September 18, 1956

TO THE HONORABLE BOARD OF SUPERVISORS OF WAUKESHA COUNTY

Gentlemen:

On 27 October, 1955, the Waukesha County Board of Supervisors adopted the following Resolution:

"WHEREAS, the County of Waukesha is the fastest growing county in Wisconsin, and

WHEREAS, the demand by the populace, United States Postal Department and delivery services for a unified address system for Waukesha County is a great demand.

NOW, THEREFORE BE IT RESOLVED, that the Waukesha County Board request the cooperation of all municipalities within the County recommending as follows:

1. That each municipality give its approval for a study of the possibilities of a unified house numbering system for Waukesha County. This approval to be received by November 30, 1955.

2. That all municipalities withhold taking any action on a house numbering system for their municipality until the County has completed its study for the Master Plan."

On November 21, 1955, a form letter and questionnaire were sent to all municipalities requesting their cooperation.

Submitted herewith is a preliminary report in the form of "NOTES ON A UNIFORM PROPERTY NUMBERING SYSTEM FOR WAUKESHA COUNTY" prepared by a special sub-committee in cooperation with the staff of the Waukesha County Park and Planning Commission. This report was presented to the full Planning & Development Committee at its meeting on September 1st, 1956, at which time it was moved to approve these recommendations and present them to the County Board for authorization to complete a Final Report based on these recommendations.

Norman A. E. Breitwisch  
Cyril L. Bischoff  
Arthur Kaebisch  
SPECIAL SUB-COMMITTEE

Charles Schlafer  
Arthur Kaebisch  
Wendell E. Lurvey  
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Ray F. Wandschneider

PLANNING & DEVELOPMENT COMMITTEE
NOTES ON A UNIFORM PROPERTY NUMBERING SYSTEM

FOR WAUKESHA COUNTY

It is generally conceded that a uniform county-wide address system would be desirable. The lack of uniformity in existing systems and the lack of any system at all through major portions of the rural areas results in a general disorder which has hindered mail service, parcel deliveries, and deliveries to new projects of lumber and other building materials. Telephone, electric and other utility service men have had great difficulty in locating trouble spots and prompt attention is frequently not possible particularly in times of storm or other emergency. One has only to drive through any of the dozens of new subdivisions in the eastern townships to wonder how the fire department, police officers, an ambulance or a doctor could respond quickly to a distress call.

A uniform address system will consist of two parts: (1) a property numbering system and (2) a street naming system. This preliminary report presents a proposal for the first and deals only incidentally with the complexities of a street naming system.

The numbering method proposed might properly be called a coordinate system, or possibly a modification of such a system. The name is unimportant. The principle is simply the application of two numbers to designate a specific location. In much of Milwaukee County, and to some limited extent in Waukesha County, the "two-number" method has long been used, although it is not generally thought of as such. Any address on a "numbered" street is a "two-number" designation. The address, 17th N. 71st Street, is an example. Seventy-Fourth Street is obviously 74 blocks west of First Street, Milwaukee's north-south base line. The 17th tells that the house number is 17th in the 17th block north of the east-west base line. The house then is located by two numbers, one indicating distance west (71st St.) and the other distance north (17th N.). If the address were simply "17th Elm St." there would be no way of determining its location north, south, east or west. There are literally hundreds of Waukesha County addresses which fall into this classification.

Most other cities attempt in some manner to have an address designate location in two directions. Following are examples of actual addresses:

Birmingham, Alabama, 2500 27th Ave, N.
Columbus, Ohio, 2601 Kensington Place East
Portland, Oregon, 2451 N.E. Sandy Blvd.
   3533 N.E. 21st Ave. *
Seattle, Wash., 5003-15 N.E.
Washington, D.C., 1625 16th Street, N.W. *
   21st & "W" Sts. N.W. *

(* These literally show location in three directions)

In general, any "two-number" address such as the 17th N. 71st Street cited above, functions admirably where streets have numerical names. The proportion of numerically named streets in Waukesha County diminishes each day and the problem of properly numbering premises on streets which are diagonal, curved, short, or dead-ended - or a combination of these - becomes increasingly profound. A two-number, or coordinate system, as here proposed, will solve the problem. It is applicable to all existing development and can be applied in orderly and logical manner to each new building site, whether it be isolated on some back road or located in a one-hundred-lot subdivision. For the greatest practical value there is need for cooperative effort among the several towns and municipalities to the end that any new system be workable in all localities.

Under the proposed system the Milwaukee base line separating north streets from south streets would be extended west through the county. This line coincides with the section line along the ten or north edge of the lowest row of sections in the towns of
Brookfield, Pewaukee, Delafield, and Summit. This base line then would become the division line between "N" (north) numbers and "S" (south) numbers in the county. In an east-west direction all numbers would be "W" (west) numbers and would continue westward from 12th Street, the east county line.

For the purpose of numbering, the section and quarter-section lines would form an invisible grid pattern which would be further divided into "blocks". The pattern of the grid would not adhere, in most cases, to the existing street patterns. Where streets and grid lines coincide the streets would, of course, receive designations from the grid lines. A street not on a grid line would receive its designation from (1) the nearest grid line to the east, in case of a north-south street, (2) the nearest grid line to the south, in case of an east-west street north of the base line, or (3) the nearest grid line to the north in case of an east-west street south of the base line.

For the sake of conforming with the Milwaukee system certain irregularities would be perpetuated in a north-south direction. Normally, the Milwaukee system has eight blocks to the mile in this direction. Near the base line, however, there are discrepancies. In the first and second miles north of the base line there are eleven blocks per mile; in the third mile there are eight blocks, in the fourth and fifth miles, nine blocks. After the fifth mile there is a uniform eight blocks to the mile. South of the base line the first mile contains thirteen blocks and the second mile nine blocks. Then follows the uniform eight blocks per mile.

In an east-west direction the Milwaukee system adheres generally to a uniform sixteen blocks to the mile and it is proposed that the Waukesha County grid contain sixteen blocks for the first mile, from 12th to 13th Street, and ten blocks to the mile there after to the west edge of the county. There is no particular reason to follow the sixteen block unit of Milwaukee County and the first mile to 13th Street would have the sixteen blocks simply to "even out" to units of ten. Each section line westward then becomes an even designation in such units - 110, 130, 160, etc. There is some slight advantage here in that the tenth-mile progression would tie in with a speedometer reading. This advantage holds, however, only on the true east-west streets such as Greenfield Avenue, and North Avenue. An alternate proposal is to keep the sixteen-block miles through the first townships adjacent to Milwaukee County. The west edge of these townships would then be equivalent to 220th Street and the section lines westward would be 230, 240, 250, etc. In the actual operation of the proposed system the number of blocks per mile becomes unimportant. This is particularly so because over a major portion of the county there would be no visible rectangular block arrangement. The primary function of the underlying grid, with its invisible blocks, is to designate the appropriate numerical location of each property.

Each rectangular section of the underlying grid is of course a representation of a "block" and the lots and street intersections which occur within a grid section would be considered part of the block designated by the point of crossing of grid lines at the NE corner of SW corner, depending upon the location of the block or section north or south of the east-west base line. All intersections would be marked with the street name and the numerical location west of the base line, and north or south of the base line as the case might be. Each "block" would have 100 numbers. With ten "blocks" per mile this would allow two numbers - one odd, one even - for each 10.56 feet of frontage. In a north-south direction with eight "blocks" per mile there would be an odd and an even number for each 13.2 feet.

It is well to examine a few instances of possible inaccuracy or confusion which exist under present naming and numbering systems and to then apply the proposed new system to illustrate its effectiveness in definitely tying down specific property locations.

On Sunnyslope Road, Town of New Berlin, the signs are like this:

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SUNNYSLOPE
110 S
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The "110 S" means "110th Street" but using the letter "S" instead of the abbreviation "St," is confusing. It would seem to indicate that Sunnyslope Road is located 110 blocks South when in reality it is 110 blocks West.
At the intersection of Greenfield and Sunnyslope the present signs are:

**on SE corner**

<table>
<thead>
<tr>
<th>W. GREENFIELD</th>
<th>GREENFIELD AVE.</th>
<th>59</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUNNYSLOPE</td>
<td>140</td>
<td>SUNNYSLOPE RD.</td>
</tr>
</tbody>
</table>

A few blocks north, in Brookfield is this sign:

| SUNNYSLOPE RD. | 17 |

In New Berlin is this corner sign:

<table>
<thead>
<tr>
<th>S 165</th>
<th>CLEVELAND ST.</th>
<th>(A short north-south street about 1 1/2 miles north of Cleveland Ave., 6TH &quot;D&quot;, an east-west road.</th>
</tr>
</thead>
<tbody>
<tr>
<td>W. GREENFIELD AVE.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Also in New Berlin:

<table>
<thead>
<tr>
<th>S 172</th>
<th>CALHOUN RD.</th>
</tr>
</thead>
</table>

| GREENFIELD |

In the above, the "S 165" and "S 172" are the numerical designations, or substitute names for, Cleveland St. and Calhoun Rd., respectively although again the "S" is confusing in that there is no clear indication that it means "Street". The proposed new system would do away with all numerical streets, all substitute names and all directional prefixes to street names. In the above cases the proposed system would apply in this manner: Cleveland St. (which would have its name changed because of the more important Cleveland Ave.,) is a north-south street located south of the east-west base line. Its position west of the north-south base line (in Milwaukee) is 165 blocks. A specific location on the street, say one-half block south of Greenfield, would be "W165-31h23". The position of the street west is established by the "W165", the position of the block on the street is established by the "31h" (fourteen blocks south of the base line) and the position of the house is designated by the "23". Similarly, a Calhoun Road address, in like position south of the east-west base line, would be "W172-31h23".

An address on an east-west street would first locate in like manner the street north or south of the base line. As an example, Capitol Drive, which is 1000 north or 10 blocks north, would have the designation "W100". A house just west of Lilly Road ("W100th St.") would have the number "W100-036" or a complete address of "W100-W100036 Capitol Drive". To further illustrate the application of the proposed system the following addresses can be used:

<table>
<thead>
<tr>
<th>Existing Address</th>
<th>Proposed New Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>13829 W. Greenfield Ave.</td>
<td>S14-W13829 Greenfield Ave.</td>
</tr>
<tr>
<td>1536 Mierow Lane</td>
<td>W173-N1536 Mierow Lane</td>
</tr>
<tr>
<td>3513 Moreland Road</td>
<td>W156-S3513 Moreland Road</td>
</tr>
</tbody>
</table>

In the new addresses the first set of digits (never more than three) with the letter prefix, designate the distance of the street North, South, or West of the base lines. The second set of digits (never more than five) with prefixed letter gives
the position of the block and - last two digits - the position of the house in the block. This further analysis of the Mierow Lane address is pertinent: Mierow Lane is a little-known street and its name and the existing address, 1536, give no indication of location. The new address tells immediately that:

1. The STREET is 173 blocks West (W173)
   a. Must therefore be a North-south street
   b. Must be in Waukesha County

2. The BLOCK is 15 blocks North (N1536)

3. The HOUSE is about a third of the way down the block since there are 100 numbers to the block and the house number is 36 (1536).

In considering an address as a whole the suggested arrangement of the several components is logical. "W173-N1536 Mierow Lane", as proposed, could be written in several ways:

1. 173W1536N Mierow Lane
2. N1536W173 Mierow Lane
3. 1536N Mierow Lane (173W)

There are other combinations but none of them seems to indicate the location in a sequence which is as reasonable and comprehensive as the proposed "W173-N1536" which shows STREET, BLOCK, and HOUSE location in that order and has the important directional letters, "W" and "N", preceding the numbers. In 1 above there might be confusion as to whether the "W" belonged to "173" or to "1536". In 2 the sequence is poor; the block and house are located before the street is located. In 3 there is likelihood that the "W" would be forgotten or dropped simply because of its apparent disassociation with the "1536N". Here also the "N" may become detached from the "1536N" and might be considered as belonging to "Mierow Lane". This likewise holds for 1. There is no "north Mierow Lane" and therefore no reason for having a north one. Furthermore, since it is the intention under the proposed numbering system to abandon all directional name prefixes to streets, it is well to dissociate the letters "W", "S", and "N" from the street names. An important essential in the practical application of the proposed system is to adhere consistently to a number-letter combination which is more or less independent of the street name. To help assure that the full number will be used the street location ("W173" in the above example) should appear first.

Examples used thus far have not taken into consideration diagonal or curvilinear streets. There is no difficulty in applying the proposed method to any such street when once its direction in relation to grid lines has been determined and due regard is given to any change or changes in that direction.

A street which has a general direction of 45 degrees or less from true north will be considered a north-south street regardless of minor changes in direction. A street which has a direction greater than 45 degrees from true north will be considered an east-west street. Where a street has a general direction of a north-south street and then changes to assume a general east-west direction there must be some point, - 45 degrees from due north, - where the progression of property numbers changes from a north or south direction to a west direction. Where the general direction changes near the termination of a street the direction of the progression of numbers need not change unless there is likelihood of the street being extended in the changed direction. A street which changes direction need not change name, although in each case the practicality of so doing should be given careful thought. Obviously, changing the name with every change in direction would be undesirable.

A street may reverse its direction by being in the form of a U or a half circle. In general, a half-circle street would be considered as running in the direction of its diameter and the numbering would progress the same as though the street were straight. With a U-shape street the progression of numbers would be down each leg to a meeting point at the center of the bottom of the U provided a grid line bisects the U at or very near that same point. If a grid line lies to one side of the center of the U it would probably be best to consider the bottom or curved portion as a half
circle and number it according to its direction and each of the legs according to their direction. In these instances, where the legs of the U lie in different "blocks" or grid sections, one name, such as "Circle Drive", could be used for the entire U and there would be no duplication of numbers. In some unusual cases both legs, or portions of both legs, of a U-shaped street might lie in one grid section. This would result in identical numbers appearing on portions of both legs and the only way to avoid complete duplication of address would be to assign different street names to each leg.

Where a grid line follows the center line of a street the numbers on one side will designate a different block from the numbers on the opposite side. For example, in Milwaukee there is no distinction other than a progression in the numbers on either side of North Avenue. In Waukesha County, with a grid line extending west along the center line of North Avenue, the properties on the south side of the street would be in the "N22"-block and those on the north side would be in the "N23"-block. Properties facing each other across the street might have these numbers: N22-W21449 (south side of street) and N23-W214990 (north side). Practically, the "N22" and "N23" mean little when locating a destination on North Avenue, after arriving on North Avenue; the "N" number governs the exact location and street attention would be paid to the "N" number. This method, however, would indicate the position of a grid line along the street and would be of assistance in maintaining a sense of location in travelling north or south.

Property numbers would be assigned according to the location of the center point of the frontage on the respective right-of-way. Rural or farm properties would be assigned numbers from the position of the intersection of the private driveway with the highway. The largest numbers that could occur would be at the southwest corner of the county. These would be: W370-N31098 on a north-south street

"S110-W36098" on an east-west street

The smallest numbers would occur at the east edge of the county adjacent to the east-west base line:

"W124-W1301" (or "W124-0130") where property faces east
"W1-W12401" where property faces north or
"S1-W12401" where property faces south

The above "smallest numbers" are hypothetical since 124th Street does not run through and there is no east-west street at that point.

Prepared by Donald E. Hollister
Waukesha County Park & Planning Commission
September 13, 1956