



Drainage District No. 2 **Annexation**

Pottawattamie County, Iowa

Jon Rosengren, P.E.

Bolton & Menk



Schedule – Benefitted Acres

LANDS RECOMMENDED FOR ANNEXATION
PIGEON CREEK DRAINAGE DISTRICT NO. 2
POTTOWATTAME COUNTY, IOWA
2023

Deedholder	Parcel Number	Sec-Twp-Rng	LEGAL	Benefitted Acres	Benefit Category	Minimum Elevation (ft)	Average Elevation (ft)	Elevation of Outlet at Open Ditch (ft)	Relation (% of outlet provided)
	764436151004	36-76-44	CRESCENT TWP-OAK VALLEY SUB DIV II LT 13 EXC COMM 33.06'E OF NW COR TH E389.1' S227.04' W379.54'N227.35' TO POB	10.01	D	1100.1	1146.7	988.7	58.97
	764424326008	24-76-44	CRESCENT TOWN-ORIG PLAT N1/2 LT 3 BLK 165	0.08	D	1118.7	1118.7	990.1	70.81
	764424326007	24-76-44	CRESCENT TOWN-ORIG PLAT LTS 1 & 2 BLK 165 & 1/2 VAC ALLEY ADJ & S1/2 RIORDAN ST ADJLT 1	0.45	D	1133.7	1133.7	990.1	70.56
	764424326009	24-76-44	CRESCENT TOWN-ORIG PLAT S1/2 LT 3 BLK 165	0.08	D	1114.2	1114.2	990.1	70.89
	764424326002	24-76-44	CRESCENT TOWN-ORIG PLAT LTS 9 & 10 BLK 165 & 1/2 VAC ALLEY ADJ & S1/2 RIORDAN ST ADJLT 10	0.45	D	1125.8	1125.8	990.1	70.28

➤ Area within the parcel benefitted by the drainage facility or levee

Schedule – Benefit Category

LANDS RECOMMENDED FOR ANNEXATION
PIGEON CREEK DRAINAGE DISTRICT NO. 2
POTTOWATTAME COUNTY, IOWA
2023

Deedholder	Parcel Number	Sec-Twp-Rng	LEGAL	Benefitted Acres	Benefit Category	Minimum Elevation (ft)	Average Elevation (ft)	Elevation of Outlet at Open Ditch (ft)	Relation (% of outlet provided)
	764436151004	36-76-44	CRESCENT TWP-OAK VALLEY SUB DIV II LT 13 EXC COMM 33.06'E OF NW COR TH E389.1' S227.04' W379.54'N227.35' TO POB	10.01	D	1100.1	1146.7	988.7	58.97
	764424326008	24-76-44	CRESCENT TOWN-ORIG PLAT N1/2 LT 3 BLK 165	0.08	D	1118.7	1118.7	990.1	70.81
	764424326007	24-76-44	CRESCENT TOWN-ORIG PLAT LTS 1 & 2 BLK 165 & 1/2 VAC ALLEY ADJ & S1/2 RIORDAN ST ADJLT 1	0.45	D	1133.7	1133.7	990.1	70.56
	764424326009	24-76-44	CRESCENT TOWN-ORIG PLAT S1/2 LT 3 BLK 165	0.08	D	1114.2	1114.2	990.1	70.89
	764424326002	24-76-44	CRESCENT TOWN-ORIG PLAT LTS 9 & 10 BLK 165 & 1/2 VAC ALLEY ADJ & S1/2 RIORDAN ST ADJLT 10	0.45	D	1125.8	1125.8	990.1	70.28

➤ Benefit areas as described in the Annexation Report

- Grouped by location and where runoff flows

Schedule – Elevation Data

LANDS RECOMMENDED FOR ANNEXATION
PIGEON CREEK DRAINAGE DISTRICT NO. 2
POTTOWATTAME COUNTY, IOWA
2023

Deedholder	Parcel Number	Sec-Twp-Rng	LEGAL	Benefitted Acres	Benefit Category	Minimum Elevation (ft)	Average Elevation (ft)	Elevation of Outlet at Open Ditch (ft)	Relation (% of outlet provided)
	764436151004	36-76-44	CRESCENT TWP-OAK VALLEY SUB DIV II LT 13 EXC COMM 33.06'E OF NW COR TH E389.1' S227.04' W379.54'N227.35' TO POB	10.01	D	1100.1	1146.7	988.7	58.97
	764424326008	24-76-44	CRESCENT TOWN-ORIG PLAT N1/2 LT 3 BLK 165	0.08	D	1118.7	1118.7	990.1	70.81
	764424326007	24-76-44	CRESCENT TOWN-ORIG PLAT LTS 1 & 2 BLK 165 & 1/2 VAC ALLEY ADJ & S1/2 RIORDAN ST ADJLT 1	0.45	D	1133.7	1133.7	990.1	70.56
	764424326009	24-76-44	CRESCENT TOWN-ORIG PLAT S1/2 LT 3 BLK 165	0.08	D	1114.2	1114.2	990.1	70.89
	764424326002	24-76-44	CRESCENT TOWN-ORIG PLAT LTS 9 & 10 BLK 165 & 1/2 VAC ALLEY ADJ & S1/2 RIORDAN ST ADJLT 10	0.45	D	1125.8	1125.8	990.1	70.28

➤ For comparison of property and open ditch elevations, indicating benefit

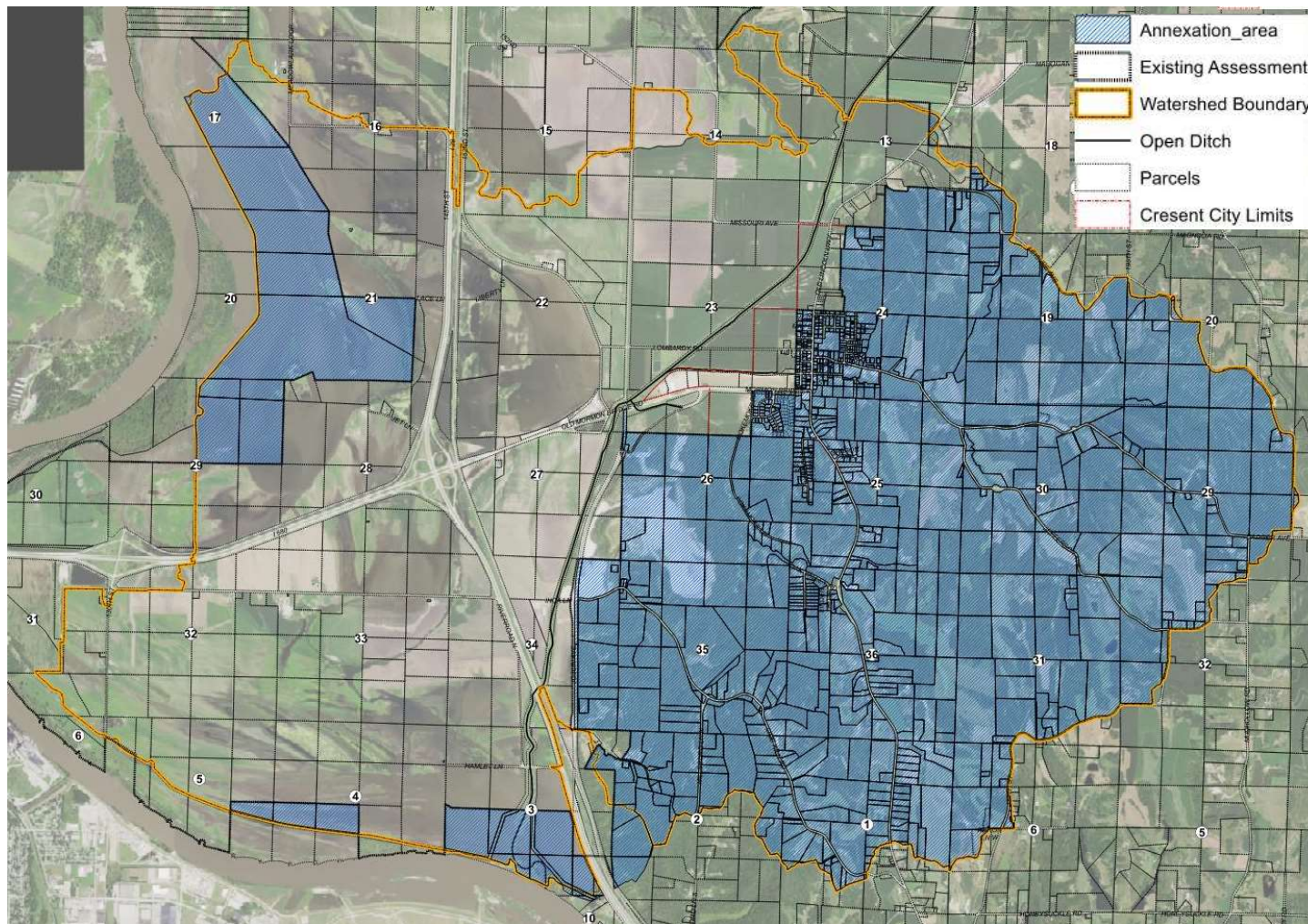
Schedule – Relation

LANDS RECOMMENDED FOR ANNEXATION
PIGEON CREEK DRAINAGE DISTRICT NO. 2
POTTOWATTAME COUNTY, IOWA
2023

Deedholder	Parcel Number	Sec-Twp-Rng	LEGAL	Benefitted Acres	Benefit Category	Minimum Elevation (ft)	Average Elevation (ft)	Elevation of Outlet at Open Ditch (ft)	Relation (% of outlet provided)
	764436151004	36-76-44	CRESCENT TWP-OAK VALLEY SUB DIV II LT 13 EXC COMM 33.06'E OF NW COR TH E389.1' S227.04' W379.54'N227.35' TO POB	10.01	D	1100.1	1146.7	988.7	58.97
	764424326008	24-76-44	CRESCENT TOWN-ORIG PLAT N1/2 LT 3 BLK 165	0.08	D	1118.7	1118.7	990.1	70.81
	764424326007	24-76-44	CRESCENT TOWN-ORIG PLAT LTS 1 & 2 BLK 165 & 1/2 VAC ALLEY ADJ & S1/2 RIORDAN ST ADJLT 1	0.45	D	1133.7	1133.7	990.1	70.56
	764424326009	24-76-44	CRESCENT TOWN-ORIG PLAT S1/2 LT 3 BLK 165	0.08	D	1114.2	1114.2	990.1	70.89
	764424326002	24-76-44	CRESCENT TOWN-ORIG PLAT LTS 9 & 10 BLK 165 & 1/2 VAC ALLEY ADJ & S1/2 RIORDAN ST ADJLT 10	0.45	D	1125.8	1125.8	990.1	70.28

- Indicates the percentage of the outlet length from the parcel to the Missouri River provided by district facilities

Annexation Map





Drainage District No. 2 **Commissioners' Report**

Pottawattamie County, Iowa

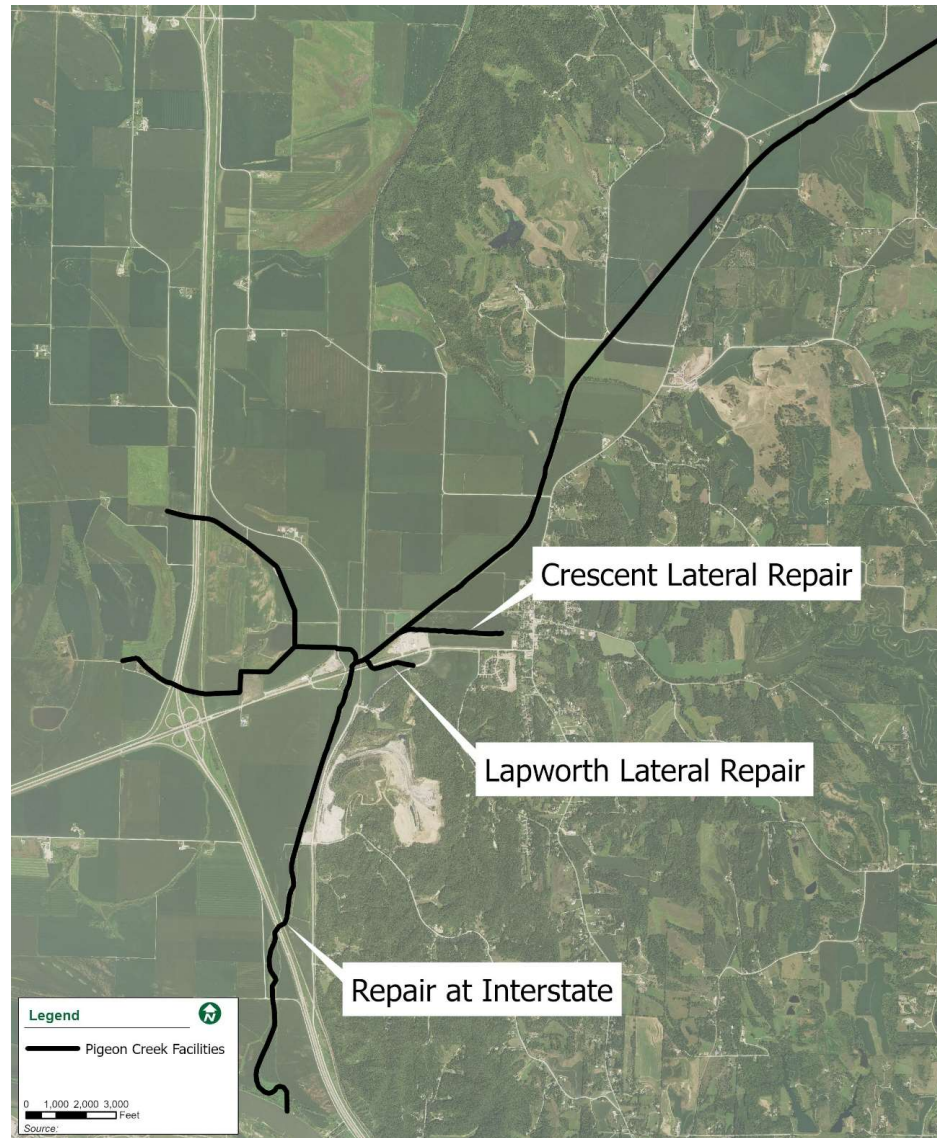


District History

- 1903 – Pigeon Creek DD Established
- 1935 – Reclassified
- 1950 – Controlled by trustees
- 1957 – Laws regarding annexation added to Iowa Code
- 2011 – Flood damaged facilities
- 2017 – Bolton & Menk hired to reclassify, separating river levee from Pigeon Creek drainage facilities
- 2018 – New river levee schedule adopted. 2011 debt paid by river levee. Work began on ditch reclassification
- 2019 – Missouri river flood damaged facilities, stopping work on reclassification
- 2023 – FEMA repairs sufficiently completed, allowing completion of ditch reclassification



District Facility Map

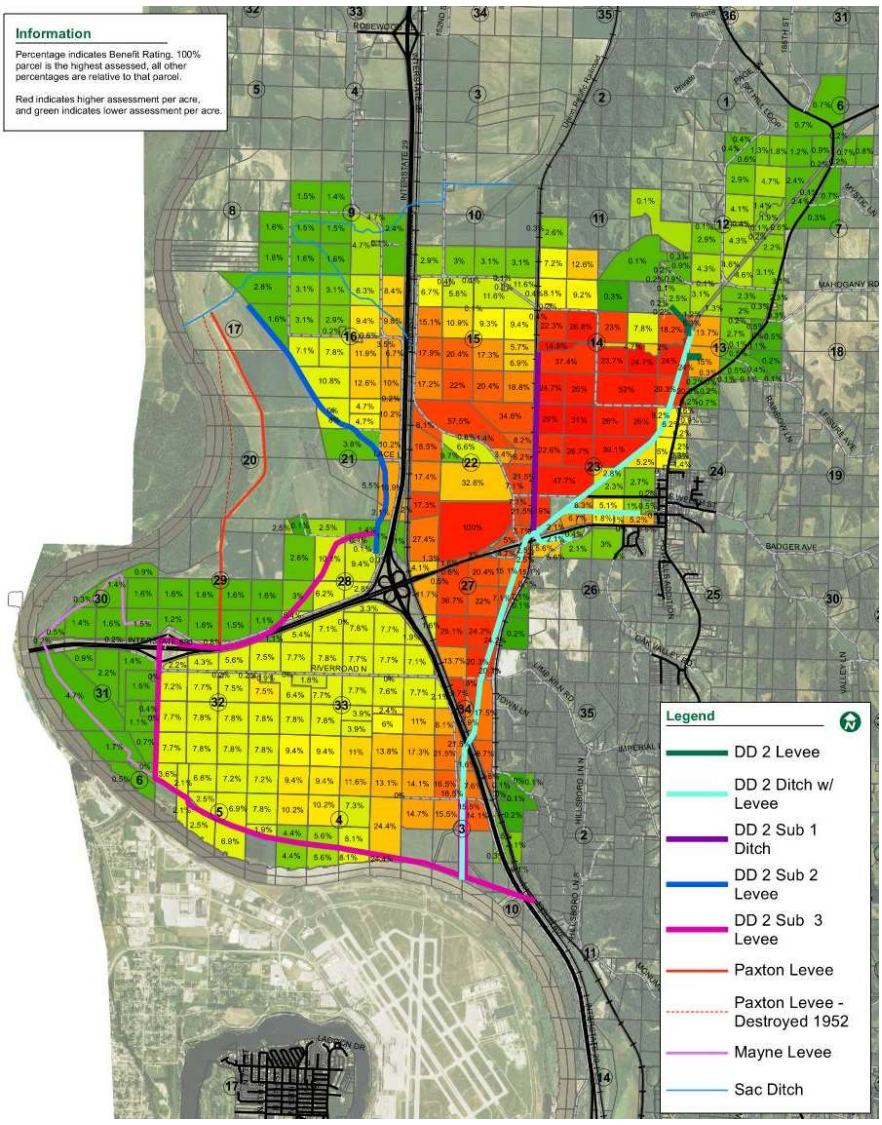


Common Questions

- One-time assessment (not annual)
- District works in debt by drainage warrants
- Assessments occur only when sufficient debt is accrued
- Reclassification can be ordered by trustees when they determine existing schedule is inequitable
- Reclassification is based on empirical data reviewed and approved by a commission
- \$5 minimum assessment per parcel



Existing Classification Map



Assessment Summary

	Main	Lapworth Lateral	Crescent Lateral	Branch 1	Branch 1A
Reclass	\$96,157.51	\$10,844.19	\$19,521.96	\$18,714.54	\$11,265.90
Notice	\$12,939.72	\$3,722.39	\$5,370.87	\$584.95	\$283.61
Hearing	\$6,144.09	\$692.90	\$1,247.38	\$1,195.79	\$719.85
Debt	\$205,015.59	\$5,520.00	\$52,086.00	\$33,870.20	\$53,635.46
Interest	\$38,516.85	\$1,290.52	\$9,907.35	\$6,686.70	\$10,123.16
Total Expenses	\$358,773.76	\$22,070.00	\$88,133.56	\$61,052.18	\$76,027.98
FEMA Obligated Dollars	\$114,263.83		\$8,035.80		
State Obligated Dollars	\$14,642.81				
Cushion	\$10,000	\$2,000	\$2,000	\$2,000	\$2,000
Total Assessed	\$239,867.12	\$24,070.00	\$82,097.76	\$63,052.18	\$78,036.98

- Initial basis of Base Assessments: \$100,000 per facility

Assessment Detail

Work Completed

Crescent	\$146,428.05	Neuvirth repair (Main schedule has already paid 116,428.05, remaining cost share funds taken from FEMA dollars, all remaining state and federal dollars for this project transferred to the main)
	\$2,500.00	Seeding
	\$1,320.00	Beaver Dam
	\$18,266.00	Archaeological Study required by FEMA, May receive scope adjustment to cover.
Main Ditch	\$9,215.92	Tie Back Levee
	\$14,554.10	Curve Repair
	\$86,305.06	Bank Failure North of Crescent Lateral
	\$17,489.85	Additional Repairs at Bank Failure
	\$4,812.50	Repair at Railroad
	\$47,110.00	Bank erosion south of I-29 – Not FEMA Eligible
Lapworth Repairs	\$4,070.00	Ditch Repair
	\$1,750.00	Tree Removal
Branch 1 & 1A	\$87,505.66	
Engineering	\$45,036.50	FEMA Repairs and Project Management
Reclass	\$156,504.00	
Notice	\$22,901.50	Preparation, Publication and Mailing
Interest Accrued	\$80,157.18	
Total Costs	\$745,926.32	

Federal Dollars

Crescent	\$109,821.04	Not Received
Tie Back Levee	\$6,911.94	Received
Main Ditch	\$77,357.87	Received
Administrative	\$12,825.16	Not Received
Total Federal	\$206,916.01	

State Dollars

Crescent	\$14,642.81	Not Received
Tie Back Levee	\$921.59	Received
Main Ditch	\$10,085.92	Received
Total State	\$25,650.32	
Total Funds	\$232,566.33	



Schedule – Benefit Assessments

Deedholder	Parcel Number	Legal Description	Sec-Twp-Rng	BENEFIT ASSESSMENTS		COMBINED BENEFITS		Class (%)
				DITCH BENEFIT	LEVEE BENEFIT	Benefited Acres	Combined Assess. (\$)	
	764413100010	SW NW EXC LYING SE OF CRK	13-76-44	417.06	9.86	32.50	426.92	13.38
	764413200005	SW NE EXC SE OF HWY 183 & EXC LYING NE OF CRK	13-76-44	727.61	3.89	35.53	731.50	22.92
	764423200005	SE NE SE OF DITCH	23-76-44	594.27	62.80	18.84	657.07	2.59

- Assessments for each facility based on initial basis (\$100,000 each facility)

Schedule – Combined Benefit Class

Deedholder	Parcel Number	Legal Description	Sec-Twp-Rng	BENEFIT ASSESSMENTS		COMBINED BENEFITS		
				DITCH BENEFIT	LEVEE BENEFIT	Benefited Acres	Combined Assess. (\$)	Class (%)
	764413100010	SW NW EXC LYING SE OF CRK	13-76-44	417.06	9.86	32.50	426.92	13.38
	764413200005	SW NE EXC SE OF HWY 183 & EXC LYING NE OF CRK	13-76-44	727.61	3.89	35.53	731.50	22.92
	764423200005	SE NE SE OF DITCH	23-76-44	594.27	62.80	18.84	657.07	2.59

- Indicates benefit and assessment compared to the parcel receiving the greatest benefit and highest assessment.

Trustees' Assessments

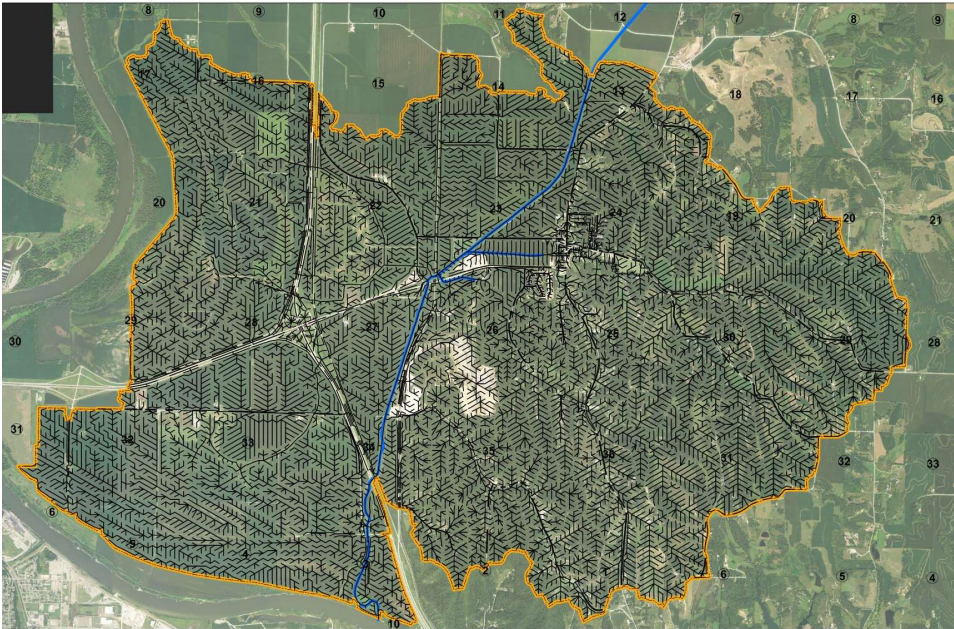
Per \$100,000 Assessed

- Main Open Ditch
 - Frank Moran: \$7,580.62
 - Dale Rief: \$5,627.91
 - Mike Schropp: \$4,395.44

Trustee Total: \$17,603.97
Hill Ground Total: ~\$16,000
- Crescent Creek
 - Frank Moran: \$13,206.00
- Lapworth Lateral
 - Mike Schropp: \$6,345.08
- Branch 1
 - Dale Rief: \$2,451.82
- Branch 1A
 - Dale Rief: \$16,856.16

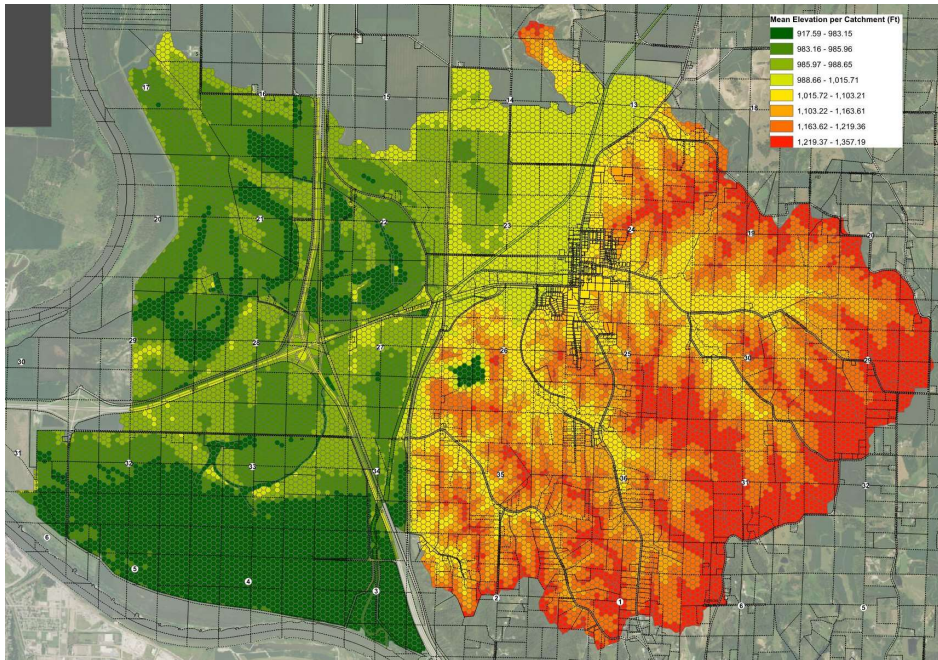


Assessment Process – Flow Path



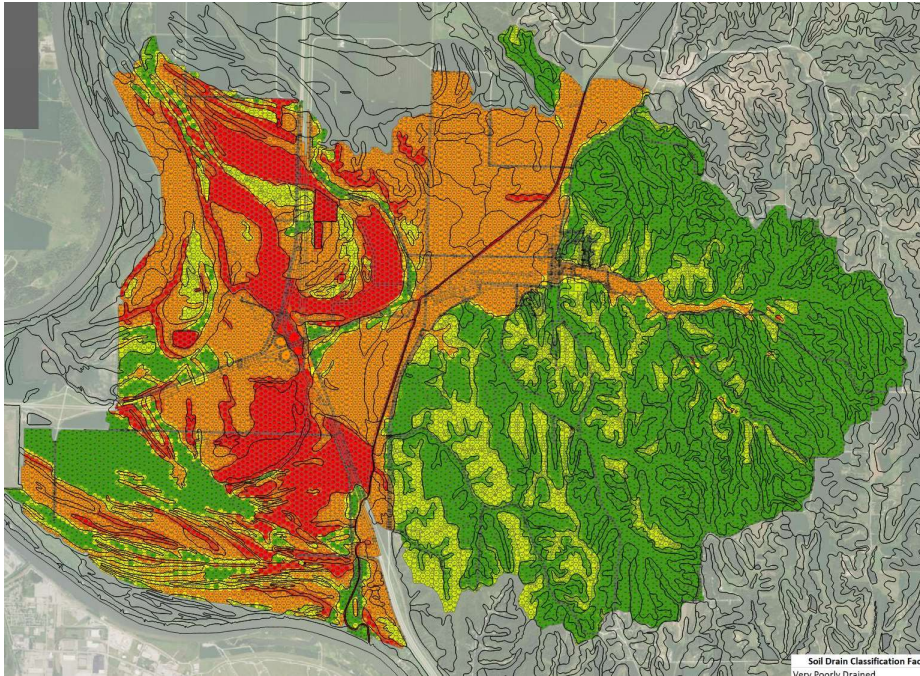
- Drainage patterns analyzed to determine distance of each parcel from the facility

Assessment Process – Elevation



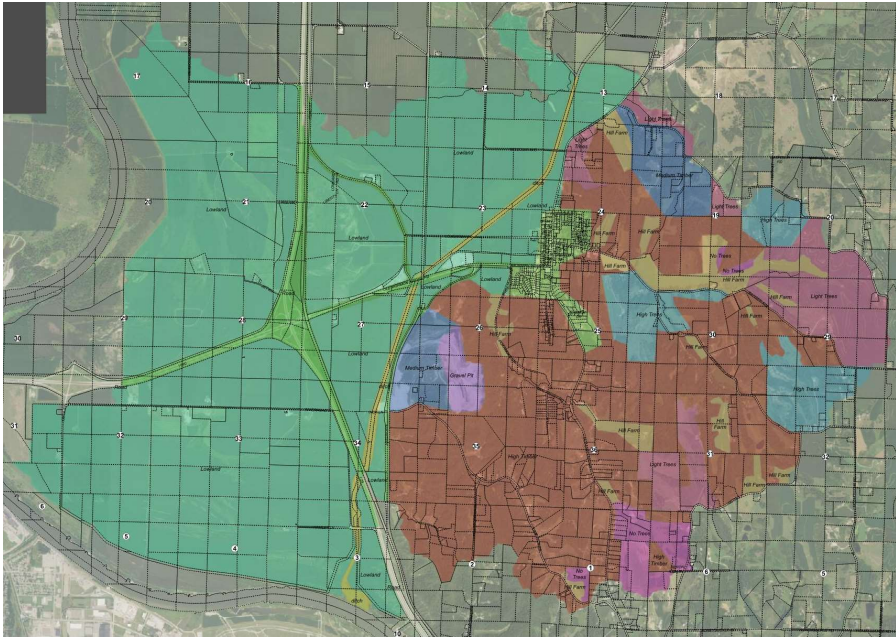
- Assessment decreases with higher elevations (red)
- Parcels above protected elevations are not assessed for levees

Assessment Process – Soil Wetness



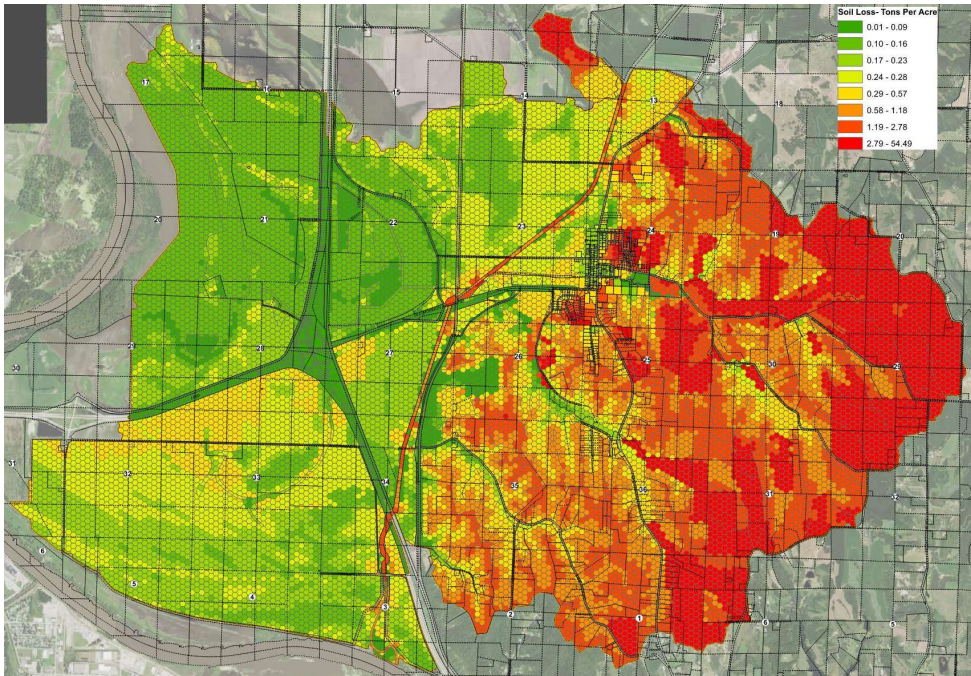
- Assessment increases for poorly drained soils (red)
- Indicates greater need for drainage

Assessment Process – Land Cover



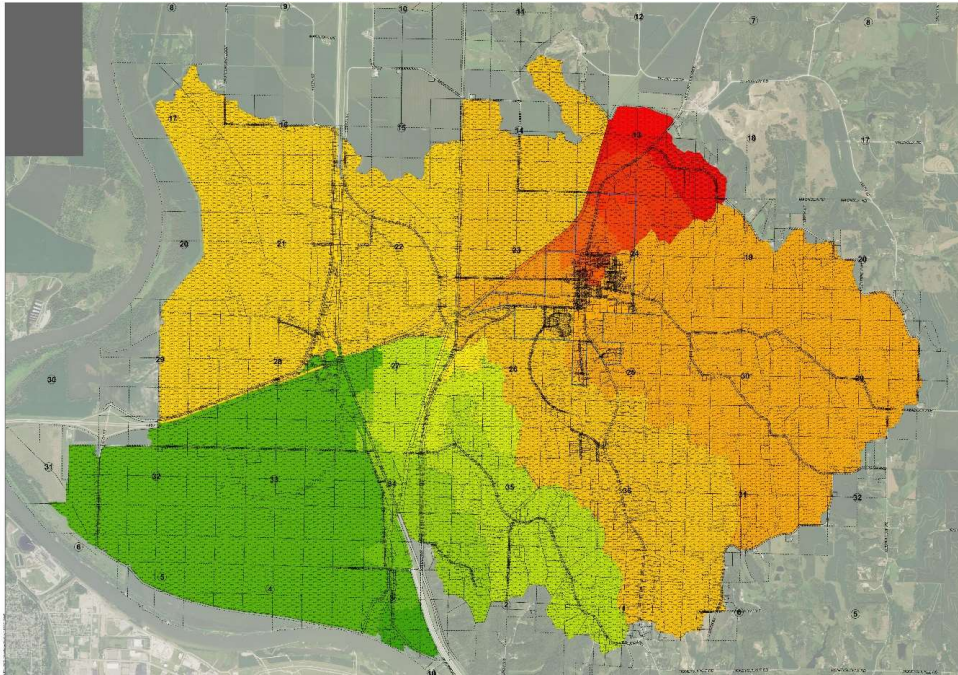
- Cover types, in order of decreasing assessment:
 - Hill Farm
 - Lowland
 - City
 - No trees
 - Light Trees
 - High Trees
 - Medium Timber
 - High Timber

Assessment Process – Soil Loss

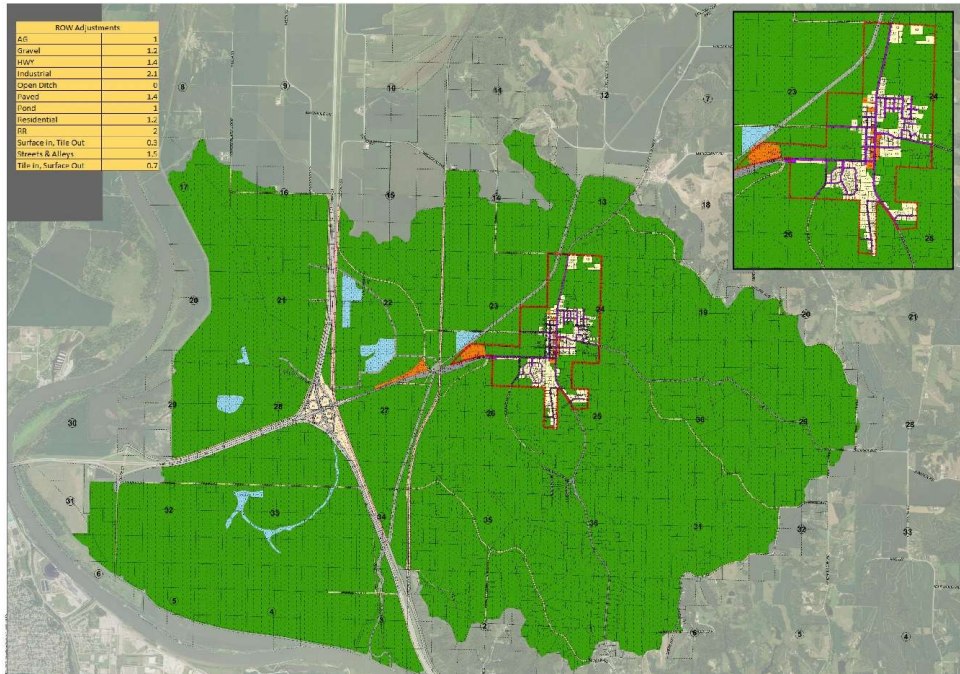


- Equation: $\text{tons/acre} = R * K * L * S * C * P$
- Assessment increases with increasing soil loss (red)
- Sediment causes increased needs for maintenance
- Calculated using the Universal Soil Loss Equation based on rainfall, erodibility, flow path length and slope, crops, and conservation factors
- Calculates annual soil loss from each acre

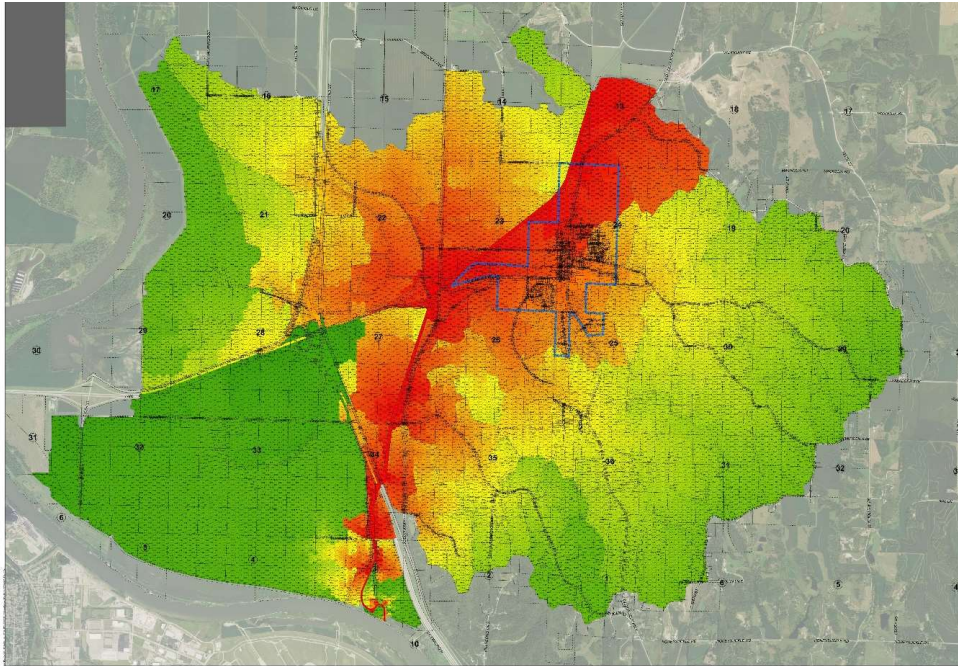
Assessment Process – Use Factor



Assessment Process – Surface Runoff Adjustment



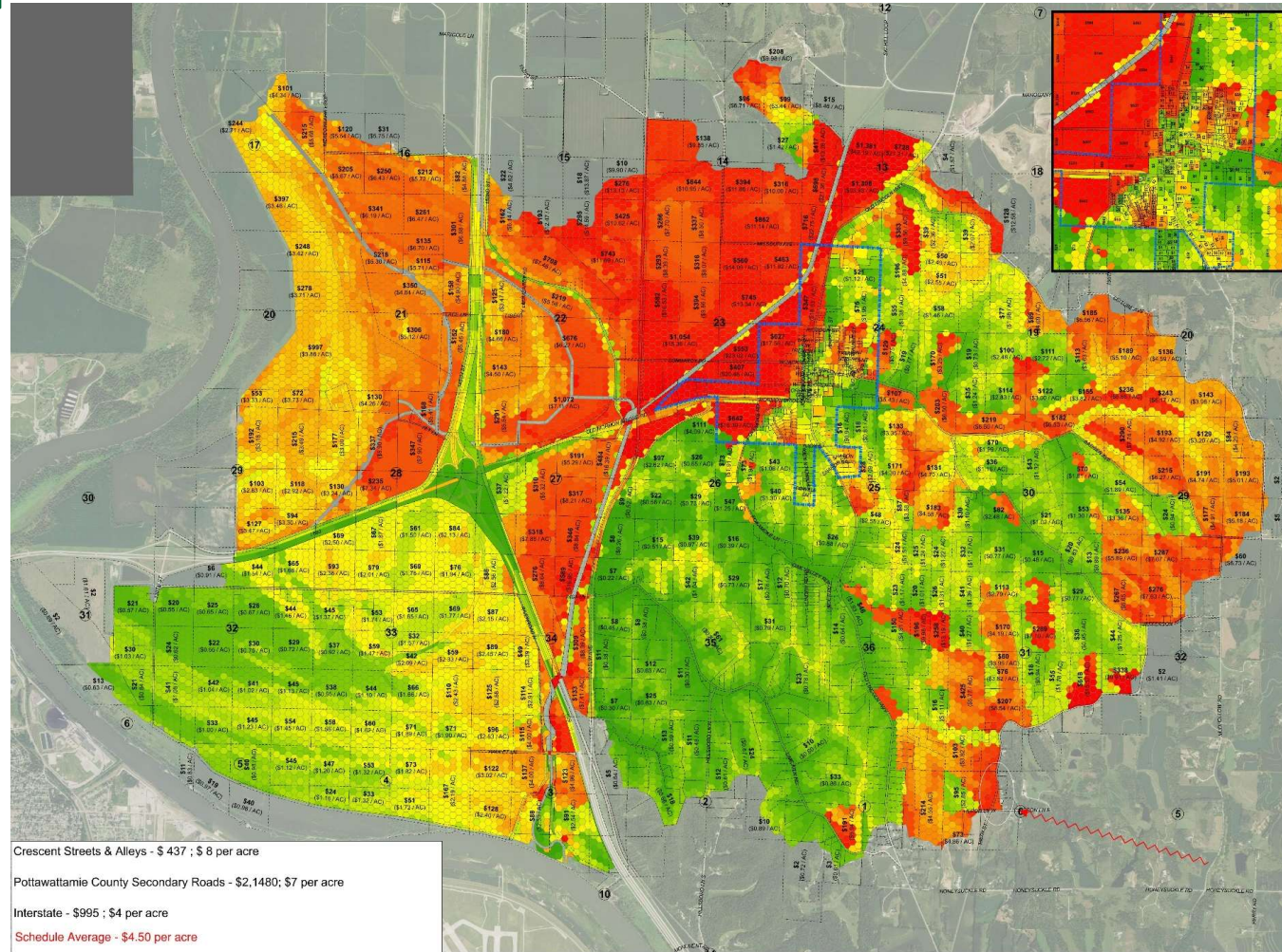
Assessment Process – Proximity Factor



- Assessments decrease with distance from facility

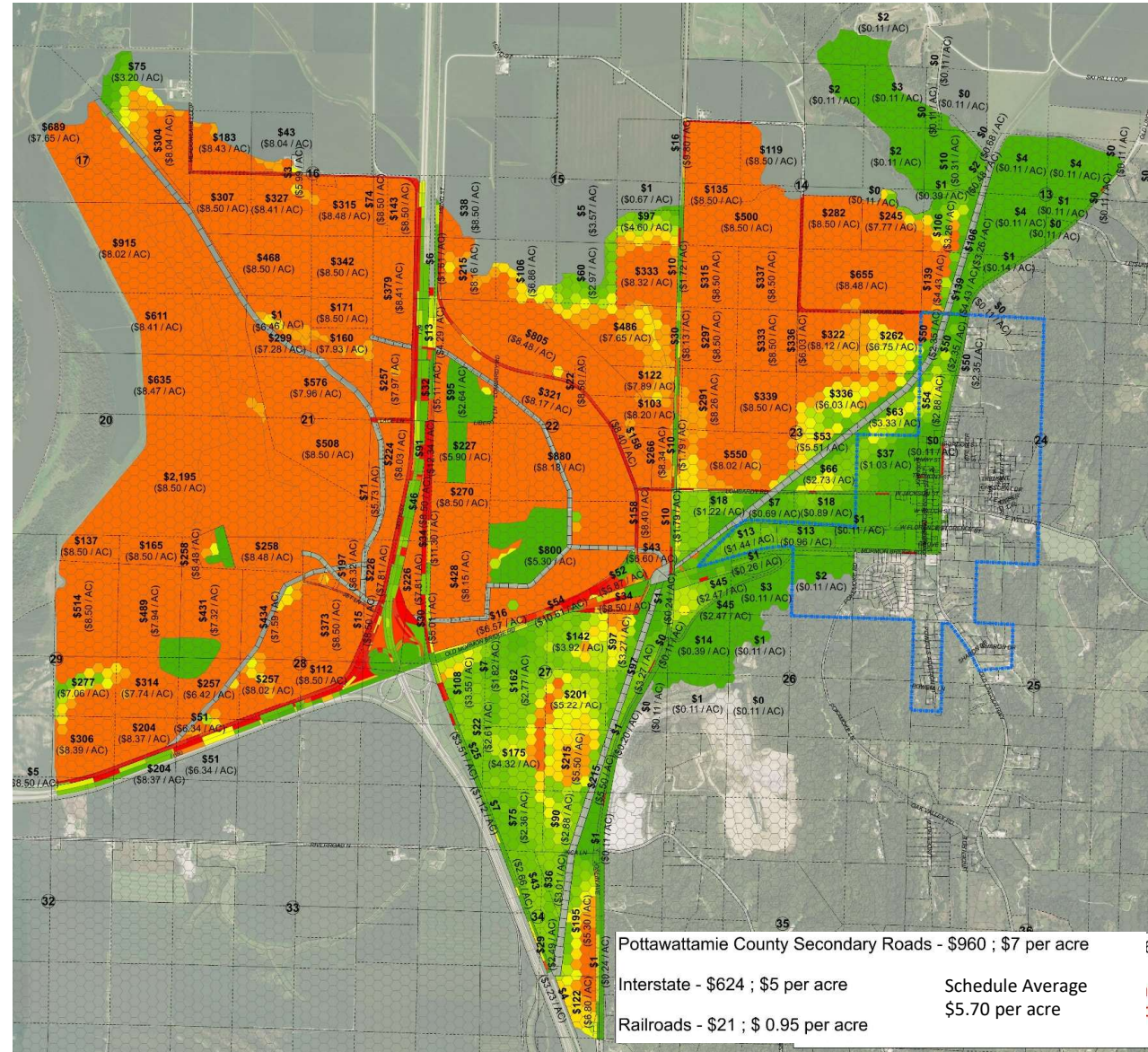
Assessment Maps

Main Ditch Benefit Area
\$67,800 Basis



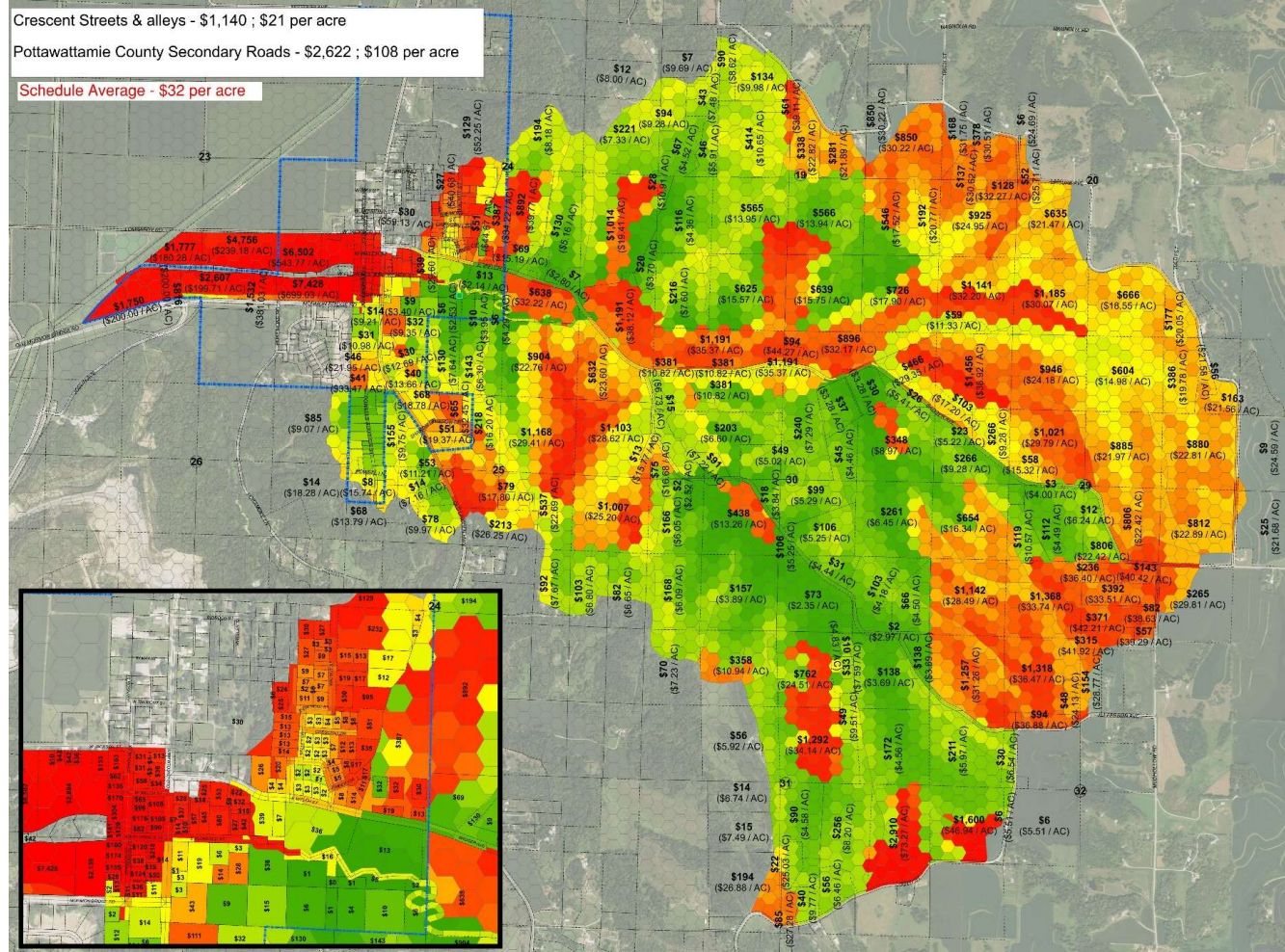
Assessment Maps

Main Ditch Levee Benefit Area \$32,200 Basis



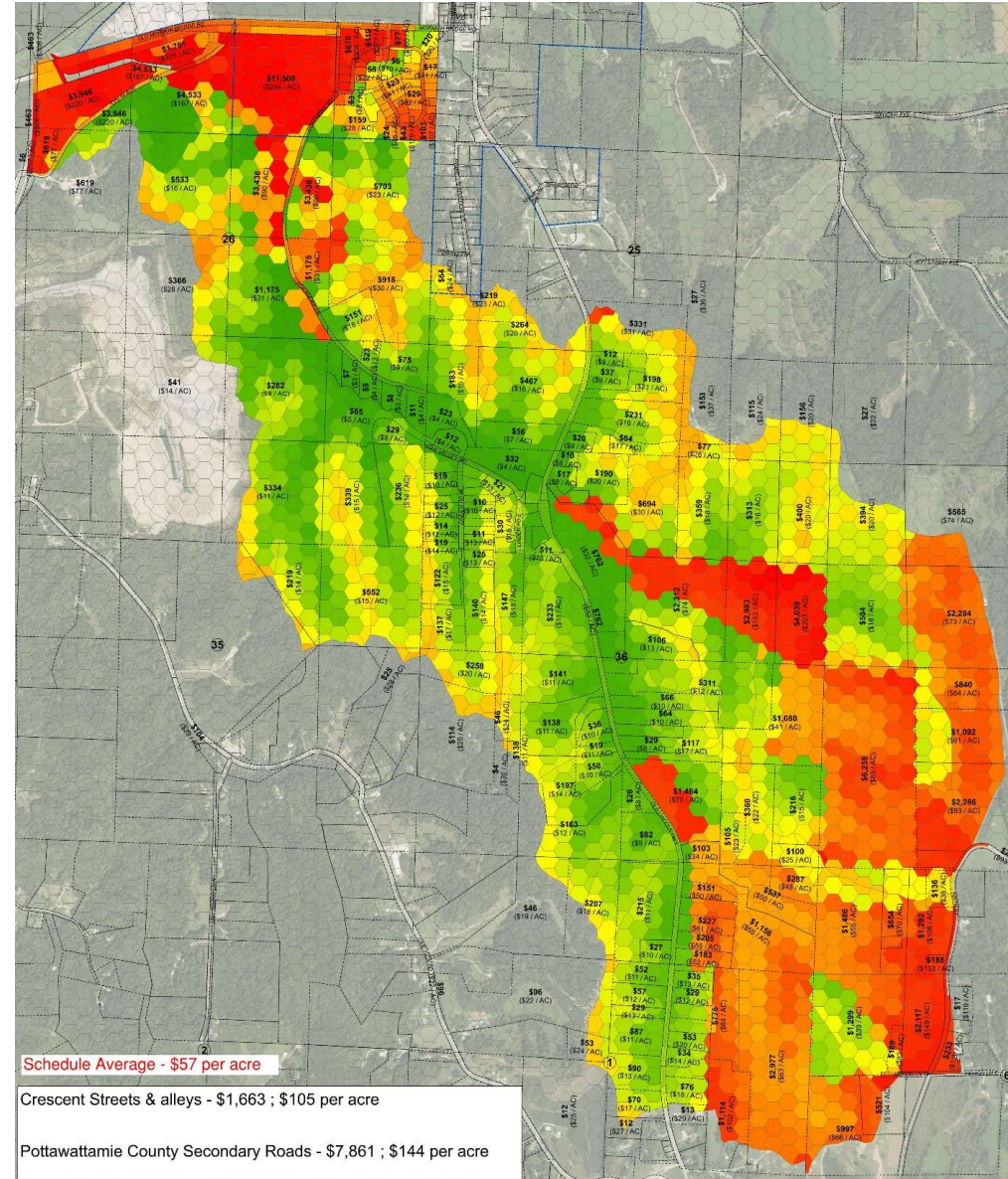
Assessment Maps

Pigeon Creek, Crescent Ditch \$100,000 Basis



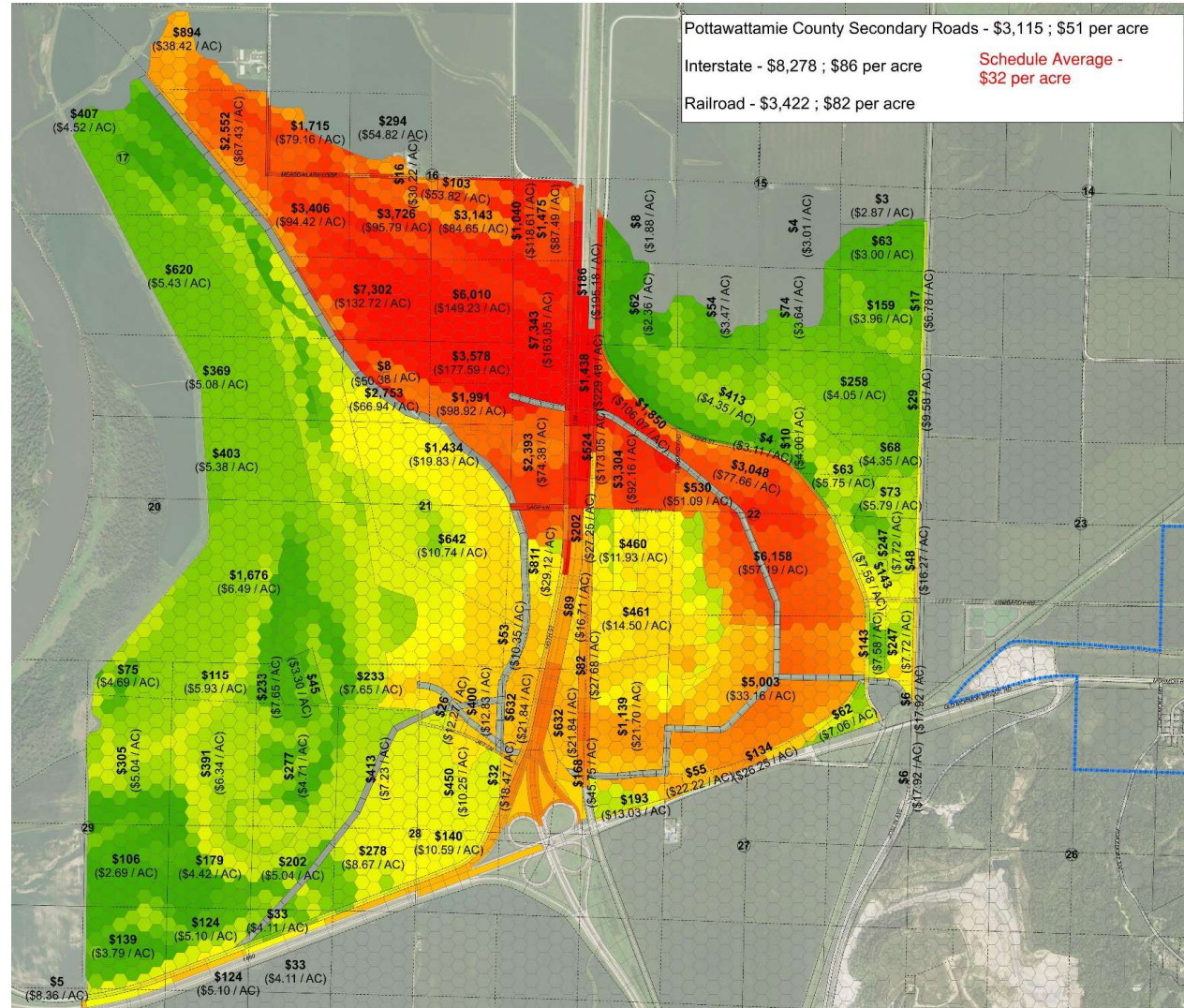
Assessment Maps

Pigeon Creek, Lapworth Ditch
\$100,000 Basis



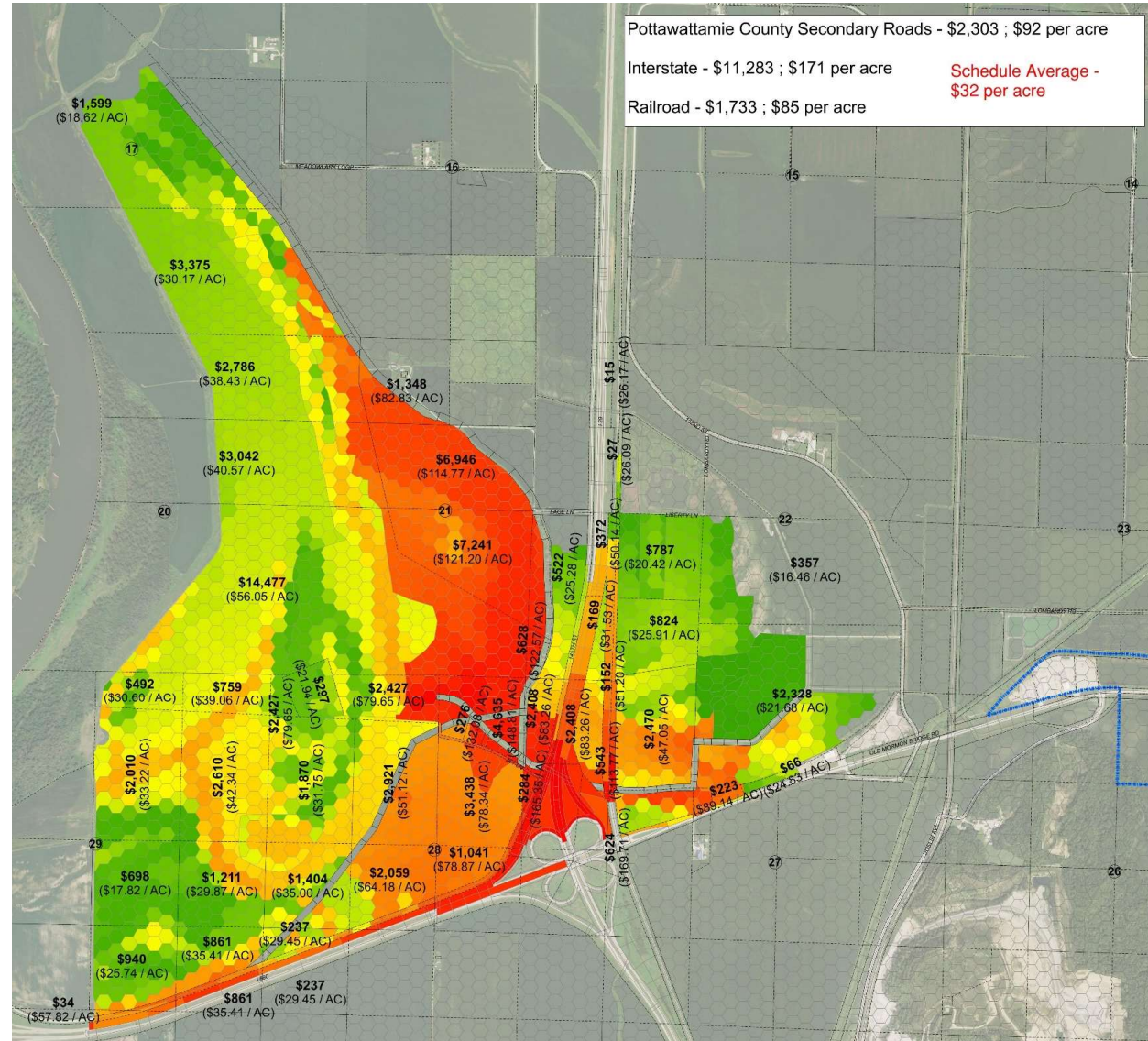
Assessment Maps

Pigeon Creek, Branch 1 Ditch \$100,000 Basis



Assessment Maps

Pigeon Creek, Branch 1A Ditch \$100,000 Basis



Questions?



BOLTON & MENK

Real People. Real Solutions.

Bolton-Menk.com