ENGINEERING REVIEW COMMENTS
Windy Poplars 1 and 2 Subdivisions

REVIEW #1
Plan Received Date: Oct 22, 2019
Plan Review Date: Nov 1, 2019
J-U-B Project No: 57-18-037

The following review is based on the current municipal code for Honeyville UT. The primary section used for review is Chapter 31: Subdivision Construction and Drawing Standards. The Honeyville City Public Works Construction Standards drawings were also used as reference. There may be other items outside our review understanding or otherwise not know at the time of this review that may have been considered for this subdivision during the approval process done in 2013.

Engineering Review Comments:

Design Standards Review

Zoning: According to the latest land use map for the City the area for this subdivision is classified as an Agricultural 20 Zone. The subdivision meets the requirement of lot size and frontage requirements for this zone. Note: Municipal Code: 10-10-7.

10-31-2 Design Standards

A. Streets:
   a. Conformance to the master plan has not been verified.
   b. Street has been platted at 66' ROW so it is assumed that this is a collector street. All review comments will be based on this consideration.

5. Cul-de-sacs:
   b. Temporary cul-de-sacs:
      1. Cul-de-sacs are required to have 45' paved or gravel surface and a 110' diameter easement. Neither Phase 1 or 2 has provided proper easements.
      a. If Phase 1 were to be reviewed independent of Phase 2, proper drainage around the temporary cul-de-sac would be considered. Based on the information given drainage around Phase 1 temporary cul-de-sac could not be verified, nor is relevant at this time.
      b. Note: There is a discrepancy between code and Std Drawing Detail 9 in the requirement of driving surface diameter. Code indicates 45' diameter and std drawing shows 50' diameter.

10. Curvature and Alignment:
   a. Horizontal Curve. Minimum centerline radius for collector street is 300'. Curve C5 in Phase 1 does not meet requirement at 216'. If the street is classified as a minor street, then 150' is adequate.

a 1047 South 100 West, Suite 180, Logan, UT 84321 p 435 713 9514 f 435 713 9503 w www.jub.com

b. Vertical Curve. Vertical curve length requirement is 200' minimum on collector streets. The vertical curve at the intersection of 3600 W. and 7720 N. does not meet this requirement at 40' length. Minimum crest curve on a minor street is still 200 Feet.

B. Easement Standards:

a. A wide lot line utility easement is required on both sides of every other side lot line, unless the City engineer determines a particular easement is unnecessary. Several easements are provided throughout the subdivision; however, it appears that particular easements according to code were determined to be unnecessary.

F. Storm Drain and Floodplains:

3. Storm System: Items required by this section were not provided. This information would be necessary to review conformance with design storm events, peak runoff discharge requirements. Based on current layout it doesn't appear that provisions were made to limit runoff to 0.2 cfs per acre. This is based on no detention ponds or restrictive orifices being included in the storm drain construction plans.

A general review of storm water flow was conducted and described below:

Roadway storm water flow is collected in roadside swales and conveyed to discharge locations throughout the subdivision.

Water collected along the roadway from the end of the subdivision at lots 9 and 10 flows southward. Near the south property line of lot 8 water is conveyed to the easterly side of the road via culvert to the east side of the roadway. Water is then conveyed south easterly through a 6' wide swale and drainage easement on lot 12. Water is conveyed through lot 12 in drainage easements which terminate at Salt Creek.

The next drainage area starts at the location of the culvert indicated above and proceeds south westerly along the frontage of lot 12, 7 and lot 6. Near the lot line between Lots 6 and 5 the water is conveyed to the south side of the road via culvert where it joins with roadway drainage from the frontage of lot 12. Water is then conveyed through a swale and drainage easement south along the lot line of lot 12 for an ultimate discharge at Salt Creek. This drainage area includes area from lots 6, 7, 8 and 9.

The next drainage area starts at the boundary between lot 5 and 6. The roadway drainage is collected in roadside swales and conveyed westerly. Near the west lot line of lot 5 water is conveyed via culvert to the north side of the roadway and then along the roadway west all the way to 3600 W. At 3600 W. a culvert is provided that appears to flow south under the new subdivision roadway 7720 N. This drainage area includes area from lots 1-R, 2 and 5 and any drainage from adjacent lots to the North.

There is a land drain show on the plans beneath the north swale along lots 1-R and 2. This drain appears to flow to Salt Creek.

An irrigation ditch is located south of the subdivision boundary in Windy Poplars 1 Subdivision. The plans indicate that it is separate from the roadway drainage swale. The drainage swale flows toward 3600 West based on the ground slope.

Overall drainage design of the subdivisions flows from the north end of Windy Poplars 2 Subdivision, south and into Salt Creek or to 3600 West (Windy Poplars 1 Subdivision) in drainage swales along the side of the road. Driveway culverts are required at all driveways at an elevation and slope that will not impede flow in the swales. The system design appears to drain either to Salt Creek or the ditch along 3600 West. We were not provided any information for our review that the discharge of flow into the ditch along 3600 West is allowed.

G. Sewage Disposal:

Subdivisions within a certain distance to a pipe sewer system are required to connect. Based on the information given we were not able to verify proximity to a pipe sewer system. The subdivision does not provide any piped sewer system. Based on the lot size it appears that on-site sewage systems are going to be used.

Requirement of this section indicated that the developer shall install on-site sewage disposal system for each lot or provide by deed restriction or otherwise a requirement as a condition of sale that such facilities be installed. Based on the information provided we were unable to verify this requirement. Note: Deed restrictions were not provided on the plat. Bear River District Health Depart is provided a signature block on the plat.

H & I. Culinary Water system.

The system appears to be connected to an existing water system located in 3600 W. Subdivision water lines meet the minimum requirement of 8" as set forth in the standards. However, verification with a water model as to pressures and flows was not provided for this review but would be recommended to confirm capacity of the existing system to serve this subdivision.

J. Secondary Water Systems:

A secondary water system is being improved as part of the subdivision. Existing ditches are being piped to eliminate open ditch systems in a majority of Phase 2 of the subdivision. However, Phase 1 does not appear to pipe the existing ditch system. The system is not pressurized.

Approval from agency furnishing the water has not been provided for our review.

Windy Poplars 1 Subdivision Drawing Review

Preliminary Plat:

1. Plat does not meet the minimum scale requirement of 1" = 100'.
2. Curve C5 does not meet the minimum requirement of 300' radius for a collector street. It does meet the requirement of 150' radius.

Final Plat:

1. Curve C5 does not meet the minimum requirement of 300' for a collector street. It does meet the requirement of 150' radius.
2. Temporary turnaround easement does not meet the minimum requirement of 110' diameter.

3. Set back information for buildings would be helpful on the plat.
4. Boundaries were checked and appear to close.

Drawing 1:

1. Does the existing culvert at 3600 W that is to be extended have the minimum cover required?
2. Section 10-31-2 13.b indicated TBC curve radius should be 25'. A 20' radius for the tie in to 3600 S. at the edge of road would not provide for a 25' TBC radius if curb and gutter were installed. The minimum radius to achieve this would be 22.5' at edge of roadway.
3. Per 10-31-2 10.b the minimum vertical curve is 200'. Curve at 3600 W. tie in location is only 40'.
4. Detail 2 of the Standard Drawings show the minimum slope of a roadway at 0.5%. Roadway profile shown is less than this standard.
5. What will happen with the ditch shown in the profile at station 8+80?
6. Fire hydrant at station 9+75 does not provide coverage to Lot 1-A. Confirm a hydrant location that is within 250' of Lot 1-A.
7. Not enough information provided on temporary turnaround to review drainage requirements. *Not critical at this time.*
8. Temporary turnaround is not provided with appropriate easement. *Not critical at this time.*
9. Geotechnical report is required to confirm pavement section (10-31-2 A.12.b).
10. Collector road minimum asphalt thickness is 4" per standard drawings. Detail shows 3". If the street is considered 'minor' then 3" asphalt is adequate if the other conditions of the code are met.
11. Storm drain design information needs to be provided.
12. Existing water line location is not per Standard drawings.
13. Secondary irrigation systems need to be piped to eliminate open ditches.
14. Does the design provide provisions to limit discharge to 0.2 cfs per acre? Provide calculations.

Windy Poplars 2 Subdivision Drawing Review

Preliminary Plat: No comment.
Final Plat:

1. Temporary turnaround easement does not meet the minimum requirement of 110' diameter.
2. Set back information would be helpful on the plat.
3. Boundaries were checked and appear to close.

Drawings 1: No comment.
Drawing 2:

1. Water line location is not per standard drawings.
2. Water line is shown at a 4' minimum bury depth based on centerline profile. The location of the water line at the edge of road will not have a 4' minimum bury depth do to slope of the roadway. Note on pipe clarifies this but there may be confusion.
3. Detail 2 of the Standard Drawings show the minimum slope of a roadway at 0.5%. Roadway profile shown is below this standard.

4. Geotechnical report is required to confirm pavement section (10-31-2 A.12.b).
5. Collector road minimum asphalt thickness is 4" per standard drawings. Detail shows 3". 3" is adequate for a minor street if other conditions in the ordinance are met.
6. Cross-section shown show 4 to 1 slopes coming off the road. Standard drawings indicate this should be 5 to 1.
7. It is difficult to understand direction of flow in the culverts based on labeling method. Possibly add direction arrow for flow direction.
8. Does the design provide provisions to limit discharge to 0.2 cfs per acre? Provide calculations.

Drawing 3:

1. Collector road minimum asphalt thickness is 4" per standard drawings. Detail shows 3". 3" is adequate for a minor street if other conditions in the ordinance are met.
2. Cross-section shown show 4 to 1 slopes coming off the road. Standard drawings indicate this should be 5 to 1.
3. Provide storm water flow calculations and sizing design for rip rap.

Drawing 4:

1. All open ditches shall be piped. As-built drawings show that this occurred.