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22 \* *Pro Hac Vice pending*

23 **IN THE SUPERIOR COURT FOR THE STATE OF ARIZONA**  
24 **IN AND FOR THE COUNTY OF MOHAVE**

25 Joseph "Sonny" Borrelli and Jane and John  
26 Doe, et al.,  
27  
28 Plaintiffs  
  
v.  
  
Katie Hobbs, in her capacity as Secretary of  
State and in her personal capacity; Stephen  
Richer, in his official capacity as Maricopa  
County Recorder and in his personal capacity;  
Bill Gates, Clint Hickman, Jack Sellers,  
Thomas Galvin, and Steve Gallardo, in their  
official capacities as members of the Maricopa

Case No.: \_\_\_\_  
**COMPLAINT IN SPECIAL ACTION  
AND VERIFIED STATEMENT OF  
ELECTION CONTEXT PURSUANT  
TO A.R.S. § 16-672**

1 County Board of Supervisors and in their  
2 personal capacities; and Scott Jarrett, in his  
3 official capacity as Maricopa Director of  
Elections and in his personal capacity,

4 Defendants.  
5

6 Plaintiffs, residents of Mohave County, Arizona, bring this action against Katie Hobbs, in  
7 her official capacity as Secretary of State and her personal capacity; Steven Richer, in his official  
8 capacity as Maricopa County Recorder and in his personal capacity; the Maricopa County, Arizona  
9 Board of Supervisors; Bill Gates, Clint Hickman, Jack Sellers, Thomas Galvin, and Steve Gallardo,  
10 in their official capacities as members of the Maricopa County Board of Supervisors and their  
11 personal capacities; Scott Jarrett, in his official capacity as Maricopa Director of Elections and in  
12 his personal capacity; and the Maricopa County Board of Supervisors (collectively, “Defendants”).

13 Pursuant to 42 U.S.C. § 1983 and A.R.S. § 16-672 *et seq.*, Plaintiffs move to secure  
14 declaratory and injunctive relief and to nullify the results in Maricopa County, Arizona, for the  
15 2022 state election for governor of Arizona. Because of multiple systemic failures in the conduct  
16 of the election in Maricopa County, Arizona, including the County’s improper and unauthorized  
17 delegation of its responsibilities to opaque, unproven software programs that improperly but  
18 unavoidably influenced the judgment of poorly trained workers tasked with signature verification,  
19 in violation of Arizona statutory law, the voting strength of residents of Mohave County, Arizona,  
20 was diluted and their Constitutional rights were violated.  
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## INTRODUCTION

In Arizona, as throughout the United States, an elector or voter—regardless of political party—has the right, if not the responsibility, to participate in safeguarding the integrity of an election, including, if necessary, initiating proceedings rightfully afforded to him or her by law, to ensure that inaccuracies in tabulating votes are judicially remedied under the procedures set forth in the U.S. Constitution and Arizona statutes. *See, e.g., Archer v. Board of Supervisors*, 166 Ariz. 106 (Ariz. 1990) (in context of contest challenge). This ensures that election results reflect the will and actual votes of the electorate. *See* A.R.S. § 16-672, *et seq.* Indeed, “[n]o right is more precious in a free country than that of having a voice in the election of those who make the laws under which, as good citizens, we must live. Other rights, even the most basic, are illusory if the right to vote is undermined.” *Wesberry v. Sanders*, 376 U.S. 1, 17 (1964).

Arizona and federal law both mandate “uniform” administration of elections. *See* Ariz. Const. art. 2 § 21; A.R.S. § 16-449(B), 16-452(A); 42 U.S.C. § 1983; U.S. Const. Amends. 1, 14. Exact uniformity between counties is not required, but uniform application of prescribed procedures for voting processes within each county is both presumed and mandatory. The Supreme Court in *Bush v Gore*, 531 U.S. 98, 106-07 (2000), found constitutional violations of the Equal Protection Clause of U.S. Constitution where Palm Beach County had repeatedly changed the rules for counting votes. The County initially utilized “a 1990 guideline which precluded the counting of completely attached chads, switched to a rule considering a vote to be legal if any light could be seen through the chad, changed back to the 1990 rule, and then abandoned any pretense of a *per se* rule, only to have a court order that the county consider dimpled chads legal.” Maricopa County’s policies and procedures were no less chaotic.

1 **Maricopa County Created a Mess When It Experimented with Unproven and Proprietary**  
2 **Artificial Intelligence in Voter Signature Verification During a Real Election.**

3 Evidently, to try to speed up its signature verification process, Maricopa County election  
4 officials took an unproven approach in the recent general election by delegating to a private  
5 corporation and its software (“the Delegated Software”) the crucial job of assessing the veracity of  
6 signatures on approximately 1.3 million mail-in ballots and presumably ballots retrieved from drop  
7 boxes. Maricopa intended that the Delegated Software would compare a voter’s signature on a  
8 mail-in ballot or ballot retrieved from a drop box against a signature exemplar the voter had signed  
9 in the past, such as a record from the Department of Motor Vehicles. Untrained temporary workers  
10 would then be hired to review the software’s adjudications. But County election officials indulged  
11 this experiment without first putting in place safeguards to make sure it worked.  
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14 For instance, County officials failed to set standards or provide guidance of any sort for (1)  
15 adjustments that might be made to the Delegated Software’s settings during the ballot count, (2)  
16 recruiting and hiring people tasked with operating the software (“the Signature Verifiers”), (3)  
17 adequate training for the Signature Verifiers, (4) reliable back-up systems, or (5) mechanisms for  
18 appeal or review of rejected ballot signatures. Election officials thereby let an untold number of  
19 ballots pass without adequate assurance of accurate verification. As a result, a disproportionate  
20 number of Maricopa County’s mail-in ballots and presumably drop box ballots were counted when  
21 they should not have passed a proper verification system, thereby diluting the voting strength of  
22 voters in other counties, including Mohave County.  
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25 The so-called “artificial intelligence” used in tools like the Delegated Software has been  
26 exposed as too often being neither “artificial” – especially where profit-motivated human beings  
27 train their AI through all-too-manual “curve-fitting” to reach a desired result – nor “intelligent,”  
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1 given that humans cannot seem to help but introduce into AI systems their own inevitable, often  
2 unconscious cognitive biases. Infamous examples of biased training include Amazon’s recruiting  
3 AI, whose training consisted of being fed resumés of (almost entirely male) engineering job  
4 applicants, benchmarked against (almost entirely male) current employees, so that the artificial  
5 “intelligence” was able to conclude that the best candidates were . . . almost entirely male.  
6 Similarly, University of Toronto and MIT researchers recently found that every facial recognition  
7 system they tested performed better on lighter-skinned faces,<sup>1</sup> and researchers have shown a 1-in-  
8 3 failure rate in identifying darker-skinned females.<sup>2</sup> Or consider Microsoft’s Tay Twitter chatbot,  
9 which was designed to become conversational by learning from other Twitter users, but which  
10 instead was corrupted during its training – by Twitter trolls flooding it with a deluge of racist,  
11 misogynistic, and antisemitic tweets – so that it turned into “a robot parrot with an internet  
12 connection<sup>3</sup>” – and a mouthpiece for repugnant ideologies.

16 Upon information and belief, Maricopa County is the only county in Arizona that delegates  
17 the work of verifying mail-in ballots to artificial intelligence programs. Maricopa County has  
18 outsourced a material portion of its signature verification responsibilities to a private corporation,  
19 Runbeck Elections Systems, and its Verus Pro™ signature verification software. The Delegated  
20 Software preprocesses and scores each signature, and then comes up with a confidence score –  
21 whose bases remain secret – for each signature match. The Signature Verifiers – temporary workers  
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25 <sup>1</sup> See [https://www.media.mit.edu/publications/gender-shades-intersectional-accuracy-disparities-](https://www.media.mit.edu/publications/gender-shades-intersectional-accuracy-disparities-in-commercial-gender-classification/)  
26 [in-commercial-gender-classification/](https://www.media.mit.edu/publications/gender-shades-intersectional-accuracy-disparities-in-commercial-gender-classification/)

27 <sup>2</sup> See <https://www.lexalytics.com/blog/bias-in-ai-machine-learning>

28 <sup>3</sup> See <https://www.theverge.com/2016/3/24/11297050/tay-microsoft-chatbot-racist>

1 without relevant experience or training, hired at \$15 an hour to sit at their monitors – are then  
2 presented with a prominent display of the Delegated Software’s color-coded verification decisions.  
3  
4 As they attempt to decide, in an instant, whether to verify the voters’ signatures, it is beyond the  
5 limits of human nature for these Signature Verifiers not to be influenced by the seemingly  
6 authoritative, but actually opaque and unproven, conclusions of the Delegated Software.

7         The Arizona Attorney General has pointed out that such delegation is not authorized by  
8 Arizona law.<sup>4</sup> No Arizona statute allows counties to outsource a role so crucial to computer  
9 software. Moreover, Maricopa County failed to provide the procedures and training requirements  
10 necessary to enable humans to work with the Delegated Software. Upon information and belief,  
11 Maricopa County ran 1.3 million images, on monitors, past the eyes of a few dozen of its Signature  
12 Verifiers at such a rapid clip that it was physically impossible for them to verify the Delegated  
13 Software’s adjudications about those images reliably.

16         Real human beings charged by statute with verifying signatures are not supposed to act as  
17 rubber stamps for unreliable decisions already made by private corporations’ trade-secret software.  
18 Maricopa County’s delegation to third parties, and software, casts serious doubt on the integrity of  
19 the election. “At first blush,” Arizona’s nondiscretionary requirement for immediate, and human,  
20 signature verification set forth in A.R.S. § 16-550(A) may seem unimportant—just as the  
21 requirement for “mailing versus hand delivery [of ballots as required by A.R.S. § 542] may seem  
22 unimportant.” *Reyes v. Cuming*, 191 Ariz. 91, 952 P.2d 329, 331 (Ariz. Ct. App. 1997) (*quoting*  
23 *Miller v. Picacho Elementary School District No. 33*, 179 Ariz. 178, 180, 877 P.2d 277, 279 (1994)).  
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27 <sup>4</sup> Case No. P1300-CV-2022-00269: *Brnovich v. Hobbs*, In the Superior Court of the State of  
28 Arizona and in and for the County of Yavapai, at ¶ 101.

1 But as the Supreme Court of Arizona has explained, considering their purpose, such laws  
2 are “very important.” *Id.* It bears emphasis. Both these “non-technical” statutes advance the  
3 constitutional goal of “setting forth procedural safeguards to prevent undue influence, fraud, ballot  
4 tampering, and voter intimidation.” *Id.* (quoting Ariz. Const. art. VII § 1). Such laws may seem  
5 trivial at first, but they are imperative to “secure the purity of elections and guard against abuses  
6 of elective franchise.” *Id.* (quoting Ariz. Const. art. VII § 12). Indeed, the “purpose of A.R.S. 16-  
7 550(A) is to prevent the inclusion of invalid votes.” *Id.*

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10 “To rule otherwise would ‘affect the result or at least render it uncertain.’” *Id.* (quoting  
11 *Miller*, 197 Ariz. at 180, 877 P.2d at 279). This is especially true where, as here, “the absentee  
12 ballots counted in violation of A.R.S. section 16-550(A) indisputably change[] the outcome of the  
13 election.” “[B]ecause A.R.S. section 16-550(A) is a non-technical statute and because absentee  
14 ballots counted in violation of that statute have rendered the outcome of this election uncertain,”  
15 the only appropriate remedy is for the results from the Maricopa County election to be “set aside.”  
16  
17 *Id.*

18 Because Mohave County used a more rigorous system to verify signatures for mail-in  
19 ballots, Maricopa County officials, in using The Delegated Software without legally adequate  
20 human verification, diluted the voting strength of residents of Mohave County. Defendants  
21 introduced artificial intelligence software into the procedures and training of human workers in a  
22 manner not authorized by Arizona statute and antithetical to the rights and protections guaranteed  
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1 by the U.S. Constitution, including the fundamental right of each voter to know his or her vote  
2 counted.<sup>5</sup>

3  
4 Maricopa County officials' use of the Delegated Software to make decisions that can only  
5 be made by well-trained human beings illegally and unavoidably overcounted the number of  
6 verifiable ballots counted in Maricopa County, resulting in the disenfranchisement of Mohave  
7 electors who had properly cast their ballots in a county that followed state election law and verified  
8 each signature properly, by trained human beings.  
9

10 This is material because only 17,116 votes separated the winner from the loser in the  
11 gubernatorial race. Maricopa County outsourced the processing of 1,311,734 mail-in or drop-off  
12 ballots to its unreliable system of (1) unproven software and (2) untrained Signature Verifiers.  
13 Upon information and belief, the margin for error in an AI-driven software like the Delegated  
14 Software, using only static or offline signature data, is at least three percent (3%).<sup>6</sup> Applying a 3%  
15 margin of error to 1,311,734 signatures yields 39,352 falsely accepted signatures, which could have  
16 affected the outcome of the general election for governor.  
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21 <sup>5</sup> During the November 2022 Arizona general election, 56,856 voters in Mohave County submitted  
22 mail-in ballots. In approximately 600 instances, those ballots were rejected after actual review by  
23 human eyes. In at least one hundred ninety-one (191) of those instances, the voters were unable to  
24 "cure" their ballots in time. That is, they were unable to correct any deficiencies within the allotted  
time required to make their votes count.

25 <sup>6</sup> See, e.g., [http://www.cse.lehigh.edu/pr/Biometrics/Archive/Papers/multi\\_tries.pdf](http://www.cse.lehigh.edu/pr/Biometrics/Archive/Papers/multi_tries.pdf) at 4 (noting  
26 first signature verification attempt had 13% false accept rate, and second attempt 5%);  
27 <https://www.sciencedirect.com/science/article/abs/pii/S0020025513006373> (discussing false  
28 positive rates of 3.33%);  
[http://biometrics.cse.msu.edu/Publications/Signature/JainGriessConnell\\_OnlineSignature\\_PR02.  
pdf](http://biometrics.cse.msu.edu/Publications/Signature/JainGriessConnell_OnlineSignature_PR02.pdf) (finding 1.6% error rate using dynamic data not available in the instant case).



1 The law is well settled that, “once the legislature prescribes a particular voting procedure,  
2 *the right to vote in that precise manner is a fundamental right.*” See *Charfauros v. Bd. of Elections*,  
3 249 F.3d 941, 951 (9<sup>th</sup> Cir. 2001) (emphasis added). Changes to voting procedures that  
4 disenfranchise certain voters are a *per se* violation of the Equal Protection Clause of the Fourteenth  
5 Amendment—even if the violation is well intended or based on simple negligence or  
6 ineptitude. While elected officials in Maricopa County may have felt required to take shortcuts due  
7 to time constraints, “[t]he press of time does not diminish the constitutional concern. A desire for  
8 speed is not a general excuse for ignoring equal protection guarantees.” *Gore*, 531 U.S. at 108, 121  
9 S. Ct. at 523. Here, Maricopa County officials:

- 12 (i) Failed uniformly to administer the general election consistent with state mandated  
13 procedures;
- 14 (ii) Adopted unproven and misguided procedures to cope with its handling of the election;
- 15 (iii) Poorly implemented those procedures, which became more burdensome than available  
16 alternatives prescribed by law; and
- 17 (iv) Relied on unproven, proprietary software of a nongovernmental, third-party to initially  
18 verify ballot signatures, thereby interjecting artificial intelligence into the voting process  
19 in a manner not prescribed by law.

20 Maricopa’s novel procedures resulted in a substantial number of electors from other  
21 counties being disenfranchised. The Maricopa County election procedures violated the First and  
22 Fourteenth Amendments to the U.S. Constitution, and necessarily mandate an election contest as  
23 defined in A.R.S. § 16-672 and 676. Defendants have violated Plaintiffs’ rights under the Equal  
24 Protection Clause (Count 1), their procedural due process rights (Count 2), their fundamental right  
25 to vote and have their votes treated uniformly under the principles enunciated in *Bush v. Gore*, 531  
26 U.S. 98 (Count 3), and their rights under Arizona elections statutes (Count 4). As a result, the  
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1 November 8, 2022, Maricopa County election results for governor are insufficient to “sustain the  
2 confidence that all citizens must have in the outcome of elections.” *Id.* at 109.

### 3 THE CONSTITUTIONAL STANDARDS

4  
5 “Over a century ago, the United States Supreme Court held that the right to vote was a  
6 fundamental political right.” *Charfauros*, 249 F.3d at 950–51 (citations and internal quotations  
7 omitted). “It is beyond cavil that ‘voting is of the most significance under our constitutional  
8 structure.’” *Burdick v. Takushi*, 504 U.S. 428, 433 (1992) (quoting *Illinois Bd. of Elections v.*  
9 *Socialist Workers Party*, 440 U.S. 173, 184 (1979)). The Equal Protection Clause of the Fourteenth  
10 Amendment of the United States Constitution provides that no State shall “deny to any person  
11 within its jurisdiction the equal protection of the laws.” U.S. Const. amend. XIV, § 1. Generally,  
12 the Equal Protection Clause is “a direction that all persons similarly situated should be treated  
13 alike.” *Green v. City of Tucson*, 340 F. 3d 891, 896 (9th Cir. 2003) (quotations omitted).

14  
15 “Because our democracy was founded on the principle that ‘the right to exercise the  
16 franchise in a free and unimpaired manner is preservative of other basic civil and political rights,’  
17 . . . our courts *vehemently protect every citizen's right to vote, carefully and meticulously*  
18 *scrutinizing any alleged infringement.*” *Id.* at 951 (quoting *Reynolds v. Sims*, 377 U.S. 533, 562  
19 (1964)) (emphasis added). “The right to vote can neither be denied outright, nor destroyed by the  
20 alteration of ballots, nor diluted by ballot box stuffing.” *Reynolds*, 377 U.S. at 555 (internal  
21 citations omitted). “Obviously included with the right to choose, secured by the Constitution, is  
22 the right of qualified voters within a state to cast their ballots and have them counted . . .” *United*  
23 *States v. Classic*, 313 U.S. 299, 315 (1941) (citations omitted). Beyond “protecting the exercise of  
24 federal constitutional rights, the Equal Protection Clause also prevents violations of rights  
25 guaranteed to the people by state governments—including [local governments such as Maricopa  
26 County].” *Charfauros*, 249 F.3d at 951.

1 In cases involving disenfranchisement and undue burdens on suffrage, equal treatment must  
2 be analyzed from within the “confines of the governmental entity concerned, be it the State or its  
3 political subdivisions.” *Holt Civic Club v. Tuscaloosa*, 439 U.S. 60, 68 (1978). Indeed, “[o]nce the  
4 geographical unit for which a representative is to be chosen is designated, all who participate in  
5 the election are to have an equal vote.” *Id.* Each United States citizen “has a constitutionally  
6 protected right to participate in elections on an equal basis with other citizens in the jurisdiction.”  
7 *Dunn v. Blumstein*, 405 U.S. 330, 366 (1972).

8  
9 The right to vote exceeds the initial allocation of the franchise. *Gore*, 531 U.S. at 104.  
10 “Equal protection applies *as well to the manner of its exercise*. Having once granted the right to  
11 vote on equal terms, the State may not, by later arbitrary and disparate treatment, value one  
12 person’s vote over that of another.” *Id.* Moreover, “[i]t must be remembered that the right of  
13 suffrage can be denied by a debasement or dilution of the weight of the citizen’s vote just as  
14 effectively as by wholly prohibiting the free exercise of the franchise.” *Id.* at 105 (*quoting*  
15 *Reynolds*, 377 U.S. at 555). Accordingly, the “Equal Protection Clause of the Fourteenth  
16 Amendment to the United States Constitution guarantees each and every person that they will not  
17 be denied their fundamental rights—including the right to vote—in an arbitrary or discriminatory  
18 manner.” *Charfauros*, 249 F.3d at 951.

19  
20 “It has long been established that a State may not impose a penalty upon those who exercise  
21 a right guaranteed by the Constitution. ‘Constitutional rights would be of little value if they could  
22 be indirectly denied.’” *Dunn*, 405 U.S. at 341 (*quoting Harman v. Forssenius*, 380 U.S. 528, 540  
23 (1965)). Thus, “it is well-established that once the legislature prescribes a particular voting  
24 procedure, *the right to vote in that precise manner is a fundamental right*, and ‘one source of its  
25 fundamental nature lies in the . . . equal dignity owed to each voter.’” *Charfauros*, 249 F.3d at 953  
26 (*quoting Bush v. Gore*, 531 U.S. at 104) (emphasis added); *Green*, 340 F. 3d at 897 (“once a state  
27 grants citizens the right to vote on a particular matter, such as municipal incorporation, that right  
28

1 is protected by the Equal Protection Clause.”); *San Antonio Indep. Sch. Syst. v. Rodriguez*, 411 U.S.  
2 1, 35 n. 78 (1973) (noting that, “implicit in our constitutional system, [is the right] to participate in  
3 state elections on an equal basis with other qualified voters whenever the State has adopted an  
4 elective process for determining who will represent any segment of the State’s population.”).  
5 Meaning, “if a State [or a political subdivision thereof] imposes regulations that disenfranchise  
6 voters, the regulations must be ‘appropriately defined and uniformly applied.’” *Charfauros*, 249  
7 F.3d at 950–51 (quoting *Dunn*, 405 U.S. at 343). In short, if a state or local subdivision thereof  
8 provides citizens the right to vote in a particular way (such as through on-site tabulation), *any*  
9 *deviation from the prescribed process resulting in arbitrary or discriminatory exclusion of voters*  
10 *must withstand strict scrutiny. Id.* at 950 (citing *Dunn*, 405 U.S. at 343); *see also Green*, 340 F.  
11 3d at 899 (strict scrutiny applies to voting regulations that “unreasonably deprive some residents  
12 in a geographically defined governmental unit from voting in a unit-wide election.”).

14 Accordingly, if a challenged government action “grants the right to vote to some citizens  
15 and denies the franchise to others, the Court must determine whether the exclusions are necessary  
16 to promote a compelling state interest.” *Charfauros*, 249 F.3d at 951 (internal punctuation and  
17 quotations omitted). State actions that burden fundamental rights “must be drawn with precision  
18 and must be tailored to serve their legitimate objectives.” *Dunn*, 405 U.S. at 343. Because Maricopa  
19 County’s actions disenfranchised certain voters and, therefore, “may *dilute* the effectiveness of  
20 some citizens’ votes,” *Kramer v. Union Free Sch. Dist.*, 395 U.S. 621, 626 (1969) (emphasis  
21 original), they “must be measured by a strict equal protection test: they are unconstitutional unless  
22 the State can demonstrate that such laws are ‘*necessary to promote compelling governmental*  
23 *interest.*’” *Id.* at 342 (emphasis in original) (quoting *Shapiro v. Thompson*, 394 U.S. 618, 634  
24 (1969); *Kramer*, 395 U.S. at 627).

26 Stated differently, the actions subject to scrutiny (here, the procedures implemented by  
27 Maricopa County Election Officials leading up to and on November 8, 2022, that caused Mohave  
28

1 County voters to be disenfranchised) must be in pursuit of a “compelling” or “important” state  
2 interest, and the chosen course of action must not “unnecessarily burden or restrict [the]  
3 constitutionally protected activity.” *Dunn*, 405 U.S. at 343. “And if there are other, reasonable  
4 ways to achieve those goals with a lesser burden on constitutionally protected activity, a State may  
5 not choose the way of greater interference. If it acts at all, it must choose ‘less drastic means.’” *Id.*  
6 (*quoting Shelton v. Tucker*, 364 U.S. 479 (1960)). Maricopa County must overcome strict scrutiny  
7 by demonstrating that the challenged procedures were less burdensome than available alternatives  
8 and, thus, were “well calculated to sustain the confidence that all citizens must have in the outcome  
9 of elections.” *Bush v. Gore*, 531 U.S. at 109.

11 Given that “once the legislature prescribes a particular voting procedure, *the right to vote in*  
12 *that precise manner is a fundamental right,*” when elections administrators make last-minute  
13 changes to prescribed voting procedures resulting in disenfranchisement of some voters within the  
14 defined geographic unit that dilutes the weight of other electors’ votes, it constitutes a *per se*  
15 violation of the Equal Protection Clause of the Fourteenth Amendment—even if the violation is  
16 based on negligence or ineptitude. *See Charfauros*, 249 F.3d at 951.

## 18 PARTIES

19 1. Plaintiffs Joseph “Sonny” Borrelli and Jane and John Doe, *et al.* are residents of  
20 Mohave County, Arizona.

21 2. Defendant Katie Hobbs is named in this action in her official capacity as Secretary  
22 of State and in her personal capacity as a person acting under color and authority of law.

23 3. Defendant Maricopa County Recorder, Stephen Richer, is named in this action in  
24 his official capacity and in his personal capacity as a person acting under color and authority of  
25 law. The County Recorder is the principal elections officer of his or her county and is responsible  
26 for overseeing and directing numerous election administration components within the jurisdiction,  
27  
28

1 including processing, verifying and tabulating early ballots and appointing  
2 and overseeing Ballot Duplication Boards and Electronic Adjudication Boards. *See* A.R.S. §§ 16-  
3 541, -542, -543, -544, -550, -602, -621.  
4

5 4. The members of the Maricopa County Board of Supervisors are named in their  
6 official and personal capacities as individuals acting under color and authority of law. Each is  
7 charged by law with conducting elections within its jurisdictional boundaries, including appointing  
8 polling location election boards, overseeing the operations of polling locations on Election Day,  
9 and canvassing returns. *See* A.R.S. §§ 11-251(3), 16-446, -447(A), -511, -531, -642, -645, -646.  
10

11 5. On November 28, 2022, the Maricopa County Board of Supervisors certified their  
12 canvass of the November 8, 2022, general election, declaring that Katie Hobbs had received  
13 790,352 votes or 51.21% of total votes cast.  
14

15 6. On December 5, 2022, Arizona Secretary of State Katie Hobbs canvassed the returns  
16 of the November 8, 2022, general election statewide, declaring that she had received 1,287,891  
17 votes or 50.33% of total votes cast, or 17,116 more than challenger Kari Lake.  
18

19 7. For the reasons set forth herein, the Maricopa County canvass, upon which these  
20 declarations were premised, was afflicted by election board misconduct; the use of novel, non-  
21 uniform and, thus, unlawful processes; the tallying of ballots not properly verified; and the  
22 erroneous counting of votes, all within the meaning of A.R.S. § 16-672(A)(1), (A)(3), (A)(4), and  
23 (A)(5).  
24

## 25 **JURISDICTION**

26 8. This Court has jurisdiction pursuant to A.R.S. § 16-672(B). It has ancillary  
27 jurisdiction over the federal claims stated below.  
28



1 of Arizona’s registered voters.<sup>7</sup> Maricopa County was plagued by many well-publicized  
2 breakdowns during the November 2022 general election.<sup>8</sup>

3  
4 **Proper Signature-Verification Protects Election Integrity.**

5 13. Under Arizona law, a person qualified to vote may cast a ballot either on Election  
6 Day or during the “early voting” period, that is, during the twenty-seven (27) days preceding  
7 Election Day. Throughout the early voting period, a qualified voter may cast his or her ballot in-  
8 person at an official drop box location or place it in the mail. A voter—also called an “elector”—  
9 who casts an early ballot must place the ballot in an envelope with a sworn affidavit, signed by the  
10 voter, confirming his or her qualifications to vote and acknowledging he or she recognizes the  
11 criminal penalties for fraudulently casting a ballot.  
12

13 14. Mail-in ballots are sent out to voters by a county contractor, Runbeck Election  
14 Services. Runbeck prints the name and address of the voter on an outer mailing envelope. The  
15 outer mailing envelope contains a packet including a ballot and a return ballot affidavit envelope.  
16 The voter completes the ballot, seals it inside the return envelope, and signs the return envelope.  
17 By signing the return envelope, the voter declares under penalty of perjury that he or she is the  
18 actual voter of the ballot contained in the envelope. A voter can return the mail-in ballot to  
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23  
24 <sup>7</sup> See <https://www.maricopa.gov/5539/Voting-Equipment-Facts#:~:text=ballot%20rotation%20laws.-,Maricopa%20County%20is%20the%20second%20largest%20voting%20jurisdiction%20in%20the,percent%20of%20Arizona's%20registered%20voters> (accessed December 8, 2022)

25  
26  
27 <sup>8</sup> See [https://www.rasmussenreports.com/public\\_content/politics/biden\\_administration/most\\_voter\\_s\\_share\\_gop\\_concerns\\_about\\_botched\\_arizona\\_election](https://www.rasmussenreports.com/public_content/politics/biden_administration/most_voter_s_share_gop_concerns_about_botched_arizona_election) (accessed December 8, 2022).  
28



1 Maricopa by United States Postal Service and affirm his or her understanding of the criminal  
2 prohibition against casting multiple ballots in the same election. *See* A.R.S. § 16-547(A).

3  
4 15. A voter can also drop off a ballot at an official Maricopa ballot drop box. Maricopa  
5 voters can also vote early in-person at a vote center. To do so, the voter must provide identification.  
6 Then the voter’s ballot is printed on a ballot on-demand printer. The voter completes the ballot,  
7 seals it inside a white affidavit envelope, signs the envelope, and deposits it in a drop box inside  
8 the vote center.

9  
10 16. Ballots mailed to Maricopa County by US Postal mail or at a ballot drop box go  
11 through a multi-step process. Ballots deposited in drop boxes are retrieved daily by ballot couriers.  
12 The ballots are placed in a transport container, sealed, and then transported to the Maricopa County  
13 Tabulation and Election Center, where they are counted, documented, sorted and placed in bins.  
14 The bins are then transported to Runbeck’s warehouse by a Maricopa County driver. Typically, en  
15 route to Runbeck, the County driver stops at the USPS facility in Phoenix to pick up mail-in ballots.  
16 Upon arrival at Runbeck, the ballots are transferred to the custody of Runbeck employees and must  
17 be recorded on Inbound Receipt of Delivery chain of custody forms.  
18

19  
20 17. Upon receipt of a returned early ballot envelope, the County Recorder or “other  
21 officer in charge of elections” must “compare the signatures thereon with the signature of the  
22 elector on the elector’s registration record.” A.R.S. § 16-550(A). Only if “the signatures  
23 correspond” may the early ballot be processed and tabulated. *Id.* If “the signature is inconsistent  
24 with the elector’s signature on the elector’s registration record,” then the early ballot is invalid and  
25 cannot be tabulated, unless the putative voter cures the signature discrepancy within five business  
26 days of an election, for a federal office, or the third business day after any other election. *Id.*  
27  
28

1 18. Nothing in Arizona election laws authorizes a county to outsource signature  
2 verification to a non-government third party, let alone to that party's unproven and proprietary  
3 software. But that is exactly what Maricopa County decided to do.  
4

5 **The Maricopa County Board of Supervisors Delegated a Crucial Democratic Function to**  
6 **an Unproven Software Program**  
7

8 19. In June 2020, Maricopa County signed a contract with Runbeck to delegate the  
9 responsibilities of A.R.S § 550(A) to a software system known as Verus Pro™, an “Automated  
10 Signature Verification” application (the Delegated Software), for up to four (4) million signatures  
11 per year. Maricopa County has not provided crucial information on how the Verus Pro software  
12 was trained, what error rates it experiences, or what biases it contains.  
13

14 20. Entering the 2020 general election, Maricopa County immediately experienced  
15 problems with the Delegated Software. On October 9, 2020, Runbeck informed Maricopa County  
16 that there would be a delay “to set up the General Election of the server” and that the system might  
17 not be available until Monday morning, October 12, 2020. Maricopa County's Director of  
18 Elections responded, demonstrating the level of reliance County employees would place on the  
19 technology by threatening to cancel the contract with Runbeck and commenting that “[s]o much  
20 for using Verus Pro for the General and me stating early on to proceed, noting we should not see  
21 any major issues.” He added, “Excuse my French but this shit show needs to be improved on post  
22 haste from RES [Runbeck] side.” Ex. 1 (emphatic profanity in original). He also informed Runbeck  
23 that he regretted the decision to use Verus Pro: “Again, I am regretting my decision to proceed  
24 with using Verus Pro for the General and to be proven wrong that we won't have any issues, and  
25 to put my name to that decision and have it be a first file issue is beyond frustrating.” The Director  
26  
27  
28

1 of Elections also notified another Maricopa County employee that “I need to know if we can shut  
2 Verus Pro down and go back to our former process after this first file?” *Id.*

3  
4 21. In 2022, Maricopa was still trying to make the Delegated System work. Over 1.3  
5 million mailed-in and dropped-off ballots from the 2022 general election were delivered to a  
6 Runbeck warehouse that utilized mail sorters like those used by the U.S. Postal Service.<sup>9</sup> Then,  
7 according to the Maricopa County Elections Department’s “2022 Elections Plan: August Primary  
8 and November General”<sup>10</sup> (hereafter “Elections Plan”), at § 6.3.7, “Upon delivery of early ballot  
9 affidavits, Runbeck conduct[ed] an inbound scan of the affidavit envelope [via mail sorter] to  
10 capture a digital binary image of the voter signatures from that packet and place[d] those images  
11 into an automated batch system for Elections Department staff review.”  
12

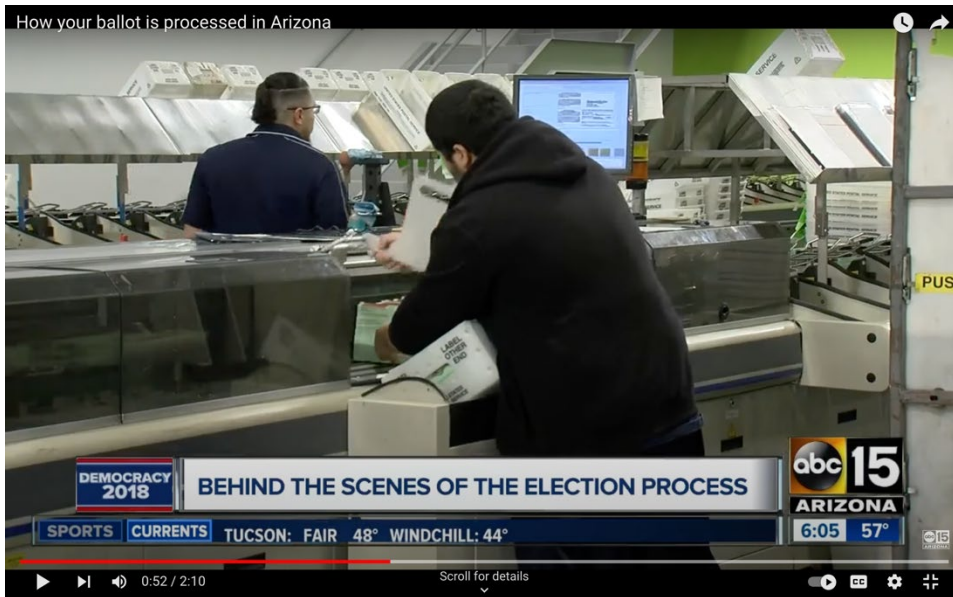
13  
14 a. Runbeck’s warehouse



27 <sup>9</sup> See video at [https://www.youtube.com/watch?v=u\\_t1XTnhMMU&t=8s](https://www.youtube.com/watch?v=u_t1XTnhMMU&t=8s) (accessed December 11, 2022)

28 <sup>10</sup> See <https://recorder.maricopa.gov/site/pdf/FINAL%20-%202022%20Elections%20Plan.pdf>

1                   b. Runbeck’s mail sorters



13           22. Maricopa County provided Runbeck with Arizona voter registration files that  
14 included not only the voters’ exemplar signatures, but their political party and frequency of voting,  
15 among other information. A.R.S. § 16-168 makes sharing signatures with others unlawful.

16           23. In a May 2020 quote for the Delegated Software, Runbeck informed Maricopa  
17 County that typical voter registration files may include signatures of 150 dpi (dots per inch)  
18 resolution, while the Delegated Software, to work reliably, requires a higher-quality image of 200  
19 dpi. See Ex. 2 (Runbeck Ltr. To Gary Bilotta of Maricopa Cty., May 29, 2020, at 1.  
20  
21

22           The automated signature verification takes place by using the extracted signature image from  
23 the mail sorter and comparing it with the reference signature image from the voter registration  
24 system. For Verus Pro to perform, it is important the reference images in the voter registration  
25 database are 200 dpi or higher. It is understood the average dpi of signatures in the voter  
26 registration system maybe 150 dpi. It has also been discussed using previous mail packet  
27 images as updated reference images to achieve the 200-dpi specification in the voter  
28 registration database.

24. Neither Maricopa County nor Runbeck provides Arizona citizens the error rates for  
the scanning of voters’ ballot signatures or the attempted verification matches. After the mail

1 sorter had scanned the signature, the Delegated Software compared the signature on the ballot  
2 envelope to another, “approved” version of the voter’s signature provided by the Maricopa  
3 County Recorder’s Office. We call this older, approved signature the voter’s *signature*  
4 *exemplar*.  
5

6 25. Although the Maricopa County Election Plan states, in § 6.3.8, that signature  
7 exemplars should include “voter registration forms, in-person roster signatures and early voting  
8 affidavits from previous elections,” and that workers should compare the ballot’s signature “to  
9 up to three signatures on file”, Maricopa County’s actual use of the Delegated Software was  
10 based on only a single signature exemplar. The Delegated Software’s product sheet, Runbeck’s  
11 company website, and Runbeck’s May 29, 2020 letter quote all contemplate comparing the  
12 ballot signature to but a single signature exemplar.<sup>11</sup>  
13  
14

15 26. How many signature exemplars are recommended by professional forensic signature  
16 experts? Professional forensic document examiners may require 5<sup>12</sup>, 12<sup>13</sup>, or even 25<sup>14</sup> exemplar  
17 signatures to compare to a questioned signature.  
18  
19

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20 <sup>11</sup> See Product Sheet at [https://runbeck.net/wp-content/uploads/Verus\\_Pro\\_Product\\_Sheet.pdf](https://runbeck.net/wp-content/uploads/Verus_Pro_Product_Sheet.pdf)  
21 (“Signature verification takes place by displaying the extracted image from the sorter terminal  
22 screen and comparing it with *the* archived signature image from the voter registration system.  
23 The voter registration system signature image is displayed and matched to the newly captured  
24 image during sort and pass.”); product page at [https://runbeck.net/automated-signature-  
25 verification/](https://runbeck.net/automated-signature-verification/) (“Signature Verification takes place by displaying the extracted image from the  
26 sorter terminal screen and comparing it with *the* archived signature image from the voter  
27 registration system.”); and May 29, 2022 Letter (similar) (emphases added).

26 <sup>12</sup> See <https://fdex.co.za/services/questioned-signatures/>

27 <sup>13</sup> See <https://www.w-z.com/wp-content/uploads/2012/10/Signature-Examination.pdf> (12 to 20  
28 samples required)

<sup>14</sup> See <http://www.forensicdocumentexaminers.com/excerpt.html>

1           27.     Where might the Delegated Software’s lone signature exemplar have come from?  
2 Many exemplar signatures are captured at DMV offices when would-be voters register to vote.  
3 Those DMV registrants don’t make their exemplar signature on paper, though, like the ballot  
4 signature to be compared against. Instead, registrants at the DMV use a stylus on a digital pad.  
5 There is no evidence that signatures made with a stylus on an electronic pad look sufficiently like  
6 signatures made with pen and ink on paper, and there are good reasons to believe they do not. Such  
7 signatures look distinct from those handwritten on paper, both because people move their hands  
8 differently on digital pads versus paper, and because digital pads provide lower resolution. Equally  
9 troubling, Defendants used signature exemplars from individuals without giving the individuals  
10 any notice to exercise care in creating their signatures because they could be used in the future with  
11 formal legal effect – including their potential disenfranchisement.  
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15           28.     Moreover, it is a myth that authentic signatures of the same person will be exactly  
16 similar throughout all transactions. In reality, the physical act of creating a signature requires  
17 coordinating the brain, eyes, arms, fingers, muscles and nerves. Even when people sign on similar  
18 surfaces, they don’t sign their name exactly the same every time: some elements may be omitted  
19 or altered. A person’s personality, emotional state, health, age, the conditions under which they  
20 sign, the space available for their signature, and many other factors all influence deviations among  
21 signature exemplars. Individual signatories will naturally vary their signatures as a result of a  
22 number of intentional and unintentional factors. Unintentional factors include age, physical and  
23 mental condition, disability, medication, stress, accidents, and inherent differences in a person’s  
24 neuromuscular coordination and stance. Variations are more prevalent in people who are elderly,  
25 disabled, or who speak English as a second language. When new surfaces are introduced, such as  
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1 digital pads, or different methods of writing, such as the use of a finger in place of the pen that  
2 most people have used for most of their lives, authentic signatures are even less likely to be  
3 recognized as such.  
4

5 29. The task of handwriting analysis by laypersons is fraught with error even when they  
6 are using an adequate number of signature exemplars. The task is far less reliable with only one  
7 exemplar, particularly where the voter who created it was given no warning that it could be used  
8 as a signature exemplar, or that it could result in disenfranchisement.  
9

10 30. From the single, compromised sample of a voter signature, the Delegated Software  
11 purports to produce a “confidence score,” or a statistical determination about whether the two  
12 signatures are those of the same voter. Depending on the confidence score, the signatures are  
13 batched into one of three queues for review by human beings: “high confidence,” “low confidence”  
14 and “exception.”  
15

16 31. Maricopa County has not provided the bases for the confidence intervals used by the  
17 Delegated Software. Its lack of transparency amplifies the challenges presented by automatic  
18 signature verification. The U.S. Election Assistance Commission, which serves as a national  
19 clearinghouse and resource of information regarding election administration, says software should  
20 be set only to accept nearly perfect signature matches and that humans should double-check a  
21 sample of them. But the Commission has not defined acceptable error rates or sample sizes, and  
22 vendors of automated signature verification are not required to publish their error rates.  
23  
24

25 32. Maricopa County has provided no empirical evidence by which to gauge the  
26 accuracy of the Delegated Software. On information and belief, the software is far from accurate,  
27 but the burden of proving its accuracy and reliability lies squarely on Maricopa County and the  
28

1 other Defendants. Many purportedly verified matches were initially assigned “low confidence”  
2 while some names that didn’t match at all were scored as “high confidence”. Plaintiffs have been  
3 informed that Runbeck employees who operated the software arbitrarily adjusted the software’s  
4 settings to increase the number of “high confidence” classifications. Elections officials have had  
5 to concede the confidence scores contained a “mix of all types (match, no match, no signature,  
6 etc.) and that a designation of ‘High Confidence’ was not really true.”<sup>15</sup>  
7

8  
9 33. To compare the ballot signature to the signature exemplar, Maricopa County brings  
10 in poorly-trained, temporary workers and sits them before computer monitors displaying the  
11 Delegated Software. For 2022, Maricopa County budgeted for 24 temporary workers to perform  
12 signature verification at \$15 an hour, *see* Elections Plan at 30, just above Arizona’s minimum wage  
13 of \$12.80. Maricopa does not appear to require of these workers any prior experience, strengths,  
14 skills, knowledge, or aptitudes relevant to signature verification. Maricopa County signature  
15 verifiers receive no training in handwriting analysis, and there is no evidence they are screened for  
16 conditions, such as poor eyesight, that may impede their ability to discern subtle variations in  
17 signatures. In order to account for variations in signatures and make accurate determinations, one  
18 needs extensive training, adequate magnification and lighting equipment, sufficient time, and  
19 excellent eyesight. In addition, laypeople erroneously tend to focus on the “eye-catching” features  
20 of single letters, rather than the holistic features of the signature, like alignment and slant, although  
21 holistic features are the more significant characteristics in comparing signatures. In short, Maricopa  
22 County’s mistaken assumption seems to be that the substantive task of signature comparison is one  
23 of mere common sense.  
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28 <sup>15</sup> *Brnovich* at ¶ 98.



1           34. But the Election Plan makes clear it is these “Signature Verification Clerks” who are  
2 “responsible for verifying that signatures on affidavit envelopes match voters’ signatures on  
3 record.” *Id.* These minimally trained, temporary workers supposedly “use forensic techniques to  
4 analyze signatures.” *Id.* at 31. But their actual training raises real questions.  
5

6                           **The Maricopa County Board of Supervisors Failed to Provide Constitutionally**  
7                           **Appropriate Standards for Signature Verifiers**

8           35. In addition to the requirement in A.R.S. § 16-452(A) that procedures ensure “the  
9 maximum degree of correctness, impartiality, uniformity and efficiency” for voting, counting, and  
10 tabulating ballots, A.R.S. § 16-449(B) states that the EPM “shall include procedures for . . . the  
11 electronic scanning of ballots and any other matters necessary to ensure the maximum degree of  
12 correctness, impartially and uniformity in the administration of an electronic ballot tabulation  
13 system.” This includes signature verification procedures. Absent some form of statutory oversight,  
14 allowing non-governmental, third parties like Runbeck to conduct signature verification and, more  
15 broadly, the use of AI software to compare signatures “risks ballot security and secrecy” and could  
16 result in the application of imprecise and manipulatable comparison standards.  
17

18           36. To account for variations when conducting handwriting analysis, a person needs  
19 sufficient knowledge, training, equipment, and experience. Defendants’ procedures, however,  
20 impose none of these safeguards. Among other things, neither state law nor any guidance from  
21 state or county agencies sets forth functional standards for comparing signatures and assessing  
22 variations; election officials and temp workers are not required to undergo meaningful training in  
23 handwriting analysis; verifiers are not screened for disabilities that may impair the ability to make  
24 such comparisons; verifiers are not required to have proper magnification or lighting equipment;  
25 and verifiers do not have sufficient time to conduct each comparison.  
26  
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28

1           37. The Arizona Secretary of State has published a “Signature Verification Guide” (the  
2 “Guide”) on the Secretary’s website. To ensure the legally required maximum degree of  
3 correctness, impartiality, uniformity and efficiency with respect to signature verification, any and  
4 all such rules must be consistent with the text and purpose of Arizona election law. But nowhere  
5 in Maricopa County’s 297-page Draft 2021 Elections Procedure Manual (EPM), nor in its 331-  
6 page appendix, may a citizen of Arizona find uniform instructions for use in verifying early ballot  
7 affidavit signatures in order to ensure the maximum degree of correctness, impartiality, uniformity  
8 and efficiency in early voting.  
9

11           38. As a result, election officials and Signature Verifiers are likely to make erroneous  
12 signature comparisons. Maricopa County has also not created adequate feedback mechanisms to  
13 ensure that signature verifiers apply appropriate standards.  
14

15           39. This lack of guidance manifested in communications between Runbeck and  
16 Maricopa County. In July 2020, Maricopa County’s Director of Elections asked Runbeck, “We  
17 trained staff to look at High Confidence one way and Low Confidence another, so I need to have  
18 them made aware that the ‘*High Confidence*’ is not really true and there can and will be a mix of  
19 all types (match, no match, no signature, etc.) in the High Confidence queue, correct?” Ex.  
20 3(emphasis added)  
21

22           40. Neither Maricopa County nor its improper designee, Runbeck, has made public the  
23 factors that determine whether a ballot signature is routed to the “high confidence,” “low  
24 confidence” and “exceptions” or “manager” queues for review. It is clear, however, that Maricopa  
25 County has no written policies explaining the difference. A letter from Maricopa County outside  
26 counsel Edward Novak, of the law firm Polsinelli, states that “There are no written procedures  
27  
28

1 provided to or created for staff as it relates to batching into high or low confidence because  
2 Runbeck does the batching with Verus Pro.” (March 31, 2022, Novak Ltr. to Assistant Attorney  
3 General Jennifer Wright). It is entirely possible that Runbeck assigns probabilities based on  
4 impermissible extrinsic factors such as a voter’s political affiliation, prior rating record, race or  
5 gender, or place of residence. Without understanding the methodology, voters have no way of  
6 trusting the mail-in verification process or the veracity of a large number of votes purportedly  
7 verified by this secretive system.  
8

9  
10 41. Runbeck’s website<sup>16</sup> explains how Signature Verifiers use the Delegated Software:



11 **Verus Pro™ Automated Signature Verification**  
12

13 This solution consists of a personal computer running the Automated Signature Verification  
14 application and integrates with your voter registration system. Signature Verification takes  
15 place by displaying the extracted image from the sorter terminal screen and comparing it  
16 with the archived signature image from the voter registration system. The Voter Registration  
17 system signature image is displayed and matched to the newly captured image during sort  
18 and pass. Get faster ballot preparation for tabulation!

19 42. Maricopa County’s instructions to its Signature Verifiers, who have no expertise or  
20 training in signature analysis, explain that they will be given only a single signature exemplar to  
21 compare against the one on the ballot. They are told they will be shown two images to compare,  
22 and that the larger image of the two consists of “an historical affidavit with a known approved  
23 signature” of the voter – the signature exemplar:  
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28 <sup>16</sup> See <https://runbeck.net/automated-signature-verification/> (accessed December 12, 2022).

Important Steps	Key Points	Notes:
Open a signature verification batch.	<ul style="list-style-type: none"> <li>Select the 'New' folder (yellow folder icon).</li> <li>Selecting this button will assign a batch of signatures to the user for verification.</li> </ul>	
Viewing the batch screens	<ul style="list-style-type: none"> <li>The batch screen contains two images.</li> <li>The larger image is an historical affidavit with a known approved signature.</li> <li>The smaller image is a clipping of the signature on the green affidavit envelope (current election).</li> </ul>	

Ex. 4 (Maricopa County's Elections Department-Early Voting Division's "Standard Work-Signature Verification in Early Voting Returns (EVRT) Module" at 2).

43. Maricopa County further provided its Signature Verifiers with the following instructional training on “Comparing the signatures” on their monitors<sup>17</sup>:

*Analyze the broad, local characteristics, and letterforms*

And that, apparently, was the end of the training.

44. According to the Elections Plan, “in this first review, staff can only select one of the following two options:

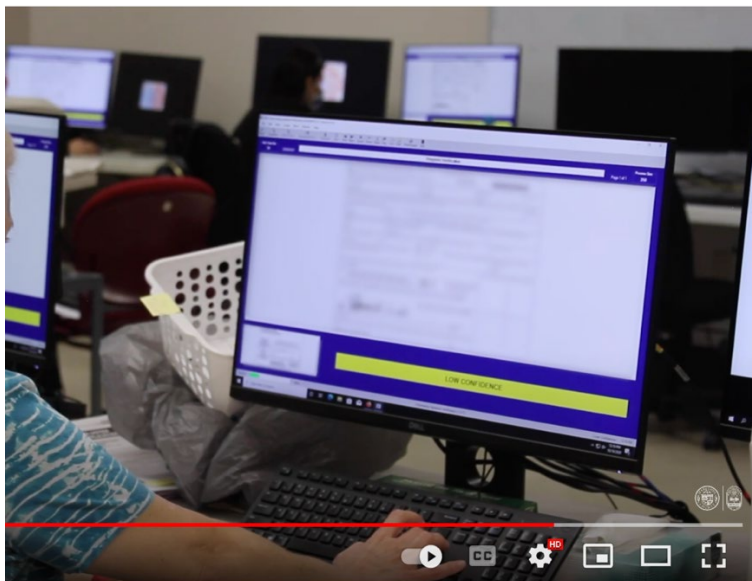
- a. “Approve the signature (if it matches the one of the signatures used for this initial review)
- b. Or move it to an “exception” status (if it does not).”

45. The Election Plan continues, “if an envelope is moved to an ‘exception’ status, the manager can review every signature sample we have on file for that voter. When a signature is

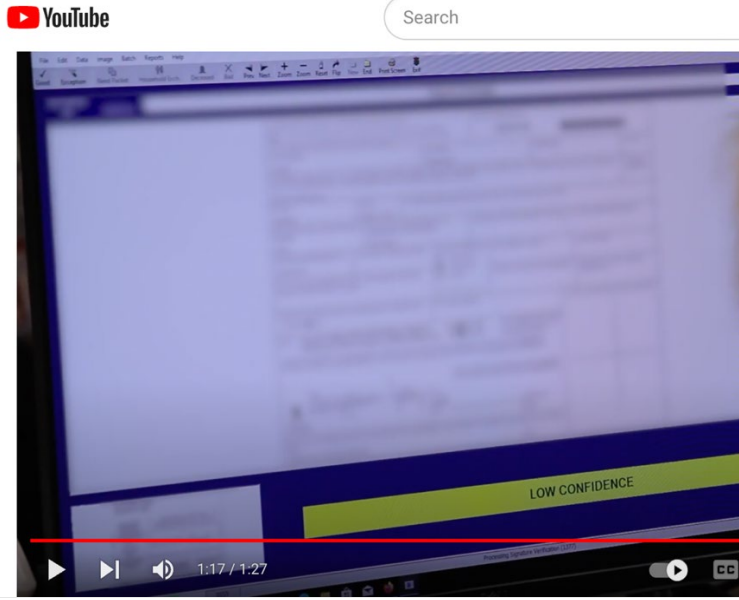
<sup>17</sup> See Ex. 4 (Maricopa County's Elections Department-Early Voting Division's "Standard Work-Signature Verification in Early Voting Returns (EVRT) Module" at 4).

1 initially deemed an exception, the record is systematically triaged to the ‘Manager’s Mode’ queue  
2 where higher level management staff are tasked with performing an additional review using all  
3 historical signatures on file for the voter. Dispositions in the manager level include good signature,  
4 no signature, questionable signature, need packet, deceased, and household exchange.” However,  
5 reports from the Signature Verifiers indicate that their managers improperly approved signatures  
6 they had rejected, without following rational standards, simply because they believed Maricopa  
7 County’s system had resulted in too many rejected signatures.  
8  
9

10 46. A video provided by the Maricopa County Elections Department on YouTube<sup>18</sup>  
11 shows how the Delegated Software improperly influences the decisions of the Signature Verifiers  
12 by displaying a prominent strip at the bottom of their computer monitors. The strip will either be  
13 YELLOW and say LOW CONFIDENCE or GREEN and say HIGH CONFIDENCE.  
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28 <sup>18</sup> See <https://www.youtube.com/watch?v=Q0nY6LwC8sY> (accessed December 5, 2022)



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47. This intrusion on the Signature Verifiers' work has the effect of psychologically "priming" or "anchoring" the Signature Verifiers' own decision-making by assuring them that a much-ballyhooed "artificial intelligence" technology has "LOW CONFIDENCE" or "HIGH CONFIDENCE." As with a traffic signal, verifiers naturally speed through approving the green comparisons and are triggered to slow by the yellow ones. It is very unlikely, and unproven by Defendants, that its temporary workers are able to "ignore" the conclusions of the AI any more than they are able to ignore traffic lights while driving.

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48. Upon information and belief, it would take at least 30 seconds for anyone viewing an image on a monitor to compare a signature on a ballot with a known or attributed signature to meaningfully double-check the decision made by the artificial intelligence software. To make matters worse, the standard by which signatures were verified was lowered throughout the day of the election in order to process a greater volume of mail-in ballots at a faster clip. In order to review 1.3 million ballot signatures in the allotted time, 32 Signature Verifiers, taking no breaks, would need to set a blistering pace of reviewing one signature match every .975 seconds, every working

1 day, for 37 days. This pace is not only a physical impossibility for human beings, but attempting  
 2 anything resembling it would result in Signature Verifiers relying even more on the unproven  
 3 conclusions of the Delegated Software.  
 4

	<b>30-Second Review</b>	<b>15-Second Review</b>	<b>1-Second Review</b>	<b>Review <i>Matching the Staff Available</i></b>
Total Maricopa Cty. Mail-in and Drop-off Ballots	1,311,734	1,311,734	1,311,734	1,311,734
Seconds Per Ballot Review	30	15	1	0.975
Total Seconds Required	39,352,020	19,676,010	1,311,734	1,278,941
Total Hours Required (Secs / 360)	109,311	54,656	3,644	3,553
8-hour Worker Days Required*	36,437	18,219	1,215	1,184
Number of Workers Available	32	32	32	32
Number of Days Available**	37	37	37	37
Maximum Worker Days Available	1184	1184	1184	1184
* No breaks for workers				
** Business days, Oct. 13 - Dec. 4				

21 49. It is of no use to say that humans make the final decision on a signature. It is well-  
 22 known that human beings betray an excessive *and unconscious* deference to technology and other  
 23 forms of anchoring, especially when that technology has been hyped as much as artificial  
 24 intelligence. Anchoring bias, priming, and confirmation bias are all significant risks not shown to  
 25 have been eliminated by Defendants or Runbeck. “The anchoring effect is a cognitive bias whereby  
 26  
 27  
 28

1 an individual's decisions are influenced by a particular reference point or 'anchor'.”<sup>19</sup> “Priming is a  
2 phenomenon whereby exposure to one stimulus influences a response to a subsequent stimulus,  
3 without conscious guidance or intention.”<sup>20</sup> “Confirmation bias is the tendency to search for,  
4 interpret, favor, and recall information in a way that confirms or supports one's prior beliefs or  
5 values.”<sup>21</sup>

7 50. Defendants have provided no evidence rebutting the presumption that human beings  
8 such as low-paid temporary workers untrained in signature verification, when presented by  
9 supposed high-technology with a psychological anchor such as a bright-green HIGH  
10 CONFIDENCE label, will tend to assume the signature must be correct, and will be less likely to  
11 override the technology’s seemingly confident assessment. Defendants have also provided no  
12 evidence rebutting the likelihood that verifiers presented with a technology that states a signature  
13 match has LOW CONFIDENCE will find themselves looking (again, unconsciously) for invalid  
14 reasons not to declare a match. The result is that Maricopa County has effectively replaced the  
15 judgment of the human beings authorized by statute with software that is unproven and unreliable,  
16 and whose workings are proprietary rather than a matter of public record and comment.

17 51. If the Delegated Software were proven to be accurate, the Signature Verifiers’  
18 rubber-stamping of its conclusions might be less problematic, But, on information and belief,  
19 Defendants’ signature matches, or verifications, are not accurate. Many verified matches in the  
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25 <sup>19</sup> See Wikipedia, [https://en.wikipedia.org/wiki/Anchoring\\_\(cognitive\\_bias\)](https://en.wikipedia.org/wiki/Anchoring_(cognitive_bias)) (accessed on  
26 December 7, 2022)

27 <sup>20</sup> See Wikipedia, [https://en.wikipedia.org/wiki/Priming\\_\(psychology\)](https://en.wikipedia.org/wiki/Priming_(psychology)) (accessed December 7,  
28 2022)

<sup>21</sup> See Wikipedia, [https://en.wikipedia.org/wiki/Confirmation\\_bias](https://en.wikipedia.org/wiki/Confirmation_bias) (accessed December 7, 2022).



1 2022 elections began in a low-confidence queue, but persons operating the software were able to  
2 arbitrarily change the software’s settings so that the matches went into the high confidence queue,  
3 a form of human interference similar to the larger AI problem of excessively manual “curve-  
4 fitting”.

5  
6 52. Reports from similar AI software strongly suggest this leads to problems. On  
7 information and belief, AI signature verification software called "Parascript says its software  
8 allows election officials to set their own minimum scores for approving signatures. The  
9 performance variability is evident in Colorado, where Parascript’s software approves 40% of  
10 signatures in Douglas County, 20% in Denver County, and 50% in Larimer, according to Reuters.  
11 The approval rate for Adams County reportedly jumped when it boxed the signature space on  
12 envelopes, generating more readable images, while Larimer’s percentage fell as more signature  
13 matches came from fuzzy motor vehicle records.”<sup>22</sup> Similarly, the approximately 32 workers  
14 involved in Maricopa County’s signature verification and signature curing process rejected  
15 signatures at high, if quite inconsistent, rates.  
16  
17  
18

19 **Maricopa County Has Never Shown its Signature Verification System to be Both Accurate**  
20 **and Unbiased**

21 53. Verification of signatures on ballots is known as “offline” or “static” signature  
22 verification because it relies only on images of signatures after they have been made, without  
23 additional, real-time, “dynamic” information, such as the amount of downward pressure that was  
24 applied by the signatory’s pen, the pen inclination, the velocity and duration of the writing, and the  
25 position of the pen. An offline signature is acquired by merely by scanning a paper-based signature  
26

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27 <sup>22</sup> See VentureBeat, [https://venturebeat.com/ai/automatic-signature-verification-software-](https://venturebeat.com/ai/automatic-signature-verification-software-threatens-to-disenfranchise-u-s-voters/)  
28 [threatens-to-disenfranchise-u-s-voters/](https://venturebeat.com/ai/automatic-signature-verification-software-threatens-to-disenfranchise-u-s-voters/) (accessed December 7, 2022)

1 into a digital image or utilizing a static version of a signature produced by a stylus. Determining  
 2 whether “a given signature is genuine (produced by the claimed individual), or a forgery (produced  
 3 by an impostor)” is “a challenging task, in particular in the offline (static) scenario, that uses images  
 4 of scanned signatures, where the dynamic information about the signing process is not available.”<sup>23</sup>

5  
 6 54. The signature verification method employed by Defendants does not consider  
 7 dynamic data at all, so that it considers limited characteristics used for signature verification.<sup>24</sup> The  
 8 Delegated Software considers only the static information contained in the following table:  
 9

Static	Dynamic
Shaky handwriting	Pen lifts
Signs of retouching	Signs of retouching
Letter proportions	Speed
Signature Shape/dimension	Pen pressure
Slant/angulation	Pressure Change Patterns
Very close similarity between two or more signatures	Acceleration pattern
Smoothness of Curves	Pen inclination
	Duration
	Pen position

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 18  
 19 55. Like all human-created algorithms trained on data selected by humans, the risk of  
 20 bias in automated signature matching is based on the quality of the algorithm’s training. Signature  
 21

22  
 23 <sup>23</sup> See Hafemann, Sabourin, and Oliveira, “Offline Handwritten Signature Verification -  
 24 Literature Review” (Oct. 16, 2017), Conference: International Conference on Image Processing  
 25 Theory, Tools and Applications (IPTA). The use of both online and offline signature verification  
 26 increases accuracy. See <https://www.sciencedirect.com/science/article/abs/pii/S0923596522001199> (accessed December  
 27 7, 2022) and <https://www.mdpi.com/2076-3417/12/19/9904> (accessed December 7, 2022).

28 <sup>24</sup> See [https://towardsdatascience.com/signature-fraud-detection-an-advanced-analytics-approach-  
 a795b0e588b2](https://towardsdatascience.com/signature-fraud-detection-an-advanced-analytics-approach-a795b0e588b2) (accessed December 8, 2022).

1 verification software is often trained on single-language (i.e., English) handwriting to refine the  
2 algorithm that allows for the best matches. Thus, certain voters may be at an inherently higher risk  
3 of having their ballots rejected based on a non-matching signature solely because of the way the  
4 proprietary algorithm was written and trained. Voters with mental or physical disabilities, stress-  
5 related ailments, short or hyphenated names, or who don't write in English, are at higher risk of  
6 having their ballot rejected. Automated signature matching may also result in younger voters being  
7 disproportionately disenfranchised because their handwriting changes more over time. Signature  
8 verification powered by AI or any form of automation is also more likely to flag people who have  
9 undergone a name change. Married women, trans people, or domestic abuse survivors are  
10 disproportionately likely to have their vote rejected.  
11

12  
13 56. For example, an ACLU survey revealed that in 2018, Florida voters of color  
14 comprised less than 28% of those voting absentee but 47% of all rejected ballots, while out-of-  
15 state and military dependents also suffered disproportionately higher rates of rejection. One could  
16 also see the phenomenon at work in Georgia's 2018 election, where the rejection rate for white  
17 voters was 2.5 percent, while it was 8 percent for African Americans and nearly 15 percent for  
18 Asian Americans.<sup>25</sup>  
19

20  
21 57. A 2020 study published by Stanford University's Law and Policy Lab Automated  
22 found that automated signature matching systems in counties that lacked human review increased  
23 the rejection rate by 1.7 points (74%).  
24  
25  
26

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27 <sup>25</sup> See [https://www.motherjones.com/politics/2018/10/georgia-county-and-secretary-of-state-  
28 sued-for-rejecting-minority-absentee-ballots-at-high-rates/](https://www.motherjones.com/politics/2018/10/georgia-county-and-secretary-of-state-sued-for-rejecting-minority-absentee-ballots-at-high-rates/)



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**COUNT 1:**

**Fourteenth Amendment to the U.S. Constitution and 42 U.S.C. § 1983**

**EQUAL PROTECTION VIOLATION**

60. Plaintiffs incorporate by reference the facts and allegations stated in the preceding paragraphs.

61. Section 1 of the Fourteenth Amendment to the United States Constitution prohibits a state from depriving “any person within its jurisdiction the equal protection of the laws.”

62. Under 42 U.S.C. § 1983, every person acting under color of state law who deprives another person of his or her constitutional rights is also liable at law and in equity.

63. Plaintiffs are registered voters residing in Mohave County, Arizona who attempted to cast votes during the early voting period leading up to the 2022 general election for governor.

64. Plaintiffs were deprived of their right to vote by having their ballots cancelled out by an illegal, uncertified software system administered on behalf of Maricopa County by a nongovernmental, third party as a substitute for the statutorily-mandated ballot signature-verification process.

65. The use of nongovernmental, third-party artificial intelligence software as a substitute for the statutorily mandated signature-verification process violates the Fourteenth Amendment’s equal protection provisions because there is no formalized statewide procedure or standard for electoral staff to evaluate whether a “confidence level” has been met, that is whether the Delegated Software has accurately assessed whether two signatures are a match. The result is that the use of Delegated Software is not uniform. A signature on an early ballot may be assigned a “high confidence” grade and another early ballot a “low confidence” grade for no discernible

1 reason. This leads to arbitrary results where there is a greater likelihood in some places that one’s  
2 vote will not be counted the same as the vote of someone else who cast an early ballot.

3  
4 66. Plaintiffs, Mohave County voters, and other voters have suffered and will continue  
5 to suffer irreparable harm—namely, disenfranchisement and vote dilution. If there is no change in  
6 the status quo, Plaintiffs will have no confidence that their votes in the early voting period were  
7 correctly tabulated in the 2022 general election for governor or that they will be fairly counted in  
8 future elections, while the votes of others similarly situated may be counted – and counted  
9 disproportionately.  
10

11 67. Unless restrained from doing so, the Defendants will continue to violate the  
12 Fourteenth Amendment by delegating to software the statutorily mandated signature-verification  
13 process. Unless enjoined, the Defendants’ continued delegation will continue to inflict injuries for  
14 which Plaintiffs have no adequate remedy at law and the results of the 2022 general election for  
15 governor will improperly stand.  
16

17 68. Plaintiffs are entitled to injunctive relief, as well as reasonable attorneys’ fees and  
18 costs.  
19

20 **COUNT 2:**  
21 **Fourteenth Amendment to the U.S. Constitution and 42 U.S.C. § 1983**  
22 **PROCEDURAL DUE PROCESS VIOLATION**

23 69. Plaintiffs incorporate by reference the facts and allegations stated in the preceding  
24 paragraphs.

25 70. Section I of the Fourteenth Amendment to the United States Constitution prohibits  
26 states from depriving “any person of ... liberty ... without due process of law.” This includes the  
27 fundamental right to vote.  
28



1           77. Plaintiffs incorporate by reference the facts and allegations stated in the preceding  
2 paragraphs.

3  
4           78. Section 1 of the Fourteenth Amendment to the United States Constitution prohibits  
5 states from depriving “any person of ... liberty ... without due process of law.” This due process  
6 principle protects the fundamental right to vote. If a regulation imposes a severe burden on the  
7 right to vote, it must be narrowly drawn to advance a state interest of compelling importance. *See*  
8 *Anderson v. Celebreze*, 460 U.S. 780 (1983); *Burdick v. Takushi*, 504 U.S. 428 (1992).  
9

10           79. Under 42 U.S.C. § 1983, every person acting under color of state law who deprives  
11 another person of his or her constitutional rights is also liable at law and in equity.

12           80. Plaintiffs are registered voters in Mohave County, Arizona who attempted to  
13 meaningfully vote by ballot in the early voting period during the 2022 general election for  
14 governor.  
15

16           81. The use of nongovernmental, third parties in the Arizona election signature-  
17 verification process violates the Fourteenth Amendment’s due process protections because it  
18 inhibits Plaintiffs and similarly situated citizens from exercising their constitutional right to vote.  
19 It does so without notice and without any meaningful mechanism for appeal.  
20

21           82. As a result, Plaintiffs and other voters have suffered and will continue to suffer  
22 irreparable harm—namely, disenfranchisement through vote dilution. If there is no change in the  
23 status quo, Plaintiffs believe their votes in the early voting process will not be counted in future  
24 elections and that potentially improper results in the 2022 general election for governor will stand.  
25  
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1 83. Unless restrained from doing so, the Defendants will continue to violate the  
2 Fourteenth Amendment by utilizing nongovernmental, third-party AI vendors to continue to inflict  
3 injuries for which Plaintiffs have no adequate remedy at law.  
4

5 84. Plaintiffs are entitled to injunctive relief, as well as reasonable attorneys' fees and  
6 costs.  
7

8 **COUNT 4:**

9 **Breach of A.R.S. §§ 16-550(A), 16-672(A)(4)**

10 85. Plaintiffs incorporate by reference the facts and allegations stated in the preceding  
11 paragraphs.  
12

13 86. The signature verification process requires that the signature on the affidavit  
14 accompanying the ballot match the signature featured on the voter's "registration record." A.R.S.  
15 § 16-550(A).  
16

17 87. Upon information and belief, a material number of early ballots cast in the November  
18 8, 2022, general election for governor were transmitted in envelopes containing an affidavit  
19 signature that the Delegated Software determined had either a "low confidence" or "high  
20 confidence" likelihood of corresponding to the signature contained in the putative voter's record.  
21 This software determination was made prior to any electoral staff examining the signatures in  
22 question, thus interjecting bias in the signature-verification process. The outsourcing of any part  
23 of the statutory signature verification process to a nongovernmental, third party is not authorized  
24 by any statute or Arizona law, is contrary to the plain language of A.R.S. § 16-550(A), and hence  
25 is unenforceable.  
26  
27  
28

1 **JURY TRIAL DEMANDED**

2 88. Plaintiffs demand a trial by jury on all claims triable by jury as provided by Arizona  
3 and federal law.  
4

5 **PRAYER AND REQUESTED RELIEF**

6 89. Plaintiffs respectfully request the following relief:

- 7 a. Declare impermissible and unlawful the use of unproven and opaque third-party  
8 computer software that delegates the function of determining, initially or  
9 otherwise, the validity or invalidity or likely validity or invalidity of a ballot  
10 affidavit signature, under A.R.S. Section 16-672, *et seq* and unconstitutional  
11 under the Equal Protection Clause of the Fourteenth Amendment to the United  
12 States Constitution, and find and conclude that in doing so or allowing it to be  
13 done during or in connection with the 2022 general election for governor,  
14 Defendants violated those provisions.  
15
- 16 b. Declare impermissible and unlawful the use of unproven and opaque third-party  
17 computer software to delegate to artificial intelligence the function of  
18 determining, initially or otherwise, the validity or invalidity or likely validity or  
19 invalidity of a ballot affidavit signature **and** unveiling that determination to the  
20 human assigned the task of ballot signature verification before he or she does his  
21 or her job, under A.R.S. Section 16-672, *et seq.* and unconstitutional under the  
22 Equal Protection Clause of the Fourteenth Amendment to the United States  
23 Constitution, and to find and conclude that in doing so or allowing it to be done  
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1 during or in connection with the 2022 general election for governor, Defendants  
2 violated those provisions.

- 3
- 4 c. Temporarily, preliminarily, and permanently restrain and enjoin the state of  
5 Arizona and Maricopa County from using unproven and opaque  
6 nongovernmental, third-party software vendors and artificial intelligence to  
7 perform the function of determining, initially or otherwise, the validity or  
8 invalidity or likely validity or invalidity of a ballot affidavit signature.
- 9
- 10 d. Enjoin the use of signature verification software for which software code, AI  
11 training methods and data, manual curve-fitting practices, error rates including  
12 false negatives (or rejects) and false positives (or “accepts”), and similar data  
13 have not been made reasonably available for public notice and comment.
- 14
- 15 e. Mandate that elections officials in Arizona seek to extend the time and resources  
16 available for signature verification to ensure such verification is constitutionally  
17 adequate to the task of verifying millions of signatures.
- 18
- 19 f. Affirm that Mohave County voters’ early voting ballots meeting the statutory  
20 requirements and verified by trained human beings are counted in the 2022  
21 general election for governor.
- 22
- 23 g. Invalidate and set aside the 2022 Maricopa County general election results for  
24 the race for governor, and/or and invalidate and set aside all Maricopa County  
25 mail-in ballots in the 2022 general election for governor.
- 26
- 27 h. Award Plaintiffs attorney fees in this action pursuant to 42 U.S.C. § 1988(b).
- 28 i. Award Plaintiffs their costs of suit.

1 j. Grant and impose any other remedy and grant and impose such other and further  
2 relief, at law or equity, that this Court deems just and proper in the circumstances.  
3

4 Dated: December 12, 2022

5 Respectfully Submitted,

6  
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28 *Counsel for Plaintiffs*

\* *Pro Hac Vice pending*

STATE OF ARIZONA  
MARICOPA COUNTY

§  
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**VERIFICATION OF JOSEPH "SONNY" BORRELLI**

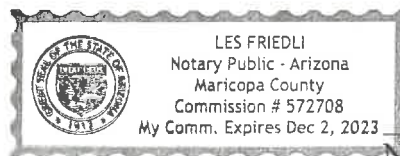
Before me, the undersigned notary, on this day personally appeared Joseph "Sonny" Borrelli, the affiant, whose identity is known to me. After I administered the oath, affiant testified as follows:


1. My name is Joseph "Sonny" Borrelli. I am over 18 years of age, of sound mind, and capable of making this verification. I have read thoroughly the document to which this verification is attached, Plaintiffs' Statement of Election Contest, filed as a Special Action and an Expedited Election Proceeding pursuant to A.R.S. §§ 16-672, et seq., as well as all exhibits attached to the document;
2. The facts stated and set forth in Plaintiffs' Statement of Election Contest, filed as a Special Action and an Expedited Election Proceeding pursuant to A.R.S. §§ 16-672, et seq., as well as all exhibits attached to the document are within my personal knowledge and are true and correct."

Further Affiant Sayeth Not.

  
Joseph "Sonny" Borrelli

Subscribed to and sworn before me on this 12th day of December, 2022.



  
Notary Public in and for the state of ~~Texas~~ **ARIZONA**