

# ENGINEERING DESIGN STANDARDS

## SECTION 1 – SUBMITTAL, REVIEW, APPROVAL, AND CONSTRUCTION PROCEDURES

### 1.0 GENERAL

All improvements to vacant land, expansions and/or modifications to existing developed parcels, and improvements or extensions to water main systems, sanitary sewers, storm water management systems and paving require the review and approval of detailed engineering design plans prior to the issuance of permits and start of construction.

This standard establishes the basic submittal, review, and permit processing procedures in the Township.

### 1.1 SUBMITTALS FOR REVIEW OF SITE PLANS & PRELIMINARY PLATS

All applicable materials shall be submitted to the Township Planning Department for distribution.

- A. The following items are common for all projects being submitted for site plan/preliminary plat review:
  1. All applications must be submitted consistent with the Township Zoning Ordinance.
  2. Submit sets of signed and sealed site plans or preliminary plats and an electronic version in accordance with the current Planning Department requirements.
  3. Payment of site plan review fees.
  4. A completed application including signatures from both the applicant and property owner.
- B. Depending on the scope of work, the following items at a minimum, are to be incorporated in the plans or submitted as applicable to the project:
  1. Plan view layout of all sanitary sewer, water main and storm sewer for review to check conformance with Township Master Plans.
  2. Legal descriptions for the project property.
  3. Preliminary Wetland delineations certified by a wetland expert.
  4. Calculations for volume, outlet restrictor size, sediment loading, percolation rates, etc. for detention and retention storm water management systems.
  5. Drainage district maps showing the various areas contributing to the points of inlet and total area drained (including off-site contributions).
  6. Ultimate overland relief route for any storm water management system.
  7. Designated 100-year floodplain and floodway
  8. Other information or calculations pertinent to the project.

### 1.2 SUBMITTALS FOR ENGINEERING / CONSTRUCTION PLANS

After approval of the site plan/preliminary plat by the Township Planning Commission, engineering/construction plans are required to be submitted for approval.

All applicable materials shall be submitted to the Township Planning Department for distribution.

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- A. The following items are common for all projects being submitted for engineering review:
  - 1. Two (2) printed sets and an electronic (PDF) version of detailed Engineering Design Plans, signed and sealed, with applicable Township Standard Detail Sheets and project specific details
  - 2. Two (2) copies of the Sanitary Sewer Basis of Design (gravity or low-pressure sewer).
  - 3. The calculations for volume, outlet restrictor size, sediment loading, percolation rates, etc. for detention/ retention/infiltration storm water management systems.
  - 4. Drainage district maps showing the various areas contributing to the points of inlet and total area drained (including off-site contributions).
  - 5. Soil boring logs and geotechnical report that includes the site water table elevation, recommendations for proposed pavement sections, foundations, and utilities.
  - 6. Detailed storm sewer/open drain calculations.
  - 7. Wetlands delineated by a wetland specialist and shown on a topographic survey.
  - 8. Construction cost estimate for site work, utility work, and landscaping work.
  - 9. A copy of the computed plat (if applicable)
  - 10. Other information or calculations pertinent to the project.

## 1.3 TOWNSHIP REVIEW PROCEDURE

- A. The Planning Department shall submit Two (2) sets of the plans (for all types of reviews) together with other applicable submitted materials, and electronic copies, to the Township Engineer for review and comment / approval.
- B. The Township Engineer shall check the plans and related material for conformity to the standards set forth herein and to the overall utility plans of the Township. An electronic copy with the appropriate comments will be returned to the Planning Department and to the applicant
- C. The applicant, after making recommended revisions, shall submit revised plans and related material, and electronic copies to the Planning Department. Documents will be provided to the Township Engineer for review and subsequent comment or approval.
- D. If there is a question or a discrepancy between the Township and the applicant on the status of a wetland, a determination will be required to be made by the Michigan Department of Environment, Great Lakes and Energy (EGLE).
- E. Fees required are set by the township fee ordinance.

## 1.4 OTHER AGENCY REVIEWS

- A. With the exception of public water main and sanitary sewer plans, the applicant or his designee shall be responsible for submitting plans to any public utility and any state or county agency whose facilities or rights-of-way may be affected by the proposed construction.
- B. Applicant is responsible to incorporate the requirements of state or county agencies into the documents submitted to the Township for approval.

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## 1.5 FINAL APPROVALS

- A. If the Township Engineer finds that the revised plans and related material conform to the standards of the Township, he/she will stamp the plans "Approved." Approval is contingent upon issuance of all required permits.
- B. If minor corrections are still required, at the discretion of the Township Engineer, the plans may be stamped "Approved As-Noted". Plans so stamped will be required to be revised prior to the Pre-Construction meeting.
- C. Applicant must submit copies of the documentation from other agencies (as applicable to the project) to the Township Engineer indicating that the plans have received their approval for work within, and/or modifications to, their facilities prior to the Township Engineer granting any engineering construction plan approval.

## 1.6 PERMITS/CONSTRUCTION

- A. When engineering construction plans have been approved, the applicant may apply for a building permit (for model construction only) from the Township Building Department. The number of permits and any other building issues will be at the discretion of the Building official.
- B. Prior to the start of construction, the applicant must secure all necessary permits from other agencies as applicable to the project and attend a pre-construction meeting.
- C. For projects where the water main will become part of the public system, the applicant shall submit additional copies of the plans, including current standard detail sheets, signed and sealed by a Michigan Licensed Professional Engineer for processing and eventual issuance of a Michigan Department of EGLE construction permit for water main systems. No construction may commence on the public water system until this permit is issued.
- D. For projects where the sanitary sewer will become part of the public system, the applicant shall submit additional copies of the plans, including current standard detail sheets and a completed Act 451, Part 41 permit applications, signed and sealed by a Michigan Licensed Professional Engineer for processing and eventual issuance of a Michigan Department of EGLE construction permit for sanitary sewer systems. No construction may commence on the public sanitary sewer system until this permit is issued.
- E. All public improvements must be staked under the supervision of a Licensed Engineer or Land Surveyor according to the latest approved plans. All plans used by the contractor for construction must be stamped "Approved For Construction" by the Township. Cut sheets must be prepared for all construction work by the engineer or surveyor responsible for the staking.
- F. The applicant shall obtain, or cause his contractor(s) to obtain, all permits, post all required bonds, and pay all required fees for each and all permitting agencies and departments having jurisdiction over the land and rights-of-way involved in the project. Copies of all permits, approval letters, and easements shall be provided to the Township prior to approval for construction.
- G. Such permits include, but are not limited to, the following:
  - 1. Road Commission for Oakland County permit for work within the county road right-of-way, including discharges from storm water management systems to county road drainage
  - 2. Road Commission for Oakland County permit for approach work and utility work

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3. Oakland County Water Resources Commissioner permit for storm water discharge and/or taps to county-controlled drainage facilities
4. Oakland County Water Resources Commissioner permit for connection(s) to existing public water mains
5. Oakland County Water Resources Commissioner permit for connection(s) to existing public sanitary sewers
6. Commerce Township permit for soil erosion and sedimentation control
7. N.P.D.E.S. permit for storm water discharge for areas disturbed greater than five (5) acres.
8. Michigan Department of Environment, Great Lakes and Energy (EGLE) permit for all work that will impact a regulated wetland including filling within the wetland or storm water discharges to a regulated wetland.

## 1.7 OTHER REQUIREMENTS

- A. Temporary construction easements from adjacent property owners and/or permanent easements for off-site facilities shall be obtained by the applicant. Documents shall be in a form acceptable to the Township Attorney. Copies of recorded easements shall be submitted to the Township Engineer prior to construction plans being approved.
- B. Financial Guarantees and Bonding
  1. Performance guarantees shall be provided as required by Township ordinances.
  2. A two-year Maintenance Bond shall be furnished to the Township before any development is accepted. The term of the bond shall begin on or after the date of acceptance of the work by the Township. The amount of the bond shall be equal to 50% of the construction cost for water main, sanitary sewer, storm sewer, landscaping, and private road paving or as determined by the Building Department.
- C. Insurance
  1. Insurance shall be provided satisfying the standards and conditions required by the Charter Township of Commerce as set forth in the Township's Mandatory Insurance and Indemnification Rider as the same may be amended from time to time or as otherwise required by the Charter Township Board of Trustees.

### PRE-CONSTRUCTION MEETING

- A. The applicant shall schedule and attend a pre-construction meeting, prior to the start of construction, with the Township Engineers after all necessary approvals, permits, final construction plans, insurance policies, and bonds are in place.
- B. Proper notification shall be given to each governmental agency and utility company prior to beginning of construction. The Charter Township of Commerce shall require a minimum 48-hour (2 business days) notice prior to commencement of any construction.

## 1.8 ACCEPTANCE OF IMPROVEMENTS

- A. Final acceptance requirements for project improvements are outlined in each individual section of the standards.

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- B. Certificates of Occupancy will not be issued for any residential or commercial developments until all project improvements have been accepted (per requirements).