

CERTIFICATE OF THE SECRETARY OF BIGELOW-LIPTAK CORPORATION

The undersigned, Secretary of BIGELOW-LIPTAK CORPORATION, a Michigan corporation, does hereby certify that the Agreement and Plan of Merger dated as of December 1, 1960 (to which this certificate is attached) between BIGELOW-LIPTAK CORPORATION, a Michigan corporation, and A. P. GREEN SERVICES, INC., a Missouri corporation, was duly approved and adopted, at a special meeting of stockholders duly called for such purpose, by the affirmative votes of the holder of all of the issued and outstanding shares of the capital stock of said Bigelow-Liptak Corporation, in the manner provided by and in full compliance with the laws of the State of Michigan. All of the issued and outstanding shares of stock of said Bigelow-Liptak Corporation are owned by A. P. Green Fire Brick Company, a Missouri corporation, and said A. P. Green Fire Brick Company consented to the holding of said special meeting of stockholders, waived notice thereof, and approved said Agreement and Plan of Merger.

Dated December 15th, 1960.

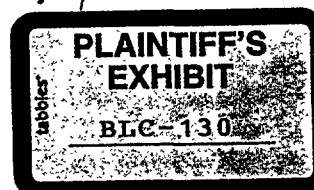
Arthur L. Bert
Secretary

CERTIFICATE OF THE SECRETARY OF A. P. GREEN SERVICES, INC.

The undersigned, Secretary of A. P. GREEN SERVICES, INC., a Missouri corporation, does hereby certify that the Agreement and Plan of Merger, dated as of December 1, 1960 (to which this certificate is attached) between BIGELOW-LIPTAK CORPORATION, a Michigan corporation, and A. P. GREEN SERVICES, INC., a Missouri corporation, was duly approved and adopted, at a special meeting of stockholders duly called for such purpose, by the affirmative votes of the holders of all the issued and outstanding shares of the capital stock of said A. P. Green Services, Inc., in the manner provided by and in full compliance with the laws of the State of Missouri. All of the issued and outstanding shares of stock of A. P. Green Services, Inc., are owned by A. P. Green Fire Brick Company, a Missouri corporation, and said A. P. Green Fire Brick Company consented to the holding of said special meeting of stockholders, waived notice thereof, and approved said Agreement and Plan of Merger.

Dated December 16th, 1960.

Arthur L. Bert
Secretary



The above and foregoing Agreement and Plan of Merger dated as of December 1, 1960, between BIGELOW-LIPTAK CORPORATION and A. P. GREEN SERVICES, INC., duly executed this 15th day of December, 1960.

BIGELOW-LIPTAK CORPORATION

Attest:

By *Richard E. Sampson*
Vice-President

Arthur L. Bert
Secretary

A. P. GREEN SERVICES, INC.

Attest:

By *[Signature]*
President

[Signature]
Secretary

STATE OF MICHIGAN, X
 X SS
COUNTY OF WAYNE X

On this 15th day of December, 1960, before me appeared R. E. SAMPSON, to me personally known, who, being by me duly sworn, did say that he is the Vice-President of BIGELOW-LIPTAK CORPORATION, and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and the said R. E. SAMPSON acknowledged the execution of the said instrument as the free act and deed of said corporation.

My commission expires August 28, 1964.

Pauline A. Murbach
Pauline A. Murbach, Notary Public,
Wayne County, Michigan