

# Exhibit B



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



C HEIDI GREETHER  
DIRECTOR

June 13, 2017

Mr Todd R Stuve, P E  
Exxel Engineering, Inc  
5252 Clyde Park, S W  
Grand Rapids, MI 49509

Dear Mr Stuve

SUBJECT: File HN5-FDFE-HHDP7, Creekside Shores, Buttermilk Creek  
Section 32, T6N, R13W; City of Hudsonville, Ottawa County

The preliminary plat of Creekside Shores, which includes lots 1 through 59 and 4 open space areas, Creekside Shores Park No 1-No 4, is conditionally approved by the Department of Environmental Quality (DEQ) under Sections 116 and 117 of the Land Division Act, 1967 PA 288, as amended (Act 288) This conditional approval is valid for a period of two years unless otherwise notified

The Buttermilk Creek 100-year floodplain is defined as varying from elevation 645.5 feet, North American Vertical Datum of 1988 (NAVD), at the upstream plat limits, to 642 0 feet at the downstream plat limits. These flood elevations were identified from the Flood Insurance Study for Ottawa County, Michigan, Flood Insurance Rate Map No 26139C0351E, effective date December 16, 2011

**No permit is granted by this letter.** A permit is required from the DEQ prior to any construction, filling, or excavation within a floodplain, wetland, or below the ordinary high water mark of an inland lake or stream. A permit application form may be downloaded from the DEQ's website at [www.michigan.gov/jointpermit](http://www.michigan.gov/jointpermit) or is available upon request for any activity beyond that authorized in DEQ Permit # WRP004004

## General Conditions

1. Sealed "As-Built" plans certifying that the filling has been completed in accordance with DEQ Permit #WRP004004 are required to be submitted to this office prior to, or concurrently with, the final plat.
- 2 A Letter of Map Amendment/Revision (LOMA/R) issued by the Federal Emergency Management Agency (FEMA) is required to be obtained prior to recording the final plat A copy of the LOMA/R should be submitted to this office prior to, or concurrently with, the final plat

- 3 In accordance with section 3108(2) of Part 31, Water Resources Protection, of the Natural Resources and Environmental Act, 1994 PA 451, as amended, a person may construct, or cause the construction of, a building that includes a basement in a floodplain that has been properly filled above the 100-year flood elevation under permit if one or more of the following apply
- a The lowest floor, including the basement, will be constructed above the 100-year floodplain elevation
  - b A licensed professional engineer, schooled in the science of soil mechanics, certifies that the building site has been filled with soil of a type and in a manner that hydrostatic pressures are not exerted upon the basement walls or floor while the watercourse is at or below the 100-year floodplain elevation, that the placement of the fill will prevent settling of the building or buckling of the floors or walls, and that the building is equipped with a positive means of preventing sewer backup from sewer lines and drains that serve the building Also, the information indicated on Form 1 (enclosed) must be provided to this office concurrent with, or prior to, final platting In addition, the licensed professional engineer shall utilize the FEMA's Technical Bulletin 10-01 to ensure that structures built on fill in the 100-year floodplain are reasonably safe from flooding This Bulletin can be obtained at [www.fema.gov/fima/techbul.shtm](http://www.fema.gov/fima/techbul.shtm)
  - c A licensed professional engineer or architect certifies that the basement walls and floors are designed to be watertight and to withstand hydrostatic pressure from a water level equal to the 100-year flood elevation and that the building is properly anchored or weighted to prevent flotation and is equipped with a positive means of preventing sewer backup from sewer lines and drains that serve the building

DEQ Permit #WRP004004 does not currently authorize basements below the 100-year floodplain If an amended permit authorizing lower basements is obtained, a copy must be submitted to this office concurrent with, or prior to, final platting

### **Final Plat Approval**

The following items will be required on the final plat and in the Restrictive Deed Covenants

#### **Final Plat**

- 4 Section 560 138 of Act 288 requires that the final plat show the floodplain contour when any part of a subdivision lies within or abuts a floodplain area The floodplain shall be shown as a contour line labeled "Floodplain Contour as established by the Department of Environmental Quality, \_\_\_\_\_, N A V Datum"

Floodplain elevations are to be noted at the ends of the contour line and at alternating lot lines within the subdivision, and where changes in slope occur, as shown on the enclosed flood profile. The contour line is to be dimensioned from the street or traverse line along each affected side lot line, and at any crossing of the plat boundary or intermediate traverse line. The floodplain area shall be clearly labeled on the plat with the words "FLOODPLAIN AREA "

- 5 The proprietor's certificate on the final plat must state that lots or park lots embracing waters of Buttermilk Creek are subject to the correlative rights of other riparian owners and the public trust in these waters

### **Restrictive Deed Covenants**

- 6 Restrictive deed covenants shall define the floodplain elevation affecting the plat and specify that "no filling or occupation of the floodplain area shall take place without prior written approval from the Michigan Department of Environmental Quality "
- 7 Residential building restrictions for lots 2 through 6, 8 through 11, 27 through 42, 47, 48 and 57 through 59 shall include sections (c) through (g) of subdivision rule R560 304 (2) for any buildings used or capable of being used for residential purposes or occupancy. The restriction shall also state that if the open space area is converted to residential lots, the residential structures shall be built in accordance with sections (c) through (g)
- 8 Residential building restrictions shall state that lots 2 through 6, 8 through 11, 27 through 42, 44 through 48 and 57 through 59 were originally located in the floodplain area but have been filled to elevate them above the flood elevation
- 9 Depending on which of the floodplain fill options specified in item 3 above is selected, the following residential building restrictions will be required for lots 2 through 6, 8 through 11, 27 through 42, 44 through 48, 57 through 59 and open spaces that may be converted to residential lots

A If option 3a is selected

- Basement floors shall be elevated above the floodplain elevation

B If option 3b is selected

- Subdivision rules R560 304 (2) c, d, and f
- The basements shall be constructed in accordance with the soils report and certification (date and firm should be cited)

- A backup power source or water powered pump shall be installed on the sump pump systems Note This restriction is only required if the required soils certification is based in part on the use of a sump pump

C If option 3c is selected

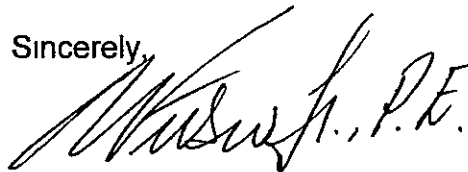
- Subdivision rules R560 304 (2) c, d, f, and g
- The basements shall be constructed in accordance with the basement design report and certification approved by the Michigan Department of Environmental Quality

10 These restrictions are to be observed in perpetuity, excluded from any time limitation paragraph set forth in the declaration, and may not be amended without prior written approval from the DEQ.

11 Do not record the restrictive deed covenants They should be submitted with the final plat to the Department of Licensing and Regulatory Affairs (LARA) Once approved, LARA will submit the documents to the County Register of Deeds for simultaneous recording

A copy of the conditionally approved preliminary plat is enclosed The Subdivision Administrative Rules are available on our website, or upon request If you have any questions, please contact me.

Sincerely,



Mario Fusco, Jr , P E  
Subdivision Floodplain Program  
Water Resources Division  
517-284-5578

Enclosures Preliminary plat, Form 1, and Flood Profile

cc Ottawa County Drain Commission  
~~Ottawa County Plat Board~~  
City of Hudsonville Clerk  
City of Hudsonville Building Official  
Mr Bob Deppe, Developer  
Mr Michael Barger, LARA (w/plat)  
Mr Matt Occhipinti, DEQ, Grand Rapids  
Ms Audrie Kirk, DEQ, Grand Rapids

## Form 1

### Certification of Soils for Basement Construction in a Filled Portion of the Floodplain

Section 3108 (2) of the State's Floodplain Regulatory Authority found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, states "A person may construct or cause the construction of a building that includes a basement in a floodplain that has been properly filled above the 100-year flood elevation under permit if 1 or more of the following apply

- (a) The lowest floor, including the basement, will be constructed above the 100-year flood elevation
- (b) A licensed professional engineer schooled in the science of soil mechanics certifies that the building site has been filled with soil of a type and in a manner that hydrostatic pressures are not exerted upon the basement walls or floor while the watercourse is at or below the 100-year flood elevation, that the placement of the fill will prevent settling of the building or buckling of floors or walls, and that the building is equipped with a positive means of preventing sewer back-up from sewer lines and drains that serve the building
- (c) A licensed professional engineer or architect certifies that the basement walls and floors are designed to be watertight and to withstand hydrostatic pressure from a water level equal to the 100-year flood elevation and that the building is properly anchored or weighted to prevent flotation and is equipped with a positive means of preventing sewer back-up from sewer lines and drains that serve the building "

In order to meet the requirements of Section 3108 (2)(b), the following information should be provided in a sealed report prepared by a professional engineer licensed in the State of Michigan

- 1 Supporting documentation that the licensed professional engineer is schooled in the science of soil mechanics
- 2 After fill has been placed, a certification from the licensed professional engineer indicating that hydrostatic pressures will not be exerted on the walls or floor, that the building will not settle, and that the walls and floor will not buckle if constructed as designed
- 3 After building construction, a certification that the building is equipped with a positive means of preventing sewer back-up from sewer lines and drains that serve the building
- 4 Ground elevations at the site before filling and after filling
- 5 Proposed basement floor and lowest adjacent grade elevations
- 6 100-year flood elevation and estimated duration of flood above the basement floor
- 7 Type and amount of fill placed Type of existing soil (use the Unified Soil Classification System to define the type of soil)
- 8 Fill compaction logs
- 9 Hydraulic conductivity of the existing soil and the soil that was placed as fill An explanation as to how these values were chosen should be provided
- 10 Computations showing the amount of water flowing through existing and filled soils toward the walls and floor at the 100-year stage This analysis should evaluate the potential for water to seep in along the foundation or utility trenches and the impact of disconnected downspouts When applicable, include a cross-section of the building and surrounding soils, including the piezometric surface as it approaches the building
- 11 Capacity of sump pump if used in the analysis
- 12 Computations showing the expected hydrostatic pressure including buoyancy forces on the walls and floor
- 13 An evaluation of what happens if the power fails
- 14 A discussion of the methodologies and a listing of the assumptions used

If a sump pump is used in the analysis, a back-up power source must be provided in the event of a power outage during a flooding situation

A copy of this report should be provided to the local building department and the builder when applying for a local building permit

## Form 2

### Certification of Soils for Basement Construction in a Filled Portion of the Floodplain

The following are sample criteria/conditions that are generally acceptable when certifying that hydrostatic pressures are not exerted on the basement walls or floors and that the placement of the fill will prevent settling of the building or buckling of floors or walls. This is not an all inclusive list.

- 1) The certification is based solely on the effects of floodwater and groundwater
- 2) The certification is based on knowledge, background, and experience coupled with professional review of the information
- 3) The project has been built in accordance with the recommendations and approved plans and specifications
- 4) The report prepared by \*\* will form part of this certification and all the constraints and recommendations presented in the report
- 5) The basement floor will extend no greater than \* feet below the 100-year flood elevation
- 6) The soil conditions and elevations will not be altered from the grading plans dated \*\*
- 7) \*\* will review and approve the final design of the foundation for each lot
- 8) \*\* will inspect the foundation construction to ensure that the approved design was implemented
- 9) This certificate will be incorporated into the Declaration of Restrictions for the subdivision and the title for each lot

