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10 October 2023

Our file: 200583
Municipal file: PLRDSD20220043

Mountain View County
10, 1408 Township Road 320
Didsbury, AB T0M 0W0

Attention: Réanne Pohl – Planning Technician

RE: Appin Business Park, Mountain View County near Carstairs
Stormwater Management Plan (Revised)
Response to Technologist's Comments

Dear Réanne,

I received Mountain View County's comments of 2023-06-14 regarding my stormwater management plan of 2023-04-03. My responses are below (in *italics*) in the order provided by Kyle Ross on his memorandum. A revised report is also included.

S1. The assumed imperviousness of 50% appears too low. Provide a detailed imperviousness table based on land uses. Regulating imperviousness caveats are onerous on the municipality and not a feasible way to regulate stormwater design in the proposed development.

S1.KR Comment was not addressed and is not acceptable as is. No additional rationale regarding assumptions provided. No changes to imperviousness in updated Stormwater Management Plan. [MAK] *"Appears" or "is" too low? Which is it? What exactly do you want as justification? I provided reasoning for our choices, and the county has, thus far, provided no guidance as to what they want. I further note that a similar development (29339 Highway 2A) has an imperviousness (over the subdivision) of about 45%. I also note that its storm ponds are considerably smaller than what we are proposing. I also find the assertion that a development officer or technologist having to ascertain the amount of hard surface cover—which could (and should) be provided on a site plan in support of a development permit application—and provide comment based on this being "onerous" as spurious. Given that it is incumbent upon the proponent to justify their design, I do not understand how this makes the county's job any more difficult or is "not feasible." The assumption has remained as-is with additional guidance provided for higher-impact developments. Unless the county wishes to provide more and better direction as to what they want to see, we re-iterate that our assumptions and justification are adequate.*

S2. Previously addressed.

S3. Previously addressed.

S4. Previously addressed.

S5. Constructing four facilities to manage runoff from a single quarter section of land cannot be supported unless the facilities are private and will be privately operated and maintained in perpetuity. Provincial guidelines require a minimum footprint of 2 ha for public stormwater facilities, although some deviation from these guidelines may be considered. Realistically, two facilities on either side of the drainage course can be built to service the development.

S5.KR Comment was only partly addressed and is not acceptable as is. Three stormwater facilities are still being proposed with no rationale provided on why this development requires three ponds instead of two. Three facilities to manage runoff from a single quarter section of land cannot be supported. All Public Utility Lots (PUL) are over 2 ha for stormwater facilities.

[MAK] *Topography dictates the number and location of ponds. Specifically, the pond adjacent to Range Road 1-0 is needed as this area actually drains eastward since there is a ridge to the west which makes overland drainage westward difficult to impossible without excessive grading. I am aware of the "2 ha" guideline. I am also aware that*

it is of limited technical justification in general and is not practical given the topography here. We have endeavored to minimize the number of ponds required as much as practical. It is not like the developer is in favour of constructing more stormwater facilities (outfalls, control structures, PUL, etc...) than is necessary.

S6. Provide cross sections and stage-storage-discharge table for any proposed stormwater management facilities. The stage-storage discharge table should show NWL, HWL spill etc.

S6.KR Comment was not addressed and is not acceptable as is. No cross section provided in report. Please update with cross sections.

[MAK] I have provided a typical cross-section for ponds showing minimum standards (Figure 10 in the report). As we are not yet at subdivision, work right now is conceptual. Any further detail is unwarranted at this time as this would be confirmed and shown on construction drawings provided as conditions of subdivision.

S7. Previously addressed.

S8. Provide culvert sizing details and calculations on the proposed 3x1000mm culverts.

S8.KR Comment was not addressed and is not acceptable as is.

[MAK] I have provided further detail and analysis on this as a concept. Similar to my response for Item S6, culvert design and performance will be confirmed and final design shown on the construction drawings in support of subdivision. Culvert selection will be dependent on the actual design of the road embankment crossing this channel. I do note that the existing culvert under Township Road 294 is 1600 mm diameter [2.02 m² cross sectional area]. The proposed 3x1000 mm diameter pipes have a larger cross-section [2.36 m²].

S9. Provide the 1:5 and 1:100-year levels in the drainage coulee and ensure storm water management facilities are adequately designed relative to these levels i.e. the outfalls should be placed no lower than the 1:5-year creek elevation and there are no impacts to the SWMFs when the drainage course is at the 1:100-year level.

S9.KR Comment was not addressed and is not acceptable as is.

[MAK] This is now shown on Figure 9 (culvert tailwaters in this case). We have provided some direction in the added IV. Recommendations section of the report. Again, outfall locations shown are conceptual at this time. When constructed, outfalls will indeed be located above this elevation as it is preferred to locate these as far upland as is practical. Outfall location will be finalized on the construction drawings provided in support of subdivision.

S10. Total parcel area is 62.9ha – Executive summary states that the subject parcel is 24.6ha. Please explain the discrepancy. SWMP shall be for the entire concept plan area.

[MAK] This typo (p. ii, 9. 1) is corrected on the revised report.

S11. Storm pond adjacent to RR10 is a safety concern from an operations standpoint. Please move pond or provide safety plan concept as originally requested.

[MAK] I am unclear of the safety issue here (and we have no record of a “previous request” for one). The pond is not within the road allowance. As such it should be well outside the clear zone as defined by TAC. I am aware of no other significant concerns. As such I cannot provide a “safety” plan. It is notable that the intersection of Range Road 1-0 with the subdivision road at this location has been removed in the current concept. No change has been made to the pond concept as no specific concerns were expressed by the county.



I trust the above provides the additional clarification sought by the county. If you have any questions, please contact me.

Yours truly,
OSPREY ENGINEERING INC.
APEGA Permit to Practice No. P10743

Michael A. Kitchen, P.Eng.
President

MAK/

Encl.

cc: Bruce McIntosh – Appin Developments Inc.
Robert Weston – ERW Consulting Inc.
Hans Skatter – Omnia Environmental
Jeff Badke – Badke Consulting Ltd.
Kyle Ross – Mountain View County
File

