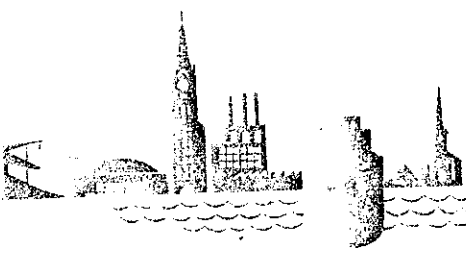


AN ANALYSIS OF THE NEW BERLIN
PETITION FOR THE CITY OF
MILWAUKEE WATER SERVICES

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Prepared for the
Common Council's Committee
on Utilities and Licenses
by the
Department of City Development

March, 1974



City of

DEPARTMENT OF CITY DEVELOPMENT

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Mayor
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March 29, 1974

To the Honorable
Common Council Committee on
Utilities and Licenses
City Hall, Room 205
City of Milwaukee

Gentlemen:

The Department of City Development has completed and is herewith forwarding its report on the potential economic impact of selling city water to New Berlin for resale to that city's industrial and commercial enterprises. As detailed in the report, many of these establishments have been formerly located in the City of Milwaukee. Although there is no known technique which can be used to pinpoint a precise statistical relationship between city water available and the future relocation of Milwaukee industry to New Berlin, it is believed that an adverse effect is highly probable.

During the early phases of our research on this important topic, it readily became apparent to the Department's technicians that the New Berlin petition for water services was by no means just another one of the type the Council has received in the past. This petition, for example, involves grave issues of national and international law as a result of the existence of a major subcontinental divide thru New Berlin. New Berlin's petition also raises serious questions related to previous Common Council policies concerning suburban use of exclusionary zoning practices to keep out moderate and low income families. Perhaps most significantly, the Department's research led to consideration of several important policy questions concerning the interface of multi-governmental capital improvements programming in the metropolitan area which were felt to be related to the question at hand. However, because of the high policy level at which these issues are more appropriately considered, we have discussed these questions in only very general terms.

This report refers several times to the Metropolitan Sewerage Commission's previous decision to establish service area limits well to the west of the recognized subcontinental divide in New Berlin. It should be noted that the location of this important geographic feature is subject to a difference of technical opinion and that the Department is not implying that the Sewerage Commission's action was in any way questionable. At the same time, the Department could not fail to note, with some disappointment, that New Berlin has gained an industrial development windfall from the Commission's decision.

In the same sense, the Department's recommendation that hard cost/revenue estimates be studied prior to the Council's decision on New Berlin water is likewise not in any way intended to second guess the Water Department, but rather to insure that all facets of this decision be understood before it is made. In the final analysis, the Department of City Development is not encouraged that the overall fiscal impact of a decision to sell New Berlin city water is in Milwaukee's best interests. Based on that city's previously negative attitude towards sound regional planning guidelines and its commitment to expand its industrial tax base at the expense of its neighboring municipalities (New Berlin does not conduct national or state-wide promotion efforts as does the City of Milwaukee), we would expect more of the same after our water services were extended.

Sincerely,

William H. Paffin
Edward J. Hayes
Commissioner

Enclosure

AN ANALYSIS OF THE NEW BERLIN PETITION
FOR THE CITY OF MILWAUKEE WATER SERVICES

Prepared for the
Common Council's Committee
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Department of City Development

March, 1974

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SUMMARY OF FINDINGS

New Berlin's industrial development program over the last ten years has been enhanced by a combination of factors that may have been unique to that municipality during that period. Among the factors that may have encouraged new plant location there, highway accessibility, low property taxes, vigorous industrial park promotion, availability of large tracts of cheap land, the personal location preferences of management and the existence of suboptimal conditions in the City of Milwaukee were probably most significant.

Between 1963 and 1970, industrial land use grew 580% in New Berlin, the highest rate in Southeastern Wisconsin. Of the 530 acres in the New Berlin Industrial Park, approximately 28% is currently occupied by firms which were formerly located in the City of Milwaukee. These firms represent a foregone hypothetical City of Milwaukee assessment for real and personal property of approximately \$14.6 million, which would have produced \$1.2 million in 1974 property tax revenues for city purposes and for the city's share of county and metro levies. Combined with similar but much smaller estimates for the Moorland Industrial Park, it can be said that about \$1.32 million in annual tax revenues could be considered "lost" to city taxpayers because these firms left Milwaukee and relocated in new plants in New Berlin.

New Berlin's industrial expansion potential in the future is also significant. With roughly 2,170 gross acres

of undeveloped industrial and light manufacturing land available, compared to roughly 2,400 in the entire City of Milwaukee with 23 times the population, that city can easily accommodate the potential projected demand of an additional 680 acres by the year 2000, if this estimated demand materializes. Assuming that 25% of the potential is realized by relocation of Milwaukee companies, an additional \$1.1 million of tax revenues could be "lost" to city taxpayers annually.

However, New Berlin's future industrial growth will be determined by a number of variables, not least the availability of dependable supplies of filtered water. Extension of City of Milwaukee water to New Berlin will undoubtedly increase New Berlin's industrial land marketing potential. At the same time, New Berlin is amply supplied with groundwater which can only be utilized by costly deep well drilling.

Because of the probable loss of industry from Milwaukee estimated "profits" from water sales to New Berlin, should, in the Department of City Development's opinion, be carefully projected and evaluated prior to Council action on this petition. The Department also believes that the serious legal implications of the existence of the Great Lakes-Upper Mississippi Subcontinental Divide thru New Berlin should be cleared up prior to this decision because of the possibility that the City of Milwaukee may become a party to litigation on this question.

The Department also suggests that the Common Council consider the fact that piecemeal extension of city water services is resulting in a modified metropolitization of this vital service without a quid pro quo. In this respect, a "fair share" distribution of moderate and low income housing could be considered in the city's bargaining posture. New Berlin's minimum zoning requirements, for example, can be shown to constitute significant financial barriers against construction of housing for low and moderate income families. The Common Council has clearly stated its opposition to this type of suburban manipulation of zoning and building controls on several occasions.

RECOMMENDATIONS

1. A detailed estimate of costs and revenues from the proposed sale of water to New Berlin should be developed for the purpose of evaluating the projected trade-offs between estimated Water Department surplus revenues or "profits" and further industrial migration from the city.
2. Legal questions surrounding the issues raised by the existence of the major subcontinental divide in New Berlin should be clarified with respect to both sewerage and filtered water diversions between the Great Lakes and the Upper Mississippi Drainage Basins, prior to action on New Berlin's petition.

3. Diversion of Great Lakes Basin waters, i.e., City of Milwaukee filtered water, should be avoided on the basis of previous legal principles supported by the city. Adherence to this principle by Milwaukee and New Berlin would not preclude some benefit to industry in New Berlin but would reduce the visibility of this benefit and hence would reduce Milwaukee's opportunity cost of losing more industry than it otherwise might.
4. The Department respectfully suggests to the Common Council that a suitable quid pro quo for future city water extensions into the suburbs, in the absence of a larger agreement on metropolitanization of other services disproportionately supported by city taxpayers, might be a suburban commitment to a "fair share" of moderate and/or low income housing.

INTRODUCTION

The decision to extend City of Milwaukee water service to an incorporated suburb such as the City of New Berlin involves, in the opinion of the Department of City Development, consideration of two important criteria. First, will the extension of service adequately compensate City of Milwaukee residents and businesses, the "stockholders" in the city's water services operations, by yielding a reasonable return on invested capital, after all capital and operating costs associated with the service extension are covered by the suburb in question? Second, will the extension of service also meet the requirements of the first criterion after the longer range, indirect impacts of the decision are felt on the city's property tax base and its overall fiscal posture?

While this report primarily attempts to answer the second of these two critical questions, a limited discussion of the first was felt to be appropriate to the Department's assignment.* Also, noting the lack of additional substantive material on this important question in File No. 73-1103, the Department took the liberty to address several aspects of the larger Metropolitan Milwaukee environment within which this water petition is just one of many important elements.

Because of the deep concern expressed by the Committee on Utilities and Licenses that the extension of city water to New Berlin could lead to an accelerated pace of business relocation from Milwaukee (which concern is shared fully by

* See Appendix A.

the Department) this report explores this issue at some length. However, as demonstrated in the following section, comparative industrial development climates are ultimately evaluated by the business community on the basis of many separate considerations, all of which have some effect on location decisions.

I. New Berlin's Industrial Development Climate and The Outward Migration of Milwaukee's Industry

In the detailed discussion that follows, several visible features of the City of New Berlin's industrial development climate of roughly the past decade are explored in some detail. These issues are presented here for the reason that despite repeated and highly sophisticated attempts to quantify the site selection decisions made by private enterprise across the United States, plant location theory still remains a rather inexact science. To the best of our knowledge, no serious study of industrial location theory has yet succeeded in identifying any one unique factor that, taken alone, can be called "The Reason" a factory or a warehouse is constructed in this municipality or that one.

However, the Department of City Development's years of experience in dealing with the Milwaukee business community has produced a general understanding of the optimum environment prized by industrial management in its location decisions. In this respect, the Department must admit, with regret, that New Berlin's industrial location climate over the past 10 years may have been favorably considered by industry under certain

conditions that may take precedence in the mind of the manager of a firm. Milwaukee's industrial location climate, on the other hand, has not always been as attractive as it is today. The following six conditions should be viewed from this dynamic chronological perspective and not as permanent features of the metro area's competitive business location environment.

A. Transportation System Advantages

New Berlin has been placed in an extremely favorable posture, vis-a-vis the location and the fiscal impact of its highway access as a result of actions taken by state and regional highway planners over the last decade. The road network shown on the several maps contained in this report demonstrate part of the extent of the highway service quality available to industrialists in that city. To that city's immediate north is I-94 with good connections to all of Metro Milwaukee, Madison and points northwest. The Rock Freeway, (State Highway 15) crosses the city on the south, and provides direct and almost totally uncongested access to the Zoo, Airport and North-South Freeways, and by extension to the Port of Milwaukee, Chicago and points east, and central Illinois. In the event that the Belt Freeway is constructed across New Berlin, as has been recommended by state and regional highway planners (and which is given serious consideration by industrialists) New Berlin's freeway access system, all things considered, may be the most favorable in the State of Wisconsin and perhaps the Midwest.

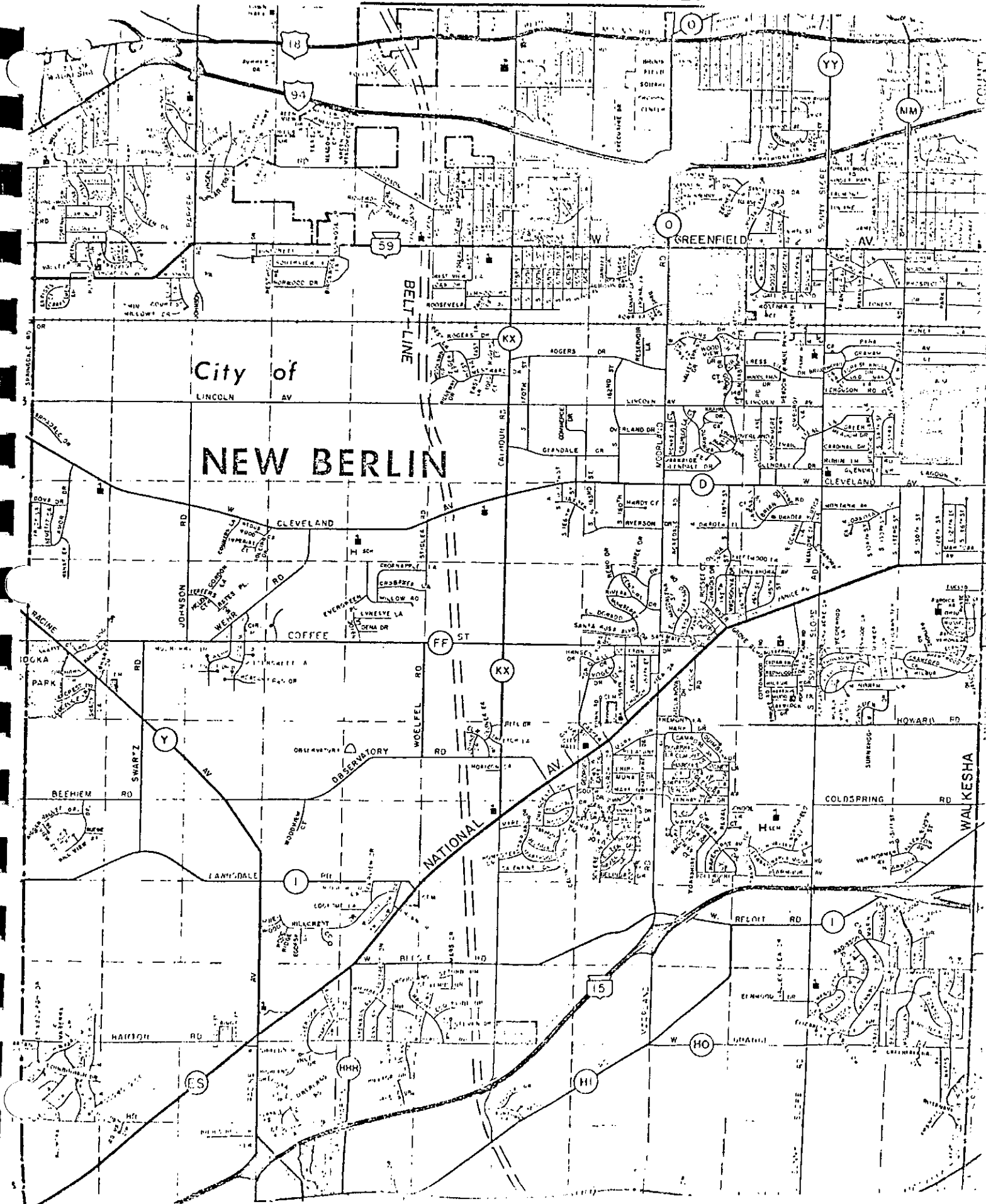
The significance of this extensive service network, however, lies as much in its fiscal aspects as in its engineering. Of critical concern for example, is the fact that a freeway constructed over vacant or agricultural land is significantly less damaging to a municipality's tax base than a similar project would be thru a built-up area. Also, vacant land adjacent to the freeway can be expected to increase substantially in value while developed land values may actually decline during the planning and construction stages of a freeway project. The social costs of freeway or highway construction in rural or urban fringe areas are also dramatically lower there than they could be in the city - relocation housing problems are non-existent, etc.

In addition to these factors, New Berlin's highway accessibility is financially supported largely by state and federal dollars and only insignificantly by New Berlin property taxes. Because of this, convenient highway access, highly prized by industry, is but one of those features of New Berlin's environment that encourages plant location; trucks and employees can travel freely through New Berlin at little or no direct property tax cost to the firms located there.

On the other hand, the provision of New Berlin's favorable accessibility to the entire metropolitan area, particularly its uncongested freeway linkages, has placed severe financial burdens on Milwaukee County and particularly the City of Milwaukee. Continued out-movements of plants to New Berlin and Waukesha County, and hence growing daily migrations of workers back and forth from these plants, will no doubt lead to demands for more freeways in the future.

PLAT 1
NEW BERLIN'S

MAJOR HIGHWAYS AND ARTERIALS



B. Property Taxes

New Berlin has consistently had one of the lowest effective property tax rates in the Milwaukee Metropolitan Area. This is due in no small part to New Berlin's ability to avoid financial responsibility for transportation system investments and maintenance. But this issue goes beyond highways. Several of these additional considerations are treated in some detail elsewhere in this report and only highlights will be summarized here. Among other factors leading to New Berlin's low property tax rates over the last ten years these are noteworthy:

- . Exclusionary zoning out of moderate and low income families;
- . Accessibility to Milwaukee County and City of Milwaukee services, such as parks and public institutions, and a notable lack of tax exempt land and buildings in that city;
- . Assessment of large areas of undeveloped land on municipal tax roles;
- . Traditionally low levels or out-right rejection of municipal services.

- . Rapid recent growth of industrial and manufacturing property tax assessments.

These points raised have not been introduced for the purpose of promoting the New Berlin civic life style as a way of reducing property taxes, but to highlight some of the reasons that property taxes in New Berlin have been low in the past ten years or so.

If, on the other hand, many of these factors portend anything for the future of New Berlin's tax climate, it is that it is quite probable that that municipality may not be so favorably blessed with low tax rates in the future.

For example, there is little doubt that New Berlin's businesses and residents will begin to demand a growing list of services so far not provided by their city and county officials. Services such as intensified police protection; new schools; flood prevention controls; increased traffic engineering services; better building inspections; better property assessments; more intensive pavement repairs; new recreation programs, etc., are all likely to be demanded in the near future. Continued labor force recruiting problems, on the other hand, are very likely to encourage some of that city's employers to question the zoning policies that prevent their workers from living close to their jobs and which force them to travel many miles by automobile in the face of gasoline rationing and skyrocketing gasoline prices.

c. Private Professional Industrial Land Development Promotion

On several occasions during the last few years, the Comprehensive Development Division has reported on the wide disparity between the aggressive suburban industrial land promotion programs being carried out by metropolitan area developers compared to their minimal activities in the City of Milwaukee. In the spring of 1972, for example, it was pointed out that while approximately 1,830 acres of private or quasi-private industrial park lands were developed and were being vigorously promoted by private developers in the city's suburbs, only 185 acres had been similarly developed in the entire City of Milwaukee, exclusive of the Land Bank.

During the 1960's and early 1970's, New Berlin was the focal point of industrial land development initiative and promotion in the Milwaukee area. Assisted and encouraged by City of New Berlin officials, private sector promotion of the New Berlin Industrial Park and the adjacent Moorland Industrial Park led to an industrial building and expansion boom unprecedented in the Milwaukee Metropolitan area. Even granted that many of the firms which located there during the 1960's were driven out of the City of Milwaukee by freeway acquisitions, etc., it is nevertheless true that the success experienced by the major industrial development companies in New Berlin and other suburbs was significantly affected by the priority status under which these

companies located new tenants. In the private sector-public sector type of partnership that New Berlin's early competitive advantage has made the standard industrial development model in Metropolitan Milwaukee, it is difficult, if not impossible, for the private partner to serve two masters. Hence, he must almost unavoidably favor one of his client municipalities over the other.

The New Berlin private sector-public sector industrial plant location promotion program, on the other hand, has not always enjoyed the high level of generous resident support that has been the key to Milwaukee's success in this field. Many New Berlin residents, for example, objected to the wholesale zoning of huge tracts within that city for future industrial expansion. Others could foresee the day when truck and employee traffic would congest their street systems. Still others were dissatisfied with delays in getting needed sanitary sewer services while the industrial parks were given favorable treatment.

Discontent has been heard from the other side also, with the industrialists questioning the wisdom of non-professional fire fighting services and generally limited police surveillance among other problems. Milwaukee area companies have in fact been accustomed to receiving a high level of service from the City of Milwaukee and expect no less when they move to the suburbs (despite their reasons for moving).

D. Availability of Large Tracts of Vacant Land

In a recently agricultural area like New Berlin, provision of huge land areas for exclusive use for industrial development purposes is a relatively easy municipal function. In New Berlin, for example, it was a relatively simple matter to draw lines on a map and declare this or that large tract an M-1 or an M-2 district. In point of fact, New Berlin may already have established one of the highest industrial land districting proportions in the state, if not the country.

Note that this was done between 1962 and the present over not only the bitter objection of the Southeastern Wisconsin Regional Planning Commission but over the objections of many New Berlin residents as well. During the eight year period between 1963 and 1970, for example, New Berlin's industrial land use grew an amazing total of 580% as compared to only 12.1% in the City of Milwaukee and 25.6% in all Southeastern Wisconsin.* By March of 1973, according to measurements made from the most recently revised City of New Berlin zoning map, approximately 123,000,000 square feet of land was zoned for light or heavy industrial use, a figure that is convertible to about 2,820 gross acres. Of this 2,820 gross acres, approximately 2,170 are undeveloped. By comparison, at the end of 1973, the entire City of Milwaukee, with roughly 23 times the population of New Berlin, had only approximately 2,400 gross acres of undeveloped industrial or manufacturing zoned land.

* SEWRPC, The Economy of Southeastern Wisconsin, Technical

The existence of huge contiguous industrial tracts is a major advantage for industrial development purposes: maximum use can be made of existing railroad main line trackage; residential and commercial encroachment can be prevented; detailed land subdivision is enhanced; residential rezoning pressures are minimized; and, perhaps most significantly, the existence of huge overhanging supplies of similar quality land has a generally depressing effect on market prices in the same relative locations.

E. Personal Location Preference of Top Management

The staging of the Milwaukee area's freeway system construction facilitated, encouraged, and in some cases of right-of-way acquisition, directly fostered the migration of industry to suburban locations. This program also facilitated and encouraged the movement of upper income families away from the city. It is only in recent years that industrial location theory has begun to recognize the extremely important effect that the personal preferences of one or several top management people in a particular firm can have on the final decision to locate a factory or a business office.

This variable, call it the "Executive Privilege Effect" for want of a better term, enters the plant location decision process because the owner, the president, the top management team, or the plant manager of a company,

prefers to have his place of business located for his personal convenience with respect to his living quarters. All things being equal, for example, the president of a manufacturing corporation who lives in Brookfield or Elm Grove would find it more convenient to get to his office in Brookfield, Wauwatosa or New Berlin than he would if it were located in the Menomonee Valley or the Land Bank. At the same time that this so-called Executive Privilege Effect may not be the single most important plant location criterion, its existence, in concert with the dramatic growth of upper income residential settlement in Waukesha County during the last 20 years, must be considered one of the significant features of New Berlin's recent industrial location environment.

F. Milwaukee's Industrial Climate in Past Years

In fairness to those industrialists who have made, in their opinions, reasonable and objective decisions to move their plants out of the Central City, it must be recognized that during the last two decades there did exist a set of circumstances in Milwaukee which could have been interpreted unfavorably by industry and which may have been identified as constraining factors in our industrial development climate. In no particular order of importance, the following factors have been referenced by various local businessmen as past problem areas within the City of Milwaukee:

1. Comparative Property Tax Rates - fiscal reforms at the state level in the past several years will have done much to eliminate this problem;

2. Lack of available space for expansion and difficulty in assembling land parcels in the city's mature industrial districts;
3. Forced relocation of businesses as a result of freeway acquisition programs in the developed areas of the city;
4. Uneasiness about social conditions (particularly in 1967 and 1968) and the perceived threat of vandalism;
5. Comparatively high land costs - superior city services and multiple land use competition have tended to push city land values higher than those in the suburbs;
6. Lack of adequate industrial park environments - industry has come to expect better treatment of its environment; the Milwaukee Northwest Industrial Park is intended to overcome this problem;
7. Obsolete buildings and the standardization of single story, horizontal production processes;

Note that Milwaukee was by no means unique among major central cities with respect to these constraints during the post-war period. On the other hand, few major cities have been more aggressive than ours in their attempts to eliminate or reduce the impact of these universal problems on industrial location. Taken in conjunction with the favorable effects of recent state fiscal reforms, our city's aggressive industrial development program has a growing and positive effect on the area's business community.

positive effect on the area's business community. While it must be recognized that the City of Milwaukee cannot hope to be all things to all businesses, it is the Department's opinion that the city's image, vis-a-vis industry, is much better than it had been, say ten years ago, when affirmative action programs were first coming on stream. At the same time, some firms and some businessmen in the past did, in their opinion, move out of the city on the basis of a rational assessment of one or a combination of those constraining factors noted.

Summary

New Berlin's industrial development program has been enhanced by a combination of factors that may or may not have been unique to that municipality for the period of roughly the last ten years. Among these factors, the following have been identified as at least contributing if not casual variables in that city's ability to pull industry out of, or away from Milwaukee:

1. The physical and fiscal composition of New Berlin's transportation access system;
2. A significant property tax differential vis-a-vis the City of Milwaukee (which has begun to diminish);
3. Vigorous promotion of New Berlin's industrial parks by private developers in concert with preferential treatment by city officials;
4. Availability of large tracts of relatively cheap vacant land;

5. Personal location preference of top management - the "Executive Privilege Effect;" and
6. Existence of constraining factors in the City of Milwaukee during the last several decades.

II. FORMER MILWAUKEE BASED INDUSTRY IN NEW BERLIN

In light of the complex relationships that exist in the metropolitan area with respect to the number of companies that have multi-plant operations, often in multi-municipal locations, estimating procedures designed to measure "the amount of former Milwaukee industry in the City of New Berlin" require that a certain amount of judgmental screening be done in order to arrive at realistic statistical conclusions. Companies such as Goodyear, Gimbels, General Electric, Armor, WEPCO, Wisconsin Telephone, W.A. Krueger, Louis Allis, and A.O. Smith, for example, were felt by the Department to be of a nature that precluded their being described as "former Milwaukee" companies.*

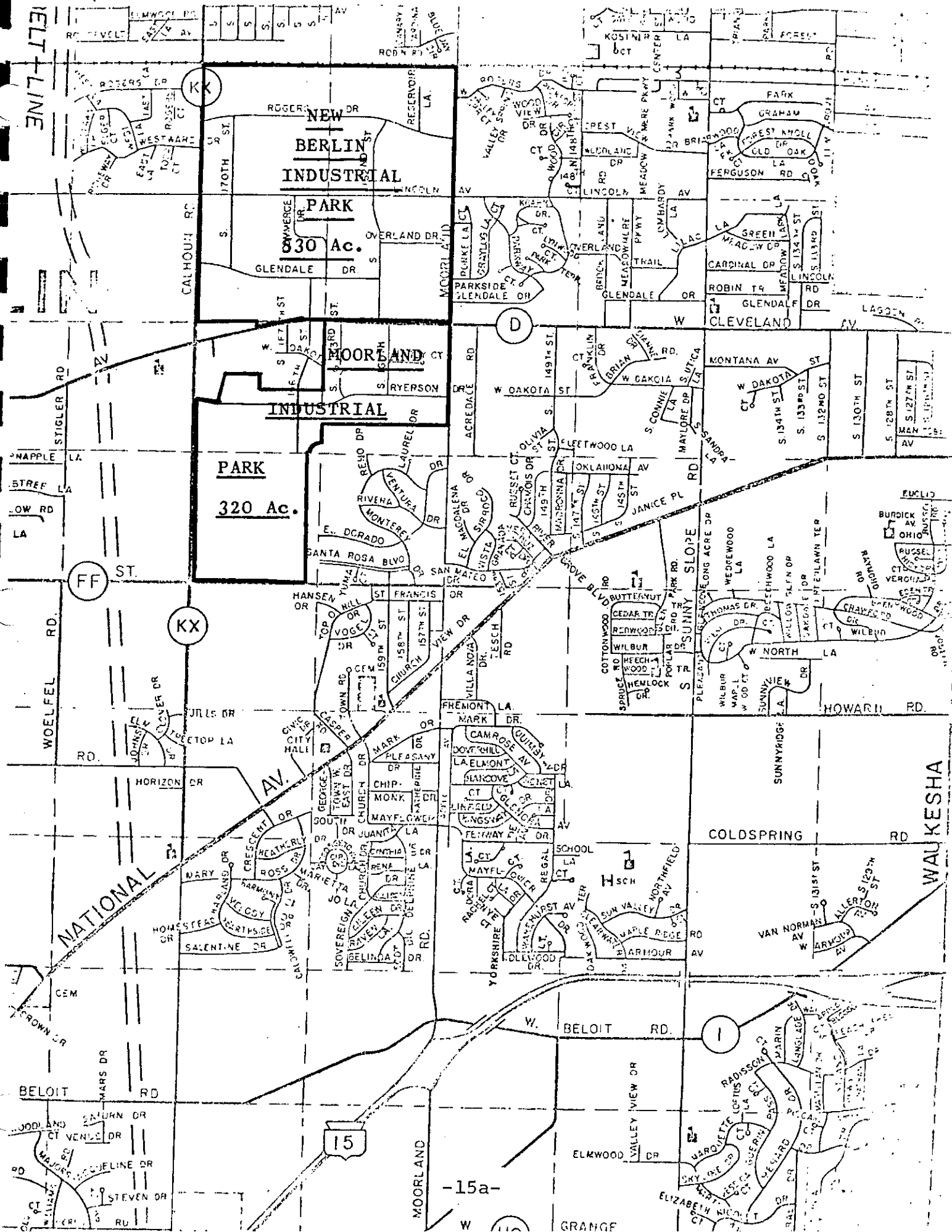
For the purpose of developing the following statistics, data associated with these plants as well as data related to multi-location retail or service outlets, such as Kuglitsch's and Chappies, and other occupants of New Berlin's industrial parks such as the Moorland Tennis Club, the Southwest Bank, and the City of New Berlin, were also excluded.

A. New Berlin and Moorland Industrial Parks

The New Berlin Industrial Park is platted in 114 parcels ranging in size from less than 1 to 51.5 acres. Records supplied by New Berlin indicate that at the end of 1973, 24 of these parcels were either vacant, were owned by

* At the same time, however, it must also be recognized that the branch or subsidiary plants of these firms could relative easily have been located within the city and that their existence in New Berlin generates property tax revenues there and not in the City of Milwaukee.

MAP 2 NEW BERLIN INDUSTRIAL PARK & MOORLAND INDUSTRIAL PARK



VELT-LINE

NEW BERLIN INDUSTRIAL PARK
330 Ac.

MOORLAND INDUSTRIAL PARK
320 Ac.

FF ST.

KX

15

-15a-

WAUKESHA

COLDSRING RD

BELOIT RD

W. BELOIT RD.

ELMWOOD

GRANGE

1

RADISSON

LOTUS

W. MARQUETTE

W. GUYARD

W. WILSON

W. WILSON

W. WILSON

W. MARQUETTE

W. GUYARD

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large multi-plant, corporations, were used by the City of New Berlin, or were used for retail outlet purposes, leaving a total of 90 parcels in the appropriate domain of this analysis.

Of the 90 built-up parcels considered for inclusion in this study, 41 have been identified as being owned by firms which were known to have had previous Milwaukee locations during the period between 1960 and the present.* In addition, at least seven other firms, identified as formerly located in the city, are located as tenants in the park.

The 90 parcels considered for inclusion in this study take up 317 of 530 total acres in the New Berlin Industrial Park or about 60% of the total available land area. Of these 317 acres, 149.2 acres have been identified as being owned by former City of Milwaukee firms, or 47% of the acreage considered relevant to this study and 28% of the total acreage of the park.

Those New Berlin Industrial Park firms identified as previous City of Milwaukee companies comprise a total estimated 1973 full market real estate value of \$14,100,000.** At the City of Milwaukee's industrial real property assessment ratio, 51.6%, the \$14.1 million figure would convert to a hypothetical City of Milwaukee real property assessment of just under \$7.3 million. The addition of an

* This information was developed by referencing past year's Wright's City Directories.

** Based on a survey of New Berlin real property tax roles converted at an assessment ratio of 58%.

estimated personal property assessment of value equal to assessments on real estate, doubles the estimated \$7.3 million assessment figure cited above, and produces a hypothetical equivalent total property tax assessment of \$14.6 million. This figure represents what those former Milwaukee firms would have contributed to the city's 1973 tax base, if in fact they had built their new plants in the city rather than New Berlin, and if all other things, such as land value, were to have remained the same.

At 1974 City of Milwaukee property tax rates for Common Council and School Board purposes and the city's estimated share of county, MATC and Sewerage Commission levies, this total hypothetical assessment would have produced an additional gross property tax benefit to city taxpayers of just under \$1.2 million. In other words, if these former city companies had relocated their new plants in the City of Milwaukee, rather than in the New Berlin Industrial Park, all other things being equal, City of Milwaukee taxpayers would have benefited to the extent of about \$1.2 million.

Similar screening and research calculations concerning the Moorland Industrial Park, which is not as far in its development staging as the New Berlin, yield an additional hypothetical City of Milwaukee property tax revenue opportunity cost of roughly \$123,200.*

* Exclusive of facilities such as the A.O. Smith Computer Center, which were screened out of the estimating procedure for various reasons cited above. The Moorland Park is still growing and hence assessment estimates would be double that of the

When this figure is combined with the estimates developed for the New Berlin Industrial Park, it can be said that approximately \$1.32 million in annual tax revenues could be considered "lost" to city taxpayers because these firms left Milwaukee and relocated in new plants in New Berlin.

B. Potential Industrial Expansion in New Berlin

The City of New Berlin has approximately 2,820 gross acres of land currently zoned for light manufacturing and industry. Of this total, approximately 850 acres lie within the combined limits of the New Berlin and the Moorland Industrial Parks. As of December, 1973, approximately 108 net acres in the New Berlin and approximately 87 net acres in the platted portion of the Moorland Park were vacant, a total of 195 acres. In the rest of New Berlin, including phase 3 of the Moorland, roughly 2,170 additional gross vacant acres are currently zoned for industry. At 80% utilization, this figure reduces to about 1,710 net acres, giving New Berlin roughly 1,900 net vacant industrial and manufacturing acres for overall future development.

Because of the number of variable and unknown factors which may eventually influence the New Berlin industrial development environment, projecting potential outmigrations of industry from the city to New Berlin can only be a very inexact undertaking. During the last 10 years, for example, roughly 28% of the total area of the New Berlin

Industrial Park was absorbed by former city firms. In light of the Department's expectation that the City of New Berlin's comparative industrial climate, *vis-a-vis* Milwaukee's, will not be as favorable in the future as it has been in the past, we estimated that something in the neighborhood of 25% of the New firms they acquire will be relocated from the city.*

Between 1963 and 1970, the period during which the New Berlin Industrial Park experienced its initial development movement, industrial land use in the City of New Berlin grew from 31.65 to 215.04 acres, or a net increase of 183.4 acres.** Although these figures represent growth of 579.4%, which was the highest in Southeastern Wisconsin, it represents only about 26.2 acres per year on an average annual absorption basis. SEWRPC projections for Southeastern Wisconsin employment growth until the year 2000 indicated that Waukesha County's proportion of total regional employment will increase the most of any county. However, no hard evidence is available to indicate expected industrial employment growth in the City of New Berlin. For a variety of reasons, the Department estimates that New Berlin's realized industrial land absorption potential between now and the year 2000 will be

* Excluding large multi-plant firms and retail outlets.

** SEWRPC, The Economy of Southeastern Wisconsin, Technical Report No. 10, SEWRPC, December 1972, pp. 12-13.

approximately similar to their experience of during the 1963-1970 period:*

At an average growth rate of 26.2 net industrial acres per year, New Berlin can be expected to increase its developed industrial lands by approximately 680 acres by the year 2000. It is anticipated that approximately one fourth this growth, or 170 acres, will be due to the relocation of what can be considered "Former Milwaukee Firms" (i.e., exclusive of the facilities of large, multi-plant companies, utilities, retail outlets, etc.). Based on an estimated full value of \$94,500 per acre (in 1973 dollars) real property development potential of the projected 170 acres of "Former City" firms would amount to approximately \$16,100,000. At Milwaukee's 1973 assessment ratios and 1974 tax rates, as described above, an estimated \$687,000 in tax payments on real property, and \$376,000 on taxable personal property, excluding machinery and equipment, a total of roughly \$1.1 million in tax revenues, would hypothetically be lost and would, therefore, not benefit other city taxpayers in any year in which this full development was completed.

As noted, the preparation of these types of projections can only be accomplished through the use of relatively

* 1963-1973 absorption rates, overall, were somewhat higher than the similar rates for '63-'70. This was probably due in part to the effect caused by the opening of the Moorland Park, the expected lagged time between land purchase and development in the New Berlin Park, and the lack of improved Industrial Park acreage in the City of Milwaukee.

crude forecasting techniques. Actualizations concerning the future course of events in the National and International economic scene, regional competitive conditions, trends in New Berlin tax rates and the quantity and quality of their services to industry, plus many other factors, will ultimately determine true growth patterns in that city. Not least of these other factors, of course, will be the relative industrial development climate within the City of Milwaukee itself.

C. Summary of Projected Industrial Relocation from Milwaukee to New Berlin

During the period between 1974 and the year 2000, New Berlin's overall industrial development base is projected to increase at the rate of 26.2 developed acres per year. With approximately 1900 net vacant acres now zoned for industry and manufacturing, and assuming that it will continue to give industry top priority public improvements considerations, New Berlin could accommodate 680 acres of potential new development if this demand actually materializes. If, as the Department has estimated, 25% of this new growth takes place as a result of relocation of City of Milwaukee firms, by the year 2000 the annual loss of tax revenues to Milwaukee will hypothetically approach the figure of \$1.1 million. This \$1.1 million loss would be in addition to the estimated tax revenues hypothetically lost to the City of Milwaukee in 1974 and thereafter of about \$1.32 million. However, the projections made for future industrial growth in New Berlin are, at

best, technically based guesstimates that may or may not accurately predict the future course of events.

III. THE EFFECT OF WATER SUPPLY VARIABLES ON INDUSTRIAL LOCATION

A. New Berlin's Groundwater Resources

According to the Southeastern Wisconsin Regional Planning Commission, which has conducted the area's most sophisticated water resources studies, New Berlin and most of Waukesha County are extremely well favored in terms of potential groundwater supplies. To quote from their recent study of the area:

"Problems of inadequate groundwater supply within the Fox River watershed are rare...large yields of excellent quality water, sufficient for municipal and industrial needs, are available throughout the watershed within the deep sandstone aquifer.*

This technical assessment matches the general knowledge that the City of Waukesha's early industrial growth was to some significant extent, encouraged by its famous artesian wells.

But SEWRPC's research has gone beyond the mere physical existence of plentiful groundwater resources and into the economics of utilizing these resources. The following statement succinctly summarizes what are perhaps the two key aspects of New Berlin's current water problem:**

"Nearly all of the larger commercial and industrial self-supplied water users obtain their supply from the sandstone aquifer, due to the high reliability and dependable quality of this supply...The high cost of drilling and operating deep wells is

* SEWRPC, A comprehensive Plan for the Fox River Watershed, Planning Report No. 12, SEWRPC, April, 1969, p. 259.

** Ibid., p. 253.

probably the major reason for the relatively small pumpage by industrial users. Industries and commercial establishments apparently prefer to purchase water directly from the municipal water utilities, which can provide a more dependable and possibly better quality supply... For these reasons future commercial and industrial water use in the Fox River watershed is expected to continue its heavy reliance on municipal water systems." *(italics added)*

This latter quote effectively summarizes the relative attractiveness to New Berlin of acquiring the ability to resell filtered City of Milwaukee water to its existing industrial firms and to be able to use this capability as an industrial development marketing tool:

- . New Berlin would greatly reduce the financial burden of meeting its own municipal water system development program, requirements; and/or
- . Individual firms or industrial park developers would not have to undertake the major expense of drilling, operating and maintaining deep driven wells; and
- . New Berlin, and its industrial clients, would be the beneficiaries of what may well be the most dependable urban water system in the United States.

B. Direct Impact of Milwaukee Water Service Availability on New Berlin's Plant Location Environment

It has not been possible for the Department to identify a modern causal relationship between industrial plant location decisions and water service quality differentials on an urban area scale. Industrialists typically screen a number of factors to arrive at their decisions, not least being the nearness of their homes to the site

selected. The following quote from a recognized industrial development handbook may serve to shed further light on this question:*

Water is an indispensable input for all industries. However, this point should not be exaggerated. In fact, the availability of other resources may be more important than water in determining where an industry locates. If there is water in all possible locations, then its influence as a decision-making factor will be very small or non-existent. Water may play an important role in attracting industry only when it is available in some locations and not in others. But, even in such a situation water availability is not guaranteed to bring in industries.

Given this existence of ample groundwater resources in New Berlin, the following generalized statements are perhaps as specific as the Department can be in a report of this nature:

- . City water might open up New Berlin to many industries which are very sensitive to water supply and quality considerations such as chemicals, beverages, food processing, paper products, etc., and which may not otherwise locate there. However, New Berlin has ample resources with which it can supply water for industry if it decides to do so.
- . 24 hour connection to the city's pressurized system would enhance New Berlin's fire prevention system thus reducing the cost of insurance and internal fire security outlays for business - general property tax burdens for fire fighting services may also be reduced.

* Ismail Sener, "Water as a Factor to Attract Industries," in Guide to Industrial Development, Dick Howard, (ed.), Prentice-Hall, Inc., 1972, p. 340.

- . City water would extend the life of existing wells and probably permit expansion of industrial activity across a broader area of the City of New Berlin. New areas could then be served by wells drilled into water strata currently being tapped by heavy industrial and residential use.
- . City water would help New Berlin maintain its low property tax differential by permitting that city to reduce the auxiliary service requirements needed to support a self-contained fully integrated water utility operation.
- . City water would tend to reduce the overall attractiveness of the City of Milwaukee's industrial climate, relatively to New Berlin's, since the uniqueness of the city's water quality and high dependability would no longer be a strong selling point of the city's promotion efforts.
- . City water would very likely permit New Berlin industry to meet its water consumption needs at a lower overall cost than if that city's water utility was required to meet the growing water needs of its residents and businesses totally from its own resources.

In summary, extension of City of Milwaukee water services to New Berlin would create an even more favorable industrial location climate there than has existed in the past. At the same time, it would reduce the City of Milwaukee's relative uniqueness as that location with the most

comprehensive and dependable system of business services in the metropolitan area. No doubt this combination of factors would lead to some loss of tax base in Milwaukee and some gain in New Berlin. Unfortunately, no techniques are known to the Department that would permit projection or measurement of these comparisons.

C. Relationships Between Water and Sewer Services

In the previous section it was noted that the availability of high quality municipal system water in ample quantities was a favorable, but generally not decisive factor in plant location decisions as long as alternative sources of supply could be developed. Sewer services, on the other hand, are a much more critical factor in a firm's selection of sites. In the Department's attempt to isolate the importance of city water services to New Berlin industry and as a result of the questions raised about the effect of the subcontinental divide in that city, a brief investigation was made of existing sanitary sewer service availability in New Berlin. The results of this survey indicate the following:

1. The New Berlin Industrial Park could not have been laid out and developed without the existing extension of the Metropolitan Sewerage District boundary;
2. All of the area of the New Berlin Industrial Park lies west of the recognized subcontinental divide and in the Fox River Watershed;*

* The term "recognized" is used in reference to SEWRPC's technical definition of the location of the subcontinental divide; see pages 32-39 for more detailed discussion of this important issue.

3. All of the Moorland Industrial Park lies west of the recognized subcontinental divide and in the Fox River Watershed;
4. Phase 3 of the Moorland Industrial Park lies not only beyond the Great Lakes Drainage Basin but outside the existing Metropolitan Sewerage District boundary and hence should not qualify for connection to the Metropolitan MIS system;
5. The sewered area of the two industrial parks in New Berlin is approximately 850 acres;
6. The vast majority of the remaining industrially zoned lands in the City of New Berlin lies west of the subcontinental divide at some distance - a distance that should preclude their possibility of being linked to the Metropolitan Sewerage Districts' facilities.

Other factors that should be considered in this context are these:

1. New Berlin, with full access to the Metropolitan Sewerage Commission's services, does not pay property taxes towards the Commission's construction programs. In 1973 the City of Milwaukee's share of this program amounted to \$7,007,724,* which converts to a tax rate on city assessments of \$2.61 per \$1,000 of assessed value;

* This figure includes construction cost debt services.

2. During the period of New Berlin's most expansive industrial growth, a significant section of the Granville area of the City of Milwaukee, where much of the city's industrial land is located, was clamped under a development moratorium by the State Department of Natural Resources. Reason: insufficient sewer system capacity between Granville and the sewage treatment plants.
3. Although the D.N.R. development moratorium has recently been lifted, it is by no means clear that continued expansion of industrial development in the city's northwest side could not again be stopped cold because of sewer capacity constraints. Current negotiations between the city and Menomonee Falls over that municipality's petition to Milwaukee for a major new sewer connection highlight this continuing problem.

D. Summary of Section III

New Berlin is favored with one of the most ample and high quality groundwater resource bases in the state. However, because these resources require deep drilling for industrial use, either the City of New Berlin or individual firms would have to absorb high costs to expand existing services. Resale of City of Milwaukee water would permit the avoidance of these capital costs and would insure the quality and dependability of supply

sought by industrial users. Extension of city water service would no doubt act as a further inducement to the expansion of New Berlin's Industrial base. There are no visible indications that New Berlin will have any trouble supplying its residents and its factories with water, for the indefinite future, without help from the City of Milwaukee. Availability of city water services, however, would very likely permit New Berlin to attract many other types of water sensitive industries than would otherwise be possible. Given its ample groundwater resources, New Berlin is fully capable of meeting the needs of its residents and businesses on its own, but at a cost and perhaps at a lower level of dependability. City water service would enhance New Berlin's comparative industrial climate by permitting lower operating costs to industry and perhaps lower property tax rates. The Department has been unable to quantify this comparative advantage but believes it to be a significant consideration.

Although city water services are not considered critical, it is quite clear that New Berlin's industrial parks could not have been laid out and developed without a decision by the Metropolitan Sewerage Commission to extend its district boundaries some distance west of the recognized limits of the sub-continental divide. It was the extension, along with New Berlin's having placed top priority on building its industrial sewer systems before

its residential system, that may well have been the key factor in New Berlin's successful industrial location program. If New Berlin, which does not now pay property taxes towards the Metropolitan Sewerage Commission's Capital Construction Program, were permitted to extend industrial sewers even further beyond the recognized sub-continental divide than it does now, and if the Granville area of Milwaukee continues to be placed under threat of development moratorium by D.N.R. because of inadequate sewer capacity, then it is quite clear to the Department of City Development that Milwaukee's overall competitive industrial development potential would be seriously harmed. As noted briefly in Section IV of this report, the possibility also exists that extension of city water may at some time in the future, pull the City of Milwaukee into the legal questions surrounding diversions of water across the recognized subcontinental divide (either as fresh water from east to west or as raw sewage from west to east).

IV. RELATED ISSUES

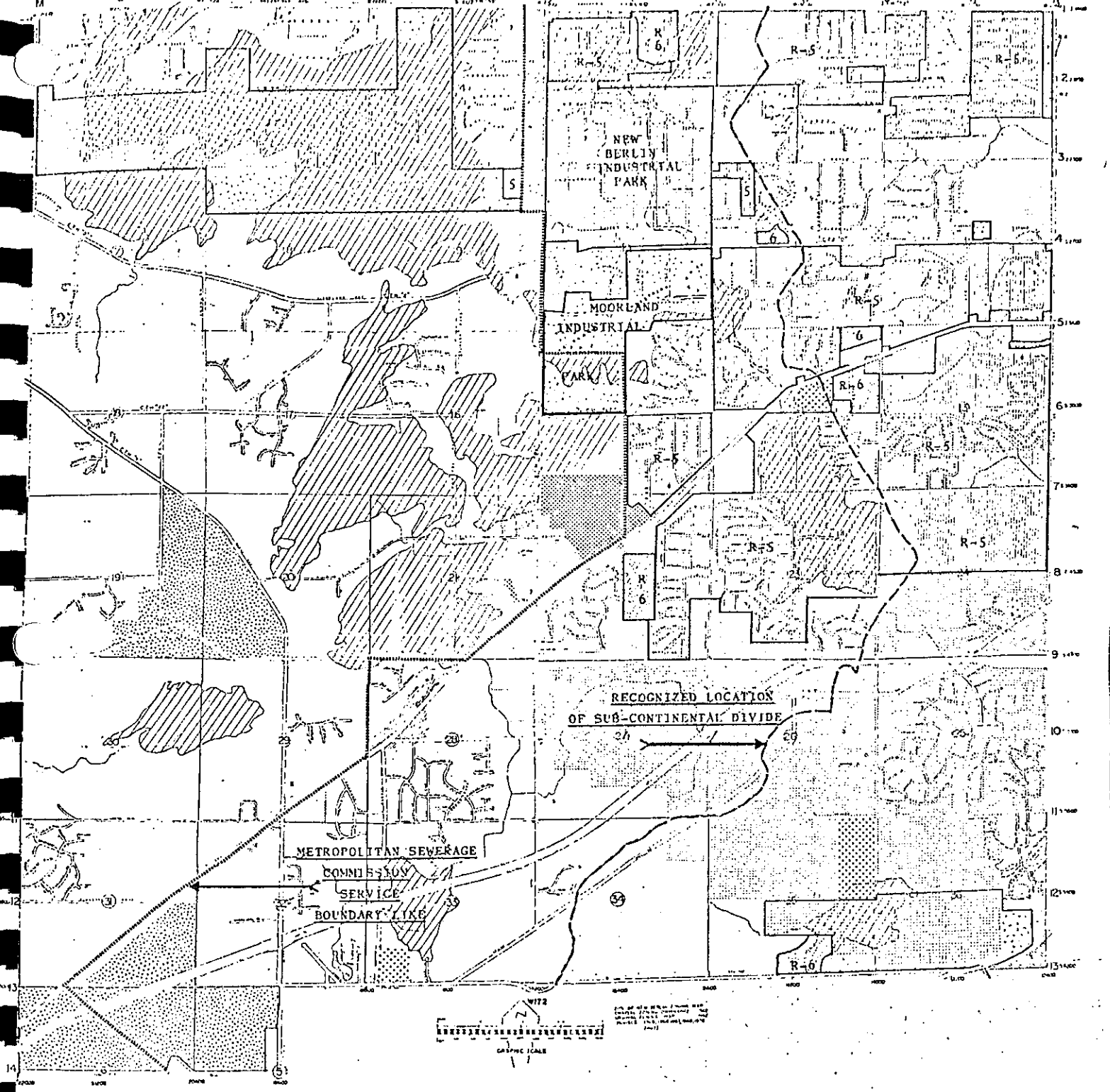
In the following section of this report, issues believed to be related to the city's decision to permit New Berlin to buy and resell Milwaukee water rather than develop its own water service system will be discussed in general terms. Several of these questions are readily suitable for more in-depth research analysis by the Department of City Development in a longer time frame than heretofore established; several others are more appropriately researched and reported upon by other city agencies or other outside organizations; and several are perhaps not worth pursuing further at this time.

A. Crossing the Subcontinental Divide

The Department's research indicates that the New Berlin water petition is much more complex than it appears, from the point of view of requiring, under State Law and International Treaty, that the water resources of the Great Lakes drainage basin be retained within that basin. As shown on Map 3, the City of New Berlin is crossed from its North to its South boundaries by a major subcontinental divide. This divide separates the Upper Mississippi Drainage Basin from the Great Lakes - St. Lawrence River Drainage Basin. This means, in effect, that the natural flow of

CITY OF NEW BERLIN

MAP 3 NEW BERLIN ZONING



<ul style="list-style-type: none"> □ R-1 RESIDENTIAL □ R-2 RESIDENTIAL □ R-3 RESIDENTIAL □ R-4 RESIDENTIAL □ R-4S RESIDENTIAL □ R-5 RESIDENTIAL □ R-6 RESIDENTIAL 	<ul style="list-style-type: none"> 3 ACRE-FAMILY 1 ACRE-FAMILY 30,000 SQ.FT. FAMILY 20,000 SQ.FT. FAMILY 15,000 SQ.FT. FAMILY 10,000 SQ.FT. FAMILY MULTI-FAMILY 	<ul style="list-style-type: none"> B-1 RESTRICTED-COMMERCIAL B-2 LOCAL-COMMERCIAL B-3 GENERAL-COMMERCIAL M-1 LIGHT-INDUSTRY M-2 HEAVY-INDUSTRY Q-1 QUARRYING DISTRICT CLIFF CONSERVANCY & FLOODPLAIN 	<ul style="list-style-type: none"> □ □ □ □ □ □ □
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ground and surface water west of the subcontinental divide is toward the Mississippi River and the Gulf of Mexico while waters east of the Divide naturally flow into Lake Michigan and ultimately into the Atlantic Ocean through the St. Lawrence River.

The Southeastern Wisconsin Regional Planning Commission, in an in-depth study of the legal questions surrounding diversion of water from one drainage basin to another has noted the following:*

One of the more important legal problems encountered in water resources planning concerns interbasin water diversion. The traditional common-law riparian doctrine, which for the most part is still in effect today in Wisconsin, forbade the transfer of water between watersheds. This was regarded as a non-riparian use of water and often gave rise to a per se violation. It must be recognized, however, that states via legislative action can and have created exceptions to this general doctrine... Such diversions are not made, however, without... legal difficulty.

SEWRPC also pointed out that the State of Wisconsin and, therefore, the City of Milwaukee has historically had an interest in upholding this doctrine:**

An important factor militating against inter-watershed stream diversions which in any way affect interstate or international waters, as might well be the case in southeastern Wisconsin, was the long-standing litigation between Wisconsin and Illinois in the Supreme Court of the United States concerning the "Chicago diversion" and developments arising therefrom. A central point in Wisconsin's argument before the court was that inter-watershed diversions,

* SEWRPC, Water Law in Southeastern Wisconsin, Technical Report No. 2., January, 1969., p. 67.

** Ibid., p. 69.

especially of the magnitude involved, which reduce or alter the level or flow of waters in one state or country in favor of another state or country are illegal.*

The Department of City Development, having expert capabilities in neither the fields of hydrology nor water law in Wisconsin, is unable to carry the above described arguments further in this type of report. However, because the file before you does not indicate the extent of the geographic service area that New Berlin intends to service with Milwaukee water, the existence of the sub-continental divide very likely does require a formal legal analysis.

From the point of view of economic considerations, on the other hand, a decision to limit service to only the Great Lakes Drainage Basin would probably reduce the expected negative industrial development aspects of selling city water to New Berlin significantly. In this respect, we call particular attention to New Berlin's general land use districts as described on Map 3. It can readily be seen from this map that the overwhelming proportion of

* Although this case has been adjudicated, the question of inter-basin water diversion continues to be an important feature of water use decision-making in Wisconsin. The legal questions related to New Berlin water services could perhaps be resolved by the City Attorney and the Attorney General without a court decision.

New Berlin's light and heavy industrial lands, including its two operational industrial parks, the New Berlin Industrial Park and the Moorland Industrial Park, are located in the Fox River Drainage Basin and, therefore, are not technically appropriate destinations for Great Lakes Drainage Basin waters.

We also call particular attention to the fact that the Metropolitan Sewerage Commission of Milwaukee County has previously established a sewerage district boundary that lies well to the west of the recognized line of the subcontinental divide, thereby facilitating full sewer treatment services to these large scale industrial parks.

Summary

Legal questions of perhaps national or international scope appear to surround the New Berlin water petition. The Department recommends that these legal questions be resolved by the City Attorney before, rather than after, New Berlin's water service contract is agreed to by the City of Milwaukee. Restricting Milwaukee water service to only the Great Lakes Drainage Basin area of New Berlin would probably reduce the expected detrimental development impact of the proposed contract on Milwaukee. For this reason, aside from legal questions, the Department recommends that

any use of city water permitted in New Berlin be controlled to insure that it be restricted to only the Great Lakes basin portion of that municipality.

B. Metropolitan Sewerage Commission Actions

As noted above, the Metropolitan Sewerage Commission of Milwaukee County has already approved a service area boundary in the City of New Berlin which is located on a line which lies significantly west of the recognized subcontinental divide. This is demonstrated on Map 4. It can also be seen from this Map that the divergence of the Metropolitan Sewerage District boundary from the recognized subcontinental divide is even more pronounced in the City and Town of Muskego. At the same time, the district's boundary in Menomonee Falls and the northern half of Brookfield is in all cases very closely aligned with the natural watershed division lines. Again, quoting SEWRPC:

"Of special significance, and also shown on Map [4] are the areas within the Fox River basin in the Cities of Brookfield, Muskego, and New Berlin and the Village of Menomonee Falls which are included in the planned service area of the Metropolitan Sewerage Commission of the County of Milwaukee. Within this service area, which comprises 41.4 square miles, or 4.4 percent, of the total Fox River watershed area, sanitary sewerage will be exported from the basin across the subcontinental divide.







In a report previously cited, SEWRPC more clearly detailed the significant questions raised about the

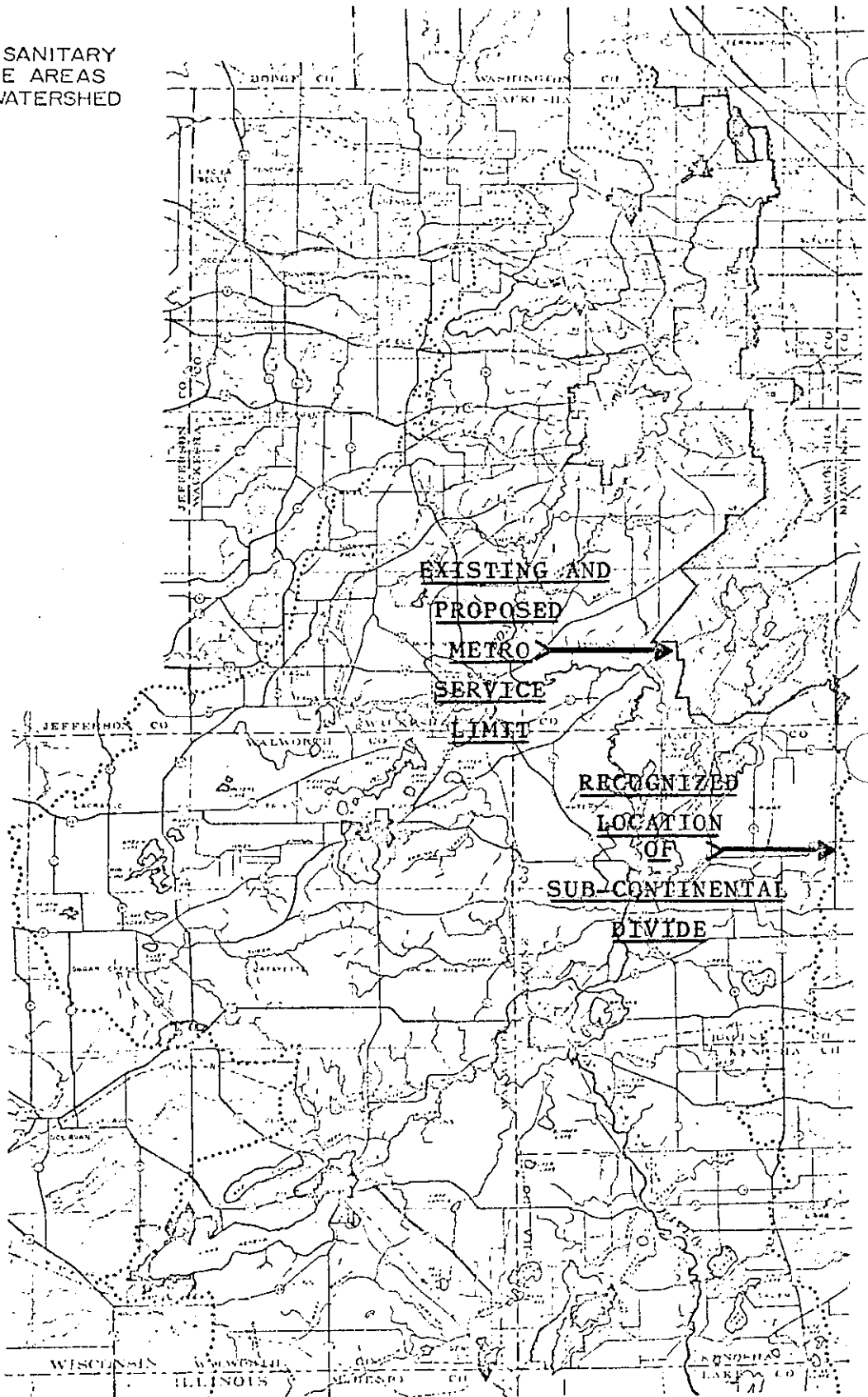
* SEWRPC, A Comprehensive Plan for the Fox River Watershed, Volume I, Inventory Findings and Forecasts, SEWRPC, April, 1969, p. 37.

MAP 4 METROPOLITAN SEWERAGE COMMISSION SERVICE IN WAUKESHA COUNTY

Map 10

PUBLIC, MUNICIPAL SANITARY SEWERAGE SERVICE AREAS IN THE FOX RIVER WATERSHED (1964)

- LEGEND**
-  EXISTING SANITARY SEWERAGE SERVICE AREA
 -  PROPOSED SANITARY SEWERAGE SERVICE AREA
 -  GRAVITY DRAINAGE TO EXISTING TREATMENT FACILITIES
 -  PLANNED SANITARY SEWERAGE SERVICE AREA WITHIN THE FOX RIVER WATERSHED TO BE SERVED BY MILWAUKEE METROPOLITAN SEWERAGE COMMISSION
- TREATMENT FACILITIES**
-  EXISTING
 -  PROPOSED



Only about one-third of the present urban development and two-fifths of the population within the watershed are served by public sanitary sewerage facilities, as compared to almost two-thirds within the Region as a whole. Continued urban sprawl within the watershed will tend to further decrease the proportionate area so served and will intensify water pollution and public health problems within the watershed.

SOURCE: S.E.W.R.P.C., A Comprehensive Plan for the Fox River Watershed, Planning Report No. 12, SEWRPC, April, 1969, p.38.

recognition of the subcontinental divide in Waukesha County:*

The question posed /delineation of the Root River Watershed boundary/ is of considerable importance since it involves a diversion, and possible redirection, of international waters. The westerly boundary of the Root River watershed forms a subcontinental divide, and the waters of Muskego and Little Muskego lakes presently drain into the Fox-Illinois Rivers and thence via the Mississippi River to the Gulf of Mexico.

. . . .

The problem becomes more immediate and meaningful inasmuch as the Metropolitan Sewerage Commission of the County of Milwaukee is currently undertaking a program of expanding sanitary sewerage facilities premised, in part, on a reassertion of what that agency believes to be the true and historic watershed boundary of the Root River and a reading of Wis. Stats. 59.96(6)(a) and 59.96(9)(c).

Following these statements, SEWRPC presented an account of the historic evidence concerning the definition of the true Root and Fox Rivers watershed boundaries. Their intensively researched conclusion leaves little question as to the accurate location of the subcontinental divide:**

The evidence in hand to date seems to indicate overwhelmingly that Little Muskego and Lake Muskego have naturally and historically drained into Wind Lake and thence into the Fox-Illinois, thus excluding these waters and the lands they drain from the Root River Watershed. Subsequent man-made improvements of this natural drainage pattern would not, at the time they were made or now, provide a legal basis for altering the watershed boundary.

In the Department's opinion, the determination of the permanent boundaries of the Metropolitan Sewerage District

* SEWRPC, Water Law, p. 63.

** Ibid., p. 65.

in Waukesha County has a direct and significant bearing upon the decision to sell City of Milwaukee water to New Berlin. At least the following questions appear to be germane to the question at hand and, in the Department's opinion, should be answered to the Council's satisfaction prior to formal action:

1. Would a successful legal challenge to existing Metropolitan Sewerage District boundaries in New Berlin, on grounds of interbasin water diversion, by extension implicate the City of Milwaukee in the event that city water was also being diverted across interbasin boundaries?
2. Or, in the same sense as No. 1, could the city, having entered into contract with New Berlin for water, be required by the courts to divert an equivalent amount of filtered water westerly across the subcontinental divide as was being diverted easterly, in the form of raw sewage, across the same divide through the Metropolitan Sewerage facilities?
3. Isn't it more probable that the questions now being raised by your committee (and which our research clearly tends to support) concerning the negative economic development impact of selling city water to New Berlin for resale to previously Milwaukee based companies, were more germane to the previous decision which established the Metropolitan District's service boundaries as they exist today,

considering that the recognized subcontinental divide lies in fact east of New Berlin's industrial park developments?

4. Perhaps most significantly, what good purpose is served, from the point of view of City or Milwaukee County taxpayers, for that matter, by making what amounts to an all out effort to provide New Berlin with nominally priced sewer and water services which city taxpayers have previously paid dearly to bring up to top quality status? Is the city and/or the county taxpayer offered a quid pro quo? Have New Berlin and the other Waukesha County suburbs ever expressed any desire to share the financial burdens, now carried by the city and county of Milwaukee, of supporting the urban systems that are as vital to the viability of New Berlin as they are to the City of Milwaukee?

C. Creeping Metropolitanization

In the parlance of the League of Suburban Municipalities, a City of Milwaukee decision to extend large volume water service to the City of New Berlin can aptly be called "Creeping" or "Hidden Metropolitan Government." How often have city officials heard these charges when the suburbs have been asked to participate, in an equitable way, in providing a public service that benefits both city and suburban residents?

Although the Department does not in any way wish to sit in judgment on previous city decisions on suburban water sales or previous Metropolitan Sewerage Commission decisions on the extension of sewer services, it does feel that a piecemeal approach to the metropolitanization of city water services tends to reduce the city's overall bargaining posture, vis-a-vis the suburbs, on other vital issues of major concern and at the same time passes on to suburban residents and businesses the financial benefits of its large scale operations. In short, the Council may wish to give some consideration to the effect of the New Berlin water petition within the larger framework of simultaneously encouraging the metropolitanization of other vital services, particularly those which the city now supports on a disproportionate scale relative to the accrual of benefits among the area's population distributions.

D. New Berlin Housing Policies

In Section III of this report it was pointed out that the City of New Berlin has so far utilized its accessibility to the Metropolitan Sewerage District system primarily to benefit its industrial parks and by implication for the purpose of attracting industry in order to expand its property tax assessments. It can also be amply documented that New Berlin's industrial land use decisions to date have been made in general disregard of the Milwaukee Metropolitan area's optimal balanced land use configuration

as determined by SEWRPC over many years of intensive research and investigation. A point of particular importance, in the Department's opinion, is New Berlin's approach to exclusionary zoning practices in the areas of single and multi-family housing development.

The Common Council of the City of Milwaukee has quite emphatically stated its position on the suburban use of exclusionary zoning practices and the importance which it attaches to a "fair share" distribution of low and moderate income housing throughout the metropolitan area on several occasions.

On September 30, 1969, for example, in File Number 69-1363, the Council approved the following resolved:

BE IT RESOLVED, That the Mayor and the Common Council of the City of Milwaukee do hereby urge the Honorable Warren P. Knowles, Governor of the State of Wisconsin, to initiate whatever legal steps are necessary to deprive local governments of their power to manipulate zoning and building controls which screen out families on the basis of income, social status, and, by implication, race.

Again, on June 30, 1970, the Council reiterated its policy by adopting Resolution Number 70-544, which reads in part:

BE IT RESOLVED, That since in the past decade freeways in Milwaukee have destroyed thousands of dwelling units, diminished the city's housing stock and impaired the city's capability for providing relocation services required for its own priority programs of blight elimination and rehabilitation, which are orientated toward improving housing opportunities for low and moderate income families, such replacement housing should be located on underdeveloped land throughout the metropolitan area to avoid further jeopardizing the city's ability to proceed with its programs aimed at eliminating blight and relieving overcrowding in substandard neighborhoods.

For many years the argument has been put forward by suburban officials that their extremely high (by Milwaukee standards), minimum zoning standards were merely a reflection of the fact that septic system drainage, in the absence of sanitary sewer service, made these standards unavoidable. And that they are, therefore, not really intended to keep out low or moderate income families even if this happens to happen because of these codes. Although these argument can often be refuted on the basis of simple reference to floor area standards, which in almost all cases accompany high minimum land area requirements, there is a limited degree of logic to the septic system argument against smaller minimum lot standards.

On the other hand, this argument ceases to be tenable when, as is the case in New Berlin, Metropolitan sanitary sewer services are available for the mere asking and are primarily dependent upon the willingness of the suburb in question to expedite sewer system improvements.

Map 3 shows in generalized form New Berlin's existing land use zoning districts. Particular attention is called to the districts labeled R-5 and R-6. Within R-5 districts, only single family homes can be built and must meet the following standards:

Minimum lot size	10,000 square feet
Minimum open area	4,000 square feet
Minimum floor area:	
One story, 3 bedrooms	1,250 square feet
Multi-story, 3 bedrooms	1,500 square feet

On the basis of estimated 1973 Milwaukee area construction costs, a structure that would meet these minimum requirements would cost approximately \$23,250 (1,250 ft. @ \$18.60*) to build. Adding the estimated price of the minimum 10,000 square foot lot at a cost of about \$7,500, means that a total cost of roughly \$30,750, (not counting the added costs of a garage, a well and a septic system or sewer assessment), would be incurred just to meet New Berlin's lowest permissible single family construction requirement. A well and septic system could add as much as \$3,000 or more to this figure. From any point of view, this could hardly be considered moderate income housing.

In New Berlin's R-6, or multi-family districts, zoning restrictions limit individual dwelling units in multi-family structures to a maximum of two bedroom units. New Berlin also regulates the height of multi-family structures to 35 feet maximum. In addition, these structures are limited to the following minimum standards for two bedroom units:

	<u>2-4 D.U.'s</u>	<u>5-10 D.U.'s</u>	<u>11 or more D.U.'s</u>
Minimum lot size	10,000 sq. ft.	same	same
Minimum open area/D.U.	2,500 sq. ft.	same	same
Minimum floor area/D.U.	1,000 sq. ft.	same	860 sq. ft.

Here also, although cost estimates have not been calculated, it is quite clear that New Berlin's multi-family

* Society of Real Estate Appraisers, Milwaukee Chapter No. 64, Construction Cost Study, 1973: Milwaukee, November, 1973, p. 2.

district zoning standards have been established at levels which effectively preclude moderate income families from residing there.

Overall comparisons between the zoning standards in the City of New Berlin and those that exist in the City of Milwaukee are not always exacting due to the larger number of types of residential districts in the city and the form in which these requirements are described in the city code. However, Milwaukee's F-1 district requirements, the lowest minimum standards for single family structures, are enlightening by comparison to New Berlin's:

Minimum lot size	6,000 square feet
Minimum open area	4,000 square feet
Minimum floor area: (no bedroom restrictions)	
One story	900
Multi-story	1,200

The estimated cost of constructing this minimum standard single family one-story home in Milwaukee would amount to approximately \$16,740 (900 sq. ft. @ \$18.60*). Adding the estimated price of a fully improved lot in the city, \$6,600 (6,000 sq. ft. @ \$1.10) produces a total estimated cost of roughly \$23,340, which, it is important to add, includes the cost of water and sewer services.

Comparing these two minimum single family construction estimates, demonstrates a difference of roughly \$10,000 (assuming a well and septic expense of about \$2,500 in

* Ibid.

New Berlin) that can be traced almost directly to the two cities. On a shelter expense basis, (excluding property taxes), this difference of \$10,000 would mean that the owner of the minimum house in New Berlin would have a mortgage payment of about \$81.00 per month higher than he would for the minimum house in the City of Milwaukee at 8½% for a twenty five year term.

The Department believes that on the basis of the limited evidence presented here (which could easily be expanded in a more detailed study) there is a clear argument that the City of New Berlin is indeed exercising its "Power to manipulate zoning and building controls which screen out families on the basis of income, social status, and, by implication, race."*

The Department also believes that this factor raises several possible implications bearing on the New Berlin water petition.

Again, with no attempt to favor its findings with value judgments, the Department offers the following suggestion for the Council's consideration:

Given the importance of the legal issues posed by the existence of the subcontinental divide thru New Berlin and given the fact that a significant proportion of New Berlin's undeveloped R-5 and R-6 districting is located both within the Great Lakes

* Common Council File No. 69-1363, adopted September 30, 1969.

Drainage Basin and relatively close to the Metropolitan Sewerage Commission's existing interceptor services, the Council could consider striking a bargain with New Berlin which would encourage that municipality to permit some moderate income housing and some low income housing to be built, either by variance or by new districting. In return New Berlin could be assured of receiving an adequate long term supply of filtered city water for distribution within its Great Lakes Drainage Basin territory at reasonable rates. New Berlin now has the opportunity, as a result of previous Metropolitan Sewerage Commission action, to also provide sanitary sewers to these same residential areas on relatively short notice.

APPENDIX A

COST AND ENGINEERING CONSIDERATIONS

The principle of "Economy of Scale" is generally recognized by economists and engineers as being potentially achievable in a variety of large volume production fields. In essence, a particular production process can be described as yielding economies of scale when it is possible to expand output levels, and at the same time, to reduce the average total cost per unit produced. This occurs because the marginal cost of producing the extra units is less than the average unit costs associated with previous output levels, thus pulling the average cost of all units down. Lower average unit costs can then be passed on to benefit previous consumers as well as new users.

Note that this does not mean that the total cost of operating a particular plant is reduced when output is expanded. Note also that while it may be true that economies of scale are achievable in the short run (i.e., that period of time during which output may be expanded without the need to add to fixed plant and equipment) for a particular facility, it does not automatically follow that the marginal cost of producing extra units of output will bring down overall average unit costs if additional long-run fixed investments are required to get this extra output.

There is a growing body of statistical evidence, for example, that may indicate that the electric power industry is no longer in a position of being able to achieve long-run

economies of scale by adding to its generating capacity.* If it is true that the per unit average cost of expanded output is higher than the per unit average cost of processing previous output levels, then all previous consumers will probably be worse off than they would have been without having had new output processed by the system, since the higher marginal costs will bring average unit costs up. This point is critical in a process such as a water utility because while it may be easy to measure declining average unit costs in one part of the system it may be somewhat more difficult to measure expansion effects in another.

A production process such as a water utility can best be seen as a system composed of two distinct components. The intake/filtration plant operations comprise one component. The other component is composed of the operation of the distribution network of mains, pumps, holding tanks, etc., which radiate out from the intake source into the water service areas of the city and its suburbs.

In the absence of relevant cost accounting information,** the Department of City Development can only guess that the two components of the overall system are operating at opposite scales with respect to unit costs. We would expect the intake/filtration process to be experiencing increasing returns and

* See "Electric Utilities Face a Price Dilemma," Business Week February 2, 1974, pp. 34-35.

** A written request to the Water Department for relevant cost information had not been answered at the time the draft of this report was prepared.

the distribution process to be experiencing decreasing returns. This latter is believed to be occurring because of the rising costs of making public improvements, power utilization and system maintenance and the relatively unambiguous fact that it costs more to transport a given quantity of water from Lake Michigan to County Line Road or 124th Street than to Capitol Drive or 35th Street. In addition, it may be necessary to add non-readily apparent capital improvement to the existing distribution system in order to make additional long distance service possible.

New capital investment may be required either because the existing distribution system is not sufficient to accommodate increased pressure or volume loads or because current excess capacity in the distribution system may be utilized to serve new consumers in the near term while expanded city demands over time may require new additional distribution system expansions in the future. It may be possible, however, to accommodate New Berlin's water requirements thru the use of existing high pressure mains in the city if New Berlin were responsible to construct, at its sole expense, all main connections, reservoirs, pumps, etc., and if all pumping was done during off-peak periods. This approach may eliminate the need to tie their service to the pressurized system during daily high consumption periods and more efficiently utilize the filtration procedures. On the other hand, engineering considerations may make this approach unsuitable.

It may now be apparent that what we are probably dealing with here is a "trade-off" or "balancing act" between probable falling average unit costs for intake and purification processes and probable rising average unit costs for distribution network operations and network expansions. Note that the Department of City Development is not making a value judgment in this respect, but merely stating what it believes to be a realistic model of the overall economies of the system. Testing of this hypothesis involves questions of fact.

On the other hand, the Department does specifically wish to point out that the question at hand is the decision to sell City of Milwaukee water to one of its suburbs, which is located some significant distance from existing intake and purification facilities, and that cost and price relationships must be cast in a different light, from the city's perspective, than a similar extension of water service to, for example, a Land Bank manufacturing firm.

Summary

In the absence of hard engineering and cost accounting data on the proposed extension of city water to New Berlin, the Department of City Development is unable to determine the financial feasibility of this project. On strictly theoretical grounds, it appears likely that filtration and intake processes are in a stage of decreasing average unit costs while distribution system economics are probably the reverse. It may be possible, therefore, to benefit city water system users by

passing on reduced average unit costs at the filtration and intake facilities as a result of expanding volume, as long as New Berlin is responsible to cover all additional capital and long distance transportation costs of their service. However, it is entirely possible that long distance transportation operations are much more complex than they first appear to the Department and that an off-peak service arrangement, such as the one described above, is not feasible.

In any event, the Department of City Development recommends to the Common Council that it request a full engineering and accounting assessment of the overall effect of the New Berlin water petition prior to taking action on it. The Department makes this recommendation for the following reasons:

1. Only the Common Council is in a position to judge the relative merits of this petition with respect to evaluating the trade-offs between facilitating further industrial development in New Berlin and perhaps encouraging pecuniary benefits to city residents thru lower water rates;
2. The Council should have quantitative information available to it to judge these trade-offs;
3. The measurable financial aspects of providing New Berlin with water may impact on the Council's consideration of several of the other issues raised in Section IV of this report, particularly with

respect to the legal questions involved in sending city water across the subcontinental divide and moderate and low income housing commitments;

4. The Council should be assured of the fact that the proposed expansion of services to New Berlin will indeed produce dividends to city residents, the true "stockholders" in the city's water system, and that the system is indeed capable to operating under decreasing cost conditions as has been assumed.

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