



# Naperville

## DETAILED GRADING PLAN CHECKLIST (TEARDOWN/REDEVELOPMENT)

Address: \_\_\_\_\_

Date: \_\_\_\_\_

Permit #: \_\_\_\_\_

Review #: \_\_\_\_\_

### **GENERAL**

1. A disposition of comments should be included in all subsequent submittals.
2. Plan is signed and sealed by an Illinois registered professional engineer including date signed and license expiration date.
3. A north arrow is included, and the drawing is at a standard engineering scale.
4. The City requires NAVD 1988 vertical datum and NAD83 horizontal datum. At least one City of Naperville benchmark must be referenced. The benchmarks are available at [www.naperville.il.us/surveymonuments.aspx](http://www.naperville.il.us/surveymonuments.aspx).
5. The City of Naperville does not have authority to certify construction within mapped floodplain, floodway, or wetlands. Applicant will need to first obtain a Stormwater Certification from the appropriate authority.
  - Contact DuPage County Stormwater Management at (630) 407-6700 to schedule a pre-application meeting.
  - Construction in a floodway is regulated by the Illinois Department of Natural Resources/Office of Water Resources. For permit and contact information call (847) 608-3116 or go to: <https://dnr.illinois.gov/waterresources/permitprograms.html>.
6. Mapped floodplain and wetlands should be shown on the plan.
7. A legal description is included.
8. The dimensions of the home to the property lines must be shown. The required setbacks (front, sides, and rear) must be shown or provided in a table.
9. A 10-foot easement must be shown along the rear property line and a 5-foot easement must be shown along at least one side property line as directed by the Department of Public Utilities - Electric.
10. Known hardscape features (i.e. decks, patios, sidewalks, etc.) should be shown on the detailed grading plan. If unknown, please note that a permit may be required for certain installations.

## **DRIVEWAY**

1. Concrete, asphalt, and brick pavers (including permeable) are acceptable driveway materials; gravel may not be used. A right-of-way covenant is required for any material other than conventional concrete or asphalt, including but not limited to stamped concrete, stamped asphalt, and brick pavers. A signed right-of-way encroachment license agreement must be submitted to the City prior to the final inspection.
  - If the material is called out as standard asphalt or concrete, provide a comment on the plan that a right-of-way encroachment agreement is required if the material is changed.
  - If the material is called out as a non-standard material, provide a comment that a right-of-way encroachment agreement is required.
  - If the material is unknown, provide a comment that a right-of-way encroachment agreement is required if the material is non-standard.
2. The driveway slopes must be between 2% and 10% and direct water away from the house. Permeable pavements are allowed to have slopes less than 2%. If 2% cannot be achieved due to the surrounding terrain, slopes as low as 1% are allowed for concrete driveways.
3. The apron slopes must be between 2% and 6%. Permeable pavements are allowed to have slopes less than 2%. If 2% cannot be achieved due to the surrounding terrain, slopes as low as 1% are allowed for concrete driveways.
4. The driveway width at the right-of-way line must be between 9 and 20 feet. The driveway apron should flare such that the width at the curb is increased by 2 feet on each side. Refer to Standard Detail 590.06 – Typical Residential Driveway.
5. Driveways shall not encroach over the property line extension in the parkway.
6. Where a driveway is located close to a property line (within 5 feet), a curb may be required along the edge of the driveway near the property line unless written approval is granted by the adjacent property owner.
7. Where an existing driveway that has depressed curb is relocated, the depressed curb must be replaced with a curb of like kind.
8. Where a driveway width exceeds 20 feet at the garage doors, a driveway must taper down to no more than 20 feet wide at the property line. The taper must begin no further than 15 feet from the front yard setback line (away from the house). A curvilinear taper may be used provided that all driveway pavement is located within an area formed by a straight line between the start and end of the taper (Ordinance 07-032).
9. Circular driveways on corner lots are constructed in accordance with the requirements of Section 9-1I-3 of the Municipal code, including proximity to intersections. Circular drives are permitted to have one driveway on each street or both driveways on the frontage that exceeds 75 feet in width.

10. If there is more than one driveway entrance onto the street, the lot frontage must exceed 75 feet, and the sum of the driveway widths at the property line cannot exceed 26.7% of the lot frontage ( $W1 + W2 \leq F/75 * 20$ ).
11. Refer to Standard Detail 590-06 – Typical Residential Driveway for additional requirements pertaining to circular driveways and driveways located near intersections.

## **SIDEWALKS**

1. Sidewalk must be provided along all street frontages.
2. Sidewalk must be five feet wide and located within the public right-of-way, one foot off the property line. The sidewalk location may vary in order to avoid mature parkway trees or other obstacles, but in no case shall the public sidewalk be located closer than three feet from the back of curb unless approved by the City Engineer.
3. Any portion of the sidewalk which cannot be accommodated within the public right-of-way shall be located on the subject property and a sidewalk easement must be dedicated.
4. Sidewalks must be constructed through driveways. Refer to Standard Detail 590.06 – Typical Residential Driveway. Existing sidewalks need to be replaced for new or relocated driveways to ensure the required 6” thickness.
5. The cross-slope of the public sidewalk may not exceed 2% even through the driveway. Spot grades should be provided at the four corners of sidewalk where it intersects with the driveway. A design slope of 1.6% is preferred to account for construction tolerances.
6. Add the following note to the detailed grading plan: Any sidewalk that is damaged or not ADA compliant, including sidewalk ramps, must be replaced prior to final inspection approval.
7. Accessible curb ramps must be provided at intersections. Follow current IDOT standard details for curb ramps.
8. Private service walks/carriage walks located between the public sidewalk and the curb are permitted only for homes that do not have a driveway at the front of the house. These walks must be labeled as “private” on the plans.

## **GRADING**

1. Existing spot grade elevations must be shown at the location where the building setback line intersects with the side property line.
2. The proposed top of foundation for the subject lot and existing top of foundations for the adjacent houses must be shown.
  - The top of foundation should be a minimum of 6 inches higher than grading around the structure. Where there is more than 6 inches of exposed foundation, dropped siding should be specified.

- The lowest opening in the foundation must be a minimum of 18 inches above a high-water line or BFE when the home is adjacent to an overland flow route, detention basin, or floodplain.
  - Provide the basement floor elevation. If the basement is greater than 8 feet, extra consideration should be given to the foundation drainage. The City recommends connecting sump pumps to the public storm sewer if readily available.
3. Proposed spot grades and one-foot contours must be provided to demonstrate how all areas of the proposed site will drain.
  4. Grading should allow existing drainage patterns to be maintained such that additional flows are not directed onto neighboring properties. Enough neighboring grades should be provided for this to be confirmed.
  5. Slopes within landscape areas should be between 1.5% and 25%. Slopes between 2% and 20% are preferred when site grading will allow.
  6. Swales must be provided to facilitate proper drainage. Swales must be completely contained on the subject property unless neighboring property owners provide written permission to allow grading to be completed on their property.
  7. Proposed retaining walls must be shown, with the top and bottom of the wall elevations called out. Walls greater than 3 feet in height require structural calculations prepared and signed and sealed by an IL registered Structural Engineer.
  8. Where the minimum yard slopes cannot be achieved, a private storm sewer system must be installed in accordance with Ordinance 01-014. The private storm sewer must be connected to an available public storm sewer when one is available. See the Utilities section below for the storm sewer requirements.
  9. Window wells must be shown on the plan and meet the following requirements:
    - The elevations for the tops of the window wells must be shown.
    - Window wells may not encroach into any easements.
    - Window wells may not be located adjacent to an overland flow route or floodplain.
  10. If significant offsite areas drain through the site, stormwater calculations must be provided, and a black arrow and typical cross-section must be shown on the plans designating the overland flow route.

## **UTILITIES**

1. All existing utilities must be shown on the plan, including but not limited to storm sewer and structures, water main and structures, sanitary sewers and manholes, electric, and street lighting. All structures must be shown including poles and overhead wires. Where existing overhead facilities are to remain, code clearances must be maintained.
2. The proposed water service and sanitary service must be shown, including the connection points and details.

- All new services must connect to the main unless the Department of Public Utilities confirms that the existing services are suitable for reuse.
  - New water service line, service size, and b-box location must be shown on the plans.
  - 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 the 'Tee' type, located outside of the building, and easily accessible.
3. Existing services to be removed must be shown on the plan sheet with specific details regarding termination.
  4. Private storm sewer systems must meet the following requirements:
    - Storm sewers must be a minimum of 6 inches or greater RCP, PVC SDR 26, ductile iron, or ADS N-12 or approved equal. The City recommends a minimum 8-inch diameter for maintenance.
    - Connection to the public storm sewer must be made at a structure (new or existing); blind connections are not permitted. Connections must be machine cored.
    - The private and public portions of the system must be clearly labeled.
  5. Public storm sewer systems must meet the following requirements:
    - Storm sewers must be 10 inches or greater RCP, PVC SDR 26 or ductile iron.
    - Structures must follow the City of Naperville standard details. Rear yard structures should be located within the rear yard easement to allow for connection from adjacent properties.
  6. Installation of public storm sewer, or direct connection to a public storm sewer structure, requires an inspection. Provide a note on the plan stating, "The installation of, or connection to, public storm sewer must be inspected during construction. Call 630-420-6100, Option 1 to schedule."
  7. If a private storm sewer system is required, but a public storm sewer connection is not available, a dry well may be required (5-2B-7.2.4 of the Municipal Code). This applies to developments that result in 500 sf or more of new impervious surface. Storage must be at least 0.375 cf/sf of net new impervious surface.
    - Inlets must be provided.
    - Dry wells and structures may not be located within any easement.
    - Sump pumps should ideally not be tied into dry wells.
  8. Open cuts are not permitted within the street, except in situations where auguring or directional boring cannot be performed. The City may require a Future Pavement Restoration Fee for any pavement disturbed during construction (9-1J-5 of the Municipal Code).
  9. Stormwater should not be directed toward adjacent properties. The City recommends tying sump pumps into a public or private storm sewer system when available.

10. Bubbler outlets shall be a minimum of 15 feet from a sidewalk, 10 feet from a rear property line, and 3 feet from a side property line.
11. A storm sewer may be required across the frontage of the property in accordance with Ordinance 04-198. Where this is the case, the City will provide the size and invert elevations required. If the storm sewer is located on private property, an easement must be dedicated.
12. Site specific storm study data is available for certain areas of the city. If the subject property is within the study limits, the lowest opening to the structure must be raised to an elevation that is 1.5 feet above the calculated high-water elevation. The City maintains a list of the properties within the study limits and will share this information when appropriate.

### **EROSION CONTROL**

1. Perimeter erosion barrier (silt fence or other) must be shown.
2. Existing storm structures must be protected during construction. Filter baskets are the preferred method of protection.
3. A stabilized construction entrance must be called out.
4. Tree protection must be shown for any trees to be saved in the construction area or any trees across the roadway which may be impacted by utility connections. DPW-Forestry must approve any tree removal in the public right-of-way.
5. Provide a note on the plan stating, "A concrete washout area should be provided on-site. Concrete cannot be washed out into the public right-of-way or storm sewer system."

### **POST CONSTRUCTION BEST MANAGEMENT PRACTICES (PCBMPs) – DUPAGE COUNTY ONLY**

1. A table outlining the existing impervious area, the proposed impervious area and the calculated difference shall be included on the detailed grading plan. A statement regarding whether PCBMPs are required must accompany the table.
2. If PCBMPs are required, the following shall be shown on the detailed grading plan:
  - The location of the PCBMP(s). PCBMPs may not be located in a Public Utility and Drainage Easement.
  - Details of the PCBMP design (type, dimensions, materials, etc.).
  - A note stating, "PCBMP facilities must be inspected during construction to verify storage volumes. Call 630-420-6100, Option 1 to schedule."
3. If PCBMPs are provided, documentation will be required at the time of the Final Grading Survey to demonstrate that an easement or note to title has been recorded.

4. If the applicant believes that providing PCBMPs is impractical, fee-in-lieu may be requested. This request will be evaluated by the City's Stormwater Administrator. If historic water table elevations or soil conditions are cited as a justification, site specific boring data accompanied by a professionally prepared soils report must be provided.

## **DETAILS**

1. Include the latest version of any applicable City standard details. PDF copies of the standard details are located at [www.naperville.il.us/standspecdetails.aspx](http://www.naperville.il.us/standspecdetails.aspx).

The following are commonly required:

- Typical Residential Driveway 590.06 (2 Sheets)
- Sidewalk 590.30
- Temporary Erosion Control Measure - Silt Fence 790.03 (2 Sheets)
- Tree Protection 790.10
- Sump Pump Connection 290.30
- Water Service Tap and Connection 490.20
- Sanitary Riser for Service Lateral 390.20
- Appropriate drainage structures and storm sewer details
- Utility Trench Paving Section – Rigid Pavement 590.12
- Utility Trench Paving Section – Flexible Pavement 590.13
- Storm Sewer Trench Section in Non-Paved Areas 290.21
- Storm Sewer Trench Section in Paved Areas 290.20
- Other \_\_\_\_\_

## **ADDITIONAL DOCUMENTS THAT MAY BE REQUIRED**

1. Plat of Easement
  - Rear yard public utility and drainage easement
  - Side yard public utility and drainage easement
  - Front yard public utility and drainage easement
  - Sidewalk easement
  - Stormwater PCBMP easement
2. A Right-of-way Encroachment License Agreement is required for brick pavers or other non-standard materials in the ROW.
3. In lieu of a dedicated easement for the stormwater PCBMP, a note to title may suffice.