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### Legal Description

LOTS 23-24; LOT 25-26 W/ 10' OF ADJACENT VACATED ALLEY  
 BLOCK 32 IN SOUTH BOULEVARD SUBDIVISION  
 SECTION 12, TOWNSHIP 1N, RANGE 7E

RAPID CITY COMMUNITY PLANNING  
 & DEVELOPMENT SERVICES

ADDRESS: 2510 FIFTH STREET, RAPID CITY, SD  
 OWNER: BLACK HILLS POWER

### DESCRIPTION OF REQUEST:

Black Hills Power is requesting a Conditional Use Permit to make necessary adjustments to the Fifth Street Substation to allow for updated equipment.

The existing equipment at the Fifth Street Substation requires replacement primarily due to its age and type. The recently constructed Cleveland Street Substation will allow Black Hills Power to support the existing load in the area while Fifth Street Substation is being upgraded. The state-of-the-art equipment along with additional capacity will allow Black Hills Power to reliably serve the customers and future load growth in that area.

### Existing Substation Details:

The original substation was constructed in the 1950's. Since then, the substation has been expanded to include two power transformers and two relay/communication enclosures. Most of the existing equipment is 20-30 years old.

The steel structures are four legged box structures, and have had additional equipment including switches and fuses mounted to them. One of the steel structures is approximately 37' tall and the other is approximately 46' tall.

### Upgraded Substation Details:

Construction of the Cleveland Street Substation will allow Black Hills Power to eliminate some of the equipment currently being used at the Fifth Street Substation. Instead of having two steel structures, two power transformers, and two relay/communication enclosures, only one of each will be required following the upgrade.

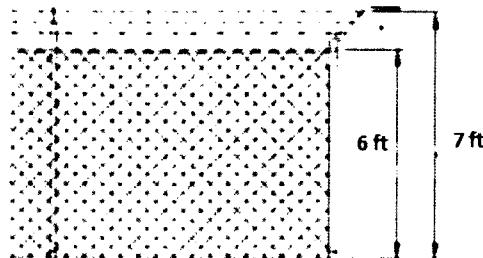
Black Hills Power has purchased a reduced noise transformer for the Fifth Street Substation that is identical to the one located at the Cleveland Street Substation. Additionally, the upgraded transformer has about the same capacity as the two smaller units combined. In general, the unit addresses the area's loading concerns while being compatible with a residential neighborhood. The relay and communications enclosure will utilize state of the art technology that will improve system reliability in the area. The upgraded communications equipment will allow Black Hills

Power to monitor and control the equipment remotely and will improve our ability to respond and identify any equipment problems or outages.

The upgraded steel structure will be a two legged H-Frame structure and will be approximately 41' tall. The only equipment on that structure will be insulators and aluminum bus. The structure is more aesthetically pleasing, and tends to be more compatible with residential neighborhoods.

**Fence Details**

Black Hills Power does not have any plans to change/alter the existing substation fence. The existing chain link fence includes 6' of fabric, and an additional 1' of barbed wire. The fence itself conforms to the NESC (110.A.1.b) requirements.



**Parking Plan**

Black Hills Power will continue to utilize existing parking at the Fifth Street Substation. There is paved access to the Knology building directly west of the substation. The access has been gated to prevent unauthorized persons from entering the facilities. Required access to the substation will be limited to monthly substation equipment checks by BHP staff.

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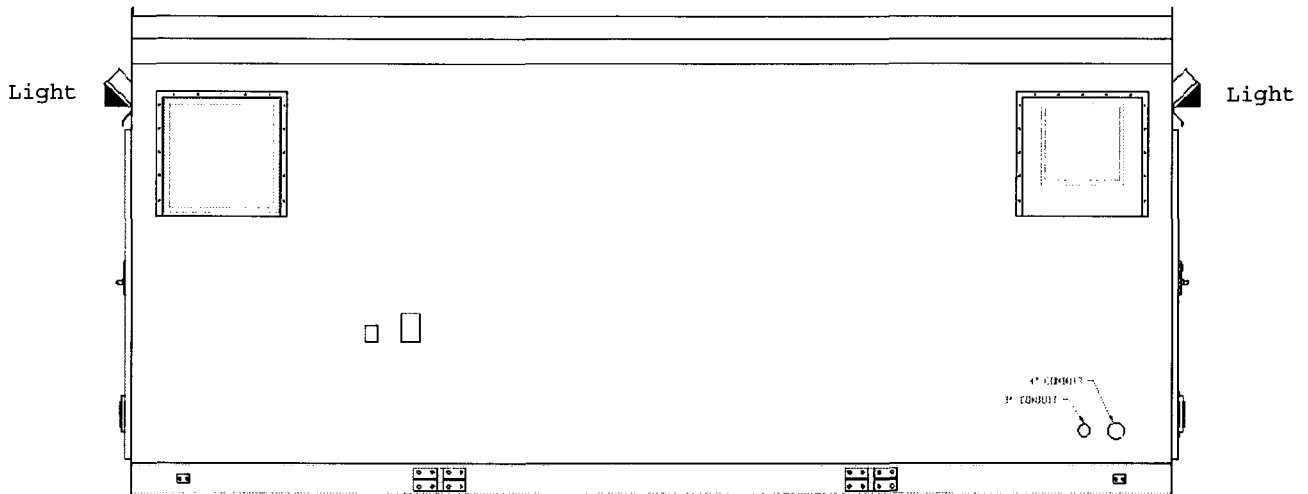
**Landscaping Plan**

The existing landscaping will remain the same. Currently there is a combination of mature trees and shrubs that border the sides of the substation. The only exception to that would be the side adjacent to the alley.

The general locations of the trees and shrubs can be seen on the attached "General Layout of Fifth Street Substation" drawing.

**Lighting Plans**

Equipment lighting included on the relay/communication enclosure will be the only light source for the substation yard. The lights are attached on each side of the enclosure above the doors. The lights are rated for 150 Watts and include a high pressure sodium bulb and a built in photocell.



**Schedule:**

Black Hills Power plans to start construction around mid-August. By doing so, the upgraded substation should be re-energized by the end of the year.

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