ISAACSON & ARFMAN, P.A. Consulting Engineering Associates
Thomas O. Isaacson, PE(RET.) & LS(RET.) . Fred C. Arfman, PE . Åsa Nilsson-Weber, PE

March 3, 2016

Rita Harmon, P.E., Senior Engineer
City of Albuquerque Planning Dept.
Development Review Services
600 2nd St NE
Albuquerque, NM 87102

RE: North I-25 Corporate Center (File: B18D001)
Response to comments for the Amended Drainage Master Plan dated 11-4-2015

Dear Ms. Harmon:

Thank you for your comments from December 18, 2015. Below are my responses.

1. I will remove the DRB action request from my Drainage Information Sheet.

2. Upstream changes to the South La Cueva Arroyo Basin:
   a. I found the San Pedro Storm Drain Project Report. The flows were somewhat changed. I've used them to represent the flows in the new storm drain. A copy of the basin map marked up with revised limits is in Appendix A.
   b. The Drainage Letter Report for Alameda Blvd – San Pedro to Wyoming Project, shows that the total flows in the Alameda storm drain at San Pedro are 252.03 cfs. This location corresponds to Analysis Point AP1 in the San Pedro Storm Drain Project Report, where the flows are called out as 252 cfs. There is no significant change in the system from that project.
   c. Changes to the storm drain as part of Oakland Estates Subdivison are covered by the San Pedro Stom Drain Project Report, Basin 116.2. No additional changes are needed for this analysis.

3. The maximum of 4.78 cfs/acre is based on 85% Type D, which is the maximum allowable impervious coverage per zoning requirements. Essentially, this site has free discharge.

4. The 29.9 cfs from Basin 4 is based on what historically discharged to San Mateo Blvd. There is a storm inlet above the existing box as you pointed out. There are also inlets at the intersection of San Diego Ave and San Mateo. San Mateo crowns at about the mid-point of its frontage along the Northpoint 25 project. Therefore 15.0 cfs goes to the inlet to the south, 14.9 cfs goes north to San Diego. The full road can carry more than 22 cfs. Road capacity calculations are included in Appendix A.

5. The phasing limits will be determined based on future uses. It is most easily accomplished by starting from the downstream end and working upstream, based on

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transitions from the new pipe to the old channel invert. As adjoining developments come in, they will be responsible for their adjoining portion, with whatever appurtenances are required, including junctions. The conceptual plan & profile in Appendix B now shows a concept for the first phase as well as the ultimate plan.

6. The landfill
    a. The landfill was in-place prior to the construction of the old Philips Semi-Conductor Plant and remediated in 2008. At that time a landfill remediation study was created, which was followed during the removal. When the market dropped this site was put on hold, so no further construction was completed. The remediation study is still in place, and must be adhered to by upcoming projects. There is no trash under the existing building.
    b. I spoke with Paul Olsen of Environmental Health. He requested some language be added to the DMP, which is in now in the introduction, and asked that drainage across the remaining landfill strips be limited as much as possible.
    c. The Former Coronado Landfill Excavation As-Built is included in Appendix A.

7. A current plat is included in Appendix A.

8. Based on the COA GIS map site's 2014 aerial and most recent google maps, the area has not changed in any significant way. The equipment sales lot and undeveloped land are still on the north side of Modesto Ave. There's an unpaved industrial lot and the cemetary to the south. Modesto Ave appears to still be in the same condition. The basins have not changed. I've added the linework (as much as can show at the same scale) to the existing basin map.

    The flows from that offsite basin currently go under I-25 in culverts, then surface flow across the site. They enter the North La Cueva through a surface inlet.

    Future development will redirect this flow around improvements in either public easements or rights-of-way, possibly underground with a pipe penetration into the channel, depending on what is most beneficial.

9. Those stubs in the GIS for the North La Cueva Arroyo are actually what AMAFCA terms surface inlets. Essentially they are indentations in the existing concrete sides at the top, which allow surface water to drop into the channel. The only other penetration is a pipe on the north edge of the channel from inlets on the north side of San Diego. The project that created those inlets will have been required to deal with AMAFCA before making any penetrations into this channel.

    Future development on Northpoint 25 will have to provide details of how they will connect to the North and South La Cueva improvements within their plans. I suspect that connections to the channel will include pipe penetrations, but that is yet to be determined.

10. The South La Cueva Arroyo has a penetration on the south side from inlets in Modesto Ave just upstream of the San Mateo culvert. There are some surface flows from Northpoint 25 just upstream from that, but to the best of my knowledge, they are the

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only connection points outside of the arch pipe under Modesto that was mentioned in the report. These will provide relatively small flows that enter the South La Cueva flows well before the peak, and don't alter the peak in any significant way.

Future development on Northpoint 25 will have to provide details of how they will connect to the South La Cueva improvements within their plans. Connections to the south will need to enter the proposed pipe system. Those connections should either be a part DRC plans for the proposed storm drain improvements, or be addressed with an SO 19, if the pipe is already in place.

11. It doesn't appear that the San Pedro Storm Drain Report addressed the undersized offsite culvert upstream of this project. It did lessen the amount of flow going through that culvert from 368 cfs to 325 cfs, which helps. It doesn't fully address the City of Albuquerque's problem with that specific location, though. When the original DMP was written, I became aware of the deficiency because the Hydrology Head at the time (Brad Bingham) informed me of it. Since he's moved on, I don't know if anyone else at the City besides you is aware of the problem that the City will need to address.

12. The basin boundary plan in the DMP we're amending matched the old Site Development Plan for Subdivision. The plan before EPC for the Broadstone project on the southwest corner is requesting that the old SDP be amended, and it is likely that future developments will change the SDP again. The purpose of this Amended DMP is to clean up the basins so that they are more generic and don't match the old SDP layout.

    The conceptual drainage plan for the Broadstone project was created after I submitted this Amended DMP. The deviations from the generic basin boundaries in the Amended DMP were addressed in that conceptual grading plan. The area west of Broadstone is outside the limits of that project. That area will continue to drain as per historic conditions.

13. I used a different program to calculate the storm drain for the South La Cueva Arroyo, since there was no HGL jump shown across the junctions in that old analysis. (Thank you for pointing that out!) The new analysis includes HGL jumps across the junction box, manifold, and the bends.

    Line #3 (between the 8 existing 36" culverts and the 2-72" barrels) was upsized from 66" to 84" to account for the increased HGL.

    c. The HGL upstream of the 8-36" culverts is 5198.95
    d. The HGL upstream of the arch pipe is 5192.27
    e. The storm drain program does not allow 8 parallel pipes to be modeled. I had previously used 4 pipes at an equivalent size to address this problem. To make the HGL more accurate, the current model uses half the flow through half as many pipes, then adds the remainder of the flow on the downstream end of those pipes. Thus the HGL is appropriate for through all pipes, but all the flows are accounted for in the downstream pipes.

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f. The flow from the street inlet will enter the system well before the peak flow. It should not affect the peak. Also, the penetration enters at the transition to the downstream culvert.

Sincerely,
Isaacson & Arfman, P.A.

Genevieve L. Donart, PE
GLD/gld

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