

MASTER

EFFECTS OF RECLAMATION ON LAND VALUES
IN STAUNTON, ILLINOIS

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Effects of Reclamation on Land Values
in Staunton, Illinois

by

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ABSTRACT

Beginning in 1904, a coal preparation plant was operated in conjunction with an underground mine at Staunton, Illinois. Following mine closure (1923), the 13.8 ha (34 ac) site became a public nuisance. Environmental degradation was significant both on the site and in surrounding areas. The steep and deeply eroded slopes of the refuse pile were completely bare of vegetation, and runoff was highly acidic with pH values of 3.6. Nearby streams and the local groundwater system were contaminated.

The abandoned site had neither specific land use nor potential economic value. Coupled with the poor aesthetic and environmental condition of the site, this tends to depress the value of adjacent properties. During 1975, a project to reclaim the abandoned mine site was initiated.

This paper will examine the land values of the abandoned mine site, the surrounding properties, and lands within the township and county prior to 1975. These values will then be compared with those of the same areas one year after completion of site development work. The property values for the surrounding areas will then be compared with land values near another local abandoned coal refuse pile to determine the economic effects of the reclamation work.

This project was funded by the following agencies: Abandoned Mined Land Reclamation Council, State of Illinois Contract No. 31-109-38-3694L; Illinois Institute for Environmental Quality, Contract No. 31-109-38-3702L; U.S. Department of Energy, Contract No. 31-109-Eng-38.

Effects of Reclamation on Land Values in Staunton, Illinois

Within the state of Illinois, there are approximately 800 sites covering nearly 9700 ha that have been abandoned after coal mining and are currently causing severe environmental problems. One such site is the abandoned Consolidated Mine No. 14, located close to the city of Staunton in Macoupin County, Illinois (Fig. 1). During the active mining period (1904-1923), the six-foot-thick Herrin (Illinois No. 6) coal was brought up from depths of 90 m and then put through a coal-cleaning process at the mine site. This mine-mouth coal-cleaning plant resulted in accumulation of waste materials in a 25 m-high gob pile and a 5.2 ha slurry area.

The drainage from the gob pile flowed to the north through a 0.8 ha area, through a pipe under a road and into the slurry pond which was created by damming up the flow. This dam prevented the drainage from reaching the Cahokia Creek. After this dam was breached during the early 1940's, the fine-grained slurry materials became eroded to depths of 4.5 m. Since the mine ceased operation, the pile and the remainder of the site have remained barren of any vegetation. The smoke stack from the mine's power plant remained intact, but most of the other mine structures, including the railroad track which served the mine, had been removed and only a few concrete foundations remained. The gob pile and the small drainageway just to the north were littered with trash and junk. Acidic conditions were prevalent throughout the site (gob and slurry with pH of 2.2, and runoff pH of 3.6). All of these detrimental conditions existed on the site at the time a reclamation effort was undertaken in late 1975.

Two state agencies -- the Abandoned Mined Lands Reclamation Council (AMLRC) and the Illinois Institute for Environmental Quality (IIEQ) -- and the United States Department of Energy, through the Land Reclamation Program at Argonne National Laboratory (ANL), developed a cooperative reclamation demonstration project. In the first phase of the project, the site of the abandoned Consolidated Mine No. 14 was selected as the demonstration area and designated as Staunton No. 1. This initial phase also included the final-land-use planning and the development of a bid package containing the engineering plans and specifications for the site development work. In general, the overall reclamation plan included: recontouring of the gob pile (with slopes no steeper than

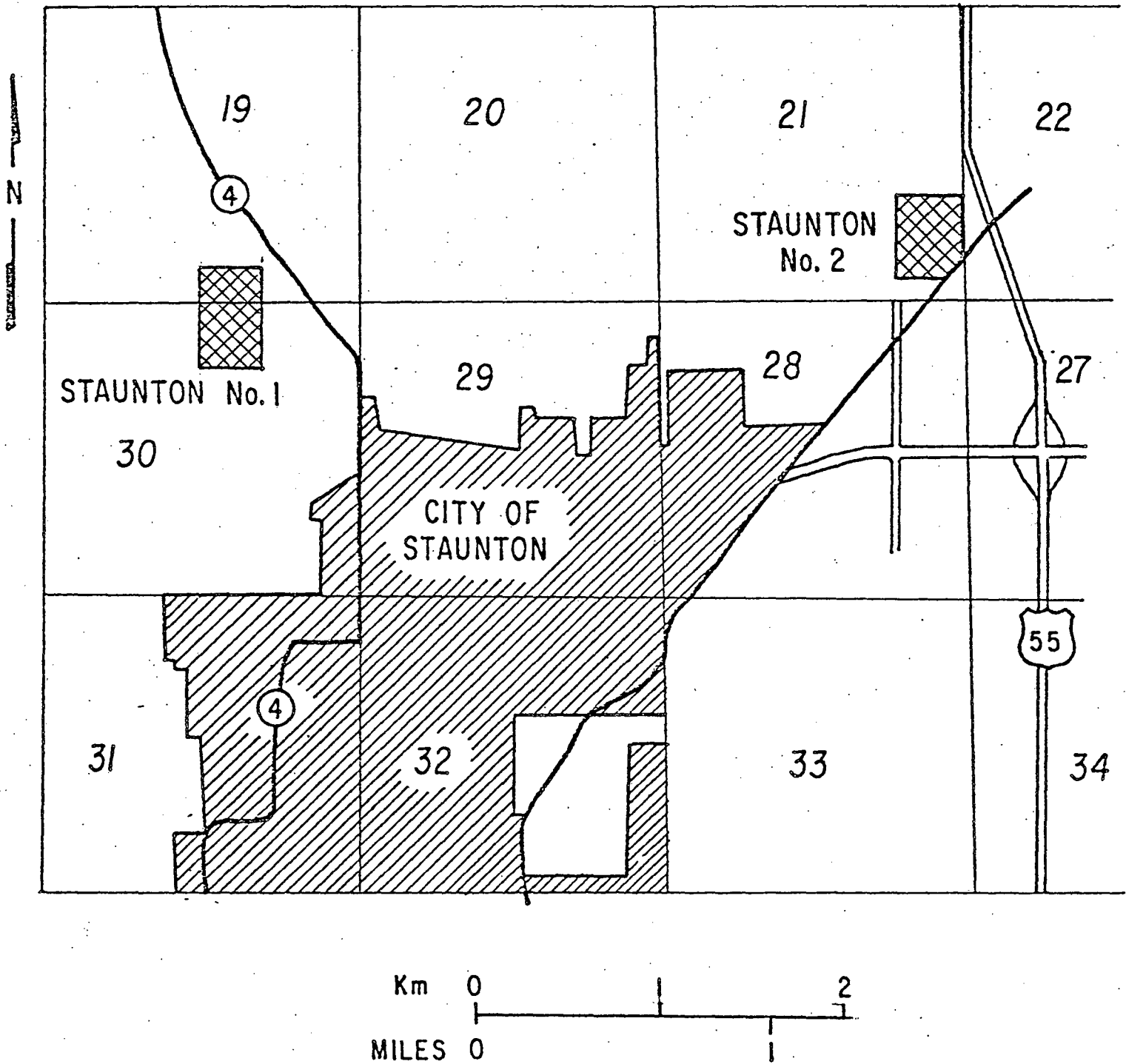


Fig. 1. The Staunton Area

5:1), digging of a pond, construction of a dam with water control structures, and establishment of a protective vegetative cover to control erosion and acidic runoff.

The next phase of the project began in September 1976 when the low bidder - Marle, Inc. of Springfield, Illinois - was awarded the contract for the site development work. Once the gob material was graded, agricultural ground limestone was disced into the refuse material for neutralization purposes, and 0.3 m of a suitable cover material (glacial till) was applied. A seed bed was then prepared by adding soil amendments (lime, nitrogen, phosphorus, and potassium) and seeding with a mixture of two grasses, two legumes, and cereal rye. In all, the contractor relocated 180,000 m³ of refuse material, placed 30,000 m³ of suitable cover material from an on-site borrow pit, placed 100 m of culvert pipe, applied 1500 t of CaCO₃ equivalent, fertilized with 1.2 t each of nitrogen, phosphorus, and potassium, seeded 9 ha, and fenced 2225 m of the property.

Macoupin County is divided up into 26 civil townships. Each township elects an assessor, whose job it is to examine all properties within that township annually to determine their assessed value. This assessed value is supposed to reflect one-third of the actual fair market value of the property. The assessed value, when multiplied by the tax rate for the township, determines the amount of real estate tax that will be collected from the owner of a specific piece of property.

Figure 1 shows the location of the Staunton 1 reclamation site, as well as the location of another gob pile (designated as Staunton No. 2) just northeast of town which has not been reclaimed. Abandoned properties such as these have little or no economic value. For assessment purposes, the sites are assigned minimal property values (\$50-100) regardless of the acreage.

Table 1 shows both the appraised value and the actual price the state of Illinois paid for each of the four parcels of land which comprise the reclamation site. The impact of these abandoned lands on surrounding properties is very real and very detrimental. Properties which abut the abandoned mine site tend to be the most adversely affected. However, the impact goes beyond these properties and spills over into surrounding properties, even those as far away as 1.5 km. The assessed value of properties in such areas tends to be depressed or reduced in comparison with that of properties located outside the sphere of influence of the abandoned mine sites (1).

Table 1. Comparison of Appraised Values and Purchase Prices for Reclamation Site

Parcel	Hectares	Appraised Value	Purchase Price
1	4.61	\$1700	\$1500
2	0.88	55	10
3	0.86	550	10
4	7.39	1825	10
TOTAL	13.74	\$4130	\$1530

NOTE: Parcel 1 purchased from Tubular Steel, Inc. and parcels 2, 3, and 4 purchased from the city of Staunton.

The site itself and the properties surrounding it are shown in Fig. 2. The majority of these properties are rural residential sites. Some of these properties are put to agricultural usage such as grazing (goats and cattle) and row crops (soybeans and corn). The only exception to this type of residential/acreage designation is the property owned by Tubular Steel, Inc.

The piece of property shown in Figure 2 as property A was purchased in the spring of 1976 for \$22,500, just prior to the start of the site development work. This purchase price was probably somewhat higher than the property's actual market value. The buyer was in dire need of a residence, was aware of the reclamation project about to begin, and the property was available (2). Most of the other nearby properties have remained in the same families for many years. The entire area has been virtually unchanged for at least the last 10 to 15 years.

The property designated as property B was owned by the city of Staunton from 1938 to 1977, when the city sold this 0.88 ha piece of property for \$2600. The owner is presently building a home valued at \$60,000 on the property. The owner would not have considered purchasing the property nor building his home on this parcel if the unsightly gob pile had not been leveled off and the additional site work completed (2, 3).

The owner of property C currently plans to divide this parcel between his two sons, one of whom plans to build a home there.

PARKVILLE

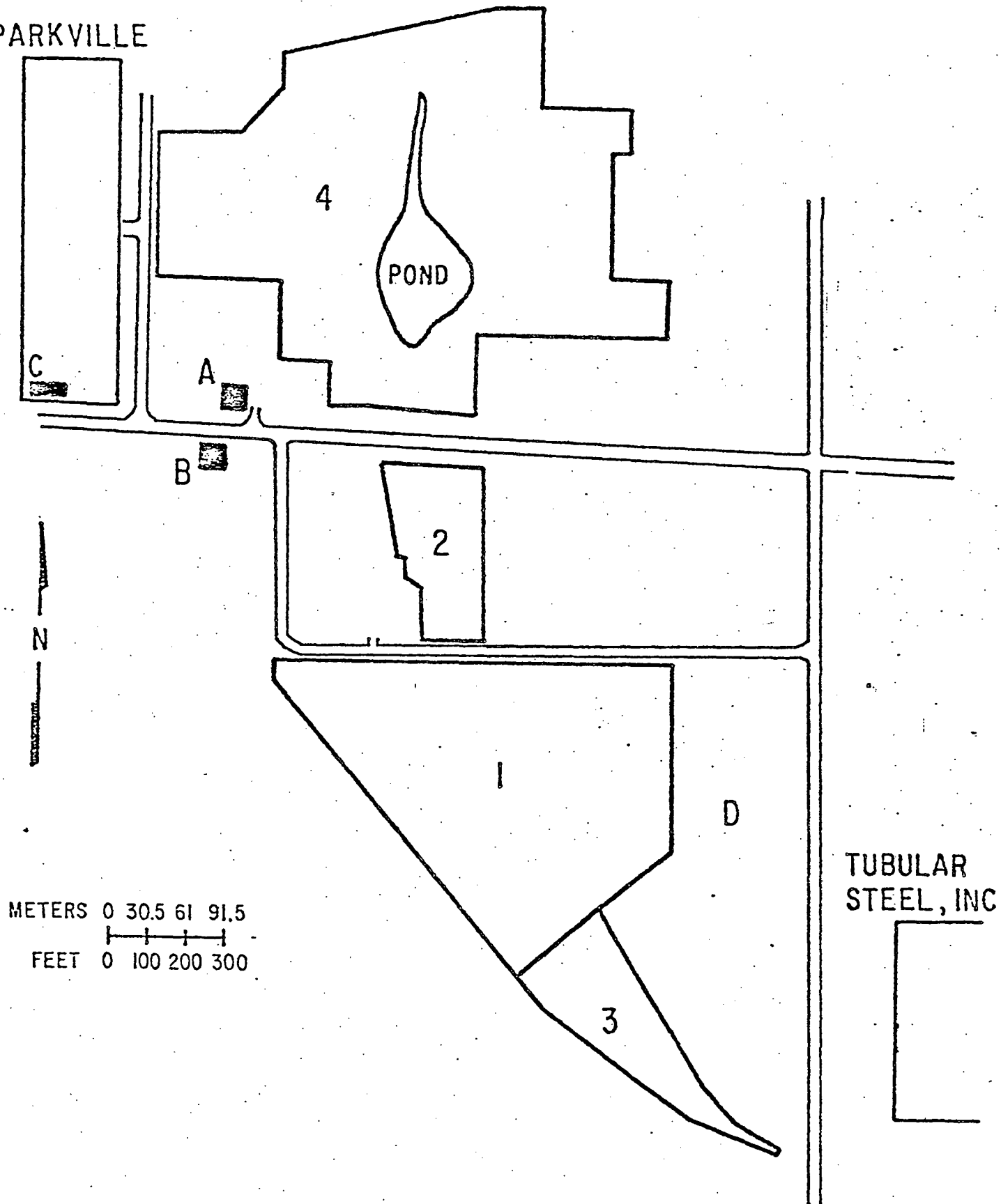


Fig. 2. The Staunton 1 Reclamation Site

The city of Staunton is now considering annexing the property labeled D on Figure 2. There is also a possibility that the city might annex all the property shown on Figure 2. Property owners in the Parkville subdivision have frequently indicated to various city officials a desire to have city services, especially water and sewer systems (4).

Prior to reclamation, the AMLRC had both the Staunton 1 and Staunton 2 abandoned mine sites appraised by Richard E. Nichols and Associates of Indianapolis, Indiana. In May 1978, ANL engaged this firm to reappraise both sites. Table 2 shows both the 1976 and 1978 appraisals. As indicated in the 1978 appraisal, the Staunton 1 site after reclamation has shown a change in market value of \$21,870, or an increase of 529.5 percent over its 1976 appraised values. This is an increase of 1,699.3 percent over the purchase price paid by the state of Illinois.

Table 2. Comparison of Appraised Values for Two Abandoned Mined Sites

STAUNTON 1			
Parcel	Hectares	Appraised Market Value	
		1976	1978 ^a
1	4.61	\$1,700.00	\$5,685.00
2	0.88	55.00	1,000.00
3	0.86	550.00	1,065.00
4	7.39	1,825.00	18,250.00
TOTAL	13.74	\$4,130.00	\$26,000.00

STAUNTON 2			
Parcel	Hectares	Appraised Market Value	
		1976	1978
1	5.73	\$3,900.00	\$3,900.00
2	6.10	4,150.00	4,150.00
3	4.39	3,250.00	3,250.00
4	4.20	260.00	260.00
TOTAL	20.42	\$11,560.00	\$11,560.00

^a After reclamation

The market value of Staunton 2 shows no change between 1976 and 1978 appraisals, due to the lack of any improvement on the site.

The effects of the reclamation effort on the surrounding land values have been quite positive. Both the appraised and assessed values of the properties in the immediate vicinity of the mine site have increased and will continue to do so (1). Properties which had little potential for development into homesites prior to reclamation are now being considered for primary residence. The residences could be further enhanced in value by the willingness of the city of Staunton to annex these properties and provide city services.

REFERENCES

1. Jascur, June, Staunton Township Assessor, personal communication (1978).
2. Nichols, R. E., and C. D. Kimmel, Richard E. Nichols and Associates, Indianapolis, Indiana, personal communication (1978).
3. Soanes, Fred, Property Owner, personal communication (1978).
4. Schaeffer, Elton, City Clerk, Staunton, Illinois, personal communication (1978).