

May 5, 2010

City of Rapid City  
300 6th Street  
Rapid City, SD 57701

Attention: City Council

Re: Request for Parking Determination  
Central High School Additions and Renovation  
Rapid City, SD 57702  
HE Eng. Job # 08-067

Dear All,

We are requesting a parking determination for the Central High School parking lot renovation. The new and existing parking spaces are located within the Civic Center District. The existing school building and parking lot will be revised per the attached site plan. A new two story 9th grade pod and a new two story science lab building will be added on the north side of the existing building. A new entry courtyard will also be installed on the north side. A new recreation/gymnasium addition will be built directly to the south of the existing gymnasium.

Base upon the information and the parking calculations below, we have determined that the proposed expansion will not require any additional parking to service this revised facility.

The existing facility usage conditions are as follows:

1. Number of existing staff and students
  - a. Faculty – 202 individuals @ 1.00 per faculty = 202 spaces required
  - b. Students – 1850 students @ .33 per student = 610.50 spaces required
2. Number of existing parking spaces
  - a. 1102 spaces
3. Existing use(s) of the facility:
  - a. Option one (During normal school operations)
    - i. 202 faculty spaces + 610.50 student spaces = 812.50 spaces required
  - b. Option two (after school activities occurring at the same time)
    - i. sporting events in existing gymnasium
      1. 2200 people (max capacity) x 0.33 = 726 spaces
    - ii. theater/art events
      1. 350 people (max capacity) x 0.33 = 115.5 spaces

- iii. Total spaces required for this option
  1.  $726 + 115.50 = 841.50$  spaces required
- c. Option three (parent teacher conferences)
  - i.  $600$  parents (max)  $\times 1.0 = 600$  spaces plus  $202$  faculty spaces =  $802$  spaces required
- d. Option four (special school board meetings)
  - i. Gymnasium will be used
    1.  $2200$  people (max capacity)  $\times 0.33 = 726$  spaces
    2. School board members and required staff =  $10 \times 1.0 = 10$  spaces
  - ii. School faculty –  $202 \times 1.0 = 202$  spaces
  - iii. Total spaces required for this option
    1.  $726 + 10 + 202 = 938$  spaces required

The facility usage conditions, after the proposed expansion is completed, are as follows:

1. Number of staff and students
  - a. Faculty –  $202$  individuals @  $1.00$  per faculty =  $202$  spaces required
  - b. Students –  $1850$  students @  $.33$  per student =  $610.50$  spaces required
2. Number of parking spaces in reconfigured parking lot
  - e.  $1102$  spaces
4. Proposed use(s) of the facility:
  - a. Option one (During normal school operations)
    - i.  $202$  faculty spaces +  $610.50$  student spaces =  $812.50$  spaces required
  - b. Option two (after school activities occurring at the same time)
    - i. sporting events in existing gymnasium
      1.  $2200$  people (max capacity)  $\times 0.33 = 726$  spaces
    - ii. sporting events in the new gymnasium
      1.  $400$  people (max capacity)  $\times .33 = 132$  spaces
    - iii. theater/art events
      1.  $350$  people (max capacity)  $\times 0.33 = 115.5$  spaces
    - iv. Total spaces required for this option
      1.  $726 + 132 + 115.50 = 973.50$  spaces required
  - c. Option three (parent teacher conferences)
    - i.  $600$  parents (max)  $\times 1.0 = 600$  spaces plus  $202$  faculty =  $802$  spaces required
  - d. Option four (special school board meetings)
    - i. Gymnasium will be used
      1.  $2200$  people (max capacity)  $\times 0.33 = 726$  spaces
    - ii. School board members and required staff =  $10 \times 1.0 = 10$  spaces
      1. School faculty –  $202 \times 1.0 = 202$  spaces
    - iii. Total spaces required for this option
      1.  $726 + 10 + 202 = 938$  spaces required

The proposed changes to the existing facility and operational plan statement:

5. Proposed expansion to the existing building
  - a. 168,000 SF
6. Operational plan statement
  - a. Description of expansion project
    - i. 9th grade pod - This is a two story addition on the north side of the building. It include 23 classrooms, a new entry way, support space and a new administration office.
    - ii. Science Lab Addition - This will be a two story addition on the north side of the building. It will include 10 new science lab classrooms and support space.
    - iii. Gym Addition - This is a single story gymnasium addition with new weight room, new wrestling room and support space.

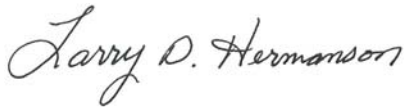
Based upon the information provided above, we can conclude that the maximum usage of parking at the existing facility will occur after the proposed expansion is completed and will occur during option two described above. The required number of spaces is 973.50 and 1102 space are provided.

The proposed expansion will provide the necessary area to eliminate the overcrowding at the existing facility, and does not change the existing student or faculty population.

Therefore, it is our conclusion that the revised parking lot configuration, with 1102 parking spaces, will provide adequate parking for the proposed expansion.

Please contact me if you have any questions.

Sincerely,



Larry D. Hermanson P.E.  
Hermanson Egge Engineering

**CIVIC CENTER PARKING**  
3894 EXISTING PARKING SPACES  
3894 PARKING SPACES AFTER  
PROPOSED SCHOOL EXPANSION

