

Drainage Structures Notes:

Unless more stringent requirements are called for on referenced NCDOT standard details, the following shall apply:

1. Boxes may be reinforced masonry, masonry, precast concrete or cast-in-place reinforced concrete.
2. Any non-standard box (non-standard meaning not shown in this manual), is to be designed by a NC Professional Engineer and approved by the Town Engineer.
3. The maximum height of an un-reinforced masonry drainage structure with 8" walls shall be limited to 8'-0" from invert of the outlet pipe to the top of the casting. Depths greater than 8'-0" shall have walls 12" thick. Basins over 12' in total depth shall be designed by a NC Professional Engineer and approved by the Town Engineer. Four inch walls are not allowed on drainage structures. Bottom slab on structures shall be reinforced when box depth exceeds 8 ft.
4. Steps are to be provided on all basins deeper than 36".
5. Steps are to be PS1-PF as manufactured by M. A. Industries or an approved equal. Locate on non-pipe walls. Steps shall meet OSHA requirements.
6. Mortar in masonry boxes is to be type M.
7. Clay brick structures are not allowed.
8. Concrete pipe is to be minimum class III.
9. Concrete building brick is to meet ASTM C-55, Grade N, Type 1 and must be NCDOT standard.
10. All cast-in-place or precast concrete drainage structures located in paved areas accessible to truck loadings to be designed to meet AASHTO HS 20-44 loading. See manufacturers details for wall, top and bottom thickness.
11. Inside of boxes shall allow for 6" of clearance on both sides of pipe. The dimension shown on the structures in this manual are minimum dimensions. For boxes with greater dimensions, either corbel walls, add a reinforced concrete top slab or lengthen box by adding additional grates & frames. Top and bottom slabs to be designed by NC Professional Engineer and approved by the Town Engineer for H20 loading.
12. Maximum horizontal span of an 8" thick wall shall not exceed 8' for boxes of 8 feet or less in depth and 10 feet for boxes 12 feet or less in depth.



TOWN of CLAYTON

USE WITH THE TOWN of CLAYTON STANDARD SPECIFICATIONS ONLY

DRAINAGE STRUCTURES NOTES

SCALE: Not To Scale	DETAIL # 2 634.02
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