THE BEAN SHOALS CANAL ON THE YADKIN RIVER NAVIGATION

When the movement got underway following the War of 1812 to make every river and every stream in America the nation's channels of commerce, residents of the Yadkin River valley immediately saw in their meandering water course the means of sending agricultural produce to Atlantic seaports and into the world market.

In 1817 the North Carolina Legislature commissioned a number of individuals to survey the Yadkin River for purposes of determining what might be done to make the river navigable. Messrs. John Hixon and Hiram Jennings, two interested residents along the Yadkin with no prior experience in navigation works, were selected in particular "to examine the Yadkin from the Town of Wilkesborough, to the line of South Carolina; and were instructed to descend the river in a boat, to notice in detail every obstruction that was to be found, to point out where the Navigation should be improved by sluicing, and where, by canals: and to make out estimates of the probable expense which must be incurred, to improve the Navigation of this river along this line of nearly two hundred and fifty miles extent . . . ." By October, 1818, Hixon and Jennings had completed their survey and prepared their report.

Their published report covered every foot of the river, pointed out the smallest obstruction, and noted five monstrous sites where navigation could only be improved by the construction of canals to circumvent the obstacles. In their eyes, the Yadkin could be made into a usable water course all the way from Wilkesboro to Salisbury at a price of only $57,330 were it not for one formidable four-mile stretch of river commonly known

as Bean Shoals. At Bean Shoals, they concluded, a canal would have to be constructed at a cost of $30,200. The canal was to be three miles long. A dam would have to be built across the Yadkin at the head of the canal. Three locks would be required to lower river craft from the canal back into the river at the foot of the canal.

Their description of Bean Shoals and their proposed navigation improvement was as follows: "In these shoals and falls the river spreads out to an unusual width, the water running over and among ledges of sunken rocks, which cross the river in all possible directions and make it impossible to make good navigation at this place by sluicing; and if attempted to be improved in that way, it will cost a sum almost equal to the cost of a canal and locks.--We have therefore thought proper to recommend that a canal should be cut around these falls; which canal should commence about 600 yards below the head of the falls, through the left bank (north). This canal will be about three miles long: a portion of the ground through which it will pass, is favorable for canalling. There is a hill near the centre of the route, through which the canal must pass. This canal would not require to be more than fifteen feet wide--having no instruments, we could not ascertain the exact depth of cutting, but believe that it will not be more than three and a half feet, except a small distance through the hill above mentioned. The cost of cutting canals can be correctly ascertained only by measurement, after the work is done, and will amount to more or less in proportion to the quantity of stone that is to be quarried in digging them. But from the external

appearance of the ground through which this canal will be cut, we think that it will cost about $4000 per mile. To descend from this canal, will require three locks; and from the best information that we could obtain, it appears, that there is no stone to be had near that place, of such quality as would be required in lock-building. If this be the fact, the lock must be made of wood, and substantially supported with side wall and buttress walls, of good mason work. Locks built in this way, will last 12 or 15 years, and then can be replaced at a small expense. Such locks can be built for $5,000 each. At the upper end of the canal a dam must be built to raise the water into the canal; this dam must be raised 2½ feet above the natural surface of the water, to be built of timber, bolted to the rocks with iron bolts and spiked . . . with plank in front, and filled in with mason work behind . . . At the lower end of the locks the channel must be deepened through the rocks, to give a passage for boats."

On the basis of the Hixon-Jennings report with its general promise of a river course harnassed rather inexpensively, the Yadkin Navigation Company was formed and stock went on sale to underwrite the project. The farmers and merchants of Surry, Wilkes, and Stokes soon got into the spirit of canal-building and plenty of money was collected to begin work on the upper reaches of the Yadkin. Col. John Martin and Major Meredith Thurmond were hired to improve the river from Wilkesboro to Bean Shoals. But Hixon and Jennings drew the contract to implement their canal plan at Bean Shoals and on down the river to South Carolina. And Jennings supervised the work at Bean Shoals.

Sometime between 1820 and 1825 Jennings took a work crew to the Shoals and grubbed out a canal two miles along. To support one side of the canal, he found it necessary to build "a rock wall of solid masonry fifteen feet high, along a line of more than twelve hundred feet." That was where the project stood when North Carolina's new and experienced civil engineer, Hamilton Fulton arrived on the scene and recommended that the canal be terminated and locks built more than a mile short of the point where Jennings intended to rejoin the river. Fulton arrived just in the nick of time, for Jennings had already expended $38,145.25½ on the canal, more than $8,000 over his original estimate. This early version of a "cost overrun" helped to bankrupt the Navigation Company. Whereas Jennings had charged only $250 to grub and clear the line of the canal, only $7,700 to excavate 24,350 cubic yards of dirt, and only $3,482 to build a 3-foot embankment along side the canal, his solid rock restraining wall burst the bounds of the Company's budget. The cost of the wall alone was nearly $27,000 including the blasting and shaping of the rocks and the actual construction of a linear edifice that sometimes extended 18 feet in the air.

All of the work done at Bean Shoals to make the Yadkin River navigable was apparently completed by 1825 when the Company reported to the stockholders and the Legislature the morose condition of its finances. As far as the records of the Company show, all work on the canal at Bean Shoals stopped just short of completion. And despite the fact that in the 1840's, 1850's, and 1870's new efforts were begun to harnass the Yadkin as a navigable stream, it does not appear that anyone ever returned to Bean Shoals to pick

up where Jennings had left off. No record has yet been found to indicate that the Bean Shoals canal was ever put into operation. Things were apparently left as Jennings had left them for the river to silt up the canal, for the header dam to tumble over with time and the ravages of the river, and for the wall to eventually crumble. But the wall was the most lasting reminder of Jennings' work. It would remain substantially unchanged today had not the railroad decided in the 1890's to lay its track precisely along the course of the Bean Shoals canal.

What is left today of Bean Shoals canal, despite the ravages of time, the river, and the railroad is quite substantial. Remaining today are all of the following:

1. Four sections of wall ranging from a few feet up to the original 18-foot crest. Most of the undisturbed sections remain in good condition.
2. Distinguishable segments of the original dam built to feed water into the head of the canal.
3. The original entrance to the canal (just off of park land).
4. Distinguishable sections of the canal channel.
5. Perhaps a half dozen culverts originally built to carry stream water under the canal (now serving as railroad culverts).
6. A spillway built into a section of the canal restraining wall to carry excess water out of the canal.
7. The quarry from which stone was taken for the wall.

8. A canal line with depressions where Jennings intended to build his three locks at the tail of the canal.
9. A 20-foot earthen restraining wall and dredged channel where Fulton ordered that the canal should rejoin the river.

While a detailed examination of the entire area of the canal revealed no evidence of locks, there is enough evidence left undisturbed to indicate that the canal could have been at one time operational (the locks were to have been wooden). Only further research in documentary evidence will resolve that question.

Although there is still a lot to be learned about the Yadkin River Navigation and the Bean Shoals Canal in particular, one observation ought to be borne in mind. So far as is known, the Bean Shoals canal works is the largest, most extensive, most undisturbed canal remaining in North Carolina from the earliest period of canal building in the state.

Recommendation for the Preservation and Stabilization of the Bean Shoals Canal.

On March 29, 30 and 31, William Trout of Cinco Robles, California, and Vice-President of the American Canal Society and I visited the site of the Bean Shoals Canal on the Yadkin River for the purpose of examining the remains of one of the most ambitious canal-building projects undertaken in pre-Civil War North Carolina. Having studied the documentary sources on canals and river navigations for the entirety of North Carolina and having examined remains of canal structures throughout the state, we came to the conclusion that remnants of the Bean Shoals Canal still standing today represent the most extensive contiguous canal remains existent in the state of North Carolina. In view of the very special nature of the Bean Shoals and the fact that almost all of the original canal structures lie on state-owned park land in the Yadkin River Section of the Pilot Mountain State Park, we would like to recommend that the following steps be taken to stabilize the existing canal structures and to enhance its usefulness as a unique feature of the state park's facilities:

1) The canal restraining wall is the most threatened structure of the entire canal works. Immediate steps need to be taken to avert further crumbling of the wall. All trees, vines, and other outcroppings in the wall and on top of the wall should be removed immediately. All outcroppings on top of the wall within four feet of the precipice should be removed. The wall itself and the immediate area atop the wall should be sprayed with an appropriate weed-killer to halt further growth which might endanger

the integrity of the wall. (There are four sections of the wall; the same treatment should be given to each.)

2) Since it might be possible at some future date to shore up and rebuild broken sections of the wall, no stone which is found at the base of the wall or at broken ends of the wall should be disturbed. Until a full archaeological investigation of the area can be undertaken, no stone work or wood work at culvert sites should be tampered with.

3) Preliminary investigations suggest that the best remaining culvert from the original canal is the stone one at the east end of the 1200± foot section of the stone wall. The area around the south opening of the culvert should be cleared and made traversable for observation.

4) Since the canal wall offers a unique sight for park visitors, we would recommend that a hiking path be created at the base of the canal wall from its eastern most remain to the western boundary of the park. To enhance visibility, all trees and shrubs (except enought to preserve natural beauty) of less than four inches in diameter should be removed between the base of the wall and the river at all points where the wall lies within twenty feet of the river's edge. At points where the wall lies further from the river edge a cleared area twenty feet wide should be continued. Beyond the fourth remaining wall section the path should follow the highest ridge between the railroad tract and the river. That will bring the path along the edge of one of the few sections of distinguishable canal channel.

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