



TABLE OF CONTENTS

6	PROJECT CLOSE-OUT DOCUMENTS.....	2
6.1	CONSTRUCTION INSPECTOR BINDER.....	2
6.1.1	Material Submittals.....	2
6.1.2	Inspection Reports.....	2
6.1.3	Test Results/Reports.....	2
6.1.4	Change Orders / Substitutions.....	2
6.1.5	Pay Applications.....	2
6.1.6	Final Record Set of Construction Plans.....	2
6.2	LIEN WAIVERS.....	2
6.3	AS-BUILTS.....	2
6.3.1	GENERAL.....	2
6.3.2	SANITARY SYSTEM.....	4
6.3.3	WATER SYSTEM.....	4
6.3.4	STORM SYSTEM.....	5
6.3.5	GRADING CERTIFICATION PLAN.....	5
6.3.6	STORMWATER BMP CERTIFICATION PLAN.....	6
6.4	EASEMENTS.....	7
6.4.1	GENERAL.....	7
6.4.2	STORM SYSTEM.....	7



6 PROJECT CLOSE-OUT DOCUMENTS

6.1 CONSTRUCTION INSPECTOR BINDER

City Inspector shall provide the City with a Construction Inspection Binder including the following documents.

- 6.1.1 Material Submittals
- 6.1.2 Inspection Reports
- 6.1.3 Test Results/Reports
- 6.1.4 Change Orders / Substitutions
- 6.1.5 Pay Applications
- 6.1.6 Final Record Set of Construction Plans

6.2 LIEN WAIVERS

Developer shall provide the City with all lien waivers pertaining to the Public Infrastructure prior to final acceptance by the City.

6.3 AS-BUILTS

6.3.1 GENERAL

- 6.3.1.1 Plans shall be prepared on sheets measuring 12" high by 36" wide. Sheets shall have minimum margins of ½ inch on all sides.
- 6.3.1.1 The title block shall be in the lower right corner of the as-built and include at a minimum, the following information:
 - City of New Berlin
 - Location of Utility
 - As-built File Number (Provided by City Engineering Services Division)
 - MMSD Plan File Number (for Sanitary Only)
 - Date of Plan Approval by Commission (for Sanitary Only)
 - Name of Contractor
 - Date of Construction
 - Scale (text and line)
 - Signature Line for City Engineer.
- 6.3.1.2 North shall be shown by a 2" long north arrow, clearly, shown without intrusion.
- 6.3.1.3 The scale of the as-built plans shall be same as construction drawings, 1"=50' or 1"=40'. This shall be shown with a line scale and text.



- 6.3.1.4 The seal and signature of the professional engineer responsible for the preparation of the as-builts shall be shown immediately adjacent to the title block.
- 6.3.1.5 All existing lot, property, and utility easement lines in the area in which the utility is located shall be shown.
- 6.3.1.6 Ghost any existing features, including but not limited to building corners and parking lots.
- 6.3.1.7 Each address, lot and block number shall be indicated. Addresses shall be labeled with *italics*. Unplatted lands and the address of any home on such lands shall be so indicated.
- 6.3.1.8 , Subdivision or development name shall be shown at the top right of the sheet in large bold font.
- 6.3.1.9 All street names shall be clearly shown.
- 6.3.1.10 Two SEWRPC reference benchmarks shall be shown on each sheet.
- 6.3.1.11 Plan sheets shall start and terminate at match lines.
- 6.3.1.12 Pipe invert elevations shall be clearly shown.
- 6.3.1.13 Existing sanitary sewer, storm sewer, watermain and service locations shall be “ghosted” by lightening the linework and font.
- 6.3.1.14 Final submittal:
 - 6.3.1.14.1 Provide complete set of records in PDF format, 1 copy printed and stamped by professional engineer..
 - 6.3.1.14.2 Provide complete set of records in AutoCAD (.DWG) format on CD tied to the City of New Berlin Datum, North American Datum of 1983, 2011 Projection (NAD83-2011) Wisconsin State Plane coordinate system, South Zone.
 - 6.3.1.14.3 Provide digital files in Shapefile or Geodatabase format including the above coordinate system. This will facilitate direct insertion of the subject into the City’s Geographic Information System (GIS).
- 6.3.1.15 The cost of archiving the as-built drawings and insertion of the data into the City’s GIS System shall be the sole responsibility of the DEVELOPER. Cooperation and submission of the aforementioned data will keep costs to a minimum.



6.3.2 SANITARY SYSTEM

- 6.3.2.1 A general note on each sheet giving the size, class, type, ASTM designation, and manufacturer of every main and lateral shall be shown, with material quantities clearly tabulated. Complete information on manhole frames / lids / barrel structure shall be noted.
- 6.3.2.2 The percent grade, direction of flow, and center to center length of sanitary sewer installed between manholes and laterals shall be shown.
- 6.3.2.3 All laterals shall have invert elevations at right-of-way lines or easement line and lengths clearly shown.
- 6.3.2.4 The following information shall be shown for each manhole:
- Invert elevation of each sewer
 - Pipe size of each sewer
 - Type of frame to chimney seal
 - Indicate External seals or internal chimney seals
- 6.3.2.5 All as-built drawings shall reference Milwaukee Metropolitan Sewerage District datum by using the conversion of 580.58 from 0.00 (MMSD datum) to Mean Sea Level.

6.3.3 WATER SYSTEM

- 6.3.3.1 The size, class, type, and manufacturer of every main shall be shown. The location of the main shall be dimensioned from the centerline of the right-of-way. The center to center length of main installed between valves, fittings, and laterals shall be shown.
- 6.3.3.2 The location of all fittings (including valves, tees, crosses, reducers, air vents, bends, and lateral taps) shall be dimensioned from/to centerline of each fitting. All fittings shall be suitably labeled for identification.
- 6.3.3.3 Curved lines shall indicate deflected pipe (with curve data provided); lines shall be straight between fittings.
- 6.3.3.4 Show which side of the main the operating nut for butterfly valves is located on.
- 6.3.3.5 A general note on each sheet giving the brand and manufacturer (model, size, etc.) for each valve used shall be provided, with quantities of each clearly tabulated. Services shall include footage and count. Complete information on valve boxes and manhole frames / lids / barrel structure shall be noted.



- 6.3.3.6 All laterals shall be shown giving the length and type of material used. The manufacturer and model of tapping saddle or tee, corporation, curb stop, and box shall be given.
- 6.3.3.7 Valves, tees, crosses, reducers, air vents, bends and lateral taps.
- 6.3.3.7.1 The location shall be tied-in to at least two permanent surface points. These can be manholes, hydrants, other valves, or other suitable points. The point used should be clearly referenced.
- 6.3.3.8 Hydrants.
- 6.3.3.8.1 The size and type of every hydrant shall be also shown.
- 6.3.3.8.2 The shutoff valve shall be tied-in to at least two permanent surface points.
- 6.3.3.8.3 All hydrants differing from 6.5' bury shall have the bury depth or length of extensions installed noted.
- 6.3.3.8.4 Elevation of each hydrant tied to the northwest nut of the top flange should be shown.

6.3.4 STORM SYSTEM

- 6.3.4.1 The size and type of all mains and leads shall be shown. The total length of sewer installed shall be shown.
- 6.3.4.2 The center-to-center distance between laterals and/or manholes shall be shown.
- 6.3.4.3 Elevation of the location, size, type and manufacturer of all manholes, catch basins, inlets, or outlet sections shall be shown. Material quantities shall be clearly tabulated.
- 6.3.4.4 Elevations of all rims, flow lines, catch basins, gutter inlets, and outlet sections shall be given. Invert elevations shall be given for gutter inlets, catch basins, and manholes. Elevations shall be based on the City of New Berlin datum.

6.3.5 GRADING CERTIFICATION PLAN

- 6.3.5.1 In preparing a Certification Plan, the Developer's Grading Plan shall be shown as screened background.
- 6.3.5.2 As-built grades shown on lot lines shall be no less than 0.30 ft. lower than final grades shown on approved master grading plan or higher than 0.10 ft. above the final grades shown on approved master grading plan. The Developer is required to establish final grades within 5 feet of side lot lines, rear lot lines and the front right-of-way area between the front line lot line and the back of curb in an urban setting or



edge of shoulder in a rural setting. These areas shall be described as a “no-touch zone”. All grades within the “no-touch zones” shall be certified by Developer’s Engineer. Developer shall typically show spot grades along side lot line at front curb, front property corners, front setback, back of house extended, any high points, and rear property corners.

6.3.5.3 The grades along side lot lines are needed even in wooded, ungraded areas.

6.3.5.4 Existing house pad grade (elevation taken at the center and each corner of a typical 66’ x 54’ house, except for lots designed for rear exposure house show existing grade at front and back of typical house). House pads are to be left 1.75’ below finish yard grade with a +/- 3” tolerance.

6.3.5.5 Elevations every 50 feet along developer graded swales and ditches.

6.3.5.6 Elevations every 100-ft. Station along the road alignment. Locations shall include:

- Pavement centerline and edges
- Edge of shoulder
- Ditch flowline
- Top of embankment on the backslope of the ditches.

6.3.5.7 After analyzing certified grades, Developer shall identify on plan those areas not within above tolerance. Show areas to be regraded, or areas where it may be desirable to revise the proposed grades in the Master Grading Plan.

6.3.6 STORMWATER BMP CERTIFICATION PLAN

6.3.6.1 Elevations (minimum of every 50’)

- Top of Berm
- Top of Slope
- Toe of Slope
- Safety Shelf Edges
- Bottom of BMP
- Spillway-Top of Slope & Toe of Slope (detailing length, width and height)

6.3.6.2 Structure Locations and Elevations

- Outfall (invert elevation and size)
- Overflow structures (corners of opening) and Piping (invert elevation and size)
- Inlet Structures (center of manhole) and Piping (invert elevation and size)
- Outlet Structures (center of manhole) and Piping (invert elevation and size)
- Weirs (invert elevation and size)
- Orifice (invert elevation and size)



- Inlet/Outlet (invert elevation and size)

6.4 EASEMENTS

6.4.1 GENERAL

- 6.4.1.1 The Developer shall prepare formal written easement documents, including graphics and written legal description attachments for each easement and record the same with the County Register of Deeds after review and approval by the City of New Berlin for each utility easement shown on the subdivision plat (or CSM) as a condition of Final Plat (CSM) approval.
- 6.4.1.2 No encroachment by structures, berms, trees, shrubs, paved surfaces or changes in grade greater than 4" are allowed in easement areas without approval of the City Engineer.
- 6.4.1.3 30-ft. wide minimum width for a single utility. The utility shall be located in the center of the final easement. Easement width may be increased to 50 feet based on pipe size and depth.
- 6.4.1.4 Easements with multiple utilities, the minimum separation from outside of the utility to the easement line shall not be less than 15 feet subject to approval by the City Engineer. Add not less than 10 feet per additional utility in the easement.
- 6.4.1.5 Maximum ground slope along easements:
- transverse: 25%
 - longitudinal: 10%.

6.4.2 STORM SYSTEM

- 6.4.2.1 The City requires public storm sewer and/or drainage easements for any stormwater conveyance system that drains public ROW areas or neighboring off-site areas.
- 6.4.2.2 A storm sewer running along the rear lot lines within a subdivision, specifically to drain backyards, does not warrant a public easement. The City considers this to be a private system built for the lot owners of the subdivision and owned/maintained by the property owners.