General

1. Depending on the final design, the below listed permits or approvals may be needed. Please submit digital copies of permits to City for filing prior to starting construction.
   a. City of Waukesha Storm Water Erosion Control Permit if disturbance over 3,000 sf
   b. Wisconsin DNR NOI, and NOI for fill site, if disturbance over 1 acre
   c. City of Waukesha – Engineering Division Construction Permit for all RW work.
2. Additional required submittals, fees, financial guaranties needed prior to issuance of building permit include:
   a. Financial guaranties
   b. Impact Fees
   c. Applicable sewer connection charges per Chapter 29.11(c) will be owed to the City for this project.
   d. City Storm Water Permit. This permit will need to be obtained prior to starting work, and obtaining a building permit.
3. The construction drawings, and financial guarantees should be reviewed and approved prior to the construction being started and building permit issued. If the location of any work needs to be changed as a result of the approved construction drawings, the drawings should be updated to reflect the needed changes.
4. In accordance with Wisconsin Administrative Code A-E 2.02(4): Each sheet of plans, drawings, documents, specifications and reports for architectural, landscape architectural, professional engineering, design or land surveying practice should be signed, sealed, and dated by the registrant or permit holder who prepared, or directed and controlled preparation of, the written material.

   Stamp has been added on civil plans (C1-C7).

5. Submit copy of geotechnical report. Confirm elevation of water table on site.

   The site geotechnical report is attached. The water table on site per the geotechnical report is 9 to 11 feet below existing ground surface in the locations of the soil borings (see geotechnical report for locations).

6. The existing parcel has a sanitary sewer lateral connecting the City's sewer main. Please provide a pre and post construction sewer lateral video to City for review and approval. Contact the City Engineering Department for the video format. If lateral maintenance is needed, then the lateral improvements may need to be included as part of this project. The lateral pipe and connection to the main may need to be lined or relayed to reduce infiltration into the City's sanitary sewer system or improve the structural integrity.

   A note with these requirements was added on Sheet C6 (Note 11).

7. Add note: Notify City Engineering Dept. 5 days prior to work in City right of way.

   This note was added on Sheet C2 (Additional Note 9), Sheet C4 (Note 9), and Sheet C5 (Note 9).

8. Add note to drawings: Limits of final City street pavement and curb and gutter removal and replacements to be marked by City Engineering staff in field.

   This note was added on Sheet C2 (Additional Note 10), Sheet C4 (Note 10), Sheet C5 (Note 10).

9. Submit all required checklists for Development Submittals. See City's Development Handbook.
10. Provide maximum 24"x36" plans.
11. Adjust plans & application documents to reference "Chapman Drive" rather than "Chapman Road"

Comment was incorporated into civil plans.

12. See all other comments below and included in TRAKiT software response.

Engineering Plan Checklist

13. No cover sheet provided

Architect's cover sheet is for the entire project. Sheet C1 of civil plans shows the sheet list for the civil plans.

Site, Grading and Drainage Plan Conditional Use Permit Checklist

14. Yard grade and first floor elevation of proposed building and any existing buildings located within 150 of the parcel boundary

Information shown on Sheet C1.

C-1

15. Move point table or readability.

Point table was moved for readability.

C-2

16. Provide inlet protection on downstream inlets on Chapman Drive ROW. Highpoint in street at eastern entrance, provide inlets east & west of high point.

Inlet protection has been added within Chapman Drive ROW along with a note on the plan stating that the next downstream inlet not shown on the plan shall have inlet protection.

17. Modify General Site Information note #8 to include "All slopes equal to or greater than 4:1….." to match General EC & Clean Up Requirements note 2.B.

Note 8 was modified as requested.

C-3

18. Confirm Generator Pad & Screening Wall location is acceptable

Generator pad has been relocated per Architect Plans and the screening wall has been removed.

19. Confirm with Zoning parking lot setback at curve is acceptable or if landscape berm is required.

C-4

20. Stormwater management basin shall be contained within existing Stormwater Drainage Easement By CSM No. 9792. Adjust grading to accomplish this or submit legal instrument to modify easement limits.

Legal easement will be submitted once stormwater management is approved by City.

21. Provide riprap outfall pad at endwall north of CB08

CB08 no longer exists. Note was a remnant that has been deleted.

22. Riprap outfall pads shall run to permanent water elevation. Provide riprap dimensions and/or note instructing elevation pads shall be constructed to.

Comment incorporated.

23. East riprap pad from parking lot flume shall be longer than should and positioned through flowline based on grading.

    Comment incorporated.

24. Provide additional spot elevations to identify crucial grading points: high/low points, curb radii, pavement flowlines, etc.

    Comment incorporated.

25. Verify grading within southwest paved area & parking lot. Additional spot elevations needed to confirm slopes.

    Comment incorporated.

26. Verify grade break between southwest paved area & parking lot is accurately placed. Confirm spot elevations are accurate & provide additional spot elevations to determine grading.

    Comment incorporated.

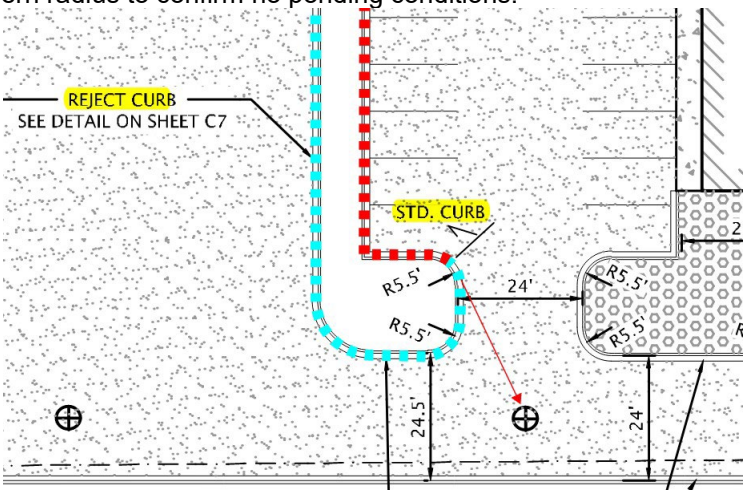
27. Pond modifications show sharp angles which will be difficult for grading and maintenance. Modify grading to create more fluid grading transitions.

    Comment incorporated.

28. Modify note #8 to reference City of Waukesha.

    Comment incorporated.

29. Consider replacing west edge of southwest parking lot with reject curb with flowline running down centerline of parking lot. If current design is proposed, provide detail of transition from standard to reject curb at southern radius to confirm no ponding conditions.



    Comment incorporated.

30. Provide detailed construction procedure for modifying wet pond geometry. Include details on dewatering, removal of accumulated sediment & connecting new clay liner to existing clay liner to confirm continuous liner that will hold water.

    There is no noticeable standing water in the existing pond, even after rainfalls. In addition, the

approved Storm Water Management Plan for the pond does not indicate that the pond is lined. Notes (General Pond Grading Notes) have been added regarding construction procedures in the event that there is standing water or a liner noted during construction. Accumulated sediment will be removed with the stripping of the vegetation and topsoil in the limits of disturbance.

C-5

31. CB08 not shown on plan

    CB08 no longer exists. Note was a remnant that has been deleted.

32. Trench drain not shown on plan

    The trench drain has been added.

33. Provide trench drain detail

    The type of trench drain has been added rather than a generic detail.

34. Minimum utility separations are shown. Provide calculated separation as designed to confirm.

    Comment has been incorporated into Sheet C5.

35. Provide storm pipe capacity calculations.

    Capacity calculations are attached.

Storm Report, H-1

36. Provide roof drain areas & calcs for the pipes going north into wet pond.

    See attached capacity calculations.

Stormwater Management

37. With the understanding that this site is to 'not exceed the planned curve number', please see the following comments:
    a. The original stormwater management plan from 2004 included this site within subwatershed 3P which was assigned a runoff curve number (RCN) of 87
    b. The weighted-average RCN for the entire 50.7 acres of land planned for development in 2004 was 86 (actually 86.49 acres).
        1. Assuming approximately 90% of the soils in the planning area are HSG B and 10% of the soils are HSG C, using the area and RCN from the 2004 plan indicates that a total impervious area of 32.2 acres was planned for. This specifically excludes ponds.
        2. Utilizing aerial photos, roughly delineating the existing impervious area (again, excluding ponds) within the 2004 planning area find that there currently exists 26.3 acres of impervious area – meaning there is a capacity for 5.8 acres of new impervious
        3. The current site is planning for 6.5 acres new impervious.
        4. There is still one undeveloped lot in the planning area, as well as two large green-space areas on currently developed lots where development expansions could occur.

    In terms of the entire development plan, the amount of proposed impervious area for this site will exceed the allocation for the originally planned area – and use up the allocation for the remaining undeveloped lot.

Comment noted. No action was taken. This item needs to be discussed with the City.

39. Proposed calculations exclude the pond water surface area, but otherwise include the rest of the lot, including pond side slopes. Proposed CN is very close to allowable limits as is, further discussion is needed to confirm pond slope within none buildable area should be included for CN analysis. Additional specific exhibits and information are needed to confirm proposed CN value.

Comment noted. No action was taken. This item needs to be discussed with the City.

40. Pond relocation & regrading:
    a. Please provide a comparison of existing stage vs storage (elevation vs surface area) for the pond under existing and proposed conditions. The cumulative storage area of the pond at all elevations (from bottom measured up to containment) must be shown to be at least equal to originally planned storage areas.

       Table has been added on Sheet C4 summarizing the surface areas for the different elevations.

       1. Note the current pond footprint does not exactly match what was in the 2004 SWMP. It is more bulbous at the southern tip and also seems to be missing a fairly significant 'flag arm' on the southeast.

    b. Relocating the pond to the north as shown will obstruct a drainage swale/ditch that appears to lie immediately north of the site, conveying flows around the pond an into the pond adjacent to the west of the pond to be modified. Provide assessment of the possible impact to the conveyance capacity of this swale.

       A ditch has been added to the north side of the existing railroad tracks. Note, the storm culvert located below the road to the east conveys stormwater to the southern railroad ditch, which is flat (el 803) for almost the entire length of the tracks through the property). In addition, this southern railroad ditch is quite shallow (one foot or so) throughout the property as well. This item needs to be discussed with the City.

41. Regarding the storm sewer design – I don't have any comments, specifically; however, I observe that the report indicates that the pipes were design to provide 10-yr capacity. Should a rainfall event of greater that 10-yr severity occur, it would appear that an overflow would occur to the south (off-site, but not to the street) into what appears to be an existing swale that drains to the pond.
42. The current pond appears intended to be wet, but aerial photos seem to indicate it doesn't hold water (in addition to appearing to have significant woody vegetation within, around it). As an infiltration pond, this will provide exceptional (surface) water quality treatment and rate control, however WDNR can have negative reactions when wet ponds are found to be infiltrating such that water quality treatment isn't acknowledged. Please confirm current status normal water level.
43. Regardless of considerations of the prior item, the adjacent pond was not intended to provide any infiltration functionality. The current site should be evaluated for suitable soils for infiltration and if found suitable, on-site infiltration practices should be provided per City ordinance and NR151.
44. There is a developed lot along Sentry Drive that drains to the planning area, but which was specifically excluded from the calculations. It is assumed this development meets minimum impervious standards as approved in the original SWMP
45. It seems there are many potential overflow points from adjacent developments (mostly to the west) that were not originally accounted for, but that could contribute to the drainage area.
46. The 2004 plan predates NOAA 14 which identifies greater rainfall depths for more intense storms (i.e the 100-yr storm).

Items 41 through 46 require additional discussion with the City.