DRAFT DOCUMENT FOR DISCUSSION PURPOSES ONLY. NOT FINAL AND NOT CONCLUSIVE.

October 27, 2021

Statement of issues you requested.

Thank you for giving me the time to listen to my client's concerns. I represent a client who has a continuing interest in the results of the November 2020, election in Wisconsin. My client has purchased from the Wisconsin Elections Commission ("WEC") four sets of data related to that election. My client has purchased two copies of the Wisconsin state voter roll ("Voter Roll") at a cost of $12,500 each and two sets of the WEC absentee Ballot Database at a cost of $10,800 each (Ballot Database). This is the database that the Republican Party and the Democratic Party use during elections to see who has actually returned a ballot to local clerks and who has not yet done so. In total my client has spent $46,600 purchasing from WEC election related data related to the November 2020 election.

It is important to note that WEC maintains a comprehensive database of all voters in Wisconsin. Yet, only a portion of this database is available to the public. Custom data allegedly can be obtained if and only if a requester actually knows what it is looking for and can pay the price. This requires an inside knowledge of the WEC database which is not available to the public. We do not know who has access to which portions of the WEC database.

The WEC database includes over 7 million voters, over half of which are categorized as "inactive." Wisconsin has a population of less than 6 million people and only 3.2 million people voted in the November election - which was near-record turnout. WEC has taken the position that it has a statutory obligation to maintain the historical record of all voters so it operates its database to include active, registered voters and voters who were at one time active but are now marked inactive. Voters can be turned inactive when they die, move out of state, become incarcerated, become incompetent or fail to respond to a post card mailing from WEC or local clerks that is intended to verify a voter remains at the recorded address. Having more inactive than active voters on the voter roll is an inefficient way to manage to state voting system.

Clerks also have the ability to turn inactive voters active. We cannot tell from WEC data the date and time voters in the database are turned inactive. It would be immensely helpful to the public if the public could see the date and time any voter was turned inactive, turned back to active and then turned back to inactive. In essence, a record of a voter's activation and de-activation. One would think the historical record would be enriched from providing public knowledge of a voter's change in status over time. Having this piece of information publicly available would put an end to the allegations of turning inactive voters on, voting them and turning them back off. It would be very easy to detect if the data were public.

The WEC database is sub-divided into separate silos which are available to different segments of the population. An individual voter can go to myvote.com and see his or her personal voting

record for free. They can ask for a ballot and can check voting history. They can only see their individual record.

Municipal and county clerks can access the WEC database through the WisVote silo which is the administrative level of the WEC database. It allows clerks to manage local voter populations. Clerks can register voters, turn a voter inactive for statutory reasons, or reactivate a voter if they show proper identification at the clerk's office or polling place. The public cannot access WisVote and access to WisVote is theoretically limited to clerks who have a FIDO stick from WEC and authorized user name and password. According to a list obtained from WEC by the Assembly Elections Committee, over 3,200 clerks and municipal and county personnel accessed the WisVote database during the November 2020 election. We have 1920 municipal clerks and 72 county clerks in Wisconsin.

Badger Books is a wireless pad device that allows local clerks to activate or deactivate voters in the WisVote system. Anyone with a logged-in Badger Book can change voter status within the WisVote system. This presents a security risk sue to the mobility and ease of transportation of the devise. WEC currently has an RFP out soliciting bids to make Badger Books type devices available at all polling places. Security concerns have been raised.

One troubling discovery is that any county clerk and, upon belief, some local clerks can access the entire state WisVote system just by logging in. So, any of our 72 county clerks can see the WisVote data from any other county and allegedly they have system permissions to change data. One would think each clerk would be siloed into its own data for security reasons so no clerk could modify, observe or monitor any other clerk's data. Not so. It would seem to be good practice for the WisVote system to be siloed into separate jurisdictions for the protection of local clerks who have the statutory responsibility to manage their local voter roll.

The public cannot access the WisVote databse (a subset of the WEC database) but it can purchase "snapshots" of the Voter Roll database and the Ballot Database on any given day to see state-wide data. These combined databases cost the public $23,300 and are a static record taken on the day of purchase. Clerks continue to enter new registrants each day into the WEC database through WisVote and mark registered voters inactive as they die or move, etc. So the public pays big money to see a static snapshot of voter data on only one day. The public should be able to log in on a read-only basis and see the whole WEC database in real time everyday and then be able to download a snapshot for free.

My clients purchased two sets of the aforementioned database because the databases purchased just after the election were incomplete. Clerks in Wisconsin have 45 days to enter data into the WisVote database. We have a December 1, 2020 copy of the Voter Roll and an August 19, 2021 copy. Thus, we can see the status of voters within 45 days of the election and again nine moths later in August of 2021 after all of the "dust has settled" from the November 2020 election. We also have a Ballot Database dated December 1, 2020 and a later snapshot dated September 24, 2021.

On a technical note, the size of these databases makes it very difficult for the public to analyze the data in any meaningful way. Excel spreadsheets are limited to handling 1 million files. The Voter Roll has 7 million files. This makes it very expensive and difficult for anyone to analyze election data on a state-wide basis. Anyone trying to analyze the data on a state-wide basis will need "big data" capabilities that require sophisticated software and massive processing power.

My client has acquired access to a sophisticated data analytics program that is used to analyze large datasets concerning financial fraud and national security issues. The system was designed to operate the TSA No-fly List and was used successfully in investigating fraud on E-bay and other on-line commerce platforms. The system uses fractal programing technology. It is used by very large insurance companies, utilities and other large data users to rapidly detect fraud. In short, this data system expensive and is fully capable of analyzing WEC elections data state-wide and spotting anomalies which warrant further investigation to assure the public that Wisconsin's voter database is accurate.

When we run the Voter Roll data for December, 2020, we come up short of the number of voters who participated in the November 2020 election due to the 45 day lag in data entry by local clerks. This snapshot shows only 1.2 million votes cast almost a month after the election where 3.2 million votes were cast. The data in the database lags far behind the election results. When we run the August 19, 2021 database we pick up voters who have been added to the WEC database since December of 2020. This is a problem, because for $23,300 we cannot tell exactly how many voters were registered, active voters who cast a ballot up to and including election day.

Further, voters can register at the polls and the clerks have 45 days to enter data but WEC certifies election results well within the 45 day window. So, in essence, WEC is certifying election results before it has complete data on registered voters and ballots cast. It has votes cast (or vote totals), but not ballots cast. Those votes are not all connected to voters in the system even after the 45 day window. Only later can we start to see who voted and whether there is a ballot cast for each voter who voted.

When we run the August 2021 Voter Roll, we find 1,970,059 voters cast a ballot in the November 2020 election. But, WEC does not certify the number of ballots cast in an election. It certifies the number of votes cast for candidates. This is problematic because not all voters vote for all candidates on the ballot. So, the WEC certification of Presidential vote totals will fall short of the number of ballots actually cast because not everyone votes for President. We are unable to find a WEC certification of the number of actual ballots cast in the election so we cannot reconcile the number of ballots cast at the county level with the total ballots cast state-wide.

When we run the same analysis on the September 24, 2021 Ballot Database for "active ballots", we find a total of 1,979,908 ballots were cast in the November election. This number is 9,908 ballots higher than the Voter Roll database shows were cast. One could conclude from the WEC data that there were 9,908 more ballots cast than voters who cast absentee ballots in the

November 2020 election. Similarly, if we run the analysis on the full Absentee Ballot database, including all absentee ballots returned to, but not accepted by clerks, we find 2,155,218 ballots were cast by voters but not all accepted by the clerks. This results in a 185,159 ballot difference – meaning 185,159 more ballots were retuned to clerks than the Voter Roll database showed who voted.

It is unclear what happened to these ballots, whether they were cast in a manner that is inconsistent with how clerks mark ballots as "received" in WisVote or whether they even exist. We find that the WEC data is so convoluted that it is not possible for the public (after paying $23,300 for the data) to determine exactly how many ballots were actually cast by voters and received by clerks when these two databases are compared. These are anomalies that should be investigated to reconcile the inconsistencies.

Good public policy mandates that the public be able to see and understand the data in the state voter roll and voting system at a reasonable cost (or free) to be assured that elections are being run accurately and fairly. The public should be able to see a state-wide WEC certified number of ballots cast along with certified vote totals for each candidate that match the publicly available database totals.

When a voter is entered into the WEC database a unique voter identification number is assigned to that individual voter. We have over 7 million voters in the system. So, if the last person to be registered is 7, 893,489 one would expect the next person to be numbered 7,893,490 and so on. An analysis of the system indicates that over 79,000 voters share a voter identification number.

Normally, when a voter is added to the system, the system assigns a sequential number. This way 1920 municipal clerks don't have to assign a number (they would not know which number is next to use) the system assigns the number. It appears that, from time to time, an existing voter number is chosen and a zero or two is added to distinguish the two voters. WEC staff was questioned about this issue and responded that the WEC database uses a variable string data structure that allows 0 to precede a whole number. As an example in the WEC database, Voter 7,893,001 and voter 07,893,001 are two different voters with two different numbers but a data search using current state-of-the-art search technology finds them to be the same person. WEC's position is that a leading 0 is a valid digit that distinguishes the two.

This is highly unusual in database management and suggests there are two numbering conventions being used at the same time. It is possible that an existing number is selected by someone entering a new voter and a 0 added to the front to create a new voter number. This cannot happen at the local clerk level because the system assigns sequential numbers automatically at the WisVote level. The 79,000 voters with the 0 or 0s leading numbers which otherwise match a different voter number should be reviewed to validate identity and registration. It is unclear how those voters could have been entered into the system through WisVote.

This unusual numbering convention is highly unusual in modern database management and creates significant database security questions. The company my client uses to analyze the WEC data also analyses huge, secure commercial databases across the country and has not seen any modern database system using this kind of numbering scheme because of the difficulty in controlling and managing data. Zero is not a number (it is the absence of a number) and conventional databases ignore it for purposes of counting. This type of numbering system suggests more than one group or person could be entering voters into the WEC system. The clerks across the state will enter a new voter name and address and the system assigns a sequential number – the next number in line. Then, someone enters another voter by using an existing voter number and adding one or more 0s to the front. That voter gets shuffled into the deck of 7 million voters and can only be found by searching for duplicate numbers in the system. But this second voter could be inserted without easy detection into the system. As virtually all of these "double" situations are assigned to voters with different names and addresses in different counties or communities, the local clerks (and the individual voters) would never see a double number or name.

WEC data generally is inconsistent. In the Ballot Database, we can see when a ballot is mailed to an absentee voter and when it is marked "returned" upon receipt of that ballot by the clerk. We have identified 19,710 ballots across the state that were marked as "returned" by clerks on a date BEFORE they were mailed out. This, of course, is impossible. We do not have access to WisVote to determine whether that system auto-populates a date for the clerk or whether the clerks have to remember what day it is and then enter the correct date themselves. If the system auto-populates the dates, then something is very wrong with 19,710 ballots showing up in local clerks' offices prior to the date they were even mailed to voters. If the clerks can't remember the correct dates and consistently enter a wrong date into a government record, that is a separate personnel issue. This should be investigated.

My client ran an analysis of all voters in the August 2021 Voter Roll and discovered that phone numbers are used as some sort of a marker to identify groups of voters. In one instance, the phone number 262-994-9050 was used by 23,009 individual voters, most of whom are inactive. The 994 exchange is registered to the Racine, Wisconsin area. WEC has posted information on its website that this number was used by the City of Racine as some sort of marker when voter data was migrated into the WEC system. But the 23,009 number falls far short of the total of Racine voters. The city has not publicly commented on the issue but an open records request made by a third party to the City of Racine allegedly states that the City of Racine searched its records over the past 7 years and found no such phone number had been assigned to the city within that time period.

The number now appears in multiple counties in Wisconsin and 20 people used that phone number to register to vote in the November 2020 election. The 262-994-9050 phone number is still active and was found listed on a Chinese language chat board operated by The Massachusetts Institute of Technology which also listed over 26 Wisconsin phone numbers attached to elder care and charitable facilities, primarily in southeastern Wisconsin, wherein it seems ballots were being requested. This phone number could have been a search marker to

allow someone to find this population in a universe of 7 million voters. Further inquiry is warranted as to why MIT is worried about Wisconsin's election in Mandarin Chinese.

The phone number search also reveals that 5,617 individual voters had the area code 920 attached to their names with no phone number. This, of course, is the Green Bay area code. Another 261 registered voters use only the 715 area code. It is unclear why only an area code is attached to these groups rather than a complete phone number. Of the 920 group, 891 voted absentee and 572 voted at the polls in November. Across Wisconsin, elder facilities and group homes use the same phone number for all voting residents -active and inactive – which allows for search engines to easily find groups of individual voters in these types of facilities by phone number. It appears from the search that phone numbers are used not to communicate with individual voters but rather as markers or tags to allow for search within WisVote or the WEC database for these populations.

We also discovered that Wisconsin voters are using virtual mailbox services (located in commercial strip malls) across the state to register to vote. Under state law, a voter is required to actually live in a specific district. Voting from a virtual mailbox allows anyone in the world to register at that address and cast a ballot. As an example, we searched a popular national virtual address service and found a number of addresses in Wisconsin and over 100 instances of people who "voted" absentee from those addresses in the November 2020 election. There are dozens of other virtual address facilities across Wisconsin where people are voting. This is not only illegal but it skews the election results for local races in that district. Local clerks should be cognizant of where local voters actually live and verify residential addresses before registering voters. My client has also detected multiple instances of voters registered at properties that don't exist or small dwellings that cannot, by zoning or physics, hold the number of voters registered at the property.

A search of voters casting ballots from the same address, two trends emerge. First, college dormitories across the state have vastly more registered voters than dorm population. This is because of the transient nature of college dorms. When a student registers to vote, they register at that address. At some point, they no longer live in the dorm but they remain registered at that address as either active or inactive. It is unclear how many voters who cast a ballot from that address actually live in the dorm at the time the ballot is returned. Ballot security is low, as most college dorm mailrooms are not secure and ballots can be accessed from within the mailrooms. College students have the option of either voting from home or at school. Given the transient nature of dorms, it would be good public policy to NOT register kids at dorms but at their home residence and have them vote absentee.

The second trend is voters registered to vote from elder facilities. Again this is a relatively transient population and registered voters listed at the facility often exceed the rated facility population. Unless a pair of special deputies actually conducts the vote at the facility it is not possible to see form the data who was actually a resident of the facility when the ballot was cast. Former residents can receive ballots at the facility and without the special deputies as witnesses it is unclear who could be casting a ballot. Special deputies must be reinstated

immediately to preserve the dignity of older voters and protect the reputations of elder facilities.

Overall, the public has a very difficult time seeing and understanding Wisconsin's voter data. Voting is the only way most Wisconsinites can participate in any form of state or local governance. It is imperative that Wisconsin voters believe Wisconsin is administering a fair, honest and transparent voting system that is politically neutral. The data we have analyzed is expensive and it takes expensive computing power that is not available at reasonable cost to average citizens. Many of the anomalies we have discovered need further investigation.

In the last election however, private groups were allowed to pay money to access WisVote data and administer local elections. In light of this policy change, the public should have real-time access to all WEC data at no charge so elections can be monitored in real time, just as some groups, but not the public, were allowed to do in November.

WEC staff has indicated that WEC's voter database was developed by state employees and is unique in the United States. It would be prudent to audit the WEC database system to see what language it is coded in, whether the coding language and version is current, where it is hosted, who has access to the systems in addition to local and county clerks, levels of system security and protections against hacking, malware, ransomware and all of the other digital threats we constantly hear of in the news.

Also, we are not aware of any RFP related to the acquisition of the database or any portion of the database. If all or part of the system was acquired from or supported by any outside vendor, that information should be made public immediately. Digital cyber security of the state voter database should be a concern of all citizens and of utmost concern to WEC. Database management is a highly technical area that requires constant updating and monitoring to protect from global threats. It is unclear if WEC staff is trained to this level of sophistication to adequately protect the data system from cyber attack or other malfeasance. It would make sense for Wisconsin to use a voting system that has a national reputation for safety and security and a base of experts watching for cyber threats.

In light of the recent Legislative Audit Bureau findings, it might be a good idea to put the state voter roll out for RFP to find a more standardized and commonly used system that is better and more generally understood. Feedback from industry and other states would allow the public to better assess the security and transparency of an off-the -shelf system that is being watched and used in multiple states. A one-off, custom voter data system like that employed in Wisconsin seems costly and burdensome to manage and update to stay current with constantly changing security threats.

My client agrees with the suggestion that the maintenance and operation of the state voter database be moved to the Department of Administration and operated in a non-policy, politically neutral environment where state-of-the-art database management talent can be employed to secure the system and take it out of the hands of the hyper-partisan WEC. Splitting

the election database system from the election regulators would put an end to much of the partisan concern over fairness of the system.

We also agree with the suggestion that the state voter roll only contain the names and data of ACTIVE voters in Wisconsin. Once a voter becomes inactive, they should be permanently removed from the voter roll. Re-registration would be required to become active on the voter roll again. While we recognize WEC's duty to preserve the historical record of Wisconsin, we feel that mission would be better accomplished by taking all voter data concerning inactive voters and transferring it to a database administered by the State Historical Society who is charged with maintaining the State archives. There, any historian can search the historical voter data without security risk to the state voter roll. Only active, registered voters should be listed in the state voter roll. This would eliminate allegations of inactive voters coming back to life and voting.

Respectfully Submitted,