	9.00		0.86			6
7	937.0	13.0	1	1.21	1	0.76	1	1.56	1	0.89	13.00		0.75			7
8	811.0	14.0	1	2.11	1	0.44	1	2.20	1	0.50	19.00		0.63			8
9	903.0	14.0	1	1.87	1	0.47	1	1.98	1	0.69	13.00		0.53			9
10	834.0	15.0	1	1.41	1	0.39	1	1.46	1	0.46	15.00		0.76			10
11	728.0	11.0	1	0.58	1	1.13	1	0.65	1	1.27	10.00		0.28			11
12	868.0	13.0	1	1.34	1	0.50	1	1.45	1	0.61	12.00		0.68			12
13	618.0	10.0	1	0.88	1	0.94	1	1.32	1	1.04	9.00		0.45			13
14	864.0	12.0	1	1.87	1	0.70	1	1.99	1	0.82	12.00		0.60			14
15	777.0	14.0	1	0.93	1	0.42	1	1.25	1	0.52	12.00		0.76			15
16	779.0	15.0	1	1.48	1	0.89	1	1.50	1	0.97	12.00		0.48			16
17	986.0	17.0	1	1.30	1	0.36	1	1.34	1	0.41	15.00		0.61			17
18	742.0	13.0	1	1.67	1	0.58	1	1.95	1	0.62	11.00		0.48			18
19	879.0	16.0	1	1.45	1	0.98	1	1.52	1	1.27	11.00		0.73			19
20	819.0	16.0	1	1.53	1	1.16	1	1.62	1	1.31	13.00		0.44			20
21	950.0	17.0	1	1.34	1	0.83	1	1.37	1	1.03	14.00		0.58			21
22	768.0	15.0	1	1.18	1	0.46	1	1.65	1	0.59	11.00		0.67			22
23	801.0	16.0	1	1.71	1	0.58	1	1.80	1	0.62	12.00		0.71			23
24	804.0	14.0	1	1.43	1	0.95	1	1.54	1	1.01	12.00	0.30	0.69			24
25	737.0	13.0	1	1.47	1	1.43	1	1.55	1	1.48	14.00		0.29			25
26	687.0	12.0	1	1.54	1	1.06	1	1.89	1	1.16	13.00		0.46			26
27	681.0	13.0	1	1.56	1	1.30	1	1.62	1	1.16	15.00		0.62			27
28	825.0	16.0	1	1.45	1	0.71	1	1.51	1	0.83	15.00		0.46			28
29	867.0	15.0	1	1.46	1	1.19	1	1.82	1	1.35	15.00		0.39			29
30	771.0	14.0	1	1.33	1	1.14	1	1.40	1	1.31	16.00		0.48			30
31	747.0	14.0	1	2.06	1	1.04	1	2.20	1	1.24	11.00		0.57			31
Total	25633.0	439.0									747.00			0.00	0.00	Total
Avg.	826.8709677	14.2		1.35		0.83		1.51		0.94	14.00	0.30	0.58	0.00	0.00	Avg.
Max.	1569	25.0		2.11		1.43		2.20		1.48	24.00	0.30	0.86	0.00	0.00	Max.
Min.	527	8.0		0.52		0.36		0.63		0.41	9.00	0.30	0.28	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: _____

Certificate #: 10227 Grade: 2 Date: _____

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: August Year: 2023

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Sep-22	7	0.97	
Oct-22	7	1.05	
Nov-22	7	1.09	
Dec-22	7	1.02	
Jan-23	7	1.14	
Feb-23	7	1.15	
Mar-23	7	1.15	
Apr-23	7	0.99	
May-23	7	0.84	
Jun-23	7	0.89	
Jul-23	7	1.04	
Aug-23	7	0.89	
			1.02

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 8/24/2023

Well #	Static	Pumping
3	57.00	80.00
4	60.00	71.00
6	101.00	118.00
7	49.00	58.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: September Year: 2023

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	971.0	18.0	1	1.12	1	0.89	1	1.23	1	1.02	13.00		0.56			1
2	586.0	12.0	1	1.38	1	1.27	1	1.54	1	1.34	8.00		0.40			2
3	648.0	13.0	1	1.46	1	1.15	1	1.52	1	1.20	11.00		0.69			3
4	788.0	16.0	1	0.86	1	1.20	1	1.05	1	1.36	12.00		0.46			4
5	897.0	14.0	1	1.56	1	0.76	1	1.90	1	0.79	14.00		0.53			5
6	923.0	14.0	1	1.69	1	0.33	1	1.90	1	0.40	13.00		0.54			6
7	762.0	13.0	1	1.21	1	0.69	1	1.44	1	1.14	10.00		0.43			7
8	724.0	13.0	1	1.54	1	0.97	1	1.57	1	1.18	10.00		0.77			8
9	691.0	13.0	1	1.80	1	0.91	1	1.89	1	1.06	9.00		0.54			9
10	751.0	10.0	1	0.79	1	1.13	1	1.00	1	1.21	12.00		0.70			10
11	720.0	12.0	1	1.10	1	1.43	1	1.25	1	1.69	11.00		0.60			11
12	762.0	14.0	1	1.36	1	1.17	1	1.42	1	1.22	14.00		0.50			12
13	730.0	12.0	1	1.48	1	0.96	1	1.50	1	1.12	14.00		0.63			13
14	732.0	15.0	1	1.56	1	0.72	1	1.92	1	0.85	14.00		0.74			14
15	691.0	14.0	1	1.41	1	1.22	1	1.75	1	1.29	13.00		0.27			15
16	690.0	13.0	1	0.95	1	0.90	1	1.02	1	1.29	13.00		0.66			16
17	740.0	13.0	1	1.94	1	1.22	1	2.15	1	1.29	14.00		0.72			17
18	792.0	17.0	1	1.74	1	1.27	1	2.17	1	1.39	13.00		0.49			18
19	796.0	15.0	1	1.43	1	1.12	1	1.56	1	1.26	14.00		0.72			19
20	703.0	13.0	1	1.66	1	1.05	1	1.72	1	1.07	13.00	0.32	0.43			20
21	771.0	14.0	1	1.05	1	0.79	1	1.45	1	0.89	15.00		0.67			21
22	608.0	13.0	1	1.38	1	1.53	1	1.66	1	1.57	11.00		0.28			22
23	535.0	10.0	1	1.55	1	1.12	1	1.57	1	1.27	12.00		0.74			23
24	641.0	11.0	1	1.82	1	1.20	1	2.20	1	1.40	11.00		0.42			24
25	768.0	13.0	1	1.41	1	1.17	1	1.73	1	1.26	13.00		0.33			25
26	715.0	12.0	1	1.11	1	0.32	1	1.17	1	0.35	13.00		0.41			26
27	718.0	13.0	1	1.54	1	0.43	1	1.57	1	0.67	13.00		0.52			27
28	707.0	13.0	1	0.80	1	1.54	1	1.16	1	1.62	11.00		0.37			28
29	717.0	14.0	1	1.30	1	0.61	1	1.81	1	0.63	15.00		0.61			29
30	557.0	11.0	1	1.51	1	0.87	1	1.58	1	1.25	12.00		0.33			30
31			1		1		1		1							31
Total	**21834.0**	398.0									747.00			0.00	0.00	Total
Avg.	727.8	13.3		1.38		1.00		**1.58**		1.14	12.37	0.32	0.54	0.00	0.00	Avg.
Max.	971	18.0		1.94		1.54		2.20		1.69	15.00	0.32	0.77	0.00	0.00	Max.
Min.	535	10.0		0.79		0.32		1.00		0.35	8.00	0.32	0.27	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 10/9/23

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: September Year: 2023

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Oct-22	7	1.05	
Nov-22	7	1.09	
Dec-22	7	1.02	
Jan-23	7	1.14	
Feb-23	7	1.15	
Mar-23	7	1.15	
Apr-23	7	0.99	
May-23	7	0.84	
Jun-23	7	0.89	
Jul-23	7	1.04	
Aug-23	7	0.89	
Sep-23	7	1.05	
			1.03

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 9/20/2023

Well #	Static	Pumping
3	43.00	50.00
4	40.00	46.00
6	15.00	40.00
7	37.00	53.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: October Year: 2023

Day	Pumpage	Chlorine									Fluoride			Other		Day
		Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons		# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	866.0	15.0	1	1.47	1	0.99	1	1.83	1	1.23	16.00		0.60			1
2	631.0	13.0	1	0.85	1	1.10	1	1.02	1	1.19	14.00		0.74			2
3	749.0	16.0	1	1.35	1	0.87	1	1.38	1	0.92	16.00		0.83			3
4	717.0	10.0	1	1.23	1	0.34	1	1.49	1	0.45	15.00		0.68			4
5	731.0	11.0	1	1.48	1	1.16	1	1.69	1	1.26	12.00		0.54			5
6	567.0	9.0	1	0.56	1	1.16	1	0.88	1	1.26	9.00		0.84			6
7	487.0	10.0	1	1.17	1	1.22	1	1.50	1	1.41	10.00		0.46			7
8	692.0	12.0	1	1.23	1	1.05	1	1.38	1	1.26	14.00		0.71			8
9	688.0	12.0	1	1.11	1	1.16	1	1.23	1	1.33	15.00		0.65			9
10	558.0	13.0	1	1.30	1	0.97	1	1.56	1	1.16	15.00		0.56			10
11	757.0	13.0	1	1.48	1	1.23	1	1.58	1	1.30	14.00		0.62			11
12	515.0	9.0	1	1.73	1	1.54	1	1.80	1	1.63	9.00		0.34			12
13	660.0	10.0	1	1.82	1	0.38	1	1.86	1	0.47	12.00		0.74			13
14	497.0	7.0	1	1.46	1	1.01	1	1.54	1	1.10	9.00		0.74			14
15	713.0	13.0	1	1.15	1	1.13	1	1.21	1	1.24	11.00		0.43			15
16	556.0	10.0	1	0.76	1	1.11	1	1.04	1	1.24	12.00		0.39			16
17	628.0	13.0	1	1.36	1	1.00	1	1.46	1	1.02	11.00		0.50			17
18	585.0	10.0	1	1.69	1	1.13	1	1.89	1	1.36	12.00		0.34			18
19	544.0	9.0	1	1.16	1	1.23	1	1.28	1	1.45	9.00		0.76			19
20	595.0	12.0	1	0.78	1	1.10	1	1.22	1	1.25	11.00		0.67			20
21	545.0	8.0	1	1.33	1	0.81	1	1.45	1	1.21	9.00		0.45			21
22	464.0	7.0	1	1.57	1	1.06	1	1.84	1	1.10	10.00		0.61			22
23	464.0	9.0	1	1.37	1	1.10	1	1.85	1	1.13	9.00		0.60			23
24	605.0	10.0	1	1.52	1	0.38	1	1.58	1	0.43	12.00		0.55			24
25	406.0	9.0	1	0.95	1	0.32	1	1.22	1	0.38	8.00		0.73			25
26	494.0	10.0	1	0.68	1	0.90	1	1.01	1	1.09	9.00	0.20	0.75			26
27	321.0	5.0	1	1.25	1	1.25	1	1.47	1	1.31	6.00		0.33			27
28	485.0	9.0	1	1.20	1	1.12	1	1.29	1	1.29	8.00		0.69			28
29	533.0	9.0	1	2.10	1	1.01	1	2.20	1	1.16	9.00		0.28			29
30	455.0	13.0	1	1.40	1	1.04	1	1.43	1	1.22	9.00		0.57			30
31	468.0	7.0	1	1.05	1	0.40	1	1.34	1	0.43	8.00		0.30			31
Total	17976.0	323.0									747.00			0.00	0.00	Total
Avg.	579.8709677	10.4		1.28		0.98		1.47		1.11	11.06	0.20	0.58	0.00	0.00	Avg.
Max.	866	16.0		2.10		1.54		2.20		1.63	16.00	0.20	0.84	0.00	0.00	Max.
Min.	321	5.0		0.56		0.32		0.88		0.38	6.00	0.20	0.28	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 11/9/23

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: October Year: 2023

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Nov-23	7	1.09	
Dec-23	7	1.02	
Jan-23	7	1.14	
Feb-23	7	1.15	
Mar-23	7	1.15	
Apr-23	7	0.99	
May-23	7	0.84	
Jun-23	7	0.89	
Jul-23	7	1.04	
Aug-23	7	0.89	
Sep-23	7	1.05	
Oct-23	7	0.93	
			1.02

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (Includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 10/26/2023

Well #	Static	Pumping
3	63.00	77.00
4	44.00	60.00
6	120.00	142.00
7	34.00	56.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: November Year: 2023

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	473.0	10.0	1	1.03	1	1.25	1	1.15	1	1.40	10.00		0.65			1
2	487.0	10.0	1	1.30	1	0.31	1	1.35	1	0.35	10.00		0.65			2
3	603.0	10.0	1	1.35	1	0.40	1	1.42	1	0.48	10.00		0.45			3
4	516.0	10.0	1	1.46	1	1.04	1	1.96	1	1.14	11.00		0.54			4
5	524.0	13.0	1	1.27	1	0.93	1	1.30	1	1.09	12.00		0.43			5
6	483.0	8.0	1	1.43	1	0.43	1	1.46	1	0.55	9.00		0.52			6
7	513.0	10.0	1	1.06	1	1.04	1	1.40	1	1.19	10.00		0.60			7
8	485.0	7.0	1	1.30	1	0.69	1	1.47	1	0.72	8.00		0.59			8
9	528.0	7.0	1	0.84	1	1.07	1	1.13	1	1.13	7.00		0.62			9
10	528.0	9.0	1	1.25	1	1.19	1	2.16	1	1.34	10.00		0.43			10
11	378.0	9.0	1	1.45	1	1.05	1	1.97	1	1.16	7.00		0.57			11
12	485.0	10.0	1	1.00	1	1.07	1	1.19	1	1.19	10.00		0.62			12
13	502.0	10.0	1	1.48	1	0.99	1	1.52	1	1.16	10.00		0.43			13
14	489.0	10.0	1	1.25	1	1.01	1	1.38	1	1.12	10.00		0.59			14
15	497.0	10.0	1	1.71	1	1.36	1	1.93	1	1.38	9.00		0.56			15
16	581.0	10.0	1	1.25	1	0.31	1	1.49	1	0.38	12.00		0.63			16
17	405.0	7.0	1	1.52	1	0.36	1	1.55	1	0.38	7.00		0.45			17
18	526.0	10.0	1	1.02	1	0.92	1	1.27	1	1.18	10.00		0.85			18
19	460.0	8.0	1	1.24	1	0.96	1	1.53	1	1.09	9.00		0.80			19
20	483.0	9.0	1	1.27	1	0.81	1	1.37	1	0.97	10.00		0.81			20
21	484.0	8.0	1	1.46	1	0.30	1	1.52	1	0.32	10.00		0.62			21
22	556.0	9.0	1	0.97	1	1.09	1	1.17	1	1.18	10.00		0.48			22
23	421.0	5.0	1	1.36	1	1.11	1	1.55	1	1.28	6.00		0.59			23
24	500.0	11.0	1	2.13	1	1.13	1	2.20	1	1.17	11.00		0.66			24
25	493.0	11.0	1	1.36	1	0.88	1	1.41	1	0.92	11.00		0.36			25
26	310.0	4.0	1	1.31	1	1.12	1	1.37	1	1.24	6.00		0.56			26
27	492.0	7.0	1	1.03	1	0.99	1	1.20	1	1.21	8.00		0.71			27
28	494.0	12.0	1	0.78	1	0.61	1	1.04	1	0.83	10.00	0.20	0.38			28
29	656.0	16.0	1	1.45	1	1.08	1	1.50	1	1.16	12.00		0.23			29
30	533.0	10.0	1	1.61	1	1.20	1	1.72	1	1.46	11.00		0.46			30
31																31
Total	14885.0	280.0									747.00			0.00	0.00	Total
Avg.	496.1666667	9.3		1.30		0.89		1.49		1.01	9.53	0.20	0.56	0.00	0.00	Avg.
Max.	656	16.0		2.13		1.36		2.20		1.46	12.00	0.20	0.85	0.00	0.00	Max.
Min.	310	4.0		0.78		0.30		1.04		0.32	6.00	0.20	0.23	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: L Fox

Certificate #: 10227 Grade: 2 Date: 12/9/23

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: November Year: 2023

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Dec-23	7	1.02	
Jan-23	7	1.14	
Feb-23	7	1.15	
Mar-23	7	1.15	
Apr-23	7	0.99	
May-23	7	0.84	
Jun-23	7	0.89	
Jul-23	7	1.04	
Aug-23	7	0.89	
Sep-23	7	1.05	
Oct-23	7	0.93	
Nov-23	7	0.82	
			0.99

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 11/28/2023

Well #	Static	Pumping
3	76.00	85.00
4	90.00	92.00
6	134.00	142.00
7	52.00	54.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: December Year: 2023

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	540.0	9.0	1	0.78	1	0.67	1	1.01	1	0.93	9.00		0.45			1
2	420.0	8.0	1	1.16	1	1.13	1	1.42	1	1.60	12.00		0.66			2
3	528.0	9.0	1	1.64	1	1.25	1	1.94	1	1.56	9.00		0.74			3
4	412.0	8.0	1	0.69	1	1.02	1	1.08	1	1.09	9.00		0.66			4
5	507.0	8.0	1	1.53	1	1.20	1	1.56	1	1.40	10.00		0.85			5
6	578.0	14.0	1	1.56	1	1.26	1	2.20	1	1.46	13.00		0.24			6
7	517.0	12.0	1	1.57	1	0.64	1	1.71	1	0.79	11.00		0.42			7
8	600.0	10.0	1	1.35	1	1.11	1	1.51	1	1.17	13.00		0.51			8
9	386.0	6.0	1	1.48	1	1.28	1	1.50	1	1.41	5.00		0.56			9
10	438.0	9.0	1	1.29	1	1.27	1	1.46	1	1.53	9.00		0.29			10
11	619.0	13.0	1	1.56	1	1.03	1	1.60	1	1.06	11.00		0.35			11
12	400.0	10.0	1	1.57	1	1.83	1	1.61	1	1.99	11.00		0.22			12
13	529.0	10.0	1	1.53	1	0.34	1	1.82	1	0.41	12.00		0.20			13
14	538.0	20.0	1	1.48	1	1.22	1	1.61	1	1.35	20.00		0.55			14
15	409.0	11.0	1	1.31	1	1.45	1	1.76	1	1.61	10.00		0.58			15
16	641.0	12.0	1	1.36	1	1.24	1	1.64	1	1.85	19.00		0.40			16
17	388.0	5.0	1	1.25	1	1.27	1	1.30	1	1.37	8.00		0.52			17
18	441.0	9.0	1	1.63	1	1.22	1	1.86	1	1.33	10.00		0.66			18
19	652.0	12.0	1	1.98	1	0.99	1	2.20	1	1.16	19.00		0.33			19
20	383.0	12.0	1	1.36	1	1.22	1	1.58	1	1.32	9.00	0.20	0.58			20
21	507.0	10.0	1	1.48	1	1.46	1	1.79	1	1.66	13.00		0.13			21
22	539.0	10.0	1	1.90	1	1.11	1	2.20	1	1.37	18.00		0.46			22
23	412.0	9.0	1	1.29	1	1.06	1	1.34	1	1.40	13.00		0.51			23
24	424.0	9.0	1	1.47	1	1.39	1	1.51	1	1.66	13.00		0.86			24
25	510.0	10.0	1	1.23	1	1.11	1	1.57	1	1.25	12.00		0.76			25
26	525.0	11.0	1	1.53	1	1.33	1	1.57	1	1.35	12.00		0.34			26
27	417.0	10.0	1	1.56	1	0.31	1	1.81	1	0.35	8.00		0.43			27
28	656.0	14.0	1	1.43	1	1.34	1	1.57	1	1.80	15.00		0.57			28
29	396.0	9.0	1	1.61	1	1.27	1	1.65	1	1.40	10.00		0.45			29
30	423.0	9.0	1	1.38	1	1.48	1	1.57	1	1.70	12.00		0.25			30
31	631.0	12.0	1	1.40	1	1.18	1	1.50	1	1.36	15.00		0.43			31
Total	15366.0	320.0									747.00			0.00	0.00	Total
Avg.	495.6774194	10.3		1.43		1.15		1.63		1.34	11.94		0.48	0.00	0.00	Avg.
Max.	656	20.0		1.98		1.83		2.20		1.99	20.00	0.20	0.86	0.00	0.00	Max.
Min.	383	5.0		0.69		0.31		1.01		0.35	5.00	0.20	0.13	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: T Zeb

Certificate #: 10227 Grade: 2 Date: 1/9/24

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: December Year: 2023

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Jan-23	7	1.14	
Feb-23	7	1.15	
Mar-23	7	1.15	
Apr-23	7	0.99	
May-23	7	0.84	
Jun-23	7	0.89	
Jul-23	7	1.04	
Aug-23	7	0.89	
Sep-23	7	1.05	
Oct-23	7	0.93	
Nov-23	7	0.82	
Dec-23	7	1.18	
			1.01

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 12/20/2023

Well #	Static	Pumping
3	63.00	77.00
4	44.00	60.00
6	120.00	142.00
7	Off	Off

Comments: Well 7 is shut down for maintenance.

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: Janury Year: 2024

Day	Pumpage	Chlorine									Fluoride			Other		Day
			Free Chlorine (mg/L)				Total Chlorine (mg/L)									
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	392.0	9.0	1	1.40	1	1.03	1	1.50	1	1.08	10.00		0.10			1
2	455.0	11.0	1	1.53	1	1.27	1	1.57	1	1.34	13.00		0.16			2
3	595.0	12.0	1	1.27	1	1.01	1	1.34	1	1.05	12.00		0.33			3
4	532.0	13.0	1	1.69	1	0.75	1	1.73	1	0.95	17.00		0.21			4
5	514.0	13.0	1	1.92	1	1.48	1	2.20	1	1.50	12.00		0.28			5
6	414.0	14.0	1	1.23	1	1.67	1	1.34	1	1.76	12.00		0.27			6
7	663.0	9.0	1	1.54	1	1.01	1	1.56	1	1.12	16.00		0.49			7
8	391.0	13.0	1	1.63	1	1.09	1	1.79	1	1.11	14.00		0.47			8
9	399.0	8.0	1	1.01	1	1.43	1	1.03	1	1.64	8.00		0.57			9
10	573.0	9.0	1	1.41	1	0.88	1	1.60	1	1.00	17.00		0.55			10
11	514.0	10.0	1	1.73	1	0.96	1	2.14	1	1.02	11.00		0.49			11
12	387.0	11.0	1	1.42	1	1.35	1	1.47	1	1.42	14.00		0.67			12
13	309.0	6.0	1	1.48	1	1.55	1	1.56	1	1.69	16.00		0.33			13
14	282.0	7.0	1	0.91	1	1.33	1	0.99	1	1.41	6.00		0.62			14
15	500.0	13.0	1	1.03	1	1.11	1	1.11	1	1.17	14.00		0.53			15
16	515.0	12.0	1	1.64	1	1.83	1	1.67	1	2.10	14.00		0.71			16
17	553.0	14.0	1	2.14	1	1.34	1	2.20	1	1.54	15.00		0.73			17
18	861.0	17.0	1	1.27	1	1.58	1	1.34	1	1.74	21.00	0.20	0.59			18
19	289.0	5.0	1	1.85	1	2.18	1	1.95	1	2.20	6.00		0.22			19
20	532.0	15.0	1	2.15	1	1.90	1	2.20	1	2.10	14.00		0.46			20
21	538.0	16.0	1	1.19	1	1.42	1	1.31	1	1.59	15.00		0.49			21
22	701.0	20.0	1	2.07	1	2.10	1	2.20	1	2.20	19.00		0.74			22
23	546.0	13.0	1	1.25	1	1.41	1	1.35	1	1.54	14.00		0.53			23
24	556.0	14.0	1	1.65	1	1.76	1	1.80	1	1.93	16.00		0.67			24
25	540.0	13.0	1	2.19	1	2.10	1	2.20	1	2.20	15.00		0.74			25
26	564.0	14.0	1	1.23	1	0.67	1	1.32	1	0.71	13.00		0.69			26
27	536.0	14.0	1	1.96	1	1.43	1	2.17	1	1.63	12.00		0.71			27
28	525.0	12.0	1	2.19	1	2.08	1	2.20	1	2.20	14.00		0.87			28
29	536.0	14.0	1	1.32	1	0.92	1	1.35	1	1.14	14.00		0.67			29
30	553.0	12.0	1	2.13	1	1.15	1	2.20	1	1.21	16.00		0.54			30
31	572.0	14.0	1	1.27	1	1.12	1	1.31	1	1.34	15.00		0.68			31
Total	15837.0	377.0									747.00			0.00	0.00	Total
Avg.	510.8709677	12.2		1.57		1.38		1.67		1.50	13.71	0.20	0.52	0.00	0.00	Avg.
Max.	861	20.0		2.19		2.18		2.20		2.20	21.00	0.20	0.87	0.00	0.00	Max.
Min.	282	5.0		0.91		0.67		0.99		0.71	6.00	0.20	0.10	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10277 Grade: 2 Date: 2/9/24

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: January Year: 2024

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Feb-23	7	1.15	
Mar-23	7	1.15	
Apr-23	7	0.99	
May-23	7	0.84	
Jun-23	7	0.89	
Jul-23	7	1.04	
Aug-23	7	0.89	
Sep-23	7	1.05	
Oct-23	7	0.93	
Nov-23	7	0.82	
Dec-23	7	1.18	
Jan-24	7	1.59	
			1.04

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 1/18/2024

Well #	Static	Pumping
3	57.00	80.00
4	60.00	71.00
6	101.00	118.00
7	0.00	0.00

Comments: Well 7 down for regular maintenance.

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: February Year: 2024

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	589.0	11.0	1	1.22	1	1.12	1	1.32	1	1.34	16.00		0.78			1
2	557.0	13.0	1	1.54	1	1.20	1	1.65	1	1.25	13.00		0.61			2
3	517.0	13.0	1	0.92	1	2.05	1	0.98	1	2.20	11.00		0.83			3
4	517.0	13.0	1	1.86	1	1.49	1	2.20	1	2.12	15.00		0.63			4
5	513.0	12.0	1	2.10	1	1.56	1	2.20	1	2.20	15.00		0.36			5
6	530.0	13.0	1	1.31	1	1.25	1	1.52	1	1.53	15.00		0.76			6
7	522.0	14.0	1	1.74	1	1.50	1	1.94	1	1.57	14.00		0.74			7
8	519.0	12.0	1	1.31	1	1.56	1	1.36	1	1.65	13.00		0.55			8
9	504.0	12.0	1	1.21	1	0.57	1	1.28	1	1.12	12.00		0.17			9
10	514.0	11.0	1	1.66	1	1.94	1	1.78	1	2.20	14.00		0.76			10
11	578.0	14.0	1	1.57	1	1.28	1	2.20	1	1.48	15.00		0.72			11
12	510.0	11.0	1	1.36	1	1.44	1	1.61	1	1.46	11.00		0.78			12
13	356.0	9.0	1	1.69	1	2.14	1	1.88	1	2.20	10.00		0.81			13
14	536.0	14.0	1	1.25	1	1.54	1	1.33	1	1.69	15.00		0.43			14
15	595.0	12.0	1	1.30	1	2.17	1	1.34	1	2.20	14.00		0.69			15
16	442.0	14.0	1	1.34	1	1.27	1	1.39	1	1.41	14.00		0.92			16
17	453.0	12.0	1	1.91	1	1.99	1	1.99	1	2.10	12.00		0.93			17
18	570.0	13.0	1	1.29	1	1.39	1	1.37	1	1.43	15.00		0.52			18
19	522.0	13.0	1	1.26	1	1.36	1	1.31	1	1.62	14.00		0.27			19
20	521.0	12.0	1	1.67	1	1.01	1	1.78	1	1.09	15.00		0.33			20
21	517.0	18.0	1	2.10	1	1.10	1	2.20	1	1.20	16.00		0.36			21
22	521.0	13.0	1	1.21	1	0.91	1	1.35	1	1.02	13.00		0.29			22
23	514.0	11.0	1	1.56	1	1.26	1	1.60	1	1.31	13.00		0.44			23
24	500.0	12.0	1	2.14	1	2.01	1	2.20	1	2.20	12.00		0.68			24
25	532.0	13.0	1	1.41	1	1.41	1	1.43	1	1.52	12.00		0.31			25
26	306.0	9.0	1	1.84	1	1.45	1	1.94	1	1.53	11.00	0.30	0.41			26
27	552.0	8.0	1	1.21	1	1.30	1	1.27	1	1.59	12.00		0.44			27
28	512.0	12.0	1	1.08	1	0.92	1	1.29	1	0.98	11.00		0.15			28
29	529.0	14.0	1	1.73	1	2.01	1	1.78	1	2.20	15.00		0.33			29
30			1		1		1		1							30
31			1		1		1		1							31
Total	14848.0	358.0									747.00			0.00	0.00	Total
Avg.	512	12.3		1.51		1.46		1.64		1.63	13.38	0.30	0.55	0.00	0.00	Avg.
Max.	595	18.0		2.14		2.17		2.20		2.20	16.00	0.30	0.93	0.00	0.00	Max.
Min.	306	8.0		0.92		0.57		0.98		0.98	10.00	0.30	0.15	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 3/8/24

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: February Year: 2024

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Mar-23	7	1.15	
Apr-23	7	0.99	
May-23	7	0.84	
Jun-23	7	0.89	
Jul-23	7	1.04	
Aug-23	7	0.89	
Sep-23	7	1.05	
Oct-23	7	0.93	
Nov-23	7	0.82	
Dec-23	7	1.18	
Jan-24	7	1.59	
Feb-24	7	1.49	
			1.07

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 2/26/2024

Well #	Static	Pumping
3	79.00	73.00
4	92.00	80.00
6	146.00	130.00
7	Offline	Offline

Comments: Well 7 is down for maintenance.

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: March Year: 2024

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	517.0	13.0	1	1.48	1	1.28	1	1.67	1	1.30	14.00		0.16			1
2	527.0	14.0	1	1.90	1	1.03	1	1.95	1	1.04	16.00		0.25			2
3	518.0	12.0	1	1.30	1	1.65	1	1.41	1	2.03	13.00		0.33			3
4	513.0	11.0	1	2.02	1	1.84	1	2.19	1	2.20	10.00		0.48			4
5	341.0	8.0	1	1.74	1	1.52	1	1.98	1	1.56	9.00		0.31			5
6	535.0	13.0	1	1.11	1	1.47	1	1.27	1	1.74	13.00		0.39			6
7	517.0	13.0	1	1.37	1	0.68	1	1.49	1	0.88	12.00		0.80			7
8	522.0	10.0	1	1.64	1	2.04	1	1.72	1	2.20	14.00		0.72			8
9	455.0	12.0	1	1.53	1	1.26	1	1.33	1	2.20	12.00		0.74			9
10	539.0	13.0	1	2.15	1	1.43	1	2.20	1	1.62	15.00		0.27			10
11	317.0	9.0	1	1.88	1	2.17	1	1.97	1	2.20	9.00		0.60			11
12	655.0	16.0	1	1.20	1	1.02	1	1.25	1	1.17	17.00		0.16			12
13	594.0	14.0	1	1.00	1	2.03	1	1.21	1	2.20	11.00		0.39			13
14	549.0	12.0	1	1.25	1	1.34	1	1.27	1	1.41	11.00		0.49			14
15	568.0	15.0	1	1.26	1	1.19	1	1.40	1	1.31	15.00		0.39			15
16	516.0	12.0	1	1.51	1	2.08	1	1.84	1	2.20	12.00		0.61			16
17	511.0	9.0	1	1.22	1	2.03	1	1.41	1	2.17	12.00		0.56			17
18	305.0	12.0	1	1.21	1	1.05	1	1.53	1	1.12	11.00		0.12			18
19	641.0	11.0	1	0.41	1	1.31	1	0.50	1	1.53	16.00		0.30			19
20	408.0	8.0	1	0.36	1	1.22	1	0.40	1	1.26	8.00		0.42			20
21	624.0	12.0	1	1.34	1	1.27	1	1.69	1	1.51	12.00		0.55			21
22	452.0	7.0	1	1.45	1	1.13	1	1.55	1	1.25	13.00		0.27			22
23	396.0	9.0	1	1.37	1	1.85	1	1.39	1	2.11	9.00		0.40			23
24	430.0	10.0	1	1.88	1	1.19	1	2.19	1	1.31	10.00		0.71			24
25	666.0	13.0	1	0.41	1	1.91	1	0.62	1	2.13	18.00		0.75			25
26	400.0	5.0	1	0.42	1	1.10	1	0.64	1	1.26	7.00		0.44			26
27	605.0	10.0	1	1.19	1	1.61	1	1.21	1	1.92	14.00		0.72			27
28	450.0	11.0	1	0.33	1	1.31	1	1.04	1	1.48	12.00	0.20	0.71			28
29	657.0	14.0	1	0.56	1	0.33	1	0.62	1	0.41	14.00		0.65			29
30	221.0	5.0	1	1.80	1	1.26	1	1.88	1	1.33	5.00		0.84			30
31	558.0	12.0	1	0.80	1	1.46	1	1.33	1	1.96	12.00		0.80			31
Total	15507.0	345.0									747.00			0.00	0.00	Total
Avg.	500.2258065	11.1		1.26		1.42		1.42		1.61	12.13	0.20	0.49	0.00	0.00	Avg.
Max.	666	16.0		2.15		2.17		2.20		2.20	18.00	0.20	0.84	0.00	0.00	Max.
Min.	221	5.0		0.33		0.33		0.40		0.41	5.00	0.20	0.12	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 4/10/24

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: March Year: 2024

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Apr-24	7	0.99	
May-24	7	0.84	
Jun-24	7	0.89	
Jul-24	7	1.04	
Aug-24	7	0.89	
Sep-24	7	1.05	
Oct-24	7	0.93	
Nov-24	7	0.82	
Dec-24	7	1.18	
Jan-24	7	1.59	
Feb-24	7	1.49	
Mar-24	7	1.56	
			1.11

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 3/28/2024

Well #	Static	Pumping
3	54.00	75.00
4	42.00	60.00
6	98.00	104.00
7	20.00	56.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: April Year: 2024

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	481.0	10.0	1	2.22	1	0.86	1	2.91	1	0.99	12.00		0.70			1
2	491.0	9.0	1	0.75	1	0.73	1	0.79	1	0.79	9.00		0.37			2
3	510.0	11.0	1	1.07	1	1.25	1	1.23	1	1.64	12.00		0.81			3
4	526.0	9.0	1	0.86	1	1.68	1	1.33	1	2.07	11.00		0.20			4
5	415.0	9.0	1	1.52	1	0.86	1	1.56	1	1.03	10.00		0.57			5
6	646.0	15.0	1	1.85	1	1.67	1	2.37	1	2.34	18.00		0.56			6
7	425.0	14.0	1	0.34	1	1.21	1	0.38	1	1.59	10.00		0.92			7
8	405.0	8.0	1	1.25	1	1.56	1	1.32	1	1.73	11.00		0.55			8
9	655.0	13.0	1	1.76	1	1.41	1	2.02	1	1.78	18.00		0.20			9
10	613.0	14.0	1	0.65	1	1.28	1	0.95	1	1.39	15.00		0.35			10
11	486.0	8.0	1	0.51	1	0.34	1	1.21	1	0.51	11.00		0.67			11
12	639.0	12.0	1	1.06	1	0.34	1	1.16	1	0.44	9.00		0.10			12
13	599.0	16.0	1	1.38	1	1.54	1	1.63	1	1.56	15.00		0.53			13
14	390.0	8.0	1	2.15	1	1.25	1	2.31	1	1.43	10.00		0.67			14
15	813.0	18.0	1	0.56	1	1.19	1	0.90	1	1.79	19.00		0.87			15
16	852.0	14.0	1	1.29	1	1.22	1	1.37	1	1.33	20.00		0.17			16
17	760.0	9.0	1	0.70	1	0.86	1	1.29	1	1.28	11.00		0.66			17
18	682.0	10.0	1	0.79	1	0.47	1	0.94	1	0.88	12.00		0.66			18
19	541.0	8.0	1	1.12	1	0.93	1	1.33	1	1.09	11.00		0.78			19
20	573.0	9.0	1	0.89	1	0.44	1	1.07	1	0.89	10.00		0.87			20
21	574.0	11.0	1	0.71	1	0.78	1	0.84	1	1.14	12.00		0.70			21
22	585.0	11.0	1	1.26	1	0.32	1	1.27	1	0.36	12.00		0.29			22
23	720.0	9.0	1	1.05	1	0.73	1	1.34	1	1.22	15.00		0.32			23
24	604.0	11.0	1	0.99	1	0.88	1	1.97	1	1.25	16.00		0.70			24
25	639.0	13.0	1	1.12	1	0.44	1	1.17	1	0.65	16.00		0.68			25
26	508.0	9.0	1	1.36	1	0.45	1	1.41	1	0.55	11.00		0.36			26
27	509.0	9.0	1	0.81	1	0.75	1	0.91	1	0.85	12.00		0.65			27
28	570.0	9.0	1	1.11	1	0.62	1	1.23	1	0.96	13.00		0.36			28
29	588.0	8.0	1	1.27	1	0.78	1	1.43	1	0.99	13.00	0.30	0.45			29
30	685.0	13.0	1	0.94	1	0.78	1	1.84	1	1.19	16.00		0.65			30
31			1		1		1		1							31
Total	17484.0	327.0									747.00			0.00	0.00	Total
Avg.	582.8	10.9		1.11		0.92		1.38		1.19	13.00	0.30	0.55	0.00	0.00	Avg.
Max.	852	18.0		2.22		1.68		2.91		2.34	20.00	0.30	0.92	0.00	0.00	Max.
Min.	390	8.0		0.34		0.32		0.38		0.36	9.00	0.30	0.10	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: L Fox

Certificate #: 10227 Grade: 2 Date: 5/10/24

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: April Year: 2024

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
May-24	7	0.84	
Jun-24	7	0.89	
Jul-24	7	1.04	
Aug-24	7	0.89	
Sep-24	7	1.05	
Oct-24	7	0.93	
Nov-24	7	0.82	
Dec-24	7	1.18	
Jan-24	7	1.59	
Feb-24	7	1.49	
Mar-24	7	1.56	
Apr-24	7	0.99	
			1.11

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 4/29/2024

Well #	Static	Pumping
3	67.00	87.00
4	60.00	56.00
6	106.00	118.00
7	36.00	52.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: May Year: 2024

Day	Pumpage	Chlorine									Fluoride			Other		Day
			Free Chlorine (mg/L)				Total Chlorine (mg/L)									
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	665.0	12.0	1	0.71	1	0.63	1	1.19	1	0.98	15.00		0.95			1
2	552.0	8.0	1	1.27	1	0.43	1	1.42	1	0.67	11.00		0.77			2
3	501.0	8.0	1	1.45	1	0.31	1	1.54	1	0.38	11.00		0.63			3
4	574.0	13.0	1	0.59	1	0.63	1	0.81	1	0.82	8.00		0.55			4
5	539.0	10.0	1	1.22	1	0.98	1	1.43	1	1.12	15.00		0.44			5
6	751.0	15.0	1	2.50	1	0.58	1	2.53	1	0.63	21.00		0.75			6
7	972.0	13.0	1	1.58	1	0.66	1	1.66	1	0.68	23.00		0.63			7
8	701.0	11.0	1	0.84	1	0.74	1	1.21	1	0.78	18.00		0.56			8
9	612.0	8.0	1	1.27	1	1.33	1	1.41	1	1.66	10.00		0.44			9
10	626.0	12.0	1	0.63	1	0.57	1	1.06	1	0.68	18.00		0.71			10
11	608.0	11.0	1	0.91	1	0.71	1	1.04	1	0.77	16.00		0.88			11
12	553.0	9.0	1	1.42	1	0.70	1	1.62	1	0.77	11.00		0.74			12
13	600.0	9.0	1	1.18	1	0.35	1	1.37	1	0.61	14.00		0.61			13
14	674.0	10.0	1	0.61	1	0.59	1	0.86	1	0.63	17.00		0.57			14
15	512.0	8.0	1	0.56	1	0.96	1	0.63	1	1.15	22.00		0.57			15
16	645.0	11.0	1	0.97	1	0.55	1	1.06	1	0.65	12.00		0.71			16
17	601.0	8.0	1	0.58	1	0.34	1	1.17	1	0.54	15.00		0.89			17
18	635.0	11.0	1	1.60	1	0.42	1	2.01	1	0.55	15.00		0.75			18
19	546.0	9.0	1	1.09	1	1.22	1	1.23	1	1.32	12.00		0.74			19
20	589.0	9.0	1	1.01	1	0.56	1	1.11	1	0.78	16.00		0.88			20
21	518.0	7.0	1	0.52	1	0.87	1	0.81	1	1.00	13.00		0.73			21
22	588.0	13.0	1	0.97	1	0.37	1	1.01	1	0.48	12.00		0.58			22
23	537.0	14.0	1	2.20	1	0.54	1	2.33	1	0.57	12.00		0.90			23
24	635.0	19.0	1	1.53	1	0.73	1	1.64	1	0.78	15.00	0.20	0.77			24
25	571.0	16.0	1	2.11	1	0.60	1	2.33	1	0.81	16.00		0.72			25
26	571.0	10.0	1	0.60	1	0.61	1	1.29	1	1.03	10.00		0.31			26
27	439.0	8.0	1	2.01	1	0.79	1	2.10	1	0.90	11.00		0.79			27
28	636.0	12.0	1	2.11	1	0.36	1	2.35	1	0.41	14.00		0.71			28
29	593.0	13.0	1	0.90	1	0.46	1	1.00	1	0.53	14.00		0.86			29
30	614.0	14.0	1	1.01	1	0.56	1	1.11	1	0.64	17.00		0.89			30
31	644.0	14.0	1	1.95	1	0.71	1	2.14	1	0.79	10.00		0.50			31
Total	18802.0	345.0									747.00			0.00	0.00	Total
Avg.	606.516129	11.1		1.22		0.64		1.43		0.78	14.32	0.20	0.69	0.00	0.00	Avg.
Max.	972	19.0		2.50		1.33		2.53		1.66	23.00	0.20	0.95	0.00	0.00	Max.
Min.	439	7.0		0.52		0.31		0.63		0.38	8.00	0.20	0.31	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 6/7/24

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: May Year: 2024

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Jun-24	7	0.89	
Jul-24	7	1.04	
Aug-24	7	0.89	
Sep-24	7	1.05	
Oct-24	7	0.93	
Nov-24	7	0.82	
Dec-24	7	1.18	
Jan-24	7	1.59	
Feb-24	7	1.49	
Mar-24	7	1.56	
Apr-24	7	0.99	
May-24	7	0.47	
			1.08

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 5/18/2024

Well #	Static	Pumping
3	64.00	92.00
4	66.00	72.00
6	116.00	122.00
7	34.00	52.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: June Year: 2024

Day	Pumpage	Chlorine									Fluoride			Other		Day
		Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons		# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	467.0	10.0	1	0.39	1	0.32	1	0.59	1	0.56	10.00		0.71			1
2	628.0	14.0	1	2.30	1	0.64	1	2.43	1	0.71	12.00		0.70			2
3	637.0	14.0	1	2.11	1	0.95	1	2.13	1	0.97	10.00		0.43			3
4	638.0	13.0	1	1.00	1	0.31	1	1.28	1	0.35	13.00		0.77			4
5	640.0	13.0	1	0.84	1	0.80	1	1.32	1	0.92	12.00		0.64			5
6	640.0	13.0	1	0.76	1	0.49	1	1.00	1	0.63	12.00		0.77			6
7	647.0	15.0	1	0.37	1	0.93	1	1.20	1	0.99	12.00		0.63			7
8	613.0	10.0	1	0.96	1	0.35	1	1.42	1	0.38	9.00		0.60			8
9	532.0	12.0	1	2.10	1	0.73	1	2.30	1	0.86	12.00		0.48			9
10	709.0	16.0	1	2.49	1	0.53	1	2.60	1	0.61	13.00		0.77			10
11	669.0	15.0	1	1.13	1	0.89	1	1.50	1	0.92	11.00		0.84			11
12	677.0	15.0	1	0.67	1	0.98	1	0.74	1	1.10	12.00		0.44			12
13	742.0	15.0	1	2.43	1	0.75	1	2.47	1	0.86	14.00		0.81			13
14	641.0	14.0	1	1.94	1	1.00	1	2.84	1	1.10	12.00		0.77			14
15	631.0	13.0	1	1.68	1	0.72	1	2.09	1	0.93	11.00		0.55			15
16	652.0	13.0	1	1.56	1	0.56	1	2.12	1	0.66	10.00		0.63			16
17	702.0	16.0	1	0.85	1	0.55	1	1.01	1	0.56	13.00		0.71			17
18	697.0	14.0	1	2.36	1	0.76	1	3.53	1	0.91	13.00		0.81			18
19	649.0	11.0	1	1.05	1	0.88	1	1.21	1	0.97	10.00		0.81			19
20	641.0	15.0	1	2.04	1	0.33	1	2.19	1	0.46	12.00		0.60			20
21	761.0	19.0	1	0.84	1	0.84	1	1.26	1	0.96	15.00	0.20	0.81			21
22	700.0	12.0	1	1.19	1	0.31	1	1.71	1	0.42	11.00		0.66			22
23	436.0	10.0	1	1.36	1	0.77	1	1.83	1	0.89	10.00		0.62			23
24	889.0	21.0	1	1.71	1	0.44	1	1.92	1	0.48	16.00		0.55			24
25	660.0	13.0	1	0.80	1	1.22	1	1.27	1	1.29	13.00		0.67			25
26	749.0	14.0	1	2.14	1	0.63	1	2.37	1	0.71	13.00		0.81			26
27	598.0	13.0	1	0.54	1	1.34	1	0.70	1	1.49	12.00		0.50			27
28	560.0	12.0	1	1.66	1	1.05	1	2.01	1	1.25	7.00		0.56			28
29	650.0	11.0	1	0.51	1	0.38	1	0.64	1	0.47	17.00		0.60			29
30	566.0	11.0	1	2.64	1	0.84	1	3.10	1	0.84	12.00		0.76			30
31			1		1		1		1							31
Total	19421.0	407.0									747.00			0.00	0.00	Total
Avg.	647.3666667	13.6		1.41		0.71		1.76		0.81	11.97	0.20	0.67	0.00	0.00	Avg.
Max.	889	21.0		2.64		1.34		3.53		1.49	17.00	0.20	0.84	0.00	0.00	Max.
Min.	436	10.0		0.37		0.31		0.59		0.35	7.00	0.20	0.43	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 7/9/24

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence

PWSID Number: 1037070

Treatment Plant #: 0

S/EP #: 0

Month: June

Year: 2024

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Jul-24	7	1.04	
Aug-24	7	0.89	
Sep-24	7	1.05	
Oct-24	7	0.93	
Nov-24	7	0.82	
Dec-24	7	1.18	
Jan-24	7	1.59	
Feb-24	7	1.49	
Mar-24	7	1.56	
Apr-24	7	0.99	
May-24	7	0.47	
Jun-24	7	1.05	
			1.09

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 6/21/2024

Well #	Static	Pumping
3	94.00	98.00
4	56.00	66.00
6	80.00	106.00
7	24.00	58.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: July Year: 2024

Day	Pumpage to system in thousands of gallons	Chlorine									Fluoride			Other		Day
		Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	625.0	14.0	1	2.21	1	0.55	1	2.41	1	0.69	11.00		0.77			1
2	602.0	12.0	1	1.22	1	0.79	1	1.59	1	0.84	10.00		0.66			2
3	702.0	12.0	1	0.56	1	0.36	1	0.99	1	0.55	10.00		0.67			3
4	571.0	10.0	1	2.75	1	0.37	1	2.85	1	0.43	9.00		0.79			4
5	530.0	11.0	1	0.94	1	0.30	1	1.22	1	0.37	10.00		0.67			5
6	539.0	11.0	1	0.61	1	0.40	1	1.31	1	0.45	9.00		0.72			6
7	648.0	14.0	1	2.44	1	0.35	1	2.85	1	0.38	12.00		0.79			7
8	569.0	12.0	1	0.99	1	0.36	1	1.05	1	0.42	11.00		0.42			8
9	589.0	13.0	1	2.49	1	0.40	1	2.59	1	0.46	10.00		0.80			9
10	568.0	12.0	1	0.71	1	0.31	1	1.10	1	0.33	10.00		0.69			10
11	972.0	22.0	1	2.55	1	0.47	1	2.65	1	0.63	17.00		0.77			11
12	520.0	14.0	1	1.15	1	0.36	1	1.83	1	0.39	10.00		0.70			12
13	651.0	17.0	1	2.59	1	0.99	1	2.69	1	1.14	12.00		0.73			13
14	523.0	13.0	1	1.01	1	0.97	1	1.31	1	1.05	10.00		0.68			14
15	603.0	12.0	1	2.69	1	1.42	1	2.80	1	1.56	10.00		0.44			15
16	612.0	11.0	1	0.92	1	0.63	1	1.86	1	0.91	11.00		0.73			16
17	610.0	11.0	1	2.38	1	1.91	1	2.70	1	2.14	11.00		0.23			17
18	664.0	15.0	1	1.03	1	0.53	1	1.23	1	0.73	11.00		0.76			18
19	627.0	15.0	1	0.90	1	0.81	1	1.63	1	0.94	13.00		0.61			19
20	665.0	15.0	1	2.39	1	0.80	1	2.60	1	0.85	11.00		0.55			20
21	527.0	12.0	1	1.77	1	0.84	1	1.79	1	1.00	10.00		0.45			21
22	660.0	15.0	1	2.13	1	0.93	1	2.25	1	1.01	13.00		0.66			22
23	613.0	13.0	1	2.25	1	0.58	1	2.86	1	0.69	10.00		0.59			23
24	566.0	12.0	1	0.88	1	0.62	1	1.06	1	0.66	10.00		0.78			24
25	648.0	14.0	1	0.53	1	1.21	1	0.66	1	1.41	12.00	0.20	0.66			25
26	601.0	16.0	1	2.20	1	0.43	1	2.34	1	0.56	12.00		0.41			26
27	743.0	15.0	1	1.11	1	0.69	1	1.64	1	0.72	13.00		0.94			27
28	557.0	11.0	1	2.36	1	0.85	1	2.50	1	0.89	11.00		0.46			28
29	640.0	15.0	1	2.27	1	1.85	1	2.33	1	2.11	12.00		0.31			29
30	157.0	4.0	1	0.44	1	0.71	1	0.53	1	0.93	4.00		0.42			30
31	592.0	20.0	1	1.20	1	0.67	1	1.41	1	0.73	12.00		0.38			31
Total	18694.0	413.0									747.00			0.00	0.00	Total
Avg.	603.0322581	13.3		1.60		0.72		1.89		0.84	10.87	0.20	0.62	0.00	0.00	Avg.
Max.	972	22.0		2.75		1.91		2.86		2.14	17.00	0.20	0.94	0.00	0.00	Max.
Min.	157	4.0		0.44		0.30		0.53		0.33	4.00	0.20	0.23	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 8/9/24

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: July Year: 2024

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Aug-24	7	0.89	
Sep-24	7	1.05	
Oct-24	7	0.93	
Nov-24	7	0.82	
Dec-24	7	1.18	
Jan-24	7	1.59	
Feb-24	7	1.49	
Mar-24	7	1.56	
Apr-24	7	0.99	
May-24	7	0.47	
Jun-24	7	1.05	
Jul-24	7	1.03	
			1.09

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 7/25/2024

Well #	Static	Pumping
3	86.00	93.00
4	62.00	68.00
6	86.00	94.00
7	28.00	50.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: August Year: 2024

Day	Pumpage	Chlorine									Fluoride			Other		Day
			Free Chlorine (mg/L)				Total Chlorine (mg/L)									
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	698.0	20.0	1	1.93	1	0.32	1	2.07	1	0.41	14.00		0.63			1
2	659.0	19.0	1	2.10	1	0.31	1	2.32	1	0.43	13.00		0.54			2
3	638.0	18.0	1	1.03	1	1.03	1	1.70	1	1.70	15.00		0.58			3
4	576.0	16.0	1	1.93	1	1.98	1	2.13	1	2.09	12.00		0.63			4
5	675.0	11.0	1	1.91	1	0.98	1	2.22	1	1.03	16.00		0.47			5
6	569.0	16.0	1	2.13	1	1.19	1	2.21	1	1.43	12.00		0.58			6
7	679.0	21.0	1	1.95	1	1.75	1	2.29	1	1.91	10.00		0.64			7
8	503.0	14.0	1	1.98	1	2.13	1	2.45	1	2.25	10.00		0.55			8
9	655.0	19.0	1	2.61	1	0.91	1	2.81	1	1.04	11.00		0.54			9
10	683.0	20.0	1	1.34	1	0.83	1	1.44	1	0.95	13.00		0.61			10
11	612.0	19.0	1	1.71	1	1.18	1	1.78	1	1.91	10.00		0.54			11
12	697.0	21.0	1	2.56	1	0.51	1	2.84	1	0.63	13.00		0.58			12
13	559.0	18.0	1	1.13	1	2.78	1	1.81	1	3.07	10.00		0.61			13
14	648.0	21.0	1	1.96	1	1.41	1	2.24	1	2.02	13.00		0.48			14
15	724.0	22.0	1	2.59	1	1.74	1	2.74	1	1.91	12.00		0.52			15
16	554.0	18.0	1	1.72	1	0.51	1	1.91	1	0.69	11.00		0.52			16
17	567.0	16.0	1	2.06	1	1.76	1	2.54	1	1.98	10.00		0.53			17
18	622.0	18.0	1	1.90	1	1.93	1	2.11	1	2.06	12.00		0.70			18
19	601.0	17.0	1	2.33	1	1.92	1	2.66	1	2.08	11.00		0.37			19
20	830.0	23.0	1	1.94	1	1.22	1	2.30	1	1.34	15.00		0.72			20
21	540.0	16.0	1	2.29	1	0.43	1	2.57	1	0.54	9.00		0.40			21
22	491.0	16.0	1	2.19	1	0.31	1	2.25	1	0.42	9.00		0.59			22
23	660.0	21.0	1	1.56	1	0.80	1	1.97	1	0.92	12.00	0.20	0.73			23
24	711.0	22.0	1	2.29	1	1.49	1	2.31	1	1.68	12.00		0.48			24
25	477.0	16.0	1	2.07	1	1.02	1	2.17	1	1.29	10.00		0.46			25
26	758.0	18.0	1	1.94	1	0.62	1	2.16	1	0.91	14.00		0.44			26
27	726.0	18.0	1	2.10	1	1.31	1	2.15	1	1.42	14.00		0.46			27
28	664.0	19.0	1	2.12	1	1.83	1	2.24	1	2.08	12.00		0.65			28
29	544.0	16.0	1	2.13	1	1.27	1	2.43	1	1.33	12.00		0.34			29
30	385.0	9.0	1	0.75	1	0.57	1	0.77	1	0.67	8.00		0.52			30
31	712.0	20.0	1	2.43	1	1.63	1	2.65	1	1.84	13.00		0.44			31
Total	19417.0	558.0									747.00			0.00	0.00	Total
Avg.	626.3548387	18.0		1.96		1.22		2.20		1.42	11.87	0.20	0.54	0.00	0.00	Avg.
Max.	830	23.0		2.61		2.78		2.84		3.07	16.00	0.20	0.73	0.00	0.00	Max.
Min.	385	9.0		0.75		0.31		0.77		0.41	8.00	0.20	0.34	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 9/9/24

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: August Year: 2024

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Sep-24	7	1.05	
Oct-24	7	0.93	
Nov-24	7	0.82	
Dec-24	7	1.18	
Jan-24	7	1.59	
Feb-24	7	1.49	
Mar-24	7	1.56	
Apr-24	7	0.99	
May-24	7	0.47	
Jun-24	7	1.05	
Jul-24	7	1.03	
Aug-24	7	1.72	
			1.16

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 8/23/2024

Well #	Static	Pumping
3	63.00	75.00
4	62.00	68.00
6	86.00	94.00
7	28.00	50.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: September Year: 2024

Day	Pumpage	Chlorine									Fluoride			Other		Day
			Free Chlorine (mg/L)				Total Chlorine (mg/L)									
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	297.0	5.0	1	1.98	1	1.50	1	2.12	1	1.77	7.00		0.41			1
2	735.0	21.0	1	2.43	1	0.62	1	2.52	1	0.84	15.00		0.77			2
3	349.0	12.0	1	1.69	1	1.20	1	1.97	1	1.41	7.00		0.67			3
4	593.0	17.0	1	1.33	1	1.66	1	1.54	1	1.90	12.00		0.61			4
5	601.0	17.0	1	1.58	1	0.60	1	1.85	1	0.86	11.00		0.46			5
6	637.0	13.0	1	2.10	1	1.92	1	2.22	1	2.00	12.00		0.27			6
7	647.0	18.0	1	1.69	1	1.76	1	1.80	1	1.92	11.00		0.70			7
8	383.0	12.0	1	1.76	1	1.00	1	2.12	1	2.20	10.00		0.42			8
9	622.0	19.0	1	1.93	1	1.32	1	2.30	1	1.45	12.00		0.44			9
10	599.0	17.0	1	1.71	1	1.76	1	2.00	1	1.99	11.00		0.84			10
11	641.0	19.0	1	1.62	1	1.11	1	1.91	1	1.22	12.00		0.61			11
12	721.0	17.0	1	1.98	1	1.28	1	2.27	1	1.32	13.00		0.76			12
13	622.0	18.0	1	1.81	1	1.77	1	2.13	1	1.97	11.00		0.34			13
14	619.0	17.0	1	1.91	1	1.48	1	2.13	1	1.76	11.00		0.54			14
15	641.0	19.0	1	2.10	1	1.34	1	2.29	1	1.55	11.00		0.45			15
16	379.0	12.0	1	1.83	1	1.80	1	2.03	1	2.23	8.00		0.54			16
17	637.0	21.0	1	2.13	1	1.69	1	2.34	1	1.80	9.00		0.50			17
18	729.0	21.0	1	1.45	1	1.99	1	1.66	1	2.13	11.00		0.33			18
19	600.0	17.0	1	1.88	1	1.85	1	2.10	1	2.15	11.00		0.58			19
20	639.0	18.0	1	2.07	1	1.88	1	2.33	1	2.13	10.00		0.48			20
21	622.0	18.0	1	2.26	1	1.87	1	2.43	1	2.14	12.00		0.54			21
22	624.0	16.0	1	1.96	1	2.11	1	2.40	1	2.32	12.00		0.56			22
23	547.0	16.0	1	1.81	1	0.71	1	1.93	1	0.81	9.00		0.61			23
24	602.0	16.0	1	1.79	1	1.89	1	2.30	1	2.02	11.00		0.18			24
25	617.0	17.0	1	1.61	1	2.14	1	1.78	1	2.28	11.00		0.77			25
26	591.0	18.0	1	2.04	1	1.78	1	2.12	1	2.04	11.00		0.58			26
27	608.0	14.0	1	1.85	1	1.76	1	2.26	1	1.93	11.00		0.54			27
28	719.0	14.0	1	1.68	1	0.60	1	2.13	1	0.99	13.00		0.51			28
29	667.0	20.0	1	2.02	1	1.68	1	2.06	1	2.04	13.00		0.38			29
30	639.0	16.0	1	2.07	1	0.71	1	2.21	1	0.90	12.00	0.25	0.54			30
31			1		1		1		1							31
Total	17927.0	495.0									747.00			0.00	0.00	Total
Avg.	597.5666667	16.5		1.87		1.49		2.11		1.74	11.00	0.25	0.53	0.00	0.00	Avg.
Max.	735	21.0		2.43		2.14		2.52		2.32	15.00	0.25	0.84	0.00	0.00	Max.
Min.	297	5.0		1.33		0.60		1.54		0.81	7.00	0.25	0.18	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 10/3/24

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: September Year: 2024

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Oct-24	7	0.93	
Nov-24	7	0.82	
Dec-24	7	1.18	
Jan-24	7	1.59	
Feb-24	7	1.49	
Mar-24	7	1.56	
Apr-24	7	0.99	
May-24	7	0.47	
Jun-24	7	1.05	
Jul-24	7	1.03	
Aug-24	7	1.72	
Sep-24	7	1.37	
			1.18

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L**.

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 9/30/2024

Well #	Static	Pumping
3	43.00	50.00
4	40.00	46.00
6	15.00	40.00
7	37.00	53.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: October Year: 2024

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	652.0	19.0	1	1.54	1	1.73	1	1.73	1	2.23	11.00		0.72			1
2	847.0	25.0	1	2.03	1	2.04	1	2.24	1	2.13	16.00		0.38			2
3	506.0	16.0	1	1.77	1	1.84	1	1.91	1	2.14	8.00		0.57			3
4	527.0	17.0	1	1.99	1	1.62	1	2.14	1	1.74	10.00		0.33			4
5	609.0	18.0	1	2.06	1	2.11	1	2.32	1	2.33	12.00		0.73			5
6	601.0	14.0	1	1.36	1	2.24	1	1.75	1	2.68	11.00		0.55			6
7	622.0	20.0	1	2.14	1	1.09	1	2.23	1	1.32	10.00		0.71			7
8	627.0	20.0	1	2.59	1	1.40	1	2.81	1	1.51	11.00		0.41			8
9	633.0	20.0	1	2.19	1	2.05	1	2.24	1	2.21	10.00		0.53			9
10	896.0	22.0	1	1.82	1	1.26	1	2.32	1	1.46	14.00		0.89			10
11	613.0	16.0	1	1.88	1	1.13	1	2.12	1	1.25	13.00		0.66			11
12	623.0	18.0	1	1.89	1	1.22	1	2.26	1	1.36	12.00		0.43			12
13	608.0	19.0	1	1.77	1	1.65	1	2.23	1	1.92	11.00		0.44			13
14	574.0	19.0	1	1.45	1	1.76	1	1.98	1	1.84	10.00		0.73			14
15	605.0	18.0	1	1.79	1	1.80	1	1.98	1	2.30	13.00		0.69			15
16	543.0	18.0	1	1.48	1	1.77	1	1.54	1	2.22	9.00		0.71			16
17	594.0	20.0	1	2.10	1	1.80	1	2.40	1	2.22	12.00		0.31			17
18	594.0	18.0	1	1.93	1	0.83	1	2.12	1	1.17	11.00		0.35			18
19	582.0	18.0	1	2.12	1	1.71	1	2.38	1	2.13	10.00		0.77			19
20	513.0	17.0	1	2.28	1	2.06	1	2.41	1	2.34	11.00		0.12			20
21	628.0	19.0	1	1.98	1	1.06	1	2.06	1	1.38	12.00		0.41			21
22	534.0	14.0	1	2.03	1	1.78	1	2.25	1	2.12	9.00	0.20	0.85			22
23	657.0	15.0	1	2.25	1	1.93	1	2.30	1	1.97	13.00		0.41			23
24	457.0	15.0	1	1.67	1	1.61	1	1.83	1	2.10	8.00		0.61			24
25	615.0	13.0	1	1.03	1	1.53	1	1.61	1	1.85	10.00		0.28			25
26	588.0	19.0	1	2.06	1	1.76	1	2.20	1	2.06	11.00		0.40			26
27	624.0	19.0	1	1.60	1	1.50	1	2.19	1	1.97	13.00		0.57			27
28	516.0	18.0	1	1.50	1	1.51	1	1.93	1	1.77	9.00		0.51			28
29	742.0	23.0	1	2.04	1	1.84	1	2.29	1	1.85	14.00		0.37			29
30	429.0	12.0	1	1.94	1	1.12	1	2.28	1	1.45	10.00		0.36			30
31	592.0	8.0	1	2.45	1	1.46	1	2.80	1	1.66	11.00		0.46			31
Total	18751.0	547.0									747.00			0.00	0.00	Total
Avg.	604.8709677	17.6		1.89		1.62		2.16		1.89	11.13	0.20	0.52	0.00	0.00	Avg.
Max.	896	25.0		2.59		2.24		2.81		2.68	16.00	0.20	0.89	0.00	0.00	Max.
Min.	429	8.0		1.03		0.83		1.54		1.17	8.00	0.20	0.12	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 11/8/24

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: October Year: 2024

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Nov-24	7	0.82	
Dec-24	7	1.18	
Jan-24	7	1.59	
Feb-24	7	1.49	
Mar-24	7	1.56	
Apr-24	7	0.99	
May-24	7	0.47	
Jun-24	7	1.05	
Jul-24	7	1.03	
Aug-24	7	1.72	
Sep-24	7	1.37	
Oct-24	7	1.55	
			1.24

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 10/22/2024

Well #	Static	Pumping
3	63.00	98.00
4	44.00	64.00
6	98.00	112.00
7	34.00	60.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: November Year: 2024

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L) At Plant # of Tests	Free Chlorine (mg/L) At Plant Avg.	Free Chlorine (mg/L) In System # of Tests	Free Chlorine (mg/L) In System Avg.	Total Chlorine (mg/L) At Plant # of Tests	Total Chlorine (mg/L) At Plant Avg.	Total Chlorine (mg/L) In System # of Tests	Total Chlorine (mg/L) In System Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	573.0	15.0	1	2.10	1	1.43	1	2.25	1	1.57	9.00		0.46			1
2	617.0	149.0	1	1.77	1	0.64	1	2.08	1	0.68	12.00		0.71			2
3	450.0	14.0	1	1.69	1	1.64	1	2.20	1	1.94	6.00		0.42			3
4	514.0	15.0	1	2.17	1	1.01	1	2.38	1	1.10	11.00		0.49			4
5	652.0	14.0	1	1.69	1	1.65	1	2.00	1	1.82	12.00		0.24			5
6	665.0	16.0	1	1.72	1	0.33	1	1.84	1	0.44	11.00		0.20			6
7	549.0	15.0	1	2.14	1	1.72	1	2.31	1	1.91	15.00		0.22			7
8	714.0	21.0	1	1.44	1	1.21	1	1.79	1	1.52	12.00		0.55			8
9	603.0	16.0	1	1.68	1	1.87	1	2.06	1	2.06	11.00		0.69			9
10	338.0	7.0	1	1.87	1	1.56	1	1.77	1	1.89	8.00		0.37			10
11	601.0	14.0	1	2.02	1	1.72	1	2.22	1	1.92	11.00		0.45			11
12	536.0	15.0	1	1.99	1	1.22	1	2.33	1	1.55	9.00		0.29			12
13	626.0	19.0	1	1.62	1	1.55	1	1.86	1	1.90	11.00		0.51			13
14	630.0	15.0	1	1.99	1	1.63	1	2.16	1	1.92	12.00		0.19			14
15	779.0	22.0	1	1.83	1	1.30	1	2.12	1	1.65	13.00		0.81			15
16	494.0	14.0	1	1.90	1	1.41	1	2.41	1	1.77	9.00		0.34			16
17	631.0	17.0	1	1.86	1	1.59	1	2.13	1	1.89	12.00		0.44			17
18	646.0	17.0	1	1.84	1	0.94	1	1.97	1	1.62	12.00		0.79			18
19	916.0	24.0	1	1.22	1	2.25	1	1.54	1	2.40	16.00		0.12			19
20	384.0	9.0	1	2.13	1	0.82	1	2.43	1	1.00	7.00	0.23	0.33			20
21	860.0	20.0	1	2.01	1	1.28	1	2.23	1	1.60	15.00		0.08			21
22	452.0	14.0	1	1.77	1	1.16	1	1.93	1	1.24	9.00		0.30			22
23	609.0	19.0	1	1.57	1	1.59	1	2.10	1	1.96	12.00		0.56			23
24	550.0	14.0	1	2.23	1	1.71	1	2.33	1	2.03	9.00		0.56			24
25	588.0	15.0	1	2.41	1	0.38	1	2.58	1	0.44	11.00		0.62			25
26	794.0	21.0	1	1.91	1	1.71	1	2.19	1	1.96	14.00		0.34			26
27	504.0	14.0	1	2.31	1	2.04	1	2.44	1	2.07	10.00		0.39			27
28	465.0	11.0	1	1.52	1	1.63	1	1.91	1	1.89	7.00		0.41			28
29	509.0	17.0	1	1.62	1	0.45	1	2.07	1	1.53	5.00		0.55			29
30	726.0		1	2.13	1	1.54	1	2.40	1	1.91	8.00		0.47			30
31			1		1		1		1							31
Total	17975.0	593.0									747.00			0.00	0.00	Total
Avg.	599.1666667	20.4		1.87		1.37		2.13		1.64	10.63	0.23	0.43	0.00	0.00	Avg.
Max.	916	149.0		2.41		2.25		2.58		2.40	16.00	0.23	0.81	0.00	0.00	Max.
Min.	338	7.0		1.22		0.33		1.54		0.44	5.00	0.23	0.08	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 12/10/24

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: November Year: 2024

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Dec-24	7	1.18	
Jan-24	7	1.59	
Feb-24	7	1.49	
Mar-24	7	1.56	
Apr-24	7	0.99	
May-24	7	0.47	
Jun-24	7	1.05	
Jul-24	7	1.03	
Aug-24	7	1.72	
Sep-24	7	1.37	
Oct-24	7	1.55	
Nov-24	7	1.40	
			1.28

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 11/20/2024

Well #	Static	Pumping
3	63.00	75.00
4	62.00	68.00
6	86.00	94.00
7	28.00	50.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: December Year: 2024

Day	Pumpage	Chlorine									Fluoride			Other		Day
		Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons		# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	726.0	17.0	1	1.62	1	1.74	1	2.07	1	1.80	8.00		0.58			1
2	562.0	15.0	1	2.19	1	1.33	1	2.36	1	1.69	11.00		0.15			2
3	628.0	19.0	1	1.63	1	1.84	1	2.03	1	1.96	12.00		0.34			3
4	387.0	9.0	1	1.07	1	1.45	1	1.43	1	1.87	7.00		0.76			4
5	674.0	20.0	1	1.99	1	1.77	1	2.21	1	2.13	11.00		0.25			5
6	675.0	17.0	1	1.63	1	0.85	1	2.02	1	1.16	13.00		0.41			6
7	622.0	17.0	1	1.30	1	1.62	1	1.58	1	1.83	13.00		0.19			7
8	616.0	16.0	1	1.82	1	1.55	1	2.27	1	2.00	11.00		0.54			8
9	627.0	16.0	1	1.35	1	1.51	1	1.65	1	1.78	11.00		0.56			9
10	585.0	16.0	1	1.05	1	1.99	1	1.35	1	2.05	11.00		0.61			10
11	520.0	12.0	1	2.08	1	1.47	1	2.15	1	1.68	7.00		0.56			11
12	570.0	15.0	1	1.81	1	1.91	1	2.08	1	2.07	9.00		0.25			12
13	495.0	12.0	1	1.11	1	2.11	1	1.23	1	2.30	10.00		0.21			13
14	627.0	21.0	1	2.09	1	1.16	1	2.20	1	1.39	12.00		0.55			14
15	584.0	16.0	1	1.70	1	1.93	1	2.20	1	2.12	11.00		0.45			15
16	593.0	14.0	1	1.48	1	0.69	1	1.80	1	0.71	12.00		0.42			16
17	628.0	16.0	1	2.06	1	1.41	1	2.22	1	2.07	11.00		0.27			17
18	822.0	22.0	1	1.60	1	0.63	1	1.91	1	0.66	16.00		0.10			18
19	988.0	24.0	1	0.95	1	0.65	1	1.15	1	0.91	18.00	0.24	0.45			19
20	667.0	13.0	1	2.37	1	2.11	1	2.72	1	2.21	11.00		0.12			20
21	582.0	15.0	1	1.76	1	1.65	1	2.12	1	1.91	7.00		0.82			21
22	631.0	23.0	1	1.25	1	1.60	1	1.39	1	1.98	13.00		0.51			22
23	952.0	24.0	1	1.97	1	1.67	1	2.23	1	1.93	16.00		0.33			23
24	587.0	16.0	1	1.85	1	0.69	1	2.20	1	0.73	11.00		0.86			24
25	595.0	16.0	1	1.30	1	1.70	1	1.49	1	1.90	11.00		0.58			25
26	663.0	19.0	1	1.87	1	1.45	1	2.29	1	1.72	13.00		0.80			26
27	617.0	15.0	1	2.10	1	1.53	1	2.90	1	1.75	10.00		0.19			27
28	706.0	19.0	1	1.12	1	0.78	1	1.31	1	1.23	13.00		0.94			28
29	644.0	16.0	1	1.68	1	1.48	1	1.99	1	1.93	12.00		0.52			29
30	556.0	15.0	1	1.58	1	1.44	1	1.79	1	1.61	8.00		0.52			30
31	605.0	17.0	1	1.11	1	1.95	1	1.30	1	2.25	11.00		0.34			31
Total	19734.0	522.0									747.00			0.00	0.00	Total
Avg.	636.5806452	16.8		1.63		1.47		**1.92**		1.72	11.29	0.24	0.46	0.00	0.00	Avg.
Max.	988	24.0		2.37		2.11		2.90		2.30	18.00	0.24	0.94	0.00	0.00	Max.
Min.	387	9.0		0.95		0.63		1.15		0.66	7.00	0.24	0.10	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: _____

Certificate #: 10227 Grade: 2 Date: 1/10/25

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: December Year: 2024

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Jan-24	7	1.59	
Feb-24	7	1.49	
Mar-24	7	1.56	
Apr-24	7	0.99	
May-24	7	0.47	
Jun-24	7	1.05	
Jul-24	7	1.03	
Aug-24	7	1.72	
Sep-24	7	1.37	
Oct-24	7	1.55	
Nov-24	7	1.40	
Dec-24	7	1.83	
			1.34

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 12/19/2024

Well #	Static	Pumping
3	63.00	77.00
4	44.00	60.00
6	120.00	142.00
7	52.00	54.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: January Year: 2025

Day	Pumpage	Chlorine								Fluoride			Other		Day
			Free Chlorine (mg/L)			Total Chlorine (mg/L)									
			At Plant		In System		At Plant		In System						
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	569.0	14.0	1	1.79	1	1.75	1	2.27	1	2.06	11.00		0.59			1
2	625.0	14.0	1	1.17	1	0.83	1	1.43	1	1.06	11.00		0.61			2
3	692.0	19.0	1	1.69	1	1.17	1	2.06	1	1.31	11.00		0.20			3
4	610.0	16.0	1	2.17	1	1.37	1	2.45	1	1.94	11.00		0.83			4
5	635.0	17.0	1	1.14	1	1.66	1	1.38	1	2.16	12.00		0.83			5
6	642.0	15.0	1	1.52	1	1.74	1	1.97	1	1.97	11.00		0.46			6
7	677.0	18.0	1	2.02	1	1.77	1	2.30	1	1.83	12.00		0.56			7
8	666.0	21.0	1	1.25	1	2.05	1	1.54	1	2.42	14.00		0.64			8
9	679.0	20.0	1	1.64	1	0.95	1	2.09	1	1.13	13.00		0.64			9
10	915.0	22.0	1	1.02	1	2.02	1	1.10	1	2.23	18.00		0.43			10
11	574.0	15.0	1	1.26	1	1.20	1	1.61	1	1.59	11.00		0.65			11
12	446.0	7.0	1	2.01	1	1.61	1	2.21	1	1.89	7.00		0.27			12
13	605.0	14.0	1	2.09	1	1.33	1	2.20	1	1.74	10.00		0.77			13
14	760.0	18.0	1	0.99	1	2.29	1	1.24	1	2.37	12.00		0.73			14
15	564.0	17.0	1	1.34	1	1.46	1	1.66	1	1.76	15.00		0.60			15
16	785.0	20.0	1	2.04	1	1.99	1	2.16	1	2.07	18.00		0.47			16
17	672.0	14.0	1	0.72	1	1.84	1	0.89	1	2.30	13.00		0.41			17
18	610.0	19.0	1	0.85	1	1.64	1	1.30	1	1.98	10.00		0.68			18
19	536.0	13.0	1	1.43	1	1.70	1	2.08	1	2.04	9.00		0.54			19
20	616.0	15.0	1	2.15	1	2.02	1	2.30	1	2.31	11.00		0.77			20
21	686.0	22.0	1	1.03	1	0.61	1	1.27	1	0.75	13.00		0.16			21
22	982.0	23.0	1	2.17	1	1.86	1	2.30	1	2.03	19.00		0.73			22
23	664.0	16.0	1	2.23	1	1.48	1	2.37	1	1.82	13.00		0.37			23
24	660.0	19.0	1	1.87	1	0.95	1	2.32	1	1.03	13.00		0.21			24
25	660.0	15.0	1	1.24	1	0.64	1	1.53	1	1.15	13.00		0.44			25
26	598.0	18.0	1	2.01	1	1.23	1	2.44	1	1.75	12.00		0.56			26
27	638.0	18.0	1	1.79	1	0.64	1	2.19	1	0.81	11.00		0.63			27
28	829.0	21.0	1	1.02	1	1.81	1	1.21	1	2.24	17.00		0.38			28
29	618.0	14.0	1	0.91	1	1.79	1	0.99	1	2.09	11.00		0.66			29
30	838.0	23.0	1	2.03	1	1.70	1	2.45	1	1.73	17.00		0.29			30
31	614.0	14.0	1	1.31	1	0.93	1	1.47	1	1.07	10.00	0.20	0.29			31
Total	**20665.0**	531.0									747.00			0.00	0.00	Total
Avg.	666.6129032	17.1		1.55		1.48		**1.83**		1.76	12.55	0.20	0.53	0.00	0.00	Avg.
Max.	982	23.0		2.23		2.29		2.45		2.42	19.00	0.20	0.83	0.00	0.00	Max.
Min.	446	7.0		0.72		0.61		0.89		0.75	7.00	0.20	0.16	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 2/10/25

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: January Year: 2025

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Feb-24	7	1.49	
Mar-24	7	1.56	
Apr-24	7	0.99	
May-24	7	0.47	
Jun-24	7	1.05	
Jul-24	7	1.03	
Aug-24	7	1.72	
Sep-24	7	1.37	
Oct-24	7	1.55	
Nov-24	7	1.40	
Dec-24	7	1.83	
Jan-25	7	1.65	
			1.34

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 1/31/2024

Well #	Static	Pumping
3	55.00	66.00
4	62.00	68.00
6	94.00	112.00
7	30.00	54.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: February Year: 2025

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	633.0	17.0	1	2.15	1	0.71	1	2.54	1	0.85	12.00		0.27			1
2	605.0	16.0	1	1.26	1	1.90	1	1.55	1	2.36	12.00		0.30			2
3	376.0	6.0	1	1.93	1	1.53	1	2.34	1	1.84	5.00		0.38			3
4	629.0	17.0	1	1.96	1	1.87	1	2.19	1	2.20	9.00		0.34			4
5	642.0	16.0	1	1.04	1	0.40	1	1.32	1	0.53	15.00		0.45			5
6	561.0	14.0	1	1.84	1	1.70	1	2.24	1	1.96	13.00		0.23			6
7	609.0	18.0	1	1.64	1	2.03	1	1.97	1	2.38	13.00		0.27			7
8	599.0	12.0	1	1.09	1	1.01	1	1.31	1	1.11	17.00		0.52			8
9	650.0	14.0	1	2.07	1	1.72	1	2.18	1	1.90	17.00		0.66			9
10	544.0	16.0	1	1.46	1	0.86	1	1.94	1	0.97	13.00		0.47			10
11	608.0	15.0	1	0.97	1	2.03	1	1.22	1	2.38	19.00		0.48			11
12	614.0	14.0	1	2.10	1	1.72	1	2.38	1	2.11	16.00		0.93			12
13	590.0	17.0	1	1.57	1	1.84	1	1.92	1	2.11	14.00		0.83			13
14	556.0	14.0	1	1.17	1	1.82	1	1.36	1	1.99	17.00	0.20	0.82			14
15	546.0	14.0	1	1.89	1	0.98	1	2.36	1	1.13	13.00		0.83			15
16	450.0	10.0	1	1.98	1	1.73	1	2.49	1	2.11	10.00		0.73			16
17	636.0	16.0	1	1.08	1	1.41	1	1.32	1	1.94	14.00		0.45			17
18	673.0	19.0	1	1.26	1	0.98	1	1.53	1	1.21	15.00		0.77			18
19	602.0	17.0	1	1.74	1	1.95	1	2.07	1	2.13	14.00		0.76			19
20	424.0	12.0	1	2.07	1	1.60	1	2.49	1	1.94	8.00		0.43			20
21	580.0	18.0	1	1.73	1	1.99	1	1.99	1	2.14	19.00		0.22			21
22	570.0	17.0	1	0.85	1	1.75	1	1.05	1	2.15	18.00		0.88			22
23	571.0	16.0	1	1.84	1	2.02	1	2.04	1	2.16	17.00		0.79			23
24	650.0	17.0	1	2.72	1	1.15	1	2.77	1	1.56	15.00		0.70			24
25	622.0	16.0	1	2.06	1	2.10	1	2.24	1	2.24	17.00		0.51			25
26	596.0	15.0	1	1.92	1	0.51	1	2.29	1	0.61	14.00		0.77			26
27	772.0	22.0	1	1.09	1	2.25	1	1.43	1	2.48	21.00		0.83			27
28	598.0	12.0	1	2.32	1	1.67	1	2.52	1	2.19	13.00		0.80			28
29			1		1		1		1							29
30			1		1		1		1							30
31			1		1		1		1							31
Total	16506.0	427.0									747.00			0.00	0.00	Total
Avg.	589.5	15.3		1.67		1.54		**1.97**		1.81	14.29	0.20	0.59	0.00	0.00	Avg.
Max.	772	22.0		2.72		2.25		2.77		2.48	21.00	0.20	0.93	0.00	0.00	Max.
Min.	376	6.0		0.85		0.40		1.05		0.53	5.00	0.20	0.22	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: I Zeb

Certificate #: 10227 Grade: 2 Date: 3/10/25

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: February Year: 2025

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Mar-24	7	1.56	
Apr-24	7	0.99	
May-24	7	0.47	
Jun-24	7	1.05	
Jul-24	7	1.03	
Aug-24	7	1.72	
Sep-24	7	1.37	
Oct-24	7	1.55	
Nov-24	7	1.40	
Dec-24	7	1.83	
Jan-25	7	1.65	
Feb-25	7	1.64	
			1.36

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 2/14/2025

Well #	Static	Pumping
3	63.00	80.00
4	58.00	76.00
6	98.00	110.00
7	35.00	56.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: March Year: 2025

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	423.0	11.0	1	2.50	1	1.87	1	2.70	1	2.09	10.00		0.69			1
2	617.0	15.0	1	1.57	1	1.19	1	2.03	1	1.48	18.00		0.76			2
3	502.0	15.0	1	1.21	1	1.09	1	1.37	1	1.33	12.00		0.81			3
4	589.0	16.0	1	2.12	1	1.50	1	2.17	1	1.75	15.00		0.89			4
5	611.0	12.0	1	1.43	1	1.34	1	1.63	1	1.93	12.00		0.81			5
6	657.0	19.0	1	1.02	1	1.50	1	1.18	1	1.77	16.00		0.38			6
7	661.0	16.0	1	1.60	1	2.05	1	1.99	1	2.21	15.00		0.73			7
8	494.0	14.0	1	2.32	1	1.33	1	2.51	1	1.56	14.00		0.44			8
9	532.0	15.0	1	1.23	1	1.69	1	1.47	1	1.89	14.00		0.62			9
10	560.0	15.0	1	1.56	1	1.07	1	1.80	1	1.19	15.00		0.33			10
11	599.0	15.0	1	2.03	1	2.02	1	2.18	1	2.29	14.00		0.69			11
12	607.0	17.0	1	1.01	1	0.64	1	1.32	1	0.87	14.00		0.66			12
13	581.0	17.0	1	1.72	1	0.73	1	1.96	1	1.46	15.00		0.41			13
14	585.0	16.0	1	1.90	1	1.12	1	2.11	1	1.93	16.00		0.62			14
15	560.0	10.0	1	1.64	1	1.40	1	1.71	2	1.72	14.00		0.80			15
16	647.0	18.0	1	1.44	1	1.65	1	1.71	1	1.87	13.00		0.82			16
17	477.0	12.0	1	2.19	1	0.75	1	2.20	1	0.89	12.00		0.73			17
18	563.0	15.0	1	1.19	1	1.44	1	1.40	1	1.64	14.00		0.67			18
19	563.0	9.0	1	1.99	1	0.55	1	2.20	1	0.69	13.00		0.76			19
20	683.0	20.0	1	0.81	1	1.09	1	1.13	1	1.21	16.00		0.70			20
21	437.0	11.0	1	0.83	1	0.78	1	1.57	1	0.90	11.00		0.60			21
22	555.0	16.0	1	1.87	1	1.36	1	1.98	1	1.60	14.00		1.05			22
23	619.0	14.0	1	1.46	1	2.00	1	1.68	1	2.01	16.00		0.65			23
24	620.0	16.0	1	2.09	1	1.45	1	2.17	1	1.59	15.00		0.74			24
25	641.0	16.0	1	1.35	1	1.55	1	1.65	1	1.62	14.00		0.76			25
26	626.0	15.0	1	1.62	1	0.53	1	1.95	1	0.62	17.00		0.69			26
27	669.0	17.0	1	2.04	1	1.94	1	2.17	1	2.07	19.00		0.79			27
28	838.0	21.0	1	0.71	1	0.67	1	1.07	1	0.79	19.00		0.69			28
29	1438.0	33.0	1	1.64	1	1.04	1	2.77	1	1.80	33.00		0.93			29
30	743.0	15.0	1	1.90	1	1.23	1	2.04	1	1.52	14.00		0.82			30
31	852.0	19.0	1	1.41	1	1.06	1	1.72	1	1.26	22.00		0.72			31
Total	19549.0	490.0									747.00			0.00	0.00	Total
Avg.	630.6129032	15.8		1.59		1.28		1.86		1.53	15.35	0.33	0.70	0.00	0.00	Avg.
Max.	1438	33.0		2.50		2.05		2.77		2.29	33.00	0.00	1.05	0.00	0.00	Max.
Min.	423	9.0		0.71		0.53		1.07		0.62	10.00	0.00	0.33	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: T Zo8

Certificate #: 10227 Grade: 2 Date: 4/10/25

Sept. 2009 IDNR Form #: 542-3104

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: March Year: 2025

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
24-Apr	7	0.99	
24-May	7	0.47	
24-Jun	7	1.05	
24-Jul	7	1.03	
24-Aug	7	1.72	
24-Sep	7	1.37	
24-Oct	7	1.55	
24-Nov	7	1.4	
24-Dec	7	1.83	
25-Jan	7	1.65	
25-Feb	7	1.64	
25-Mar	7	1.46	
			1.35

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 3/25/2024

Well #	Static	Pumping
3	64.00	78.00
4	55.00	77.00
6	98.00	109.00
7	38.00	59.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: April Year: 2025

Day	Pumpage	Chlorine									Fluoride			Other		Day
			Free Chlorine (mg/L)				Total Chlorine (mg/L)									
			At Plant		In System		At Plant		In System							
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	653.0	17.0	1	2.36	1	1.41	1	2.46	1	1.56	15.00		0.60			1
2	645.0	11.0	1	1.85	1	2.17	1	1.88	1	2.20	14.00		0.64			2
3	684.0	15.0	1	2.19	1	0.67	1	2.52	1	0.81	15.00		0.71			3
4	663.0	14.0	1	1.22	1	1.90	1	1.36	1	1.96	18.00		0.80			4
5	674.0	14.0	1	2.45	1	0.35	1	2.46	1	0.39	17.00		0.92			5
6	542.0	13.0	1	1.57	1	1.00	1	1.77	1	1.20	14.00		0.66			6
7	577.0	12.0	1	2.02	1	0.33	1	2.18	1	0.34	14.00		0.88			7
8	615.0	15.0	1	1.13	1	1.63	1	1.42	1	1.81	17.00		0.82			8
9	688.0	17.0	1	2.27	1	0.54	1	2.47	1	0.64	17.00		0.72			9
10	691.0	17.0	1	1.03	1	1.96	1	1.26	1	2.15	16.00		0.83			10
11	530.0	11.0	1	1.56	1	0.86	1	2.04	1	1.07	14.00		0.65			11
12	700.0	15.0	1	0.94	1	1.21	1	1.52	1	1.41	18.00		0.88			12
13	589.0	11.0	1	2.05	1	0.86	1	2.47	1	1.04	15.00		0.86			13
14	790.0	20.0	1	2.38	1	1.88	1	2.40	1	2.00	19.00		0.72			14
15	844.0	21.0	1	1.15	1	1.88	1	1.42	1	2.00	19.00		0.72			15
16	862.0	22.0	1	0.79	1	1.81	1	0.84	1	2.03	22.00		0.82			16
17	698.0	17.0	1	0.98	1	0.86	1	1.05	1	1.13	16.00		0.88			17
18	592.0	11.0	1	1.40	1	1.45	1	1.56	1	1.75	14.00		0.58			18
19	604.0	14.0	1	1.79	1	0.78	1	1.87	1	1.04	15.00		0.91			19
20	652.0	15.0	1	2.31	1	1.17	1	2.45	1	1.41	16.00		0.90			20
21	707.0	18.0	1	2.34	1	0.67	1	2.48	1	0.76	19.00		0.69			21
22	1.3	30.0	1	0.97	1	1.72	1	1.47	1	1.94	32.00		0.82			22
23	774.0	19.0	1	1.34	1	0.82	1	2.02	1	1.04	19.00		0.71			23
24	863.0	20.0	1	2.45	1	1.12	1	2.57	1	1.33	25.00	0.25	0.90			24
25	768.0	17.0	1	2.48	1	1.67	1	2.54	1	1.73	18.00		0.67			25
26	640.0	18.0	1	1.11	1	0.71	1	1.14	1	0.93	15.00		0.89			26
27	566.0	15.0	1	1.34	1	1.11	1	1.64	1	0.73	14.00		0.73			27
28	633.0	14.0	1	2.47	1	0.54	1	2.81	1	0.63	15.00		0.63			28
29	650.0	16.0	1	0.61	1	1.76	1	0.86	1	1.81	15.00		0.83			29
30	617.0	15.0	1	0.86	1	0.35	1	1.32	1	0.43	14.00		0.67			30
31			1		1		1		1							31
Total	19512.3	484.0									747.00			0.00	0.00	Total
Avg.	650.4090667	16.1		1.65		1.17		1.88		1.31	17.03	0.00	0.77	0.00	0.00	Avg.
Max.	863	30.0		2.48		2.17		2.81		2.20	32.00	0.25	0.92	0.00	0.00	Max.
Min.	1.272	11.0		0.61		0.33		0.84		0.34	14.00	0.25	0.58	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 5/10/25

Sept. 2009 IDNR Form #: 542-3104

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: April Year: 2025

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
24-May	7	0.47	
24-Jun	7	1.05	
24-Jul	7	1.03	
24-Aug	7	1.72	
24-Sep	7	1.37	
24-Oct	7	1.55	
24-Nov	7	1.4	
24-Dec	7	1.83	
25-Jan	7	1.65	
25-Feb	7	1.64	
25-Mar	7	1.46	
Apr-25	7	1.36	
			1.38

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 4/29/2025

Well #	Static	Pumping
3	55.00	88.00
4	40.00	58.00
6	52.00	88.00
7	30.00	40.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: May Year: 2025

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L) At Plant # of Tests	Free Chlorine (mg/L) At Plant Avg.	Free Chlorine (mg/L) In System # of Tests	Free Chlorine (mg/L) In System Avg.	Total Chlorine (mg/L) At Plant # of Tests	Total Chlorine (mg/L) At Plant Avg.	Total Chlorine (mg/L) In System # of Tests	Total Chlorine (mg/L) In System Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	682.0	15.0	1	2.30	1	1.83	1	2.49	1	1.86	16.00		0.60			1
2	537.0	12.0	1	2.31	1	0.46	1	2.61	1	0.55	15.00		0.79			2
3	507.0	12.0	1	2.30	1	0.58	1	2.49	1	0.81	13.00		0.83			3
4	664.0	17.0	1	0.88	1	1.73	1	0.92	1	1.95	17.00		0.82			4
5	752.0	22.0	1	1.23	1	1.09	1	1.88	1	1.35	18.00		0.68			5
6	736.0	18.0	1	0.89	1	1.60	1	1.25	1	1.75	17.00		0.77			6
7	680.0	15.0	1	1.42	1	0.66	1	1.60	1	0.83	16.00		0.78			7
8	907.0	21.0	1	2.03	1	1.70	1	2.32	1	1.84	16.00		0.64			8
9	668.0	16.0	1	2.44	1	0.53	1	2.59	1	0.64	13.00		0.63			9
10	732.0	18.0	1	0.87	1	1.69	1	1.14	1	1.78	16.00		0.59			10
11	652.0	16.0	1	1.55	1	0.60	1	1.58	1	0.76	14.00		0.54			11
12	719.0	16.0	1	2.10	1	0.67	1	2.45	1	0.70	14.00	0.24	0.80			12
13	835.0	21.0	1	2.13	1	0.83	1	2.50	1	1.68	16.00		0.45			13
14	1100.0	29.0	1	0.99	1	0.67	1	1.02	1	0.76	14.00		0.54			14
15	733.0	17.0	1	1.56	1	0.51	1	1.92	1	0.61	13.00		0.66			15
16	695.0	14.0	1	1.28	1	1.66	1	2.18	1	1.85	8.00		0.79			16
17	594.0	12.0	1	1.89	1	1.73	1	2.08	1	1.86	7.00		0.44			17
18	655.0	25.0	1	1.03	1	1.08	1	1.27	1	1.21	9.00		0.49			18
19	624.0	16.0	1	1.68	1	0.56	1	2.11	1	0.62	9.00		0.62			19
20	273.0	6.0	1	2.27	1	0.83	1	2.36	1	1.16	5.00		0.32			20
21	632.0	14.0	1	0.71	1	1.15	1	0.89	1	1.28	9.00		0.40			21
22	719.0	15.0	1	0.98	1	1.75	1	1.08	1	1.83	10.00		0.45			22
23	700.0	16.0	1	0.84	1	0.63	1	1.12	1	0.84	10.00		0.40			23
24	684.0	16.0	1	1.00	1	1.03	1	1.15	1	1.21	10.00		0.40			24
25	607.0	15.0	1	0.91	1	0.90	1	1.21	1	0.90	10.00		0.37			25
26	789.0	16.0	1	2.26	1	0.63	1	2.60	1	0.85	11.00		0.42			26
27	647.0	17.0	1	1.75	1	1.19	1	1.98	1	1.20	9.00		0.29			27
28	687.0	17.0	1	1.52	1	0.77	1	1.99	1	0.93	10.00		0.39			28
29	687.0	19.0	1	0.91	1	1.13	1	1.09	1	1.15	9.00		0.70			29
30	673.0	16.0	1	0.91	1	1.13	1	1.09	1	1.15	12.00		0.70			30
31	747.0	17.0	1	2.29	1	0.62	1	2.34	1	0.78	11.00		0.49			31
Total	21317.0	516.0									747.00			0.00	0.00	Total
Avg.	687.6451613	16.6		1.52		1.03		1.78		1.18	12.16	0.24	0.57	0.00	0.00	Avg.
Max.	1100	29.0		2.44		1.83		2.61		1.95	18.00	0.24	0.83	0.00	0.00	Max.
Min.	273	6.0		0.71		0.46		0.89		0.55	5.00	0.24	0.29	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: I Zeb

Certificate #: 10227 Grade: 2 Date: 6/10/25

Sept. 2009

IDNR Form #: 542-3104

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: May Year: 2025

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Jun-24	7	1.05	
Jul-24	7	1.03	
Aug-24	7	1.72	
Sep-24	7	1.37	
Oct-24	7	1.55	
Nov-24	7	1.40	
Dec-24	7	1.83	
Jan-25	7	1.65	
Feb-25	7	1.64	
Mar-25	7	1.46	
Apr-25	7	1.36	
25-May	7	1.04	
			1.43

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 5/12/2025

Well #	Static	Pumping
3	46.00	92.00
4	38.00	54.00
6	29.00	62.00
7	30.00	86.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: June Year: 2025

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs.	Free Chlorine (mg/L)				Total Chlorine (mg/L)				Quantity Used in lbs.	Raw (mg/L)	S/EP (mg/L)			
			At Plant		In System		At Plant		In System							
			# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.						
1	690.0	17.0	4	1.61	1	0.99	4	1.76	1	1.09	11.00		0.42			1
2	753.0	21.0	4	1.60	1	0.50	4	2.03	1	0.66	9.00		0.65			2
3	573.0	12.0	4	1.74	1	1.65	4	2.00	1	1.85	13.00		0.40			3
4	701.0	17.0	4	1.36	1	0.67	4	1.58	1	0.71	15.00		0.41			4
5	712.0	20.0	4	1.81	1	1.43	4	2.05	1	1.45	20.00		0.85			5
6	683.0	20.0	4	1.29	1	0.77	4	1.52	1	0.84	15.00		0.72			6
7	744.0	22.0	4	1.96	1	0.87	4	2.21	1	1.09	15.00		0.55			7
8	972.0	26.0	4	2.06	1	1.19	4	2.40	1	1.41	20.00		0.32			8
9	735.0	22.0	4	1.81	1	1.98	4	2.29	1	2.11	12.00		0.64			9
10	705.0	19.0	4	1.68	1	0.80	4	2.13	1	0.86	10.00		0.70			10
11	772.0	23.0	4	1.85	1	1.64	4	2.22	1	1.85	15.00		0.77			11
12	717.0	19.0	4	1.69	1	0.87	4	2.14	1	1.09	10.00		0.60			12
13	889.0	10.0	4	2.02	1	1.73	4	2.32	1	1.97	12.00		0.31			13
14	764.0	22.0	4	1.87	1	1.75	4	2.09	1	1.81	10.00		0.59			14
15	646.0	18.0	4	1.86	1	1.50	4	2.18	1	1.63	9.00		0.40			15
16	641.0	17.0	4	1.86	1	0.84	4	2.18	1	0.96	9.00		0.63			16
17	675.0	11.0	4	1.72	1	1.45	4	1.96	1	1.66	10.00		0.61			17
18	708.0	10.0	4	1.94	1	0.65	4	2.29	1	0.75	9.00		0.61			18
19	711.0	15.0	4	1.74	1	0.60	4	1.98	1	0.84	9.00		0.25			19
20	684.0	15.0	4	1.54	1	1.13	4	2.26	1	1.35	8.00		0.36			20
21	712.0	14.0	4	2.19	1	0.45	4	2.36	1	0.48	14.00		0.40			21
22	748.0	16.0	4	1.83	1	1.05	4	2.01	1	1.21	14.00		0.60			22
23	750.0	18.0	4	1.64	1	1.37	4	1.87	1	1.63	13.00		0.58			23
24	664.0	16.0	4	1.69	1	1.23	4	2.00	1	1.38	13.00		0.46			24
25	767.0	21.0	4	1.96	1	0.63	4	2.37	1	0.74	14.00		0.60			25
26	786.0	20.0	4	1.96	1	1.71	4	2.30	1	1.86	16.00	0.20	0.67			26
27	617.0	15.0	4	2.09	1	0.55	4	2.39	1	0.64	10.00		0.64			27
28	675.0	20.0	4	2.10	1	1.24	4	2.55	1	1.58	11.00		0.34			28
29	638.0	17.0	4	2.14	1	1.42	4	2.43	1	1.67	11.00		0.54			29
30	692.0	19.0	4	2.05	1	0.30	4	2.71	1	0.56	15.00		0.64			30
31																31
Total	21524.0	532.0									747.00			0.00	0.00	Total
Avg.	717.5	17.7		1.82		1.10		2.15		1.26	12.40	0.20	0.54	0.00	0.00	Avg.
Max.	972	26.0		2.19		1.98		2.71		2.11	20.00	0.20	0.85	0.00	0.00	Max.
Min.	573	10.0		1.29		0.30		1.52		0.48	8.00	0.20	0.25	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10207 Grade: 2 Date: 7/10/25

Sept. 2009 IDNR Form #: 542-3104

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: June Year: 2025

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Jul-24	7	1.03	
Aug-24	7	1.72	
Sep-24	7	1.37	
Oct-24	7	1.55	
Nov-24	7	1.40	
Dec-24	7	1.83	
Jan-25	7	1.65	
Feb-25	7	1.64	
Mar-25	7	1.46	
Apr-25	7	1.36	
25-May	7	1.04	
Jun-25	7	1.39	
			1.45

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 6/25/2025

Well #	Static	Pumping
3	47.00	95.00
4	38.00	58.00
6	30.00	86.00
7	28.00	66.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: July Year: 2025

Day	Pumpage	Chlorine									Fluoride			Other		Day
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	Free Chlorine (mg/L) At Plant # of Tests	Free Chlorine (mg/L) At Plant Avg.	Free Chlorine (mg/L) In System # of Tests	Free Chlorine (mg/L) In System Avg.	Total Chlorine (mg/L) At Plant # of Tests	Total Chlorine (mg/L) At Plant Avg.	Total Chlorine (mg/L) In System # of Tests	Total Chlorine (mg/L) In System Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)			
1	699.0	20.0	4	2.16	1	1.28	4	2.46	1	1.50	24.00		0.54			1
2	751.0	21.0	4	2.09	1	0.86	4	2.53	1	1.00	20.00		0.62			2
3	669.0	24.0	4	1.69	1	1.69	4	2.07	1	1.82	19.00		0.72			3
4	684.0	12.0	3	1.69	1	1.02	3	1.94	1	1.51	14.00		0.68			4
5	369.0	10.0	3	1.96	1	1.20	3	2.28	1	1.67	7.00		0.72			5
6	580.0	7.0	3	1.45	1	1.11	3	1.67	1	1.42	17.00		0.67			6
7	695.0	20.0	3	2.00	1	0.97	3	2.42	1	1.25	18.00		0.74			7
8	697.0	21.0	3	1.19	1	0.98	3	1.92	1	1.17	17.00		0.64			8
9	737.0	22.0	3	2.08	1	1.44	3	2.47	1	1.56	20.00		0.62			9
10	632.0	17.0	4	1.63	1	0.83	4	1.99	1	1.13	15.00		0.63			10
11	548.0	13.0	4	1.75	1	0.73	4	2.07	1	0.82	11.00		0.72			11
12	573.0	14.0	4	1.72	1	1.39	4	2.17	1	1.71	14.00		0.80			12
13	617.0	17.0	4	1.57	1	1.20	4	2.02	1	1.50	13.00		0.73			13
14	672.0	18.0	4	1.69	1	0.62	4	1.94	1	0.71	21.00		0.62			14
15	698.0	21.0	4	1.69	1	0.71	4	2.01	1	0.87	18.00		0.74			15
16	664.0	14.0	4	1.92	1	1.45	4	2.48	1	1.47	18.00		0.52			16
17	645.0	18.0	4	1.95	1	0.44	4	2.30	1	0.66	15.00		0.66			17
18	716.0	20.0	4	1.95	1	0.51	4	2.32	1	0.64	16.00		0.74			18
19	636.0	18.0	4	1.79	1	1.07	4	2.09	1	0.03	15.00		0.84			19
20	601.0	16.0	4	1.45	1	1.44	4	1.73	1	1.73	16.00		0.77			20
21	700.0	20.0	4	1.59	1	1.31	4	1.94	1	1.46	20.00		0.86			21
22	755.0	16.0	4	1.57	1	1.13	4	2.05	1	1.34	15.00		0.66			22
23	750.0	15.0	4	1.79	1	1.24	4	2.13	1	1.47	19.00		0.79			23
24	663.0	17.0	4	1.58	1	0.66	4	2.02	1	0.72	15.00		0.56			24
25	728.0	21.0	4	1.65	1	0.81	4	2.02	1	1.07	18.00		0.61			25
26	690.0	18.0	4	1.69	1	1.34	4	2.05	1	1.64	15.00		0.79			26
27	620.0	17.0	4	1.85	1	1.51	4	2.21	1	1.87	16.00		0.81			27
28	608.0	16.0	4	1.52	1	1.52	4	1.84	1	1.54	15.00		0.72			28
29	611.0	17.0	4	1.48	1	0.40	4	2.05	1	0.52	14.00		0.79			29
30	695.0	16.0	4	1.55	1	1.19	4	1.92	1	1.39	17.00		0.54			30
31	753.0	20.0	4	1.92	1	0.63	4	2.27	1	0.68	17.00	0.24	0.55			31
Total	20456.0	536.0									509.00			0.00	0.00	Total
Avg.	659.9	17.3		1.73		1.05		2.11		1.22	31.81	0.24	0.69	0.00	0.00	Avg.
Max.	755	24.0		2.16		1.69		2.53		1.87	24.00	0.24	0.86	0.00	0.00	Max.
Min.	369	7.0		1.19		0.40		1.67		0.03	7.00	0.24	0.52	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 8/8/25

Sept. 2009 IDNR Form #: 542-3104

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: July Year: 2025

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Aug-24	7	1.72	
Sep-24	7	1.37	
Oct-24	7	1.55	
Nov-24	7	1.40	
Dec-24	7	1.83	
Jan-25	7	1.65	
Feb-25	7	1.64	
Mar-25	7	1.46	
Apr-25	7	1.36	
25-May	7	1.04	
Jun-25	7	1.39	
25-Jul	7	1.06	
			1.49

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 7/22/2025

Well #	Static	Pumping
3	44.00	93.00
4	38.00	60.00
6	34.00	86.00
7	24.00	62.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: August Year: 2025

Day	Pumpage	Chlorine									Fluoride			Other	
			Free Chlorine (mg/L)				Total Chlorine (mg/L)								
			At Plant		In System		At Plant		In System						
	to system in thousands of gallons	Quantity Used lbs. or gals. (circle one)	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	# of Tests	Avg.	Quantity Used lbs. or gals. (circle one)	Raw (mg/L)	S/EP (mg/L)		
1	818.0	23.0	4	1.93	1	1.58	4	2.31	1	1.75	18.00		0.68		
2	612.0	17.0	4	1.94	1	1.75	4	2.26	1	1.86	18.00		0.70		
3	579.0	17.0	3	2.20	1	1.07	3	2.60	1	1.36	16.00		0.78		
4	765.0	19.0	4	1.62	1	1.30	4	2.06	1	1.39	17.00		0.67		
5	692.0	18.0	4	1.89	1	1.03	4	2.20	1	1.32	17.00		0.57		
6	729.0	19.0	4	1.53	1	1.46	4	1.76	1	1.81	16.00		0.56		
7	718.0	17.0	4	1.93	1	0.67	4	0.70	1	2.02	17.00		0.63		
8	889.0	13.0	4	1.57	1	1.11	4	1.85	1	1.26	20.00		0.63		
9	595.0	11.0	4	1.60	1	1.01	4	1.90	1	1.15	13.00		0.63		
10	473.0	11.0	4	1.53	1	1.62	4	1.80	1	1.77	8.00		0.72		
11	648.0	18.0	4	1.72	1	1.45	4	1.99	1	1.58	13.00		0.50		
12	663.0	15.0	4	2.11	1	1.28	4	2.38	1	1.39	12.00		0.74		
13	669.0	19.0	4	1.99	1	1.46	4	2.24	1	1.60	14.00		0.53		
14	687.0	18.0	4	2.07	1	0.67	4	2.38	1	0.87	12.00		0.56		
15	757.0	18.0	4	1.89	1	1.72	4	2.27	1	1.81	13.00		0.72		
16	599.0	17.0	3	1.81	1	0.89	3	2.05	1	1.18	9.00		0.73		
17	631.0	19.0	3	1.67	1	1.67	3	2.02	1	1.89	10.00		0.75		
18	750.0	22.0	3	2.02	1	0.81	3	2.44	1	0.97	10.00		0.56		
19	694.0	20.0	3	1.71	1	1.45	3	2.06	1	1.59	12.00		0.32		
20	615.0	17.0	3	1.55	1	0.49	3	1.92	1	0.62	10.00		0.58		
21	692.0	20.0	3	1.65	1	1.14	3	2.07	1	1.30	11.00		0.72		
22	865.0	27.0	3	1.41	1	0.41	3	2.03	1	0.45	17.00		0.63		
23	535.0	14.0	4	2.08	1	1.19	4	2.32	1	1.46	12.00		0.81		
24	655.0	16.0	4	1.79	1	0.89	4	2.15	1	1.10	13.00		0.59		
25	612.0	16.0	4	1.58	1	1.65	4	1.83	1	2.07	9.00	0.30	0.53		
26	649.0	15.0	4	1.84	1	0.61	4	2.25	1	0.79	9.00		0.22		
27	623.0	19.0	4	1.23	1	1.26	4	1.51	1	1.32	9.00		0.55		
28	748.0	20.0	4	1.76	1	0.69	4	2.02	1	0.76	12.00		0.65		
29	778.0	20.0	4	2.15	1	1.72	4	2.30	1	1.77	11.00		0.44		
30	812.0	19.0	4	1.37	1	0.96	4	1.70	1	1.16	9.00		0.78		
31	729.0	16.0	4	1.63	1	1.31	4	1.92	1	1.72	7.00		0.69		
Total	21281.0	550.0									394.00			0.00	0.00
Avg.	686.5	17.7		1.77		1.17		2.04		1.39	12.71	0.30	0.62	0.00	0.00
Max.	889	27.0		2.20		1.75		2.60		2.07	20.00	0.30	0.81	0.00	0.00
Min.	473	11.0		1.23		0.41		0.70		0.45	7.00	0.30	0.22	0.00	0.00

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: [signature]

Certificate #: 10227 Grade: 2 Date: 9/10/25

Sept. 2009 IDNR Form #: 542-3104

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: August Year: 2025

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Sep-24	7	1.37	
Oct-24	7	1.55	
Nov-24	7	1.40	
Dec-24	7	1.83	
Jan-25	7	1.65	
Feb-25	7	1.64	
Mar-25	7	1.46	
Apr-25	7	1.36	
May-25	7	1.04	
Jun-25	7	1.39	
Jul-25	7	1.11	
Aug-25	7	1.36	
			1.43

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 8/28/2025

Well #	Static	Pumping
3	46.00	93.00
4	35.00	54.00
6	32.00	85.00
7	22.00	59.00

Comments:

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION

Facility Name: City Of Independence PWSID Number: 1037070

Treatment Plant #: _____ S/EP #: _____ Month: September Year: 2025

Day	Pumpage to system in thousands of gallons	Chlorine: Quantity Used lbs. or gals. (circle one)	Chlorine: Free Chlorine (mg/L) At Plant # of Tests	Chlorine: Free Chlorine (mg/L) At Plant Avg.	Chlorine: Free Chlorine (mg/L) In System # of Tests	Chlorine: Free Chlorine (mg/L) In System Avg.	Chlorine: Total Chlorine (mg/L) At Plant # of Tests	Chlorine: Total Chlorine (mg/L) At Plant Avg.	Chlorine: Total Chlorine (mg/L) In System # of Tests	Chlorine: Total Chlorine (mg/L) In System Avg.	Fluoride: Quantity Used lbs. or gals. (circle one)	Fluoride: Raw (mg/L)	Fluoride: S/EP (mg/L)	Other		Day
1	860.0	18.0	4	1.74	1	1.30	4	2.10	1	1.51	9.00		0.23			1
2	705.0	17.0	4	1.57	1	0.99	4	1.98	1	1.14	13.00		0.80			2
3	692.0	16.0	4	1.82	1	0.97	4	2.05	1	1.09	24.00		0.61			3
4	631.0	13.0	4	1.62	1	1.48	4	1.90	1	1.72	10.00		0.19			4
5	719.0	16.0	4	1.50	1	1.64	4	1.78	1	1.82	10.00		0.51			5
6	571.0	15.0	4	1.48	1	0.98	4	1.71	1	1.11	5.00		0.63			6
7	637.0	18.0	4	1.99	1	1.33	4	2.27	1	1.59	7.00		0.59			7
8	633.0	17.0	4	2.14	1	1.35	4	2.42	1	1.61	6.00		0.16			8
9	652.0	19.0	4	1.88	1	1.00	4	2.12	1	1.12	19.00		0.58			9
10	684.0	21.0	4	1.77	1	1.17	4	2.13	1	1.44	12.00		0.70			10
11	771.0	25.0	4	1.60	1	1.81	4	1.94	1	1.88	25.00		0.80			11
12	606.0	19.0	4	1.57	1	1.10	4	1.94	1	1.21	14.00		0.78			12
13	551.0	17.0	4	1.52	1	1.48	4	1.75	1	1.76	15.00		0.73			13
14	663.0	19.0	4	1.42	1	0.33	4	1.74	1	0.35	17.00		0.86			14
15	668.0	24.0	4	1.36	1	0.70	4	1.66	1	0.80	15.00		0.86			15
16	596.0	14.0	4	1.41	1	1.00	4	1.73	1	1.26	17.00		0.80			16
17	635.0	17.0	4	1.88	1	1.50	4	2.30	1	1.62	13.00		0.63			17
18	659.0	17.0	4	1.76	1	0.38	4	2.09	1	0.50	13.00		0.30			18
19	533.0	11.0	4	1.77	1	1.71	4	2.12	1	1.85	14.00		0.73			19
20	587.0	12.0	4	2.13	1	0.84	4	2.30	1	0.91	15.00		0.77			20
21	538.0	15.0	4	1.79	1	1.22	4	2.40	1	1.57	11.00		0.82			21
22	592.0	21.0	4	1.84	1	0.57	4	2.10	1	0.70	13.00		0.13			22
23	660.0	7.0	4	2.36	1	2.40	4	2.70	1	2.62	14.00		0.66			23
24	659.0	18.0	4	1.88	1	0.45	4	2.14	1	0.47	12.00		0.66			24
25	654.0	16.0	4	1.55	1	1.32	4	1.87	1	1.45	13.00		0.44			25
26	611.0	14.0	4	1.43	1	0.47	4	1.65	1	0.55	13.00		0.40			26
27	585.0	13.0	4	1.67	1	0.34	4	2.04	1	0.38	12.00		0.79			27
28	528.0	13.0	4	1.80	1	0.96	4	1.93	1	1.00	11.00		0.58			28
29	657.0	16.0	4	1.72	1	0.39	4	1.97	1	0.57	13.00	0.11	0.27			29
30	637.0	15.0	4	1.57	1	1.22	4	1.89	1	1.35	13.00		0.57			30
31			4		1		4		1							31
Total	19174.0	493.0									398.00			0.00	0.00	Total
Avg.	639.1	16.4		1.72		1.08		2.02		1.23	25.68	0.11	0.59	0.00	0.00	Avg.
Max.	860	25.0		2.36		2.40		2.70		2.62	25.00	0.11	0.86	0.00	0.00	Max.
Min.	528	7.0		1.36		0.33		1.65		0.35	5.00	0.11	0.13	0.00	0.00	Min.

Percentage of available chlorine in compound applied: 100 %

I certify that I am familiar with the information contained in this report and that the information is true, complete, and accurate.

DRC Operator or Designee's Signature: T Fee

Certificate #: 10227 Grade: 2 Date: 10/10/25

Sept. 2009

IDNR Form #: 542-3104

GROUNDWATER MONTHLY OPERATION REPORT
IOWA DNR WATER SUPPLY SECTION
Page 2

Facility Name: City of Independence PWSID Number: 1037070

Treatment Plant #: 0 S/EP #: 0 Month: September Year: 2025

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Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avg.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maximum Residual Disinfectant Level (MRDL) Calculation

Actual Month/ Year	Number of Samples Used in Calc.	Monthly Average	Running Annual Average (RAA)*
Oct-24	7	1.55	
Nov-24	7	1.40	
Dec-24	7	1.83	
Jan-25	7	1.65	
Feb-25	7	1.64	
Mar-25	7	1.46	
Apr-25	7	1.36	
May-25	7	1.04	
Jun-25	7	1.39	
Jul-25	7	1.11	
Aug-25	7	1.36	
Sep-25	7	1.42	
			1.43

Calculation of maximum disinfectant residual is based on the monthly average of the **Total** chlorine residual measured at the same time compliance bacterial samples are collected (includes Repeat/Check samples but excludes Specials). ***Should not exceed 4.0 mg/L.**

The RAA must be calculated at the end of each calendar quarter and include the previous 12 months.

Water Levels (ft.)

Date: 9/29/2025

Well #	Static	Pumping
3	44.00	92.00
4	34.00	50.00
6	30.00	86.00
7	24.00	62.00

Comments:

APPENDIX C

WATER QUALITY TESTING DATA

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1JA1583

Independence Water Dept

Travis Foley
2018 Three Elms Park Road
Independence, IA 50644

Project Name: DW

Project / PO Number: N/A
Received: 01/21/2026
Reported: 01/30/2026

Project Special Information

PWSID: IA1037070

Analytical Testing Parameters

Client Sample ID: Well #3
Sample Matrix: Drinking Water
Lab Sample ID: 1JA1583-01
Collected By: Jacobs, Morgan
Collection Date: 01/20/2026 9:30

Metals Total by ICP	Result	RL	Units	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4 (1994)							
Iron	<0.100	0.100	mg/L		01/28/26 0735	01/28/26 1450	JAR
Manganese	**0.0246**	0.00500	mg/L		01/28/26 0735	01/28/26 1450	JAR

Client Sample ID: Well #4
Sample Matrix: Drinking Water
Lab Sample ID: 1JA1583-02
Collected By: Jacobs, Morgan
Collection Date: 01/20/2026 9:50

Metals Total by ICP	Result	RL	Units	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4 (1994)							
Iron	<0.100	0.100	mg/L		01/28/26 0735	01/28/26 1509	JAR
Manganese	<0.00500	0.00500	mg/L		01/28/26 0735	01/28/26 1509	JAR

Client Sample ID: Well #6
Sample Matrix: Drinking Water
Lab Sample ID: 1JA1583-03
Collected By: Jacobs, Morgan
Collection Date: 01/20/2026 8:25

Metals Total by ICP	Result	RL	Units	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4 (1994)							
Iron	**0.164**	0.100	mg/L		01/28/26 0735	01/28/26 1515	JAR
Manganese	**0.0129**	0.00500	mg/L		01/28/26 0735	01/28/26 1515	JAR

Client Sample ID: Well #7
Sample Matrix: Drinking Water
Lab Sample ID: 1JA1583-04
Collected By: Jacobs, Morgan
Collection Date: 01/20/2026 8:42

Metals Total by ICP	Result	RL	Units	Note	Prepared	Analyzed	Analyst
EPA 200.7, Rv. 4.4 (1994)							
Iron	**0.113**	0.100	mg/L		01/28/26 0735	01/28/26 1521	JAR
Manganese	**0.0244**	0.00500	mg/L		01/28/26 0735	01/28/26 1521	JAR

Definitions

RL: Reporting Limit

CERTIFICATE OF ANALYSIS

1JA1583

Project Requested Certification(s)

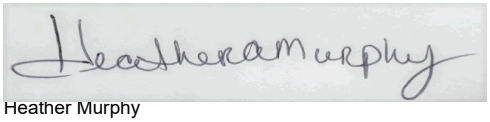
Microbac Laboratories, Inc., Newton
95 Iowa Dept. of Natural Resources

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:



Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
01/30/26 11:57

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

600 E. 17th St. S.
Newton, IA 50208
Phone: 641-792-84
Fax: 641-792-79

ams, Suite 120
City, KS 66103
913-321-7856
913-321-7937

1JA1583
Independence Water Dept
PM: Heather Murphy

PAGE ____ OF ____

PRINT OR TYPE INFORMATION BELOW
SAMPLER: Morgan Jacobs
SITE NAME:
ADDRESS:
CITY/ST/ZIP:
PHONE: 641-229-6012

REPORT TO:
NAME: Travis Foley
COMPANY NAME: Independence Utility Dept
ADDRESS: 2018 Three Elms Park Rd
CITY/ST/ZIP: Independence IA 50644
PHONE: 319-334-3750
FAX:

BILL TO:
NAME: Travis Foley
COMPANY NAME: Independence Utility Dept
ADDRESS: 2018 Three Elms Park Rd
CITY/ST/ZIP: Independence IA 50644
PHONE: 319-334-3750

Keystone Quote No.: (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	ANALYSES REQUIRED: Iron	ANALYSES REQUIRED: manganese	SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
1	1/20/26	9:30AM	well #3	1		X	X	X		01
2	1/20/26	9:50AM	well #4	1		X	X	X		02
3	1/20/26	8:25AM	well # 6	1		X	X	X		03
4	1/20/26	8:42AM	well # 7	1		X	X	X		04

LAB USE ONLY
LABORATORY WORK ORDER NO.: 1JA1583
SAMPLE TEMPERATURE UPON RECEIPT: 4-8 °C

Relinquished by: (Signature)	Date 1/20/26	Received by: (Signature)	Date 01/21/26
	Time 11:28AM		Time 11:57
Relinquished by: (Signature)	Date 1/20/26	Received for Lab by: (Signature)	Date
	Time 11:28		Time

Turn-Around: ☒ Standard ☐ Rush ____ Contact Lab Prior to Submission

Remarks:

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

FORM: CCR 7-97

WatSim

WATER CHEMISTRY INPUT

Independence, IA
Well #3

Alan Schneider
Slater

Report Date: 02-23-2026
Sample #: 7773

Sampled: 02-23-2026
at 0920

CATIONS		ANIONS	
Calcium (as Ca)	97.10	Chloride (as Cl)	13.60
Magnesium (as Mg)	22.51	Sulfate (as SO_4)	107.55
Sodium (as Na)	5.44	"M" Alkalinity (as $CaCO_3$)	217.00
Potassium (as K)	1.63	"P" Alkalinity (as $CaCO_3$)	< 0.001
Ammonia (as NH_3)	0.00500	Phosphate (as PO_4)	0.00
Iron (as Fe)	0.0570	Pyrophosphate (as PO_4)	0.00
Manganese (as Mn)	0.0310	Silica (as SiO_2)	10.18
Aluminum (as Al)	0.0600	Nitrate (as NO_3)	1.05
Zinc (as Zn)	0.00100	Fluoride (as F)	0.0360
Boron (as B)	0.0500		

PARAMETERS	
pH	7.51
Temperature (°F)	55.00
Calculated T.D.S.	547.67
Calculated Cond.	616.71
F.A.C.	0.00

COMMENTS

ADDITIONAL RESULTS:

Total Hardness, mg/L (as CaCO3)	335
Copper, µg/L	<1
Lead, µg/L	<1
Nitrite (as NO2-N), mg/L	<0.001
Nitrate (as NO3-N), mg/L	0.2372
UV-254 Absorbance	0.006
Orthophosphate, mg/L	<0.01

Hawkins, Inc.
3100 East Hennepin Avenue, Minneapolis, MN 55413

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RAW WATER
DEPOSITION POTENTIAL INDICATORS

Independence, IA
Well #3

Alan Schneider
Slater

Report Date: 02-23-2026
Sample #: 7773

Sampled: 02-23-2026
at 0920

SATURATION LEVEL	
Calcite ($CaCO_3$)	1.19
Aragonite ($CaCO_3$)	1.05
Anhydrite ($CaSO_4$)	0.0193
Gypsum ($CaSO_4*2H_2O$)	0.0345
Calcium phosphate	0.00
Hydroxyapatite	0.00
Fluorite (CaF_2)	< 0.001
Silica (SiO_2)	0.120
Brucite ($Mg(OH)_2$)	< 0.001
Magnesium silicate	< 0.001
Iron hydroxide ($Fe(OH)_3$)	12.96
Siderite ($FeCO_3$)	0.983
Strengite ($FePO_4*2H_2O$)	0.00
Calcium oxalate (CaC_2O_4)	0.00
Ca pyrophosphate (CaP_2O_7)	0.00
Zinc phosphate ($Zn_3(PO_4)_2$)	0.00

FREE ION MOMENTARY EXCESS (ppm)	
Calcite ($CaCO_3$)	0.104
Aragonite ($CaCO_3$)	0.0334
Anhydrite ($CaSO_4$)	-1176.4
Gypsum ($CaSO_4*2H_2O$)	-937.38
Calcium phosphate	>-0.001
Hydroxyapatite	-375.80
Fluorite (CaF_2)	-29.49
Silica (SiO_2)	-76.99
Brucite ($Mg(OH)_2$)	-3.16
Magnesium silicate	-175.23
Iron hydroxide ($Fe(OH)_3$)	< 0.001
Siderite ($FeCO_3$)	-0.00154
Strengite ($FePO_4*2H_2O$)	>-0.001
Calcium oxalate (CaC_2O_4)	-0.221
Ca pyrophosphate (CaP_2O_7)	-0.00156
Zinc phosphate ($Zn_3(PO_4)_2$)	-0.0151

SIMPLE INDICES	
Langelier	0.134
Ryznar	7.24
Puckorius	6.79
Larson-Skold Index	0.607
C.C.P.P.	13.72

BOUND IONS	TOTAL	FREE
Calcium	97.10	87.45
Carbonate	1.26	0.390
Phosphate	0.00	0.00

CHEMICAL PROPERTIES	
D.I.C. (mg/L C)	55.37
Pb solubility(ug/L)	2.48
Cu solubility(mg/L)	3.57
Zn solubility(mg/L)	8.19
PPO_4 solubility(mg/L)	2.40
PO_4 solubility(mg/L)	6.82

OPERATING CONDITIONS	
Temperature (°F)	55.00
Time(mins)	3.00

Hawkins, Inc.
3100 East Hennepin Avenue, Minneapolis, MN 55413

WatSim

WATER CHEMISTRY INPUT

Independence, IA
Well #4

Alan Schneider
Slater

Report Date: 02-23-2026
Sample #: 7773

Sampled: 02-23-2026
at 0922

CATIONS		ANIONS	
Calcium (as Ca)	113.90	Chloride (as Cl)	44.80
Magnesium (as Mg)	18.60	Sulfate (as SO_4)	81.22
Sodium (as Na)	18.50	"M" Alkalinity (as $CaCO_3$)	234.00
Potassium (as K)	2.33	"P" Alkalinity (as $CaCO_3$)	< 0.001
Ammonia (as NH_3)	< 0.001	Phosphate (as PO_4)	0.444
Iron (as Fe)	0.00	Pyrophosphate (as PO_4)	0.00
Manganese (as Mn)	0.00	Silica (as SiO_2)	13.35
Aluminum (as Al)	0.0600	Nitrate (as NO_3)	27.40
Zinc (as Zn)	0.00	Fluoride (as F)	0.00
Boron (as B)	0.0400		

PARAMETERS	
pH	7.26
Temperature (°F)	55.00
Calculated T.D.S.	648.08
Calculated Cond.	740.24
F.A.C.	0.00

COMMENTS

ADDITIONAL RESULTS:

Total Hardness, mg/L (as CaCO3)	361
Copper, µg/L	<1
Lead, µg/L	<1
Nitrite (as NO2-N), mg/L	<0.001
Nitrate (as NO3-N), mg/L	6.190
UV-254 Absorbance	0.022
Orthophosphate, mg/L	0.392

Hawkins, Inc.
3100 East Hennepin Avenue, Minneapolis, MN 55413

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RAW WATER
DEPOSITION POTENTIAL INDICATORS

Independence, IA
Well #4

Alan Schneider
Slater

Report Date: 02-23-2026
Sample #: 7773

Sampled: 02-23-2026
at 0922

SATURATION LEVEL	
Calcite ($CaCO_3$)	0.844
Aragonite ($CaCO_3$)	0.748
Anhydrite ($CaSO_4$)	0.0165
Gypsum ($CaSO_4*2H_2O$)	0.0295
Calcium phosphate	0.00724
Hydroxyapatite	< 0.001
Fluorite (CaF_2)	0.00
Silica (SiO_2)	0.157
Brucite ($Mg(OH)_2$)	< 0.001
Magnesium silicate	< 0.001
Iron hydroxide ($Fe(OH)_3$)	0.00
Siderite ($FeCO_3$)	0.00
Strengite ($FePO_4*2H_2O$)	0.00
Calcium oxalate (CaC_2O_4)	0.00
Ca pyrophosphate (CaP_2O_7)	0.00
Zinc phosphate ($Zn_3(PO_4)_2$)	0.00

FREE ION MOMENTARY EXCESS (ppm)	
Calcite ($CaCO_3$)	-0.0739
Aragonite ($CaCO_3$)	-0.135
Anhydrite ($CaSO_4$)	-1193.9
Gypsum ($CaSO_4*2H_2O$)	-950.72
Calcium phosphate	>-0.001
Hydroxyapatite	-381.32
Fluorite (CaF_2)	-27.88
Silica (SiO_2)	-73.71
Brucite ($Mg(OH)_2$)	-3.47
Magnesium silicate	-176.51
Iron hydroxide ($Fe(OH)_3$)	>-0.001
Siderite ($FeCO_3$)	-0.137
Strengite ($FePO_4*2H_2O$)	>-0.001
Calcium oxalate (CaC_2O_4)	-0.193
Ca pyrophosphate (CaP_2O_7)	-0.00126
Zinc phosphate ($Zn_3(PO_4)_2$)	-0.0163

SIMPLE INDICES	
Langelier	-0.0246
Ryznar	7.31
Puckorius	6.56
Larson-Skold Index	0.634
C.C.P.P.	7.33

BOUND IONS	TOTAL	FREE
Calcium	113.90	104.49
Carbonate	0.777	0.241
Phosphate	0.444	< 0.001

CHEMICAL PROPERTIES	
D.I.C. (mg/L C)	62.64
Pb solubility(ug/L)	4.09
Cu solubility(mg/L)	7.60
Zn solubility(mg/L)	3.27
PPO_4 solubility(mg/L)	1.84
PO_4 solubility(mg/L)	11.47

OPERATING CONDITIONS	
Temperature (°F)	55.00
Time(mins)	3.00

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WATER CHEMISTRY INPUT

Independence, IA
Well #6

Alan Schneider
Slater

Report Date: 02-23-2026
Sample #: 7773

Sampled: 02-23-2026
at 0924

CATIONS		ANIONS	
Calcium (as Ca)	82.31	Chloride (as Cl)	21.70
Magnesium (as Mg)	19.03	Sulfate (as SO_4)	77.34
Sodium (as Na)	10.47	"M" Alkalinity (as $CaCO_3$)	198.00
Potassium (as K)	1.85	"P" Alkalinity (as $CaCO_3$)	< 0.001
Ammonia (as NH_3)	0.197	Phosphate (as PO_4)	0.321
Iron (as Fe)	0.170	Pyrophosphate (as PO_4)	0.00
Manganese (as Mn)	0.0110	Silica (as SiO_2)	11.40
Aluminum (as Al)	0.0500	Nitrate (as NO_3)	< 0.001
Zinc (as Zn)	0.00	Fluoride (as F)	0.184
Boron (as B)	0.0600		

PARAMETERS	
pH	7.45
Temperature (°F)	55.00
Calculated T.D.S.	492.41
Calculated Cond.	565.51
F.A.C.	0.00

COMMENTS

ADDITIONAL RESULTS:

Total Hardness, mg/L (as CaCO3)	284
Copper, µg/L	<1
Lead, µg/L	<1
Nitrite (as NO2-N), mg/L	<0.001
Nitrate (as NO3-N), mg/L	<0.001
UV-254 Absorbance	0.018
Orthophosphate, mg/L	0.407

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RAW WATER
DEPOSITION POTENTIAL INDICATORS

Independence, IA
Well #6

Alan Schneider
Slater

Report Date: 02-23-2026
Sample #: 7773

Sampled: 02-23-2026
at 0924

SATURATION LEVEL	
Calcite ($CaCO_3$)	0.843
Aragonite ($CaCO_3$)	0.746
Anhydrite ($CaSO_4$)	0.0127
Gypsum ($CaSO_4*2H_2O$)	0.0228
Calcium phosphate	0.00558
Hydroxyapatite	< 0.001
Fluorite (CaF_2)	< 0.001
Silica (SiO_2)	0.134
Brucite ($Mg(OH)_2$)	< 0.001
Magnesium silicate	< 0.001
Iron hydroxide ($Fe(OH)_3$)	30.77
Siderite ($FeCO_3$)	2.47
Strengite ($FePO_4*2H_2O$)	0.249
Calcium oxalate (CaC_2O_4)	0.00
Ca pyrophosphate (CaP_2O_7)	0.00
Zinc phosphate ($Zn_3(PO_4)_2$)	0.00

FREE ION MOMENTARY EXCESS (ppm)	
Calcite ($CaCO_3$)	-0.0951
Aragonite ($CaCO_3$)	-0.173
Anhydrite ($CaSO_4$)	-1183.1
Gypsum ($CaSO_4*2H_2O$)	-953.46
Calcium phosphate	>-0.001
Hydroxyapatite	-369.60
Fluorite (CaF_2)	-30.47
Silica (SiO_2)	-75.74
Brucite ($Mg(OH)_2$)	-3.34
Magnesium silicate	-173.79
Iron hydroxide ($Fe(OH)_3$)	< 0.001
Siderite ($FeCO_3$)	0.146
Strengite ($FePO_4*2H_2O$)	>-0.001
Calcium oxalate (CaC_2O_4)	-0.246
Ca pyrophosphate (CaP_2O_7)	-0.00177
Zinc phosphate ($Zn_3(PO_4)_2$)	-0.0153

SIMPLE INDICES	
Langelier	-0.0266
Ryznar	7.50
Puckorius	7.05
Larson-Skold Index	0.563
C.C.P.P.	4.10

BOUND IONS	TOTAL	FREE
Calcium	82.31	75.48
Carbonate	0.920	0.307
Phosphate	0.321	< 0.001

CHEMICAL PROPERTIES	
D.I.C. (mg/L C)	51.08
Pb solubility(ug/L)	3.08
Cu solubility(mg/L)	4.96
Zn solubility(mg/L)	2.72
PPO_4 solubility(mg/L)	2.63
PO_4 solubility(mg/L)	8.51

OPERATING CONDITIONS	
Temperature (°F)	55.00
Time(mins)	3.00

Hawkins, Inc.
3100 East Hennepin Avenue, Minneapolis, MN 55413

WatSim

WATER CHEMISTRY INPUT

Independence, IA
Well #7

Alan Schneider
Slater

Report Date: 02-23-2026
Sample #: 7773

Sampled: 02-23-2026
at 0925

CATIONS		ANIONS	
Calcium (as Ca)	98.69	Chloride (as Cl)	32.50
Magnesium (as Mg)	23.93	Sulfate (as SO_4)	97.15
Sodium (as Na)	14.35	"M" Alkalinity (as $CaCO_3$)	232.00
Potassium (as K)	2.21	"P" Alkalinity (as $CaCO_3$)	< 0.001
Ammonia (as NH_3)	0.109	Phosphate (as PO_4)	0.291
Iron (as Fe)	0.116	Pyrophosphate (as PO_4)	0.00
Manganese (as Mn)	0.0230	Silica (as SiO_2)	11.14
Aluminum (as Al)	0.0500	Nitrate (as NO_3)	< 0.001
Zinc (as Zn)	0.0160	Fluoride (as F)	0.104
Boron (as B)	0.0600		

PARAMETERS	
pH	7.41
Temperature (°F)	55.00
Calculated T.D.S.	594.47
Calculated Cond.	681.31
F.A.C.	0.00

COMMENTS

ADDITIONAL RESULTS:

Total Hardness, mg/L (as CaCO3)	345
Copper, µg/L	4
Lead, µg/L	<1
Nitrite (as NO2-N), mg/L	<0.001
Nitrate (as NO3-N), mg/L	<0.001
UV-254 Absorbance	0.017
Orthophosphate, mg/L	0.313

Hawkins, Inc.
3100 East Hennepin Avenue, Minneapolis, MN 55413

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RAW WATER
DEPOSITION POTENTIAL INDICATORS

Independence, IA
Well #7

Alan Schneider
Slater

Report Date: 02-23-2026
Sample #: 7773

Sampled: 02-23-2026
at 0925

SATURATION LEVEL	
Calcite ($CaCO_3$)	1.02
Aragonite ($CaCO_3$)	0.906
Anhydrite ($CaSO_4$)	0.0174
Gypsum ($CaSO_4*2H_2O$)	0.0311
Calcium phosphate	0.00483
Hydroxyapatite	< 0.001
Fluorite (CaF_2)	< 0.001
Silica (SiO_2)	0.131
Brucite ($Mg(OH)_2$)	< 0.001
Magnesium silicate	< 0.001
Iron hydroxide ($Fe(OH)_3$)	17.01
Siderite ($FeCO_3$)	1.74
Strengite ($FePO_4*2H_2O$)	0.137
Calcium oxalate (CaC_2O_4)	0.00
Ca pyrophosphate (CaP_2O_7)	0.00
Zinc phosphate ($Zn_3(PO_4)_2$)	< 0.001

FREE ION MOMENTARY EXCESS (ppm)	
Calcite ($CaCO_3$)	0.0124
Aragonite ($CaCO_3$)	-0.0580
Anhydrite ($CaSO_4$)	-1194.5
Gypsum ($CaSO_4*2H_2O$)	-953.92
Calcium phosphate	>-0.001
Hydroxyapatite	-378.81
Fluorite (CaF_2)	-29.32
Silica (SiO_2)	-75.99
Brucite ($Mg(OH)_2$)	-3.09
Magnesium silicate	-175.93
Iron hydroxide ($Fe(OH)_3$)	< 0.001
Siderite ($FeCO_3$)	0.0754
Strengite ($FePO_4*2H_2O$)	>-0.001
Calcium oxalate (CaC_2O_4)	-0.221
Ca pyrophosphate (CaP_2O_7)	-0.00161
Zinc phosphate ($Zn_3(PO_4)_2$)	-0.00743

SIMPLE INDICES	
Langelier	0.0640
Ryznar	7.28
Puckorius	6.69
Larson-Skold Index	0.636
C.C.P.P.	11.51

BOUND IONS	TOTAL	FREE
Calcium	98.69	89.46
Carbonate	1.10	0.335
Phosphate	0.291	< 0.001

CHEMICAL PROPERTIES	
D.I.C. (mg/L C)	60.23
Pb solubility(ug/L)	2.92
Cu solubility(mg/L)	5.04
Zn solubility(mg/L)	3.60
PPO_4 solubility(mg/L)	2.47
PO_4 solubility(mg/L)	9.12

OPERATING CONDITIONS	
Temperature (°F)	55.00
Time(mins)	3.00

Hawkins, Inc.
3100 East Hennepin Avenue, Minneapolis, MN 55413

April 20, 2023

INDEPENDENCE, CITY OF
ATTN CITY CLERK
331 1ST ST E
INDEPENDENCE IA 50644

SUBJECT: Iowa DNR PFAS Sampling Summary

This letter is a follow-up to DNR sampling at your water supply. Your per- and polyfluoroalkyl substances (PFAS) results showed NO DETECTION of any PFAS compounds in the raw or finished drinking water samples. Therefore, no additional monitoring will be assigned.

The Environmental Protection Agency (EPA) has not established a Maximum Contaminant Level (MCL) for any PFAS compound. However, a proposed rule was released in March 2023 with more information found here: https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas. Currently, EPA has set the Lifetime Health Advisories (HA) in drinking water as shown below.

PFAS Compound	Health Advisory Level (ppt)
PFOA	0.004 (interim)
PFOS	0.02 (interim)
PFBS	2,000
GenX	10

These results will be made publicly available at https://www.iowadnr.gov/Environmental-Protection/PFAS.

If you have further questions, please contact please contact Jim Warren at 515-725-0297 or E-mail me at james.warren@dnr.iowa.gov.

Sincerely,

Jim Warren Digitally signed by Jim Warren
Date: 2023.04.20 12:51:49 -05'00'

Jim Warren
Environmental Specialist Senior, Water Supply Operations Section

cc:

[ ] File: PWSID # 1037070

[ ] INDEPENDENCE WATER DEPT
ATTN TRAVIS FOLEY 2018 3 ELMS PARK RD, INDEPENDENCE IA 50644

Sample Collection Date	Analyte	Results	Unit of Measurement	Free Cl	Total Cl	Facility ID	Facility Name	Sample Point ID	Sample Collection Address
11/5/2024	1,1,1-Trichloroethane	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	1,1,1-Trichloroethane	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	1,1,1-Trichloroethane	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	1,1,1-Trichloroethane	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	1,1,2-Trichloroethane	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	1,1,2-Trichloroethane	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	1,1,2-Trichloroethane	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	1,1,2-Trichloroethane	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	1,1-Dichloroethylene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	1,1-Dichloroethylene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	1,1-Dichloroethylene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	1,1-Dichloroethylene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	1,2,4-Trichlorobenzene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	1,2,4-Trichlorobenzene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	1,2,4-Trichlorobenzene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	1,2,4-Trichlorobenzene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	1,2-Dichloroethane	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	1,2-Dichloroethane	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	1,2-Dichloroethane	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	1,2-Dichloroethane	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	1,2-Dichloropropane	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	1,2-Dichloropropane	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	1,2-Dichloropropane	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	1,2-Dichloropropane	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
3/21/2023	11CL-PF3Ouds	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
11/5/2024	2,4-D	<0.002	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	2,4-D	<0.002	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	2,4-D	<0.002	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	2,4-D	<0.002	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
3/21/2023	9CL-PF3Ons	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Adona	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
11/5/2024	Alachlor (Lasso)	<0.0001	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Alachlor (Lasso)	<0.0001	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Alachlor (Lasso)	<0.0001	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Alachlor (Lasso)	<0.0001	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Atrazine	<0.0001	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Atrazine	<0.0001	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Atrazine	<0.0001	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Atrazine	<0.0001	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Benzene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Benzene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Benzene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Benzene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
8/26/2025	Bromodichloromethane	0.00981	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/27/2024	Bromodichloromethane	0.0134	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/28/2023	Bromodichloromethane	0.00928	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/26/2025	Bromoform	0.00097	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/27/2024	Bromoform	0.00098	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/28/2023	Bromoform	0.00137	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
11/5/2024	Carbon Tetrachloride	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Carbon Tetrachloride	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Carbon Tetrachloride	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Carbon Tetrachloride	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
8/26/2025	Chlorodibromomethane	0.00537	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/27/2024	Chlorodibromomethane	0.00662	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/28/2023	Chlorodibromomethane	0.00618	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/26/2025	Chloroform	0.0163	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/27/2024	Chloroform	0.0248	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/28/2023	Chloroform	0.0123	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
11/5/2024	cis-1,2-Dichloroethylene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	cis-1,2-Dichloroethylene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	cis-1,2-Dichloroethylene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	cis-1,2-Dichloroethylene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
9/24/2025	Coliform (TCR)	Absent	NA	2.17	2.43	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
9/24/2025	Coliform (TCR)	Absent	NA	1.99	2.16	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
9/24/2025	Coliform (TCR)	Absent	NA	0.31	0.37	950	DISTRIBUTION SYSTEM	950	900 1ST W
9/16/2025	Coliform (TCR)	Absent	NA	0.99	1.11	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
9/16/2025	Coliform (TCR)	Absent	NA	1	1.26	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
9/16/2025	Coliform (TCR)	Absent	NA	1.44	1.68	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR.
9/16/2025	Coliform (TCR)	Absent	NA	1.3	1.63	950	DISTRIBUTION SYSTEM	950	201 3RD AVE. SE
8/26/2025	Coliform (TCR)	Absent	NA	2.29	2.48	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
8/26/2025	Coliform (TCR)	Absent	NA	0.42	0.47	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
8/26/2025	Coliform (TCR)	Absent	NA	1.84	1.89	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
8/20/2025	Coliform (TCR)	Absent	NA	0.71	0.8	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
8/20/2025	Coliform (TCR)	Absent	NA	1.29	1.64	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
8/20/2025	Coliform (TCR)	Absent	NA	0.56	0.59	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
8/20/2025	Coliform (TCR)	Absent	NA	1.26	1.66	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
8/7/2025	Coliform (TCR)	Absent	NA	0.44	0.54	ST01	COURTHOUSE STORAGE	ST01	MHI TOWER
7/23/2025	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
7/23/2025	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
7/23/2025	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
7/15/2025	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	8TH AVE. NE
7/14/2025	Coliform (TCR)	Absent	NA	1.66	1.75	950	DISTRIBUTION SYSTEM	950	201 3RD AVE. SE
7/14/2025	Coliform (TCR)	Absent	NA	1.3	1.51	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
7/14/2025	Coliform (TCR)	Absent	NA	0.33	0.38	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
7/14/2025	Coliform (TCR)	Absent	NA	0.62	0.71	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
6/25/2025	Coliform (TCR)	Absent	NA	1.92	2.21	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
6/25/2025	Coliform (TCR)	Absent	NA	0.63	0.74	950	DISTRIBUTION SYSTEM	950	900 1ST W
6/25/2025	Coliform (TCR)	Absent	NA	0.98	1.15	950	DISTRIBUTION SYSTEM	950	216 1ST SE
6/16/2025	Coliform (TCR)	Absent	NA	1.93	2.03	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
6/16/2025	Coliform (TCR)	Absent	NA	1.55	1.65	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
6/16/2025	Coliform (TCR)	Absent	NA	1.29	1.52	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
6/16/2025	Coliform (TCR)	Absent	NA	0.84	0.96	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
5/30/2025	Coliform (TCR)	Absent	NA	0.72	0.85	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
5/30/2025	Coliform (TCR)	Absent	NA	2.21	2.28	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
5/30/2025	Coliform (TCR)	Absent	NA	0.41	0.52	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W

Sample Collection Date	Analyte	Results	Unit of Measurement	Free Cl	Total Cl	Facility ID	Facility Name	Sample Point ID	Sample Collection Address
5/15/2025	Coliform (TCR)	Absent	NA	1.24	1.65	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
5/15/2025	Coliform (TCR)	Absent	NA	0.76	0.9	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
5/15/2025	Coliform (TCR)	Absent	NA	0.61	0.83	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
5/15/2025	Coliform (TCR)	Absent	NA	1.52	1.64	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
4/28/2025	Coliform (TCR)	Absent	NA	2.12	2.3	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
4/28/2025	Coliform (TCR)	Absent	NA	1.78	1.9	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
4/28/2025	Coliform (TCR)	Absent	NA	0.57	0.59	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
4/10/2025	Coliform (TCR)	Absent	NA	1.99	2.24	950	DISTRIBUTION SYSTEM	950	201 3RD AVE. SE
4/10/2025	Coliform (TCR)	Absent	NA	1.84	1.98	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
4/10/2025	Coliform (TCR)	Absent	NA	0.52	0.59	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
4/10/2025	Coliform (TCR)	Absent	NA	0.7	0.86	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
3/24/2025	Coliform (TCR)	Absent	NA	2.01	2.11	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
3/24/2025	Coliform (TCR)	Absent	NA	0.64	0.8	950	DISTRIBUTION SYSTEM	950	1414 1ST ST W
3/24/2025	Coliform (TCR)	Absent	NA	1.87	1.96	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
3/11/2025	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
3/11/2025	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
3/11/2025	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
3/11/2025	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
2/11/2025	Coliform (TCR)	Absent	NA	2.03	2.38	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
2/11/2025	Coliform (TCR)	Absent	NA	0.87	1.03	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
2/11/2025	Coliform (TCR)	Absent	NA	1.6	1.94	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
2/4/2025	Coliform (TCR)	Absent	NA	1.87	2.2	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
2/4/2025	Coliform (TCR)	Absent	NA	0.4	0.53	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
2/4/2025	Coliform (TCR)	Absent	NA	1.01	1.21	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
2/4/2025	Coliform (TCR)	Absent	NA	2.02	2.21	950	DISTRIBUTION SYSTEM	950	201 3RD AVE. SE
1/21/2025	Coliform (TCR)	Absent	NA	2.03	2.34	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
1/21/2025	Coliform (TCR)	Absent	NA	2.06	2.44	950	DISTRIBUTION SYSTEM	950	201 3RD AVE. SE
1/21/2025	Coliform (TCR)	Absent	NA	0.64	0.91	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
1/21/2025	Coliform (TCR)	Absent	NA	0.61	0.75	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
1/14/2025	Coliform (TCR)	Absent	NA	2.29	2.37	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
1/14/2025	Coliform (TCR)	Absent	NA	1.66	1.95	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
1/14/2025	Coliform (TCR)	Absent	NA	0.79	0.82	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
12/19/2024	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	900 1ST ST W
12/19/2024	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
12/19/2024	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
12/11/2024	Coliform (TCR)	Absent	NA	1.94	2.18	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
12/11/2024	Coliform (TCR)	Absent	NA	1.97	2.22	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
12/11/2024	Coliform (TCR)	Absent	NA	0.48	1.02	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
12/11/2024	Coliform (TCR)	Absent	NA	1.47	1.68	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
11/25/2024	Coliform (TCR)	Absent	NA	0.38	0.44	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
11/25/2024	Coliform (TCR)	Absent	NA	1.71	2.03	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
11/25/2024	Coliform (TCR)	Absent	NA	1.43	1.57	950	DISTRIBUTION SYSTEM	950	1305 5TH AVE. NE
11/19/2024	Coliform (TCR)	Absent	NA	0.35	0.75	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
11/19/2024	Coliform (TCR)	Absent	NA	2.25	2.4	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
11/19/2024	Coliform (TCR)	Absent	NA	0.82	1	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
11/19/2024	Coliform (TCR)	Absent	NA	1.3	1.61	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
10/29/2024	Coliform (TCR)	Absent	NA	1.84	1.85	950	DISTRIBUTION SYSTEM	950	201 3RD AVE. SE
10/29/2024	Coliform (TCR)	Absent	NA	0.32	0.37	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
10/29/2024	Coliform (TCR)	Absent	NA	2	2.18	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
10/22/2024	Coliform (TCR)	Absent	NA	2.01	2.33	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. SW
10/22/2024	Coliform (TCR)	Absent	NA	0.85	1.03	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
10/22/2024	Coliform (TCR)	Absent	NA	1.78	2.12	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
10/22/2024	Coliform (TCR)	Absent	NA	0.96	0.99	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
9/24/2024	Coliform (TCR)	Absent	NA	1.48	1.93	950	DISTRIBUTION SYSTEM	950	216 3RD AVE SE
9/24/2024	Coliform (TCR)	Absent	NA	1.89	2.02	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
9/24/2024	Coliform (TCR)	Absent	NA	0.31	0.36	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
9/17/2024	Coliform (TCR)	Absent	NA	0.48	0.57	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
9/17/2024	Coliform (TCR)	Absent	NA	1.99	2.13	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
9/17/2024	Coliform (TCR)	Absent	NA	1.69	1.8	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
9/17/2024	Coliform (TCR)	Absent	NA	0.71	0.83	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
8/21/2024	Coliform (TCR)	Absent	NA	0.43	0.54	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
8/21/2024	Coliform (TCR)	Absent	NA	1.62	1.89	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
8/21/2024	Coliform (TCR)	Absent	NA	1.58	1.7	950	DISTRIBUTION SYSTEM	950	1000 1ST ST NE
8/13/2024	Coliform (TCR)	Absent	NA	1.41	2.02	950	DISTRIBUTION SYSTEM	950	1936 LOVERS LANE BLVD
8/13/2024	Coliform (TCR)	Absent	NA	2.78	3.07	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
8/13/2024	Coliform (TCR)	Absent	NA	0.67	0.79	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
8/13/2024	Coliform (TCR)	Absent	NA	1.77	2.03	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
8/6/2024	Coliform (TCR)	Absent	NA			ST01	COURTHOUSE STORAGE	ST01	COURTHOUSE TOWER
8/5/2024	Coliform (TCR)	Absent	NA			ST01	COURTHOUSE STORAGE	ST01	1ST WARD WATER TOWER
7/24/2024	Coliform (TCR)	Absent	NA	0.34	0.4	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
7/24/2024	Coliform (TCR)	Absent	NA	0.68	1.01	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
7/24/2024	Coliform (TCR)	Absent	NA	0.98	1.02	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
7/16/2024	Coliform (TCR)	Absent	NA	0.63	0.91	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR
7/16/2024	Coliform (TCR)	Absent	NA	0.82	0.84	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
7/16/2024	Coliform (TCR)	Absent	NA	0.39	0.76	950	DISTRIBUTION SYSTEM	950	1936 LOVERS LANE BLVD
7/16/2024	Coliform (TCR)	Absent	NA	2.23	2.32	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
7/10/2024	Coliform (TCR)	Absent	NA			ST03	CITY SHOP STORAGE	ST03	1000 12TH ST NE - WATER TOWER
7/9/2024	Coliform (TCR)	Absent	NA			ST03	CITY SHOP STORAGE	ST03	1000 12TH ST NE - WATER TOWER
6/27/2024	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	1936 LOVERS LANE BLVD SW
6/27/2024	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
6/27/2024	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	1305 5TH AVE NE
6/18/2024	Coliform (TCR)	Absent	NA	0.38	0.43	950	DISTRIBUTION SYSTEM	950	900 1ST W
6/18/2024	Coliform (TCR)	Absent	NA	0.5	0.76	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
6/18/2024	Coliform (TCR)	Absent	NA	0.89	1.07	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
6/18/2024	Coliform (TCR)	Absent	NA	1.56	1.73	950	DISTRIBUTION SYSTEM	950	707 7TH AVE NE
5/28/2024	Coliform (TCR)	Absent	NA	0.31	0.36	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
5/28/2024	Coliform (TCR)	Absent	NA	0.36	0.41	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
5/28/2024	Coliform (TCR)	Absent	NA	0.36	0.42	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
5/21/2024	Coliform (TCR)	Absent	NA	0.3	0.34	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
5/21/2024	Coliform (TCR)	Absent	NA	0.87	1	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
5/21/2024	Coliform (TCR)	Absent	NA	0.31	0.35	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
5/21/2024	Coliform (TCR)	Absent	NA	0.32	0.35	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
4/25/2024	Coliform (TCR)	Absent	NA	0.44	0.65	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
4/24/2024	Coliform (TCR)	Absent	NA	0.39	0.51	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
4/24/2024	Coliform (TCR)	Absent	NA	0.55	0.59	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
4/16/2024	Coliform (TCR)	Absent	NA	1.01	1.05	950	DISTRIBUTION SYSTEM	950	216 1ST ST E

Sample Collection Date	Analyte	Results	Unit of Measurement	Free Cl	Total Cl	Facility ID	Facility Name	Sample Point ID	Sample Collection Address
4/16/2024	Coliform (TCR)	Absent	NA	1.22	1.33	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
4/16/2024	Coliform (TCR)	Absent	NA	0.38	0.69	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
4/16/2024	Coliform (TCR)	Absent	NA	1.81	2.14	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
3/26/2024	Coliform (TCR)	Absent	NA	1.46	2.2	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
3/26/2024	Coliform (TCR)	Absent	NA	1.1	1.26	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
3/26/2024	Coliform (TCR)	Absent	NA	0.86	0.97	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
3/20/2024	Coliform (TCR)	Absent	NA	1.22	1.26	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
3/20/2024	Coliform (TCR)	Absent	NA	1.49	1.79	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
3/20/2024	Coliform (TCR)	Absent	NA	1.16	1.28	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
3/20/2024	Coliform (TCR)	Absent	NA	1.91	2.2	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
3/13/2024	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	600 3RD ST NW
3/13/2024	Coliform (TCR)	Absent	NA			950	DISTRIBUTION SYSTEM	950	600 3RD ST NW
2/27/2024	Coliform (TCR)	Absent	NA	1.33	1.4	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
2/27/2024	Coliform (TCR)	Absent	NA	1.14	1.18	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
2/27/2024	Coliform (TCR)	Absent	NA	1.3	1.59	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
2/21/2024	Coliform (TCR)	Absent	NA	1.1	1.2	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
2/21/2024	Coliform (TCR)	Absent	NA	2.01	2.2	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
2/21/2024	Coliform (TCR)	Absent	NA	1.45	1.51	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
2/21/2024	Coliform (TCR)	Absent	NA	1.23	1.4	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
1/29/2024	Coliform (TCR)	Absent	NA	1.12	1.19	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
1/29/2024	Coliform (TCR)	Absent	NA	1.58	1.63	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
1/29/2024	Coliform (TCR)	Absent	NA	0.92	1.14	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
1/24/2024	Coliform (TCR)	Absent	NA	2.12	2.2	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
1/23/2024	Coliform (TCR)	Absent	NA	1.41	1.54	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
1/23/2024	Coliform (TCR)	Absent	NA	1.88	2.2	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
1/23/2024	Coliform (TCR)	Absent	NA	1.19	1.27	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
12/27/2023	Coliform (TCR)	Absent	NA	1.33	1.35	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
12/27/2023	Coliform (TCR)	Absent	NA	0.31	0.36	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
12/27/2023	Coliform (TCR)	Absent	NA	1.13	1.15	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
12/19/2023	Coliform (TCR)	Absent	NA	1.35	1.4	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
12/19/2023	Coliform (TCR)	Absent	NA	0.99	1.16	950	DISTRIBUTION SYSTEM	950	520 20TH AVE SW
12/19/2023	Coliform (TCR)	Absent	NA	1.36	1.52	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
12/19/2023	Coliform (TCR)	Absent	NA	1.22	1.33	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
11/20/2023	Coliform (TCR)	Absent	NA	0.3	0.32	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
11/20/2023	Coliform (TCR)	Absent	NA	0.81	0.92	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
11/20/2023	Coliform (TCR)	Absent	NA	1.07	1.14	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
11/15/2023	Coliform (TCR)	Absent	NA	1.36	1.38	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
11/15/2023	Coliform (TCR)	Absent	NA	36	0.38	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
11/15/2023	Coliform (TCR)	Absent	NA	0.31	0.35	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
11/15/2023	Coliform (TCR)	Absent	NA	1.15	1.22	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
10/24/2023	Coliform (TCR)	Absent	NA	0.38	0.43	950	DISTRIBUTION SYSTEM	950	1210 1ST ST W
10/24/2023	Coliform (TCR)	Absent	NA	1.23	1.28	950	DISTRIBUTION SYSTEM	950	110 3RD AVE SE
10/24/2023	Coliform (TCR)	Absent	NA	0.57	0.7	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
10/18/2023	Coliform (TCR)	Absent	NA	1.11	1.21	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
10/18/2023	Coliform (TCR)	Absent	NA	0.49	0.62	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
10/18/2023	Coliform (TCR)	Absent	NA	0.83	0.98	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
10/18/2023	Coliform (TCR)	Absent	NA	1.18	1.29	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
9/26/2023	Coliform (TCR)	Absent	NA	1.26	1.36	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
9/26/2023	Coliform (TCR)	Absent	NA	1.2	1.29	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
9/26/2023	Coliform (TCR)	Absent	NA	0.32	0.35	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
9/19/2023	Coliform (TCR)	Absent	NA	1.02	1.06	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
9/19/2023	Coliform (TCR)	Absent	NA	0.79	0.89	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
9/19/2023	Coliform (TCR)	Absent	NA	1.13	1.17	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
9/19/2023	Coliform (TCR)	Absent	NA	1.12	1.26	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
8/29/2023	Coliform (TCR)	Absent	NA	0.6	0.72	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
8/29/2023	Coliform (TCR)	Absent	NA	1.45	1.62	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
8/29/2023	Coliform (TCR)	Absent	NA	0.74	0.87	950	DISTRIBUTION SYSTEM	950	900 1ST W
8/16/2023	Coliform (TCR)	Absent	NA	0.36	0.41	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
8/16/2023	Coliform (TCR)	Absent	NA	0.46	0.59	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
8/16/2023	Coliform (TCR)	Absent	NA	0.58	0.62	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
8/16/2023	Coliform (TCR)	Absent	NA	1.37	1.41	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
7/25/2023	Coliform (TCR)	Absent	NA	1.3	1.43	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
7/25/2023	Coliform (TCR)	Absent	NA	0.33	0.39	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
7/25/2023	Coliform (TCR)	Absent	NA	1.08	1.13	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
7/18/2023	Coliform (TCR)	Absent	NA	1.11	1.21	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
7/18/2023	Coliform (TCR)	Absent	NA	0.7	0.84	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
7/18/2023	Coliform (TCR)	Absent	NA	1.01	1.06	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
7/18/2023	Coliform (TCR)	Absent	NA	1.03	1.23	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
6/20/2023	Coliform (TCR)	Absent	NA	0.57	0.84	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
6/20/2023	Coliform (TCR)	Absent	NA	0.98	1.04	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
6/20/2023	Coliform (TCR)	Absent	NA	0.32	0.39	950	DISTRIBUTION SYSTEM	950	403 1ST ST W
6/14/2023	Coliform (TCR)	Absent	NA	1.09	1.42	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
6/14/2023	Coliform (TCR)	Absent	NA	0.44	0.49	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
6/14/2023	Coliform (TCR)	Absent	NA	1.05	1.25	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
6/14/2023	Coliform (TCR)	Absent	NA	0.45	0.5	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
5/24/2023	Coliform (TCR)	Absent	NA	0.54	0.59	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
5/24/2023	Coliform (TCR)	Absent	NA	0.2	0.26	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
5/24/2023	Coliform (TCR)	Absent	NA	1.04	1.37	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
5/24/2023	Coliform (TCR)	Absent	NA	1.1	1.31	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
5/16/2023	Coliform (TCR)	Absent	NA	1.09	1.22	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
5/16/2023	Coliform (TCR)	Absent	NA	0.49	0.52	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
5/16/2023	Coliform (TCR)	Absent	NA	0.41	0.66	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
4/25/2023	Coliform (TCR)	Absent	NA	0.75	0.87	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
4/25/2023	Coliform (TCR)	Absent	NA	0.32	0.36	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
4/25/2023	Coliform (TCR)	Absent	NA	1.43	1.47	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
4/20/2023	Coliform (TCR)	Absent	NA			ST02	MHI STORAGE	ST02	NHI WATER TOWER
4/19/2023	Coliform (TCR)	Absent	NA			ST02	MHI STORAGE	ST02	NHI WATER TOWER
4/18/2023	Coliform (TCR)	Absent	NA	1.36	1.4	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
4/18/2023	Coliform (TCR)	Absent	NA	0.42	0.54	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
4/18/2023	Coliform (TCR)	Absent	NA	0.86	0.95	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
4/18/2023	Coliform (TCR)	Absent	NA	1.27	1.34	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
3/21/2023	Coliform (TCR)	Absent	NA	1.54	1.61	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
3/21/2023	Coliform (TCR)	Absent	NA	1.01	1.12	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
3/21/2023	Coliform (TCR)	Absent	NA	0.57	0.61	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
3/14/2023	Coliform (TCR)	Absent	NA	1.3	1.43	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
3/14/2023	Coliform (TCR)	Absent	NA	0.68	0.78	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW

Sample Collection Date	Analyte	Results	Unit of Measurement	Free Cl	Total Cl	Facility ID	Facility Name	Sample Point ID	Sample Collection Address
3/14/2023	Coliform (TCR)	Absent	NA	1.46	1.5	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
3/14/2023	Coliform (TCR)	Absent	NA	0.84	1.05	950	DISTRIBUTION SYSTEM	950	402 ENTERPRISE DR. SW.
2/22/2023	Coliform (TCR)	Absent	NA	1.15	1.26	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
2/22/2023	Coliform (TCR)	Absent	NA	0.6	0.68	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
2/22/2023	Coliform (TCR)	Absent	NA	1.43	1.48	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
2/14/2023	Coliform (TCR)	Absent	NA	0.66	1.02	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
2/14/2023	Coliform (TCR)	Absent	NA	0.96	1.05	950	DISTRIBUTION SYSTEM	950	402 ENTERPRISE DR. SW.
2/14/2023	Coliform (TCR)	Absent	NA	1.13	1.15	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
2/14/2023	Coliform (TCR)	Absent	NA	1.41	1.46	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
1/18/2023	Coliform (TCR)	Absent	NA	1.41	1.45	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
1/18/2023	Coliform (TCR)	Absent	NA	1.14	1.25	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
1/18/2023	Coliform (TCR)	Absent	NA	0.52	0.56	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
1/10/2023	Coliform (TCR)	Absent	NA	1.1	1.36	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
1/10/2023	Coliform (TCR)	Absent	NA	0.66	0.89	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
1/10/2023	Coliform (TCR)	Absent	NA	1.27	1.4	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
1/10/2023	Coliform (TCR)	Absent	NA	0.89	1.14	950	DISTRIBUTION SYSTEM	950	402 ENTERPRISE DR. SW.
10/29/2024	Copper	0.0495	MG/L			950	DISTRIBUTION SYSTEM	950	411 2ND ST NW
9/25/2024	Copper	0.0952	MG/L			950	DISTRIBUTION SYSTEM	950	314 12TH AVE NW
9/25/2024	Copper	0.233	MG/L			950	DISTRIBUTION SYSTEM	950	412 13TH AVE NE
9/25/2024	Copper	0.212	MG/L			950	DISTRIBUTION SYSTEM	950	1419 2ND ST SW
9/25/2024	Copper	0.185	MG/L			950	DISTRIBUTION SYSTEM	950	322 RIDGEVIEW SE
9/25/2024	Copper	0.0119	MG/L			950	DISTRIBUTION SYSTEM	950	612 3RD AVE SW
9/25/2024	Copper	0.0923	MG/L			950	DISTRIBUTION SYSTEM	950	1512 2ND ST SW
9/25/2024	Copper	0.077	MG/L			950	DISTRIBUTION SYSTEM	950	405 11TH AVE NW
9/25/2024	Copper	0.124	MG/L			950	DISTRIBUTION SYSTEM	950	507 5TH ST NW
9/24/2024	Copper	0.177	MG/L			950	DISTRIBUTION SYSTEM	950	403 12TH AVE NW
9/24/2024	Copper	0.0213	MG/L			950	DISTRIBUTION SYSTEM	950	115 5TH AVE SW
9/24/2024	Copper	0.136	MG/L			950	DISTRIBUTION SYSTEM	950	413 12TH AVE NW
9/24/2024	Copper	0.117	MG/L			950	DISTRIBUTION SYSTEM	950	1201 O' BRIAN CT NW
8/21/2024	Copper	0.106	MG/L			950	DISTRIBUTION SYSTEM	950	404 11TH AVE NW
8/21/2024	Copper	0.0345	MG/L			950	DISTRIBUTION SYSTEM	950	1700 2ND ST SW
8/21/2024	Copper	0.0526	MG/L			950	DISTRIBUTION SYSTEM	950	1506 2ND ST SW
8/21/2024	Copper	0.0816	MG/L			950	DISTRIBUTION SYSTEM	950	1418 2ND ST SW
8/21/2024	Copper	0.035	MG/L			950	DISTRIBUTION SYSTEM	950	409 RIDGEVIEW
8/21/2024	Copper	0.0672	MG/L			950	DISTRIBUTION SYSTEM	950	306 14TH AVE SE
8/21/2024	Copper	0.148	MG/L			950	DISTRIBUTION SYSTEM	950	1114 3RD AVE
8/21/2024	Copper	0.214	MG/L			950	DISTRIBUTION SYSTEM	950	1121 4TH ST NE
11/5/2024	Di(2-Ethylhexyl) Adipate	<0.001	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Di(2-Ethylhexyl) Adipate	<0.002	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Di(2-Ethylhexyl) Adipate	<0.002	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Di(2-Ethylhexyl) Adipate	<0.001	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Di(2-Ethylhexyl) Phthalate	<0.001	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Di(2-Ethylhexyl) Phthalate	<0.001	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Di(2-Ethylhexyl) Phthalate	<0.002	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Di(2-Ethylhexyl) Phthalate	<0.002	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
8/26/2025	Dibromoacetic Acid	0.00181	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/27/2024	Dibromoacetic Acid	0.00255	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/28/2023	Dibromoacetic Acid	0.00204	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/26/2025	Dichloroacetic Acid	0.00693	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/27/2024	Dichloroacetic Acid	0.0103	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/28/2023	Dichloroacetic Acid	0.00442	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
11/5/2024	Dichloromethane	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Dichloromethane	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Dichloromethane	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Dichloromethane	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Diquat	<0.0004	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Diquat	<0.0004	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Diquat	<0.0004	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Diquat	<0.0004	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
9/24/2025	E. coli	Absent	NA	0.31	0.37	950	DISTRIBUTION SYSTEM	950	900 1ST W
9/24/2025	E. coli	Absent	NA	2.17	2.43	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
9/24/2025	E. coli	Absent	NA	1.99	2.16	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
9/16/2025	E. coli	Absent	NA	1	1.26	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
9/16/2025	E. coli	Absent	NA	1.44	1.68	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR.
9/16/2025	E. coli	Absent	NA	0.99	1.11	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
9/16/2025	E. coli	Absent	NA	1.3	1.63	950	DISTRIBUTION SYSTEM	950	201 3RD AVE. SE
8/26/2025	E. coli	Absent	NA	1.84	1.89	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
8/26/2025	E. coli	Absent	NA	2.29	2.48	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
8/26/2025	E. coli	Absent	NA	0.42	0.47	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
8/20/2025	E. coli	Absent	NA	0.71	0.8	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
8/20/2025	E. coli	Absent	NA	0.56	0.59	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
8/20/2025	E. coli	Absent	NA	1.29	1.64	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
8/20/2025	E. coli	Absent	NA	1.26	1.66	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
8/7/2025	E. coli	Absent	NA	0.44	0.54	ST01	COURTHOUSE STORAGE	ST01	MHI TOWER
7/23/2025	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
7/23/2025	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
7/23/2025	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
7/15/2025	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	8TH AVE. NE
7/14/2025	E. coli	Absent	NA	1.3	1.51	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
7/14/2025	E. coli	Absent	NA	0.62	0.71	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
7/14/2025	E. coli	Absent	NA	1.66	1.75	950	DISTRIBUTION SYSTEM	950	201 3RD AVE. SE
7/14/2025	E. coli	Absent	NA	0.33	0.38	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
6/25/2025	E. coli	Absent	NA	1.92	2.21	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
6/25/2025	E. coli	Absent	NA	0.98	1.15	950	DISTRIBUTION SYSTEM	950	216 1ST SE
6/25/2025	E. coli	Absent	NA	0.63	0.74	950	DISTRIBUTION SYSTEM	950	900 1ST W
6/16/2025	E. coli	Absent	NA	0.84	0.96	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
6/16/2025	E. coli	Absent	NA	1.93	2.03	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
6/16/2025	E. coli	Absent	NA	1.55	1.65	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
6/16/2025	E. coli	Absent	NA	1.29	1.52	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
5/30/2025	E. coli	Absent	NA	2.21	2.28	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
5/30/2025	E. coli	Absent	NA	0.72	0.85	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
5/30/2025	E. coli	Absent	NA	0.41	0.52	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
5/15/2025	E. coli	Absent	NA	1.24	1.65	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
5/15/2025	E. coli	Absent	NA	1.52	1.64	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
5/15/2025	E. coli	Absent	NA	0.76	0.9	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
5/15/2025	E. coli	Absent	NA	0.61	0.83	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW

Sample Collection Date	Analyte	Results	Unit of Measurement	Free Cl	Total Cl	Facility ID	Facility Name	Sample Point ID	Sample Collection Address
4/28/2025	E. coli	Absent	NA	0.57	0.59	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
4/28/2025	E. coli	Absent	NA	2.12	2.3	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
4/28/2025	E. coli	Absent	NA	1.78	1.9	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
4/10/2025	E. coli	Absent	NA	0.52	0.59	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
4/10/2025	E. coli	Absent	NA	0.7	0.86	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
4/10/2025	E. coli	Absent	NA	1.84	1.98	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
4/10/2025	E. coli	Absent	NA	1.99	2.24	950	DISTRIBUTION SYSTEM	950	201 3RD AVE. SE
3/24/2025	E. coli	Absent	NA	1.87	1.96	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
3/24/2025	E. coli	Absent	NA	2.01	2.11	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
3/24/2025	E. coli	Absent	NA	0.64	0.8	950	DISTRIBUTION SYSTEM	950	1414 1ST ST W
3/11/2025	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
3/11/2025	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
3/11/2025	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
3/11/2025	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
2/11/2025	E. coli	Absent	NA	1.6	1.94	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
2/11/2025	E. coli	Absent	NA	0.87	1.03	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
2/11/2025	E. coli	Absent	NA	2.03	2.38	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
2/4/2025	E. coli	Absent	NA	2.02	2.21	950	DISTRIBUTION SYSTEM	950	201 3RD AVE. SE
2/4/2025	E. coli	Absent	NA	1.01	1.21	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
2/4/2025	E. coli	Absent	NA	1.87	2.2	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
2/4/2025	E. coli	Absent	NA	0.4	0.53	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
1/21/2025	E. coli	Absent	NA	2.06	2.44	950	DISTRIBUTION SYSTEM	950	201 3RD AVE. SE
1/21/2025	E. coli	Absent	NA	0.61	0.75	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
1/21/2025	E. coli	Absent	NA	0.64	0.91	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
1/21/2025	E. coli	Absent	NA	2.03	2.34	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
1/14/2025	E. coli	Absent	NA	1.66	1.95	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
1/14/2025	E. coli	Absent	NA	2.29	2.37	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
1/14/2025	E. coli	Absent	NA	0.79	0.82	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
12/19/2024	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
12/19/2024	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
12/19/2024	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	900 1ST ST W
12/11/2024	E. coli	Absent	NA	1.94	2.18	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
12/11/2024	E. coli	Absent	NA	0.48	1.02	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
12/11/2024	E. coli	Absent	NA	1.47	1.68	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
12/11/2024	E. coli	Absent	NA	1.97	2.22	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
11/25/2024	E. coli	Absent	NA	1.43	1.57	950	DISTRIBUTION SYSTEM	950	1305 5TH AVE. NE
11/25/2024	E. coli	Absent	NA	0.38	0.44	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
11/25/2024	E. coli	Absent	NA	1.71	2.03	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
11/19/2024	E. coli	Absent	NA	2.25	2.4	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
11/19/2024	E. coli	Absent	NA	0.82	1	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
11/19/2024	E. coli	Absent	NA	1.3	1.61	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
11/19/2024	E. coli	Absent	NA	0.35	0.75	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
10/29/2024	E. coli	Absent	NA	0.32	0.37	950	DISTRIBUTION SYSTEM	950	900 1ST ST. W
10/29/2024	E. coli	Absent	NA	1.84	1.85	950	DISTRIBUTION SYSTEM	950	201 3RD AVE. SE
10/29/2024	E. coli	Absent	NA	2	2.18	950	DISTRIBUTION SYSTEM	950	1000 12TH ST. NE
10/22/2024	E. coli	Absent	NA	2.01	2.33	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. SW
10/22/2024	E. coli	Absent	NA	0.85	1.03	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
10/22/2024	E. coli	Absent	NA	0.96	0.99	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
10/22/2024	E. coli	Absent	NA	1.78	2.12	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
9/24/2024	E. coli	Absent	NA	1.48	1.93	950	DISTRIBUTION SYSTEM	950	216 3RD AVE SE
9/24/2024	E. coli	Absent	NA	1.89	2.02	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
9/24/2024	E. coli	Absent	NA	0.31	0.36	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
9/17/2024	E. coli	Absent	NA	1.99	2.13	950	DISTRIBUTION SYSTEM	950	700 7TH AVE. NE
9/17/2024	E. coli	Absent	NA	0.71	0.83	950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
9/17/2024	E. coli	Absent	NA	0.48	0.57	950	DISTRIBUTION SYSTEM	950	216 1ST ST. E
9/17/2024	E. coli	Absent	NA	1.69	1.8	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
8/21/2024	E. coli	Absent	NA	0.43	0.54	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
8/21/2024	E. coli	Absent	NA	1.58	1.7	950	DISTRIBUTION SYSTEM	950	1000 1ST ST NE
8/21/2024	E. coli	Absent	NA	1.62	1.89	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
8/13/2024	E. coli	Absent	NA	2.78	3.07	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
8/13/2024	E. coli	Absent	NA	1.41	2.02	950	DISTRIBUTION SYSTEM	950	1936 LOVERS LANE BLVD
8/13/2024	E. coli	Absent	NA	1.77	2.03	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
8/13/2024	E. coli	Absent	NA	0.67	0.79	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
8/6/2024	E. coli	Absent	NA			ST01	COURTHOUSE STORAGE	ST01	COURTHOUSE TOWER
8/5/2024	E. coli	Absent	NA			ST01	COURTHOUSE STORAGE	ST01	1ST WARD WATER TOWER
7/24/2024	E. coli	Absent	NA	0.98	1.02	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
7/24/2024	E. coli	Absent	NA	0.34	0.4	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
7/24/2024	E. coli	Absent	NA	0.68	1.01	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
7/16/2024	E. coli	Absent	NA	0.63	0.91	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR
7/16/2024	E. coli	Absent	NA	0.82	0.84	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
7/16/2024	E. coli	Absent	NA	2.23	2.32	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
7/16/2024	E. coli	Absent	NA	0.39	0.76	950	DISTRIBUTION SYSTEM	950	1936 LOVERS LANE BLVD
7/10/2024	E. coli	Absent	NA			ST03	CITY SHOP STORAGE	ST03	1000 12TH ST NE - WATER TOWER
7/9/2024	E. coli	Absent	NA			ST03	CITY SHOP STORAGE	ST03	1000 12TH ST NE - WATER TOWER
6/27/2024	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	1305 5TH AVE NE
6/27/2024	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
6/27/2024	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	1936 LOVERS LANE BLVD SW
6/18/2024	E. coli	Absent	NA	0.5	0.76	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW
6/18/2024	E. coli	Absent	NA	0.89	1.07	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
6/18/2024	E. coli	Absent	NA	1.56	1.73	950	DISTRIBUTION SYSTEM	950	707 7TH AVE NE
6/18/2024	E. coli	Absent	NA	0.38	0.43	950	DISTRIBUTION SYSTEM	950	900 1ST W
5/28/2024	E. coli	Absent	NA	0.36	0.41	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
5/28/2024	E. coli	Absent	NA	0.31	0.36	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
5/28/2024	E. coli	Absent	NA	0.36	0.42	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
5/21/2024	E. coli	Absent	NA	0.87	1	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
5/21/2024	E. coli	Absent	NA	0.32	0.35	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
5/21/2024	E. coli	Absent	NA	0.31	0.35	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
5/21/2024	E. coli	Absent	NA	0.3	0.34	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
4/25/2024	E. coli	Absent	NA	0.44	0.65	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
4/24/2024	E. coli	Absent	NA	0.55	0.59	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
4/24/2024	E. coli	Absent	NA	0.39	0.51	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
4/16/2024	E. coli	Absent	NA	1.22	1.33	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
4/16/2024	E. coli	Absent	NA	0.38	0.69	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
4/16/2024	E. coli	Absent	NA	1.01	1.05	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
4/16/2024	E. coli	Absent	NA	1.81	2.14	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
3/26/2024	E. coli	Absent	NA	1.1	1.26	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE

Sample Collection Date	Analyte	Results	Unit of Measurement	Free Cl	Total Cl	Facility ID	Facility Name	Sample Point ID	Sample Collection Address
3/26/2024	E. coli	Absent	NA	0.86	0.97	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
3/26/2024	E. coli	Absent	NA	1.46	2.2	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
3/20/2024	E. coli	Absent	NA	1.22	1.26	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
3/20/2024	E. coli	Absent	NA	1.16	1.28	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
3/20/2024	E. coli	Absent	NA	1.91	2.2	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
3/20/2024	E. coli	Absent	NA	1.49	1.79	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
3/13/2024	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	600 3RD ST NW
3/13/2024	E. coli	Absent	NA			950	DISTRIBUTION SYSTEM	950	600 3RD ST NW
2/27/2024	E. coli	Absent	NA	1.3	1.59	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
2/27/2024	E. coli	Absent	NA	1.14	1.18	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
2/27/2024	E. coli	Absent	NA	1.33	1.4	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
2/21/2024	E. coli	Absent	NA	1.23	1.4	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
2/21/2024	E. coli	Absent	NA	2.01	2.2	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
2/21/2024	E. coli	Absent	NA	1.45	1.51	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
2/21/2024	E. coli	Absent	NA	1.1	1.2	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
1/29/2024	E. coli	Absent	NA	1.12	1.19	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
1/29/2024	E. coli	Absent	NA	1.58	1.63	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
1/29/2024	E. coli	Absent	NA	0.92	1.14	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
1/24/2024	E. coli	Absent	NA	2.12	2.2	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
1/23/2024	E. coli	Absent	NA	1.88	2.2	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
1/23/2024	E. coli	Absent	NA	1.19	1.27	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
1/23/2024	E. coli	Absent	NA	1.41	1.54	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
12/27/2023	E. coli	Absent	NA	1.13	1.15	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
12/27/2023	E. coli	Absent	NA	0.31	0.36	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
12/27/2023	E. coli	Absent	NA	1.33	1.35	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
12/19/2023	E. coli	Absent	NA	1.36	1.52	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
12/19/2023	E. coli	Absent	NA	1.35	1.4	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
12/19/2023	E. coli	Absent	NA	1.22	1.33	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
12/19/2023	E. coli	Absent	NA	0.99	1.16	950	DISTRIBUTION SYSTEM	950	520 20TH AVE SW
11/20/2023	E. coli	Absent	NA	1.07	1.14	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
11/20/2023	E. coli	Absent	NA	0.3	0.32	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
11/20/2023	E. coli	Absent	NA	0.81	0.92	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
11/15/2023	E. coli	Absent	NA	36	0.38	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
11/15/2023	E. coli	Absent	NA	1.36	1.38	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
11/15/2023	E. coli	Absent	NA	0.31	0.35	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
11/15/2023	E. coli	Absent	NA	1.15	1.22	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR SW
10/24/2023	E. coli	Absent	NA	1.23	1.28	950	DISTRIBUTION SYSTEM	950	110 3RD AVE SE
10/24/2023	E. coli	Absent	NA	0.38	0.43	950	DISTRIBUTION SYSTEM	950	1210 1ST ST W
10/24/2023	E. coli	Absent	NA	0.57	0.7	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
10/18/2023	E. coli	Absent	NA	0.49	0.62	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
10/18/2023	E. coli	Absent	NA	0.83	0.98	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
10/18/2023	E. coli	Absent	NA	1.11	1.21	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
10/18/2023	E. coli	Absent	NA	1.18	1.29	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
9/26/2023	E. coli	Absent	NA	0.32	0.35	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
9/26/2023	E. coli	Absent	NA	1.26	1.36	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
9/26/2023	E. coli	Absent	NA	1.2	1.29	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
9/19/2023	E. coli	Absent	NA	1.02	1.06	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
9/19/2023	E. coli	Absent	NA	0.79	0.89	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
9/19/2023	E. coli	Absent	NA	1.13	1.17	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
9/19/2023	E. coli	Absent	NA	1.12	1.26	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
8/29/2023	E. coli	Absent	NA	0.6	0.72	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
8/29/2023	E. coli	Absent	NA	0.74	0.87	950	DISTRIBUTION SYSTEM	950	900 1ST W
8/29/2023	E. coli	Absent	NA	1.45	1.62	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
8/16/2023	E. coli	Absent	NA	0.36	0.41	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
8/16/2023	E. coli	Absent	NA	1.37	1.41	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
8/16/2023	E. coli	Absent	NA	0.58	0.62	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
8/16/2023	E. coli	Absent	NA	0.46	0.59	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
7/25/2023	E. coli	Absent	NA	0.33	0.39	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
7/25/2023	E. coli	Absent	NA	1.3	1.43	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
7/25/2023	E. coli	Absent	NA	1.08	1.13	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
7/18/2023	E. coli	Absent	NA	0.7	0.84	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
7/18/2023	E. coli	Absent	NA	1.03	1.23	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
7/18/2023	E. coli	Absent	NA	1.11	1.21	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
7/18/2023	E. coli	Absent	NA	1.01	1.06	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
6/20/2023	E. coli	Absent	NA	0.32	0.39	950	DISTRIBUTION SYSTEM	950	403 1ST ST W
6/20/2023	E. coli	Absent	NA	0.98	1.04	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
6/20/2023	E. coli	Absent	NA	0.57	0.84	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
6/14/2023	E. coli	Absent	NA	1.09	1.42	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
6/14/2023	E. coli	Absent	NA	0.45	0.5	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
6/14/2023	E. coli	Absent	NA	0.44	0.49	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
6/14/2023	E. coli	Absent	NA	1.05	1.25	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
5/24/2023	E. coli	Absent	NA	0.54	0.59	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
5/24/2023	E. coli	Absent	NA	1.1	1.31	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
5/24/2023	E. coli	Absent	NA	1.04	1.37	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
5/24/2023	E. coli	Absent	NA	0.2	0.26	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
5/16/2023	E. coli	Absent	NA	0.49	0.52	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
5/16/2023	E. coli	Absent	NA	0.41	0.66	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
5/16/2023	E. coli	Absent	NA	1.09	1.22	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
4/25/2023	E. coli	Absent	NA	1.43	1.47	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
4/25/2023	E. coli	Absent	NA	0.75	0.87	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
4/25/2023	E. coli	Absent	NA	0.32	0.36	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
4/20/2023	E. coli	Absent	NA			ST02	MHI STORAGE	ST02	NHI WATER TOWER
4/19/2023	E. coli	Absent	NA			ST02	MHI STORAGE	ST02	NHI WATER TOWER
4/18/2023	E. coli	Absent	NA	1.27	1.34	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
4/18/2023	E. coli	Absent	NA	0.42	0.54	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
4/18/2023	E. coli	Absent	NA	1.36	1.4	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
4/18/2023	E. coli	Absent	NA	0.86	0.95	950	DISTRIBUTION SYSTEM	950	401 ENTERPRISE DR. SW.
3/21/2023	E. coli	Absent	NA	1.01	1.12	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
3/21/2023	E. coli	Absent	NA	1.54	1.61	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
3/21/2023	E. coli	Absent	NA	0.57	0.61	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
3/14/2023	E. coli	Absent	NA	1.46	1.5	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
3/14/2023	E. coli	Absent	NA	1.3	1.43	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
3/14/2023	E. coli	Absent	NA	0.68	0.78	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
3/14/2023	E. coli	Absent	NA	0.84	1.05	950	DISTRIBUTION SYSTEM	950	402 ENTERPRISE DR. SW.
2/22/2023	E. coli	Absent	NA	1.15	1.26	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
2/22/2023	E. coli	Absent	NA	0.6	0.68	950	DISTRIBUTION SYSTEM	950	900 1ST ST W

Sample Collection Date	Analyte	Results	Unit of Measurement	Free Cl	Total Cl	Facility ID	Facility Name	Sample Point ID	Sample Collection Address
2/22/2023	E. coli	Absent	NA	1.43	1.48	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
2/14/2023	E. coli	Absent	NA	1.13	1.15	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
2/14/2023	E. coli	Absent	NA	0.96	1.05	950	DISTRIBUTION SYSTEM	950	402 ENTERPRISE DR. SW.
2/14/2023	E. coli	Absent	NA	0.66	1.02	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
2/14/2023	E. coli	Absent	NA	1.41	1.46	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
1/18/2023	E. coli	Absent	NA	1.41	1.45	950	DISTRIBUTION SYSTEM	950	201 3RD AVE SE
1/18/2023	E. coli	Absent	NA	1.14	1.25	950	DISTRIBUTION SYSTEM	950	1000 12TH ST NE
1/18/2023	E. coli	Absent	NA	0.52	0.56	950	DISTRIBUTION SYSTEM	950	900 1ST ST W
1/10/2023	E. coli	Absent	NA	0.89	1.14	950	DISTRIBUTION SYSTEM	950	402 ENTERPRISE DR. SW.
1/10/2023	E. coli	Absent	NA	1.27	1.4	950	DISTRIBUTION SYSTEM	950	216 1ST ST E
1/10/2023	E. coli	Absent	NA	1.1	1.36	950	DISTRIBUTION SYSTEM	950	700 7TH AVE NE
1/10/2023	E. coli	Absent	NA	0.66	0.89	950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
11/5/2024	Ethylbenzene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Ethylbenzene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Ethylbenzene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Ethylbenzene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
9/16/2025	Fluoride	0.8	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
8/20/2025	Fluoride	0.5	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
7/14/2025	Fluoride	0.6	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
6/16/2025	Fluoride	0.6	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
5/30/2025	Fluoride	0.5	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
3/24/2025	Fluoride	0.5	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
2/11/2025	Fluoride	0.6	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
1/14/2025	Fluoride	0.4	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
12/19/2024	Fluoride	0.6	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
11/25/2024	Fluoride	0.6	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
10/29/2024	Fluoride	0.6	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
9/24/2024	Fluoride	0.5	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
8/21/2024	Fluoride	0.4	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
7/24/2024	Fluoride	0.7	MG/L			950	DISTRIBUTION SYSTEM	950	1936 LOVERS LANE
6/27/2024	Fluoride	0.6	MG/L			950	DISTRIBUTION SYSTEM	950	1936 LOVERS LANE BLVD
5/28/2024	Fluoride	0.5	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
4/24/2024	Fluoride	0.3	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
3/26/2024	Fluoride	0.5	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
2/27/2024	Fluoride	0.7	MG/L			950	DISTRIBUTION SYSTEM	950	520 20TH AVE SW
1/29/2024	Fluoride	0.5	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
12/27/2023	Fluoride	0.7	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
11/20/2023	Fluoride	0.6	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
10/24/2023	Fluoride	0.6	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW FL
9/26/2023	Fluoride	0.7	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
8/29/2023	Fluoride	0.5	MG/L			01	TAP IN MHI HOUSE, EAST, #8	01	512 20TH AVE SW
7/25/2023	Fluoride	0.7	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED TAP AT WELL #3
6/20/2023	Fluoride	0.7	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED TAP AT WELL #3
5/16/2023	Fluoride	0.7	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE SW
4/25/2023	Fluoride	0.9	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
3/22/2023	Fluoride	0.7	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
2/22/2023	Fluoride	0.7	MG/L			950	DISTRIBUTION SYSTEM	950	512 20TH AVE. SW
1/18/2023	Fluoride	0.8	MG/L			950	DISTRIBUTION SYSTEM	950	511 20TH AVE SW
11/5/2024	Glyphosate	<0.006	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Glyphosate	<0.006	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Glyphosate	<0.006	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Glyphosate	<0.006	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
6/4/2024	Gross Alpha, including Rn & U	1.2	PCI/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED TAP AT WELL #7
6/4/2024	Gross Alpha, including Rn & U	1.93	PCI/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED TAP AT WELL #4
6/4/2024	Gross Alpha, including Rn & U	1.55	PCI/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED TAP AT WELL #3
3/21/2023	Hfpo-Da	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
10/29/2024	Lead	0.0016	MG/L			950	DISTRIBUTION SYSTEM	950	411 2ND ST NW
9/25/2024	Lead	0.0038	MG/L			950	DISTRIBUTION SYSTEM	950	507 5TH ST NW
9/25/2024	Lead	0.0091	MG/L			950	DISTRIBUTION SYSTEM	950	1419 2ND ST SW
9/25/2024	Lead	0.0057	MG/L			950	DISTRIBUTION SYSTEM	950	405 11TH AVE NW
9/25/2024	Lead	0.0016	MG/L			950	DISTRIBUTION SYSTEM	950	322 RIDGEVIEW SE
9/25/2024	Lead	0.0054	MG/L			950	DISTRIBUTION SYSTEM	950	412 13TH AVE NE
9/25/2024	Lead	0.0063	MG/L			950	DISTRIBUTION SYSTEM	950	1512 2ND ST SW
9/25/2024	Lead	0.001	MG/L			950	DISTRIBUTION SYSTEM	950	314 12TH AVE NW
9/25/2024	Lead	<0.001	MG/L			950	DISTRIBUTION SYSTEM	950	612 3RD AVE SW
9/24/2024	Lead	0.0071	MG/L			950	DISTRIBUTION SYSTEM	950	403 12TH AVE NW
9/24/2024	Lead	<0.001	MG/L			950	DISTRIBUTION SYSTEM	950	115 5TH AVE SW
9/24/2024	Lead	0.0215	MG/L			950	DISTRIBUTION SYSTEM	950	413 12TH AVE NW
9/24/2024	Lead	0.0019	MG/L			950	DISTRIBUTION SYSTEM	950	1201 O' BRIAN CT NW
8/21/2024	Lead	<0.001	MG/L			950	DISTRIBUTION SYSTEM	950	1114 3RD AVE
8/21/2024	Lead	<0.001	MG/L			950	DISTRIBUTION SYSTEM	950	306 14TH AVE SE
8/21/2024	Lead	0.0018	MG/L			950	DISTRIBUTION SYSTEM	950	409 RIDGEVIEW
8/21/2024	Lead	<0.001	MG/L			950	DISTRIBUTION SYSTEM	950	1418 2ND ST SW
8/21/2024	Lead	<0.001	MG/L			950	DISTRIBUTION SYSTEM	950	1506 2ND ST SW
8/21/2024	Lead	<0.001	MG/L			950	DISTRIBUTION SYSTEM	950	1700 2ND ST SW
8/21/2024	Lead	<0.001	MG/L			950	DISTRIBUTION SYSTEM	950	404 11TH AVE NW
8/21/2024	Lead	0.006	MG/L			950	DISTRIBUTION SYSTEM	950	1121 4TH ST NE
8/26/2025	Monobromoacetic Acid	0.00109	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/27/2024	Monobromoacetic Acid	<0.001	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/28/2023	Monobromoacetic Acid	<0.001	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/26/2025	Monochloroacetic Acid	0.00377	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/27/2024	Monochloroacetic Acid	0.00186	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/28/2023	Monochloroacetic Acid	<0.0015	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
11/5/2024	Monochlorobenzene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Monochlorobenzene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Monochlorobenzene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Monochlorobenzene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
7/14/2025	Nitrate (as N)	7.9	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP #4
5/30/2025	Nitrate (as N)	<0.60	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FIISHED WATER TAP #3
5/30/2025	Nitrate (as N)	<0.60	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP #7
5/30/2025	Nitrate (as N)	<0.60	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP #6
5/30/2025	Nitrate (as N)	8.2	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP #4
3/24/2025	Nitrate (as N)	6.9	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP #4
12/23/2024	Nitrate (as N)	5.8	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP #4
9/26/2024	Nitrate (as N)	6.7	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP #4
6/11/2024	Nitrate (as N)	8.9	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP #4

Sample Collection Date	Analyte	Results	Unit of Measurement	Free Cl	Total Cl	Facility ID	Facility Name	Sample Point ID	Sample Collection Address
6/11/2024	Nitrate (as N)	<0.60	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FIISHED WATER TAP #3
6/11/2024	Nitrate (as N)	<0.60	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP #7
6/11/2024	Nitrate (as N)	<0.60	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP #6
3/25/2024	Nitrate (as N)	5	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP #4
12/26/2023	Nitrate (as N)	5.7	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP #4
9/27/2023	Nitrate (as N)	4.8	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP #4
6/28/2023	Nitrate (as N)	6.2	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP #4
6/28/2023	Nitrate (as N)	<0.60	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP #6
6/28/2023	Nitrate (as N)	<0.60	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP #7
6/28/2023	Nitrate (as N)	<0.60	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FIISHED WATER TAP #3
3/22/2023	Nitrate (as N)	6.9	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP #4
3/21/2023	Nonafluoro NFDHA	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
11/5/2024	o-Dichlorobenzene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	o-Dichlorobenzene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	o-Dichlorobenzene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	o-Dichlorobenzene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	p-Dichlorobenzene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	p-Dichlorobenzene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	p-Dichlorobenzene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	p-Dichlorobenzene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Pentachlorophenol	<0.0002	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Pentachlorophenol	<0.0002	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Pentachlorophenol	<0.0002	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Pentachlorophenol	<0.0002	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
3/21/2023	Perflourohexane Sulfonic Acid (PFHXS)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluoro PFEESA	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluoro PFMBA	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluoro PFMPA	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluorobutanesulfonic Acid (PFBS)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluorobutanoic Acid (PFBA)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluoroctane Sulfonic Acid (PFOS)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluoroctanoic Acid (PFOA)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluorodecane Sulfonic Acid 8:2 FTS	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluorodecanoic Acid (PFDA)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluorododecanoic Acid (PFDA)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluoroheptanesulfonic Acid (PFHPS)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluoroheptanoic Acid (PFHPA)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluorohexane Sulfonic Acid 4:2 FTS	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluorohexanoic Acid (PFHXA)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluorononanoic Acid (PFNA)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluorooctane Sulfonic Acid 6:2 FTS	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluoropentanesulfonic Acid (PFPES)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluoropentanoic Acid (PFPEA)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
3/21/2023	Perfluoroundecanoic Acid (PFUNA)	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
11/5/2024	Picloram	<0.001	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Picloram	<0.001	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Picloram	<0.001	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Picloram	<0.001	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
6/4/2024	Radium, Combined (226, 228)	0.72	PCI/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED TAP AT WELL #3
6/4/2024	Radium-226	0.72	PCI/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED TAP AT WELL #3
6/4/2024	Radium-228	<0.64	PCI/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED TAP AT WELL #3
11/5/2024	Simazine	<0.0001	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Simazine	<0.0001	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Simazine	<0.0001	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Simazine	<0.0001	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
5/15/2025	Sodium	23.8	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
5/15/2025	Sodium	5.79	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
5/5/2025	Sodium	14.8	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
5/5/2025	Sodium	10.7	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Styrene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Styrene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Styrene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Styrene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Tetrachloroethylene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Tetrachloroethylene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Tetrachloroethylene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Tetrachloroethylene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Toluene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Toluene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Toluene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Toluene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
8/26/2025	Total Haloacetic Acids (HAA5)	0.016	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/27/2024	Total Haloacetic Acids (HAA5)	0.0218	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/28/2023	Total Haloacetic Acids (HAA5)	0.0085	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
3/21/2023	Total PFOA and PFOS	<2.00	NG/L			WL03	WELL #3 (1943)	WL03	WELL #3 (1943)
8/26/2025	Total Trihalomethanes (TTHM)	0.0325	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/27/2024	Total Trihalomethanes (TTHM)	0.0458	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/28/2023	Total Trihalomethanes (TTHM)	0.0291	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
11/5/2024	trans-1,2-Dichloroethylene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	trans-1,2-Dichloroethylene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	trans-1,2-Dichloroethylene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	trans-1,2-Dichloroethylene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
8/26/2025	Trichloroacetic Acid	0.00245	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/27/2024	Trichloroacetic Acid	0.00709	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
8/28/2023	Trichloroacetic Acid	0.00204	MG/L			950	DISTRIBUTION SYSTEM	DB01	1305 13 ST NE (HTL)
11/5/2024	Trichloroethylene	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Trichloroethylene	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Trichloroethylene	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Trichloroethylene	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Vinyl Chloride	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Vinyl Chloride	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7
11/5/2024	Vinyl Chloride	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6
11/5/2024	Vinyl Chloride	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Xylenes	<0.0005	MG/L			04	FINISHED WATER TAP AT WELL #4	04	FINISHED WATER TAP AT WELL #4
11/5/2024	Xylenes	<0.0005	MG/L			03	FINISHED WATER TAP AT WELL #3	03	FINISHED WATER TAP AT WELL #3
11/5/2024	Xylenes	<0.0005	MG/L			06	FINISHED WATER TAP AT WELL #7	06	FINISHED WATER TAP AT WELL #7

Sample Collection Date	Analyte	Results	Unit of Measurement	Free Cl	Total Cl	Facility ID	Facility Name	Sample Point ID	Sample Collection Address
11/5/2024	Xylenes	<0.0005	MG/L			05	FINISHED WATER TAP AT WELL #6	05	FINISHED WATER TAP AT WELL #6

APPENDIX D

2024-06-19 IDNR SANITARY SURVEY

IOWA DEPARTMENT OF NATURAL RESOURCES

GOVERNOR KIM REYNOLDS
LT. GOVERNOR ADAM GREGG
DIRECTOR KAYLA LYON

July 10, 2024

INDEPENDENCE WATER DEPT
ATTN CITY CLERK
331 1ST ST E
INDEPENDENCE, IA 50644

Subject: INDEPENDENCE WATER DEPT Sanitary Survey
Public Water Supply ID # IA1037070

Enclosed is the report of the recent sanitary survey of the public water supply referenced above. We believe you will find the report self-explanatory and encourage you to take action on the recommendations listed. If you have any questions about the inspection or report, please contact Jeff Schwierjohann ({563.927.2640} or {jeffrey.schwierjohann@dnr.iowa.gov}).

The cooperation and assistance of Travis Foley in completing this survey is appreciated.

Sincerely,

Amber Sauser

Amber Sauser
Environmental Specialist Senior, FIELD OFFICE #1

Enclosure(s):

c: Water Supply Operations (w/encl. via email: pwsrecords@dnr.iowa.gov)
10 WS Independence ins 061924 jhs

PUBLIC WATER SUPPLY INFORMATION			
SYSTEM	**NAME:** INDEPENDENCE WATER DEPT		**PWS CLASSIFICATION:** Community
	ADDRESS: 2018 THREE ELMS PARK ROAD INDEPENDENCE, IA 50644		**PHONE:** 319-334-2780
	RESPONSIBLE AUTHORITY/OWNER: INDEPENDENCE, CITY OF		
	ADDRESS: ATTN CITY CLERK 331 1ST ST E INDEPENDENCE, IA 50644		**PHONE:** 319-334-2780
	TREATMENT GRADE: WT2	**DISTRIBUTION GRADE:** WD2	**WATER USE PERMIT #:** 6284

SOURCE/ENTRY POINT	**SDWIS NAME:** FINISHED WATER TAP AT WELL #3 FINISHED WATER TAP AT WELL #4 FINISHED WATER TAP AT WELL #6 FINISHED WATER TAP AT WELL #7	**DESCRIPTION/PHYSICAL LOCATION:** Same Same Same Same

RESPONSIBLE OPERATOR(S)	**NAME:** TRAVIS FOLEY	**WT GRADE:** WT2	**WD GRADE:** WD2	**CERTIFICATION #:** 10227

SURVEY INFORMATION				
SURVEY	**DATE THIS SURVEY:** 6/19/2024	**DATE LAST SURVEY:** 11/10/2021		**PURPOSE:** Routine Sanitary Survey
PERSON INTERVIEWED	**NAME:** Travis Foley Daniel Eschen		**TITLE:** Operator in Charge Operator	
CONSUMPTION	**Period Reviewed:** 11/21-6/24	**AVERAGE DAILY USE (MGD):** 0.643	**MAXIMUM DAILY USE (MGD):** 1.569	**PE @100 GPCD:** -
POPULATION SERVED	**TOTAL NUMBER OF SERVICE CONNECTIONS:** 3052		**POPULATION OUTSIDE CORPORATE LIMITS:** 0	
	CENSUS POPULATION: 6179		**TOTAL POPULATION SERVED*:** 6179	
	MILES OF PIPE (RURAL SYSTEMS ONLY): N/A			

*equals census pop. + population outside corp. limits(2.5 X # of service connections or actual pop.)

SURVEY INFORMATION		
ASSESSMENTS	**SOURCE CLASSIFICATION:** Ground water	**ORGANIC CHEMICAL PHYSICAL VULNERABILITY (SW/IGW SYSTEMS ONLY):** No
	ORGANIC CHEMICAL VULNERABILITY (GW SYSTEMS ONLY): No	**ORGANIC PHYSICAL VULNERABILITY (GW SYSTEMS ONLY):** No

AUTHENTICATION		
INSPECTOR	**NAME/TITLE:**	
REVIEWER	**NAME/TITLE:** Amber Sauser Environmental Specialist Senior Amber Sauser	**DATE: 7/11/24**

General Description

This community public water supply provides water to residents and businesses located within the corporate limits of Independence. The wells listed below provide water to this system. Note that WL08 which was listed in the past is no longer leased from MHI.

Well #	WL03 Courthouse	WL04 Power Plant	WL06 SW Park	WL07 NW Park
S/EP	03	04	05	06
Construction Date	1943	1948	1962	1984
Depth (ft)	307	293	285	265
Casing Depth (ft)	36	38	50	87
(D)eep/(S)hallow	S	S	S	S
Pump Type	V.Turbine	V.Turbine	V.Turbine	V.Turbine
Pump Capacity (GPM)	420	650	625	700

The water produced from the wells for this system is treated at the plants listed below:

Treatment Plant #	**Plant Site**	**Treatment #1**	**Purpose**	**Treatment #2**	**Purpose**
TP03	Well House #3	Gas Chlorine	Disinfection	Fluorosilic Acid	Dental Health
TP04	Well House #4	Gas Chlorine	Disinfection	Fluorosilic Acid	Dental Health
TP06	Well House #6	Gas Chlorine	Disinfection	Fluorosilic Acid	Dental Health
TP07	Well House #7	Gas Chlorine	Disinfection	Fluorosilic Acid	Dental Health

Storage for the distribution system are provided by the facilities listed below:

Storage Facility #	**Storage Location**	**Storage Type**	**Storage Capacity (gal)**	**Last Maintenance**
ST01	Courthouse	Elevated	300,000	Annual Inspections
ST02	MHI	Elevated	250,000	Annual Inspections
ST03	City Shop	Elevated	500,000	Annual Inspections

1. Sources

- Development and implementation of Source Water Protection plans are encouraged for all wells and may result in fewer monitoring requirements in the future. It is recommended that the facility develop a Source Water Protection Plan. Please contact Matt Dvorak, Source Water Protection Coordinator, via email at matthew.dvorak@dnr.iowa.gov or telephone 515-322-7727 or Iowa Rural Water Association at 641-787-0330 for assistance with developing a plan.

2. Treatment

There are no deficiencies or recommendations to report based on observations made at the time of this survey.

3. Distribution System

- 950 - Main breaks are one of the normal problems in a water system. If the breaks are frequent, there may be a problem with the integrity of the piping. Each main break opens the system to contamination, and frequent breaks increase the potential for introducing waterborne pathogens into the system. Most breaks are due to leaks, not age. Leaks undermine the pipe, causing it to fail under the weight of the overburden. To prevent main breaks, a routine leak detection program should be conducted and a record of distribution system repairs should be kept that identifies the location and type of repair, repair device or length of replacement pipe, and general condition of the line.

- 950 - Lead service lines and lead goose necks have been identified in the distribution system; these sources are known to be one of the major contributors to high lead levels in finished water delivered to customers. Efforts should be taken to replace these as they are discovered.

4. Finished Water Storage

- ST02 - All water storage structures shall be provided with an overflow that discharges over a drainage inlet structure or a splash plate. No overflow may be connected directly to a sewer or a storm drain. All overflow pipes shall be located so that any discharge is visible. [Recommended Standard for Water Works 7.0.7]. At the time of this inspection, noticeable erosion was taking place under the overflow for the MHI water tower. It is recommended that either a splash plate be installed or more gravel be added to prevent further erosion.

5. Pumps, Pump Facilities and Controls

There are no deficiencies or recommendations to report based on observations made at the time of this survey.

6. Monitoring, Reporting and Data Verification

There are no deficiencies or recommendations to report based on observations made at the time of this survey.

7. Water System Management and Operations

There are no deficiencies or recommendations to report based on observations made at the time of this survey.

8. Operator Certification Compliance

There are no deficiencies or recommendations to report based on observations made at the time of this survey.

Summary of Significant Deficiencies

There are no significant deficiencies to report based on observations made at the time of this survey.

Summary of Minor Deficiencies

There are no minor deficiencies to report based on observations made at the time of this survey.

Summary of Requirements

There are no requirements to report based on observations made at the time of this survey.

Summary of Recommendations

1. Develop and implement a leak detection program to prevent main breaks and plan for replacement of water mains experiencing frequent breaks.

2. Add a splash plate or additional gravel to the overflow outlet of the elevated MHI storage tower. The overflow can also discharge over a drainage inlet with an appropriate air gap. [Recommended Standard for Water Works 7.0.7]

3. Develop a Source Water Protection Plan.

Summary of Reminders

1. Efforts should be taken to replace lead service lines and lead goose necks as they are discovered.

APPENDIX E

2003 WELLHEAD PROTECTION PLAN

City of Independence

Wellhead Protection Plan

Cara McCabe – Groundwater Specialist
Iowa Rural Water Association

Tim Donnelly - Water Superintendent

331 1st St E
Independence, IA 50644

September 2003

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INTRODUCTION

Background

In 1974 the United States Congress enacted the Safe Drinking Water Act (SDWA) with the goal of providing safe drinking water for public water supplies and their users. The SDWA gave the U.S. Environmental Protection Agency (EPA) the authority to develop a uniform national drinking water protection program, and to establish standards for known or suspected drinking water contaminants. In 1986, Congress amended the SDWA to reflect a growing awareness of potential biological and chemical threats to drinking water. The amendments to the SWDA authorized two new provisions for groundwater protection. One of these is the Wellhead Protection (WHP) program. The SDWA allowed states to design and implement their own WHP programs in order to maximize program effectiveness at the local level.

The Iowa Department of Natural Resources' Environmental Protection Division and Geological Survey Bureau (GSB) began a cooperative effort to complete a WHP program for the State of Iowa in 1995. In October 1999, the State of Iowa's WHP program was approved the EPA. At this time, indications are that Iowa will maintain a voluntary approach to WHP implementation. A voluntary implementation (as opposed to regulatory) approach is appropriate for Iowa due to the geologic heterogeneities, uniqueness of each public water supply system, and state and federal budget constraints. The voluntary approach also conveys a positive image of the WHP program to small Iowa communities already weary of state and federal regulations.

The Iowa Rural Water Association's (IRWA) mission is to provide technical assistance to small communities through a variety of programs. One program is the WHP Program. Since 1990, IRWA has been assisting small communities, regional and rural water systems in developing and implementing WHP Programs.

In addition to the voluntary approach incentive, the United States Department of Agriculture has developed several Conservation Reserve Programs (CRP) to protect ground and surface water supplies, both sources of drinking water in Iowa. The Iowa Buffer Initiative and the WHP CRP are programs that pay farmers to set aside agriculture land in order to prevent ground and surface water contamination from agri-chemicals. Under the CRP, a 2000-foot radius circle is drawn around each wellhead. Any agricultural land that lies within the 2000-foot radius can be enrolled into the CRP. The WHP CRP requires the city to have an IDNR approved WHP plan before the land can be enrolled into the program. For more information contact the county Farm Services Agency (FSA) or National Resources Conservation Service (NRCS).

Purpose

The purpose of WHP is to provide an organized approach to effectively protect public water supplies from contamination. There are many important reasons for protecting Independence's groundwater:

- Safeguard the health of community residents.
- Prevent financial burdens caused by well contamination should it occur.
- Lack of education and community awareness on groundwater and contamination of groundwater.
- Groundwater is the lifeline of the community presently and in the future.

Independence's Plan

Independence's WHP plan includes: 1) An overview of the geology and hydrogeology in the area; 2) Identification of the WHP Area (WHPA) for Independence's wells; 3) An inventory of the potential sources of contamination and land use activities within the WHPA; 4) A discussion of the management strategy of the WHPA; 5) A

contingency plan in case of well contamination and; 6) Community education and awareness.

Once the WHP plan is approved and in place the state may offer waivers for public water supplies that: 1) seek to prevent groundwater contamination through WHP efforts, and 2) currently do not have problems meeting safe drinking water quality standards. Waivers benefit communities by reducing the amount of required water testing, thereby lowering the water system's operating costs. It is important to note that there is no guarantee Iowa will incorporate monitoring waivers into its official program in the future.

HYDROGEOLOGY

Location

Independence is located in central Buchanan County in northeastern Iowa (Figure 1). Geologically, Independence is situated on the northern edge of the Iowa Erosional Surface and the Wapsipinicon River Watershed (Figure 2). The Iowan Surface is a flat to rolling surface that was glaciated nearly five hundred thousand years ago. Approximately 20,000 years ago, during Wisconsinan glaciation, water, ice, and wind action severely eroded the Iowan Surface removing large amounts of the glacial drift and thus erasing many of the landforms we see today on the Southern Iowa Drift Plain. The Iowan Surface is easily identified when crossing Iowa. Large boulders or erratics that were carried from the Canadian Shield in glacial ice are exposed at the land surface. While a nuisance for farmers, these erratics provide geologists with information on the glacial environment that developed Iowa's land surface. Depth to the Silurian bedrock is approximately 80 feet in the Independence area.

Bedrock Aquifer

An aquifer can be described as any geologic material capable of transmitting measurable quantities of water to a well. Bedrock aquifers are composed of sedimentary rocks developed from sediments deposited in a "layer-cake" fashion in

ancient, shallow, carbonate seas that once covered the continent 95 to 540 million years ago. Once the oceans retreated from continent, pressure compacted the sediments creating bedrock. Limestone, dolomite, and sandstone are the three major rock units that comprise Iowa's aquifers. Iowa's bedrock aquifers are typically covered by quaternary sediments such as till or alluvium except in northeast Iowa where bedrock outcrops at the land surface. If the sediments were removed, the bedrock would be visible in a "banding pattern" representing the different bedrock formations (Figure 3). This pattern occurs because the bedrock in Iowa was deformed, tilted and subsequently eroded to expose the different formations. The rate of tilt or dip is 13 feet per mile from northeast to southwest Iowa. The Cretaceous Dakota Aquifer (shown In green) does not dip since it was deposited after deformation. There are five principal bedrock aquifers in Iowa (Figure 4). The City of Independence draws its water from one bedrock formation, the Silurian.

The Silurian bedrock formations are located approximately 80 feet below land surface in Independence, but are only 25 feet deep in northeast Iowa. The Silurian Aquifer is composed primarily of fractured dolomite rock units. Approximately 409 to 439 million years ago, Iowa was south of the equator and covered by a shallow inland sea. During this period, marine carbonate sediments were deposited, which in formed limestone rock. Limestone in turn underwent a process called dolomitization, where magnesium-bearing water reacted with the calcium carbonate minerals ($CaCO_3$) and fossils in limestone to produce a magnesium-calcium carbonate mineral, $CaMg(CO_3)_2$. During this process, the change form $CaCO_3$ to $CaMg(CO_3)_2$, results in an increase of void space in the rocks. Thus the dolomite rocks of the Silurian aquifer tend to hold water in fractures and voids.

Confining Units

In general, a confining unit is any geologic material, which does not readily transmit water. In surficial aquifer systems, clay-rich till can act as a confining unit depending on its thickness. Confining units are important in Iowa's regulatory framework: Their presence determines if a well is classified as 'shallow' or 'deep' by the IDNR. The Administrative Code defines a deep well as one that has a "continuous layer

of low permeability soil or rock at least five feet thick located at least twenty-five feet below the normal ground surface and above the aquifer which water is to be drawn" (IAC 567-40.2 (455b)). Shallow wells are those that do not meet these criteria.

A well's depth classification, in turn, determines the regulated 'setback' or minimum distance between a wellhead and potential sources of contamination (Table 2). If a potential contamination source exists within the regulated setback distance, the system is deemed *vulnerable* to contamination.

Independence currently relies on five bedrock wells to meet the water demands of 6,014 residents and businesses. The wells range from 200-307 feet in depth (Table 1), and are considered to be 'Susceptible to Contamination' as assessed by the IDNR Geological Survey Bureau.

Table 1

Well	Date Drilled	Depth (ft)	Type	Classification	Status
Independence # 7	1984	265	Silurian	deep	Current
Independence #6	1965	285	Silurian	deep	Current
Independence #3	1943	307	Silurian	deep	Current
Independence #4	1948	293	Silurian	deep	Current
Independence WHW	1900	200	Silurian	deep	Current
Independence WHE	1942	352	Silurian	deep	Capped
Independence #2	1923	206	Silurian	deep	Capped

Groundwater Movement

The direction of groundwater flow in the Independence area is to the southwest in the Silurian aquifer. In shallow groundwater systems, often the topography determines the direction of groundwater flow. However, Independence's wells are set in the Silurian bedrock and therefore topography does not reveal the direction of flow. On a regional scale, groundwater flows to the south/southeast in the Silurian system. Heterogeneities in the bedrock create localized flow systems that may alter the direction of groundwater flow. The Wapsipinicon River is a gaining system from the surrounding bedrock aquifer. On a local scale then, groundwater would probably flow to the valleys and discharge into the streams that eventually feed the Mississippi River along Iowa's eastern border. Recharge to the Silurian occurs through the Pleistocene deposits in a

belt that extends from southeastern Iowa near the Quad Cities to Fayette and Bremer counties in northeastern Iowa (Figure 3)

IDENTIFICATION OF THE WELLHEAD PROTECTION AREAS

The Independence WHPA delineation was determined using the USEPA Computer Flow Model WHPA 2.0 and overlain upon a United States Geological Survey 7.5 Minute Topographic Quadrangle. This model incorporates pumping, hydrologic, and geologic data to determine the WHPA delineations and 2, 5 and 10-year time-of-travel zones for the wells. Well data was acquired from Independence, and the Geological Survey Bureau Municipal Water-Supply Inventory. The Independence WHPA map is located in the back of this plan.

POTENTIAL SOURCES OF GROUNDWATER CONTAMINATION and MANAGEMENT OF THE WHPA

A field survey was accomplished in July 2002 to map the potential sources of contamination in order to build a database and map. The type and location of each potential source was recorded on an aerial photograph (see appendix). The potential sources of contamination identified in the Independence WHPA are outlined in Table 2. In addition, survey forms were handed out to the businesses and residents of Independence to identify other potential sources of contamination missed during the field survey. (It is important to note identified businesses or residential properties are only *potential sources of contamination* and by no means should they be labeled as a sources of contamination by the City of Independence unless so identified by the IDNR or an IDNR approved consulting firm.)

Table 2

POINT SOURCE CONTAMINANTS

Water Wells/Septic Systems

ID	Name/Owner	Address	Status	Depth	Water Well #	Delineation Zone	Susceptibility Designation
12	Gary Wilson	506 27th St SE	current well		none	none	low
13	Ed Trullinger	1307 8th Ave NE	current septic		4	5year capture	medium
14	Ed Trullinger	1307 8th Ave NE	current well		4	5year capture	medium
20	Richard Krempges	215 17th Ave NW	current septic		none	none	low
33	Addeen Petersen	520 9th Ave SE	current septic		none	none	low
34	Dieter Erdelt Blands Flower Shop	2347 Jamestown Ave	current well used for greenhouse		none	none	low
78	Iowa Ham Canning	812 3rd St NW	current well		7	5year capture	medium
47	Lloyd Hoskins	1401 1st St E	current well		none	none	low
51	Eloise Christensen	609 8th St SW	cistern		6	2year capture	high
53	Laverne Manson	1906 Bland Blvd	current septic		none	none	low
69	Ivan Cole	1615 1st St E	current septic		none	none	low
67	Rod Nabholz	1706 1st E	current septic		none	none	low
67	Rod Nabholz	1707 1st E	current well		none	none	low
66	Wapsi Valley Creamery	300 10th St NE	current well		4	5year capture	medium
45	Independence Telecom	700 7th Ave NE	current well		4	2year capture	high

Underground Storage Tanks

ID	Name/Owner	Address	Status	Leak #	Water Well #	Delineation Zone	Susceptibility Designation
79	Iowa Ham Canning	812 3rd St NW	current		7	5year capture	medium
75	People's Mem Hosp	1600 1st St E	current		none	none	low
19	Charles Corbler	19th St	previous		6	5year capture	low
65	Wapsi Valley Creamery	300 10th St NE	previous		4	5year capture	low
38	Casey's General Store	126 3rd Ave SE	current		3	5year capture	medium
26	Jack Waskow	131 3rd Ave SE	filled with sand		3	5year capture	low
52	Go America	1906 3rd Ave SE	current		none	none	low
37	Casey's General Store	816 1st St	current		7	5year capture	medium

25	Kwik Star	100 5th Ave N	current		3	2year capture	high
55	Hazel Lee	103 5th Ave SW	previous		3	5year capture	low
54	Claude Smith	306 14th Ave SE	current		none	none	low
44	Independence Telecom	700 7th Ave NE	current		4	2year capture	high
43	Independence Telecom	701 7th Ave NE	pipeline		4	2year capture	high
50	Hawkeye Oil Co	P.O. Box 1506	current		3	2year capture	high
71	Rosco Inc	415 1st St E	current		3	2year capture	high
76	Herbert Jones	P.O. Box 563	gas pipeline		all	5year capture	medium
77	Herbert Jones	P.O. Box 564	current		all	5year capture	medium
80	Conoco Express Mart	1008 1st St W	current		7	5year capture	medium
81	Cy Firestone	1001 5th Ave NE	previous		4	5year capture	low
82	City of Independence	1000 12th St	previous		4	5year capture	low
83	Independence Municipal Airport	1686 230th St	current		MHIW	2year capture	high
84	East-Central IA Rec	1707 1st St E	previous		none	none	low
85	Buchanan County Shop	1511 1st St E	previous				low
86	Armstead Corhardt & Assoc.	1401 6th Ave NE	current				high
87	Paul Ballou	128 3rd Ave NE	previous				low
88	Midwest Wood Products	1010 10th St NE	previous				low
89	Hoffman Bros Inc	710 7th Ave NE	current		all	5year capture	medium
90	Farmers State Savings Bank	HWY 150 N	previous				low
91	Greenley Elevator	1102 5th Ave NE	previous				low
92	Iowa Engineered Process	HWY 150 S	previous				low
93	Independence Comm Schools	514 6th Ave SE	previous				low
94	Don Dunlap Pontial Olds Inc	520 E Main	previous				low
95	Urban Oil Co	413 1st St W	previous				low
96	Greif Oil Co	412 1st St E	current		4		high
97	Bagby's Service	801 5th Ave NE	previous				low

98	Indy 76 Mart	709 1sr St W	current		7	5year capture	medium
99	Jensen Transport	1100 2nd Ave NE	current		all	5year capture	medium
100	John Terry	401 1st E	current		all	5year capture	medium
101	Casey's General Store	201 3rd Ave SE	previous		all	5year capture	low
102	Hand Implt Co	914 5th Ave NE	previous		all	5year capture	low
103	Brooks Quarry	Old HWY 20 E	previous				low
104	Paul Grief	204 1st St W	previous				low
105	Paul Grief	1000 5th Ave NE	previous				low
106	Kum & Go	400 E 1st St	current		all	5year capture	medium
107	Glens Plmb & Heating	912 2nd St SW	previous				low
108	IDOT	RR3	previous				low
109	Mental Health Institute		previous				low
110	Independence Light Plant	711 7th Ave NE	previous				low
111	City of Independence	331 1st St E	previous				low
112	Thelma Morton	210 6th St NE	previous				low
113	Crossroads Antiques	1810 3rd Ave SE	previous				low
114	Jensen Transport	300 9th Ave SE	current		3	5year capture	medium
115	Chicago Central & Pacific Railroad		current				
116	Casey's General Store	1200 5th Ave NE	current		all	5year capture	medium
117	Edward Megonigle	RTE 2	current				
118	Dale Andersen	HWY 20	previous				low
119	J & D Body Shop	702 8th St NE	current		all	5year capture	medium
120	Metropolitan Life	Old HWY 20 E	previous				low
121	Norman Michels	RTE 1 HWY 150 N	previous				low
122	NWB/ROC	406 4th NE	previous				low
123	Paul Humes	RTE 3 Box 201	current				
124	Wendell Circus	RTE 3 Box173					

125	XYZ Convenience Store	1376 220th St	previous				low

Above Ground Storage Tanks

ID	Name/Owner	Address	Status		Water Well #	Delineation Zone	Susceptibility Designation
1	State of Iowa		fuel		MHIW	2year capture	high
6	City of Independence		current		4	5year capture	medium
9	Consolidated Energy	78 10th St NE	current fuel		7	2year capture	high
10	Consolidated Energy	78 10th St NE	current fuel		7	5year capture	medium
15	Clank Fratzke	1601 1st St W	current		none	none	low
21	Dunlap Motors Inc	520 1st St E	current		3	2year capture	high
24	Waste Management	1100 12th St NE	current		4	10year capture	low
27	Swiss Valley Ag	600 11th St NE	current		4	5year capture	medium
30	Richard Blount	801 8th Ave SW	current		6	5year capture	medium
35	Richard Blount	806 9th Ave SW	current		6	5year capture	medium
70	Bagby Automotive	801 5th Ave NE	current		4	5year capture	medium
72	Buchanan County Secondary Roads		current		none	none	low
62	Wapsie Valley Creamery	300 10th St NE	current		4	5year capture	medium
39	Independence Telecom	700 7th Ave NE	current		4	2year capture	high

Ag/Chem Storage

ID	Name/Owner	Address	Type		Water Well #	Delineation Zone	Susceptibility Designation
3	State of Iowa				MHIW	2year capture	high
17	Pries Enterprises	701 17th St SE	Cordis		none	none	low
28	Swiss Valley Ag	600 11th St NE	pesticide storage		4	5year capture	medium
29	Swiss Valley Ag	601 11th St NE	grain storage		4	5year capture	medium
57	TCY Inc	505 20th Ave SW	pesticide storage		none	none	low
63	Wapsie Valley Creamery	300 10th St NE			4	5year capture	medium
40	Independence Telecom	700 7th Ave NE	storage		4	2year capture	high

Salt Storage

ID	Name/Owner	Address	Status		Water Well #	Delineation Zone	Susceptibility Designation
5	State of Iowa		current		MHIW	2year capture	high

7	City of Independence		current		4	5year capture	medium

Industry/Other

ID	Name/Owner	Address	Type		Well	Delineation	Susceptibility
2	State of Iowa		Dry Cleaners		MHIW	2year capture	high
4	State of Iowa		Machine Shop		MHIW	2year capture	high
8	City of Independence		Sewage Plant		6	5year capture	medium
16	Iowa Transmission Rebuilders	1601 1st St W	Transmission Repair		none	none	low
18	Pries Enterprises	701 17th St SE	Metal Finisher		none	none	low
21	Sheet Metal Automation	515 17th St SE	Machine Shop		none	none	low
22	Dunlap Motors	520 1st St E	Car Wash		3	2year capture	high
23	Dunlap Motors	521 1st St E	Metal Refinishing		3	2year capture	high
31	Geater Machining	901 12th St NE	Machine Shop		4	5year capture	medium
32	Geater Machining	902 12th St NE	Metal Refinishing		4	5year capture	medium
46	Iowa Ham Canning	812 3rd St NW	Meat Processing		7	5year capture	medium
48	Miller Printerie	1108 3rd Ave SE	Print Shop		none	none	low
49	Laren Car Wash		Car Wash		none	none	low
56	Loyd Johnson	518 7th Ave Se	Paint shop		none	none	low
58	TCY Inc	505 20th Ave SW	Landscaping		none	none	low
60	East IA Plastics	601 17th St SE	Plastic		none	none	low
61	Ellen Foland	406 10th St SW	Cemetary		6	2year capture	high
73	People's Mem Hosp	1600 1st St E	Laboratory		none	none	low
74	People's Mem Hosp	1601 1st St E	Photo Processing		none	none	low
64	Wapsi Valley Creamery	300 10th St NE	Laboratory		4	5year capture	medium
41	Independence Telecom	700 7th Ave NE	Car Wash		4	2year capture	high
42	Independence Telecom	701 7th Ave NE	Machine Shop		4	2year capture	high

NONPOINT SOURCE CONTAMINANTS

Transportation Corridors

ID	Name/Owner	trend			Water Well #	Delineation Zone	Susceptibility Designation
	HWY 939	E-W					

Water Bodies

ID	Name/Owner		Water Well #	Delineation Zone	Susceptibility Designation
Wapsipinicon River		NW-SE			

Agricultural

ID	Name/Owner	Address	status		Water Well #	Delineation Zone	Susceptibility Designation
11	Gary Wilson	506 27th St SE	current farm		none	none	low
36	Richard Blount	806 9th Ave SW	irrigation		6	5year capture	medium
59	John Evers	1419 2nd St SW	current farm		none	none	low

Since Independence's wells exist in an area subject to various land use activities such as agri-business, agriculture, private industry and residential properties, thus exposing them to numerous potential sources of contamination:

- Residential areas can be a source of contamination when uninformed property owners misuse or improperly dispose of hazardous chemicals.
- Commercial and industrial areas may be dangerous because they typically use, handle, transfer, and/or produce hazardous materials. These areas may also have a rapid turnover of property ownership, making accountability for a contaminated site problematic. Some of these products also tend to be very persistent in the environment, causing long-term potential contamination sources.

Certain contamination pathways exist that could threaten groundwater quality. The most direct pathway would be through surface water seepage along well casings. This is caused by inadequate well construction and pertains to wells currently in use, private and municipal, and abandoned wells. Wells that are abandoned or no longer in use should be plugged, thus eliminating the potential contamination threat. To counteract this threat, Iowa's Grants-to-Counties Program currently provides up to 200 dollars in cost sharing funds towards the closure of abandoned wells. For more information about this and other abandoned well management options, contact IRWA's groundwater technician, the IDNR Water Quality Bureau, or the Geological Survey Bureau.

MANAGEMENT OF THE WELLHEAD PROTECTION AREA

Protection of a water source can be achieved through management of potential contaminant sources. The following management practices have been implemented:

1. Public Education Program – Independence plans to provide information on Wellhead Protection to residents through the local newspaper. Independence will also have brochures on Wellhead Protection available at city hall. The IRWA groundwater specialist also informed the community that a meeting on WHP could be arranged at any time.

   Reflective '**Water Supply Protection Area**' signs are located near the wells and along major roadways that enter the WHPA.
2. Coordinate with above ground fuel storage tanks to ensure that spill protection is in place and the City would be notified if a spill occurred. 15 letters were sent out various industries in Independence.
3. Provide maintenance information to private well owners located in the delineated area. For private abandoned wells, the Team will encourage well owners to properly plug the wells. Buchanan County participates in the Grants to Counties program that provide funds to offset the costs of properly abandoning wells. Letters were mailed out to 9 well owners.
4. Provide information to septic tank owners on proper maintenance of septic tanks. Letters were mailed out to 6 septic tank owners.
5. Distribute informational flyers about leak detection for underground storage tanks to facilities that have tanks. 24 letters were sent out.

Contingency Planning

If the City of Independence were to experience a disruption of water service, the following steps in the Contingency Plan can help restore service or provide a backup supply of potable water for the community. Within each of the steps, critical personnel are identified with a 24-hour phone number and their assigned duties as a Wellhead Protection Team Member. In any emergency situation, the city should contact the County Emergency Coordinator immediately since they have contingency plans and will provide invaluable assistance to your community. Information outlining sources of replacement supplies, maintenance contractors, related utilities, federal, state and local emergency contacts resource contacts (Table 8), and IRWA regional equipment facilities (Table 9) are contained in this plan for consolidation. Emergencies that can disrupt your water supply can be of many types (electrical power failure, fire or explosion, floods, or water system failures) so a thorough set of procedures is needed to restore potable water to the city.

In case of an emergency, the following Contingency Planning steps should be implemented. (A valuable resource in Contingency Planning is a guide prepared by the IDNR and Des Moines Water Works titled, *Emergency Preparedness: Preparing for the Unanticipated.* Information from this guide was used in developing the Wellhead Protection Contingency Operations Plan.)

Step 1.

Notification of Wellhead Protection Team using the Emergency Response Information Table should begin immediately. Team members should be assigned a specific job in the Emergency Response process. Multiple tasks can be assigned to an individual Team member. However, the Team Leader is in charge and should direct the overall process.

Specific jobs should include:

a. Emergency Notification Contact

b. State and Local Agency Contact

c. Services and Supplies Contact

d. Utilities Contact

e. Critical Water Users Contact

f. Backup Water Sources Contact

Emergency Response Information

Position or Title	Name	Work Tele.	Cellular	Home Tele.
Utility Manager/Super.				
Water	Tim Donnelly	319-334-6285	319-961-0850	319-334-6418
Waste	Ken Chudzinski	319-334-3750	319-334-4711	319-334-6264
Fire Department	Charles M. Comklin	319-334-3404	319-334-4224	319-33404224
City Police	Doug Rasmussen	319-334-2520	----------	319-334-6285
Mayor	Donna K. Hansen	319-334-4711		319-334-3447
Wellhead Protection Team				
Water	Tim Donnelly	319-334-6285	319-961-0850	319-334-6418
Emergency Cordinator	Rick Wulfekuhle	319-334-6411		319-334-6416
Director Public Works	Ernie Henderson	319-334-4210	319-961-0849	319-334- 2205
City Council Members				
City Clerk/Administrator	Debra Lynn	319-334-4711		
City Attorney	Donna Lesyshen	319-226-6116		

Federal, State and County Agencies

Agency	Contact	Telephone	Service Provided
HAZMAT Team	Fire Dept.	319-334-3404	spill containment and cleanup
_____ County Sheriff	Leonard Davis	319-334-2568	
State Office of Emergency Management		515-281-3231	emergency management services
_____ County Emergency Coordinator	Rick Wulfekuhle	319-334-6411	emergency management services
IDNR – Regional Field Office			water supply problems

IDNR – Water Quality Bureau		515-281-8941	water supply problems
U.S. Geological Survey		319-358-3606	hydrologic and geologic information
U.S. Army Corps of Engineers		309-794-5900	various backup water supply services (trucks, bottled water..)
Iowa Geological Survey Bureau		319-335-1575	groundwater and geology information
Iowa Department of Transportation		515-239-1101	hazardous materials transporting
Iowa Dept. of Public Health		515-242-6337	hazardous substance emergency release information
Federal Emergency Management Agency Region VII (FEMA)		816-2837025	http://www.fema.gov/ disaster planning and relief
Iowa Emergency Management Division		515-281-3231	http://www.state.ia.us/government/dpd/emd/index.htm
24 Emergency Spill Response		515-281-8694	emergency response to spills

Step 2.

Assess the type of emergency and determine the threat to your public water supply. The following scenarios provide a guide on how to deal with the threat. Along with each scenario is a table with contact or water supply information.

Electrical Failure – If power were disrupted to your public water supply, how long could your system provide water to the community? This requires a conservative calculation of peak daily consumption including the volume needed to maintain fire protection and seasonal anomalies. (In order to maintain adequate fire protection, PWS are highly recommended by the IDNR to have available, storage equal to 1.5 times their peak daily consumption.) Knowledge of the electrical system is required to determine the proper procedure to restore power back to the system. Information in the table below may help determine the proper procedures to restore power to your water supply. Sources of backup power should also be listed in case of a long-term disruption. If your system has service contract (i.e. Ziegler Caterpillar) to maintain your backup generation equipment, the service provider information should be included in the provided spaces.

Utilities

Utility	Contact	Telephone Number	Mobile Number
Iowa One-Call		800-292-8989	
Electrical Company	Jerry Barske	319-334-3880	
Gas Company	Don Gritton		319-231-1522
Telephone Company			

Backup Power Generation and Service

Backup Power Source	Contact	Telephone Number	Type of Source
Light & Power	Jerry Barske	319-334-3880	Generaters

Backup Generation Service	Contact	Telephone Number	Mobile Number
LI			

Fire or Explosion – Fires and/or explosions can disrupt water service to your city. Fires and explosions can also cause dangerous releases of chemicals stored at the water plant or local businesses. The water supply could be contaminated by a spill and subsequent infiltration to the aquifer or through a damaged distribution line. In Iowa, many small communities have one or two local chemical storage facilities. Farmer's cooperatives store agri-chemicals in bulk liquid and dry forms. Local fire departments should have a current listing of stored chemicals and the associated Material Data Safety Sheets (MSDS). If such an emergency were to occur, water would be needed to combat the event. Fire hydrant location maps should be available for reference. Refer to the Emergency Response Information and State and County Agencies Tables for phone numbers of emergency services contact. The following table lists the telephone numbers of local chemical storage facilities.

Facility Name	Service Provided	Contact	Telephone Number

Floods – The threat of flooding depends on the location of the your city and the water supply wells. Communities located in the lowlands along rivers and larger streams have a higher risk than those that are located highlands. Water systems with shallow alluvial wells located in the sand and gravel deposits are of higher risk than those who have wells located in deep bedrock aquifers. Communities having a long history of flooding events should take special interest in Flood Contingency Planning. Things to consider when preparing for a flood are:

a. History of flooding in the area
b. Elevation of the water plant with respect to stream and river levels
c. Elevation of the top of the well casing
d. Location of the system power source
e. Equipment needed to protect the water system from flooding
f. Local river or stream gauging stations

The following table should provide answers to the questions listed above.

Contacts	Telephone Number	Other Information
U.S. Army Corps of Engineers	309-794-5900 Mississippi River Watershed 402-221-4588 Missouri River Watershed	http://www.usace.army.mil/divdistmap.html
U.S. Geological Survey	319-337-4191	http://webdiaiwc.cr.usgs.gov/data.html – stream flow conditions in graphical format
National Weather Service – Johnston, Iowa	515-270-2614	http://www.nws.noaa.gov/

River/Stream	Flood Stage	Gauging Station
Wapsipinicon River	12 feet	yes

Water Supply Structure	Location	Elevation	Sump Pump?
Treatment plant			
Well # 3	2nd. ST. & 6th Ave NE		no
Well # 4	7th St. & 7th Ave. NE		no
Well # 6	3rd Ave& 7 th St. SW		no
Well # 7	3rd St. & 7th Ave NW		no
Well # MHI	Iowa Ave SW		no

Flood Response Equipment	Contact	Telephone Number	Storage location
Sand bags	Tim Donnelly	319-334-6285	1000 12th St. NE
Heavy equipment	Tim Donnelly	319-334-6285	1000 12th St. NE

Water System Failure – A failure of any part of the water system could render it unusable. However, most of the problems encountered with your water system can be dealt with on the local level. An understanding of the overall water system should be discussed periodically with member of the Wellhead Protection Team. Routine preventative maintenance programs should be in place to prevent failures due to the lack of periodic inspections. Municipal equipment suppliers usually provide a maintenance schedule and service for pumps, motors, generators and other mechanical devices used by your water system. Reports from scheduled maintenance should be kept with the Wellhead Protection Plan in case of a system failure. For example, if the city just inspected the pump motor for a well and now it not working properly, the report might indicate what components were removed or replaced. Mistakes do occur and the problem could be a new component or the improper installation of components. A good paper trail can eliminate unnecessary phone calls and down tile of the system. A table of contract services and equipment distributors is listed below.

Water System Information

PWSID #		Population Served	
Water Source	Ground	Peak Daily Consumption (gpd)	
Storage Capacity	1,ooo,050.		
Treatment Process			
Iron		Fluoridation	X
Filtration		Others	
Softening			
Chlorination	X		

Contract Services and Supplies

Position/Title/Service	Name	Work Tele.	Cellular	Home Tele.
Plumbing	Dick Curry	319-334-7008		
Electrical	Don Curry	319-334-3341		319-334-7390
Heavy Equipment Operations	Tim Donnelly	319-334-6286	319-961-0850	319-334-6418
Well Maintenance/Driller	Northway Well		319-560-5567	
Water Laboratory	Keystone Lab	319-235-4440		
University Hygienic Lab (UHL)		319-335-4500		
Engineering/Consulting Firm	Crawford Eng.	319-334-7077		319-334-2084
Water Tank Manufacturer/Repair	Water tower Paint & Repair			
Chemical Supplier	Hydriet Chem.			
PWS Materials and Equipment				
Hydro-Klean – Spill Response	Andrew Merical	515-964-9831		

Critical Water Users

Name of establishment	Contact	Work Telephone	Other Telephone	Volume Required and Uses
Peoples Hospital	Bob Richerds	319-334-6071		
Mental Health Insitute	Charlie Mccardle	319-334-2583	319-334-4414	

Backup Water Supply Sources and Services

Name of establishment	Contact	Work Telephone	Other Telephone	Volume Provided or Service

Emergency Notification Sources (Radio, T.V. and Newspapers)

Name of establishment	Contact	Work Telephone	Other Telephone
KQMG Radio		319-334-2549	
KCRG Radio & TV		319-365-9999	
Independence Newspaper		319-334-2557	

The Contingency Plan is helpful in answering many of the questions that regard the water resources your city relies on daily. The plan is a guideline IRWA and the IDNR recommends and should be used in conjunction with other emergency management tools your city already has in place. We highly encouraged you to add information your city deems important to your public water supply.

Land Uses and Their Relative Risk to Groundwater

LEAST RISK

A. 1. Land surrounding a well or reservoir, owned by water supplier.
2. Permanent open space dedicated to passive recreation.
3. Federal, state, municipal, and private parks.
4. Woodlands managed for forest products.
5. Permanent open space dedicated to active recreation.

B. 1. Field crops: pasture, hay, grains, vegetables.
2. Low density residential: lots larger than 2 acres.
3. Churches, municipal offices.

C. 1. Agricultural production: dairy, livestock, poultry, nurseries, orchards, berries.
2. Golf courses, quarries.
3. Medium density residential: lots from 1/2 acre to 1 acre

D. 1. Institutional uses: schools, hospitals, nursing homes, prisons, garages, salt storage, sewage treatment facilities.
2. High density housing: lots smaller than 1/2 acre.
3. Commercial uses: limited hazardous material storage and only sewage disposal.

E. 1. Retail commercial: gasoline, farm equipment, automotive, sales and services, dry cleaners, photo processing arts, furniture refinishing, machine shops, radiator repair, printers, fuel oil distributors.
2. Industrial: all forms of manufacturing and processing, research facilities.
3. Underground storage of chemicals, petroleum.
4. Waste disposal: pits, lagoons, injection wells used for waste disposal, landfills, hazardous waste treatment, storage, and disposal sites.

GREATEST RISK

Source: U.S.E.P.A., Seminar Pub. EPA/625/R-93/002, 19

SEPARATION DISTANCES FROM WELLS

[Prior to 12/12/90, appeared in 567-Ch 41, Table C]

	SOURCE OF CONTAMINATION		DISTANCES (FT.)								
			5	10	25	50	75	100	200	400	1000
WASTEWATER STRUCTURES	POINT DISHARGE TO GROUND SURFACE	Well house floor drains	A								
		Water treatment plant wastes				A					
		Sanitary and industrial discharges								A	
	SEWERS AND DRAINS	Well house floor drains to surface	A en	A wm	A → sp		A → unknown				
		Well house floor drains to sewers			A → wm		A → sp		A → unknown		
		Water plant wastes			A → wm		A → sp		A → unknown		
		Sanitary and storm sewers, drains			A → wm		A → sp		A → unknown		
		Sewer force drains					A → wm			A → sp	
	LAND DISPOSAL OF WASTES	Land application of solid wastes						D	S		
		Irrigation of wastewater						D	S		
	Concrete vaults and septic tanks							D	S		
	Mechanical wastewater treatment plants								D	S	
	Cesspools and earthen pit privies								D	S	
	Soil absorption fields								D	S	
	Lagoons									D	S
CHEM	Chemical application to ground surfaces							D	S		
	CHEMICAL AND MINERAL STORAGE	Above ground						D	S		
		On or below ground							D	S	
ANIMAL	Animal pasturage					A					
	Animal enclosure							D	S		
	ANIMAL WASTES	Land application of solids						D	S		
		Land application of liquid or slurry						D	S		
		Storage tank						D	S		
		Solids stockpiled							D	S	
		Storage basin or lagoon								D	S
	Earthen silage storage trench or pit							D	S		
	Basements, pits, sumps				A						
MISC	Flowing streams or other surface water bodies					A					
	Cisterns					D		S			
	Cemeteries								A		
	Private wells								D	S	
	Solid waste disposal sites										A
			5	10	25	50	75	100	200	400	1000

KEY:	
D - Deep well	wm - Pipe of water main specifications
S - Shallow well	sp - Pipe of sewer pipe specifications
A - All wells	en - wm encased in 4 in. of concrete

COMMON SOURCES OF GROUNDWATER CONTAMINATION

AGRICULTURAL

Animal Burial Areas
Animal Feedlots
Chemical Applications
Chemical Storage Areas
Irrigation
Manure Spreading Areas

COMMERCIAL

Airports
Auto Repair Facilities
Boat Yards
Construction Areas
Car Washes
Cemeteries
Dry Cleaning Establishments
Educational Institutions
Gas Stations
Golf Courses
Jewelry and Metal Plating
Laundromats
Medical Institutions
Paint Shops
Photography Establishments
Printers
Railroad Tracks and Yards
Research Laboratories
Road Deicing Operations
Road Maintenance Facilities
Scrap and Junk Yards
Storage Tanks (Above and Below Ground)

INDUSTRIAL

Asphalt Plants
Chemical Manufacture
Electrical and Electronic Manufacturing
Electroplaters and Metal Fabrication
Foundries
Machine and Metalworking Shops
Mining Operations
Petroleum Products:
    Manufacture
    Storage
    Distribution
Pipelines
Septic Lagoons
Storage Tanks
Toxic and Hazardous Spills
Wells: Operating and Abandoned
Wood Finishing Facilities

RESIDENTIAL

Furniture and Wood Finishing
Hazardous Chemicals
Lawn Chemicals
Water Softeners
Septic Systems and Sewer Lines
Swimming Pool Chemicals

WASTE MANAGEMENT

Landfills
Land Treatment Areas
Surface Impoundments
Incinerators
Wastewater and Sewer Lines
Open Burning Sites
Recycling and Waste Reduction
    Facilities
Stormwater Drains and Retention
    Basins

RESOURCE CONTACTS

Iowa Department of Natural Resources
Water Quality Bureau
902 East 9th Street
Des Moines, IA 50319
(515) 281-8941 Fax: (515) 281-8895

Iowa Department of Natural Resources
Geological Survey Bureau
109 Trowbridge Hall
Iowa City, IA 52242-1319
(319) 335-1575

Iowa Department of Natural Resources
Emergency (spill) Response
(515) 281-8694

Iowa Department of Natural Resources
Field Office 5
607 East Second St.
River Hills Business Park
Des Moines, IA 50309
(515) 281-9069

Iowa Rural Water Association
4221 S. 22nd Avenue, East
Newton, IA 50208
(800) 747-7782 Fax: (515) 787-0331
email: info@iarwa.org

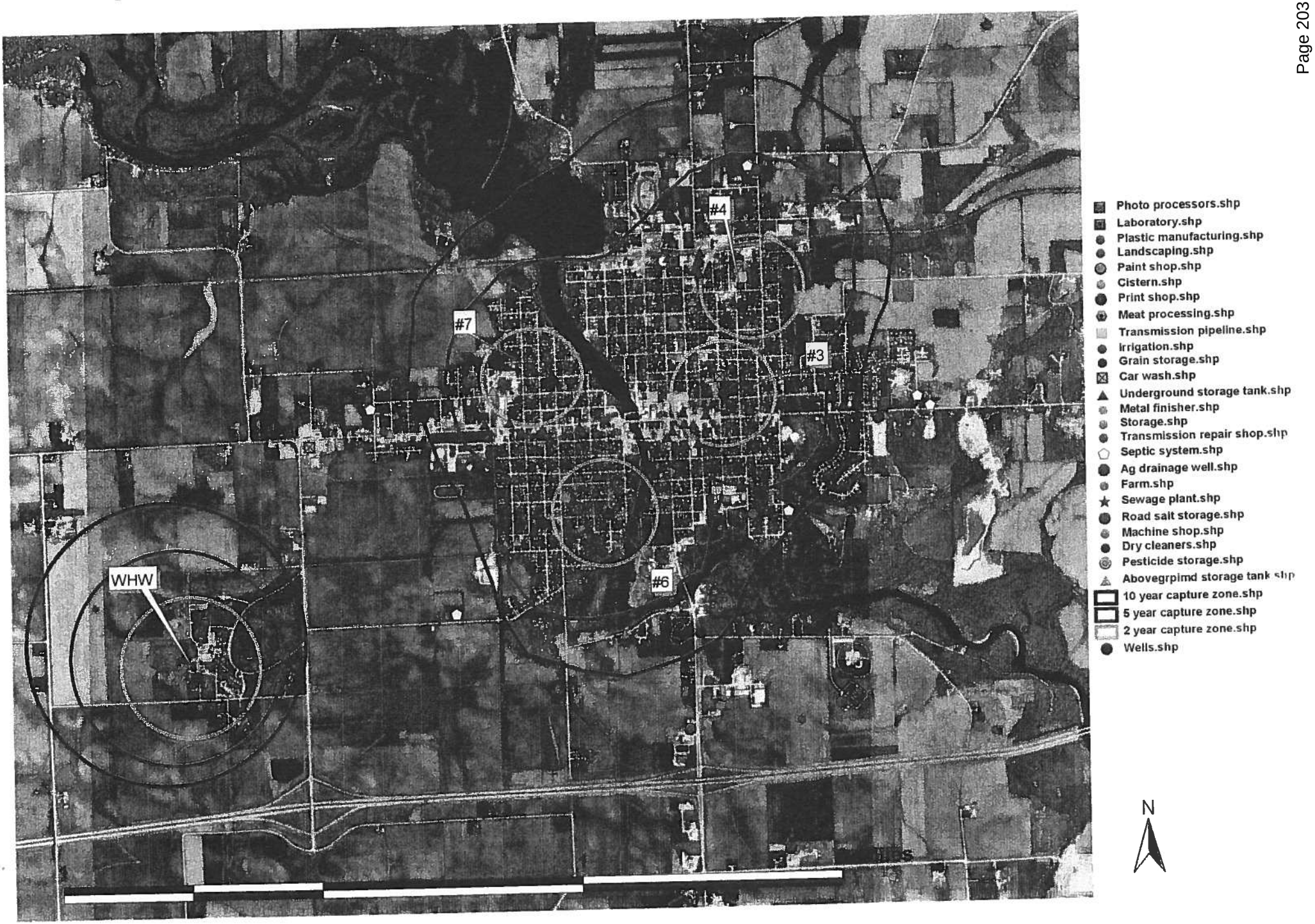
Environmental Protection Agency
Drinking Water Branch
726 Minnesota Avenue
Kansas Town, KS 66101
(913) 551-7409

Environmental Protection Agency
Safe Drinking Water Hotline
(800) 426-4791

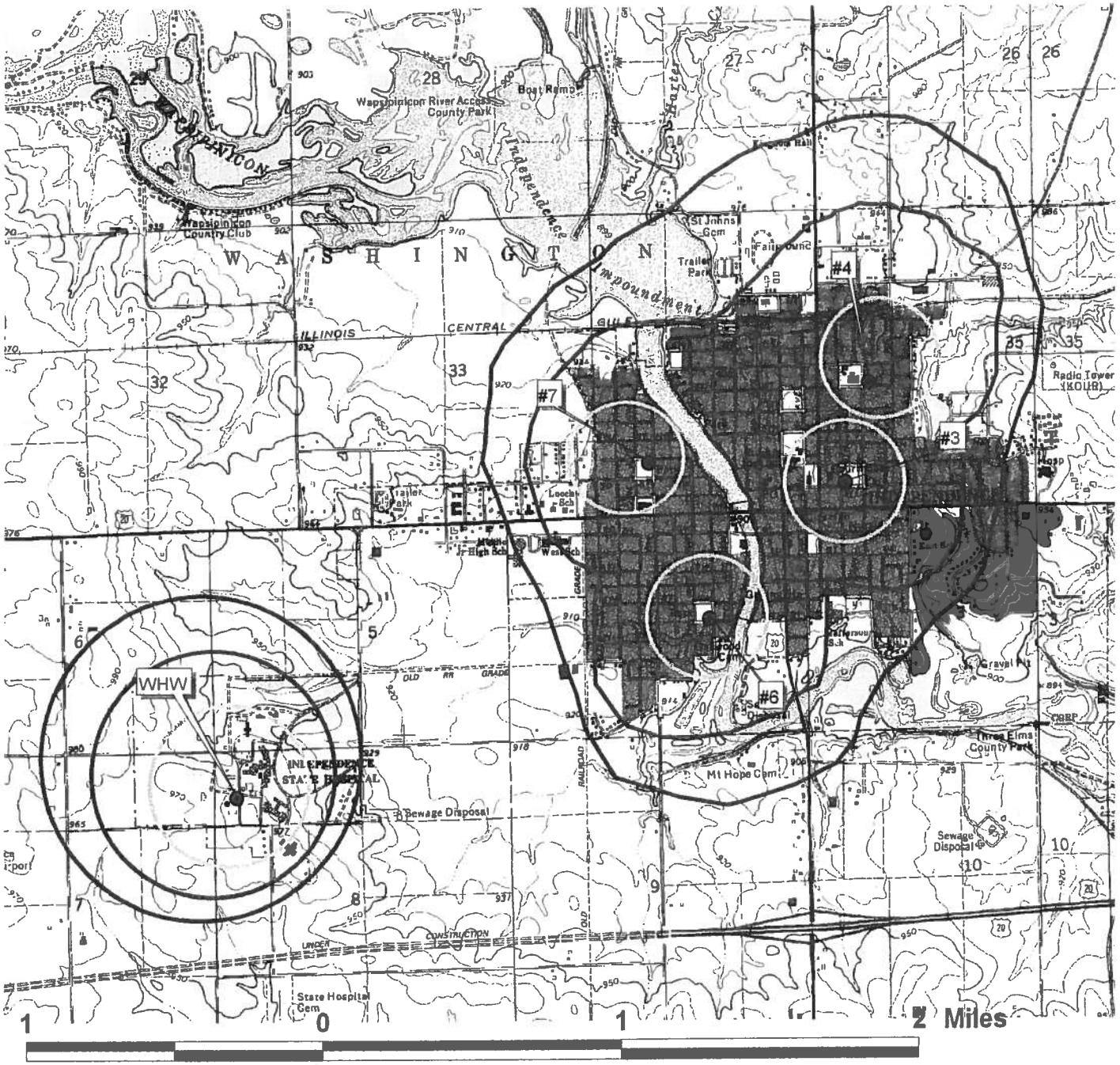
Kirkwood Community College
Environmental Training Center
6301 Kirkwood Blvd., SW
Cedar Rapids, IA 52406
(319) 398-5678

American Water Works Assoc.
Department Small Systems
6666 West Quincy Avenue
Denver, CO 80235
(303) 794-7711

Independence Contaminant Inventory



Independence Capture Zones



10 year capture zone.shp
5 year capture zone.shp
2 year capture zone.shp
Wells.shp

N

City of Independence
Buchanan County, Iowa

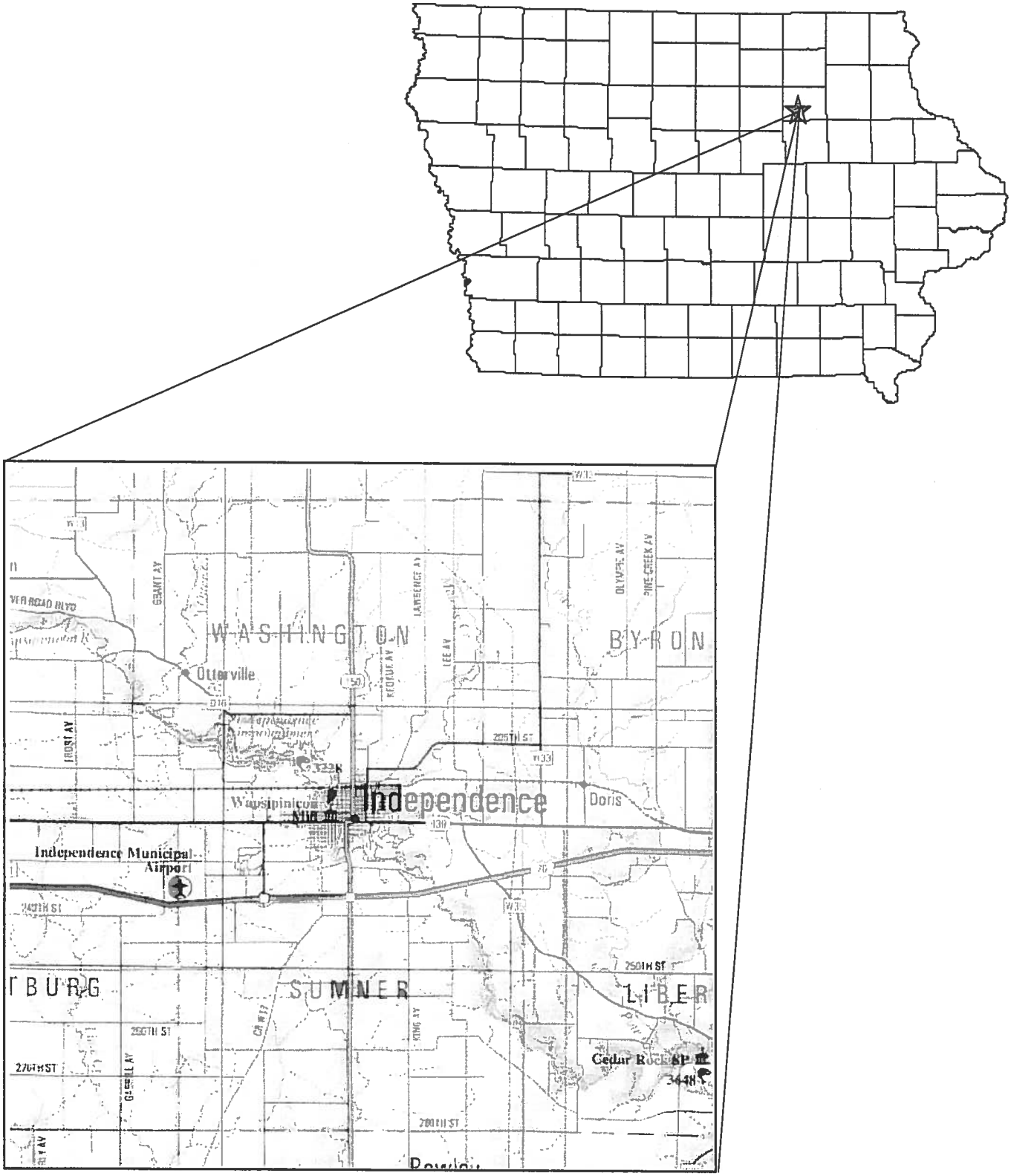


Figure 1

Landform Regions of Iowa

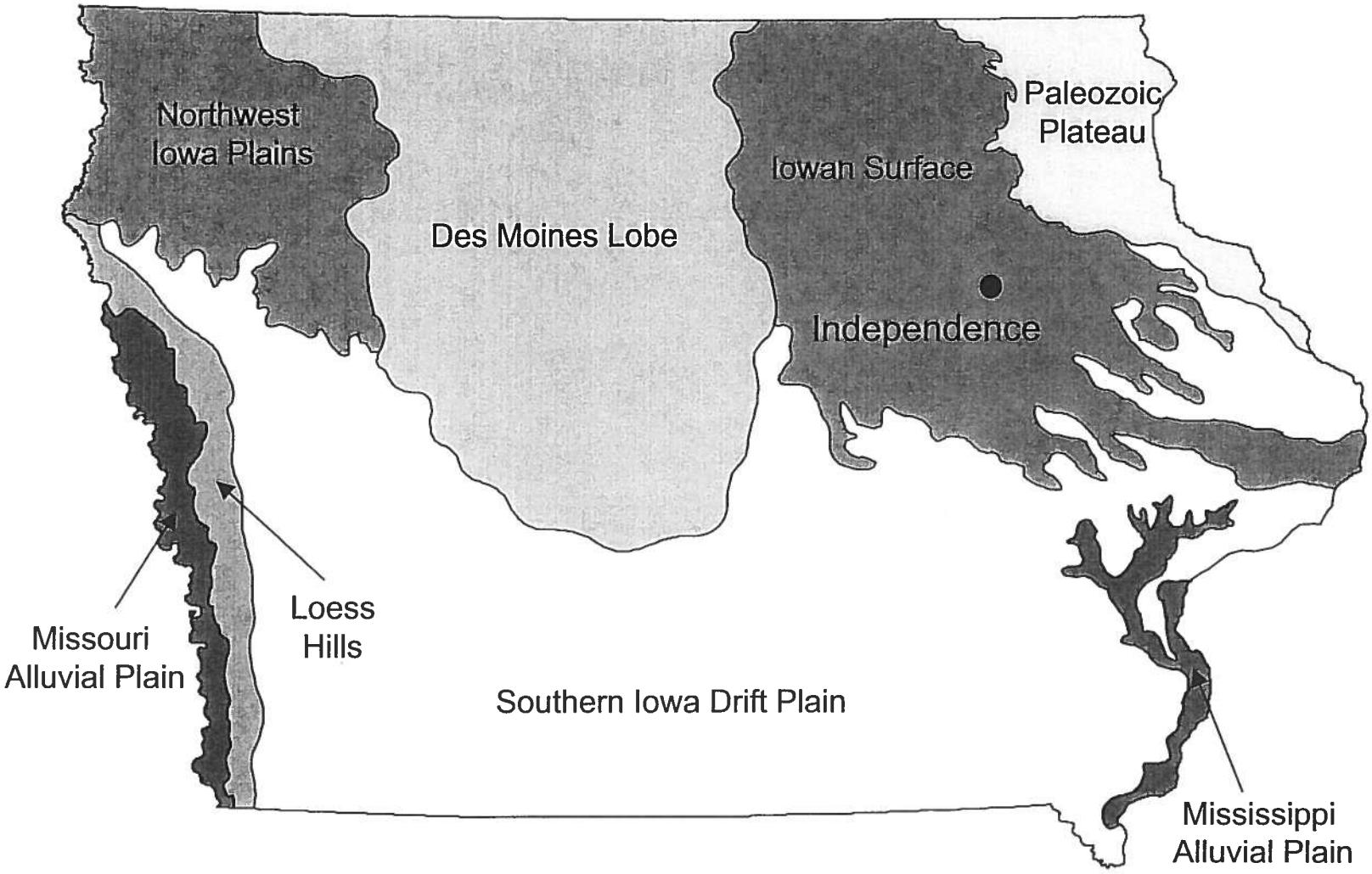


Figure 2

Bedrock Aquifers of Iowa

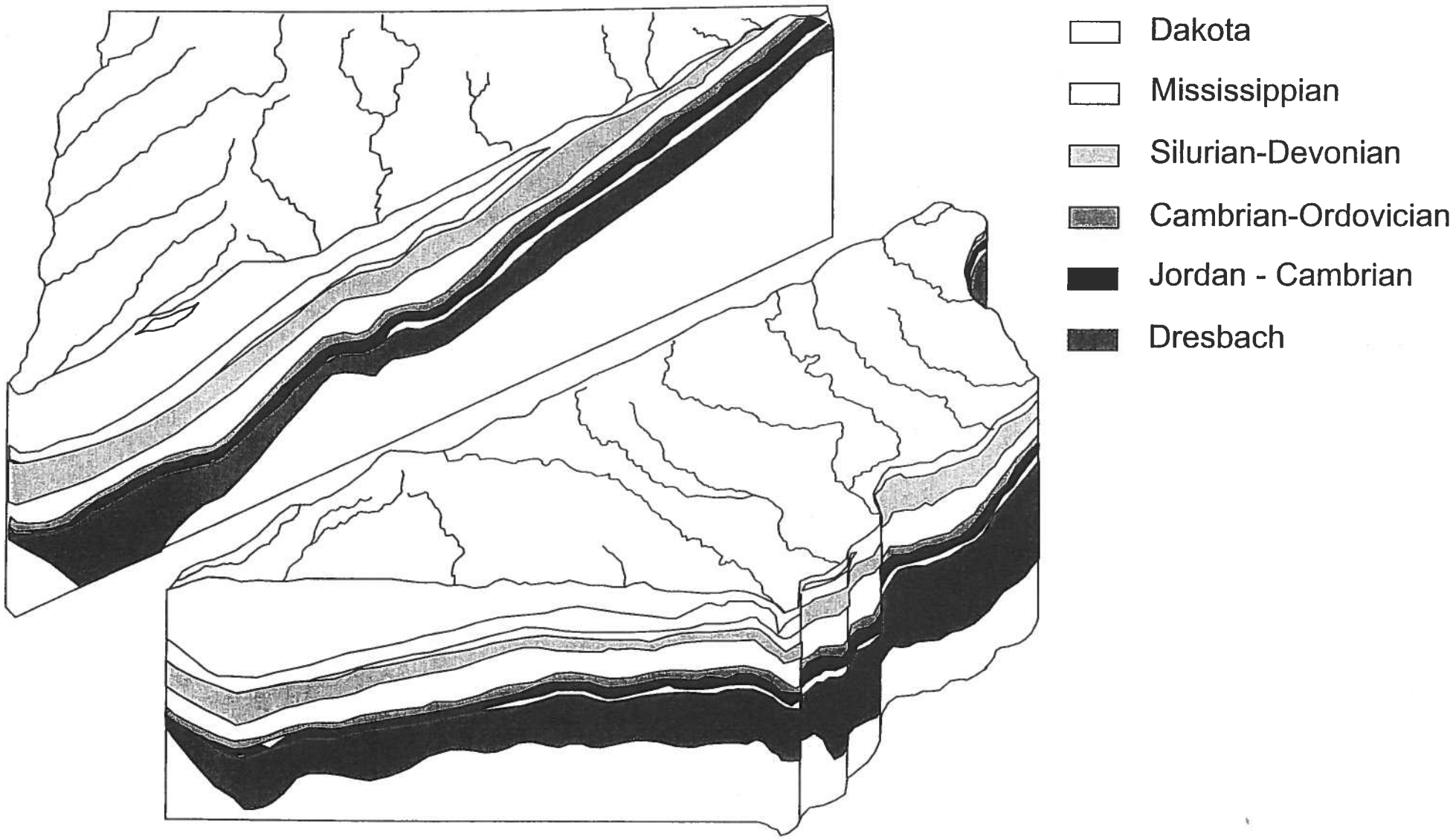
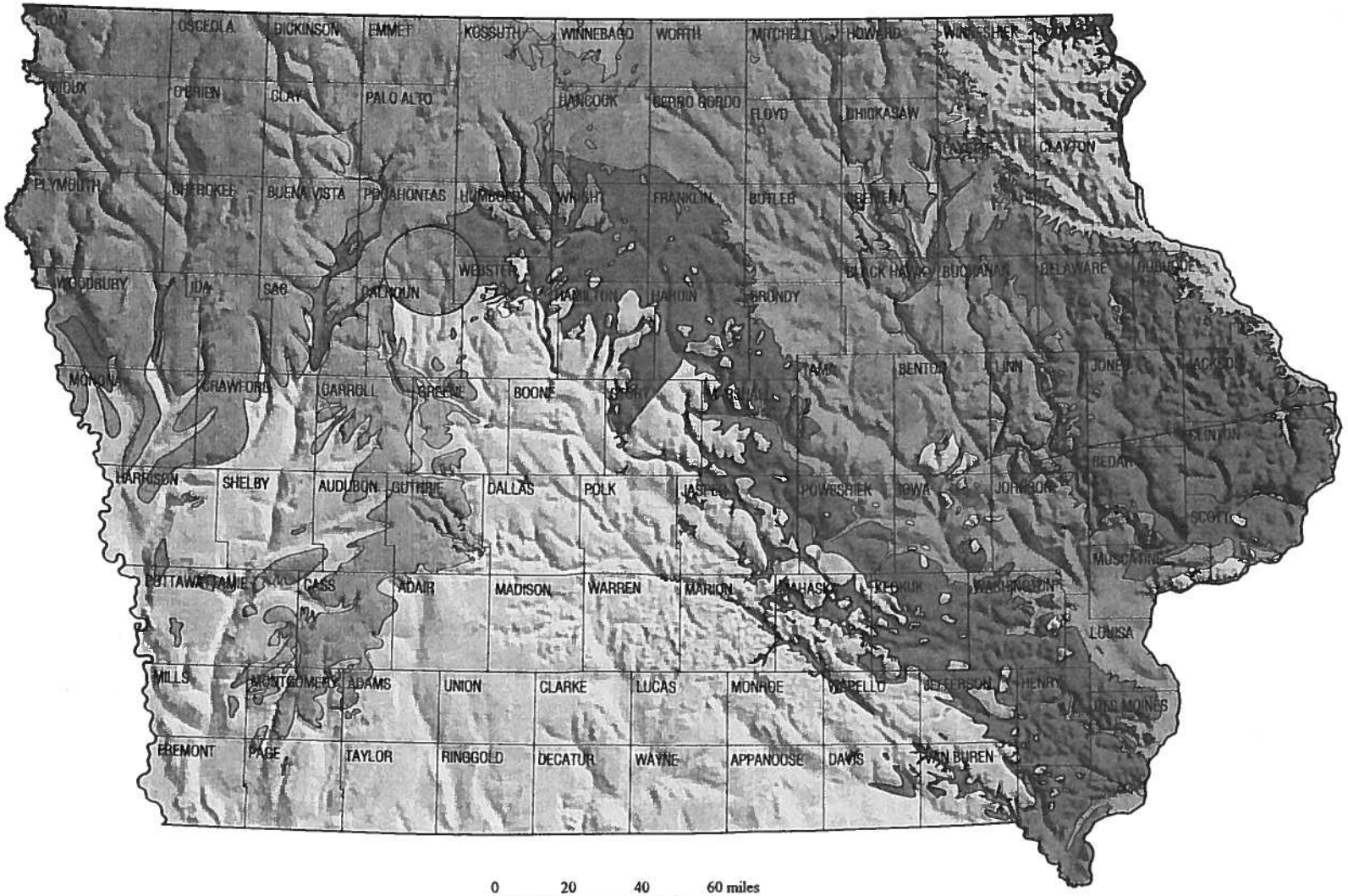


Figure 4

BEDROCK GEOLOGIC MAP OF IOWA
1998



Geologic Systems

Age of rocks in Iowa
(million years before present)

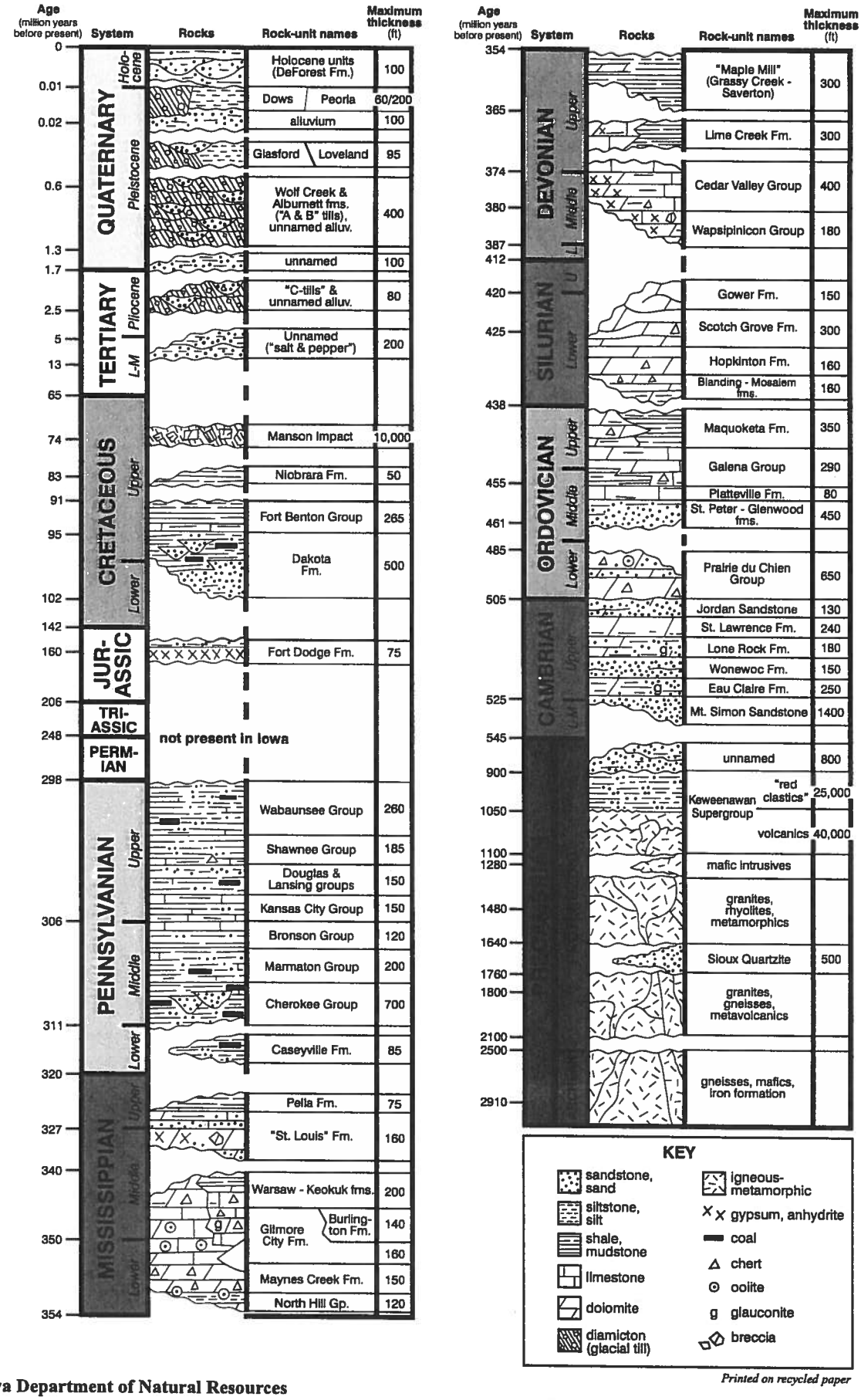
- **Cretaceous** (74–102)
- **Jurassic** (160)
- **Pennsylvanian** (298–320)
- **Mississippian** (325–353)
- **Devonian** (355–385)
- **Silurian** (415–435)
- **Ordovician** (439–505)
- **Cambrian** (505–530)
- **Precambrian** (600?–2,910+)
- Fault trace
- Manson Impact Structure

Shading highlights relief on the bedrock surface.

Iowa Department of Natural Resources
Geological Survey Bureau • 109 Trowbridge Hall • Iowa City, Iowa 52242-1319

Printed on recycled paper

STRATIGRAPHIC COLUMN OF IOWA
1998



Iowa Department of Natural Resources
Geological Survey Bureau • 109 Trowbridge Hall • Iowa City, Iowa 52242-1319

Printed on recycled paper

APPENDIX F

WATER DISTRIBUTION SYSTEM MAP

Print Date: 12/16/2025

Water System Map

Dec 2025

City of Independence
Buchanan County, IA

- Water Tower
- Wells

Water Mains

- Unknown
- 2"
- 3"
- 4"
- 6"
- 8"
- 10"
- 12"
- 16"

Municipal Boundary

Data Sources:
Municipal Boundary, Aerial - Buchanan County
Water Assets - Independence ,IA

MSA

0 500 1,000 Feet

N

Printed By: cwong. File: M:\IA\City\Independence\5_PRO_PROJECTS\Independence_Pro_Project\HWY150_Updates.aprx. Water System Map 22x34

APPENDIX G

FEMA FLOODPLAIN MAPS

91°56'14.62"W 42°30'6.66"N

91°54'21.27"W 42°28'N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by USDA, Farm Service Agency (FSA). This information was derived from NAIP, dated April 11, 2018.

This map was exported from FEMA's National Flood Hazard Layer (NFHL) on 2/16/2026 4:55 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet at https://www.fema.gov/media-library/assets/documents/118418

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards. This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date.

SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: NAVD88
For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

0 50 100 200 300 400 Meters

FEMA National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

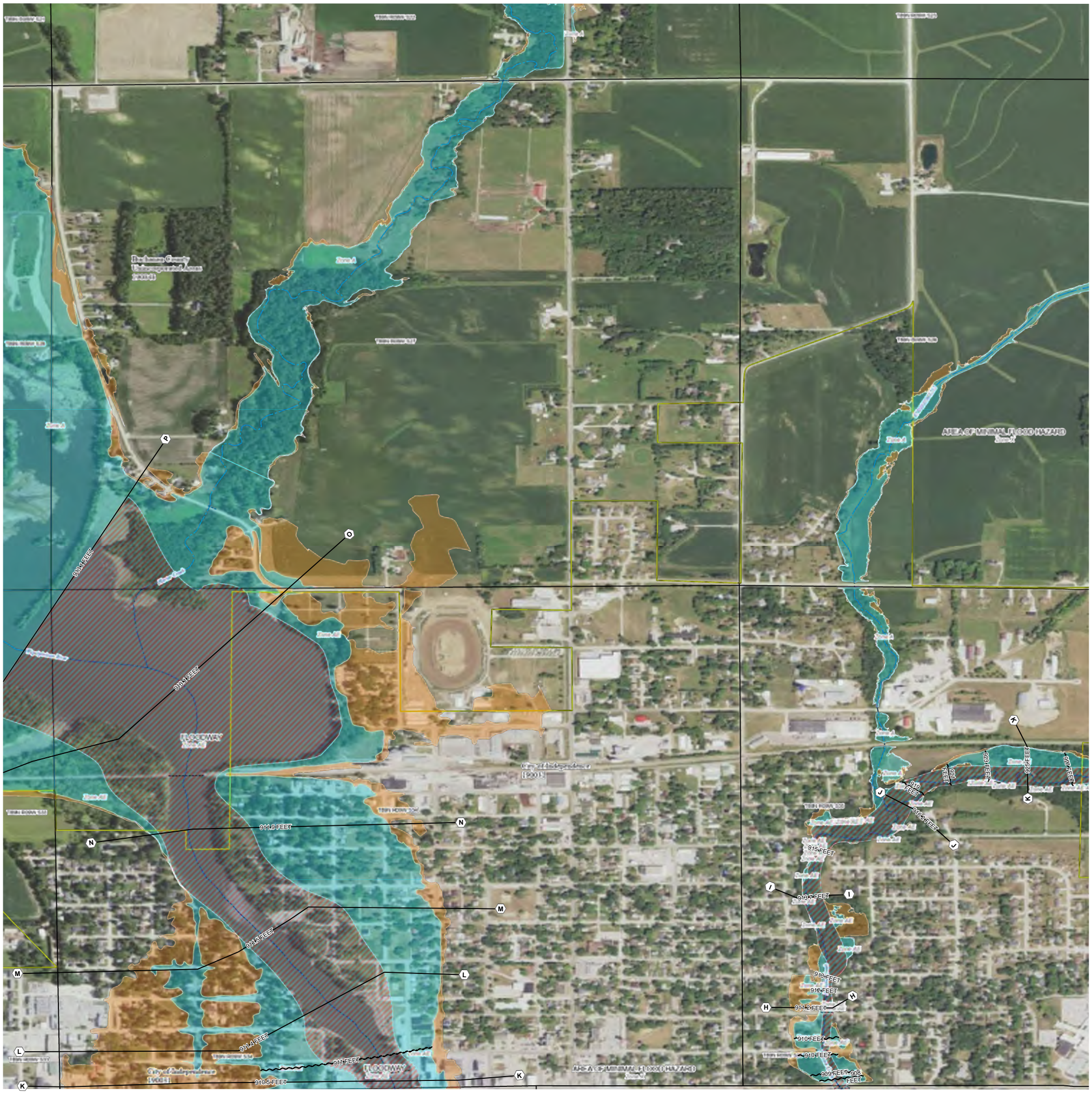
FLOOD INSURANCE RATE MAP

PANEL **281** OF **500**

Panel Contains:

COMMUNITY	NUMBER	PANEL
BUCHANAN COUNTY	190031	0281
CITY OF INDEPENDENCE		

MAP NUMBER
19019C0281F
EFFECTIVE DATE
December 30, 2020



91°52'27.94"W 42°28'N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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Basemap information shown on this FIRM was provided in digital format by USDA, Farm Service Agency (FSA). This information was derived from NAIP, dated April 11, 2018.

This map was exported from FEMA's National Flood Hazard Layer (NFHL) on 2/16/2026 4:56 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet at https://www.fema.gov/media-library/assets/documents/118418

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards. This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date.

SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: NAVD88
For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

0 50 100 200 300 400 Meters

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

PANEL 282 OF 500

Panel Contains:

COMMUNITY	NUMBER	PANEL
BUCHANAN COUNTY CITY OF INDEPENDENCE	190031	0282

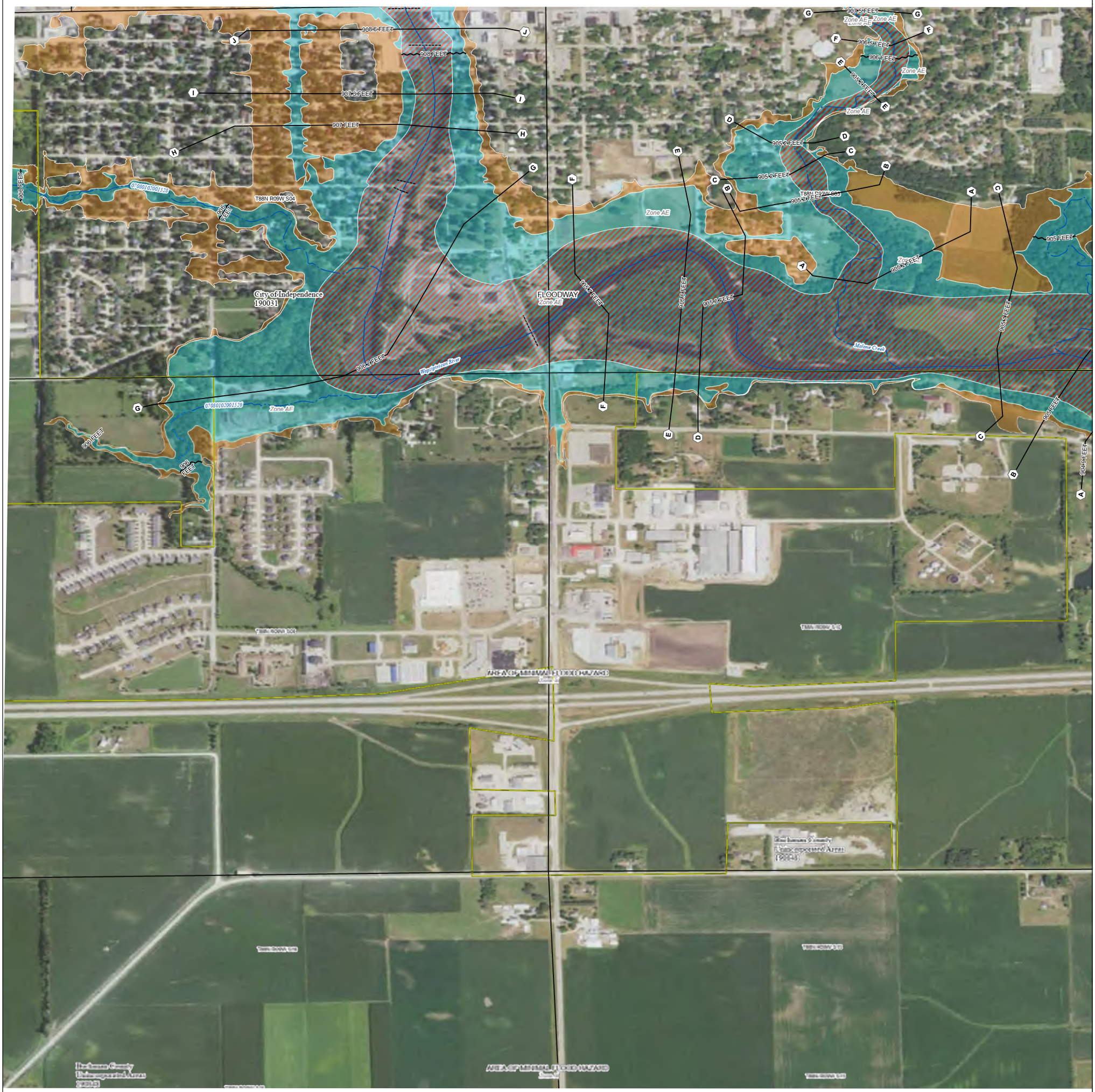
MAP NUMBER
19019C0282F
EFFECTIVE DATE
December 30, 2020

91°52'28.79"W 42°30'6.62"N

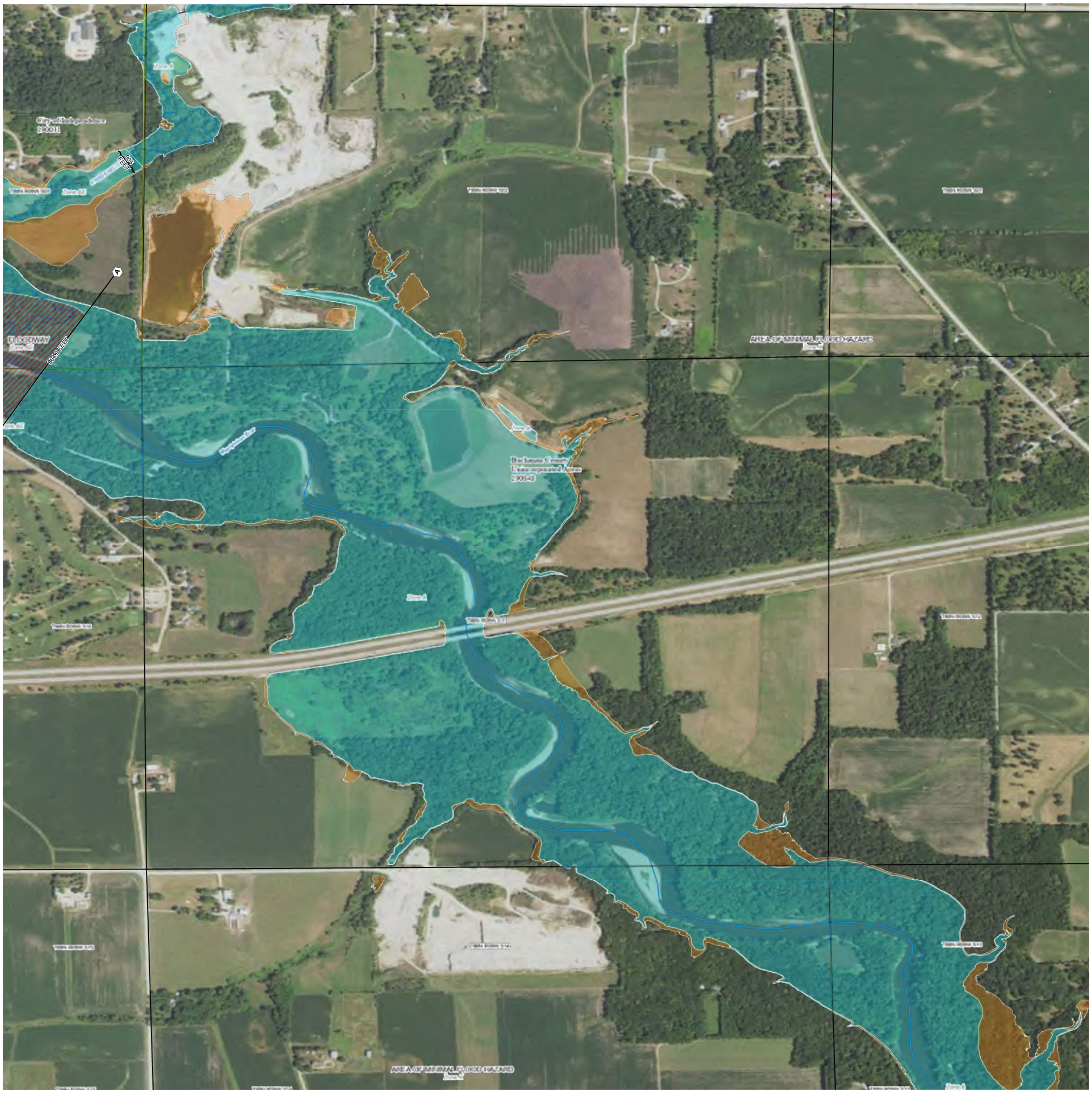
Zone A
Zone X
AREA OF MINIMAL FLOOD HAZARD
Zone X
Buchanan County
Unincorporated Areas
190341
City of Independence
190031
Zone AE
Zone AE
Zone AE

91°56'14.62"W 42°28'14.17"N

Zone A
Zone A
Zone A


907.5 FEET
908.6 FEET
908 FEET
906.5 FEET
906 FEET
907.3 FEET
907 FEET
905.2 FEET
905.2 FEET
905.2 FEET
905.2 FEET
905 FEET
904.7 FEET
905.2 FEET
905.2 FEET
905.2 FEET
905 FEET
905.1 FEET
904.9 FEET
904.9 FEET
904.9 FEET
905 FEET
905 FEET
905

91°52'28.8"W 42°28'14.12"N



APPENDIX H

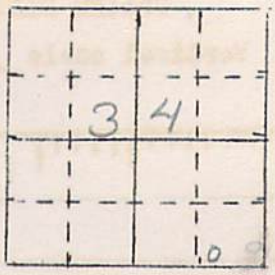
WELL LOGS

Well #3 (W1856) Log

IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey

W-1856

RECORD OF WELL



Location:

Town: Independence (N E S W); County Buchanan

SW SE SE sec. 34 T. 89 N., R. 9 W. Washington Twp.

Well name and number Independence City Well #3

Owner _____ Address _____

Tenant _____ Address _____

Contractor Thorp Well Co. Address _____

Drillers V N Ogden

Drilling dates 10-23-43 to 12-30-43

Well data:

Elevations: Drilling curb 934.5 feet; Land surface _____ feet

Determined by W E Hale

Topographic position _____

Total depth: Reported 307' feet; Measured _____ feet

Drilling method Drilled

Hole and casing data 38' of 16-inch casing from +1 foot to 37 ft
(Give amount, size, kind, and depth of all casing; type and position of seals and packers; cementing; how finished--perforated pipe, screen, gravel pack, open hole, etc.)

Original depth to water 36 ft. above below _____ Date _____

Original elevation of water level _____ ft.; Source of data _____

Sources of water: Principal Silurian; Others _____

Production data: Date _____

Static depth to water 36; Measuring point _____

Pumping level 107 at 643 g.p.m.

_____ _____

_____ _____

_____ _____

Specific capacity 9 g.p.m. per ft. drawdown; Temperature _____ °F.

Pump data: Type pump _____; Column: Dia. _____ Length _____

Cylinder or bowls: Dia. _____ Length _____; Suction pipe _____

Power _____; Airline _____

Estimated rate of production: _____ g.p.m. for _____ hrs. a day

Use of water City supply

WATER ANALYSES (in parts per million)

Date sampled				
Sampled by				
Total solids				
Insoluble matter				
Alkalinity (Meo)				
Alkalinity (Phn)				
pH				
$Fe_2O_3+Mn_2O_3+Al_2O_3$				
Alkali as sodium				
Calcium				
Magnesium				
Iron (unfiltered)				
Manganese				
Nitrate				
Fluoride				
Chloride				
Sulphate				
Bicarbonate				
Hardness (ppm)				
Hardness (gpg)				

Remarks _____

Laboratory data: Sample storage location _____

Sample range 0-305 No. spls. 60 No. dupls & cond. 60 Good

Spls. prepared by Fan Washed range _____ by _____

Driller's log and cond. Yes

Insoluble residues: Prepared by _____ Studied by _____ Strip log _____

Microscopic study 0-305 strip log K

Gen. log _____ Correl. by E. Schuty

WATER LEVEL DATA

Measuring point _____

Date	Depth to water	Altitude	Remarks

REMARKS

8" Pilot hole drilled to depth of 325 feet. Samples saved on this pilot hole. The final well was drilled in the pilot hole.

S.W.L. dropped 12' between 95 & 100 ft.

Samples

Independence (Buchanan County)
Independence City well No. 3
(located 3 blocks E. and 1 block N. of city square)

Thorpe Well Co., Des Moines
10/23/43 to 12/30/43
V. N. Ogden, driller

T.D. 307 ft.
S.W.L. 36 ft.
Production: 650 g.p.m. with 71 ft. drawdown

Casing: 38' of 16" casing set at 37'

Remarks: Cuttings lost and S.W.L. dropped 12 ft. between 95 and 100 ft.

Dark sandy soil	0	to	2
Brown sandy clay	2	to	12
Gray clay	12	to	26
Sand, gravel and limestone	26	to	30
Solid gray limestone	30	to	32
Limestone, loose	32	to	36
Limestone, solid gray	36	to	65
Limestone	65	to	95
Limestone, brown	95	to	100
Limestone, gray	100	to	106
Limestone, white	106	to	171
Limestone, gray	171	to	177
Limestone, white	177	to	187
Limestone, white	187	to	212
Limestone, gray	212	to	215
Limestone, white	215	to	222
Limestone, gray	222	to	225
Limestone, white	225	to	272
Limestone, gray	272	to	280
Limestone, white	280	to	302
Shale, light green	302	to	307

MAY 19 1944
K. E. ANDERSON

Well #4 (W3714) Log

W-3714

IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey

RECORD OF WELL

Location:

Town: Independence (N E / S W): County Buchanan

SW SE NE sec. 34 T 89 N., R. 9 (W.) E. Twp.

Well name and number City Well No. 4

Owner City of Independence Address Ind.

Tenant _____ Address _____

Contractor Thorpe Well Co. Address D.M.

Drillers _____

Drilling dates Sept to Nov 1948

Well data:
Elevations: Drilling curb 933? feet; Land surface 943' 933 feet

Determined by Altimeter (T.G. Kling) Summer 1966

Topographic position _____

Total depth: Reported 293 feet, Measured _____ feet

Drilling method Cable tool

Hole and casing data 34' of 16" csg. 0-34 ft.

Original depth to water _____ ft. above / below _____ Date _____

Original elevation of water level _____ ft.; Source of data _____

Sources of water: Principal _____; Others _____

Production data: Date _____

Static depth to water 40 Measuring point _____
Pumping level 108 at 1360 g.p.m. } driller
128 1480

Specific capacity _____ g.p.m. per ft. drawdown; Temperature _____ °F.

Pump data: Type pump _____ Column Dia. _____ Length _____
Cylinder or bowls: Dia. _____ Length _____ Suction pipe _____

Power _____ Airline _____

Estimated rate of production: _____ g.p.m. for _____ hrs. a day

Use of water _____

WATER ANALYSES (in parts per million)

Date samples				
Sampled by				
Total solids				
Insoluble matter				
Alkalinity (Meo)				
Alkalinity (Phn)				
pH				
$Fe_2O_3 + Mn_2O_3 + Al_2O_3$				
Alkali as sodium				
Calcium				
Magnesium				
Iron (unfiltered)				
Manganese				
Nitrate				
Fluoride				
Chloride				
Sulfate				
Bicarbonate				
Hardness (ppm)				
Hardness (gpg)				

Remarks _____

Laboratory data: Sample storage location CFI-6.

Sample range 0'-295' No. spls. 58' No. dupls. & cond. 58 F to G.
Spls. prepared by J. C. C. Washed range 11'-295' by J. C. C.
Driller's log and cond. _____
Insoluble residues: Prepared by _____ Studied by _____ Strip log _____
Microscopic study _____ strip log Huntington aug 29, 1949
Gen. log _____ Correl. by _____

W-3714

IOWA GEOLOGICAL SURVEY
Iowa City, Iowa

Well Log Record

Owner of well Independence City Well County Buchanan

Tenant _____ Town _____

Location _____ sec. ____, T. ____ N., R. 1 E. W. _____ Twp.

Curb elevation _____ ft. Present depth _____ ft. final depth 293 ft.

Static level: (Depth to water above/below curb) 40 ft. Pumping level 128 ft. at 1480 g.m.

Contractor Hope Well Co. Date drilled Sept to Nov 1948

Description*	FEET			Description*	FEET		
	Thick	From	To		Thick	From	To
yell clay		0	1½	Wht lst (no cuttings		190	198
Blk dirt		1½	4	" " (little cuttings		198	249
yell clay		4	11	white lst		249	260
sdy blue clay		11	20	light gray lst		260	268
Broken lst.		20	30	white lst (little cuttings		268	286
Brn + gr lst.		30	90	Blue shale		286	293
Broken brn lst + gray sh		90	103				
Brown lst		103	110				
white lst		110	190				

*Abbreviate descriptions; use one line for each formation.

Remarks on water zones and casings 38' of 16" pipe from +1' to 34'

Temperature: Air _____ °F., Water _____ °F. at _____ A.M. P.M. _____ 19__

Record obtained from _____ Recorded by _____

IOWA GEOLOGICAL SURVEY
TABULATION OF WATER ANALYSES
(Dissolved constituents in parts per million)

COUNTY Buchanan (Independence)

TOWN - Well No. Use - Location	Date of coll.	Depth (ft.)	Geol. source	°F.	Diss. solids	Fe	Mn	Ca	Mg	Na+K(as Na)	HCO_3	SO_4	Cl	F	NO_3	Hardness (calc. as $CaCO_3$) Tot.	Carb.	Non-carb.	pH	Cond.
City well #4	9/24/51	393	Sil.-Dev.		325	0	0	86	17	16	268	49	6.6	.15	22	285	220	65	7.3	503
City well #3	10/15/47	307	do		277	.1	.0	69	11	12	264	25	1.0	.1	.0	219	216	3.0	8.0	330
State Hospital #3	10/15/44	352	Sil.		214	.0	.0	55	13	12	239	9.5	1.0	.0	.18	191	191	0	7.6	

NOTES:

Well #6 (W16147) Log

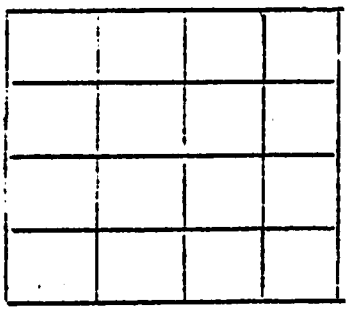
IOWA GEOLOGICAL SURVEY
In Cooperation with U.S. Geological Survey
RECORD OF WELL

#16147

Location:

Town: INDEPENDENCE (NE) (SW) County BUCHANAN

NE NW SE Sec. 4, T. 88, N., R. 9 (E) (W) Twp.



Well name and number _____

Owner INDEPENDENCE City Well (1964) Address INDEPENDENCE, IOWA

Tenant _____ Address _____

Contractor LAYNE-WESTERN Co Address AMES, IOWA

Drillers _____

Drilling dates FEB. 1-21, 1964

Well data:
Altitudes: Drilling curb ____ feet; Land surface _____ feet 907'

Determined by Altimeter (T.G. Kling) Summer 1966

Topographic position _____

Total depth: Reported 265' feet; Measured _____ feet _____

Drilling method _____

Hole and casing data 43' OF 8" I.D. CSG

Original depth to water ____ ft. above / below _____ Date _____

Source of data _____

Sources of water: Principal _____

Others _____

PRODUCTION DATA

Date _____

Static water level 21'

Pumping water level No Air Line - Couldn't Measure Drawdown

Yield (g.p.m.) 300 To 400 GPM.

Measuring point _____

Duration of pumping _____

Specific capacity _____

LABORATORY DATA

TLS-418

Well No. #16147 Sample range 0-265 No of samples 53

No. of dupls. and cond. 53-Good Washed range 15-265

Samples prepared by Tregood & Bud Scheetz Date 2-26-64

Logged by Northup Date 11/25/65

Correlations by " Date 11/25/65

#16147

Name TOWN OF INDEPENDENCE

Address INDEPENDENCE IOWA

Location SE-SW Sec. 34 T. 89N R. 9 W.

Well No. TEST No. of wells _____

Samples _____; Analysis _____ TOF _____

Use: Public drinking ( ); Industrial ( ); Cooling or Air Cond. ( ).

Other _____

Construction: Drilled ( ); Grav. Pack ( ); Dug ( ); Driven ( ).

Driller: LAYNE WESTERN Date drilled: FEB 1 TO 21, 1964

Casing data: 43' OF 8" I.D.

Well: Depth 265; Depth to bedrock 18' BROKEN-40' SOLID; Elevation _____;

SWL 21 ft; Pumping level _____ ft. pumping at _____ gpm in _____

hrs. Drawdown _____ ft; Spec. cap _____ gpm/ft.

Rated capacity of well _____ gpm at _____ ft. dd.

Motor: Name & type GAS; No. _____; Motor eff. _____; HP _____.

Voltage _____; Amps _____.

Pump: Name & type TURBINE No. _____; Pump eff. _____;

Capacity 600 gpm; Pump column length 207 ft; Pipe size 6" I.D. in.

Bowls (size & no.) 8"-7 STAGE; Total head _____.

Tank Press. max. _____ min. _____ lbs; Discharge pipe _____ in.

Production: Daily, monthly, or yearly ave. in g, gpm, gph, or gpd

Time pumped: No. of hrs/dy _____; time of day _____.

Months pumped if seasonal _____;

How long operating on above schedule _____;

Gage, graph, orifice etc. readings for gpm info.

Remarks: 5" ORIFICE IN 6" PIPE

WATER SAMPLE COLLECTED 3PM - 2-24-64

Well #7 (W28344) Log

Well Information - Rock Wells #28344 1983

Layne-Western Company, Inc.

WATER SUPPLY CONTRACTORS

705 SO. DUFF AVE. AMES, IOWA 50010

Phone 515 232-3563

Name of Job City of Independence Date 12/8/83

City Independence State Iowa

Well No: 8 Drillers: D. Heldt

Well Location: _____ ft. (____) and _____ ft. (____) of the _____ corner of the S.W. ¼ of Section 34, Twp. 89 (N), Range 9 (W) Buchanan County.

Otherwise located as 5th Ward Park

Work Began: _____ Work Completed: _____

Casing Record:

Amount	Dia.	Wt. or Thickness	Material				
86.5	14"	Sch. 40	Steel	with P.E.	joints from 24	to	+1.5'
				with	joints from	to	
				with	joints from	to	
				with	joints from	to	

Hole Record:

24	inch from	0'	to	19'
18	inch from	19'	to	85'
13	inch from	85'	to	265'
	inch from		to	
	inch from		to	bottom of hole

Cementing Record: Cemented in annulus through 1" pipe from 84' to ground level with 98 bags Portland Cement Slurry

Well Test Data: Static Level 32'; pumping level 75' after 4 hours pumping at 659 g.p.m.

Length of test 4 hrs. See Well Test Data Sheet Dated 12/5/83 & 12/7/83

Remarks: Acidized 12/2/83 and ran 4 hours test 12/5/83

Acidized 12/6/83 and pumped 12/7/83

SEE OTHER SIDE

LW-34

WELL LOG

#28344

Feet		Feet	Description
0	to	19	SANDY CLAY
19	to	60	Brown WEATHERED LIMESTONE
60	to	65	SHALE
65	to	260	Gray to white brown LIMESTONE
260	to	265	Green & blue SHALE
265	to		Bottom of Boring

APPENDIX I

WELL PUMP REPORTS

Northway Well and Pump Co.

4895 8th Avenue
Marion, Iowa 52302

PUMP REPORT

CUSTOMER Independence Water Works WELL NO. 3 DATE 11-27-2017

WELL DEPTH 307 WELL TOP SIZE 28" SIZE OF CASING 16"

GPM 510 STATIC LEVEL 41 PUMPING LEVEL 102

CONTROL

MAKE Square D SIZE 3 MODEL CC81

CABLE SIZE 1/0 LENGTH 25' BREAKER SIZE 100

MOTOR

MAKE US H.P. 50 VOLT 460 RPM 1765

TYPE RU PHASE 3 CODE BF54A FRAME 326TP

RING BASE 16 1/2 SERIAL U0275S2087-0042

RESISTANCE:				
	WIRE TO WIRE	-0-	-0-	-0-
	WIRE TO GROUND	INF	INF	INF
	RUNNING VOLTAGE	485	486	487
	RUNNING AMPS	47	51	52
	SPLICE	Tape		

PUMP

TURBINE X SUBMERSIBLE

DISCHARGE HEAD: MAKE FM SIZE 6" x 6"
TYPE Cast SERIAL NA

HEADSHAFT: DIA. 1 1/2" LENGTH 90"
LOWER SHAFT DRIVE 1 1/4" RS

COLUMN 6" SHAFT 1 1/4" x 1 3/8" RS MATERIAL Stainless
BOWL: MAKE Jacuzzi MODEL 10 MS STAGE 5
SIZE 10" IMP A-Open MATERIAL Bronze
STEP COUPLING 1 1/4 X 1 1/2" STRAINER Yes SUCTION DIA. 6"
LENGTH LONGEST LENGTH 10 TOTAL SETTING 120
GPM 510 TDH 235

REMARKS: Repair pumping equipment due to motor bearing failure, rebuilt turbine pump and motor, replaced lineshaft and column pipe along with bearing inserts.
Airline length is 120 feet.

Northway Well and Pump Co.

4895 8th Avenue
Marion, Iowa 52302

PUMP REPORT

CUSTOMER City Water Department - Independence WELL NO. 4 DATE 5-8-2019

WELL DEPTH 262 WELL TOP SIZE 16" SIZE OF CASING 12"

GPM 800 STATIC LEVEL 40 PUMPING LEVEL 58

CONTROL

MAKE Allen Bradley SIZE 4 MODEL Soft Start

CABLE SIZE #2 LENGTH 40' BREAKER SIZE 100

MOTOR

MAKE US H.P. 60 VOLT 460 RPM 1800

TYPE RU PHASE 3 CODE F FRAME 364TP

RING BASE 16 1/2" SERIAL

RESISTANCE:				
	WIRE TO WIRE	-0-	-0-	-0-
	WIRE TO GROUND	INF	INF	INF
	RUNNING VOLTAGE	472	479	480
	RUNNING AMPS	70	68	68
	SPLICE	AS	AS	AS

PUMP

TURBINE X SUBMERSIBLE

DISCHARGE HEAD: MAKE Fairbanks Morse SIZE 8" x 8"
TYPE SERIAL NA

HEADSHAFT: DIA. 1 1/2" LENGTH 99 1/4"
LOWER SHAFT DRIVE 1 11/16" RS

COLUMN 8" SHAFT 1 11/16" RS MATERIAL Stainless Steel
BOWL: MAKE Simmons MODEL S1000 STAGE 5
SIZE 10" IMP Semi-Open MATERIAL Standard
STEP COUPLING N/A X N/A STRAINER No SUCTION DIA. N/A
LENGTH 0 LONGEST LENGTH 10' TOTAL SETTING 130
GPM 800 TDH 200

REMARKS: Pulled pumping equipment, packer tested well to check nitrate levels below 108 feet. Nitrate level did not change air lifting was attempted but the lost cone strainer at 262 feet would not allow the well to be cleaned to bottom at 292 feet.
Airline length is 130 feet.

Northway Well and Pump Co.

4895 8th Avenue • Marion, Iowa 52302 • 319-377-6339
100 North 6th Street • Waukee, Iowa 50263 • 515-987-4575

VIDEO
WATERWELL LOG

CUSTOMER Water Department	WELL NO. 4	DATE	2-26-2019
LOCATION Inside municipal power plant	CITY Independence		
TYPE OF CASING Steel	SIZE	12"	
CASING LENGTH +2' to 84'	YEAR INSTALLED	1948	

FOOTAGE	CLOSED CIRCUIT TELEVISION FINDINGS
5' - 41'	Area with casing scale
84	Bottom of 12" casing
85'	Formation crevice
89'	Crooked area
118', 127', 144'	Formation crevices
168' - 175'	Severely crooked (Camera hung up on a shelf at 173')
188', 191', 204', 208'	Formation crevices
218'	Small piece of wire across the borehole
251'	Camera drags on borehole wall
262'	Depth of Well (Well was constructed to 293', it has 31' of fill)

KNOWLEDGE • EQUIPMENT • RELIABILITY • EXPERIENCE

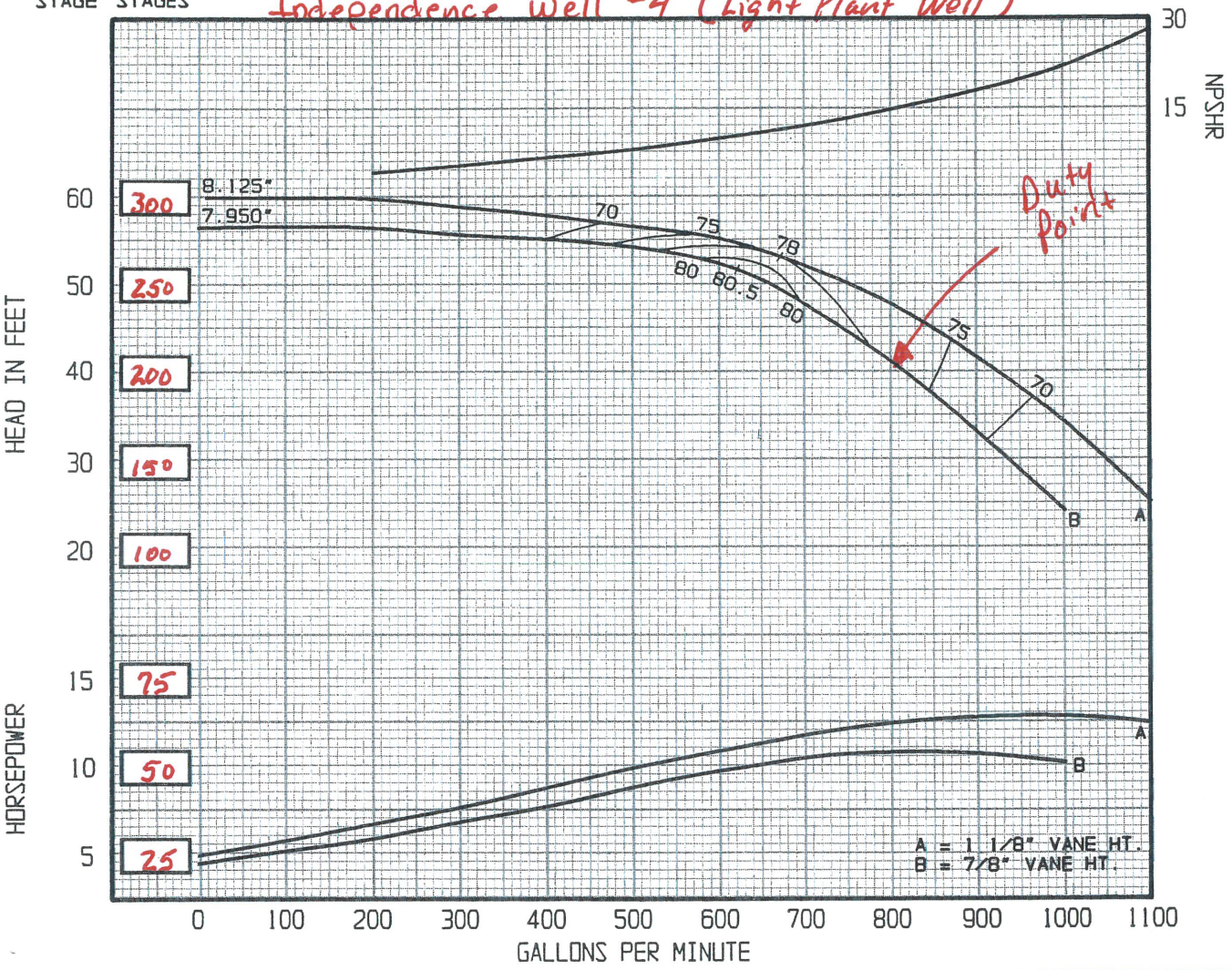
SIMMONS S1000

1770 R.P.M.

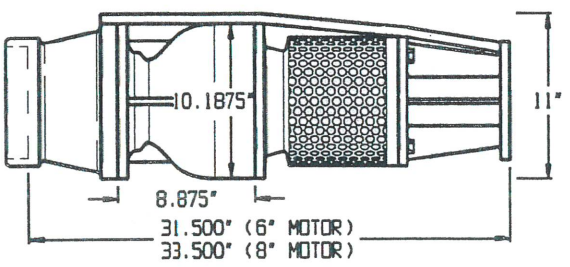
10/1/96

ONE STAGE (5) STAGES

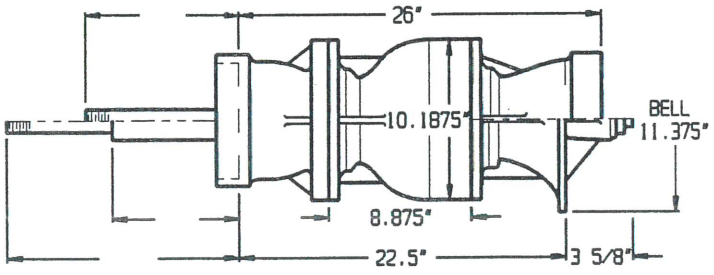
Independence Well #4 (Light Plant Well)



				NO. STAGES	EFF. CHANGE
STD. SHAFT DIA.	= 1.500"	IMPELLER TYPE	= OPEN		
STD. LATERAL	= 0.937"	IMPELLER NO.	= S1000		
DISCHARGE SIZES	= 6"	MAX. SPHERE SIZE	= 0.812"	1	-4
SUCTION SIZE	= 6"	K-FACTOR, MAX.	= 9.4	2	-3
ONE STAGE WT. - LB.	= 190	MAX. OPERATING P.S.I.	= 470	3	-2
ADD'L STAGE WT.-LB.	= 75	MIN. SUBMERGENCE	= 16"	4	-1
IMPELLER WT. - LB.	= 6.10	IMPELLER EYE AREA	= 17.87 IN^2	5	0
ONE STAGE WR^2	= 0.217 $LB-FT^2$	SPECIFIC SPEED	= 2528		



SUBMERSIBLE TURBINE



LINESHAFT TURBINE

Northway Well and Pump Co.

4895 8th Avenue
Marion, Iowa 52302

PUMP REPORT

CUSTOMER Independence Water Dept WELL NO. 6 DATE 10-26-2021

WELL DEPTH 276 ft WELL TOP SIZE 14" SIZE OF CASING 10" x 51.6 ft

GPM 700 STATIC LEVEL 20 ft PUMPING LEVEL 72 ft

CONTROL

MAKE AB SIZE 3 MODEL Soft Start

CABLE SIZE 2/0 LENGTH 35 ft BREAKER SIZE 100 amp

MOTOR

MAKE US H.P. 60 VOLT 460 RPM 1800

TYPE RUSI PHASE 3 CODE G FRAME 364 TS

RING BASE 9.5" SERIAL A01723252025-T-1

RESISTANCE:				
	WIRE TO WIRE	-0-	-0-	-0-
	WIRE TO GROUND	INF	INF	INF
	RUNNING VOLTAGE	481	484	485
	RUNNING AMPS	73	74	74
	SPLICE	Tape	Tape	Tape

PUMP

TURBINE X SUBMERSIBLE

DISCHARGE HEAD: MAKE Layne SIZE 6" x 6"
TYPE Cast SERIAL NA

HEADSHAFT: DIA. 1 3/16" LENGTH 95 3/4"
LOWER SHAFT DRIVE 1 3/16" x 1 3/8" RS

COLUMN 6" SHAFT 1 3/16" x 1 3/8" MATERIAL Stainless steel
BOWL: MAKE Goulds MODEL 9TLC STAGE 7
SIZE 7" IMP 6.3125 MATERIAL Standard
STEP COUPLING 0 X 0 STRAINER No SUCTION DIA. 6"
LENGTH LONGEST LENGTH 10 ft TOTAL SETTING 170 ft
GPM 700 TDH 250

REMARKS: Pulled pumping equipment for inspection, chemically treated the well. Installed new bowl assembly, new column pipe and bearings. Well was also televised. Airline length is 170 feet.

Northway Well and Pump Co.

4895 8th Avenue • Marion, Iowa 52302 • 319-377-6339
100 North 6th Street • Waukee, Iowa 50263 • 515-987-4575

VIDEO
WATERWELL LOG

CUSTOMER City of Independence	WELL NO. 6	DATE 9-10-2021	
LOCATION 3rd Ward Park 7th St SW & 4th Ave SW	CITY Independence		
TYPE OF CASING Steel T & C	SIZE 10" ID		
CASING LENGTH +2' to 51.6'	YEAR INSTALLED		

FOOTAGE	CLOSED CIRCUIT TELEVISION FINDINGS
5.2'	Threaded and Coupled casing joint
20'	Static Water Level
29.2'	T&C casing joint
51.6'	Bottom of 10" casing
83' - 94'	Cavernous area
180'	Pump setting intake
274.5'	Bottom of Well
	Note: Borehole is covered in iron related bacteria

KNOWLEDGE • EQUIPMENT • RELIABILITY • EXPERIENCE

Pump Data Sheet - Turbine 60 Hz

Company: NORTHWAY WELL & PUMP
Name: ATTN TOM
Date: 9/16/2021

GOULDS WATER TECHNOLOGY
a xylem brand

Independence Well #6 (South West Park well)

Pump:

Size: 9THC (7 stage)

Type: Lineshaft
Synch Speed: 1800 rpm

Speed: 1770 rpm
Dia: 6.4375 in

Curve: E6409TEPC2

Impeller:

Specific Speeds:

Ns: 3587
Nss: ---

Dimensions:

Suction: ---
Discharge: ---

Vertical Turbine:

Bowl Size: 9.25 in
Max Lateral: 0.75 in
Thrust K Factor: 9 lbf/ft

Search Criteria:

Flow: 700 US gpm

Head: 250 ft

Fluid:

Water
Density: 62.32 lb/ft³
Viscosity: 0.9946 cP

Temperature: 68 °F
Vapor Pressure: 0.3391 psi a
Atm Pressure: 14.7 psi a

NPSHa: ---

Motor:

Standard: NEMA
Enclosure: WPI

Size: 60 hp
Speed: 1800 rpm
Frame: 364

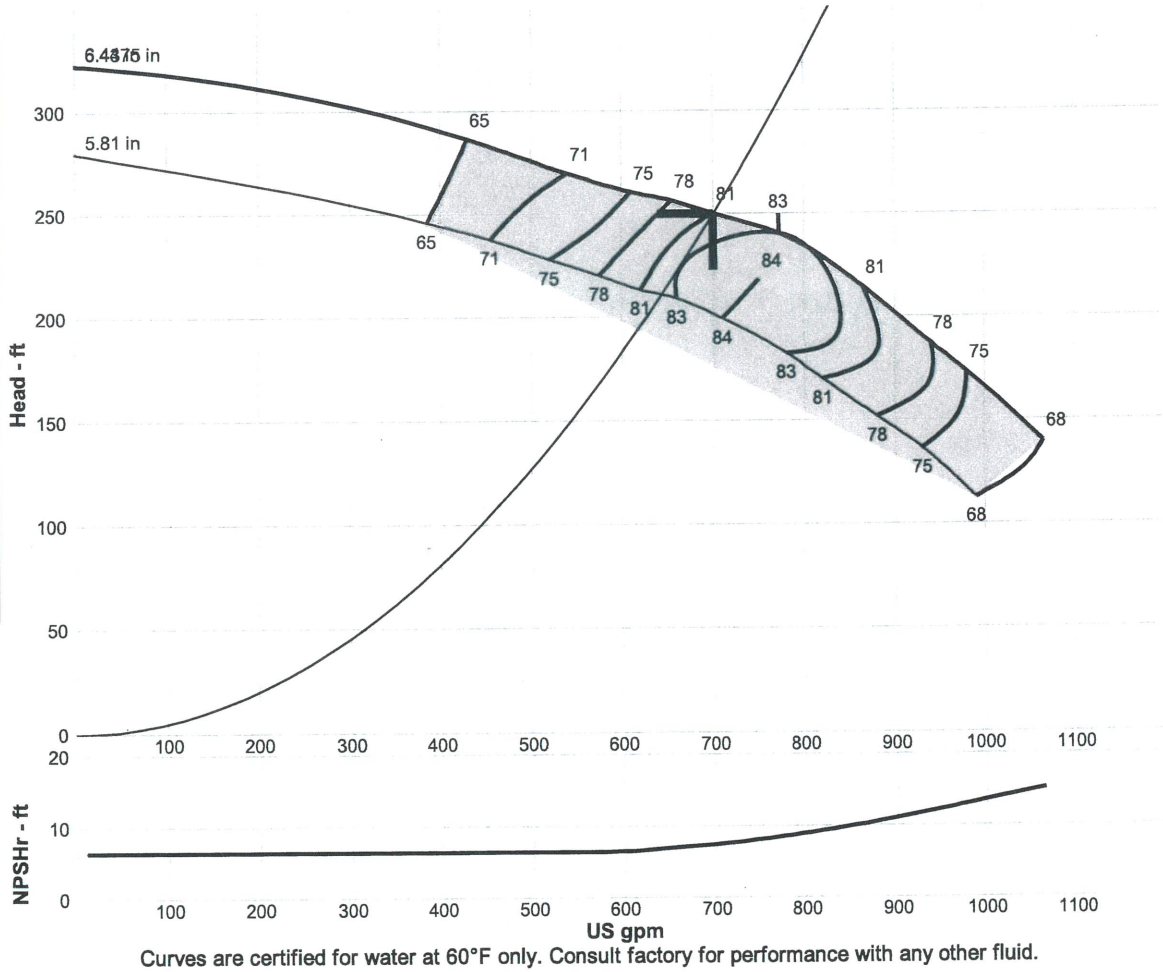
Sizing Criteria: Max Power on Design Curve

Pump Limits:

Temperature: 120 °F
Pressure: 530 psi g
Sphere Size: 1 in

Power: ---
Eye Area: ---

---- Duty Point ----	
Flow:	701 US gpm
Head:	250 ft
Eff:	81%
Power:	54.6 hp
NPSHr:	7.51 ft
---- Design Curve ----	
Shutoff Head:	323 ft
Shutoff dP:	140 psi
Min Flow:	---
BEP:	83% @ 773 US gpm
NOL Power:	57.8 hp @ 865 US gpm
-- Max Curve --	
Max Power:	57.9 hp @ 865 US gpm



Curves are certified for water at 60°F only. Consult factory for performance with any other fluid.

Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
840	1770	223	81.9	57.6	9.8
700	1770	250	81	54.6	7.5
560	1770	267	72.2	52.3	6.53
420	1770	288	63.5	47.6	6.5
280	1770	299	42.6	43.5	6.5

Northway Well and Pump Co.

4895 8th Avenue
Marion, Iowa 52302

PUMP REPORT

CUSTOMER Independence Water Dept WELL NO. 7 DATE 3-29-2024

WELL DEPTH 266 st WELL TOP SIZE 18" SIZE OF CASING 14" x 86 ft

GPM 780 STATIC LEVEL 22 ft PUMPING LEVEL 62 ft

CONTROL

MAKE AB SIZE 3 MODEL Soft Start

CABLE SIZE 2/0 LENGTH 38 ft BREAKER SIZE 100 amp

MOTOR

MAKE US H.P. 60 VOLT 460 RPM 1800

TYPE D195 PHASE 3 CODE G FRAME 364 TP

RING BASE 13.5" SERIAL XO6649715-0009

RESISTANCE:				
	WIRE TO WIRE	-0-	-0-	-0-
	WIRE TO GROUND	INF	INF	INF
	RUNNING VOLTAGE	497	494	496
	RUNNING AMPS	62	60	63
	SPLICE	Tape	Tape	Tape

PUMP

TURBINE X SUBMERSIBLE

DISCHARGE HEAD: MAKE Floway SIZE 8" x 8"
TYPE HF8 SERIAL NA

HEADSHAFT: DIA. 1 1/4" LENGTH 46"
LOWER SHAFT DRIVE 1 1/4" x 1 3/8"

COLUMN 8' Domestic SHAFT 1 1/4" x 1 3/8" RS MATERIAL Stainless steel
BOWL: MAKE Flowserve MODEL 10 EHM STAGE 6
SIZE 10" IMP 7.70 MATERIAL Standard
STEP COUPLING 0 X 0 STRAINER No SUCTION DIA. 8"
LENGTH 0 LONGEST LENGTH 10 ft TOTAL SETTING 100 ft
GPM 780 TDH 225

REMARKS: Pulled pumping equipment for inspection, televised well, installed new bowl assembly, 60 feet of column pipe, new lineshaft sleeves and bearings. Air line length is 100 feet.

Northway Well and Pump Co.

4895 8th Avenue • Marion, Iowa 52302 • 319-377-6339
100 North 6th Street • Waukee, Iowa 50263 • 515-987-4575

VIDEO
WATERWELL LOG

CUSTOMER City Water Works	WELL NO. #7	DATE	12-21-2023
LOCATION 5th Ward Park	CITY Independence		
TYPE OF CASING Steel	SIZE	14" OD	
CASING LENGTH +2' to 86'	YEAR INSTALLED	1983	

FOOTAGE	CLOSED CIRCUIT TELEVISION FINDINGS
22'	Static Water Level
48' - 50'	Rub marks
74'	Mineral buildup increases
86'	Bottom of 14" casing
87'	Small shelf in the borehole
244'	Large vertical fracture
262'	Bottom of Well #7 (Original depth is 265')

KNOWLEDGE • EQUIPMENT • RELIABILITY • EXPERIENCE

Company: FLowserve Corporation
Name: Northway Well and Pump -Tom
Date: 1/12/2024

Independence Well #7 North West Park Well

Pump:

Size: 10EGH/10LKH (6 stage)

Type: Groundwater
Synch speed: 1800 rpm

Speed: 1770 rpm
Dia: 7.72 in

Impeller Type: Enclosed

Thrust K Factor: 6.1 lb/ft

Specific Speeds:

Ns: 2960
Nss: ---

Dimensions:

Suction: ---
Discharge: ---

Vertical Turbine:

Bowl size: 9.5 in
Max lateral: ---
Thrust K factor: 6.1 lb/ft

Pump Limits:

Temperature: 140 °F
Pressure: 566 psi g
Sphere size: 0.77 in

Power: ---
Eye area: 15.4 in²

Search Criteria:

Flow: ---

Head: ---

Fluid:

Water
Density: 62.32 lb/ft³
Viscosity: 0.9946 cP

Temperature: 68 °F
Vapor pressure: 0.3391 psi a
Atm pressure: 14.7 psi a

NPSHa: ---

Motor:

Standard: NEMA
Enclosure: TEFC

Size: 60 hp
Speed: 1800
Frame: 364T

Sizing criteria: Max Power on Design Curve

---- Data Point ----

Flow:	698 US gpm
Head:	238 ft
Eff:	77%
Power:	54.5 hp
NPSHr:	7.99 ft

---- Design Curve ----

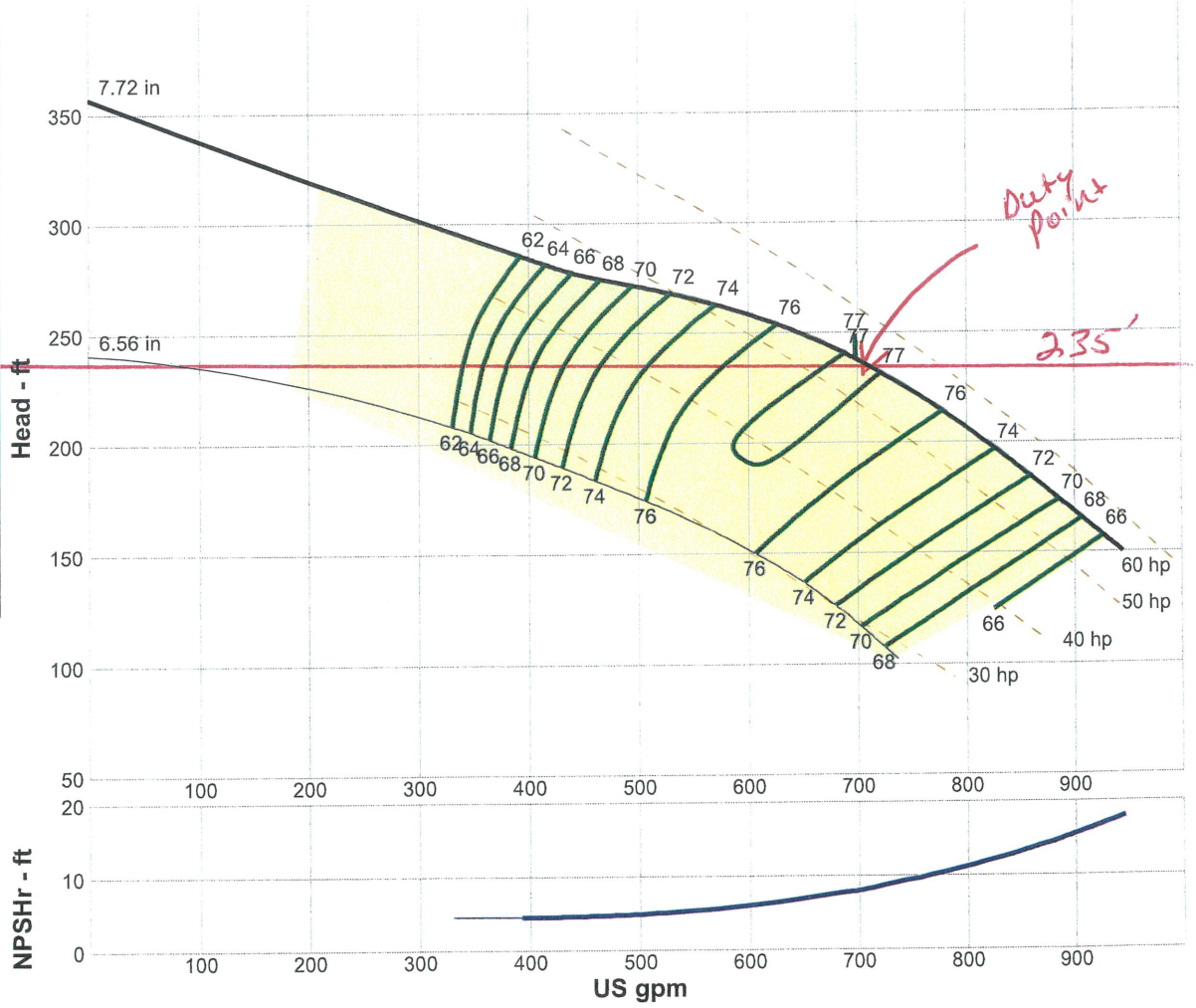
Shutoff head:	357 ft
Shutoff dP:	154 psi
Min flow:	---

BEP: 77% @ 698 US gpm

NOL power:
56.1 hp @ 945 US gpm

-- Max Curve --

Max power:
56.1 hp @ 945 US gpm



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
907	1770	165	67.9	55.7	16
756	1770	221	76.4	55.1	9.77
605	1770	257	75.3	52.2	6.19
454	1770	276	67.2	47.1	4.73
302	1770	---	---	---	---

APPENDIX J

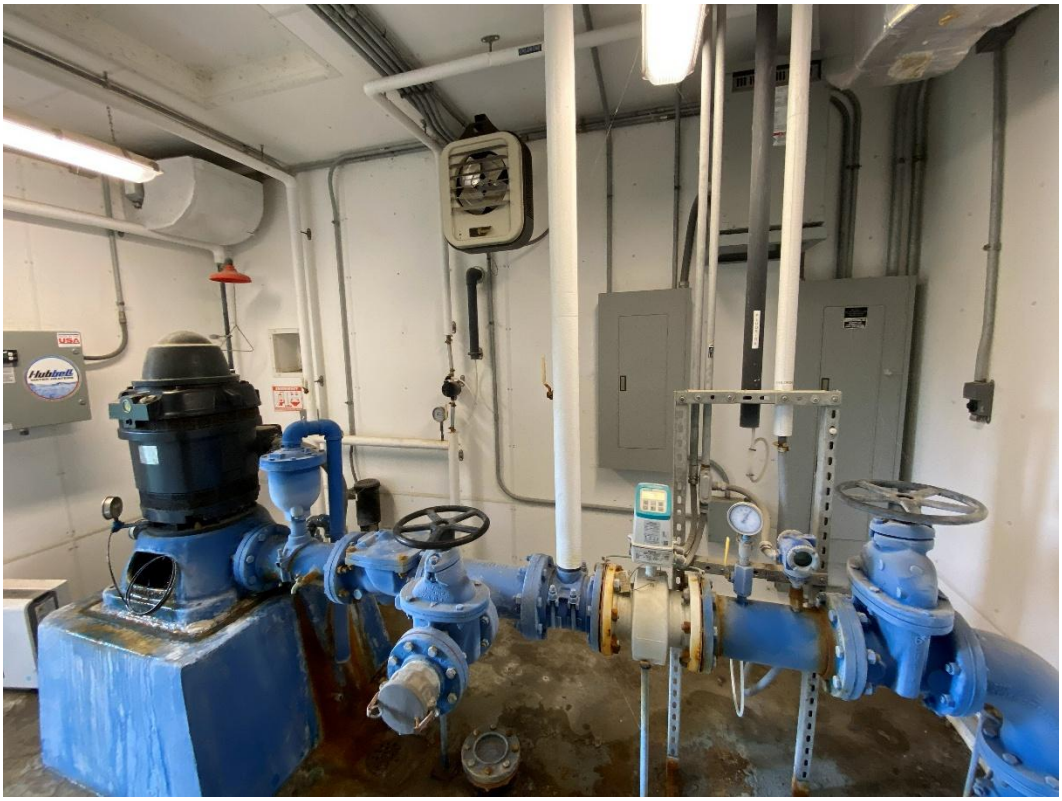
WATER SYSTEM PHOTOS

Wellhouse #3 – Courthouse

CAT

DANGER
CHLORINE
GAS

ROTATE
BANKS-MORS


Hubbell

BREAK TANK
VENT
OVERFLOW
HOT
SWITCH
HOT
SWITCH
HYDROFLUOSILICIC
ACID
NOMINAL
US. GAL
50
40
30
DAY TANK

NOTICE
FULL
CYLINDERS

Wellhouse #4 – Substation

EAST SUBSTATION
WELL HOUSE 4
N.O.C.

WELL
4
DANGER
CHLORINE
GAS

CAUTION
US MOTORS
FAIRBANKS-MORSE

Hubbell

BREAK TANK
WARNING
HYDROFLUOSILICIC ACID

Wellhouse #6 – 3rd Ward Park

6

HYDROFLUOSILICIC ACID
WARNING
ProMinent

Wellhouse #7 – 5th Ward Park

WARNING

Courthouse Tower

IOWA
Independence

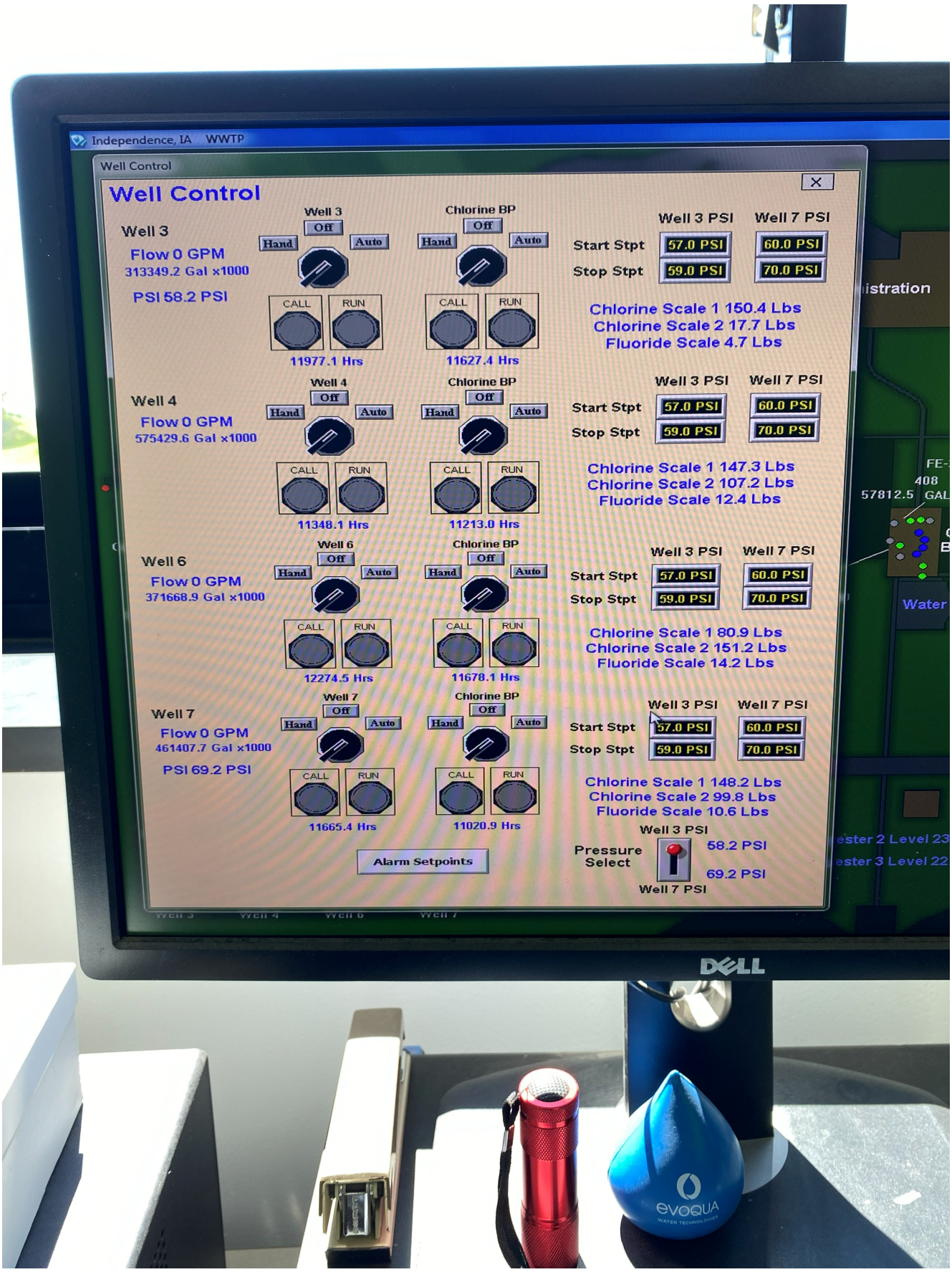
MHI Tower

IOWA
Independence

Shop Tower

Independence
IOWA

SCADA Screen


Independence, IA WWTP
Well Control
Well Control
Well 3
Flow 0 GPM
313349.2 Gal x1000
PSI 58.2 PSI
Well 3
Off
Hand
Auto
CALL
RUN
11977.1 Hrs
Chlorine BP
Off
Hand
Auto
CALL
RUN
11627.4 Hrs
Well 3 PSI
Well 7 PSI
Start Stpt
57.0 PSI
60.0 PSI
Stop Stpt
59.0 PSI
70.0 PSI
Chlorine Scale 1 150.4 Lbs
Chlorine Scale 2 17.7 Lbs
Fluoride Scale 4.7 Lbs
Well 4
Flow 0 GPM
575429.6 Gal x1000
Well 4
Off
Hand
Auto
CALL
RUN
11348.1 Hrs
Chlorine BP
Off
Hand
Auto
CALL
RUN
11213.0 Hrs
Well 3 PSI
Well 7 PSI
Start Stpt
57.0 PSI
60.0 PSI
Stop Stpt
59.0 PSI
70.0 PSI
Chlorine Scale 1 147.3 Lbs
Chlorine Scale 2 107.2 Lbs
Fluoride Scale 12.4 Lbs
Well 6
Flow 0 GPM
371668.9 Gal x1000
Well 6
Off
Hand
Auto
CALL
RUN
12274.5 Hrs
Chlorine BP
Off
Hand
Auto
CALL
RUN
11678.1 Hrs
Well 3 PSI
Well 7 PSI
Start Stpt
57.0 PSI
60.0 PSI
Stop Stpt
59.0 PSI
70.0 PSI
Chlorine Scale 1 80.9 Lbs
Chlorine Scale 2 151.2 Lbs
Fluoride Scale 14.2 Lbs
Well 7
Flow 0 GPM
461407.7 Gal x1000
PSI 69.2 PSI
Well 7
Off
Hand
Auto
CALL
RUN
11665.4 Hrs
Chlorine BP
Off
Hand
Auto
CALL
RUN
11020.9 Hrs
Well 3 PSI
Well 7 PSI
Start Stpt
57.0 PSI
60.0 PSI
Stop Stpt
59.0 PSI
70.0 PSI
Chlorine Scale 1 148.2 Lbs
Chlorine Scale 2 99.8 Lbs
Fluoride Scale 10.6 Lbs
Alarm Setpoints
Well 3 PSI
Pressure Select
58.2 PSI
69.2 PSI
Well 7 PSI
DELL
evoqua

APPENDIX K

2017 WELLHOUSE REHABILITATION PLANS

CON 11-1-1

Water Supply Engineering

884170533

IA1037070

INDEPENDENCE WATER DEPT

Project #: W2017-0250

Permit #: 2018-0137W

DWSRF #: _____

INDEPENDENCE, IOWA

INDEPENDENCE
WELLHOUSE REHABILITATION

CONTRACT DRAWINGS

2017

APPROVAL TO CONSTRUCT
PERMIT NO 2018-0137W
DATE 4-17-2018
IDNR ENVIRONMENTAL SERVICES DIVISION
BY B. V. Goodale, P.E.
PERMIT ISSUED WITHOUT REVIEW

BOLTON & MENK

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MANKATO, MINNESOTA

LICENSED PROFESSIONAL ENGINEER
JOHN GRAUPMAN
22146
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
Signature John Graupman Date 2-16-17
Print name John Graupman
License number 22146
My license renewal date is 12/31/17
Pages or sheets covered by this seal: 1.xx and 5.xx

LICENSED PROFESSIONAL ENGINEER
SHELDON SORENSEN
12970
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
Signature Sheldon Sorensen Date 2/16/17
Print name Sheldon Sorensen
License number 12970
My license renewal date is 12/31/17
Pages or sheets covered by this seal: 7.xx Series

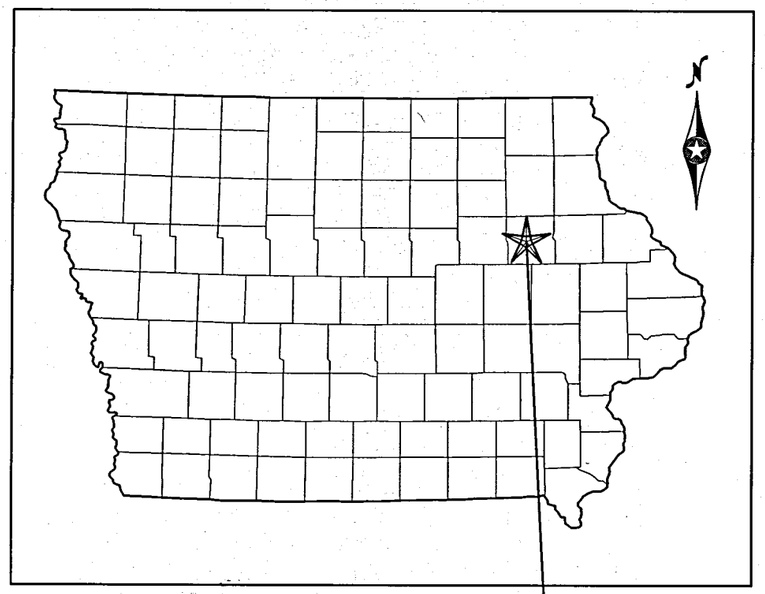
LICENSED PROFESSIONAL ENGINEER
CHRISTOPHER J. DOLEJS
17328
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
Signature Christopher J. Dolejs Date 2/16/17
Print name Christopher J. Dolejs
License number 17328
My license renewal date is 12/31/17
Pages or sheets covered by this seal: 6.xx Series

KURT J. MACKEY
2978
IOWA
REGISTERED ARCHITECT

I hereby certify that the portion of the technical submission described below was prepared by me or under my direct supervision and responsible charge. I am a duly registered architect under under the laws of the State of Iowa.
Print name Kurt J. Mackey
Signature Kurt J. Mackey Date 2/14/17
Registration expires 12/31/17 Date issued 11/15
Pages or sheets covered by this seal:

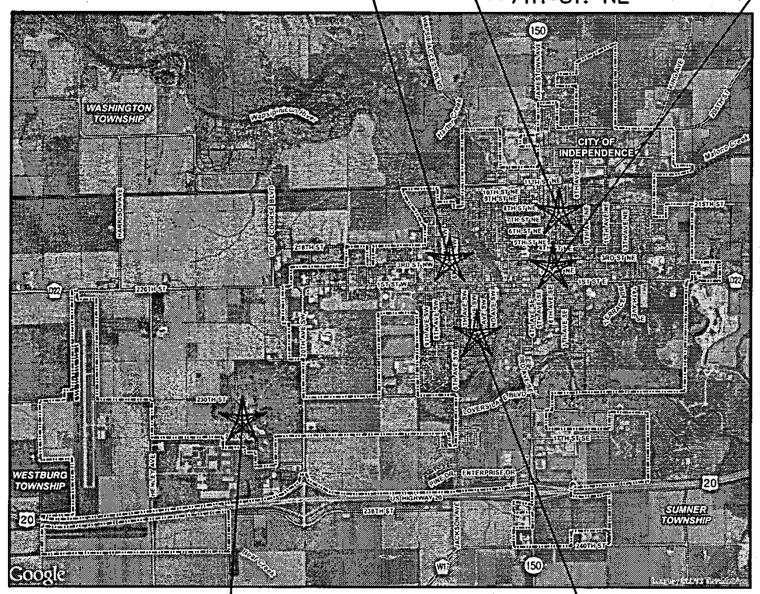
RECEIVED
MAR 08 2017



VICINITY MAP

NO SCALE

PROJECT LOCATION



WELLHOUSE #7
5TH WARD PARK
7TH AVE. NW &
3RD ST. NW

WELLHOUSE #4
POWERPLANT
7TH AVE. NE &
7TH ST. NE

WELLHOUSE #3
COURTHOUSE
6TH AVE. SE &
2ND ST. NE

WELLHOUSE #8
MHI GROUNDS

LOCATION MAP

NO SCALE

WELLHOUSE #6
SOUTHWEST PARK
4TH AVE. SW &
7TH ST. SW

SHEET INDEX

1.01 TITLE
1.02 VICINITY MAP, LOCATION MAP, AND SHEET INDEX
1.03 DETAILS

4.01 WELLHOUSE #3 – COURTHOUSE
4.02 WELLHOUSE #4 – POWERPLANT
4.03 WELLHOUSE #6 – SOUTHWEST PARK (7th ST. SW & 4TH AVE SW)
4.04 WELLHOUSE #7 – 5TH WARD PARK
4.05 WELLHOUSE #8 – MHI
4.06 ROOF DETAILS

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5.02 WELLHOUSE #3 – COURTHOUSE – PROPOSED MODIFICATIONS PLAN AND SECTION
5.03 WELLHOUSE #4 – POWERPLANT – EXISTING PLAN AND SECTION W/ DEMOLITION
5.04 WELLHOUSE #4 – POWERPLANT – PROPOSED MODIFICATIONS PLAN AND SECTION
5.05 WELLHOUSE #6 – SOUTHWEST PARK – EXISTING PLAN AND SECTION W/ DEMOLITION
5.06 WELLHOUSE #6 – SOUTHWEST PARK – PROPOSED MODIFICATIONS PLAN AND SECTION
5.07 WELLHOUSE #7 – 5TH WARD PARK – EXISTING PLAN AND SECTION W/ DEMOLITION
5.08 WELLHOUSE #7 – 5TH WARD PARK – PROPOSED MODIFICATIONS PLAN AND SECTION
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5.10 WELLHOUSE #8 – MHI – PROPOSED MODIFICATIONS PLAN AND SECTION
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6.01 H.V.A.C. & PLUMBING DEMO PLANS – WELLHOUSE #3 & #4
6.02 H.V.A.C. & PLUMBING DEMO PLANS – WELLHOUSE #6 & #7
6.03 H.V.A.C. & PLUMBING DEMO PLANS – WELLHOUSE #8
6.04 H.V.A.C. & PLUMBING PLANS – WELLHOUSE #3 & #4
6.05 H.V.A.C. & PLUMBING PLANS – WELLHOUSE #6 & #7
6.06 H.V.A.C. & PLUMBING PLANS – WELLHOUSE #8

7.01 ELECTRICAL SYMBOLS & ABBREVIATIONS
7.02 WELLHOUSE #3 – PLANS
7.03 WELLHOUSE #3 – CONTROL PANEL SCHEMATIC
7.04 WELLHOUSE #3 – CONTROL PANEL SCHEMATIC
7.05 WELLHOUSE #4 – PLANS
7.06 WELLHOUSE #4 – CONTROL PANEL SCHEMATIC
7.07 WELLHOUSE #4 – CONTROL PANEL SCHEMATIC
7.08 WELLHOUSE #6 – PLANS
7.09 WELLHOUSE #6 – CONTROL PANEL SCHEMATIC
7.10 WELLHOUSE #6 – CONTROL PANEL SCHEMATIC
7.11 WELLHOUSE #7 – PLANS
7.12 WELLHOUSE #7 – CONTROL PANEL SCHEMATIC
7.13 WELLHOUSE #7 – CONTROL PANEL SCHEMATIC
7.14 WELLHOUSE #8 – PLANS
7.15 WELLHOUSE #8 – CONTROL PANEL SCHEMATIC
7.16 WELLHOUSE #8 – CONTROL PANEL SCHEMATIC

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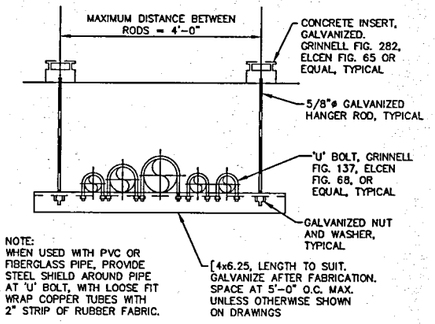
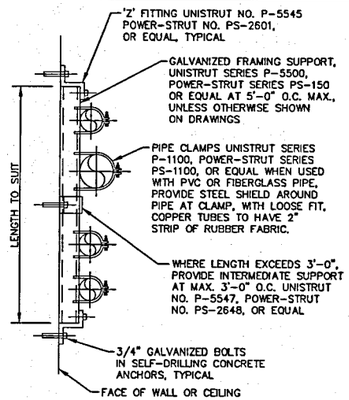
0	TMJ	2-17-17

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
VICINITY MAP, LOCATION MAP AND SHEET INDEX

SHEET 1.02



1 / 1.03 TRAPEZE PIPE HANGER
SCALE: 3/4"=1'-0"



2 / 1.03 FLUSH MOUNTED PIPE SUPPORT
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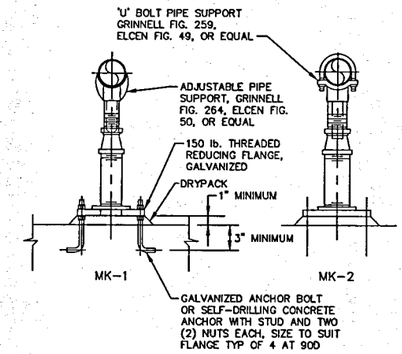

3 / 1.03 ADJUSTABLE PIPE SUPPORT
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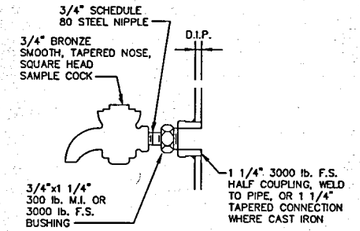
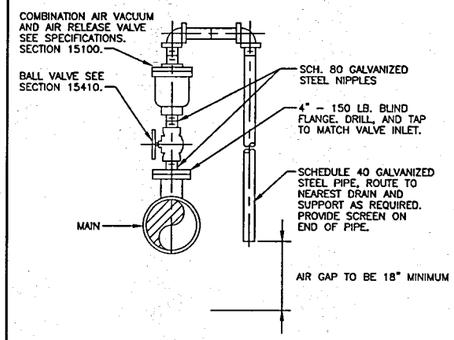


4 / 1.03 SAMPLE COCK
SCALE: 3"=1'-0"



5 / 1.03 AIR-VACUUM AND AIR-RELEASE VALVE ASSEMBLY 3" AND SMALLER
SCALE: 3/4" = 1'-0"

6 / 1.03 AIR PRESSURE AND/OR VACUUM GAUGE IN PIPE
SCALE: 3"=1'-0"

7 / 1.03 CONCRETE PUMP BASE
SCALE: 1/4"=1'-0"

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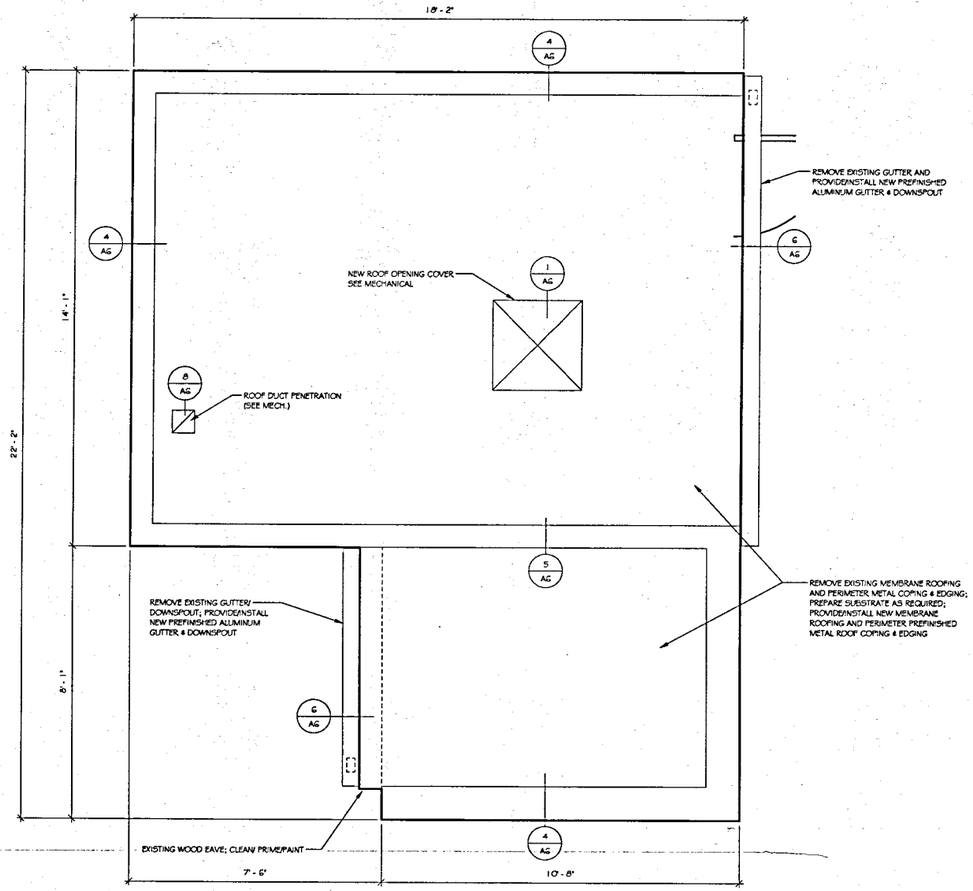
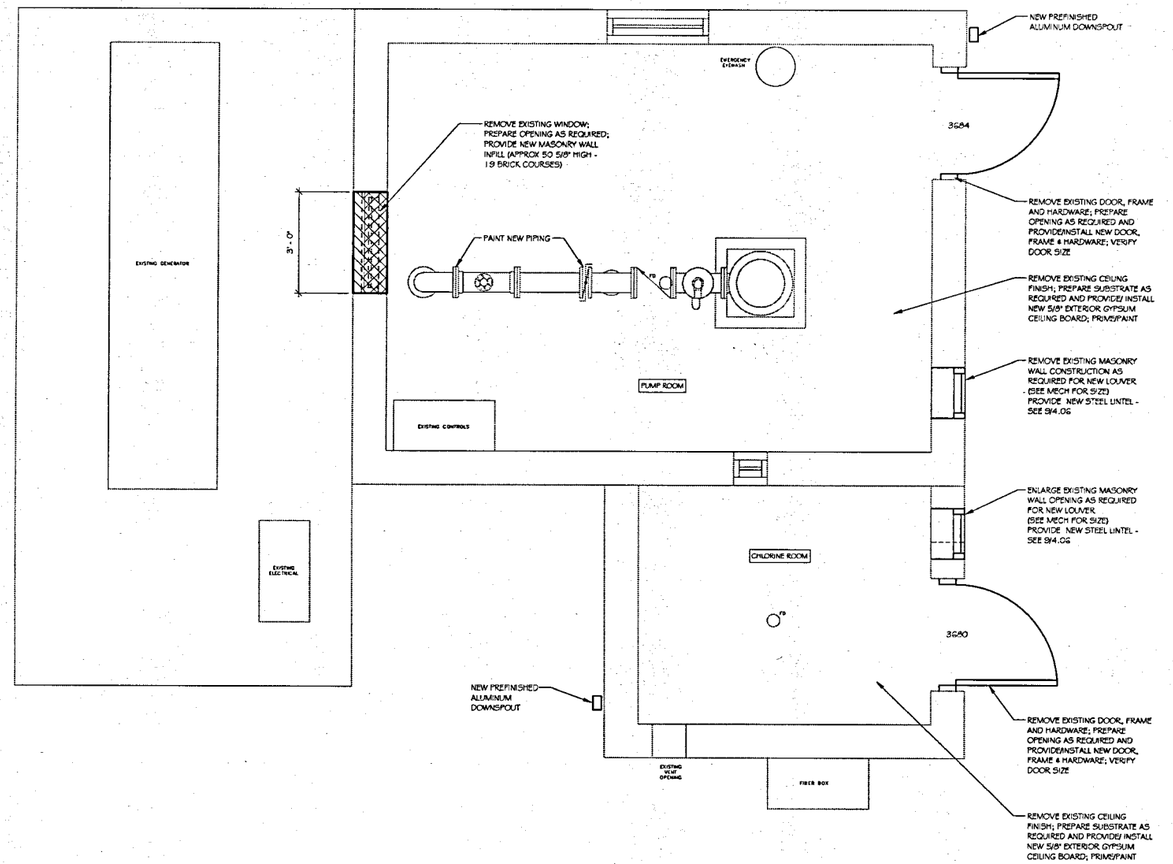
INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
DETAILS

SHEET 1.03

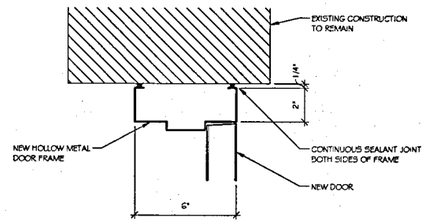


2 ROOF PLAN
1/2" = 1'-0" N



1 FLOOR PLAN
1/2" = 1'-0" N

NOTE: CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS



3 DOOR JAMB/HEAD DTL
3" = 1'-0"

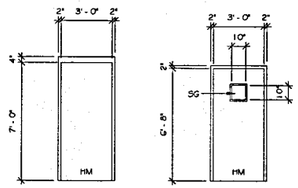
HARDWARE SCHEDULE

HARDWARE GROUP 1 — PUMP HOUSE DOOR

MFG	QTY	ITEM		FINISH
STANLEY	3	HINGES	CB1900	US26D
SCHLAGE	1	LOCKSET	ND80PD RHO	US26D
GLYNN-JOHNSON	1	HOLD-OPEN/STOP	79H SERIES	US26D
REESE	1 SET	WEATHERSTRIP	795C	ALUM
REESE	1	DOOR SWEEP	772A	ALUM
REESE	1	THRESHOLD	5282A	ALUM

HARDWARE GROUP 2 — CHLORINE ROOM DOOR

MFG	QTY	ITEM		FINISH
STANLEY	3	HINGES W/NRP	CB1900	US26D
ADAMS RITE	1	RIM EXIT DEVICE	3700	US26D
GLYNN-JOHNSON	1	HOLD-OPEN/STOP	79H SERIES	US26D
REESE	1 SET	WEATHERSTRIP	795C	ALUM
REESE	1	DOOR SWEEP	772A	ALUM
REESE	1	THRESHOLD	5282A	ALUM



DOOR & FRAME TYPES

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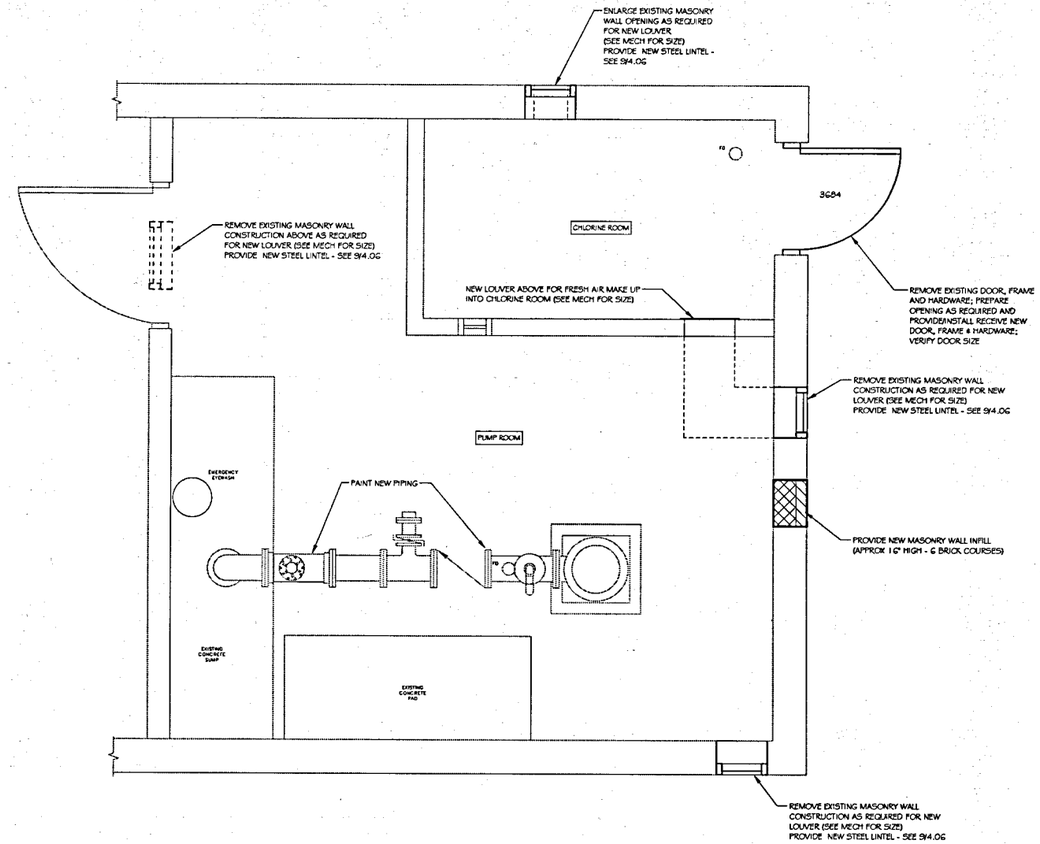
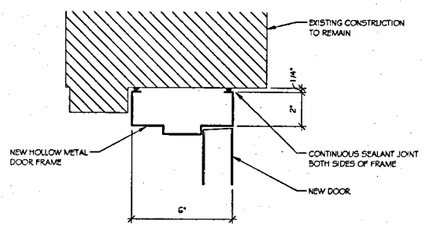
INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELL HOUSE #3 - COURTHOUSE

SHEET 4.01



1 FLOOR PLAN
1/2" = 1'-0" N→

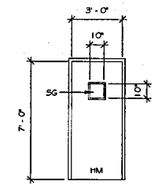
NOTE: CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS



4 DOOR JAMB/HEAD DTL
3" = 1'-0"

HARDWARE SCHEDULE

HARDWARE GROUP 1		CHLORINE ROOM DOOR		
MFG	QTY	ITEM		FINISH
STANLEY	3	HINGES W/NRP	CB1900	US26D
ADAMS RITE	1	RIM EXIT DEVICE	3700	US26D
GLYNN-JOHNSON	1	HOLD-OPEN/STOP	78H SERIES	US26D
REESE	1 SET	WEATHERSTRIP	795C	ALUM
REESE	1	DOOR SWEEP	772A	ALUM
REESE	1	THRESHOLD	5282A	ALUM



CHLORINE ROOM DOOR

DOOR & FRAME TYPES

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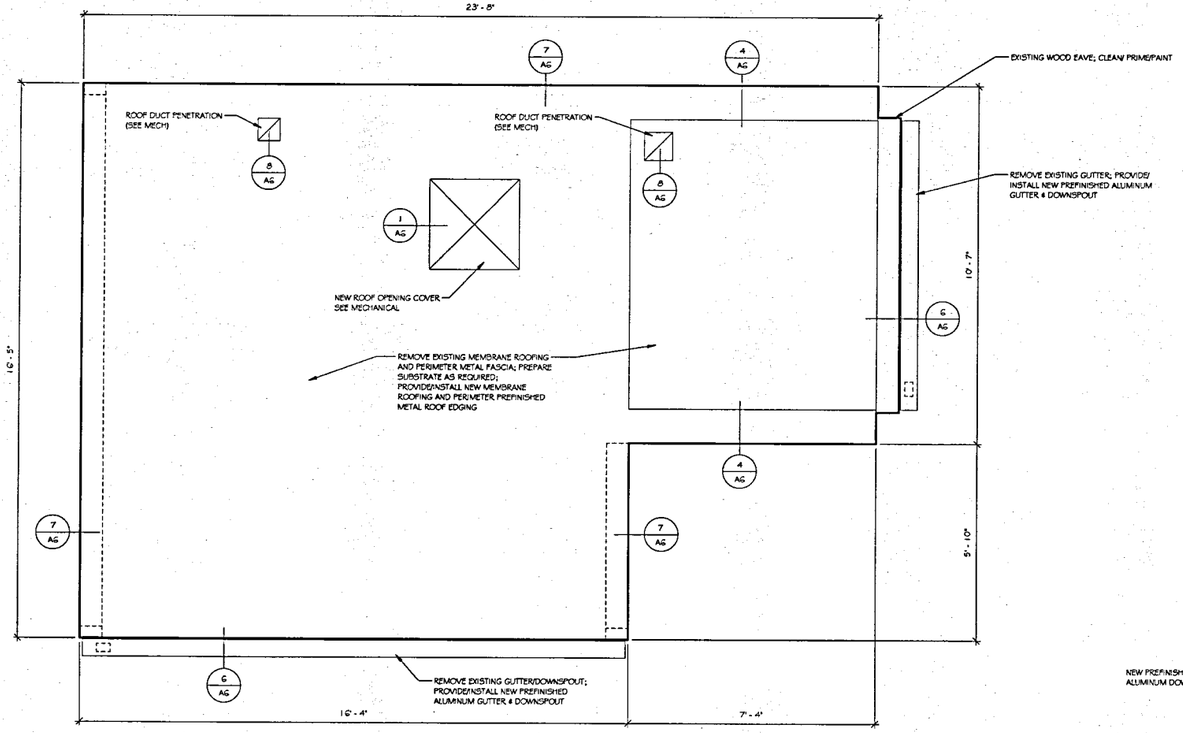
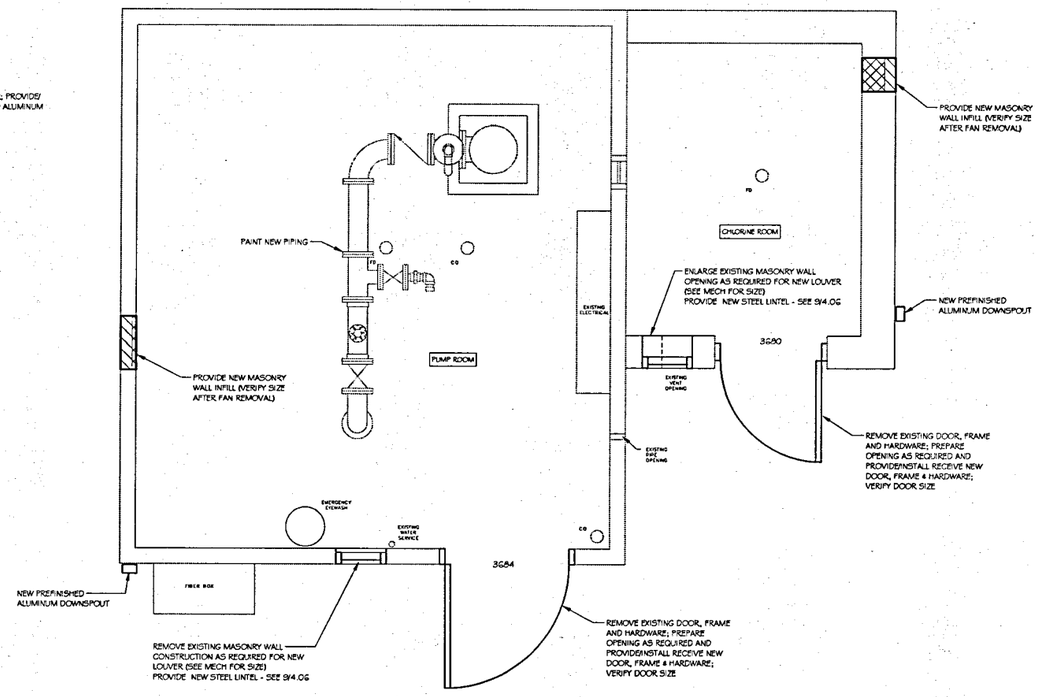
INDEPENDENCE WELLHOUSE REHABILITATION
WELL HOUSE #4 – POWERPLANT

SHEET 4.02

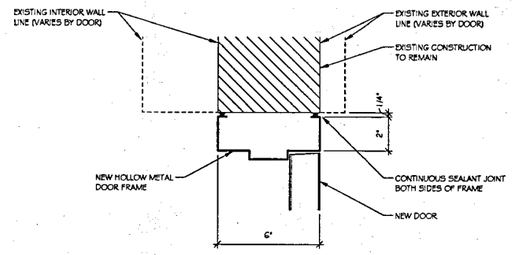


2 ROOF PLAN
1/2" = 1'-0" N



1 FLOOR PLAN
1/2" = 1'-0" N

NOTE: CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS

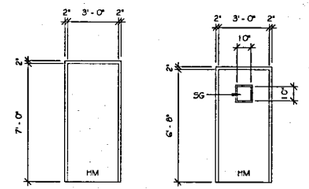


3 DOOR JAMB/HEAD DTL
3" = 1'-0"

HARDWARE SCHEDULE

HARDWARE GROUP 1		PUMP HOUSE DOOR		
MFG	QTY	ITEM		FINISH
STANLEY	3	HINGES	CB1900	US26D
ADAMS RITE	1	RIM EXIT DEVICE	3700	US26D
GLYNN-JOHNSON	1	HOLD-OPEN/STOP	79H SERIES	US26D
REESE	1 SET	WEATHERSTRIP	795C	ALUM
REESE	1	DOOR SWEEP	772A	ALUM
REESE	1	THRESHOLD	5282A	ALUM

HARDWARE GROUP 2		CHLORINE ROOM DOOR		
MFG	QTY	ITEM		FINISH
STANLEY	3	HINGES W/KRP	CB1900	US26D
ADAMS RITE	1	RIM EXIT DEVICE	3700	US26D
GLYNN-JOHNSON	1	HOLD-OPEN/STOP	79H SERIES	US26D
REESE	1 SET	WEATHERSTRIP	795C	ALUM
REESE	1	DOOR SWEEP	772A	ALUM
REESE	1	THRESHOLD	5282A	ALUM



DOOR & FRAME TYPES

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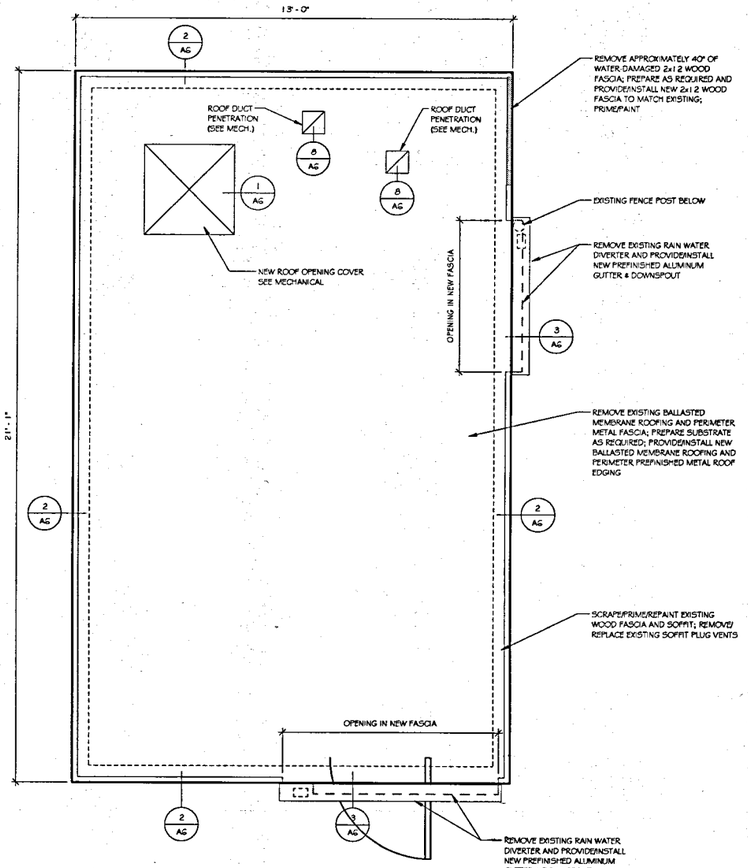
INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELL HOUSE #6 - SOUTHWEST PARK (7TH ST SW & 4TH AVE SW)

SHEET 4.03



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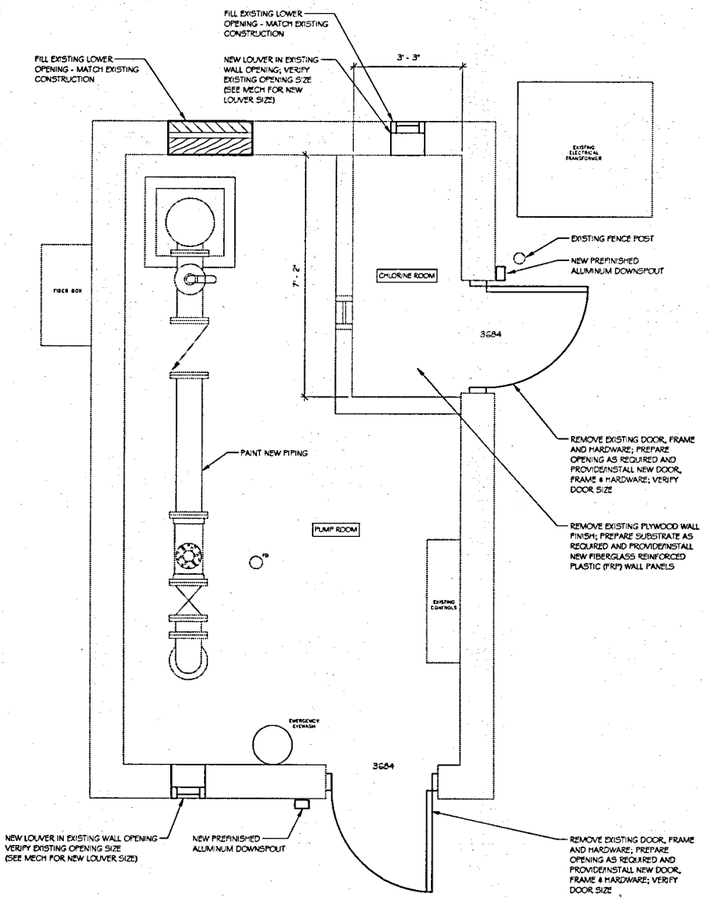
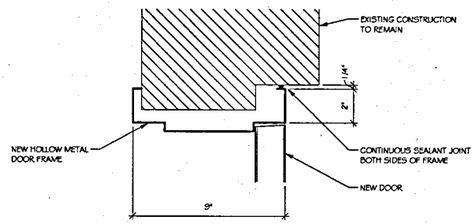


1 FLOOR PLAN
1/2" = 1'-0" N

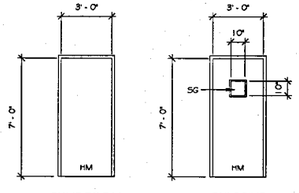
NOTE: CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS



4 DOOR JAMB/HEAD DTL
3" = 1'-0"

HARDWARE SCHEDULE

HARDWARE GROUP 1		PUMP HOUSE DOOR		
MFG	QTY	ITEM		FINISH
STANLEY	3	HINGES	CB1900	US26D
ADAMS RITE	1	RIM EXIT DEVICE	3700	US26D
GLYNN-JOHNSON	1	HOLD-OPEN/STOP	79H SERIES	US26D
REESE	1 SET	WEATHERSTRIP	795C	ALUM
REESE	1	DOOR SWEEP	772A	ALUM
REESE	1	THRESHOLD	5282A	ALUM
HARDWARE GROUP 2		CHLORINE ROOM DOOR		
MFG	QTY	ITEM		FINISH
STANLEY	3	HINGES W/NRP	CB1900	US26D
ADAMS RITE	1	RIM EXIT DEVICE	3700	US26D
GLYNN-JOHNSON	1	HOLD-OPEN/STOP	79H SERIES	US26D
REESE	1 SET	WEATHERSTRIP	795C	ALUM
REESE	1	DOOR SWEEP	772A	ALUM
REESE	1	THRESHOLD	5282A	ALUM



DOOR & FRAME TYPES

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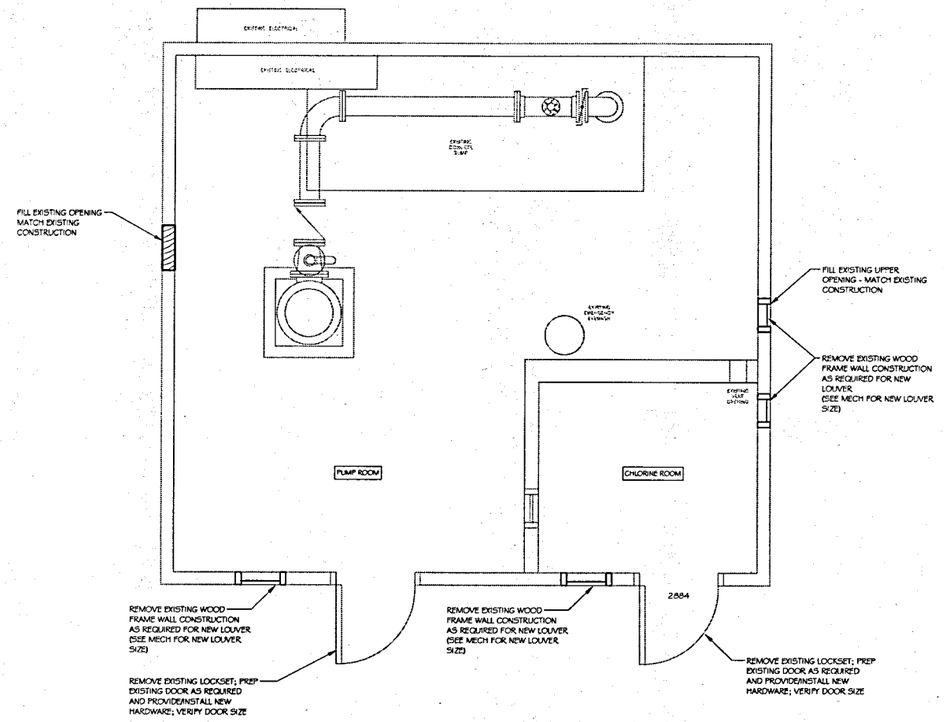
WELL HOUSE #7 – 5TH WARD PARK

SHEET 4.04



1 FLOOR PLAN
1/2" = 1'-0" N

NOTE: CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS

HARDWARE SCHEDULE

HARDWARE GROUP 1		PUMP HOUSE DOOR		
MFG	QTY	ITEM		FINISH
ADAMS RITE	1	R/M EXIT DEVICE	3700	US26D
GLYNN-JOHNSON	1	HOLD-OPEN/STOP	79H SERIES	US26D

HARDWARE GROUP 2		CHLORINE ROOM DOOR		
MFG	QTY	ITEM		FINISH
ADAMS RITE	1	R/M EXIT DEVICE	3700	US26D
GLYNN-JOHNSON	1	HOLD-OPEN/STOP	79H SERIES	US26D

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INDEPENDENCE, IOWA
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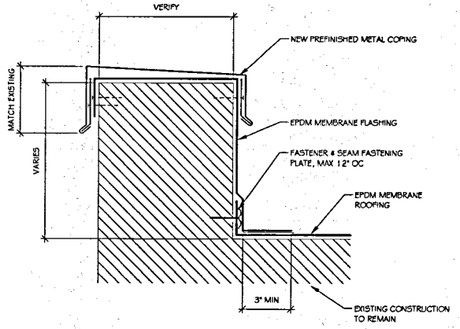
WELL HOUSE #8 - MHI

SHEET 4.05



4 COPING DETAIL
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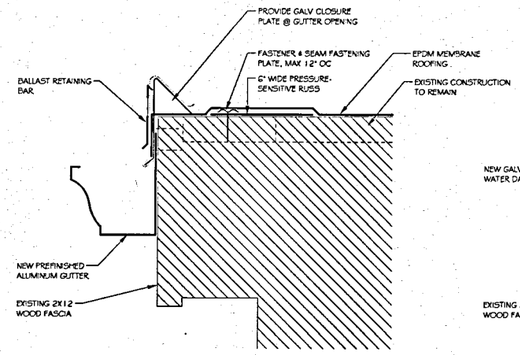

3 GUTTER DETAIL
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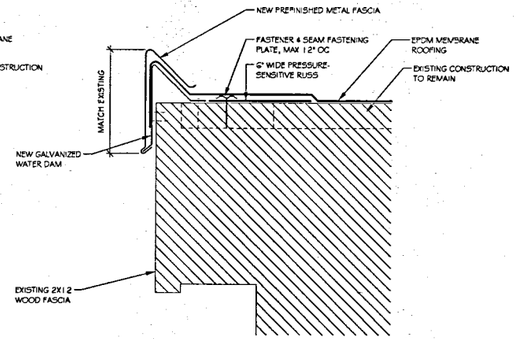

2 FASCIA DETAIL
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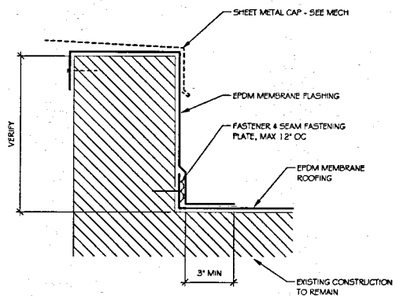

1 ROOF HATCH DETAIL
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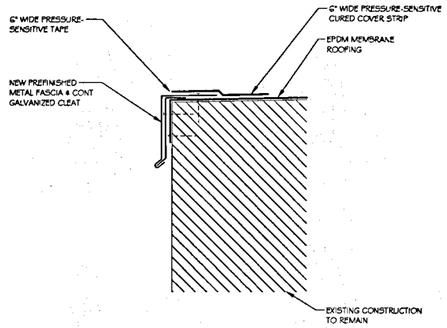

7 EDGE DETAIL
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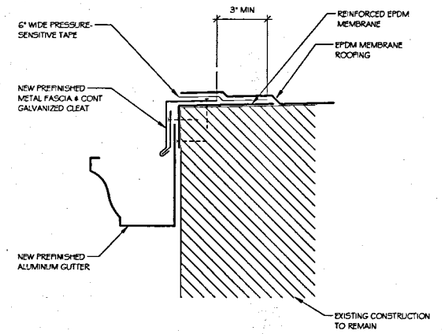

6 GUTTER DETAIL
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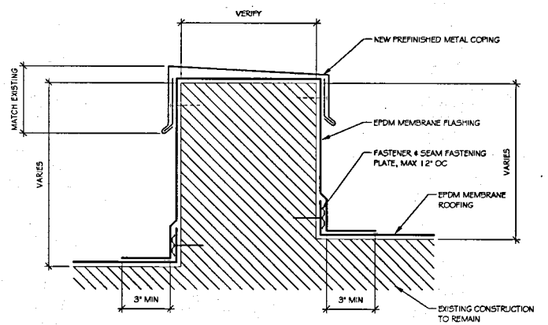
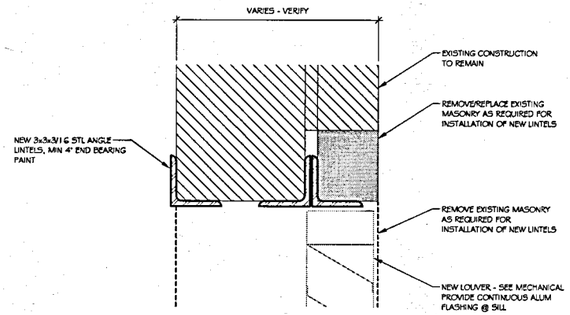
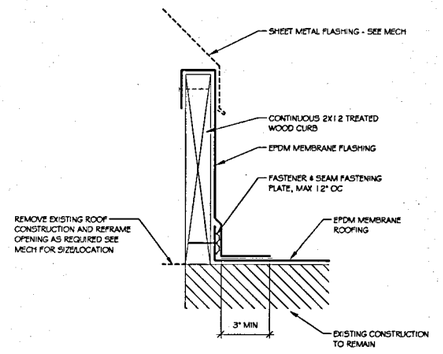


5 COPING DETAIL
3" = 1'-0"



9 LINTEL DETAIL
3" = 1'-0"



8 CURB DETAIL
3" = 1'-0"

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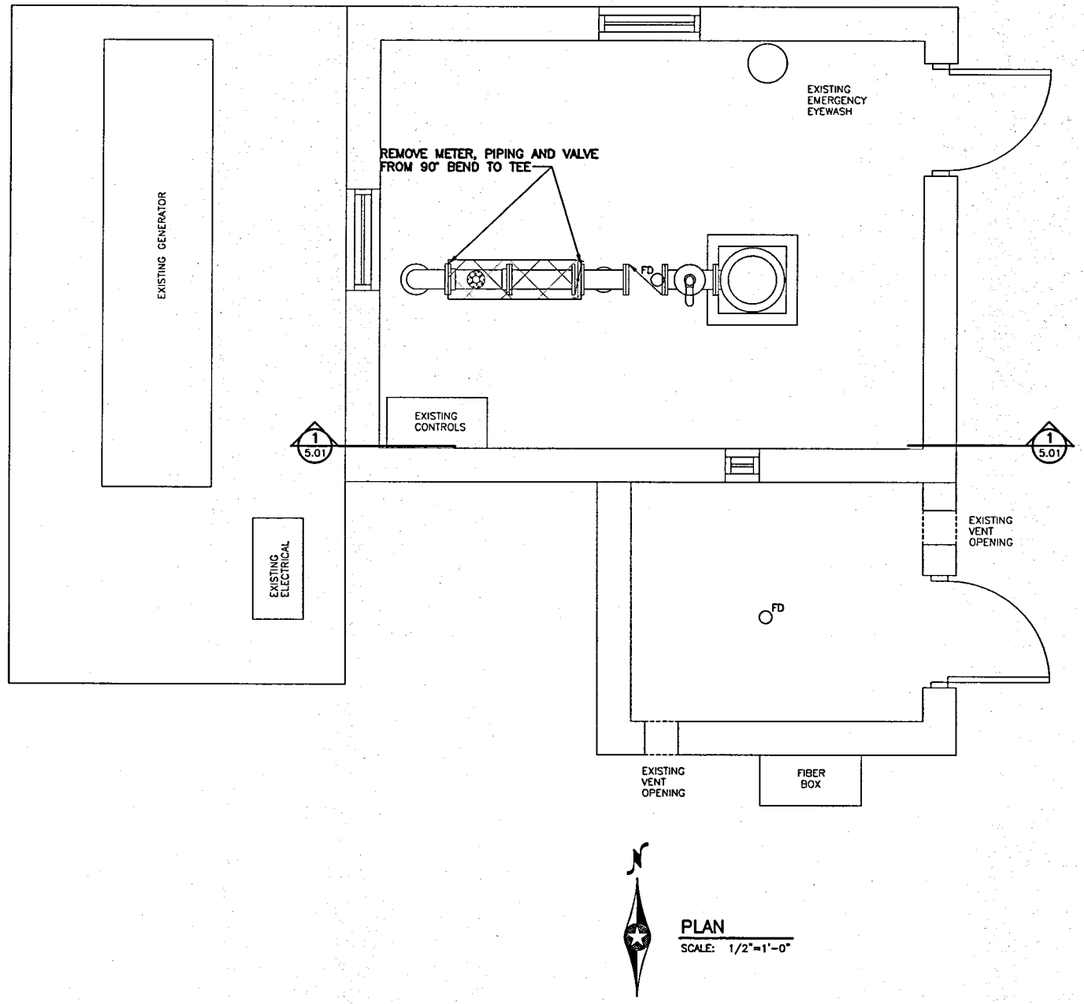
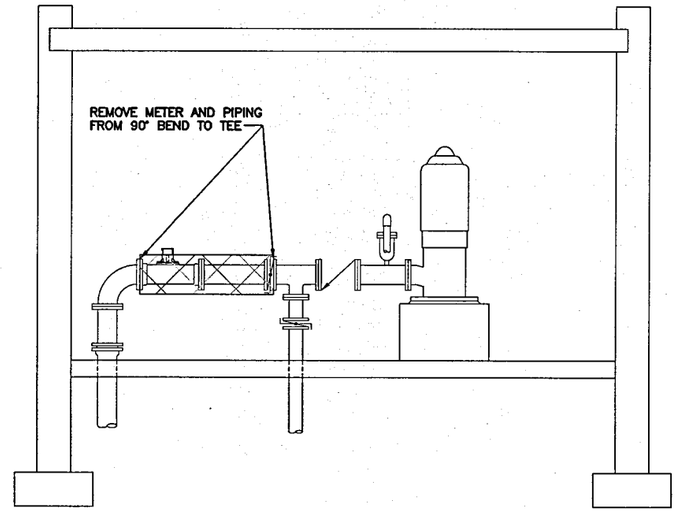
REV.	BY	DATE
0	KJM	2/17/17

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
ROOF DETAILS

SHEET 4.06



PLAN
SCALE: 1/2"=1'-0"



1/5.01 SECTION
SCALE: 1/2"=1'-0"

NOTE:
1. REMOVE ALL UNUSED CHEMICAL FEED EQUIPMENT, PUMPS, TANKS, PIPING AND TUBING (FIELD VERIFY LOCATION AND ELEVATION).

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

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Graphic Scale for 1/2"=1'-0"

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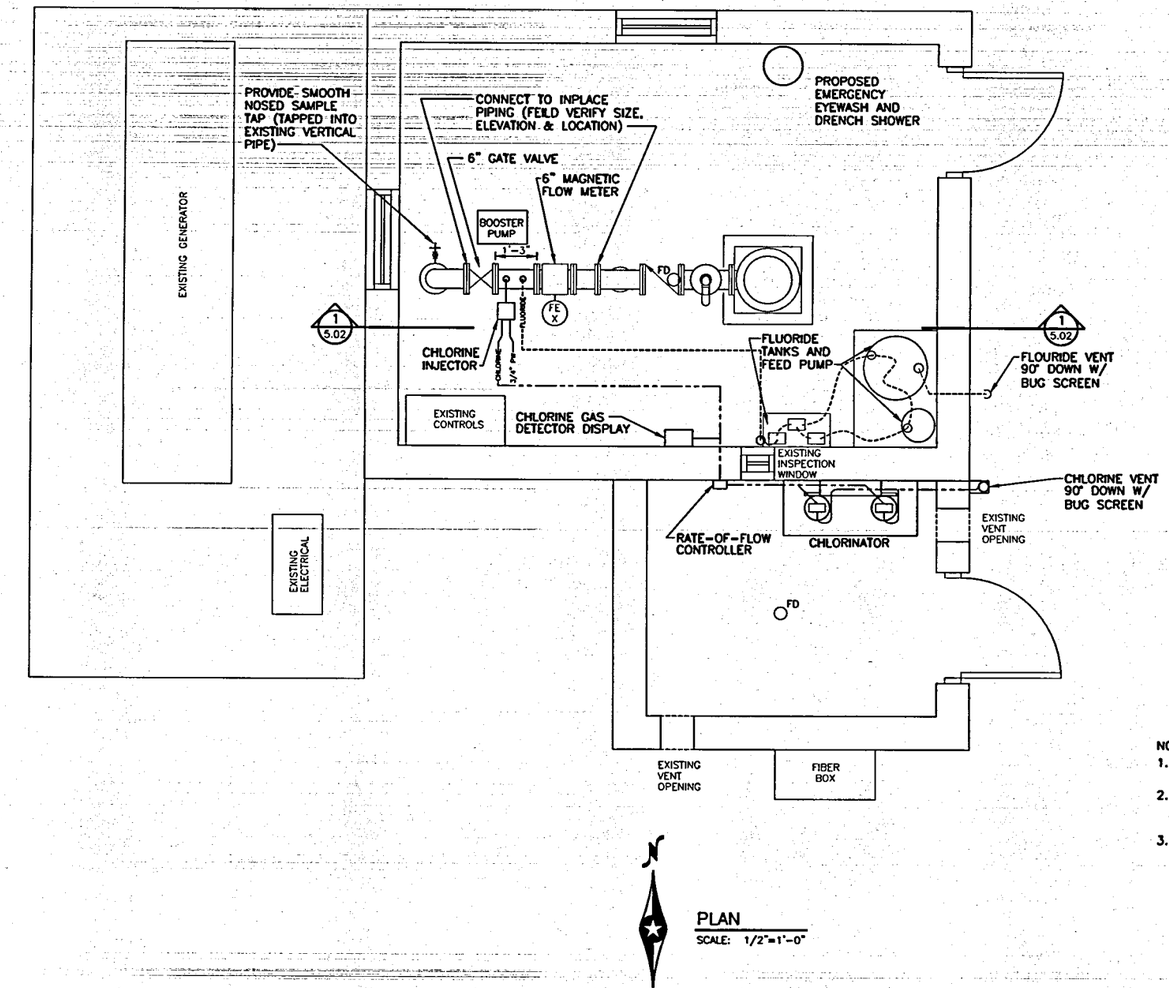
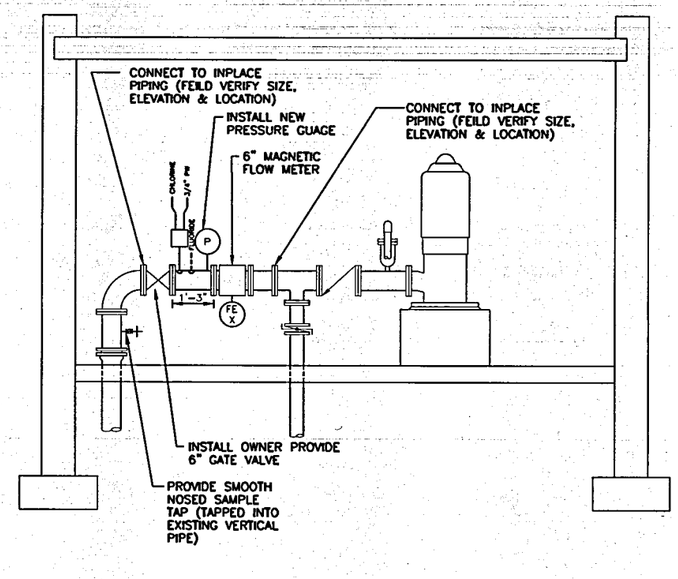
REV.	BY	DATE
A	TMJ	10-7-16
B	TMJ	2-1-17
0	TMJ	2-17-17

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #3 – COURTHOUSE
EXISTING PLAN AND SECTION W/ DEMOLITION

SHEET
5.01



PLAN
SCALE: 1/2"=1'-0"



1 5.02 SECTION
SCALE: 1/2"=1'-0"

NOTE
1. NEW PIPING AND VALVES TO BE PROVIDED AND INSTALLED BY OWNER.
2. INSTALL CHEMICAL FEED TAPS AT 45° ANGLE IN BOTTOM HALF OF PIPE AS SHOWN ON 5.11
3. ALL WORK SHALL BE IN ACCORDANCE WITH 2007 EDITION OF 10-STATES STANDARDS

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY.

Graphic Scale for 1/2"=1'-0"

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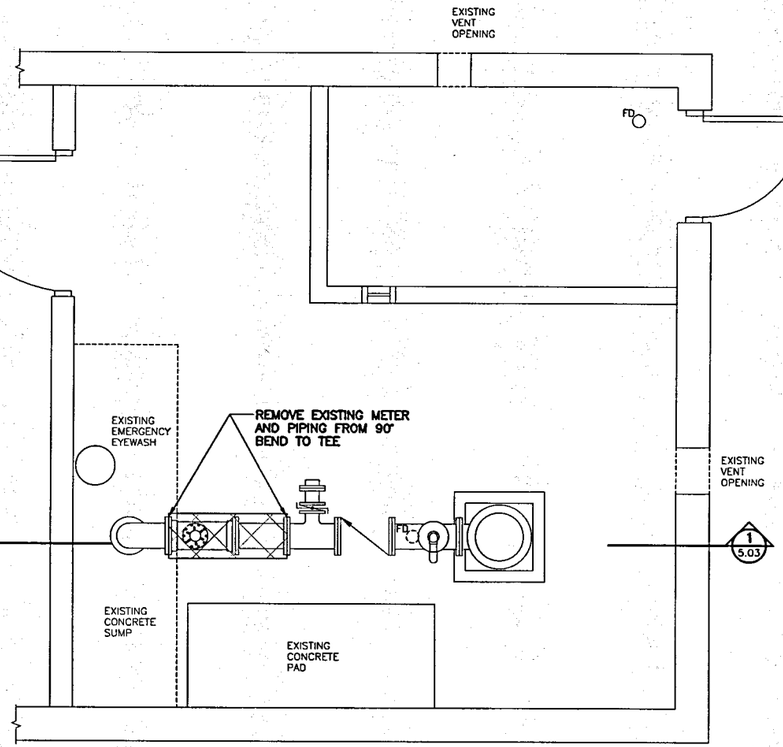
REV.	BY	DATE
A	TMJ	10-7-16
B	TMJ	2-1-17
0	TMJ	2-17-17
1	TMJ	3-28-17
2	TMJ	6-26-17

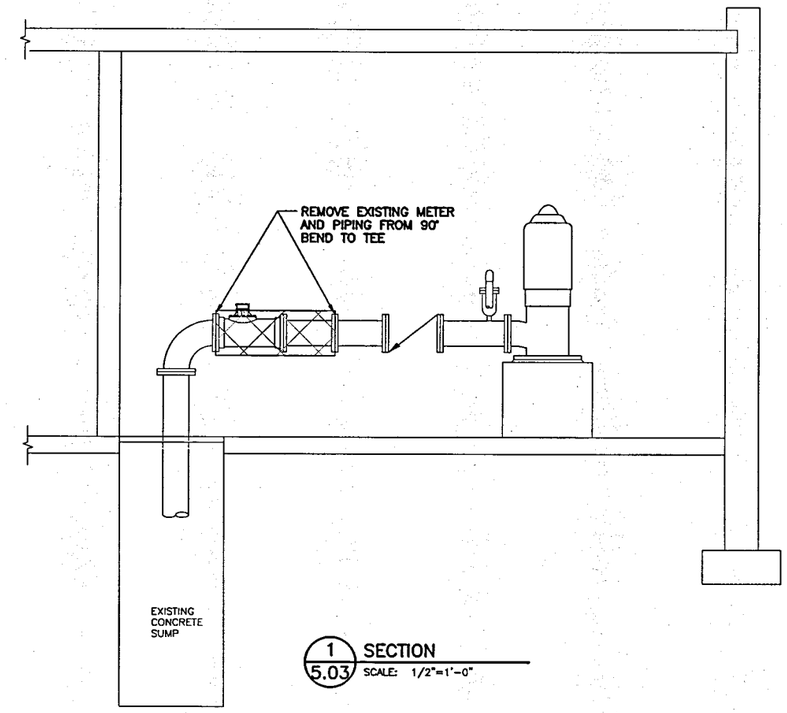
INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #3 - COURTHOUSE
PROPOSED MODIFICATIONS PLAN AND SECTION

SHEET 5.02



PLAN
SCALE: 1/2"=1'-0"

NOTE:
1. REMOVE ALL UNUSED CHEMICAL FEED EQUIPMENT, PUMPS, TANKS, PIPING AND TUBING (FIELD VERIFY LOCATION AND ELEVATION).



1/5.03 SECTION
SCALE: 1/2"=1'-0"

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0 1 2 3 4 8
Graphic Scale for 1/2"=1'-0"

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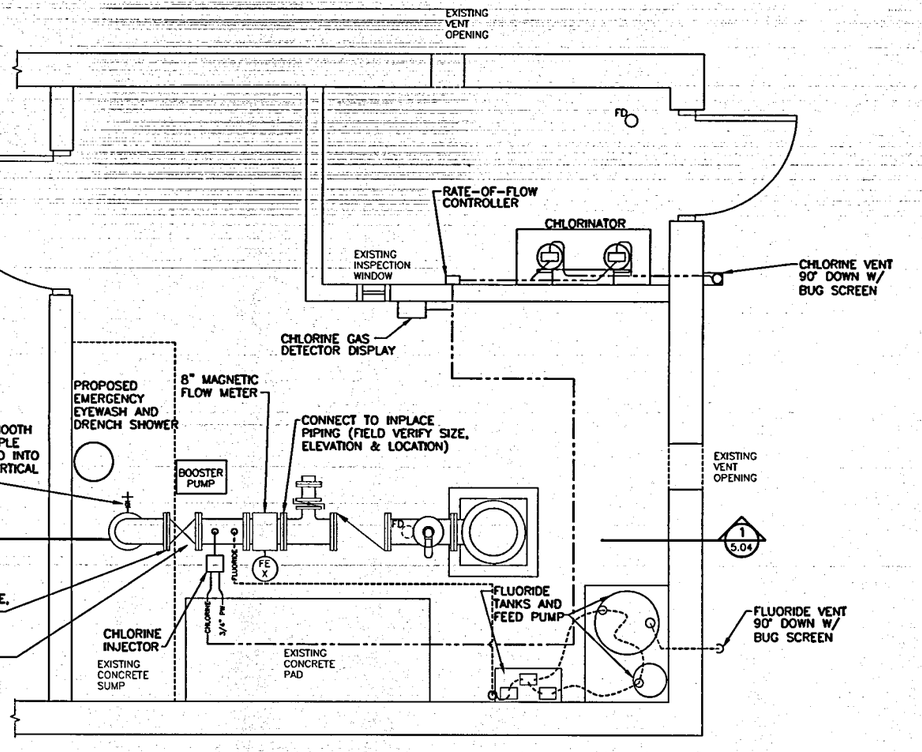
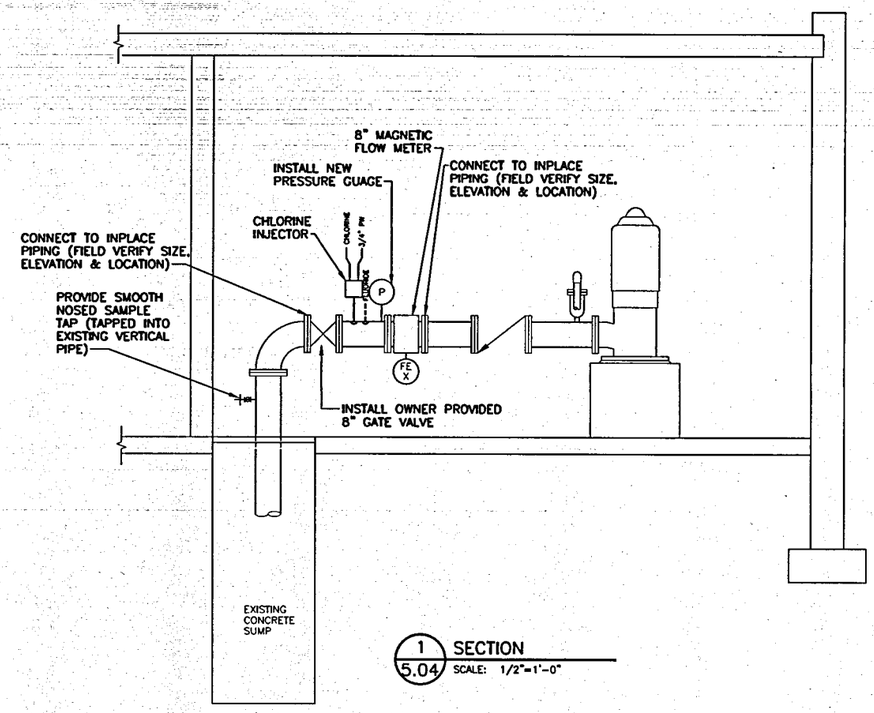
REV.	BY	DATE
A	TMJ	10-7-16
B	TMJ	2-1-17
O	TMJ	2-17-17

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #4 – POWERPLANT
EXISTING PLAN AND SECTION W/ DEMOLITION

SHEET
5.03



PLAN
SCALE: 1/2"=1'-0"



1 5.04 SECTION
SCALE: 1/2"=1'-0"

NOTE
1. NEW PIPING AND VALVES TO BE PROVIDED AND INSTALLED BY OWNER.
2. INSTALL CHEMICAL FEED TAPS AT 45° ANGLE IN BOTTOM HALF OF PIPE AS SHOWN ON 5.11
3. ALL WORK SHALL BE IN ACCORDANCE WITH 2007 EDITION OF 10-STATES STANDARDS

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

Graphic Scale for 1/2"=1'-0"

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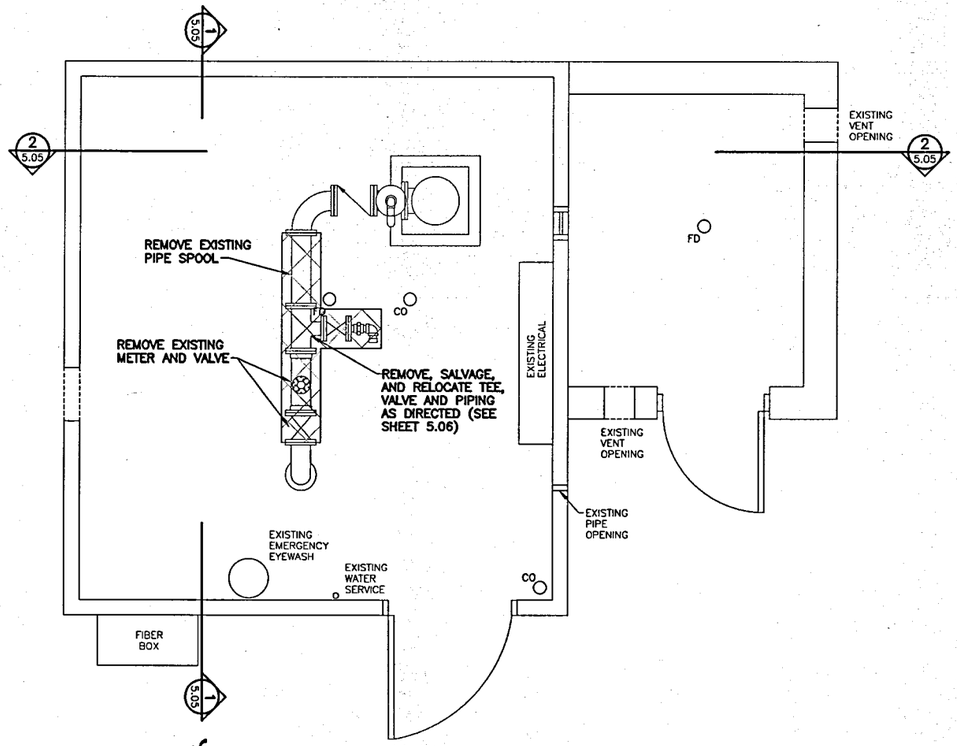
REV.	BY	DATE
A	TMJ	10-7-16
B	TMJ	2-1-17
0	TMJ	2-17-17
1	TMJ	3-28-17
2	TMJ	6-26-17

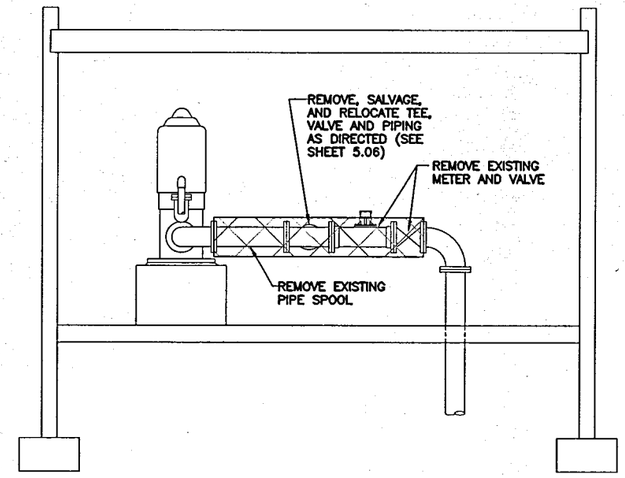
INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #4 - POWERPLANT
PROPOSED MODIFICATIONS PLAN AND SECTION

SHEET 5.04

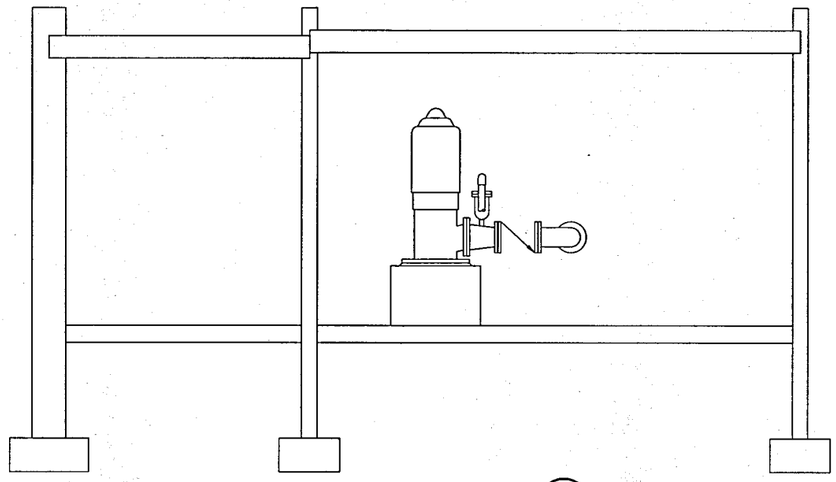


PLAN
SCALE: 1/2"=1'-0"

NOTE:
1. REMOVE ALL UNUSED CHEMICAL FEED EQUIPMENT, PUMPS, TANKS, PIPING AND TUBING (FIELD VERIFY LOCATION AND ELEVATION).



1/5.05 SECTION
SCALE: 1/2"=1'-0"



2/5.05 SECTION
SCALE: 1/2"=1'-0"

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Graphic Scale for 1/2"=1'-0"

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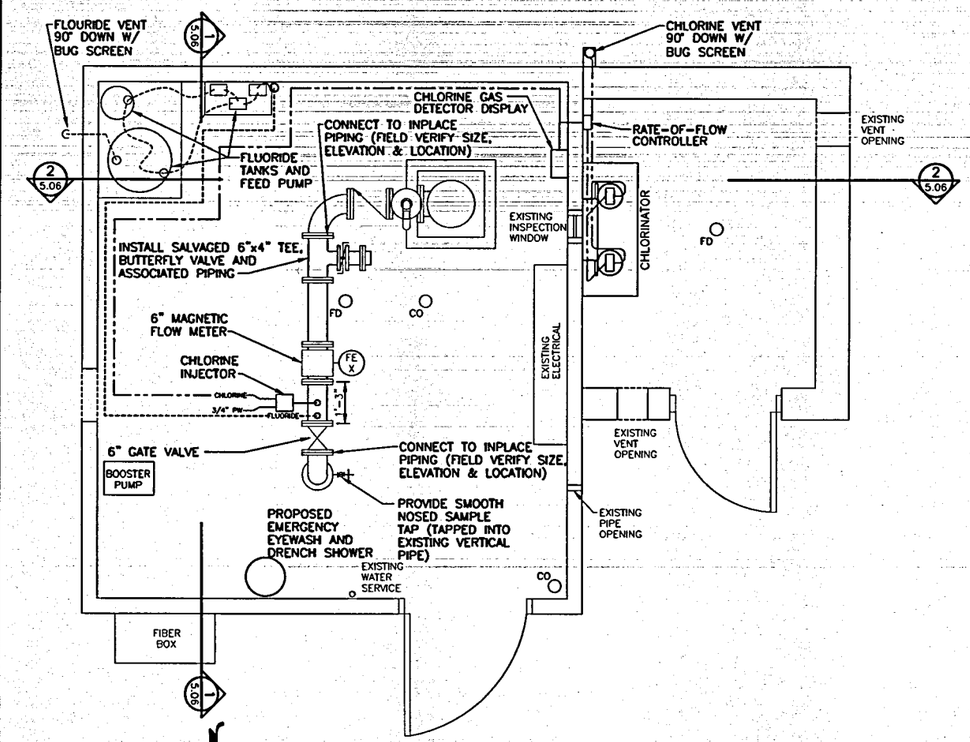
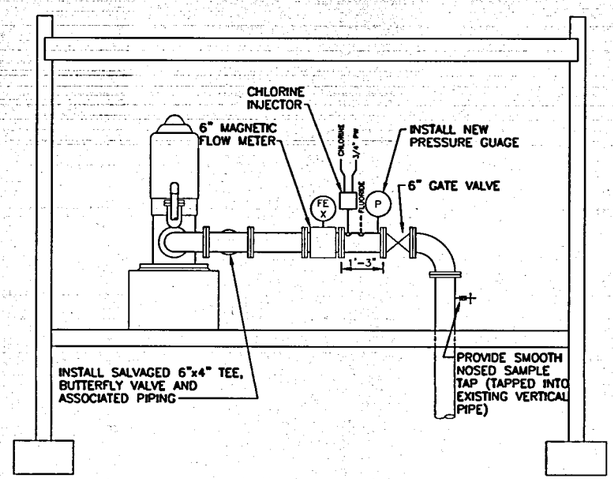
REV.	BY	DATE
A	TMJ	10-7-16
B	TMJ	2-1-17
0	TMJ	2-17-17

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #6 – SOUTHWEST PARK
EXISTING PLAN AND SECTION W/ DEMOLITION

SHEET 5.05

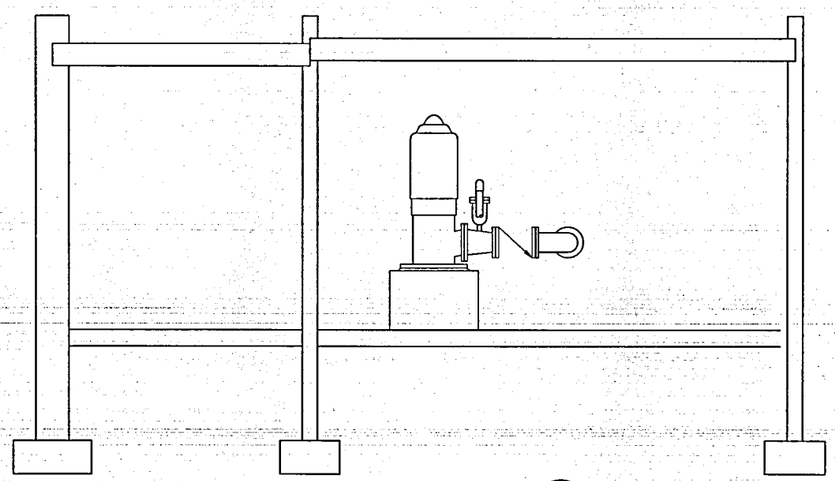


PLAN
SCALE: 1/2"=1'-0"



1 5.06 SECTION
SCALE: 1/2"=1'-0"

NOTE
1. NEW PIPING AND VALVES TO BE PROVIDED AND INSTALLED BY OWNER.
2. INSTALL CHEMICAL FEED TAPS AT 45° ANGLE IN BOTTOM HALF OF PIPE AS SHOWN ON 5.11
3. ALL WORK SHALL BE IN ACCORDANCE WITH 2007 EDITION OF 10-STATES STANDARDS



2 5.06 SECTION
SCALE: 1/2"=1'-0"

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Graphic Scale for 1/2"=1'-0"

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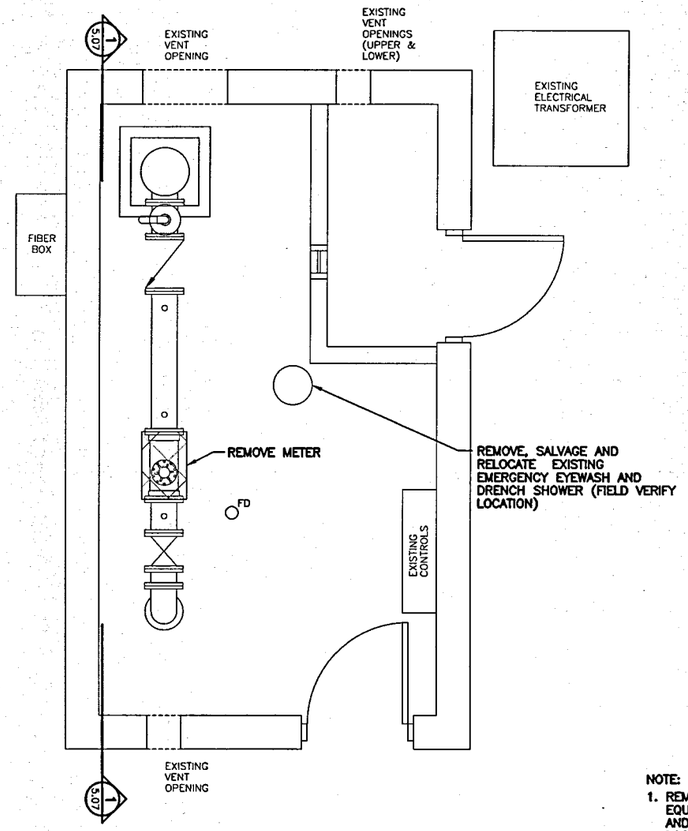
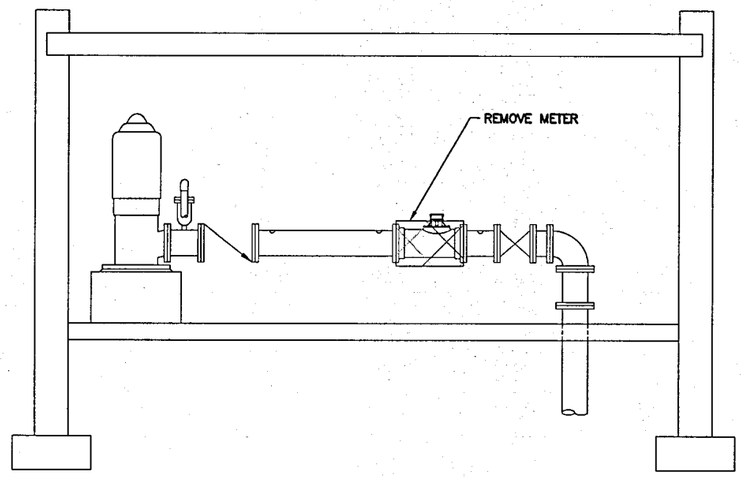
REV.	BY	DATE
A	TMJ	10-7-16
B	TMJ	2-1-17
0	TMJ	2-17-17
1	TMJ	3-28-17
2	TMJ	6-26-17

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #6 - SOUTHWEST PARK
PROPOSED MODIFICATIONS PLAN AND SECTION

SHEET 5.06



PLAN
SCALE: 1/2"=1'-0"



1/5.07 SECTION
SCALE: 1/2"=1'-0"

NOTE:
1. REMOVE ALL UNUSED CHEMICAL FEED EQUIPMENT, PUMPS, TANKS, PIPING AND TUBING (FIELD VERIFY LOCATION AND ELEVATION).

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Graphic Scale for 1/2"=1'-0"

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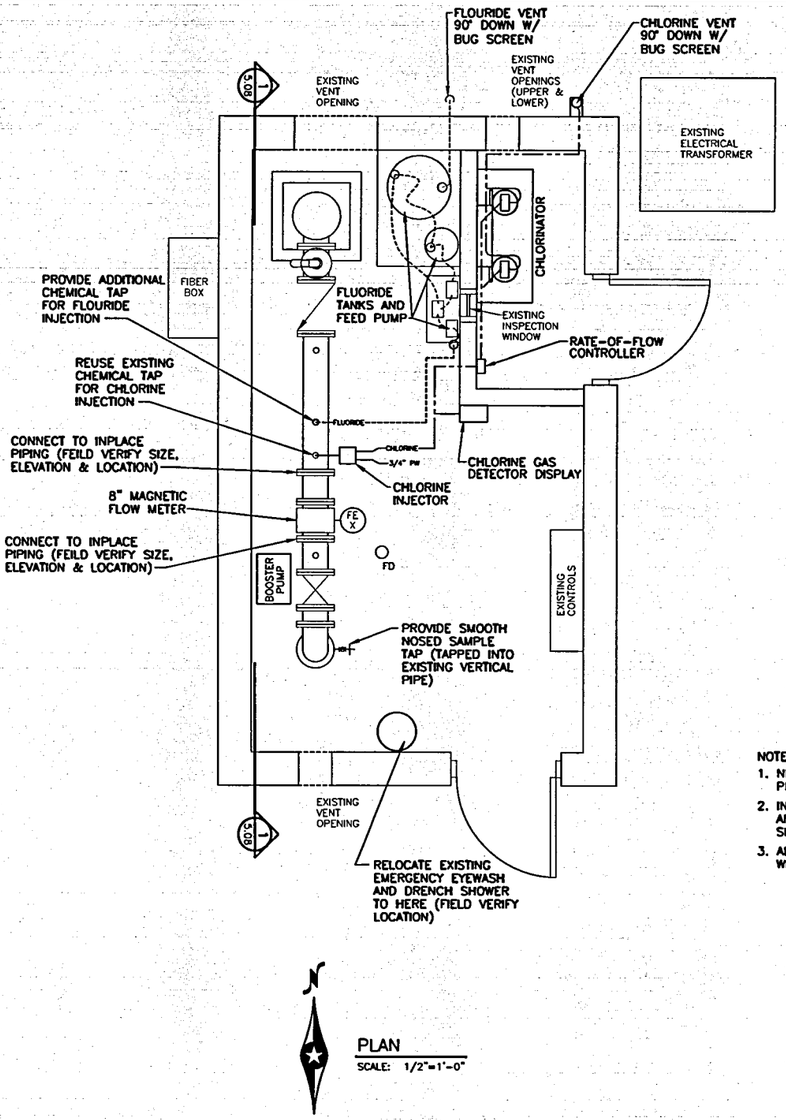
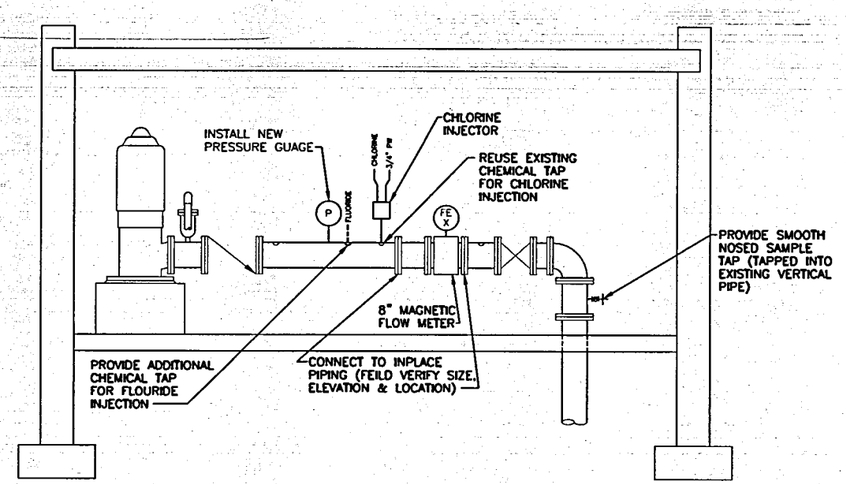
A	TMJ	10-7-16
B	TMJ	2-1-17
0	TMJ	2-17-17

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #7 – 5th WARD PARK
EXISTING PLAN AND SECTION W/ DEMOLITION

SHEET 5.07



PLAN
SCALE: 1/2"=1'-0"



1 / 5.08 SECTION
SCALE: 1/2"=1'-0"

NOTE
1. NEW PIPING AND VALVES TO BE PROVIDED AND INSTALLED BY OWNER.
2. INSTALL CHEMICAL FEED TAPS AT 45° ANGLE IN BOTTOM HALF OF PIPE AS SHOWN ON 5.11
3. ALL WORK SHALL BE IN ACCORDANCE WITH 2007 EDITION OF 10-STATES STANDARDS

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

Graphic Scale for 1/2"=1'-0"

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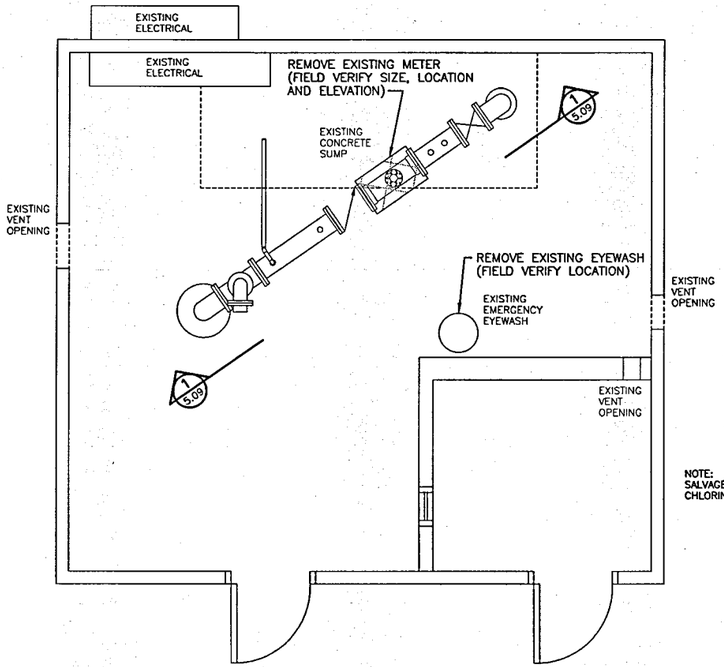
REV.	BY	DATE
A	TMJ	10-7-16
B	TMJ	2-1-17
0	TMJ	2-17-17
1	TMJ	3-28-17
2	TMJ	6-26-17

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #7 - 5th WARD PARK
PROPOSED MODIFICATIONS PLAN AND SECTION

SHEET 5.08



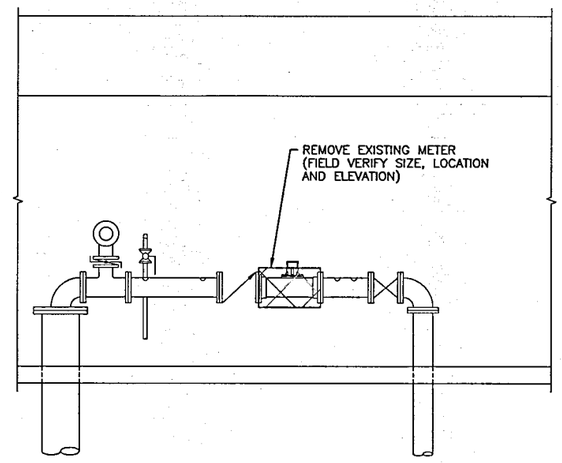
NOTE:
SALVAGE AND REUSE CHLORINE SCALE.

EXISTING ELECTRICAL TRANSFORMER

NOTE:
1. REMOVE ALL UNUSED CHEMICAL FEED EQUIPMENT, PUMPS, TANKS, PIPING AND TUBING (FIELD VERIFY LOCATION AND ELEVATION). EXCEPT FOR SCALE IN CHLORINE ROOM, WHICH IS TO BE SALVAGED AND REUSED.

N

PLAN
SCALE: 1/2"=1'-0"



1 5.09 SECTION
SCALE: 1/2"=1'-0"

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0 1 2 3 4 6
Graphic Scale for 1/2"=1'-0"

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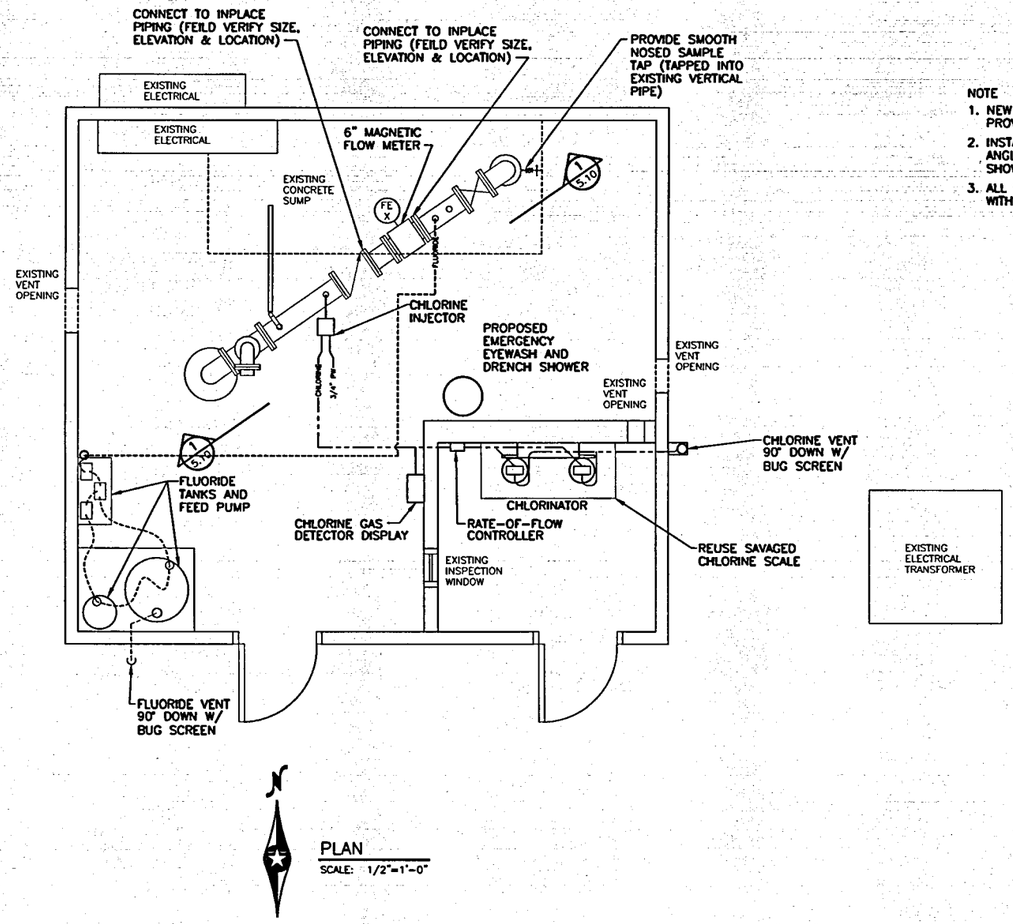
REV.	BY	DATE
A	TMJ	10-7-16
B	TMJ	2-1-17
0	TMJ	2-17-17

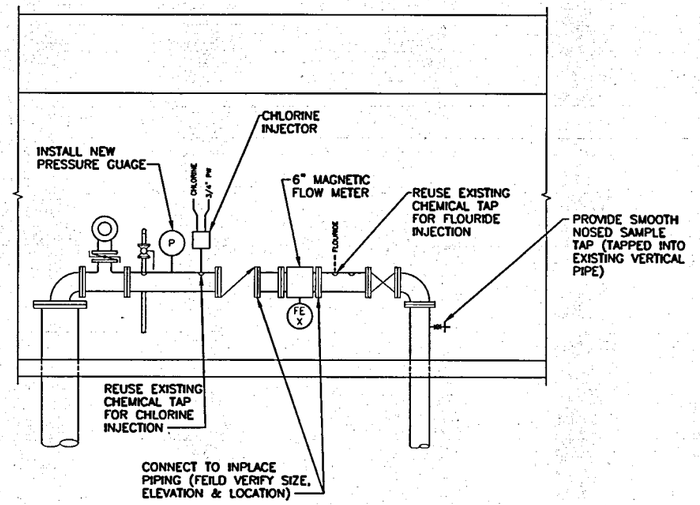
INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #8 – MHI
EXISTING PLAN AND SECTION W/ DEMOLITION

SHEET 5.09



PLAN
SCALE: 1/2"=1'-0"

NOTE
1. NEW PIPING AND VALVES TO BE PROVIDED AND INSTALLED BY OWNER.
2. INSTALL CHEMICAL FEED TAPS AT 45° ANGLE IN BOTTOM HALF OF PIPE AS SHOWN ON 5.11
3. ALL WORK SHALL BE IN ACCORDANCE WITH 2007 EDITION OF 10-STATES STANDARDS



1/5.10 SECTION
SCALE: 1/2"=1'-0"

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Graphic Scale for 1/2"=1'-0"

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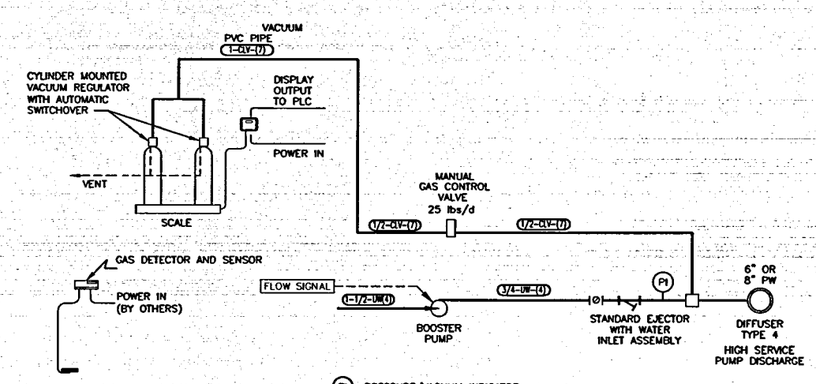
REV.	BY	DATE
A	TMJ	10-7-16
B	TMJ	2-1-17
0	TMJ	2-17-17
1	TMJ	3-28-17
2	TMJ	6-26-17

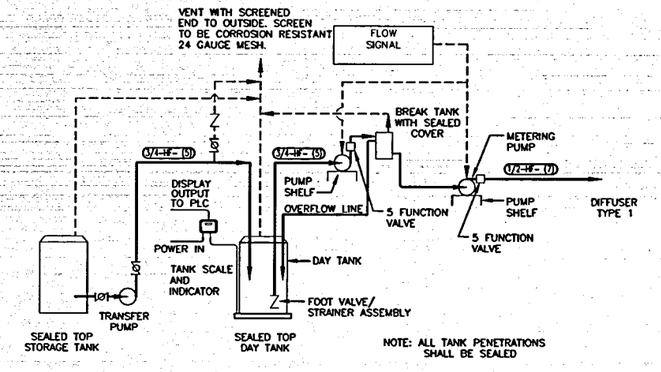
INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #8 - MH1
PROPOSED MODIFICATIONS PLAN AND SECTION

SHEET 5.10



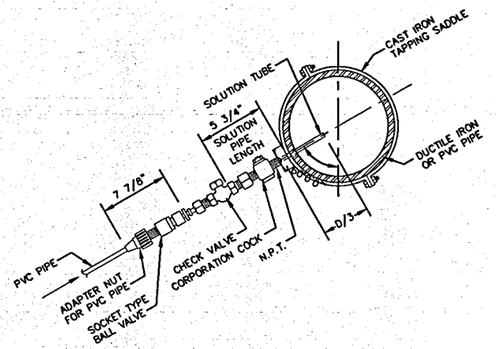
CHLORINE FEED SYSTEM

NO SCALE



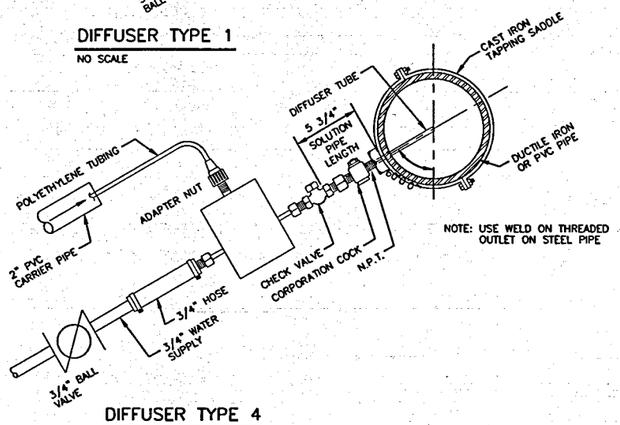
FLUORIDE FEED SYSTEM

NO SCALE



DIFFUSER TYPE 1

NO SCALE



DIFFUSER TYPE 4

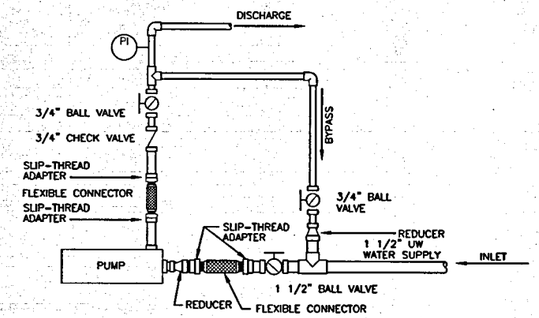
NO SCALE

PIPE DESIGN LEGEND

(4) Copper, ASTM B88
Buried Service – Type K, Soft Temper Exposed Service – Type L, Hard Temper

(5) Polyvinyl Chloride, Schedule 80, Normal Impact ASTM D1785

(7) Teflon PTFE Tubing
Vacuum Rated, Installed 3" Schedule 80 PVC Pipe



BOOSTER PUMP DETAIL

NO SCALE

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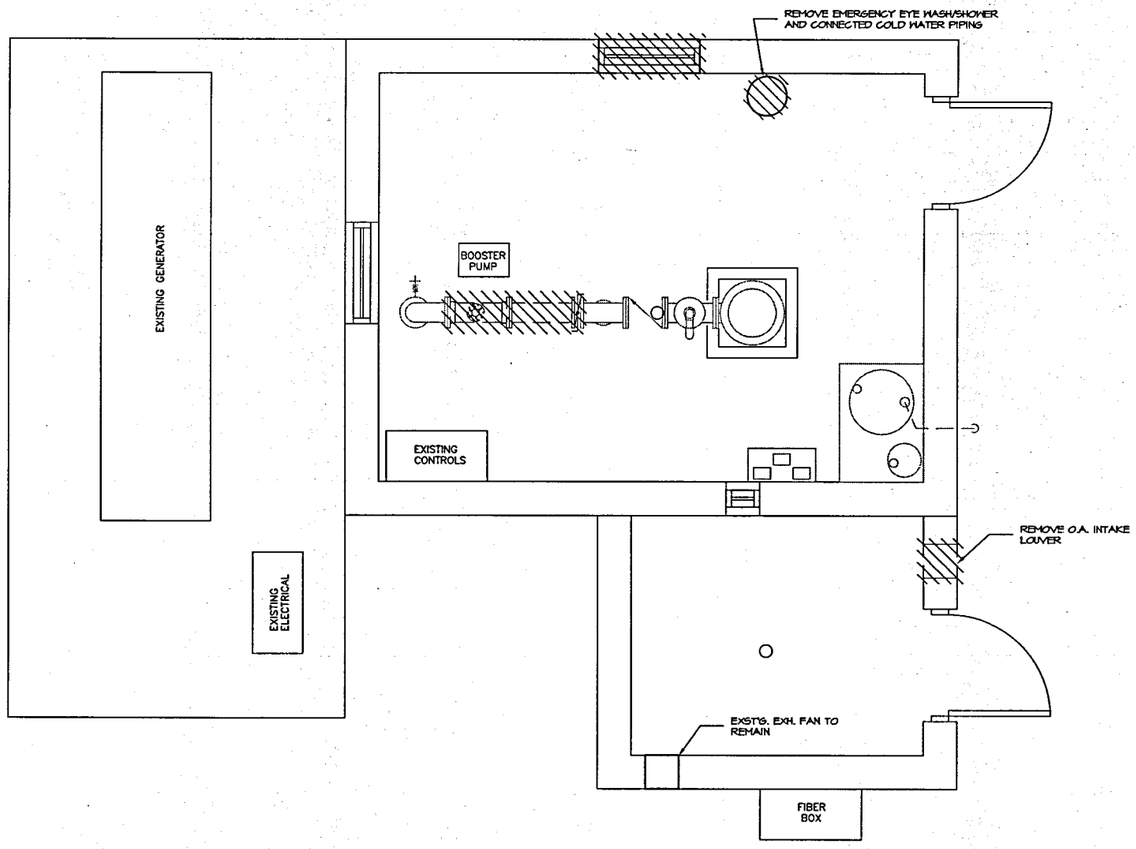
A	TMJ	10-7-16
B	TMJ	2-1-17
0	TMJ	2-17-17
1	TMJ	6-26-17

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
CHEMICAL FEED DETAILS

SHEET 5.11

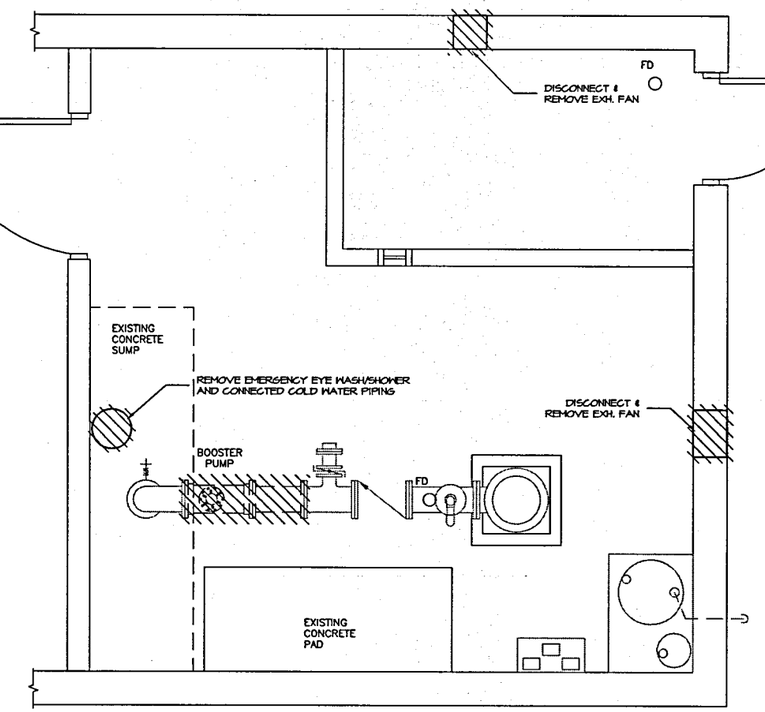


N

FLOOR PLAN - WELLHOUSE #3 - H.V.A.C. DUCTWORK & PLUMBING DEMO.

SCALE: 1/2" = 1'-0"

0' 1' 2' 4'
GRAPH SCALE



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FLOOR PLAN - WELLHOUSE #4 - H.V.A.C. DUCTWORK & PLUMBING DEMO.

SCALE: 1/2" = 1'-0"

0' 1' 2' 4'
GRAPH SCALE

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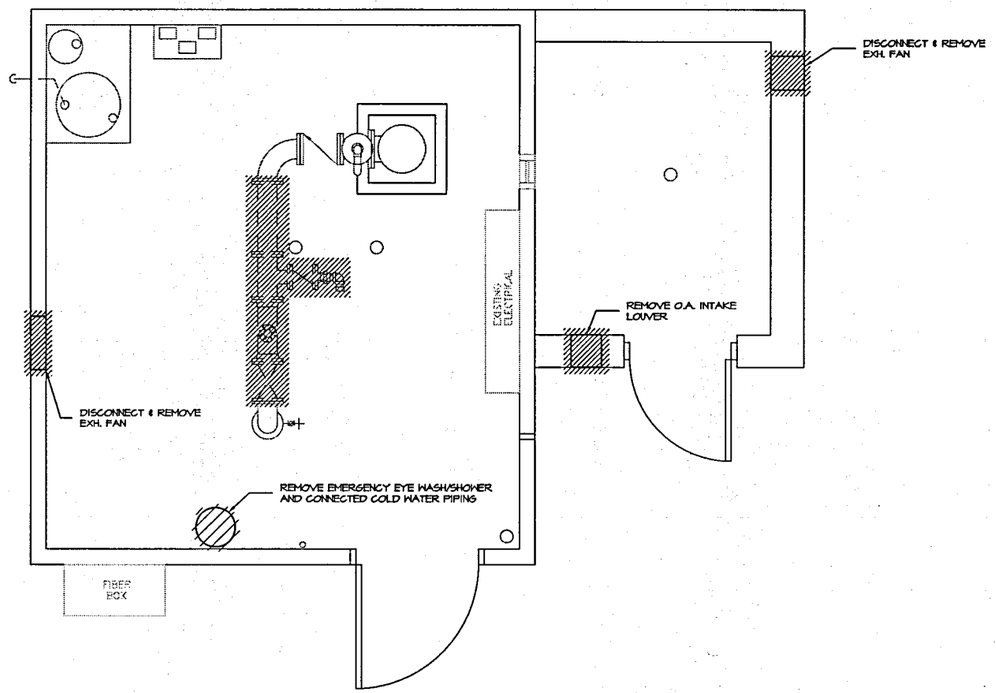
INDEPENDENCE WELLHOUSE REHABILITATION
H.V.A.C. & PLUMBING DEMO PLANS
WELLHOUSE #3 & #4

SHEET 6.01



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FLOOR PLAN - WELLHOUSE #6 - H.V.A.C. DUCTWORK & PLUMBING DEMO.

SCALE: 1/2" = 1'-0"

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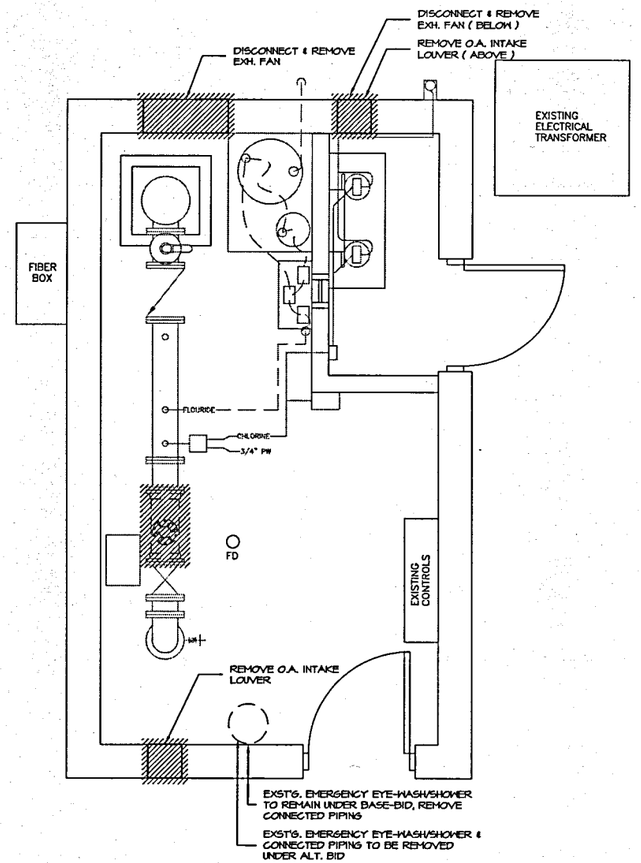
GRAPH SCALE



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FLOOR PLAN - WELLHOUSE #7 - H.V.A.C. DUCTWORK & PLUMBING DEMO.

SCALE: 1/2" = 1'-0"

0' 1' 2' 4'
GRAPH SCALE

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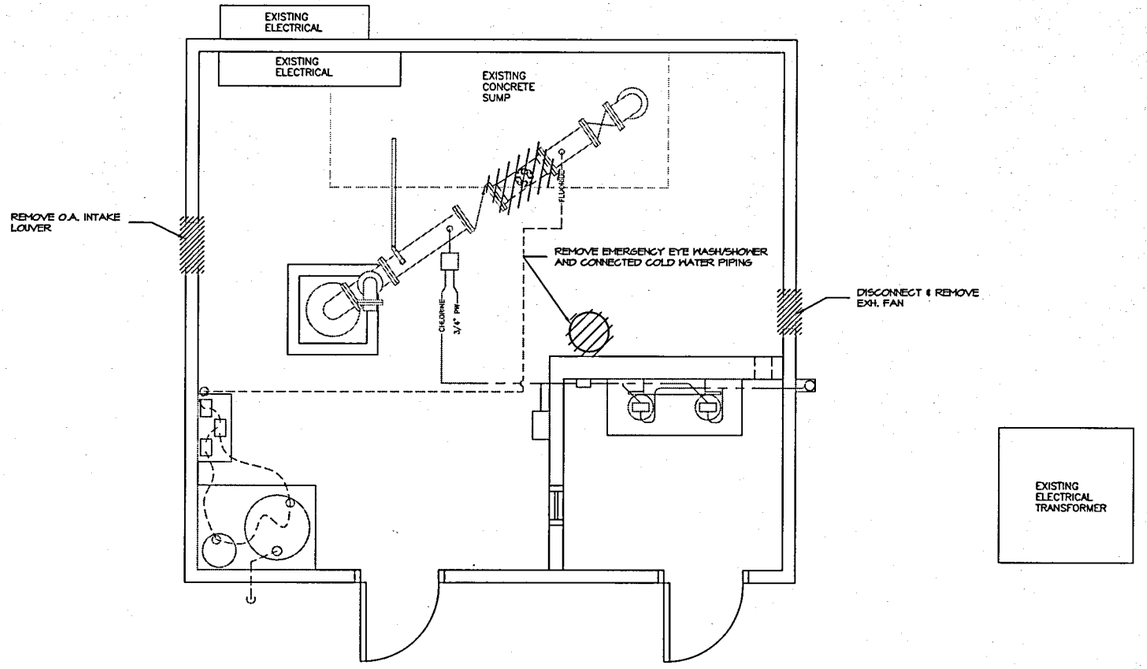
H.V.A.C. & PLUMBING DEMO PLANS. WELLHOUSE #6 & #7

SHEET 6.02



N

FLOOR PLAN - WELLHOUSE #8 - H.V.A.C. DUCTWORK & PLUMBING DEMO.

SCALE: 1/2" = 1'-0"

0' 1' 2' 4'
GRAPH SCALE

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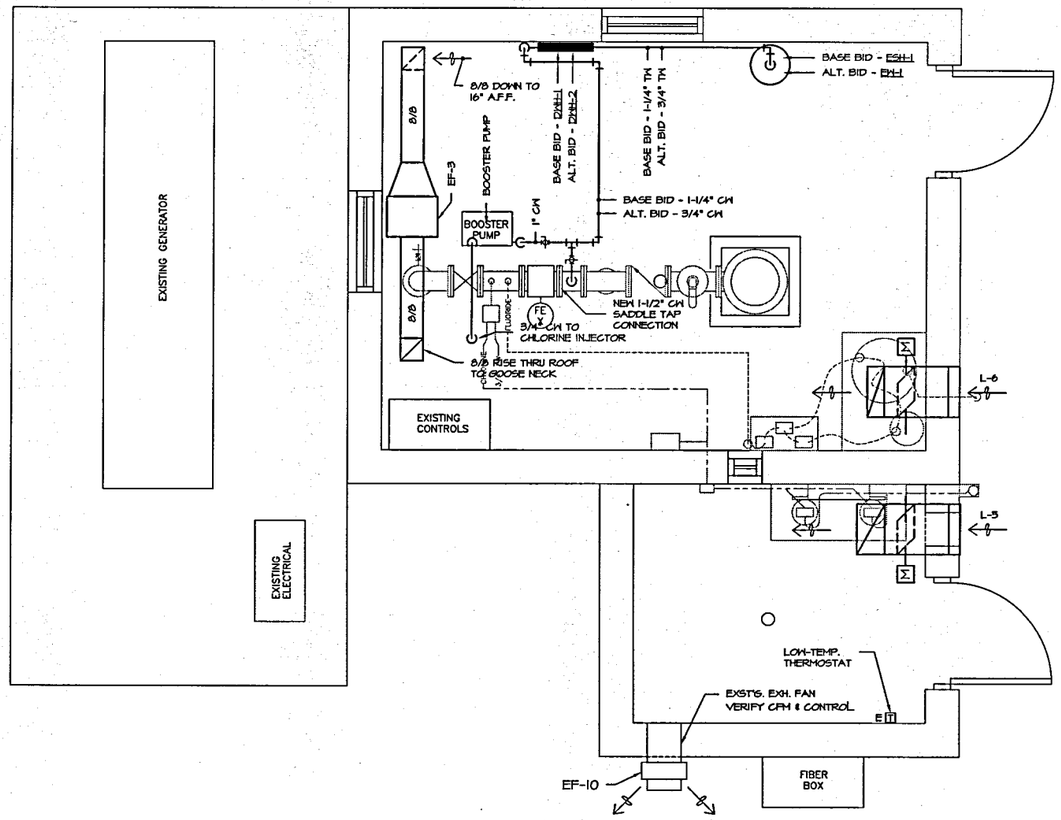
INDEPENDENCE WELLHOUSE REHABILITATION
H.V.A.C. & PLUMBING DEMO PLANS
WELLHOUSE #8

SHEET 6.03



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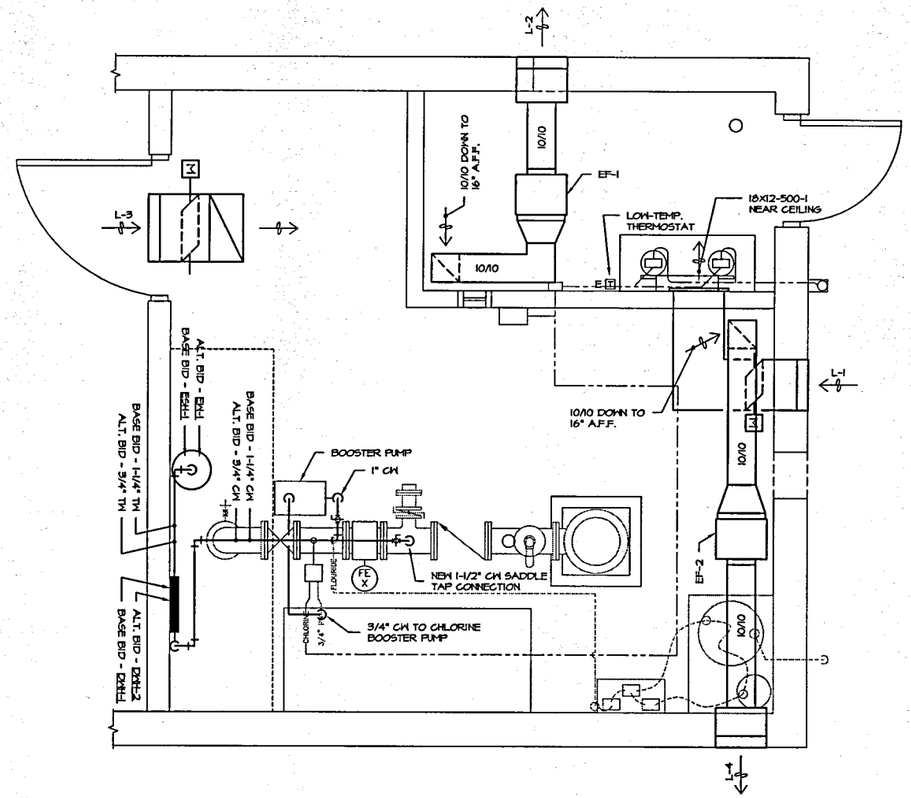
FLOOR PLAN - WELLHOUSE #3 - H.V.A.C. DUCTWORK & PLUMBING

SCALE: 1/2" = 1'-0"

GRAPH SCALE 0' 1' 2' 4'



N

FLOOR PLAN - WELLHOUSE #4 - H.V.A.C. DUCTWORK & PLUMBING

SCALE: 1/2" = 1'-0"

GRAPH SCALE 0' 1' 2' 4'

GRILLE, REGISTER & DIFFUSER SCHEDULE

UNIT #	E.H. PRICE MODEL #	DUTY	VOLUME CONTROL	MATERIAL	FINISH	REMARKS
1	630	SURFACE MOUNT O.A. GRILLE	NONE	ALUMINUM	MILL	LOUVERED RETURN W/ 45° HORIZ. VANES @ 3/4" O.C. & VERT. MULLIONS @ 6" O.C.

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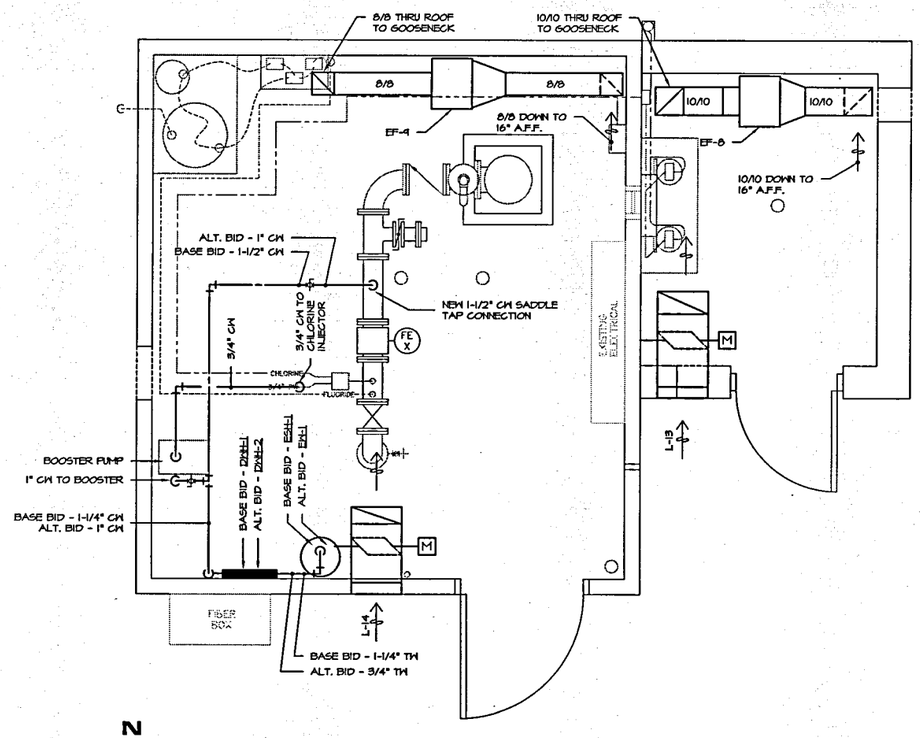
WELLHOUSE #3 & #4

SHEET 6.04

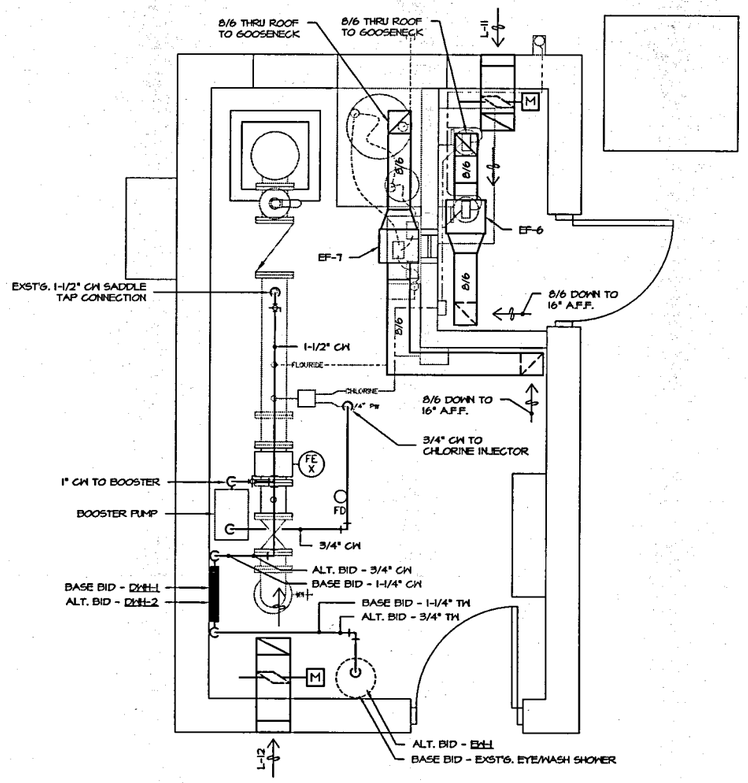


N

FLOOR PLAN - WELLHOUSE #6 - H.V.A.C. DUCTWORK & PLUMBING

SCALE: 1/2" = 1'-0"

GRAPH SCALE 0' 1' 2' 4'



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FLOOR PLAN - WELLHOUSE #7 - H.V.A.C. DUCTWORK & PLUMBING

SCALE: 1/2" = 1'-0"

GRAPH SCALE 0' 1' 2' 4'

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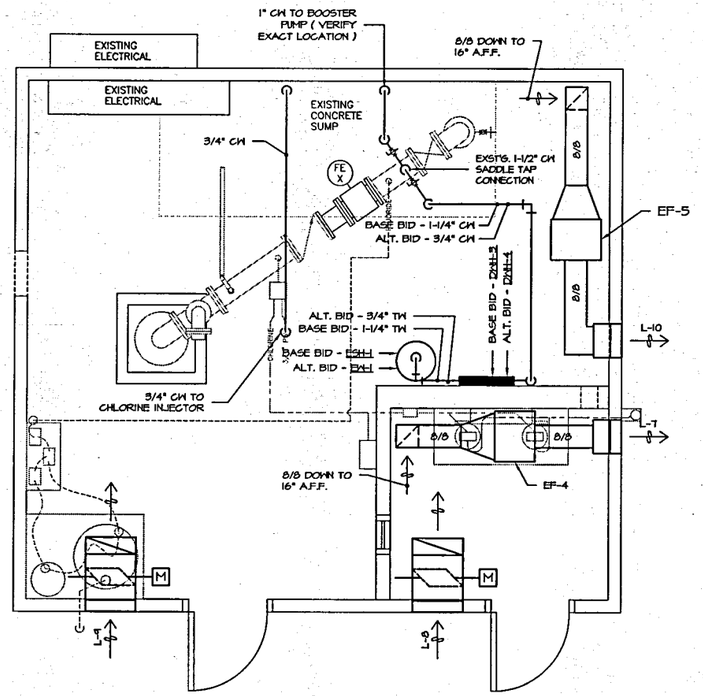
H.V.A.C. & PLUMBING PLANS
WELLHOUSE #6 & #7

SHEET 6.05



EXISTING ELECTRICAL TRANSFORMER

N

FLOOR PLAN - WELLHOUSE #8 - H.V.A.C. DUCTWORK & PLUMBING

SCALE: 1/2" = 1'-0"

0' 1' 2' 4'
GRAPH SCALE

WALL LOUVERS

UNIT #	* DOWCO, GREENHECK, CESCO MODEL #	DUTY	CFM	WIDTH	HEIGHT	DEPTH	FRAME	BLADE	REMARKS
WL-1	DBE-04	WELLHOUSE #4 CHLORINE ROOM INTAKE	500	18	18	4	ALUMINUM	45° DRAINABLE	8'-1" A.F.F. TO BOTTOM OF LOUVER
WL-2	DBE-04	WELLHOUSE #4 CHLORINE ROOM EXH.	500	18	18	4	ALUMINUM	45° DRAINABLE	8'-1" A.F.F. TO BOTTOM OF LOUVER
WL-3	DBE-04	WELLHOUSE #4 PUMP ROOM INTAKE	500	24	12	4	ALUMINUM	45° DRAINABLE	9'-1" A.F.F. TO BOTTOM OF LOUVER
WL-4	DBE-04	WELLHOUSE #4 PUMP ROOM EXH.	500	18	12	4	ALUMINUM	45° DRAINABLE	9'-1" A.F.F. TO BOTTOM OF LOUVER
WL-5	DBE-04	WELLHOUSE #3 CHLORINE ROOM INTAKE	575	18	18	4	ALUMINUM	45° DRAINABLE	6'-4" A.F.F. TO BOTTOM OF LOUVER
WL-6	DBE-04	WELLHOUSE #3 PUMP ROOM INTAKE	300	18	12	4	ALUMINUM	45° DRAINABLE	9'-10" A.F.F. TO BOTTOM OF LOUVER
WL-7	DBE-04	WELLHOUSE #3 CHLORINE ROOM EXH.	300	12	12	4	ALUMINUM	45° DRAINABLE	5'-8" A.F.F. TO BOTTOM OF LOUVER
WL-8	DBE-04	WELLHOUSE #3 CHLORINE ROOM INTAKE	300	18	12	4	ALUMINUM	45° DRAINABLE	5'-8" A.F.F. TO BOTTOM OF LOUVER
WL-9	DBE-04	WELLHOUSE #3 PUMP ROOM INTAKE	300	18	12	4	ALUMINUM	45° DRAINABLE	5'-8" A.F.F. TO BOTTOM OF LOUVER
WL-10	DBE-04	WELLHOUSE #3 PUMP ROOM EXH.	300	12	12	4	ALUMINUM	45° DRAINABLE	5'-8" A.F.F. TO BOTTOM OF LOUVER
WL-11	DBE-04	WELLHOUSE #7 CHLORINE ROOM INTAKE	200	12	12	4	ALUMINUM	45° DRAINABLE	5'-1" A.F.F. TO BOTTOM OF LOUVER
WL-12	DBE-04	WELLHOUSE #7 PUMP ROOM INTAKE	200	12	12	4	ALUMINUM	45° DRAINABLE	5'-1" A.F.F. TO BOTTOM OF LOUVER
WL-13	DBE-04	WELLHOUSE #6 CHLORINE ROOM INTAKE	500	18	18	4	ALUMINUM	45° DRAINABLE	5'-1" A.F.F. TO BOTTOM OF LOUVER
WL-14	DBE-04	WELLHOUSE #6 PUMP ROOM INTAKE	300	18	12	4	ALUMINUM	45° DRAINABLE	5'-1" A.F.F. TO BOTTOM OF LOUVER

* OR APPROVED EQUAL, PERFORMANCE BASED ON DOWCO

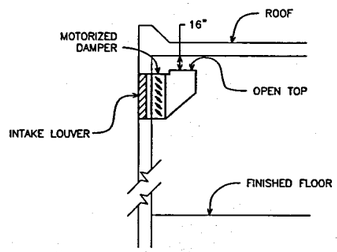
EXHAUST FAN SCHEDULE

UNIT #	SERVES	GREENHECK MODEL #	CFM	S.P.	WATTS	O.V.	VOLT & PHASE	RPM	SONES	CONTROL	REMARKS
EF-1	WELLHOUSE #4 CHLORINE ROOM	CSP-A710	526	3/8"	325	820	120 V. 1Ø	1080	2.7	BY DIV. 16	(1) INTERLOCK W/ M.O. DAMPER @ O.A. LOUVER
EF-2	WELLHOUSE #4 PUMP ROOM	CSP-A710	526	3/8"	325	820	120 V. 1Ø	1080	2.7	BY DIV. 16	(1) INTERLOCK W/ M.O. DAMPER @ O.A. LOUVER
EF-3	WELLHOUSE #3 PUMP ROOM	CSP-A410	316	3/8"	134	718	120 V. 1Ø	1000	2.7	BY DIV. 16	(1) INTERLOCK W/ M.O. DAMPER @ O.A. LOUVER
EF-4	WELLHOUSE #8 CHLORINE ROOM	CSP-A410	316	3/8"	134	718	120 V. 1Ø	1000	2.7	BY DIV. 16	(1) INTERLOCK W/ M.O. DAMPER @ O.A. LOUVER
EF-5	WELLHOUSE #8 PUMP ROOM	CSP-A410	316	3/8"	134	718	120 V. 1Ø	1000	2.7	BY DIV. 16	(1) INTERLOCK W/ M.O. DAMPER @ O.A. LOUVER
EF-6	WELLHOUSE #7 CHLORINE ROOM	CSP-A250	205	3/8"	83	621	120 V. 1Ø	1000	3.3	BY DIV. 16	(1) INTERLOCK W/ M.O. DAMPER @ O.A. LOUVER
EF-7	WELLHOUSE #7 PUMP ROOM	CSP-A250	205	3/8"	83	621	120 V. 1Ø	1000	3.3	BY DIV. 16	(1) INTERLOCK W/ M.O. DAMPER @ O.A. LOUVER
EF-8	WELLHOUSE #6 CHLORINE ROOM	CSP-A710	500	3/8"	325	724	120 V. 1Ø	1080	2.7	BY DIV. 16	(1) INTERLOCK W/ M.O. DAMPER @ O.A. LOUVER
EF-9	WELLHOUSE #6 PUMP ROOM	CSP-A410	300	3/8"	134	681	120 V. 1Ø	1000	2.7	BY DIV. 16	(1) INTERLOCK W/ M.O. DAMPER @ O.A. LOUVER
EF-10	WELLHOUSE #3 CHLORINE ROOM	EXSTG.	575	3/8"	-	-	-	-	-	BY DIV. 16	INTERLOCK W/ M.O. DAMPER @ O.A. LOUVER

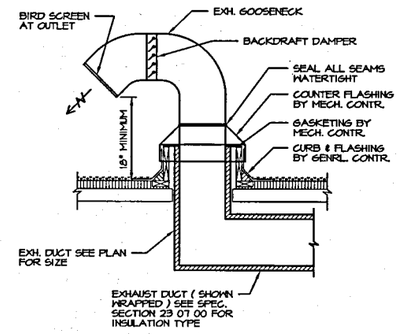
(1) SPEED CONTROL IN HOUSING

TANKLESS ELECTRIC WATER HEATER SCHEDULE

UNIT #	LOCATION	HUBBELL	KW	VOLTAGE	MAX AMPS	GPM	TEMP. RISE	STORAGE CAPACITY	REMARKS
DWH-1	WELL HOUSE	ETX054-6T4	54	460 VOLT 3 PHASE	65	18.42	20° F	0	PRESET MAX. TEMP. OF 84 DEGREES FAHRENHEIT - DESIGNED FOR EMERGENCY SHOWER & FACE WASH
DWH-2	WELL HOUSE (ALTERNATE)	ETX018-3T4	18	480 VOLT 3 PHASE	33	6.14	20° F	0	PRESET MAX. TEMP. OF 84 DEGREES FAHRENHEIT - DESIGNED FOR EMERGENCY EYE WASH
DWH-3	WELL HOUSE # 8	ETX048-_R	48	208 VOLT 3 PHASE	133	16.38	20° F	0	PRESET MAX. TEMP OF 84 DEGREES FAHRENHEIT - DESIGNED FOR EMERGENCY SHOWER & FACE WASH
DWH-4	WELL HOUSE # 8 (ALTERNATE)	ETX018-3R	18	208 VOLT 3 PHASE	50	6.14	20° F	0	PRESET MAX. TEMP. OF 84 DEGREES FAHRENHEIT - DESIGNED FOR EMERGENCY EYE WASH



1 / 6.06 AIR INTAKE DETAIL
NOT TO SCALE



2 / 6.06 EXHAUST GOOSENECK
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INDEPENDENCE WELLHOUSE REHABILITATION
H.V.A.C. & PLUMBING PLANS WELLHOUSE #8

SHEET 6.06

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LUMINAIRE & DEVICE LEGEND

LETTER DESIGNATES FIXTURE TYPE. SEE FIXTURE SCHEDULE

NUMBER DESIGNATES BRANCH CIRCUIT

WALL MOUNTED LUMINIARE. 'DD' INDICATES DUSK-TO-DAWN, 'NS' INDICATES NIGHT-SETBACK.

POLE MOUNTED LUMINAIRE, WITH WP GFI OUTLET.

GROUND-MOUNTED BUILDING SIGN FLOODLIGHT.

GROUND-MOUNTED LANDSCAPE LIGHTING.

LUMINAIRE.

LUMINAIRE.

EMERGENCY FIXTURE. AIM FOR MAXIMUM COVERAGE OF EGRESS PATHS.

HAZARDOUS LOCATION FIXTURE, WITH RATING PER LIGHT FIXTURE SCHEDULE.

STANCHION MOUNTED LUMINAIRE.

COMBINATION EXIT WITH HEADS. ARROWS, IF ANY, INDICATE CHEVRON ARROWS WHERE REQUIRED. AIM HEADS FOR MAXIMUM COVERAGE OF EGRESS PATHS.

SWITCH WITH NO MARKING IS SINGLE POLE, 2P=DOUBLE POLE, 3 IS 3way, 4=4way, M=MOTOR RATED DISC SW. SMALL LETTER INDICATES SWITCH LEG.

TELEPHONE/DATA OUTLET (OR PROVISION). V=VOICE LINE, D=DATA. 4"x 4" DEEP BOX W/ SINGLE GANG MUD RING & 1" CONDUIT TO DESTINATION.

DUPLEX CONVENIENCE RECEPTACLE. NUMERAL INDICATES BRANCH CIRCUIT, INCHES ABOVE FLOOR IF OTHER THAN PER SPECIFICATION. TEXT INDICATES SPECIAL CONDITIONS: WP=WEATHERPROOF, GFI=GROUND FAULT INTERRUPTER, EP=EXPLOSIONPROOF, ISO=ISOLATED GROUND. TYPICAL.

DOUBLE DUPLEX CONVENIENCE RECEPTACLE.

SURFACE OR WALL JUNCTION BOX.

SURFACE OR WALL THERMOSTAT.

SPECIAL PURPOSE RECEPTACLE. NEMA CONFIGURATION DEVICE AND HOMERUN SIZE WHERE INDICATED.

MOTOR, PROVIDE DISCONNECT AS INDICATED. MD=MOTORIZED DAMPER.

EQUIPMENT CONNECTION, AS NOTED ON DRAWINGS

DISCONNECT SWITCH IN NEMA ENCLOSURE

COMBINATION STARTER IN NEMA ENCLOSURE

STRUT MOUNTING STAND, SHOWN W/ DISC AND CONTROL STATION. SEE TYPICAL MOUNTING DETAIL.

ELECTRICAL PANEL. SEE PANEL SCHEDULE.

CIRCUITRY - EXPOSED, SURFACE MOUNTED

CIRCUITRY - BELOW GRADE OR UNDERFLOOR

CIRCUITRY - CONCEALED IN WALLS OR CEILING

SOLID SLASHES INDICATE NUMBER OF #12 AWG WIRES IN CONDUIT. i INDICATES AN INSULATED GROUND CONDUCTOR, 'N' INDICATES OVERSIZED NEUTRAL CONDUCTOR (#10AWG).

SCHEMATIC SYMBOLS

PRESS TO TEST LAMP-LETTER DENOTES COLOR

SELECTOR SWITCH

TORQUE SWITCH - NC, NO

SHEAR PIN SWITCH - NC, NO

CIRCUIT BREAKER

MAGNETIC TRIP

THERMAL TRIP

RUNNING TIME METER

CONTACT - NC, NO

OPERATING COIL, LETTER OR NUMBER DENOTES DEVICE

PLUG AND RECEPTACLE

PUSHBUTTON CONTACT - NC, NO

PUSHBUTTON SWITCH, MUSHROOM HEAD - NC, NO

DOUBLE CIRCUIT PUSHBUTTON SWITCH

MAINTAINED CONTACT PUSHBUTTON SWITCH

ENERGIZED TIMER CONTROL - NC, NO

DE-ENERGIZED TIMER CONTROL - NC, NO

FLOW SWITCH - NC, NO

LIQUID LEVEL SWITCH - NC, NO

TEMPERATURE SWITCH - NC, NO

PRESSURE SWITCH - NC, NO

LIMIT SWITCH - NC, NO

FUSE

DISCONNECT SWITCH

FUSED SWITCH

GROUND CONNECTION

CHASSIS GROUND

INDICATING LIGHT - LETTER DENOTES COLOR

CONTROL TRANSFORMER

THERMAL OVERLOAD TRIP UNITS

STABS

DEVICE MOUNTED IN MOTOR CONTROL CENTER (MCC)

DEVICE MOUNTED IN FIELD

DEVICE MOUNTED IN CONTROL PANEL

ONE-LINE DIAGRAM SYMBOLS

AIR CIRCUIT BREAKER - DRAW OUT TYPE WITH OPERATING MECHANISM

DISCONNECT SWITCH

FUSED SWITCH

LIGHTNING ARRESTER - GENERAL

FUSE - NUMBER DENOTES RATING

GROUND CONNECTION

CONTROL OR INSTRUMENT SWITCH - LETTERS DENOTES FUNCTION

RELAY OR CONTROL DEVICE - NUMBER DENOTES FUNCTION, AMERICAN NATIONAL STANDARD (ANSI)

POTENTIAL TRANSFORMER - DRAW OUT TYPE WITH PRIMARY FUSES

CURRENT TRANSFORMER

CONTROL STATION

INSTRUMENT - LETTER DENOTES TYPE

INDICATING LIGHT - LETTER DENOTES COLOR

MOTOR - NUMBER DENOTES HORSEPOWER

MOTOR CIRCUIT PROTECTOR (MCP)

MOLDED CASE CIRCUIT BREAKER

CONTROL TRANSFORMER

RUNNING TIME METER

THERMAL OVERLOAD TRIP UNITS

STABS

POWER TRANSFORMER

SURGE CAPACITORS

POWER FACTOR CAPACITORS WITH FUSING AND INDICATING LIGHTS

RELAY WITH SHORTING CONTACTS

CIRCUIT LEGEND

NUMBER OF CABLES

QUANTITY OF CONDUCTORS PER CABLE

CONDUCTOR SIZE OR TYPE

CONDUIT SIZE & TYPE

2-1/C-#12-3/4" GRS

CIRCUIT DESIGNATOR

REFER TO CABLE & CONDUIT SCHEDULE(s)

C9999

NUMERALS INDICATE CIRCUIT NUMBER

'C' PREFIX INDICATES "CONDUIT"

LEADER ADDED FOR CLARITY WHEN SHOWN

ABBREVIATIONS

A	AMPERES
ACK	ACKNOWLEDGE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISH GRADE
AM	AMMETER
ANN	ANNUNCIATOR
AS	AMMETER SWITCH
AWG	AMERICAN WIRE GAGE
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT
CKT	CIRCUIT
℄	CENTER LINE
CO	CONVENIENCE OUTLET
CONN	CONNECTIONS
CONTR	CONTRACTOR
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CS	CONTROL STATION
CT	CURRENT TRANSFORMER
CU	COPPER
DE	DUAL ELEMENT
DISC	DISCONNECT
DP	DISTRIBUTION PANEL
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
EP	EXPLOSION PROOF
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
F & I	FURNISH AND INSTALL
FU	FUSE OR FUSIBLE
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL CONDUIT
HD	HEAVY DUTY
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HZ	HERTZ (CYCLES/SECOND)
IMC	INTERMEDIATE METAL CONDUIT
INCAND	INCANDESCENT
IND	INDICATING OR INDICATOR
JB	JUNCTION BOX
J-BOX	JUNCTION BOX
kVA	KILOVOLT-AMPERES
kVAR	KILOVOLT-AMPERES REACTIVE
kW	KILOWATTS
LT	LIGHT
LMF	LIQUID-TIGHT METALLIC CORE FLEXIBLE CONDUIT
M	MOTOR STARTER OPERATING COIL
MAX	MAXIMUM
MCM	THOUSAND CIRCULAR MILS
MCP	MOTOR CIRCUIT PROTECTOR
MECH	MECHANICAL
MFR	MANUFACTURER
MH	METAL HALIDE
MIN	MINUTE OR MINIMUM
MTD	MOUNTED
NF	NON-FUSED
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTC	NOT CONNECTED
OL(S)	OVERLOAD RELAY CONTACT(S)
PF	POWER FACTOR
PVC	POLYVINYLCHLORIDE CONDUIT
REQ'D	REQUIRED
RS	RIGID STEEL CONDUIT
RTM	RUNNING TIME METER
SDS	SPECIFIED IN OTHER DIVISION OF SPECIFICATIONS
SE	SERVICE ENTRANCE
SEC	SECOND OR SECONDARY
SIG	SIGNAL
SOL Vv	SOLENOID VALVE
SP	SINGLE POLE
SPECS	SPECIFICATIONS
SSNR	"SOFT START" NON-REVERSING
SSR	"SOFT START" REVERSING
SW	SWITCH
S.S.	STAINLESS STEEL (TYPE 316)
TD	TIME DELAY
TEMP	TEMPERATURE
T'STAT	THERMOSTAT
UH	UNIT HEATER
U.N.O.	UNLESS NOTED OTHERWISE
V	VOLTS
VM	VOLTMETER
VS	VOLTMETER SWITCH
Vv	VALVE
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS OR WIRE
W/	WITH
WHM	WATT-HOUR METER
WM	WATT METER
WW	WIREWAY
WP	WEATHERPROOF
XDCR	TRANSDUCER
XFMR	TRANSFORMER
XFR	TRANSFER

COLORS

A	AMBER
BK	BLACK
BR	BROWN
BU	BLUE
GRN	GREEN
GY	GRAY
O	ORANGE
R	RED
V	VIOLET
W	WHITE
Y	YELLOW

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0	SJS	02/17/2017

INDEPENDENCE, IOWA

INDEPENDENCE WELLHOUSE REHABILITATION

ELECTRICAL SYMBOLS & ABBREVIATIONS

SHEET 7.01

FILE: N:\DGB\PTWORK\CHAD LAKOSE\250700863.59_7.02_REV 1.DWG

DISTRIBUTION PANEL--DP (WELL #3)

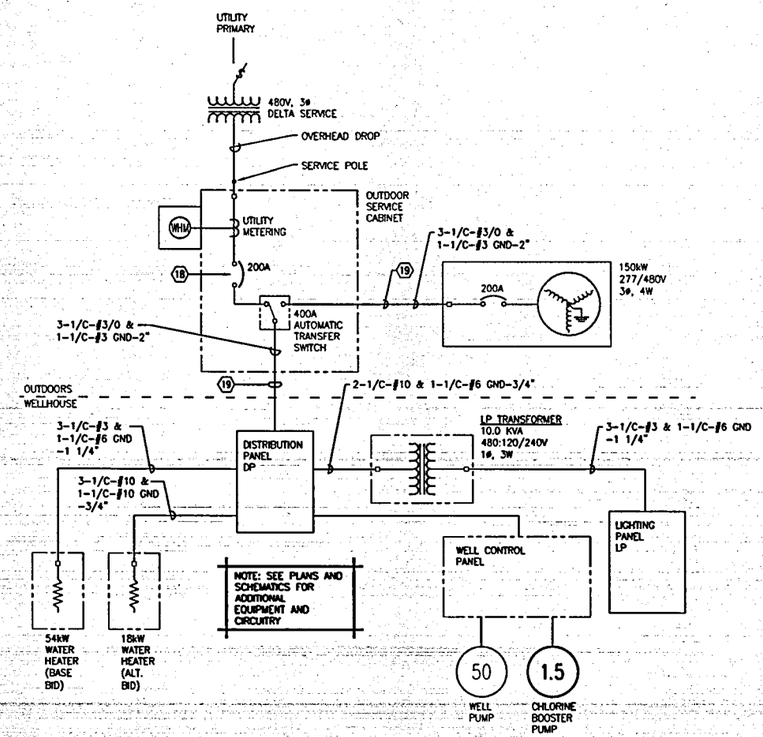
MOUNTING	LOCATION	BUS				REMARKS
		AMPS	VOLTS	PHASE	WIRE	
SURFACE	WELLHOUSE #3	200	277/480	3	4	1. MAIN LUGS ONLY (MLO) 2. ISOLATED GROUND BUS

CIRCUIT DESCRIPTION	BKR	CKT	ANTICIPATED LOAD IN VA	PHASE A	PHASE B	PHASE C	ANTICIPATED LOAD IN VA	CKT	BKR	CIRCUIT DESCRIPTION
PUMP ROOM UNIT HTR.	15A	1	2500	■			18800	2	125A	WELL CONTROL PANEL
" " " "		3	2500		■		18800	4		" " "
" " " "	3P	5	2500			■	18800	6	3P	" " "
CHLORINE ROOM UNIT HTR.	20A	7	3333	■			1000	8	30A	LP TRANSFORMER
" " " "		9	3333		■		1000	10	2P	" "
" " " "	3P	11	3333			■	-----	12	-----	SPACE
WATER HEATER (BASE BID)	100A	13	18000	■			-----	14	-----	SPACE
" " " "		15	18000		■		-----	16	-----	SPACE
" " " "	3P	17	18000			■	-----	18	-----	SPACE
WATER HEATER (ALT. BID)	30A	19	6000	■			-----	20	-----	SPACE
" " " "		21	6000		■		-----	22	-----	SPACE
" " " "	3P	23	6000			■	-----	24	-----	SPACE
SPACE	-----	25	-----	■			-----	26	-----	SPACE
SPACE	-----	27	-----		■		-----	28	-----	SPACE
SPACE	-----	29	-----			■	-----	30	-----	SPACE

LIGHTING PANEL--LP (WELL #3)

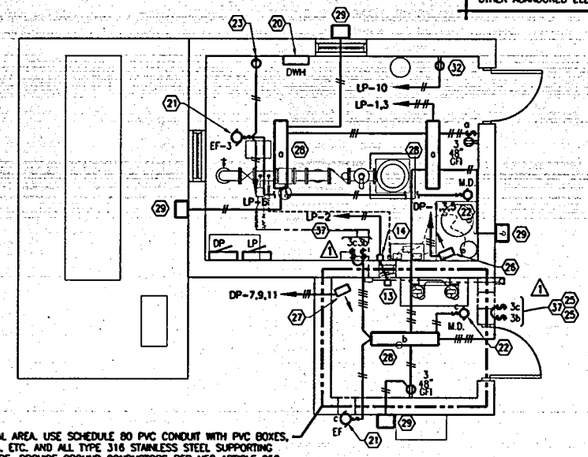
MOUNTING	LOCATION	SERVICE				REMARKS
		AMPS	VOLTS	PHASE	WIRE	
SURFACE	WELLHOUSE #3	100	120/240	1	3	1. 100A/2P MAIN CIRCUIT BREAKER 2. ISOLATED GROUND BUS

CIRCUIT DESCRIPTION	BKR	CKT	ANTICIPATED LOAD IN VA	PHASE A	PHASE B	ANTICIPATED LOAD IN VA	CKT	BKR	CIRCUIT DESCRIPTION
LIGHTS	20A1P	1	100	■		400	2	15A1P	CHEM. SCALES
OUTLETS	20A1P	3	400		■	800	4	20A1P	FLUORIDE PUMPS
SPARE	20A1P	5		■		600	6	20A1P	PUMP ROOM EXHAUST
SPARE	20A1P	7			■	800	8	20A1P	FLUORIDE TRANSFER PUMP
SPARE	20A1P	9		■		1200	10	20A1P	DEHUMIDIFIER
SPARE	20A1P	11			■	-----	12	20A1P	SPARE
SPARE	20A1P	13		■		-----	14	20A1P	SPARE
SPARE	20A1P	15			■	-----	16	20A1P	SPARE
SPACE	-----	17	-----	■		-----	18	-----	SPACE
SPACE	-----	19	-----		■	-----	20	-----	SPACE
SPACE	-----	21	-----	■		-----	22	-----	SPACE
SPACE	-----	23	-----		■	-----	24	-----	SPACE



POWER ONE-LINE DIAGRAM
NO SCALE

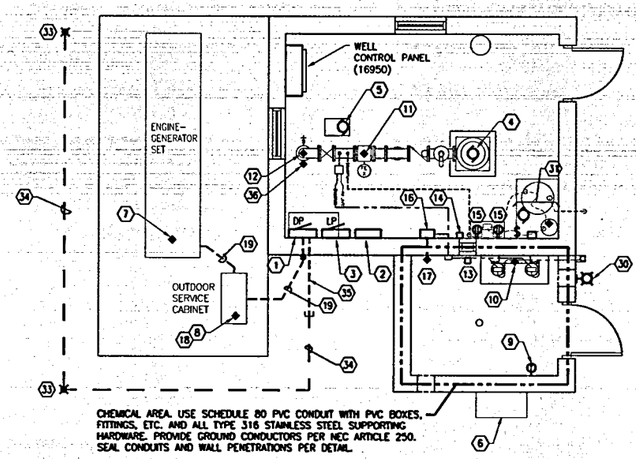
NOTE: REMOVE ALL EXISTING ELECTRICAL SYSTEMS FROM EXISTING WELLHOUSE, EXCEPT WHERE EXISTING EQUIPMENT AND CIRCUITRY IS SPECIFICALLY SHOWN TO BE RE-USED. REMOVALS SHALL INCLUDE PANELBOARDS, TRANSFORMERS, CIRCUIT BREAKERS, STARTERS, CONTROL PANELS, CONTROL COMPONENTS, LIGHTING, GENERAL CIRCUITRY, AND ALL OTHER ABANDONED ELECTRICAL AND ASSOCIATED CABLES AND CONDUITS.



CHEMICAL AREA. USE SCHEDULE 80 PVC CONDUIT WITH PVC BOXES, FITTINGS, ETC. AND ALL TYPE 316 STAINLESS STEEL SUPPORTING HARDWARE. PROVIDE GROUND CONDUCTORS PER NEC ARTICLE 250. SEAL CONDUITS AND WALL PENETRATIONS PER DETAIL.

WELLHOUSE #3 LIGHTING & GENERAL POWER PLAN

0 1' 2' 4' 6' 8' 10' 12'
SCALE



CHEMICAL AREA. USE SCHEDULE 80 PVC CONDUIT WITH PVC BOXES, FITTINGS, ETC. AND ALL TYPE 316 STAINLESS STEEL SUPPORTING HARDWARE. PROVIDE GROUND CONDUCTORS PER NEC ARTICLE 250. SEAL CONDUITS AND WALL PENETRATIONS PER DETAIL.

WELLHOUSE #3 PROCESS ELECTRICAL PLAN

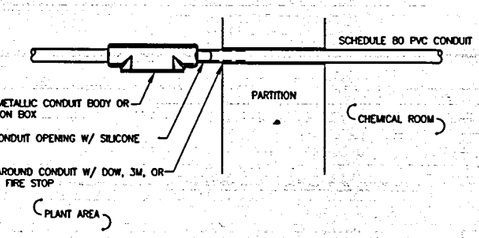
0 1' 2' 4' 6' 8' 10' 12'
SCALE

GENERAL NOTES:

1. CONDUCT ALL WORK SO THAT EXISTING FACILITIES REMAIN IN OPERATION DURING CONSTRUCTION. COORDINATE ALL OUTAGES AND CUTOVERS WITH OWNER AT LEAST TWO (2) WEEKS IN ADVANCE, AND ONLY TO OCCUR AT TIMES AND IN DURATIONS AS APPROVED BY OWNER. SEE DIVISION 1 FOR ADDITIONAL REQUIREMENTS.
2. COORDINATE NEW ELECTRIC SERVICES AND METERING REQUIREMENTS WITH SERVING UTILITY PRIOR TO ORDERING EQUIPMENT AND CONSTRUCTION.
3. FIELD CONFIRM LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES, CABLES, CONDUITS, ETC. PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPAIR SUCH ITEMS AT NO COST IF DAMAGED BY CONTRACTOR.
4. ELECTRONICALLY-LOCATE ALL EXISTING IN-PLANT CONDUITS AND CABLES IN AREAS THAT WILL BE DISTURBED. PROTECT ALL EXISTING UNDERGROUND FACILITIES.
5. PROVIDE TEMPORARY SUPPORT FOR EXISTING UNDERGROUND FACILITIES THAT WILL BE EXPOSED DUE TO GENERAL, STRUCTURAL AND PROCESS CONSTRUCTION.
6. EXISTING UNDERGROUND CIRCUITRY THAT IS TO REMAIN IS NOT ALL SHOWN.
7. NOT ALL NEW CIRCUITRY IS SHOWN ON PLAN. SEE ENLARGED PLANS, ONE-LINES AND SCHEMATICS FOR ADDITIONAL CIRCUITRY REQUIREMENTS.
8. FIELD CONFIRM ALL CONDUIT ROUTING WITH OWNER AND FIELD ENGINEER.
9. USE DIRECTIONAL BORING OR SIMILAR METHOD FOR NEW CONDUITS TO BE INSTALLED UNDER EXISTING SIDEWALKS AND PAVEMENTS. WHERE PITS ARE OPENED, PATCH ALL SURFACES TO MATCH EXISTING.
10. DRILL EXISTING STRUCTURES AS REQUIRED FOR NEW CONDUIT INSTALLATION. PATCH ALL SURFACES TO MATCH EXISTING. ALL CORE DRILL LOCATIONS SHALL BE VERIFIED WITH FIELD ENGINEER.
11. SEAL ALL CONDUITS TO EXTERIOR USING DUCTSEAL OR 1/2" THICKNESS SILICONE CAULK.
12. REMOVE AND DISPOSE OF ALL ABANDONED EQUIPMENT, CABLES, CONDUITS, SUPPORTS, HANGERS, ETC. VERIFY THE SCOPE OF REMOVALS WITH OWNER AND ENGINEER DURING CONSTRUCTION. WHERE CONDUITS ARE CAST-IN-PLACE, THEY SHALL BE CUT OFF FLUSH AND PATCHED WITH NON-SHRINK GROUT. PATCH ALL SURFACES USING LIKE MATERIALS WHERE HANGERS, ANCHORS, ETC. ARE REMOVED.

NUMBERED NOTES:

1. DISTRIBUTION PANEL DP.
2. LP TRANSFORMER. WALL MOUNT.
3. LIGHTING PANEL LP.
4. WELL PUMP.
5. CHLORINE BOOSTER PUMP.
6. CITY OF INDEPENDENCE FIBER/NETWORK ENCLOSURE.
7. ENGINE-GENERATOR CONTROLS. LOCATE AND MONITOR CONTACTS AS INDICATED ON SCHEMATICS. VERIFY OVERHEAD CONDUIT ROUTE WITH OWNER.
8. AUTOMATIC TRANSFER SWITCH WITHIN EXISTING CABINET. LOCATE AND MONITOR CONTACTS AS INDICATED ON SCHEMATICS. VERIFY OVERHEAD CONDUIT ROUTE WITH OWNER.
9. CHLORINE ROOM LOW TEMP ALARM THERMOSTAT (16950). MOUNT AT 66".
10. CHLORINE SWITCHOVER UNIT (DIV. 11).
11. WELL MAGNETIC FLOWMETER (16950).
12. TOWER LEVEL / PRESSURE TRANSMITTER (16950). COORDINATE TAP IN PROCESS PIPING. PROVIDE 1/2" NPT STAINLESS STEEL SHUTOFF VALVE AND STAINLESS STEEL TUBING. VERIFY MOUNTING WITH OWNER/ENGINEER.
13. CHLORINE SCALE (DIV. 11).
14. FLUORIDE SCALE (DIV. 11).
15. CHEMICAL PUMP OUTLETS. PROVIDE ENGRAVED PLATE SHOWING "HOT" AND "CONTROLLED" BOSSES. SEE SCHEMATICS.
16. CHLORINE LEAK DETECTOR (DIV. 11).
17. CHLORINE SENSOR (DIV. 11).
18. REPLACE EXISTING 400A SQUARE D "LH400" CIRCUIT BREAKER WITH EQUIVALENT 200A/3P SQUARE D CIRCUIT BREAKER. MODIFY EXISTING MOUNTING, LUGS AND WIRING AS REQUIRED. DELIVER REMOVED BREAKER TO OWNER.
19. REMOVE EXISTING #2/0 FEEDER FROM EXISTING 2" CONDUIT. FURNISH AND INSTALL NEW CONDUCTORS SHOWN.
20. INSTANTANEOUS WATER HEATER (DIV. 15). HEATER SIZE AND CIRCUITRY VARIES DEPENDING ON BASE BID / ALTERNATE BID. SEE ONE-LINE DIAGRAM, PANEL SCHEDULE AND BID FORM.
21. EXHAUST FAN (DIV. 15). PROVIDE 20A, S.P. DISC. SW.
22. MOTORIZED DAMPER (DIV. 15) PROVIDE 20A, S.P. DISC. SW.
23. PROVIDE LINE-VOLTAGE COOLING THERMOSTAT WITH 50-90 DEGREE F RANGE. MOUNT AT 54".
24. (NOT USED).
25. LOCKABLE WEATHERPROOF COVER. COOPER INDUSTRIES #S2983, OR EQUAL.
26. 7.5KW, 480V, 3-PHASE UNIT HEATER WITH INTEGRAL THERMOSTAT, DISCONNECT SWITCH AND MOUNTING BRACKET. BERKO SERIES "HUHAA" OR EQUAL. VERIFY EXACT LOCATION AND MOUNTING HEIGHT.
27. 10.0KW, 480V, 3-PHASE UNIT HEATER WITH INTEGRAL THERMOSTAT, DISCONNECT SWITCH AND MOUNTING BRACKET. BERKO SERIES "HUHAA" OR EQUAL. VERIFY EXACT LOCATION AND MOUNTING HEIGHT.
28. CHAIN HUNG, 48" ENCLOSED AND GASKETED INDUSTRIAL LED LIGHT FIXTURE, LITHONIA FEW-L48-L3000-MAFL-MD-MVOLT-GZ10-35K-80CRI-STSL-MHCH36, OR EQUAL. CHAIN HANG 8'-0" ABOVE THE FINISHED FLOOR.
29. EXTERIOR WALL MOUNTED LED LIGHT FIXTURE WITH CUT-OFF OPTICS, LITHONIA WSTMLED-1A-30K-120-PE-DDBXD, OR EQUAL. WALL MOUNT 9'-0" ABOVE FINISHED GRADE.
30. CHLORINE ROOM EXTERIOR ALARM LIGHT. HUBBELL #WKX152 WITH #VRGP-100 TEMPERED RED GLOBE, #VGC-15 GUARD AND 1-LED 'A' LAMP (150W EQUIVALENT), OR APPROVED EQUAL.
31. FLUORIDE TRANSFER PUMP, RELAY ENCLOSURE, MOMENTARY SWITCH AND DAY TANK HIGH LEVEL SWITCH. SEE SCHEMATICS. VERIFY EQUIPMENT LOCATIONS WITH OWNER. COORDINATE LEVEL SWITCH MOUNTING IN DAY TANK USING ALL NON-METALLIC HARDWARE.
32. DEDICATED OUTLET FOR PORTABLE DEHUMIDIFIER. VERIFY LOCATION DURING CONSTRUCTION. LABEL: "DEHUMIDIFIER".
33. 3/4" X 10' COPPER-CLAD GROUND ROD WITH EXOTHERMIC WELD TO CONDUCTOR(S) SHOWN. SET TOP 12" DEEP. VERIFY GROUND ROD LOCATIONS WITH OWNER. PROVIDE MINIMUM 20' SEPARATION BETWEEN RODS.
34. #1/0 BARE STRANDED COPPER GROUND CONDUCTOR, 12" DEEP.
35. STUB 1.25" SCHEDULE 80 PVC CONDUIT FOR GROUND CONDUCTOR.
36. BOND PANEL DP GROUND BUS TO WATER PIPING FLANGE BOLT USING 1-1/C-#1/0-1.25".
37. LABEL SWITCHES: "LIGHTS" AND "EXHAUST".



CHEMICAL ROOM CONDUIT PENETRATION DETAIL
NO SCALE — TYPICAL

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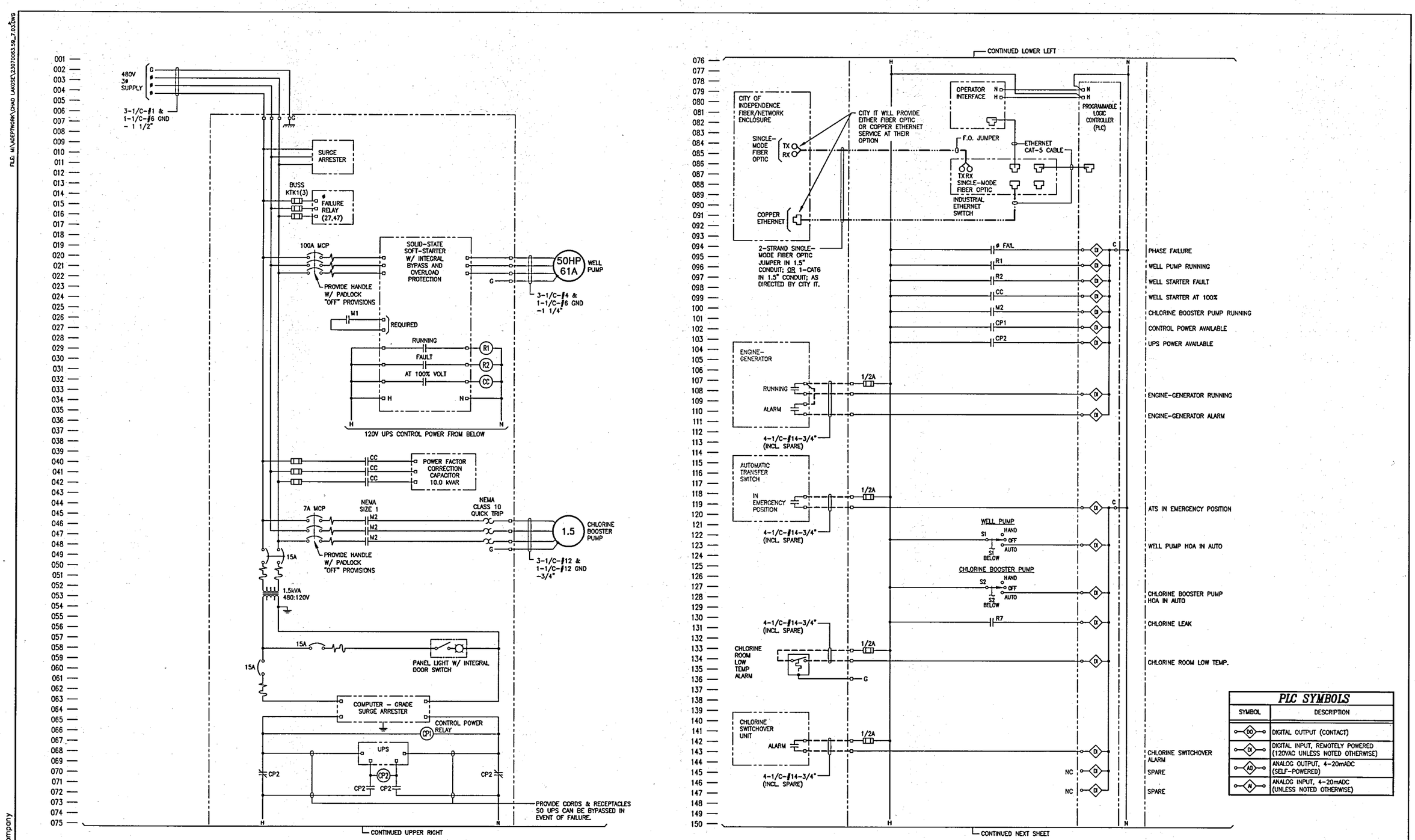
REV.	BY	DATE	
0	SJS	02/17/2017	INDEPENDENCE, IOWA
1	SJS	07/17/2017	INDEPENDENCE WELLHOUSE REHABILITATION
			WELLHOUSE #3 PLANS

SHEET 7.02



WELLHOUSE #3 CONTROL PANEL SCHEMATIC
NO SCALE

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0	SJS	02/17/2017

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #3 CONTROL PANEL SCHEMATIC

SHEET 7.03

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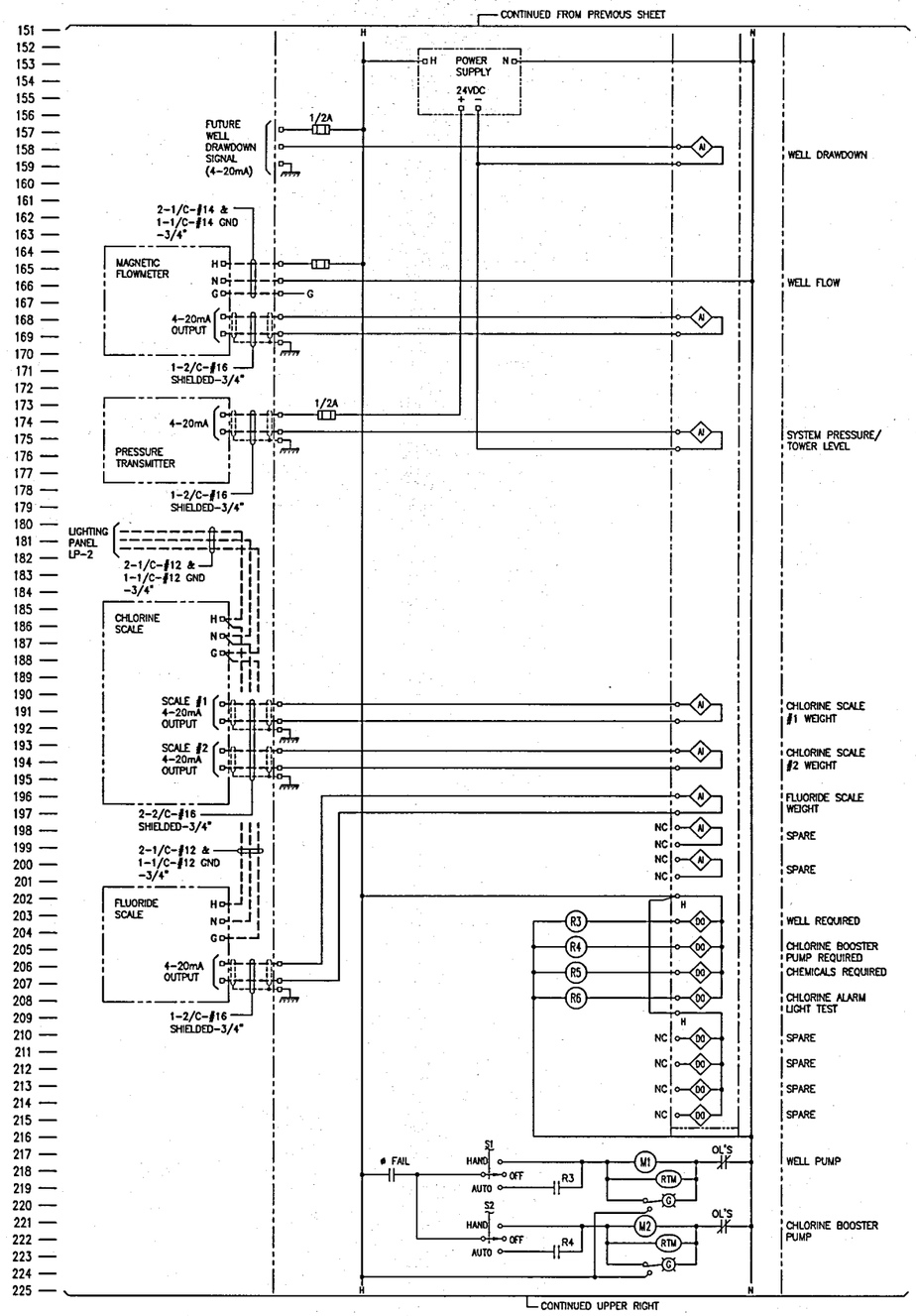
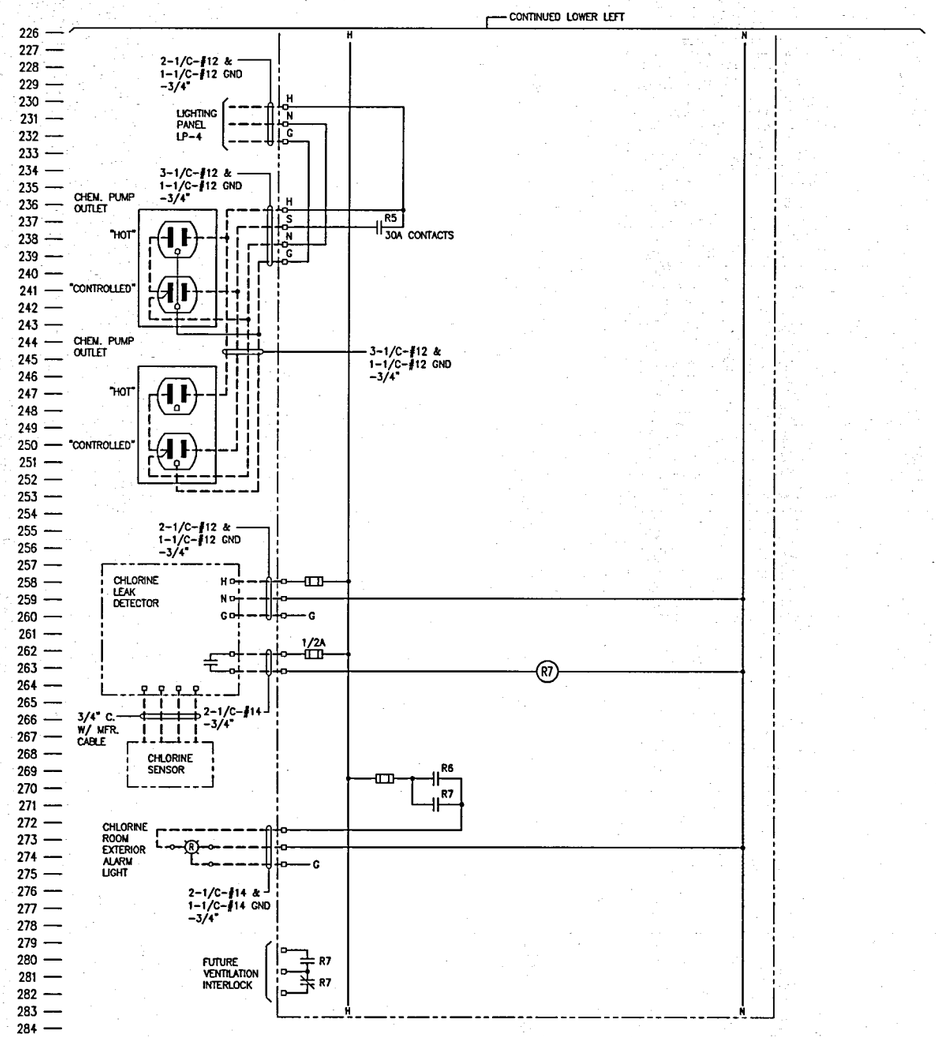
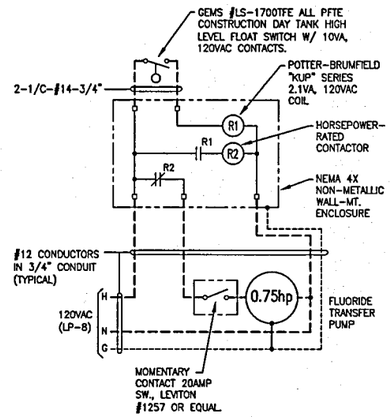
FILE: M:\JOB\PWORK\CHAD LAKOSE\23070083.59_7.04.DWG







PLC SYMBOLS	
SYMBOL	DESCRIPTION
DO	DIGITAL OUTPUT (CONTACT)
DI	DIGITAL INPUT, REMOTELY POWERED (120VAC UNLESS NOTED OTHERWISE)
AO	ANALOG OUTPUT, 4–20mADC (SELF–POWERED)
AI	ANALOG INPUT, 4–20mADC (UNLESS NOTED OTHERWISE)

WELLHOUSE #3 CONTROL PANEL SCHEMATIC

NO SCALE

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INDEPENDENCE, IOWA

INDEPENDENCE WELLHOUSE REHABILITATION

WELLHOUSE #3 CONTROL PANEL SCHEMATIC

SHEET 7.04

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DISTRIBUTION PANEL--DP (WELL #4)

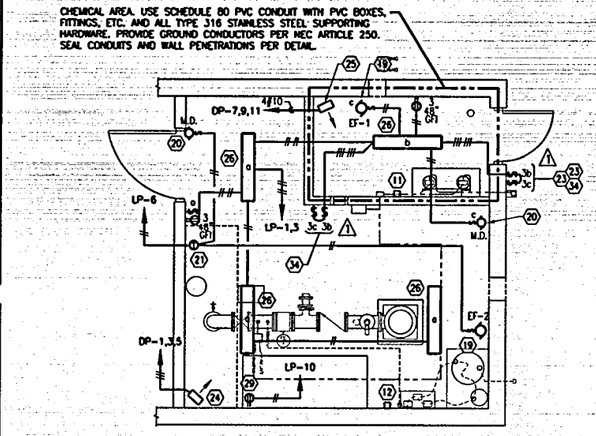
MOUNTING	LOCATION	BUS				REMARKS
		AMPS	VOLTS	PHASE	WIRE	
SURFACE	WELLHOUSE #4	400	277/480	3	4	1. 300A/3P MAIN CIRCUIT BREAKER 2. ISOLATED GROUND BUS

CIRCUIT DESCRIPTION	BKR	CKT	ANTICIPATED LOAD IN VA	PHASE A	PHASE B	PHASE C	ANTICIPATED LOAD IN VA	CKT	BKR	CIRCUIT DESCRIPTION
PUMP ROOM UNIT HTR.	20A	1	3333	■		■	22200	2	125A	WELL CONTROL PANEL
" " " "		3	3333		■		22200	4		" " "
" " " "	3P	5	3333	■		■	22200	6	3P	" " "
CHLORINE ROOM UNIT HTR.	30A	7	5000	■		■	1000	8	30A	LP TRANSFORMER
" " " "		9	5000		■		1000	10	2P	" "
" " " "	3P	11	5000	■		■	-----	12	-----	SPACE
WATER HEATER (BASE BID)	100A	13	18000	■		■	-----	14	-----	SPACE
" " " "		15	18000		■		-----	16	-----	SPACE
" " " "	3P	17	18000	■		■	-----	18	-----	SPACE
WATER HEATER (ALT. BID)	30A	19	6000	■		■	-----	20	-----	SPACE
" " " "		21	6000		■		-----	22	-----	SPACE
" " " "	3P	23	6000	■		■	-----	24	-----	SPACE
SPACE	-----	25	-----	■		■	-----	26	-----	SPACE
SPACE	-----	27	-----		■		-----	28	-----	SPACE
SPACE	-----	29	-----	■		■	-----	30	-----	SPACE

LIGHTING PANEL--LP (WELL #4)

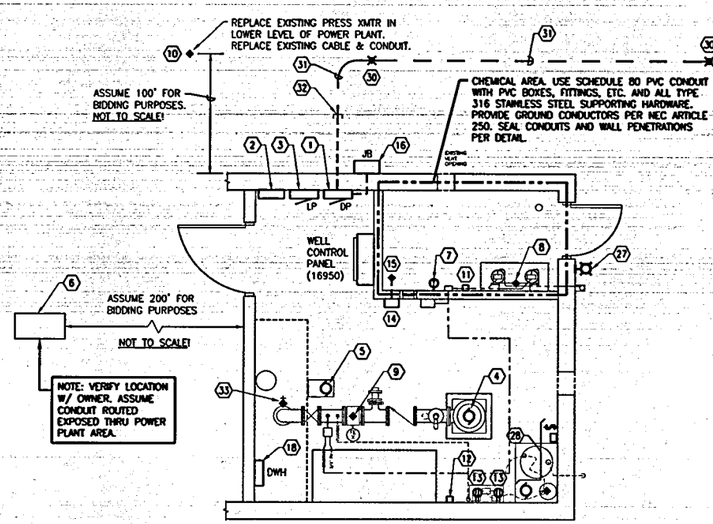
MOUNTING	LOCATION	SERVICE				REMARKS
		AMPS	VOLTS	PHASE	WIRE	
SURFACE	WELLHOUSE #4	100	120/240	1	3	1. 100A/2P MAIN CIRCUIT BREAKER 2. ISOLATED GROUND BUS

CIRCUIT DESCRIPTION	BKR	CKT	ANTICIPATED LOAD IN VA	PHASE A	PHASE B	ANTICIPATED LOAD IN VA	CKT	BKR	CIRCUIT DESCRIPTION
LIGHTS	20A1P	1	75	■		400	2	20A1P	CHEM. SCALES
OUTLETS	20A1P	3	400		■	800	4	20A1P	FLUORIDE PUMPS
SPARE	20A1P	5	-----	■		600	6	20A1P	PUMP ROOM EXHAUST
SPARE	20A1P	7	-----		■	800	8	20A1P	FLUORIDE TRANSFER PUMP
SPARE	20A1P	9	-----	■		1200	10	20A1P	DEHUMIDIFIER
SPARE	20A1P	11	-----		■	-----	12	20A1P	SPARE
SPARE	20A1P	13	-----	■		-----	14	20A1P	SPARE
SPARE	20A1P	15	-----		■	-----	16	20A1P	SPARE
SPACE	-----	17	-----	■		-----	18	-----	SPACE
SPACE	-----	19	-----		■	-----	20	-----	SPACE
SPACE	-----	21	-----	■		-----	22	-----	SPACE
SPACE	-----	23	-----		■	-----	24	-----	SPACE



WELLHOUSE #4 LIGHTING & GENERAL POWER PLAN

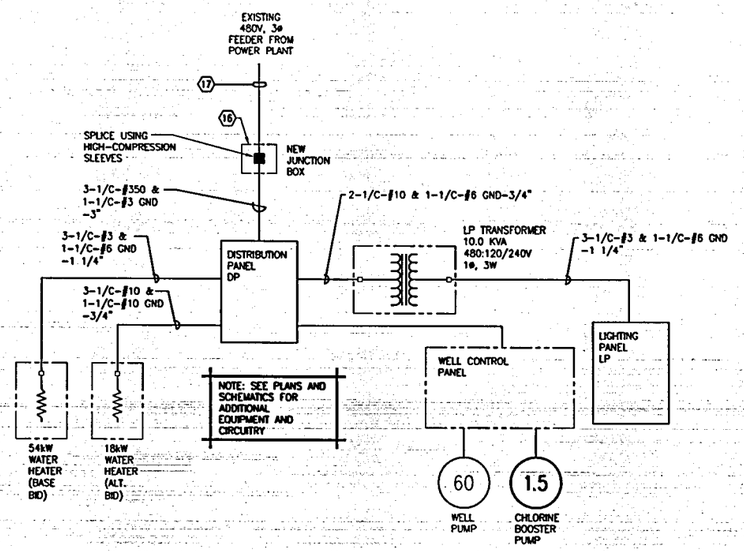
SCALE 0 1' 2' 4' 6' 8' 10' 12'



WELLHOUSE #4 PROCESS ELECTRICAL PLAN

SCALE 0 1' 2' 4' 6' 8' 10' 12'

NOTE: REMOVE ALL EXISTING ELECTRICAL SYSTEMS FROM EXISTING WELLHOUSE, EXCEPT WHERE EXISTING EQUIPMENT AND CIRCUITRY IS SPECIFICALLY SHOWN TO BE RE-USED. REMOVALS SHALL INCLUDE PANELBOARDS, TRANSFORMERS, CIRCUIT BREAKERS, STARTERS, CONTROL PANELS, CONTROL COMPONENTS, LIGHTING, GENERAL CIRCUITRY, AND ALL OTHER ABANDONED ELECTRICAL AND ASSOCIATED CABLES AND CONDUITS.



POWER ONE-LINE DIAGRAM

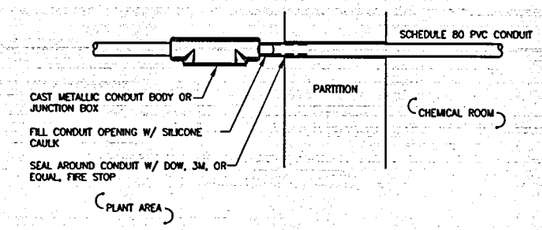
NO SCALE

GENERAL NOTES:

1. CONDUCT ALL WORK SO THAT EXISTING FACILITIES REMAIN IN OPERATION DURING CONSTRUCTION. COORDINATE ALL OUTAGES AND CUTOVERS WITH OWNER AT LEAST TWO (2) WEEKS IN ADVANCE, AND ONLY TO OCCUR AT TIMES AND IN DURATIONS AS APPROVED BY OWNER. SEE DIVISION 1 FOR ADDITIONAL REQUIREMENTS.
2. COORDINATE NEW ELECTRIC SERVICES AND METERING REQUIREMENTS WITH SERVING UTILITY PRIOR TO ORDERING EQUIPMENT AND CONSTRUCTION.
3. FIELD CONFIRM LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES, CABLES, CONDUITS, ETC. PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPAIR SUCH ITEMS AT NO COST IF DAMAGED BY CONTRACTOR.
4. ELECTRONICALLY-LOCATE ALL EXISTING IN-PLANT CONDUITS AND CABLES IN AREAS THAT WILL BE DISTURBED. PROTECT ALL EXISTING UNDERGROUND FACILITIES.
5. PROVIDE TEMPORARY SUPPORT FOR EXISTING UNDERGROUND FACILITIES THAT WILL BE EXPOSED DUE TO GENERAL, STRUCTURAL AND PROCESS CONSTRUCTION.
6. EXISTING UNDERGROUND CIRCUITRY THAT IS TO REMAIN IS NOT ALL SHOWN.
7. NOT ALL NEW CIRCUITRY IS SHOWN ON PLAN. SEE ENLARGED PLANS, ONE-LINES AND SCHEMATICS FOR ADDITIONAL CIRCUITRY REQUIREMENTS.
8. FIELD CONFIRM ALL CONDUIT ROUTING WITH OWNER AND FIELD ENGINEER.
9. USE DIRECTIONAL BORING OR SIMILAR METHOD FOR NEW CONDUITS TO BE INSTALLED UNDER EXISTING SIDEWALKS AND PAVEMENTS. WHERE PITS ARE OPENED, PATCH ALL SURFACES TO MATCH EXISTING.
10. DRILL EXISTING STRUCTURES AS REQUIRED FOR NEW CONDUIT INSTALLATION. PATCH ALL SURFACES TO MATCH EXISTING. ALL CORE DRILL LOCATIONS SHALL BE VERIFIED WITH FIELD ENGINEER.
11. SEAL ALL CONDUITS TO EXTERIOR USING DUCTSEAL OR 1/2" THICKNESS SILICONE CAULK.
12. REMOVE AND DISPOSE OF ALL ABANDONED EQUIPMENT, CABLES, CONDUITS, SUPPORTS, HANGERS, ETC. VERIFY THE SCOPE OF REMOVALS WITH OWNER AND ENGINEER DURING CONSTRUCTION. WHERE CONDUITS ARE CAST-IN-PLACE, THEY SHALL BE CUT OFF FLUSH AND PATCHED WITH NON-SHRINK GROUT. PATCH ALL SURFACES USING LIKE MATERIALS WHERE HANGERS, ANCHORS, ETC. ARE REMOVED.

NUMBERED NOTES:

1. DISTRIBUTION PANEL DP.
2. LP TRANSFORMER. WALL MOUNT.
3. LIGHTING PANEL LP.
4. WELL PUMP.
5. CHLORINE BOOSTER PUMP.
6. CITY OF INDEPENDENCE FIBER/NETWORK ENCLOSURE.
7. CHLORINE ROOM LOW TEMP ALARM THERMOSTAT (16950). MOUNT AT 66".
8. CHLORINE SWITCHOVER UNIT (DIV. 11).
9. WELL MAGNETIC FLOWMETER (16950).
10. TOWER LEVEL / PRESSURE TRANSMITTER (16950). COORDINATE TAP IN PROCESS PIPING. PROVIDE 1/2" NPT STAINLESS STEEL SHUTOFF VALVE AND STAINLESS STEEL TUBING. VERIFY MOUNTING WITH OWNER/ENGINEER.
11. CHLORINE SCALE (DIV. 11).
12. FLUORIDE SCALE (DIV. 11).
13. CHEMICAL PUMP OUTLETS. PROVIDE ENGRAVED PLATE SHOWING "HOT" AND "CONTROLLED" BOSSES. SEE SCHEMATICS.
14. CHLORINE LEAK DETECTOR (DIV. 11).
15. CHLORINE SENSOR (DIV. 11).
16. INTERCEPT EXISTING FEEDER AND EXTEND TO NEW PANEL DP. SEE ONE-LINE DIAGRAM. PROVIDE NEMA 1 JUNCTION BOX SIZED PER NEC. VERIFY LOCATION AND DETAILS WITH OWNER.
17. OWNER WILL UPGRADE FEEDER TO 300A RATING AS REQUIRED.
18. INSTANTANEOUS WATER HEATER (DIV. 15). HEATER SIZE AND CIRCUITRY VARIES DEPENDING ON BASE BID / ALTERNATE BID. SEE ONE-LINE DIAGRAM, PANEL SCHEDULE AND BID FORM.
19. EXHAUST FAN (DIV. 15). PROVIDE 20A, S.P. DISC. SW.
20. MOTORIZED DAMPER (DIV. 15) PROVIDE 20A, S.P. DISC. SW.
21. PROVIDE LINE-VOLTAGE COOLING THERMOSTAT WITH 50-90 DEGREE F RANGE. MOUNT AT 54".
22. (NOT USED).
23. LOCKABLE WEATHERPROOF COVER. COOPER INDUSTRIES #S2983, OR EQUAL.
24. 10.0KW, 480V, 3-PHASE UNIT HEATER WITH INTEGRAL THERMOSTAT, DISCONNECT SWITCH AND MOUNTING BRACKET. BERKO SERIES "HUHAA" OR EQUAL. VERIFY EXACT LOCATION AND MOUNTING HEIGHT.
25. 15.0KW, 480V, 3-PHASE UNIT HEATER WITH INTEGRAL THERMOSTAT, DISCONNECT SWITCH AND MOUNTING BRACKET. BERKO SERIES "HUHAA" OR EQUAL. VERIFY EXACT LOCATION AND MOUNTING HEIGHT.
26. CHAIN HUNG, 48" ENCLOSED AND GASKETED INDUSTRIAL LED LIGHT FIXTURE, LITHONIA FEM-L48-L3000-IMAFL-MD-MVOLT-GZ10-35K-80CRI-STSL-WHCH36, OR EQUAL. CHAIN HANG 8'-0" ABOVE THE FINISHED FLOOR.
27. CHLORINE ROOM EXTERIOR ALARM LIGHT. HUBBELL #WWX152 WITH #WRGP-100 TEMPERED RED GLOBE, #VGC-15 GUARD AND 1-LED "A" LAMP (150W EQUIVALENT), OR APPROVED EQUAL.
28. FLUORIDE TRANSFER PUMP, RELAY ENCLOSURE, MOMENTARY SWITCH AND DAY TANK HIGH LEVEL SWITCH. SEE SCHEMATICS. VERIFY EQUIPMENT LOCATIONS WITH OWNER. COORDINATE LEVEL SWITCH MOUNTING IN DAY TANK USING ALL NON-METALLIC HARDWARE.
29. DEDICATED OUTLET FOR PORTABLE DEHUMIDIFIER. VERIFY LOCATION DURING CONSTRUCTION. LABEL: "DEHUMIDIFIER".
30. 3/4" X 10' COPPER-CLAD GROUND ROD WITH EXOTHERMIC WELD TO CONDUCTOR(S) SHOWN. SET TOP 12" DEEP. VERIFY GROUND ROD LOCATIONS WITH OWNER, PROVIDE MINIMUM 20' SEPARATION BETWEEN RODS.
31. #1/0 BARE STRANDED COPPER GROUND CONDUCTOR, 12" DEEP.
32. STUB 1.25" SCHEDULE 80 PVC CONDUIT FOR GROUND CONDUCTOR.
33. BOND PANEL DP GROUND BUS TO WATER PIPING FLANGE BOLT USING 1-1/C-#1/0-1.25".
34. LABEL SWITCHES: "LIGHTS" AND "EXHAUST".



CHEMICAL ROOM CONDUIT PENETRATION DETAIL

NO SCALE TYPICAL

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REV.	BY	DATE
0	SJS	02/17/2017
1	SJS	07/17/2017

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #4 PLANS

SHEET 7.05

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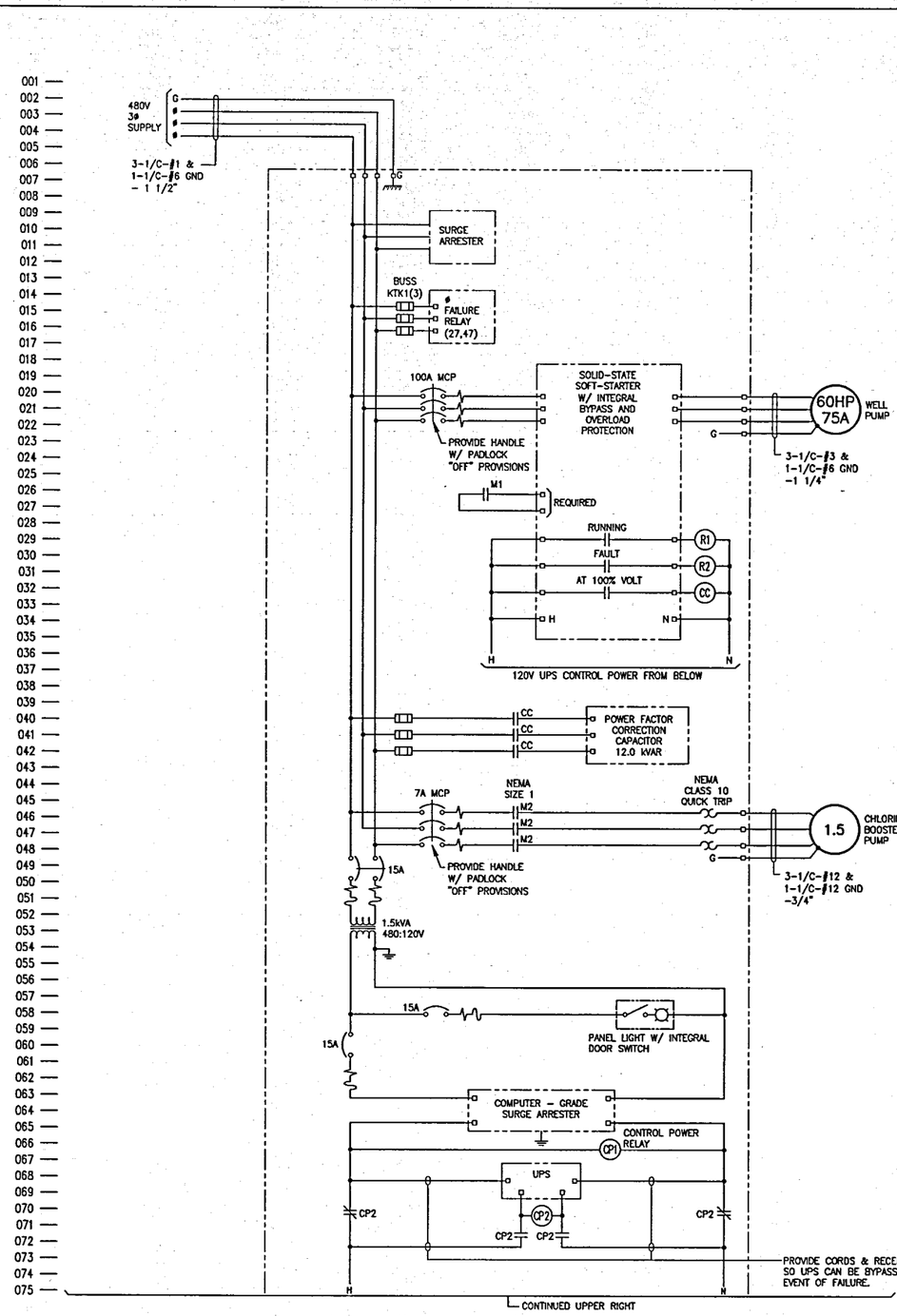

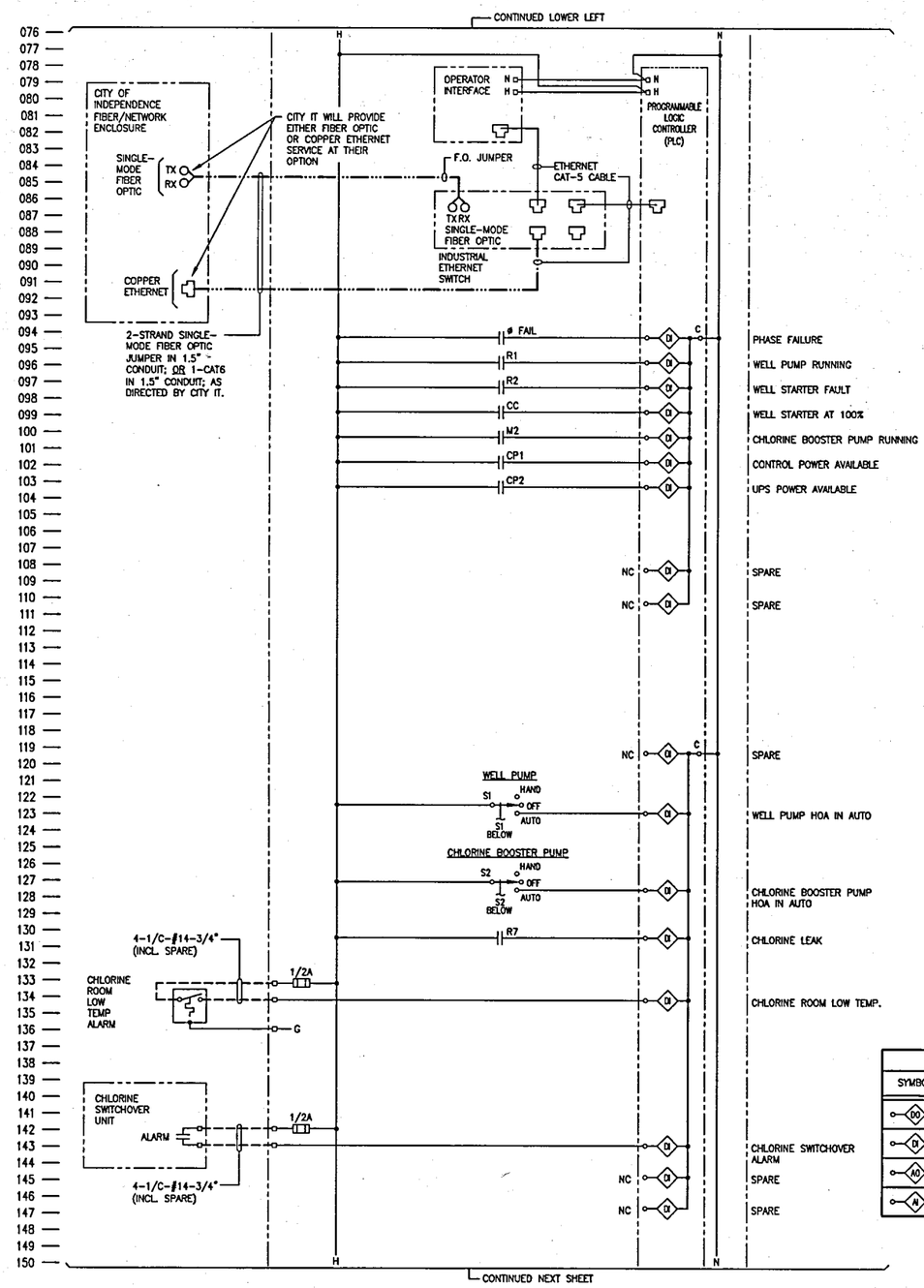

PLC SYMBOLS	
SYMBOL	DESCRIPTION
DO	DIGITAL OUTPUT (CONTACT)
DI	DIGITAL INPUT, REMOTELY POWERED (120VAC UNLESS NOTED OTHERWISE)
AO	ANALOG OUTPUT, 4-20mADC (SELF-POWERED)
AI	ANALOG INPUT, 4-20mADC (UNLESS NOTED OTHERWISE)

WELLHOUSE #4 CONTROL PANEL SCHEMATIC

NO SCALE

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REV.	BY	DATE
0	SJS	02/17/2017

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #4 CONTROL PANEL SCHEMATIC

SHEET 7.06

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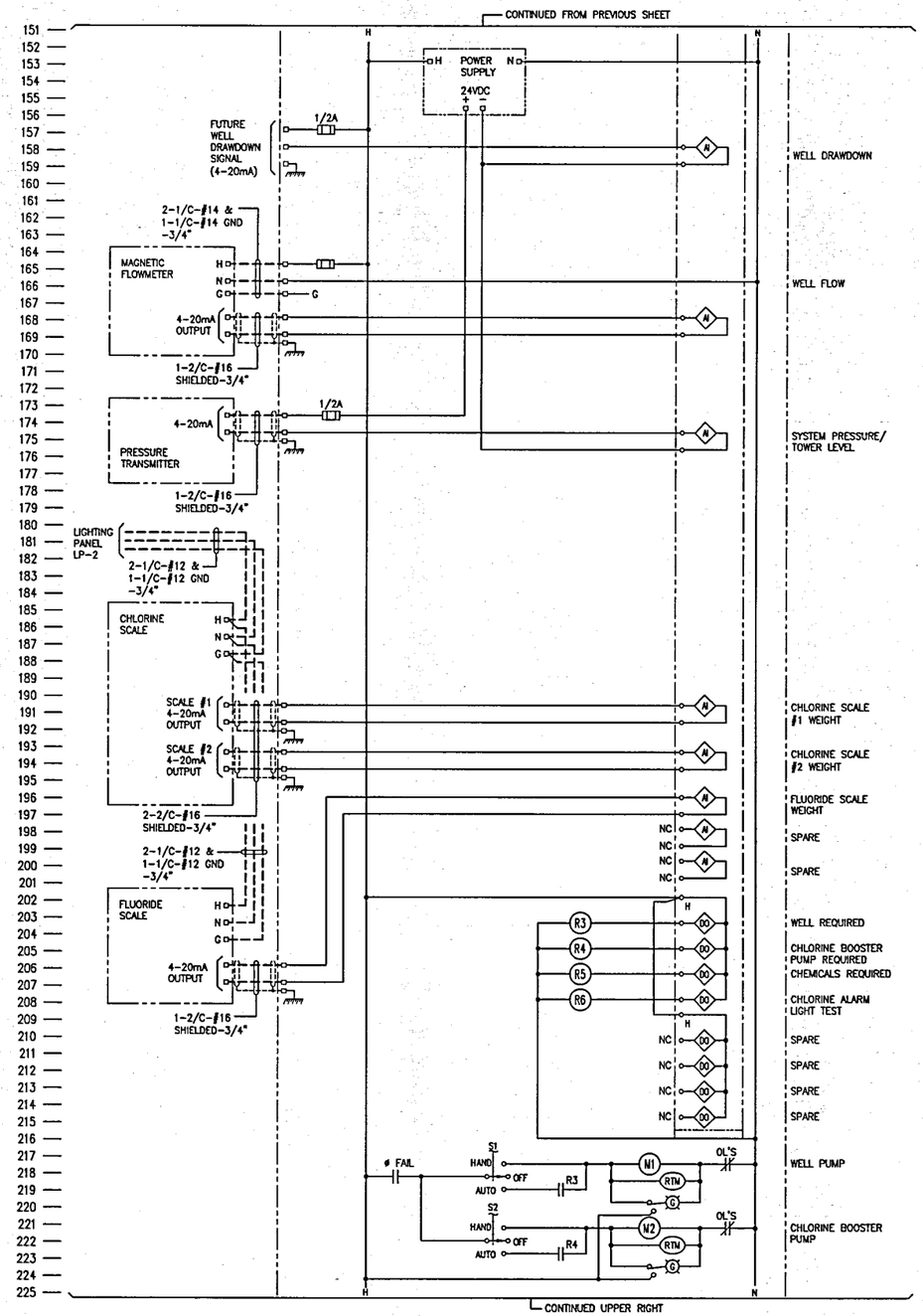

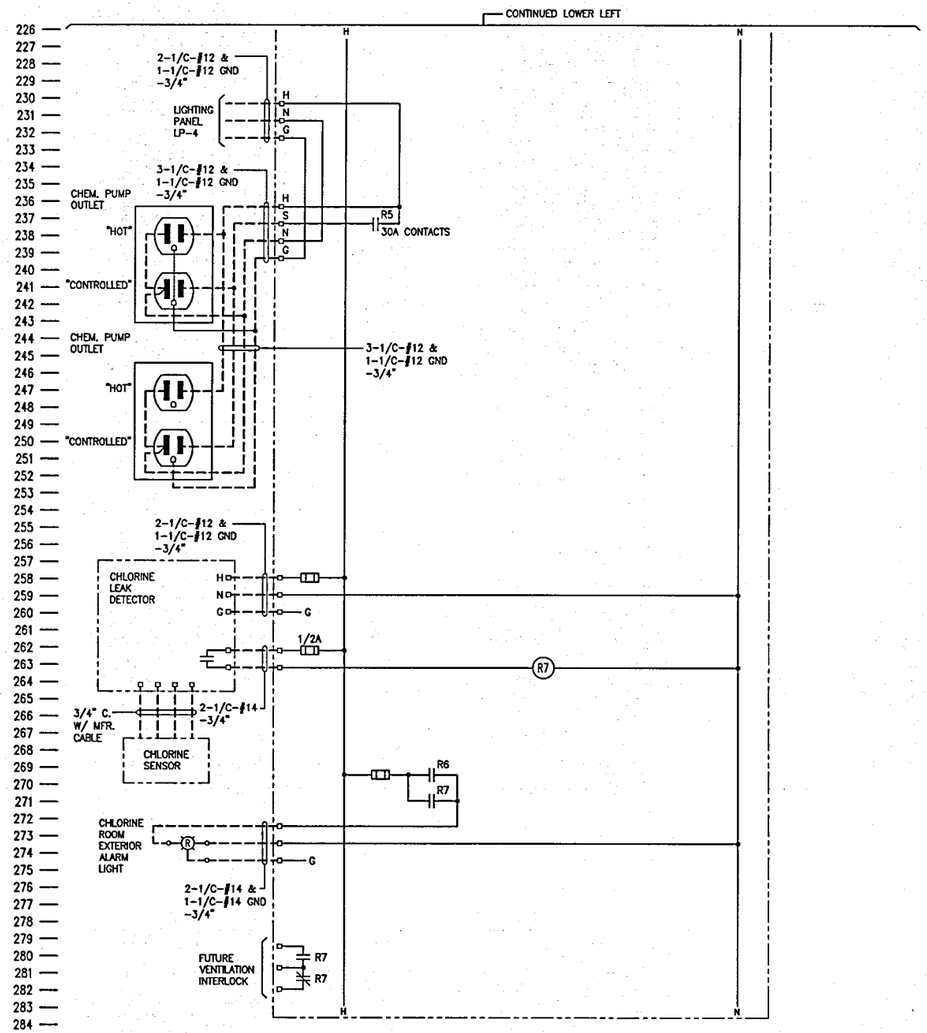

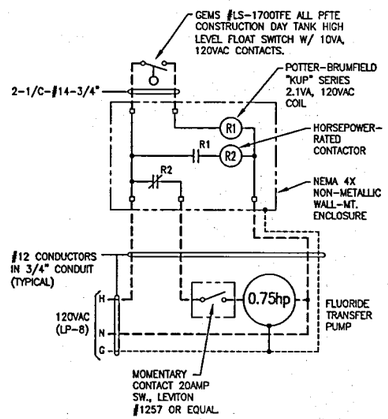

PLC SYMBOLS	
SYMBOL	DESCRIPTION
DO	DIGITAL OUTPUT (CONTACT)
DI	DIGITAL INPUT, REMOTELY POWERED (120VAC UNLESS NOTED OTHERWISE)
AO	ANALOG OUTPUT, 4-20mADC (SELF-POWERED)
AI	ANALOG INPUT, 4-20mADC (UNLESS NOTED OTHERWISE)

WELLHOUSE #4 CONTROL PANEL SCHEMATIC
NO SCALE

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REV.	BY	DATE
0	SJS	02/17/2017

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #4 CONTROL PANEL SCHEMATIC

SHEET 7.07

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DISTRIBUTION PANEL--DP (WELL #6)

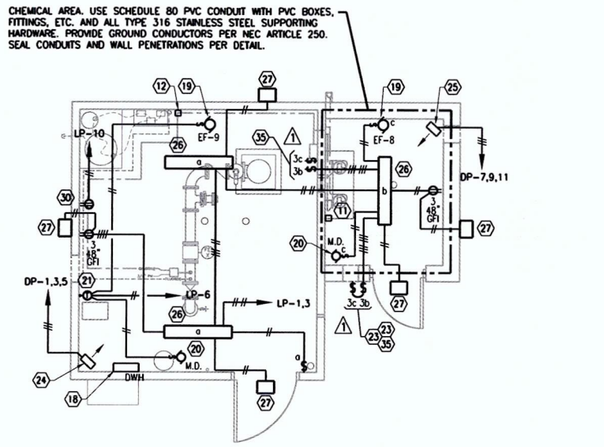
MOUNTING	LOCATION	BUS				REMARKS
SURFACE	WELLHOUSE #6	AMPS	VOLTS	PHASE	WIRE	1. 300A/3P MAIN CIRCUIT BREAKER 2. ISOLATED GROUND BUS
		400	277/480	3	4	

CIRCUIT DESCRIPTION	BKR	CKT	ANTICIPATED LOAD IN VA	PHASE A	PHASE B	PHASE C	ANTICIPATED LOAD IN VA	CKT	BKR	CIRCUIT DESCRIPTION
PUMP ROOM UNIT HTR.	15A	1	2500	■			22200	2	125A	WELL CONTROL PANEL
" " " "		3	2500		■		22200	4		" " "
" " " "	3P	5	2500			■	22200	6	3P	" " "
CHLORINE ROOM UNIT HTR.	20A	7	3333	■			1000	8	30A	LP TRANSFORMER
" " " "		9	3333		■		1000	10	2P	" "
" " " "	3P	11	3333			■	----	12	----	SPACE
WATER HEATER (BASE BID)	100A	13	18000	■			----	14	----	SPACE
" " " "		15	18000		■		----	16	----	SPACE
" " " "	3P	17	18000			■	----	18	----	SPACE
WATER HEATER (ALT. BID)	30A	19	6000	■			----	20	----	SPACE
" " " "		21	6000		■		----	22	----	SPACE
" " " "	3P	23	6000			■	----	24	----	SPACE
SPACE	----	25	----	■			----	26	----	SPACE
SPACE	----	27	----		■		----	28	----	SPACE
SPACE	----	29	----			■	----	30	----	SPACE

LIGHTING PANEL--LP (WELL #6)

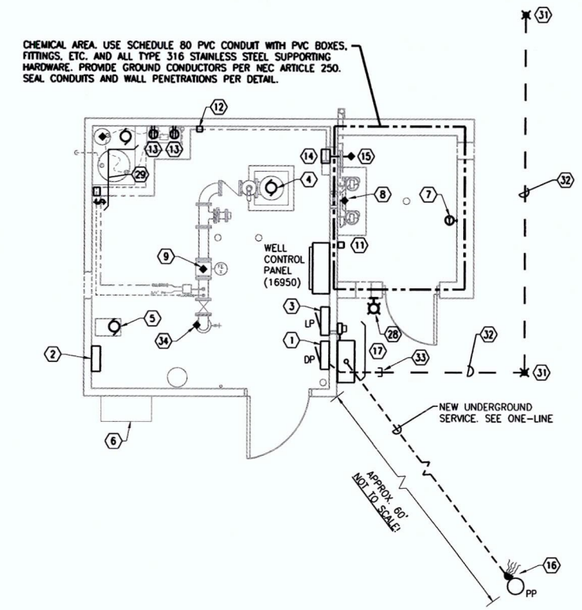
MOUNTING	LOCATION	SERVICE				REMARKS
SURFACE	WELLHOUSE #6	AMPS	VOLTS	PHASE	WIRE	1. 100A/2P MAIN CIRCUIT BREAKER 2. ISOLATED GROUND BUS
		100	120/240	1	3	

CIRCUIT DESCRIPTION	BKR	CKT	ANTICIPATED LOAD IN VA	PHASE A	PHASE B	ANTICIPATED LOAD IN VA	CKT	BKR	CIRCUIT DESCRIPTION
LIGHTS	20A1P	1	125	■		400	2	20A1P	CHEM. SCALES
OUTLETS	20A1P	3	400		■	800	4	20A1P	FLUORIDE PUMPS
SPARE	20A1P	5	----	■		600	6	20A1P	PUMP ROOM EXHAUST
SPARE	20A1P	7	----		■	800	8	20A1P	FLUORIDE TRANSFER PUMP
SPARE	20A1P	9	----	■		1200	10	20A1P	DEHUMIDIFIER
SPARE	20A1P	11	----		■	----	12	20A1P	SPARE
SPARE	20A1P	13	----	■		----	14	20A1P	SPARE
SPARE	20A1P	15	----		■	----	16	20A1P	SPARE
SPACE	----	17	----	■		----	18	----	SPACE
SPACE	----	19	----		■	----	20	----	SPACE
SPACE	----	21	----	■		----	22	----	SPACE
SPACE	----	23	----		■	----	24	----	SPACE



WELLHOUSE #6 LIGHTING & GENERAL POWER PLAN

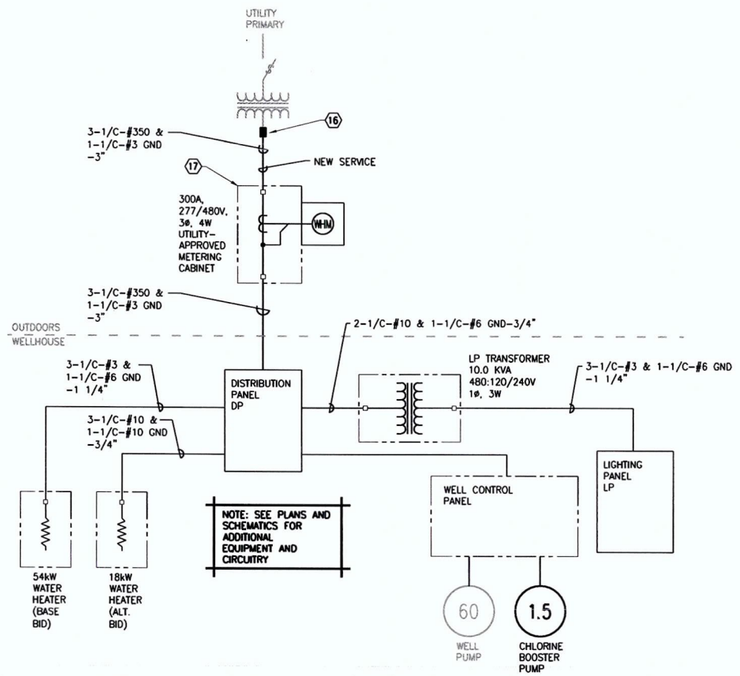
SCALE 0 1' 2' 4' 6' 8' 10' 12'



WELLHOUSE #6 PROCESS ELECTRICAL PLAN

SCALE 0 1' 2' 4' 6' 8' 10' 12'

NOTE: REMOVE ALL EXISTING ELECTRICAL SYSTEMS FROM EXISTING WELLHOUSE, EXCEPT WHERE EXISTING EQUIPMENT AND CIRCUITRY IS SPECIFICALLY SHOWN TO BE RE-USED. REMOVALS SHALL INCLUDE PANELBOARDS, TRANSFORMERS, CIRCUIT BREAKERS, STARTERS, CONTROL PANELS, CONTROL COMPONENTS, LIGHTING, GENERAL CIRCUITRY, AND ALL OTHER ABANDONED ELECTRICAL AND ASSOCIATED CABLES AND CONDUITS.



POWER ONE-LINE DIAGRAM

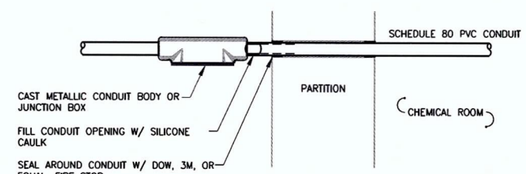
NO SCALE

GENERAL NOTES:

1. CONDUCT ALL WORK SO THAT EXISTING FACILITIES REMAIN IN OPERATION DURING CONSTRUCTION. COORDINATE ALL OUTAGES AND CUTOVERS WITH OWNER AT LEAST TWO (2) WEEKS IN ADVANCE, AND ONLY TO OCCUR AT TIMES AND IN DURATIONS AS APPROVED BY OWNER. SEE DIVISION 1 FOR ADDITIONAL REQUIREMENTS.
2. COORDINATE NEW ELECTRIC SERVICES AND METERING REQUIREMENTS WITH SERVING UTILITY PRIOR TO ORDERING EQUIPMENT AND CONSTRUCTION.
3. FIELD CONFIRM LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES, CABLES, CONDUITS, ETC. PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPAIR SUCH ITEMS AT NO COST IF DAMAGED BY CONTRACTOR.
4. ELECTRONICALLY-LOCATE ALL EXISTING IN-PLANT CONDUITS AND CABLES IN AREAS THAT WILL BE DISTURBED. PROTECT ALL EXISTING UNDERGROUND FACILITIES.
5. PROVIDE TEMPORARY SUPPORT FOR EXISTING UNDERGROUND FACILITIES THAT WILL BE EXPOSED DUE TO GENERAL, STRUCTURAL AND PROCESS CONSTRUCTION.
6. EXISTING UNDERGROUND CIRCUITRY THAT IS TO REMAIN IS NOT ALL SHOWN.
7. NOT ALL NEW CIRCUITRY IS SHOWN ON PLAN. SEE ENLARGED PLANS, ONE-LINES AND SCHEMATICS FOR ADDITIONAL CIRCUITRY REQUIREMENTS.
8. FIELD CONFIRM ALL CONDUIT ROUTING WITH OWNER AND FIELD ENGINEER.
9. USE DIRECTIONAL BORING OR SIMILAR METHOD FOR NEW CONDUITS TO BE INSTALLED UNDER EXISTING SIDEWALKS AND PAVEMENTS. WHERE PITS ARE OPENED, PATCH ALL SURFACES TO MATCH EXISTING.
10. DRILL EXISTING STRUCTURES AS REQUIRED FOR NEW CONDUIT INSTALLATION. PATCH ALL SURFACES TO MATCH EXISTING. ALL CORE DRILL LOCATIONS SHALL BE VERIFIED WITH FIELD ENGINEER.
11. SEAL ALL CONDUITS TO EXTERIOR USING DUCTSEAL OR 1/2" THICKNESS SILICONE CAULK.
12. REMOVE AND DISPOSE OF ALL ABANDONED EQUIPMENT, CABLES, CONDUITS, SUPPORTS, HANGERS, ETC. VERIFY THE SCOPE OF REMOVALS WITH OWNER AND ENGINEER DURING CONSTRUCTION. WHERE CONDUITS ARE CAST-IN-PLACE, THEY SHALL BE CUT OFF FLUSH AND PATCHED WITH NON-SHRINK GROUT. PATCH ALL SURFACES USING LIKE MATERIALS WHERE HANGERS, ANCHORS, ETC. ARE REMOVED.

NUMBERED NOTES:

1. DISTRIBUTION PANEL DP.
2. LP TRANSFORMER. WALL MOUNT.
3. LIGHTING PANEL LP.
4. WELL PUMP.
5. CHLORINE BOOSTER PUMP.
6. CITY OF INDEPENDENCE FIBER/NETWORK ENCLOSURE.
7. CHLORINE ROOM LOW TEMP ALARM THERMOSTAT (16950). MOUNT AT 66".
8. CHLORINE SWITCHOVER UNIT (DIV. 11).
9. WELL MAGNETIC FLOWMETER (16950).
10. (NOT USED)
11. CHLORINE SCALE (DIV. 11).
12. FLUORIDE SCALE (DIV. 11).
13. CHEMICAL PUMP OUTLETS. PROVIDE ENGRAVED PLATE SHOWING "HOT" AND "CONTROLLED" BOSSES. SEE SCHEMATICS.
14. CHLORINE LEAK DETECTOR (DIV. 11).
15. CHLORINE SENSOR (DIV. 11).
16. OBTAIN NEW SERVICE AT EXISTING POWER POLE. PROVIDE SCHEDULE 80 PVC MAST, WEATHERHEAD AND CONDUCTOR DRIP LOOP. COORDINATE WITH UTILITY.
17. PROVIDE OUTDOOR NEMA 3R, CURRENT/ VOLTAGE TRANSFORMER METERING CABINET, METER BASE, METER WIRING AND RELATED ITEMS PER UTILITY REQUIREMENTS.
18. INSTANTANEOUS WATER HEATER (DIV. 15). HEATER SIZE AND CIRCUITRY VARIES DEPENDING ON BASE BID / ALTERNATE BID. SEE ONE-LINE DIAGRAM, PANEL SCHEDULE AND BID FORM.
19. EXHAUST FAN (DIV. 15). PROVIDE 20A, S.P. DISC. SW.
20. MOTORIZED DAMPER (DIV. 15) PROVIDE 20A, S.P. DISC. SW.
21. PROVIDE LINE-VOLTAGE COOLING THERMOSTAT WITH 50-90 DEGREE F RANGE. MOUNT AT 54".
22. (NOT USED).
23. LOCKABLE WEATHERPROOF COVER. COOPER INDUSTRIES #S2983, OR EQUAL.
24. 7.5KW, 480V, 3-PHASE UNIT HEATER WITH INTEGRAL THERMOSTAT, DISCONNECT SWITCH AND MOUNTING BRACKET. BERKO SERIES "HUHAA" OR EQUAL. VERIFY EXACT LOCATION AND MOUNTING HEIGHT.
25. 10.0KW, 480V, 3-PHASE UNIT HEATER WITH INTEGRAL THERMOSTAT, DISCONNECT SWITCH AND MOUNTING BRACKET. BERKO SERIES "HUHAA" OR EQUAL. VERIFY EXACT LOCATION AND MOUNTING HEIGHT.
26. CHAIN HUNG, 48" ENCLOSED AND GASKETED INDUSTRIAL LED LIGHT FIXTURE, LITHONIA FEM-L48-L3000-IMAFL-MO-MVOLT-GZ10-35K-80CRI-STSL-MHCH36, OR EQUAL. CHAIN HANG 8'-0" ABOVE THE FINISHED FLOOR.
27. EXTERIOR WALL MOUNTED LED LIGHT FIXTURE WITH CUT-OFF OPTICS, LITHONIA WSTMLED-1A-30K-120-PE-DDBXD, OR EQUAL. WALL MOUNT 9'-0" ABOVE FINISHED GRADE.
28. CHLORINE ROOM EXTERIOR ALARM LIGHT. HUBBELL #VWX152 WITH #VRGP-100 TEMPERED RED GLOBE, #VGC-15 GUARD AND 1-LED 'A' LAMP (150W EQUIVALENT), OR APPROVED EQUAL.
29. FLUORIDE TRANSFER PUMP, RELAY ENCLOSURE, MOMENTARY SWITCH AND DAY TANK HIGH LEVEL SWITCH. SEE SCHEMATICS. VERIFY EQUIPMENT LOCATIONS WITH OWNER. COORDINATE LEVEL SWITCH MOUNTING IN DAY TANK USING ALL NON-METALLIC HARDWARE.
30. DEDICATED OUTLET FOR PORTABLE DEHUMIDIFIER. VERIFY LOCATION DURING CONSTRUCTION. LABEL: "DEHUMIDIFIER".
31. 3/4" X 10' COPPER-CLAD GROUND ROD WITH EXOTHERMIC WELD TO CONDUCTOR(S) SHOWN. SET TOP 12" DEEP. VERIFY GROUND ROD LOCATIONS WITH OWNER, PROVIDE MINIMUM 20' SEPARATION BETWEEN RODS.
32. #1/0 BARE STRANDED COPPER GROUND CONDUCTOR, 12" DEEP.
33. STUB 1.25" SCHEDULE 80 PVC CONDUIT FOR GROUND CONDUCTOR.
34. BOND PANEL DP GROUND BUS TO WATER PIPING FLANGE BOLT USING 1-1/C-#1/0-1.25".
35. LABEL SWITCHES: "LIGHTS" AND "EXHAUST".



CHEMICAL ROOM CONDUIT PENETRATION DETAIL

NO SCALE — TYPICAL

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0	SJS	02/17/2017
1	SJS	07/17/2017

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #6 PLANS

SHEET 7.08

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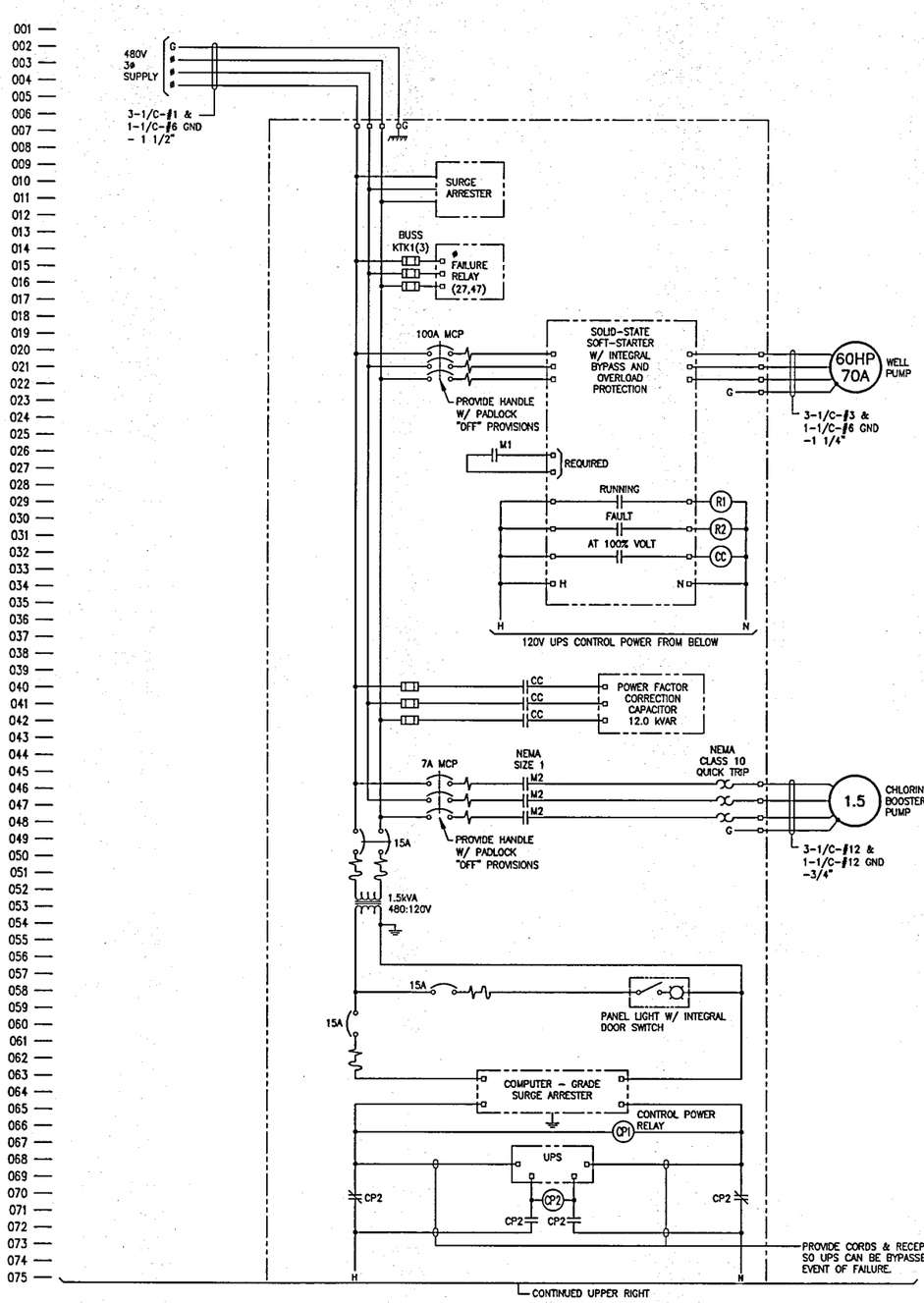

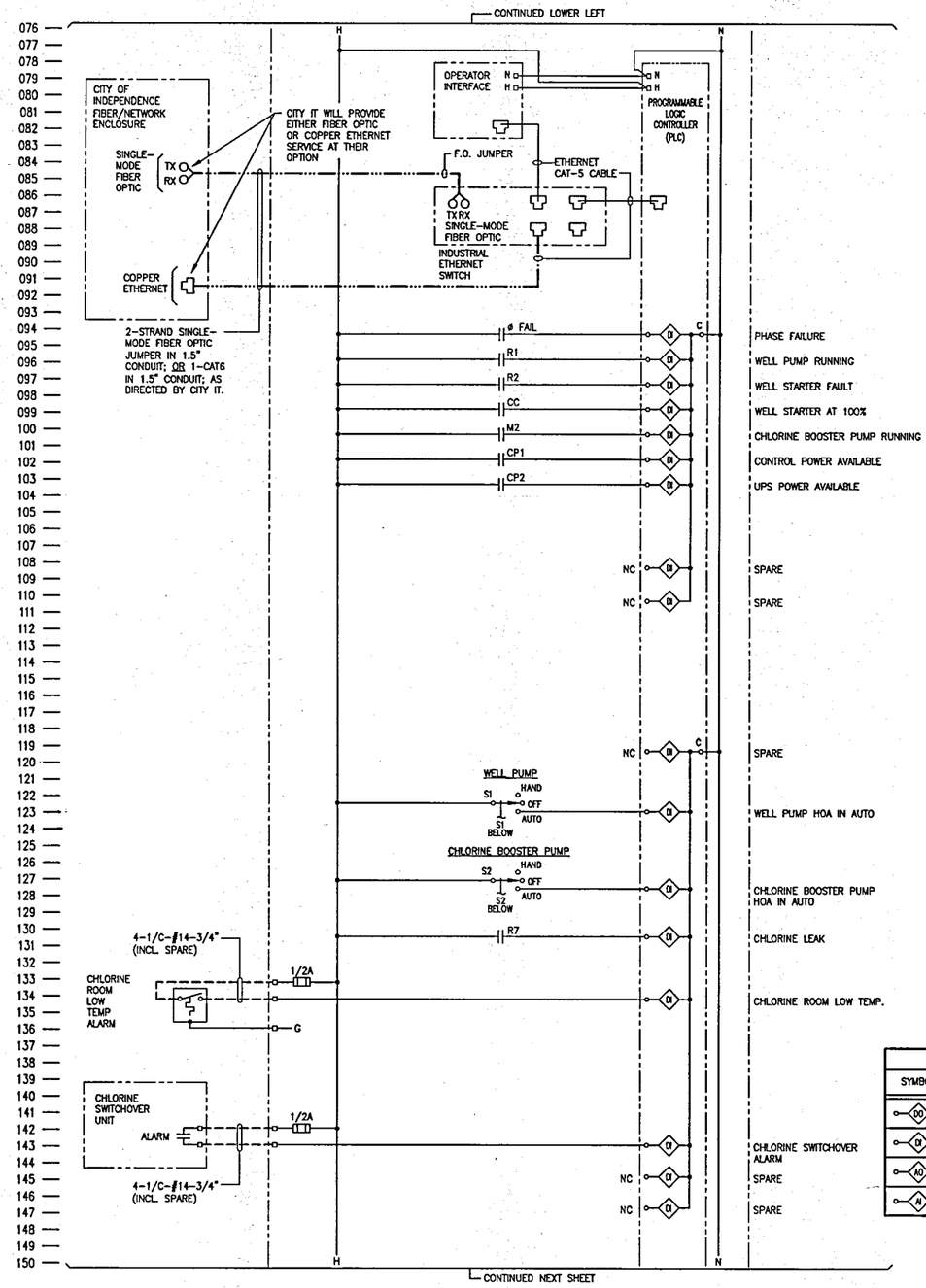

PLC SYMBOLS	
SYMBOL	DESCRIPTION
DO	DIGITAL OUTPUT (CONTACT)
DI	DIGITAL INPUT, REMOTELY POWERED (120VAC UNLESS NOTED OTHERWISE)
AO	ANALOG OUTPUT, 4-20mADC (SELF-POWERED)
AI	ANALOG INPUT, 4-20mADC (UNLESS NOTED OTHERWISE)

WELLHOUSE #6 CONTROL PANEL SCHEMATIC
NO SCALE

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REV.	BY	DATE
0	SJS	02/17/2017

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #6 CONTROL PANEL SCHEMATIC

SHEET 7.09

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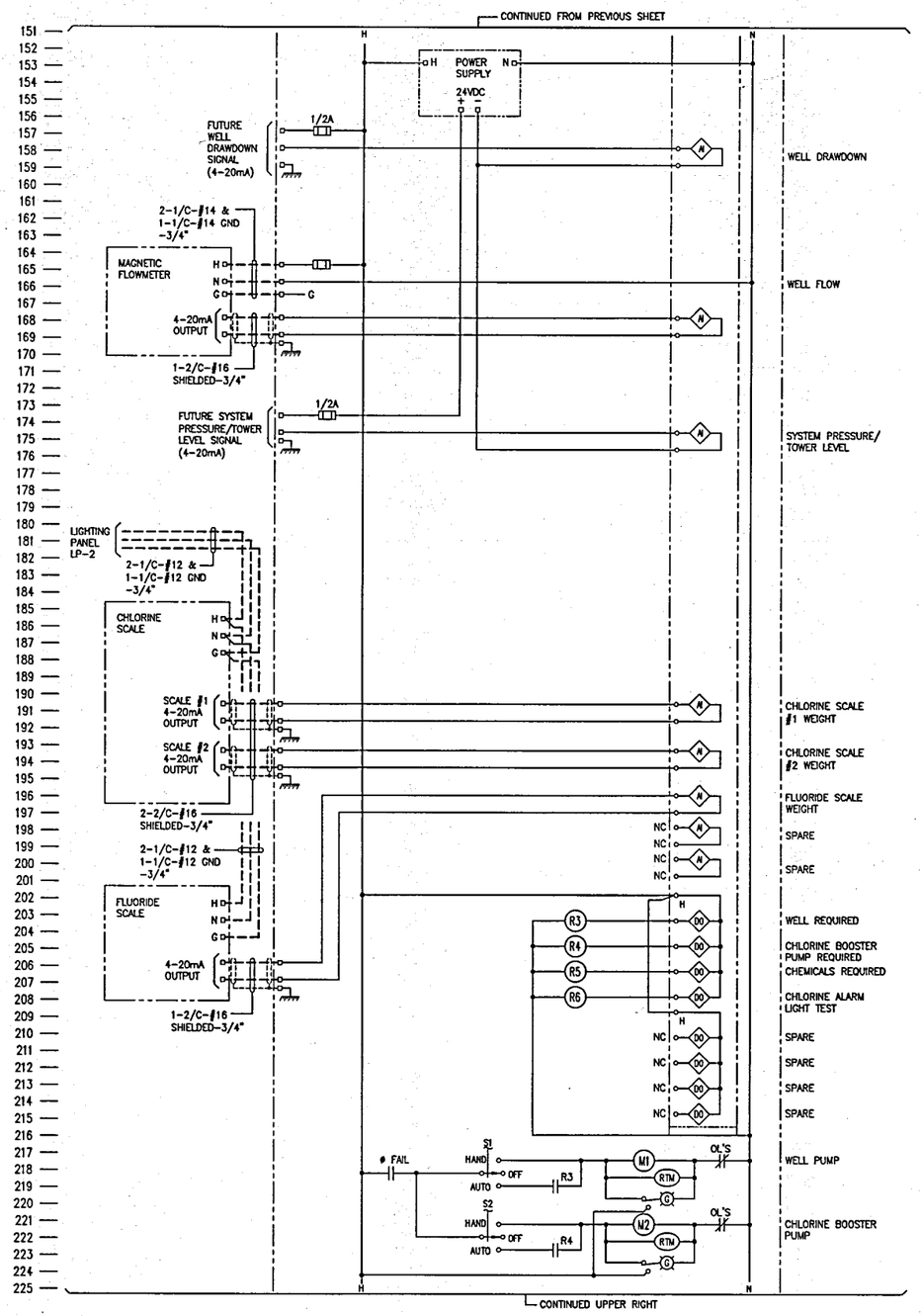

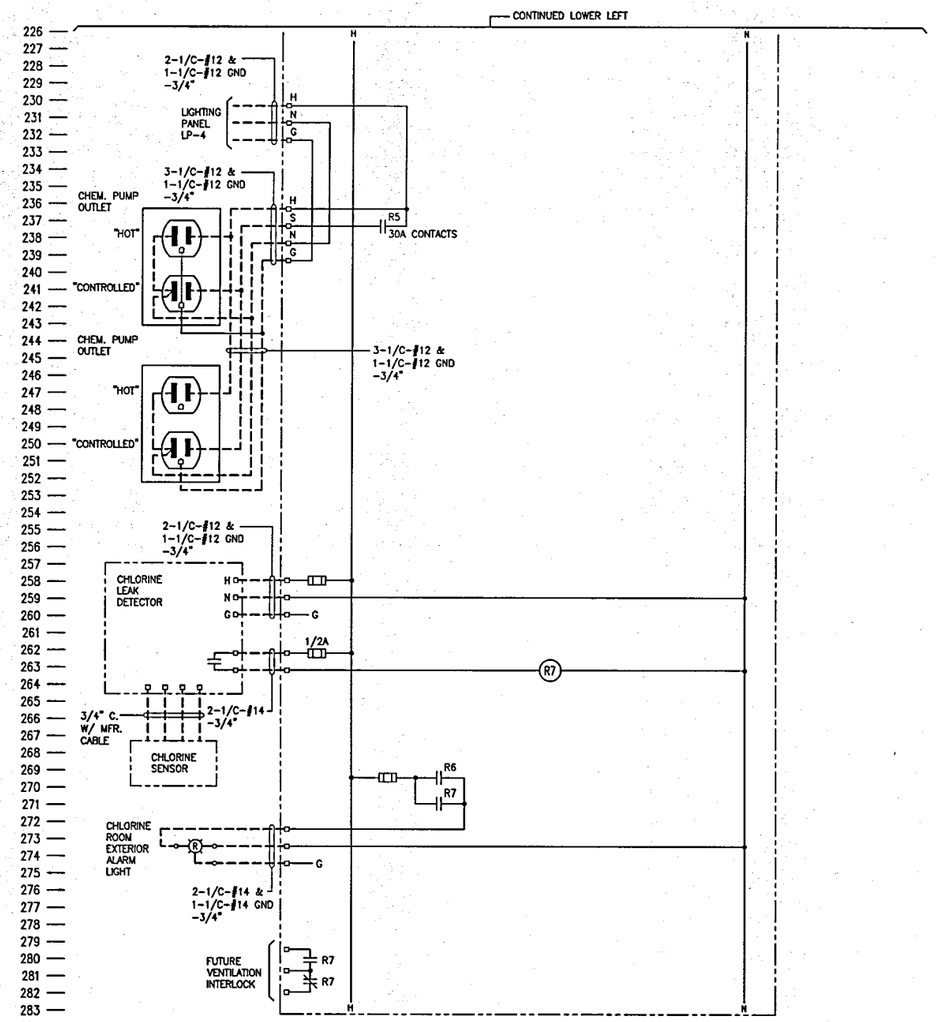

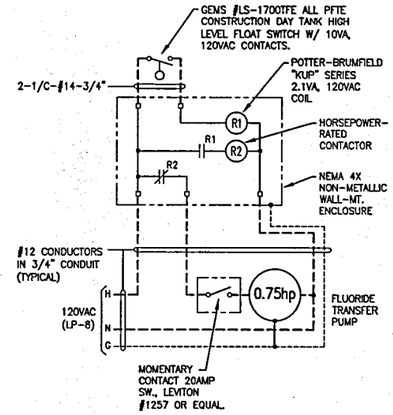

PLC SYMBOLS	
SYMBOL	DESCRIPTION
DO	DIGITAL OUTPUT (CONTACT)
DI	DIGITAL INPUT, REMOTELY POWERED (120VAC UNLESS NOTED OTHERWISE)
AO	ANALOG OUTPUT, 4–20mADC (SELF–POWERED)
AI	ANALOG INPUT, 4–20mADC (UNLESS NOTED OTHERWISE)

WELLHOUSE #6 CONTROL PANEL SCHEMATIC

NO SCALE

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REV.	BY	DATE
0	SJS	02/17/2017

INDEPENDENCE, IOWA

INDEPENDENCE WELLHOUSE REHABILITATION

WELLHOUSE #6 CONTROL PANEL SCHEMATIC

SHEET 7.10

FILE: M:\DEPTWORK\CMAD_LAKOSE\230700\83.59_7.11_REV 1.DWG

DISTRIBUTION PANEL--DP (WELL #7)

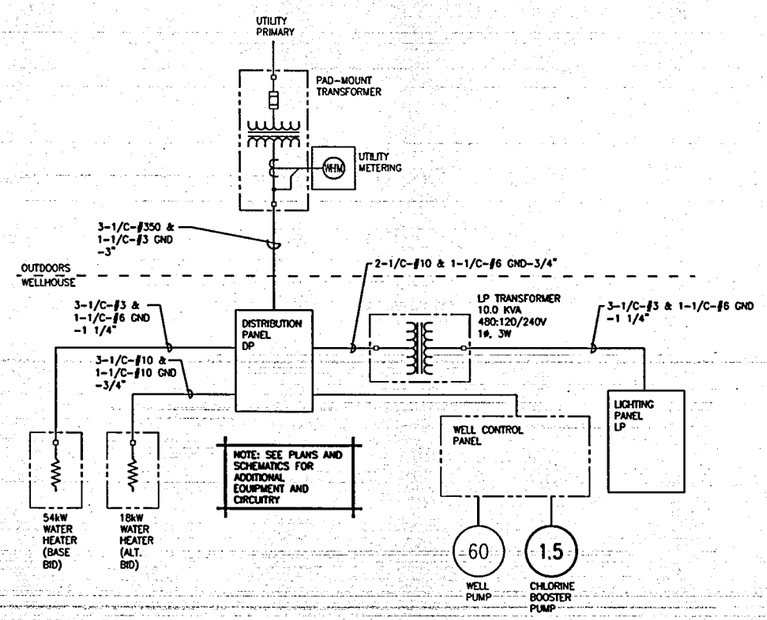
MOUNTING	LOCATION	BUS				REMARKS
		AMPS	VOLTS	PHASE	WIRE	
SURFACE	WELLHOUSE #7	400	277/480	3	4	1. 300A/3P MAIN CIRCUIT BREAKER 2. ISOLATED GROUND BUS

CIRCUIT DESCRIPTION	BKR	CKT	ANTICIPATED LOAD IN VA	PHASE A	PHASE B	PHASE C	ANTICIPATED LOAD IN VA	CKT	BKR	CIRCUIT DESCRIPTION
PUMP ROOM UNIT HTR.	15A	1	1667	■			22200	2	125A	WELL CONTROL PANEL
" " " "		3	1667		■		22200	4		" " "
" " " "	3P	5	1667			■	22200	6	3P	" " "
CHLORINE ROOM UNIT HTR.	15A	7	1667	■			1000	8	30A	LP TRANSFORMER
" " " "		9	1667		■		1000	10	2P	" "
" " " "	3P	11	1667			■	-----	12	-----	SPACE
WATER HEATER (BASE BID)	100A	13	18000	■			-----	14	-----	SPACE
" " " "		15	18000		■		-----	16	-----	SPACE
" " " "	3P	17	18000			■	-----	18	-----	SPACE
WATER HEATER (ALT. BID)	30A	19	6000	■			-----	20	-----	SPACE
" " " "		21	6000		■		-----	22	-----	SPACE
" " " "	3P	23	6000			■	-----	24	-----	SPACE
SPACE	-----	25	-----	■			-----	26	-----	SPACE
SPACE	-----	27	-----		■		-----	28	-----	SPACE
SPACE	-----	29	-----			■	-----	30	-----	SPACE

LIGHTING PANEL--LP (WELL #7)

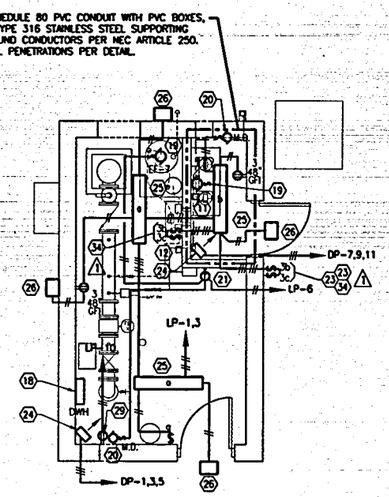
MOUNTING	LOCATION	SERVICE				REMARKS
		AMPS	VOLTS	PHASE	WIRE	
SURFACE	WELLHOUSE #7	100	120/240	1	3	1. 100A/2P MAIN CIRCUIT BREAKER 2. ISOLATED GROUND BUS

CIRCUIT DESCRIPTION	BKR	CKT	ANTICIPATED LOAD IN VA	PHASE A	PHASE B	ANTICIPATED LOAD IN VA	CKT	BKR	CIRCUIT DESCRIPTION
LIGHTS	20A1P	1	125	■		400	2	20A1P	CHEM. SCALES
OUTLETS	20A1P	3	400		■	800	4	20A1P	FLUORIDE PUMPS
SPARE	20A1P	5	-----	■		600	6	20A1P	PUMP ROOM EXHAUST
SPARE	20A1P	7	-----		■	800	8	20A1P	FLUORIDE TRANSFER PUMP
SPARE	20A1P	9	-----	■		1200	10	20A1P	DEHUMIDIFIER
SPARE	20A1P	11	-----		■	-----	12	20A1P	SPARE
SPARE	20A1P	13	-----	■		-----	14	20A1P	SPARE
SPARE	20A1P	15	-----		■	-----	16	20A1P	SPARE
SPACE	-----	17	-----	■		-----	18	-----	SPACE
SPACE	-----	19	-----		■	-----	20	-----	SPACE
SPACE	-----	21	-----	■		-----	22	-----	SPACE
SPACE	-----	23	-----		■	-----	24	-----	SPACE



POWER ONE-LINE DIAGRAM
NO SCALE

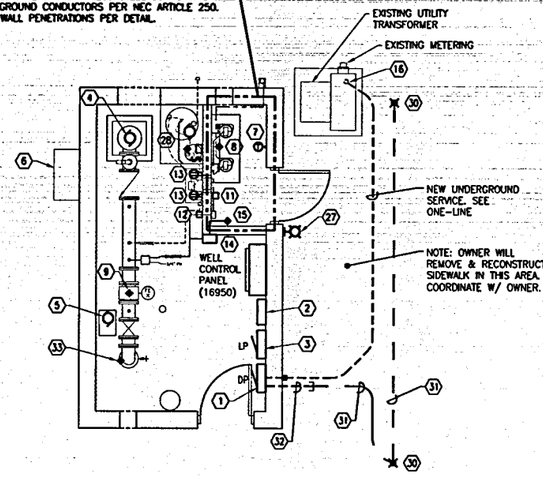
CHEMICAL AREA. USE SCHEDULE 80 PVC CONDUIT WITH PVC BOXES, FITTINGS, ETC. AND ALL TYPE 316 STAINLESS STEEL SUPPORTING HARDWARE. PROVIDE GROUND CONDUCTORS PER NEC ARTICLE 250. SEAL CONDUITS AND WALL PENETRATIONS PER DETAIL.



WELLHOUSE #7 LIGHTING & GENERAL POWER PLAN

0 1' 2' 4' 6' 8' 10' 12'
SCALE

CHEMICAL AREA. USE SCHEDULE 80 PVC CONDUIT WITH PVC BOXES, FITTINGS, ETC. AND ALL TYPE 316 STAINLESS STEEL SUPPORTING HARDWARE. PROVIDE GROUND CONDUCTORS PER NEC ARTICLE 250. SEAL CONDUITS AND WALL PENETRATIONS PER DETAIL.



WELLHOUSE #7 PROCESS ELECTRICAL PLAN

0 1' 2' 4' 6' 8' 10' 12'
SCALE

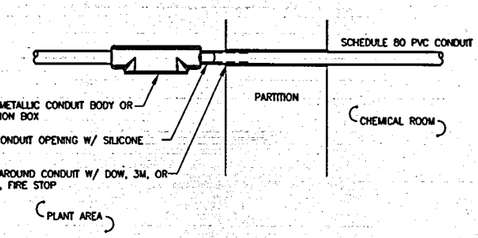
NOTE: REMOVE ALL EXISTING ELECTRICAL SYSTEMS FROM EXISTING WELLHOUSE, EXCEPT WHERE EXISTING EQUIPMENT AND CIRCUITRY IS SPECIFICALLY SHOWN TO BE RE-USED. REMOVALS SHALL INCLUDE PANELBOARDS, TRANSFORMERS, CIRCUIT BREAKERS, STARTERS, CONTROL PANELS, CONTROL COMPONENTS, LIGHTING, GENERAL CIRCUITRY, AND ALL OTHER ABANDONED ELECTRICAL AND ASSOCIATED CABLES AND CONDUITS.

GENERAL NOTES:

1. CONDUCT ALL WORK SO THAT EXISTING FACILITIES REMAIN IN OPERATION DURING CONSTRUCTION. COORDINATE ALL OUTAGES AND CUTOVERS WITH OWNER AT LEAST TWO (2) WEEKS IN ADVANCE, AND ONLY TO OCCUR AT TIMES AND IN DURATIONS AS APPROVED BY OWNER. SEE DIVISION 1 FOR ADDITIONAL REQUIREMENTS.
2. COORDINATE NEW ELECTRIC SERVICES AND METERING REQUIREMENTS WITH SERVING UTILITY PRIOR TO ORDERING EQUIPMENT AND CONSTRUCTION.
3. FIELD CONFIRM LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES, CABLES, CONDUITS, ETC. PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPAIR SUCH ITEMS AT NO COST IF DAMAGED BY CONTRACTOR.
4. ELECTRONICALLY-LOCATE ALL EXISTING IN-PLANT CONDUITS AND CABLES IN AREAS THAT WILL BE DISTURBED. PROTECT ALL EXISTING UNDERGROUND FACILITIES.
5. PROVIDE TEMPORARY SUPPORT FOR EXISTING UNDERGROUND FACILITIES THAT WILL BE EXPOSED DUE TO GENERAL, STRUCTURAL AND PROCESS CONSTRUCTION.
6. EXISTING UNDERGROUND CIRCUITRY THAT IS TO REMAIN IS NOT ALL SHOWN.
7. NOT ALL NEW CIRCUITRY IS SHOWN ON PLAN. SEE ENLARGED PLANS, ONE-LINES AND SCHEMATICS FOR ADDITIONAL CIRCUITRY REQUIREMENTS.
8. FIELD CONFIRM ALL CONDUIT ROUTING WITH OWNER AND FIELD ENGINEER.
9. USE DIRECTIONAL BORING OR SIMILAR METHOD FOR NEW CONDUITS TO BE INSTALLED UNDER EXISTING SIDEWALKS AND PAVEMENTS. WHERE PITS ARE OPENED, PATCH ALL SURFACES TO MATCH EXISTING.
10. DRILL EXISTING STRUCTURES AS REQUIRED FOR NEW CONDUIT INSTALLATION. PATCH ALL SURFACES TO MATCH EXISTING. ALL CORE DRILL LOCATIONS SHALL BE VERIFIED WITH FIELD ENGINEER.
11. SEAL ALL CONDUITS TO EXTERIOR USING DUCTSEAL OR 1/2" THICKNESS SILICONE CAULK.
12. REMOVE AND DISPOSE OF ALL ABANDONED EQUIPMENT, CABLES, CONDUITS, SUPPORTS, HANGERS, ETC. VERIFY THE SCOPE OF REMOVALS WITH OWNER AND ENGINEER DURING CONSTRUCTION. WHERE CONDUITS ARE CAST-IN-PLACE, THEY SHALL BE CUT OFF FLUSH AND PATCHED WITH NON-SHRINK GROUT. PATCH ALL SURFACES USING LIKE MATERIALS WHERE HANGERS, ANCHORS, ETC. ARE REMOVED.

NUMBERED NOTES:

1. DISTRIBUTION PANEL DP.
2. LP TRANSFORMER. WALL MOUNT.
3. LIGHTING PANEL LP.
4. WELL PUMP.
5. CHLORINE BOOSTER PUMP.
6. CITY OF INDEPENDENCE FIBER/NETWORK ENCLOSURE.
7. CHLORINE ROOM LOW TEMP ALARM THERMOSTAT (16950). MOUNT AT 66".
8. CHLORINE SWITCHOVER UNIT (DIV. 11).
9. WELL MAGNETIC FLOWMETER (16950).
10. (NOT USED)
11. CHLORINE SCALE (DIV. 11).
12. FLUORIDE SCALE (DIV. 11).
13. CHEMICAL PUMP OUTLETS. PROVIDE ENGRAVED PLATE SHOWING "HOT" AND "CONTROLLED" BOSSES. SEE SCHEMATICS.
14. CHLORINE LEAK DETECTOR (DIV. 11).
15. CHLORINE SENSOR (DIV. 11).
16. HAND DIG AND EXTEND NEW SERVICE CABLE AND CONDUIT INTO EXISTING TRANSFORMER SECONDARY COMPARTMENT. COORDINATE WITH UTILITY.
17. (NOT USED)
18. INSTANTANEOUS WATER HEATER (DIV. 15). HEATER SIZE AND CIRCUITRY VARIES DEPENDING ON BASE BID / ALTERNATE BID. SEE ONE-LINE DIAGRAM, PANEL SCHEDULE AND BID FORM.
19. EXHAUST FAN (DIV. 15). PROVIDE 20A, S.P. DISC. SW.
20. MOTORIZED DAMPER (DIV. 15) PROVIDE 20A, S.P. DISC. SW.
21. PROVIDE LINE-VOLTAGE COOLING THERMOSTAT WITH 50-90 DEGREE F RANGE. MOUNT AT 54".
22. (NOT USED).
23. LOCKABLE WEATHERPROOF COVER. COOPER INDUSTRIES #S2983, OR EQUAL.
24. 5.0KW, 480V, 3-PHASE UNIT HEATER WITH INTEGRAL THERMOSTAT, DISCONNECT SWITCH AND MOUNTING BRACKET. BERKO SERIES "HUHAA" OR EQUAL. VERIFY EXACT LOCATION AND MOUNTING HEIGHT.
25. CHAIN HUNG, 48" ENCLOSED AND GASKETED INDUSTRIAL LED LIGHT FIXTURE, LITHONIA FEM-L48-L3000-IMAFL-MD-MVOLT-GZ10-35K-80CRI-STSL-MHCH36, OR EQUAL. CHAIN HANG 8'-0" ABOVE THE FINISHED FLOOR.
26. EXTERIOR WALL MOUNTED LED LIGHT FIXTURE WITH CUT-OFF OPTICS, LITHONIA WSTMLED-1A-30K-120-PE-DDBXD, OR EQUAL. WALL MOUNT 9'-0" ABOVE FINISHED GRADE.
27. CHLORINE ROOM EXTERIOR ALARM LIGHT. HUBBELL #WX152 WITH #VRGP-100 TEMPERED RED GLOBE, #VGC-15 GUARD AND 1-LED "A" LAMP (150W EQUIVALENT), OR APPROVED EQUAL.
28. FLUORIDE TRANSFER PUMP, RELAY ENCLOSURE, MOMENTARY SWITCH AND DAY TANK HIGH LEVEL SWITCH. SEE SCHEMATICS. VERIFY EQUIPMENT LOCATIONS WITH OWNER. COORDINATE LEVEL SWITCH MOUNTING IN DAY TANK USING ALL NON-METALLIC HARDWARE.
29. DEDICATED OUTLET FOR PORTABLE DEHUMIDIFIER. VERIFY LOCATION DURING CONSTRUCTION. LABEL: "DEHUMIDIFIER".
30. 3/4" X 10' COPPER-CLAD GROUND ROD WITH EXOTHERMIC WELD TO CONDUCTOR(S) SHOWN. SET TOP 12" DEEP. VERIFY GROUND ROD LOCATIONS WITH OWNER, PROVIDE MINIMUM 20' SEPARATION BETWEEN RODS.
31. #1/0 BARE STRANDED COPPER GROUND CONDUCTOR, 12" DEEP.
32. STUB 1.25" SCHEDULE 80 PVC CONDUIT FOR GROUND CONDUCTOR.
33. BOND PANEL DP GROUND BUS TO WATER PIPING FLANGE BOLT USING 1-1/C-#1/0-1.25".
34. LABEL SWITCHES: "LIGHTS" AND "EXHAUST".



CHEMICAL ROOM CONDUIT PENETRATION DETAIL
NO SCALE — TYPICAL

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REV.	BY	DATE	
0	SJS	02/17/2017	INDEPENDENCE, IOWA
1	SJS	07/17/2017	INDEPENDENCE WELLHOUSE REHABILITATION
			WELLHOUSE #7 PLANS

SHEET 7.11

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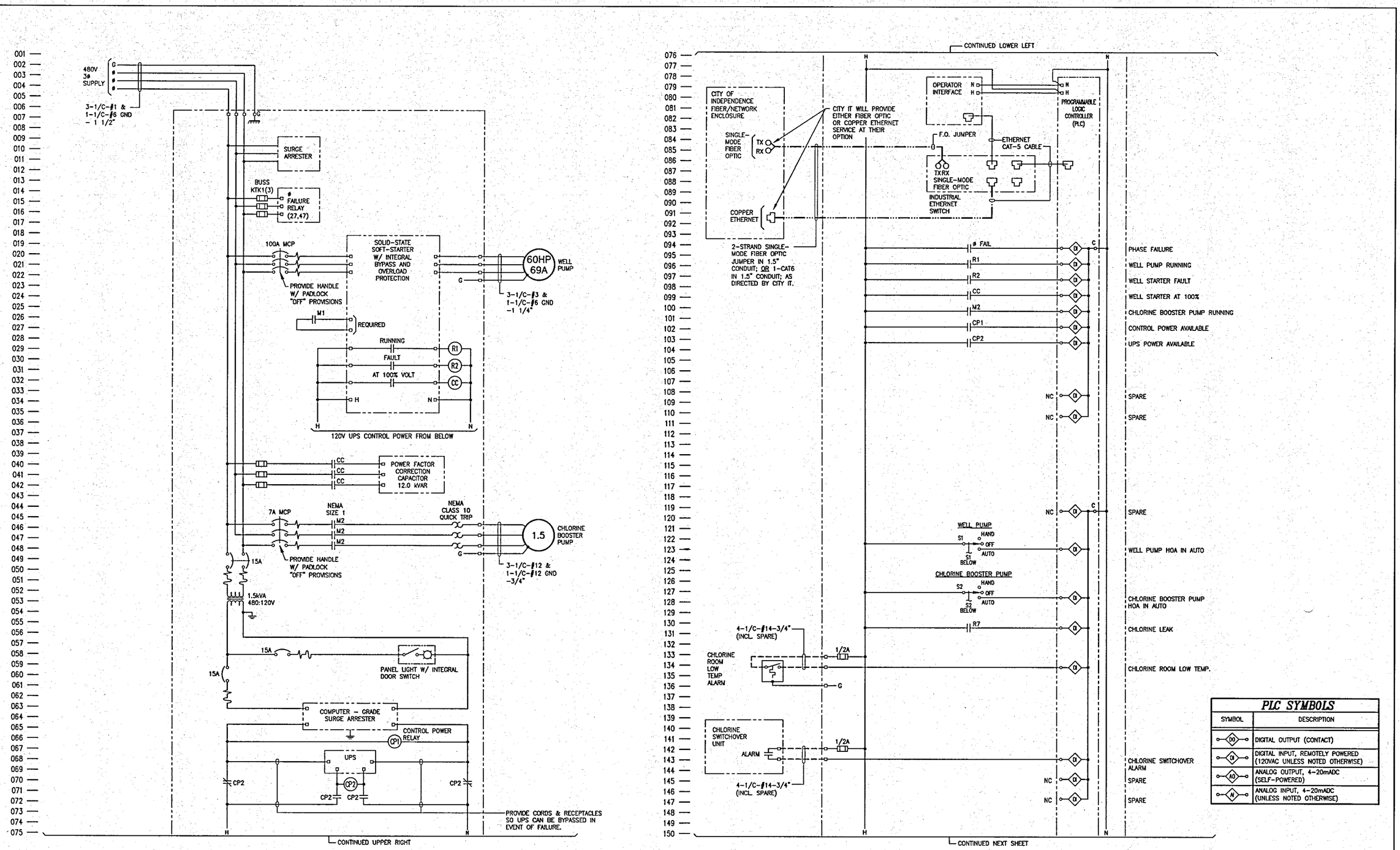

WELLHOUSE #7 CONTROL PANEL SCHEMATIC
NO SCALE

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INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #7 CONTROL PANEL SCHEMATIC

SHEET 7.12

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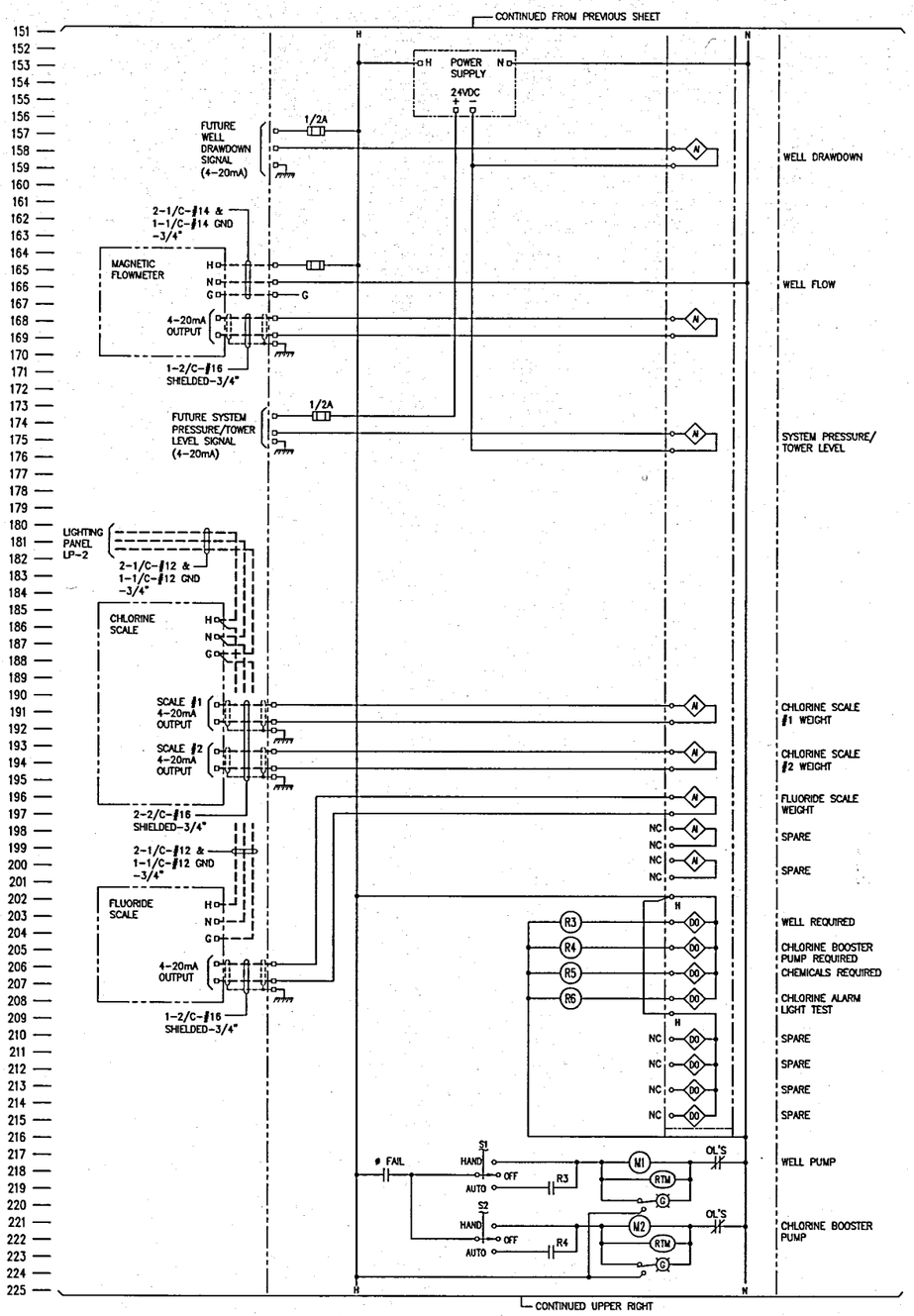

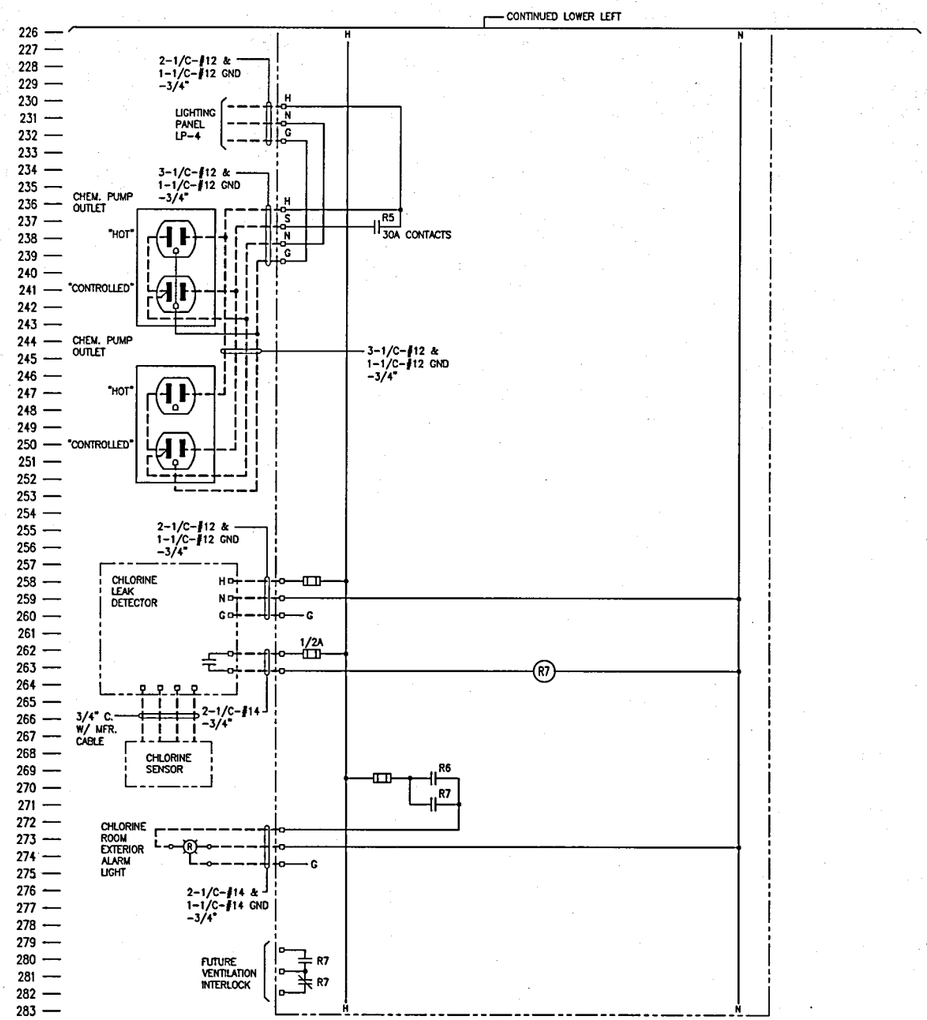

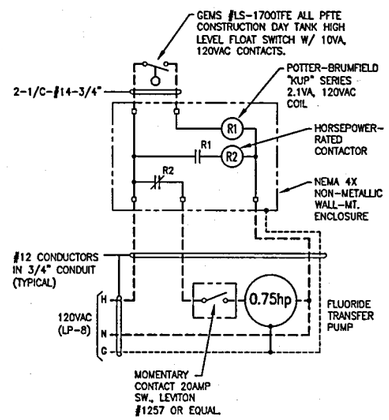

PLC SYMBOLS	
SYMBOL	DESCRIPTION
DO	DIGITAL OUTPUT (CONTACT)
DI	DIGITAL INPUT, REMOTELY POWERED (120VAC UNLESS NOTED OTHERWISE)
AO	ANALOG OUTPUT, 4-20mADC (SELF-POWERED)
AI	ANALOG INPUT, 4-20mADC (UNLESS NOTED OTHERWISE)

WELLHOUSE #7 CONTROL PANEL SCHEMATIC
NO SCALE

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0	SJS	02/17/2017

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #7 CONTROL PANEL SCHEMATIC

SHEET 7.13

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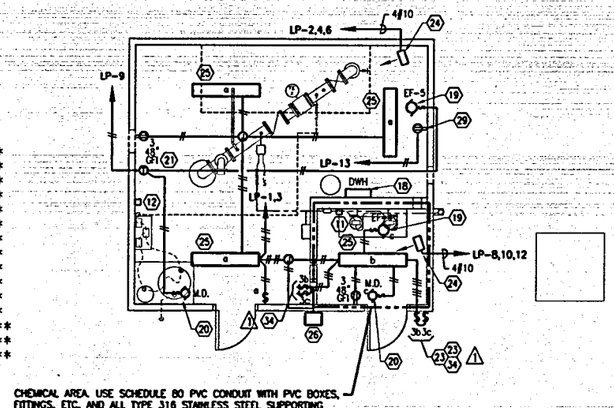
LIGHTING PANEL--LP (WELL #8) - EXISTING SQUARE D "I-LINE" PANELBOARD

MOUNTING	LOCATION	BUS AMPS	BUS VOLTS	BUS PHASE	BUS WIRE	REMARKS
EXTERIOR	WELLHOUSE #8	400	120/208	3	4	

	CIRCUIT DESCRIPTION	BKR	CKT	ANTICIPATED LOAD IN VA	PHASE A	PHASE B	PHASE C	ANTICIPATED LOAD IN VA	CKT	BKR	CIRCUIT DESCRIPTION	
*	LIGHTS	20A1P	1	125				2500	2	30A	PUMP RM. UNIT HTR.	*
*	OUTLETS	20A1P	3	400				2500	4		" " " "	*
*	CHEM. SCALES	20A1P	5	400				2500	6	3P	" " " "	*
*	FLUORIDE PUMPS	20A1P	7	800				2500	8	30A	CHLORINE RM. UNIT HTR.	*
*	PUMP ROOM EXHAUST	20A1P	9	600				2500	10		" " " "	*
*	FLUORIDE TRANSFER PUMP	20A1P	11	800				2500	12	3P	" " " "	*
*	DEHUMIDIFIER	20A1P	13	1200				16000	14	175A	WATER HEATER (BASE BID)	*
	SPARE	60A / 2P	15	-----				16000	16		" " " "	*
	SPARE		17	-----				16000	18	3P	" " " "	*
	SPARE	30A / 2P	19	-----				6000	20	70A	WATER HEATER (ALT. BID)	*
	SPARE		21	-----				6000	22		" " " "	*
	SPARE	-----	23	-----				6000	24	3P	" " " "	*
	SPARE	-----	25	-----				11000	26	150A	WELL CONTROL PANEL	**
	SPARE	-----	27	-----				11000	28		" " " "	**
	SPARE	-----	29	-----				11000	30	3P	" " " "	**

* FURNISH & INSTALL NEW SQUARE D BRANCH BREAKER SUITABLE FOR I-LINE PANELBOARD

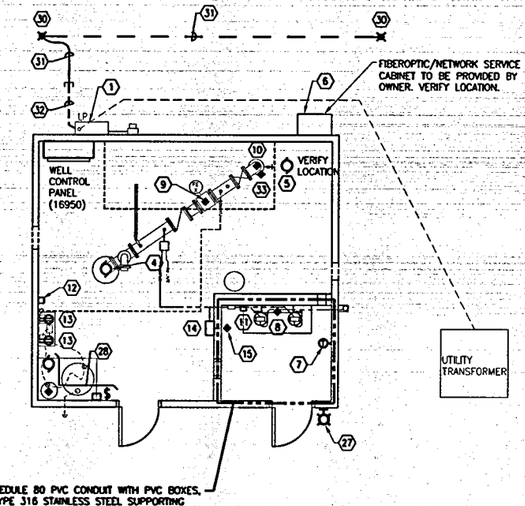
** USE EXISTING BRANCH BREAKER



CHEMICAL AREA. USE SCHEDULE 80 PVC CONDUIT WITH PVC BOXES, FITTINGS, ETC. AND ALL TYPE 316 STAINLESS STEEL SUPPORTING HARDWARE. PROVIDE GROUND CONDUCTORS PER NEC ARTICLE 250. SEAL CONDUITS AND WALL PENETRATIONS PER DETAIL.

WELLHOUSE #8 LIGHTING & GENERAL POWER PLAN

0 1' 2' 4' 6' 8' 10' 12'
SCALE

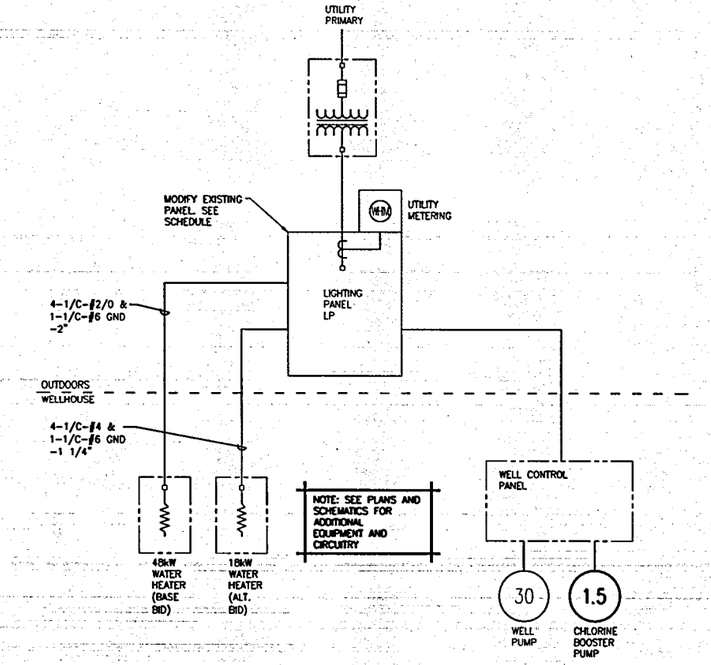


CHEMICAL AREA. USE SCHEDULE 80 PVC CONDUIT WITH PVC BOXES, FITTINGS, ETC. AND ALL TYPE 316 STAINLESS STEEL SUPPORTING HARDWARE. PROVIDE GROUND CONDUCTORS PER NEC ARTICLE 250. SEAL CONDUITS AND WALL PENETRATIONS PER DETAIL.

WELLHOUSE #8 PROCESS ELECTRICAL PLAN

0 1' 2' 4' 6' 8' 10' 12'
SCALE

NOTE: REMOVE ALL EXISTING ELECTRICAL SYSTEMS FROM EXISTING WELLHOUSE, EXCEPT WHERE EXISTING EQUIPMENT AND CIRCUITRY IS SPECIFICALLY SHOWN TO BE RE-USED. REMOVALS SHALL INCLUDE PANELBOARDS, TRANSFORMERS, CIRCUIT BREAKERS, STARTERS, CONTROL PANELS, CONTROL COMPONENTS, LIGHTING, GENERAL CIRCUITRY, AND ALL OTHER ABANDONED ELECTRICAL AND ASSOCIATED CABLES AND CONDUITS.



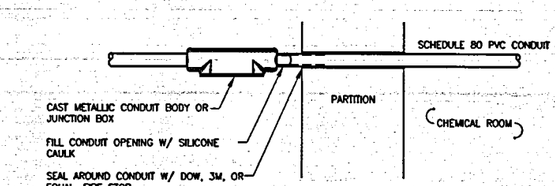
POWER ONE-LINE DIAGRAM
NO SCALE

GENERAL NOTES:

1. CONDUCT ALL WORK SO THAT EXISTING FACILITIES REMAIN IN OPERATION DURING CONSTRUCTION. COORDINATE ALL OUTAGES AND CUTOVERS WITH OWNER AT LEAST TWO (2) WEEKS IN ADVANCE, AND ONLY TO OCCUR AT TIMES AND IN DURATIONS AS APPROVED BY OWNER. SEE DIVISION 1 FOR ADDITIONAL REQUIREMENTS.
2. COORDINATE NEW ELECTRIC SERVICES AND METERING REQUIREMENTS WITH SERVING UTILITY PRIOR TO ORDERING EQUIPMENT AND CONSTRUCTION.
3. FIELD CONFIRM LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES, CABLES, CONDUITS, ETC. PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPAIR SUCH ITEMS AT NO COST IF DAMAGED BY CONTRACTOR.
4. ELECTRONICALLY-LOCATE ALL EXISTING IN-PLANT CONDUITS AND CABLES IN AREAS THAT WILL BE DISTURBED. PROTECT ALL EXISTING UNDERGROUND FACILITIES.
5. PROVIDE TEMPORARY SUPPORT FOR EXISTING UNDERGROUND FACILITIES THAT WILL BE EXPOSED DUE TO GENERAL, STRUCTURAL AND PROCESS CONSTRUCTION.
6. EXISTING UNDERGROUND CIRCUITRY THAT IS TO REMAIN IS NOT ALL SHOWN.
7. NOT ALL NEW CIRCUITRY IS SHOWN ON PLAN. SEE ENLARGED PLANS, ONE-LINES AND SCHEMATICS FOR ADDITIONAL CIRCUITRY REQUIREMENTS.
8. FIELD CONFIRM ALL CONDUIT ROUTING WITH OWNER AND FIELD ENGINEER.
9. USE DIRECTIONAL BORING OR SIMILAR METHOD FOR NEW CONDUITS TO BE INSTALLED UNDER EXISTING SIDEWALKS AND PAVEMENTS. WHERE PITS ARE OPENED, PATCH ALL SURFACES TO MATCH EXISTING.
10. DRILL EXISTING STRUCTURES AS REQUIRED FOR NEW CONDUIT INSTALLATION. PATCH ALL SURFACES TO MATCH EXISTING. ALL CORE DRILL LOCATIONS SHALL BE VERIFIED WITH FIELD ENGINEER.
11. SEAL ALL CONDUITS TO EXTERIOR USING DUCTSEAL OR 1/2" THICKNESS SILICONE CAULK.
12. REMOVE AND DISPOSE OF ALL ABANDONED EQUIPMENT, CABLES, CONDUITS, SUPPORTS, HANGERS, ETC. VERIFY THE SCOPE OF REMOVALS WITH OWNER AND ENGINEER DURING CONSTRUCTION. WHERE CONDUITS ARE CAST-IN-PLACE, THEY SHALL BE CUT OFF FLUSH AND PATCHED WITH NON-SHRINK GROUT. PATCH ALL SURFACES USING LIKE MATERIALS WHERE HANGERS, ANCHORS, ETC. ARE REMOVED.

NUMBERED NOTES:

1. MODIFY EXISTING LIGHTING PANEL 'LP'. SEE SCHEDULE ON THIS SHEET.
2. (NOT USED)
3. (NOT USED)
4. WELL PUMP.
5. CHLORINE BOOSTER PUMP.
6. CITY OF INDEPENDENCE FIBER/NETWORK ENCLOSURE.
7. CHLORINE ROOM LOW TEMP ALARM THERMOSTAT (16950). MOUNT AT 66".
8. CHLORINE SWITCHOVER UNIT (DIV. 11).
9. WELL MAGNETIC FLOWMETER (16950).
10. TOWER LEVEL / PRESSURE TRANSMITTER (16950). COORDINATE TAP IN PROCESS PIPING. PROVIDE 1/2" NPT STAINLESS STEEL SHUTOFF VALVE AND STAINLESS STEEL TUBING. VERIFY MOUNTING WITH OWNER/ENGINEER.
11. CHLORINE SCALE (DIV. 11).
12. FLUORIDE SCALE (DIV. 11).
13. CHEMICAL PUMP OUTLETS. PROVIDE ENGRAVED PLATE SHOWING "HOT" AND "CONTROLLED" BOSSES. SEE SCHEMATICS.
14. CHLORINE LEAK DETECTOR (DIV. 11).
15. CHLORINE SENSOR (DIV. 11).
16. (NOT USED)
17. (NOT USED)
18. INSTANTANEOUS WATER HEATER (DIV. 15). HEATER SIZE AND CIRCUITRY VARIES DEPENDING ON BASE BID / ALTERNATE BID. SEE ONE-LINE DIAGRAM, PANEL SCHEDULE AND BID FORM.
19. EXHAUST FAN (DIV. 15). PROVIDE 20A, S.P. DISC. SW.
20. MOTORIZED DAMPER (DIV. 15) PROVIDE 20A, S.P. DISC. SW.
21. PROVIDE LINE-VOLTAGE COOLING THERMOSTAT WITH 50-90 DEGREE F RANGE. MOUNT AT 54".
22. (NOT USED).
23. LOCKABLE WEATHERPROOF COVER. COOPER INDUSTRIES #S2983, OR EQUAL.
24. 7.5KW, 208V, 3-PHASE UNIT HEATER WITH INTEGRAL THERMOSTAT, DISCONNECT SWITCH AND MOUNTING BRACKET. BERKO SERIES "HUHAA" OR EQUAL. VERIFY EXACT LOCATION AND MOUNTING HEIGHT.
25. CHAIN HUNG, 48" ENCLOSED AND GASKETED INDUSTRIAL LED LIGHT FIXTURE, LITHONIA FEM-L48-L3000-IMAFL-MD-MVOLT-GZ10-35K-80CRI-STSL-WHCH36, OR EQUAL. CHAIN HANG 8'-0" ABOVE THE FINISHED FLOOR.
26. EXTERIOR WALL MOUNTED LED LIGHT FIXTURE WITH CUT-OFF OPTICS, LITHONIA WSTALED-1A-30K-120-PE-DDBXD, OR EQUAL. WALL MOUNT 9'-0" ABOVE FINISHED GRADE.
27. CHLORINE ROOM EXTERIOR ALARM LIGHT. HUBBELL #VWX152 WITH #VRGP-100 TEMPERED RED GLOBE, #VGC-15 GUARD AND 1-LED 'A' LAMP (150W EQUIVALENT), OR APPROVED EQUAL.
28. FLUORIDE TRANSFER PUMP, RELAY ENCLOSURE, MOMENTARY SWITCH AND DAY TANK HIGH LEVEL SWITCH. SEE SCHEMATICS. VERIFY EQUIPMENT LOCATIONS WITH OWNER. COORDINATE LEVEL SWITCH MOUNTING IN DAY TANK USING ALL NON-METALLIC HARDWARE.
29. DEDICATED OUTLET FOR PORTABLE DEHUMIDIFIER. VERIFY LOCATION DURING CONSTRUCTION. LABEL: "DEHUMIDIFIER".
30. 3/4" X 10' COPPER-CLAD GROUND ROD WITH EXOTHERMIC WELD TO CONDUCTOR(S) SHOWN. SET TOP 12" DEEP. VERIFY GROUND ROD LOCATIONS WITH OWNER, PROVIDE MINIMUM 20' SEPARATION BETWEEN RODS.
31. #1/0 BARE STRANDED COPPER GROUND CONDUCTOR, 12" DEEP.
32. STUB 1.25" SCHEDULE 80 PVC CONDUIT FOR GROUND CONDUCTOR.
33. BOND PANEL LP GROUND BUS TO WATER PIPING FLANGE BOLT USING 1-1/C-#1/0-1.25".
34. LABEL SWITCHES: "LIGHTS" AND "EXHAUST".



CHEMICAL ROOM CONDUIT PENETRATION DETAIL
NO SCALE — TYPICAL

BOLTON & MENK
www.bolton-menk.com

REV.	BY	DATE
0	SJS	02/17/2017
1	SJS	07/17/2017

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #8 PLANS

SHEET 7.14

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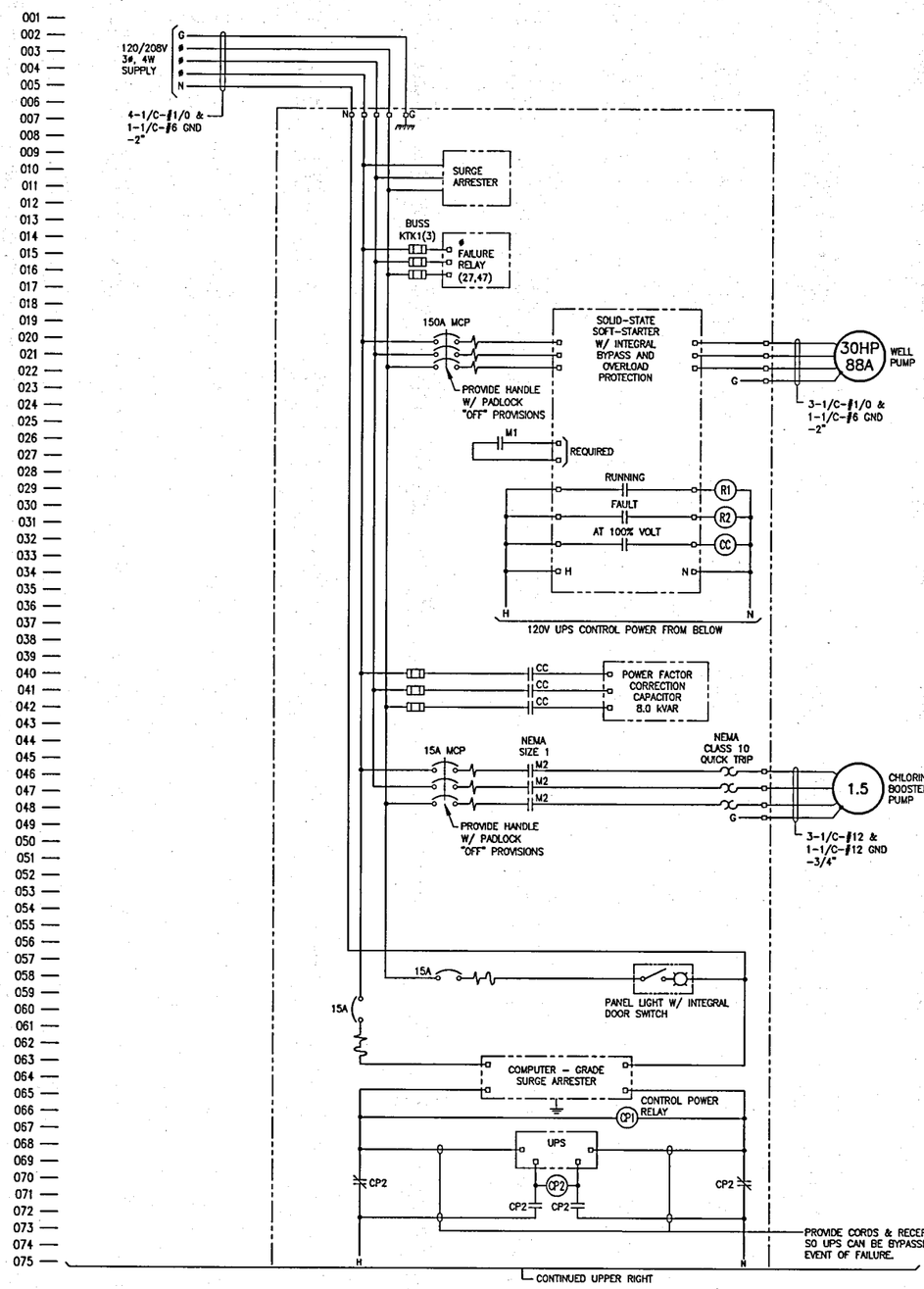

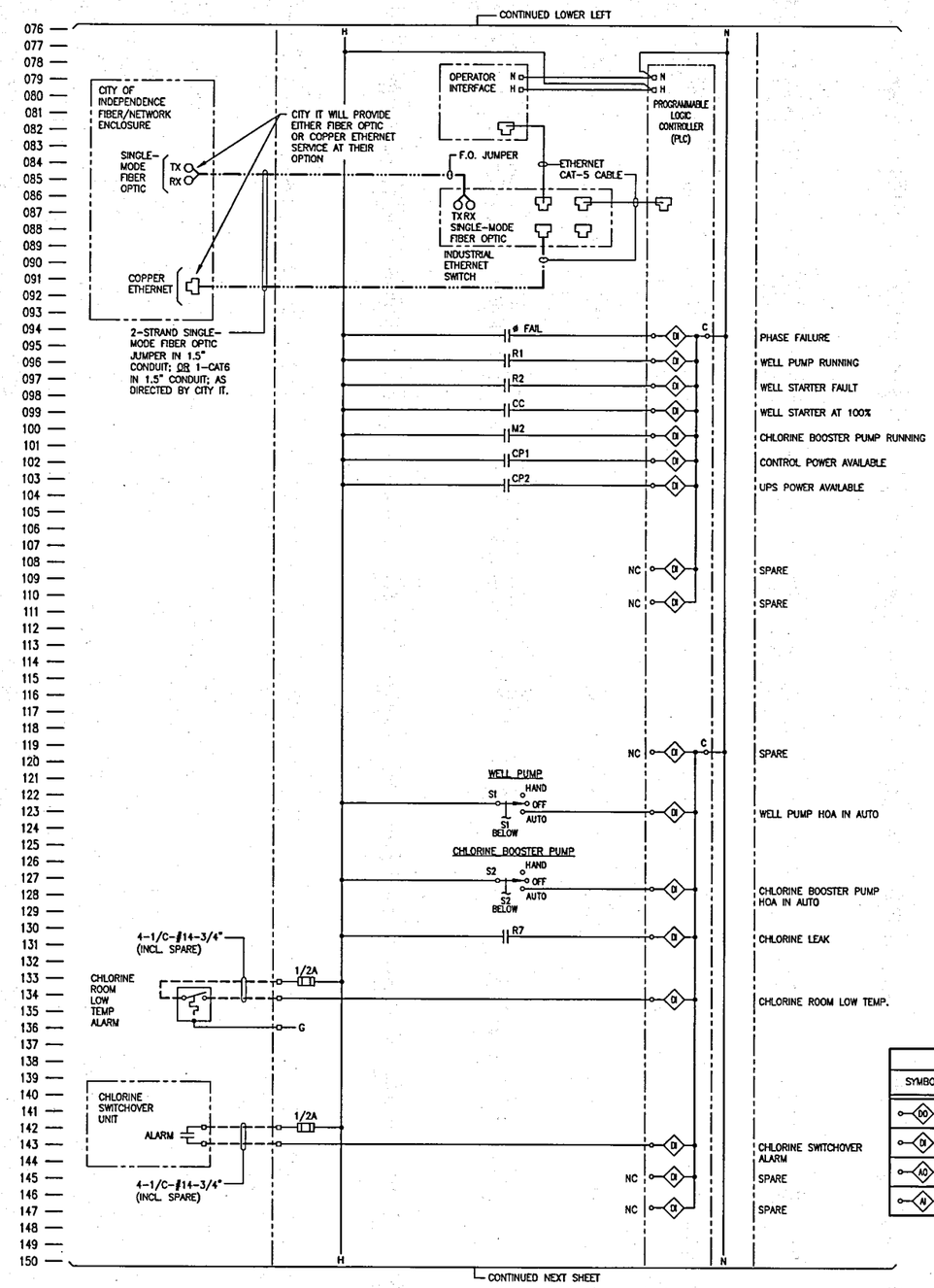

PLC SYMBOLS

SYMBOL	DESCRIPTION
DO	DIGITAL OUTPUT (CONTACT)
DI	DIGITAL INPUT, REMOTELY POWERED (120VAC UNLESS NOTED OTHERWISE)
AO	ANALOG OUTPUT, 4-20mADC (SELF-POWERED)
AI	ANALOG INPUT, 4-20mADC (UNLESS NOTED OTHERWISE)

WELLHOUSE #8 CONTROL PANEL SCHEMATIC

NO SCALE

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REV.	BY	DATE
0	SJS	02/17/2017

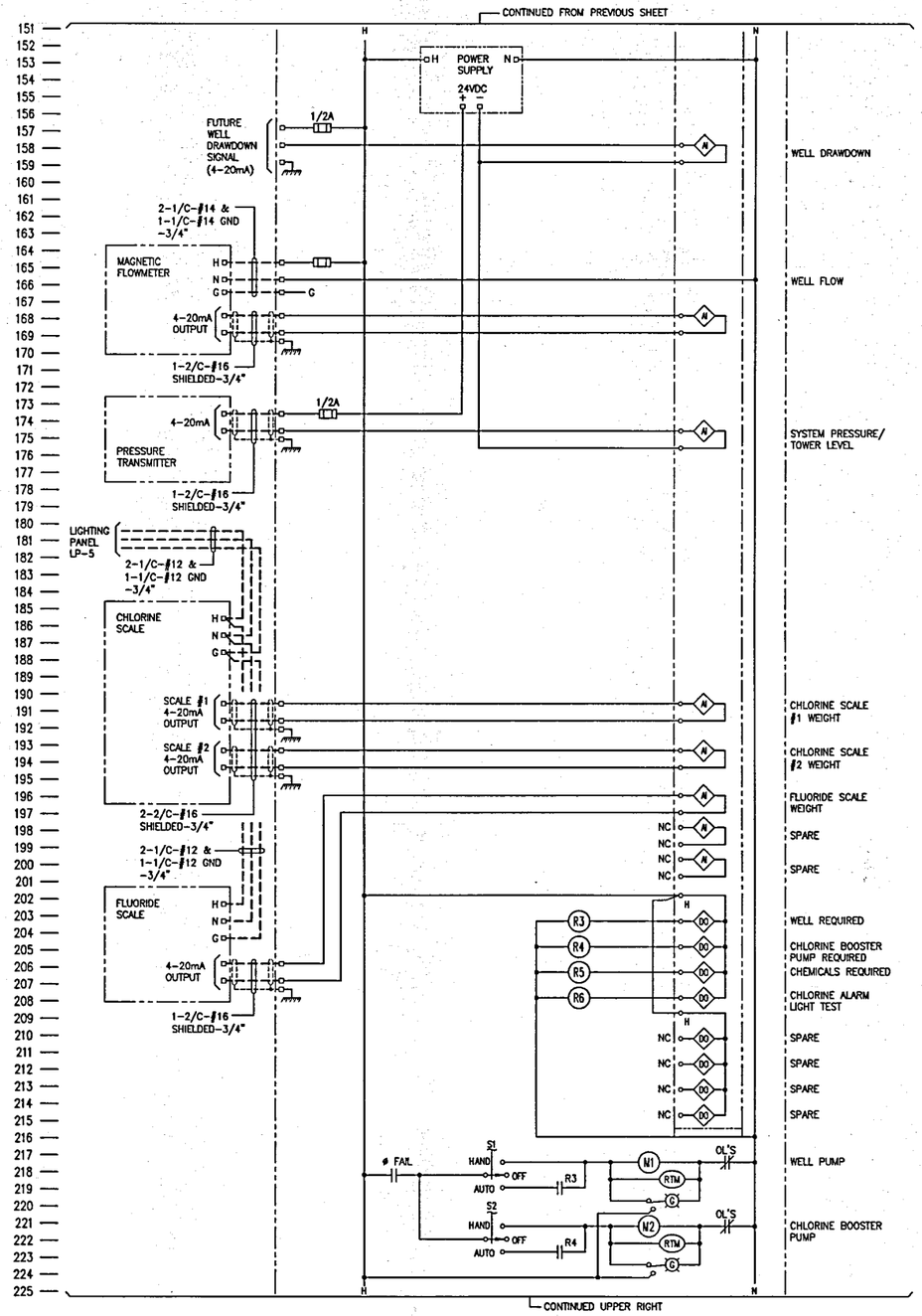
INDEPENDENCE, IOWA

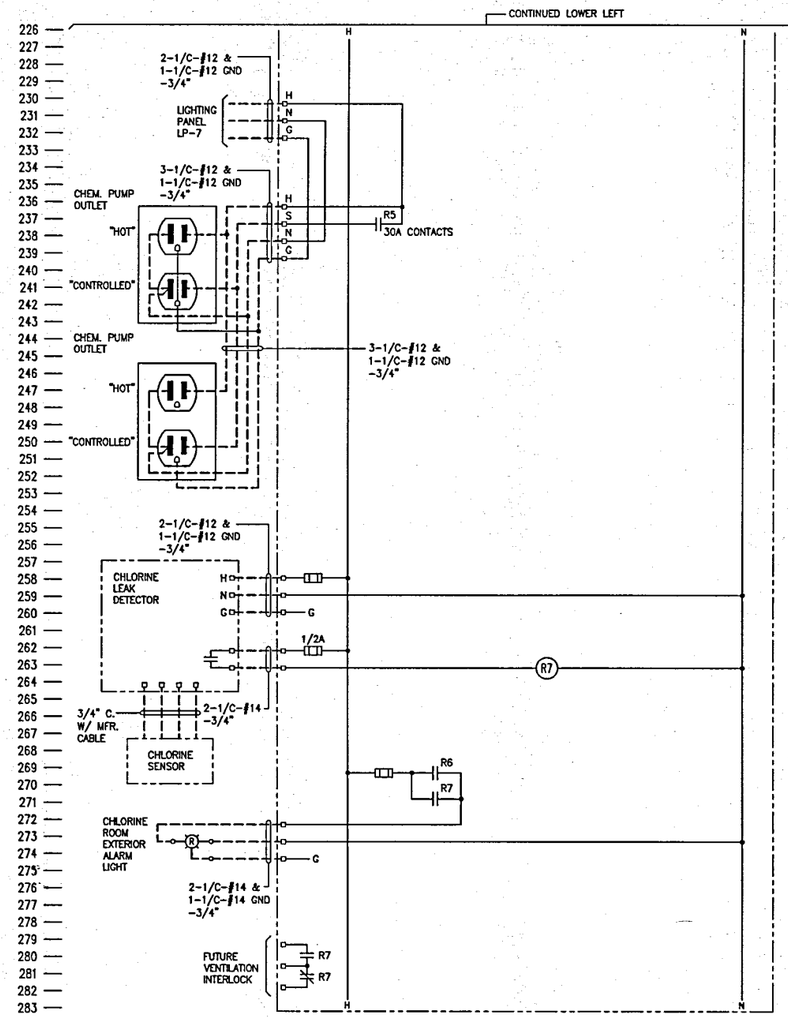
INDEPENDENCE WELLHOUSE REHABILITATION

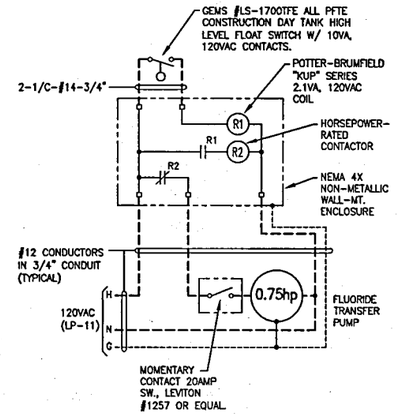
WELLHOUSE #8 CONTROL PANEL SCHEMATIC

SHEET 7.15

FILE: H:\WDEPTWORK\CHAD LAKOSE\230706S3.59L_7.16.DWG







PLC SYMBOLS	
SYMBOL	DESCRIPTION
DO	DIGITAL OUTPUT (CONTACT)
DI	DIGITAL INPUT, REMOTELY POWERED (120VAC UNLESS NOTED OTHERWISE)
AO	ANALOG OUTPUT, 4–20mADC (SELF–POWERED)
AI	ANALOG INPUT, 4–20mADC (UNLESS NOTED OTHERWISE)

WELLHOUSE #8 CONTROL PANEL SCHEMATIC
NO SCALE

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REV.	BY	DATE
0	SJS	02/17/2017

INDEPENDENCE, IOWA
INDEPENDENCE WELLHOUSE REHABILITATION
WELLHOUSE #8 CONTROL PANEL SCHEMATIC

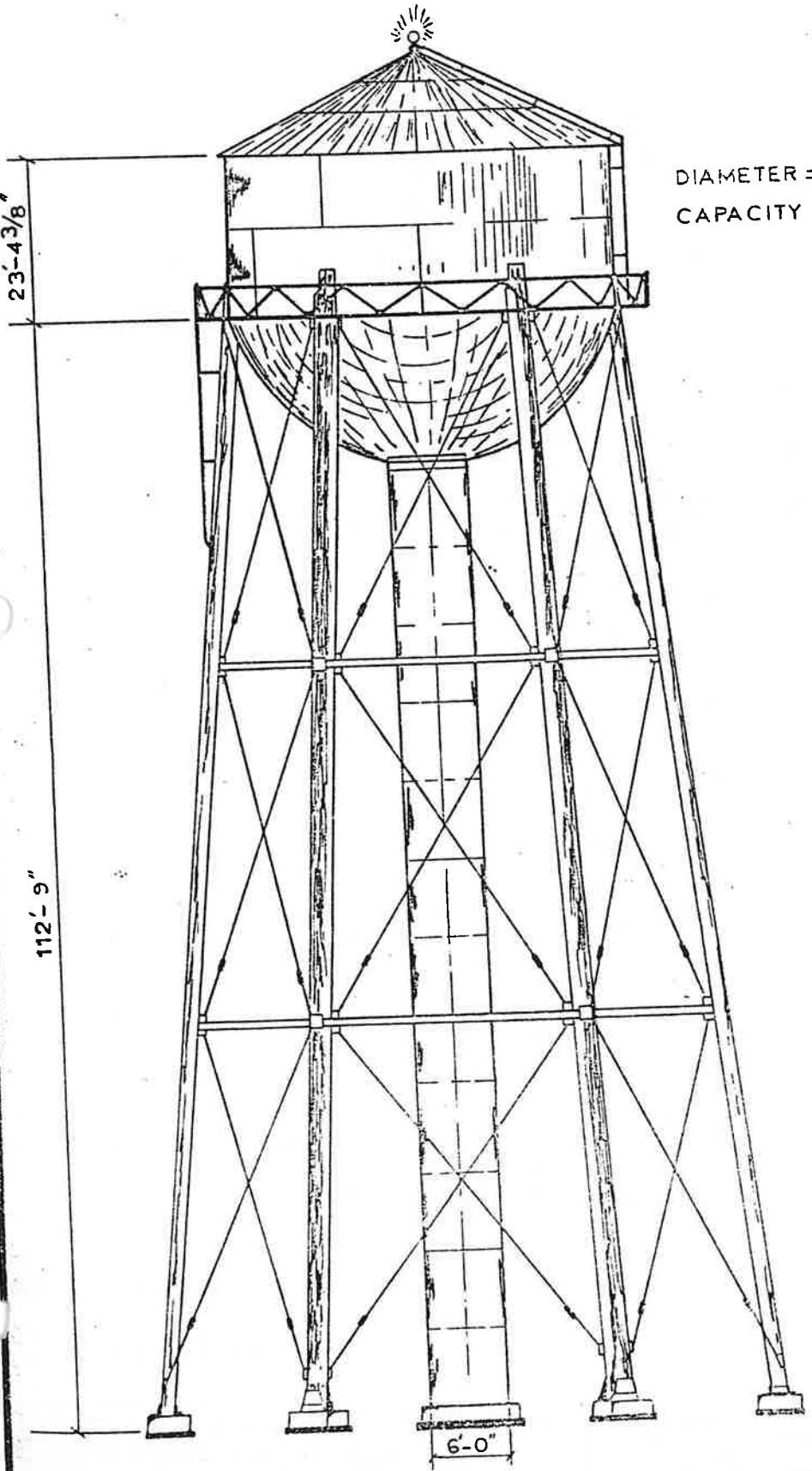
SHEET 7.16

APPENDIX L

ELEVATED STORAGE TANK DRAWINGS

EXISTING INDEPENDENCE WATER TOWER

COURTHOUSE TOWER



DIAMETER = 32'-0"
CAPACITY = 200,000 GAL.

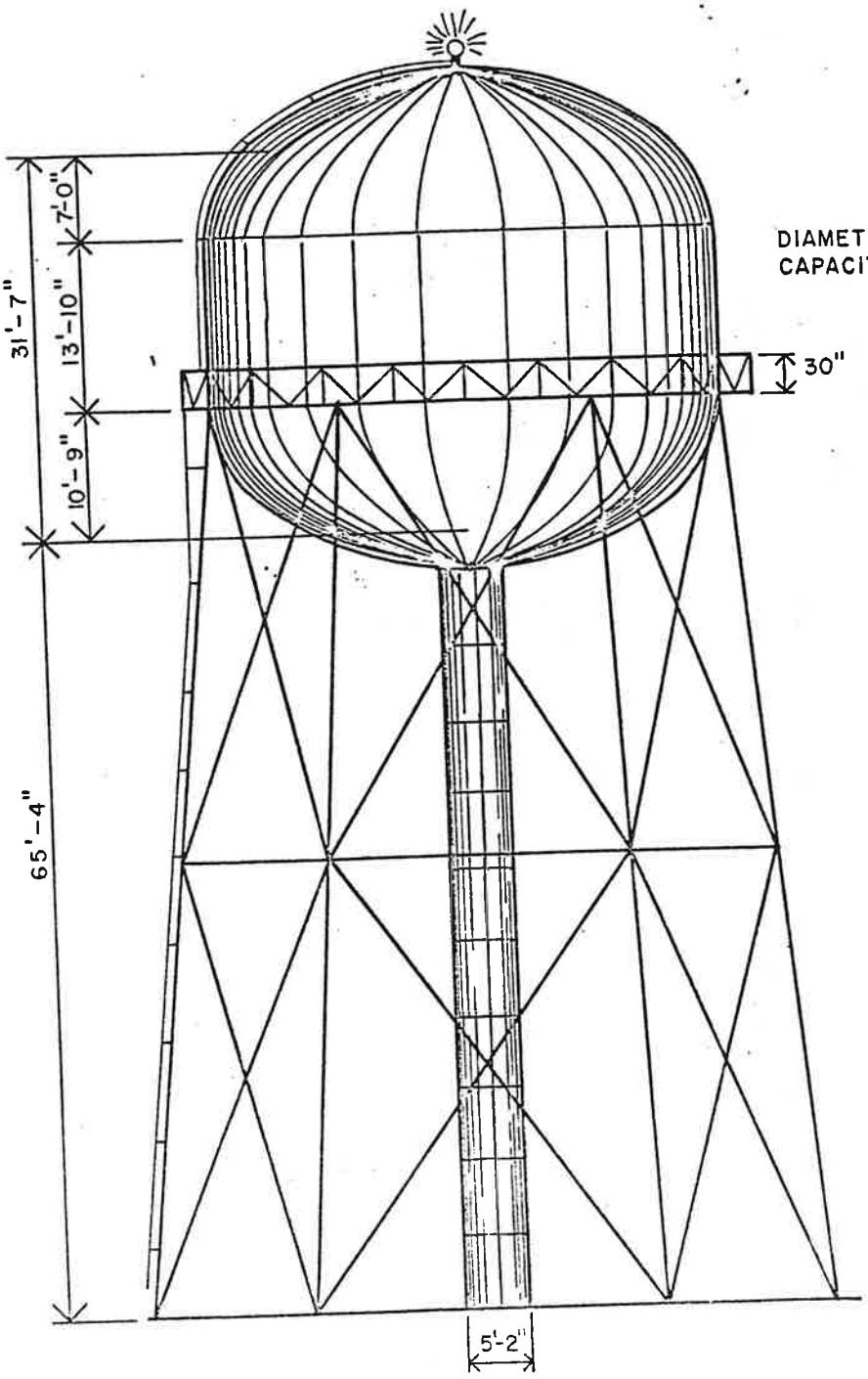
TANK No. 127
TOWER No. 2

U.S.G.S. GROUND ELEV. = 946.51
OVERFLOW ELEV. = 1082.50
HIGHT OF TOWER = 136 FT.

PLATE NO. 7

LOCATION	DATE	BY	STD	BERT B. HANSON & ASSOCIATES, INC.

EXISTING M.H.I. WATER TOWER



U.S.G.S. GROUND ELEV. = 983.30
OVERFLOW ELEV. = 1080
HIGHT OF TOWER = 97 FT.

PLATE NO. 8

LOCATION	DATE	BY	STD	BERT B. HANSON & ASSOCIATES, INC. CONSULTING ENGINEERS
INDEPENDENCE, IOWA				WEST UNION — CEDAR FALLS — INDEPENDENCE

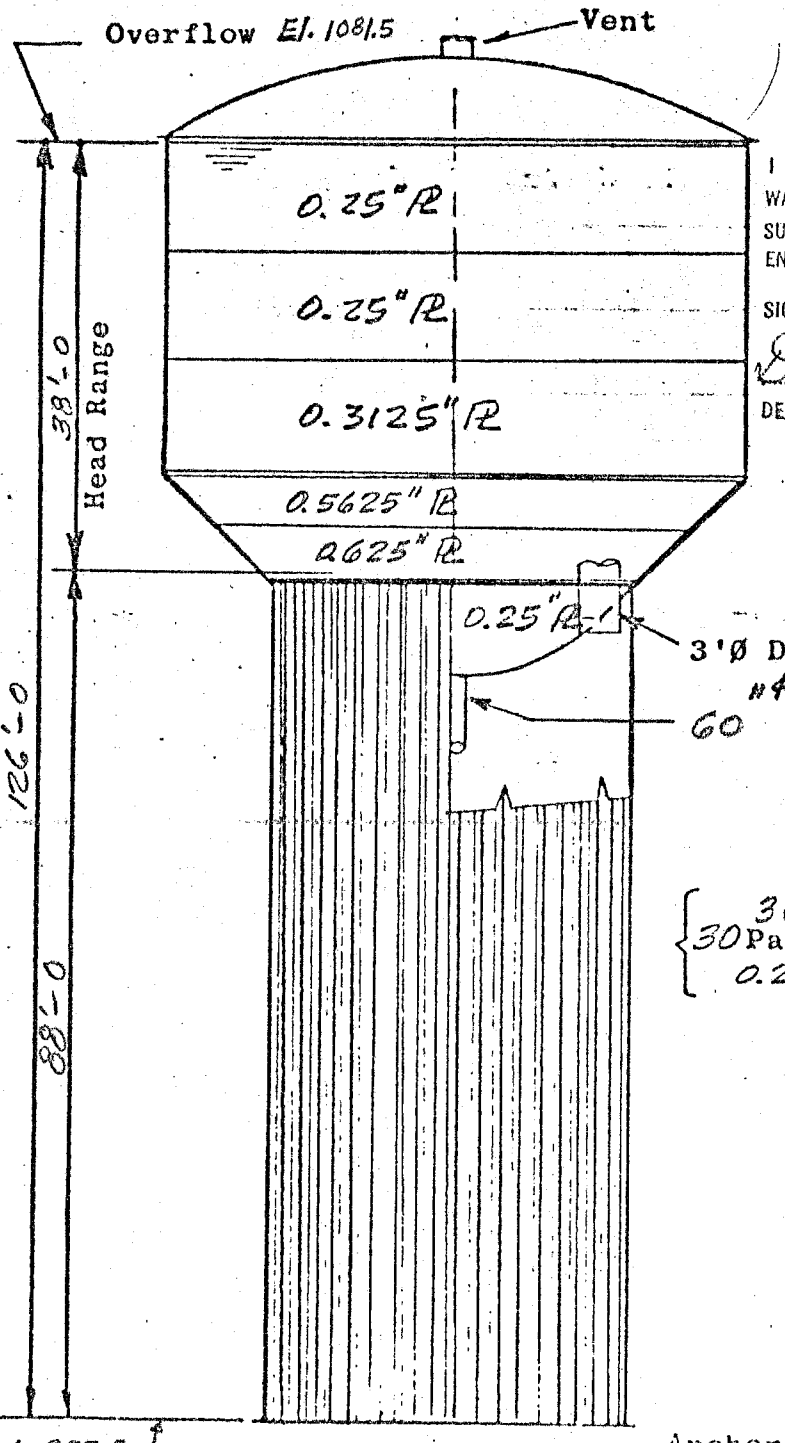
FORM 14030-5

DESIGN FILE 1745

SHOP TOWER

0.1875" Lap Weld
Roof w/ I.S. Stiff. Lgs

49'-6 Diameter
Net Cap. - 502,150 Gal.
Gross Cap. - 521,370 Gal.
Specs. - Engr. & AWWA



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

SIGNED Dennis B. Guessford DATE Jan. 14 19 74

DENNIS B. GUESSFORD, P. E., IOWA REG. NO. 6289

8 vents in fluted pillar - 4 top & bottom

ACCESSORIES PER SPECIFICATIONS

Modification may be made by the Pittsburgh-Des Moines Steel Company in the design of this structure but revised design must comply with the specifications.

500 M HYDRO-PILLAR / 88'-0 LCL

For

Independence, Iowa

PITTSBURGH-DES MOINES STEEL COMPANY
ENGINEERS - MANUFACTURERS - CONTRACTORS

Dwg. 1745

Date 11 Jan. 74

APPENDIX M

DETAILED COST ESTIMATES

ENGINEER'S ESTIMATE OF PROBABLE COSTS

WATER SUPPLY PRELIMINARY ENGINEERING REPORT

CITY OF INDEPENDENCE, IA

COURTHOUSE TOWER MIXING, LEVEL READING, AND AMBIENT LIGHTING

DATE: 5/9/2026 *ESTIMATE YEAR:* ***2026***

MSA PROJECT #: 08883028 *CONSTRUCTION YEAR:* ***2028***

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
1	MOBILIZATION, BONDS AND INSURANCE	1	LS	$ 7,500	$ 7,500
2	POWER TO TOWER	1	LS	$ 4,000	$ 4,000
3	TOWER MIXING	1	LS	$ 32,500	$ 32,500
4	CONNECT MIXING AND LEVEL READING TO EXISTING SCADA	1	LS	$ 3,000	$ 3,000
5	TOWER LEVEL READING ELECTRICAL AND CONTROLS	1	LS	$ 10,000	$ 10,000
6	INSULATE & HEAT TRACE	1	LS	$ 4,000	$ 4,000
7	HDPE WATER LINE FROM TOWER TO WELLHOUSE	110	LF	$ 55	$ 6,050
8	WATER SERVICE CONNECTION	2	EA	$ 2,500	$ 5,000
9	CURB STOP AND BOX	2	EA	$ 1,500	$ 3,000
10	SURFACE RESTORATION (GRASS)	1	LS	$ 1,000	$ 1,000
11	WELLHOUSE INTERNAL PLUMBING	1	LS	$ 6,000	$ 6,000
12	AMBIENT TOWER LIGHTING TO SHINE ON LOGO	1	LS	$ 70,000	$ 70,000
				ESTIMATED CONSTRUCTION SUBTOTAL	*$ 152,050*
				Contingency 20%	$ 30,500
				ESTIMATED CONSTRUCTION COST (2028)	*$ 182,550*
				Funding, Legal, Administration	$ 5,000
				Design Engineering 15%	$ 27,400
				Construction Engineering 10%	$ 18,300
				TOTAL ESTIMATED PROJECT COST:	**$ 233,250**

ANNUAL OPERATION AND MAINTENANCE COSTS

ITEM NO.	DESCRIPTION	COST
1	ELECTRICITY	$ 2,200
2	MAINTENANCE & SUPPLIES	$ 200
	TOTAL ESTIMATED O&M COST:	**$ 2,400**

Disclaimers & Assumptions

1 This estimate of probable cost is approximate. Actual construction bids may vary significantly from this estimate due to timing of bids, construction schedule restraints, labor rate increases, material increases, or other factors beyond the control of the estimator.

ENGINEER'S ESTIMATE OF PROBABLE COSTS

WATER SUPPLY PRELIMINARY ENGINEERING REPORT

CITY OF INDEPENDENCE, IA

MHI TOWER MIXING, LEVEL READING, AND AMBIENT LIGHTING

DATE: 5/9/2026 *ESTIMATE YEAR:* ***2026***

MSA PROJECT #: 08883028 *CONSTRUCTION YEAR:* ***2028***

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
1	MOBILIZATION, BONDS AND INSURANCE	1	LS	$ 10,800	$ 10,800
2	POWER TO TOWER	1	LS	$ 31,500	$ 31,500
3	TOWER MIXING	1	LS	$ 32,500	$ 32,500
4	CONNECT MIXING AND LEVEL READING TO EXISTING SCADA	1	LS	$ 3,000	$ 3,000
5	TOWER LEVEL READING ELECTRICAL AND CONTROLS	1	LS	$ 10,000	$ 10,000
6	INSULATE & HEAT TRACE	1	LS	$ 4,000	$ 4,000
7	HDPE WATER LINE FROM TOWER TO WELLHOUSE	320	LF	$ 55	$ 17,600
8	WATER SERVICE CONNECTION	1	EA	$ 2,500	$ 2,500
9	CURB STOP AND BOX	1	EA	$ 1,500	$ 1,500
10	SURFACE RESTORATION (GRASS)	1	LS	$ 2,000	$ 2,000
11	WELLHOUSE INTERNAL PLUMBING	1	LS	$ 3,000	$ 3,000
12	AMBIENT TOWER LIGHTING TO SHINE ON LOGO	1	LS	$ 70,000	$ 70,000
				ESTIMATED CONSTRUCTION SUBTOTAL	*$ 188,400*
				Contingency 20%	$ 37,700
				ESTIMATED CONSTRUCTION COST (2028)	*$ 226,100*
				Funding, Legal, Administration	$ 5,000
				Design Engineering 15%	$ 34,000
				Construction Engineering 10%	$ 22,700
				TOTAL ESTIMATED PROJECT COST:	**$ 287,800**

ANNUAL OPERATION AND MAINTENANCE COSTS

ITEM NO.	DESCRIPTION	COST
1	ELECTRICITY	$ 2,200
2	MAINTENANCE & SUPPLIES	$ 200
	TOTAL ESTIMATED O&M COST:	**$ 2,400**

Disclaimers & Assumptions

1 This estimate of probable cost is approximate. Actual construction bids may vary significantly from this estimate due to timing of bids, construction schedule restraints, labor rate increases, material increases, or other factors beyond the control of the estimator.

ENGINEER'S ESTIMATE OF PROBABLE COSTS

WATER SUPPLY PRELIMINARY ENGINEERING REPORT

CITY OF INDEPENDENCE, IA

SHOP TOWER MIXING, LEVEL READING, AND AMBIENT LIGHTING

DATE: 5/9/2026 *ESTIMATE YEAR:* ***2026***

MSA PROJECT #: 08883028 *CONSTRUCTION YEAR:* ***2028***

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
1	MOBILIZATION, BONDS AND INSURANCE	1	LS	$ 10,000	$ 10,000
2	POWER TO TOWER	1	LS	$ 2,500	$ 2,500
3	TOWER MIXING	1	LS	$ 32,500	$ 32,500
4	CONNECT MIXING AND LEVEL READING TO EXISTING SCADA	1	LS	$ 5,000	$ 5,000
5	TOWER LEVEL READING ELECTRICAL AND CONTROLS	1	LS	$ 5,000	$ 5,000
6	INSULATE & HEAT TRACE	1	LS	$ 2,000	$ 2,000
7	FIBER CONNECTION TO TOWER	1	LS	$ 2,500	$ 2,500
8	SCADA PANEL	1	LS	$ 50,000	$ 50,000
9	AMBIENT TOWER LIGHTING TO SHINE ON LOGO	1	LS	$ 70,000	$ 70,000
	ESTIMATED CONSTRUCTION SUBTOTAL				*$ 179,500*
	Contingency 20%				$ 35,900
	ESTIMATED CONSTRUCTION COST (2028)				*$ 215,400*
	Funding, Legal, Administration				$ 5,000
	Design Engineering 15%				$ 32,400
	Construction Engineering 10%				$ 21,600
	TOTAL ESTIMATED PROJECT COST:				**$ 274,400**

ANNUAL OPERATION AND MAINTENANCE COSTS

ITEM NO.	DESCRIPTION	COST
1	ELECTRICITY	$ 2,200
2	MAINTENANCE & SUPPLIES	$ 200
	TOTAL ESTIMATED O&M COST:	**$ 2,400**

Disclaimers & Assumptions

1 This estimate of probable cost is approximate. Actual construction bids may vary significantly from this estimate due to timing of bids, construction schedule restraints, labor rate increases, material increases, or other factors beyond the control of the estimator.

ENGINEER'S ESTIMATE OF PROBABLE COSTS

WATER SUPPLY PRELIMINARY ENGINEERING REPORT

CITY OF INDEPENDENCE, IA

WELLHOUSE #7 IMPROVEMENTS

DATE: 5/9/2026 *ESTIMATE YEAR:* ***2026***

MSA PROJECT #: 08883028 *CONSTRUCTION YEAR:* ***2028***

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
1	MOBILIZATION, BONDS AND INSURANCE	1	LS	$ 5,000	$ 5,000
2	INSULATE & HEAT TRACE	1	LS	$ 4,000	$ 4,000
3	HDPE WATER LINE	60	LF	$ 55	$ 3,300
4	WATER SERVICE CONNECTION	1	EA	$ 2,500	$ 2,500
5	CURB STOP AND BOX	1	EA	$ 1,500	$ 1,500
6	SURFACE RESTORATION (CONCRETE)	1	LS	$ 4,500	$ 4,500
7	SURFACE RESTORATION (GRASS)	1	LS	$ 1,000	$ 1,000
8	MISC. SITEWORK	1	LS	$ 1,000	$ 1,000
9	WELLHOUSE PLUMBING	1	LS	$ 6,000	$ 6,000
				ESTIMATED CONSTRUCTION SUBTOTAL	*$ 28,800*
				Contingency 20%	$ 5,800
				ESTIMATED CONSTRUCTION COST (2028)	*$ 34,600*
				Funding, Legal, Administration	$ 2,500
				Design Engineering 15%	$ 5,200
				Construction Engineering 10%	$ 3,500
				TOTAL ESTIMATED PROJECT COST:	**$ 45,800**

Disclaimers & Assumptions

1 This estimate of probable cost is approximate. Actual construction bids may vary significantly from this estimate due to timing of bids, construction schedule restraints, labor rate increases, material increases, or other factors beyond the control of the estimator.

ENGINEER'S ESTIMATE OF PROBABLE COSTS

WATER SUPPLY PRELIMINARY ENGINEERING REPORT

CITY OF INDEPENDENCE, IA

RIVER CROSSING PRESSURE REDUCING VALVES

DATE: 5/9/2026 *ESTIMATE YEAR:* ***2026***

MSA PROJECT #: 08883028 *CONSTRUCTION YEAR:* ***2028***

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
	GENERAL:				
1	MOBILIZATION, BONDS AND INSURANCE	1	LS	$ 65,700	$ 65,700
	1ST STREET CROSSING PRESSURE REDUCING VALVE STATION:				
2	PREFABRICATED PRESSURE REDUCING VALVE STATION	1	LS	$ 150,000	$ 150,000
3	MISC. SITE WORK/ SITE PREPARATION	1	LS	$ 20,000	$ 20,000
4	SURFACE RESTORATION (CONCRETE - 6" THICK, 6" SUBBASE)	100	SY	$ 100	$ 10,000
5	FULL DEPTH HMA PATCHES (ASPHALT - 6" THICK)	470	SY	$ 120	$ 56,400
6	GRASS RESTORATION	1	LS	$ 1,500	$ 1,500
7	CONNECT TO EXISTING WATERMAIN	2	EA	$ 4,500	$ 9,000
8	10" D.I. WATERMAIN	10	LF	$ 180	$ 1,800
9	10" VALVE AND BOX	1	EA	$ 5,000	$ 5,000
10	10"X8" REDUCER	2	EA	$ 1,200	$ 2,400
11	8" PVC WATERMAIN	900	LF	$ 90	$ 81,000
12	8" VALVE AND BOX	2	EA	$ 3,500	$ 7,000
13	8" 90° BEND	4	EA	$ 1,300	$ 5,200
14	8" 45° BEND	4	EA	$ 1,100	$ 4,400
15	ELECTRICAL TO SITE (1-PHASE)	1	LS	$ 10,000	$ 10,000
16	ELECTRICAL AND CONTROLS	1	LS	$ 90,000	$ 90,000
	6TH STREET SE CROSSING PRESSURE REDUCING VALVE STATION:				
17	PREFABRICATED PRESSURE REDUCING VALVE STATION	1	LS	$ 150,000	$ 150,000
18	MISC. SITE WORK/ SITE PREPARATION	1	LS	$ 20,000	$ 20,000
19	SURFACE RESTORATION (CONCRETE - 6" THICK, 6" SUBBASE)	480	SY	$ 100	$ 48,000
20	CONCRETE CURB AND GUTTER, REMOVE AND REPLACE	200	LF	$ 70	$ 14,000
21	GRASS RESTORATION	1	LS	$ 1,500	$ 1,500
22	CONNECT TO EXISTING WATERMAIN	4	EA	$ 4,500	$ 18,000
23	8" PVC WATERMAIN	220	LF	$ 90	$ 19,800
24	8" VALVE AND BOX	4	EA	$ 3,500	$ 14,000
25	8" 90° BEND	4	EA	$ 1,300	$ 5,200
26	ELECTRICAL TO SITE (1-PHASE)	1	LS	$ 10,000	$ 10,000
27	ELECTRICAL AND CONTROLS	1	LS	$ 90,000	$ 90,000
	3RD AVE SE CROSSING PRESSURE REDUCING VALVE STATION:				
28	PREFABRICATED PRESSURE REDUCING VALVE STATION	1	LS	$ 150,000	$ 150,000
29	MISC. SITE WORK/ SITE PREPARATION	1	LS	$ 20,000	$ 20,000
30	SURFACE RESTORATION (CONCRETE - 6" THICK, 6" SUBBASE)	280	SY	$ 100	$ 28,000
31	GRASS RESTORATION	1	LS	$ 1,500	$ 1,500
32	CONNECT TO EXISTING WATERMAIN	2	EA	$ 4,500	$ 9,000
33	12" D.I. WATERMAIN	10	LF	$ 150	$ 1,500
34	12" VALVE AND BOX	1	EA	$ 5,500	$ 5,500
35	12"X8" REDUCER	2	EA	$ 1,400	$ 2,800
36	8" PVC WATERMAIN	240	LF	$ 90	$ 21,600
37	JACK AND BORED 8" WATERMAIN, 16" STEEL CASING	120	LF	$ 1,000	$ 120,000
38	8" VALVE AND BOX	2	EA	$ 3,500	$ 7,000
39	8" 90° BEND	2	EA	$ 1,300	$ 2,600
40	ELECTRICAL TO SITE (1-PHASE)	1	LS	$ 10,000	$ 10,000
41	ELECTRICAL AND CONTROLS	1	LS	$ 90,000	$ 90,000
	ESTIMATED CONSTRUCTION SUBTOTAL				*$ 1,379,400*
	Contingency 20%				$ 275,880
	ESTIMATED CONSTRUCTION COST (2028)				*$ 1,655,280*
	Administration and Legal Fees				$ 15,000
	Easements				$ 10,000
	Design Engineering 10%				$ 165,600
	Construction Engineering 10%				$ 165,600
	TOTAL ESTIMATED PROJECT COST:				**$ 2,011,480**

ANNUAL OPERATION AND MAINTENANCE COSTS

ITEM NO.	DESCRIPTION	COST
1	ELECTRICITY	$ 1,900
2	MAINTENANCE & SUPPLIES	$ 100
	TOTAL ESTIMATED O&M COST:	**$ 2,000**

Disclaimers & Assumptions

1 This estimate of probable cost is approximate. Actual construction bids may vary significantly from this estimate due to timing of bids, construction schedule restraints, labor rate increases, material increases, or other factors beyond the control of the estimator.

ENGINEER'S ESTIMATE OF PROBABLE COSTS

WATER DISTRIBUTION SYSTEM IMPROVEMENTS

WATER MAIN REPLACEMENT & LOOPINGS

CITY OF INDEPENDENCE, IA

DATE: 5/9/2026

MSA PROJECT #: 08883028

2028

				Poject Name:	*NORTHWEST WATER MAIN REPLACEMENT/ LOOPING*		*CENTRAL SOUTHEAST WATER MAIN LOOPING*		*WWTF MAIN LOOPING*		*SOUTHWEST WATER MAIN LOOPING*		*MHI AREA WATERMAIN LOOPING*		*COMPLETE UNDERSIZED MAIN REPLACEMENT*		*ALL PROJECTS*
ITEM NO.	DESCRIPTION	UNIT	UNIT PRICE		QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	QUANTITY	COST	TOTAL PRICE
1	Mobilization, Bonds, & Insurance	LS				$ 141,000		$ 35,000		$ 81,000		$ 36,000		$ 32,000		$ 881,000	$ 1,206,000
2	Traffic Control & Site Protection	LS				$ 70,340		$ 17,160		$ 40,140		$ 17,580		$ 15,560		$ 440,070	$ 600,850
3	Tree Removals	EA	$ 2,000		6	$ 12,000	6	$ 12,000	0	$ -	6	$ 12,000	2	$ 4,000	50	$ 100,000	$ 140,000
4	Rock Excavation	CY	$ 200		186	$ 37,200	61	$ 12,200	122	$ 24,400	57	$ 11,400	63	$ 12,600	861	$ 172,200	$ 270,000
5	Imported Granular Backfill	LF	$ 35		5570	$ 194,950	1805	$ 63,175	3645	$ 127,575	1705	$ 59,675	1875	$ 65,625	25825	$ 903,875	$ 1,414,875
6	Erosion and Sedimentation Control	LS	$ 5,000		1	$ 10,000	1	$ 5,000	1	$ 15,000	1	$ 5,000	1	$ 5,000	1	$ 50,000	$ 90,000
7	Water Main, PVC, 6-Inch	LF	$ 90		0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	$ -
8	Water Main, PVC, 8-Inch	LF	$ 100		5360	$ 536,000	1730	$ 173,000	3510	$ 351,000	1630	$ 163,000	1090	$ 109,000	24880	$ 2,488,000	$ 3,820,000
9	Water Main, PVC, 12-Inch	LF	$ 130		0	$ -	0	$ -	0	$ -	0	$ -	740	$ 96,200	0	$ -	$ 96,200
10	Water Main, DIP, 6-Inch (Hydrant Lead)	LF	$ 120		210	$ 25,200	75	$ 9,000	135	$ 16,200	75	$ 9,000	45	$ 5,400	945	$ 113,400	$ 178,200
11	Water Main, DIP, 12-Inch	LF	$ 145		0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	$ -
12	Water Main Casing Pipe	LF	$ 175		280	$ 49,000	100	$ 17,500	200	$ 35,000	100	$ 17,500	100	$ 17,500	1300	$ 227,500	$ 364,000
13	Gate Valve, 6-Inch	EA	$ 3,000		14	$ 42,000	5	$ 15,000	9	$ 27,000	5	$ 15,000	3	$ 9,000	63	$ 189,000	$ 297,000
14	Gate Valve, 8-Inch	EA	$ 3,750		15	$ 56,250	5	$ 18,750	5	$ 18,750	6	$ 22,500	2	$ 7,500	64	$ 240,000	$ 363,750
15	Gate Valve, 12-Inch	EA	$ 5,000		0	$ -	0	$ -	0	$ -	0	$ -	1	$ 5,000	0	$ -	$ 5,000
16	Hydrant	EA	$ 7,500		14	$ 105,000	5	$ 37,500	9	$ 67,500	5	$ 37,500	3	$ 22,500	63	$ 472,500	$ 742,500
17	DI Fitting, Miscellaneous, Various Sizes	EA	$ 2,000		18	$ 36,000	6	$ 12,000	12	$ 24,000	6	$ 12,000	7	$ 14,000	83	$ 166,000	$ 264,000
18	Connect to Existing Water Main	EA	$ 4,750		22	$ 104,500	9	$ 42,750	2	$ 9,500	7	$ 33,250	4	$ 19,000	63	$ 299,250	$ 508,250
19	Water Service, Copper, 1-Inch	LF	$ 80		1170	$ 93,600	60	$ 4,800	480	$ 38,400	60	$ 4,800	0	$ -	15000	$ 1,200,000	$ 1,341,600
20	Water Service Saddle, Coorporation, Curb Stop, and Box, 1-Inch	EA	$ 1,750		39	$ 68,250	2	$ 3,500	16	$ 28,000	2	$ 3,500	0	$ -	500	$ 875,000	$ 978,250
21	Connect to Existing Water Service	EA	$ 500		39	$ 19,500	2	$ 1,000	16	$ 8,000	2	$ 1,000	0	$ -	500	$ 250,000	$ 279,500
22	Sanitary Sewer, PVC C900, 8-Inch (Crossings)	LF	$ 150		280	$ 42,000	100	$ 15,000	200	$ 30,000	100	$ 15,000	100	$ 15,000	1300	$ 195,000	$ 312,000
23	Storm Sewer, PVC WMQ, 12-Inch to 18-Inch	LF	$ 150		570	$ 85,500	210	$ 31,500	390	$ 58,500	180	$ 27,000	210	$ 31,500	2610	$ 391,500	$ 625,500
24	Pavement Removal	SY	$ 15		4520	$ 67,800	710	$ 10,650	4680	$ 70,200	1310	$ 19,650	260	$ 3,900	44434	$ 666,510	$ 838,710
25	Concrete Curb and Gutter, Remove & Replace	LF	$ 70		2750	$ 192,500	100	$ 7,000	0	$ -	80	$ 5,600	190	$ 13,300	15820	$ 1,107,400	$ 1,325,800
26	Aggregate Base Course, 12"	SY	$ 20		4520	$ 90,400	710	$ 14,200	4680	$ 93,600	1310	$ 26,200	260	$ 5,200	44434	$ 888,680	$ 1,118,280
27	Hot-Mix Asphalt Binder Course, IL-19.0, N50	TON	$ 160		100	$ 16,000	60	$ 9,600	410	$ 65,600	140	$ 22,400	30	$ 4,800	0	$ -	$ 118,400
28	Hot-Mix Asphalt Surface Course, Mix "D", N50	TON	$ 160		100	$ 16,000	60	$ 9,600	410	$ 65,600	140	$ 22,400	30	$ 4,800	0	$ -	$ 118,400
29	Concrete Paving, 6" Thickness	SY	$ 100		3680	$ 368,000	260	$ 26,000	1200	$ 120,000	160	$ 16,000	260	$ 26,000	33173	$ 3,317,333	$ 3,873,333
30	Manhole/Inlet Adjustment	EA	$ 1,500		14	$ 21,000	2	$ 3,000	5	$ 7,500	5	$ 7,500	2	$ 3,000	65	$ 97,500	$ 139,500
31	Miscellaneous Restoration	LF	$ 10		5570	$ 55,700	1805	$ 18,050	3645	$ 36,450	1705	$ 17,050	1875	$ 18,750	25825	$ 258,250	$ 404,250
	ESTIMATED CONSTRUCTION SUBTOTAL					*$ 2,555,690*		*$ 623,935*		*$ 1,458,915*		*$ 639,505*		*$ 566,135*		*$ 15,989,968*	*$ 21,834,148*
	Contingency	10%				$ 255,600		$ 62,400		$ 145,900		$ 64,000		$ 56,700		$ 1,599,000	$ 2,183,600
	ESTIMATED CONSTRUCTION COST(2028)					*$ 2,811,290*		*$ 686,335*		*$ 1,604,815*		*$ 703,505*		*$ 622,835*		*$ 17,588,968*	*$ 24,017,748*
	Grant/Loan Administration	2.5%				$ 70,300		$ 17,200		$ 40,200		$ 17,600		$ 15,600		$ 439,800	$ 600,700
	Legal Fees	0.5%				$ 14,100		$ 3,500		$ 8,100		$ 3,600		$ 3,200		$ 88,000	$ 120,500
	Design Engineering	10%				$ 281,200		$ 68,700		$ 160,500		$ 70,400		$ 62,300		$ 1,758,900	$ 2,402,000
	Construction Engineering	10%				$ 281,200		$ 68,700		$ 160,500		$ 70,400		$ 62,300		$ 1,758,900	$ 2,402,000
	TOTAL ESTIMATED PROJECT COST:					**$ 3,458,090**		**$ 844,435**		**$ 1,974,115**		**$ 865,505**		**$ 766,235**		**$ 21,634,568**	**$ 29,542,948**

Disclaimers & Assumptions

1 This estimate of probable cost is approximate. Actual construction bids may vary significantly from this estimate due to timing of bids,constructual schedule restraints, labor rate increases, material increases, or other factors beyond the control of the estimator.

2 Mobilization, Bonds, and Insurance is estimated at **6%**

3 Traffic Control & Protection is estimated at **3%**

4 HMA pavement restoration is estimated with half the width of the roadway **12** feet, with **2** inches of binder & **2** inches of surface course.

5 Grant/Loan Admin. & Engineering costs are estimated at % shown above. Grant/Loan Admin. fees can greatly vary depending on funding source(s). If projects are lumped together, admin. & engineering costs would be anticipated to be less than the comulative totals.

6 No easement costs are included in this cost estimate.

7 All estimates are assumed to involve open trench construction methods. During the design phase of a project, trenchless methods may be utilized.

ENGINEER'S ESTIMATE OF PROBABLE COSTS

WATER SUPPLY PRELIMINARY ENGINEERING REPORT
CITY OF INDEPENDENCE, IA
SILURIAN AQUIFER WELL

DATE: 5/9/2026 *ESTIMATE YEAR:* ***2026***
MSA PROJECT #: 08883028 *CONSTRUCTION YEAR:* ***2028***

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
	GENERAL:				
1	MOBILIZATION, BONDS AND INSURANCE	1	LS	$ 68,900	$ 68,900
2	ELECTRICAL TO SITE	1	LS	$ 50,000	$ 50,000
	WELL DRILLING:				
3	WWPPP AND MANAGEMENT, NPDES GENERAL PERMIT NO. 6 COMPLIANCE	1	LS	$ 20,000	$ 20,000
4	DRILL A 24-INCH DIAMETER UPPER HOLE (0 TO 110 FEET)	110	VF	$ 275	$ 30,250
5	GROUT SURFACE CASING WITH HIGH SOLIDS BENTONITE GROUT	1	LS	$ 3,500	$ 3,500
6	DRILL A 17-INCH DIAMETER HOLE (110 TO 190 FEET)	80	VF	$ 275	$ 22,000
7	FURNISH AND INSTALL 12-INCH UPPER CASING (+1 TO 191 FEET)	192	VF	$ 140	$ 26,880
8	GROUTING SETUP FOR 12-INCH UPPER CASING	1	LS	$ 4,000	$ 4,000
9	NEAT GROUT CEMENT FOR 12-INCH UPPER CASING	250	BAGS	$ 40	$ 10,000
10	DRILL A 12-INCH DIAMETER HOLE (190 TO 300 FEET)	150	VF	$ 180	$ 27,000
11	AIR LIFT AND DEVELOP, MEASURE FLOW	1	LS	$ 5,000	$ 5,000
12	FURNISH AND INSTALL TEST PUMP	1	LS	$ 19,000	$ 19,000
13	TEST PUMP WELL	26	HRS	$ 300	$ 7,800
14	TESTING (PLUMBNESS, ALIGNMENT, WELL TELEVISING, REPORT)	1	LS	$ 7,000	$ 7,000
15	WATER QUALITY TESTING AND LABORATORY ANALYSIS	1	LS	$ 6,500	$ 6,500
16	GEOLOGIC SAMPLE COLLECTION AND SUBMITTAL TO IOWA GEOLOGICAL SURVEY	1	LS	$ 750	$ 750
17	CHLORINATE WELL, CAP, IDNR REPORTS	1	LS	$ 2,500	$ 2,500
	WELL CIVIL/ SITE:				
18	TRAFFIC CONTROL	1	LS	$ 5,000	$ 5,000
19	EROSION AND SEDIMENTATION CONTROL	1	LS	$ 10,000	$ 10,000
20	CONNECT TO EXISTING WATERMAIN	2	EA	$ 4,000	$ 8,000
21	6-INCH VALVE & BOX	4	EA	$ 3,000	$ 12,000
22	6-INCH PVC WATERMAIN	300	LF	$ 65	$ 19,500
23	6-INCH DI WATERMAIN	100	LF	$ 95	$ 9,500
24	1.5-INCH WATER SERVICE	60	LF	$ 55	$ 3,300
25	1.5-INCH TAP, CORP, CURB STOP & BOX	1	EA	$ 1,500	$ 1,500
26	FIRE HYDRANT ASSEMBLY	1	EA	$ 8,000	$ 8,000
27	4-INCH PVC SANITARY SEWER	120	LF	$ 70	$ 8,400
28	CONNECT TO EXISTING SANITARY SEWER	1	EA	$ 1,500	$ 1,500
29	6-FOOT CHAINLINK FENCE	180	LF	$ 60	$ 10,800
30	CHAINLINK MAN GATE	1	EA	$ 1,200	$ 1,200
31	CONCRETE PAD - GENERATOR	1	LS	$ 7,000	$ 7,000
32	CONCRETE PAD - TRANSFORMER	1	LS	$ 3,000	$ 3,000
33	REMOVE EXISTING SIDEWALK	80	SY	$ 25	$ 2,000
34	CONCRETE SIDEWALK, 4"	80	SY	$ 100	$ 8,000
35	CANTILEVER CHAINLINK GATE	1	EA	$ 8,000	$ 8,000
36	CONCRETE CURB AND GUTTER	40	LF	$ 80	$ 3,200
37	PAVEMENT RESTORATION (4" HMA OVER 12" CABC)	50	SY	$ 200	$ 10,000
38	CONCRETE DRIVEWAY (6" OVER 12" CABC)	100	SY	$ 150	$ 15,000
39	CLEARING AND GRUBBING	1	LS	$ 3,000	$ 3,000
40	SEEDING	1	AC	$ 3,000	$ 3,000
41	EARTHWORK	1	LS	$ 10,000	$ 10,000
	WELL MECHANICAL COMPONENTS:				
42	PITLESS ADAPTER UNIT, COMPLETE	1	LS	$ 25,000	$ 25,000
43	SUBMERSIBLE WELL PUMP	1	LS	$ 90,000	$ 90,000
44	6-INCH STAINLESS COLUMN PIPE AND CHECK VALVES	195	VF	$ 300	$ 58,500
	WELLHOUSE:				
45	STRUCTURAL/ ARCHITECTURAL	1	LS	$ 170,000	$ 170,000
46	PLUMBING	1	LS	$ 50,000	$ 50,000
47	PROCESS MECHANICAL	1	LS	$ 70,000	$ 70,000
48	HVAC	1	LS	$ 50,000	$ 50,000
49	ELECTRICAL AND CONTROLS	1	LS	$ 500,000	$ 500,000
	ESTIMATED CONSTRUCTION SUBTOTAL				*$ 1,495,480*
	Contingency 20%				$ 299,096
	ESTIMATED CONSTRUCTION COST (2028)				*$ 1,794,576*
	Administration and Legal Fees				$ 15,000
	Property Acquisition				$ 60,000
	Easements				$ 10,000
	Design Engineering 10%				$ 179,500
	Construction Engineering 10%				$ 179,500
	TOTAL ESTIMATED PROJECT COST:				**$ 2,238,576**

Disclaimers & Assumptions

1 This estimate of probable cost is approximate. Actual construction bids may vary significantly from this estimate due to timing of bids, construction schedule restraints, labor rate increases, material increases, or other factors beyond the control of the estimator.

ENGINEER'S ESTIMATE OF PROBABLE COSTS

WATER SUPPLY PRELIMINARY ENGINEERING REPORT

CITY OF INDEPENDENCE, IA

WELLHOUSE #6 BACK-UP POWER

DATE: 5/9/2026 *ESTIMATE YEAR:* ***2026***

MSA PROJECT #: 08883028 *CONSTRUCTION YEAR:* ***2028***

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
1	MOBILIZATION, BONDS AND INSURANCE	1	LS	$ 13,300	$ 13,300
2	MTS, GENERATOR, AND DISCONNECT (150 KW)	1	LS	$ 125,000	$ 125,000
3	CONNECT TO EXISTING SCADA	1	LS	$ 3,000	$ 3,000
4	MISC. SITEWORK	1	LS	$ 3,000	$ 3,000
5	SITE RESTORATION	1	LS	$ 1,500	$ 1,500
				ESTIMATED CONSTRUCTION SUBTOTAL	*$ 145,800*
				Contingency 20%	$ 29,200
				ESTIMATED CONSTRUCTION COST (2028)	*$ 175,000*
				Funding, Legal, Administration	$ 5,000
				Design Engineering 10%	$ 17,500
				Construction Engineering 10%	$ 17,500
				TOTAL ESTIMATED PROJECT COST:	**$ 215,000**

ANNUAL OPERATION AND MAINTENANCE COSTS

ITEM NO.	DESCRIPTION	COST
1	ANNUAL SERVICING	$ 750
2	MAINTENANCE & SUPPLIES	$ 750
	TOTAL ESTIMATED O&M COST:	**$ 1,500**

Disclaimers & Assumptions

1 This estimate of probable cost is approximate. Actual construction bids may vary significantly from this estimate due to timing of bids, construction schedule restraints, labor rate increases, material increases, or other factors beyond the control of the estimator.

ENGINEER'S ESTIMATE OF PROBABLE COSTS

WATER SUPPLY PRELIMINARY ENGINEERING REPORT

CITY OF INDEPENDENCE, IA

WELLHOUSE FLUORIDE SEPARATION (ALTERNATIVE FOR WELL #3, #6, & #7)

DATE: 5/9/2026 *ESTIMATE YEAR:* ***2026***

MSA PROJECT #: 08883028 *CONSTRUCTION YEAR:* ***2028***

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
1	MOBILIZATION, BONDS AND INSURANCE	1	LS	$ 9,200	$ 9,200
2	PREFABRICATED FRP BUILDING	1	LS	$ 85,000	$ 85,000
3	FLUORIDE CHEMICAL FEED EQUIPMENT	1	LS	$ 33,000	$ 33,000
4	2" SCH. 80 PVC CHEMICAL FEED CARRIER CONDUIT	1	LS	$ 5,000	$ 5,000
5	INSULATE AND HEAT TRACE CARRIER AT WELLHOUSE	1	LS	$ 6,000	$ 6,000
6	WELLHOUSE MODIFICATIONS	1	LS	$ 9,000	$ 9,000
7	CONNECT TO SANITARY	1	LS	$ 7,000	$ 7,000
8	SURFACE RESTORATION (GRASS)	1	LS	$ 2,000	$ 2,000
9	MISC. SITEWORK	1	LS	$ 5,000	$ 5,000
10	ELECTRICAL AND CONTROLS	1	LS	$ 31,000	$ 31,000
				ESTIMATED CONSTRUCTION SUBTOTAL	*$ 192,200*
				Contingency 20%	$ 38,500
				ESTIMATED CONSTRUCTION COST (2028)	*$ 230,700*
				Administration and Legal Fees	$ 5,000
				Design Engineering 15%	$ 34,700
				Construction Engineering 10%	$ 23,100
				TOTAL ESTIMATED PROJECT COST:	**$ 293,500**

ANNUAL OPERATION AND MAINTENANCE COSTS

ITEM NO.	DESCRIPTION	COST
1	ELECTRICITY	$ 1,000
2	MAINTENANCE & SUPPLIES[2]	$ 250
	TOTAL ESTIMATED O&M COST:	**$ 1,250**

Disclaimers & Assumptions

1 This estimate of probable cost is approximate. Actual construction bids may vary significantly from this estimate due to timing of bids, construction schedule restraints, labor rate increases, material increases, or other factors beyond the control of the estimator.

2 Chemical costs and chemical feed system maintenance are assumed to closely match existing and are not included in this estimate.

ENGINEER'S ESTIMATE OF PROBABLE COSTS

WATER SUPPLY PRELIMINARY ENGINEERING REPORT

CITY OF INDEPENDENCE, IA

MHI AREA BOOSTED PRESSURE

(BOOSTER PUMP STATION & PRESSURE REDUCING VALVE)

DATE: 5/9/2026 *ESTIMATE YEAR:* ***2026***

MSA PROJECT #: 08883028 *CONSTRUCTION YEAR:* ***2028***

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
	GENERAL:				
1	MOBILIZATION, BONDS AND INSURANCE	1	LS	$ 60,900	$ 60,900
	BOOSTER PUMP STATION:				
2	PREFABRICATED BOOSTER PUMP STATION	1	LS	$ 400,000	$ 400,000
3	SITE PREPARATION	1	LS	$ 12,000	$ 12,000
4	SITE WORK	1	LS	$ 80,000	$ 80,000
5	CONNECT TO EXISTING WATERMAIN	2	EA	$ 4,000	$ 8,000
6	12" D.I. WATERMAIN	20	LF	$ 150	$ 3,000
7	12"X8" REDUCER	2	EA	$ 1,000	$ 2,000
8	8" D.I. WATERMAIN	300	LF	$ 100	$ 30,000
9	8" VALVE AND BOX	2	EA	$ 3,500	$ 7,000
10	12" VALVE AND BOX	1	EA	$ 5,000	$ 5,000
11	FIRE HYDRANT	1	EA	$ 8,000	$ 8,000
12	GRAVEL ACCESS ROADWAY	1	LS	$ 50,000	$ 50,000
13	CONNECT TO EXISTING SANITARY	1	LS	$ 4,000	$ 4,000
14	SANITARY LATERAL	150	LF	$ 70	$ 10,500
15	SANITARY CLEANOUT	1	EA	$ 1,000	$ 1,000
16	ELECTRICAL TO SITE (3-PHASE)	1	LS	$ 50,000	$ 50,000
17	ELECTRICAL AND CONTROLS	1	LS	$ 169,500	$ 169,500
	PRESSURE REDUCING VALVE STATION:				
18	PREFABRICATED PRESSURE REDUCING VALVE STATION	1	LS	$ 150,000	$ 150,000
19	SITE PREPARATION	1	LS	$ 10,000	$ 10,000
20	SITE WORK	1	LS	$ 68,000	$ 68,000
21	CONNECT TO EXISTING WATERMAIN	2	EA	$ 4,500	$ 9,000
22	16" D.I. WATERMAIN	40	LF	$ 180	$ 7,200
23	16" VALVE AND BOX	1	EA	$ 6,500	$ 6,500
24	16"X8" REDUCER	2	EA	$ 1,600	$ 3,200
25	8" D.I. WATERMAIN	130	LF	$ 100	$ 13,000
26	8" VALVE AND BOX	2	EA	$ 3,500	$ 7,000
27	8" 90° BEND	2	EA	$ 1,300	$ 2,600
28	8" 45° BEND	1	EA	$ 1,100	$ 1,100
29	ELECTRICAL TO SITE (1-PHASE)	1	LS	$ 10,000	$ 10,000
30	ELECTRICAL AND CONTROLS	1	LS	$ 90,000	$ 90,000
				ESTIMATED CONSTRUCTION SUBTOTAL	*$ 1,278,500*
				Contingency 20%	$ 255,700
				ESTIMATED CONSTRUCTION COST (2028)	*$ 1,534,200*
				Administration and Legal Fees	$ 15,000
				Easements	$ 10,000
				Property Acquisition	$ 50,000
				Design Engineering 10%	$ 153,500
				Construction Engineering 10%	$ 153,500
				TOTAL ESTIMATED PROJECT COST:	**$ 1,916,200**

Disclaimers & Assumptions

1 This estimate of probable cost is approximate. Actual construction bids may vary significantly from this estimate due to timing of bids, construction schedule restraints, labor rate increases, material increases, or other factors beyond the control of the estimator.

ENGINEER'S ESTIMATE OF PROBABLE COSTS

WATER SUPPLY PRELIMINARY ENGINEERING REPORT

CITY OF INDEPENDENCE, IA

MHI AREA BOOSTED PRESSURE

(MHI TOWER RAISING)

DATE: 5/9/2026 *ESTIMATE YEAR:* ***2026***

MSA PROJECT #: 08883028 *CONSTRUCTION YEAR:* ***2028***

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
1	MOBILIZATION, BONDS AND INSURANCE	1	LS	$ 89,000	$ 89,000
2	70-FT COLUMN AND SUPPORT EXTENSION, INCLUDING PAINTING	1	LS	$ 850,000	$ 850,000
3	TESTING, DISINFECTION, SAMPLING, AND LABORATORY ANALYSIS	1	LS	$ 5,000	$ 5,000
4	EROSION CONTROL PLAN, PERMIT, MANAGEMENT	1	LS	$ 5,000	$ 5,000
5	SITE RESTORATION AND SEEDING	1	LS	$ 5,000	$ 5,000
6	EVALUATION OF EXISTING TANK AND FOUNDATION (FEASIBILITY STUDY)	1	LS	$ 25,000	$ 25,000
	ESTIMATED CONSTRUCTION SUBTOTAL				*$ 979,000*
	Contingency 20%				$ 195,800
	ESTIMATED CONSTRUCTION COST (2028)				*$ 1,174,800*
	Administration and Legal Fees				$ 10,000
	Design Engineering 8%				$ 88,200
	Construction Engineering 5%				$ 58,800
	TOTAL ESTIMATED PROJECT COST:				**$ 1,331,800**

Disclaimers & Assumptions

1 This estimate of probable cost is approximate. Actual construction bids may vary significantly from this estimate due to timing of bids, construction schedule restraints, labor rate increases, material increases, or other factors beyond the control of the estimator.

APPENDIX N

DISTRIBUTION SYSTEM IMPROVEMENTS

Print Date: 12/16/2025

DISTRIBUTION SYSTEM IMPROVEMENTS

WATER PRELIMINARY ENGINEERING REPORT

City of Independence
Buchanan County, IA

NORTHWEST AREA WATER MAIN REPLACEMENT/ LOOPING

MHI AREA WATER MAIN LOOPING

12"

CENTRAL SOUTHEAST WATER MAIN LOOPING

WWTF WATER MAIN LOOPING

SOUTHWEST AREA WATER MAIN LOOPING

- Water Tower
- Wells

Water Mains

- Unknown
- 2"
- 3"
- 4"
- 6"
- 8"
- 10"
- 12"
- 16"
- Municipal Boundary

8" Water Main Replacement and/ or Looping

Data Sources:
Municipal Boundary, Aerial - Buchanan County
Water Assets - Independence ,IA

MSA

0 500 1,000 Feet

N

Printed By: cwong, File: M:\IA\City\Independence\5_PRO_PROJECTS\Independence_Pro_Project\HWY150_Updates.aprx, Water System Map 22x34

APPENDIX O

WATER RATES ORDINANCES

1.15 FINES AND FEES SCHEDULE.

Code Section	Code Title	Penalty
Code Section	**Code Title**	**Penalty**
1.14	Standard Penalty	At least $65.00 but not to exceed $625.00
4.03	Penalties	Standard Civil Penalties: First offense - not to exceed $750.00 Each repeat offense - not to exceed $1,000.00 Special Civil Penalties: Noncompliance with a pretreatment standard or requirement - not to exceed $1,000.00 per day a violation exists or continues Environmental violation - not more than $1,000.00 for each occurrence
40.06	Excessive Noise from Motor Vehicle	First offense - $25.00 Second offense - $50.00 Third offense or more - $100.00
40.07	Disorderly House	First Offense - $750.00 Second and Subsequent Offenses - $1,000.00
41.14(5)	Fireworks Use	At least $250.00
55.06	Animals at Large	First offense - $25.00 Second offense - $75.00 Third offense - $125.00 Offenses thereafter - $175.00
55.12	Quarantine Requirements	Vicious Animal Impound Fee $150
55.13	At Large: Impoundment	Animal Impound Fee $79.00
70.02	Scheduled Traffic Violations - Automated Traffic Enforcement System	Speeding Violation 11-20 miles per hour over the posted speed limit - $75.00 21-25 miles per hour over the posted speed limit - $100.00 26-30 miles per hour over the posted speed limit - $250.00 More than 31 miles per hour over the posted speed limit - $500.00 Speed Violation (School Zone) 11-20 miles per hour over the posted speed limit - $75.00 21-25 miles per hour over the posted speed limit - $100.00 26-30 miles per hour over the posted speed limit - $250.00 More than 31 miles per hour over the posted speed limit - $500.00
70.03	Parking Violations: Alternative	Improper use of a persons with disabilities parking permit - $200.00 Other Parking Violations - $15.00, increased by $10.00 if not paid within 30 days
80.05	Fees for Impoundment	$20.00 for each day within the reclaiming period
90.06	Fee for Permit and Connection Charge	Schedule of Connection Charges: Service Line Size — Connection Charges 1¼ inch or less $ 250.00 l½ inch $ 265.00 2 inch $ 475.00 3 inch $ 1,000.00 4 inch and over $ 1,500.00
91.06	Remote Meter Readers	Replacement prior to scheduled replacement - $25.00 Monthly administrative fee for non-compliance $50.00
91.09	Service Calls and Tests	$25.00 deposit for all water meter service calls and/or water meter calibration checks
92.01	Service Charge	Surcharge of $4.00 for every hookup

92.02	Rates for Service	$3.79 per 1,000 gallons used per month, following the annual increase schedule per year unit charge: Base Unit October 1, 2024 $11.33 $3.91 October 1, 2025 $11.69 $4.03 October 1, 2026 $12.03 $4.16 October 1, 2027 $12.40 $4.29 October 1, 2028 $12.78 $4.42 These rates, both Base and Unit, will then continue to increase at 3% per year, effective every October 1st beginning Oct. 1, 2029. Plus the following additional charges: Water Meter Tap Size Additional Charges 3/4 inch -5/8 inch $1.00 1 inch $4.00 l½ inch $5.00 2 inch $7.50 3 inch $12.00 4 inch $15.00 6 inch $25.00
92.02	Bulk Water Rates	Usage charge of $10.00 per thousand gallons. Water Excise Tax of six percent (6%) will also be applied
92.08	Temporary Vacancy	$30.00 disconnect fee at the time vacancy begins $30.00 reconnect fee at the time vacancy ends.
96.02	Connection Charge	$250.00 to cover the cover the cost of supervising, regulating, and inspecting the sewer connection work, and a Romac saddle and sleeve plus the labor cost to install and connect
99.05	Charges Based on Usage	Residential Contributors: Minimum charge of $15.00 per month, and a user/flow charge of $7.82 per 1,000 gallons of metered water following the annual increase schedule: Base Unit October 1, 2024 $16.50 $8.61 October 1, 2025 $18.98 $9.91 October 1, 2026 $21.83 $11.40 October 1, 2027 $25.33 $13.23 October 1, 2028 $25.84 $13.50 Industrial Contributors: Minimum charge of $15.00 per month, and $2.88 per 1,000 gallons of metered wastewater, plus The annual increase for industrial contributors is as follows: Base Unit October 1, 2024 $16.50 $3.17 October 1, 2025 $18.98 $3.65 October 1, 2026 $21.83 $4.20 October 1, 2027 $25.33 $4.88 October 1, 2028 $25.84 $4.98 $0.281 per pound BOD discharged The annual increase for BOD discharged is as follows: October 1, 2024 $0.310 October 1, 2025 $0.357 October 1, 2026 $0.411 October 1, 2027 $0.477 October 1, 2028 $0.487 $0.523 per pound TSS unit discharge The annual increase for TSS unit discharge is as follows: October 1, 2024 $0.573 October 1, 2025 $0.663

		October 1, 2026 $0.763 October 1, 2027 $0.886 October 1, 2028 $0.904 $2.81 per pound ammonia – with a threshold of 25 mg/l The annual increase per pound ammonia is as follows: October 1, 2024 $3.10 October 1, 2025 $3.57 October 1, 2026 $4.11 October 1, 2027 $4.77 October 1, 2028 $4.87 The above rates include costs for operation and maintenance including replacement, and the sum of $3.25 per contributor for debt retirement. The above rates will then continue to increase at 2% per year, effective every October 1st beginning Oct. 1, 2029.
106.07	Collector's License	$30.00 license fee
110.14	Franchise Fee	Franchise fee upon the following revenue classes for the length of the agreement: Residential Customers - 5% Nonresidential Customers - 5%
121.04	Fees: Retail Cigarette or Tobacco Permit	<u>For Permits Granted During</u> <u>Fee</u> July, August or September $75.00 October, November or December $56.25 January, February or March $37.50 April, May or June $18.75
121.07	Persons Under Legal Age	First violation - $300.00 Second violation - $1,500.00 or permit suspension for 30 days Third violation - $1,500.00 and permit suspension for 30 days Fourth violation -$1,500.00 and permit suspension for 60 days
122.04	Application for License	$25.00 application fee
122.05	License Fees	Fees for the issuance of a peddler or solicitor license: For one day - $25.00 For seven consecutive days - $50.00 For up to 30 consecutive days - $100.00 For six months - $200.00 For one year - $300.00
123.03	Application and Fee for Permit	$100.00 for a house movers permit fee
125.12	License Fees	Electrical Contractor - $75.00 annually Journeyman Electrician - $20.00 annually
126.08	License Fees	First taxicab license to any one owner, $50.00 Each additional license to the same owner, $25.00
126.10	Driver's License Fee	$25.00 for the issuance or renewal of a driver's license
136.03	Removal of Snow, Ice and Accumulations	Minimum charge of $50.00 per occurrence for removal by the City
143.02	Street Closures	$50.00 non-refundable application fee

147.40	Occupancy Permit	$50.00 application fee for the occupancy permit
175.11	Submission, Referral and Review of Preliminary Plat	$10.00 fee per lot
175.17	Submission and Referral of Final Plat	$10.00 fee per lot
175.49	Enforcement, Violations and Penalties	$50.00 for each lot and part of lot sold or disposed of, leased or offered for sale.

(Section 1.15 – Ord. 2025-622 – Oct. 25 Supp.)

CHAPTER 92

WATER RATES

92.01 Service Charges
92.02 Rates For Service
92.03 Rates Outside the City
92.04 Payment for Water Service
92.05 Lien for Nonpayment
92.06 Lien Exemption
92.07 Lien Notice
92.08 Temporary Vacancy
92.09 Change of Name Notice

92.01 SERVICE CHARGES.

Each customer shall pay a monthly surcharge in the amount shown on the Fines and Fees Schedule in Section 1.15 of this Code of Ordinances for every hookup, following the annual increase schedule per year base charge. Each location, building, premises or connection shall be considered a separate and distinct customer whether owned or controlled by the same person or not.

(Code of Iowa, Sec. 384.84)

92.02 RATES FOR SERVICE.

Each customer shall pay for water service provided by the City based upon the use of water as determined by the meters provided for in Chapter 91. Water service shall be furnished at the rates shown on the Fines and Fees Schedule in Section 1.15 of this Code of Ordinances.

(Code of Iowa, Sec. 384.84)

92.03 RATES OUTSIDE THE CITY.

Water service shall be provided to any customer located outside the corporate limits of the City which the City has agreed to serve at rates 150 percent of the rates shown in the Fines and Fees Schedule. However, the city shall not provide water service to any customer outside its corporate boundaries unless immediately adjacent to boundary. In addition, no such customer will be served unless the customer shall have signed a service contract agreeing to be bound by the ordinances, rules, and regulations applying to water service established by the Council.

(Code of Iowa, Sec. 364.4 & 384.84)

92.04 PAYMENT FOR WATER SERVICE.

Water service charges are due and payable as part of a combined service account under the same terms and conditions as payment for electric service as established by the Utility Board of Trustees. To the extent that the water service charges are billed as part of a combined service account, utility services may be discontinued in accordance with Section 384.84 of the *Code of Iowa* if the water charges become delinquent.

92.05 LIEN FOR NONPAYMENT.

The owner of the premises served and any lessee or tenant thereof shall be jointly and severally liable for water service charges to the premises. Water service charges remaining unpaid and delinquent shall constitute a lien upon the property or premises served and shall be certified by the Clerk to the County Treasurer for collection in the same manner as property taxes.

(Code of Iowa, Sec. 384.84)

92.06 LIEN EXEMPTION.

(Code of Iowa, Sec. 384.84)

1. Water Service Exemption. The lien for nonpayment shall not apply to charges for water service to a residential or commercial rental property where water service is separately metered and the rates or charges for the water service are paid directly to the City by the tenant, if the landlord gives written notice to the City that the property is residential or commercial rental property and that the tenant is liable for the rates or charges. The City may require a deposit not exceeding the usual cost of 90 days of such services to be paid to the City. When the tenant moves from the rental property, the City shall refund the deposit if all service charges are paid in full. The lien exemption does not apply to delinquent charges for repairs related to any of the services.

2. Other Service Exemption. The lien for nonpayment shall also not apply to the charges for any of the services of sewer systems, storm water drainage systems, sewage treatment, solid waste collection, and solid waste disposal for a residential rental property where the charge is paid directly to the City by the tenant, if the landlord gives written notice to the City that the property is residential rental property and that the tenant is liable for the rates or charges for such service. The City may require a deposit not exceeding the usual cost of 90 days of such services to be paid to the City. When the tenant moves from the rental property, the City shall refund the deposit if all service charges are paid in full. The lien exemption does not

apply to delinquent charges for repairs related to any of the services.

3. Written Notice. The landlord's written notice shall contain the name of the tenant responsible for charges, the address of the residential or commercial rental property that the tenant is to occupy, and the date that the occupancy begins. Upon receipt, the City shall acknowledge the notice and deposit. A change in tenant for a residential rental property shall require a new written notice to be given to the City within 30 business days of the change in tenant. A change in tenant for a commercial rental property shall require a new written notice to be given to the City within 10 business days of the change in tenant. A change in the ownership of the residential rental property shall require written notice of such change to be given to the City within 30 business days of the completion of the change of ownership. A change in the ownership of the commercial rental property shall require written notice of such change to be given to the City within 10 business days of the completion of the change of ownership.

4. Mobile Homes, Modular Homes, and Manufactured Homes. A lien for nonpayment of utility services described in Subsections 1 and 2 of this section shall not be placed upon a premises that is a mobile home, modular home, or manufactured home if the mobile home, modular home, or manufactured home is owned by a tenant of and located in a mobile home park or manufactured home community and the mobile home park or manufactured home community owner or manager is the account holder, unless the lease agreement specifies that the tenant is responsible for payment of a portion of the rates or charges billed to the account holder.

92.07 LIEN NOTICE.

A lien for delinquent water service charges shall not be certified to the County Treasurer unless prior written notice of intent to certify a lien is given to the customer in whose name the delinquent charges were incurred. If the customer is a tenant and if the owner or landlord of the property or premises has made a written request for notice, the notice shall also be given to the owner or landlord. The notice shall be sent to the appropriate persons by ordinary mail not less than 30 days prior to certification of the lien to the County Treasurer.

(Code of Iowa, Sec. 384.84)

92.08 TEMPORARY VACANCY.

Property owners, lessees, or tenants may submit a written application to the City Clerk to request a temporary vacancy. Fees for service shall be waived if a property shall be vacant for an extended period of time greater than one calendar month but not to exceed six calendar months. Submitting an application is admission that there will be no use of service during such period of time, including use as a result of maintenance or cleaning of the premises. The Street Superintendent shall turn the water off at the curb during the period of vacancy. Verification of water shutoff will be completed. Property owners, lessees, or tenants shall be required to pay a disconnect fee in the amount shown on the Fines and Fees Schedule in Section 1.15 of this Code of Ordinances at the time the vacancy begins. Property owners, lessees, or tenants shall notify City Hall at the end of the vacancy period or prior if returning sooner than anticipated so that the Water Department shall turn the water on at the curb. Property owners, lessees, or tenants shall be required to pay a reconnect fee at the time the vacancy ends, in the amount shown on the Fines and Fees Schedule.

92.09 CHANGE OF NAME NOTICE.

If a customer is a tenant and requests a change of name under the service account, the owner or landlord of the property or premises may submit a written request for notice of any change of name for service.

City Council

Work Session Memorandum

To:	City Council Members
From:	Matthew R. Schmitz, MPA, City Manager
Date of Meeting:	June 1, 2026
Item Title:	Fire Department Expansion Update

Discussion:
Kyle Martin from Martin Gardner Architecture will present an update to the Council regarding the Fire Department Expansion Project. As part of this presentation, we will review the statement of probable construction costs prepared by Martin Gardner Architecture for the Independence Fire Station Renovation and Addition.

The estimated total project cost is currently projected at $13,745,470 for the 25,141 square foot building footprint. This comprehensive estimate breaks down into the following key phases:

- **Demolition ($193,302):** Includes the removal of the parking lot, sidewalk, curb, south addition, retaining wall, top soil, and his estimate has removal of the house/garage as well, which we will likely do beforehand.
- **Site Work ($279,227):** Covers the new parking lot, fire apron, sidewalk, landscaping, and connections for water, gas, and electric.
- **Building Substructure ($9,951,130):** Represents the core facility construction costs.
- **Contingencies ($917,282):** Accounts for a 3.0% bidding contingency and a 5.0% construction contingency.
- **Design Fees ($1,362,164):** Represents an 11% fee covering architectural, civil, structural, landscape, and interior design.

We look forward to discussing these estimates and the overall vision for the expansion with the Council to ensure we are aligned as we continue moving this important public safety project forward.

Recommendation:

Staff recommends discussion of this topic. No action is needed at this meeting, as any decision items needed would be brought forward to a City Council meeting for approval.

Attachments:

1. DRAFT 2026-05-27 Independence Fire Costs

Independence Fire Station

113 4th Avenue SE
Independence, IA 50644
Renovation and Addition

City of Independence

331 1st Street East
Independence, IA 50644
Blake Hayward - Fire Chief
563-920-2109
firechief@independenceia.org
###
Kyle Martin
319-200-8493

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Statements of probable construction cost prepared by Martin Gardner Architecture, P.C.

			Building Square Footage		25,141
	Quantity	**Unit**	**Unit Price**	**Total**	
DEMOLITION					
Parking Lot	10,400	SF	$6.50	$67,600	
Sidewalk	2,570	SF	$3.00	$7,710	
Curb	394	LF	$18.00	$7,092	
South Addition	3,800	SF	$15.00	$57,000	
Retaining Wall	110	LF	$150.00	$16,500	
Top Soil Removal	10,200	SF	$2.00	$20,400	
House/Garage Removal	1	EA	$17,000.00	$17,000	
			Demolition Subtotal		$193,302
SITE WORK					
Parking Lot	14,701	SF	$11.50	$169,062	
Fire Apron	2,798	SF	$17.50	$48,965	
Sidewalk	1,800	SF	$9.00	$16,200	
Landscaping	1,500	SF	$10.00	$15,000	
Water Line Connection	1	EA	$10,000.00	$10,000	
Gas Connection	1	EA	$10,000.00	$10,000	
Electric Connection	1	EA	$10,000.00	$10,000	
			Site work Subtotal		$279,227
Building					
See breakdown		EA		$9,951,130	
			Substructure Subtotal		$9,951,130
CONSTRUCTION & DESIGN CONTINGENCIES					
Bidding Contingency (% of Project Subtotal)			3.0%		$343,981
Construction Contingency (% of Project Subtotal)			5.0%		$573,301
			Subtotal Contingencies		$917,282
			Project Total		**$12,383,306**
DESIGN FEES					
Architectural, Civil, Structural, Landscape, Interiors				11%	$ 1,362,164
			Subtotal Design Fees		$1,362,164
			Project Total		$13,745,470

City Council

Work Session Memorandum

To:	City Council Members
From:	Matthew R. Schmitz, MPA, City Manager
Date of Meeting:	June 1, 2026
Item Title:	Ballot Language for the Fire Department Expansion

Discussion:

Following the previous discussion of the cost of the Fire Department Expansion Project, we are presenting the specific ballot language for the proposed bond referendum for Council review and discussion. This is the first formal review of the exact statutory text required to place this measure before the voters.

The proposed language sets a maximum borrowing cap of $14,500,000 to ensure the project fully addresses the long-term operational and spatial needs of our fire protection facilities.

The draft proposed language is as follows:

"Shall the City of Independence, in Buchanan County, State of Iowa, enter into a loan agreement and issue general obligation bonds in an amount not exceeding $14,500,000 for the purpose of paying the cost, to that extent, of undertaking the expansion, renovation, and improvement of existing fire protection facilities, including acquisition and installation of furnishings and equipment?"

We would like to get a general consensus from the Council on this proposed text. Establishing consensus on the language will allow us to continue working to place this on the ballot within the statutory timeline and begin developing factual educational materials for our residents.

Recommendation:

Staff recommends discussion of this topic. No action is needed at this meeting, as any decision items needed would be brought forward to a City Council meeting for approval.

Attachments:
None

City Council

Work Session Memorandum

To:	Matthew R. Schmitz, MPA - City Manager
From:	Brett Soukup, Airport Director
Date of Meeting:	June 1, 2026
Item Title:	Mechanic IA Services Contract Discussion

Discussion:
In February 2026, the Airport Board discussed issuing Requests for Proposals (RFPs) for Mechanic IA Services at the airport. Following the RFP's advertisement, the city received two qualified proposals for consideration.

The Airport Board reviewed both submissions and, after discussion and evaluation, determined that Spearman Aviation was the preferred respondent for the services. Since that time, the Airport Board has continued discussions with Spearman Aviation regarding operational expectations and service needs at the airport.

City staff have since worked closely with Spearman Aviation to develop a contract agreement reflecting the terms and expectations discussed by the Airport Board.

The attached contract has been reviewed by the City Attorney as well.

Recommendation:

Staff recommends discussion of this topic. No action is needed at this meeting, as any decision items needed would be brought forward to a City Council meeting for approval.

Attachments:
1. Clint Spearman Lease Agreement Draft

AIRPORT USE AND LEASE AGREEMENT

Between

City of Independence, Iowa

and

Clint Spearman d/b/a Spearman's Aviation Services

THIS AIRPORT USE AND LEASE AGREEMENT (the "Agreement"), made and entered into as of the date indicated on the City's signature page, by and between the **City of Independence, Iowa,** an Iowa municipal corporation ("City") and **Clint Spearman d/b/a Spearman's Aviation Services** ("Spearman"), City and Spearman at times referred to as a 'Party' or jointly as 'Parties', herein.

WHEREAS, City owns and operates the Independence Municipal Airport ("Airport") and has the power to grant rights and privileges with respect thereto, as hereinafter provided; and

WHEREAS, Spearman is engaged in the business of aircraft repair, maintenance, and inspections ("Services"); and

WHEREAS, the Parties desire to enter into this Agreement for the use and lease of certain premises and facilities at the Airport by Spearman for Spearman to perform Services as more fully hereinafter set forth;

NOW THEREFORE, for and in consideration of the mutual covenants and agreements herein contained, City and Spearman do hereby mutually undertake, promise and agree, each for itself and its successors, as follows:

A. **Leased Premises**: City hereby leases to Spearman, and Spearman hereby agrees to lease from City, the following described leased premises. ("Premises")
   1. The Mechanic Building (also known as the Vault building). (Considered a "Hangar", subject to rules and regulations related to Hangars and Hangar use.)
   2. One (1) T-Hangar, identified as A4E.
   3. Spearman and its employees, agents, and invitees, its suppliers of materials and furnishers of services shall have the non-exclusive right to use, in common with all others, all public areas of the Airport, together with all improvements, facilities and equipment located therein, including, without limitation, the following: public lobbies, public waiting rooms, public stairways, public restrooms, public roads and parking lots. ("Common Areas")
   4. Other locations may be considered and discussed with the Airport Director, who shall have the authority to add other areas of the airport in consultation with the City Manager and Spearman.

5. The Parties acknowledge that Spearman may seek to expand operations into additional hangar space, including full use of the Main Hangar. Any such expansion shall require prior written approval by the City and may be incorporated into this Agreement by amendment following the 12-month review or at another mutually agreed-upon time.

B. **Lease Term:**

1. The term of this Agreement shall be for three (3) years, commencing on _____, 2026, and ending on _____, 2029, unless terminated earlier in accordance with the provisions of this Agreement.
2. The parties agree to conduct a formal review of this Agreement twelve (12) months following the commencement date. At such time, the Parties may mutually agree in writing to modify rent, leased premises, or other operational terms based on business needs, facility use, or Airport considerations. Any such modifications must be approved in writing by both Parties in accordance with Section AA (Entire Agreement – Amendment).

C. **Rent, Utilities, and Fees:**

1. **Monthly Rent Structure:**
   i. Rent for each of the below items shall be due and payable, in advance, without notice, on or before the first day of the then current month.
      a. Vault Hanger (Mechanic Building): $400.00 per month
      b. T-Hanger (A4E): $100.00 per month
      c. Main Hanger: $250.00 per month
   ii. Total monthly rent shall be $750.00, subject to the phased rent provisions set forth within Paragraph (C)(4) below.
2. **Late Fees:** If rent is not received by the 5th day of the month, a late fee of $50.00 shall be assessed, with additional sums of $50.00 assessed for each partial five (5) day increment thereafter. (If paid between 6th and 10th, an additional late fee will be applied in the amount of $50.00; if paid on the 11th, an additional late fee of $50.00 will be due and payable, etc.)
3. **Utilities:** In addition to rent, Lessee is responsible for the payment of all propane usage during the lease term. The propane tank, which is provided at lease commencement with an at least 80% fill level, must be returned with a fill level of at least 80% capacity upon

termination of the lease. By execution of this lease agreement, the Parties agree that the propane tank was full to 80% or greater at commencement of the lease term.

4. **Rent Abatement and Phased Schedule:** To support business startup and operational ramp-up, rent shall be applied as follows:
   i. First ninety (90) days of this agreement: No rent due.
   ii. Second ninety (90) days of this agreement: Fifty percent (50%) of total monthly rent ($375.00).
   iii. Remaining term of agreement: One hundred percent (100%) of total monthly rent ($750.00).

   All other obligations under this Agreement remain in effect during the abatement periods identified above.

D. **Use of Premises:** Spearman shall be permitted to use the Premises during the lease term for the following purposes, purposes reasonably related thereto, and for such other purposes as may be authorized in writing from time to time by the Airport Director:

1. Aircraft maintenance and repair, and
2. Aircraft inspections, and
3. The temporary storage of aircraft before and after repair, maintenance, and/or inspection services, and
4. Related aviation services, and
5. Administrative and operations offices.
6. It is acknowledged and agreed that the Premises under this Agreement constitute non-residential real property.
7. Spearman shall have the right to provide services to transient (non-based) aircraft and customers utilizing the Airport and to retain all revenues derived from such services. For purposes of this Agreement, "transient" shall mean aircraft or customers not based at the Airport under a lease, hangar agreement, or other long-term arrangement with the City. This provision does not grant Spearman exclusive rights to provide such services, and all such services shall be conducted in compliance with applicable Airport Rules, Regulations, and any Minimum Standards now in effect or hereafter adopted. Nothing herein shall restrict based tenants from selecting their own service provider.

E. **Airport Rules:** Spearman, its employees, agents, and subcontractors must comply with all Independence Municipal Airport rules, regulations, and policies, as well as all applicable FAA regulations, state laws, and local ordinances. Airport Rules includes, all reasonable rules and regulations governing the use of the Premises and any other portion of the Airport as may from time to time be adopted and promulgated by the City for the management, operation and control of the Airport, including those pertaining to the operation of automobile and vehicular traffic and parking facilities thereon, and with such reasonable amendments, revisions, additions and extensions thereof as may from time to time be adopted and promulgated; provided, however, such rules and regulations shall not be inconsistent with the rights herein granted to Spearman; provided, further, that nothing herein shall be considered to restrict the police power of the City. (A copy of the current Airport Rules are appended hereto as **Exhibit A**)

F. **Premises Maintenance and Repair**

1. City shall be responsible for necessary repair and maintenance to the Premises as determined appropriate and necessary by the Airport Director and/or the City Manager.
2. Spearman agrees that it will at all times under its control maintain the Premises in a neat, clean, safe, and orderly condition and in keeping with the general decor of the area in which they are situated.

G. **Spearman Alterations to Premises**: Spearman may, with prior written approval of the Airport Director, at its own cost and expense, install in the Premises any fixture or improvement or do or make alterations or do remodeling, germane to the use herein or hereafter granted. Any fixtures, improvements, equipment and other property installed, erected or placed by Spearman in, on or about such Premises, shall be deemed to be personal and shall remain the property of Spearman, except as otherwise provided herein and Spearman shall have the right at any time during the term hereof to remove any or all of its property, subject to Spearman's obligation to repair damage, if any, resulting from such removal. All such fixtures, improvements, equipment and other property shall be removed from the Premises by the expiration or earlier termination of the lease and the Premises restored to the condition existing at the commencement of the lease, reasonable wear and tear excepted, unless the City, acting by and through its Airport Director, shall have advised Spearman in writing at the time of such installation or not less than sixty (60) days in advance of the expiration of the Term or not less than thirty (30) days in advance of such earlier termination, of its willingness to accept title to

such fixtures, improvements, equipment and other property in lieu of restoration of the Premises. It is understood and agreed that during such period and until such personal property is removed, if removed, Spearman shall pay to the City the full rental applicable to the Premises, as determined by the Airport Director, where said personal property remains and where said Premises are not usable by others until said property is removed. Said improvements, and all alterations thereof and additions thereto, shall in all respects be constructed in accordance with the ordinances and any applicable code or rule and regulation of the City, including the Airport Rules and Regulations governing tenant construction specifications and other non-technical requirements, and pursuant to any required building permit to be obtained from the City and according to the customary terms and conditions thereof.

H. **Subletting or Assignment**: No interest or rights under this Agreement may be sublet or assigned without the express written consent of the City, which may be withheld in the sole discretion of the City.

I. **Right to Enter and Make Repairs / Maintenance**: The City and its authorized officers, employees, agents, contractors, subcontractors, and other representatives shall have the right (at such times as may be reasonable under the circumstances and with as little interruption to the Spearman's operations as is reasonably practicable) to enter upon the Premises for the following purposes:

1. To inspect the Premises at reasonable intervals during regular business hours (or at any time in case of emergency) to determine whether Spearman has complied and is complying with the terms and conditions of this Agreement with respect to the Premises.
2. To perform maintenance and make repairs and replacements to the Premises in any case where Spearman is obligated to do so and has failed after reasonable notice to do so, in which event Spearman shall promptly, upon demand, reimburse the City for the actual cost thereof, plus a 15% administrative charge.
3. To perform maintenance and make repairs and replacements in any case where the City is obligated to do so, and in any other case where the City, in its reasonable judgment, determines that it is necessary or desirable to do so in order to preserve the structural safety of the Premises or to correct any condition likely to cause injuries or damages to persons or property.

4. In the exercise of the City's police power.
5. No such entry by or on behalf of the City upon such Premises leased to Spearman shall cause or constitute a termination of the lease terms of this agreement, or be deemed to constitute an interference with the possession thereof by Spearman.

J. **Abandonment of Premises**: If Spearman ceases to occupy and use a material portion of the Premises for a continuous period of thirty (30) days or longer, the City, acting by and through the City Manager, may consider such portion of the Premises abandoned, and if needed for another use, upon not less than fourteen (14) days' written notice to Spearman, terminate the lease for such portion of the Premises.

K. **Destruction of Premises**: If by reason of any cause the Premises, or any portion thereof, are damaged or destroyed by fire or other casualty, then:
1. The City, after consultation with Spearman, shall forthwith repair, reconstruct and restore the damaged or destroyed portions of the Premises to substantially the same condition, character, utility and value as existed prior to such damage or destruction, unless the City and Spearman agree that no such reconstruction is necessary, or that reconstruction to some other condition, character, utility and value is appropriate or desired; and
2. If such Premises are damaged to such an extent that the Premises are untenable, the City, acting by and through the Airport Director, will make all reasonable efforts to provide substantially equivalent substitute premises and facilities, and such substitute premises and facilities will be made available to Spearman consistent with those rentals, fees and charges for the use of the Airport established and modified from time to time by the City in accordance with this Agreement.
3. For portions of the Premises that are untenable, Spearman shall receive a pro rata abatement of rentals, fees, and charges applicable thereof from the date of such occurrence to the date upon which such portions of the Premises are repaired and restored.

L. **Laws, Regulations, and Agreements to be Observed**:
1. Spearman shall not use, or authorize the use by any other person or party, of all or any portion of the Premises, or any part of the Airport to which it is granted a right of use or occupancy by this Agreement, for any purpose or use other than those authorized by this Agreement, or hereafter authorized in writing by the City Manager.

2. Spearman shall comply with and shall cause its officers and employees and any other persons over whom it has control to comply with the Airport Rules and Regulations.
3. Spearman shall, at all times, faithfully obey and comply with all existing laws, rules, and regulations adopted by federal, state, local, or other governmental bodies and applicable to or affecting the Airport and its operation.

M. **Termination by City**: The City may terminate this Agreement consistent with the following:
1. If Spearman shall be in violation of any provision of this Agreement; or
2. If, during the term of this Agreement, Spearman shall (a) apply for or consent to, in writing signed on behalf of Spearman, by any of its officers or its duly authorized attorney, the appointment of a receiver, trustee or liquidator of all or a substantial part of Spearman's assets, (b) file a voluntary petition in bankruptcy, or admit in writing its inability to pay its debts as they come due, (c) make a general transfer for the benefit of creditors, (d) file a petition or an answer seeking reorganization or arrangement with creditors or to take advantage of an insolvency law, or (e) file an answer admitting the material allegations of a petition filed against Spearman in any bankruptcy, reorganization or insolvency proceeding, or if during the term of this Agreement an order, judgment or decree shall be entered by any court of competent jurisdiction, on the application of a creditor, adjudicating Spearman as bankrupt or as insolvent, or approving a petition seeking a reorganization of Spearman or of all or a substantial part of its assets, and such order, judgment, or decree shall continue unstayed and in effect for any period of ninety (90) consecutive days, then, and in any of such events, the City may give Spearman a notice of intention to end the term of this Agreement in its entirety after the expiration of thirty (30) days from the date of service of such notice, and on the date set forth in said notice the term of this Agreement and all right, title and interest of Spearman hereunder shall expire as fully and completely as if that day were the date herein specifically fixed for the expiration of the term, and Spearman will then voluntarily and peaceably quit and surrender the Premises covered hereby to the City, but Spearman shall remain liable as herein provided; or

N. **Termination of Lease by Spearman**: Spearman, at its option, may declare this Agreement terminated in part or in its entirety if the City's operation of Airport is substantially restricted by action of any federal or other governmental agency having jurisdiction with respect thereto, or the occurrence of any fire or other casualty substantially and adversely affects, for a period

of at least ninety (90) days, Spearman's use of Airport as contemplated herein; provided, however, none of the foregoing is due primarily to any fault of Spearman.

O. **Effective Date of Termination**: Notwithstanding anything to the contrary in this Agreement, no termination declared by either Party shall be effective until not less than thirty (30) days have elapsed after written notice to the other specifying the date upon which such termination shall take effect and the cause for which it is being terminated (and if such termination is by reason of a default under this Agreement for which termination is authorized, specifying such default with reasonable certainty). No such termination shall be effective if such cause shall have been cured or obviated during such thirty (30) day period, or in the event such cause is a default under this Agreement (for which termination is authorized) and if by its nature such default cannot be cured within such thirty (30) day period, such termination shall not be effective if the Party in default commences to correct such default within said thirty (30) days and corrects the same as promptly as reasonably practicable; provided that the thirty (30) day period shall not apply to termination declared for failure of Spearman to make money payments hereunder, for which termination may be declared by the City upon fifteen (15) days' written notice, unless Spearman remedies such default within such fifteen (15) day period; and provided further that Spearman will be allowed only two (2) notices of default with respect to money payments in any one year which it may cure. Upon termination of this Agreement, the Parties shall be relieved from all obligations hereunder except as set forth in Paragraphs G, P, R, T, and Y, and anywhere else in this Agreement where the language of the lease suggests that the obligations would survive the termination of the Agreement. The right of any Party hereto to terminate this Agreement shall not in any manner affect or limit such Party's right to exercise any other right or remedy it may have under law, rather than its right of termination.

P. **Surrender and Holding Over**: Spearman covenants that at the expiration of the period for which the Premises are leased to it, or at the earlier termination of the lease, it will quit and surrender such Premises in good state and condition, reasonable wear and tear, acts of God or other casualty and damage due to the negligent or willful act or omission of the City excepted, and except as otherwise agreed by the Parties, Spearman shall forthwith remove from Premises all equipment, trade fixtures and personal property belonging to it, subject to the terms of Paragraph G of this Agreement. The City shall have the right on such termination to enter upon and take possession of such Premises with or without process of law, without liability for

trespass. Holding over by Spearman following the expiration of the term of this Agreement or any extension thereof, without an express agreement as to such holding over, shall be deemed and taken to be a periodic tenancy from month-to-month. Spearman shall be subject to all the terms and conditions of this Agreement as amended from time to time or any extension thereof. Rent, fees, and charges for each month of such holding over shall be paid as provided herein and in a sum equal to the monthly rental required for the month prior to the end of the term of this Agreement or as reestablished as provided for herein. In the event Spearman fails to surrender the Premises upon termination or expiration of this Agreement, or such month-to-month tenancy, then Spearman shall indemnify City against loss or liability resulting from any delay of Spearman in not surrendering same.

Q. **Termination of Holdover**: If Spearman holds over pursuant to Paragraph P hereof, either Party may, with or without cause, cancel or terminate said tenancy by giving not less than thirty (30) days' written notice to the other Party. Said notice shall set out the date of such cancellation and termination.

R. **Indemnification:** Spearman agrees to indemnify and save harmless the City, its officers, and employees, from and against (A) any and all loss of or damage to property, or injuries to, or death of, any person or persons, including property and officers, employees and agents of the City; and (B) all claims, damages, suits, costs, expense, penalties, liability, actions or proceedings of any kind or nature whatsoever, of or by anyone whomsoever; which, with respect to clauses (A) and (B) hereof, in any way result from, or arise out of, Spearman's operations in connection herewith, or its use or occupancy of any portion of the Airport and the acts, omissions, or wrongful conduct of officers, employees, agents, contractors or subcontractors of Spearman including without limitation, the provision or failure to provide security as herein required and the use, disposal, generation, transportation or release of pollutants, including but not limited to oil, glycol, toxic or hazardous materials at the Airport by Spearman, its contractors, employees, agents, customers, or anyone claiming or acting by or through Spearman.

Without limitation, the terms of this indemnity include an agreement by Spearman to indemnify, defend and hold harmless the City from and against any and all expense, loss, claim, damage, or liability suffered by City by reason of Spearman's breach of any environmental requirement existing under federal, state or local law, regulation, order or other legal

requirement in connection with any of Spearman's acts, omissions, operations or uses of property relating to this Agreement, or such a breach by the act or omission of any of Spearman's officers, employees, agents, or invitees, whether direct or indirect, or foreseen or unforeseen, including (but not limited to) all cleanup and remedial costs actually and reasonably incurred to satisfy any applicable remediation obligation required by federal, state or local law, and reasonable legal fees and costs incurred by City in connection with enforcement of this provision, but excluding damages solely relating to diminution in value of City real property. Provided however, the City agrees that (I) Spearman need not save harmless or indemnify the City against damage to or loss of property, or injury to or death of persons, caused by the negligence or willful acts of the City, its officers, employees, contractors and agents, and (II) the City will give prompt written notice to Spearman of any claim or suit and Spearman shall have the right to assume the defense and compromise or settle the same to the extent of its own interest. Provided, however, the indemnity provided for herein shall apply only to the extent the City is not reimbursed out of insurance proceeds.

S. **Insurance Requirements**: At all time during the term of this Agreement, unless otherwise required by federal or state governmental law or regulation, Spearman is required and agrees, at its own cost and expense, to provide and keep in force for the benefit of Spearman and the City, a policy, or policies, of insurance written on a single limit each occurrence basis with limits of not less than One Million Dollars ($1,000,000.00) for bodily injury and property damage arising from any operation of Spearman at the Airport and contractual liability coverage per occurrence and Two Million Dollars ($2,000,000.00) aggregate, and Hangar Keepers Liability Insurance to cover loss or damage to aircraft and their contents in the Premises with limits of not less than One Million Dollars ($1,000,000.00) per occurrence and Two Million Dollars ($2,000,000.00) aggregate.

   Such insurance policy, or policies, and certificates of insurance evidencing the existence thereof shall cover all operations of Spearman at the Airport, and shall insure Spearman's agreement to indemnify the City as set forth in the indemnification provisions hereof. The amount of insurance required hereunder shall in no way limit the liability of Spearman. The City shall be named an additional insured of said insurance. Each such policy and certificate shall contain a special endorsement stating "This policy will not be materially changed or altered or canceled without first giving thirty (30) days written notice by certified mail, return

receipt requested, to the City of Independence, Iowa, 331 1st Street E., Independence, IA 50644."

All such policies of insurance, or certified copies thereof, together with receipts showing payment of premiums thereon, shall be made available for review by the City at such times and places as required by the Airport Director or City Manager. Certificates of insurance evidencing the existence of said policies shall be delivered to and left in the possession of the City Clerk.

T. **Liens**: Except to the extent inconsistent with other provisions of this Agreement, Spearman covenants and agrees to pay promptly all lawful taxes, excises, license fees and permit fees applicable to its operations at the Airport and to take out and keep current all licenses, municipal, state or federal, required for the conduct of its business at and upon said Airport, and further agrees not to permit any of said taxes, excises or license fees to become delinquent. Spearman further covenants and agrees at all times to maintain adequate Worker's Compensation Insurance in accordance with any present or future Iowa law. Spearman also covenants and agrees not to permit any mechanic's or materialman's or any other lien to be foreclosed upon the Airport and improvements thereto or thereon, or any part or parcel thereof, by reason of any work or labor performed or materials furnished at the request of Spearman by any mechanic or materialman. Spearman further covenants and agrees to pay promptly when due all bills, debts and obligations incurred by it in connection with its operation of said business on the Airport, and not to permit the same to become delinquent and to suffer no lien, mortgage, judgment or execution to be filed against said premises or improvements thereon which will in any way impair the rights of the City under this Agreement. Spearman shall have the right upon giving the City prior written notice to contest any such mechanic's, materialman's, or any other lien, and Spearman shall not, pending the termination of such contest, be obligated to pay, remove, or otherwise discharge such lien or claim. Spearman agrees to indemnify and save harmless the City from any loss as a result of Spearman's action as aforesaid. If Spearman shall in good faith proceed to contest any such tax, assessment or other public charge, or the validity thereof, by proper legal proceedings which shall operate to prevent the collection thereof or to prevent the appointment of a receiver because of nonpayment of any such taxes, assessments or other public charges, Spearman shall not be required to pay, discharge or remove any such tax, assessment or other public charge so long

as such proceeding is pending and undisposed of; provided, however, that Spearman, not less than five (5) days before any such tax, assessment or charge shall become delinquent, shall give notice to the City of Spearman's intention to contest its validity. If such notice is so given by Spearman to the City and such contest is conducted in good faith by Spearman, the City shall not, pending the termination of such legal proceedings, pay, remove, or discharge such tax, assessment, or other charge.

U. **Loss or Damage to Property**: The City shall not be liable for any loss of property by theft or burglary from the Premises or for any damage to person or property on said Premises resulting from Spearman's operations including but not limited to operating electric lighting, wind, water, rain or snow, which may come into or issue or flow from any part of said Airport, or from the pipes, plumbing, wiring, gas or sprinklers thereof or that may be caused by the City's employees or any other cause whatsoever, and Spearman hereby covenants and agrees to make no claim for any such loss or damage at any time.

V. **Force Majeure**: Neither the City nor Spearman shall be deemed to be in breach of this Agreement by reason of failure to perform any of its obligations under this Agreement if, while and to the extent that such failure is due to embargoes, shortages of materials, acts of God, acts of the public enemy, acts of superior governmental authority, sabotage, strikes, boycotts, labor disputes, weather conditions, riots, rebellion and any circumstances for which it is not responsible and which are not within its reasonable control. This provision shall not apply to failures by Spearman to pay rents, fees, or other charges, or to make any other money payment whatsoever required by this Agreement, except in those cases where provision is made in this Agreement for the abatement of such rents, fees, charges, or payments under such circumstances.

W. **Insurance Obligations of City**: The City shall at all times carry with a responsible insurance company or companies authorized and qualified under the laws of the State to assume the risk thereof:

1. Fire and Extended Coverage Insurance. From and after the time when any contractors engaged in connection with the Airport, or any part thereof, shall cease to be responsible pursuant to the provisions of their respective contracts for loss or damage thereto occurring from any cause, the City shall insure and at all times keep the Airport insured to the extent possible with a responsible insurance company, companies or carriers authorized and

qualified under the laws of the State of Iowa assume the risk thereof against direct physical damage or loss from fire and so-called extended coverage perils in an amount not to exceed the replacement value of the facilities so insured, less depreciation; but such amount of insurance shall at all times be sufficient to comply with any legal or contractual requirement which, if breached, would result in assumption by the City of a portion of any loss or damage as co-insurer; and also if at any time the City shall be unable to obtain such insurance to the extent above required at reasonable cost as determined by the City Manager, the City shall maintain such insurance to the extent reasonably obtainable. Insurance against any other risks or type of loss as are or shall be customarily covered may be obtained, under a standard "all risk policy" with extended coverage for public property, or otherwise, including without limitation, insurance against loss or damage to the Airport by flood or other waters, elements of weather, explosion of any nature, earthquake, and volcanic eruption (or any combination thereof), when, if, and to the extent any such insurance can be procured at reasonable rates in the sole opinion of the City Manager.

2. Liability Insurance. Insurance in the form and amount recommended by the City Manager and reasonably sufficient to insure against liability to any individual sustaining bodily injury or any person sustaining property damage or the death of any individual by reason of any defect or want of repair in or about the Airport, or by reason of the negligence of any employees, and against such other liability for individuals, including worker's compensation insurance, to the extent attributed to ownership and operation of the Airport, and damage to property of persons; but in the case of the company or companies insuring the Airport under a general liability policy against loss from bodily injury or property damage, or both, the total liability of such company or companies for all damages because of all bodily injury and all property damage arising out of continuous or repeated exposure to substantially the same general conditions to which the policy applies as the result of any one occurrence, subject to such exclusions generally made to such a policy, shall be not less than $1,000,000.00 per occurrence and $2,000,000.00 in the aggregate.
3. Maintenance of Policies. All such insurance policies designated in Subparagraphs (1) and (2) hereof shall be filed with the City Clerk and shall be subject to inspection at all reasonable times by Spearman. If the City Manager determines that certain insurance required in Paragraph S hereof cannot be obtained to the extent therein required at

reasonable rates, the City Manager shall prepare a written memorandum to that effect, designating each such type of insurance in question and stating in each such case that the insurance was not obtainable or that designated insurance was required in substitution for the required insurance, the reason or reasons for its substitution, and when and to the extent that the substituted insurance was procured at reasonable rates, as the case may be. Each such memorandum shall be filed with the policies on file with the City Manager or City Clerk and shall also be subject to such inspection.

X. **Miscellaneous**:

1. Covenant of Quiet Enjoyment: Upon the payment by Spearman of all rentals, rates, fees and charges properly assessed to Spearman and the performance of the covenants and agreements on the part of Spearman to be performed hereunder, Spearman shall peacefully have and enjoy the Premises, appurtenances, facilities, licenses and privileges granted herein; provided, however, it is recognized that certain temporary inconveniences may occur during construction, should construction occur at the Airport.
2. Inconvenience During Construction: Spearman recognizes that from time to time during the term of this Agreement it will be necessary for the City to initiate and carry forward potentially extensive programs of construction, reconstruction, expansion, relocation, maintenance and repair in order that the Airport and its facilities may be suitable for the volume and character of air traffic and flight activity which will require accommodation, and that such construction, reconstruction, expansion, relocation, maintenance and repair may inconvenience Spearman in its operations at the Airport. Spearman agrees that no liability shall attach to the City, its officers, agents, employees, contractors, subcontractors, and representatives by reason of minor inconvenience or minor discomfort as a result of such action and, for and in further consideration of the lease of the Premises, Spearman waives any right to claim damages or other consideration for such minor inconvenience of minor discomfort.
3. Agreement Binding: This Agreement shall be binding on and extend to any successors of the respective Parties hereto.
4. Paragraph Headings: Any Paragraph or Section headings contained herein are for convenience and reference only and are not intended to define or limit the scope of any provision of this Agreement.

5. Signs: Spearman agrees that no signs or advertising displays shall be painted on or erected in any manner upon the Premises without the prior written approval of the Airport Director or the Airport Director's authorized representative; and that signs identifying Spearman, or for any other purpose, will conform to reasonable standards established by the Airport Director, or the Airport Director's authorized representative, with respect to type, size, design, location, and content.
6. Notices:
    a. All notices required to be given to the City hereunder shall be in writing and shall be sent by certified mail, return receipt requested, addressed to: City Manager, City of Independence, 331 1st Street E., Independence, Iowa 50644. All notices required to be given to Spearman hereunder shall be in writing and shall be sent by certified mail, return receipt requested, addressed to: Clint Spearman, DBA Spearman's Aviation Services,
    b. Provided that either Party may designate in writing from time to time the addresses of substitute or supplementary persons in connection with said notices. The effective date of service of any such notice shall be the date such notice is mailed to Spearman or the City Manager.
7. Place and Manner of Payments: In all cases where Spearman is required by this Agreement to pay any rentals, fees or other charges or to make other payments to the City, such payments shall be due and payable without notice and shall be sent to: City of Independence, Iowa, 331 1st Street E., Independence, Iowa 50644, or at such other place as the City may hereafter designate by notice in writing to Spearman. All payments shall be made in legal tender of the United States. Any check or electronic payment shall be received by the City subject to collection, and Spearman agrees to pay any bank charges for use of electronic payment methods or for the collection of any payments.
8. Severability: In the event any covenant, condition or provision contained in this Agreement is held by any court of competent jurisdiction to be invalid, the invalidity of any such covenant, condition or provision shall in no way affect any other covenant, condition or provision herein contained if the invalidity of any such covenant, condition or provision does not materially prejudice either Party hereto in its respective rights and obligations contained in the valid covenants, conditions or provisions in this Agreement.

9. Waiver: No waiver of default by either Party of any of the terms, covenants or conditions hereof to be performed, kept and observed by Spearman or the City shall be construed, or operate as a waiver of such term, covenant, or condition or of any subsequent breach of the same or any other term, covenant or condition herein contained to be performed, kept and observed by Spearman or the City. The subsequent acceptance of rent hereunder by the City shall not be deemed to be a waiver of any preceding breach by Spearman of any term, covenant, or condition of this Agreement other than the failure of Spearman to pay the particular rental so accepted, regardless of the City's knowledge of such preceding breach at the time of acceptance of such rent.
10. Third Parties: This Agreement does not, and shall not be deemed or construed to, confer upon or grant to any third party or parties (excepting parties to whom Spearman has been authorized by the City to assign this Agreement) any right to claim damages or to bring any suit, action or other proceeding against either the City or Spearman because of any breach hereof or because of any of the terms, covenants, agreements and conditions herein contained.
11. Non-Discrimination: In connection with performance under this Agreement, Spearman agrees not to refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, marital status, or physical or mental disability. Spearman further agrees to insert the foregoing provision in all subleases hereunder, if any.
12. Jurisdiction and Venue: Jurisdiction and Venue of any disputes shall be in the Iowa District Court in and for Buchanan County, and Iowa law will at all times be applied.

Y. **Supplemental Reporting by Spearman**: Not later than fifteen (15) calendar days after the end of each month, Spearman shall complete and file with the City written activity reports for the preceding month on forms provided by the City, and delivered to the Airport Director. Information to be provided will include, but not be limited to:

Z. **Entire Agreement – Amendment**: The Parties acknowledge and agree that the provisions contained in this Agreement constitute the entire agreement and understanding between the Parties with respect to the subject matter hereof, and that all representations made by any

officer, agent, or employee of the respective Parties, unless included herein, are null and void and of no effect. This Agreement cannot be changed or terminated orally. No alterations, amendments, changes, or modifications, unless expressly reserved to the Airport Director or City Manager herein, shall be valid unless executed by an instrument in writing by all the Parties; however, the Parties specifically acknowledge the 12-month review process outlined in Section B.2 as an intended opportunity for such amendments.

AA. **City Council Approval**: This Agreement is expressly subject to, and shall not be or become effective or binding on the City until approved by the Independence City Council and fully executed by the City Manager, and a fully executed copy has been delivered to Spearman. This Agreement may be signed electronically by either Party in the manner specified by the City.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

CITY OF INDEPENDENCE, IOWA

By: _____

City Manager

Date: _____

LESSEE

By: _____

Name & Title: _____

Date: _____

City Council

Work Session Memorandum

To:	City Council Members
From:	Matthew R. Schmitz, MPA, City Manager
Date of Meeting:	June 1, 2026
Item Title:	Iowans Create Community Mural - Buchanan County Tourism

Discussion:
Isabel Thurn, Executive Director of Buchanan County Tourism will be present to share the design of the Iowans Create Community Mural, planned for downtown, with the Council.

The design is attached for Council review as well.

Recommendation:

Staff recommends discussion of this topic. No action is needed at this meeting, as any decision items needed would be brought forward to a City Council meeting for approval.

Attachments:
1. Independence Mural

Celebrate our Spirit
EST 1847
INDEPENDENCE
1st St E
2nd Ave NE

City Council

Work Session Memorandum

To: City Council Members

From: Matthew R. Schmitz, MPA, City Manager

Date of Meeting: June 1, 2026

Item Title: RAGBRAI update

Discussion:
Nikki Barth will be present to give an update on the RAGBRAI plans.

Recommendation:

Staff recommends discussion of this topic. No action is needed at this meeting, as any decision items needed would be brought forward to a City Council meeting for approval.

Attachments:
None

City Council

Work Session Memorandum

To:	City Council Members
From:	Matthew R. Schmitz, MPA, City Manager
Date of Meeting:	June 1, 2026
Item Title:	An Ordinance Amending the Code of Ordinances of the City of Independence, Iowa, by Amending Provisions to Chapter 70 Traffic Code Enforcement Procedures

Discussion:

The proposed ordinance amendment to Section 70.03 of our municipal code is a straightforward housekeeping measure designed to ensure our written policies accurately reflect our current daily operations.

Currently, the Code of Ordinances states that uncontested parking violations are payable at the office of the City Clerk. In practice, however, residents and visitors already go to the Independence Police Department to handle and pay these citations. To eliminate any potential confusion and seamlessly align the written code with these established procedures, this amendment formally updates the designated payment location from the City Clerk to the Independence Police Department.

Our goal with this focused change is to maintain transparent and accurate guidance for the public while validating the workflows our team is already utilizing. This is strictly an administrative correction to fix the text. All other existing provisions within Section 70.03 remain exactly as currently adopted, including the established fee schedule, enforcement mechanisms, and due process appeal procedures.

Recommendation:

Staff recommends discussion of this topic. No action is needed at this meeting, as any decision items needed would be brought forward to a City Council meeting for approval.

Attachments:

1. ORD 2026- Amend Ch 70.03 Parking Violations clean
2. ORD 2026- Amend Ch 70.03 Parking Violations

ORDINANCE NO. 2026-

AN ORDINANCE AMENDING THE CODE OF ORDINANCES OF THE CITY OF INDEPENDENCE, IOWA, BY AMENDING PROVISIONS TO CHAPTER 70 TRAFFIC CODE ENFORCEMENT PROCEDURES

BE IT ENACTED by the City Council of the City of Independence, Iowa:

Section 1. SECTION MODIFIED. Section 70.03 of the Code of Ordinances of the City of Independence, Iowa is repealed and the following adopted in lieu thereof:

> **70.03 PARKING VIOLATIONS: ALTERNATE.** Uncontested violations of parking restrictions imposed by this Code of Ordinances shall be charged upon a simple notice of a fine payable at the Independence Police Department . The fines for violations under this section are shown on the Fines and Fees Schedule in Section 1.15 of this Code of Ordinances. Failure to pay the fine in a timely fashion shall cause the City to contact the Buchanan County Treasurer's office to allow them to refuse to renew motor vehicle registration for the violator. Any alleged violation of the parking restrictions imposed by this Code of Ordinances may be challenged by way of hearing before the Mayor. Within seven days of the citation issuance, the violator may apply in writing for a hearing and submit it to the City Clerk. Upon receiving the written notice of desired hearing, the City Clerk shall have two days to notify the Mayor. The City's burden is proof beyond a reasonable doubt. The officer issuing the ticket must appear at the time of the hearing and be subject to cross-examination. The alleged parking violator has a right to call witnesses on his own behalf. The Mayor shall have 10 calendar days upon receiving the hearing notice to hold the hearing and provide the decision within 10 calendar days of the hearing. The hearing shall be conducted in an informal basis and the violator shall be afforded all rights of due process. The Mayor shall prepare a written decision. If the violator wishes to challenge the decision of the Mayor, the violator must provide to the City written notice of appeal within 10 calendar days for the Mayor's decision. If the violator files said timely notice, by filing with the Clerk of Court within 10 calendar days of the decision, the City shall proceed to prosecute under *Code of Iowa* Sections 805.7 to 805.13, or as any other traffic violation as provided under Section 321.236(1)(b) of the *Code of Iowa*.
>
> *(Code of Iowa, Sec. 321.236[1b] and 321L.4[2])*

Section 2. REPEALER. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Section 3. SEVERABILITY CLAUSE. If any section, provision, or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

Section 4. WHEN EFFECTIVE. This ordinance shall be in effect following its final passage, approval and publication as provided by law.

DRAFT

PASSED AND APPROVED by the City Council of Independence, Iowa, on this _____ day of _____ 2026.

_____
Brad Bleichner, Mayor of the City of Independence, IA

ATTEST:

_____
Susi Lampe, CMC, IaCMC, IaCFO,
Assistant City Manager/City Clerk/Treasurer of the City of Independence, IA

First Reading: _____
Second Reading: _____
Third Reading: _____

I certify that the foregoing was published as Ordinance No. 2026-_____ on the _____ day of _____ 2026.

_____
Susi Lampe, CMC, IaCMC, IaCFO,
Assistant City Manager/City Clerk/Treasurer of the City of Independence, IA

DRAFT

ORDINANCE NO. 2026-

AN ORDINANCE AMENDING THE CODE OF ORDINANCES OF THE CITY OF INDEPENDENCE, IOWA, BY AMENDING PROVISIONS TO CHAPTER 70 TRAFFIC CODE ENFORCEMENT PROCEDURES

BE IT ENACTED by the City Council of the City of Independence, Iowa:

Section 1. SECTION MODIFIED. Section 70.03 of the Code of Ordinances of the City of Independence, Iowa is repealed and the following adopted in lieu thereof:

70.03 PARKING VIOLATIONS: ALTERNATE. Uncontested violations of parking restrictions imposed by this Code of Ordinances shall be charged upon a simple notice of a fine payable at ~~the~~ the Independence Police Department ~~office of the City Clerk~~. The fines for violations under this section are shown on the Fines and Fees Schedule in Section 1.15 of this Code of Ordinances. Failure to pay the fine in a timely fashion shall cause the City to contact the Buchanan County Treasurer's office to allow them to refuse to renew motor vehicle registration for the violator. Any alleged violation of the parking restrictions imposed by this Code of Ordinances may be challenged by way of hearing before the Mayor. Within seven days of the citation issuance, the violator may apply in writing for a hearing and submit it to the City Clerk. Upon receiving the written notice of desired hearing, the City Clerk shall have two days to notify the Mayor. The City's burden is proof beyond a reasonable doubt. The officer issuing the ticket must appear at the time of the hearing and be subject to cross-examination. The alleged parking violator has a right to call witnesses on his own behalf. The Mayor shall have 10 calendar days upon receiving the hearing notice to hold the hearing and provide the decision within 10 calendar days of the hearing. The hearing shall be conducted in an informal basis and the violator shall be afforded all rights of due process. The Mayor shall prepare a written decision. If the violator wishes to challenge the decision of the Mayor, the violator must provide to the City written notice of appeal within 10 calendar days for the Mayor's decision. If the violator files said timely notice, by filing with the Clerk of Court within 10 calendar days of the decision, the City shall proceed to prosecute under *Code of Iowa* Sections 805.7 to 805.13, or as any other traffic violation as provided under Section 321.236(1)(b) of the *Code of Iowa*.

(Code of Iowa, Sec. 321.236[1b] and 321L.4[2])

Section 2. REPEALER. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Section 3. SEVERABILITY CLAUSE. If any section, provision, or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

Section 4. WHEN EFFECTIVE. This ordinance shall be in effect following its final passage, approval and publication as provided by law.

DRAFT

PASSED AND APPROVED by the City Council of Independence, Iowa, on this _____ day of _____ 2026.

_____
Brad Bleichner, Mayor of the City of Independence, IA

ATTEST:

_____
Susi Lampe, CMC, IaCMC, IaCFO,
Assistant City Manager/City Clerk/Treasurer of the City of Independence, IA

First Reading: _____
Second Reading: _____
Third Reading: _____

I certify that the foregoing was published as Ordinance No. 2026-_____ on the _____ day of _____ 2026.

_____
Susi Lampe, CMC, IaCMC, IaCFO,
Assistant City Manager/City Clerk/Treasurer of the City of Independence, IA

DRAFT

City Council

Work Session Memorandum

To: City Council Members

From: Matthew R. Schmitz, MPA, City Manager

Date of Meeting: June 1, 2026

Item Title: Parking Next to City Hall

Discussion:
Staff would like to discuss the parking spaces along the west side of City Hall with the City Council. On more than one occasion, people have commented that the spaces are narrow and hard to pull in and out of. We would like to consider restriping the parking lot and removing one stall to allow more spacing between the remaining stalls.

Recommendation:

Staff recommends discussion of this topic. No action is needed at this meeting, as any decision items needed would be brought forward to a City Council meeting for approval.

Attachments:
1. CityHallParking

4278004
1004278005
1004278006
1004278019
4TH AVE SE