



# DEPARTMENT OF PUBLIC WORKS

Fred Abadi, PhD, PE, Director

[fabadi@ci.waukesha.wi.us](mailto:fabadi@ci.waukesha.wi.us)



## ENGINEERING COMMENTS FOR PLAN COMMISSION AGENDA Wednesday July 22, 2015

Time: 6:30 p.m.

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

---

I. Call to Order

II. Pledge of Allegiance

III. Roll Call

IV. Approval of Minutes

[ID#15 -2927](#) Minutes for the Meeting of July 8, 2015.

V. Consent Agenda

[ID#15 -0203](#) Fox River Christian Church, S46 W24130 Lawnsdale Road -  
Extra-territorial Certified Survey Map

1. No comments.

[PC15 -0207](#) Brookfield Corners, W. Bluemound Road - Extra Territorial Certified  
Survey Map

1. No comments.

VI. Business Items

[PC15 -0204](#) Villas at Prairie Song, Rivers Crossing Subdivision - PUD Amendment and  
Preliminary Site Plan & Architectural Review

1. The following items should be submitted:

---

**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  
262-524-3625  
Fax – 262-524-3632

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

- 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.
  - d. 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(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.

2. 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.
3. Adequate snow storage should be provided at the north end of the cul-de-sac.
4. Proposed easements including utility easements should be shown.
5. 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.”
6. Dimensions to the Non-Disturbance Easement from the lot lines should be added to the CSM so the area can be retraced in the field at a later date.
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 Prairie Song 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 within 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

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. 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. The storm water management plan was not provided on this submittal, but should be submitted.
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.
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. Chapter 32.10(b)(E): Impervious surfaces, such as the private drive, should drain to vegetated areas for pollutant filtering. Pretreatment should be provided for the inlet structures from the private drive prior to discharging runoff to the public storm sewer.
7. Cost estimates for the installation of proposed storm water BMPs shall be provided.

8. Chapter 32.10(d)(2): For new land development, 80% reduction in total suspended solids should be provided.
9. Chapter 32.10(d)(3): Provide infiltration compliance documentation.
10. Rain gardens should not be used for regional site storm water ponds. Infiltration or dry pond should be used in lieu of rain gardens for this type of development.

#### 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 undivided 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 -0206** Grandview Square Subdivision, Madison Street - PUD Amendment

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. It is noted that a second portion of Outlot 1 is adjoining Kilps Drive and also located south of Lot 8 to Lot 14. However, this portion of Outlot 1 has a different tax key number and appears to be owned by a different owner.
3. 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.
4. 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.
5. Specifications for infrastructure including materials and installation procedures for all work should be added to the Drawings including sanitary sewer lateral connection, sidewalk construction, pavement patching, etc. These specifications can be sent to the Engineer.

**PC15 -0208** Turtle Trail Condominiums, Big Bend Road – Rezoning

1. No comments.

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

1. We understand that this item will be removed from the meeting agenda so a complete review of the items was not completed.
2. 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 -0211 St. Paul Place, 222 W. St. Paul Avenue - 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 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. 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.
  - d. Certified Survey Map. A CSM should be submitted to combine the 4 separate parcels.

Plat of Survey Sheet 1 of 1

1. The Survey states that existing overlaps of property lines exist. The lot line discrepancies should be resolved at this time.
2. 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.
3. A 25 foot wide ingress egress easement is shown on this lot. The existing source document number for the easement should be listed.
4. Confirm an access easement exists for this lot on the adjacent lot.

Civil Cover and Specification Sheet C1.0

1. No comments.

Existing Site and Demolition Plan Sheet C1.1

1. Add demolition work to sheet.

Sheet C1.2

1. No comments.

Grading, Utilities and Erosion Control Plan Sheet C1.3

1. The erosion control plan should be updated to comply with City Ordinance 32.09.
2. Show existing utilities in right-of-way.
  - a. Show sanitary sewer lateral.
3. Show existing grades of public sidewalk.
4. Existing spot grades should be added at back of walk, face of walk and curb and gutter through driveway.
5. Spot grades should be added where matching to property to west.
6. Dimension proposed drives and approaches.
7. 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.
8. Sidewalk cross slope should be 1.5%.
9. Add dimension for drive approach width and length.
10. Show saw cut lines at removal limits for pavement and curb and gutter.
11. A detail for the steps should be added. Confirm the height of the steps meets the applicable requirements.
12. The dumpster appears to be proposed but no proposed work is shown at dumpster. Please confirm.
13. Dimension the parking stalls.