

**CITY OF WESTMINSTER, MARYLAND**  
DEPARTMENT OF PLANNING & PUBLIC WORKS  
CHECKLIST

**PUBLIC WATER AND SEWER CONSTRUCTION PLANS**

DATE: \_\_\_\_\_ CONTRACT NO: \_\_\_\_\_

NAME OF PROJECT: \_\_\_\_\_

SUBDIVISION PLAN NO: \_\_\_\_\_ TAX MAP: \_\_\_\_\_ PARCEL NO: \_\_\_\_\_

NAME OF DEVELOPER: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CONSULTANT ENGINEER: \_\_\_\_\_

ZONING: \_\_\_\_\_

.....  
LEGEND:

<u>√</u>	Complied with	<u>X</u>	Not complied with
<u>Inc.</u>	Incomplete	<u>N.A.</u>	Not Applicable

.....  
INSTRUCTIONS: To be completed by the applicant using the above legend. It is to be signed by a registered professional engineer with a Maryland Registration number and is to be dated and furnished with the initial document submittal.

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THIS CHECKLIST IS A SUPPLEMENT TO CITY DESIGN STANDARDS AND IS THE MINIMUM REQUIRED INFORMATION. ADDITIONAL INFORMATION MAY BE REQUIRED.

**SECTION I – GENERAL**

1. Standard Sheet \_\_\_\_\_
2. Standard Title Block on all sheets \_\_\_\_\_
3. Standard signature block on all sheets \_\_\_\_\_
4. Professional engineer's signature and seal on each drawing \_\_\_\_\_

5. Location map shown on Title Sheet
  - a. Scale 1" = 500' \_\_\_\_\_
  - b. Show north arrow \_\_\_\_\_
  - c. Site of proposed subdivision, shaded \_\_\_\_\_
  - d. Existing and proposed streets identified \_\_\_\_\_
  - e. Existing and proposed water and sewer shown with size and project numbers \_\_\_\_\_
  - f. Vicinity map (1" = 2000') \_\_\_\_\_
  - g. Below vicinity map provide information block
    - i. Type of Building(s) \_\_\_\_\_
    - ii. No. of Water house connections \_\_\_\_\_
    - iii. No. of Sewer house connections \_\_\_\_\_
  
6. Provide on first sheet, table showing total quantity, type of pipe, number of water and sewer house connections, number of manholes, fire hydrants, and valves, etc. \_\_\_\_\_
  
7. Provide City of Westminster General Notes below vicinity map \_\_\_\_\_
  
8. On Title Block, identify the Project as per identification used in record plat:
  - a. No. of Lots \_\_\_\_\_
  - b. Contract No. \_\_\_\_\_
  
9. Show Tax Map, Block & Parcel Number \_\_\_\_\_
  
10. North arrow on each sheet \_\_\_\_\_
  
11. Plan scale 1" = 50' \_\_\_\_\_
  
12. Show on the plan view the complete survey details and the traverse and road centerline stationed at least every 100 feet \_\_\_\_\_
  
13. Place three coordinate ticks on each plan. (Form right angle, with 250' increments). Coordinate system shall be based on North American Datum of 1983 (NAD '83) \_\_\_\_\_
  
14. Show at least two permanent bench marks with description, elevation and reference (use the same bench marks as shown on the road construction plans) \_\_\_\_\_
  
15. Show existing property line, curb line, septic tank and well and spring locations \_\_\_\_\_
  
16. Show existing and proposed storm drains and stormwater management ponds \_\_\_\_\_
  
17. Show and label the City Project Number and existing water and sewer mains, house connections, manholes and other related structures and appurtenances \_\_\_\_\_

18. Show streams, lakes, trees, railway lines and related structures \_\_\_\_\_
19. Gas, Electric, Telephone and other utilities \_\_\_\_\_
20. Show existing and proposed right-of-way of utilities \_\_\_\_\_
21. Existing and proposed buildings on lots with basement elevation or lowest floor elevation \_\_\_\_\_
22. Label the names and property owners for property around the subdivision \_\_\_\_\_
23. Label the lot or parcel numbers \_\_\_\_\_
24. Roads, identify and show:
  - a. Pavement width and type of pavement \_\_\_\_\_
  - b. Right-of-way width \_\_\_\_\_
  - c. Existing or proposed curb and sidewalks \_\_\_\_\_
  - d. Type of road (state, county or private) \_\_\_\_\_
25. Use jacking/boring for crossing state and county roads, unless open cut is permitted on the plan. Show detail of method desired \_\_\_\_\_
26. For townhomes, apartment development and single family subdivision, show the complete layout of the piping system in the Plan View drawing \_\_\_\_\_
27. On the Plan View locate the water and sewer mains and appurtenances from centerline of the road. Sewer manholes are to be provided with coordinates as well \_\_\_\_\_
28. Include City of Westminster Standard Detail Sheets for Water and Sewer \_\_\_\_\_
29. For purposes of design, the estimated population shall not be less than 3.5 persons per single family dwelling and 3 persons per apartment dwelling \_\_\_\_\_
30. The horizontal stations shall be the centerline of the street and locations of water and sewer shall be projected upon the road centerline \_\_\_\_\_
31. All water and sewer designs shall be in accordance with the requirements of the state of Maryland Department of the Environment \_\_\_\_\_
32. If requested by the City, a water system distribution analysis shall be submitted showing Hydraulic Gradient under design flow. Computations may be required. This and any other additional information required may be used at the City's discretion to require changes in the design configuration and sizing at the proposed water system \_\_\_\_\_

33. Include City of Westminster Standard Water and Sewer Notes

\_\_\_\_\_

34. Show any 100 Year Floodplains

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**SECTION II – WATER SYSTEM PLAN**

1. Plan Scale 1" = 50 ft. \_\_\_\_\_
2. Check the size of the water main with approved Preliminary Plan as per approved network computation \_\_\_\_\_
3. All the water mains should be DIP \_\_\_\_\_
4. Pipe shown by standard symbol and sizes frequently labeled \_\_\_\_\_
5. Clearly identify all fittings and appurtenances by size and type (valves, trees, crosses, bends, plugs, tapping sleeves, reducers, division valves, air release valves and manholes, etc.) \_\_\_\_\_
6. Pipe alignment and fittings dimensioned from traverse or proposed road centerline for field stakeout \_\_\_\_\_
7. Check the spacing of control valves (installed adjacent to all trees, crosses and at 500 foot intervals in-line) \_\_\_\_\_
8. Check the spacing of fire hydrants. Label the Bury line elevation and Bury length (in 1/2 foot increments) and station. Hydrants are to be located at all intersections, and intermediate hydrants at lot lines \_\_\_\_\_
9. House connections properly shown and identified – size shown if other than standard \_\_\_\_\_
10. Locate the house connection on high end of property \_\_\_\_\_
11. Check clearance between sewers and other utilities \_\_\_\_\_
12. Check clearance of water house connections with other utilities \_\_\_\_\_
13. Meter locations shown, or call for inside settings as applicable \_\_\_\_\_
14. Sprinkler system for multi-family dwellings should have a minimum of 1" connection with a 3/4" meter \_\_\_\_\_
15. Crimp radii and curve data shown for pipe curvatures, together with location and stationing of point of curvature (PC) and point of tangent (PT) \_\_\_\_\_
16. Check and label the type of pipe used for existing water main to be connected \_\_\_\_\_

- 17. Denote existing valves to be closed when connection to system is made. Provide connection note on the plan outlining areas affected by shutdown \_\_\_\_\_
- 18. Use tapping sleeve and valves for connecting to existing water mains unless approved otherwise \_\_\_\_\_
- 19. Confirm that in residential developments where easements are required between two adjacent lots for future extension of water systems, a water main shall be constructed within the easement between the adjacent lots. The water main shall be extended the full length of the easement between the lots. \_\_\_\_\_
- 20. Designate those connections requiring PRV's for service connections \_\_\_\_\_
- 21. Water mains shall be laid 7 feet off the centerline on the high side of the street \_\_\_\_\_
- 22. Fire hydrants are to be connected to mains via 6" leads to which no other use may be attached \_\_\_\_\_
- 23. Hydrant spacing to provide coverage shall be in accordance with Carroll County Standards \_\_\_\_\_

**SECTION III – WATER MAIN PROFILES**

1. Profile scale 1" = 5' vertical  
1" = 50' horizontal \_\_\_\_\_  
\_\_\_\_\_
2. Profiles shall be shown on separate drawings and clearly identified and cross referenced to the Plan view drawings \_\_\_\_\_
3. On a combined water and sewer project the profiles of each system may be combined on a single profile \_\_\_\_\_
4. Show the water main in double line and label the size of the water main \_\_\_\_\_
5. Water main stations and inverts shall be shown at every 50-foot intervals \_\_\_\_\_
6. Cover to be no less than 4.0 feet (finished grade – top of pipe) \_\_\_\_\_
7. Existing and proposed grades of the road or ground \_\_\_\_\_
8. Water main sizes, fittings (appurtenances) shall be labeled, stationed, and invert elevation shown \_\_\_\_\_
9. Check the combined horizontal and vertical radii of pipe required to traverse over, under, or around obstruction, not exceeding the minimum radius allowed \_\_\_\_\_
10. Pipe checked for minimum/maximum depth \_\_\_\_\_
11. Shown air release valves, and dewatering valves where required \_\_\_\_\_
12. Check and label the type of water main pipe used for existing water main to be connected. Also label the contract number of existing water main \_\_\_\_\_
13. Check for adequate clearance between crossing utilities \_\_\_\_\_
14. Where profiles branch to other profiles, check inverts for compatibility \_\_\_\_\_
15. Show parallel storm drain and sewer by dashed lines \_\_\_\_\_

**SECTION IV – SEWER SYSTEM PLAN**

1. Plan scale 1" = 50 ft \_\_\_\_\_
2. Show existing sewer main and City of Westminster project number to which proposed sewer main will be connected \_\_\_\_\_
3. Size and direction of flow of sewer main shown between manholes \_\_\_\_\_
4. The minimum public sewer main size is 8-inch \_\_\_\_\_
5. Manholes numbered and identified by type \_\_\_\_\_
6. Manholes shall be located by distance from applicable traverse station or from road centerline or other physical points for field stakeout. Coordinates provided. \_\_\_\_\_
7. Minimum drop across manhole is 0.1 ft. Angle between incoming pipes to provide a minimum of 8" at manhole wall between outside of pipes. Angle between incoming and outgoing pipes may not be less than 90°. \_\_\_\_\_
8. Centerline manhole channel radii are not less than 2.5 times the pipe diameter \_\_\_\_\_
9. The types of manhole required (drop, type 1 or 2, watertight manhole) \_\_\_\_\_
10. On the terminal manhole, provide maximum (3) three sewer house connections \_\_\_\_\_
11. Maximum number of connection in any manhole is four \_\_\_\_\_
12. Check horizontal and vertical clearance for the existing utilities in the area \_\_\_\_\_
13. Show minimum cellar elevation of lots or buildings \_\_\_\_\_
14. Sewer service restrictions noted. No service, or first floor service only \_\_\_\_\_
15. House connections are properly shown perpendicular to the main and located \_\_\_\_\_
16. All sewer service for residential units shall be 6" inch size with 2% slope (Standard acceptable slope) \_\_\_\_\_
17. House connection data: give invert at property line, type of connection and design slope if greater or less than 2%. (The minimum slope is 2% and 6% maximum) \_\_\_\_\_
18. Check clearance between house connections and other utilities \_\_\_\_\_



- 19. Show easements required for sewer main extension and house connections \_\_\_\_\_
- 20. Show off site right-of-way or easement \_\_\_\_\_
- 21. Check the size of sewer main as per approved computation or master plan \_\_\_\_\_
- 22. In residential development projects, where easements are running between two adjacent lots for future extension of the sewer system, a sewer main shall be provided within the easement between the adjacent lots. The sewer shall be extended the full length of the easement and be located on the downslope side. \_\_\_\_\_
- 23. When a sewer main design necessitates the acquisition of a right-of-way, then the sewer main should be placed in the middle of the right-of-way \_\_\_\_\_
- 24. In new developments where sewers are laid in advance of road pavement, the sewer shall be placed on the lower side of street seven feet from the street centerline \_\_\_\_\_
- 25. On the plans (plan view) clearly label public and private sewer mains \_\_\_\_\_
- 26. Collector sewer design shall be based upon a depth of 2 feet below the cellar (or first floor if no cellar gravity service is planned) elevation plus 2% from the back of the building footprint to the main. If no footprint is shown, use the rear building setback line. \_\_\_\_\_
- 27. No cleanouts permitted on City sewer mains \_\_\_\_\_
- 28. Check minimum and maximum covers \_\_\_\_\_

**SECTION V – SEWER PROFILE**

1. Sewer profile scale    1" = 5' Vertical \_\_\_\_\_  
                                  1' = 50' Horizontal \_\_\_\_\_
2. Show existing and proposed grades for the road or ground \_\_\_\_\_
3. Show sewer pipe size and grade of sewer main \_\_\_\_\_
4. Pipe slopes shall be checked to be within minimum (0.6%) maximum  
(20% for PVC over 20% use of slope anchors and D.I.P. required) \_\_\_\_\_
5. Show all manholes and label the invert elevations of manholes \_\_\_\_\_
6. Distances between manholes shown and stationed. Identify manholes  
with numerical numbers. Maximum spacing is 400 linear feet \_\_\_\_\_
7. Size and type of manhole and structural detail, if other than standard \_\_\_\_\_
8. Drop manholes identified (required where drop exceeds 2'), including  
invert elevations of drop connections \_\_\_\_\_
9. Label the rim elevation of the manhole \_\_\_\_\_
10. Provide intermediate landing for manholes 18-feet and greater depth.  
Label the invert elevation of intermediate landing. Wall thickness  
identified as required. \_\_\_\_\_
11. Intersecting sewer mains at manholes that are of different diameters  
have matching tops of pipe elevations \_\_\_\_\_
12. Check for concrete cradle or encasement. Check where necessary and  
label accordingly \_\_\_\_\_
13. For profiles that branch to other profiles, verify that invert elevations  
are consistent \_\_\_\_\_
14. Use watertight frame cover set elevation one foot above the ground when  
the manholes are located within the floodplain \_\_\_\_\_
15. Check that manholes placed on fill shall have base extended to  
undisturbed earth \_\_\_\_\_
16. Use D.I.P. sewer pipe for river crossings, on slopes greater than 20%, and  
when required for structural strength (extra depth of cover) \_\_\_\_\_

- 17. Show proposed centerline road stationing on the profiles \_\_\_\_\_
- 18. Hydraulic design data shown between manholes for all interceptors and steep or shallow grade collector sewer (Q in mgd, velocity, and n factor) \_\_\_\_\_
- 19. Service elevations of lots, homes, and structures to be serviced shown together with house connections at appropriate elevations \_\_\_\_\_

**ADDITIONAL COMMENTS**

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**NOTE:**

- 1) **This checklist is to be returned on subsequent submittals along with a detailed point-by-point response to all comments. Failure to do so will only result in delay of subsequent review or return of plans unreviewed.**
- 2) **This checklist is an addendum to City of Westminster “Development Design Criteria” dated April 1990.**

**OWNER/DEVELOPER CERTIFICATION**

**I/We hereby certify that all proposed work shown on these construction drawing(s) has been reviewed by me/us and that I/We fully understand what is necessary to accomplish this work and that the work will be conducted in strict accordance with these plans. I/We also understand that any changes to these plans will require an amended plan to be reviewed and approved by the City of Westminster Planning and Zoning Commission before any change in the work is made.**

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**NAME(S) (PRINTED)**

**DATE**

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**SIGNED**

**DATE**

**ENGINEERS CERTIFICATION**

**I hereby certify that these construction drawings and associated computations were prepared by me or under my supervision and comply with all applicable standards and regulations of The City of Westminster. I have reviewed these documents with the Owner/Developer.**

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**NAME (PRINTED)**

**DATE**

**MARYLAND REGISTRATION NUMBER No. \_\_\_\_\_**

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**SIGNATURE**

**DATE**