



CITY OF HARVARD

ENGINEERING DESIGN POLICIES



JULY 2018

CITY OF HARVARD
ENGINEERING DESIGN POLICIES
TABLE OF CONTENTS

A. General

B. Soil Erosion and Sedimentation Control

C. Restoration of Disturbed Areas

1. Saw Cutting
2. Roadway Pavement
3. Sidewalk and Curb and Gutter
4. Grassed Areas
 - a. Topsoil
 - b. Seed
 - c. Sod

D. Sanitary Sewer System

1. Standards
2. Televised Inspection
3. Capacity
4. Placement

E. Storm Sewer System

1. General
2. Inlet Spacing
3. Roadway Encroachment
4. Yard Drainage
5. Culverts
6. Televised Inspection

F. Water Distribution System

1. General
2. Capacity/Storage
3. Size/Location
4. Fire Hydrants
5. Valves
6. Services

G. Stormwater Management

1. General
2. Parking Lot Ponding
3. Overflow Routes
4. Rear Yard Swales

H. Roadways and Sidewalks

1. General
2. Bituminous Pavement
3. Concrete Pavement
4. Sidewalks
 - a. Excavation/Embankment
 - b. Subgrade
 - c. Structures
 - d. Expansion/Control Joints
 - e. Curing
 - f. ADA
5. Grades/Slopes
6. Corner Radii
7. Driveway Location Restrictions
8. Parkway Trees

I. Street Lighting

1. General
2. Locations

J. Plats

1. Easements
2. Plat Certificates
3. Preliminary Plat Checklist

HARVARD ENGINEERING DESIGN POLICIES

A. GENERAL

The Engineering Design Policies shall govern for all proposed developments in the City of Harvard, including subdivision, planned unit developments and individual parcel improvements. Any development approved under the city of Harvard United Development Ordinance intending to construct improvements which are addressed herein, shall comply with the required improvements stated in these Engineering Design Policies. Private improvements shall be constructed to the same standards and public improvements.

B. SOIL EROSION AND SEDIMENTATION CONTROL

All soil erosion and sedimentation control features shall be designed, installed and maintained in accordance with the McHenry County Stormwater Management Ordinance (MCSMO). The City of Harvard is a Certified Community. All construction regulated by the MCSMO must obtain a City of Harvard Stormwater Management Permit prior to construction.

C. RESTORATION OF DISTURBED AREAS

1. Saw Cutting

When necessary to remove sections of existing pavement, sidewalk, or curb and gutter, and prior to removal, the edges of the section to be removed shall be cleanly cut with a concrete saw.

2. Roadway Pavement

Concrete Pavement: Where the existing roadway pavement surface is Portland Cement Concrete, the pavement replacement shall be Portland Cement Concrete pavement at a minimum thickness of six-inch (6") or existing pavement depth, whichever is greater. Material and construction methods for Portland Cement Concrete pavement shall conform to the current requirements for Portland Cement Concrete pavement of the "Standard Specifications for Road and Bridge Construction" of the Illinois Department of Transportation. Pavement joints and reinforcements in the replacement pavement shall conform to and match those in the adjacent pavement area.

Bituminous Concrete Pavement: Where the existing pavement surface is bituminous concrete and the base consists of a rigid material such as brick or Portland Cement Concrete, the base replacement shall consist of eight-inch (8") Portland Cement Concrete base course. The surface replacement shall consist of a bituminous prime coat, a binder or leveling course, and a surface course conforming to the requirements of the Harvard Construction Design Details and the "Standard Specifications for Road and Bridge Construction" of the Illinois Department of Transportation for Bituminous Concrete Binder and Surface Course, Class I. No pavement joints shall occur in the vehicle wheel paths of the driving lane.

3. Sidewalk and Curb and Gutter: Where necessary to remove and replace concrete sidewalk, driveways, curb, and curb and gutter, replacements shall be made according to the Harvard Engineering Standards and Details regulating the construction of

driveways, approaches, and sidewalks. At intersections with sidewalk that does not conform to State of Illinois ADA Requirements, sufficient depressed curb and gutter along with sidewalk to correct longitudinal grades and cross slopes shall be replaced to meet said ADA Specifications. One-half inch ($\frac{1}{2}$ ") preformed expansion joints shall be placed at intervals not exceeding fifty feet (50') and at the junction with existing work. Contraction joints shall be made every five feet (5') and shall be a minimum of one-half inch ($\frac{1}{2}$ ") in depth. Sidewalks shall be finished to match existing adjacent sidewalk surfaces. Replacement of sidewalk at street curbs shall meet all current State and/or Federal Requirements for accessibility. Curing compound shall be applied to all concrete surfaces in accordance with the IDOT "Standard Specifications for Road and Bridge Construction." Calcium chloride or other accelerants are not permitted. The developer is responsible for the monitoring of the sidewalk, curb, driveway, or pavement until it is cured. Damage to pavement for any reason will require replacement. All traffic, pedestrian, and safety requirements are the responsibility of the developer.

4. Grassed Areas

1. Topsoil

Topsoil shall be furnished and properly placed, raked, and rolled to a minimum depth of four inches (4"). The topsoil furnished shall consist of loose, friable, loamy, non-acid soil, having at least ninety percent (90%) passing a Number Ten (No.10) sieve, free of large roots, brush, sticks, weeds, stones larger than one quarter inch ($\frac{1}{4}$ ") in diameter, and any other debris. Before topsoil is placed, the area to be covered shall be brought to the proper grade. If the existing surface has become hardened or crusted, it shall be raked or otherwise loosened to provide a suitable bond with the topsoil. Apply commercial grade fertilizer uniformly at a rate of twenty (20) pounds per one thousand square feet (1,000 ft²). Work fertilizer into soil prior to seeding or installing sod.

2. Sod

Sod is required in all parkways.

Provide sod in developed areas that were grassed prior to construction, all unpaved areas within public right-of-way and as indicated on the drawings. Sod shall also be used in ditches and drainage swales and on all embankment slopes steeper than four to one (4:1) unless protection is provided against erosion of seeding. At the developer's option, sod may be substituted for seeding.

The cut sod shall be not less than two inches (2") thick. Sod, which has been cut more than forty-eight (48) hours prior to installation, shall not be used without the approval of the City.

Sod shall be placed according to IDOT Standard Specifications. Place sod with edges in close contact and alternate courses staggered. On slopes two to one (2:1) or steeper, sod shall be staked with at least one (1) stake for each piece of sod. Do not place sod when the ground surface is frozen or when air temperatures may exceed ninety degrees Fahrenheit (90°F).

New sod shall be watered daily at the rate specified in the IDOT Specifications for a minimum of seven (7) days after the specified initial watering. City water used shall be approved by the City prior to usage and shall be metered and paid for by the developer. Any tankers used must be filled at the direction of the City. Any defective, dead, or dying sod shall be removed and replaced up to one (1) year after completion of the sod.

3. Seed

Seed all grassed areas disturbed by construction operations and not receiving sod in accordance with the IDOT Standard Specifications. Seed shall be placed between September 1st and November 1st, or in spring from the time the ground can be worked until May 15th. Do not seed in windy weather or when soil is very wet. Place seed either mechanically or by broadcasting in two (2) directions at right angles to each other to achieve an even distribution.

Immediately after seeding, apply vegetative mulch unless hydraulic seeding method is used. Apply mulch in accordance with the IDOT Standard Specifications. Place erosion control excelsior blanket or fiber mat on slopes steeper than four (4) horizontal to one (1) vertical or steeper. Unless otherwise indicated, also place erosion control material at sides and bottoms of ditches, swales, and all areas within ten feet (10') of catch basins in seeded areas.

Immediately after placing erosion control matting or mulch, water seeded areas thoroughly. Keep soil thoroughly moist until seeds have sprouted and achieved a growth of one inch (1").

D. SANITARY SEWER SYSTEM

1. Standards

Sanitary sewer systems shall be designed and installed in accordance with the provisions of Title 35, Subtitle C, Chapter II, Part 370, "Illinois Recommended Standards for Sewage Works," latest edition; Standard Specifications for Water and Sewer Main Illinois Construction Administrative Code, in Illinois, latest edition; Harvard Engineering Standards and Details, these Harvard Engineering Policies, and applicable City Ordinances.

2. Televised Inspections

Sanitary sewers shall be televised prior to acceptance. A videotape, CD, or DVD along with a paper report shall be submitted to the City of Harvard Public Works Department. All sewer televising must be performed by NASSCO certified operators using current NASSCO standards and coding system that can be found in current NASSCO documents. The contractor, without delay, shall preform all necessary corrective work.

3. Capacity

A sanitary sewer capacity study shall be required for a proposed project if it exceeds one or more of the following criteria:

- a. 10 or more residential dwelling units
- b. 10,000 square feet of office or commercial facility
- c. 1,000 square feet of restaurant
- d. Laundromat and/or industrial laundry
- e. Any other project that may create a new connection(s), including an alternative use of existing connection, that will exceed the sewer capacity of exiting sewer line, as determined by the City.

4. Placement

All sanitary sewers in new developments shall be located outside of the proposed ROW in an easement as shown in the City's Engineering Standards and Details.

E. STORM SEWER SYSTEM

1. General

Storm sewers shall be reinforced concrete pipe conforming to ASTM C76, Class III with O-ring joints conforming to ASTM C443. Minimum storm sewer size is 12" in diameter. Inverted street crowns to facilitate drainage are not allowed.

2. Inlet Spacing

Inlets shall be installed in curb and gutter sections so the distance between each inlet does not exceed 400 feet. Inlets located at low points may require additional inlets, at the direction of the City. Storm sewer design shall follow the "inlet to catch basin to manhole" configuration.

3. Roadway Encroachment

One-hundred-year flow depths in the streets shall not exceed the curb height. Local streets shall be generally passable to motorists by maintain a 12' dry through lane centered along the roadway centerline.

4. Yard Drainage

Public storm sewer on private property may only be placed along side yards perpendicular to the right-of-way. Yard inlets shall be no further than four hundred feet (400') from any storm sewer main located in the right-of-way. Yard inlets and associated sewers shall have no deflection in the piping and connect to either a catch basin or manhole located in the right-of-way.

5. Culverts

All culvert material must be reinforced concrete pipe (RCP) and conform to ASTM C767. Class III minimum, unless approved by the City. Minimum culvert size is 12".

All culverts shall be designed to a fifty-year design frequency whereby the 50-year storm will be conveyed through the culvert with less than a one-tenth of a foot increase in head from natural (no culvert) condition.

6. Televised Inspector

Storm sewers shall be televised prior to acceptance. A videotape, CD, or DVD along with a paper report shall be submitted to the City of Harvard Public Works Department. All storm sewer televising must be performed by NASSCO certified operators using current NASSCO standards and coding system that can be found in current NASSCO documents. The contractor, without delay, shall preform all necessary corrective work.

F. WATER DISTRIBUTION SYSTEM

1. General

Potable water facility design shall be in accordance with the City of Harvard UDO, rules and regulations of the latest versions/editions of the Illinois Administrative Code, Title 35, Recommended Standards for Water Works (commonly known as the Ten State Standards), Standard Specs for Water and Sewer Main construction in Illinois, the American Water Works Association and the City of Harvard Engineering Details.

2. Capacity/Storage

The City's water is supplied by three wells (Well # 2 in Lions Park, Well #9 on Harvard Hills Road and Well #10 in Milky Way Park) and stored in three water towers (Lions Park, Harvard Hills Road and East Front Street). The City's firm supply is equivalent to the ability of three wells to supply the maximum day consumption demand with the largest water tower out of service. Any developer shall design and construct any new facilities required to bring the City's firm supply into compliance with the system's maximum day consumption. In the event the firm supply is not available, the difference in the maximum day consumption demand and supply shall be provided in storage. The increase in the required operating storage volume resulting from any new demands from new developments shall be the financial responsibility of the developer.

3. Size/Location

The minimum size water main shall be eight inch (8") internal diameter. Water main sizes shall be designed to adequately service the development, including fire flow. All systems must be designed to provide for future expansion and may need to be oversized to provide sufficient regional flow, at the direction of the City.

All water mains shall be located in the parkway per City of Harvard Engineering Details.

4. Fire Hydrants

Fire hydrants shall be installed along all mains constructed in public rights-of-way at a maximum spacing of three hundred feet (300') with the most remote part of any building no farther than three hundred feet (300') from a hydrant.

Fire hydrants are required to be located a minimum of four feet (4') clear distance from the closest point to any paved vehicular roadway traffic surface and a minimum of two and a half feet (2.5') from any paved pedestrian traffic surface.

Fire hydrants shall be no closer than eight feet (8') from any street light installations.

Hydrants shall be installed no closer than four feet (4') to the back of curb from the steamer port (pumper nozzle), nor further than eight feet (8') from the back of curb. No hydrant shall be installed within forty-eight inches (48") of any obstruction, nor shall any obstruction be placed within forty-eight inches (48") of an existing hydrant.

Fire hydrants shall be located on lot lines. (Single family residential.)

Fire hydrants must be located at least twenty feet (20') from any intersection.

Distance between hydrants on individual building sites shall not exceed three hundred feet (300'), and the maximum distance from a hydrant to a fire department connection shall not exceed one hundred fifty feet (150').

All hydrants shall be "Safety Red". See City of Harvard Engineering Details for further details.

5. Valves

Water main valves shall be spaced at a minimum of four hundred feet (400') or at a distance such that in the event of a required shut down of the public main, no more than twenty-four (24) units shall be out of water service, whichever results in the shortest valve spacing. Vaults, auxiliary valves and b-boxes shall not be allowed under driveways or sidewalks. B-boxes shall be located five feet (5') from residential interior side yard lot lines.

6. Services

All water mains shall be located in the parkway, opposite that of the natural gas mains, in accordance with Engineering Construction Details.

The minimum service size shall be one inch (1") diameter for single-family residences and shall be sized accordingly for all other areas. Fixture calculations in accordance with the Illinois Plumbing Code, latest edition, shall be submitted for review and approval.

Fire service mains shall be no less than six-inches (6") in diameter or the diameter of the smallest riser, whichever is greater. Fire service mains also shall be "looped," having two (2) points of connection to the water distribution main when a single feed fire service main will exceed three hundred feet (300') in length.

Fire service mains and services require approval of plans by the City of Harvard Fire Department.

G. STORMWATER MANAGEMENT

1. General

The design of stormwater management facilities shall comply with the McHenry County Stormwater Management Ordinance.

Grading shall be completed such that overland water flow is directed away from all sides of building foundations. Unless otherwise approved by the City, all grades on lot shall be a minimum of two percent (2%) and a maximum of fifteen percent (15%). Steeper slopes may be approved conditioned upon the appropriate use of sod, retaining walls, or other special treatments to protect the slopes.

In no case shall side slopes of detention facilities be steeper than six to one (6:1).

2. Parking Lot Ponding

Detention in parking lots is prohibited. In the event of a complete failure of detention facilities, the parking lot must be designed such that maximum inundation depth in parking lots shall not exceed six-inches (6").

3. Overflow Routes

All overflow routes must be fully contained in a Stormwater Management Easement. The width of the easement must be 1' beyond the calculated high water elevation of each overflow route.

The 100-year flow depths in local streets shall not exceed the higher of the curb height or by maintaining a 10' dry through lane centered along the roadway centerline at all times.

4. Rear Yard Swales

All rear yard swales traversing across property lines must be fully contained in a Stormwater Management Easement.

H. ROADWAY AND SIDEWALKS

1. General

Improvements to adjacent roadways shall be made in accordance with an approved Traffic Impact Study or at the direction of the City of Harvard.

The City Engineer shall determine street classification for any new subdivision. The roadway geometry required for each classification of street shall be designed in accordance with the City of Harvard Engineering Details, these Policies and/or at the direction of the City of Harvard.

Combination concrete curb and gutter shall be constructed along the edge of all pavements except as otherwise approved by the City of Harvard. Cross-section,

details, materials, and construction shall conform to the requirements of the "Standard Specifications for Road and Bridge Construction" of the Illinois Department of Transportation for Combination Concrete Curb and Gutter for Barrier Curb, Type B6.12 and the City of Harvard Engineering Details unless otherwise approved by the City of Harvard.

2. Bituminous Pavement

Bituminous pavement structure for roadways, driveways and parking lots shall conform to City of Harvard Engineering Details.

Bituminous pavement shall not be permitted after November 1st without written authorization from the City of Harvard.

In new construction, bituminous surface course shall be placed no earlier than six months from the placement of the binder course, and no later than eighteen months, unless otherwise approved by the City of Harvard in writing.

3. Concrete Pavement

Concrete pavement structure for driveways and parking lots shall conform to the City of Harvard Engineering Details.

No calcium chloride or other chemical additive to accelerate the curing process shall be added to the mix that is being applied to public property or public improvements.

4. Sidewalks

a. Excavation/Embankment

Organic material is present at the proposed subgrade, the organic material shall be removed to a minimum of six inches (6") below the subgrade or as directed by the City of Harvard and replaced with compacted CA-6 crushed stone or recommended remedial treatment. When necessary to construct sidewalk on fill, fill shall be placed in six-inch (6") lifts and thoroughly compacted. Embankment shall extend two feet (2') beyond edge of walk. Side slopes shall not be steeper than four to one (4:1), except as approved by the City of Harvard.

b. Subgrade

Following sub-grade preparation and no sooner than twenty-four (24) hours prior to placing concrete, the developer shall notify the City of Harvard that forms are in place and the subgrade is ready for inspection. Subgrade compaction tests may be required where deemed appropriate by the City of Harvard. Concrete shall not be placed until the subgrade has been inspected and approved.

c. Structures

Manholes, inlets, valve vaults, b-boxes, or other types of structures shall not be constructed in a sidewalk.

d. Expansion/Control Joints

Preformed bituminous joint filler, one half inch ($\frac{1}{2}$ ") thick, shall be placed every fifty feet (50') minimum and one-half inch ($\frac{1}{2}$ ") thick between the sidewalk and all structures such as Light Standards, Traffic Light poles, etc. which extend into the sidewalk. Control joints, shall be on five-foot (5') centers.

e. Curing

All exposed surfaces of concrete shall be protected against damage from precipitation by using a membrane curing compound.

f. ADA

Sidewalk ramps must extend in each direction at intersections. Ramps shall be ADA approved ramps in accordance with IDOT Standards. Painting of concrete is not permitted. Projects that adjoin an existing public street intersection where ADA ramps are not existing are required to install the necessary ramps in order to comply with ADA requirements.

5. Grades/Slopes

All connecting roadway gradients with an algebraic difference of greater than 1 percent shall be connected with a vertical curve. All standards contained in AASHTO's "A Policy on Geometric Design of Highways and Streets," latest edition, regarding vertical curves shall be followed. A design speed of 40 mph shall be used on collector commercial/industrial roads and a design speed of 35 mph shall be used on local streets.

Street jogs with centerline offsets of less than 150' are not allowed on local roads. Offsets on collector roads are not allowed, and spacing between two cross streets on collector roads shall be no closer than 500'.

Gradients of streets shall be at least 0.6 percent and shall not exceed on:

- Collector commercial/industrial streets, five (5) percent;
- Minor streets, eight (8) percent.

6. Corner Radii

All corner radii at new intersections shall not be less than:

- 30' for local roads
- 35' for collector streets
- Per IDOT standards and verification of truck turning template for arterial streets

7. Driveway Location Restrictions

New access. A new access driveway will not be allowed (measured to the driveway centerline):

- a. Within 30 feet of any commercial property line, except when it is a joint-use driveway serving 2 abutting commercial properties and access agreements have been exchanged between, and recorded by, the 2 abutting property owners;
- b. Within 40 feet of the right-of-way line of an intersecting street;
- c. Residential properties that have frontage on a local street as well as on an arterial or collector street shall only access the local street.
- d. In some instances, residential parcels fronting only on an arterial or collector street may be given access if alternate public access is not available and is approved by the City Engineer. When such access is allowed, the driveway shall be circular or it shall have a turn-around area to ensure that there is no need for backing onto the street.

8. Parkway Trees

One shade tree is required to be planted on the parkway of all City streets every fifty feet (50'). See the City of Harvard's UDO for further requirements.

I. STREET LIGHTING

1. General

All developments shall provide street lighting facilities for the illumination of all roadways, which lie in or border the development. Street lighting shall be in conformance with these City of Harvard Design Policies and the City of Harvard Engineering Details. It shall be the responsibility of the developer or subdivider to pay the installation cost of all such lighting.

2. Locations

Streetlights shall be spaced at a distance not to exceed three hundred feet (300') from one another for mid-block locations.

One street light assembly shall be located at every intersection. At "T" intersections, the light shall be provided on the centerline extended from the terminating street.

A street light assembly shall be located at curves as directed by the City Engineer.

One street light assembly shall be located at the end of every cul-de-sac.

Streetlights shall be placed four feet (4') from back of curb.

Streetlights shall be no closer than six feet (6') to any driveway.

J. PLATS

1. Easements

All new subdivisions shall contain the applicable easements as described below. The specific language for each easement must appear on the final plat, verbatim as described below.

Landscape Easement: Areas designated on the plat for the express purpose of providing protective screen planting to secure a reasonably effective physical barrier between different land uses to minimize adverse conditions of sight and sound.

A NON-EXCLUSIVE EASEMENT IS HEREBY RESERVED FOR AND GRANTED TO THE PROPERTY OWNER'S ASSOCIATION AS MAY BE FURTHER DEFINED IN THE PROPERTY OWNER'S ASSOCIATION BYLAWS AND DECLARATIONS AND THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, WITHIN THE AREAS SO DESIGNATED ON THE PLAT AND MARKED LANDSCAPE EASEMENT TO INSTALL, REPAIR, REMOVE, REPLACE, INSPECT, AND MAINTAIN LANDSCAPE PLANTINGS AS DEPICTED ON THE SUBDIVISION LANDSCAPE PLAN IN, UNDER, ACROSS, ALONG, AND UPON THE SURFACE OF THE LANDSCAPE EASEMENT INCLUDING WITHOUT LIMITATION ALL NECESSARY FACILITIES APPURTENANT THERETO, TOGETHER WITH THE RIGHT OF ACCESS THERETO FOR THE PERSONNEL AND EQUIPMENT NECESSARY AND REQUIRED FOR SUCH USES AND PURPOSES. NO PERMANENT BUILDINGS, STRUCTURES, OR FENCES SHALL BE CONSTRUCTED OR MAINTAINED ON, ACROSS, OVER, OR THROUGH SAID EASEMENT NOR SHALL VEGETATION BE REMOVED EXCEPT TO REPLACE DEAD OR DISEASED VEGETATION WITH LIKE SPECIES WITHIN SAID EASEMENT WITHOUT PRIOR WRITTEN CONSENT OF THE GRANTEE AND THE CITY OF HARVARD. THE GRADES OF THE SUBDIVIDED PROPERTY APPROVED BY THE CITY ENGINEER SHALL NOT BE ALTERED IN ANY MANNER BY THE INSTALLATION AND MAINTENANCE OF LANDSCAPE PLANTINGS OF SAID GRANTEES SO AS TO INTERFERE WITH THE PROPER OPERATION AND MAINTENANCE THEREOF OR WITH THE SURFACE DRAINAGE THEREON.

Utility Easements: Areas, other than in the right-of-way, where City utilities and the public utilities follow a common route. Said easements shall be of adequate width for the purpose intended, but in no case shall it be less than twenty (20) feet.

A NON-EXCLUSIVE EASEMENT IS HEREBY RESERVED FOR AND GRANTED TO THE CITY OF HARVARD, ILLINOIS, AT&T, NICOR, COMMONWEALTH EDISON COMPANY, AND HOLDERS OF FRANCHISES GRANTED BY THE CITY OF HARVARD, ILLINOIS AND THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, WITHIN THE AREAS SO DESIGNATED ON THE PLAT AND MARKED NONEXCLUSIVE UTILITY EASEMENT TO CONSTRUCT, INSTALL, RECONSTRUCT, REPAIR, REMOVE, REPLACE, INSPECT, MAINTAIN, AND OPERATE UNDERGROUND TRANSMISSION AND DISTRIBUTION SYSTEMS

AND LINES IN, UNDER, ACROSS, ALONG, AND UPON THE SURFACE OF THE NON- EXCLUSIVE UTILITY EASEMENT INCLUDING WITHOUT LIMITATION WATER MAINS, STORM SEWERS, SANITARY SEWERS, FORCE MAINS, GAS MAINS, TELECOMMUNICATION CABLES, ELECTRIC CABLES, CABLE TELEVISION LINES, AND ALL NECESSARY FACILITIES APPURTENANT THERETO, TOGETHER WITH THE RIGHT OF ACCESS THERETO FOR THE PERSONNEL AND EQUIPMENT NECESSARY AND REQUIRED FOR SUCH USES AND PURPOSES, AND TOGETHER WITH THE RIGHT TO INSTALL REQUIRED SERVICE CONNECTIONS UNDER THE SURFACE OF EACH LOT TO SERVE IMPROVEMENTS THEREON. TOGETHER WITH THE RIGHT TO CUT, TRIM, OR REMOVE TREES, BUSHES, AND ROOTS AS MAY BE REASONABLY REQUIRED INCIDENTAL TO THE RIGHTS HEREIN GIVEN, AND THE RIGHT TO ENTER UPON THE PROPERTY FOR ALL SUCH PURPOSES. OBSTRUCTIONS SHALL NOT BE PLACED OVER GRANTEE'S FACILITIES OR IN, UPON, OR OVER THE PROPERTY WITHIN SAID EASEMENT WITHOUT PRIOR WRITTEN CONSENT OF THE GRANTEE. SAID EASEMENT MAY BE USED FOR LANDSCAPING, GARDENS, DRIVEWAYS, AND PARKING EXCEPT AS OTHERWISE DESIGNATED ON THE PLAT. THE GRADES OF THE SUBDIVIDED PROPERTY APPROVED BY THE CITY ENGINEER SHALL NOT BE ALTERED IN ANY MANNER BY THE INSTALLATION OF ANY OF THE FACILITIES OF SAID GRANTEE'S SO AS TO INTERFERE WITH THE PROPER OPERATION AND MAINTENANCE THEREOF OR WITH THE SURFACE DRAINAGE THEREON.

Exclusive City Easements: Areas, other than in the right-of-way, where water main, sanitary sewer, storm sewer, or other underground utilities to be maintained by the City are located. Exclusive City Easements must not be less than fifteen (15) feet wide, seven and one-half (7 ½) feet of which may be shown on each of two (2) adjacent lots.

AN EXCLUSIVE EASEMENT IS HEREBY RESERVED FOR AND GRANTED TO THE CITY OF HARVARD, ILLINOIS AND ITS RESPECTIVE SUCCESSORS AND ASSIGNS, WITHIN THE AREAS SO DESIGNATED ON THE PLAT AND MARKED EXCLUSIVE CITY EASEMENT TO CONSTRUCT, INSTALL, RECONSTRUCT, REPAIR, REMOVE, REPLACE, INSPECT, MAINTAIN, AND OPERATE UNDERGROUND TRANSMISSION AND DISTRIBUTION SYSTEMS AND LINES IN, UNDER, ACROSS, ALONG, AND UPON THE SURFACE OF THE EXCLUSIVE CITY EASEMENT INCLUDING WITHOUT LIMITATION WATER MAINS, STORM SEWERS, SANITARY SEWERS, FORCE MAINS, ELECTRIC LINES, AND ALL NECESSARY FACILITIES APPURTENANT THERETO, TOGETHER WITH THE RIGHT OF ACCESS THERETO FOR THE PERSONNEL AND EQUIPMENT NECESSARY AND REQUIRED FOR SUCH USES AND PURPOSES, AND TOGETHER WITH THE RIGHT TO INSTALL REQUIRED SERVICE CONNECTIONS UNDER THE SURFACE OF EACH LOT TO SERVE IMPROVEMENTS THEREON. TOGETHER WITH THE RIGHT TO CUT, TRIM, OR REMOVE TREES, BUSHES, AND ROOTS AS MAY BE REASONABLY REQUIRED INCIDENTAL TO THE RIGHTS HEREIN GIVEN, AND THE RIGHT

TO ENTER UPON THE PROPERTY FOR ALL SUCH PURPOSES. OBSTRUCTIONS SHALL NOT BE PLACED OVER GRANTEE'S FACILITIES OR IN, UPON, OR OVER THE PROPERTY WITHIN SAID EASEMENT WITHOUT PRIOR WRITTEN CONSENT OF THE GRANTEE. SAID EASEMENT MAY BE USED FOR LANDSCAPING, GARDENS, DRIVEWAYS, AND PARKING EXCEPT AS OTHERWISE DESIGNATED ON THE PLAT. THE GRADES OF THE SUBDIVIDED PROPERTY APPROVED BY THE CITY ENGINEER SHALL NOT BE ALTERED IN ANY MANNER BY THE INSTALLATION OF ANY OF THE FACILITIES OF SAID GRANTEE SO AS TO INTERFERE WITH THE PROPER OPERATION AND MAINTENANCE THEREOF OR WITH THE SURFACE DRAINAGE THEREON.

Stormwater Management Easement: Areas used for the purposes of operating and maintaining stormwater runoff management facilities such as detention and/or retention basins, appurtenant structures and overland flood routes.

A STORMWATER MANAGEMENT EASEMENT IS HEREBY RESERVED FOR AND GRANTED TO THE CITY OF HARVARD, ILLINOIS WITHIN THE AREAS DESIGNATED ON THE PLAT AS STORMWATER MANAGEMENT EASEMENT FOR THE COLLECTION, CONVEYANCE, AND STORAGE OF STORMWATER IN AREAS TO BE MAINTAINED BY THE OWNER OF THE LOT(S) OR OUTLOT(S) ON WHICH THE FACILITIES EXIST IN ACCORDANCE WITH CITY ORDINANCES AND THE APPROVED FINAL ENGINEERING IMPROVEMENT PLANS. ENCROACHMENT OF ANY KIND INCLUDING LANDSCAPING, FENCES, SHEDS, OR ACCESSORY STRUCTURES WITHIN SAID EASEMENT IS PROHIBITED UNLESS THE CITY ENGINEER HAS DETERMINED SAID ENCROACHMENT WILL NOT INTERFERE WITH THE PROPER FUNCTION OF SAID FACILITIES. THE CITY SHALL HAVE THE RIGHT TO ENTER WITH PERSONNEL AND EQUIPMENT UPON SAID EASEMENT AT ANY TIME FOR THE PURPOSES OF ACCESS TO AND INSPECTION OF THE STORMWATER MANAGEMENT FACILITIES LOCATED WITHIN SAID EASEMENT. IF THE OWNER FAILS TO MAINTAIN SAID FACILITIES AND, AFTER RECEIPT OF NOTICE FROM THE CITY OF SAID FAILURE, THE OWNER FAILS TO MAKE REQUIRED REPAIRS IN A REASONABLE PERIOD OF TIME, THE CITY MAY MAKE THE REQUIRED REPAIRS AND SEEK REIMBURSEMENT FROM THE OWNER FOR THE COSTS INCURRED BY THE CITY TO MAKE THE REPAIR AND OR FILE LIEN ON THE PROPERTY.

2. Plat Certificates

Certificates Required

The application for approval of the final plat shall not be deemed completed until the certificates, other than the City Clerk certificate and county recorder certificate have been duly executed. This requirement shall apply to annexed subdivisions and subdivisions in the City. The owner shall indicate on the certificate whether the subdivision is within the jurisdiction of the City or is proposed for annexation.

Owner's Certificate

OWNER'S CERTIFICATE*

STATE OF ILLINOIS)
) SS
COUNTY OF MCHENRY)

This is to certify that the undersigned is the owner of the land described in the subdivision plat, and has caused the same to be surveyed and subdivided, as indicated thereon, for the uses and purposes therein set forth, and does hereby acknowledge and adopt the same under the style and title thereon indicated. The undersigned also agrees that the Final Acceptance of the construction of streets is further subject to the City of Harvard Unified Development Ordinance concerning inspection by a City representative and acceptance by the City Council. The undersigned hereby dedicates for public use the lands shown on this plat for thoroughfares, streets, alleys, and public services; and hereby also reserves for AT&T Telephone Company and the Commonwealth Edison Company, Northern Illinois Gas Company, the City of Harvard, and other electric, communication, gas or cable television company authorized by the City of Harvard, the easement provisions which are stated on their standard form which is attached hereto.

Title

Address

Dated this ___ day of _____, 20__.

*Corporate owner's certificate should be accompanied by a corporate form of acknowledgement.

Surveyor's Certificate

SURVEYOR'S CERTIFICATE

STATE OF ILLINOIS)
) SS
COUNTY OF MCHENRY)

This is to certify that I, _____ registered Illinois Land Surveyor No. ____, have surveyed and subdivided the following described property:

as shown by the subdivision plat which is a correct representation of said survey and subdivision. All distances are shown in feet and decimals thereof. I further certify part of the property covered by the plat of subdivision is not situated within 500 feet of any surface drain or watercourse serving a tributary area of 640 acres or more and that all regulations enacted by the Council relative to plats and subdivisions have been complied with in the preparation of this plat.

Given under my hand and seal at _____, Illinois, this ___ day of _____, 20 ____.

City Engineer

CITY ENGINEER

STATE OF ILLINOIS)
) SS
COUNTY OF MCHENRY)

I, _____, City Engineer of the City of Harvard, Illinois, hereby represent that, in my professional opinion, the land improvements described in the subdivision plat and the plans and specifications relating thereto meet the minimum requirements of said City and have been approved by all public authorities having jurisdiction thereof.

Dated at Harvard, McHenry County, Illinois this ___ day of _____, 20__.

City Engineer

Certificate as to Special Assessments

I, _____, City Treasurer of the City of Harvard, do hereby certify that there are no delinquent or unpaid current or forfeited special assessments or any deferred installments thereof that have been apportioned against the tract of land included in the plat.

Dated at Harvard, McHenry County, Illinois, this ____ day of _____, 20__.

City Treasurer

Plat Certification

PLAT CERTIFICATION

STATE OF ILLINOIS)
) SS
COUNTY OF MCHENRY)

Approved by the City Council of McHenry County, Illinois, this ____ day of _____, 20__.

Mayor

City Clerk's Certificate

STATE OF ILLINOIS)
) SS
COUNTY OF MCHENRY)

I, _____, City Clerk of the City of Harvard, Illinois, hereby certify that the subdivision plat was presented to and by ordinance duly approved by the Council of said City at its meeting held on _____, 20____, and that the required bond or other guarantee has been posted for the completion of the improvements required by the regulations of said City.

In witness whereof I have hereto set by hand and seal of the City of Harvard, Illinois, this day of _____, 20____.

City Clerk

County Recorder Certificate

COUNTY RECORDER CERTIFICATE

STATE OF ILLINOIS)
) SS
COUNTY OF MCHENRY)

This instrument files for record in the recorder's office of McHenry County, Illinois this day of _____, 20___, A.D. as Document No. _____ AT _____, O'Clock __.M.

County Recorder

NOTICE OF APPROVAL OF PRELIMINARY PLAT

"Notice is hereby given that the preliminary plat of a subdivision shown hereon has received approval by the City Council of the City of Harvard, Illinois, and upon compliance by the subdivider with requirements of qualifications governing the approval of preliminary plats and with other revisions and stipulations that may be required, the Council will receive the final plat for consideration when submitted by the subdivider in such form and within such time as required by this ordinance."

The City Council of the City of Harvard, Illinois

Date _____, 20__

By:

Mayor

Attest:

City Clerk

Form of Letter of Credit

Any irrevocable letter of credit furnished by an owner, subdivider, builder, or developer pursuant to the provisions of the City of Harvard Unified Development Ordinance, shall be approved by the City and in substantially the following form:

Letter of Credit Number
Project

Name of Issuer Institution
Address

IRREVOCABLE LETTER OF CREDIT

Dear Sir:

The undersigned, _____ (name of financial institution), by _____, its duly authorized officer hereby issues to the CITY OF HARVARD, ILLINOIS, 201 W. Front Street, Harvard, Illinois, this Irrevocable Letter of Credit in the amount of \$_____, which such credit may be drawn by said City at sight on us.

Demands on said letter of credit must be accompanied by the certificate of the City Clerk of the City of Harvard, certifying either: (1) that said letter of credit is about to expire and has not been renewed; or (2) that work has not been completed in accordance with the plans, specifications and agreements (including any amendments thereof) for the following project: _____, (the Project).

This Irrevocable Letter of Credit shall expire on _____, 20 ____; provided, however, the undersigned shall notify the City Clerk, by certified mail, return receipt requested, at least 35 days prior to said expiration date that said letter of credit is about to expire. In no event shall this Irrevocable Letter of Credit or the obligations contained herein expire except upon said prior written notice, it being expressly agreed by the undersigned that the above expiration date shall be extended as shall be required to comply with this notice provision.

The undersigned further agrees that this Irrevocable Letter of Credit shall remain in full force and effect and pertain to any and all amendments or modifications which may be made from time to time to the plans, specifications, and agreements for the Project, without notice from said City of such amendments or modifications.

All acts, requirements and other preconditions for the issuance of this Irrevocable Letter of Credit have been completed.

16.24.060--16.28.010

_____ (name of financial institution) hereby undertakes and engages that all demands made in conformity with this Irrevocable Letter of Credit will be duly honored upon

presentation. If, within 10 days of the date any demand (made in conformity with this Irrevocable Letter of Credit) is presented, we fail to honor same, we agree to pay all attorney fees, court costs, and other expenses incurred by the City of Harvard in enforcing the terms of this Letter of Credit.

DATED

Financial Institution

BY

Authorized Signature

(SEAL)

3. Preliminary Plat Checklist

APPENDIX A

PRELIMINARY PLAN CHECK LIST

Name of Subdivision:

Due Date of Recommendation: _____ (60 days after 1st meeting after motion of City Council to refer to Planning Commission)

NOTE: To properly execute this checklist, the subdivider or his engineer shall:

1. Insert the required information below.
2. Denote compliance with applicable ordinances by placing a check mark in all spaces where applicable below.
3. Denote those items which the subdivider considers "not applicable" to his particular subdivision by the abbreviation "N.A." below.
4. This checklist is to be turned in with all prints as required below at time of first submission. (Please execute 5 copies of this checklist.)

- ____ 1. 5 copies of preliminary plat submitted to City Clerk.
- ____ 2. Plats must follow County Recorder of Deeds requirements.
- ____ 3. Plans are on 24" x 18" sheets (minimum size).
- ____ 4. Plan scale is not less than 1" to 100' (Except subdivisions of more than 200A., scale will then be 1" to 200')
- ____ 5. Minimum profile scale is 1" to 50' horizontal.
- ____ 6. A title sheet is included with each set of preliminary plans.
- ____ 7. Name of proposed subdivision shown. (No duplications of any present subdivisions)
- ____ 8. Location given by town, range, section, or other legal description.
- ____ 9. Name and address of owner, trust, corporation of subdivider having control of project is shown.
- ____ 10. Name and seal of registered engineer or surveyor who prepared topographic survey is shown.
- ____ 11. Name and address of designer is shown.
- ____ 12. North direction is shown.
- ____ 13. Date of preparation and date of revision, if any, is shown.
- ____ 14. A location map is included indicating:
 - ____ A. A scale of not less than 1" to 1000'.
 - ____ B. Boundary lines of adjoining land within an area bounded by the nearest arterial streets or other natural boundaries.
 - ____ C. Use of surrounding land.
 - ____ D. Ownership of the surrounding land.
 - ____ E. Alignment of existing streets.
 - ____ F. Section of corporate lines.

- ____ 15. Boundary line of proposed subdivision is clearly shown.
- ____ 16. Total approximate acreage is shown.
- ____ 17. Existing zoning classification is indicated.
- ____ 18. The following EXISTING items, if any within the boundaries of the subdivision, or located 100' or less outside the boundaries, are shown.
 - ____ A. Previously platted streets and other right-of-way, with improvements, if any, indicating:
 - ____ Location
 - ____ Widths
 - ____ Names
 - ____ B. Railroad right-of-ways, indicating:
 - ____ Location
 - ____ Dimensions
 - ____ C. Utility right-of-ways, indicating:

____ Location	____ a.	Sewer
____ Width	____ b.	Water
____ Type	____ c.	Electric
	____ d.	Other
 - ____ D. Parks and other open space indicating:
 - ____ Location
 - ____ Area
 - ____ E. Easements, indicating:
 - ____ Location
 - ____ Width
 - ____ Purpose
 - ____ F. Permanent buildings and structures, indicating:
 - ____ Location
 - ____ Setback Lines
 - ____ Names of owners
 - ____ G. Section and corporate lines
 - ____ H. Sanitary sewers, indicating:
 - ____ Location
 - ____ Size
 - ____ Manholes
 - ____ Invert elevations at manholes
 - ____ I. Water mains, indicating:
 - ____ Location
 - ____ Size
 - ____ Valves, indicating:
 - ____ Valve manhole, or
 - ____ Valve Box
 - ____ fire hydrants & auxiliary valve
 - ____ J. Culverts, indicating:
 - ____ Type
 - ____ Location
 - ____ Size
 - ____ Invert elevations

- _____ K. Storm sewers, indicating:
 - _____ Location
 - _____ Size
 - _____ Catch basins
 - _____ Invert Elevations
- _____ L. Water courses, indicating:
 - _____ Type
 - _____ High water width and elevation
 - _____ Catch basins
 - _____ Invert Elevations
 - _____ Width of easement
 - _____ Location of easement
- _____ M. Marshes, indicating:
 - _____ Location
 - _____ Dimensions
 - _____ Soil bearing capacity
- _____ N. Rock outcrops, indicating:
 - _____ Location
 - _____ Dimensions
- _____ O. Monuments and survey markers, indicating:
 - _____ Location
 - _____ Type
- _____ 19. Topographic data is given in feet above mean sea level, with the tract, and to a distance of 100' beyond, indicating:
 - _____ A. Existing contours at vertical intervals of not more than 2'.
 - _____ B. Proposed contours at vertical intervals of not more than 2'.
 - _____ C. Bench mark, indicating:
 - _____ Location
 - _____ Description
 - _____ Elevation
 - _____ D. Topographic data, where available, may be used if adjoining owners fail to grant subdivider permission to come upon said adjoining land.
- _____ 20. Soil bearing data is given, if required by the City Engineer, indicating:
 - _____ A. Location of test
 - _____ B. Depth of test
 - _____ C. Soil bearing capacity
 - _____ D. Moisture content
- _____ 21. Complies with requests from the McHenry County Soil and Water Conservation Department. Complies with the McHenry County Stormwater Management Ordinance.
- _____ 22. Complies with state law relating to access on state roadways and comply with health department laws relating to private sewage systems if applicable. (Section 16.12.050)
- _____ 23. The following PROPOSED items, if any within the boundaries of the subdivision, or located 100' or less outside of the boundaries, are shown:
 - _____ A. Layout of streets, indicating right-of-way and roadway width pursuant to the City Engineering Standards.

- _____ 1. Check with Engineering Standards additional regulations relating to:
 - _____ Cul-de-sac streets
 - _____ Frontage roads
 - _____ Thoroughfares
 - _____ Alleys
- _____ 2. Through street shown extended to boundaries of subdivision
- _____ 3. Storm water runoff pattern on paving.
- _____ B. Names of Streets
 - _____ 1. Not duplicating the name of any street used before in the City or its environs, or using any name that would be confused with an existing street name, unless the street is an extension of an existing street, in which case the name shall be used.
- _____ C. Street improvement plan showing location of all new street improvements, including those to the centerline of previously dedicated right-of-ways abutting the subdivision, in accordance with present City standards.
- _____ D. Utility easement:
 - _____ 1. Located at the rear of each lot and other necessary locations
 - _____ 2. Not less than 10' in width on each lot
 - _____ 3. Purpose is indicated
 - _____ 4. Storm water runoff is indicated
- _____ E. Centerline profiles of all streets showing gradients per Engineering Manual.
- _____ F. Block layout, indicating:
 - _____ 1. Residential blocks do not exceed 1200' in length (for lots under 100' in width)
 - _____ 2. Residential blocks do not exceed 2000' in length (for lots over 100' in width)
 - _____ 3. Business and Industrial lot size approved by Planning Commission
 - _____ 4. Additional access ways to parks, schools, etc., are shown in accordance with the City requirements
 - _____ 5. Blocks fit readily into the overall plan of the subdivision with due consideration given to:
 - _____ Topographical conditions
 - _____ Lot Planning
 - _____ Traffic Flow Pattern
 - _____ Public Open Space
 - _____ 6. Block numbers
 - _____ 7. Blocks, intended for commercial, industrial, or institutional use are so designated.

- _____ G. Lot Layout, indicating:
- _____ 1. Lot dimensions
 - _____ 2. Lot areas not less than those stipulated in the appropriate district regulations of the zoning ordinance
 - _____ 3. Building setback lines shown and properly dimensioned
 - _____ 4. Proposed land use
 - _____ 5. Lot numbers
 - _____ 6. Corner lots are sufficiently larger than interior lots to allow maintenance of building setback lines on both street frontages and still allow a buildable width equal to that of the smallest interior lot in the block (20% larger than other lots in block to a minimum of 90' in width)
 - _____ 7. All lots abut a publicly dedicated street for a distance of not less than the minimum width of the lot. The extension of streets in industrial developments may be delayed until a building permit is issued for undeveloped lots, if specifically approved by the City Council
 - _____ 8. Lots are in conformance with the City of Harvard UDO.
 - _____ 9. Double frontage lots only where:
 - _____ Lots back upon an arterial street and front on an access street.
 - _____ Topographic or other conditions make subdivision otherwise unreasonable.
 - _____ Lots can be made an additional 10' deeper than average.
 - _____ A protective screen planting is indicated on one frontage.
 - _____ Depth is 400' or more.
 - _____ Fronts on body of water.
 - _____ Controlled access road.
 - _____ 10. Lots abutting or traversed by a water course, drainage way, channel, or stream, indicate:
 - _____ Additional width and depth to provide an acceptable building site.
 - _____ Width of easement is at least 15' wider on each side of water at high water level.
 - _____ 11. Due regard for natural features, such as:
 - _____ Trees

- _____ Water Courses
- _____ Historic Items
- _____ Other similar conditions
- _____ H. Areas intended to be dedicated for public use, indicating:
 - _____ 1. Plan conforms to general development plan of City
 - _____ 2. Purpose
 - _____ 3. Acreage
- _____ I. Source of domestic water supply, indicating:
 - _____ 1. Connection to existing water mains
 - _____ 2. Location of site for community water plant
- _____ J. Provision for sewage disposal, indicating:
 - _____ 1. Connection to existing sanitary sewer mains
 - _____ 2. Location of site for community sewage disposal plant
- _____ K. Schools, indicating:
 - _____ 1. Location
 - _____ 2. Dimensions
 - _____ 3. Acreage
- _____ L. Topographic Information, indicating:
 - _____ 1. Proposed changes in elevation of land shown that any flooding would be relieved
 - _____ 2. Adequate installation of storm sewers would remove the possibility of flooding
- _____ M. Sanitary sewer layout, indicating:
 - _____ 1. Location
 - _____ 2. Size
 - _____ 3. Invert elevations at manholes
 - _____ 4. Manhole locations
- _____ N. Water main layout, indicating:
 - _____ 1. Location
 - _____ 2. Size
 - _____ 3. Looped pattern where practicable
 - _____ 4. Fire hydrants
- _____ O. Storm sewer layout, indicating:
 - _____ 1. Location
 - _____ 2. Catch basins
 - _____ 3. Storm water is not carried across or around any intersection
 - _____ 4. Surface water drainage pattern for each individual lot and block
- _____ P. Street light layout, indicating:
 - _____ 1. Location and typical street light detail, OR
 - _____ 2. Statement by subdivider that street lights will be installed in accordance with City standards

- ____ 24. An outline of proposed covenants included with plans, indicating the intention of the subdivider to have the covenants recorded with the final plat.
 - ____ A. Protective against obstruction of drainage easements
- ____ 25. Typical street cross section showing base construction, surfacing concrete curb and sidewalk in accordance with the City Engineering Standards.
- ____ 26. Indication that sidewalks will be installed along all lot lines coincidental with street right-of-ways.
- ____ 27. Indications on drawings or by certificate that subdivider is aware of his responsibility for installation of street signs, and for seeding and tree planting in all parkways.
- ____ 28. Petition for subdivision submitted, along with filing fee to the City Clerk of the City of Harvard.
- ____ 29. Conform to all of the City of Harvard's Engineering Polices and Engineering Details.

This checklist was completed by:

Name:

Address:

Date:

Reviewed by City Engineer:

Date:

Considered by Planning Commission on:

Chairman:

NOTICE OF APPROVAL OF PRELIMINARY PLAT

"Notice is hereby given that the preliminary plat of a subdivision shown hereon has received approval by the City Council of the City of Harvard, Illinois, and upon compliance by the subdivider with requirements of qualifications governing the approval of preliminary plats and with other revisions and stipulations that may be required, the Council will receive the final plat for consideration when submitted by the subdivider in such form and with such time as required by this ordinance."

Date: _____ BY:

Mayor

ATTEST:

City Clerk

N:\HARVARD\110001.00035\Admin\Engineering Design Policies.docx