

Friends of the Cumbres & Toltec Scenic Railroad

Proposed Projects for 2000

Table of Contents

Section	Project	Page
1	Introduction.....	2
2	Running Gear.....	2
3	Short Refrigerator Car 55.....	2
4	Painting and Lettering.....	3
5	Long Refrigerator Cars 157, 163, and 169.....	4
6	Inspection Car MW02.....	4
7	Caboose 05635.....	5
8	Water Service Car 04904.....	5
9	Flat Car 6214.....	6
10	Rail and Tie Car 06051.....	7
11	Pile Driver OB.....	8
12	Flangers.....	8
13	Flat Car 6708.....	9
14	Pipe Gondola 9558.....	10
15	Short Caboose 0579.....	11
16	Miscellaneous Repairs to Freight Cars in Antonito.....	12
17	Asbestos Removal from Locomotives in Chama.....	12
18	Railings and Telltales at Rock Tunnel.....	12
19	Chama Stock Pens.....	13
20	Coal Tipple.....	13
21	Cumbres Section House – Interior Rehabilitation.....	14
22	Cumbres Section House – Exterior Painting.....	15
23	Osier Section House and Station.....	15
24	Cut Trees along the Right of Way.....	16
25	Sublette Section House and Bunk Houses.....	17
26	Work Shelter in Antonito.....	17
27	Paint Mileposts.....	18
28	Passenger Car Repairs.....	18

Exhibits

1. Introduction

The Friends of the C&TS RR plans to continue its historic preservation work in the summer of 2000 with four work sessions: June 14 - 18, June 21 - 25, August 16 - 20, and August 23 - 27. The Friends is recognized by the Cumbres & Toltec Scenic Railroad Commission as the official historic preservation and interpretation entity for the property. References to photographs in previous submittals are abbreviated; for example, Exhibit 1998-A refers to Exhibit A of the Friends' Proposed Projects for 1998.

2. Running Gear

Goal – Make the restored cars capable of being taken out on the line in charter freight trains.

Discussion – After the bodies of the six double-deck sheep cars that were purchased by the Friends in 1992 were restored, we wished to run them in a charter train, but the condition of the running gear (wheels, axles, journals and brake system) made this impossible. In previous years the Operator had overhauled the running gear of cars for charter trips, but in 1997 the Operator told us that he could not spare the resources to do this. However, the Operator allowed the Friends to do the running gear work under the supervision of the Chief Mechanical Officer of the railroad. In 1999 the mechanical restoration of the six sheep cars was completed. In the three years the Friends worked on these cars, the following was accomplished: The axles with bad journals on sheep cars 5600 and 5841 were removed and replaced with axles from other cars that had good journals. In addition, a loose side bearing housing on a truck on 5841 was repaired. Bad truck frames on 5549 were replaced. On car 5633, a broken journal box was replaced and the side bearings were shimmed. The air brake cylinders were repacked and the triple valves cleaned on 5549, 5553, and 5674. A broken journal box on 5674 was replaced. Brake shoes were fitted and installed on all six sheep cars. The brake wheels were replaced on 5674 and 5549, and the hand brake was reattached on 5674. The retainer on 5553 was replaced. The brakes were set and tested on all the cars and the journals were repacked on all the cars. (Note that the side sill deterioration discovered when replacing the end sill on 5633 in 1998 indicates that these cars will have to have their major frame members replaced at some time in the future. Replacing these sills essentially means dismantling the entire car.)

Proposed Work for 2000 – In 2000 we plan to commence the mechanical work needed to make other cars with good bodies capable of being taken out on the road. All this work will be done under the supervision of the Chief Mechanical Officer of the railroad. Each car will be inspected by the CMO or his delegate upon completion and before being taken out of the yard. This work will not affect the appearance or historical integrity of the cars. Among the cars for which mechanical work is planned in 2000 are outfit cars 04904, 04426, and 04549.

Approval – Mechanical restoration of the sheep cars was approved in 1997. The extension of this type of work to other cars requires approval.

3. Short Refrigerator Car 55

Goal – Return the car to sound and useable, historically accurate condition.

Condition – As reported in the Proposed Projects for 1994, this car was obtained after sitting on the ground for many years, and came without trucks or any underframe hardware. The lower six to nine inches of all the siding was rotten. In addition, the roof walk was rotten and the ice hatches were only partially present. Accomplishments in the years 1994 through 1997 were summarized in the Proposed Projects for 1998. In 1998, one truss rod was repaired and the truss rods were ad-

justed to give the proper arch in the frame. Brake beam hangers and draft gear cheek plate bottom straps were fabricated and installed. Body side bearings were installed on one end of the car and measurements were made to allow machining of the bearings for the other end. In 1999 work began on installing the brake system, couplers, and draft gear. Specifically, the body side bearing pads were installed under the A end and some missing wood siding protecting the cork insulation was replaced. The A end coupler, complete with draft gear was installed. The relief valve for the auxiliary air brake reservoir was installed and part of the train line and branch pipe was put in place. Also, the brake beams were mounted on one truck. This car was painted in 1999 to preserve the new wood that had been installed and improve the appearance of the car. Some exterior body work remains to be completed.

Proposed Work for 2000 – The Proposed Projects for 1994 contained a detailed proposal for restoration of the car which will not be repeated here. In 2000, we will continue work on the brake system, couplers, and draft gear. In particular, we plan to install the second coupler and draft gear, mount the brake beams on the second truck, complete the air brake piping, and begin work on the foundation brake gear.

Approval – Approval for the use of steel weldments in place of iron castings was granted in 1995. General approval for restoration of the car was granted in prior years.

4. Painting and Lettering

Goal – Keep the cars painted in authentic colors and historically lettered.

Condition – Some of the cars have been painted recently by the Friends and are in good condition; others have not been painted in many years and some cars have no discernible number painted on the sides. Numerals used for displaying house numbers, which are made of a non-rusting metal, have been placed on the center sill of all the wooden frame cars to preserve the car number. These numbers are under the car up on the center sill and invisible unless one crawls under the car. The steel-frame cars have the number stenciled on the center sill. In 1998, four box cars, one gondola, one drop-bottom gondola, rotary snowplow OM, cook car 053, and the two display locomotives in Antonito were scraped and painted. Lettering was completed on two box cars, six sheep cars, one gondola, refrigerator car 157, the night watchman's house (ex-refrigerator car), rotary snowplow OM, and the two display locomotives in Antonito. In 1999, the Friends painted 2 flat cars, 2 cattle cars, 6 box cars, 1 refrigerator car, and 2 outfit box cars. Lettering was completed on 2 sheep cars (5600 and 5841), 2 cattle cars (5706 and 5691), cook car 053, reefer 55, 6 box cars (3331, 3073, 3014, 3592, 3231, and 4444), 1 drop-bottom gondola (756), 3 regular gondolas (1000, 1059, and 9249), and 2 flat cars (6200 and 6627).

Proposed Work for 2000 – The cars to be painted in 2000 have not been selected yet. The cars painted but not lettered in 1999 will be lettered in 2000. As before, for most types of cars, we plan to use the 1926, 1934, and 1939 lettering schemes. Some cars will be lettered in each scheme since, for most of the historical period of interest, cars with all three paint schemes would have been seen on the railroad. The 1934 scheme is similar to the 1926 scheme but has a slightly different herald. The "flying Rio Grande" scheme was adopted in 1939. For some of the oldest cars, such as box car 4444, an older scheme, D&RG, not D&RGW, is appropriate. In general, the cars are lettered according to the photograph of the car in the Narrow Gauge Pictorial series. Occasionally an older photograph from another source will be used as the basis for the lettering scheme used.

Approval – Painting and lettering is regular maintenance.

5. Long Refrigerator Cars 157, 163, and 169

Goal – Return the cars to sound and useable, historically accurate condition.

Condition – Prior to 1996, these cars had not received attention for many years. Exhibits 1996-D, 1996-E, and 1996-F illustrate some of the problems with these cars, especially the sagging and decayed doors, deteriorating ice hatches, and rotten roof walks. In 1996, work was begun on car 157. The roof walks were replaced with new wood of similar dimension. The inner ice hatch doors were removed for rebuilding over the winter, and the outer ice hatch doors were temporarily secured over the ice hatches. Rotten fascia and siding on the left side of the car were replaced. The doors on the left side of the car were found to be too rotten to rebuild as shown in Exhibit 1997-A. New doors were built to the same design, complete with canvas seals. The left side door jam header was also found to be rotten and was replaced with new wood of identical dimension. All new wood was painted with primer. On the right side of the car, more serious problems were uncovered. In addition to a rotten door jam header, the car header was completely deteriorated over the doors and for some distance past them. A diagonal brace near the doors was rotten, and the outside main sill was badly deteriorated as shown in Exhibit 1997-B. In 1997 about 16 feet of header, 12 feet of sill, and the door jam header on the right side were replaced. Two uprights and three diagonal braces were replaced or repaired. Much of the siding on this side of the car was replaced, as was the fascia. New doors were built and installed on the right side, and new roof platforms were installed. In 1998 the restoration of 40-foot refrigerator car 157 was completed with the installation of new inner and outer roof ice hatch doors. The exterior was painted in 1997 and was lettered in 1998. In 1999 work started on the restoration of car 163. However, the team leader was unable to attend the work session due to a complication that occurred shortly before the work session and little progress was made.

Proposed Work for 2000 – This year the Friends proposes to continue the restoration of refrigerator car 163. The process will be similar to that used on car 157. It is evident that several of the doors are sagging severely and need to be replaced or rebuilt.

Approval – Approval for the restoration of 157 was granted in 1996 and 1997. The restoration of car 163 was approved in 1999.

6. Inspection Car MW02

Goal – Return the car to sound and useable, historically accurate condition.

Condition – The Friends began their restoration of this inspection vehicle in 1996. A builder's plate was found indicating that the car was built by Fairmont (Class A6Z36, Serial Number 146516). Fairmont was the largest supplier of "speeders", small track maintenance motor cars, for many years. The car is powered by a Ford flathead V-8 engine, a type of engine built roughly from 1932 to 1950. Exhibits 1996-G and 1996-H illustrate the initial condition of MW02. The progress made in 1996 and 1997 is summarized in the Proposed Projects for 1998. In 1998 the body work was finished and the vehicle is now fully primed. The doors were rehung. The seats that needed to be reupholstered were removed for this work. The old flooring was removed in preparation for the installation of new vinyl. In 1999 the rusted metal window trim was replaced with newly fabricated metal of the same dimensions and new vinyl flooring was installed. New wooden panel for the insides of the doors were made, installed and painted. The wooden panel on the ceiling was sanded and varnished.

Proposed Work for 2000 – In 2000 the newly reupholstered seats will be installed and the wooden frames around the insides of the windows will be reinstalled. Finally, the exterior will receive another coat of primer and then a finish coat. The stencils on the exterior were copied before the car was sanded, and will be reapplied. This should complete our restoration of MW02.

Approval – Approval for the basic engine and mechanical work was given in 1996. Approval for the restoration of the body was granted in 1997.

7. Caboose 05635

Goal – Make this car resemble a historic caboose.

Discussion – Car 5635 was built by the D&RG RR in 1904 or 1905 as a stock car and was rebuilt in 1926. In 1976 the Operator converted the car to a caboose for charter use. In doing so, siding was placed only on the inside of the frame, giving the car a very peculiar appearance.

Condition – This car is in generally good condition.

Proposed Work for 2000 – The Friends proposes to place exterior siding on this car so that it will at least resemble a historic long caboose.

Approval – The Friends consider that the extensive modifications made to this car in 1976 remove it from the historic car fleet. There are nine other, unmodified stock cars on the property. This work is proposed solely to improve the appearance of this car.

8. Water Service Car 04904

Goal – To restore this car to sound condition and make it weather tight.

Discussion – This car is one of a number of wood frame box cars that were converted to company service early in this century. Car 04904 is labeled “Water Service” and was used to carry the specialized tools and parts needed to keep the water tanks and their supply pipes operating. It would have been moved from water tank to water tank along the railroad, probably with a bunk car, and the plumbers and carpenters would have lived at each tank until the needed repairs were made.

The 900 box cars in the 4100 - 4999 series are believed to have been built in the 1880s, making them among the oldest cars on the railroad. These cars were built with a “continuous drawbar”. This is a full-length iron rod connecting the two couplers. It “was a patented device of the 1880s designed to relieve the wooden frame and car body of the strain of the weight of the train by transmitting the force along the iron bar from one coupling to another” (Historic Preservation Study, pp. 70-71). Whether any of the seven surviving cars from this series still have this feature is unknown. The use of the 4100 - 4999 box cars in revenue service is believed to have declined rapidly after the larger and sturdier box cars in the 3000 - 3749 series arrived in 1903.

Seven box cars from the 4100 - 4999 series are extant on the C&TS RR. Three of these cars are basically unmodified box cars: 04426 (Cable Car), 4444, and 04549 (Tool Car). Car 4444 was in company service as the “Block Car” 04444 for many years, but has been painted as a regular box car with its original number. Car 04904, (Water Service), has had two windows installed in one side, one window in the other side, and a door in one end. It retains the box car sliding doors on the sides, however. The other three cars, 04407, 04258, and 04982, have been modified into bunk cars for section and maintenance of way crews. These cars have two windows on each side and the sliding doors have been replaced with hinged doors. Car 04258 has a door in one end as well.

Condition – Until 1999, cars 04426, 04549, and 04904 had been located on a piece of bad track for many years and had received no maintenance or paint in decades. Exhibits 1999-A, B, and C showed the appearance of these cars in 1993. In 1999 the track under these cars was repaired enough to remove these cars from this track. Cable car 04426 proved to require the least work. In 1999 the split and broken coupler buffer blocks were replaced with new oak blocks. The roof walks and platforms were removed and new saddles, walks, and platforms were fabricated and installed.

A few pieces of broken or split siding were replaced. The doors were repaired. And the car was scraped and painted. Tool car 04549 required slightly more work. The broken coupler buffer blocks were replaced with new oak blocks. The roof walks and platforms were removed and new saddles, walks, and platforms were made and installed. About one third of the vertical tongue and groove siding was found to be so broken, split, or rotten that it had to be replaced. The two end doors and one side door could be repaired, but one side door had to be replaced. And the car was scraped and painted. The work bench and storage bins found in the car were retained. The Commission and the Operator gave permission for this car to be used by the Friends for the storage of tools and materials, so some additional storage bins were placed in the car. Only the coupler buffer blocks were replaced on Water Service car 04904 in 1999. This car needs truck and brake work, a new roof, and repairs to, or replacement of, the doors and windows. Also, a B end side corner angle is rusted out.

Proposed Work for 2000 – In 2000 we propose to continue the rehabilitation of 04904 by installing a new roof, roof walk, and roof platforms. The roof will be composition roll roofing similar in construction and color to the decayed roofing currently on the car. Some of the roof supports (purlins) appear rotten and may have to be replaced. Windows and doors will be repaired if possible, and rebuilt with new material if they cannot be repaired. As much sound old wood will be retained as possible. A replacement corner angle will be sought in the railroad scrap parts collection. If no angle can be found, a new angle will be fabricated.

Approval – The restoration of outfit box cars 04426, 04549, and 04904 was approved in 1999.

9. Flat Car 6214

Goal – Restore steel-and-wood-frame flat car 6214.

Discussion – The history of flat cars 6200, 6205, and 6214 was presented in the Proposed Projects for 1998 and all of this material will not be repeated here. The 17 surviving wood-frame flat cars from 6200-6219 series were all given new, mostly steel frames in 1937. The body bolsters of car 6200 have “D&RG”, not “D&RGW”, molded into them; since the D&RG RR became the D&RGW RR in 1921, this would seem to indicate that the steel frames for these cars were fabricated in 1937 using structural parts from old standard gauge cars. Car 6205 is currently numbered 301 and is serving as an observation car after structural repairs and general refurbishing by the Operator some years ago. Car 6200 was completely rebuilt with all new wood at with the Western Museum of Mining and Industry (WMMI) in Colorado Springs between November 1997 and August 1998.

Condition – Flat car 6214 has both steel and wood in the frame, but the basic load-bearing structure is steel. The end sills are wood, but the coupler is mounted directly to the steel center sill. The wooden longitudinal sills appear to be there primarily so that there will be something to which the floor boards can be nailed. When work started on this car in 1999, one wooden end sill was so badly decayed that the brake wheel had fallen off and it appeared that over 50% of the original wood was completely missing. The wooden center sills and side sills were largely damp sawdust. No structurally sound wood was found when the car was disassembled. After the materials had been ordered, the Operator decided that all sill splices would have to be made between the needle beams and the bolster cross members (this is the AAR interchange specification; this splice restriction was not always adhered to by the D&RGW RR). The beams had not been ordered with that restriction in mind, and new beams had to be ordered so progress in 1999 was less than anticipated. Nonetheless, the wooden center sills, intermediate sills, and end sills were installed in 1999.

Proposed Work for 2000 – The Friends propose to complete the restoration car 6214 in 2000. All the wood in this car will have been replaced with wood of similar type and dimension. The remaining work is primarily installing the side sills and the deck. Components such as the brake wheels that are

attached to end sills will be re-installed. Mechanical work on the trucks and brakes may not be completed until 2001.

Approval – The rebuilding of flat cars 6200 and 6214 was approved in 1998.

10. Rail and Tie Car 06051

Goal – Return this car to sound and useable, historically accurate condition.

Discussion – The Historical Preservation Study (p. 71) states that flat cars 06008, 06051, 06063, and 06092 were built in 1887 and were converted to company service well before 1923. They have wooden frames and are among the oldest cars on the C&TS RR to survive in relatively unmodified condition. Cars 06008 and 06063 are the idler flats for pile driver OB and derrick OP, respectively – these two cars remain basic flat cars. Car 06063 was extensively repaired in 1989 when OP was overhauled. Car 06008 was completely rebuilt at WMMI in Colorado Springs between the summer of 1998 and the summer of 1999. Car 06092 is known as the wheel and tie car; it is a wood-frame flat car with a wooden bin on one end to hold ties and rails fixed to the deck on the other end to allow trucks or individual wheelsets (an axle with wheels on each end) to be carried (see Exhibit 1997-L). The wooden bin is held in place by vertical members inserted into the stake pockets on each side of the car. In 1998 the tie bin, the rails attached to the deck, and the deck were removed from 06092. Both center sills and both intermediate sills were found to have rotten sections. A 16-ft piece of each center sill was cut out and replaced. A 2x6 sister was placed on each side of each splice. A 16-ft piece of one intermediate sill and an 8-ft piece of the other intermediate sill were cut out and replaced. A 2x6 sister was placed on each side of each of these splices also. All the brake rigging that had to be removed from these sills was replaced. Two new bulkheads were made up. In 1999 new end sills were installed on both ends of 06092. At the A end the center and intermediate sill sections were replaced to the new sections that had been installed in 1998. At the B end, the center and intermediate sill sections were in good shape and were retained. New 30-foot beams were installed for the side sills. The end sill replacements require removing the coupler and draft gear and then re-installing them. Then the deck was installed. No deck boards were found to be sound. Finally, the bulkheads were rebuilt and placed on the car. One board in one bulkhead was found to be in good condition and was retained. The boards making up the tie rack were in good condition and were not replaced.

Condition – Car 06051 is known as the rail and tie car. It has a full-length bin about a foot above the flat car deck (See Exhibit 2000-A). It looks like a half-height gondola body has been suspended above the flat car deck. This car was used in taking materials out to repair bad track. Presumably rails were carried on the flat car deck and ties and other materials (e.g., spikes, joint bars, tie plates, tools) in the bin above. Some frame members are in bad condition.

Proposed Work for 2000 – We propose to rebuilt 06051 much as we rebuilt 06092. The car will be essentially dismantled and all rotten or broken wood will be replaced with new wood of the same type and dimension.

Approval – This project requires approval.

11. Pile Driver OB

Goal – To restore this historic piece of work equipment to functional condition.

Condition – The Friends' Proposed Projects for 1999 contained a detailed discussion of the history and condition of Pile Driver OB; this information will not be repeated here. In 1999 the pile driver itself was jacked up off the flat car and the two pieces were transported separately to WMMI in Colorado Springs. Dismantling of the pile driver commenced. All the heavy timbers needed were ordered and delivered so that they would be dry when needed. The wooden deck on the flat car has been replaced.

Proposed Work for 2000 – In 2000 the complete restoration of the pile driver will continue. All wood that is broken or rotten will be replaced with new wood of similar type and size. The frame is the basic structure of the pile driver itself, and the frame is cracked in at least two places. Thus, the pile driver will have to be largely disassembled to replace the large cracked side sills of the frame. Any good wood in the frame and tower will be reused. The broken teeth on the ring gear segments are unlikely to be able to be repaired by welding. Having new gear segment cast will be very expensive. We have not decided whether to have new segments cast or retain the old segments with their broken teeth. This project is expected to take several years.

Approval – This project was approved in 1999.

12. Flangers

Goal – To restore these historic pieces of work equipment to functional condition.

Discussion – The flangers used on the D&RG/D&RGW narrow gauge lines were of an indigenous design, having been designed by a D&RG foreman in Leadville and patented by the D&RG in 1885 (Narrow Gauge Pictorial, Vol. VII, J. B. Day, 1989, p. 19). The railroad evidently found the flangers very useful because they eventually built 11 of them (OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, and OT). Running one or two engines up the line with a flanger, with a plow on the lead engine, was evidently sufficient to keep the lines open much of the time. Most of the flangers were rebuilt twice. Flangers OC through OL were all rebuilt with wood frames in 1913. All eleven flangers were rebuilt with steel frames between 1929 and 1943. Flanger OT was apparently built by the D&RG for the Crystal River Railroad and purchased by the D&RG in 1920. Of the eleven flangers, only three were scrapped. The others ended up on tourist railroads or in museums or city parks. Narrow Gauge Pictorial, Vol. VII, has pictures and details about all eleven flangers.

Flangers OF, OJ, OK, and OL came to the C&TS RR, but OF was sold to the Durango & Silverton in 1981. OF and OL were the only two flangers with hinged blades or double wings. These allowed them to clear the snow much further from the track than the other flangers.

Condition – The basic frames of the flangers are steel and need only paint. However, there is a wood frame and a wood deck, and some of the operating mechanisms and appliances are attached to this frame and deck. This wood is now rotten since it has been sitting out in the weather for over 50 years. During the winter of 1998-1999 the Operator has had some of the wood on OL replaced so it would be sound enough to be used. In 1999 the Friends started to rebuild Flanger OJ. The wooden frame and deck above the steel frame encloses a large amount of steel ballast. Most of this ballast consisted of about 100 steel plates measuring 2.5 x 10 x 17 inches; each plate weighs about 120 pounds. All the wood in OJ was found to be too rotten to retain. The side pieces and intermediate cross pieces were found to be fir and new fir has been obtained and cut to length. The ends of the wooden frame were found to be oak, and replacement oak pieces have been ordered. The brake system and airlifting system were overhauled, but require some special hardware which was not immediately available to complete.

Proposed Work for 2000 – We plan to complete the restoration of OJ in 2000. The wooden frame that rests on top of the steel frame will be fabricated and installed. The ballast of steel plates and scrap metal will be replaced inside the frame and then the deck replaced on the frame. Finally, the appli-

ances and hardware on the frame will be reinstalled. The overhaul of the air system will be completed. Finally, OJ will be painted maintenance-of-way gray with black lettering, as it was before. We hope to start work on OK this year also. We expect to find little if any wood that can be retained in OK, so the rebuilding will be similar to that for OJ. OK is now painted red with white lettering and we will repaint OK this way when the carpentry is complete.

Approval – This project was approved in 1999.

13. Flat Car 6708

Goal – Rebuild this wood-frame flat car from the frame up, so that it will last for some decades.

Discussion – The nature and condition of the eighteen flat cars on the C&TS RR (not including the four company service cars in the 06000 series) were discussed in some detail in the Proposed Projects for 1998. This material will not be repeated here. Stock car 5533 was converted to idler flat 6708 in 1955. Rails were fastened under the side sills to compensate for the strength lost when the truss frame of the stock car was removed. Idler flats were used between gondolas carrying oil field pipe to Farmington because the pipe sections, at 50 feet, were longer than any narrow gauge gondolas available.

Condition – The wooden frame of 6708 had been exposed to rain and snow for more than 40 years, and additional deterioration took place while it was stock car 5533. Exhibit 1997-O illustrates the condition of 6708 in 1993 and Exhibit 1998-B shows the condition of the frame of 6708 in 1997 when it was moved to Antonito to undergo restoration. Some of the frame members were so badly decayed that the wood could be scooped out by hand. All the wood in the car was found to be so rotten it will have to be replaced. Ample evidence of 6708's stock car origin was found when the car was disassembled: e.g., black paint chips, holes where the door guides were attached, and holes where the side truss rods were attached. In the process of converting the stock car to a flat car, the ends of the needle beams were sawed off to allow 30-foot sections of rail to be clamped under the side sills. Thus, the entire side sill is supported by the body bolsters alone as the needle beams no longer reach to the side sills. In 1998 the car was completely disassembled and the new wood for the frame cut to size. The new wood is the same kind as in the disassembled frame: oak for the end sills and the outer sections of the center sills, and fir for the outer sills and intermediate sills and the center sections of the center sills. The splices of the center sills will be reinforced with 2-inch-thick pieces of oak as before. In 1999 the frame of the 6708 was partially reassembled. Three of the four truss rods were reinstalled, but the turnbuckle is frozen fast on the fourth truss rod. No amount of heating, soaking with penetrating oil, and force with large wrenches and pry bars has succeeded in breaking loose the threads on this turnbuckle. If the turnbuckle cannot be freed this year, a 3-inch insert will have to be welded into the truss rod to make it long enough to be reinstalled.

Proposed Work for 2000 – Unfortunately, after one end sill was installed it was determined that the sill was not large enough, so it will have to be removed and replaced with a sill of greater dimensions. Also, the needle beams were positioned placed on drawings that have turned out to be incorrect. Thus, the needle beams will have to be removed and repositioned. The frame will be partially disassembled and re-assembled with a correct end sill and the needle beams in the correct position. Then the frame will then be painted and all the metal parts (e.g., brake rigging) will be reattached. The steel rails will be reinstalled under the outer sills. All steel parts will be replaced in their original positions. The major parts can all be reused, but the nuts and bolts were too rusty to be reused and will be replaced with new hardware of the same dimension. Finally, if time permits, a new deck will be installed.

Approval – This project was approved in 1997.

14. Pipe Gondola 9558

Goal – Rebuild one wood-frame pipe gondola from the frame up, so that it will survive for decades.

Discussion – The nature and condition of the 26 gondolas on the C&TS RR were discussed in some detail in the Proposed Projects for 1998. They all have wood frames and were built prior to 1904 (Historical Preservation Study, p.74). Gondolas are primarily flat cars with sides and ends placed on top of the deck and held in place by vertical members inserted into the stake pockets on the sides of the cars. Car 9558 is a pipe gondola; it was made from a regular gondola in the 1950s by removing the ends so that it could hold steel pipe longer than the length of the car.

Condition – The frame of 9558 has been exposed to the weather for over 90 years; it has sills that are in very bad condition. In addition, 9558 is one of the few car on the C&TS that retains the original wooden coupler pockets. Most of the older cars had these original features replaced with steel coupler pockets at various times when they received major repairs. Exhibit 1998-C shows the general condition of car 9558.

Proposed Work for 2000 – We propose to rebuild 9558 from the frame up. The goal is to make one structurally sound wood-frame pipe gondola that will last for some decades. We will reuse whatever wooden structural members are salvageable, but it is not clear that any main structural members will be in good enough condition to be reused. Thus, the frame of 9558 may consist of entirely new wood at the end of this project. The new wood will be as close to the frame members removed in type and dimension as it is practical to obtain. The sides of the car are less affected by standing water than the frame and floor, and it may be possible to retain much of the wood in the sides. No work on 9558 could be accomplished in 1998 or 1999. Given that other projects have been delayed, we will probably not be able to start on gondola 9558 until 2001 or 2002.

Approval – This project was approved in 1998.

15. Short Caboose 0579

Goal – A complete restoration of the caboose, at the end of which it will be in condition to serve on the railroad and will be historically accurate insofar as possible.

Condition – The history of this caboose and its condition in 1996 was given in the Proposed Projects for 1998 and will not be repeated. In 1997 the car was moved from a location near the entrance to the Antonito yard to the end of the repair track where it is now resting on two bridge timbers. The floor was removed to allow a complete assessment of the condition of the frame.

In 1998 the center sills were reinforced on both sides with 0.375" steel plate. This was recommended by the Operator since the car will be run in trains with the steel frame passenger cars. Caboose 0503 recently received this treatment by the Operator to increase its structural strength. The intermediate and side sills are to receive this treatment at each end also, but only one end of the intermediate sills could be completed in 1998 although the pieces were cut for the side sills. As the tenons on the longitudinal sills have been sawn off, bolting the end sills to these steel plates seems to be the only way to regain the structural strength of the car. This steel reinforcement of the frame will be up underneath the car and invisible to the public eye. A wooden splice was fitted to replace a missing part of one intermediate sill.

In 1999 the installation of the steel frame splices was completed and the removed and damaged sections of the intermediate sills were replaced with new wooden timbers. Needle beams and queen posts were fabricated and installed, but the installation was not made permanent as the needle beam will probably need holes cut in it when the brake system is installed. The bolsters were repaired and reassembled. The exposed sills were painted.

Proposed Work for 2000 – This year we propose to continue work on restoring the frame of the car, and if possible, start rebuilding the roof. The frame work will concentrate on installing the end sills, coupler pockets, and truss rods.

Approval – This project was approved in 1997.

16. Miscellaneous Repairs to Freight Cars in Antonito

Goal – Return the cars to sound and useable, historically accurate condition.

Condition – A number of repairs in previous years left bits of trim and small items unfinished. Otherwise, these cars are in good condition.

Proposed Work for 2000 – The Friends proposes to finish up a number of small items on these cars. For example, several of the cars need roof walks. The doors on some of the cars do not close completely, and work on the rollers and latches is required.

Approval – This project was approved in 1998.

17. Asbestos Removal from Locomotives in Chama

Goal – Remove the asbestos from around the boilers to reduce the rate of deterioration.

Condition – Locomotives 483 and 492 have been sitting unused in the Chama yard for over 20 years. The old asbestos lagging of the boilers retains water and increases the rate at which the outsides of the boilers are rusting. Asbestos presents a respiratory hazard if small particles of it are inhaled. In its present location and condition, it presents no hazard.

Proposed Work for 2000 – The Friends plans to organize an effort to remove the asbestos from locomotives 483 and 492 in 2000 or 2001, depending on the funding received and the permits obtained. Preparation, such as erecting the temporary plastic building around the locomotive, and clean-up work that does not involve actual contact with asbestos will be done by Friends volunteers. The actual asbestos removal will be done only by workers certified for this type of work. The required permits from the NM Air Quality Bureau will be obtained and monitoring will be conducting as required. The asbestos will be removed from the site by a waste company licensed to dispose of asbestos. The asbestos-free boiler will then be painted with a rust preventive primer. After each piece of the boiler jacket has been cleaned of asbestos, it will be replaced on the boiler if sound, or used as a template to make a new piece if rusted badly.

Approval – This project was approved in 1999. Asbestos removal will not change the appearance of the locomotives and will prolong their availability for restoration to service.

18. Railings and Telltales at Rock Tunnel

Goal – Restore this historic structure to its original appearance.

Discussion – Before the advent of air brakes, the brakemen walked the tops of the cars to set the brakes because the mechanical brakes of each car had to be set individually. To keep the brakemen from getting swept off the tops of the cars by bridges and tunnels, every place where the vertical clearance was impaired had a warning device on either side of it. This device consisted of a

framework over the track that would be well above the brakeman's head and ropes hanging down that would contact the brakeman if he was standing upright. Upon being hit by these ropes, the brakeman knew he had only a few seconds to lie flat on the top of the car. These warning structures, and the ropes hanging from them, are known as telltales. On the C&TS RR, only Rock Tunnel and Mud Tunnel have low enough clearances to require telltales. For unknown reasons, there is no telltale at Mud Tunnel. Perhaps it was removed sometime after air brakes became standard on the D&RGW narrow gauge system. The telltale structures at rock tunnel are made from steel pipe.

Condition – The telltales on both sides of Rock Tunnel are in very bad condition; the pipes are very rusty and only a few hanging ropes or strings remain. Also, the railings on the east side of the track just east of the east portal of the tunnel are in very bad shape.

Proposed Work for 2000 – We plan to dismantle the telltales, salvage what we can from the existing structures, install new pipe where required, replace the ropes, and then re-erect the telltales. The Friends will also repair the railings as needed.

Approval – This project requires approval.

19. Chama Stock Pens

Goal – Return the pens to sound and useable condition.

Condition – The Friends have worked on the stock pens for since 1993, but much remains to be done. Some parts of the loading ramps and gates at the north end of the pens were refurbished during 1993, 1994, and 1995, but most of the pens still have many rotten boards and posts. Exhibits 1994-A and 1994-B show the general condition of the pens before restoration commenced. Exhibits 1995-A and 1995-B show the work done on the north chute and walkway in 1994. Exhibit 1996-A illustrates the new floor and chute sides installed on the middle chute in 1995. In 1996 work continued on the north and middle chutes, which are combination sheep and cattle chutes. The north and middle chutes are essentially completely restored now, and the two holding pens leading to the north chutes have been restored as well. The two holding pens leading to the middle chute are useable, but not completely restored. Work began on the south chute in 1996; this chute is configured for cattle only. A short stock train was spotted at the pens in 1996 and the north and middle chutes, gates, and ramps lined up, both vertically and horizontally, so that sheep could have been loaded onto the cars from both levels at the two chutes had any been available. Due to the press of other projects in 1997, only the walkways along the south (cattle) chute were rebuilt last summer. In 1998 the sliding side fence on the north chute, which had been damaged, was repaired. An inside gate on the north chute was rebuilt and hung. A large gate was built. In 1999 the truck loading chute on the south side of the pens was rebuilt.

Proposed Work for 2000 – The focus in 2000 will be on finishing up some railings and miscellaneous items on the middle chutes, hanging the large gate built in 1998, completing the south chute, and starting on the holding pens behind the chute holding pens. Posts that are rotten at ground level or below will be replaced with new posts, or sound used posts, of the same size. All useable boards will be renailed in place, and rotten boards will be replaced with new rough-sawn lumber of the original dimensions. This project will not be completed for some years as the pens are a large complex.

Approval – This project was approved in 1992.

20. Coal Tipple

Goal – To restore the coal tipple to historic and operating condition. By painting and color-coding to match interpretative signs, we plan to create a display of how this important element of a railroad yard operated.

Condition – The design, use, and condition of the coal tipple was described in detail in the Proposed Projects for 1998 and will not be repeated here. The 5° lean of the coal tipple was found to be due to a crushed and tipped foundation sill. In 1998, the Operator had a contractor stabilize the building so that it would not lean further. Also in 1998 the Friends cleaned out the interior and installed four fluorescent shop lights so that there would be sufficient light inside to work. A concrete floor was found under many inches of dirt. The diesel hoist engine was found to have its piston stuck in the cylinder, possibly due to the collection of condensate in the air starting system over the years. Kerosene was poured into the cylinder to see if a year's soaking would free the piston. Since the hoist is now operated by an electric motor, repair of the diesel engine is not necessary to get the tipple in operation. The electric motor was cleaned and lubricated. Both sumps were pumped dry, revealing a lot of rust on the bunker doors and debris in the bottom of the sump. There is speculation that the sumps had drain lines which have become clogged though years of neglect. The hoist house windows and doors were repaired and the hoist house was painted.

In 1999 the Friends cleaned up the interior of the hoist house. The head of the diesel engine was removed and removed rust, corrosion, and carbon – allowing the engine to turn over freely. However, it would not run, leading to the conclusion that the injector and the air starting system will need to be overhauled. Fairbanks-Morse has been contacted, and they report that they ceased supporting this engine, Type Y, in the 1950s. When three-phase electric power was restored to the hoist house and some minor adjustments were made to the machinery, the hoist became operational again, powered by the electric motor. A demonstration was held in which coal was loaded into the south bin of the tipple using the south skip (bucket). Some coal from the south bin was then loaded into the tender of locomotive 463 to complete the demonstration.

Proposed Work for 2000 – Cleanup and painting will continue in 2000. If possible, an attempt to re-open the original sump drainage system will be made. After dewatering the sumps, the bunker doors, and skips will be painted. Work to restore the diesel engine to operation will continue, with emphasis on the injector and starting system. The hoist machinery will be cleaned and lubricated. The exterior features of the tipple will be repaired as necessary. These include the loading chutes and the mechanism that is used to raise and lower the chutes. An attempt will be made to free the north bunker door. Interpretative signs have been designed and will be installed.

Approval – This project was approved in 1998.

21. Cumbres Section House – Interior Rehabilitation

Goal – Return the building to sound condition, with the exterior as historically accurate as modern safety codes allow. The interior will be restored and upgraded to allow the building to be inhabited during the summer months.

Condition – The restoration of the roof of this building was described in the Proposed Projects for 1997 and 1998. In 1998 work started on restoration of the interior. All the drywall (gypsum board) covering the historic paneling and the damaged ceiling in one room was removed. Insulation was installed under the entire building. The attached coal bunker was converted into a utility room, which required substantial reconstruction of a damaged foundation. The wall between two of the front rooms was found to be constructed of 1x10 planks separated by furring strips. This substandard wall was replaced with a wall framed with 2x4s. Removal of this plank wall showed that the foundation along the north side of the building had settled at sometime in the past and the floor in the center room on the north (track) side had been re-leveled by placing a new floor on top of the old one. This floor was 3 to 4 inches higher on the north wall than on the south wall, and required

shortening the door to the outside. Since the Railroad Commission recently had the foundation repaired and the building re-leveled, the second layer of flooring in this room was removed. The damaged ceiling in one room was removed. A bathroom that meets handicapped standards was roughed in. Four of the historic windows were restored.

In 1999 the Friends constructed and installed new shutters on all windows. Window opening #9 was rebuilt and new sashes were made and installed. New window sills were installed in windows #10, #11, #12, and #13, and two new window sashes were constructed and installed in window #11. New window sashes were fabricated for windows #7 and #8 and new sashes were installed in window #6 to replace non-historical sashes. The ceiling was replaced in room #7. A new hardwood floor was installed in room #3. The drywall installation was completed except for a portion in room #7 which cannot be finished until the plumbing is connected in the bathroom wall. This drywall was taped and finished. A new hatch was constructed in room #7 for entry to the crawl space under the building. The bathtub, which had been installed, was removed to permit the removal of the subflooring and then re-installed. The enlargement of doorways A, B, C, D, and E to 36 inches was started. And flooring was replaced at the base of the new wall between rooms #4 and #6. A new rear doorway and door were installed, but this door is a metal-clad six-panel door instead of the four-panel door called for in the approved plans. If a historically accurate four-panel door can not be obtained, then consideration should be given to installing a "plank" door since that in the type of door that was removed in this restoration.

Proposed Work for 2000 – In 2000 work will continue on the interior restoration according to the plan submitted by the Commission in 1996.

Approval – Funds to purchase the materials for this work have been provided by the Colorado Historical Society. The Commission submitted considerable material concerning this project to the CO and NM SHPOs in 1996 and the work was approved then.

22. Cumbres Section House – Exterior Painting

Goal – Make the appearance of this historic structure more acceptable.

Condition – The exterior is basically sound. A few minor repairs may be needed in the course of painting.

Proposed Work for 1999 – We plan to paint the building in the yellow and brown colors suggested for the Chama buildings in *Colors Along the Line*.

Approval – Painting is regular maintenance.

23. Osier Section House and Station

Goal – Return the buildings to sound condition, with the exteriors as historically accurate as modern safety codes allow. The interior will be restored and upgraded to allow the building to be inhabited during the summer months.

Condition – After the states took over the Antonito – Chama section of the D&RGW narrow gauge in 1968-1970, the section house at Osier was converted for use as a food service facility. Several modifications to the building were made at that time, the most noticeable of which from outside is the large extended porch on the front (east) of the building. Shortly after the section house was converted into a food service facility, the station was converted into a rest room facility. When the new dining facility was completed in 1989, all use of the section house and station ceased.

The section house had a new sawn cedar shingle roof installed during 1994 and 1995 on the original roof; the roof on the added porch was not replaced as it was expected that it would be removed in a few years. In 1996 the Friends installed new doors and windows of the original size and type in their historical locations. Some siding and trim work on the exterior was also done at this time.

In 1997 the Friends removed the extended front porch built around 1970 and the large concrete slab under it. A replica of the original front porch was built in its place. Two sections of the foundation were repaired and a 6' x 8' slab was poured for the generator building. A replica of the original rear porch was built, and metal rodent barriers were installed as needed. Modification of the foundation boards, drip strips, and siding that were required for the porch removal and construction was completed. The building was given a coat of primer paint.

The station had a new sawn cedar shingle roof installed in 1995. In 1997 new windows and doors acquired in 1996 were installed in the original locations and a non-original door opening was closed off. The wall board, walls, and other features added to the interior about 1970 to convert the building into a toilet facility were removed.

In 1998 a roof leak was fixed, the floors were insulated, some of the walls were insulated, and the new kitchens and baths were roughed in. The oak flooring and ceiling in the B unit were installed, and a generator shed was built nearby.

In 1999 the front porch roof was rebuilt with the correct pitch and the soffits, ceiling, and shingles applied. The bathrooms were insulated and the drywall was installed. All roofs and wall, except the walls facing the south and east were painted. The exterior of the building will be painted the red-dish brown (Moor-O-Matic II Universal Color System HC-71) that appears to be the only color of paint ever applied at this site. The generator building was completed. A contractor jacked up the station and installed rough wiring before the first work session. The Friends installed two metal doors, resquared the windows, installed a center support beam, installed the floor joists, installed the subfloor and finish hardwood floor. The floor and all first floor walls were insulated, and the waferboard wall covering was installed on the first floor. And the station was painted.

Proposed Work for 2000 – In 2000 we plan to finish the kitchens and baths and all the interior walls, ceilings and floors. Also, we plan to build handicap ramps on the outside. We will also attempt to install all the interior doors, trim, and cabinets, and paint the interior. Interior restoration of the station will continue.

Approval – Funds to purchase the materials for this work have been provided by the Colorado Historical Society. The Commission has submitted considerable material concerning this project to the CO and NM SHPOs in 1996 and earlier years and the project was approved then.

24. Cut Trees along the Right of Way

Goal – Remove trees that are growing along the right of way near the tracks. The trees present a safety hazard and block views to the south in this section.

Condition – In the 30 years since the states acquired the C&TS RR, trees have grown up along the track within the railroad's right of way. Some of the trees are growing in the ballast and are destabilizing the roadbed. Others are growing very close to the track and their branches can strike unwary passengers who lean out of the windows (in spite of precautions not to do this). In addition, the trees on the downhill side of the tracks have grown so profusely that between Sublette and Rock Tunnel only occasional views of the Los Pinos valley and the mountains and plains beyond are now possible. In 1998 we began cutting trees that posed both a safety hazard and obstructed the views. Cutting was done in the narrows east of Chama, just east of Sublette, and between Sublette and Big Horn. In 1999 cutting continued in the narrows east of Chama, just east of Lobato trestle, both east and west of Cresco tank, and from just west of Sublette to east of Big Horn section house site. The track west of Cresco tank and east of Big Horn Wye should not need tree work for many years. In other areas, much remains to be done.

Proposed Work for 2000 – We plan to continue tree cutting along the right of way in 2000.

Approval – This project was approved in 1998.

25. Sublette Section House and Bunk Houses Doors and Windows

Goal – Return the buildings to sound condition, with the exteriors historically accurate.

Condition – Occupancy of the section house and the bunk houses at Sublette ended in 1968 or 1969 when the D&RGW RR ceased to operate the line. In the ensuing years vandals broke the glass in the windows, so rough plywood was nailed over the windows to keep out rain, snow, and people. The doors have been damaged and one is not historically correct. Exhibit 1996-N shows the appearance of a typical window in 1993 when the section house was being painted with primer. This building had a new asphalt shingle roof installed in 1991 and in 1993 it was given a coat of white primer paint. In 1996 it was painted with the appropriate white with lime green trim proposed for this site in *Colors along the Line (op. cit.)*.

In 1997 the weathered sheets of plywood nailed over the section house windows were replaced with smooth-finish plywood painted black and fixed in place over the sashes in order to preserve the existing sashes and mullions for restoration in the future. To lend verisimilitude to these protective panels, *trompe l'oeil* techniques were used to suggest the mullions and interior scenes. The result is shown in Exhibit 1998-E.

All but one of the doors on the Sublette buildings appear to be in good enough condition that they can be reused if they are repaired, rehung, painted, and have new hardware installed. The current door to the log bunk house is a plywood panel. Because of uncertainty over whether a door similar to the ones installed in the Osier section house in 1996 was appropriate, the plywood sheet over the doorway to the log bunk house was not replaced in 1997. Exhibit 1998-F shows the north and south doors of the shingle bunk house at Sublette. Judging from their condition, these four-panel doors appear to be original. Exhibit 1998-G shows a similar door on the log bunkhouse at No Agua, NM more than 50 years ago.

Proposed Work for 2000 – The work planned for 1998 at Sublette could not be accomplished in either 1998 or 1999 and will be done in 2001 or a subsequent year. The same window treatment applied to the section house will be employed to upgrade the appearance and protection of the bunk house windows. The doorway currently covered plywood in the log bunk house will have a four-panel door installed; it will be similar to the ones shown in Exhibits 1998-F and 1998-G.

Approval – Approval for the window treatment on the section house was given in 1997. Approval for the new door was given in 1998.

26. Work Shelter in Antonito

Goal – Provide shelter for cars and workers at Antonito.

Discussion – The Antonito site is not historic to the railroad; it was purchased to provide depot facilities for the C&TS RR because the historic railroad area was retained by the D&RGW and is still in use. The site was a former sawmill and lumber yard, and the only building on the site that remains today is a concrete block building. All the other buildings have been erected since 1971.

Proposed Work for 2000 – The approximate dimensions of the proposed shelter are 50 by 100 feet. It will have a steel frame with a painted steel roof. Sides may be added later. A discussion arose between the Friends and the SHPOs as to the appropriate pitch of the roof. In view of the financial de-

mands placed upon the Friends by the termination of the Operator's lease in October 1999, it has been decided that we will not attempt to erect this shelter in 2000.

Approval – This project was the subject of separate submittal in 1999 and was not approved.

27. Paint Mileposts

Goal – Keep the mileposts and other signs painted in authentic colors and historically lettered.

Condition – Most of the mileposts and other signs have been painted recently by the Friends and are in good condition. In 1999 about 30 signs were painted, relettered, or touched up. These include mileposts, speed limit signs, whistle signs, and state line crossing signs. Two new mileposts were installed to replace rotten ones.

Proposed Work for 2000 – Paint those mileposts and other signs along the track which are most in need of paint. They will be painted in the traditional scheme: white with black numerals.

Approval – Painting and lettering is regular maintenance.

28. Repairs to Passenger Cars

Goal – Make minor repairs to the new passenger cars to enhance their appearance and function

Condition – By the end of the 1999 operating season it was apparent that the Operator had allowed the condition of the new passenger cars to deteriorate. In view of the difficulties faced by the new operator in starting the 2000 season, the Friends decided to assist the railroad by scheduling a work session in May to make minor repairs to the coaches before the start of operations.

Proposed Work for 2000 – The Friends plan to make minor repairs to the new passenger cars in both Chama and Antonito. The types of repairs envisaged are repairing torn upholstery, replacing broken windows, and fixing doors and windows so that they operate smoothly and easily.

Approval – The passenger cars are not historic; they have all been built on old standard gauge flat car frames in the last 25 years in the Antonito shop of the railroad.

exhibit captions

Exhibit 2000-A. Rail and Tie Car 06051.