



# DEPARTMENT OF PUBLIC WORKS

Fred Abadi, PhD, PE, Director

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## ENGINEERING COMMENTS FOR PLAN COMMISSION AGENDA Wednesday August 12, 2015

Time: 6:30 p.m.

Place: Waukesha City Hall, 201 Delafield Street, Council Chambers

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I. Call to Order

II. Pledge of Allegiance

III. Roll Call

IV. Approval of Minutes

[ID#15 -2945](#) Minutes for the Meeting of July 22, 2015.

V. Consent Agenda

[PC15 -0214](#) 4195 S. Big Bend Road – Certified Survey Map

1. No comments.

[PC15 -0212](#) Carroll University Pavilion, 250 N. Barstow & land along N. Grand-Certified Survey Map

1. The following items should be submitted:

a. Applicable fees per Chapter 32.07(b). The Engineering Division requires any Bonds or Agreements required by the Plan Commission and Council or Chapter 32.08(c). Development fees will be owed to the City for this project.

b. Chapter 32.07(b)(2): Once all submittal items are completed, submit all items listed in sub.(b)(1)(A)-(G) in digital form for City filing.

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**ENGINEERING DIVISION**

Paul G. Day, PE  
City Engineer  
130 Delafield St  
Waukesha, WI 53188  
262-524-3600  
Fax – 262-524-3898

**MUNICIPAL PARKING SERVICES**

Patti Cruz  
Parking Supervisor  
241 South St  
Waukesha, WI 53188  
262-524-3622  
Fax – 262-650-2573

**STREETS DIVISION**

300 Sentry Dr  
Waukesha, WI 53186  
262-524-3615  
Fax – 262-524-3612

**WASTEWATER TREATMENT PLANT**

Jeff Harenda  
WWTP Manager  
600 Sentry Dr  
Waukesha, WI 53186  
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Fax – 262-524-3632

**WAUKESHA METRO TRANSIT**

Brian Engelking  
Transit Director  
2311 Badger Dr  
Waukesha, WI 53188  
262-524-3594  
Fax – 262-524-3646

2. Chapter 23.06(3)(g) Subdivision and Platting: Easements across centered on rear or side lot lines should be provided for utilities where necessary and shall be at least 10' wide. These easements shall permit the utilities to extend their services within this area.
  - a. A note on the CSM states, "Any and all existing utility lines and mains serving adjoining properties but crossing Carroll University lands shall retain their prescriptive rights as of the recording of this certified survey map." Existing easements of record should be shown on the CSM. The need for new easements should be determined. Coordinate with the applicable utilities to create new recorded easements by separate documents.
3. Wisconsin State Statute 236.20(2)(f) as referenced by 236.34(1)(c): The exact width of all existing easements, if applicable. The document numbers for existing easements should be shown on the CSM.
4. Provide written confirmation that City right-of-way has been previously vacated within the limits of the CSM.
5. Two lot lines are shown very near to each other along the south lot line along the southeast corner of the CSM in what appears to be a "gap". Any lot line discrepancies adjoining the CSM should be resolved as part of completing this CSM.
6. The north lot line appears to not match the City's records. Please provide written documentation of the documents used to determine the lot lines along the north line. Provide a digital copy of the railroad right-of-way source document used in this location. The railroad right-of-way widths should be listed along the northwest line and north line.

**PC15 -0213** Carroll University Haertel Field, 436 N. Newhall-Certified Survey Map

1. The following items should be submitted:
  - a. Applicable fees per Chapter 32.07(b). The Engineering Division requires any Bonds or Agreements required by the Plan Commission and Council or Chapter 32.08(c). Development fees will be owed to the City for this project.
  - b. Chapter 32.07(b)(2): Once all submittal items are completed, submit all items listed in sub.(b)(1)(A)-(G) in digital form for City filing.
2. Chapter 23.06(3)(g) Subdivision and Platting: Easements across centered on rear or side lot lines should be provided for utilities where necessary and shall be at least 10' wide. These easements shall permit the utilities to extend their services within this area.
3. Wisconsin State Statute 236.20(2)(f) as referenced by 236.34(1)(c): The exact width of all existing easements, if applicable. The document numbers for existing easements should be shown on the CSM.
4. Provide written confirmation that City right-of-way has been previously vacated within the limits of the CSM.
5. The location of the railroad right of way line does not match the City's records. Provide written documentation of the source written document used for determining the location of the railroad right-of-way width.

6. Easements
  - a. 20 foot storm sewer easement: The latest City easement template should be used to convey the rights and conditions.
  - b. Pedestrian Access Easement: The latest City easement template should be used to convey the rights and conditions
  - c. Sanitary sewer easement: The latest City easement template should be used to convey the rights and conditions.
7. A bearing is missing in the legal description.
8. Verify potential overlap of Lot 8 of Laiflyns second addition.

**PC15 -3055** Conveyance of Easement Rights to Waukesha County for “25’ highway and sidewalk slope easement for future construction” located adjacent to Merrill Hills Road as part of the plat of Heritage Hills subdivision

1. No comments.

## VI. Business Items

**PC15 -0205** Courtyards at Prairie Song, Summit Avenue-PUD Amendment and Preliminary Site Plan & Architectural Review (Apartments)

1. The Following items should be submitted:
  - a. Applicable fees per Chapter 32.07(b). The Engineering Division requires any Bonds or Agreements required by the Plan Commission and Council or Chapter 32.08(c). Development fees will be owed to the City for this project.
  - b. Chapter 32.07(b)(2): Once all submittal items are completed, submit all items listed in sub.(b)(1)(A)-(G) in digital form for City filing.
  - c. Waukesha Water Utility approval
  - d. Certified Survey Map. A CSM is needed to combine the two existing lots into one lot.
2. Permits will be needed for the project. Provide copies of approved project permits to the City for filing. Needed permits include but are not limited to:
  - a. Wisconsin Department of Natural Resources NR 216 N.O.I. Permit.
  - b. City of Waukesha Right of Way Opening Permit
  - c. City of Waukesha Storm Water Permit
  - d. Private sanitary sewer approval from State of Wisconsin
  - e. Wisconsin DOT approval to construct intersection at Koenig Drive and Summit Avenue.

### Sheet T1-Cover Sheet

1. No comments.

### Sheet C1.0 – Overall Existing Site Plan

1. The existing City right-of-way known as Koenig Drive is shown. The proposed ultimate extension of this street does not align with the existing right-of-way and includes a proposed dead end.
2. An Isolated Natural Resource area line is shown on the Drawing. A note stating the source of this information should be added to the Drawing.
3. Existing easements on the site should be shown including source documentation. Existing easements may affect site development.

### Sheet C1.1-Proposed Site Plan

1. The proposed buildings are located very close to an existing drainage swale passes through the site that conveys off-site drainage. Show the measures to accommodate the flows through and past the downstream site. Confirm the flow height for the 100-year storm. A 30 foot wide drainage easement is likely needed.
2. Chapter 23.06(2)(2): Proposed streets shall be extended to the boundary lines of the tract to be subdivided, unless prevented by topography or other physical conditions or unless, in the opinion of the Commission, such extension is not necessary or desirable for the coordination of the layout or the most advantageous future development of adjacent tracts. Dead end streets of a length of not over 500 feet will be approved where, in the opinion of the Commission, they are appropriate for the type of development contemplated. A cul-de-sac will be needed since the timing of development of the lands to the south is unknown at this time.
3. A 90 degree bend is shown in Prairie Song Drive approximately 180 feet south of Summit Avenue. In accordance with Chapter 23.06(5)(d)(1): The radii of curvature, measured at the center line, shall not be less than the following: Local streets, 100 feet. A section of Koenig may need to be vacated to provide a continuous alignment in the location the Developer is proposing. The Developer will need to work with the adjoining land owner to realign the street.
4. The driveway for the parcel to the east should be connected to the proposed Koenig Drive and removed from Summit Avenue.
5. The appropriate acceleration and deceleration lanes should be shown on the Drawing.
6. Sidewalk should be shown on both sides of Koenig Drive.
7. Two proposed ponds are shown in Koenig Drive. The ponds should be removed and relocated to on the development site, unless this area of right-of-way is vacated.
8. Proposed public storm sewer is shown in Koenig Drive. The overall drainage basins will need to be prepared and submitted to determine the ultimate proposed flow patterns through the site.

9. A sidewalk ramp is shown at the private driveway. The sidewalk ramp should be located at the intersection of Koenig Drive and Summit Avenue.
10. Proposed sidewalk should be shown along Summit Avenue and connect into the sidewalk to the north of this parcel.
11. Adequate snow storage areas should be provided adjacent to the parking lot.
12. Proposed easements including utility easements should be shown.
13. An Isolated Natural Resource area line is shown on the Drawing. A second forest tree drip line is shown approximately 50 feet to the north and within the proposed building envelopes. Confirm if the Isolated Natural Resource Area is properly shown.
14. The INRA Non-Disturbance Area should be labeled as a “Non-Disturbance Area Easement”. An easement document will be needed. Applicable notes describing the easement covenants, conditions, and restrictions should become part of the easement. The easement should include an access easement stating, “The City of Waukesha, or their designee are authorized access in these areas for purposes of inspecting the Non-Disturbance Easement area practices or enforcing the terms of the Easement.” A note should be added stating, “The City of Waukesha, or their designee are authorized access in the areas of the Isolated Natural Resource Areas designated on the Plat for purposes of inspecting the Isolated Natural Resource Area practices or enforcing the terms of the Isolated Natural Resource Area restrictions.”
15. An access easement should be added to the Plat for the City of Waukesha or their designee to access each Non-Disturbance Easement Area for inspections. The easement note can read, “The City of Waukesha or their designee is authorized access to these areas for purposes of inspecting the Isolated Natural Resource Areas in the Non-Disturbance Area Easements or enforcing the terms of the Isolated Natural Resource Areas in the Non-Disturbance Area Easements.”
16. If this street layout is approved, a portion of the north end of Prairie Song Drive at Summit Avenue should be vacated because that section of right-of-way would appear to not be needed.
17. The north end of Prairie Song Drive at Summit Drive has not been updated to the City standard cross section. The work should be included as part of this plan set. The proposed curb line on the Drawings should be revised to allow the extension of Prairie Song Drive as shown.
18. Chapter 23.06(5): A preliminary vertical street profile should be shown for the future portions of Prairie Song Drive to verify that the horizontal location of the proposed street will not contain slopes that exceed the City maximum slopes. A local street cannot exceed an 8% grade with a 2% cross slope.

19. A preliminary site development layout for the lands to the south should be provided to confirm that the new location of the street alignment appears to be feasible.
20. Chapter 23.06(3)(d) and Chapter 23.06(4)(d): All dead end streets shall terminate with a circular cul-de-sac with a minimum diameter of 120 feet, unless the Commission approves or suggests a “T” or “Y” shaped paved space in place of the required turning circle. The current design shows two proposed dead end streets.
21. The lot owners to the east have voiced their concerns over flooding that occurs at the lot line of their property from storm water passing through this parcel proposed to be developed. The storm water plan should show information related to the flow rates, volumes, existing and proposed drainage patterns through the two proposed sites to be developed to review the impact of this development on the parcels to the east.

#### Sheet C1.2 Proposed Site Plan

1. Existing sanitary sewer main is shown. The existing pipe inverts and slopes should be shown at the manholes. Gravity sanitary sewer flow should be verified. Design drawings for the public sanitary sewer in Koenig Drive should be prepared in accordance with City requirements.
2. Chapter 23.06(3)(d) and Chapter 23.06(4)(d): All dead end streets shall terminate with a circular cul-de-sac with a minimum diameter of 120 feet, unless the Commission approves or suggests a “T” or “Y” shaped paved space in place of the required turning circle. The current design shows two proposed dead end streets.
3. The proposed right-of-way width of Prairie Song Drive is 60 feet. In accordance with Chapter 23.06(3)(c): The minimum right-of-way of collector streets is 70 feet. Confirm that the future extension of the proposed street design will adequately be contained with the 60 foot wide to connect with the adjoining side slopes.
4. Proposed storm water facilities are shown on the Drawing that include a wet forebay, infiltration basin, dry pond, and rain gardens. Depending upon the final design of the storm water facilities and grades, the site layout may need to change to accommodate the size and locations of the storm water facilities.
5. Locations of soil test pits should be shown.
6. The Non-Disturbance area within the Primary Environmental Corridor area should be labeled and protected with the appropriate boundary fencing.
7. A note should be added: Repair limits in street will be determined in field at the time of permanent repair.
8. The concrete sidewalk at the apron and the apron should be 7 inch thick concrete sidewalk.
9. Show City driveway detail.

10. Use City driveway detail for driveway layout.
11. Show spot grades for sidewalk.
12. Storm water facility easements will be needed.
13. Public street specifications will need to be added.

#### Utility Plan

1. Specifications for infrastructure including materials and installation procedures for all work should be added to the Drawings including outlet structure material, bedding, backfill, sanitary sewer, frames and lids, sidewalk construction, etc. The City requires polypropylene chimney rings on City manhole construction. These specifications can be sent to the Engineer.
2. Show limits of public versus private sanitary sewer.
3. Confirm ultimate extension of public sanitary sewer to south with City Staff. Show sanitary stub to south.

#### Erosion Control Plan

1. A construction sequence should be added.
2. Chapter 32.09(c)(9): Dewatering specifications should be added to the plan.
3. Chapter 32.09(d)(2)(xiii): Final site stabilization instructions should be included in the plan set including seed rates, methodology, fertilizer and erosion matting locations and specifications, and maintenance requirements.
4. Chapter 32.09(d)(2)(xiv): Detailed construction notes for the dewatering plan should be included on the plan.
5. Chapter 32.09(d)(2)(iv): All woodland areas, those proposed to be lost or transplanted during construction and acres or numbers of each. For woodlands proposed to be lost, show individual trees larger than eight (8) inches in diameter that are located within twenty (20) feet of proposed grading boundaries.
6. Chapter 32.09(d)(2)(xiv): Inspection requirements should be added to verify that critical elements of the plan are successfully accomplished such as protecting the wetland areas, marking and protecting trees in the Primary Environmental Corridor Areas from damage from the Contractors, installation of the rain gardens.
7. Chapter 32.09(d)(2)(xiv): The dates for the grading work should be added to the Drawing.
8. Chapter 32.09(d)(2)(C)(iii): Open channel design and stabilization data should be prepared to support the selected BMP(s) for stabilization.
9. Chapter 32.09(d)(2)(xiv): The dates for the grading work should be added to the Drawing.

10. Chapter 32.09(d)(2)(xv): Location of soil evaluations with surface elevations and unique references to supplemental soil evaluations report forms in accordance with section 32.11(c). A separate map should show estimated seasonal water table depths down to planned excavation depths with references to the proposed site plan.
  - a. Also confirm if bedrock exists in future street area.
  - b. A minimum 1-foot vertical separation between the seasonal high groundwater table elevation and the basement floor surface should be included in the design.
  - c. Two soil borings are needed in each proposed rain garden.
11. Chapter 32.10(d)(4)(E): Subsurface drainage. Lowest building floor surfaces shall be built one (1) foot above the seasonal high water table elevation, as documented in the soil evaluations and shall avoid hydric soils.
12. The erosion control/master grading plan should include a table listing the minimum basement elevation based on the existing water table for each unit. A note on the Condominium Plat should reference to this information.
13. The Non-Disturbance area within the Primary Environmental Corridor area should be labeled and protected with the appropriate boundary fencing.

#### General Comments

1. Specifications for public sanitary sewer work should be added to Sheet.
2. Add City driveway detail. Indicate 7 inch thick concrete.
3. Add City standard curb and gutter detail.
4. Specifications for infrastructure including materials and installation procedures for all work should be added to the Drawings including outlet structure material, bedding, backfill, sanitary sewer, frames and lids, sidewalk construction, etc. The City requires polypropylene chimney rings on new construction. These specifications can be sent to the Engineer.
5. Chapter 32.10(e)(4)(c): A scaled cross section of the pond, soil tests, and outlet structure detail should be shown.
6. A landscape plan should be prepared. Proposed landscaping of the rain gardens should be included in the Plan.

#### Storm water Management Plan

1. 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.



2. Confirm that lots 91, 92 and 99 aren't also tributary to this site.
3. The appropriate tailwater elevations should be used.
4. Chapter 32.10(d)(6)(G): Provide storm sewer design computations. Confirm sizing of existing storm sewer system.
5. Confirm that existing drainage patterns are being maintained.
6. Cost estimates for the installation of proposed storm water BMPs shall be provided.
7. Chapter 32.10(d)(2): For new land development, 80% reduction in total suspended solids should be provided.

#### Storm Water Maintenance Agreement

1. Chapter 32.12: The storm water agreement should comply with said Section. The City's storm water facility easement agreement template can be sent to the Engineer.
2. Submit maintenance plan for catch basins and environmental catch basins.
3. Chapter 32.10(e)(12)(i): Cost estimates for the installation of the proposed BMPs.
4. Chapter 32.12(b): For subdivisions, all storm water BMPs shall be located on outlots. For all privately owned outlots, ownership shall be by proportional undividable interest for all properties that are within the control of the applicant and drain to the BMP. However, the applicant may combine ownership of more than one BMP within the site. Ownership of storm water facilities shall be the same as those assigned maintenance responsibilities.
  - a. Preparation of the storm water maintenance agreement will include describing the ownership boundaries of the storm water easement facilities.
5. Chapter 32.12(b)(5): Authorization for vehicle access, including a minimum 15-foot wide access easement dedicated to the local municipality and connecting to a public road right-of-way to allow for future BMP maintenance work.

#### **PC15 -0194** Dolphin Court Office Building, Final Site Plan & Architectural Review

1. The following items should be submitted:
  - a. Applicable fees per Chapter 32.07(b). The Engineering Division requires any Bonds or Agreements required by the Plan Commission and Council.
  - b. Permits
    - i. DNR NOI
    - ii. City Storm Water Permit
    - iii. Waukesha Water Utility approval
    - iv. Wisconsin DOT permit for sidewalk and grading

- c. Chapter 32.07(b)(2): Once all submittal items are completed, submit all items listed in sub.(b)(1)(A)-(G) in digital form for City filing.

#### Sheet CS-1-Plat of Survey

1. Several existing and proposed facilities, setbacks, proposed utilities, and proposed block walls are located in close vicinity to the existing lot lines so an accurate identification of the lot lines is needed to be shown on the Plat of Survey and on the property. At a minimum, the property corners should be set along the right-of-way lines to identify and monument the lot lines in these areas of development.

#### Sheet C100-Site Plan

1. Chapter 32.10(c)(21): Locations of existing and proposed easements or other known site restrictions should be shown.
  - a. If existing easements are located on the property in the vicinity of the proposed building location, then the easements should be shown on all the Drawings. Please verify if a title report was obtained for the property or if the presence of existing easements has been reviewed.
  - b. A digital copy of document # 3114296 should be provided for review. Confirm that the rights, conditions, or restrictions in this easement are maintained.
2. Public sidewalk should be extended along Les Paul Parkway to the property line limits.
3. It appears that detectable warning fields should be added to sidewalk ramps near building.
4. The sawcut limits in Dolphin Court should be shown for the pavement and curb and gutter.

#### Sheet C200-Grading Plan

1. The cross-slope of all City sidewalk should be designed as 1.5% across the driveway entrances. The City sidewalk detail should be used and spot grades updated on the west edge.
2. Proposed grading is shown on the adjacent property located to the east. Provide grading easement to City for filing.
3. Chapter 32.10(d)(4)(E): Subsurface drainage. Lowest building floor surfaces shall be built one (1) foot above the seasonal high water table elevation, as documented in the soil evaluations and shall avoid hydric soils. A minimum 1-foot vertical separation between the seasonal high groundwater table elevation and the basement floor surface should be included in the design. The results for the soil borings under the building were not submitted.

### Sheet C300-Utility Plan

1. The new location of the existing light pole proposed by the contractor is ok.
  - a. The existing light pole is fed from the other light pole on Dolphin Ct.
  - b. The light pole and fixture will be reused. If damaged during construction, the contractor will replace at their expense, per city standards.
  - c. The City of Waukesha uses Type 1 concrete bases (WDOT drawing SDD9c2-7) for that style of street lighting, per Wisconsin Department of Transportation Standards and Specifications.
  - d. Contractor would be responsible for verifying correct bolt pattern.
  - e. Care should be taken to prevent damage to the existing conductors in the conduit, contractor shall replace if damaged during construction.
2. The Site Lighting plan should show property lines to verify that the proposed outdoor lighting does not pollute into neighboring properties or roadways.

### Sheet Landscape Plan

1. No comments.

### Detail Sheets C400 and C401

1. Add City standard curb and gutter detail.

### Storm Water Management Plan

1. 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.
2. Chapter 32.10(d)(4)(H)(i): The lowest elevation of a structure must be a minimum of two (2) feet above the maximum water elevation produced by the 100-year, 24 hour storm. The buildings must be set back 40 feet horizontally from the location of this high water elevation from the ponds.
  - a. The 40 foot separation is still needed from the building located to the south of the proposed pond. It appears that only 33 feet is provided.
3. Chapter 32.10(e)(12)(i): Cost estimates for the installation of the proposed BMPs.

### Storm Water Maintenance Agreement

1. Chapter 32.12: The storm water agreement should comply with said Section. The City's storm water facility easement agreement template can be sent to the Engineer.
2. Chapter 32.12(b)(5): Authorization for vehicle access, including a minimum 15-foot wide access easement dedicated to the local municipality and connecting to a public road right-of-way to allow for future BMP maintenance work.

### PC15 -0197 T-Mobile 1436 E. Racine Avenue.-Preliminary Conditional Use Permit

1. The following items should be submitted:
  - a. Applicable fees per Chapter 32.07(b). The Engineering Division requires any Bonds or Agreements required by the Plan Commission and Council.
  - b. Chapter 32.07(b)(2): Once all submittal items are completed, submit all items listed in sub.(b)(1)(A)-(G) in digital form for City filing.
  - c. The existing building has a sanitary sewer lateral connecting the City's sewer main. Please provide a 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.
2. Sheet C-1 shows a lease area, utility easement, and access easement but no easement document, exhibit, or boundary description were submitted for review. These easement documents should be prepared and submitted for review and approval.
3. The Waukesha County website shows a wetland symbol on this site area. Please confirm no wetland disturbance is proposed unless the proper permitting is obtained.

### PC15 -0204 Villas at Prairie Song, Summit Avenue-PUD Amendment and Preliminary Site Plan & Architectural Review (2-unit buildings)

1. The following items should be submitted:
  - a. Applicable fees per Chapter 32.07(b). The Engineering Division requires any Bonds or Agreements required by the Plan Commission and Council or Chapter 32.08(c). Development fees will be owed to the City for this project.
  - b. Chapter 32.07(b)(2): Once all submittal items are completed, submit all items listed in sub.(b)(1)(A)-(G) in digital form for City filing.

- c. Condominium Plat per Wisconsin State Statute 703.
  - i. The storm water management plan, construction drawings, storm water facility maintenance agreement, easements, Developer's Agreement, and Bonds should be reviewed and approved prior to the Condominium Plat being finalized. If the location of any units need to be changed as a result of the approved construction drawings, the Plat should be updated to reflect the needed changes.
  - ii. Waukesha Water Utility approval
2. Permits will be needed for the project. Provide copies of approved project permits to the City for filing. Needed permits include but are not limited to:
  - a. Wisconsin Department of Natural Resources NR 216 N.O.I. Permit.
  - b. City of Waukesha Construction Permit
  - c. City of Waukesha Storm Water Permit
  - d. Private sanitary sewer approval

#### Sheet T1-Cover Sheet

1. No comments.

#### Sheet C1.0 – Existing Site Plan

1. The existing lot lines shown do not match the current City Geographic Information System. If recent property transactions have been made within the development limits, documentation of the land transfers should be submitted for review.
2. An Isolated Natural Resource area line is shown on the Drawing. A note stating the source of this information should be added to the Drawing.
3. Existing easements on the site should be shown including source documentation.

#### Sheet C1.1-Proposed Site Plan

1. Chapter 23.06(3)(d) and Chapter 23.06(4)(d): All dead end streets shall terminate with a circular cul-de-sac with a minimum diameter of 120 feet, unless the Commission approves or suggests a "T" or "Y" shaped paved space in place of the required turning circle. The current design shows two proposed dead end streets.

2. Chapter 23.06(2)(2): Proposed streets shall be extended to the boundary lines of the tract to be subdivided, unless prevented by topography or other physical conditions or unless, in the opinion of the Commission, such extension is not necessary or desirable for the coordination of the layout or the most advantageous future development of adjacent tracts. Dead end streets of a length of not over 500 feet will be approved where, in the opinion of the Commission, they are appropriate for the type of development contemplated.
3. A 90 degree bend is shown in Prairie Song Drive approximately 180 feet south of Summit Avenue. In accordance with Chapter 23.06(5)(d)(1): The radii of curvature, measured at the center line, shall not be less than the following: Local streets, 100 feet.
4. Adequate snow storage should be provided at the north end of the cul-de-sac.
5. Proposed easements including utility easements should be shown.
6. The INRA Non-Disturbance Area should be labeled as a “Non-Disturbance Area Easement”. An easement document will be needed. Applicable notes describing the easement covenants, conditions, and restrictions should become part of the easement.

The easement should include an access easement stating, “The City of Waukesha, or their designee are authorized access in these areas for purposes of inspecting the Non-Disturbance Easement area practices or enforcing the terms of the Easement.” A note should be added stating, “The City of Waukesha, or their designee are authorized access in the areas of the Isolated Natural Resource Areas designated on the Plat for purposes of inspecting the Isolated Natural Resource Area practices or enforcing the terms of the Isolated Natural Resource Area restrictions.”
7. An access easement should be added to the Plat for the City of Waukesha or their designee to access each Non-Disturbance Easement Area for inspections. The easement note can read, “The City of Waukesha or their designee is authorized access to these areas for purposes of inspecting the Isolated Natural Resource Areas in the Non-Disturbance Area Easements or enforcing the terms of the Isolated Natural Resource Areas in the Non-Disturbance Area Easements.”
8. Extend sidewalk on both sides of street along Prairie Song Drive to north.
9. If this street layout is approved, a portion of the north end of Koenig Drive at Summit Avenue should be vacated because that section of right-of-way would appear to not be needed.
10. The north end of Prairie Song Drive at Summit Drive has not been updated to the City standard cross section. The work should be included as part of this plan set. The proposed curb line on the Drawings should be revised to allow the extension of Prairie Song Drive as shown.

11. Chapter 23.06(5): A preliminary vertical street profile should be shown for the future portions of Prairie Song Drive to verify that the horizontal location of the proposed street will not contain slopes that exceed the City maximum slopes. A local street cannot exceed an 8% grade with a 2% cross slope.

#### Sheet C1.2 Proposed Site Plan

1. Chapter 23.06(3)(d) and Chapter 23.06(4)(d): All dead end streets shall terminate with a circular cul-de-sac with a minimum diameter of 120 feet, unless the Commission approves or suggests a “T” or “Y” shaped paved space in place of the required turning circle. The current design shows two proposed dead end streets.
2. The proposed right-of-way width of Prairie Song Drive is 60 feet. In accordance with Chapter 23.06(3)(c): The minimum right-of-way of collector streets is 70 feet. Confirm that the future extension of the proposed street design will adequately be contained with the 60 foot wide to connect with the adjoining side slopes.

#### Sheet C2.0 Preliminary Grading and Drainage Plan

1. Proposed storm water facilities are shown on the Drawing that include a wet forebay, infiltration basin, dry pond, and rain gardens. Depending upon the final design of the storm water facilities and grades, the site layout may need to change to accommodate the size and locations of the storm water facilities.
2. Locations of soil test pits should be shown.
3. The Non-Disturbance area within the Primary Environmental Corridor area should be labeled and protected with the appropriate boundary fencing.
4. Proposed grading is shown off the site on the existing lots to the south. It appears that some grading is outside the easement area. Proposed grading cannot occur outside the City easement areas. Calculations should be provided to confirm the high-water elevations during the 2-yr, 10-yr and 100-yr storm events. The overland drainage path should be labeled.
5. A note should be added: Repair limits in street will be determined in field at the time of permanent repair.
6. The concrete sidewalk at the apron and the apron should be 7 inch thick concrete sidewalk.
7. Show grades for match point of curb removal and replacement along Prairie Song Drive.
8. Show spot grades for sidewalk.
9. Show removal limits for whole street from flange to flange. The street will need to be milled and paved.
10. Storm water facility easements will be needed.
11. Public street specifications will need to be added.

12. Street cross-sections should be prepared.

#### Sheet C3.0 Utility Plan

Specifications for infrastructure including materials and installation procedures for all work should be added to the Drawings including outlet structure material, bedding, backfill, sanitary sewer, frames and lids, sidewalk construction, etc. The City requires polypropylene chimney rings on City manhole construction. These specifications can be sent to the Engineer.

1. Show limits of public versus private sanitary sewer.
2. Show sanitary stub to north.

#### Erosion Control Plan

1. A construction sequence should be added.
2. Chapter 32.09(c)(9): Dewatering specifications should be added to the plan.
3. Chapter 32.09(d)(2)(xiii): Final site stabilization instructions should be included in the plan set including seed rates, methodology, fertilizer and erosion matting locations and specifications, and maintenance requirements.
4. Chapter 32.09(d)(2)(xiv): Detailed construction notes for the dewatering plan should be included on the plan.
5. Chapter 32.09(d)(2)(iv): All woodland areas, those proposed to be lost or transplanted during construction and acres or numbers of each. For woodlands proposed to be lost, show individual trees larger than eight (8) inches in diameter that are located within twenty (20) feet of proposed grading boundaries.
6. Chapter 32.09(d)(2)(xiv): Inspection requirements should be added to verify that critical elements of the plan are successfully accomplished such as protecting the wetland areas, marking and protecting trees in the Primary Environmental Corridor Areas from damage from the Contractors, installation of the rain gardens.
7. Chapter 32.09(d)(2)(xiv): The dates for the grading work should be added to the Drawing.
8. Chapter 32.09(d)(2)(C)(iii): Open channel design and stabilization data should be prepared to support the selected BMP(s) for stabilization.
9. Chapter 32.09(d)(2)(xiv): The dates for the grading work should be added to the Drawing.
10. Chapter 32.09(d)(2)(xv): Location of soil evaluations with surface elevations and unique references to supplemental soil evaluations report forms in accordance with section 32.11(c). A separate map should show estimated seasonal water table depths down to planned excavation depths with references to the proposed site plan.
  - a. Also confirm if bedrock exists in future street area.
  - b. A minimum 1-foot vertical separation between the seasonal high groundwater table elevation and the basement floor surface should be included in the design.



- c. Two soil borings are needed in each proposed rain garden.
- 11. Chapter 32.10(d)(4)(E): Subsurface drainage. Lowest building floor surfaces shall be built one (1) foot above the seasonal high water table elevation, as documented in the soil evaluations and shall avoid hydric soils.
- 12. The erosion control/master grading plan should include a table listing the minimum basement elevation based on the existing water table for each unit. A note on the Condominium Plat should reference to this information.
- 13. The Non-Disturbance area within the Primary Environmental Corridor area should be labeled and protected with the appropriate boundary fencing.

#### General Comments

- 1. Specifications for public sanitary sewer work should be added to Sheet C1.7.
- 2. Add City driveway detail. Indicate 7 inch thick concrete.
- 3. Add City standard curb and gutter detail.
- 4. Specifications for infrastructure including materials and installation procedures for all work should be added to the Drawings including outlet structure material, bedding, backfill, sanitary sewer, frames and lids, sidewalk construction, etc. The City requires polypropylene chimney rings on new construction. These specifications can be sent to the Engineer.
- 5. Chapter 32.10(e)(4)(c): A scaled cross section of the pond, soil tests, and outlet structure detail should be shown.
- 6. A landscape plan should be prepared. Proposed landscaping of the rain gardens should be included in the Plan.

#### Storm water Management Plan

- 1. Infiltration Basin 1
  - a. Chapter 32.10(d)(4)(H)(i): The lowest elevation of a structure must be a minimum of two (2) feet above the maximum water elevation produced by the 100-year, 24 hour storm. The buildings must be set back 40 feet horizontally from the location of this high water elevation from the ponds.
- 2. The appropriate tailwater elevations should be used for the downstream storm sewer pipe connection.
- 3. Chapter 32.10(d)(6)(G): Provide storm sewer design computations. Confirm sizing of existing storm sewer system.
- 4. Cost estimates for the installation of proposed storm water BMPs shall be provided.
- 5. Chapter 32.10(d)(2): For new land development, 80% reduction in total suspended solids should be provided.
- 6. Chapter 32.10(d)(3): Provide infiltration compliance documentation.
- 7. Confirm if a safety shelf is designed in the forebay.

8. The area directed to the south in the Welsh Oaks report from this site was 2.42 acres. Confirm if the allowable flow rates were based on this area.

#### Storm Water Maintenance Agreement

1. Chapter 32.12: The storm water agreement should comply with said Section. The City's storm water facility easement agreement template can be sent to the Engineer.
2. Submit maintenance plan for for catch basins and environmental catch basins.
3. Chapter 32.10(e)(12)(i): Cost estimates for the installation of the proposed BMPs.
4. Chapter 32.12(b): For subdivisions, all storm water BMPs shall be located on outlots. For all privately owned outlots, ownership shall be by proportional undividable interest for all properties that are within the control of the applicant and drain to the BMP. However, the applicant may combine ownership of more than one BMP within the site. Ownership of storm water facilities shall be the same as those assigned maintenance responsibilities.
  - a. Preparation of the storm water maintenance agreement will include describing the ownership boundaries of the storm water easement facilities.
5. Chapter 32.12(b)(5): Authorization for vehicle access, including a minimum 15-foot wide access easement dedicated to the local municipality and connecting to a public road right-of-way to allow for future BMP maintenance work.

#### Condominium Plat

1. Chapter 32.10(d)(4)(E): Subsurface drainage. Lowest building floor surfaces shall be built one (1) foot above the seasonal high water table elevation, as documented in the soil evaluations and shall avoid hydric soils. A minimum 1-foot vertical separation between the seasonal high groundwater table elevation and the basement floor surface should be included in the design.
2. The Condominium Plat should include a table listing the minimum basement elevation based on the existing water table for each Unit. A note on the Condominium Plat should reference to this information.
3. A note on the Plat should be "Basement Restriction-Groundwater. Basement floor surface elevations shall not be lower than the proposed basement floor elevations shown in the table below due to potential for seasonal high water table. Minimum basement floor elevation changes may only be authorized upon further analysis compliant with the City of Waukesha Storm Water Ordinance and such analysis must be approved by the City of Waukesha Engineering Department."

PC15 -0209 Turtle Trail Condominiums, Big Bend Road- Preliminary Site Plan & Architectural Review

1. The following items should be submitted:
  - a. Applicable fees per Chapter 32.07(b). The Engineering Division requires any Bonds or Agreements required by the Plan Commission and Council or Chapter 32.08(c). Development fees will be owed to the City for this project.
  - b. Chapter 32.07(b)(2): Once all submittal items are completed, submit all items listed in sub.(b)(1)(A)-(G) in digital form for City filing.
  - c. Waukesha Water Utility approval

Sheet C-1.0-Existing Site Plan

1. No comments.

Sheet C-1.1-Proposed Site Plan

1. Proposed sidewalk should be shown.

Sheet C1.2 –Site Development Plan

1. The City may not reconstruct Big Bend Road for several years. The proposed driveway slopes should be designed to minimize the future removals as much as possible. Depending upon the final slope design of the driveways, a temporary construction easement to the City may be needed to cut back and match in the driveway at a later date.
2. The driveways should be dimensioned.
3. Spot grades should be added at the face of sidewalk, back of sidewalk, driveways, etc.
4. If applicable, existing easements on the site should be shown including source documentation.
5. Chapter 32.09(d)(2)(xv): Location of soil evaluations with surface elevations and unique references to supplemental soil evaluations report forms in accordance with section 32.11(c). A separate map should show estimated seasonal water table depths down to planned excavation depths with references to the proposed site plan.
  - a. A minimum 1-foot vertical separation between the seasonal high groundwater table elevation and the basement floor surface should be included in the design.
6. Chapter 32.10(d)(4)(E): Subsurface drainage. Lowest building floor surfaces shall be built one (1) foot above the seasonal high water table elevation, as documented in the soil evaluations and shall avoid hydric soils.
7. The erosion control/master grading plan should include a table listing the minimum basement elevation based on the existing water table for each lot. A note on the Condominium Plat should reference to this information.

8. Confirm how and where runoff will pass through the site. An additional contour map to northeast appears to be needed. Confirm how runoff will get to the City pond. Show the future lot lines for the pond.
9. Add City driveway detail. Indicate 6 inch thick concrete.
10. A note should be added: Repair limits in street will be determined in field at the time of permanent repair.

#### Condominium Plat

1. Chapter 32.10(d)(4)(E): Subsurface drainage. Lowest building floor surfaces shall be built one (1) foot above the seasonal high water table elevation, as documented in the soil evaluations and shall avoid hydric soils. A minimum 1-foot vertical separation between the seasonal high groundwater table elevation and the basement floor surface should be included in the design.
2. The Condominium Plat should include a table listing the minimum basement elevation based on the existing water table for each Unit. A note on the Condominium Plat should reference to this information.
3. A note on the Plat should be “Basement Restriction-Groundwater. Basement floor surface elevations shall not be lower than the proposed basement floor elevations shown in the table below due to potential for seasonal high water table. Minimum basement floor elevation changes may only be authorized upon further analysis compliant with the City of Waukesha Storm Water Ordinance and such analysis must be approved by the City of Waukesha Engineering Department.”

#### [PC15 -0210](#) Turtle Trail Condominiums, Big Bend Road- PUD Review

1. No comments.

#### [PC15 -0215](#) 1436 E. Racine Avenue- Rezoning

1. No comments.