

VILLAGE OF CARO

ENGINEERING DESIGN STANDARDS

APRIL 2004

SECTION 1 – GENERAL REQUIREMENTS & SUBMITTALS
VILLAGE OF CARO
ENGINEERING DESIGN STANDARDS

The items found in this section contain the general requirements for the submittal of plans to the Village for review, comment and approval. In addition, specific requirements pertaining to Water Mains, Sanitary Sewers, Storm Drains, Detention, Paving and Grading, Street Names, Street and Easement Widths, all other Street and Easement Survey information, Subdivision Names, Lot Numbers and Permanent Parcel Numbers, follow this Section and apply as stated within their respective context.

Submittal

1. Complete sets of Site Plans including Engineering Plans, bearing the seal of a Registered Professional Engineer, Architect or Surveyor, licensed to practice in the State of Michigan, shall be submitted to the Village for review. The number of sets shall be according to the Village of Caro's Procedure Manual or as determined by the Zoning Administrator. The Village may elect to send the plans to a consulting firm of their choice for review. Each plan sheet shall contain the project name and the project owner's name and address.
2. A Certified Boundary Survey of the site or a copy of the complete plat shall be submitted along with the Engineering Construction Plans.
3. Plans shall be submitted on 24 inch x 36 inch plans having blue or black lines and shall be neatly and accurately prepared.
4. All plans shall contain the latest version of the applicable Village's Standard Detail Sheets.
5. The cover sheet shall include a location map at a scale of 1 inch = 2000 feet (1"=2000'), showing the location of the proposed project, a symbol legend and a sheet index.
6. Existing information, topography, utilities, etc., shall be shown in gray or lighter line weight, while proposed improvements shall be shown in dark and heavy black lines. The legend shall clearly refer to all line symbols used.
7. For projects having more than one (1) sheet of plans, a general plan having a scale of 1 inch equal to 100 feet (1"=100') shall be provided showing the overall project, and indicating the size and general location of all improvements shown in the detailed plans. Street names, street and easement widths, lot lines, lot dimensions, lot numbers, zoning and ownership shall be shown on all plans.
8. Utilities shall be located in accordance with the Village's Standards. Utilities shall be parallel to lot lines. Generally, utilities shall be constructed in the road right of way or in easements adjacent to the road right of way and shall not be located under existing

or proposed pavement, including paths and sidewalks. Side yard easements are acceptable.

9. Grading plans are required for all developments.
10. Engineering plans having a scale of no greater than 1 inch equals 50 feet (1"=50') horizontal and 1 inch equals 5 feet (1"=5') vertical (for profiles) shall be provided. Sanitary sewer and water main shall be shown on the same sheet. Plan and profile views are required on all gravity sewers. The profile, where possible, shall be shown below the plan view on the same sheet.
11. Storm sewer and pavement shall be shown on the same sheets. Plan and profile views are required for all storm sewers. A plan view with centerline stationing shown is required on all paving plans. Show the top of curb line on profile.
12. In the profile view, all crossings of utilities must be shown. When a water main crosses a sewer, an invert elevation for the water main shall be shown. The minimum vertical clearance between utilities shall be eighteen (18) inches.
13. Profiles of sewers shall indicate the size, rim elevations of all structures, the length of pipe between structures, the slope of the pipe, numbering of structures, and casting. The profile shall indicate the existing and proposed ground elevations above the route of the sewer. The inverts of all sewers, both existing and proposed, shall be given at manholes. The location of areas requiring compacted sand backfill shall be indicated on the profile.
14. Elevations shall be on U.S.G.S. Datum. A minimum of two (2) permanent benchmarks for the work shall be indicated on the plans.
15. Any areas that are considered to be "wetlands" as defined by the Michigan Department of Environmental Quality (MDEQ) shall be indicated on the plans. No improvements will be allowed in wetlands unless the MDEQ issues a permit for such improvements.
16. Finished grade shall be indicated at the corners of all buildings and for all utility structures.
17. Plans for landscaping or tree planting required by either the Village Ordinance or the Village Standard relating to such items as greenbelts, street islands, detention basins, or landscape and open space areas, shall conform to the Village Standards and shall be submitted for review and approval prior to final site approval.
18. All new grass areas that are required in the public right of way and all existing grass areas that are disturbed by construction, shall be established or restored in conformance with the Village's Standard Specifications.
19. Street names shall be approved by the Village.
20. The Developer's consulting engineer shall forward plans for approval to any public utility (gas, electric, etc.) and any Federal, State or County Agency, whose facilities or right of way may be affected by the proposed construction. Permits for such construction, if required, shall be the responsibility of the Developer. One (1) copy of any such permit shall be provided to the Village prior to construction.

21. For all developments, one (1) mylar copy and two (2) sets of prints sealed by a Registered Professional Surveyor or Engineer, licensed to practice in the State of Michigan, of all as-built drawings for sanitary sewers, storm sewers, water mains, detention basins, streets and roads, shall be provided by the Developer prior to final approval and acceptance by the Village.
22. All materials and workmanship shall conform to the latest edition of the Michigan Department of Transportation's (MDOT) "Standard Specifications for Construction", the Tuscola County Road Commission (TCRC) published criteria and the requirements of this ordinance. In the event of a conflict between standards, the most stringent shall govern, except when the Village agrees that a less stringent interpretation is appropriate for the intended use.