



290 Evergreen Drive • Vernon Hills, IL 60061-2999 •
Community Development • Engineering Division
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***AS-BUILT RECORD DRAWING PROCEDURES AND STANDARDS FOR
CIVIL ENGINEERING SITE WORK IMPROVEMENTS***

1. ***PURPOSE:***

As-built record drawings are required to provide a means of schematic verification that the intent of the approved engineering design has been met, thereby substantiating that the health, safety and welfare aspects of the engineering design have been adequately provided by the construction of the project.

2. ***IMPROVEMENTS WHICH REQUIRE VERIFICATION:***

- a. Watermain and sanitary distribution and collection systems, and storm drainage system
- b. Stormwater management facilities
- c. Residential lot survey as-builts
- d. Site lighting

3. ***METHOD OF VERIFICATION REQUIRED:***

The verification of the required improvements shall be in the form of mylar reproducible drawings which depict the information required for each category of improvements. The information shall be reviewed by a Registered Professional Engineer in Illinois who shall provide a signed and sealed statement of opinion regarding the contents of the information provided with respect to its as-constructed ability to function within the parameters of the approved design.

The cover sheet for water, sanitary sewer and storm sewer submittals, site lighting submittals and the stormwater management submittals shall have a statement clearly printed thereon, indicating that the project was constructed in substantial conformance to the approved engineering plans, and as depicted on the as-built record drawings, prior to the final surface course placement, final occupancy permit and / or acceptance being issued. The statement shall bear the original ink handwritten signature, date of signature and impressed seal of the Illinois Registered Professional Engineer that prepared the record civil engineering design plans. Illinois Registered Engineer signatures over 90 days old at the date of the record drawing submittal to the Village, will not be accepted.

In addition, each sheet shall bear the name and address of the project and be labeled, dated and initialed by the Professional Engineer using the standard legend denoting "As-built Record Plan".

4. ***RECORD DRAWING MATERIAL SPECIFICATIONS:***

Two complete sets of reproducible mylar (3 mil min. thickness) 36" x 24" scaled drawings for each sheet of record information shall be provided. Standard dimensioning techniques are to be used. The information shall be clear and legible and render a satisfactory blue-line print as determined by the Village of Vernon Hills.

5. RECORD DRAWING INFORMATION REQUIREMENTS:

General comments: A complete set of the approved final engineering plans are to be utilized as the base sheets for the as-built record drawings. As-built record drawings are to show actual elevations alongside planned elevations. Planned elevations shall be neatly crossed out so that they are legible to compare to the as-built record elevations. All elevations should be referenced to the same bench mark datum as the original design plans. The appropriate bench marks shall be noted on the cover sheet.

a. Watermain, Sanitary Sewers and Storm Sewers

(i) Watermain

- a. Rim elevation on valve vaults.
- b. Breakaway flange elevation on fire hydrants.
- c. Linear distance along watermain from appurtenance to appurtenance (i.e. valve vault to tee, tee to bend, bend to valve, etc.), including pipe material and size.
- d. Horizontal ties to all valve vaults, B-boxes and hydrants (1.0 foot tolerance) from two above ground permanent structures. Location of service connections along main, or service lines into structures. Horizontal ties to stub terminals.

(ii) Sanitary Sewer

- a. Rim elevation on manholes.
- b. Invert elevation for all pipes in manholes.
- c. Linear distance along sewer from structure to structure, including pipe size and material.
- d. Recalculated pipe slopes based on invert to invert elevation along the linear distance between manholes.
- e. Location of service connections along main and service lines into structures. Horizontal ties to stub terminals.
- f. Complete record drawings of lift stations, including all piping, electrical elements, and pumping elements.

(iii) Storm Sewers

- a. Rim elevations on inlets, catch basins, manholes, and other special structures.
- b. Invert elevation of all pipes within inlets, catch basins, manholes, end sections, headwalls, culverts and other special structures.
- c. Linear distance along sewer from structure to structure, pipe size and material.
- d. Recalculated pipe slopes based on invert to invert elevations along the linear distance between structures.
- e. Location of service connections along main, and service lines into structures. Horizontal ties to stub terminals.

(iv) Utilities Systems Identification

Privately owned utility mains that are connected to public utility mains must be clearly labeled as such on the as-built record plans together with a note that states private utility mains shall not be maintained by Lake County Public Works

Department. If a custodial agreement has been reached then it is to be identified where applicable.

b. Stormwater Management

Upon completion of final grading or completion of all:

- (i) Detention basins.
- (ii) Retention basins
- (iii) Constructed or regraded streams and channels.
- (iv) Overflow routes (street areas that act as overflow routes).
- (v) Street depressions which are planned detention areas.
- (vi) Permanent and/or temporary diversion berms, swales and control structures.

A topographical survey of the stormwater management areas outlined above shall be prepared by an Illinois Registered Professional Engineer. The plans shall contain sufficient spot elevations and facilities have been in compliance with the approved civil engineering design plans. Record information for all public improvements within the stormwater management area must be depicted on the record plans. Additionally, the as-constructed stormwater management volume together with the approved final engineering planned volume shall be depicted in tabular form. The potential as-constructed average and peak release rates as compared with the design release rates must be provided in tabular form.

c. Residential Lot Survey As-built

- (i) All residential lots shall include an as-built lot grading survey per Appendix - B Development Regulations, Section K.

d. Site Lighting

- (i) Horizontal ties on lighting standards and control (if applicable) as referenced to the approved plan stationing or coordinates (1.0 foot tolerance)
- (ii) All lightpoles, controllers, light bollards, cables, and signs are to be shown in their as-built location.
- (iii) For commercial driveway entrances, dimensional ties shall be provided for all conduit crossings which are provided for present or future use. Identify conduit size and material used.
- (iv) For public improvements, service cables and service transformers shall be depicted in schematic format. Include size and type of conduit used, wire size and cabinet schematics.

6. *SUBMITTAL OF RECORD PLANS FOR REVIEW BY VILLAGE STAFF:*

Two (2) complete sets of final approved engineering plans of 24" x 36" blue-line prints (bound/stapled on 24" side) shall be submitted by the developer or the Illinois Registered Professional Engineer that prepared them to:

Village of Vernon Hills
Engineering Division
290 Evergreen Drive
Vernon Hills, IL 60061

7. *VILLAGE OF VERNON HILLS REVIEW OF RECORD PLANS:*

A review of all record plans shall be made by the Village Engineering Division staff and Lake County Public Works Department. If the Village and/or county finds that revisions to the subject record plans are required, then the Illinois Registered Professional Engineer that prepared such record plans shall be notified in writing as to what items on the record plans should be revised. The Illinois Registered Professional Engineer that prepared the record plan shall:

- a. Make the revisions required promptly to avoid delay of acceptance or final occupancy.
- b. Clearly note on the cover sheet of the revised record plans the date on which the revisions were made.
- c. Redate and resign the Illinois Registered Professional Engineer statement.
- d. Make such revision notes as may be required on each page of the record plans to clearly indicate the: date revisions were made and the nature of the revisions made, even if no revisions were made to that particular sheet.
- e. Upon acceptance two (2) complete sets of reproducible mylar drawings shall be provided.