

Engineering Plan Review Checklist

Project Name: _____ Date Submitted: _____

Address: _____

Design Engineer Contact: _____ Owner / Developer Contact: _____

Company: _____ Company: _____

Address: _____ Address: _____

Email Address: _____ Email Address: _____

Phone No.: _____ Phone No.: _____

This Engineering Plan Review Checklist is a list of typical engineering review criteria for subdivisions, developments, and site plans. The checklist is not all-inclusive. Please consult with the City of Bloomington Department of Operations and Engineering Services regarding site-specific issues. The checklist is meant to summarize parts of the City of Bloomington Manual of Practice and Municipal Code.

Upon submittal for plan review, the responsible engineer must sign the Engineering Plan Review Checklist indicating that they have reviewed the checklist and incorporated the required items. The application will not be accepted if the engineer has not completed the checklist.

I have personally reviewed this submittal and verify that it is complete and that all items have been addressed and comply with the current City of Bloomington Manual of Practice and Municipal Code.

Responsible Engineer's Signature

Date

Responsible Engineer's Printed Name

A - ITEMS REQUIRED FOR SUBMITTAL

#	Yes	N/A	Variance Request	Item
A1				2 Full Size Plan Sets
A2				Electronic PDF Plan Set

B - ADDITIONAL ITEMS

#	Yes	N/A	Variance Request	Item
B1				Engineer's Estimate for Public Improvements (only includes public improvements within the Public ROW or utility easements)
B2				IEPA Permit Applications for Water & Sewer
B3				IDOT Permit
B4				Traffic Study & Traffic Control Plan per MUTCD Regulations
B5				Drainage Report
B6				SWPPP /& NPDES Permit and/or NOI (sites greater than 1 acre)
B7				Easement Dedication Plat for all Public Utilities
B8				Water Meter & Service Line Sizing Form
B9				Post Office Approved Location of Mailboxes & Cluster Box Units
B10				Illinois Department of Natural Resources Floodway Permit
B11				City of Bloomington Flood Plain Permit
B12				FAA Permit
B13				State Fire Marshall Permit
B14				LOMA & Elevation Certificate (to be provided upon completion of construction)
B15				City of Bloomington Permits – include indication within the Additional Notes section below.
B16				Any additional applicable permits – include indication within the Additional Notes section below.

Any additional items applicable to the project should be included with the submittal.

C - ALL SHEETS

#	Yes	N/A	Variance Request	Item
C1				North Arrow
C2				Numerical Scale & Graphical Scale
C3				Revision Date
C4				Sheet Title & Sheet Number
C5				Street Names

D - COVER SHEET / TITLE SHEET

#	Yes	N/A	Variance Request	Item
D1				Project Name & Address
D2				Owner Name, Address, Phone Number
D3				Engineer Name, Address, Phone Number
D4				Professional Engineer Seal, Signature, Expiration Date
D5				Location Map
D6				Index of Sheets
D7				Listing of Applicable Codes / Standard Specifications City of Bloomington's Manual of Practice, Manual on Uniform Traffic Control Devices (Latest Edition), Standard Specifications for Road and Bridge Construction (Latest Edition), Standard Specifications for Water and Sewer Construction in Illinois (Latest Edition), Illinois Urban Manual, City of Bloomington's City Code, Others

E - GENERAL NOTES / INFORMATION / LEGEND

#	Yes	N/A	Variance Request	Item
E1				Utility contacts and contact information
E2				Legend
E3				Benchmarks and control points
E4				Street names and right-of-way / easement width
E5				Plan revision dates shown throughout the plan set.
E6				Note indicating "Contractor shall notify the City of Bloomington – Department of Operations and Engineering Services at (309) 434-2225 a minimum of 48 hours prior to connecting to or installing any public utilities or services."
E7				Note indicating "Contractors shall not be allowed to connect to City fire hydrants to obtain potable water for any use, even with a backflow prevention device. Any potable water required for this project shall be legally obtained without using the City's fire hydrants. As an option, a City of Bloomington potable bulk dispensing station is located at 603 W. Division Street."
E8				Note indicating "The water service disconnection shall be witnessed by the City of Bloomington Water Department. Please contact them at (309) 434-2225 to schedule this work. A minimum notice of 2 working days is required."
E9				Construction plans shall be in substantial conformance with the existing preliminary plan.
E10				All public utilities are shown within an easement or public right-of-way.
E11				Label all utilities either private or public.
E12				Minimum of 7.5' of horizontal clearance between all public and private utilities.

E13				Removing, trimming, or planting trees within City property, including the parkway, requires approval from the City's Parks & Recreation Department. Approvals shall be provided.
E14				A CAD file of the approved plan set georeferenced to the project area is required (using Projected Coordinate System: NAD Item 1983 HARN StatePlane Illinois East FIPS 1201 (US Feet) WKID 3443).

F - SITE PLAN

#	Yes	N/A	Variance Request	Item
F1				Awareness - the parking, site layout, and use shall be approved by the Economic and Community Development Department.
F2				Property lines, property markers, benchmarks, and control points
F3				Existing public infrastructure
F4				Proposed improvements
F5				Existing and proposed easements
F6				Floodplain, floodway, and wetland boundaries
F7				If the site is next to a Connect Transit stop, provide details on how access will be maintained and if site work will require modifications to the stop.
F8				Streetlight locations

G - POTABLE WATER

#	Yes	N/A	Variance Request	Item
G1				Awareness - water service work located on private property shall be reviewed and approved by the City's Plumbing Inspector.
G2				Use the latest City of Bloomington Standard Watermain Details for public improvements.
G3				Public water services within the right-of-way shall be in accordance with State approved material outlined in City code Chapter 34. CL 52 Ductile Iron Pipe or Type K Copper is preferred.
G4				Water main material – CL 52 Ductile Iron Pipe with related appurtenances per the City's Standard Details
G5				Trench backfill for water mains shall be CA-11; trench backfill for water services shall be of a material that is not detrimental to the water service material.
G6				Pipe bedding material for water mains shall be CA-11.
G7				Tracer wire for all mains and polyethylene water services.
G8				Water service calculations prepared in accordance with the Illinois Plumbing Code.
G9				Restrained joint length calculations for any proposed restrained joint water mains or services. Indicate the length of restrained joint watermain at all bends, connections, etc. Calculations shall be in accordance with American Water Works Association and Ductile Iron Pipe Research Association standards.

G10				Separation details for all water, storm, and sanitary crossings.
G11				Multiple Unit Structures – Provide information regarding if each unit is metered individually or utilizing one domestic meter.
G12				Fire protection is required within 300 feet (as the hose lies) of any structure on site. If the building is sprinkled, then the distance is 600 feet.

H - WASTEWATER / SANITARY SEWER

#	Yes	N/A	Variance Request	Item
H1				Sanitary sewer mains shall be PVC SDR 21, Vitrified Clay Pipe, or Ductile Iron Pipe. PVC SDR 21 conforming to ASTM D-2241 for the pipes, ASTM 3139 for the joints, and ASTM F477 for the gaskets.
H2				Sanitary sewer services within the right-of-way shall be in accordance with provisions of the Illinois Plumbing Code (225 ILCS 320/40, 890, Appendix A, Table A). PVC SDR 21, Vitrified Clay Pipe, or Ductile Iron Pipe is preferred. PVC SDR 21 conforming to ASTM D-2241 for the pipes, ASTM 3139 for the joints, and ASTM F477 for the gaskets.
H3				Use the latest City of Bloomington Standard Sewer Details for public improvements.
H4				Provide calculations or other documentation that verifies the sanitary sewer services have been sized appropriately.
H5				Sampling manholes are required for all non-residential occupancies and other sites as required by State and Local Codes. Specify the size of the sampling manhole.
H6				Separation details for all water, storm, and sanitary crossings.
H7				Trench backfill – CA-11 or CLSM.
H8				Pipe bedding material – CA-11.
H9				Label all sanitary sewer main lengths, size, material type, slope, and other related data.
H10				Rim, invert, and other appropriate elevations for all proposed structures.
H11				Profile view for the proposed sanitary sewer mains.
H12				Sanitary sewer mains shall be a minimum of 8” in diameter.
H13				Design standards are listed in Chapter 7, Section 7.03 of the City of Bloomington’s Manual of Practice.

I - STORM SEWER / DRAINAGE / DETENTION

#	Yes	N/A	Variance Request	Item
I1				If the disturbed area exceeds 1,400 square feet, stormwater detention may be required by City Code Chapter 44, 1-6 (44-106.)
I2				For sites less than 5 acres, use the design table located in Chapter 6, Section 6.02, C-1B of the City of Bloomington’s Manual of Practice for

			required storage rate and maximum release rate allowed. Calculations to be provided.
I3			For sites greater than 5 acres and less than 20 acres, the Rational Method shall be used for calculations. Calculations to be provided.
I4			For sites greater than 20 acres, the Soil Conservation Hydrograph Method shall be used for calculations. Calculations to be provided.
I5			Provide calculations which verify the storm sewers and on-site inlets shall be capable of draining the 5-year storm. Include grate capacities in the calculations.
I6			Storm sewers shall be a minimum of 12 inches (1 foot) diameter for public utilities.
I7			Pipe material shall be according to Chapter 6 of the City of Bloomington's Manual of Practice and in accordance with Section 550 of the Standard Specifications for Road and Bridge Construction in Illinois.
I8			Use the latest City of Bloomington Standard Sewer Details for public improvements.
I9			Separation details for all water, storm, and sanitary crossings.
I10			Location and direction of flow for all downspouts.
I11			Rim, invert, and other appropriate elevations for all proposed structures.
I12			Proposed material, size, quality, slope, and other applicable data.
I13			Trench backfill – CA-11 or CLSM
I14			Pipe bedding material – CA-11
I15			Detention facilities shall include an emergency spillway sized for 75% of the maximum peak inflow. See Chapter 6, Section 6.02, C4 and C5 of the City of Bloomington's Manual of Practice for additional information.
I16			Cross sections and details of the detention basin, weir, and outlet control structure.
I17			Show the 100-year flood route arrows through the development on the plans. If the 100-year flood routing is to be conveyed by oversized storm sewers, provide supporting sizing calculations including inlet grate capacity calculations.
I18			Show the 100-year high water level and normal water level for all detention and retention facilities. Show the High-Water Level contour on the plans.
I19			Provide bank stabilization for all wet bottom detention basins in accordance with Section 6.02C of the City of Bloomington's Manual of Practice.
I20			Wet bottom basins within 20,000 feet of the airport have been coordinated with the Central Illinois Regional Airport.
I21			Minimum drop between influent and effluent pipes in a manhole shall be 0.1 feet.

I22				Match 0.9 points of the pipe diameter across the structure when changing storm sizes.
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J - GRADING PLAN

#	Yes	N/A	Variance Request	Item
J1				Provide existing and proposed elevations and / or contours across the entire site.
J2				Clearly label the finished floor elevation on the plans.
J3				Surface flow arrows across the entire site.
J4				Elevations for all proposed and existing utility structures.
J5				Design finish building grades with 1 foot of freeboard above 100-year flood elevations between lots.
J6				Cross sections of all flood routes, berms, and other relevant drainage features.

K - PAVEMENT / SIDEWALKS / DRIVEWAYS

#	Yes	N/A	Variance Request	Item
K1				Sidewalk accessibility ramps shall comply with current standards. Include all relevant Illinois Department of Transportation (IDOT) standards.
K2				City Code Chapter 38, Section 72.5 (38-227) states that whenever a property is redeveloped that the sidewalks shall be reconstructed to a safe and usable condition according to current ADA Standards.
K3				Sidewalk shall continue through driveways. Detectable warnings are only required when there is a stop or yield sign present at the entrance / exit.
K4				Sidewalk in areas zoned commercial, business, or manufacturing are required to be 6" thick P.C.C. minimum. Sidewalks in other areas are required to be 4" thick P.C.C. minimum except through driveways, where the thickness shall be 6" P.C.C. minimum or equal to the adjacent pavement section.
K5				Sidewalk, bikeways, and multi-use trails are in conformance with the City's Bicycle Master Plan.
K6				All driveways shall conform to City Standard 4.06f. If increased flare widths are required due to the type of vehicle, provide an Autoturn diagram to justify the proposed design.
K7				Pavement structure shall be according to Chapter 4, Section 4.04 of the City of Bloomington's Manual of Practice.
K8				Driveways shall not be located within turn lanes.
K9				Driveways shall be located outside of no access strips.
K10				Inlets located in driveways shall have depressed frame and grates.

L - EROSION CONTROL / SWPPP

#	Yes	N/A	Variance Request	Item
L1				If the disturbed area is greater than 5,000 square feet, submission of a formal erosion control plan is required.
L2				Total site area, total disturbed area, proposed impervious area, and total impervious area.
L3				Stabilized construction entrance.
L4				Inlet and pipe protection is required on all existing and proposed inlet and outlet structures.
L5				Include all relevant erosion control details and standards (Chapter 13 of the City of Bloomington’s Manual of Practice & IL Urban Manual).
L6				Silt fence or other erosion control barrier is required on the downstream side of all areas of disturbance.
L7				Erosion protection for the outlet of the detention basin.
L8				Erosion protection for the emergency spillway per the City of Bloomington’s Manual of Practice Chapter 6, Section 6.02, C-5.
L9				Areas with slope of 25% or greater and storm water conveyance channels shall be shown with erosion control blanket, sod stabilization, or rip rap as required by Chapter 13 of the City of Bloomington’s Manual of Practice.

Notes:

- 1) The Variance Request column is used to identify items that are required but requested to be provided at a later date. Details relating to the request shall be provided in the Additional Notes section below.

ADDITIONAL NOTES

