

D4

File  
for Rattlesnake  
Mountain  
Project.

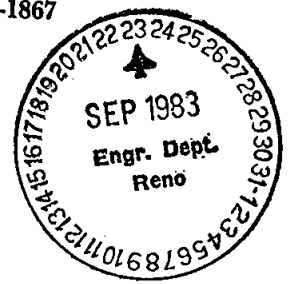


**SUMMIT** ENGINEERING CORPORATION

THOMAS H. GALLAGHER, P.E., R.L.S.  
DONALD M. MC HARG, R.L.S.  
RICHARD D. BARTHOLET

248 WINTER STREET, SUITE 1 • RENO, NEVADA 89503 • (702) 329-1867

September 23, 1983



Mr. Millard Reed, P.E.  
City Engineer  
P.O. Box 1900  
Reno, Nevada 89505

Re: Donner Creek Village - Amended Storm Drain System

Dear Millard:

This letter is being written in response to concerns expressed by the Development Section regarding certain changes made in the storm drainage system design at Donner Creek Village. Although the design changes were extensively discussed and had the concurrence of your staff, apparently due to miscommunication, final approval of the changes by your office was never given.

During the early part of 1981, Bill Strandell of DiLoreto Construction and myself met with then Assistant City Engineer, Gus Nunez. Gus indicated that the City code, in effect at that time, required that the twenty-five year storm be piped under all streets based on the size of the Dry Creek drainage basin. Based on this fact, it was apparent that the superspans that had been designed to carry the 100 year storm flows were not required.

Subsequent to this, the "Alternate Storm Drainage Analysis for Donner Creek Village" was prepared by this office, and is on file at your office. The stormwater flows utilized by the analysis were taken from the "Flood Study for Donner Springs Subdivision Reno, Nevada" prepared by SEA Engineers/Planners, and two (2) letters from SEA to the Regional Planning Commission regarding Reno Freeport Aircenter, Unit No. 2 (copies attached). These two letters indicated that during the 100 year event, the Dry Creek drainage basin produces 4,400 cfs, of which 700 cfs is diverted through Donner Creek Village. The reconstructed Dry Creek channel was designed to carry 2,850 cfs, the fifty year flood. During the twenty-five year event, the drainage basin produces 1,350 cfs, which can be carried by the Dry Creek channel without any diversion through Donner Creek Village. However, during our discussions with Gus, it was determined that the structures in Donner Creek should be designed to carry the percentage

September 23, 1983

of the twenty-five year storm that is comparable to 700 cfs of 4,400 cfs (the 100 year storm), which was determined to be 200 cfs. Thus, the structures under the streets were designed to carry 200 cfs.

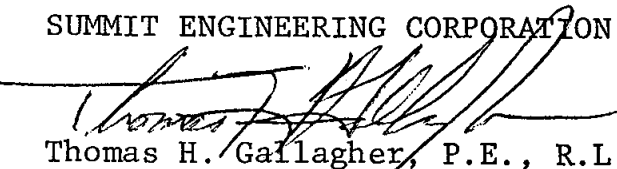
During the 100 year event, the additional 500 cfs of the total diverted through Donner Creek Village will be routed over the street sections in parabolic channels created by vertical curves. In addition, grading modifications are being made on the south side of Rio POCO to assure proper routing of the 100 year storm flows.

I hope this letter clarifies the reasoning behind the changes and provides the necessary answers to receive approval of the design from your office.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

SUMMIT ENGINEERING CORPORATION



Thomas H. Gallagher, P.E., R.L.S  
President

THG/mm

Enclosures

cc: Mr. Ray Brown



June 2, 1980  
Project No. 742-001-801

Regional Planning Commission  
241 Ridge  
Reno, Nevada 89501

Dear Sirs:

This letter is respectfully submitted to you for the purpose of summarizing the storm runoff hydrology on the proposed Unit No. 2 of the Reno Freeport Air Center. The discharge values and proposed routing procedures hereinafter discussed are the result of several years of study and planning in this area of the Truckee Meadows.

The major source of off-site storm runoff in the study region is Dry Creek. In previous years the creek's natural channel has entered the project area's north boundary and exited near the proposed development's southeast corner. Today, Dry Creek has been permanently diverted to the west, ultimately emptying its flow into Boynton Slough near Peckham Lane. Boynton Slough passes northward along the Air Center's west boundary and eventually turns eastward once past the project site.

The drainage system near Freeport Air Center has been designed to handle off-site storm discharges with a return frequency of once every 100 years. The U.S. Army Corps of Engineers has determined a 100-year peak flow of 4,400 cubic feet per second (cfs) for Dry Creek at Peckham Lane. The newly constructed channel for Dry Creek is designed to convey 2,850 cfs, the estimated 50-year peak. Therefore, during a 100-year event, the additional flow of 1,550 cfs is expected to be routed by the project by other means. A channel traveling between McCarran Boulevard and Rattlesnake Mountain and, ultimately, through the Donner Springs development is designed to handle 700 cfs. The remaining 850 cfs is expected to move down the proposed Boynton Lane, with a fraction of this latter quantity spilling into a large open channel on the project's west boundary.

The existing Boynton Slough channel was designed to carry the 2,850 cfs from Dry Creek in addition to the anticipated tributary inflows transported by drains from the airport.

950 INDUSTRIAL WAY  
SPARKS, NEVADA 89431  
(702) 358-6931

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THOMAS E. TRABERT P.E.

*Handwritten initials*

June 27, 1980  
Project No. 742-001-801

Regional Planning Commission  
241 Ridge Street  
Reno, NV 89501

RE: Reno Freeport Aircenter, Unit No. 2

Gentlemen:

We are herewith submitting a revised letter discussing the flood hydrology of Unit No. 2 of the Reno Freeport Aircenter. This letter supersedes our earlier correspondence on this subject dated June 2, 1980. We apologize for the confusion over our previous remarks and hope that the following text will explain the hydrology of the project area clearly.

The discussion contained in this letter simply resummaries a previously approved drainage plan submitted under Unit No. 1 of the Aircenter.

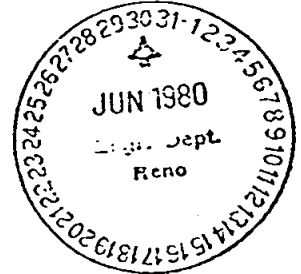
The major source of off-site storm runoff in the region of Reno Freeport Aircenter is Dry Creek. In previous years the creek's natural channel has entered the project area's south boundary and exited near the proposed development's northeast corner. Today, Dry Creek has been permanently diverted to the west, ultimately emptying its flow into Boynton Slough near Peckham Lane. Boynton Slough passes northward along the Aircenter's west boundary and eventually turns eastward once past the project site.

The Corps of Engineers has determined the following design peak flows for Dry Creek at Peckham Lane:

Return Period (years)	Peak Flow (cfs)
10	600
25	1,350
50	2,850
100	4,400

10 INDUSTRIAL WAY  
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- WAS E. TRABERT P.E.



In 1976, a report entitled "Flood Study for Donner Springs Subdivisions, Reno, Nevada" was prepared by S E A Engineers. The study, which is on file with the City of Reno, made recommendations for the routing of Dry Creek flood flows near the intersection of Peckham and Boynton Lanes. Of the 4,400 cfs expected during the 100-year event, the drainage plan called for 700 cfs to pass eastward between McCarran Boulevard and Rattlesnake Mountain and, ultimately, through the Donner Springs development. The remaining 3,700 cfs was routed northward across Peckham Lane into the region currently included in the Reno Freeport Aircenter.

In accordance with the drainage plan, steps have been taken to handle 3,700 cfs in and near the Aircenter. The newly constructed channel for Dry Creek is designed to convey 2,850 cfs, the estimated 50-year peak. The remaining 850 cfs is expected to move down the proposed Boynton Lane, which will act much like a relief valve to handle overbank flows on the upstream side of McCarran Boulevard. A portion of the water (less than half) traveling down Boynton Lane is expected to spill eastward via Spring Drive, into a large open channel on the project's east boundary. The combined flow of 850 cfs will then be routed northward to the existing Dry Creek channel.

The existing Boynton Slough channel was designed to carry the 2,850 cfs from Dry Creek in addition to the anticipated tributary inflows transported by drains from the airport.

On-site storm runoff will be handled according to City of Reno regulations.

Please inform us if we can be of further assistance.

Sincerely,  
S E A ENGINEERS/PLANNERS

*David M. Peterson*

David M. Peterson  
Hydrologist

*Michael J. DeMartini*

Michael J. DeMartini, P.E.  
Project Engineer

DMP:HJD:jkf

- cc: Ray Brown - City of Reno Engineering Dept.
- Larry Bogden - Washoe County Engineering Dept.
- Dick McDougall - Washoe-Storey Conservation District

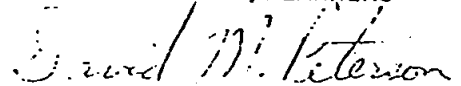
Regional Planning Commission  
June 2, 1980  
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On-site storm runoff will be handled according to City of Reno regulations.

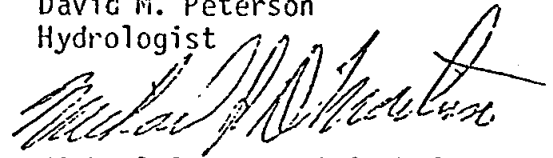
Please inform us if we can be of further assistance.

Sincerely,

S E A ENGINEERS/PLANNERS



David M. Peterson  
Hydrologist



Michael J. DeMartini, P.E.  
Project Engineer



RIP RAP ENTIRE

HEADWALL AREA

MATLH PRIDE

APPROXIMATELY 50 LF OF HEADWALL

APPROXIMATELY 185 LF OF RIP RAP FROM HEADWALL

NO RIP RAP BECAUSE EXISTING LANDSCAPE

Vis = 54 FT

RIP POCO ROAD

HEADWALL

FUTURE IMPROVEMENTS

RIP RAP TO BACK OF SIDEWALK

- SEE DETAIL -

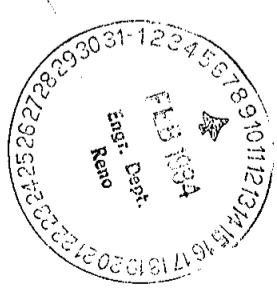
5 FEET

5 FEET

20'

DONNER CREEK VILLAGE RIP POCO RIP RAP

SUMMIT ENG  
2/9/84



MGR says ok  
2/10/84 AKC

