

# TAB Associates, Inc.

*The Architectural Balance*

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## Memo

Project: Red Sandstone Elementary + Parking Garage

Project No: **1627.02**

Date: 08/07/2017 REVISED 08/20/2017 REVISED 08/31/17

**RE: Red Sandstone Elementary + Parking Garage site circulation safety**

FROM:

**Ivan Gonzalez (TAB)**, Project Manager

TO:

**Greg Hall (TOV)**, Director of Public Works

VIA: email

**Remarks:** After meeting with the Town Of Vail's PEC and DRB boards, we have received comments/questions in regards to vehicular and pedestrian site circulation and safety. Upon receiving these comments the design team has carefully considered the concerns of these review boards. The following memo highlights the main site traffic and circulation concerns as well as how the design team has addressed these comments (RE: C1.2 for signage map).

See chart at end of document for opening times, traffic counts, drop off and pick up times, etc.

1. Commission members expressed concerns with having non-school related vehicles driving one lane next to the student drop-off zone.
  - Parking will be distributed as follows: Level 4 (upper level) will be occupied by the school during school days and open to the public during other days when school is not in session.
    - i. **Levels 1, 2, and 3 are public parking accessible with parking passes.**
  - The design team has coordinated and drawn a proposed traffic signage map showing the location and type of traffic signage being used on site. Signs types consist of: "STOP", "DO NOT ENTER", "WRONG WAY", "ONE WAY" as well as drop off zone signage and a level vacancy indicator for the parking garage. The intent of this map is to clearly indicate exactly where certain traffic can and cannot move to show the controlled traffic circulation. Two locations where traffic control is important are in front of the school in the student drop off zone and on the drive west of the parking garage entrance to Level 2. Both locations have signage indicating the correct circulation (see attached site signage diagram).
    - i. **In addition we have provided traffic flow diagrams for four time periods throughout the day. Each diagrams note traffic flow direction, which levels are open during those periods to the Public, traffic count information and additional time information.**
- Traffic will be controlled with an automated level vacancy indicator clearly showing which levels of the garage are available for parking. Upon entering the site, drivers will immediately see this indicator and have direction as where to park.
  - i. **During the time windows (about 45 mins) that the school has students being dropped off or picked-up, the light for Level 3 of the parking garage will indicate closed;** to ensure the only traffic around the school drop off time zone will be school faculty, or persons dropping off students.
  - ii. In addition to the level vacancy indicator, the entry gate for Level 3 will not open during this time; level vacancy indicator and entry gates will be synchronized. The location of this sign will be at the beginning of the circulation path around the parking garage, when the Level 3 light shows full, parking structure drivers will have the options to park only on the lower levels (1 and 2) avoiding having to drive by the front of the school to access Level 3.

- iii. Level 1 and 2 will be closed during the early morning before 7:30 entry times. See item below for Accessible parking spaces access.
    - iv. Level 3 will be closed to entry only during the morning drop off and afternoon pick up.
      1. During mid-day traffic there is about 105 cars or average of 20 cars per hour. With the fourth level possibly full from morning entry this leaves the lower 2 preferred levels with available spaces. If you assume most people will enter 1 or 2 that could still leave at most 1/3 the cars driving to the fourth level. 35 cars or 7 per hour added at the upper level.
      2. If you figure in also that half of these cars would be exiting the structure you could have as few as 3-4 cars driving by the front of the school per hour.
      3. If Level 3 was closed all day it is possible 10+ spaces could remain empty.
    - v. We have also added "LOT FULL" signs on the frontage road eastbound and westbound. This should help reduce vehicles entering site when garage is full.
  - Traffic studies and historic traffic counts at the school and the Ford/Soccer fields do show there is actually a limited numbers of cars which will be add to the traffic flows during pick up and drop off. See new traffic flow diagrams for approximate quantities. We are confident the parking structure traffic will add very little traffic in front of the school.
    - i. Morning traffic would not affect cars leaving the school since the cars are entering the garage and few if any will be leaving.
    - ii. During afternoon pick up there will be some additional vehicles mixing at the lower 1 and 2 levels. But, studies still show less than 20 vehicles either coming in or going out.
  - Access to each of the four parking garage levels will also be controlled with designated parking passes.
    - i. Passes are restricted to either levels 1, 2, and 3 (i.e. town employees) or level 4 (school faculty).
    - ii. Parking passes allotted for Level 3 can be assigned to town employees who have to be parking for work prior to the school drop off times.
    - iii. In addition to the parking sign, this method aids in the separation of public garage users versus educational garage users. Parking garage entry gates will also be synchronized with passes and the levels they are allowed access.
    - iv. An alternate option is to allow parking on Level 3 to begin at 6am (during school days) to try and fill that level well before children are around the building.
    - v. Accessible parking will be limited to Level 1 (lowest level) with 5 designated spots including one Van spot per Accessibility Standards (ANSI and ADA). Access Level 1 during the morning closure can still be gained via the issued parking pass for those with Accessible parking entrance enabled on their pass.
  - By keeping the design of the road in front of the school as a one-way, we eliminate two-way traffic congestion which minimizes the volume of cars near students during drop off times. The current two-way traffic circulation has cars passing through the drop off zones twice, once on the way in and once on the way out. The one way design allows for traffic to pass through the drop off zone after dropping off a student instead of redirecting traffic back through the front of the school to exit the site.
  - Finally we feel very confident the lower two levels will be the most used due to the ease of entry. Level 3 would get the least amount of use and this limiting the traffic in front of the school.
2. Commission also requested a description of the lighting in the parking garage.
- Site lighting for the parking garage will consists of motion-sensored (two level) lights that will allow visibility in the garage. Consistent lighting with minimum foot-candles that are required by code are always on, when motion is detected the foot-candles increase. Two advantages of having motion sensor light is that the garage stays lit for any type emergency scenario while not consuming as much energy when certain level of the garage are inactive.
  - The lighting within the parking structure will also be Dark Skies compliant.

- Minimal lighting allows camera surveillance to be recorded and useable when needed.
3. Members of the PEC also raised concerns about children accessing the parking garage stair towers.
- The open design of the stair towers allows for visibility directly into the stair towers, minimizing areas that are secluded where someone could hide.
  - Balusters on railing in the parking garage will be oriented vertically to discourage the climbing of rails of any sorts.
  - The majority of children leaving the school are accompanied by school faculty. Children will not be allowed to wander into the parking structure when accompanied by school staff.
  - Preschool children are escorted by their parent/guardian from the parking lot directly to the classroom, preschool children never cross the road from the parking lot to the school.

		Red Close/ Green Open/Blue School Open				Historic Pass	Staff	Pickup/Dropoff
	Time Frame	Level 1	Level 2	Level 3	Level 4	Traffic	Traffic	Traffic
Prior to Morning Drop Off	6:30am - 7:30am	Red	Red	Green	Blue	27 (2)	36	
Morning Drop Off	7:30am - 8:30am	Green	Green	Red	Blue	29 (6)	2	91
Mid Day Traffic	8:30am - 2:30pm	Green	Green	Green	Blue	105/ 20 Per Hour In and out all 3 levels 3-4 per hour at school	No Data	
Pick Up Traffic	2:30 pm - 3:30pm	Green	Green	Red	Blue	14 (26)	34	74
After Pick Up	3:30pm - 5:00pm	Green	Green	Red	Blue	19 (45)	2	55