FARMINGTON HILLS Michigan

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

2015 Michigan Residential Code Energy Worksheet for New Single-family Residential Building

To facilitate permit issuance and enable the plan reviewer to verify compliance with the applicable energy efficiency provisions of the 2015 Michigan Residential Code, please **complete this form (Parts I, II and III) and submit it along with your application for a new single-family residential building permit.**

Project Address:	

Part I - Mandatory Provisions

The following requirements (see code for full text) apply to all new single-family residential buildings. **Indicate that you understand and will comply with the following provisions by checking each box.**

MRC Sec. #	Description	☑
N1101.12.1 and 1.1	For insulation products that do not have an identification mark from the manufacturer, the insulation installer shall provide a certification listing the type, manufacturer and R-value of insulation in each element of the building thermal envelope. For blown or sprayed insulation, the initial thickness, settled thickness, settled R-value, installed density, coverage area and number of bags shall be listed on the certification. In addition, markers shall be installed throughout attic spaces in accordance with N1101.12.1.1. For sprayed polyurethane foam insulation, the installed thickness of the areas covered and the R-value of the installed thickness shall be listed on the certification. **Insulation certificates shall be submitted and approved by the Building Department prior to issuance of a Certificate of Occupancy.**	☐
N1101.16	Prior to final inspection, a permanent energy code certificate shall be posted on or in the electrical distribution panel. Such certificate shall be on a label approved by the Building Department and include all information required by Section N1101.16.	☐
N1102.4.1.2, N1105, or N1106	**Air Leakage Testing** - The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding the limits of the compliance path chosen. Testing shall be conducted by a certified independent third party. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope and such testing shall be conducted in the manner outlined in Section N1102.4.1.2. **A written report of the results of the test shall be signed by the party conducting the test and provided to the code official.**	☐

N1102.4.1.1

Air Leakage - The components of the building thermal envelope as listed in Table N1102.4.1.1 shall be installed in accordance with manufacturer's installation instructions and the following criteria:

TABLE N1102.4.1.1 (R402.4.1.1)
AIR BARRIER AND INSULATION INSTALLATION

COMPONENT	CRITERIA
Air barrier and thermal barrier	A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope shall contain a continuous air barrier. Breaks or joints in the air barrier shall be sealed. Air-permeable insulation shall not be used as a sealing material.
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier sealed. Access openings, drop down stair, or knee wall doors to unconditioned attic spaces shall be sealed.
Walls	Corners and headers shall be insulated and the junction of the foundation and sill plate shall be sealed. The junction of the top plate and top of exterior walls shall be sealed. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier. Knee walls shall be sealed.
Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed.
Rim joists	Rim joists shall be insulated and include the air barrier.
Floors (including above-garage and cantilevered floors)	Insulation shall be installed to maintain permanent contact with underside of subfloor decking. The air barrier shall be installed at any exposed edge of insulation
Crawl space walls	Where provided in lieu of floor insulation, insulation shall be permanently attached to the crawlspace walls. Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.
Narrow cavities	Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that readily conforms to the available cavity space.
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be air tight, IC rated, and sealed to the drywall.
Plumbing and wiring	Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that readily conforms to available space shall extend behind piping and wiring.
Shower/tub on exterior wall	Exterior walls adjacent to showers and tubs shall be insulated and the air barrier installed separating them from the showers and tubs.
Electrical/phone box on ext. walls	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.
HVAC register boots	HVAC register boots that penetrate building thermal envelope shall be sealed to the subfloor or drywall.
Fireplace	An air barrier shall be installed on fireplace walls.

N1102.4.2	**Fireplaces** – New wood-burning masonry fireplaces shall have tight-fitting flue dampers and outdoor combustion air.	☐	☐ NA
N1102.4.3	**Fenestration Air Leakage** – Windows, skylights and sliding glass doors shall have an air infiltration rate of no more than 0.3 cfm per square foot, and swinging doors on more than 0.5 cfm per square foot, when tested according to NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled by the manufacturer. **Exceptions:** Site built windows, skylights and doors. **Labels shall remain on windows until after insulation inspection.**	☐	
N1102.4.4	**Recessed Lighting** – Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage between condition and unconditioned spaces. All recessed luminaires shall be IC-rated and labeled as having an air leakage rate not more than 2.0 cfm when tested in accordance with ASTM E283 at a 1.57 psf pressure differential. **All recessed luminaires shall be sealed with a gasket or caulk between the housing and the interior wall or ceiling covering.**	☐	
N1103.1	**Controls** - At least one thermostat shall be provided for each separate heating and cooling system	☐	
N1103.1.1	**Programmable thermostat.** Where the primary heating system is a forced-air furnace, at least one thermostat per dwelling unit shall be capable of controlling the heating and cooling system on a daily schedule to maintain different temperature set points at different times of the day. This thermostat shall include the capability to set back or temporarily operate the system to maintain zone temperatures down to 55°F or up to 85°F. The thermostat shall initially be programmed with a heating temperature set point no higher than 70°F and a cooling temperature set point no lower than 78°F.	☐	
N1103.1.2	**Heat pump supplementary heat** - Heat pumps having supplementary electric resistance heat shall have controls that, except during defrost, prevent supplemental heat operation when the heat pump compressor can meet the heating load.	☐	☐ NA
N1103.2.2	**Sealing** - Ducts, air handlers, and filter boxes shall be sealed with approved sealants, including joints and seams. **Exceptions:** 1. Air-impermeable spray foam products may be applied without additional joint seals. 2. Where a duct connection is made that is partially inaccessible, 3 screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect. 3. Continuously welded and locking-type longitudinal joints and seams, of other than snap- lock and button-type per Section M1601.4.1, in ducts operating at static pressures less than 2 inches of water column pressure classification shall not require additional closure systems.	☐	

N1103.2.2	**Ducts and air handlers located outside the building thermal envelope or located within the building envelope assembly** – Duct tightness shall be verified by either a Rough-in or Post Construction pressure test in accordance with Section N1103.2.2. **A written report of the test results, signed by the party conducting the test, shall be provided to the code official prior to the issuance of a certificate of occupancy.**	☐	☐ NA
N1103.2.3	**Building Cavities** – Building framing cavities shall not be used as supply ducts or plenums.	☐	
N1103.3	**Mechanical system piping insulation** - Mechanical system piping capable of carrying fluids above 105°F or below 55°F shall be insulated to a minimum of R-3.	☐	☐ NA
N1103.3.1	**Protection of piping insulation.** Piping insulation exposed to weather shall be protected from damage, including that caused by sunlight, moisture, equipment maintenance, and wind, and shall provide shielding from solar radiation that can cause degradation of the material. Adhesive tape shall not be permitted as a protection method.	☐	
N1103.4.1	**Circulating hot water systems** - Circulating hot water systems shall be provided with an automatic or readily accessible manual switch that can turn off the hot-water circulating pump when the system is not in use.	☐	☐ NA
N1103.5	**Mechanical ventilation** - The building shall be provided with ventilation that meets the requirements of Section M1507 or with other approved means of ventilation. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating.	☐	
N1103.6	**Heating and Cooling Equipment Sizing** – Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies. **A heating/cooling plan, Manual J calculations, equipment sizes and efficiencies, duct R values, and supporting documentation shall be submitted to the Inspector at the rough mechanical inspection. All information shall be kept with the furnace and available for Final Inspection.**	☐	
N1103.8	**Snow melt system controls** - Snow and ice-melting systems, supplied through energy service to the building, shall include automatic controls capable of shutting off the system when the pavement temperature is above 50°F, and no precipitation is falling and an automatic or manual control that will allow shutoff when the outdoor temperature is above 40°F.	☐	☐ NA
N1103.9	**Pools and in-ground permanently installed spas** - Pools and in-ground permanently installed spas shall comply with Sections N1103.9.1 through N1103.9.3.	☐	☐ NA
N1104.1	**Lighting equipment** - A minimum of 75 percent of the lamps in permanently installed lighting fixtures shall be high-efficiency lamps or a minimum of 75 percent of the permanently installed lighting fixtures shall contain only high-efficiency lamps. **Exception:** Low-voltage lighting	☐	
N1104.1.1	**Gas Lighting equipment** - Fuel gas lighting systems shall not have continuously burning pilot lights.	☐	☐ NA

Part II - Compliance Paths

In addition to the mandatory requirements previously noted, energy code provisions require you to choose one of four alternative compliance paths to demonstrate code compliance. Indicate the path you choose below **by checking one** of the following boxes and completing the instructions.

☐ Prescriptive (as prescribed by the code)

If you choose to use the prescriptive method of compliance, you may demonstrate compliance by completing the attached Prescriptive Compliance Report Form. **Sign the compliance statement below and attach a copy of the completed Prescriptive Compliance Report Form along with this form when submitting for a building permit.** Please note that the prescriptive insulation materials and methods shown on the building plans shall match what is indicated on the compliance report.

☐ Total UA Alternative (prescriptive trade-off method)

Compliance with the Total UA Alternative method may be demonstrated by completing a compliance report using ***REScheck*** software provided free of charge at energycodes.gov. At present, ***REScheck*** does not offer a code edition incorporating State of Michigan amendments. However, you may use the **2015 International Energy Conservation Code (2015 IECC)** since it meets or exceeds Michigan requirements. Please use "Utica, Michigan" for location criteria. **Sign the compliance statement below and attach a copy of a signed compliance report, including the inspection checklist, with this form when submitting for a building permit.**

Please note that the building plans shall show the same materials and methods you use to complete the ***REScheck*** form. For example, if you use basement wall insulation in ***REScheck***, such insulation should be clearly indicated on the building plans too.

☐ Simulated Performance Alternative (performance analysis)

Certain commercially available compliance software (e.g. REM/RATE, etc.) may be used to demonstrate that the proposed construction will have an annual energy cost that is less than or equal to the energy cost of the standard reference design. Please see Section N1105 of the code for specific criteria.

Such software shall generate a compliance report that documents that the proposed design complies and shall include information outlined in Section N1105. **Sign the compliance statement below and attach a copy of the completed compliance report with this form when submitting for a building permit.**

☐ Above Code Programs

Compliance with certain energy efficiency programs such as Energy Star Version 3 and ICC 700-2012 "silver" are acceptable. See Section N1101.7 and N1106 for specific provisions. Provide a compliance report that documents that the proposed design meets program requirements. **Sign the compliance statement below and attach a copy of the completed compliance report with this form when submitting for a building permit.**

Part III - Compliance Statement

I have read and completed the above form and will insure that the actual construction complies with Chapter 11 of the 2015 Michigan Residential Code.

Project Applicant:	Signature	Date
	Printed Name	

Prescriptive Compliance Report Form

(Please note that this form is **only** required if you have chosen the Prescriptive Compliance path.)

In the table below, **indicate the proposed values** of insulation, fenestration and other components in your proposed home. Please note that such components shall meet or exceed the performance of the prescribed values. If you have any clarifications, please note them in the comment section. Finally, insure that the building plans submitted show the same materials and methods you use to complete this form.

Component Description[a]	Prescribed Value	Proposed Value	Comment
Fenestration U-Factor	0.32		
Skylight U-Factor[b]	0.55		
Ceiling R-Value	38		
Wood Frame R-Value	20 or 13+5[g]		
Mass Wall R-Value[h]	13/17		
Floor R-Value	30[f]		
Basement Wall R-Value[c]	10/13		
Slab R-Value/Depth[e]	10/2 feet		
Crawl Space Wall R-Value[d]	15/19		
Ducts outside building thermal envelope (i.e. attic spaces) R-Value	8		
Ducts within building but outside conditioned space (i.e. crawls spaces) R-Value	6		
Ducts within building envelope assembly, insulation placed between duct and unconditioned space R-value	8		
High-efficacy lamps in permanently installed light fixtures - Percentage	75%		
Attic access doors - Doors shall be weather-stripped and insulated to level of ceiling insulation. A wood frame or equivalent retainer is required around the access when loose fill insulation is used.			

a. R-values are minimums. U-factors are maximums.
b. The fenestration *U*-factor excludes skylights.
c. "10/13" means R-10 continuous insulation on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.
d. "15/19" means R-15 continuous insulation on the interior or exterior of the home or R-19 cavity insulation at the interior of the crawlspace wall. "15/19" may be met with R-13 cavity insulation on the interior of the crawlspace wall plus R-5 continuous insulation on the interior or exterior of the home.
e. R-5 shall be added to the required slab edge R-values for heated slabs.
f. Or insulation sufficient to fill the framing cavity, R-19 minimum.
g. First value is cavity insulation, second is continuous insulation or insulated siding, so "13 + 5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding. If structural sheathing covers 40% or less of the exterior, continuous insulation *R*-value may be reduced by no more than R-3 in the locations where structural sheathing is used – to maintain a consistent total sheathing thickness.
h. The second *R*-value applies when more than half the insulation is on the interior of the mass wall.

This form is intended to provide a simplified method of documenting prescriptive code compliance. Please see the full code context for exceptions, alternatives and other requirements that may apply.

CITY OF FARMINGTON HILLS

DEPARTMENT OF PUBLIC SERVICES
31555 Eleven Mile Road
Farmington Hills, MI 48336

Building Permit No.(s) _____

This permit is supplemental to and required prior to the issuance of a Building Permit and Certificate of Occupancy for the below mentioned site. It must be completed by the Applicant responsible for all work under the provisions of the Building Permit and Certificate of Occupancy and sealed by a Registered Professional Engineer, Land Surveyor, or Architect licensed to practice in the State of Michigan.

_____ _____
APPLICANT ADDRESS

_____ _____
APPLICANT'S SIGNATURE – DATE PHONE NUMBER

The above named applicant hereby makes application for a permit to install grading, drainage control, erosion, and sediment control measures, and a residential driveway approach within the right-of-way in accordance with the attached Residential Drainage and Approach Plan for the following site:

LEGAL DESCRIPTION:

All construction shall be in accordance with the current standards and specifications of the City of Farmington Hills.

Design Approval

City of Farmington Hills, by _____ Date _____

TO BE COMPLETED AFTER THE ISSUANCE OF A BUILDING PERMIT AND PRIOR TO THE RELEASE OF A CERTIFICATE OF OCCUPANCY

We certify that we have completed construction on the above site in accordance with all plans, specifications, and conditions as established by this permit.

_____ _____
APPLICANT SIGNATURE

_____ MICH. REGISTRATION NO. _____
SIGNATURE (REGISTERED PROFESSIONAL ENGINEER, LAND SURVERYOR, ARCHITECT)

Field Inspection Approval

City of Farmington Hills, by _____ Date _____

CONDITIONS OF PERMIT

1. PRECAUTIONS: During the progress of any work undertaken within the limits of said highway in pursuance hereof, the Licensee shall provide watchmen and flagmen as may be required for the safety and convenience of the public and/or as shall deem advisable by the City; and shall furnish all barricades, signs and lights as required by the City. Traffic shall be maintained at all times unless otherwise indicated hereon by special endorsement of the City's duty authorized representative.
2. ACCIDENT LIABILITY AND INDEMNIFICATION: The said Licensee shall be liable for all damages, both to property and to persons, resulting from accidents which may occur as a result of the proposed operations in pursuance hereof. The Licensee shall save harmless and indemnify the City of Farmington Hills from any claim for damages of any nature whatsoever which may arise out of his operation under this permit and upon request, furnish proof of insurance coverage for the term of this permit.
3. WORK WITHIN CORPORATE LIMITS OF CITIES, VILLAGES, OR TOWNSHIPS: Licensee shall be responsible for securing and shall secure, any other permits necessary or required by law from cities, villages, townships, corporations, individuals, or other governmental agencies.
4. BONDS: The Licensee shall upon request, file a bond acceptable to the City of Farmington Hills and conditional upon performance of the conditions of the permit and compliance with all requirements of law.
5. VIOLATION: The violation of any condition of this permit by the said Licensee shall constitute a forfeiture of rights hereunder.
6. REVOCATION OF PERMIT: It is to be understood that the rights granted herein are revocable at the will of the City and that the Licensee acquires no rights in the highway and expressly waives any right to claim damages or compensation in case this permit is revoked.

A copy of this permit shall be kept at the stated work, subject to inspection at all times by the City or any of its duty authorized agents.

STANDARD SPECIFICATIONS

1. All construction shall conform to the current standards and specifications of the City of Farmington Hills.
2. A Right-of-Way permit from the Engineering Division of the Department of Public Services will be required along with payment of all application fees/deposits. Additional permits may be required from the City of Southfield, City of Farmington, Oakland County Road Commission, Wayne County Road Commission, and/or the Michigan Department of State Highways and Transportation as required with the requirements of the governing agency of the affected road and road right-of-way.
3. DRIVEWAY DIMENSIONS: The width at property line shall be at least 10 feet but not more than 25 feet. If the road is curbed, the width of the curb opening shall be as shown on the plan but shall not be less than 14 feet or more than 50 feet. All curb cuts shall be saw cut and removed. Gutters shall be maintained with a one inch lip of the same material as the curbing.
4. DRAINAGE: The driveway shall be constructed so that the drainage is not adversely affected by the driveway. The drainage and the stability of the road sub grade shall not be altered by driveway construction or roadside development. All culvert pipe used shall be of a size adequate to carry the anticipated natural flow of the ditch; the culvert shall be no smaller than the size determined by the City, nor shall it be less than 12 inches inside diameter. Culvert length shall be at least 22 feet but not more than 36 feet. Except for driveways, the enclosure of ditches will not be permitted, unless a detailed plan is submitted by a civil engineer indicating a designed storm drainage system. The use of headwalls on culvert ends will not be permitted. The use of sloped end sections is encouraged.

All proposed property line grades shall meet existing grades wherever possible. If this is not practical, the design and installation of an earth retaining wall may be required of the builder at the discretion of the Director of Public Services.

NO FILL IN EXCESS OF 1,000 CUBIC YARDS PER SITE WILL BE ALLOWED WITHOUT THE ISSUANCE OF A FILL PERMIT.

Existing or proposed roadway ditches must be improved across the entire frontage of the site in conjunction with this permit to a minimum side slope of one vertical to three horizontal with a two foot wide channel bottom unless otherwise approved by the Engineering Division of the Department of Public Services.

5. SURFACING: when the road is paved, driveways shall be paved between the edge of pavement and the existing or proposed sidewalk. If there is no existing or proposed sidewalk, the surface shall extend at least 10 feet from the edge of pavement or to the right-of-way line, whichever distance is greater. When the road is unpaved, paving of the driveway is not required. However, if such a driveway is to be paved, the paving shall extend no closer to the road than one foot behind the driveway culvert location. Driveway pavement shall be a minimum of three inches of bituminous surfacing on a 4" gravel base, or six inches of P.C. concrete. Any other driveway material must be approved by the Engineering Division of the Department of Public Services.
6. GRADE: If the road is uncurbed, the grade of the driveway between the road edge of pavement and the edge of the shoulder shall conform to the slope of the shoulder. If the road is curbed, the grade shall not exceed 7% (7 feet per 100 feet) upward or downward from the road unless specifically waived by the Engineering Division of the Department of Public Services.
7. EROSION AND SEDIMENT CONTROL: The entire site shall be subject to all requirements set forth in the Soil Erosion and Sediment Control Ordinance of the City of Farmington Hills.

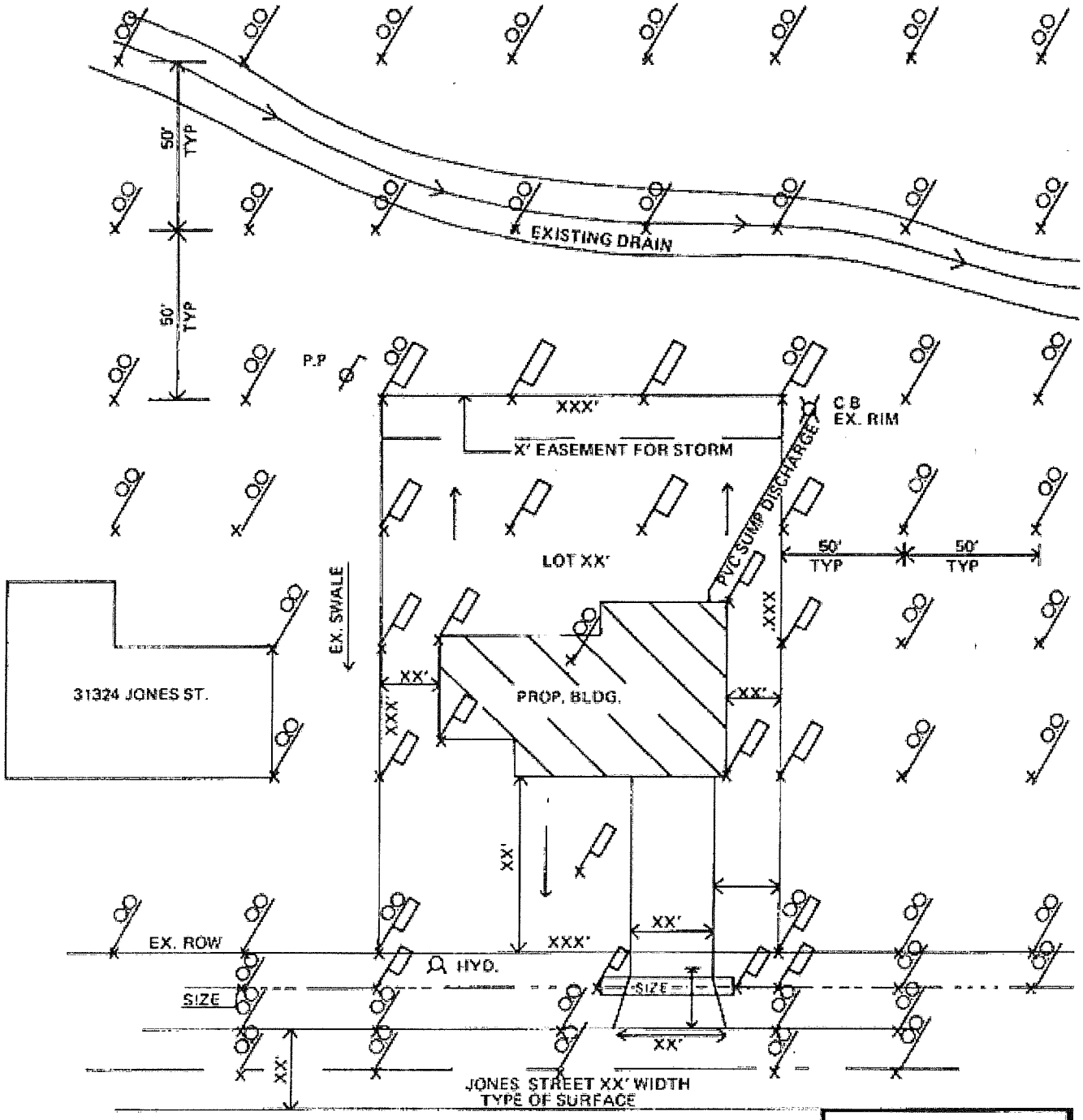
An additional cash escrow deposit of $500.00 will be required if the applicant wishes, due to inclement weather prohibiting a field drainage inspection, a postponement of Grading and Culvert and Ditch inspections. This allows the issuance of a temporary certificate of occupancy until the inspections can be made. The balance of the deposit will be refunded upon Final Inspection Approval.

Residential Drainage and Approach Plan Requirements

The plan shall contain the following:

_____ North arrow
_____ Scale
_____ Benchmark (City of Farmington Hills, USGS Datum)
_____ Applicant's name
_____ Legal description
_____ Title "Drainage and Approach Plan"
_____ Legend including differentiation between existing and proposed grades
_____ Street name and right of way
_____ Location map
_____ Type of surface on street with pavement width
_____ Lot lines or parcel lines with dimensions
_____ All existing utilities and structures (hydrants, poles, catch basins, manholes, etc.)
_____ All existing buildings and their addresses (on-site and within one hundred feet off-site)
_____ Existing ditches and culverts along with grades
_____ Existing grades:
    _____ Centerline of road
    _____ Edge of road (top of curb, edge of pavement or edge of gravel)
    _____ Inverts of road ditch (to first culvert up and downstream or 100 feet)
    _____ Property line (each corner and at 50 ft. intervals)
    _____ Brickledge (every building within 100 ft.)
    _____ Center of lot
    _____ 50 ft. and 100 ft. off-site grid
_____ Proposed grades:
    _____ Brickledge at proposed building (4 corners minimum)
    _____ Property line (each corner and at 50 ft. intervals)
    _____ Inverts of ditch in roadway at projected property line
    _____ Inverts of proposed drive culvert(s)
    _____ Center of rear and front yard
_____ Proposed setback dimensions
_____ Drainage arrows for proposed on-site drainage
_____ Type, size length of proposed culvert(s)
_____ Proposed drive approach material, width, slope, dimensions
_____ Erosion and sediment control measures
_____ Sump pump discharge (if applicable) – location, material, size, clean out
_____ Original signature and seal of Registered Engineer, Land Surveyor, or Architect
_____ Water service line, sanitary service line – location, material, size, clean out locations
_____ Drainage swale location and typical cross section
_____ 100-year floodplain elevation (if applicable)
_____ Easements – existing and proposed

Note: A complete property line survey is not required on parcels over 1.5 acres and requirements shall be considered on an individual basis.


50' TYP
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TYPE OF SURFACE
BETWEEN MAIN ST. AND DEAD END
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LEGEND
EXISTING GRADE
PROPOSED GRADE
TYPE, SIZE, LENGTH
OF PROP CULVERT
DRIVE APPROACH MATERIAL
B.M. HYDRANT XXX.XX, LOCATION
SEAL
(SUBMIT 2 COPIES)
APPLICANT
LOT 22 HAFELI SUB
SEC. 3
OR TAX PLATE NO WITH
LEGAL DESCRIPTION
DRAINAGE AND
APPROACH PLAN
SCALE 1"= XX'

OAKLAND COUNTY WATER RESOURCES COMMISSIONER

ONE PUBLIC WORKS DRIVE, WATERFORD, MICHIGAN 48328
PHONE (248) 858-1110 / (888) 350-0900 / FAX (248) 858-1066
WRC Web Address - http://www.oakgov.com/drain/permit_license/wat_sewer.html

PROPERTY DESCRIPTION

Municipality _____

No. _____ Street _____

Lot No. _____ Sidwell No. _____

Subdivision _____

Service Required: Line Size _____ Meter Size _____

Service Line Location: _____ Ft. from left side / right side (circle one) of House / Bldg. Foundation.

Check box(es) if applicable: ☐ Line In ☐ Line Staked **Type of pipe:** _____ (For Orchard Lake only)

_____ Plumber's Name

_____ Plumber's Telephone Number

CUSTOMER INFORMATION

_____ Customer's Name

_____ Customer's Address

_____ Customer's City and Zip Code

_____ Customer's Telephone Number

Backflow Prevention Information: (Please check all that apply)

☐ Boiler ☐ Lawn Sprinkler ☐ Swimming Pool ☐ Non-Applicable

Type of Structure: ☐ New ☐ Existing ☐ Residential ☐ Non-Residential

Corner Lot: ☐ Yes ☐ No **NOTE:** *If your lot is a corner lot, the water tap will be made to the water main that does not require crossing the road.*

Fire Line Yes ☐ No ☐

Existing Well: ☐ Yes ☐ No **NOTE:** *If yes, WRC to provide the MDEQ "Plugging Abandoned Wells" brochure & forward copy of the Water Connection Permit to the Oakland County Health Department*

COMPUTATION OF CHARGES

Water Connection Permit	$
Capital Charge _____ Units X _____/Unit	
Detecto	
Other	
Total	$

BILLS WILL BE MAILED TO THE SERVICE ADDRESS UNLESS OTHERWISE REQUESTED.

I have read and understand the Water Service Connection Regulations (Document DC-304) and agree to abide by them. In addition, I have received the MDEQ "Plugging Abandoned Wells" brochure if applicable.

Signature of Customer or Customer's Agent _____ Date: _____

DEPARTMENT OF PUBLIC SERVICES
ENGINEERING DIVISION
31555 ELEVEN MILE ROAD
FARMINGTON HILLS, MICHIGAN 48336
248/871-2560
FAX: 248/871-2561

RIGHT-OF-WAY-PERMIT

PERMIT TO CONSTRUCT, OPERATE, USE AND/OR MAINTAIN WITHIN THE RIGHT-OF-WAY.

This form acts as an application for the permit and upon approval becomes the final permit for the work described herein.

PERMIT NUMBER:	**DATE OF APPLICATION:**
TYPE OF RIGHT-OF-WAY PERMIT:	**RESIDENTIAL $ 75.00** ☐ **COMMERCIAL $175.00** ☐
FEES: PERMIT COST: $	
CASH DEPOSIT $	*(balance returnable when site approved)*
INSPECTION DEPOSIT $	*(balance returnable when site approved)*
TOTAL $	
SECTION NO:	**INSPECTOR:**
INSURANCE CERTIFICATE RECEIVED:	**YES** ☐ **NO** ☐

The applicant (name) _____

(Corp., property owner, contractor) _____

hereby makes application for a permit to CONSTRUCT, OPERATE, USE and/or MAINTAIN or to TEMPORARILY CLOSE a City of Farmington Hills ROAD within the part of the right-of-way under the jurisdiction of the City of Farmington Hills described as follows:

Name & location of road: _____

for a period commencing _____ and ending _____

A detailed description of the desired facility and/or activity is as follows: (Include size, length, and type of facility; if underground, indicate depth below surface; if parallel to road, indicate distance from inside edge of facility to edge of pavement. If crossing under roadbed, describe method.

The above stated intentions will be carried out in accordance with plans, specifications, map and statements filed with the City of Farmington Hills as part of this application, and if said application is approved, the above named applicant agrees to do the items on the reverse side of this permit.

APPLICANT		The application as requested above is hereby approved, subject to the conditions to which applicant therein agrees. The obligation to operate, use and/or maintain the facility to the satisfaction of the City of Farmington Hills remains in force as long as the facility exists and is within the right-of-way under the jurisdiction of the City of Farmington Hills.
NAME:		
SIGNATURE:		
ADDRESS:		
CITY:		☐ **APPROVED** ☐ **NOT APPROVED**
STATE:	**ZIP:**	**NAME:**
PHONE:		**SIGNATURE:**
DATE:		**DATE:**
EMAIL:		

NOTE: This permit does not relieve applicant from meeting any applicable requirements of law or other public bodies or agencies.

1. Secure a permit from the City of Farmington Hills prior to the commencement of construction or maintenance operations. If a contractor is to perform the construction or maintenance entailed in this application, he shall secure a permit from the City of Farmington Hills prior to the commencement of construction or maintenance operations and thereby assumes responsibility, along with the applicant, for any provisions of this application which may apply to him.

2. Any and all construction proposed under this application will meet all requirements of the City of Farmington Hills together with the Supplemental Specifications set forth below.

3. Save harmless the City of Farmington Hills against any and all claims for damages arising from operations covered by this application and furnish proof of insurance coverage for the term of the permit issued. Insurance coverage shall be for public liability, property damage and workman's compensation at limits deemed acceptable to the City of Farmington Hills.

4. Surrender the permit herein applied for; surrender all rights hereunder; cease operations; and remove, alter, relocate at applicant's own expense the facilities for which this permit is granted whenever ordered to do so by the City of Farmington Hills because of the need for the area covered by this permit for public use or because of a default in any of the conditions of the permit. Upon failure to remove, alter, relocate or surrender the facilities pursuant to the order of the City of Farmington Hills, reimburse the City of Farmington Hills for its cost in doing same.

5. Nothing in this application shall be constructed to grant any rights whatsoever to any pubic utilities whatsoever except as to the consent herein specifically given, nor to impair anywise any existing rights granted in accordance with the constitution or laws of this State.

6, Additional conditions: _____

_____

SUPPLEMENTAL SPECIFICATIONS

1. **INTENT:** Since a permit will have to be secured from the City of Farmington Hills prior to the start of any construction or maintenance operations proposed by this application, it is the intent of these supplemental specifications to be incorporated as part of the plans or specifications required for this proposed work.

2. **EXCAVATION AND DISPOSAL OF EXCAVATED MATERIAL:** The City of Farmington Hills shall specify if trenches or excavations under or adjacent to the road surface shall be sheeted, shored and/or braced in such a manner as to prevent caving, loss, or settlement of foundation material supporting the pavement.

   Excavated material shall be stocked in such locations that it does not obstruct vision on the traveled portion of the road and in such a manner that it will interfere as little as possible with the flow of traffic. Sod and topsoil shall be stocked separately from other excavated material. The applicant shall dispose of all surplus and unsuitable material outside of the limits of the highway unless the permit provides for disposal at approved locations within the right-of-way. In the latter case, the material shall be leveled and trimmed in an approved manner.

3. **BACKFILLING AND COMPACTING BACKFILL:** All trenches, holes and pits, where specified, shall be filled with sound earth or with sand-gravel if so provided, placed in successive layers not more than 6 inches in depth, loose measure, and each layer shall be thoroughly compacted by tamping and all backfill subject to check by the Controlled Density Method (minimum 95%). Sod and topsoil shall be replaced.

   Sand-gravel backfill material shall consist of approved bank-run sand or gravel or a mixture of approved sand or stone screenings in the mixture. All of the material shall be of such size that it will pass through a screen having 2 ½ inch square openings, unless otherwise authorized.

   Any excavation within right-of-way outside traveled portion of road must be maintained until all settlement has occurred and must be reshaped and seeded.

   All excavation within traveled portion of road must be backfilled with sand and compacted. Special requirements to be determined by type of surface.

4. **CROSSING ROADBED BY TUNNELLING:** When the pipe is installed by tunneling, boring or jacking without cutting the existing pavement, the backfill shall be made by tamping a dry mix of lean concrete into place so as to completely fill any voids remaining around the installation. The concrete shall be composed of one part of Portland cement and 10 parts of sand-gravel by volume. Sand-gravel shall conform to the requirements given in paragraph 3.

5. **CROSSING BY CUTTING GRAVEL ROADS:** All trenches are to be backfilled with approved material to within 12 inches of surface within the limits of the roadbed. Backfill methods will be as described in paragraph 3. All surplus excavated material will be disposed of as described in paragraph 2. The top 12 inches within the roadbed will be backfill with 8" of 4A limestone or slag topped with 4 inches of processed road gravel (M.S.H.D.22-A). Trenches outside of the roadbed will be backfilled in accordance with paragraph 3.

6. **CROSSING BY CUTTING PAVEMENT AND TRENCHING:** When this method is used, the pavement shall be cut back so that the opening is at least 12 inches wider on each side than the width of the trench. In all concrete surfaces or bases, edges of trenches shall be formed by the use of a concrete saw. The pavement shall be broken in such a manner as to allow the reinforcing steel, if any, to protrude a sufficient distance for lapping or typing with similar reinforcement in the pavement patch. Backfill shall be in accordance with paragraph 3. After the backfill has been thoroughly compacted, the pavement shall be replaced with processed road gravel (M.S.H.D. 22-A) stabilized with chloride until such time as the pavement can be replaced with new pavement by the Permit Licensee. Maintenance of the temporary pavement will be assumed by the City of Farmington Hills if Contractor fails to do so and cost incurred will be deducted from Permit Licensee's deposit.

7. **DEPTH OF COVER MATERIAL:** Pipes shall be placed to a depth that will provide not less than 4 feet of cover between the top of roadway surface and the pipe.

8. **TREE TRIMMING OR REMOVAL:** This permit will be required for any proposed tree trimming or removal in the road right-of-way.

9. Any proposed operation in the right-of-way not covered by the above specifications submitted with this application shall be done in accordance with additional specifications or instructions deemed necessary by the City of Farmington Hills or its duly authorized representative.

NOTE: <u>THE FOLLOWING MUST BE ATTACHED TO APPLICATION WHEN APPLICABLE:</u> 1. Plans, specifications and location of facility. 2. Traffic plan in cases of street closures.

EXPIRATION DATE: _____

PERMIT NO.: _____

PERMIT EXTENSION IF APPLICABLE.: _____

(All extensions good for one year from the date of the extension)

APPLICATION AND PERMIT (WHEN APPROVED)
SOIL EROSION AND SEDIMENTATION CONTROL PERMIT
PUBLIC ACT 451 OF 1994
CITY OF FARMINGTON HILLS
31555 ELEVEN MILE ROAD
FARMINGTON HILLS, MI 48336
(248) 871-2560
FAX (248) 871-2561

SINGLE FAMILY RESIDENCE OR PROJECT ON INDIVIDUAL LOT
(EXCEEDING ONE ACRE IN SIZE OR LOCATED WITHIN 500 FEET OF A LAKE OR STREAM)**

APPLICATIONS NOT FULLY COMPLETED WILL BE RETURNED

1. **GENERAL INFORMATION** **(sections a, b, c, and d must be complete)**

   a. Builder's Name: _____

   b. Section No. _____ Sidwell No. _____

   c. Legal Description: _____

   d. Subdivision Name: _____ Lot No. _____

2. **NAME, ADDRESSES AND PHONE NUMBERS**

Property Owner of Record

Name: _____

Address: _____

City: _____

State: _____ Zip Code: _____

Phone No. _____

Erosion Control Plan By: _____

Name: _____

Address: _____

City: _____

State: _____ Zip Code: _____

Applicant

Name: _____

Address: _____

City: _____

State: _____ Zip Code: _____

Phone No. _____

Project Contact

Name: _____

Company _____

Address: _____

City: _____

State: _____ Zip Code: _____

Phone No: _____

Project contact e-mail address:

_____

****A stream shall be interpreted to include any watercourse and/or storm sewer discharging into the stream (City Code, Chapter 24, Article III, Section 24-53).**

3. PROJECT INFORMATION

a. Type of Construction

_____ Single Family Residence

_____ Addition to a Residence

_____ Fill, Land Balancing or Grading Operation

_____ Other (Specify)

b. Total area of parcel/lot (acres)*: _____
* Note: Parcels/lots over 5.0 acres require an NPDES Permit.

c. Total area of earth disruption (acres) _____

d. Anticipated earthwork starting date (M/Y): _____

e. Anticipated ending date (M/Y): _____

f. Type of soil (s) on site: _____

4. HYDROLOGIC CHARACTERISTICS OF SITE

a. Type of "ULTIMATE" drainage outlet (s) Distance to Outlet: _____ Feet

_____ County Drain Name of Drain: _____

_____ Lake/Pond Name of Lake/Pond: _____

_____ River/Stream Name of River/Stream: _____

_____ Enclosed Drain Name of Drain: _____

_____ Detention Basin _____ Retention Basin (no outlet)

_____ Wetland

_____ Open Ditch

_____ Overland Flow

_____ Other

b. Will project include any work within the 100-year flood plain? ☐ Yes ☐ No

c. Will project include any work within a lake or stream? ☐ Yes ☐ No

d. Does this project require a Michigan Department of Environmental Quality Permit? ☐ Yes ☐ No

e. If yes, what is the Michigan Department of Environmental Quality Permit No: _____

5. PERMIT REVIEW FEE

PERMIT FEE= $ 75.00

6. INSPECTION DEPOSIT

INSPECTION DEPOSIT= $ 2,000.00

(**Note:** Additional funds may be required and must be deposited as directed)

7. SECURITY BOND

Cash, certified check, or irrevocable bank letter of credit from an approved financial institution. (equal in amount to the estimate of cost of the soil erosion and sedimentation control measures to be installed)

SECURITY BOND= $_____

8. PERMIT APPLICATION INSTRUCTIONS

a. Complete Permit Application (type or print clearly in ink)

b. The required Security Bond will be calculated by the Engineering Division after the plan has been reviewed.

c. Submit Soil Erosion and Sedimentation Control Plan, which must include all of the following:

1. Location map, north arrow
2. Topographic map showing existing natural drainage patterns
3. Drainage arrows for proposed on-site drainage
4. All lakes, streams, wetlands, drains, etc. shown
5. Identify ultimate drainage outlet
6. Sequence of construction operations (include temporary and permanent SESC measures)
7. Graphic location of soil erosion and sedimentation control temporary and permanent measures
8. Limits of earth disruption and construction
9. Construction/installation details of soil erosion and sedimentation temporary and permanent control measures
10. Provisions for proper maintenance of soil erosion and sedimentation temporary and permanent control measures
11. Name of organization that will be responsible for maintenance of permanent soil erosion and sedimentation control measures
12. Legal description of site
13. Name/address and seal of engineer/architect who prepared this plan
14. Date plans were prepared
15. Predominate land features (trees, open fields, buildings, etc.)
16. On site soil types

d. Submit applications, plans, fees, bond, and deposits to the Building Division.

Note: The City of Farmington Hills reserves the right to require modifications to the approved soil erosion and sedimentation control plans as conditions warrant.

9. APPLICANT SIGNATURE

I have read the application instructions and completed the permit application. I understand that applications not fully completed will be returned, resulting in a delay. I understand that this permit will expire within one (1) year from the DATE OF ISSUANCE. Projects not completed within that year may be renewed for an additional year upon written request by the property owner. I understand that regular inspections will be constructed by the City of Farmington Hills or its representatives and that should any soil erosion and sedimentation control measure fall into disrepair, be missing or require maintenance, the City shall have the right to enter upon said property, take appropriate corrective action and bill me for such or deduct the cost from the Security Bond.

PRINT NAME: _____

SIGN NAME: _____ DATE: _____

10. PROPERTY OWNER SIGNATURE (required for sites over 5.0 acres)

I am the current property owner of the property identified in this permit and will ensure that all requirements and conditions of this permit will be complied with. I understand that regular inspections of the site will be conducted by the City of Farmington Hills or its representatives and that should any soil erosion and sedimentation control measure fall into disrepair, be missing or require maintenance, the City shall have the right to enter upon said property, take appropriate corrective action and bill me for such or deduct the cost from the Security Bond.

PRINT NAME: _____

SIGN NAME: _____ DATE: _____

11. PERMIT REVIEW STATUS

_____ Permit Approved
_____ Returned for Revisions
_____ Permit Denied

By: _____

Date of Issuance: _____

PRIOR TO ISSUANCE OF A BUILDING PERMIT, CONSTRUCTION OR WORK COMMENCING, THE CONTRACTOR SHALL HAVE ALL APPLICABLE SOIL EROSION AD SEDIMENTATION CONTROL MEASURES INSTALLED. 48 HOURS PRIOR TO WORK COMMENCING THE CONTRACTOR SHALL CONTACT THE DIVISION OF ENGINEERING AT (248) 871-2560 TO SCHEDULE AN INSPECTION OF THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES.

THIS PERMIT AND APPROVED PLAN MUST BE ONSITE AND AVAILABLE FOR ALL INSPECTIONS.

STANDARD NOTES

SOIL EROSION AND SEDIMENTATION CONTROL

GENERAL

1. All soil erosion and sedimentation control work shall conform to the standards and specifications of the City of Farmington Hills.

2. Daily inspections shall be made by the contractor to determine effectiveness of soil erosion and sedimentation control measures, and any necessary repairs shall be performed without delay.

3. Erosion and any sediment from work on this site shall be contained on the site and not allowed to collect on any off-site areas or in waterways. Waterways include both natural and man-made open ditches, streams, storm drains, lakes, and ponds.

4. Soil erosion and sedimentation control measures are to be placed prior to work commencing on site. Sediment control practices will be applied as a perimeter defense against any transporting of silt off the site.

5. The contractor shall apply temporary soil erosion and sedimentation control measures as required and directed on these plans. He shall remove temporary measures as soon as permanent stabilization of slopes, ditches, and other earth changes have been accomplished.

6. Permanent soil erosion and sedimentation control measures for all slopes, channels, ditches, or any disturbed land area shall be completed within 5 calendar days after final grading or the final earth change has been completed. When it is not possible to permanently stabilize a disturbed area after an earth change has been completed or where significant earth change activity ceases, temporary soil erosion and sedimentation control measures shall be implemented within 30 calendar days. All temporary soil erosion and sedimentation control measures shall be maintained until permanent soil erosion and sedimentation control measures are implemented. All permanent soil erosion and sedimentation control measures will be implemented and established before a certificate of occupancy is issued.

7. All mud/dirt tracked onto existing city/county/state roads from this site, due to construction, shall be promptly removed by the contractor/builder.

GENERAL CONDITIONS

In accordance with Rule 1709 promulgated under the authority of Part 91, Soil Erosion and Sedimentation Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and in addition to the information on the attached plan(s) and special conditions, the following general conditions apply to the earth change authorized by this permit:

- Design, construct, and complete the earth change in a manner that limits the exposed area of disturbed land for the shortest period of time.

- Remove sediment caused by accelerated soil erosion from runoff water before it leaves the site of the earth change.

- Temporary or permanent control measures shall be designed and installed to convey water around, through, or from the earth change at a non-erosive velocity.

- Install temporary soil erosion and sedimentation control measures before or upon commencement of the earth change activity and maintain the measures on a daily basis. Remove temporary soil erosion and sedimentation control measures after permanent soil erosion measures are in place and the area is stabilized. ("Stabilized" means the establishment of vegetation or the proper placement, grading, or covering of soil to ensure its resistance to soil erosion, sliding or other earth movement.)

- Complete permanent soil erosion control measures for the earth change within five calendar days after final grading or upon completion of the final earth change. If it is not possible to permanently stabilize the earth change, then maintain temporary soil erosion and sedimentation control measures until permanent soil erosion control measures are in place and the area is stabilized.

- The permitted activity shall be completed in accordance with the approval plans and specifications, and the attached general and specific conditions

- This permit does not waive the necessity for obtaining all other required federal, state, or local permits.

- Permittee shall notify the permitting agency within one week after completing the permitted activity or one week prior to the permit expiration date, whichever comes first.

SPECIFIC CONDITIONS

Building Office Router #:_____

City of Farmington Hills

Department of Planning and Community Development

TREE PERMIT

(248) 871-2540

Permit No.
Application Date: _____

Property Address/Location: _____ Lot #:_____

Owner: _____ Phone: _____

Owner Address: _____

Applicant Name: _____ Phone: _____
(if other than owner)

Relationship of Applicant to Property:_____

CHECK ONE: (NEW)

- ☐ Single Family Residential
- ☐ Attached Cluster Residential
- ☐ Multi-Family Residential
- ☐ Commercial/Office/Industrial
- ☐ Utility
- ☐ Other: Explain: _____

CHECK ONE: (OCCUPIED)

- ☐ Single Family
- ☐ Other: Explain: _____

PROPOSED ACTIVITY: (Attach additional sheet if necessary)

PROTECTED TREES TO BE REMOVED (6" DBH* OR GREATER: NON-LANDMARK)	**Type**	***DBH**	**Quantity**
* Diameter at Breast Height			

LANDMARK TREES TO BE REMOVED	**Type**	***DBH**	**Quantity**

	Type & Caliper/Height	**Quantity**
REPLACEMENT TREES TO BE PLANTED ON-SITE		
REPLACEMENT TREES FOR PUBLIC DISTRIBUTION		

Remarks: _____

_____

_____

Applicant Signature:_____

FOR OFFICE USE ONLY

SUPPORT DOCUMENTS	**Required**	**Provided**
Tree Location Survey		
Removal of Trees Marked in the Field		
Protected Trees Barricaded and Protected		
Escrow for Replacement Trees On-Site (Trust #_____)		$
Cash Deposit for Replacement Trees for Public Distribution (Account # 701000-500-273-850)		$
Approved:		
Approved with Conditions:		
Denied:		

Explanation: _____

_____

_____ _____

Department Signature Date

CITY OF FARMINGTON HILLS

TREE PROTECTION ORDINANCE AFFIDAVIT

(no tree survey/permit required)

STATE OF MICHIGAN)
)SS.
COUNTY OF OAKLAND)

The undersigned, first being duly sworn, deposed and says:

1. That the undersigned is the Owner and/or Developer of the following described property located in the City of Farmington Hills, Oakland County, Michigan to-wit:
   Street Address: _____Lot #:_____
   _____
2. That the undersigned made this Affidavit for the purposes of obtaining a Building Permit from the City of Farmington Hills in compliance with all applicable Ordinances;
3. That the undersigned is familiar with the provisions and requirements of the Farmington Hills Zoning Ordinance and, in particular, those sections that relate to the protection, removal and replacement of trees as defined in the Ordinance (Section 34-2.2, Definitions, and Section 34-5.18, Tree Protection, Removal and Replacement);
4. That the undersigned has visited and inspected the premises in light of the requirements of the provisions of the Zoning Ordinance, above mentioned;
5. That attached to this Affidavit are photographs of the property which accurately portray the lack of trees on the property and support the fact that no trees will be removed and/or no work will occur within the dripline of any trees, and therefore, no tree survey is necessary or required and no tree permit is therefore necessary or required. The attached photos were taken on: _____.
6. That the undersigned makes this Affidavit with full knowledge of the requirements of the applicable Ordinance after having visited and inspected the site with the understanding that if any inaccuracies or misrepresentations have been made, herein, which are relied upon by the City, and which are subsequently discovered, the City will issue a Stop Work Order for all work on the site which the undersigned will comply with until all requirements of the Ordinance are complied with.

Further, Deponent saith not.

Executed this _____day of _____, year _____

OWNER/DEVELOPER:

_____ _____
(Signature) (Printed Name)

_____ _____
(Address) (Telephone)

Subscribed and sworn to before me
this _____day of _____, 20___

_____
Notary Public
Oakland County, Michigan
My Commission Expires: