

CITY OF HARVARD  
SITE GRADING AND DRAINAGE PLAN  
MINIMUM REQUIREMENTS

The responsibility for adequacy of the Site Grading and Drainage Plan shall rest solely with the Design Engineer and the issuing of a permit by the City shall not relieve the Design Engineer of that responsibility. When a Site Grading and Drainage Plan is necessary, the required specifications and level of plan detail may include:

GENERAL

1. Signature and seal by a State of Illinois registered professional civil engineer including date signed and license expiration date.
2. Contact information of the engineer responsible for the preparation of the plan.
3. The plan shall be sized 11 inches by 17 inches and drawn at a scale of 1:20. For certain larger projects, the plan may be submitted on paper measuring 24 inches by 36 inches. Electronic submission is required. PDF's shall be compiled into a single document. Hard-copy submittal is noncompulsory.
4. An address of the subject property.
5. A legend, north arrow, and scale.
6. The property lines, their dimensions, and the distance of the structure to the property lines.
7. The required setbacks (front, sides and rear); shown on plan.
8. All drainage and utility easements on, under, or across the property.
9. Mapped floodplain and wetlands, as applicable. Development of properties within these designations is subject to additional review, requirements, and permitting by other agencies.
10. Location of all utilities and associated structures, fire hydrants, street lights, trees, curbs, and sidewalks within the public right-of-way, or in any easements on the subject property.
11. Location of any existing and proposed buildings, structures, and hardscape features (i.e. decks, patios, sidewalks, etc.).
12. Location and representation of existing and proposed natural drainage patterns, manmade drainage facilities, and all surface and subsurface drainage facilities and appurtenances including sump pump discharge locations.

13. The elevation, location, and description of the benchmark must be referenced on the plans. The City requires NAVD 1988 vertical datum and NAD83 horizontal datum. Under no circumstances shall a tree located in the right-of-way be used as a benchmark.

14. Existing and proposed topography of the entire site taken at one-foot or half-foot contour intervals.

15. Contour intervals shall extend a minimum of 25 feet off-site, sufficient enough to illustrate on- and off-site drainage patterns. Proposed contours shall be represented as solid black lines and existing contours shall be represented as dashed gray lines.

16. The proposed top of foundation for the subject lot and existing top of foundations for the adjacent structures. The proposed top of foundation (and top of window wells) shall be at least 0.5 feet above the proposed grade at the foundation. There shall be between 4 to 6 inches of foundation exposed above grade. Drop-siding shall be provided where the top of foundation is greater than 0.5 feet above grade.

17. Spot elevations as may be appropriate, including along the property lines, top of foundation, foundation floor, garage slab, and finished grade at all significant points around the buildings or structures, and top of window wells.

#### UTILITIES

1. Location of all existing utilities, including but not limited to water main, storm sewer, sanitary sewer, combined sewer, electric, and street lighting. All structures must be shown including hand holes, utility boxes, utility poles, and overhead wires.

2. Location of b-box, water service, sanitary service, and storm sewers. Any existing services to be abandoned/removed shall be properly disconnected at the main.

3. Location of proposed electric service, water service, sanitary service, including the connection points. All new services must connect to the main. New water service line and b-box location must be shown on the plans. The b-box shall be located within the public right-of-way within the parkway. Sanitary sewer clean-out location must be shown on the plans. Clean-out shall be of the same size and material as the new sewer service pipe. Any cleanouts shall be located outside of the building, easily accessible, and on private property only.

4. The City in accordance with IEPA and Illinois Plumbing Code, requires a minimum 10-foot horizontal separation from proposed sanitary services and water services.

5. Proposed sanitary services and water services shall be constructed a minimum of 5-feet from the side property lines.

6. Proposed service lines must be perpendicular to the main within the public right-of-way.

## DRIVEWAYS & PUBLIC SIDEWALKS

1. Label the material and depth of any proposed driveway. Concrete, asphalt, and pavers (including permeable) are acceptable materials; gravel shall not be used.
2. Driveway and apron slopes must be between 2% and 8% and direct water away from the building and from neighboring properties. Permeable pavements are allowed to have slopes less than 2%.
3. The driveway width at the right-of-way line must be between 12 and 24 feet. The driveway width may flare if the driveway is 20' at the ROW line, such that the width at the curb is increased by up to 2 feet on each side to a total of 24 feet at the street.
4. Driveways shall not encroach over the side property line extension in the parkway.
5. Where a driveway width exceeds 24 feet on private property, the driveway must taper down to 24 feet wide at the front property line. The taper can begin at the ROW line. The taper rate cannot exceed 1:1.
6. Where a driveway is located near a property line (within 2 feet), a curb may be needed along the property line to ensure driveway runoff does not negatively impact the adjacent property.
7. Where an existing driveway that has depressed curb is relocated, the depressed curb must be replaced with a curb type consistent with the adjacent full-depth curb.
8. Sidewalks must be constructed through driveways.
9. The cross-slope of the public sidewalk does not exceed 2 percent, including through the driveway. Spot grades should be provided at the four corners of sidewalk where it intersects with the driveway. A design of 1.5% is preferred to ensure that the slope is less than or equal to 2% when constructed.
10. Indicate on the plans any sidewalk that is damaged, vertically displaced, or not ADA compliant. These and any sidewalk damaged due to construction must be replaced prior to final inspection approval.

## GRADING & STORMWATER MANAGEMENT

1. In accordance with Illinois Drainage Code, property owners shall not fill or obstruct existing natural drainage patterns. Sufficient existing elevations along the common property lines of all adjoining properties must be provided for this to be confirmed.
2. In accordance with City Code, proposed projects shall not result in drainage or run-off, which adversely impacts adjacent properties or public rights-of-way. Proposed grading shall allow existing drainage patterns to be maintained such that additional drainage or run-off is not directed onto adjacent properties.

3. Slopes within landscape areas should be between 2 and 20 percent. Slopes may be as flat as 1.5 percent if specific spot grades are noted. Flow arrows may be appropriate to delineate drainage patterns where grades are flatter.

4. Swales must be provided to facilitate proper drainage. Swales must be completely contained on the subject property. Spot elevations should be indicated at break points. The proposed high point of side-yard swales shall need to be a minimum of 0.1 foot below the adjacent elevation at the common property line or the lowest adjacent elevation in the neighboring side yard, whichever is lower.

5. In cases where a property may require an overland overflow route, the black arrow and typical cross section should be shown.

6. Proposed curbs or retaining walls must be shown, with the top and bottom of the wall elevations called out. Walls greater than four feet in height require submittal of structural calculations prepared and signed and sealed by a State of Illinois registered professional structural engineer.

#### SITE DEVELOPMENT PLAN AND TREE PROTECTION & PRESERVATION REQUIREMENTS

1. Perimeter erosion barrier (silt fence or other) must be shown.

2. Existing storm structures must be protected from silt runoff during construction. Filter baskets are the required method of open-lid sewer structure protection.

3. Indicate location of concrete washout and include a note stating, "A concrete washout area shall be provided on-site. Concrete cannot be washed out into the public right-of-way or sewer system."

4. Appropriate tree protection must be shown for all trees located within the public right-of-way and any trees to be saved in the construction area.

5. Location of existing trees on and within fifteen (15) feet of the property, proposed trees to be placed on the site, and trees proposed to be removed from the site.

6. Specify the species and size of each tree. The size of each tree shall be the diameter at breast height (DBH) in inches as measured at 4½ feet above the existing grade and shall be labeled at the base of every existing tree located on the subject property.

7. Lawns shall be seeded with the following seed mixture:

Kentucky Bluegrass 100 lbs/acre

Perennial Ryegrass 60 lbs/acre

Creeping Red Fescue 40 lbs/acre

#### PLAN REVISIONS AND MODIFICATIONS

1. A disposition of review comments shall be provided with each plan resubmittal and pages that have been revised shall include an updated revision date.