

# Friends of the Cumbres & Toltec Scenic Railroad

## Proposed Projects for 1999

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### Exhibits

## 1. Introduction

The Friends of the C&TS RR plans to continue its historic preservation work in the summer of 1999 with four work sessions: June 14 through 18, June 21 through 25, August 16 through 20, and August 23 through 27. The Friends is recognized by the Cumbres & Toltec Scenic Railroad Commission as the official historic preservation and interpretation entity for the property. The following projects have been approved by the Board of Directors of the Friends, the Operator, and the Commission for 1999. The references to photographs in this and previous submittals are being simplified. Instead of Exhibit A of the Friends' Proposed Projects for 1995, the photograph will be referred to as Exhibit 1995-A. Similarly, the exhibits accompanying this submittal are 1999-A, 1999-B, etc.

## 2. Stock Cars 5549, 5553, 5600, 5633, 5674, & 5841

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

Condition – These six double-deck sheep cars were purchased by the Friends in 1992. The condition of the cars at that time and the work performed on them in 1997 and prior years has been summarized in the Friends' Proposed Projects for 1998 and will not be repeated here.

In 1998, the mechanical restoration continued under the supervision of the Chief Mechanical Officer of the railroad. 5600 and 5841 had axles with bad journals. These axles were removed and replaced with axles from other cars that have good journals. In addition, a loose side bearing housing on a truck on 5841 was repaired. Bad truck frames on 5549 were replaced. The 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. On 5549, one of the queen posts was awry crushing the shim block. The truss rod was loosened, the queen post removed, the bolts holding it straightened, and the assembly replaced. On 5674, a needle beam that had been pushed out of place was moved back to its correct position. A broken journal box on 5633 was replaced. The retainer on 5553 was replaced. The brakes were set and tested on all the cars except 5633.

The body restoration focused on 5633, which had a rotten end sill. This required loosening the main truss rods and removing some boards on the roof and some on the car body to obtain access to the body truss rods which pass through the end sill. The coupler pocket also had to be removed. The ends of both lower side sills and large portions of both upper side sills were badly decayed. No suitable lumber was available when this was discovered, so these sills were not replaced. (Note that replacing these sills essentially means dismantling the entire car.) Because the tenons on the lower side sills had essentially rotted away, gusseted steel angles made from 0.25" steel plate were used inside the frame to reinforce the frame and supply the lateral support that the missing tenons would normally supply. The sill deterioration discovered when replacing the end sill on 5633 indicates that these cars will have to have their major frame members replaced at some time in the future.

Proposed Work for 1999 – The mechanical restoration of the sheep cars is nearly complete. All that remains is to finish repacking the journals, shim the side bearings on 5633, and set and test the brakes on 5633. The roofs applied to these cars about 5 years ago have not weathered well and will be repaired or replaced.

Approval – The restoration of the wooden portions of these cars was approved in 1993 and 1994. Mechanical restoration was approved in 1997.

## 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 adjusted 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.

Proposed Work for 1999 – The Proposed Projects for 1994 contained a detailed proposal for restoration of the car which will not be repeated here. In 1999, we hope to install the brake system hardware, couplers, and draft gear. This may require fabrication of some metal parts if suitable parts cannot be found among the spare parts in the Chama yard. Steel weldments may be used in place of steel castings due to the much lower cost of weldments when only one or two pieces are required. The weldments will be part of the draft gear and will be out of sight unless one crawls under the car, or, in some cases, the draft gear is disassembled.

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.

Proposed Work for 1999 – The cars to be painted in 1999 have not been selected yet. The cars painted but not lettered in 1998 will be lettered in 1999. 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, appears to be appropriate.

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 – 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.

Proposed Work for 1999 – This year the Friends proposes to start the restoration of refrigerator car 163. The process will be similar to that used on car 157. It is already 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 requires approval.

## **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 rusted metal window trim has been duplicated. 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.

Proposed Work for 1999 – In 1999 the new vinyl flooring will be installed and the seats replaced. 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. In the interior, some wood panels must be replaced.

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. Cook Car 053**

Goal – Return the car to sound and useable, historically accurate condition as a cook car for use in snow plow service.

Discussion – As there are two other ex-RPOs on the property, and both retain more of the RPO interior than 053, we do not propose to restore car 053 to RPO form. (The other two ex-RPOs, X54 and

X65, were "long" (40-ft.) RPOs and were converted to company service relatively late.) There are six cars on the property that formerly were used in passenger trains and all six have been converted to company service. In addition to 053, X54, and X65, there are 0252, 0292, and 0452. We hope to restore both X54 and X65 as RPO cars eventually. We would like to restore 0252 and 0292 to chair car or parlor car configurations, and 0452 to its former condition as a business car. Were all these restorations to occur, then Car 053, if restored as a cook car, would be the only example on the C&TS RR of former passenger equipment converted by the railroad for maintenance of way use.

Condition – The history and condition of this car before restoration commenced was described in the previous Proposed Projects and will not be repeated. In 1998 the "A" end platform was rebuilt similarly to the "B" end platform, which was rebuilt in 1997. Most of the metal pieces were replaced in their original positions. However, the platform deck and steps have not been reinstalled. In 1998 the deteriorated siding was replaced. Removal of the siding exposed the truss frame of the car and it was discovered that the lower sill was cracked near the middle of the car on both sides. The siding and roof crew was not prepared to replace these sills and so the new siding was put on with screws (instead of nails as in the original) so that the new siding can be removed without damaging it when the time comes to replace the side sills. The car will not be roadworthy until these sills are replaced. The window sills were found to be rotten so they were replaced before the new siding was installed. The siding on the ends of the car is curved and replacing this part required a great deal of time. The tin roof was painted silver to match the original color. The roof walk and its supports were rotten and were replaced with new wood. New screens were fabricated to replace the decayed screens for the clerestory windows. The car cover (tarp) was replaced at the end of the 1998 season to protect the car over the winter.

Proposed Work for 1999 – In 1999 the platform deck and steps will be installed on both ends of the car. Also, restoration of the frame will begin. Some of the interior paneling and flooring may have to be removed in order to replace rotten sections of the frame members.

Approval – Approval to replace the end platforms and make minor roof repairs was granted in 1996. Approval for window frame repairs, other exterior repairs such as clerestory restoration, siding and fascia replacement, and repairs to the structural frame (as required) was given in 1997. This work will have no effect on the form to which the interior may be restored. A restoration plan for the interior of the car will be submitted when the exterior has been restored or the restoration of the exterior affects the form of the interior.

## 8. Outfit Cars 04426, 04549, and 04904

Goal – To restore these cars to sound condition and make them weather tight.

Discussion – These three cars are wood frame box cars that were converted to company service early in this century. Car 04426 is labeled “Cable Car”; it was apparently used to carry all the cables needed to rerail cars and locomotives following a wreck. Car 04549 is labeled “Tool Car” and was used to carry tools for general maintenance of the track, bridges, trestles, etc. 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 if not the oldest. 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 – Cars: 04426, 04549, and 04904 have been located on a piece of bad track for some years and have received no maintenance or paint recently. A brief assessment of the cars was made in August 1998. Exhibits 1999-A, B, and C show the appearance of these cars in 1993. Car 04426 needs to have the roof walk replaced. The wooden buffers are also in fair to poor condition. Car 04549 needs journal and brake work; some brasses are damaged and some brake parts are missing completely. Some siding has been damaged and the roof walk must be replaced. Both doors need major repairs or replacement. Car 04904 needs truck and brake work. The coupler pockets and wooden buffer blocks are in bad condition. Major roof, window, and door work is required, and the B end side corner angle is rusted out.

Proposed Work for 1999 – In 1999 we propose to start the rehabilitation of these cars by first addressing the problems that will lead to further deterioration, e.g., roofs, doors, windows and siding. Then the cars will be painted. Once the body is made structurally sound and watertight, restoration of the trucks and brakes will proceed. This work is expected to take more than one year.

Approval – This project requires approval.

## 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 will not be repeated here. 6205 is currently numbered 301 and is serving as an observation car after structural repairs and general refurbishing by the operator some years ago. 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. Although it had been proposed that this car would be converted to an observation car after its restoration as a flat car, the operator later indicated that no more observation cars were required and 6200 remains a flat car. It presumably looks very much like it did in 1937 after a complete rebuilding by the Denver & Rio Grande Railroad. The 17 surviving wood-frame flat cars from 6200-6219 series were all given new steel frames at this time.

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. The body bolsters of car 6200 show evidence that vertical members had been crudely cut off with a torch and have “D&RG”, not “D&RGW”, molded into them. As 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.

Condition –The wood end sill on 6214 is so badly decayed that the brake wheel has fallen off. All the wood in this car is rotten and structurally unsound: the deck, the end sills, and the longitudinal sills. The steel parts have some surficial rust but are basically sound.

Proposed Work for 1999 – The Friends propose to restore car 6214 as a flat car by replacing all the wood in this cars with wood of similar type and dimension. Oak for the end sills has been obtained and is drying. Thirty-four-foot beams for the longitudinal sills are not available at a reasonable price; we will use 18-foot beams and splice them. (This was commonly done by the railroad during this period.) The splices will be reinforced with 0.375-inch steel plate. The other alternative for these sills was to use factory-constructed (“glue-lam”) beams.

This work is being done as part of a cooperative program with WMMI where an enclosed work space is available. This program has been approved by the Railroad Commission. Because of the ongoing restoration of flat car 06008 and the proposed work on the pile driver frame for OB, work on 6214 may not start until 2000 or even 2001.

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

## 10. Wheel and Tie Car 06092

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 the pile driver OB and the derrick OP, respectively. These two cars remain basic flat cars. Car 06051 is known as the rail and tie car; Car 06092 is known as the wheel and tie car. These two cars have structures on top of the deck to make them more useful in maintenance of way and wreck service. These structures are held in place by vertical members inserted into the stake pockets on each side of the car. Car 06008 was taken to WMMI in Colorado Springs for a complete rebuilding in mid-1998. It was the subject of a special submittal to the Colorado and New Mexico SHPOs.

Condition – Car 06092 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). This car had little or no maintenance for decades and by 1997 the deck was in bad condition and at least one sill appeared to be broken. In 1998 the tie bin, the rails attached to the deck, and the deck were removed. 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.

Proposed Work for 1999 – We propose to repair the side sills and replace the end sills in 1999.

Approval – This project was approved in 1997.

## 11. Pile Driver OB

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

Discussion – Pile Driver OB was built in 1891 by the D&RG using hoist machinery purchased from Kendall and Roberts. The original cost was \$399 (Narrow Gauge Pictorial, Vol. VII, J. B. Day, 1989, pp. 8-18). Since it has no boiler, it is a relatively simple piece of machinery. It is pushed to the location where it is to be used by a locomotive which then supplies the steam required to run the two-cylinder steam engine which powers the hoist. A separate gear system turns a cog wheel which engages a ring gear underneath the pile driver to turn it around. Exhibit 1999-D shows OB in Chama in 1998. The photo sequence on pages 14 and 15 of the Narrow Gauge Pictorial, Vol. VII, shows the sequence of operations from arrival at the trestle and erection of the tower through the driving of the wooden piles into the steam bed. The piles were driven solely by hoisting a heavy weight to the top of the tower and dropping it onto the top of the piling. OB overturned near Antonito in 1920 and was subsequently rebuilt with a somewhat different house over the hoist machinery. Photos prior to 1920 show OB painted a dark color (presumably box car red) and photos after 1920 show it painted a light color (presumably maintenance-of-way gray).

Pile Driver OB consists of five basic parts: flat car, pile driver frame, tower, hoist machinery, and hoist house. Underneath it all is a mostly steel-frame flat car with a pivot point and a large ring gear mounted in the center. On top of this sits the pile driver itself. The pile driver frame is of wood and steel construction. On the back end of the frame sits the hoist machinery in a small wooden enclosure. The other end is tapered and supports the tower. The frame at this end overhangs the flat car by about 8 feet, so an idler flat car is always coupled next to the boom end of the pile driver except when it is working. The tower folds for movement and is erected into its vertical position at the work site. The tower is also of composite wood and steel construction.

Condition – The pile driver frame is badly cracked in the middle. The tower end of the pile driver frame is heavily reinforced with steel since it has to support the tower out over the end of the car and the tower is subject to all the strain and shock of repeatedly raising and dropping the weight. The pile driver frame under the hoist machinery is also reinforced with steel to support the machinery. Unfortunately the frame just at the front of the hoist house, which is right over the pivot point, is not reinforced with steel and the heavy timbers used to make the frame have cracked at this point. The bend in the frame is readily visible to anyone who looks along it. Other wooden parts of OB are also in bad shape: specifically an end sill, some parts of the tower, and the decking on both the pile driver and the flat car. The ring gear on the flat car, which consists of six iron castings, has several broken teeth.

Proposed Work for 1999 – In 1999 we plan to begin a complete restoration of the pile driver. 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, so the pile driver will have to be largely disassembled to replace the large cracked side sills of the frame. We plan to start by removing the hoist house, hoist machinery, and tower from the pile driver frame and the pile driver frame from the flat car. The flat car will then be rebuilt: good wood will be saved and reused. However, the wood on the car has been out in the weather for at least 70 years so there may not be much wood, or any, that can be reused. The pile driver frame and tower will be taken to WMMI in Colorado Springs to be rebuilt there where a shelter and storage space for the metal parts is available. Any good wood in the frame and tower will be reused. Replacement will be of the same type and dimension if it can be obtained at a reasonable cost. Fortunately, the larger beams appear to be fir, so it may not be necessary to resort to manufactured (Glu-Lam) beams as it might if the largest beams were oak. 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 requires approval.

## 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. The operator has had some of the wood on OL replaced so it would be sound enough to be used during the winter of 1998-1999.

Proposed Work for 1999 – We plan to replace all the cracked and rotten wood on OJ and OK. We will do additional work on OL if the operator requests it. All wood will be replaced with wood of the same type and dimension. After the carpentry is complete, the flangers will be painted. OK is now painted red with white lettering and OJ and OL are painted gray with black lettering. In general, the flangers were painted red until their rebuilding with a steel frame and gray afterwards. We will keep the current colors.

Approval – This project requires approval.

### 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.

Proposed Work for 1999 – This year the frame will be assembled from new wood and all the metal parts (e.g., brake rigging) will be reattached. The frame will then be painted. The wood will be the same kind as the original: 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 in the original. 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.

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. This material will not be repeated here. The 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, and the five pipe gondolas on the C&TS RR were made from regular gondolas in the 1950s by removing the ends so that steel pipe longer than the length of the car could be transported. The frame of 9558 has been exposed to the weather for over 90 years; it is one of the gondolas in the worst condition.

Condition – Pipe gondola 9558 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 1999 – 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. Single timbers of the cross-section and length required for the longitudinal sills are becoming very difficult and expensive to obtain. We may be forced to use factory-constructed (“glue-lam”) beams for some of these sills. Oak in the sizes required for the end sills can still be obtained.

No work on 9558 could be accomplished last year. In 1999 we hope to dismantle the car, saving all the metal pieces, and ascertain what wooden pieces, if any, can be retained.

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.

Proposed Work for 1999 – This year we propose to complete restoring the frame of the car. The steel reinforcements will be bolted to the other end of the intermediate sills and to both ends of the side sills. Another missing piece of intermediate sill will be replaced with a wood splice. Needle beams and queen posts will be made and installed. End sills, coupler pockets, and truss rods will be installed. If time permits, the bolsters will be repaired and reassembled.

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 1999 – 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 1999 – The Friends plans to organize an effort to remove the asbestos from locomotives 483 and 492 in 1999 or 2000. 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 requires approval. Asbestos removal will not change the appearance of the locomotives and will prolong their availability for restoration to service.

## 18. Log Bunk House in Chama

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

Condition – The logs above ground level are basically sound, but the chinking between the logs is missing in some places and the building needs to be repainted. The rough and extensively weathered surface of the logs makes it difficult to get paint to last more than a few years on this building.

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*. We also plan to survey the building to determine if foundation work is required in subsequent years.

Approval – Painting is regular maintenance.

## 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.

Proposed Work for 1999 – The focus in 1999 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 truck chutes and 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. Sand House

Goal – Return the building to sound condition, with the exterior historically accurate.

Condition – The sand house contains a coal stove used to dry sand, bins for storing sand, and an air propulsion system for moving the dry sand to a sand storage bin on top of a tower. The sand house and tower were described in detail in the Proposed Projects for 1997. Both the sand house and tower were extensively rebuilt in 1997, as described in the Proposed Projects for 1998. During the 1998 operating season, an inattentive worker allowed the stove to overheat and much of the new roof was burned.

Proposed Work for 1999 – We propose to replace the roof once again. The reason the roof was damaged was that historically correct single-wall stovepipe was used. In the interests of both fire safety and roof longevity, triple-wall stove pipe will be used this time.

Approval – Approval for repair and rebuilding of the sand house and tower was granted in 1997.

## 21. 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 a 4-ft fluorescent shop light 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 can be operated by either the diesel engine or 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.

Proposed Work for 1999 – Cleanup and painting will continue in 1999. After dewatering the sumps, the bunker doors, and skips will be painted. Work to restore the diesel engine to operation will continue; it may be necessary to completely dismantle the engine to free the piston. 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. The headworks will be inspected and lubricated. Interpretative signs will be designed and installed if time permits.

Approval – This project was approved in 1998.

## 22. Cumbres Section House

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.

Proposed Work for 1999 – In 1999 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.

## 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.

Proposed Work for 1999 – In 1999 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 and finish the front porch. In 2000 it may be possible to finish the building by installing interior doors, trim, and cabinets, and painting the interior. The exterior of the building will be painted the reddish brown (Moor-O-Matic II Universal Color System HC-71) that appears to be the only color of paint ever applied at this site. Interior restoration of the station will commence. The generator shed will get siding and a shingle roof.

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 between Sublette and Rock Tunnel**

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, in the stretch 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.

Proposed Work for 1999 – We plan to continue tree cutting along the right of way in 1999

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 1999 – The work planned for 1998 at Sublette could not be accomplished and will be done in 1999 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 1999 – In 1999 we will erect this shelter. It will be a steel frame with a roof. Sides may be added later. Approximate dimensions are 50 by 100 feet.

Approval – This project was the subject of separate submittal.

## **27. Paint Mileposts**

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

Condition – Some of the mileposts and other signs have been painted recently by the Friends and are in good condition; others have not been painted in many years and are becoming illegible.

Proposed Work for 1998 – 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. Sound System in Passenger Cars**

Goal – Make the public address system in the passenger cars functional and audible.

Condition – The current public address system in the passenger coaches is either non-functional or inaudible most of the time.

Proposed Work for 1999 – We will install a new public address system in the coaches. The operator and the commission are purchasing the components of the new sound system and the Friends will do the installation.

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 1999-A. Cable car 04426.

Exhibit 1999-B. Tool car 04549.

Exhibit 1999-C. Water service car 04904.

Exhibit 1999-D. Pile driver OB.

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