



Department of Civil Engineering
American Society of Civil Engineering
Student Chapter

2019 Ohio Valley Student Conference

Thursday, April 11-Friday, April 12, 2019

2019 Civil Site Design Competition

Objective

You are a potential site developer for an expansion project that is taking place in Hudson, Ohio, a suburb of Akron, Ohio. The current development is at capacity and a new, residential, single-family development is being constructed across the main street, Barlow Road. Access to this development will be only from Barlow Road. The city of Hudson is located in Summit County. As the engineer, you are tasked with producing a set of plans that adhere to the guidelines below, while also maximizing profit and utilizing engineering judgement to create a desirable place to live. GIS data will be provided, and the City and County requirements can be found below in each appropriate subsection.

Milestones

Teams wishing to participate in the Civil Site Design Competition will have two major project milestones to complete. The first of these is the Team Portion of the competition. This will require members of the school's Civil Site Design Team to submit an electronic copy of a set of plans that adheres to the requirements detailed below. This portion of the project must be submitted **NO LATER THAN MARCH 29, 2019 at 5:00 pm**. The second portion of the competition will be the Individual Portion, which will take place on April 11, 2019. Each team will be provided a change order and one team member will be required to address the change order in a creative and timely manner.

AutoCAD Platform

Participating teams may use any AutoCAD platform to create their submittal for the team portion of this project; however, AutoCAD Civil 3D is recommended in order to perform some of the more advanced tasks outlined below. Please note that the files provided will be in AutoCAD 2016 dwg format. Additionally, a generic layering system is being provided; teams are expected to use this standard layering system, and use their



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engineering judgement when creating additional layers, text styles, and linetypes. On the day of the competition, AutoCAD 2019 Civil 3D will be available to all teams in order to perform the change order.

Site Concept/Zoning Requirements

A zoning plan should be included in the final submittal set. The proposed site is currently zoned as District 1: Suburban Residential Neighborhood. There shall be only one access to the proposed site, and this access point will be from Barlow Road. The detailed requirements for setbacks and minimum lot sizes for this district classification can be found [here](#). Lots should be shown with a house footprint, lot lines and drive approaches at the minimum. The requirements for site impervious surface coverage can be found [here](#). The development should also adhere to the open space requirements detailed in section 1207.05 of the Zoning Code, found [here](#).

In addition to these zoning requirements, the following features should be included in the site plan:

- Community center
 - The community center should have Handicap parking spaces per ADA (Americans with Disabilities Act) standards
- Pool/tennis court area
 - For reference, see existing community center and recreational area northeast of the proposed site on Nottingham Gate Boulevard
- Bike and Hike trail
 - This trail will eventually connect to the existing trail located southeast of the proposed site

Preliminary Grading

A preliminary grading plan should be included in the final submittal set. Contours can be shown at intervals of 2' and 10' since this is a zoning submittal and a detailed grading plan is not required at this time. Proposed contour lines should connect to existing contours at or inside the property line.

Preliminary Stormwater Design

A preliminary stormwater plan should be included in the final submittal set. The requirements for drainage and stormwater management can be found [here](#), in Section 1207.07 of the Zoning Code. The city of Hudson utilizes the City of Hudson Engineering Standards for Infrastructure Construction for stormwater design and management. This document can be found [here](#). Please note that at this point, complete calculations for storm



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pipe sizing and detention/retention ponds are not necessary; however, locations of pipes, catch basins, manholes, detention/retention ponds, and flow arrows to indicate general direction of drainage should be provided.

Landscaping

A landscape plan should be included in the final submittal set. The landscape requirements for the city of Hudson can be found [here](#), or in section 1207.04 of the Zoning Code. Additionally, the recommended planting list can be found [here](#) or in Appendix C of the Zoning Code.

Submittal Requirements

The submittal should be received in PDF format as a set of plans no larger than 11" x 17" in paper size. The PDF should be a single file, but the teams may provide as many sheets within the plan set as they deem necessary. A title block that includes the school's name, the participants' names, date, scale, north arrow, page number, and sheet title should be included on each sheet.

During the individual portion of the competition on April 11th, 2019, one team member will be permitted to load their drawing files onto a computer from a flash drive. The computers provided during the individual portion of the competition will be equipped with AutoCAD 2019 Civil 3D. During this portion of the competition, one team member is permitted to address the change order, but the other team members may review the change order and provide verbal instruction. At the start of the Individual Portion of the competition, the doors will be closed and no additional students may enter. Each team will be given 2 hours to complete the change order.

Judging and Scoring

Teams will be judged by a panel of professionals in the land development industry. These judges will be reviewing and scoring the submittals based on the following:

- Layout
- Meeting Requirements
- Sustainability Considerations
- Creativity



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Each submitted plan set will be assessed specifically on the following:

Team Portion (Milestone 1)	Scoring
Drawing Requirements Met	20
Zoning Requirements Met	30
Preliminary Stormwater Design	40
Preliminary Grading Plan	40
Sustainability/Landscaping	20
Creativity	30
Presentation Quality	20
TOTAL	200

Individual Portion (Milestone 2)	Scoring
Drafting	10
Design Solution for Change Order	20
Presentation Quality	20
TOTAL	50

Awards

Between the two portions a total of 250 points are available; the team with the most points will be declared the overall winner.

Acknowledgements

These rules and procedures are based on previous OVSC and other site civil competitions, modified as appropriate for the specifics of this year's challenge.



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Figure 1: Aerial Image of the Proposed Lot for Development

**** Please submit any questions regarding these rules to ovsc2019@zips.uakron.edu with “Competition Name_RFI” in subject line ****