ALBUQUERQUE

Planning Department Alan Varela, Interim Director



Mayor Timothy M. Keller

October 19, 2021

Graeme Means, P.E. High Mesa Consulting Group 6010-B Midway Park Blvd NE Albuquerque, NM 87109

Re: Los Altos Park Renovation – Phase I, K20D037

Dear Mr. Means,

Based upon the information provided in your submittal received 09/01/2021, the Grading & Drainage Plans are not approved for Building Permit and Grading Permit. The following comments need to be addressed for approval of the above referenced project:

- 1. Provide an overall grading and drainage plan.
- 2. Clearly label 1st flush volume ponds including the volume for each ponding area. There appears more landscaping areas where can be used for 1st flush volume. See attached markup plans in red.
- 3. Provide calculations for inlets and storm drain pipes. A separate overall storm drain system plan would be helpful.
- 4. Under the drainage notes there is reference to a 48" RCP extending across Eubank. On Sheet CG111 calls out a 54" RCP.
- 5. Sheet CG501 was referenced for sidewalk culvert detail. Please provide details.
- 6. Provide details for the connections into NMDOT inlets. NMDOT approval and permitting will be required for the work within NMDOT's right-of-way.

If you have any questions, please contact me at 924-3999 or e-mail sbiazar@cabq.gov www.cabq.gov

Sincerely,

Shahab Biazar, P.E., CFM City Engineer, Planning Dept. Development and Review Services

C: file

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TOPOGRAPHICALLY LOWER THAN THE PROJECT SITE. THERE ARE OFFSITE FLOWS ONTO THE SOUTHEAST CORNER OF THE SITE THAT DISCHARGE FROM A LARGE (48" RCP CULVERT EXTENDING ACROSS EUBANK BLVD NE. THIS CULVERT RELEASES ~160 CFS OF STORMWATER DURING A 100-YEAR, 6 HR STORM EVENT INTO THE SITE, AND IS CONVEYED ACROSS THE SOUTHEAST CORNER OF THE SITE VIA AN EXISTING COMBINATION CONCRETE VALLEY GUTTER AND EARTHEN DRAINAGE CHANNEL, TO DISCHARGE TO ULTIMATELY DISCHARGE INTO THE I-40 RIGHT-OF-WAY TO THE SOUTH, THE EARTHEN PORTIONS OF THE CHANNEL ARE STABILIZED WITH TURF GRASS, UPON RELEASE INTO THE I-40 RIGHT-OF-WAY, AN UNPAVED FLOWLINE CONTINUES TO CONVEY THIS OFFSITE STORMWATER EAST TO WEST TO AN EXISTING 54" RCP STORM CULVERT THAT RELEASES DIRECTLY INTO THE I-40 DRAINAGE CHANNEL.

DEVELOPED CONDITIONS

THE PROJECT PHASE 1 DEVELOPED CONDITIONS CONSISTS OF 5 NEW SOFTBALL FIELDS TO REPLACE THE EXISTING 4 FIELDS, A NEW CONCESSIONS / RESTROOM BUILDING, PAVED PARKING AND ACCESS ROAD IMPROVEMENTS. AND ASSOCIATED LANDSCAPING IMPROVEMENTS. THE EXISTING SPORTS OFFICE BUILDING AT THE SOUTHWEST CORNER OF THE SITE WILL REMAIN IN PLACE. THE OVERALL PHASE 1 SITE DRAINAGE PATTERN WILL BE SIMILAR TO THE EXISTING DRAINAGE PATTERN FOR THE SITE, WITH STORMWATER RUNOFF DRAINING GENERALLY FROM NORTHEAST TO SOUTHWEST. AND ULTIMATELY THE ENTIRE PROJECT SITE WILL CONTINUE TO DISCHARGE TO THE I-40 NMDOT DRAINAGE CHANNEL. WHILE THE PROPOSED SITE WILL TAKE ADVANTAGE OF SEVERAL SMALL AREAS OF LANDSCAPED DEPRESSED AREAS TO CAPTURE AND TREAT STORMWATER TO THE MAXIMUM EXTENT PRACTICABLE, THIS PROJECT DEVELOPMENT DOES NOT INCLUDE ANY DEDICATED PONDING AREAS DUE TO THE LIMITED OPPORTUNITIES RESULTING FROM THE SITE DESIGN REQUIREMENTS. THE PROJECT SITE WILL CONTINUE TO BE DIVIDED INTO TWO SUB-BASINS, 'WEST' AND 'EAST', THAT REPEAT THE EXISTING DRAINAGE PATTERN OF FREE DISCHARGE AT TWO FIXED POINTS OF DISCHARGE INTO THE 1-40 RIGHT-OF-WAY / DRAINAGE CHANNEL

THE 'WEST' DRAINAGE SUB-BASIN IS MADE UP OF THE WESTERN PORTION OF THE PROJECT SITE, AND ALSO INCLUDES THE NORTHEAST PARKING LOT, NORTH ACCESS ROAD, WEST ACCESS ROAD, AND SPORTS OFFICE BUILDING. STORMWATER RUNOFF GENERATED BY THIS BASIN WILL DRAIN FROM NORTHEAST TO SOUTHWEST VIA SURFACE FLOW ACROSS THE SOFTBALL FIELDS, PARKING LOTS AND ACCESS ROADS, AND VIA NEW SUBSURFACE STORM DRAIN IMPROVEMENTS IN THE NORTH AND WEST ACCESS ROADS, SURFACE FLOW AND SUBSURFACE PIPED DRAINAGE WILL ULTIMATELY CONVERGE AT A NEW ACCESS ROAD CURB INLET LOCATED AT THE SOUTHWEST CORNER OF THE SITE, NEAR THE LOS ALTOS POOL. ALL SUB-BASIN 'WEST' STORMWATER WILL BE COMBINED AT THIS INLET AND FREE DISCHARGE TO THE I-40 NMDOT RIGHT-OF-WAY VIA A NEW PRIVATE SUBSURFACE STORM PIPE CONNECTION INTO THE EXISTING LARGE DOUBLE 'D' STORM INLET LOCATED IN THE RIGHT OF WAY AS REFERENCED IN THE EXISTING CONDITIONS. AS NOTED ABOVE, THE I-40 STORM INLET IS DIRECT CONNECTED TO THE I-40 DRAINAGE CHANNEL BY LARGE DIAMETER RCP PIPE. THIS DIRECT PIPE CONNECTION REPLACES EXISTING OVERLAND FLOW CONNECTIONS, AND AS SUCH WILL MANAGE THE DISCHARGE RELEASE IN AN IMPROVED MANNER THAT WILL SIGNIFICANTLY REDUCE SEDIMENT DELIVERY TO THE I-40 NMDOT RIGHT-OF-WAY.

THE 'EAST' DRAINAGE SUB-BASIN IS MADE UP OF THE EASTERN PORTION OF THE PROJECT SITE, AND INCLUDES THE SOUTHEAST PARKING LOT, THE EASTERN HALF OF THE SOUTH ACCESS ROAD AND THE NEW CONCESSIONS / RESTROOM BUILDING, STORMWATER RUNOFF GENERATED BY THIS BASIN WILL DRAIN FROM NORTHEAST TO SOUTHWEST ACROSS THE SITE VIA SURFACE FLOW ACROSS THE SOFTBALL FIELDS, PARKING LOT, AND ACCESS ROADS, AS WELL AS VIA NEW SUBSURFACE STORM DRAIN IMPROVEMENTS THAT WILL COLLECT RUNOFF FROM THE CONCESSIONS / RESTROOM BUILDING AND LOW POINTS IN THE SURROUNDING CENTRAL PEDESTRIAN ACCESS AND LANDSCAPED AREAS. SURFACE FLOW STORMWATER AND SUBSURFACE PIPED DRAINAGE WILL ULTIMATELY CONVERGE AT A NEW CURB INLET IN THE SOUTH ACCESS ROAD LOCATED IMMEDIATELY NORTH OF THE DOUBLE 'D' STORM INLET IN THE 1-40 NMDOT RIGHT-OF-WAY REFERÊNCED IN THE EXISTING CONDITIONS. A NEW PRIVATE STORM DRAIN CONNECTION WILL BE MADE BETWEEN THE NEW CURB INLET AND THE EXISTING I-40 INLET TO DIRECT-PIPE THE SUB-BASIN 'EAST' STORMWATER INTO THE I-40 DRAINAGE SYSTEM. AS NOTED ABOVE, THE 1-40 STORM INLET IS DIRECTLY CONNECTED TO THE I-40 DRAINAGE CHANNEL BY LARGE DIAMETER RCP PIPE, SIMILAR TO THE 'WEST' SUB-BASIN DISCHARGE, THIS DIRECT PIPE CONNECTION REPLACES EXISTING OVERLAND FLOW CONNECTIONS, AND AS SUCH WILL MANAGE THE DISCHARGE RELEASE IN AN IMPROVED MANNER THAT WILL SIGNIFICANTLY REDUCE SEDIMENT DELIVERY TO THE I-40 NMDOT RIGHT-OF-WAY.

AS NOTED IN THE EXISTING CONDITIONS ABOVE, THERE ARE NO OFFSITE FLOWS FROM LOMAS BLVD TO THE NORTH, EUBANK BLVD TO THE EAST, I-40 NMDOT RIGHT-OF-WAY TO THE SOUTH, OR LOS ALTOS POOL & ALBUQUERQUE GARDEN CENTER TO THE WEST, THERE CONTINUES TO BE OFFSITE FLOWS ONTO THE SOUTHEAST CORNER OF THE SITE FROM A LARGE (48") RCP CULVERT EXTENDING ACROSS EUBANK BLVD NE. THIS CULVERT RELEASES ~160 CFS OF STORMWATER DURING A AND VEND & HD CTARLY DIEST INTO THE CITE AND IC CONSTITUTE APPROCE THE

b. STORMWATER QUALITY VOLUME (FIRST FLUSH) GENERATED

$$V_{SWQV} = ((P_{SWQV})/12) \cdot A_D$$

 \Rightarrow ((0.42)/12) • (2.50) =

0.0876 AC-FT =

c. PEAK DISCHARGE 100-YR

$$\overline{Q_{100} = Q_A \cdot A_A + Q_B \cdot A_B + Q_C \cdot A_C + Q_D \cdot A_D}$$

$$\Rightarrow (1.84 \cdot 0.00) + (2.49 \cdot 4.50) + (3.17 \cdot 1.86) + (4.49 \cdot 5.88) =$$

2. ONSITE (EAST) DRAIN BASIN

a. VOLUME 100-YR. 6-HR

b. STORMWATER QUALITY VOLUME (FIRST FLUSH) GENERATED

$$V_{SWQV} = ((P_{SWQV})/12) \cdot A_D$$

 \Rightarrow ((0.42)/12) • (2.79) =

0.0975 AC-FT =

c. PEAK DISCHARGE 100-YR

$$Q_{100} = Q_A \cdot A_A + Q_B \cdot A_B + Q_C \cdot A_C + Q_D \cdot A_D$$

 $\Rightarrow (1.84 \cdot 0.00) + (2.49 \cdot 5.70) + (3.17 \cdot 3.34) + (4.49 \cdot 2.79) =$

C. COMPARISON 100 YEAR STORM

ONSITE (WEST) BASIN GENERATED

a. VOLUME 100-YR, 6-HR

$\Delta V_{PROJECT SITE} = 76390 - 75500 =$	890 C
b. PEAK DISCHARGE 100-YR	·
$\Delta Q_{100} = 43.5 - 43.9 =$	-0.4 Cl

2. ONSITE (EAST) BASIN GENERATED

a. VOLUME 100-YR, 6-HR

$\Delta V_{PROJECT SITE} = 57050 - 56620 =$	430 C
400 1/0	

b. PEAK DISCHARGE 100-YR

 $\Delta Q_{100} = 37.3 - 37.8 =$ -0.5 C

3. OVERALL SITE STORMWATER DISCHARGE

V _{OVERALL} SITE DEVELOPED GENERATED = 76390 + 57050 =	133440
V _{OVERALL SITE EXISTING GENERATED} = 75500 + 56620 =	132120
Voverall site storm water quality volume retained =	1500

V_{OVERALL SITE DISCHARGE} = 133440 - 132120 - 1500 =

-180.0

4. STORM WATER QUALITY (FIRST FLUSH)

V_{OVERALL SWQV GENERATED} = 8,070 CF > V_{SITE SWQV RETAINED} = 1500 CF; 6,570 CF REL

CALCULATIONS

CALCULATIONS ANALYZING THE EXISTING AND PROPOSED DEVELOPED CONDITIONS FOR THE 100 YEAR, 6-HOUR RAINFALL EACH DRAINAGE BASIN. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF 5















