

From: [Thompson Engineering consultan](#)
To: [Harmon Rita T.](#)
Cc: [Guy Jackson](#)
Subject: Re: Approval for La Luz doe Oeste, Unit 4 GP-Amended
Date: Monday, September 29, 2014 9:21:37 AM
Attachments: [Geotech Report.pdf](#)

Rita,

Attached is the Geotechnical Report for La Luz del Oeste. Three percolation tests were completed as part of the investigation. The minimum percolation rate is 4.5 minutes/inch (see page 8). Actually in the Tract K pond area the percolation rate is 5.3 minutes/inch.

Thanks,

David B. Thompson, P.E.
Thompson Engineering Consultants, Inc.
P.O. Box 65760
Albuquerque, NM 87193
Office: (505) 271-2199
Fax: (505) 830-9248

On Thursday, September 25, 2014 12:20 PM, Harmon Rita T. <rharm@cabq.gov> wrote:

David,

Attached is the Approval letter for the above referenced project for GP.

Sincerely,

Rita Harmon, P.E.

Senior Engineer

Planning Department

Development Review Services Division

600 2nd St. NW, Suite 400

Albuquerque, NM 87102

t 505-924-3695

f 505-924-3440

From: [David Thompson](#)
To: [Harmon Rita T.](#)
Subject: Re: La Luz del Oeste Percolation Rate
Date: Wednesday, October 01, 2014 11:05:35 PM

Rita,

I have rechecked all of the planned ponds in the revised grading plan west of the road and they all have enough volume to hold the runoff from the road except for those in Basin106, which will be constructed sometime in the future. The depth of the water in these ponds is anywhere from 0.5 feet to about 1 foot not accounting for the percolation rate. We are under the gun to get a grading certification completed for the first 2 homes in Basin 101, which has the capacity to hold the runoff from the road. I would like to propose that we get an approval for the grading certification for the first 2 lots (K-4 and K-5) once we submit the certification plan and work on Basin 106 in the near future.

By the way, if you look at the description of the percolation test procedures on page 8 of the Geotechnical Report you will notice that they saturate the soils before they perform the test. So, the percolation rates are for saturated soils.

Thanks in advance for your help.

Dave Thompson
Thompson Engineering Consultants, Inc.

On Sep 30, 2014, at 5:19 PM, Harmon Rita T. wrote:

Dave,

My comment was in regards to the small ponds on the west side of the roadway. They were much smaller than on the previous plan, apparently to accommodate the foliage. With some scaling and a quick calc of the volume needed to pick up the roadway runoff, they were not big enough. But seemed to be OK when you factored in the percolation rate. Isn't the percolation rate and depth of pond only sufficient if you compare the area of the pond to the runoff area. Otherwise, won't you overtop your ponds if they are very small area? Am I missing something?

On another note, the percolation rate must change with time. There must be a window of time that you can use the percolation rate before the soil gets saturated.

Rita Harmon, P.E.

Planning Department
505-924-3695

From: Thompson Engineering consultan [mailto:tecnm@yahoo.com]

Sent: Tuesday, September 30, 2014 2:49 PM

To: Harmon Rita T.

Cc: Guy Jackson

Subject: La Luz del Oeste Percolation Rate

Rita,

You are correct concerning the percolation rate. A higher number is actually a lower percolation rate. I was confused. The 2.9 minutes/inch came from the original drainage plan back in the 1970's. I did not know we had new percolation rates until I was sent the Geotechnical report. The pond volumes and sizes do not change. I sized the ponds to hold the 100-year, 6-hour storm volume. The proper calculation would be to see if the ponds infiltrate (or percolate) into the ground within the 6-hour storm duration. The ponds in the subdivision range in depth from 0.52 feet to 1.86 feet. The slowest percolation rate from the Geotechnical Report is 6.5 minutes per inch.

So, the deepest pond on the site is 1.86 feet or 22.32 inches. Multiplying 22.32 inches by 6.5 minutes per inch gives 145 minutes, which is 2.42 hours. Therefore, the deepest pond in the subdivision will infiltrate into the ground in 2.42 hours, which is less than the total storm duration of 6 hours. If we account for the time to peak the total time within the 6 hour duration will be longer than 2.42 hours. Assuming a time to peak of 1.5 hours (which is what AHYMO uses) then the total time to percolate into the ground is about 3.92 hours, which is still less than the 6 hour storm duration. The percolation rate of 6.5 minutes/inch allows the deepest pond to drain within the 6 hour storm duration. And therefore, if the deepest pond drains within the 6 hour storm duration all ponds will drain within the 6 hour storm duration.

Thanks,

David B. Thompson, P.E.
Thompson Engineering Consultants, Inc.
P.O. Box 65760
Albuquerque, NM 87193
Office: (505) 271-2199
Fax: (505) 830-9248

From: [Thompson Engineering consultan](#)
To: [Harmon Rita T.](#)
Cc: [Biazar, Shahab](#)
Subject: La Luz del Oeste Lots K-4 & K-5 Drainage Certification Plan
Date: Monday, October 06, 2014 1:45:15 PM
Attachments: [LA LUZ LOTS K-4 & K-5 GRADING CERT 10-6-14.pdf](#)

Rita,

This morning we submitted the Drainage Certification Plan for the first 2 lots, K-4 & K-5, in the La Luz del Oeste subdivision (attached). We are trying to get a CO for these 2 lots by tomorrow if at all possible so that the builder can open the homes for the Parade of Homes event this week. The road is built, the ponds are constructed and have sufficient capacity to hold the required volume, and the elevations near the duplex homes show that the drainage works. The percolation rate is slower than the grading plan states, but the ponds in Basins 101, 102, 103, and 104 all have enough volume to hold the 100-year, 6-hour storm volume. Calculating the infiltration of the ponds using the percolation rate, the ponds all drain within the 6-hour storm duration.

I know that the ponds shown in Basin 106 of the grading plan are under sized to hold the runoff volume. I would like to propose addressing this before the next phase of the project is constructed since Basin 106 is on the next phase. I have already talked to the developer and Guy Jackson about determining a fix for this area.

I copied Shahab on this email as he was the first reviewer of the grading plan and I spoke to him about this before I knew who was taking over the review. Your help is greatly appreciated.

David B. Thompson, P.E.
Thompson Engineering Consultants, Inc.
P.O. Box 65760
Albuquerque, NM 87193
Office: (505) 271-2199
Fax: (505) 830-9248