MSA

220 E. Buffalo Street
Milwaukee, WI 53202

P (262) 295-7787

March 18, 2025

Paul Grzeszczak, AIA
Briohn Design Group, LLC
3885 N. Brookfield Rd, Suite 200
Brookfield, WI 53045

Re: Briohn Land Development - Corporate Drive/Lot 3 of CSM No. 10428

Dear Mr. Grzeszczak,

On behalf of the City of Waukesha, we have reviewed the application documents submitted 03/03/2025 by Briohn Design Group, LLC for site development of Corporate Drive/Lot 3 of CSM No. 10428.

Project Description

This printing company continues to grow, and to invest in upgraded technologies.
They intend on relocating from their existing City of Waukesha location and become fully operational in the spring of 2026. Initial construction includes 117,000 SF with the ability to expand westward, depending on demand. As a current printing business in the City of Waukesha, they currently comply with municipal Performance Standards and will continue to do so in the new facility.

The Following review comments shall be addressed prior to approval of construction documents.

General Comments

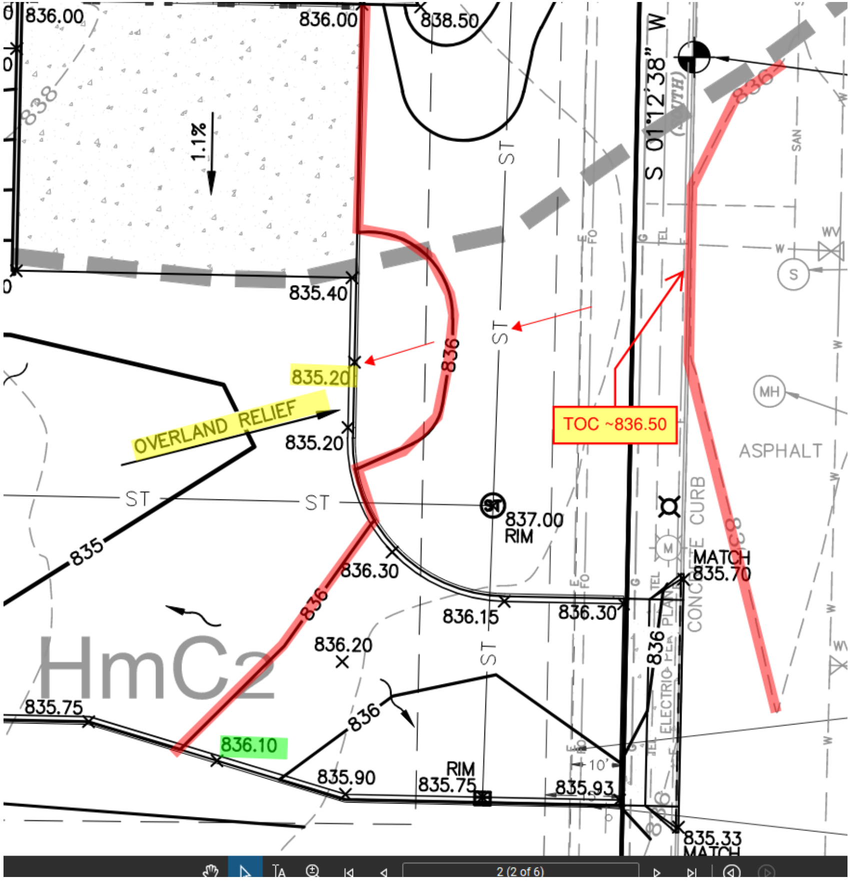
1. Depending on the final design, the below listed permits or approvals may be needed. Please submit digital copies of permits to City for filing prior to starting construction.
    a. City of Waukesha Storm Water Erosion Control Permit if disturbance over 3,000 sf
    b. Wisconsin DNR NOI, and NOI for 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.
5. Review all City sidewalk adjoining the property limits with a City Engineering representative. If the sidewalk meets replacement criteria due to cracking, missing pieces, or displacement, then the sidewalk will need to be removed and replaced.
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.

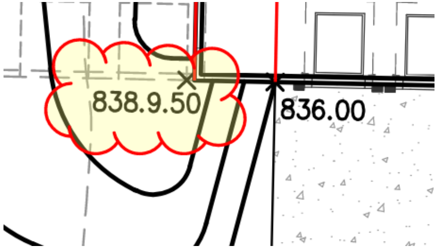
7. Add note :"All site improvements and construction shown on the plans shall conform to the City of Waukesha Development Handbook & Infrastructure Specifications. Where the plans do not comply, it shall be the sole responsibility and expense of the Developer to make revisions to the plans and/or constructed infrastructure to comply.
8. See all other comments below and included in TRAKiT software response.

C2.0

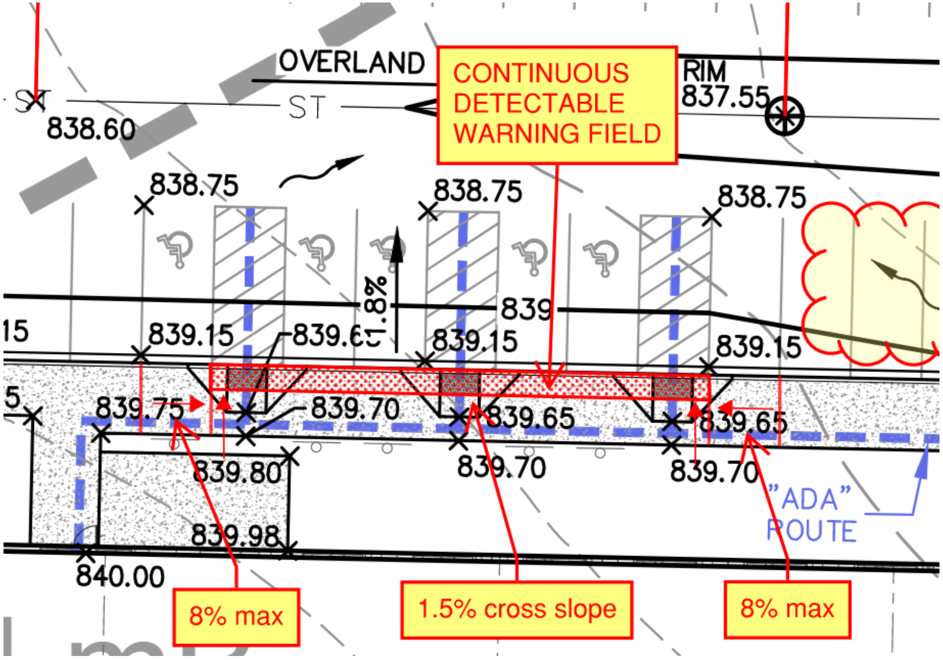
9. Provide minimum 1.00% flowline from high point to INL-12 & INL-13. Currently appears to be less than 1.00%
10. Update Note #5 to reference Geotech report.
11. Overland relief note on the southern parking lot indicates path is east at curb cut into terrace and then to street. However, the curb cut of 835.20 feeds into a depression as shown by the wrap around 836 contour, which does not allow overland relief until elevation >836.00. It appears the lowest overland relief elevation would be the southern entrance curb flowline elevation of 836.10. As shown, there will be 2.10' of ponded water before overland relief is utilized. If this is desired, updated overland relief label and confirm pipe capacity calculations are adequate. Add inlet at low point of 835.20 where curb cut is currently shown.



12. Update spot elevation on SW corner of building at loading dock:



13. See mark-up below for ADA access configuration



C2.1

14. Although slopes on southern edge of property will flow internally in proposed conditions, during interim grading during which soil will be disturbed, flow will be directed to neighboring properties to the south. Provide silt fence on southern border to prevent sediment discharge onto neighboring property.

C3.0

15. Public storm sewer requires 3' min. cover. If public storm is to be replaced, provide appropriate cover.
16. Provide slope label on public storm replacement pipes.

Stormwater Management

17. Rate control calculations are based upon comparison to a site with a RCN of 81 and a time-of-concentration value of 6 minutes. However, proposed conditions are evaluated with a time-of-concentration of 10.3 suggesting that a hypothetical value of 6, for a site with less impervious that is currently proposed is unrealistically liberal. A proper comparison would be a design condition comparison with a time of concentration of (at least) 10.3 minutes.

With this consideration, rate control calculations are no longer achieved for 1-yr conditions (very slight overage); however, there are other design conditions which will further impact proposed conditions flows.

Peak Discharge Rate Comparison

Event	**Existing**		**Proposed**
	tc = 6	tc = 10.3	
(yr)	(cfs)	(cfs)	(cfs)
1	14.2	11.6	11.9
2	17.8	14.6	14.0
10	32.0	26.5	22.1
100	64.3	53.7	39.5

18. Additional details describing the configuration of the Raintrol roof drains and rooftop storage needs to be provided. It is anticipated that many of these issues will negatively affect the performance of the rooftop storage as regards peak discharge rate control.

Calculations indicate 36 individual outlets:

- 12 at elevation 100.31 (appear to be raintrol devices)
- 12 at elevation 100.48 (appear to be raintrol devices)
- 12 at elevation 100.91 (appear to be secondary scuppers)
  - This is confirmed as architectural plans call for 2-ft wide scuppers 6” above each primary drain

It is observed that plans for the current phase calls for 2 pairs of 5 raintrol roof drains (10 total), one set running along the north roof edge and one running along the southern roof edge. These are set up as 1 raintrol drain serving a 50-foot length of roof and 4 serving 100-foot lengths of roof. The proposed building expansion is to be another 150 feet of length, which would imply another 2 raintrol roof drains bringing the total to 12.

However, it appears that there are many aspects of the design which require further clarification and/or additional detail.

- Review of roof plans indicates that the high ridge is off-center, yet the slope is consistent. Applying the slope lengths indicates that there is a difference elevation between the rim inverts of the north and south raintrol inlets of 0.42 feet, not 0.17 feet as modeled.
- Modeling was completed assuming the roof acts as a single storage area. With the southern raintrol outlets perched above the storage floor, these inlets do not come on line until a depth of 0.17 feet is achieved in the storage area; however, in actuality there are two storage areas (north and south) which have floors at elevations corresponding to the rims of the respective raintrol outlets such that all outlets come on line as soon as any water accumulates on the roof.
- Since the secondary scupper outfalls are specified to be 6-inches above each primary drain, it would seem that the southern outlets should be raised to reflect their placement above the southern raintrol outlets.
- Additional detail on the development of stage-storage data describing roof storage needs to be provided. This likely will require additional plan data documenting the pitch(es) of the roof as the wedges along the north and south roof edges need additional description (it appears that the cross-slope of the wedges vs the principal roof slope do not agree). Additionally, the roof should be modeled as at least two separate storage areas, north and south, if not also as segments representing inlets serving 100-feet of roof length vs. 50 feet of roof length. With a peak 100-yr depth of 0.68 feet, it does not appear that the roof will operate as a single storage area and the

ratio of storage volume vs inlet capacity will not be balance between the 100-ft and 50-ft roof sections.

- Additional detail needs to be added to the plan indicating the intention that each raintrol inlet is to be equipped with a single weir.

Storm Sewer Design.

19. Prior review comments recommended that a robust analysis of on-site drainage conditions be completed (i.e. not a simple rational-style assessment as has been submitted) to determine flood depths in the parking lot under 100-yr conditions to ensure no damage to the building or parked vehicles. This has not been provided.
20. Storm sewer calculations indicate the assumption that the roof drain for the future expansion of the building be connected to the proposed west terminus of the northern storm sewer system. This needs to be indicated on the plan.
21. There appears to be an error in the plans regarding the replacement of the cross-storms sewer under Corporate Drive. The elevations of the inverts of the influent and effluent pipes within CB6747 appear reversed.
22. It is noted for the record:

    - The stormwater management plan states the following, ‘All storm sewers have been designed in accordance with the Department of Safety and Professional Services method and have been sized to accommodate equal to runoff from the 10-year, 24-hour storm event.’

Submitted calculations follow the ‘area method’ which does not equate to any standard rainfall event. In fact, comparison of storm sewer design flows to HydroCAD design flows shows substantial discrepancies in flow rates as well as in drainage areas:

- Roof:
  - DSPS Method = 13.4 cfs
  - HydroCAD Q10 = 20.3 cfs (unrouted, 2.4 cfs routed)
- Non-Roof
  - DSPS Method = 10.1 cfs
    - 3.929 acres (2.6 cfs/acre)
  - HydroCAD Q10 = 19.9 cfs
    - 5.183 acres (3.8 cfs/acre)

These numbers show that the storm sewer system does not provide 10-yr capacity.

- The stormwater management plan also indicates that ‘Higher storm events will travel overland toward Regional Pond 2.’ This is incorrect. Contributing flows exceeding the capacity of the southern storm sewer will be stored in the parking lot – potentially at a depth that could damage vehicles parked there. Contributing flows exceeding the capacity of the northern storm sewer will discharge to Corporate Drive which will flow north to the sag point at the intersection of Corporate Drive and Venture Court. The only way excess flows can reach Pond 2 is to flow overland across private property.

Storage of larger event runoff within the southern parking lot, assuming it can be accomplished safely, may represent additional rate control from the site helping to achieve the goal of a site design reflecting a maximum RCN value of 81.

Final

Nothing set forth in this review of the construction and development documents by the City Engineer shall be construed as, nor intended to be, a waiver or release of any obligations imposed on the Developer or relieve the Developer from compliance with the City of Waukesha's ordinances, standards and policies or any other applicable state statute or administrative rule.

Plans for future improvements and additions must be reviewed by MSA prior to construction. Future improvements and additions must be in accordance with City requirements and ordinances in effect at the time of construction.

Please review this letter and address these issues at your earliest convenience. Contact me for clarification on any comments at (262) 295-7787. Construction shall not begin until the City of Waukesha has approved the plan set for the proposed improvements.

Sincerely,
MSA Professional Services, Inc.

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Cc: Brandon Schwenn, City of Waukesha