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## ENGINEERING DIVISION CONSTRUCTION PERMIT REQUIREMENTS & SUPPLEMENTAL SPECIFICATIONS

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Any work to be performed in City right-of-way, in a utility easement, and certain work on private property, requires an Engineering Division Construction Permit. Please note that the Engineering Permit must be pulled separate from a Building Division Permit.

An Engineering Construction Permit includes:

- A. Site Plan Approval
- B. Surety Bond
- C. Proof of Insurance
- D. Inspection Fee Deposit
- E. Other related County, State or Federal Permits and Approvals
- F. Supplemental Specifications

### A. SITE PLAN REQUIREMENT AND APPROVAL

In order to process your engineering permit application for the construction of a new building or an addition to an existing building, a complete site plan must be submitted to the Division of Engineering for approval.

Four complete sets of the site plan drawings must be attached to the building permit plan sets. In addition, the Engineering Division requires that the completed site plan drawings be submitted in electronic format either on disc or via e-mail at the time of permit application. The preferred electronic format is MicroStation (.DGN), but Autocad (.DWG) and Adobe Acrobat (.PDF) files can also be accepted. For e-mail address information please call the Engineering Division at (586) 759-9300. If the final approved construction drawings differ in any way from the original & electronic submittals, an electronic copy of the approved plans must be furnished to the Engineering Division. A permit for construction will not be issued until the Engineering Division has reviewed and approved this electronic copy of the plans.

The following items must be included on the site plan in order for a review of the plan to occur:

1. All existing rights-of-way, easements, utilities and improvements adjacent to your property. Included in this shall be storm sewers, sanitary sewers, water mains, gas mains, paved or unimproved roads, sidewalks, catch basins, manholes, utility poles and any other relevant data which aids in developing a complete description of the site.
2. Five (5) foot wide concrete sidewalks along all sides of the property which abut any public street, and the proposed grades of said sidewalk.

3. Concrete driveway approaches from the existing pavement or edge of gravel to the property line. All approaches shall have a minimum thickness of 8-inches and radii conforming to the Engineering Division requirements in Section 600 of the "Specifications for Concrete Sidewalks and Drive Approaches."
4. Exact information as to the type of parking lot to be constructed and the proposed finished grades of the parking lot. An internal drainage system of catch basins and storm sewers to drain all hard-surfaced parking areas and any unimproved or landscaped areas is required. The size and elevations of the proposed storm sewers and catch basins must conform to city standards for catch basin construction, and the outlet for the storm sewer must be shown.

If the outlet for the site storm sewer is a county drain, on-site detention may be required. The Macomb County Public Works Office can be contacted at (586) 469-5325 for information regarding this issue.

5. The method of construction of all proposed utilities or improvements located in the street right-of-way. Where it is necessary to install a new utility under any existing pavement the method of construction must be approved by the Engineering Division.
6. Elevations of the existing land immediately adjacent to your property, existing adjacent structures or improvements, and other elevations needed in determining a complete picture as to how the grading of the area is to be developed. Sufficient existing grades must be given to adequately indicate changes in topography and should closely relate to proposed grade locations in order to indicate depths of cut or fill proposed.

Grades on adjacent properties shall be shown to the following minimum requirements:

- a. If adjacent to developed residential, all existing finished grade elevations at all houses and garages must be shown; plus,
  - b. All grades in a 50' grid pattern from the property line of the permittee to 100' out from the property line.
7. The "bench mark" used by your Engineer or Surveyor in establishing the required elevations to allow checking of the plan by Engineering.
  8. If a wall at the property line is required by the zoning ordinance, a drawing showing the elevation, plan and section will be needed. This drawing must include the final grades on each side of the wall.

Where the elevation difference is more than 1'0", the wall must be designed structurally by a registered engineer to withstand the forces created by the elevation difference plus the expected live load surcharge.

9. The completed site plan or plans must be sealed and signed by a registered professional engineer.
10. Before a building permit will be issued by the Building Division, an Engineering Construction Permit must be obtained first.







## **E. RELATED COUNTY, STATE, FEDERAL PERMITS AND APPROVALS**

1. If a public sanitary sewer is to be constructed as part of the permitted work, the City must be in receipt of Part 41, Act 451 Permit for sewer system construction from the MDEQ.
2. If a public watermain is to be constructed as part of the permitted work, the City must be in receipt of an Act 399 Permit for water supply system construction from the MDEQ.
3. If construction involves work in a State right-of-way, the City must be in receipt of a permit from MDOT for that portion of the work.
4. If construction includes work in Macomb County right-of-way, the City must be in receipt of a permit from the Macomb County Department of Roads for that portion of the work.
5. If construction includes work that affects regulated wetlands, the City must be in receipt of a permit from the MDEQ authorizing that work.
6. If any portion of the project site is located in the FEMA regulated flood zone, MDEQ approvals and permits must be provided to the City before Engineering Division approvals and permits can be issued.
7. If construction involves work on or near a county drain, the City must be in receipt of a permit from the Macomb County Public Works Commissioner's Office for that portion of the work.
8. If the proposed work disturbs a total area of one (1) acre or greater, or if the proposed work is for residential, condominium, or apartment building development with a disturbance area less than one (1) acre, the permittee must furnish a copy of the approved Part 91 Soil Erosion and Sediment Control Permit from the Macomb County Public Works Commissioner's Office. The site will also require adherence to City Ordinance No. 80-734.
9. If the proposed work disturbs a total area of five (5) acres or greater, the City of Warren must be in receipt of a completed Notice of Coverage (NOC) for *Storm Water Discharges from Construction Activity* for "Permit By Rule" coverage. The City of Warren must be given proof from the MDEQ that the "Permit By Rule" fee has been received.

### State and County Agencies:

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| ■ Macomb County Department of Roads                | (586) 463-8671 |
| ■ Macomb County Public Works Commissioner's Office | (586) 469-5325 |
| ■ Michigan Department of Transportation            | (586) 978-1935 |
| ■ Michigan Department of Environmental Quality     | (586) 753-3700 |

## **F. SUPPLEMENTAL SPECIFICATIONS:**

1. PERMIT - The person in charge of the work shall have the permit and the approved plans or sketches, in his possession on the job site at all times. Failure to produce the permit upon request will result in the immediate cessation of any ongoing work and responsibility for any costs incurred by the city to secure and make safe the area of the work.
2. PUBLIC SIDEWALK, DRIVE APPROACH, AND ROADWAY – Any public sidewalk, drive approach or roadway within the project area that may be removed or damaged during the construction shall be repaired by the Contractor. Should weather conditions prohibit replacement of the concrete pavement immediately after the work is complete, the Contractor must provide a temporary pavement constructed of cold patch that is level and flush with the adjoining pavement surface. Said temporary pavement shall be maintained, by the Contractor, in flush and level condition until such time that weather permits a permanent repair.



Separate permits taken out by a cement contractor licensed in the City of Warren is required for all public sidewalks, drive approaches or roadways done in the right-of-way under the jurisdiction of the City of Warren and for all public sidewalks on County and State roads.

3. EXCAVATION AND DISPOSAL OF EXCAVATED MATERIAL - The Engineering Division may specify if trenches or excavations under or adjacent to the road surface shall be sheeted, shored, and/or braced in such a manner as to prevent caving, loss, or settlement of foundation material supporting the pavement. This in no way relieves the contractor of responsibility for damages to persons or property caused by a failure to properly shore any trench.

Excavated material shall be stocked in such locations that it does not obstruct vision on the traveled portion of the street or highway and in such a manner that it will interfere as little as possible with the flow of traffic. Sod and topsoil shall be stocked separately from other excavated material. The applicant shall dispose of all surplus and unsuitable material unless the permit provides for disposal at approved locations within the right-of-way. In the latter case, the material shall be leveled and trimmed in accordance with the approved project plans, or to the satisfaction of the Engineering Inspector.

4. BACKFILLING AND COMPACTING BACKFILL - All trenches, holes, and pits shall be filled with sand, placed in successive layers not more than 12 inches in depth, loose measure. Each layer shall be thoroughly compacted and all backfill subject to check by the Controlled Density Method. The Engineering Division will specify if compaction testing is required, and if so, the applicant will be responsible for the costs of that testing. Testing will be performed by the materials testing consultant under contract to the City of Warren, at the time of the work.

Sand backfill material shall meet the gradation requirements of MDOT Class II Material.

Sod and topsoil shall be replaced in kind, and under the direction of the City of Warren inspector.

5. CROSSING ROADBED BY TUNNELING - When the pipe is installed by tunneling, boring or jacking without cutting the existing pavement, the backfill shall be made by tamping a dry mix of lean concrete into place so as to completely fill any voids remaining around the installation. The concrete shall be composed of one part of Portland cement and 10 parts of sand. Sand shall conform to the requirements given in Paragraph 3.
6. CROSS BY CUTTING PAVEMENT AND TRENCHING - When this method is used, the pavement shall be cut back so that the pavement opening is at least 6 inches wider on each side than the width of the trench. All pavement surfaces will be cut with a concrete saw and carefully broken out without disturbing the cut edge. Chipped or broken edges of pavement will be re-sawed prior to pavement replacement. Pavement shall be replaced with new pavement and base material to match the original type and depth. Where an asphalt cap exists, the concrete patch will be poured full depth, unless otherwise specified on the approved plans. 5/8" hook bolts will be used in local roads to tie a new concrete patch to the existing pavement. 1 1/4" dia. epoxy coated dowel bars will be used in major roads parallel to the direction of travel, and #5 hook bolts used to tie in the sides of a patch. If weather conditions make it infeasible to replace pavement in kind, a temporary surface of bituminous material shall be placed, and later replaced with pavement of original type at the applicant's expense.



7. DEPTH OF COVER MATERIAL - Pipes shall be placed to a depth that will provide not less than 3 feet of cover between the top of roadway surface and the pipe.
8. TREE TRIMMING OR TREE REMOVAL - Secure permission and/or a permit from the Forester of the City of Warren.
9. INSPECTION - In all cases the applicant shall notify the City of Warren Engineering Division at least one business day before the work will commence, so arrangements may be made to have an inspector present while the work is in progress. The applicant will be billed for the necessary expense of the inspector at the current rate in effect on the date listed on the permit.

Any Saturday or Holiday permit work must be scheduled with the Engineering Division main office (586 759-9300) by noon on the preceding regularly scheduled business day, or no inspection will be provided. Failure to schedule inspection for each Saturday and Holiday will result in the rejection of any work performed on those days in the absence of an Engineering Division inspector. In the event that inspection is scheduled, but the contractor fails to appear and work, the permit account will be assessed four (4) hours at the current overtime or double-time rate as is applicable. In the event that weather forces the suspension of work, the contractor must still show up on site, and notify the inspector that work will not be occurring. Three (3) hours of straight time will be assessed against the permit account in these instances.

10. Any construction operation not covered by the above specifications submitted with the permit, or the City of Warren Standard Specifications, shall be done in accordance with instructions of the Engineering Division.
11. Full compliance is required with any regulations of the Public Service Commission, and any public utilities in the vicinity of the work.
12. CONSTRUCTION HOURS CLAUSE: All construction under or relevant to this permit shall not begin before sunup or at the earliest 7:30 a.m. and all construction shall cease at sundown or at the latest 7:30 p.m. The Contractor shall adhere to this schedule unless specifically authorized in writing by the City Engineer. Sunup and sundown shall be determined by the shutting off or turning on of the street lights in the area of the project. This shall expressly forbid the operating of any mechanical equipment except during the permitted hours. The Contractor shall schedule his construction so that operations including installing pipe, back filling, finishing pavement, applying curing compound, cleanup and placing of proper barricades and lighting and any other construction are done during the required time. No inspection personnel will be furnished for hours in addition to those specified, and any work performed outside of these hours will not be accepted by the Engineering Division.
13. SUNDAY AND HOLIDAY WORK: No Sunday or Holiday work will be allowed unless specifically authorized in writing by the City Engineer. Holiday work shall include all legal holidays, national, state, county and city election days and any other day when the City Hall of the City of Warren is officially closed. If such authorization is obtained, the contractor is responsible for complying with the requirements of #8 above.