



**City Wide Mine Subsidence Risk Map  
Rock Springs, Wyoming**

**Updated as of March 31, 2006**

**DOCUMENTATION OF CHANGES**

**SUBMITTED TO:**

**WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
ABANDONED MINE LAND DIVISION  
AND  
CITY OF ROCK SPRINGS**

**Approved December 19, 2006**

**1515 Ninth Street, Suite A  
Rock Springs, Wyoming 82901  
Phone (307) 362-7519  
Fax (307) 362-7569  
Email: mail@jfc-wyo.com**

## **TABLE OF CONTENTS**

<b>I. BACKGROUND.....</b>	<b>1</b>
<b>II. LEWIS AND MOBILE STALLS TRAILER COURTS AREAS .....</b>	<b>1</b>
<b>III. TREE STREETS AREA.....</b>	<b>1</b>
<b>IV. PRESIDENTS STREETS / STATE STREETS AREA .....</b>	<b>2</b>
<b>V. NORTH BELT ROUTE AREA.....</b>	<b>3</b>
<b>VI. I-80, NO. 1 SEAM AREA .....</b>	<b>3</b>
<b>VII. ELK AND GRANT STREETS AREA .....</b>	<b>3</b>
<b>VIII. BLAIRTOWN AREA.....</b>	<b>4</b>
<b>IX. SKYLINE VILLAGE AREA.....</b>	<b>4</b>
<b>X. QUESTAR PIPE YARD.....</b>	<b>4</b>
<b>XL. PREVIOUS DOCUMENTATION OF CHANGES.....</b>	<b>5-18</b>

2/19/06  
RESOLUTION NO. 2006-227

A RESOLUTION ACCEPTING AND APPROVING AN UPDATED EDITION OF THE CITY OF ROCK SPRINGS SUBSIDENCE RISK MAP AND AUTHORIZING TIMOTHY A. KAUMO, AS MAYOR OF THE CITY OF ROCK SPRINGS, AND LISA M. TARUFELLI, AS CITY CLERK OF THE CITY OF ROCK SPRINGS, TO ACCEPT SAID MAP ON BEHALF OF THE CITY OF ROCK SPRINGS.

WHEREAS, the City of Rock Springs wishes to accept the updated edition of the City of Rock Springs Subsidence Risk Map; and

WHEREAS, the governing body of said City has said Updated Subsidence Risk Map before it and has given it careful review and consideration; and

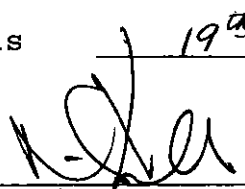
WHEREAS, it is considered in the best interest of said City to accept and approve said Map.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF ROCK SPRINGS, STATE OF WYOMING:

Section 1. That the Updated Edition of the City of Rock Springs Subsidence Risk Map is hereby accepted and approved by the City of Rock Springs.


Section 2. That the Mayor of said City be, and he is hereby, authorized, empowered and directed to accept the updated edition of the Subsidence Risk Map on behalf of said City; and that the City Clerk be, and she is hereby, authorized and direct to attest to said map and to attach a certified copy of this Resolution to each duplicate origin al of said Map.

PASSED AND APPROVED this 19<sup>th</sup> day of December, 2006.

  
\_\_\_\_\_  
President of the Council

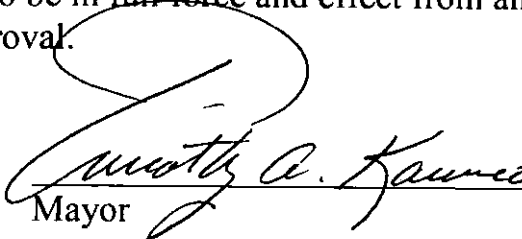
  
\_\_\_\_\_  
Mayor

Attest:

  
\_\_\_\_\_  
City Clerk

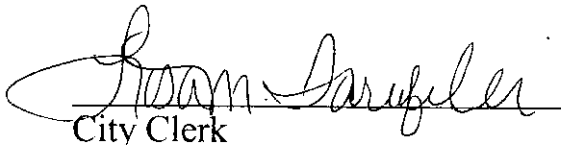
THE STATE OF WYOMING     )  
COUNTY OF SWEETWATER   ) ss.  
CITY OF ROCK SPRINGS     )

I, Timothy A. Kaumo, Mayor of the City of Rock Springs, Wyoming, do hereby proclaim that the foregoing Resolution of the said City of Rock Springs was, on the date thereof, duly and regularly passed and approved by the City Council of the said City of Rock Springs and by the Mayor of said City and attested by the City Clerk of said City, and I do hereby proclaim the same to be in full force and effect from and after the date of its passage and approval.

  
Mayor

THE STATE OF WYOMING     )  
COUNTY OF SWEETWATER   ) ss.  
CITY OF ROCK SPRINGS     )

I, Lisa M. Tarufelli, city clerk of the City of Rock Springs, Wyoming, do hereby certify that on this 19<sup>th</sup> day of December 2006 the foregoing Resolution of the City of Rock Springs was proclaimed by the Mayor of said City to be in full force and effect from and after the passage thereof as set forth in said Resolution, and that the same was posted by me in the office of the City Clerk as directed by the City Council on the 19<sup>th</sup> day of December 2006 at 9:00 p.m. of said day.

  
City Clerk

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Updated as of March 31, 2006*

## **I. BACKGROUND**

Various areas throughout the city of Rock Springs have been mitigated and/or further explored since the City Wide Subsidence Risk Map was last updated on June 30, 2002. This document explains the current updates. Each general area will be discussed with Township, Range, Section, and if available, streets and/or specific addresses in the updated areas. A determination was made on March 24, 2000 that any lands that were undermined and undeveloped or unimproved at that time would not be eligible for any future subsidence mitigation.

## **II. LEWIS AND MOBILE STALLS TRAILER COURTS AREAS**

Township 18 North, Range 105 West, Northeast  $\frac{1}{4}$  of Section 3. As a result of three projects designed and completed by CTL/Thompson under their 6A-IX contract, areas within the Lewis and Mobile Stalls Trailer Courts were explored and mitigated beginning in the construction season of 2002, and completed during the construction season of 2005.

An improved area north of County Road 4-51, the road itself, and a warehouse south of the road were also mitigated during CTL/Thompson's 6A-IX-C Project. Areas previously designated as "significant" risk, which were mitigated, have been re-designated as "mitigated low" risk. Areas shown by drilling as beyond the No. 3 seam safe consolidated overburden depth have been re-designated as "low" risk. Two large unimproved areas, which are undermined but not mitigated, continue to be designated as "significant but undeveloped" risk. Two areas not mitigated but have structures on them, including a county bridge and a Pacific Power and Light substation, remain at "significant" risk.

## **III. TREE STREETS AREA**

Township 19 North, Range 105 West, South  $\frac{1}{2}$  of Section 35, West of Walnut Street. After detailed review of available mine maps and nearby drilling, a large undeveloped area to the south and west of Cedar, Ash, and Maple Streets, formerly designated as at "significant but undeveloped" risk, has now been re-designated as "low" risk. Using available drilling data,

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Updated as of March 31, 2006*

depths to mine floor within this area were calculated to be at greater than the safe consolidated overburden depth for the No. 1 seam, which was mined here.

Township 19 North, Range 105 West, Southeast  $\frac{1}{4}$  of Section 35, West of Walnut Street. The Excelsior Mine, which had been missed during previous Risk Map versions, showed mine workings in the No. 1 seam much closer to the surface than was formerly thought. Using outcrop location and an estimated dip for the No. 1 seam, all of the area affected by this mine was determined to be at "significant but undeveloped" risk.

A significant southwest to northeast trending fault separates the two areas discussed above with an offset of about 60 feet deeper to the northwest.

## **IV. PRESIDENTS STREETS / STATE STREETS AREA**

Township 19 North, Range 105 West, Southwest  $\frac{1}{4}$  of Section 36. Due to drilling done by the property owner at the proposed Canyon View Estates Subdivision, the shape of the "significant but undeveloped" area east of the 1100 and 1200 blocks of Adams Avenue has been changed slightly.

Township 19 North, Range 105 West, West  $\frac{1}{2}$  of Section 36, and Township 18 North, Range 105 West, Northwest  $\frac{1}{4}$  of Section 1. Various lots, which were previously non-access under older AML projects, and therefore, remained at "significant" risk, were mitigated under CTL/Thompson's 6A-IX-E Project in 2005. These lots include the south half of 1144 Vermont Street, 811 Connecticut Avenue, 1024 and 1032 Adams Avenue, 1119, 1310 and 1322 Lincoln Avenue, and 902 "D" Street. Former designations of "significant" risk are now "mitigated low" risk.

**CITY WIDE MINE SUBSIDENCE RISK MAP**  
**ROCK SPRINGS, WYOMING**  
*Updated as of March 31, 2006*

**V. NORTH BELT ROUTE AREA**

Township 19 North, Range 105 West, East ½ of Section 26. An additional portion of McTee and Randolph Streets, which are undermined by workings in the No. 1 seam, No. 4 mine, were mitigated under CTL/Thompson's 6A-IX-B Project. The majority of this area is now designated "mitigated low" risk. A small number of homeowners within this area and farther east on McTee and Booker Streets have chosen not to have their lots mitigated, and these specific lots remain at "significant" risk.

An area which has a persistent outcrop fire to the northeast of Wright Park at the north end of Wright Street has been marked in its approximate location and is now designated "mine fire".

**VI. I-80, NO. 1 SEAM AREA**

Township 19 North, Range 105 West, Southeast ¼ of the Southwest ¼ of Section 24. This area was better defined with exploratory drilling during the spring of 2001 when open voids in the mine workings were found at less than the safe consolidated overburden thickness for the No. 1 seam. During 2005, JFC Engineers & Surveyors, under their 6A-VII-15 Project, mitigated portions of the east and west bound lanes and the center median. Future work will complete this area during the 2006 construction season. This section of I-80 was re-designated as "significant" or "significant but undeveloped" risk instead of the former "moderate" designation. The portions of the roadway and median mitigated during 2005 are now designated as "mitigated low" risk.

**VII. ELK AND GRANT STREETS AREA**

Township 19 North, Range 105 West, North ½ of Section 35. Additional portions of Elk Street and Grant Street were mitigated by CTL/Thompson during their 6A-IX-D Project in 2004. Areas mitigated at that time are now designated "mitigated low" risk instead of their former "significant" risk designation.

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Updated as of March 31, 2006*

## **VIII. BLAIRTOWN AREA**

Township 18 North, Range 105 West, Northeast ¼ of the Northwest ¼ of Section 2. CTL/Thompson's 6A-IX-C Project during 2003 mitigated the parking lot at Blairtown Park, which is now designated "mitigated low" risk versus its former "significant" risk designation.

Township 18 North, Range 105 West, Northwest ¼ of the Northwest ¼ of Section 2. During CTL/Thompson's 6A-IX-E Project, the home and lot at 728 5<sup>th</sup> Avenue West was mitigated changing that area on the risk map from "significant" to "mitigated low" risk.

## **IX. SKYLINE VILLAGE AREA**

Township 19 North, Range 105 West, Northeast ¼ of Section 25. During the construction seasons of 2002 through 2004, three additional areas within Skyline Village Manufactured Housing Community were mitigated under the 6A-VII-12, 13 and 14 Projects designed by JFC Engineers & Surveyors. Areas formerly designated as "significant" risk are now designated as "mitigated low" risk.

## **X. QUESTAR PIPE YARD**

Township 19 North, Range 105 West, West ½ of Section 36, east of Pennsylvania Avenue and north of New Hampshire Avenue, and northeast of "G" Street. After review of drilling and grouting information in the Questar Pipe Yard completed under JFC Engineers & Surveyors project 6A-3-B6, shapes of the areas mitigated were changed slightly to match actual work, and 2 areas that were previously listed as "low" risk were changed to "un-mined" and "significant but undeveloped" to match information from drilling and available mine maps. Also the line between the "significant but undeveloped" area and the "low" risk areas east of "G" Street was adjusted to match available drilling information.

# **PREVIOUS DOCUMENTATION OF CHANGES**

**From the Update of June 30, 2002**

RESOLUTION NO. 2002-151

A RESOLUTION ACCEPTING AND APPROVING AN UPDATED EDITION OF THE CITY OF ROCK SPRINGS SUBSIDENCE RISK MAP AND AUTHORIZING PAUL S. OBLOCK, AS MAYOR OF THE CITY OF ROCK SPRINGS, AND COLLEEN A. PETERSON, AS CITY CLERK OF THE CITY OF ROCK SPRINGS, TO ACCEPT SAID MAP ON BEHALF OF THE CITY OF ROCK SPRINGS.

WHEREAS, the City of Rock Springs wishes to accept the updated edition of the City of Rock Springs Subsidence Risk Map; and

WHEREAS, the governing body of said City has said Updated Subsidence Risk Map before it and has given it careful review and consideration; and

WHEREAS, it is considered in the best interest of said City to accept and approve said Map.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF ROCK SPRINGS, STATE OF WYOMING:

Section 1. That the Updated Edition of the City of Rock Springs Subsidence Risk Map is hereby accepted and approved by the City of Rock Springs.

Section 2. That the Mayor of said City be, and he is hereby, authorized, empowered and directed to accept the updated edition of the Subsidence Risk Map on behalf of said City; and that the City Clerk be, and she is hereby, authorized and directed to attest to said map and to attach a certified copy of this Resolution to each duplicate original of said Map.

PASSED AND APPROVED this 15<sup>th</sup> day of October, 2002.

  
President of the Council

  
Mayor

Attest:

Deputy

  
City Clerk

Map on file in city clerk's office.

## TABLE OF CONTENTS

<b>BACKGROUND .....</b>	<b>5</b>
<b>1. LEWIS TRAILER COURT AREA.....</b>	<b>5</b>
<b>2. BLAIRTOWN AREA .....</b>	<b>6</b>
<b>3. SOUTH SIDE BELT ROUTE INCLUDING THE 24” &amp; 18” WATER TRANSMISSION LINES .....</b>	<b>6</b>
<b>4. FAN SHAFT NEAR DONALYN DRIVE .....</b>	<b>8</b>
<b>5. TREE STREETS AREA.....</b>	<b>8</b>
<b>6. PRESIDENTS STREETS/STATE STREETS AREA .....</b>	<b>9</b>
<b>7. I-80 OVERPASS OF SWANSON DRIVE .....</b>	<b>9</b>
<b>8. VETERANS PARK AND NORTH BLET ROUTE AREAS .....</b>	<b>10</b>
<b>9. STAGECOACH BOULEVARD AND RANCHO-BRIDGER TRAILER COURT AREA, No. 6 MINE .....</b>	<b>12</b>
<b>10. CENTURY WEST SUBDIVISION .....</b>	<b>12</b>
<b>11. DEWAR DRIVE/PLAZA MALL AREA.....</b>	<b>13</b>
<b>12. THE “A” STREET VIADUCT AREA.....</b>	<b>13</b>
<b>13. SOUTH MAIN STREET .....</b>	<b>14</b>
<b>14. THE WENDT STREET AREA .....</b>	<b>14</b>
<b>15. THE INTERSTATE CAMP MINE SITE.....</b>	<b>14</b>
<b>16. BUNNING AND BLAIRTOWN PARKS .....</b>	<b>15</b>

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Update of June 30, 2002*

Various areas throughout the City of Rock Springs have been mitigated and or further explored since the City Wide Subsidence Risk Map was last updated on May 1 of 1996. This document explains the reasons for the current updates. Each general area will be discussed, with Township, Range, Section, and if available, streets in the updated areas. A new risk designation has been added for areas that are undermined with the possibility of catastrophic subsidence, but have no surface improvements. These areas are now designated as "significant but undeveloped" risk, as noted in the map legend. Also in order to make the risk map more "user friendly", the scale was change from 1"=700' to 1"=800', so that standard engineering scales could be used to measure distances. A determination was also made on March 24, 2000, that any lands that were undermined but undeveloped or unimproved at that time would not be eligible for any future subsidence mitigation.

## **1. LEWIS TRAILER COURT AREA**

Township 18 North, Range 105 West, east ½ of Section 3. Due to a hole drilled in October 1998, 185 feet west of the railroad spur to Quealy on the south side of West 2<sup>nd</sup> Street / County Road 4-51, the No. 3 seam was found to be nearer to the surface and with much less consolidated overburden than previously thought. After consulting mine maps of this area, a projected outcrop and distance from the outcrop at which the consolidated overburden should exceed 90 feet were estimated. Between these two lines, five areas were re-designated as "significant" or "significant but undeveloped" risk. These areas were further defined during 2001 with drilling done by CTL / Thompson in the Lewis and Mobile Stalls trailer courts. A large portion of this area appears to be within the Right-of-Ways of the Union Pacific Railroad's main line or Quealy spur. A section of West 2<sup>nd</sup> Street / County Road 4-51, and parts of the Lewis and Mobile Stalls Trailer Courts and the associated utilities, could be at risk as well. Also, located on the south side of the county road is a power substation and a warehouse, while to the north of the county road, two or more residences and several outbuildings fall within this zone of "significant" risk.

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Update of June 30, 2002*

Another very large area west of Blairtown and out to the limits of the documented mines has been re-designated as "low" risk, due to consolidated overburden in excess of the 90 feet considered safe for the number 3 seam. Both of these areas had previously been designated as "moderate" or "slight" by the 1989 Colorado School of Mines amended risk map.

## **2. BLAIRTOWN AREA**

Township 18 North, Range 105 West, northwest  $\frac{1}{4}$  of Section 2, southeast of West 2<sup>nd</sup> Street and northeast of 6<sup>th</sup> Avenue West. Due to three projects designed and completed by CTL/Thompson, Inc. under the 6A-VIII contract, this area was explored and mitigated beginning in the summer of 1997, and completed during the summer of 1999. Areas previously designated as "significant" risk, which were mitigated have been re-designated as "mitigated low" risk. Areas shown by drilling as beyond the number 1 seam safe consolidated overburden depth have been re-designated as "low" risk. Two lots where consent was not obtained from homeowners, and therefore not mitigated, remain at "significant" risk, as directed by AML. Four unimproved areas, which are undermined but not mitigated, are now designated as "significant but undeveloped" risk.

## **3. SOUTH SIDE BELT ROUTE, INCLUDING THE 24" & 18" WATER TRANSMISSION LINES**

Township 18 North, Range 105 West, north half of Section 2, and Township 19 North, Range 105 West, southwest  $\frac{1}{4}$  of Section 35. Beginning in September of 1995 and continuing through August of 2000, several 6A-III and 6A-VII projects designed and completed by JFC have addressed sections of the South Side Belt Route including the climbing lane constructed during 1997. This area has been extensively mined in the number 1 seam, and some of these mines have no available maps to indicate extent of mining or the degree of mining intensity. Field observations and drilling indicate large areas with mine workings at less than the No. 1 seam's safe consolidated overburden thickness. These areas, both northeast and southwest of the South Side Belt Route, have been re-designated as

# **CITY WIDE MINE SUBSIDENCE RISK MAP**

## **ROCK SPRINGS, WYOMING**

*Update of June 30, 2002*

"significant but undeveloped" risk. Areas mitigated during the various projects are designated as "mitigated low" risk. Areas which were shown to be beyond the safe consolidated overburden thickness for the number 1 seam (the mined seam nearest to the surface in this area) are designated as "low" risk.

The "mitigated low" risk areas include A) a 25 foot wide corridor along the main water supply for Rock Springs, a 24" line which follows the west and south boundaries of Blairtown Park, then parallels the South Side Belt Route southeast to the Walnut Street pump house; B) the South Side Belt Route and portions of its right of way, from directly north of 737 McCurtain Drive, to just southeast of Blairtown Park; C) a 25 foot wide corridor along an 18" water transmission line, from the Walnut Street pump house to approximately 1150 feet to the southeast, paralleling the South Side Belt Route; and d) the South Side Belt Route and portions of its right of way, from the southeast corner of the intersection of the Walnut Street access, to approximately 850 feet to the southeast.

The area beneath the Walnut Street water tanks was previously mitigated and designated as "mitigated low" risk, but in order for the marked area to coincide with the actual location of the water tanks, this area was moved slightly to the north and rotated.

Previously, the Walnut Street access to the South Side Belt Route was designated as "significant" risk. Drilling conducted during 1999 by JFC under the 6A-VII-8 project indicated that depths to the No. 7 seam were significantly greater than previously estimated. As a result, an area north of an east-west fault, also located by drilling, was re-designated as "low" risk. This same area is stratigraphically below the outcrop of the number 1 seam.

Pot holing performed during 1999 southeast of the Walnut Street access in a large vacant lot indicated a larger area was undermined than formerly thought. As a result, the area was designated as "significant but undeveloped" risk instead of its former "significant" risk designation, and was expanded slightly to the south.

As explained at the beginning of this document, a new risk designation "significant but undeveloped" has been used extensively for areas which have no surface improvements.

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Update of June 30, 2002*

Areas near the South Side Belt Route horse corrals, Township 18 North, Range 105 West, sections 1 and 2, have been re-designated from "significant" to "significant but undeveloped" risk in accordance with this new designation. Also the shape of the "mitigated low", and "significant" risk areas have been changed slightly to conform to the actual work performed.

At the direction of AML, a 30 foot wide by 230 foot long section of sewer line northeast of Blairtown Park and the South Side Belt Route was mitigated by MMEC during 1994(?). This area is now designated as "mitigated low", versus its former "significant" risk designation. No final report has been published regarding this work.

## **4. FAN SHAFT NEAR DONALYNN DRIVE**

Township 18 North, Range 105 West, northwest ¼ of Section 1. A small area in the northwest right of way of the South Side Belt Route near Donalynn Drive, about 40 by 100 feet, was mitigated in June 1995 under the 6A-III contract. Two fan shafts were drilled into and grouted, changing the designation for that area from "significant" to "mitigated low" risk. An undeveloped lot to the north and west of this area was re-designated as at "significant but undeveloped" risk. Also during 2001 a section of Donalynn Drive previously designated as "significant" risk was mitigated by CTL/Thompson under their 6A-IX project and is now "mitigated low" risk.

## **5. TREE STREETS AREA**

Township 19 North, Range 105 West, south ½ of Section 35. An area comprising the south ½ of the west ½ of Maple Street has been re-designated as "low" risk, rather than "significant" risk, due to drilling done by CTL/Thompson, Inc. under their project 6A-VIII-A. This drilling indicated that mine floors for the number 1 seam were significantly deeper than previously estimated; therefore, the "significant" risk designation was inappropriate.

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Update of June 30, 2002*

Also during 1997, an area between Blair Avenue, Hickory Street, and Alder Street, known as the Tree Streets triangle (UPRR 3<sup>rd</sup> Addition), was mitigated under the 6A-VIII-A project, changing its designation from "significant" to "mitigated low" risk.

A large undeveloped area to the south and west of Ash, Maple and Hickory Streets, formerly designated as at "significant" risk, has now been re-designated as "significant but undeveloped" risk. The south half of block 46 of the UPRR 3<sup>rd</sup> Addition has also been re-designated as "significant but undeveloped" risk due to lack of improvements.

## **6. PRESIDENTS STREETS / STATE STREETS AREA**

Small portions of Marchant, Wyoming, and New Hampshire Streets were mitigated during the summer and fall of 2001 by CTL/Thompson under their 6A-IX project. Previous designations of "significant" risk are now "mitigated low" risk, and several nearby areas that were "significant" risk, have been changed to "significant but undeveloped" risk. The former Questar pipe yard and several large tracts of land south and west of Emerald, Carson, and Hillcrest Streets, which were designated as "significant" risk, have now been re-designated as "significant but undeveloped" risk due to their unimproved condition.

## **7. I-80 OVERPASS OF SWANSON DRIVE**

Township 19 North, Range 105 West, northeast ¼ of Section 25, and Township 19 North, Range 104 West, northwest ¼ of Section 30. A section of I-80's eastbound and westbound lanes, the median between the lanes, and portions of their respective right of ways were mitigated during 1997 and 1998 under JFC's projects 6A-VII-2 and 6A-VII-6. The area involved extends from the 75 foot consolidated overburden contour, immediately north of the overpass of Swanson Drive, south to the off-ramp for exit 107 (Pilot Butte), which is at the outcrop of the number 7 seam. This mitigated area has been re-designated from "significant" to "mitigated low" risk. A section of I-80 extending to the northwest of the Swanson Drive overpass, from the 75 to the 120 foot consolidated overburden contours, remains at

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Update of June 30, 2002*

“significant” risk. Areas to the southwest and northeast of I-80 have been re-designated as “significant but undeveloped” risk from their previous “significant” risk.

To the south and east of this mitigated section of I-80, two outcrop fires were mitigated during 1998 and 1999 by JFC. The Swanson Mine Road outcrop fire was mitigated under the 6A-VII-5 project while the Skyline Village Manufactured Housing Community Outcrop Fire was treated under a sole source contract. Both of these outcrop fire areas have been designated as "mine fire mitigated" versus their former designations of "significant" risk and "fire".

During 2000 and 2001, JFCs' projects 6A-VII-10 and 6A-VII-11 have mitigated portions of the Skyline Village Manufactured Housing Community. As a result, portions of the community have been re-designated from "significant" risk to "mitigated low" risk.

The geometry of the area formerly designated as "significant" risk surrounding the Skyline Village Manufactured Housing Community has been changed slightly, to conform to the actual outcrop location, and expanded to the east slightly as indicated by exploratory drilling performed during the fall of 1999 by JFC. As with other undeveloped areas, the risk designation has been changed from “significant” to “significant but undeveloped”.

## **8. VETERANS PARK AND NORTH BELT ROUTE AREAS**

Township 19 North, Range 105 West, the north ½ of Section 25, the west ½ of Section 26, and the south ½ of Section 24. As a result of three holes drilled during 1998, together with review of available Union Pacific Coal Company mine maps, seven areas have been re-designated from their Colorado School of Mines “moderate” risk to the currently used “low”, “mitigated low”, “significant” and “significant but undeveloped” risk designations. The areas involved are as follows:

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Update of June 30, 2002*

Areas re-designated from “moderate” to “significant but undeveloped” risk include six small tracts of ground surrounding the mine entries for the No. 4, the old No. 8, the new No. 8, and the No. 10 mines, and a strip of land northwest of Wright, Cy, and Perry Streets.

One area was re-designated from un-mined or “moderate” risk to “significant” risk. This area includes portions of McTee, Randolph, Booker and Wright Streets, which are undermined by workings in the number 1 seam, No. 4 mine. The 1996 risk map in this area was based on information from a single hole drilled by Bennett-Carder & Associates, Inc. during 1982. 24 holes drilled during the spring of 2001 by JFC Engineers under the 6-A-VII-10 project indicated that the extents of mining in this area were farther south than originally delineated on the 1996 risk map. Several homes now appear to be at risk of catastrophic subsidence due to a significant thickness of alluvium. During 2001 CTL/Thompson under their 6A-IX project mitigated a portion of this area, including Wright Street Park and several homes near the east end of McTee Street, which is now designated as "mitigated low" risk.

Two very large areas, one northeast and one southwest of I-80, have now been re-designated from “moderate” to “low” risk, as a result of additional mine map review and calculated consolidated overburden thickness. These areas are undermined by the number 1 and 3 seams, in the No.’s 3, 4 and new 8 mines (nearest the surface). Exploratory drilling by JFC Engineers within the right-of-way for I-80 in the spring of 2001 near the limits of mining in the number 3 seam No. 3 mine, revealed a thin seam with a consolidated overburden thickness in excess of the safe depth for the number 3 seam. Assuming a 5 degree dip to the northwest, and using available mine maps, calculations of the consolidated overburden depths were made. It was determined that with the exclusion of the areas designated as at “significant” or “significant but undeveloped” risk mentioned above, the limits of mining were deeper than the appropriate consolidated overburden thickness for the mined seam nearest to the surface.

A section of I-80 above the new No. 8 mine's entry and workings was mitigated by WYDOT when the Interstate highway was constructed, by “shooting down” the mine roof beneath the

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Update of June 30, 2002*

proposed roadway alignment. No subsidence of this portion of I-80 has been reported up to this time. This area was better defined with exploratory drilling during the spring of 2001, when open voids in the mine workings were found at less than the safe consolidated overburden thickness for the number 1 seam. This section of I-80 has therefore been re-designated as "significant" or "significant but undeveloped" risk, instead of the former "moderate" designation.

## **9. STAGECOACH BOULEVARD AND RANCHO-BRIDGER TRAILER COURT AREA, No. 6 MINE**

Township 19 North, Range 105 West, the east ½ of Section 22. A portion of Stagecoach Boulevard was explored and mitigated under the 6A-VIII-A project by CTL/Thompson during 1997. As a result, this section of Stagecoach Boulevard has been re-designated as "mitigated low" rather than "significant" risk. Also, a large area undermined by the No. 6 mine in the number 6 seam, which has a significant amount of consolidated overburden (in excess of 100 feet), has been re-designated as "low" rather than "significant" risk due to the thickness of the consolidated overburden. Portions of the No.6 mine beneath undeveloped land have been re-designated as "significant but undeveloped" risk, While those areas under the Rancho-Bridger trailer court (5020 Springs Drive) have been re-designated as "un-mined" due to drilling done by CTL/Thompson during 2001.

## **10. CENTURY WEST SUBDIVISION**

Township 19 North, Range 105 West, Section 14, and portions of Sections 11, 12, 13, 23 and 24. As the result of a hole drilled near the east end of Evergreen Way during 1998, mine workings in this area were proven to be quite deep. According to available mine maps, mining occurred in the number 1 seam, but not in the number 3 or number 5 seams above it. During the drilling of the hole on Evergreen Way, no coal or mine workings were encountered in 200+ feet of drilling. Mine workings in the number 1 seam are estimated to be in excess of 500 feet deep at this location. Therefore, this general area has been re-

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Update of June 30, 2002*

designated as at "low" risk instead of the former Colorado School of Mines "slight" risk designation.

Under a separate contract performed during June of 2000, JFC drilled a series of three deep holes within the Bureau of Land Management's compound near US Highway 191 North. These holes were about 1800 feet northwest of the Century West Subdivision. No mineable thickness of coal or mine workings were encountered in any of the holes. Estimated depth to mine workings in the number 1 seam, new No. 8 mine, was in excess of 1300 feet.

## **11. DEWAR DRIVE / PLAZA MALL AREA**

Township 19 North, Range 105 West, south ½ of Section 34, and Township 18 North, Range 105 West, north ½ of Section 3. Two exploratory drill holes were completed in this area during 1998 to confirm depth to the mine workings. The first hole was located south of 1313 Dewar Drive, near the east end of the Plaza Mall parking lot. The second hole was located near the west end of the Plaza Mall parking lot, northwest of 1461 Dewar Drive. No mine workings or mineable thickness of coal were encountered during the drilling of these holes. Due to a more than adequate thickness of consolidated overburden, a large area between these two holes, as well as down-dip from them, has been re-designated as "low" risk rather than its former "moderate" and "slight" Colorado School of Mines designation.

## **12. THE "A" STREET VIADUCT AREA**

Township 19 North, Range 105 West, northeast ¼ of Section 25. The "A" Street Viaduct was mitigated by JFC under the 6A-VII-3 project during 1997. As a result of this mitigation, the "A" Street Viaduct and a corridor 50 feet to the northeast and 50 feet to the southwest of it, have been re-designated from "significant" risk to "mitigated low" risk.

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Update of June 30, 2002*

## **13. SOUTH MAIN STREET**

During the construction season of 1999 under the 6A-VII-8 project, JFC performed additional mitigation work on South Main Street in downtown Rock Springs. This work resulted in several small changes to the size and shape of the "mitigated low" and un-mined areas there.

## **14. THE WENDT STREET AREA**

Township 19 North, Range 105 West, northeast ¼ of Section 35, Wendt, Ludwig, "F" and "G" streets. A number of exploratory holes were drilled in this area during 1997 under CTL/Thompson's project 6A-VIII-A, to define the limits of an outcrop fire and verify possible mining in the area. As a result of this drilling, and at the direction of AML, the risk designation will remain unchanged. Ash and clinker in the area may still consolidate or shift to produce structural damage to surface improvements. No evidence of mining was encountered during drilling.

## **15. THE INTERSTATE CAMP MINE SITE**

Township 19 North, Range 105 West, center of south ½ of section 10. Eleven holes were drilled at this site in July of 2001. These holes were specifically located to define the limits of mining around three power poles supporting two major transmission lines. No mining was found in the immediate vicinity of the power poles. However, past and continuing subsidence holes have been noted north and west of the power poles. This general area has been designated as "significant but undeveloped" risk, due to the existing subsidence holes. No mine maps are available for this area, but evidence of subsidence extends over several acres.

# **CITY WIDE MINE SUBSIDENCE RISK MAP ROCK SPRINGS, WYOMING**

*Update of June 30, 2002*

## **16. BUNNING AND BLAIRTOWN PARKS**

Township 19 North, Range 105 West, South center of Section 26, And Township 18 North Range 105 West, northwest ¼ of section 2. During the summer of 2001, at the request of the City of Rock Springs, Bunning and Blairtown Parks have been re-designated as "significant but undeveloped" risk, with the exception of the parking lot at Blairtown park, which remains at "significant" risk and will eventually be mitigated. Also, after discussions with AML and at their direction, a wedge-shaped area west of Bunning Park, including a portion of Elk Street, was re-designated as "significant" risk, due to a substantial thickness of alluvium. One lot on Elk Street was mitigated by CTL/Thompson during 2001, and is designated as "mitigated low" risk.