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City of Ontario

## WATER PLAN CHECKLIST

PROJECT NAME _____ PLAN CHECKER _____ DATE _____

| | 1st Check | 2nd Check | 3rd Check | Mylars | Comments |
|---|---|---|---|---|---|
| **I. ALL SHEETS** | | | | | |
| A. Medium | | | | | |
| 1. 24”x36” size Mylar film conforming to City format | | | | | |
| 2. No “sticky back”, glued or taped on sections | | | | | |
| 3. Drawn with waterproof ink or reproduced on photographic emulsion Mylar film, no Diazo or Xerographic copies | | | | | |
| B. Signed by the Engineer-of- Work, date of expiration of registration adjacent to signature | | | | | |
| C. Marked with the name, address and telephone number of the firm preparing the plans and date of preparation | | | | | |
| D. Consecutively numbered & the total number of sheets | | | | | |
| E. Lettered in a neat and legible style, no hand lettering smaller than 1/8” and no machine letter smaller than 1/10” | | | | | |
| F. Name and phase of development. Street name & construction limits. See I.O. (N/A to title sheet) | | | | | |
| G. Confirm City benchmark identification, location and elevation noted | | | | | |
| H. Prepared to appropriate scale(s) | | | | | |
| I. Scale noted. North arrow (oriented up or to right) & bar scale | | | | | |
| J. Use standard details to maximum extent. Check drawing for dimensions shown on plans. Show detail for non-std improvements | | | | | |
| K. Note all reference drawings on plans | | | | | |

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| L. Clearly designate between existing conditions (dashed) and work proposed (solid) | | | | | |
| M. No duplication of any section or detail designation | | | | | |
| N. Use City standard Title Block per Std 6004 | | | | | |
| O. Title Block with "Water Improvement Plan & Profile" (top line); street name (2nd line) and limits of construction "From *street intersection* to *street intersection* (or *XXX' N,S,E,W*)" (3rd line) | | | | | |
| P. Acceptance block// Recommended By: Louis Abi-Younes/Asst. City Engineer RCE 44485 Exp 3-31-08. Accepted By: John P. Sullivan/City Engineer RCE 24079 Exp 12-31-07. (public facilities only) | | | | | |
| Q. All existing and proposed easements clearly shown. Clearly indicate public or private. (City min. width 15'). 20' on dead ends over 300' | | | | | |
| R. Public water mains 8" or larger, within public & private streets with an easement, or with sag or rise requires Plan & Profile | | | | | |
| S. Compare to Conditions of Approval & approved Tentative Map or Site Plan | | | | | |
| T. Review master plan water study for location & size | | | | | |
| **II. TITLE SHEET** | | | | | |
| A. Heading centered at top of sheet "Water Improvement Plans for _____in City of Ontario" | | | | | |
| B. Consultant recommendation for acceptance block (public facilities only) | | | | | |
| C. Standard general notes and construction notes provided. Construction notes match plans | | | | | |
| D. Additional notes are designated as "Special Notes" | | | | | |
| E. Confirm note 17 states stationing is per pipe CL | | | | | |
| F. Where shut down of existing main is required, add to general note "All shut down of existing water main to be done by & coordinated with the city Utility Division. Contractor shall notify all affected water users 72 hours in advance of shut down" | | | | | |

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| G. Basis of bearing provided | | | | | |
| H. Index Map | | | | | |
| 1. Scale is 1” = 100’ or 1” = 500’ | | | | | |
| 2. Sheet coverage shown | | | | | |
| 3. Located on Title Sheet | | | | | |
| 4. Street Names shown | | | | | |
| 5. Identify areas in County | | | | | |
| 6. Show water line with FH, BO, & AR (info may be shown on larger “System Map” on sheet 2 | | | | | |
| I. Vicinity Map | | | | | |
| 1. Orient north as on index map | | | | | |
| 2. Arterial streets shown | | | | | |
| 3. Project location shown | | | | | |
| J. Legend | | | | | |
| 1. Symbols per City standards 6002-6003 | | | | | |
| 2. Non-standard symbols and abbreviations used are listed and described | | | | | |
| K. All reference drawings are listed | | | | | |
| L. Owners/Developers name and address shown | | | | | |
| M. Separate written justification for deviations provided | | | | | |
| N. Quantity estimates provided and broken out between public and private & per tract if multi-tract project (Private facilities are not to be included in cost estimate) | | | | | |
| O. Underground service alert | | | | | |
| P. Is there a fully completed “Legal Description of Property”? Match title report | | | | | |



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| **III. DOMESTIC WATER IMPROVEMENT PLANS** | | | | | |
| A. Plan View shows: | | | | | |
| 1. Horizontal scale 1" = 40' maximum | | | | | |
| 2. Show only construction notes used on sheet | | | | | |
| 3. Lot Lines, centerline, right-of-way lines, City limits adjacent to project match st imp & FM | | | | | |
| 4. Approved name of street shown (when available) | | | | | |
| 5. Bearing and centerline curve data. Include deflection couplings as required | | | | | |
| 6. Show all driveways & sewer mains and laterals | | | | | |
| 7. State whether the domestic water system within the project is "public" or "private" (property owner owned and maintained). The jurisdictional boundary must be clearly delineated. Public water is to be in 15' min easement | | | | | |
| 8. If the domestic water system is "private", is it depicted as showing one or more master-meters for the entire site, located in the public right-of-way or in a City easement at the property entrance? | | | | | |
| 9. Stationing to match existing plans. New stationing shall increase west to east or south to north, except where street ends in west or south dead end or Cul De Sac | | | | | |
| 10. Identical stationing on consecutive sheets. | | | | | |
| 11. Bearing and stationing of all street centerlines. | | | | | |
| 12. Show waterline stationing at beginning & end of improvement & at FH, BO, AR services & mainline valves. | | | | | |
| 13. Are section views of all domestic water mains (which cross sewer mains) shown in the profile view of the sewer main? | | | | | |
| 14. Domestic water mains and water service laterals should conform to City Standards. | | | | | |

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| a. Correct size (Mains: 8" min; Service Laterals: size based on calcs. | | | | | |
| b. Acceptable material **for NMC plans**: PVC C-900 class 200 for 12" & less. PVC C905 for sizes up to 16". CML/CMC for 18"+ (optional for 16"). Services 2" and less to have PE tubing; **for OMC plans**: PVC not allowed. CML/CMC or DI with copper services (see Gen Note #13) | | | | | |
| c. Acceptable radius of curvature of pipeline layout (for mainline, allowable curvature dependant upon pipe size & material; laterals must be straight) | | | | | |
| d. Minimum amount of overhead cover (Public Facilities: 42" for pipe size less than 12", 48" for 12"+ **(60" for NMC where final grade is not known)**; Private Facilities: governed by local building codes or by Uniform Plumbing Code). | | | | | |
| e. Horizontal clearance with other utilities per std 1302-1304 (minimum 10 feet, where feasible, from sewer; minimum 4' from storm drain, recycled water, and hydrocarbon) otherwise, protective encasing or higher grade pipe material required. City Standard No. 4001 | | | | | |
| f. Vertical clearance with other utilities (minimum 1 foot without joints, with domestic waterlines above all other pipelines). If other utilities must be above the domestic water, add the note "Center one length of pipe underneath the ***utility***". City Std 4001 | | | | | |
| g. Check St Imp plans for low or high points in system (including temp dead end) which may require air relief valve (@ HP) or relocation of FH/BO (@ LP) | | | | | |
| h. ARVs & BOs to be perpendicular to mains. 16" & up mains require ARV on downstream side & BO on upstream of all mainline valves. Place behind curb radius | | | | | |
| i. Distance off curb face (8' typical) per Std 1302-1304. In NMC where chokers are used, adjusted distance for 5' clear of CF | | | | | |

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| j Horizontal separation between water & sewer laterals is 5' min | | | | | |
| k. Lateral location preferred to be 5' from PL | | | | | |
| 15. 15' min easement width for domestic water facilities. Additional 10' for each additional utility within the easement | | | | | |
| 16. Show easement limits & course. Easement not to be centered on Lot Line | | | | | |
| 17. Meters placed within public ROW per City std 4201-4204, 4209 | | | | | |
| 18. Separate meters required for landscaping and domestic purposes for restaurants, commercial & industrial development | | | | | |
| 19. A minimum of 3 meters is required for manifolding domestic water meters. Otherwise, each meter must come off the main line with individual service laterals. Cont….Manifolds depicted on the plans must have a minimum of 4 meters each (std 4209). | | | | | |
| 20. Water service laterals cannot be connected to fire lines. | | | | | |
| 21. Dead-end waterlines are limited to 28 dwelling units or 600 feet (whichever comes first). Otherwise a looped water system with at least 2 points of connection is required. | | | | | |
| 22. Each building must have at least one water service lateral, coming directly off the main line, or off of a manifolded service assembly. | | | | | |
| 23. Water service laterals cannot come off of other water service laterals. | | | | | |
| 24. On single-family residences, water service laterals may be dimensioned from the property line or by street stations. | | | | | |
| 25. All industrial parcels require minimum 1-6" fire lateral (with double check detector, 2 service laterals & meters for domestic & landscape & meter boxes at each angled meterstop. Landscape meter requires backflow prevention unit) | | | | | |

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| 26. "Hot Taps" shall indicate installation & size of tapping valve & tapping sleeve (welded nipple & flange in case of steel mains). | | | | | |
| 27. On single family residences, water service laterals shall not go under driveway approaches. | | | | | |
| 28. All sheets to have house lateral location block (design station & as-built station) | | | | | |
| 29. Show existing pipelines, irrigation lines, & structures in the ROW or adjacent to the ROW | | | | | |
| 30. Show existing & proposed street lights, FH, & utilities (label & dimension) | | | | | |
| 31. Blow-offs are required at the end of all mains (including temp dead ends) unless terminates @ FH (std 4107-4109, 4112). Efforts should be made to locate FH & BO near manholes | | | | | |
| 32. Show existing FH on both sides of street | | | | | |
| 33. Off-site (public) fire hydrants are required to be installed on all frontage streets, at a maximum spacing of three hundred feet (300') apart, on alternating sides of the street. Streets with a center median shall require public hydrants spaced five hundred feet (500') apart, on the same side of the street. | | | | | |
| 34. FH should be located on near side of main except when street has median or exceeds 88' width. FH to be 5' from driveways, etc | | | | | |
| 35. Show existing street lights on both sides of street. City to determine new st light locations. Show with sta | | | | | |
| 36. If project is residential or medium to large-scale commercial/industrial, there should be at least 2 points of connection to the City water system. | | | | | |
| 37. All existing domestic water facilities should be completely and correctly depicted. | | | | | |
| 38. All proposed points of connection to existing domestic water facilities should be properly depicted. Call out removal of blind flange and temp BO if applicable | | | | | |

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| 39. Install only 2 gate valves @ all "T". Install on North and East lines when possible | | | | | |
| 40. Install only 3 gate valves @ all "+". Install on North, South, and East lines when possible | | | | | |
| 41. All valves to be AWWA C509 DI resilient seat gate valves (to 12") per std 4005. Use AWWA C504 Class 150B DI butterfly valves for 14"+ per 4006 | | | | | |
| 42. Maximum water shut-off valve spacing to be @ 1000'. Spacing to be such that no more than 2 fire hydrants are shut off at one time. | | | | | |
| 43. All fittings to be labeled & detailed as necessary. For PVC, use compact DI ANSI/AWWA A21.53/C153. See Design Guidelines for other materials | | | | | |
| 44. Call out joints per City std. For PVC use restraint joints (4010). For steel pipe use (4002). See Design Guidelines | | | | | |
| 45. Add note for restoration of existing pavement (OMC). No cutting of new pavement will be allowed in NMC | | | | | |
| 46. Cross-connections between recycled water facilities and potable water facilities are forbidden. | | | | | |
| B. Profile View shows: | | | | | |
| 1. Horizontal scale same as plan view | | | | | |
| 2. Vertical scale at 1" = 4' (new); 1" = 2' (existing) | | | | | |
| 3. Plan & profile must align | | | | | |
| 4. Label all profiles | | | | | |
| 5. Names & CL stationing of intersecting streets | | | | | |
| 6. Datum elevation at both ends of each street | | | | | |
| 7. 100' stationing at bottom of profile | | | | | |
| 8. Existing & finished surface on top of water line | | | | | |

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| 9. Label & show connection to existing. Denote existing in parenthesis. Add note to verify elevation of existing water FL prior to construction | | | | | |
| 10. Label and show stations and elevations at end of water, at crossings, and at BC & EC points | | | | | |
| 11. Call out "Install XX.XX LF *(size)* of *(material of water main)* | | | | | |
| 12. Waterline grade is correctly shown | | | | | |
| 13. Show location and bottom or top elevations of all crossings or parallel pipes or structures that might enter into the design of the water | | | | | |
| 14. Elevations in profile and plan section match | | | | | |
| 15. Profiles and elevations are the same on each sheet or section of match lines | | | | | |
| 16. Compare design to existing plans, if any. | | | | | |
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