Westbury Bancorp, Inc.

N16 W23250 Stone Ridge Dr. Waukesha, Wisconsin 53188 (262) 306-5270

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held On February 15, 2023

Notice is hereby given that the Annual Meeting of Stockholders of Westbury Bancorp, Inc. will be held at 3:00 p.m. local time on February 15, 2023, at Westbury Bank, N16 W23250 Stone Ridge Dr., Waukesha, WI 53188.

A Proxy Card and Proxy Statement for the Annual Meeting are enclosed. The Annual Meeting is for the purpose of considering and acting upon:

- 1. the election of one director to serve for a three year term;
- the ratification of the appointment of CliftonLarsonAllen LLP as our independent registered public accounting firm for the year ending September 30, 2023; and

such other matters as may *properly* come before the Annual Meeting, or any adjournments thereof. The Board of Directors is not aware of any other business to come before the Annual Meeting.

Any action may be taken on the foregoing proposals at the Annual Meeting on the date specified above, or on the date or dates to which the Annual Meeting may be adjourned. Stockholders of record at the close of business on December 30, 2022 are the stockholders entitled to notice of and to vote at the Annual Meeting, and any adjournments thereof.

EACH STOCKHOLDER, WHETHER HE OR SHE PLANS TO ATTEND THE ANNUAL MEETING, IS REQUESTED TO SIGN, DATE AND RETURN THE ENCLOSED PROXY CARD WITHOUT DELAY IN THE ENCLOSED POSTAGE-PAID ENVELOPE, OR ALTERNATIVELY VOTE VIA THE INTERNET OR BY TELEPHONE. ANY PROXY GIVEN BY THE STOCKHOLDER MAY BE REVOKED AT ANY TIME BEFORE IT IS VOTED. A PROXY MAY BE REVOKED BY FILING WITH THE SECRETARY OF WESTBURY BANCORP, INC. A WRITTEN REVOCATION OR A DULY EXECUTED PROXY CARD BEARING A LATER DATE. ANY STOCKHOLDER PRESENT AT THE ANNUAL MEETING MAY REVOKE HIS OR HER PROXY AND VOTE PERSONALLY ON EACH MATTER BROUGHT BEFORE THE ANNUAL MEETING. HOWEVER, IF YOU ARE A STOCKHOLDER WHOSE SHARES ARE NOT REGISTERED IN YOUR OWN NAME, YOU WILL NEED ADDITIONAL DOCUMENTATION FROM YOUR RECORD HOLDER IN ORDER TO VOTE IN PERSON AT THE ANNUAL MEETING.

Kirk Emerich Secretary

KING

West Bend, Wisconsin January 6, 2023

IMPORTANT: THE PROMPT RETURN OF PROXIES WILL SAVE THE EXPENSE OF FURTHER REQUESTS FOR PROXIES. A SELF-ADDRESSED ENVELOPE IS ENCLOSED FOR YOUR CONVENIENCE. NO POSTAGE IS REQUIRED IF MAILED WITHIN THE UNITED STATES.

PROXY STATEMENT

Westbury Bancorp, Inc. N16 W23250 Stone Ridge Drive Waukesha, Wisconsin 53188 (262) 306-5270

ANNUAL MEETING OF STOCKHOLDERS To be held on February 15, 2023

This Proxy Statement is furnished in connection with the solicitation of proxies on behalf of the Board of Directors of Westbury Bancorp, Inc. to be used at the Annual Meeting of Stockholders, which will be held at 3:00 p.m. local time on February 15, 2023, at Westbury Bank, N16 W23250 Stone Ridge Dr., Waukesha, WI 53188, and all adjournments of the Annual Meeting. The accompanying Notice of Annual Meeting of Stockholders and this Proxy Statement are first being mailed to stockholders on or about January 6, 2023.

REVOCATION OF PROXIES

Stockholders who execute proxies in the form solicited hereby retain the right to revoke them in the manner described below. Unless so revoked, the shares represented by such proxies will be voted at the Annual Meeting and all adjournments thereof. Proxies solicited on behalf of the Board of Directors of Westbury Bancorp, Inc. will be voted in accordance with the directions given thereon. Please sign and return your proxy card in the postage paid envelope provided. Where no instructions are indicated on the proxy card, signed proxies will be voted "FOR" the election of the nominee for the director named herein and "FOR" the ratification of the appointment of CliftonLarsonAllen LLP as our independent registered public accounting firm for the year ending September 30, 2023.

Proxies may be revoked by sending written notice of revocation to the Secretary of Westbury Bancorp, Inc. at the address shown above, or by filing a duly executed proxy bearing a later date or by following the internet or telephone instructions on the enclosed proxy card or by voting in person at the Annual Meeting. The presence at the Annual Meeting of any stockholder who had given a proxy shall not revoke such proxy unless the stockholder delivers his or her ballot in person at the Annual Meeting or delivers a written revocation to our Secretary prior to the voting of such proxy.

VOTING SECURITIES

Except as otherwise noted below, holders of record of Westbury Bancorp, Inc.'s shares of common stock, par value \$0.01 per share, as of the close of business on December 30, 2022 are entitled to one vote for each share then held. As of December 30, 2022, there were 2,354,218 shares of common stock issued and outstanding.

Quorum

The presence in person or by proxy of a majority of the outstanding shares of common stock entitled to vote is necessary to constitute a quorum at the Annual Meeting. Abstentions and broker non-votes will be counted for purposes of determining that a quorum is present but will not count towards whether the directors are elected or the other matters are approved.

Limitations on Voting

In accordance with the provisions of our Articles of Incorporation, record holders of common stock who beneficially own in excess of 10% of the outstanding shares of common stock (the "Limit") are not entitled to any vote with respect to the shares held in excess of the Limit. Our Articles of Incorporation authorize the Board of Directors (i) to make all

determinations necessary to implement and apply the Limit, including determining whether persons or entities are acting in concert, and (ii) to demand that any person who is reasonably believed to beneficially own stock in excess of the Limit supply information to us to enable the Board of Directors to implement and apply the Limit.

Method of Counting Votes

As to the election of directors, the enclosed proxy card enables a stockholder to vote FOR the nominee proposed by the Board or to WITHHOLD authority for the nominee. Directors are elected by a plurality of votes cast, without regard to either broker non-votes or proxies as to which the authority to vote for the nominees being proposed is withheld. Plurality means that individuals who receive the highest number of votes cast are elected, up to the maximum number of directors to be elected at the Annual Meeting.

As to the ratification of the appointment of CliftonLarsonAllen LLP as our independent registered public accounting firm, a stockholder may: (i) vote FOR the ratification; (ii) vote AGAINST the ratification; or (iii) ABSTAIN from voting on such ratification. The affirmative vote of a majority of the votes cast on the matter at the Annual Meeting, without regard to broker non-votes or shares as to which "ABSTAIN" has been selected, is required for the ratification of CliftonLarsonAllen LLP as our independent registered public accounting firm for the year ending September 30, 2023.

In the event that at the time of the Annual Meeting there are not sufficient votes for a quorum or to approve or ratify any matter being presented, the Annual Meeting may be adjourned in order to permit the further solicitation of proxies.

Participants in the ESOP and 401(k) Plan and Holders of Non-Vested Restricted Stock

Participants in the Westbury Bank ESOP and persons who hold Westbury Bancorp, Inc. common stock through the Westbury Bank 401(k) Profit Sharing Plan (the "401(k) Plan") will receive a vote authorization form for each of the plans that reflect all shares the participant may direct the trustees to vote on his or her behalf under the plans. Under the terms of the ESOP, the ESOP trustee votes all shares held by the ESOP, but each ESOP participant may direct the trustee how to vote the shares of Westbury Bancorp, Inc. common stock allocated to his or her account at the Annual Meeting of Stockholders. The ESOP trustee will vote all unallocated shares of Westbury Bancorp, Inc. common stock held by the ESOP and allocated shares for which no voting instructions are received in the same proportion as shares for which it has received timely voting instructions. Under the terms of the 401(k) Plan, a participant is entitled to provide voting instructions for all shares credited to his or her 401(k) Plan account and held in the Westbury Bancorp, Inc. Stock Fund. Shares for which no voting instructions are given or for which instructions were not timely received will be voted in the same proportion as shares for which voting instructions were received. The deadline for returning your ESOP Vote Authorization Form or 401(K) Plan Vote Authorization Form is February 8, 2023 at 5:00 p.m. local time. Telephonic and internet voting cutoff is February 8, 2023 at 5:00 p.m. local time.

Pursuant to the terms of the Westbury Bancorp, Inc. 2014 and 2022 Equity Incentive Plans, a participant is entitled to vote the non-vested restricted shares of Westbury Bancorp, Inc. common stock awarded to him or her.

If you have any questions or need any assistance in voting your proxy, please contact Kirk Emerich by mail at N16 W23250 Stone Ridge Dr., Waukesha, WI 53188, by phone at (262) 306-3921, or by email at kirk.emerich@westburybankwi.com.

PROPOSAL I—ELECTION OF DIRECTORS

Our Board of Directors is currently comprised of five members. The Board of Directors has nominated the following person to serve as director for a three-year term: Greg J. Remus. Mr. Remus is currently a director of Westbury Bancorp, Inc. Mr. Remus has agreed to serve, if elected, and has consented to being named in this proxy statement.

The table below sets forth certain information regarding the nominee. It is intended that the proxies solicited on behalf of the Board of Directors (other than proxies in which the vote is withheld) will be voted at the Annual Meeting for the election of the proposed nominee. If the nominee is unable to serve, the shares represented by all such proxies will be voted for the election of such substitute as the Board of Directors may determine. At this time, the Board of Directors knows of no reason why the nominee might be unable to serve, if elected.

Name	Director Since ⁽²⁾	Age ⁽¹⁾	Principal Occupation
Greg J. Remus	2015	53	Chairman, President and CEO of Westbury Bancorp, Inc. and Westbury Bank

- (1) As of September 30, 2022.
- (2) Includes service with Westbury Bank and Westbury Bancorp, Inc.

The biography of the nominee can be accessed by visiting www.westburybankwi.com and clicking on "Investor Relations - Westbury Bancorp, Inc."

The Board of Directors recommends a vote "FOR" the nominees listed above.

PROPOSAL II— RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee of Westbury Bancorp, Inc. has approved the engagement of CliftonLarsonAllen LLP to be our independent registered public accounting firm for the year ending September 30, 2023, subject to the ratification of the engagement by our stockholders. At the Annual Meeting, stockholders will consider and vote on the ratification of the Audit Committee's engagement of CliftonLarsonAllen LLP for the year ending September 30, 2023. A representative of CliftonLarsonAllen LLP is expected to attend the Annual Meeting and may respond to appropriate questions and make a statement if he or she so desires.

Set forth below is certain information concerning aggregate fees billed for professional services rendered by the Company's independent registered public accounting firm, CLA, during the years ended September 30, 2022 and 2021.

	Year Ended	Year Ended
	September 30, 2022	September 30, 2021
Audit Fees	\$81,962	\$79,575
Audit-Related Fees	29,576	28,715
Tax Fees	16,892	16,400

Audit Fees. The aggregate fees billed to us for professional services rendered for the audit of our annual financial statements and services that are normally provided in connection with statutory and regulatory filings and engagements were \$81,962 and \$79,575 during the years ended September 30, 2022 and 2021, respectively.

Audit Related Fees. The audit-related fees billed to us for assurance and related services rendered that are reasonably related to the performance of the audit of and review of the financial statements, but are not already reported in "—Audit Fees," were \$29,576 and \$28,715 during the years ended September 30, 2022 and 2021, respectively. These services related to audits of our 401(k) plan, our ESOP and HUD reporting.

Tax Fees. The aggregate fees billed to us for professional services rendered for tax preparation, tax consultation and tax compliance were \$16,892 and \$16,400 during the years ended September 30, 2022 and 2021, respectively.

Even if the engagement of CliftonLarsonAllen LLP is ratified, the Audit Committee, in its discretion, may direct the appointment of a different independent registered public accounting firm at any time during the year if it determines that such change would be in the best interests of Westbury Bancorp, Inc. and its stockholders.

The Board of Directors recommends a vote "FOR" the ratification of CliftonLarsonAllen LLP as our independent registered public accounting firm for the year ending September 30, 2023.

FINANCIAL REPORTS

Stockholders may request audited financial reports of Westbury Bancorp, Inc. by contacting Kirk Emerich by mail at N16 W23250 Stone Ridge Dr., Waukesha, WI 53188, via phone at (262) 306-3921, or by email at kirk.emerich@westburybankwi.com.

OTHER MATTERS

The Board of Directors is not aware of any business to come before the Annual Meeting other than the matters described above. However, if any matters should properly come before the Annual Meeting, it is intended that the Board of Directors, as holders of the proxies, will act as determined by a majority vote.

MISCELLANEOUS

The cost of solicitation of proxies will be borne by Westbury Bancorp, Inc. Westbury Bancorp, Inc. will reimburse brokerage firms and other custodians, nominees and fiduciaries for reasonable expenses incurred by them in sending proxy materials to the beneficial owners of our common stock. In addition to solicitations by mail, directors, officers and regular employees of Westbury Bancorp, Inc. may solicit proxies personally or by telephone without additional compensation.

West Bend, Wisconsin January 6, 2023