### ENGINEERING STUDY OF EXISTING INFRASTRUCTURE

## WESTFIELD ON THE GREENS SUBDIVISION WESTFIELD CENTER, OHIO

OAKWOOD DRIVE HICKORY DRIVE NOVEMBER, 2016



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### OVERVIEW

This Engineering Study is being performed at the request of the Village of Westfield Center. The Home Owners Association (HOA) in the Westfield on the Greens Subdivision currently maintains some of the private streets within the subdivision. The HOA has requested that the Village consider taking ownership of these private streets and take over maintenance responsibilities of the roadways. The reason for this study is to analyze these private streets. In August, 2002 Ironwood Drive was dedicated to the Village of Westfield Center. See appendix for a copy of the dedication plat.

This report will look at the following private streets in the Village of Westfield Center which are to be considered for dedication:

- Oakwood Drive
- Hickory Drive

An analysis of the infrastructure will include the following areas of study:

- Street geometry and minimum requirements of Village Code.
- Street structural integrity, materials, construction methods, and condition.
- Storm drainage structure (located within the roadway pavement area only) review of condition, materials, and construction methods.
- Review of initial construction inspection and testing reports, if available.
- Safety review of signage, striping, line of sight, and setbacks.

Next this study of these improvements will determine the following:

- Street: Cost of recommended repairs prior to dedication of streets.
- Street: Cost of repairs expected 10-15 years after dedication of streets.
- Safety: Cost of recommended safety improvements prior to accepting the dedication of streets.

The cost of the repairs is determined by examining all slabs of concrete pavement and placing them in one of three categorizations as follows:

- Good concrete slabs appear structurally sound and may not need to be replaced for 15 or more years.
- Fair concrete slabs have one crack, have not sunk, and may need to be replaced in 10-15 years.
- <u>Poor</u> concrete slabs have 2 or more cracks and may or may not have sunk. These slabs may need to be replaced in 1-5 years.

The condition of the streets is determined by examining pavement using the ODOT Pavement Condition Rating (PCR). The PCR scale was developed to describe the condition of a pavement based on a rating between 0-100. A rating of 100 is considered to be perfect pavement with no observable distress and rating of 0 is considered a pavement in severe condition with a high priority. When streets reach a rating between 55 and 65, it is recommended they are to be considered for rehabilitation or overlay.

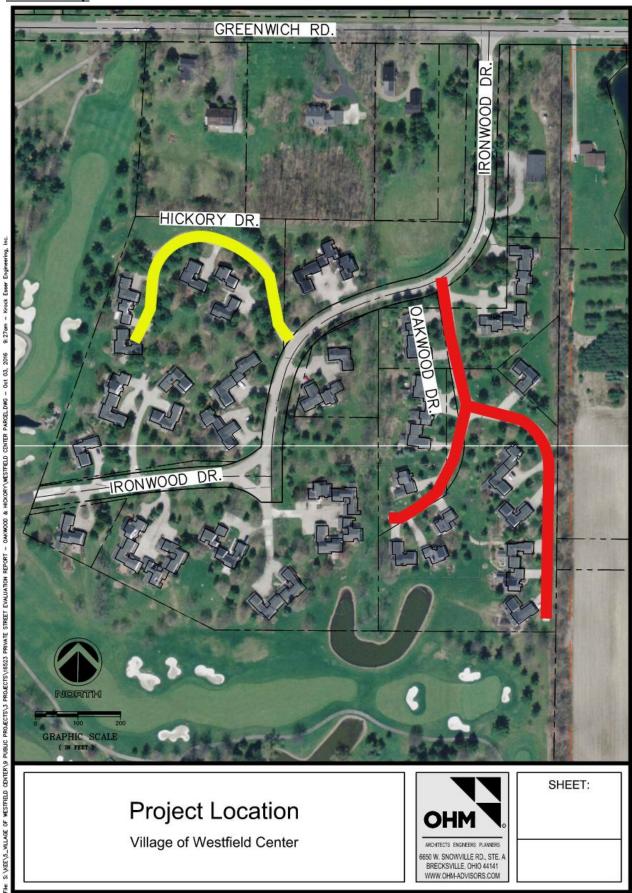
### **GENERAL ANALYSIS OF THE INFRASTRUCTURE**

| ITEM                         | AS-BUILT UNDER PRIVATE STREET REQUIREMENTS        | MEETS REQUIREMENTS OF PUBLIC STREETS  |
|------------------------------|---|---|
| Right-of-Way Width           | No right-of-way exists.                           | No. 50' Right-of-way width for streets in subdivisions. (Ord. 1244.03(a(1)))          |
| Centerline Radius            | Approximately 100'.                               | Appears ok. Did not find minimum centerline data in Ordinances.                       |
| Cul-De-Sac Radius            | No cul-de-sac present.                            | 50' Radius<br>(Ord. 1244.03(b(1(B))))   |
| Street Grade                 | No noticeable roadway grade issues.               | Appears ok (would require survey work to confirm). 0.5% minimum slope. (ODOT 203.2.2) |
| Curbs                        | No curb present.                                  | No.<br>Roll concrete curbs required.<br>(Ord. 1244.03(b(3)))                          |
| Street Width                 | 14' to 24'  | No.<br>26' including curb.<br>(Ord. 1244.03(b(3(A))))                                 |
| Street Return Radius         | Approximately 25'                                 | Appears ok (would require survey work to confirm). (Ord. 1244.03(d(2)))               |
| Sidewalk                     | No Sidewalks.                                     | No. Both sides of street required. 4' wide x 4" thick. (Ord. 1244.03(b(3)))           |
| Pavement Material            | Concrete  | Yes.<br>Concrete or Asphalt ok.<br>(Ord. 1244.04)                                     |
| Pavement Build Up – Asphalt  | N/A   | N/A<br>3" asphalt and 6" bituminous<br>aggregate base.<br>(Ord. 1244.04)              |
| Pavement Build Up – Concrete | Per construction plans 6" concrete was installed. | No.<br>7" Concrete.<br>(Ord. 1244.04)   |
| Pavement Condition           | See additional street specific information below. | See additional street specific information below.                                     |

| ITEM            | AS-BUILT UNDER PRIVATE STREET REQUIREMENTS | MEETS REQUIREMENTS OF PUBLIC STREETS |
|-----------------|--|--------------------------------------|
| Signage         | Stop signs do not meet the Ohio            | Existing signage does not meet       |
|                 | Manual of Uniform Traffic                  | the Ohio Manual of Uniform           |
|                 | Control Devices minimum                    | Traffic Control Devices              |
|                 | standards. No speed limit                  | minimum standards.                   |
|                 | signage. May need to add street            |                                      |
|                 | signs at some intersections.               |                                      |
| Street Lighting | Approximately 135' spacing.                | Appears ok (would require            |
|                 |  | survey work to confirm)              |
|                 |  | (Westfield Center Standard           |
|                 |  | Drawing SL-1 & 2)                    |
| Line of Sight   | Can see clearly from a stopped             | Appears ok.                          |
|                 | position at all intersections.             |                                      |
| Monument Boxes  | No right-of-way                            | Did not find right-of-way            |
|                 | monumentation found.                       | monumentation requirements           |
|                 |  | in Ordinances.                       |
| Setbacks        | Varies. Approx. 25' minimum as             | No.                                  |
|                 | measured from pavement to                  | 50'                                  |
|                 | building.                                  | (Zoning Exhibit IV)                  |

| GENERAL DRAINAGE ANALYSIS  |  |                             |  |  |
|--|--|-----------------------------|--|--|
| ITEM AS-BUILT UNDER PRIVATE MEETS REQUIREMENTS OF STREET REQUIREMENTS PUBLIC STREETS |  |                             |  |  |
| Catch Basins   | Only one catch basin exists in the roadway and is in good condition. See additional street                             | Yes<br>(Zoning Exhibit III) |  |  |
| Storm Sewer  | specific information below.  All connections at catch basins looked good. Storm Sewer is located outside of easements. | Connections appears ok.     |  |  |

### **Location Map**



### **Project Location**

Village of Westfield Center

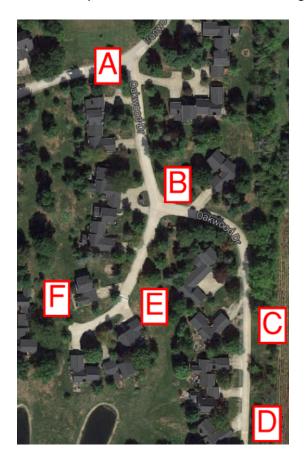


SHEET:

### STREET SPECIFIC INFORMATION

### **Oakwood Drive**

Oakwood Drive has approximately 780' of concrete pavement, which is 14' to 24' in width as measured from the edge of pavement to edge of pavement. No curb exists on this road. Approximately 18 concrete slabs are in poor condition and have multiple cracks or have sunk. These slabs may require replacement in the next 5 years. Approximately 30 concrete slabs are in fair condition. These fair slabs have one crack and may require replacement in the next 10 to 15 years. Approximately 116 slabs are in good condition. These good slabs appear to be fully intact and should not require any repairs in the next 15 or more years. There are no sidewalks along Oakwood Drive. All crack sealant is in good condition.



| PAVEMENT                                  | PAVEMENT | PAVEMENT         |  |  |
|---|----------|------------------|--|--|
| SECTION                                   | WIDTH    | CONDITION RATING |  |  |
|   |          | (PCR)            |  |  |
| A-B                                       | 24'      | 71               |  |  |
| B-C                                       | 24'      | 92               |  |  |
| C-D*                                      | 20'      | 92               |  |  |
| B-E                                       | 24'      | 72               |  |  |
| E-F**                                     | 14'      | 72               |  |  |
| *Street width tapers from 24' to 20' near |          |                  |  |  |

<sup>\*</sup>Street width tapers from 24' to 20' near address 49 & 50

<sup>\*\*</sup> E-F is not included in the estimate of cost

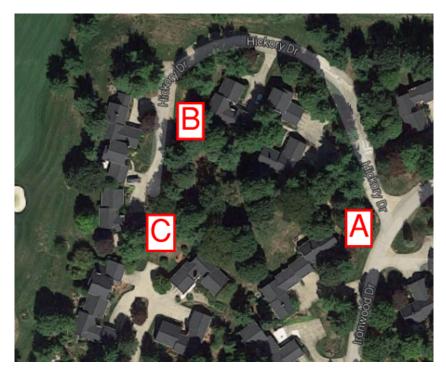
| SLAB* CONDITION                    |      |      |      |  |
|------------------------------------|------|------|------|--|
| PAVEMENT<br>SECTION                | GOOD | FAIR | POOR |  |
| A-B                                | 26   | 6    | 5    |  |
| B-D                                | 69   | 14   | 2    |  |
| B-E                                | 10   | 4    | 6    |  |
| E-F**                              | 11   | 6    | 5    |  |
| Totals                             | 116  | 30   | 18   |  |
| % of slabs                         | 71%  | 18%  | 11%  |  |
| *Slabs are approximately 12' x 18' |      |      |      |  |

\*\* E-F is not included in the estimate of cost

During snow removal activities, snow could be pushed near the areas marked as 'D' and 'E'. To assist with snow removal, an area to turn around and to push snow should be constructed near 'D' and 'E'. New high visibility Stop Signs and Street Name Signs should be installed near areas marked as 'B' and 'A'. It was also noted that no Speed Limit Signs were observed in the subdivision.

### **Hickory Drive**

Hickory Drive has approximately 595' of concrete pavement, which is 24' in width as measured from the edge of pavement to edge of pavement. No curb exists on this road. Approximately 4 concrete slabs are in poor condition and have multiple cracks or have sunk. These slabs may require replacement in the next 5 years. Approximately 27 concrete slabs are in fair condition. These fair slabs have one crack and may require replacement in the next 10 to 15 years. Approximately 58 slabs are in good condition. These good slabs appear to be fully intact and should not require any repairs in the next 15 or more years. A trench drain drainage structure and the storm sewer connections appear to be in good condition. There are no sidewalks along Hickory Drive. All crack sealant is in good condition.



| PAVEMENT                                       | PAVEMENT     | PAVEMENT  |  |  |
|--|--------------|-----------|--|--|
| SECTION  | WIDTH        | CONDITION |  |  |
|  | RATING (PCR) |           |  |  |
| A-B  | 24' 58       |           |  |  |
| B-C**  | 14' to 24'   | 24' 58    |  |  |
| *Street width tapers from 24' to 14' near 'B'  |              |           |  |  |
| ** B-C is not included in the estimate of cost |              |           |  |  |

| SLAB* CONDITION                                |              |  |  |  |  |  |
|--|--------------|--|--|--|--|--|
| PAVEMENT GOOD FAIR POOR                        |              |  |  |  |  |  |
| A-B  | 3 58 27 4    |  |  |  |  |  |
| B-C**  | B-C** 12 2 4 |  |  |  |  |  |
| Totals 70 29 8                                 |              |  |  |  |  |  |
| % of slabs 65% 27% 8%                          |              |  |  |  |  |  |
| *Slabs are approximately 12' x 18'             |              |  |  |  |  |  |
| ** B-C is not included in the estimate of cost |              |  |  |  |  |  |

During snow removal activities, snow could be pushed near the areas marked as 'B'. To assist with snow removal, an area to turn around and to push snow should be construction near 'B'. New high visibility Stop Signs and Street Name Signs should be installed near the area marked as 'A'. It was also noted that no Speed Limit Signs were observed in the subdivision.

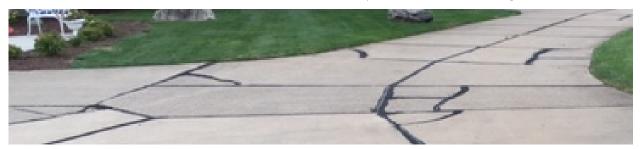
### **Oakwood Drive and Hickory Drive Photos**



An example of concrete slabs in good condition.



An example of a sunken concrete slab needing replacement due to uneven heights.



Examples of concrete slabs in fair and poor condition. Fair slabs have one crack while poors slabs have two or more cracks.



Existing signage should be replaced with high visibility signage.



Another example of a sunken concrete slab.



This Inlet in good condition.

### **RECOMMENDATIONS**

The following should be completed before dedication of the streets to the Village:

- ✓ The lot owners must re-plat Westfield on the Greens Subdivision so all roadways are located within right-of-way dedicated to the Village of Westfield Center. It is recommended that only the roadway sections which are 20' or greater in width be included. The roadway areas that are less than 20' wide appear to be driveway and not roadway. The dedication plat should show the location of all underground and above ground utilities including but not limited to storm sewers, sanitary sewers, water mains, electric, gas, lighting, and cable. The dedication plat should clearly indicate that only the roadway is being dedicated and no other utilities are being dedicated.
- ✓ The replacement of all cracked and sunken concrete panels should be funded prior to dedication to the Village. A joint meeting should be held by the Village, it's Engineer, and the Westfield on the Greens Representative to determine which slabs with a condition of poor would need to be replaced.
- ✓ Any existing covenants, restrictions, and agreements should be reviewed by the Law Director and amended to assure the Home Owners Association will continue maintenance of all items mentioned in the Hickory/Oakwood Presentation dated June 7, 2016. See Appendix.
- ✓ Add and updated all traffic signage to meet current standards.
- ✓ Oakwood, as shown on Page 7, from 'E' 'F' and Hickory, as shown on Page 8, from 'B' 'C' should not be dedicated as roadway to the Village.

Consider the following before dedication of the streets to the Village:

- ✓ Installation of sidewalks.
- ✓ Installation of Monument Assemblies to designate the centerline of the right-of-way.

### **ESTIMATE OF COST**

|              | RECOMMENDED IMPROVEMENTS PRIOR TO DEDICATION OF STREETS              |                       |             |                    |           |  |  |
|--------------|--|-----------------------|-------------|--------------------|-----------|--|--|
| ODOT<br>ITEM | <u>DESCRIPTION</u>   | ESTIMATED<br>QUANTITY | <u>UNIT</u> | TOTAL<br>UNIT COST | ITEM COST |  |  |
| SPECIAL      | RE-PLAT WESTFIELD ON THE GREENS                                      | 1                     | LUMP        | TBD                | TBD       |  |  |
| SPECIAL      | REVIEW OF COVENANTS & RESTRICTIONS BY LAW DIRECTOR                   | 1                     | LUMP        | TBD                | TBD       |  |  |
| SPECIAL      | REMOVE & REPLACE CONCRETE PAVEMENT (All Poor Slabs) (1 Slab = 24 SY) | 408                   | SY          | \$100              | \$40,800  |  |  |
| 630          | SIGN (STREET, D-3)<br>(All of Subdivision)                           | 3                     | EACH        | \$225              | \$675     |  |  |
| 630          | SIGN (STOP, R1-1)<br>(All of Subdivision)                            | 5                     | EACH        | \$325              | \$1,625   |  |  |
| 630          | SIGN (SPEED LIMIT, R2-1)<br>(All of Subdivision)                     | 4                     | EACH        | \$325              | \$1,300   |  |  |
| 604          | MONUMENT ASSEMBLY  | TBD                   | EACH        | \$750              | TBD       |  |  |

| EXPECTED IMPROVEMENTS 10-15 YEARS AFTER DEDICATION OF STREETS |  |                    |             |                       |           |
|---|--|--------------------|-------------|-----------------------|-----------|
| ODOT ITEM   | DESCRIPTION  | ESTIMATED QUANTITY | <u>UNIT</u> | TOTAL<br>UNIT<br>COST | ITEM COST |
| SPECIAL   | REMOVE & REPLACE CONCRETE PAVEMENT (All Fair Slabs) (1 Slab = 24 SY) | 1416               | SY          | \$100                 | \$141,600 |
| 423   | CRACK SEAL, TYPE 3   | 8480               | SY          | \$1                   | \$8,480   |

|              | IMPROVEMENTS TO BE CONSIDERED                          |       |    |     |          |  |
|--------------|--|-------|----|-----|----------|--|
| ODOT<br>ITEM | DESCRIPTION   UNIT   UNIT   HERVICOST*                 |       |    |     |          |  |
| 608          | CONCRETE SIDEWALK BOTH SIDES OF OAKWOOD DRIVE, 4' WIDE | 6,240 | SF | \$7 | \$43,680 |  |
| 608          | CONCRETE SIDEWALK BOTH SIDES OF HICKORY DRIVE, 4' WIDE | 4,760 | SF | \$7 | \$33,320 |  |

<sup>\*</sup>Additional items may be necessary based on the location of the installed sidewalk which will add additional cost.

### **APPENDIX**

### STREET DEDICATION PLAT VILLAGE OF WESTFIELD CENTER, OHIO

MEDINA COUNTY

# (20) CREATING IRONWOOD DRIVE SITUATED IN VILLAGE LOT 233

CONTAINING 2.20934 ACRES WITHIN VILLAGE LOT 233

Mitness Three Board & Managers for Westfield on Mitness Three Before Beard & Managers for Westfield on Before me or Notary Public, in for Medina County, Ohio Before me or Notary Public, who acknowledged the making this plat, and the dedication of Ironwood Dirt, on the dedication of Ironwood Dirt, and on behalf of the Westfield on the Green Condominium Association. In testionny whereof I hereunto set my hand and seal

I certify this dedication plat (a be true and correct. Reference monuments and pins as indicated in the Drawing Legend.

Notary Public.

PATABLEA & DESTAND SAME OF THE SAME OF CHARLES PASS AND CARROLLES AND CARROLLES AND CARROLLES COLUMN PROPERTY OF THE SAME OF T

Jones A. Morrison, Registered Surveyor \$4760.

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Chairman Commission this grady of the 2003.

Chairman This plat delineating from wood Drive is council of the village of Westingly Center Council of the village of Westingly Center Chio. by Council of the village of Westingly Center Chio. by Council of the village of Westingly Center Chio. by Council of the village of Westingly Center Chic. by Council of the village of Westingly Center of Council Chic.

Received for transfer this day of 525 2008. Weding County Auditor Ke.

Received for transfer this 9th day of August 2007.

Rachas Map Department

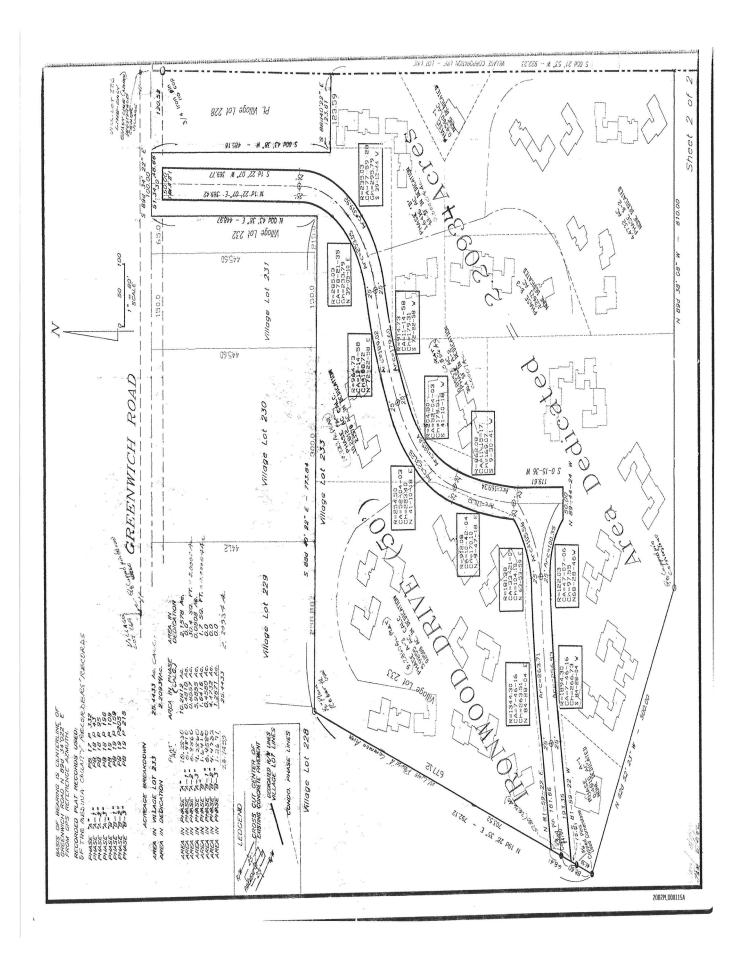
Recorded this 9th day of August 2007 at 13:41 o'clock M. and recorded in plat Records under Document No. 250.22.61 Econg

under Document No. 2002 61 00011 8. Man Media D. Jan Jan Da Jan Jan Da J

REF. Ordinance 20020RESSES

School State State

100-10-10-10



### Hickory/Oakwood Presentation - June 7, 2016

r. Mayor, Members of Council - On behalf of the residents of WOTG, I appreciate the opportunity to speak to you about our unique residential community, its history and its future.

### THE HISTORY – a new addition to an historic village...

LeRoy was renamed Westfield Center in 1971. Four years later (1975 to 1979) WOTG was developed by the Ohio Farmers Insurance Company. The complex contained about 35 acres and at build-out, 54 residential units. From the beginning, we were connected to the Westfield Center water and sanitary sewer systems, even though WOTG was located in Westfield Township. We have continued to operate as a condo association under its bylaws and subject to applicable federal, state and local laws/regulations. WOTG currently meets an important need in our village by providing comfortable and secure residences for many retired owners (42 of our 54 WOTG units).

As part of an expansion plan defined by the Village of Westfield Center in 1994; WOTG, as well as other lands to the north and south of the village, was annexed and made a part of the village. In 2002, village council accepted Ironwood Drive as a village street, excluding its unique street lighting system. Since Ironwood Drive was dedicated, the additional expense to the village has been limited to snow removal and minor repairs.

### THE FUTURE - a current outlook...

Projecting into the future begins with a look at our current 3 year average annual operating expenditures of \$150,000 and 3 year average annual capital expenditures of \$95,000. Our operating and capital expenditures reflect those of ing but well maintained structures in a very low density setting... including one complete siding replacement and one complete roof replacement (both heavily subsidized by product warranties). We continue to incur and resolve a number of basement excavations/repairs (\$75,000 over 2.5 years) as well as the removal of many dying pine and deciduous ash trees (\$30,000+ over 2.5 years). In 2013 we completed a \$93,000 enhancement to our storm sewer system. In a few instances, special assessments have been required from our unit owners.

In 2015, we spent \$30,000 on both Hickory and Oakwood, heat sealing joints and replacing a few sections to extend the useful lives of these two streets. In order to estimate the replacement cost for Hickory and Oakwood, the Medina County Engineer's office recently applied current bid price averages for removal, base (5") and concrete (8") to our street surface dimensions. They estimated the total current cost to replace Hickory and Oakwood at \$335,000 (including removal, new base, concrete surface, no curbs, no under street utilities, no sidewalks).

The complete removal and replacement of our 54 unit driveways and their cluster approaches may be in the range of \$500,000 (less if completed in conjunction with the replacement of Ironwood, Hickory and Oakwood). Our total estimated cost for the combination of all non-dedicated streets and our driveways/approaches is \$835,000 (plus inflation)... well beyond our current ability to raise capital!

In summary, we are attempting to grow reserves at a modest pace. Unfortunately, in the foreseeable future, we face the following capital needs:

- Continued Storm Sewer improvements,
- · Entrance replacement this year,
- · Street Lighting system replacement within 5 years,
- · Siding replacement for 54 units in 5+ years,
- Hickory & Oakwood replacement in 10+ years,

- 54 Driveways and 9 Cluster Approaches replaced over the next 10+ years and
- Roof replacements for 54 units in 15+ years.

### 1 better ACTION PLAN for the FUTURE - WOTG and Westfield Center...

The acceptance of Hickory and Oakwood by the Village would substantially improve our ability to address our remaining projected future capital needs.

We anticipate that acceptance, by the village, of Hickory and Oakwood streets would include the following stipulations:

- 1. WOTG would continue to own and maintain our street lighting system,
- 2. WOTG would continue to own and maintain our storm sewer system,
- WOTG would construct additional turnarounds and snow collection areas as needed and defined by the village street department,
- 4. Street only width will be accepted/dedicated with no additional right-of-way,
- 5. Easements over WOTG property to be granted for snow removal, maintenance and future reconstruction,
- 6. Upon replacement, the accepted streets may be reconstructed without curbs or gutters (as they now exist),
- 7. Easements for access to sanitary sewers will be provided to the village of Westfield Center by WOTG,
- Hickory will be accepted/dedicated from its entrance off of Ironwood thru the first turnaround on the right and
- WOTG will assume the reasonable legal/survey costs needed to secure the acceptance/dedication of Hickory and Oakwood by the village of Westfield Center.

### CLOSING - preserving an architectural legacy...

In closing, the Westfield Insurance Group and Westfield Group Country Club facilities are extremely vital to our village. We look forward to the multi-million dollar changes now being envisioned for the WGCC.

The income tax withheld from Westfield Group employees, particularly the non-village resident segment, appears to provide the majority of the revenue available for village capital improvements (new streets, new parks etc.). With the 1994 annexation of WOTG by the village, our residents also became subject to the village income tax.

The reality is that ALL capital reserve funding for our condo association is limited to the assessments paid by our 54 unit owners. This means that the potential total cost for any non-dedicated street replacements must also be born directly by our resident owners. Without the benefit of village income tax revenue to fund the replacement of Hickory and Oakwood, our ability to meet all of our future capital needs within time constraints is simply a fiscal impossibility.

Ironwood's acceptance and dedication in 2002 had a positive impact on our then projected future capital requirements. In 2016 and beyond, we face a compounding and more imminent need for future capital.

We thank you for considering our desire for your acceptance and dedication of Hickory and Oakwood; along with Ironwood, completing the village street network in WOTG. We deeply appreciate your interest in the viable future of WOTG and its value to the Village of Westfield Center!

ry Ewers, WOTG Board of Directors

### Gewers65@msn.com

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