

FINAL HISTORIC DISTRICT STUDY COMMITTEE REPORT
NATIONAL TWIST DRILL & TOOL COMPANY
ROCHESTER HILLS, MICHIGAN
Draft November 1, 2012

INTRODUCTION

In 2002 the city of Rochester Hills engaged Jane C. Busch, LLC, in collaboration with Hamilton Anderson Associates, Inc., to undertake a survey of local historic districts. The survey was designed to augment and update information about the city's designated and potential local historic districts. The survey identified National Twist Drill & Tool Company at 6825, 6841 and 6875 North Rochester Road as a potential local historic district. As a result of that survey in 2008 the Rochester Hills Historic Districts Study Committee requested that Ms. Busch prepare a draft preliminary study committee report. The study committee did not take any further action with the study at that time. This report is an updated draft of the 2008 report.

CHARGE OF THE HISTORIC DISTRICTS STUDY COMMITTEE

The historic districts study committee was established by the Rochester Hills City Council on December 15, 1999, pursuant to the Rochester Hills Code of Ordinances, Chapter 118, as amended in 1999. The study committee is a standing committee charged with conducting the duties and activities of a study committee on a continuing basis. These duties include inventory, research, and preparation of historic district study committee reports to establish or eliminate proposed historic districts. Study committee members serve two year terms. A list of current committee members follows.

Pursuant to Chapter 118, Section 129, the City Council referred a request to study the National Twist Drill complex to the Historic Districts Study Committee on August 13, 2012. The study committee is to make a recommendation back to Council within one hundred and twenty days.

STUDY COMMITTEE MEMBERS

Suzanne Carlson, AIA, LEED AP is a registered architect practicing with French Associates in Rochester and resides in the Winkler Mill Pond Historic District. She has a strong interest in integrating history and community growth and has lived in Rochester Hills for over fifteen years.

Stephen Branstner, AIA, NCARB is a registered architect with the Detroit firm of Hamilton Anderson Associates. He has served on the Rochester Hills Historic Districts Commission since 2010. He was a charter member of the Association for Preservation Technology and has resided in Rochester Hills for nearly twenty years.

Julie Granthen has been a Rochester Hills resident for over forty years. She grew up in the community and is a graduate of Adams High School, Oakland University (B.A. Economics and M.B.A.) and the University of Toledo (J.D.). She is presently on the faculty at both Oakland County Community College and Oakland University where she is active in Leadership Oakland and serves on several boards.

James Hannick is a long-time Rochester Hills resident with an interest and knowledge of local history.

Sue Thomasson has lived in the community for over 20 years and has resided in two historic homes. She currently lives in the oldest home in Stony Creek Village. She has a love of history and currently works at the Rochester Hills Museum at Van Hoosen Farm.

Jason Thompson is chairperson of the Historic Districts Study Committee, and is a member of the Rochester Hills Historic Districts Commission. He has received a bachelor's degree in history from Oakland University, and a masters of public administration from Oakland University. His academic and work activities include a strong background in research and grant writing.

LaVere Webster is an art and antiques conservator who lives in one of the city's designated local historic districts. He has served on the board of directors of the Rochester-Avon Historical Society for more than six years.

Kristine M. Kidorf, Kidorf Preservation Consulting, and Jane C. Busch, historic preservation consultant assisted the study committee with their work.

INVENTORY

A photographic inventory of the proposed district was conducted in 2002 as part of the Rochester Hills historic districts survey. Copies of the inventory forms are located at the Rochester Hills Planning Department, the Rochester Hills Museum, and the State Historic Preservation Office. Additional photographs were taken in November 2008 as part of the preparation of this report.

DESCRIPTION OF THE DISTRICT

The proposed National Twist Drill & Tool Company historic district is located at the northeast corner of North Rochester and East Tienken roads, in the southwest corner of section 2 in Rochester Hills. Roughly rectangular in shape, the district consists of two parcels that together total 40.25 acres. Buildings on the southern parcel (70-15-02-300-004) carry the street address 6875 N. Rochester Road, and buildings on the northern parcel (70-15-02-300-015) carry the street address 6841 N. Rochester Road. The district contains all of the extant buildings and structures associated with the National Twist Drill and Tool Company's plant: five buildings, four utility structures, and a water tower

on landscaped grounds. One noncontributing building within the district was added in 1987.

The front of the National Twist Drill complex faces Rochester Road. The office buildings that comprise the front present bands of windows and cream-colored brick broken by stylized classical pavilions with Art Deco details. The National office (D on map) is a stand-alone building. Behind it, factory offices front the main factory building (C). The Winter Brothers office and factory (A) are to the south, connected by a narrow passage to the main factory. The grounds in front of the buildings have a park-like appearance, with an expanse of grassy lawn broken by retaining walls and planted with mature evergreen, deciduous, and flowering trees. Auxiliary buildings and structures are located to the rear and sides of the primary office and manufacturing complex. Two smaller factory buildings (E and F) are located on the north side of the property. A newer factory building (B, built 1987) is connected to the rear of the Winter Brothers building on the south side of the property. A metal water tower (G) in the rear of the main factory is visible from the road over the roofs of the buildings. There are four small masonry utility buildings (H, I, J, K) on the north side of the property. Parking lots and driveways surround the main complex of buildings. Trees line a stream on the north and east sides of the property, and there is a pond in the southeast corner.

The National Twist Drill & Tool Company was built beginning in 1940 on a 180 acre parcel. The buildings were all located within the 40 acre parcel that they still occupy. Construction was almost continuous with new buildings and additions from 1940 to 1944 and 1946 to 1947; most of the plant dates to that period. The company completed a final building campaign in 1956. Today, National Twist Drill appears largely as it did ca. 1960, especially when viewed from the front. The appearance of the factory areas has been altered more noticeably by metal panels covering the windows. All of the primary buildings are extant and retain their integrity. A few of the smaller secondary buildings have been removed: a guard building by the north entrance, a garage that connected the rear of the National office with the main factory, and a small factory building in the rear of the complex. A perimeter fence and a retaining pond directly behind the main factory are gone.

The buildings and structures described below are keyed to the map.

Winter Brothers building (A). 1946–47. Contributing.

Two-story, Art Deco brick-faced office building with one-story factory ell in rear. The office building has cream-colored brick walls with concrete and limestone trim and bands of newer single-pane metal windows. The projecting limestone entrance pavilion has a central entrance door and sidelights framed by stylized columns. Spandrels above the door and sidelights have relief sculptures of workers carrying tools. There are three upper-story windows above the spandrels. The top of the pavilion has scalloped detail. The large factory ell in rear has lower walls of cream-colored brick and ridged metal panels on upper walls, covering former windows. Factory ell has monitor roof and is

connected to the main National factory building by a narrow passage. A limestone and brick terrace in front of the building is planted with shrubs and contains a flagpole. The Winter Brothers building was constructed to house the offices and manufacturing of the Winter Brothers subsidiary of National Twist Drill & Tool Company. Originally the name Winter Brothers Company was in metal letters over the entrance.¹

Factory building (B). 1987, addition 1998. Noncontributing.

One-story concrete block factory building. Lower walls of concrete block; upper walls covered by ridged metal panels. Connected to Winter Brothers building by narrow concrete block passage with loading docks.

National main factory building (C). 1940 with additions. Contributing.

Large one-story, steel frame factory building with two-story office section in front. Total floor area is 286,267 square feet.² Office section has cream-colored brick walls with concrete trim and bands of windows. Groups of four windows—two six-light windows in center and a three-light window on each end—are mostly original. Two projecting brick entrance pavilions are simpler versions of those on the Winter Brothers and National office buildings, with thin piers separating the center entrance door from sidelights. Much of the factory wall area is covered with metal panels, although lower walls of cream-colored brick are visible in places. Originally the factory had many windows both in the walls and in the sawtooth and monitor roofs. The sawtooth roofs—oriented east–west—are still extant on the northern portion of the factory, which includes the original building and first additions. The monitor roofs on the southern portion of the factory are oriented north–south. The first unit of the factory—the forge plant—was built in 1940 and occupied in January 1941. Additions were made almost continuously from 1941 through 1944 and again in 1946. The 1940 through 1946 portions of the factory were designed and built by the Austin Company of Cleveland. A final addition on the southeast (rear) portion of the factory was completed by 1956.³

National office building (D). 1942. Contributing.

Three-story, Art Deco steel frame brick-faced office building. The first story forms a raised basement in front. The cream-colored brick walls have concrete trim, and bands of double-hung windows have rounded piers between each pair. The projecting limestone entrance pavilion has stylized columns separating the central double entrance door from sidelights. Spandrels above the door and sidelights have relief sculptures of people with drill bits. There are three upper-story windows above the spandrels and a band of large dentils above these windows. There is a fluted quarter column at each

¹ The Winter Brothers and National office buildings are nearly identical. Richard H. Marr designed the National office, but he died in 1946. He may have produced the design before he died. Alternatively, his children—Margaret and Carl Marr, who practiced architecture as Marr & Marr—may have executed the design. Research has not yet determined whether or not the Austin Company constructed the building.

² City of Rochester Hills tax and assessing record for parcel # 70-15-02-300-015.

³ The builder of this portion of the factory has not yet been identified.

side of the entrance pavilion. In front, planters with shrubs flank the three steps leading up to the entrance. Flower beds, flowering trees, and spruce trees are arranged nearby. On the roof above the entrance pavilion is the base of a square lookout tower that was originally surmounted by a railing and glass booth. The National office building housed the company's main administrative offices, which were moved from Detroit when the building was completed. The name National Twist Drill & Tool Company was in metal letters above the entrance. Detroit architect Richard H. Marr designed the building, which was built by the Austin Company of Cleveland.

Factory building (E). 1942–43. Contributing.

One-story brick-faced factory building. Walls are cream-colored brick. Metal panels cover window openings. This building housed the annealing department.

Factory building (F). Early 1950s. Contributing.

One-story factory building. Lower walls are brick; upper walls are covered with metal panels. Cream-colored brick on front, south side, and part of rear; red brick on north side and part of rear. Stone trim. This building may have housed the wire drawing department.⁴

Water tower (G). 1950s. Contributing.

Painted metal water tower with round tank. "National" painted on side of tank in blue letters.

Utility structure (H). Early 1940s. Contributing.

One-story rectangular brick utility structure with metal addition, surrounded by board enclosure. Connected to high voltage lines and to north side of main factory building.

Utility structure (I). Early 1940s. Contributing.

One-story rectangular brick utility structure. This and structure (J) are within a chain link and barbed wire fence enclosure.

Utility structure (J). Early 1940s. Contributing.

One-story rectangular brick utility structure.

Utility structure (K). Early 1950s. Contributing.

Small one-story rectangular concrete block utility structure.

COUNT OF HISTORIC AND NON-HISTORIC RESOURCES

⁴ Al Poulin, telephone conversation with Jane Busch, November 24, 2008. Poulin worked for National Twist Drill for forty-seven years. Without visual aids, however, he could not make a positive identification.

The National Twist Drill & Tool Company Historic District contains ten historic (contributing) resources and one non-historic (noncontributing) resource. Ninety-percent of the resources contribute to the district.

BOUNDARY DESCRIPTION

The National Twist Drill & Tool Company Historic District consists of two adjoining parcels at the northeast corner of East Tienken and North Rochester roads, 70-15-02-300-004 (6875 N. Rochester Road) on the south and 70-15-02-300-015 (6841 N. Rochester Road) on the north. The parcels are described as follows:

70-15-02-300-004

T3N, R11E, SEC 2 PART OF SW 1/4 BEG AT PT DIST N 00-05-02 E 58.00 FT & E 33.00 FT FROM SW SEC COR, TH N 00-05-02 E 218.97 FT, TH S 89-54-58 E 656.93 FT, TH N 03-43-26 E 3.65 FT, TH S 89-52-47 E 432.03 FT, TH S 00-05-02 W 278.75 FT, TH W 1031.19 FT, TH N 44-57-29 W 81.96 FT TO BEG 6.90 A

70-15-02-300-015

T3N, R11E, SEC 2 PART OF SW 1/4 BEG AT PT DIST N 00-05-02 E 277.02 FT FROM SW SEC COR, TH N 00-05-02 E 1047.40 FT, TH E 1369 FT, TH S 00-05-02 W 1045.67 FT, TH W 176.03 FT, TH S 00-05-02 W 278.75 FT, TH W 70.78 FT, TH N 00-05-02 E 278.75 FT, TH N 89-52-47 W 432.03 FT, TH S 03-43-26 W 3.65 FT, TH N 89-54-58 W 689.93 FT TO BEG 33.35 A 11/9/88 FR 011 & 012

BOUNDARY JUSTIFICATION

The proposed district contains the entire manufacturing and administrative complex of the National Twist Drill & Tool Company. Although the original parcel was 180 acres, the buildings were all located on the current 40-acre parcel. Shopping centers and related commercial development occupy the three other corners of the Rochester and Tienken Road intersection. To the east, in back of the district, there is newer residential construction. To the north, a vacant parcel separates the district from newer residential construction.

HISTORY OF THE DISTRICT

The National Twist Drill & Tool Company was incorporated in Detroit on November 3, 1903, primarily through the efforts of Peter J. Hoenscheid (1853–) and William H. McGregor (1861–1936). Hoenscheid was an expert mechanic who was superintendent of the Detroit Twist Drill Company prior to the organization of National Twist Drill. He became general manager of the new company and invented much of the machinery in the plant. McGregor was a pharmacist and superintendent of manufacturing at Parke, Davis & Company from 1880 to 1899. He was president of National Twist Drill from its founding until he relinquished the position to his nephew in 1926. National Twist Drill

made rotating metal cutting tools including twist drills, reamers, and milling cutters. The market for metal cutting tools was growing rapidly in the early twentieth century, fueled by the burgeoning automotive and related industries. World War I further increased the demand for metal cutting tools. National Twist Drill's innovative techniques and high standards gained their tools a reputation for excellence. The company quickly outgrew its original plant at Twenty-First Street and Standish Avenue on Detroit's west side. In 1906 they constructed a new plant on Brush Street near East Grand Boulevard; this plant was soon expanded. The number of employees grew from an initial seven to approximately 125 in 1908 and 750 in 1922.

William McGregor's nephew, Howard L. McGregor Sr. (1887–1959), was born in Detroit and graduated from the University of Michigan in 1910 with training in both law and engineering. He joined National Twist Drill as an employee immediately following his graduation, starting in the shop and advancing to the position of assistant to the president. When Howard took over as president in 1926, William continued as chairman of the board until his death in 1936. By the mid-1920s, National Twist Drill's broad line of metal cutting tools included twist drills, reamers, counterbores, milling cutters, end mills, and hobs. In 1929 National Twist Drill purchased the Winter Brothers Company of Wrentham, Massachusetts, in order to add taps and dies to its production. By the late 1930s, even the expanded plant on Brush Street was inadequate. Howard McGregor became familiar with the Rochester area in 1939 when he purchased the former John C. Day farm—320 acres—in Avon Township,⁵ northwest of the village of Rochester, where he established his Great Oaks Stock Farm. In 1940 he purchased the former Barwise farm, 180 acres at Rochester and Tienken roads in Avon Township, for a new National Twist Drill factory.

Construction of the new plant began in September 1940, and the first unit—the forge plant—was occupied in January 1941. In March, work began on three additional units to house the heat treating, turning, and clearing departments, which were completed in September. The steel storage building was begun in October and completed in January 1942. The plant was built of steel frame units that used a sawtooth design (figure 1), allowing additions to be easily made. The Austin Company of Cleveland, Ohio, designed and built these first three phases. Still in business, the Austin Company is nationally significant for its innovations in the construction industry. Samuel Austin (1850–1936) established the business in 1881 and developed the Austin Method whereby the company handled all of the design, engineering, and construction on a project, with resulting gains in efficiency, economy, and speed. Samuel's son Wilbert J. Austin contributed another of the Austin Company's notable innovations, the standardization of factory design. Among the Austin Company's important commissions were General Electric's Nela Park in Cleveland, the Curtiss aircraft plant in Buffalo, the first wide-span sound stages in Hollywood, and an automobile plant and workers' city at Nizhni

⁵ Avon Township incorporated as the city of Rochester Hills in 1984.

Novgorod in Russia. The Austin Company also produced distinguished modernistic office buildings.

Nevertheless, when the McGregors decided to move the National Twist Drill administrative offices to Rochester,⁶ they retained Austin for construction but hired Detroit architect Richard H. Marr (1886–1946) to design the building. Born in Detroit, Marr worked in the office of Detroit architect George Mason and then studied architecture at Harvard University. He worked briefly in Boston before returning to Detroit, where he established his own practice. Marr’s reputation rested on the hundreds of fine residences he designed in Detroit and its suburbs, including the lavish William A. Fisher House (1925) in Palmer Woods. Marr also designed the Architects Building (1924) in Detroit. The National Twist Drill office building (figure 2) and adjoining garage (not extant) were completed in November 1942. Meanwhile, expansion of the factory continued with a new area to house the machine shop, form tool, special tool, and electrical departments. An annealing building, plant protection (not extant), and welding buildings were completed in 1943, and storage and salvage buildings were completed early in 1944. Most of these buildings were additions to the main factory building, but a few—including the annealing building—were stand-alone buildings. The Austin Company built and—except for the office building—designed all of these buildings and additions.

About fifteen employees worked at the Rochester plant when it opened in January 1941. Howard L. McGregor Jr. (1918–1997), who had joined National Twist Drill in 1940, was superintendent of the Rochester plant. The only child of Helen and Howard L. McGregor Sr., Howard L. McGregor Jr. grew up in the Boston-Edison neighborhood of Detroit and was educated at Williams College in Massachusetts. The Rochester plant operated in tandem with the Detroit plant, but as the Rochester plant expanded it accounted for an increasing proportion of the work. The U.S. government was already gearing up for war in 1940, and government contracts were a major part of National Twist Drill’s business. Following the Japanese attack on Pearl Harbor in December 1941, the roughly three hundred men then working at the Rochester factory went on a twenty-four hour and seven-day week schedule. Howard McGregor Jr. later recalled that National Twist Drill supplied roughly 95 percent of the U.S. Navy’s high speed metal cutting tools, and that the company was one of a few in the country that machined armor plate for battleships. In 1942 the U.S. War Department awarded National Twist Drill the Army-Navy “E” award for high achievement in the production of war equipment. By 1943, when the company’s administrative offices were moved to Rochester from Detroit, the Rochester plant was at its wartime peak with fifteen hundred employees manufacturing millions of drills a month. The workers were represented by UAW Local 771. The physical structure of the plant reflected National Twist Drill’s role in the defense industry and the security measures that were instituted.

⁶ Although the plant was in Avon Township, National Twist Drill used Rochester as its address.

The perimeter of the plant was fenced, and there was a guard booth at the entrance. A lookout tower on top of the office building was used to watch for air raids.

By 1945 the advantages of Rochester over the Detroit location were apparent to the McGregors. When wartime restrictions on building were relaxed late in 1945, the Austin Company began building a 97,000 square foot addition to house the milling and grinding departments, stock rooms, factory offices, and laboratories. In November 1946, the move from Detroit was completed. Earlier that year, construction began on a new building to the south of the plant to house the Winter Brothers subsidiary, which was still operating in Wrentham, Massachusetts. Winter Brothers moved its manufacturing operation into the factory portion in the rear of the building late in 1946 and occupied the office portion in front in September 1947.⁷ In 1949 National purchased the Standard Tool Company of Cleveland.

In 1951, Howard McGregor Jr. succeeded his father as president of National Twist Drill & Tool Company. Howard McGregor Sr. remained chairman of the board until his death in 1959. Under his leadership, the National Twist Drill & Tool Company became a formidable presence in the metal cutting tool industry. McGregor Sr. was active in the Metal Cutting Tool Institute, a national trade organization, serving as president from 1945 to 1946 and then as chairman of the board from 1946 to 1948. In addition to National Twist Drill, McGregor Sr. brought a second great enterprise to the Rochester area: his Great Oaks Stock Farm. Starting with 320 acres, McGregor Sr. purchased adjoining farms and acreage in other parts of Avon Township including—in 1944—approximately 730 acres of the Ferry-Morse Seed Farm south of Hamlin Road. Ultimately the Great Oaks Stock Farm totaled 1,800 acres—the largest stock farm in Oakland County. McGregor Sr. started by raising Aberdeen Angus cattle, primarily for breeding, and in 1942 added a dairy herd of Guernsey cows. Howard McGregor Sr. was on the board of Crittenton Hospital in Detroit and with his son worked to bring the hospital to Rochester.

National moved the Standard Tool Company's manufacturing operations to Rochester (offices stayed in Cleveland). This necessitated another expansion of the Rochester plant, completed in 1956. Following this expansion, the plant exceeded 400,000 square feet (ten acres). By the late 1950s, more than fifteen hundred people worked at the Rochester plant; 70 percent of them lived within ten miles of the village of Rochester. National Twist Drill was the largest employer in the Rochester area. More than two thousand machine tools and other pieces of manufacturing equipment were used in the plant, including many special-purpose machines that National designed and developed. The company maintained high standards for product quality and employee working

⁷ Documentation identifying the builder and designer of the Winter Brothers building has not yet been found. The National and Winter Brothers office buildings are nearly identical in design, suggesting that Richard Marr designed the latter as well. Marr, however, died in 1946. Perhaps he completed the design before he died. Marr's children, Margaret and Carl Marr, were both architects and practiced as Marr & Marr. It is possible that they executed the design for the Winter Brothers office building.

conditions, taking pride in operating a model industrial plant. The landscaped grounds were an attraction for sightseers. National Twist Drill maintained a sales office in Detroit and sales offices and warehouses in New York City, Chicago, Dallas, San Francisco, and Los Angeles. In 1956 National purchased the Staples Tool Company of Cincinnati. In 1965 National purchased both Eastern Cutter Corporation of Newark, New Jersey, and National Tool Salvage Company of Detroit. National's final acquisition was the Heinemann Saw Company of Canton, Ohio, in 1966.

Howard McGregor Jr. was involved in several local and national business organizations, serving as chairman of the board of the Metal Cutting Tool Institute from 1959 to 1964. His community service included serving as president of the Avon Community Chest, which he founded; president of the Township Library Board; and trustee and vice president of Crittenton General Hospital in both Detroit and Rochester. McGregor donated land for North Hill and McGregor elementary schools and Crittenton Hospital. As a close friend and advisor of Alfred and Matilda Dodge Wilson, McGregor was instrumental in the formation of Oakland University. He was second only to the Wilsons as a university benefactor.

In 1968, with eighteen hundred employees, National Twist Drill & Tool Company remained the largest employer in the Rochester area. There were an additional seven hundred employees at its subsidiaries in Cleveland, Newark, Detroit, and Canton. The company manufactured 27,500 catalogued cutting tools in addition to custom tools, with annual sales of over forty million dollars. The automotive, aerospace, and farm implement industries were National's primary customers. Lear Siegler, Inc., of Santa Monica, California, purchased National Twist Drill in 1968 for thirty-five million dollars. Following the sale, Howard McGregor Jr. was active on Lear Siegler's board of directors, commuting weekly to California for board meetings. But he removed himself from the daily operations of National Twist Drill, selling Great Oaks Stock Farm and moving with his family to Algonac. Great Oaks Farm became a golf course, subdivision, apartment complex, and shopping center. The McGregor's house served as the clubhouse for Great Oaks Country Club until 1988, when it was demolished.

Beginning in 1969, National Twist Drill operated as the industrial cutting tool division of Lear Siegler. But Lear Siegler soon downsized the Rochester operation. With 1,200 employees at the beginning of 1975, National Twist Drill was still the Rochester area's largest employer. Through layoffs and attrition, the number of employees declined to 900 in 1976, the year that National Twist Drill opened its first plant in the South, in Maxton, North Carolina. Labor was much cheaper in the South than in Michigan, and conflict between the workers' union and management increased as the union refused to make wage and benefits concessions. In 1981 National Twist Drill announced plans for a new plant in Loris, South Carolina. The company sold the southern (Winter Brothers) portion of the Rochester plant to IMC plastics. By November 1982, when National Twist Drill announced plans to close the Rochester plant, 250 workers remained. The plant closed on January 1, 1983. For awhile National Twist Drill maintained a warehouse on

the property but closed it by the end of 1984. New owners purchased the northern (National) portion of the property and renamed it Rochester Hills Technical Center, leasing space for office use, light industry, and warehousing. Today this property operates as the Corporate Park of Rochester Hills. Both northern and southern properties lease space for office use, light industry, and warehousing.

SIGNIFICANCE OF THE DISTRICT

Michigan's *Local Historic Districts Act*, PA 169 of 1970, as amended, requires local historic district study committees to be guided by the evaluation criteria for the National Register of Historic Places in evaluating the significance of historic resources. The act also requires study committees to be guided by any criteria established or approved by the Michigan Department of History, Arts and Libraries (Section 3(1)(c)). Shortly after the 1992 amendments to the *Local Historic Districts Act*, the Michigan Historic Preservation Network issued a guide to the amendments that explained how the National Register criteria should be used: "While communities must be 'guided' by the National Register criteria, they are not bound by them; communities are free to establish criteria which are guided by the national criteria but relate to local conditions, history, and character."⁸ In 2002, the Michigan Department of History, Arts and Libraries issued criteria that elaborate on historic district boundary determinations and single resource districts. Chapter 118, "Historic Districts," of the Rochester Hills Code of Ordinances reiterates the requirement for study committees to be guided by the National Register criteria and any criteria established or approved by the Department of History, Arts and Libraries (Section 118-130(3)).

In accordance with these legal documents and guidelines, the Rochester Hills Historic Districts Study Committee has determined that the National Twist Drill & Tool Company Historic District is significant under National Register Criterion A, for its association with a pattern of historical events that has contributed significantly to Rochester Hills history; under Criterion B, for its association with persons significant in Rochester Hills history; and under Criterion C, for embodying the distinctive characteristics of a type and style of architecture and for possessing high artistic value. The areas of significance are industry and architecture. The period of significance is 1940, when construction of the factory began, until 1968, when Howard McGregor Jr. sold National Twist Drill & Tool Company to Lear Siegler.

The National Register Criteria

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and

⁸ Michigan Historic Preservation Network, "A Guide to Michigan's Local Historic Districts Act" (Michigan Historic Preservation Network, Lansing, Mi., n.d., photocopy), 3. The Michigan Historic Preservation Network was one of the primary authors of the amendments to the Local Historic Districts Act.

objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history.

The National Twist Drill & Tool Company was the largest of the few industries in predominantly agricultural Avon Township or the village of Rochester. The largest employer in the Rochester area from the mid-1940s to mid-1970s, National Twist Drill was instrumental in the area's population and economic growth. National Twist Drill did not just bring jobs to the Rochester area, it brought well-paid jobs, as a majority of its employees were skilled laborers. When National Twist Drill began operating in Avon Township on the eve of World War II, the only other factories in the area were the Jackson foundry and Rochester Paper Company in Rochester, both small enterprises operating in nineteenth-century buildings. In 1941 the McAleer Manufacturing Company began manufacturing buffing and polishing compounds in the 1907 Western Knitting Mills building in Rochester. During World War II, McAleer manufactured bombing flares, an important contribution to the war effort, though it was a smaller operation than National Twist Drill. After the war, Higbie Manufacturing took over the McAleer plant for the manufacture of steel tubing. In 1952, the Detroit Broach and Machine Company built a plant at Avon and Rochester roads in Avon Township, where it made broaching machines and tracer lathes. The Jackson foundry closed that year. In 1968, the Rochester Paper Company had ninety-six employees, Detroit Broach employed more than four hundred, and Higbie Manufacturing employed eight hundred people. With eighteen hundred employees in 1968, National Twist Drill was clearly the area's industrial leader. In a nationwide context, National Twist Drill was one of the foremost manufacturers of metal cutting tools.

B. That are associated with the lives of persons significant in our past.

National Twist Drill & Tool Company is significant for its association with Howard McGregor Sr. and Howard McGregor Jr., who were responsible for two of Avon Township's greatest enterprises: National Twist Drill and Great Oaks Stock Farm. The father and son were personally responsible for the growth and success of National Twist Drill. Howard McGregor Sr. was president and chairman of the board when the company began constructing its Avon Township plant. Howard McGregor Jr. supervised the new plant, taking over as president in 1951 and assuming the chairmanship when his father died in 1959. Similarly, Howard McGregor Sr. established Great Oaks Stock Farm in 1939, and father and son both resided on the farm and worked together to build it into the largest stock farm in Oakland County. Great Oaks Stock Farm no longer exists—the land has been subdivided and developed for other uses, and the house was demolished. Howard McGregor Jr. became the Rochester area's leading philanthropist, donating land

for schools and a hospital and founding the Avon Community Chest, among other activities. He engaged in a broader range of charitable activities than contemporaries such as Alfred and Matilda Dodge Wilson or Sarah Van Hoosen Jones.

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

There is nothing in Rochester or Rochester Hills comparable to the Art Deco office buildings and factory of National Twist Drill. The only other twentieth-century industrial building is the Detroit Broach and Machine Company at Rochester and Avon roads, built in 1952 in the Miesian style. The National and Winter Brothers office buildings are distinguished examples of the Art Deco style, with stylized classical entrance pavilions and unique relief sculptures of people with metal cutting tools. The offices that front the main factory building are simpler interpretations of the same Art Deco style. The factory areas retain their characteristic sawtooth and monitor roofs. The National office building is a late example of the work of well-known Detroit architect Richard H. Marr, who was known primarily for his designs of upscale homes. At least the majority of the plant was built by the Austin Company of Cleveland, which is nationally significant for its innovations in factory construction.

CONCLUSION

The National Twist Drill & Tool Company has tremendous historical significance to the city of Rochester Hills. National Twist Drill was the Rochester area's largest industrial enterprise by far, and it represents Avon Township's contribution to the World War II war effort. The Art Deco office buildings are one of the Rochester area's architectural treasures. The Rochester Hills Historic Districts Study Committee recommends that the National Twist Drill & Tool Company be designated as a local historic district.

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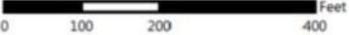
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National Twist Drill Historic District
 6825, 6841, and 6875 N. Rochester Road, Rochester Hills, Oakland County
 Proposed District Boundary Map



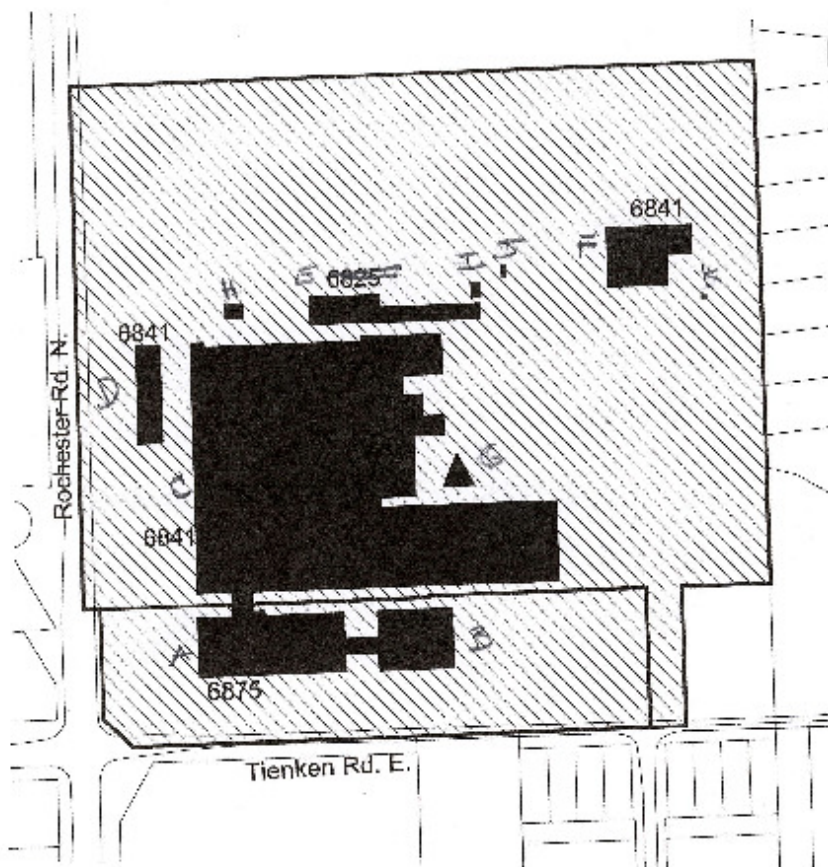
-  Proposed District Boundary
-  Contributing buildings
-  Non-contributing buildings

1 inch = 200 feet 9/5/2012











Aerial photographs as of November 2011.
 Tax Parcel lines were obtained on 2/22/11 from Oakland County. Although the information provided by this map is believed to be reliable its accuracy is not warranted in any way. The City of Rochester Hills assumes no liability for any claims arising from the use of this map.

Planning and Economic Development



Resources

-  Contributing
-  Non-Contributing
-  More Data Needed
-  Building (Footprint Varies)
-  New Bldg.
-  Structure
-  Site

0 100 200 Feet

by: Hamilton Anderson Associates
2002

Rochester Hills
Historic Districts Survey
 City of Rochester Hills
 Oakland County
 Proposed National Twist Drill
 and Tool Co. Historic District





Figure 1. National Twist Drill & Tool Company factory, 1941. Ray Russell Postcard Collection, Rochester Hills Public Library.



Figure 2. National Twist Drill & Tool Company office, ca. 1943. Courtesy of Kathie Rogers.



Photo 1. Aerial photo, 2007. Oakland County Planning Department.



Photo 2. Winter Brothers building, looking northeast (A). Photo by Jane Busch, November 2008.



Photo 3. Main factory building, looking northeast (C). Photo by Jane Busch, November 2008.



Photo 4. National office building, looking southeast (D). Photo by Jane Busch, November 2008.



Photo 5. Utility structure (H) in front; factory building (E) in rear, looking northeast. Photo by Jane Busch, November 2008.



Photo 6. Factory building (F); utility structure (K) in background, looking northeast. Photo by Burke Jenkins, Hamilton Anderson Associates, May 2002.



Photo 7. Water tower (G), looking northwest. Photo by Burke Jenkins, Hamilton Anderson Associates, May 2002.



Photo 8. Utility structures I (left) & J, looking northwest. Photo by Burke Jenkins, Hamilton Anderson Associates, May 2002.