

#### **PROXY**

### WESTERN NEW ENGLAND BANCORP, INC.

# PROXY FOR ANNUAL MEETING OF SHAREHOLDERS TO BE HELD MAY 14, 2025 THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED

The undersigned hereby constitutes and appoints John E. Bonini and Guida R. Sajdak and each of them, as proxies with full power of substitution, to represent and vote all of the shares which the undersigned is entitled to vote at the Annual Meeting of Shareholders (the "Annual Meeting") of Western New England Bancorp, Inc. (the "Company") in such manner as they, or any of them, may determine on any matters which may properly come before the Annual Meeting or any adjournments thereof and to vote on the matters set forth on the reverse side as directed by the undersigned. The Annual Meeting will be held at the Sheraton Springfield Monarch Place Hotel, One Monarch Place, Springfield, MA 01144 on May 14, 2025, at 10:00 a.m., and at any and all adjournments thereof. The undersigned hereby revokes any proxies previously given.

THIS PROXY WHEN PROPERLY EXECUTED WILL BE VOTED AS DIRECTED HEREIN BY THE UNDERSIGNED SHAREHOLDER. IF NO DIRECTION IS MADE, THE PROXY WILL BE VOTED FOR ALL OF THE NOMINEES LISTED IN PROPOSAL 1, AND FOR PROPOSALS 2, 3 AND 4.

(Continued and to be marked, dated and signed on the reverse side)

FOLD AND DETACH HERE AND READ THE REVERSE SIDE

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting of Shareholders to be held May 14, 2025

The Proxy Statement/Prospectus and our 2024 Annual Report to Shareholders are available at: http://web.viewproxy.com/WNEB/2025

PROXY PROPOSALS:  Proposal 1: Election of the following directors for a three-year term expiring at the 2028 annual meeting of shareholders:  For Withhold  01 Gary G. Fitzgerald	Proposal 3: Ratification of the appointment of Wolf & Company, P.C., as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2025.  ☐ For ☐ Against ☐ Abstain  Proposal 4: Consideration and approval of the amendment and restatement of the Company's 2021 Omnibus Incentive Plan.  ☐ For ☐ Against ☐ Abstain  NOTE: Consideration of any other business properly brought before the Annual
DO NOT PRINT IN THIS AREA (Shareholder Name & Address Data)	Meeting, and any adjournment or postponement thereof.  Date
Address Change/Comments: (If you noted any Address Changes and/or Comments above, please mark box.)	CONTROL NUMBER

#### PLEASE DETACH ALONG PERFORATED LINE AND MAIL IN THE ENVELOPE PROVIDED.

As a shareholder of WESTERN NEW ENGLAND BANCORP, INC., you have the option of voting your shares electronically through the Internet or by telephone, eliminating the need to return the proxy card. Your electronic vote authorizes the named proxies to vote your shares in the same manner as if you marked, signed, dated and returned the proxy card. Votes submitted electronically over the Internet or by telephone must be received by 11:59 p.m., Eastern Daylight Time, on May 13, 2025.

For participants in the Western New England Bancorp 401(k) Plan, ESOP, or EIP this proxy, when properly executed, will be voted in the manner directed by the undersigned. If no direction is given, if the card is not signed, or if the card is not received prior to 11:59 p.m., Eastern Daylight Time, on May 7, 2025, the Plan's Trustee will vote your shares held in the Plan in the same proportion as shares were voted by other Plan participants.



#### PROXY VOTING INSTRUCTIONS

Please have your 11-digit control number ready when voting by Internet or Telephone



## INTERNET Vote Your Proxy on the Internet: Go to www.AALvote.com/WNEB

Have your proxy card available when you access the above website. Follow the prompts to vote your shares.



## TELEPHONE Vote Your Proxy by Phone: Call 1 (866) 804-9616

Use any touch-tone telephone to vote your proxy. Have your proxy card available when you call. Follow the voting instructions to vote your shares.



#### MAIL Vote Your Proxy by Mail:

Mark, sign, and date your proxy card, then detach it, and return it in the postage-paid envelope provided.